LOT Polish Airlines

Ground Handling Manual

Issue no.: 41T rev.7 / June 2023

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INTRODUCTION
TO THE USERS OF THE MANUAL

The LOT Polish Airlines Ground Handling Manual – GHM contains basic rules, regulations, guidelines and information concerning the appropriate handling of passengers and their baggage, cargo & mail, as well as the aircraft belonging to LOT Polish Airlines and those operated on behalf of LOT Polish Airlines.

The contents of this manual are based on the company's policy, as well as on regulations and requirements issued by aviation authorities, international aviation organizations and aircraft manufacturers. The processes and procedures contained in the OM for the conduct of ground handling operations are, as a minimum, equivalent to processes and procedures contained in the IGOM.

All staff of LOT Polish Airlines and handling agents and supervisors, involved in passenger and aircraft handling must not only be familiar with, but also follow these regulations.
Handling agents and supervisors must also fulfil all obligations resulting from applicable agreements.

Ground Operations Nominated Person
Sebastian Jadczak

First edition: May 2003

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NOTICE OF REVISION
GROUND HANDLING MANUAL NO. 41T rev.7 (DATED JUN2023)

Chapter	Point	
1. Introduction	**-**	----------
2. Fleet	**-**	----------
3. Weight and balance	**-**	----------
4. Ramp Handling	**4.7.3** (1)	NOTE regarding loading position and LDM – added
5. Passenger handling	**5.3.1** (22)	Baggage tagging – point added
	5.4.1 (5)	Requirement regarding priority boarding for Star Alliance Gold customers – added (Star Alliance requirement)
	5.7.2 (4)	VIP Flight Department contact list – updated
	5.8.4	'Boarding passes on all channels are displaying "Fast Track" invitation' – added (Star Alliance requirement)
	5.12.1.1	Information to the passenger in case of IRREG – updated
6. Baggage handling	**6.2.2.2 (**7)	NOTE to the free carry-on baggage allowance – added
	6.12 (4)	Priority baggage procedure – updated
7. Cargo	**7.7**	Pharmaceutical (PIL) – point updated
8. Security	**-**	----------
9. Emergency	**-**	----------
10. Communication	**10.1.2**	Operational Contacts – updated
11. Appendix	**App. 8**	Added
	App. 9	Added

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	Chapter 1 – Introduction	
1.0	Overview	1/32
1.1	General information	3/32
1.2	List of effective pages	5/32
1.3	Table of contents	19/32

1.1 General information (GRH 1.6.2; GRH 1.5.1)

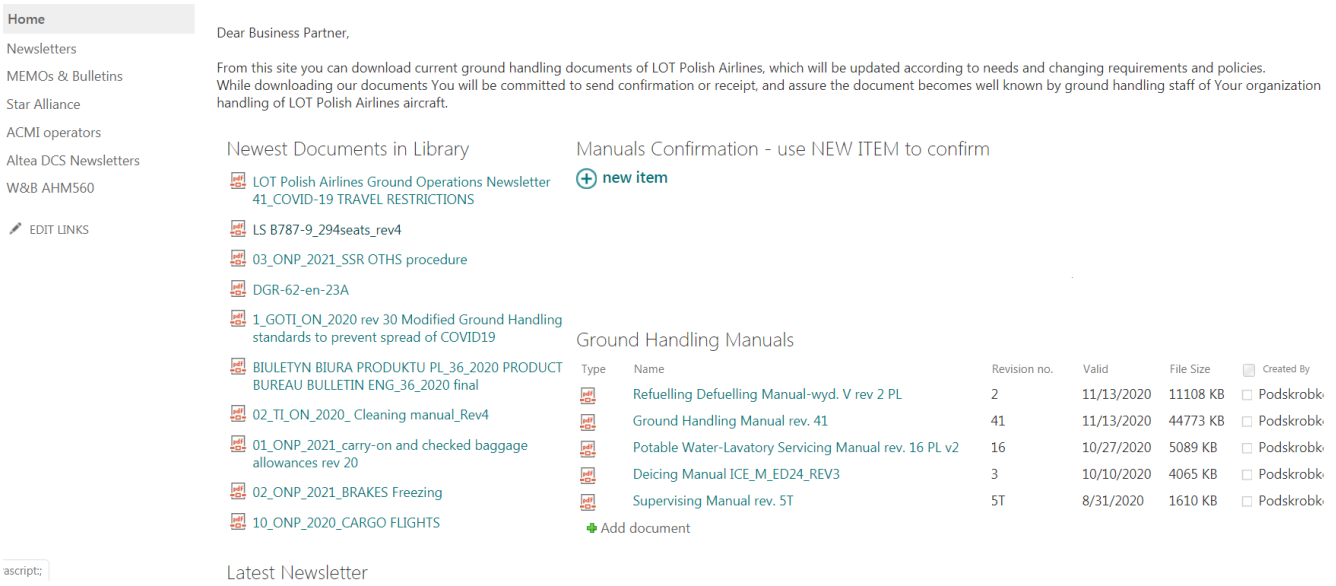
	Remarks
1. Applicability:	• The Ground Handling Manual is intended for use by the Handling Agents, LOT Polish Airlines Station Managers and Supervising Staff who: ➢ are directly involved in providing handling services to passengers, cargo and aircraft (LOT's and those operated on behalf of Polish Airlines) - at Polish and foreign airports, ➢ supervised work of agents providing services to LOT Polish Airlines in representative offices in Poland, abroad, and at Warsaw-Frederic Chopin Airport, WAW.
2. Responsible for publishing:	• The Ground Handling Manual is published by the Ground Operation Manager, in cooperation with organizational units whose scope of operation covers issues discussed in the Manual. • The Ground Handling Manual is send to: - Ground Handling Agents, - Supervising Agents, - Station Managers, - Cargo Agents, - Other staff involved in LOTs operations.
3. Editors responsible for Chapter 1,4,5,6,10, 11	Bernadetta Podskrobko – Ground Handling Safety and Standards Specialist ul. Komitetu Obrony Robotników 43, 02-146 Warszawa, Poland, ph. +48 532 752 535, e-mail: b.podskrobko@lot.pl
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8. Responsible for distribution:	1. Manager Ground Handling and Procedures ul. Komitetu Obrony Robotników 43, 02-146 Warszawa, Poland

9. Validity of contents:	The Ground Handling Manual (GHM) contains a "List of effective pages" (point 1.2). All pages that are effective at this moment are listed with their page number, issue number and date of effectiveness.
10. The Updating of the Manual: (GRH 1.7.2; GRH 1.3.1; GRH 1.6.9)	• Managers/Heads of all organisational units using the Manual have the obligation to designate a person who will be responsible for updating the Manual. • The name of the person in charge of updating the Manual shall be sent to Ground Operations Handling and Procedures Unit called further ONP Unit. • Employees of Representative Offices abroad, who supervise services provided by handling agents or agents who provide Supervising services are responsible for passing updated modifications regarding the Manual to relevant agents. The agent's name as well as the full name of the person who is responsible for the document shall be sent to ONP unit onp@lot.pl • **Procedure:** **1.** The Ground Handling Manual is published in electronic version only. **2.** After each amendment of the Ground Handling Manual, a valid version for PLL LOT employees is available via SharePoint at Operational and Technical Library. For external Service Providers (Handling Agents and Supervisors) the manual is available via SharePoint at Ground Handling Library (GHL) https://plllot.sharepoint.com/sites/external/ghl . **3.** Following the publication online, all addresses receive an email informing them about the new revision of Ground Handling Manual. **4.** Handling Agents/Supervisors who possess access to LOT Ground Handling Library shall confirm the receipt of manual via Ground Handling Library on SharePoint. **5.** If Handling Agents/Supervisors do not possess access to LOT Ground Handling Library, then they shall confirm the receipt of the new GHM via email. **6.** The current revision of the GHM shall be available at the key points of each station served by PLL LOT and availability is part of audits and inspections. **7.** The availability of the manual shall be independent from an online connection. **8.** The current revision of the manual shall be available via LOT website or agent internet/extranet site or on local computers. **9.** Older version of the GHM shall be deleted from network and computers. **10.** This manual is updated once a year. If change is required temporary revision must be used. Temporary revision contains: issue number with 'T' , revision and date of effectiveness. Temporary changes become permanent during annual update. Every time GHM is under revision process, the ONP unit performs gap analysis against IGOM to ensure the updated procedures are in line with the manual and if any variation is identified, the risk assessment must be performed for acceptance of alternative means of compliance. Gap analysis shall also be performed by Ground Handling Company to ensure the company manuals are in line with operator's manual. The ONP issues also ad-hoc information bulletins e.g. Ground Operations Newsletters, MEMOs etc. containing new/updated procedures and rules. These kind of documents are sent to Handling Agents/Supervisors via emails as well as they are placed at Ground Handling Library.

11. References to other manuals	• Operations Manual Part A & D • Operator's Refuelling/Defuelling Manual Doc. No. 1760, • Operator's Potable Water/Lavatory Servicing manual Doc. No. 2030, • The IATA Passenger Service Conference Manual (PSM), • The IATA Airport Handling Manual, • The IATA Dangerous Regulations (DGR), • The IATA Live Animals Regulations (LAR). • The IATA Medical Manual • In accordance with The IATA Ground Operations Manaul (IGOM) • Other relevant documents from external sources • Information from all the sources shall be received in due time, to satisfy operational requirements. The documents shall be retained and invalid copies shall be disseminated.

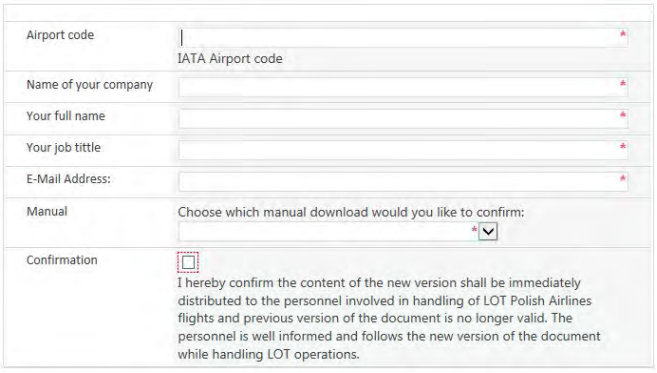
12. Access to the manual

- Access to the manual is avaiable online using Ground Handling Library.
  Ground Hanling Library https://plllot.sharepoint.com/sites/external/ghl



- This page is restricted for clients with user and password established.
- To create and activate new account please contact onp@lot.pl

- Confirmation of new revision is obligatory and shall be made online using *"Manual Confirmation"*



1.2 List of effective pages

Chapter 1 Introduction		
Page number	Issue number	Validity date
1	22	APR2015
2	41T	JUN2022
3	41T	SEP2022
4	36	JUL2019
5	41T	MAR2021
6	41T	MAR2021
7	41T	MAR2020
8	41T	MAR2021
9	41T	MAR2021
10	41T	MAR2021
11	41T	MAR2021
12	41	NOV2020
13	41T	MAR2020
14	41T	MAR2021
15	41T	MAR2021
16	41T	MAR2021
17	41T	MAR2021
18	41	NOV2020
19	41T	MAR2021
20	41T	MAR2021
21	41T	MAR2021
22	41T	MAR2021
23	41	NOV2020
24	41T	MAR2021
25	41T	MAR2021
26	41T	MAR2021
27	41	NOV2020
28	41	NOV2020
29	41	NOV2020
30	41	NOV2020
31	41	NOV2020
32	41	NOV2020

Chapter 2 Fleet		
Page number	Issue number	Validity date
1	41T	APR2023
2	41T	APR2023
3	41T	APR2023
4	41T	APR2023
5	41T	APR2023
6	41T	APR2023
7	41T	APR2023
8	41T	APR2023
9	41T	APR2023
10	41T	APR2023
11	41T	APR2023
12	41T	APR2023
13	41T	APR2023
14	41T	APR2023
15	41T	APR2023
16	41T	APR2023
17	41T	APR2023
18	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
1	41T	APR2023
2	41T	APR2023
3	41T	APR2023
4	41T	APR2023
5	41T	APR2023
6	41T	APR2023
7	41T	APR2023
8	41T	APR2023
9	41T	APR2023
10	41T	APR2023
11	41T	APR2023
12	41T	APR2023
13	41T	APR2023
14	41T	APR2023
15	41T	APR2023
16	41T	APR2023
17	41T	APR2023
18	41T	APR2023
19	41T	APR2023
20	41T	APR2023
21	41T	APR2023
22	41T	APR2023
23	41T	APR2023
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26	41T	APR2023
27	41T	APR2023
28	41T	APR2023
29	41T	APR2023
30	41T	APR2023
31	41T	APR2023
32	41T	APR2023
33	41T	APR2023
34	41T	APR2023
35	41T	APR2023
36	41T	APR2023
37	41T	APR2023
38	41T	APR2023
39	41T	APR2023
40	41T	APR2023
41	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
42	41T	APR2023
43	41T	APR2023
44	41T	APR2023
45	41T	APR2023
46	41T	APR2023
47	41T	APR2023
48	41T	APR2023
49	41T	APR2023
50	41T	APR2023
51	41T	APR2023
52	41T	APR2023
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54	41T	APR2023
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61	41T	APR2023
62	41T	APR2023
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66	41T	APR2023
67	41T	APR2023
68	41T	APR2023
69	41T	APR2023
70	41T	APR2023
71	41T	APR2023
72	41T	APR2023
73	41T	APR2023
74	41T	APR2023
75	41T	APR2023
76	41T	APR2023
77	41T	APR2023
78	41T	APR2023
79	41T	APR2023
80	41T	APR2023
81	41T	APR2023
82	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
83	41T	APR2023
84	41T	APR2023
85	41T	APR2023
86	41T	APR2023
87	41T	APR2023
88	41T	APR2023
89	41T	APR2023
90	41T	APR2023
91	41T	APR2023
92	41T	APR2023
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94	41T	APR2023
95	41T	APR2023
96	41T	APR2023
97	41T	APR2023
98	41T	APR2023
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102	41T	APR2023
103	41T	APR2023
104	41T	APR2023
105	41T	APR2023
106	41T	APR2023
107	41T	APR2023
108	41T	APR2023
109	41T	APR2023
110	41T	APR2023
111	41T	APR2023
112	41T	APR2023
113	41T	APR2023
114	41T	APR2023
115	41T	APR2023
116	41T	APR2023
117	41T	APR2023
118	41T	APR2023
119	41T	APR2023
120	41T	APR2023
121	41T	APR2023
122	41T	APR2023
123	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
124	41T	APR2023
125	41T	APR2023
126	41T	APR2023
127	41T	APR2023
128	41T	APR2023
129	41T	APR2023
130	41T	APR2023
131	41T	APR2023
132	41T	APR2023
133	41T	APR2023
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137	41T	APR2023
138	41T	APR2023
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147	41T	APR2023
148	41T	APR2023
149	41T	APR2023
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151	41T	APR2023
152	41T	APR2023
153	41T	APR2023
154	41T	APR2023
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156	41T	APR2023
157	41T	APR2023
158	41T	APR2023
159	41T	APR2023
160	41T	APR2023
161	41T	APR2023
162	41T	APR2023
163	41T	APR2023
164	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
165	41T	APR2023
166	41T	APR2023
167	41T	APR2023
168	41T	APR2023
169	41T	APR2023
170	41T	APR2023
171	41T	APR2023
172	41T	APR2023
173	41T	APR2023
174	41T	APR2023
175	41T	APR2023
176	41T	APR2023
177	41T	APR2023
178	41T	APR2023
179	41T	APR2023
180	41T	APR2023
181	41T	APR2023
182	41T	APR2023
183	41T	APR2023
184	41T	APR2023
185	41T	APR2023
186	41T	APR2023
187	41T	APR2023
188	41T	APR2023
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191	41T	APR2023
192	41T	APR2023
193	41T	APR2023
194	41T	APR2023
195	41T	APR2023
196	41T	APR2023
197	41T	APR2023
198	41T	APR2023
199	41T	APR2023
200	41T	APR2023
201	41T	APR2023
202	41T	APR2023
203	41T	APR2023
204	41T	APR2023
205	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
206	41T	APR2023
207	41T	APR2023
208	41T	APR2023
209	41T	APR2023
210	41T	APR2023
211	41T	APR2023
212	41T	APR2023
213	41T	APR2023
214	41T	APR2023
215	41T	APR2023
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226	41T	APR2023
227	41T	APR2023
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231	41T	APR2023
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239	41T	APR2023
240	41T	APR2023
241	41T	APR2023
242	41T	APR2023
243	41T	APR2023
244	41T	APR2023
245	41T	APR2023
246	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
247	41T	APR2023
248	41T	APR2023
249	41T	APR2023
250	41T	APR2023
251	41T	APR2023
252	41T	APR2023
253	41T	APR2023
254	41T	APR2023
255	41T	APR2023
256	41T	APR2023
257	41T	APR2023
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267	41T	APR2023
268	41T	APR2023
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272	41T	APR2023
273	41T	APR2023
274	41T	APR2023
275	41T	APR2023
276	41T	APR2023
277	41T	APR2023
278	41T	APR2023
279	41T	APR2023
280	41T	APR2023
281	41T	APR2023
282	41T	APR2023
283	41T	APR2023
284	41T	APR2023
285	41T	APR2023
286	41T	APR2023
287	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
288	41T	APR2023
289	41T	APR2023
290	41T	APR2023
291	41T	APR2023
292	41T	APR2023
293	41T	APR2023
294	41T	APR2023
295	41T	APR2023
296	41T	APR2023
297	41T	APR2023
298	41T	APR2023
299	41T	APR2023
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302	41T	APR2023
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316	41T	APR2023
317	41T	APR2023
318	41T	APR2023
319	41T	APR2023
320	41T	APR2023
321	41T	APR2023
322	41T	APR2023
323	41T	APR2023
324	41T	APR2023
325	41T	APR2023
326	41T	APR2023
327	41T	APR2023
328	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
329	41T	APR2023
330	41T	APR2023
331	41T	APR2023
332	41T	APR2023
333	41T	APR2023
334	41T	APR2023
335	41T	APR2023
336	41T	APR2023
337	41T	APR2023
338	41T	APR2023
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341	41T	APR2023
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343	41T	APR2023
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360	41T	APR2023
361	41T	APR2023
362	41T	APR2023
363	41T	APR2023
364	41T	APR2023
365	41T	APR2023
366	41T	APR2023
367	41T	APR2023
368	41T	APR2023
369	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
370	41T	APR2023
371	41T	APR2023
372	41T	APR2023
373	41T	APR2023
374	41T	APR2023
375	41T	APR2023
376	41T	APR2023
377	41T	APR2023
378	41T	APR2023
379	41T	APR2023
380	41T	APR2023
381	41T	APR2023
382	41T	APR2023
383	41T	APR2023
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385	41T	APR2023
386	41T	APR2023
387	41T	APR2023
388	41T	APR2023
389	41T	APR2023
390	41T	APR2023
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392	41T	APR2023
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394	41T	APR2023
395	41T	APR2023
396	41T	APR2023
397	41T	APR2023
398	41T	APR2023
399	41T	APR2023
400	41T	APR2023
401	41T	APR2023
402	41T	APR2023
403	41T	APR2023
404	41T	APR2023
405	41T	APR2023
406	41T	APR2023
407	41T	APR2023
408	41T	APR2023
409	41T	APR2023
410	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
411	41T	APR2023
412	41T	APR2023
413	41T	APR2023
414	41T	APR2023
415	41T	APR2023
416	41T	APR2023
417	41T	APR2023
418	41T	APR2023
419	41T	APR2023
420	41T	APR2023
421	41T	APR2023
422	41T	APR2023
423	41T	APR2023
424	41T	APR2023
425	41T	APR2023
426	41T	APR2023
427	41T	APR2023
428	41T	APR2023
429	41T	APR2023
430	41T	APR2023
431	41T	APR2023
432	41T	APR2023
433	41T	APR2023
434	41T	APR2023
435	41T	APR2023
436	41T	APR2023
437	41T	APR2023
438	41T	APR2023
439	41T	APR2023
440	41T	APR2023
441	41T	APR2023
442	41T	APR2023
443	41T	APR2023
444	41T	APR2023
445	41T	APR2023
446	41T	APR2023
447	41T	APR2023
448	41T	APR2023
449	41T	APR2023
450	41T	APR2023
451	41T	APR2023

Chapter 3 Weight&Balance		
Page number	Issue number	Validity date
452	41T	APR2023
453	41T	APR2023
453	41T	APR2023

Chapter 4 Ramp Handling		
Page number	Issue number	Validity date
1	41	NOV2020
2	41	NOV2020
3	41	NOV2020
4	41	NOV2020
5	40	JUL2020
6	41	NOV2020
7	40T	OCT2020
8	41	NOV2020
9	36	JUL2019
10	22	APR2015
11	36	JUL2019
12	41T	SEP2022
13	41T	SEP2022
14	41T	SEP2022
15	41T	MAR2021
16	41T	JUN2022
17	40	JUL2020
18	30	DEC2017
19	31	MAR2018
20	30	DEC2017
21	30	DEC2017
22	30	DEC2017
23	40	JUL2020
24	40	JUL2020
25	40	JUL2020
26	41T	JUN2023
27	36	JUL2019
28	40	JUL2020
29	41	NOV2020
30	41	NOV2020
31	41	NOV2020
32	40	JUL2020
33	22	APR2015
34	41T	MAR2021
35	22	APR2015
36	22	APR2015
37	40	JUL2020
38	41	NOV2020

Chapter 4 Ramp Handling		
Page number	Issue number	Validity date
39	40	JUL2020
40	40	JUL2020
41	41T	JUN2022
42	41T	JUN2022
43	41T	JUN2022
44	41T	JUN2022
45	41T	JUN2022
46	41T	JUN2022
47	22	APR2015
48	24	JUN2016
49	22	APR2015
50	22	APR2015
51	30	DEC2017
52	30	DEC2017
53	41T	SEP2022
54	41T	SEP2022
55	29	JUL2017
56	40	JUL2020
57	29	JUL2017
58	22	APR2015
59	40	JUL2020
60	41	NOV2020
61	41	NOV2020
62	22	APR2015
63	22	APR2015
64	22	APR2015
65	40	JUL2020
66	40T	OCT2020
67	40	JUL2020
68	27	MAY2017
69	22	APR2015
70	22	APR2015
71	22	APR2015
72	22	APR2015
73	40	JUL2020
74	40	JUL2020
75	22	APR2015
76	22	APR2015
77	40	JUL2020
78	41	NOV2020
79	41	NOV2020
80	41	NOV2020
81	41	NOV2020
82	41	NOV2020
83	41	NOV2020

Chapter 4 Ramp Handling		
Page number	Issue number	Validity date
84	41	NOV2020
85	41	NOV2020
86	41	NOV2020
87	41	NOV2020
88	40	JUL2020
89	41T	SEP2022
90	41	NOV2020
91	41	NOV2020
92	22	APR2015
93	40	JUL2020
94	22	APR2015
95	40	JUL2020
96	40	JUL2020
97	41T	SEP2022
98	22	APR2015
99	41	NOV2020
100	22	APR2015
101	41T	JUN2022
102	29	JUL2017
103	40	JUL2020
104	40	JUL2020
105	40	JUL2020
106	41T	JUN2022
107	41T	JUN2022
108	30	DEC2017
109	40	JUL2020
110	22	APR2015
111	40	JUL2020
112	40	JUL2020
113	36	JUL2019
114	40	JUL2020
115	41T	SEP2022
116	41	NOV2020
117	27	MAY2017
118	22	APR2015
119	22	APR2015
120	22	APR2015
121	40	JUL2020
122	40	JUL2020
123	40	JUL2020
124	22	APR2015
125	22	APR2015
126	22	APR2015
127	22	APR2015
128	22	APR2015

Chapter 5 Passenger Handling		
Page number	Issue number	Validity date
1	41	NOV2020
2	41	NOV2020
3	41	NOV2020
4	41	NOV2020
5	41T	SEP2022
6	40T	OCT2020
7	22	APR2015
8	40T	OCT2020
9	40	JUL2020
10	22	APR2015
11	40	JUL2020
12	40	JUL2020
13	23	DEC2015
14	22	APR2015
15	40	JUL2020
16	22	APR2015
17	22	APR2015
18	22	APR2015
19	22	APR2015
20	40	JUL2020
21	27	MAY2017
22	22	APR2015
23	40	JUL2020
24	30	DEC2017
25	41T	JUN2023
26	22	APR2015
27	22	APR2015
28	22	APR2015
29	22	APR2015
30	27	MAY2017
31	35	APR2019
32	40T	OCT2020
33	40	JUL2020
34	41T	JUN2023
35	40	JUL2020
36	30	DEC2017
37	41T	JUN2022
38	27	MAY2017
39	27	MAY2017
40	41T	MAR2021
41	41T	MAR2021
42	22	APR2015
43	22	APR2015
44	22	APR2015
45	40	JUL2020

Chapter 5 Passenger Handling		
Page number	Issue number	Validity date
46	40	JUL2020
47	41T	MAR2021
48	41T	JUN2023
49	41T	JUN2022
50	41T	JUN2022
51	41T	JUN2022
52	41T	JUN2022
53	40T	OCT2020
54	41T	JUN2022
55	40	JUL2020
56	41	NOV2020
57	22	APR2015
58	22	APR2015
59	22	APR2015
60	22	APR2015
61	22	APR2015
62	22	APR2015
63	40	JUL2020
64	22	APR2015
65	40	JUL2020
66	22	APR2015
67	40	JUL2020
68	22	APR2015
69	41	NOV2020
70	22	APR2015
71	41T	AUG2021
72	41T	AUG2021
73	41T	MAR2021
74	40	JUL2020
75	39	APR2020
76	41T	OCT2022
77	40	JUL2020
78	41T	JUN2022
79	23	DEC2015
80	41T	MAR2021
81	22	APR2015
82	41T	JUN2022
83	41T	JUN2022
84	41T	JUN2022
85	40	JUL2020
86	22	APR2015
87	22	APR2015
88	22	APR2015
89	22	APR2015
90	40	JUL2020

Chapter 5 Passenger Handling		
Page number	Issue number	Validity date
91	36	JUL2019
92	41T	JUN2022
93	22	APR2015
94	41T	MAR2021
95	25	NOV2016
96	41T	JUN2022
97	40	JUL2020
98	40	JUL2020
99	22	APR2015
100	22	APR2015
101	22	APR2015
102	25	NOV2016
103	22	APR2015
104	22	APR2015
105	22	APR2015
106	22	APR2015
107	28	JUN2017
108	22	APR2015
109	38	JAN2020
110	22	APR2015
111	22	APR2015
112	22	APR2015
113	41T	JUN2022
114	22	APR2015
115	22	APR2015
116	22	APR2015
117	40T	OCT2020
118	40T	OCT2020
119	40T	OCT2020
120	40T	OCT2020
121	40T	OCT2020
122	41T	AUG2021
123	41T	AUG2021
124	40T	OCT2020
125	41T	AUG2021
126	41	NOV2020
127	41	NOV2020
128	41	NOV2020
129	22	APR2015
130	22	APR2015
131	22	APR2015
132	22	APR2015
133	22	APR2015
134	22	APR2015
135	22	APR2015

Chapter 5 Passenger Handling		
Page number	Issue number	Validity date
136	22	APR2015
137	22	APR2015
138	22	APR2015
139	22	APR2015
140	23	DEC2015
141	22	APR2015
142	27	MAY2017

Chapter 6 Baggage Handling		
Page number	Issue number	Validity date
1	41	NOV2020
2	41	NOV2020
3	35	APR2019
4	22	APR2015
5	41T	JUN2022
6	41T	SEP2022
7	26	APR2015
8	26	APR2015
9	41T	MAR2021
10	22	APR2015
11	35	APR2019
12	41T	JUN2023
13	31	MAR2018
14	32	JUN2018
15	22	APR2015
16	41T	SEP2022
17	41T	JUN2022
18	22	APR2015
19	41T	JUN2022
20	41T	JUN2022
21	22	APR2015
22	40	JUL2020
23	22	APR2015
24	41T	JUN2022
25	41T	JUN2022
26	40	JUL2020
27	41	NOV2020
28	41T	JUN2022
29	40	JUL2020
30	22	APR2015
31	22	APR2015
32	22	APR2015
33	40T	OCT2020
34	41T	JUN2022

Chapter 6 Baggage Handling		
Page number	Issue number	Validity date
35	41T	JUN2022
36	40	JUL2020
37	30	DEC2017
38	39	APR2020
39	39	APR2020
40	41T	JUN2022
41	30	DEC2017
42	22	APR2015
43	31	MAR2018
44	30	DEC2017
45	22	APR2015
46	22	APR2015
47	22	APR2015
48	31	MAR2018
49	27	MAY2017
50	40	JUL2020
51	40	JUL2020
52	22	APR2015
53	40	JUL2020
54	22	APR2015
55	40	JUL2020
56	22	APR2015
57	35	APR2019
58	22	APR2015
59	41T	MAR2021
60	40	JUL2020
61	41T	MAR2021
62	41T	JUN2023
63	29	JUL2017
64	35	APR2019
65	32	JUN2018
66	32	JUN2018
67	41T	JUN2022
68	22	APR2015
69	22	APR2015
70	22	APR2015
71	22	APR2015
72	22	APR2015
73	41T	AUG2021
74	23	DEC2015
75	22	APR2015
76	41T	AUG2021
77	41T	AUG2021
78	41T	AUG2021

Chapter 6 Baggage Handling		
Page number	Issue number	Validity date
79	41T	AUG2021
80	41T	AUG2021
81	41T	AUG2021
82	41T	AUG2021
83	41T	AUG2021
84	41T	AUG2021
85	40	JUL2020
86	22	APR2015

Chapter 7 Cargo&Mail Handling		
Page number	Issue number	Validity date
1	41	NOV2020
2	41	NOV2020
3	41T	SEP2022
4	41	NOV2020
5	41	NOV2020
6	41	NOV2020
7	41	NOV2020
8	22	APR2015
9	40	JUL2020
10	40	JUL2020
11	35	APR2019
12	41	NOV2020
13	22	APR2015
14	22	APR2015
15	22	APR2015
16	22	APR2015
17	41T	JUN2022
18	22	APR2015
19	41T	JUN2022
20	41T	JUN2022
21	41T	JUN2022
22	41T	JUN2022
23	41T	JUN2022
24	41T	SEP2022
25	41T	JUN2022
26	41T	JUN2022
27	41T	JUN2022
28	22	APR2015
29	41	NOV2020

Chapter 7 Cargo&Mail Handling		
Page number	Issue number	Validity date
30	41T	JUN2022
31	41T	JUN2022
32	41T	JUN2022
33	41T	JUN2022
34	41T	JUN2022
35	41T	JUN2022
36	41T	MAR2021
37	41T	JUN2022
38	37	OCT2019
39	41	NOV2020
40	41	NOV2020
41	27	MAY2017
42	27	MAY2017
43	30	DEC2017
44	22	APR2015
45	40	JUL2020
46	40	JUL2020
47	41T	MAR2021
48	40T	OCT2020
49	22	APR2015
50	22	APR2015
51	22	APR2015
52	22	APR2015
53	41T	JJUN2023
54	41T	JUN2023
55	41T	JUN2023
56	38	JAN2020
57	22	APR2015
58	22	APR2015
59	22	APR2015
60	22	APR2015
61	41T	JUN2022
62	40	JUL2020
63	22	APR2015
64	22	APR2015
65	41T	JUN2022
66	22	APR2015
67	22	APR2015
68	22	APR2015
69	22	APR2015
70	22	APR2015
71	25	NOV2016
72	27	MAY2017

Chapter 8 Security		
Page number	Issue number	Validity date
1	41	NOV2020
2	41	NOV2020
3	22	APR2015
4	22	APR2015
5	41	NOV2020
6	22	APR2015
7	39	APR2020
8	31	MAR2018
9	22	APR2015
10	22	APR2015
11	40	JUL2020
12	39	APR2020
13	22	APR2015
14	39	APR2020
15	22	APR2015
16	39	APR2020
17	22	APR2015
18	39	APR2020
19	39	APR2020
20	39	APR2020
21	39	APR2020
22	39	APR2020
23	39	APR2020
24	39	APR2020
25	22	APR2015
26	39	APR2020
27	40	JUL2020
28	22	APR2015
29	40	JUL2020
30	39	APR2020
31	39	APR2020
32	39	APR2020
33	40	JUL2020
34	40	JUL2020
35	41T	JUN2022
36	40	JUL2020
37	39	APR2020
38	39	APR2020
39	41T	SEP2022
40	39	APR2020
41	39	APR2020
42	39	APR2020

Chapter 9 Emergency		
Page number	Issue number	Validity date
1	22	APR2015
2	22	APR2015
3	41	NOV2020
4	40	JUL2020
5	40	JUL2020
6	22	APR2015

Chapter 10 Communication		
Page number	Issue number	Validity date
1	41	NOV2020
2	41	NOV2020
3	40	JUL2020
4	41T	JUN2023
5	40	JUL2020
6	40	JUL2020
7	22	APR2015
8	22	APR2015
9	41T	MAR2021
10	40	JUL2020
11	40	JUL2020
12	38	JAN2020
13	40	JUL2020
14	41T	OCT2022
15	35	APR2019
16	35	APR2019
17	35	APR2019
18	35	APR2019
19	40T	OCT2020
20	35	APR2019
21	35	APR2019

Chapter 11 Appendices		
App. number	Issue number	Validity date
1	27	MAY2017
2	41	NOV2020
3	22	APR2015
4	41T	JUN2022
5	39	APR2020
6	41T	JUN2022
7	41T	JUN2022
8	41T	JUN2023
9	41T	JUN2023

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Chapter 1 – Introduction

1.0 Overview 1/32

1.1 General information 2/32

1.2 List of effective pages 5/32

1.3 Table of contents 19/32

Chapter 2 – Fleet

2.1 Basic information concerning aircraft operated by LOT Polish Airlines 3
2.1.2 ERJ 170-100 Aircraft 3
2.1.3 ERJ 170-200 Aircraft 4
2.1.4 ERJ 190-200 Aircraft 6
2.1.5 Boeing 787-8 Aircraft 9
2.1.6 DHC-8-400 Aircraft 10
2.1.7 B737-800 Aircraft 12
2.1.8 B737-8 Aircraft 14
2.1.9 Boeing 787-9 Aircraft 15
2.1.10 ERJ 190-100 Aircraft 17

Chapter 3 – Weight & Balance

3.1 INTRODUCTION 5
3.2 WEIGHT VALUES 7
3.2.1 General rules *7*
3.2.2 Standard weights: *7*
3.3 PRINCIPLES OF WEIGHT AND BALANCE 9
3.4 AIRCRAFT WEIGHT DEFINITION 13
3.4.1 Maximum design weights *13*
3.4.2 Operational weights *15*
3.4.3 Fuel As Ballast *16*
3.5. LOAD AND TRIM SHEET 17
3.5.1 ERJ 170–100 Loadsheet *19*
3.5.2 ERJ 170–100 Trim Chart *20*
3.5.3 ERJ 170–100 Index correction tables *21*
3.5.4 ERJ 170–200 Loadsheet *23*
3.5.5 ERJ 170–200 Trim Chart *25*
3.5.6 ERJ 170–200 Index correction tables *27*
3.5.7 ERJ 190–200 Loadsheet *29*
3.5.8 ERJ 190–200 Trim Chart *31*
3.5.9 ERJ 190–200 Index correction tables *33*
3.5.10 DHC-8-400 Loadsheet *35*
3.5.11 DHC-8-400 Trim Chart *37*
3.5.12 DHC-8-400 Index correction tables *39*
3.5.13 B787-8 Loadsheet *41*
3.5.14 B787-8 Trim Chart *42*
3.5.15 B787-8 Index correction tables *43*
3.5.16 B737-800 Loadsheet *45*
3.5.17 B737-800 Trim Chart *47*
3.5.18 B737-800 Index correction tables *49*

3.5.19 B737-8 Loadsheet *51*
3.5.20 B737-8 Trim Chart *52*
3.5.21 B737-8 Index correction tables *53*
3.5.22 B787-9 Loadsheet *55*
3.5.23 B787-9 Trim Chart *56*
3.5.24 B787-9 Index correction tables *57*
3.5.25 ERJ190-200AR Loadsheet *59*
3.5.26 ERJ190-200AR Trim Chart *60*
3.5.27 ERJ190-200AR Index correction tables *61*
3.5.28 ERJ190-100 Loadsheet *63*
3.5.29 ERJ190-100 Trim Chart *64*
3.5.30 ERJ190-100 Index correction tables *65*
3.6 MANUAL LOADSHEET – DESCRIPTION 67
3.7 EXAMPLES OF COMPLETED LOADSHEETS 73
3.7.1 Example 1 – ERJ170–100 ..... *73*
3.7.2 Example 2 – DHC-8-400 ..... *77*
3.7.3 Example 3 – B787-8 ..... *81*
3.7.4 Example 4 – B737-800 ..... *85*
3.7.5 Example 5 – B737-8 ..... *89*
3.7.6 Example 6 – ERJ 190-100 ..... *93*
3.8 LOADSHEET PRODUCED BY ELECTRONIC DATA PROCESSING MACHINE 97
3.8.1 ACARS Final Loadsheet *99*
3.9 LMC PROCEDURE 101
3.10 LOADING INSTRUCTION/REPORT 103
3.10.1 Loading Instruction/Report ERJ 170–100 ..... *105*
3.10.2 Loading Instruction/Report ERJ 170–200 ..... *107*
3.10.3 Loading Instruction/Report ERJ 190–200 / ERJ 190-200AR *109*
3.10.4 Loading Instruction/Report DHC-8-400 ..... *111*
3.10.5 Loading Instruction/Report B787-8 ..... *115*
3.10.6 Loading Instruction/Report B737-800 ..... *117*
3.10.7 Loading Instruction/Report B737-8 ..... *119*
3.10.8 Loading Instruction/Report B787-9 ..... *121*
3.10.9 Loading Instruction/Report ERJ190-100 ..... *123*
3.11 LOADING INSTRUCTION/REPORT – DESCRIPTION 125
3.11.1 Electronic Loading Instruction Report *127*
3.11.2 Electronic Graphical Loading Instruction *128*
3.11.3 Electronic NOTOC *131*
3.12 AIRCRAFT CHARACTERISTICS 133
3.12.1 B737-800/ -86N/ -8 ..... *133*
3.12.2 ERJ 170-100/ -200 and ERJ 190-100/ -200LR / -200AR *156*
3.12.2.1 ERJ 170- 100/-200 and ERJ 190-100/-200 LR&AR – cargo tiedown with vertical cargo net attachment points 178
3.12.2.2 ERJ 170 -100/-200 and ERJ 190-200 LR– cargo tiedown with additional attachment points 186
3.12.3 DHC-8-400 ..... *188*
3.12.4 B787-8/-9 ..... *190*
3.12.4.1.1 B787-8 – cargo compartments description. 193
3.12.4.1.2 B787-9 – cargo compartments description. 194
3.12.4.2 B787-8 / -9 – ULD dimensions and lateral positions – size code K, L and P 195
3.12.4.3 B787-8 / -9 – ULD dimensions and lateral positions – size code A, M, N and Q longitudinal 199
3.12.4.4.1 B787-8 – cargo restraint system – forward hold - size codes K, L, and P 202
3.12.4.4.2 B787-9 – cargo restraint system – forward hold - size codes K, L, and P 208
3.12.4.5.1 B787-8 – cargo restraint system – forward hold - size codes A, M, N, Q longitudinal 214
3.12.4.5.2 B787-9 – cargo restraint system – forward hold - size codes A, M, N, Q longitudinal 221
3.12.4.6.1 B787-8 – cargo restraint system – aft hold - size codes K, L, and P 228
3.12.4.6.2 B787-9 – cargo restraint system – aft hold - size codes K, L, and P 235
3.12.4.7.1 B787-8 – cargo restraint system – aft hold - size codes A, M, N, Q longitudinal 241
3.12.4.7.2 B787-9 – cargo restraint system – aft hold - size codes A, M, N, Q longitudinal 248

3.12.4.8 B787-8 / -9 – barrier net – aft and bulk holds 255
3.12.4.9.2 B787-9 – cargo tiedowns – lower deck 274
3.12.4.10.1 B787-8 – tiedown fitting locations - forward hold 294
3.12.4.10.2 B787-9 – tiedown fitting locations - forward hold 296
3.12.4.11.1 B787-8 – tiedown fitting locations - aft hold 298
3.12.4.11.2 B787-9 – tiedown fitting locations - aft hold 300
3.12.4.12.1 B787-8 – tiedown fitting locations - bulk hold 302
3.12.4.12.2 B787-9 – tiedown fitting locations - bulk hold 303
3.12.4.13.1 B787-8 – cargo lateral imbalance control and limitations 304
3.12.4.13.2 B787-8 – cargo lateral imbalance control and limitations 311
3.13 BASIC LOADING PRINCIPLES 318
3.14 PACKAGE MAXIMUM SIZE DIMENSIONS 320
3.14.1 ERJ 170–100 and ERJ170-200 322
3.14.2 ERJ 190–100 and ERJ 190–200 324
3.14.3 DHC-8-400 326
3.14.4 B787-8 328
3.14.5 B737-800 / -86N/ -8 338
3.14.6 B787-9 340
3.15 LIVE ANIMALS CARRIAGE 350
3.15.1 General rules 350
3.15.2 B737 -800 / -86N / -8 352
3.15.3 ERJ 170–100/–200 and ERJ 190–100/-200 356
3.15.4 DHC-8-400 358
3.15.5 B787-8 / -9 359
3.16 EFFECT OF COG POSITION ON FUEL CONSUMPTION 360
3.16.1 ERJ 170-100/-200 and ERJ 190-200 loading guidelines 362
3.17 COST OF WEIGHT (COW) 364
3.18 PASSENGERS SEATS RESTRICTIONS WITH THE EMERGENCY EXITS INOPERATIVE 366
3.18.1 ERJ 170-100 366
3.18.2 ERJ 170-200 367
3.18.3 ERJ 190-200 368
3.19 TOWING AND TIPPING LIMITATIONS 369
3.19.1 ERJ 170-100/-200 and ERJ 190-100/-200 369
3.19.2 DHC-8-400 370
3.19.3 B787-8 371
3.19.4 B737-800 / -86N 372
3.19.5 B737-8 374
3.19.6 B787-9 375
3.20 CENTRALIZED LOAD CONTROL 376
3.20.1 Procedures for Load Controller 377
Duties of Load Controller starting shift 377
Non-Standard Pantry 378
Information about Cargo Provisional / Final 380
Estimated Zero Fuel Weight 381
NOTOC Message 382
Loading Instruction Report 383
Crew Bags 385
Offload Priority in Case of Overload 386
Release Final NOTOC 387
Correct RTOW/RLDW in system 388
Preliminary Load Sheet 389
Final Load Sheet 390
LMC – Last Minute Change 391
Flight Status Departed 392
Seat Blocking 393
Reseating Passenger 395
User ID Locked 396
Allocating Flight to “Dummy” User 406

Actual Time of Departure on Flight ... 398
Load Sheet Stab Settings ... 399
Additional leg in flight ... 401
DAA – Delivery at aircraft ... 402
VIP flights procedure (flights departing from non-PL stations) ... 403
Diverted Flight ... 405
3.20.2 Procedures for Ramp Agents ... 406
Sign in to flight and subscription of messenger in Altea FM – Ramp Module ... 406
Information about Cargo Provisional / Final ... 407
LIR – Loading Instruction Report ... 408
Printing additional copies of documents: LIR, LS, NOTOC ... 409
Offload priority in case of overload ... 410
Potable Water ... 411
Trip Info – passing fuel, crew and restrictions ... 412
Crew Bags ... 413
Ramp Clearance Check Sheet ... 414
Flight Status Indicators ... 414
Load Sheet and NOTOC ... 415
LMC – Last Minute Change ... 416
Load Messages: LDM, CPM ... 417
DAA – Delivery at aircraft bags ... 418
System Outage ... 419
Contingency Plan – Forms for passing flight data ... 420
3.20.3 Instructions for Altea FM – Freight Module ... 423
3.20.4 Instructions for Altea FM – Ramp Module ... 424
3.20.5 CLC information flow – online stations ... 426
3.20.6 CLC information flow – offline stations ... 427
3.21 WEIGHT AND BALANCE TRAINING ... 428

Chapter 4 – Ramp Handling

4.1 Handling agent staff training ... 3/126
4.2 Handling agent functions ... 5/126
4.3 Ground support equipment ... 7/126
4.3.1 Ground Power Unit (GPU) ... 9/126
4.3.2 Air Starter Unit (ASU) ... 11/126
4.3.3 Air Heater / Air Cooler ... 12/126
4.3.4 Boarding bridge ... 12/126
4.4 List of ground handling activities on the ramp during turnaround ... 13/126
4.4.1 PRE arrival/departure inspection ... 14/126
4.4.2 Walk around inspection ... 14/126
4.4.2.1 General information ... 14/126
4.4.2.2 The PRE departure walk around check ... 15/126
4.5 LOT Polish Airlines ramp handling requirements ... 17/126
4.5.1. General Safety Measures on the Ramp ... 19/126
4.6 Chapter deleted ... 22/126
4.7 Baggage handling ... 23/126
4.7.1 Handle baggage in the baggage sorting area ... 23/126
4.7.2 Prepare baggage for delivery onto flights ... 24/126
4.7.3 Loading sequence ... 26/126
4.7.4 Handling of damaged baggage, cargo and mail (general and dangerous goods) ... 28/126
4.7.5 Passenger items transported in the passenger seats of the aircraft cabin ... 30/126
4.7.6 Stowing of load in the passenger cabin ... 31/126
4.7.7 Withdrawing load from the flight ... 32/126
4.7.8 Arriving baggage handling standards ... 33/126

4.8 Marshalling at arrival/departure 35/126
4.9 Parking 37/126
4.9.1 Position and/or remove wheel chocks 37/126
4.9.2 Position or remove tail stands and/or aircraft tethering and safety cones 40/126
4.9.3 Adverse weather Condition 41/126
4.9.3.1 Winter Conditions 41/126
4.9.3.2 Storm- Lightning 41/126
4.9.3.3 Strong Wind Conditions 43/126
4.9.3.1.1 High winds pose a great risk of damage and the following minimum actions shall be taken: 43/126
4.9.4 Chapter (please see Chapter 4.3.1 and 4.3.2) 46/126
4.9.5 Aircraft servicing arrangements - no contact policy 47/126
4.9.5.1 deleted 47/126
4.9.5.2 ERJ 170-100/200 ..... 47/126
4.9.5.3 ERJ 190-200 ..... 48/126
4.9.5.4 B737-800/MAX8 ..... 49/126
4.9.5.5 B787 ..... 50/126
4.9.5.6 DHC-8-400 ..... 51/126
4.9.5.7 DHC-8-400 - continue 52/126
4.9.6 Access to the aircraft 52/126
4.9.7 Door operations 53/126
4.9.8 Minimum ground handling time 56/126
4.10 Chapter (please see Chapter 4.3.3) 56/126
4.11 Ramp to flight communication 57/126
4.12 Safety risk management 59/126
4.12.1 Hazard Report Form 60/126
4.13 Safety measures 63/126
4.13.1 Aircraft danger zones 65/126
4.13.1.1 B737 Aircraft 66/126
4.13.1.2 ERJ 170 – 100/200 Aircraft 67/126
4.13.1.3 ERJ 190-200 ..... 68/126
4.13.1.4 B787 Aircraft 69/126
4.13.1.5 – DHC-8-400 ..... 70/126
4.13.2 Ramp accidents/incidents 71/126
4.13.2.1 Air/Ground Safety Report 73/126
4.13.3 Damage to the aircraft 75/126
4.13.3.1 Aircraft Damage Report 76/126
4.13.4 Safety precaution during fuelling/defueling 86/126
4.13.5 Safety precaution during fuelling with passengers embarking, disembarking or remaining on board 89/126
4.14 Interior cleaning 91/126
4.15 Disinfections and disinsections of the aircraft 93/126
4.16 Potable Water and Lavatory Service 95/126
4.17 De-Icing and Anti-Icing 97/126
4.18 Catering and provisioning 99/126
4.19 ULD management 101/126
4.19.1 General rules 101/126
4.19.2 LO ULD devices for cargo and baggage loading – description 106/126
4.19.3 Movements and stock control 106/126

4.19.4 ULD securing 107/126
4.20 Push back 109/126
4.20.1 Push back procedure and communication 113/126
4.21 Station file 115/126
4.22 Operation coordination and supervision 116/126
4.22.1 Operation supervision 116/126
4.22.2 ATS Flight plan and Slot Management 117/126
4.22.2.1 Examples of slot messages: 118/126
4.22.3 Cooperation between Station Manager and Flight Dispatcher 119/126
4.22.4 Handling agent's ATM Quick Reference List 121/126
4.23 Death on board of a LOT Polish Airlines aircraft 125/126
4.23.1 Procedure 125/126

Chapter 5 – Passenger Handling

5.1 Pre – departure 5/146
5.1.1 Personnel: 5/146
5.1.2 Check-in facilities 6/146
5.1.3 Necessary information 7/146
5.1.4 LOT Signage (check-in area) 8/146
5.2 Travel documents 9/146
5.2.1 Passenger ticket 10/146
5.2.1.1 Ticket validity 11/146
5.2.1.2 Handling of passengers who have lost their paper tickets, ticket coupons or excess baggage tickets 12/146
5.2.2 Miscellaneous charge order (MCO) 14/146
5.2.3 Manual/automated excess baggage ticket 14/146
5.2.4 Other transportation documents 15/146
5.2.4.1 Flight Interruption Manifest (FIM) 15/146
5.2.4.1.1 Flight Interruption Manifest (FIM) example 17/146
5.2.4.2. Flight Interruption Manifest Envelope 18/146
5.2.5 Passport and visa 19/146
5.2.5.1 General rules 19/146
5.2.5.2 Travel documents (passport, seaman's book, visas and/or other certificates) 20/146
5.3 Check-in 21/146
5.3.1 General rules and definitions 21/146
5.3.1.1 Procedure for ID tickets acceptance 25/146
5.3.1.2 Priorities concept of LOT Polish Airlines 26/146
5.3.2 Check in procedure 29/146
5.3.3 Booking restrictions and seating limitations 30/146
5.4 Boarding 33/146
5.4.1 General rules 33/146
5.4.2 Boarding procedure 36/146
5.4.2.1 Zone boarding - procedure 37/146
5.4.3 Denied boarding condition 40/146
5.5 Mandatory information to the crew 40/146
5.5.1 Passenger Information List (PIL) 40/146
5.6 Arrival 41/146
5.6.1 Pre-arrival 41/146

5.6.2 Disembarkation ... 41/146
5.7 Very important persons (VIP) ... 43/146
5.7.1 Important persons (IP) ... 44/146
5.7.2 HEAD and VIP flights/operations ... 45/146
5.8 Frequent flyers ... 47/146
5.8.1 General rules ... 47/146
5.8.2 The Miles & More Card ... 48/146
5.8.3 Frequent Traveller card (Star Silver) ... 49/146
5.8.4 Senator Card (Star Gold) ... 50/146
5.8.5 HON Circle Card (Star Gold) ... 51/146
5.9 Minors travelling alone ... 53/146
5.9.1 General rules ... 53/146
5.9.1.1 “Request for carriage” document ... 55/146
5.9.1.1.1 Distribution ... 56/146
5.9.2 Procedures for handling Unaccompanied Minors ... 61/146
5.9.2.1 Departure station ... 61/146
5.9.2.2 Transit station ... 62/146
5.9.2.3 Transfer station ... 62/146
5.9.2.4 Arrival station ... 62/146
5.9.2.5 Operational irregularities ... 63/146
5.9.3 Minors escorted by company escort ... 65/146
5.9.3.1 General rules ... 65/146
5.9.3.2 Handling procedure ... 66/146
5.9.3.2.1 Departure station ... 66/146
5.9.3.2.2 Transfer station ... 66/146
5.9.4. MAAS Meet and Assist - the service is suspended ... 67/146
5.10 Passengers with infants and children ... 69/146
5.10.1 Passengers with infants ... 69/146
5.10.2 Passengers with children ... 70/146
5.10.3 Expectant Mothers ... 70/146
5.11 Passengers with reduced mobility ... 71/146
5.11.1 General information ... 71/146
5.11.2 Blind and deaf passengers ... 72/146
5.11.2.1 Assistance dogs ... 72/146
5.11.3 Leg rest ... 72/146
5.11.4 Stretcher cases (STCR) - the service is suspended ... 73/146
5.11.5 Supplementary oxygen (OXYG) ... 74/146
5.11.6 Wheelchair Code based on the passengers' needs ... 75/146
5.11.7 Wheelchair Code based on power type ... 76/146
5.11.8 MEDA message ... 77/146
5.11.9 MEDIF form ... 77/146
5.11.10 FREMEC Card ... 81/146
5.11.11 Handling procedures ... 83/146
5.11.12 Handling of Passenger with Reduced Mobility (PRM) in Atlantic Flights ... 87/146
5.12 Irregularities ... 95/146
5.12.1 General rules ... 95/146
5.12.1.1 Rules for handling agent ... 96/146
5.12.2 Delay ... 98/146

5.12.2.1 Decision criteria 98/146
5.12.2.2 Handling if the delay is known before boarding 99/146
5.12.2.3 Handling if the delay known after completion of boarding 100/146
5.12.2.4 Delay involving night stop 100/146
5.12.2.5 Long delays 101/146
5.12.3 Cancellation 102/146
5.12.4 Change of the aircraft 104/146
5.12.5 Meals and refreshments 104/146
5.12.6 Hotel accommodation 105/146
5.12.7 Denied boarding due to an irregularity 107/146
5.12.7.1 Denied Boarding Compensation (amounts and form of payment) 108/146
5.12.8 Involuntary change of class (upgrading, downgrading) 109/146
5.12.9 Substitute surface transportation 111/146
5.12.10 Cash Payment Order 116/146
5.13 Inadmissible passengers and deportees 117/146
5.13.1 General rules 117/146
5.13.2 Handling of INADs 119/146
5.13.3 Handling of deportees 121/146
5.13.4 INAD/DEPO Notification Form Template 124/146
5.14 Handling Agent staff training 126/146
5.15 Electronic Ticket 125/146
5.15.1 Check-in procedure 127/146
5.15.2 Irregularity 128/146
5.16 Flight certificate 133/146
5.16.1. Flight Certificate form 136/146
5.17 Warsaw HUB Station 137/146

Chapter 6 – Baggage Handling

6.1 General policy 3/86
6.2 Baggage Allowances 5/86
6.2.1 Description of baggage 5/86
6.2.2 Free baggage allowances 5/86
6.2.2.1 Free checked baggage allowances 6/86
6.2.2.2 Free unchecked baggage allowance 9/86
6.3 Excess Baggage 15/86
6.3.1 General rules 15/86
6.3.2 Procedure at the gate 15/86
6.3.3 Procedure at check-in counter 16/86
6.3.4 Excess baggage charges - code-share flights 16/86
6.3.5 Size restrictions 16/86
6.4 Carriage of Live Animals (PETC and AVIH) as baggage 19/86
6.4.1 General rules 19/86
6.4.2 Documentation 21/86
6.4.3 Handling of PETC 24/86
6.4.4 Handling of AVIH 25/86
6.4.4.1 Selection of a hold for carriage of live animals, as recommended in LOT Polish Airlines 28/86
6.4.5 Labelling 29/86
6.4.6 Responsibility 30/86
6.5 Dangerous Goods as Baggage 33/86
6.5.1 Recognition of dangerous goods and hidden hazards 36/86
6.5.2 Carriage of wheelchairs or mobility aids with spillable batteries 38/86
6.5.3 Carriage of wheelchairs or mobility aids with non-spillable wet batteries 39/86
6.5.4 Carriage of wheelchairs or mobility aids with lithium batteries 40/86
6.5.5 Limitation 40/86
6.5.6 Carriage of dry ice (carbon dioxide, solid) 41/86
6.6 Carriage of weapons and ammunitions in passenger baggage 43/86
6.6.1 Handling procedures (international and domestic flights) 48/86
6.6.2 Labelling 50/86
6.7 Carriage of a bicycle as checked baggage 51/86
6.7.1 Limitation 51/86
6.8 Crew baggage 53/86
6.8.1 Labelling 53/86
6.9 Stand-by baggage 55/86
6.9.1 Labelling 55/86
6.10 Fragile baggage / Limited Release Tag 57/86
6.10.1 Labelling 58/86
6.10.2 Handling limited release baggage procedure 58/86
6.11 Delivery at aircraft baggage 59/86
6.11.1 Labelling 59/86
6.11.2 Handling procedure 60/86
6.11.3 Handling procedure for baby strollers/pushchairs, car-type seats and wheelchairs 61/86

6.12 Priority baggage 62/86
6.12.1 Labelling 63/86
6.12.2 Baggage of Unaccompanied Minors (UM) 64/86
6.13 Baggage of transfer passenger 65/86
6.13.1 Labelling 65/86
6.13.2 LDM message 66/86
6.14 Baggage pooling 67/86
6.15 Irregularities 69/86
6.15.1 General rules 69/86
6.15.2 Found baggage 70/86
6.15.2.1 General rules 70/86
6.15.2.2 Acceptance of expedite baggage 70/86
6.15.2.3 Labelling 71/86
6.15.3 Missing baggage 73/86
6.15.3.1 General rules 73/86
6.15.3.2 Delivery of mishandled baggage procedure 74/86
6.15.4 Damaged baggage 75/86
6.15.4.1 General rules 75/86
6.15.4.2 Damaged baggage report procedure 75/86
6.15.4.3 Compensation procedure 75/86
6.15.4.4 Baggage claims procedures for Lost&Found offices handling LOT Polish Airlines 76/86
6.16 Carriage of human ashes as baggage 85/86

Chapter 7 – Cargo & Mail Handling

7.1 General rules ... 3/72
7.2 Training and qualifications ... 5/72
7.3 Acceptance & Handling ... 9/72
7.3.1 General Cargo ... 9/72
7.3.2 Special Cargo ... 12/72
7.4 Dangerous goods ... 13/72
7.4.1 General rules ... 13/72
7.4.2 Acceptance of Dangerous goods ... 20/72
7.4.2.1 Shipper's Declaration for Dangerous Goods form ... 28/72
7.4.2.2 NOTOC ... 30/72
7.4.2.3. Segregation of packages ... 30/72
7.4.2.4 Minimum Separation Distances for Radioactive Material (RRY) ... 32/72
7.4.3 Handling of Dangerous goods ... 33/72
7.4.3.1 Handling of Lithium metal/ion batteries ... 35/72
7.4.3.2 Automobile Inspection Form - chapter deleted ... 37/72
7.4.4 Incidents with Dangerous Goods ... 39/72
7.4.4.1 Dangerous Goods Occurrence Report ... 41/72
7.4.4.2 Dangerous Goods Emergency Response Chart (ground incidents) ... 43/72
7.5 Human remains ... 45/72
7.6 Live animals (AVI) ... 47/72
7.6.1 Shipper's Certification for Live Animals ... 49/72
7.6.2 Labelling ... 51/72
7.7 Pharmaceutical cargo (PIL) ... 53/72
7.8 Perishable cargo (PER) ... 57/72
7.9 Diplomatic Mail (DIP) ... 59/72
7.10 Valuable Cargo (VAL) ... 61/72
7.11 Other Special Cargo ... 63/72
7.12 Carriage of weapons and ammunition ... 65/72
7.13 Air Mail ... 67/72
7.14 Company material ... 69/72
7.15 Company mail ... 71/72

Chapter 8 – Security

8.1 The Security Standards of LOT Polish Airlines ... 3/42
8.2 Recruitment and training ... 5/42
8.3 Definitions ... 7/42
8.4 Security procedures ... 9/42
8.4.1 Aircraft Security Search ... 9/42
8.4.2 Aircraft protection ... 11/42
8.4.3 Sealing procedure ... 13/42
8.4.3.1 Security seals used by LOT Polish Airlines and Sealing Reports ... 15/42
8.4.4 Passenger and baggage procedures ... 26/42
8.4.4.1 Passengers and baggage reconciliation procedures ... 26/42
8.4.4.2 Passengers and baggage (checked and cabin) screening ... 29/42
8.4.4.3 Screening of crew members and their baggage (checked and cabin) ... 31/42
8.4.4.4 Security procedures concerning passengers and their baggage checked-in outside the airport ... 31/42
8.4.5 Security procedures for cargo and mail ... 32/42
8.4.6 In-flight supplies check ... 38/42
8.4.7 Handling mail and carrier's materials ... 39/42
8.4.8 Passengers who violate rules of carrying ... 39/42
8.4.8.1 REFUSAL PASSENGER CARRIAGE - ON-GROUND DISTURBANCE INCIDENT REPORT / FLIGHT DISTURBANCE INCIDENT REPORT - see next page ... 40/42

Chapter 9 – Emergency

9.0 Overview 1/6

9.1 Emergency response procedure 3/6
9.1.1 Handling agent responsibility in case of emergency 4/6

9.2 Emergency contacts 5/6

Chapter 10 – Communication

10.1 Communication Channels 3/21
10.1.1 Priority of Communication Channels 3/21
10.1.2 Contact list in LOT Polish Airlines 4/21
10.2 Messages 5/21
10.2.1 Movement Message (MVT) 5/21
10.2.1.1 Movement message elements 5/21
10.2.1.2 Distribution of Movement Messages 7/21
10.2.2 Load message (LDM) 7/21
10.2.2.1 Load message elements 8/21
10.3 SITA Message Distribution 9/21
10.4 Delay Codes 13/21
10.4.1 Subcodes main rules 13/21
10.4.2 List of delay codes and subcodes used by LOT Polish Airlines 14/21

Chapter 11 – Appendices

App. 1	DGOR
App. 2	Aircraft Damage Report
App. 3	Walk around inspection form
App. 4	MEDIF
App. 5	Safety Training Specifications
App. 6	Dangerous Goods Acceptance Check Sheet for Lithium Batteries (ELI/ELM)

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Chapter 2 – Fleet

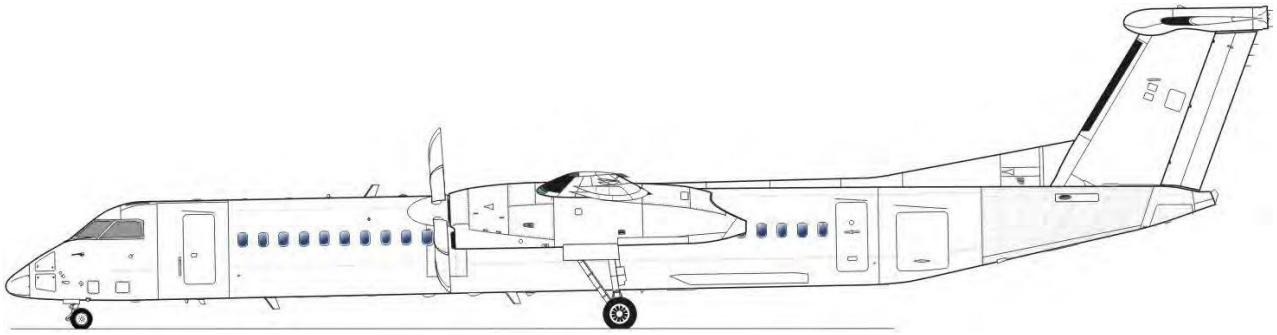
Table of Content

2.1 Basic information concerning aircraft operated by LOT Polish Airlines 3
2.1.1 DHC-8-400 Aircraft 3
2.1.2 ERJ 170-100 Aircraft 4
2.1.3 ERJ 170-200 Aircraft 5
2.1.4 ERJ 190-100 Aircraft 7
2.1.5 ERJ 190-200 Aircraft 9
2.1.6 B737-800 Aircraft 12
2.1.7 B737-8 Aircraft 14
2.1.8 Boeing 787-8 Aircraft 16
2.1.9 Boeing 787-9 Aircraft 18

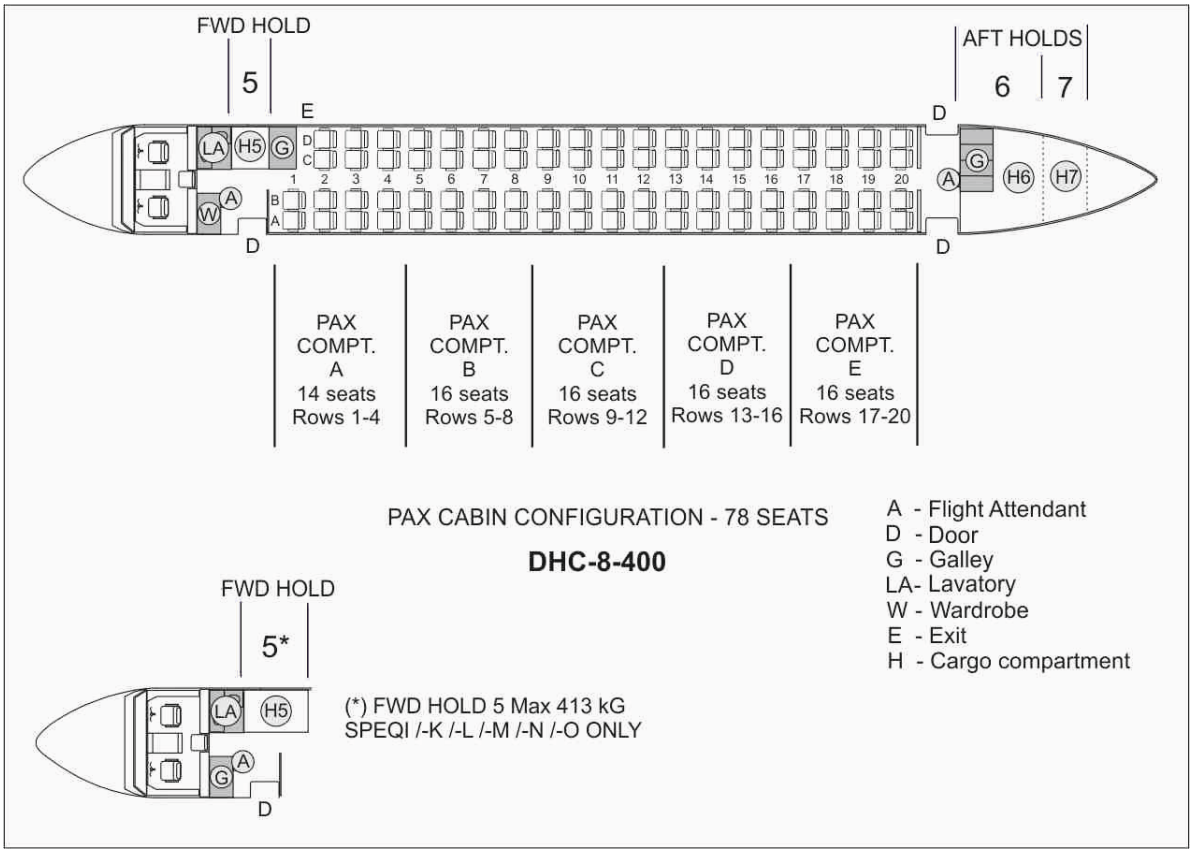
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2.1 Basic information concerning aircraft operated by LOT Polish Airlines

2.1.1 DHC-8-400 Aircraft



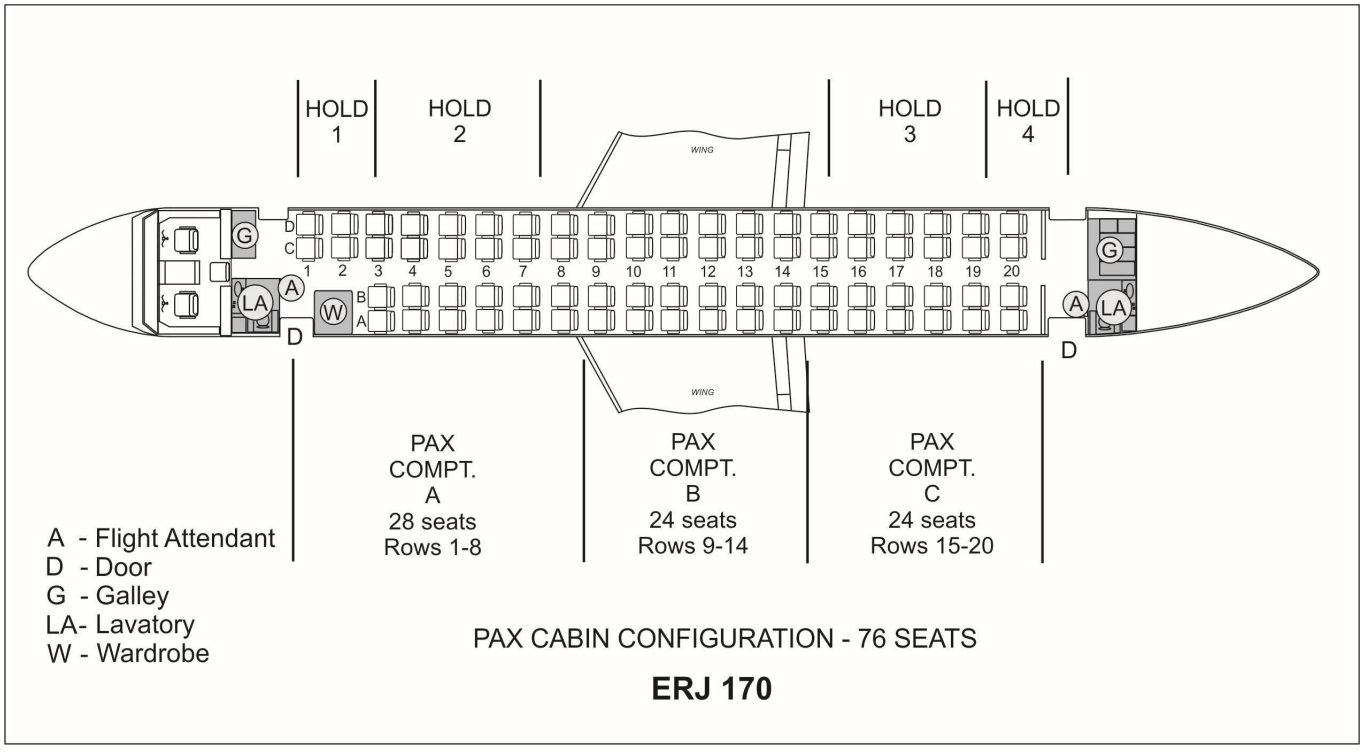
REGISTRATION	TYPE of A/C	CONFIG C/P/Y	MZFW kg	MTOW kg	MLW kg
SP-EQC	DHC-8-400	78	25855	28998	28009
SP-EQF	DHC-8-400	78	25855	28998	28009
SP-EQG	DHC-8-400	78	25855	28998	28009
SP-EQI	DHC-8-400	78	25855	28998	28009
SP-EQK	DHC-8-400	78	25855	28998	28009
SP-EQL	DHC-8-400	78	25855	28998	28009



2.1.2 ERJ 170-100 Aircraft



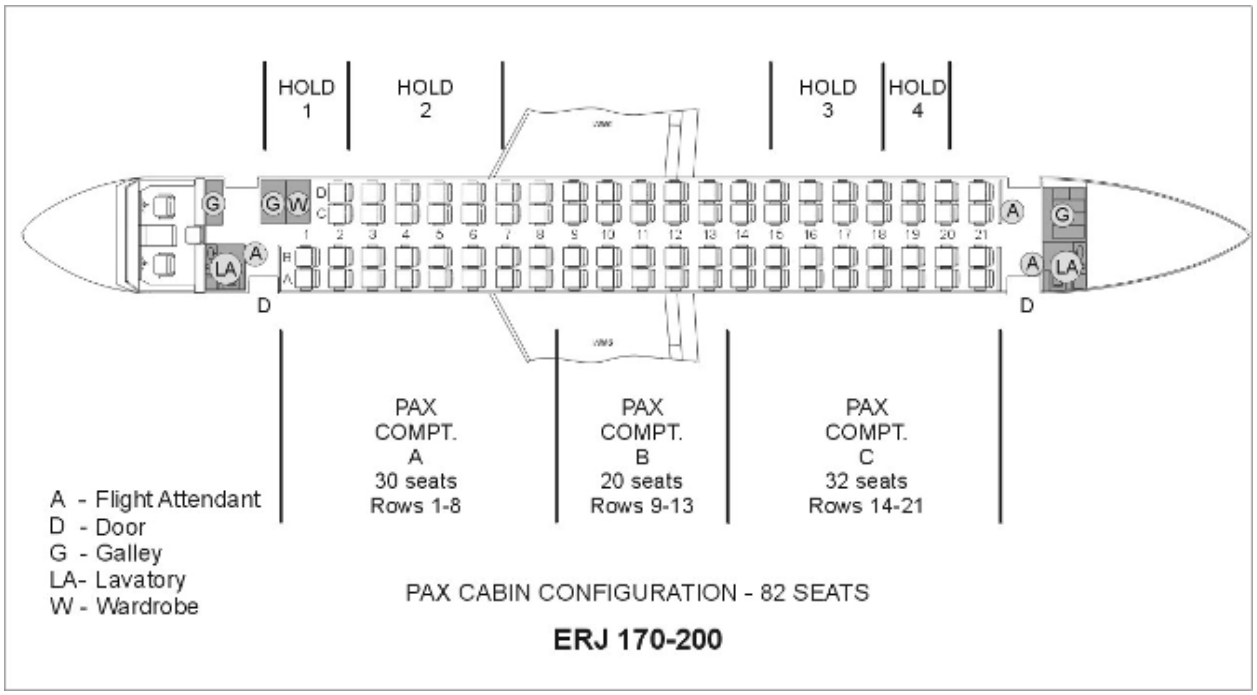
REGISTRATION	TYPE of A/C	CONFIG C/P/Y	MZFW kg	MTOW kg	MLAW kg
SP-LDE	ERJ170-100	76	29600	35990	32800
SP-LDF	ERJ170-100	76	29600	35990	32800
SP-LDG	ERJ170-100	76	29600	35990	32800
SP-LDH	ERJ170-100	76	29600	35990	32800
SP-LDI	ERJ170-100	76	29600	35990	32800
SP-LDK	ERJ170-100	76	29600	35990	32800

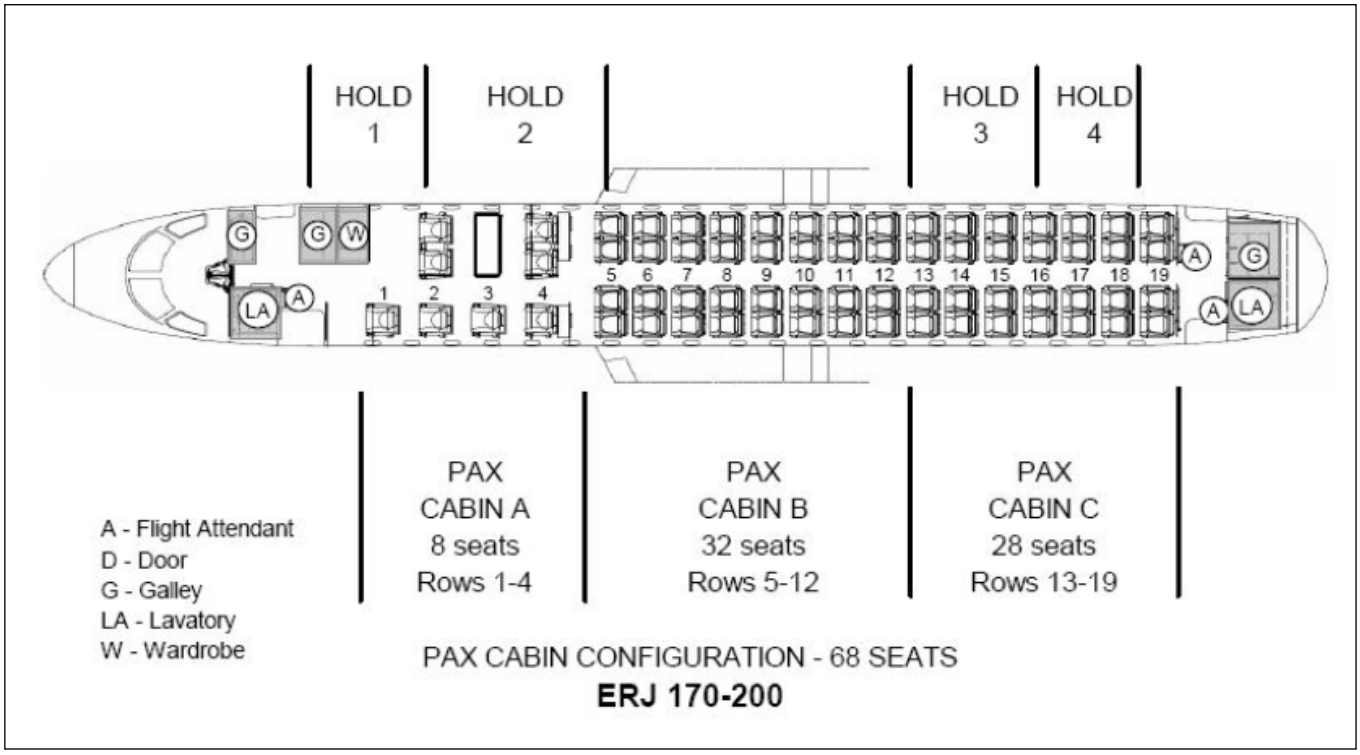


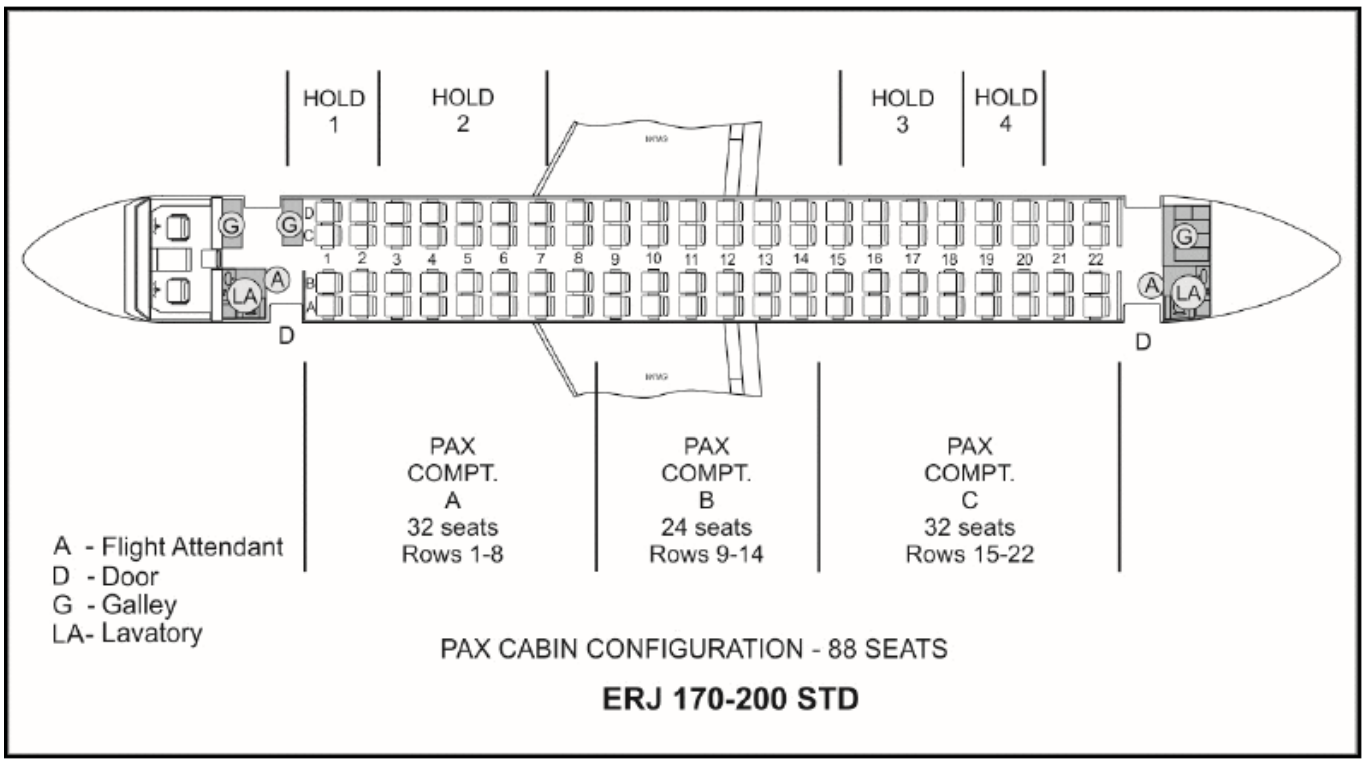
2.1.3 ERJ 170-200 Aircraft



REGISTRATION	TYPE of A/C	CONFIG C/P/Y	MZFW kg	MTOW kg	MLAW kg
SP-LIA	ERJ170-200	82	31700	38790	34000
SP-LIB	ERJ170-200	82	31700	38790	34000
SP-LIC	ERJ170-200	82	31700	38790	34000
SP-LID	ERJ170-200	82	31700	38790	34000
SP-LIE*	ERJ170-200	82	31700	38790	34000
SP-LIF*	ERJ170-200	82	31700	38790	34000
SP-LIG	ERJ170-200	68	31700	38790	34000
SP-LIH	ERJ170-200	68	31700	38790	34000
SP-LII	ERJ170-200	82	31700	38790	34000
SP-LIK	ERJ170-200	82	31700	38790	34000
SP-LIL	ERJ170-200	82	31700	38790	34000
SP-LIM	ERJ170-200	82	31700	38790	34000
SP-LIN	ERJ170-200	82	31700	38790	34000
SP-LIO	ERJ170-200	82	31700	38790	34000
SP-LIP	ERJ170-200STD	88	31700	37500	34000
SP-LIQ	ERJ170-200STD	88	31700	37500	34000
SP-LIR	ERJ170-200STD	88	31700	37500	34000



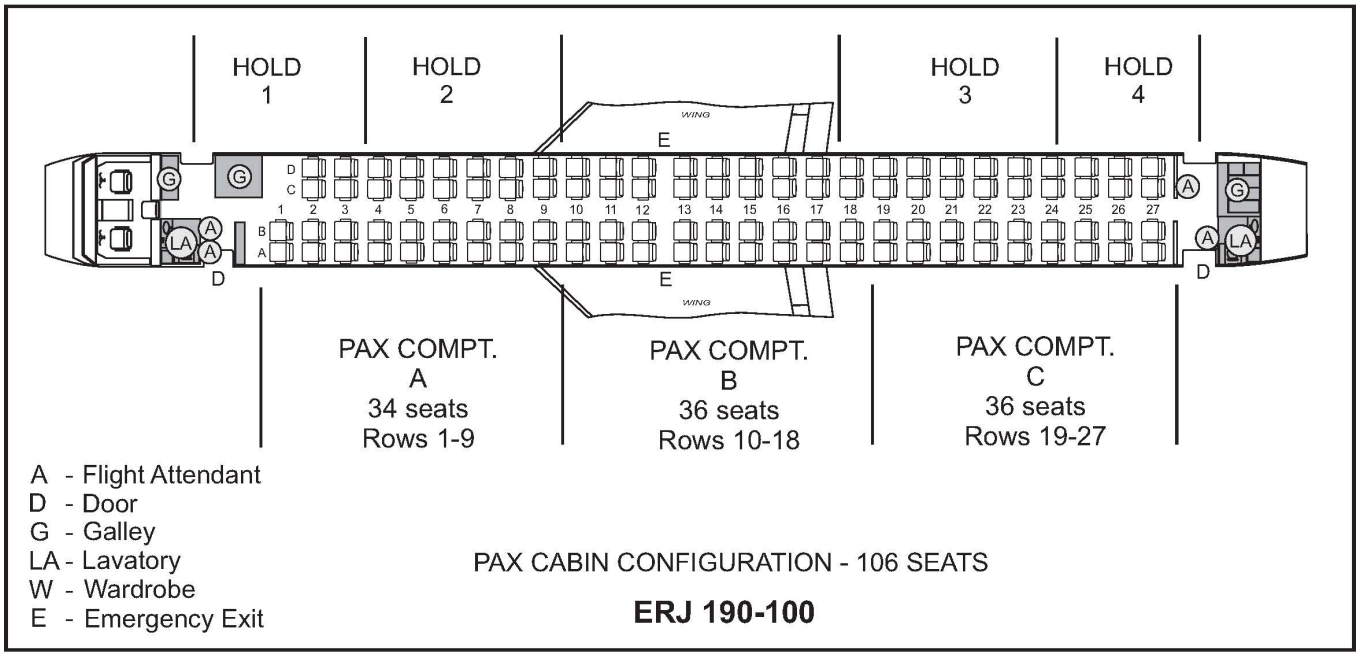

HOLD 1
HOLD 2
HOLD 3
HOLD 4
PAX CABIN A 8 seats Rows 1-4
PAX CABIN B 32 seats Rows 5-12
PAX CABIN C 28 seats Rows 13-19
A - Flight Attendant
D - Door
G - Galley
LA - Lavatory
W - Wardrobe
PAX CABIN CONFIGURATION - 68 SEATS
ERJ 170-200

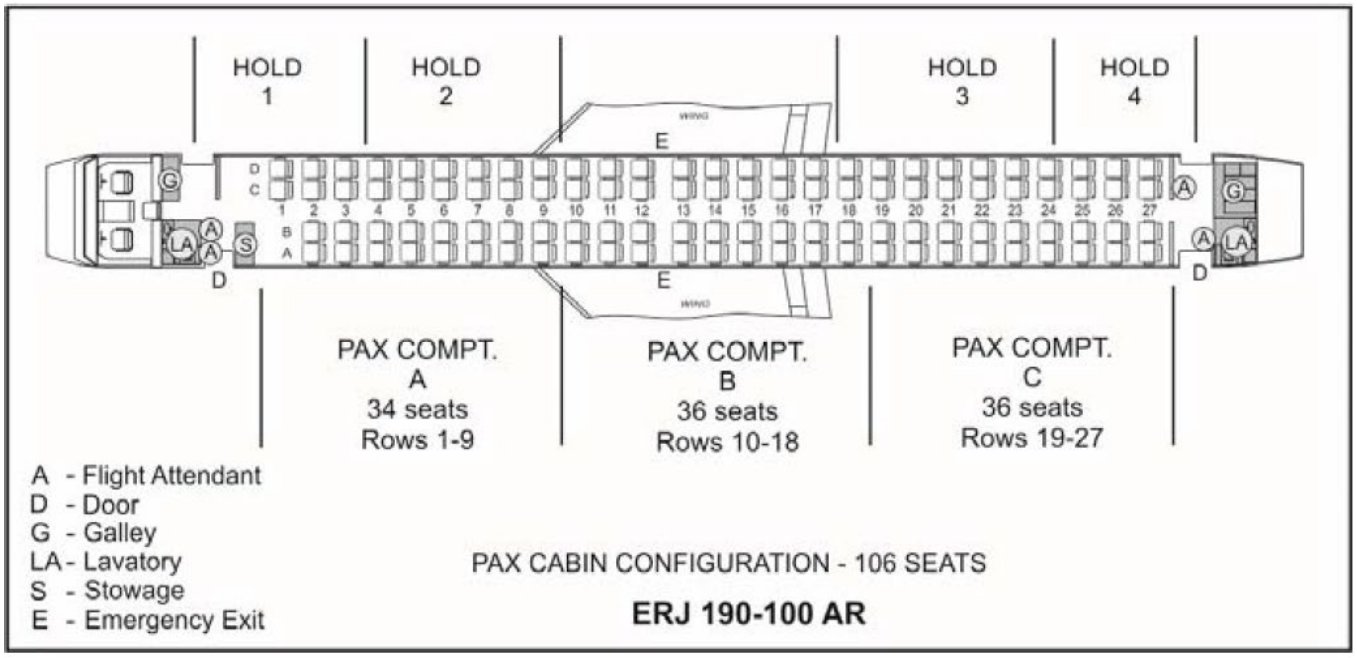

HOLD 1
HOLD 2
HOLD 3
HOLD 4
PAX COMPT. A 32 seats Rows 1-8
PAX COMPT. B 24 seats Rows 9-14
PAX COMPT. C 32 seats Rows 15-22
A - Flight Attendant
D - Door
G - Galley
LA- Lavatory
PAX CABIN CONFIGURATION - 88 SEATS
ERJ 170-200 STD

2.1.4 ERJ 190-100 Aircraft



REGISTRATION	TYPE of A/C	CONFIG C/P/Y	MZFW kg	MTOW kg	MLAW kg
SP-LMA	ERJ190-100	106	40800	47790	43000
SP-LMB	ERJ190-100	106	40800	47790	43000
SP-LMC	ERJ190-100	106	40800	47790	43000
SP-LMD	ERJ190-100	106	40800	47790	43000
SP-LME	ERJ190-100AR	106	40900	51800	44000
SP-LMF	ERJ190-100AR	106	40900	51800	44000
SP-LMG	ERJ190-100	106	40800	47790	44000
SP-LMH	ERJ190-100	106	40800	47790	44000

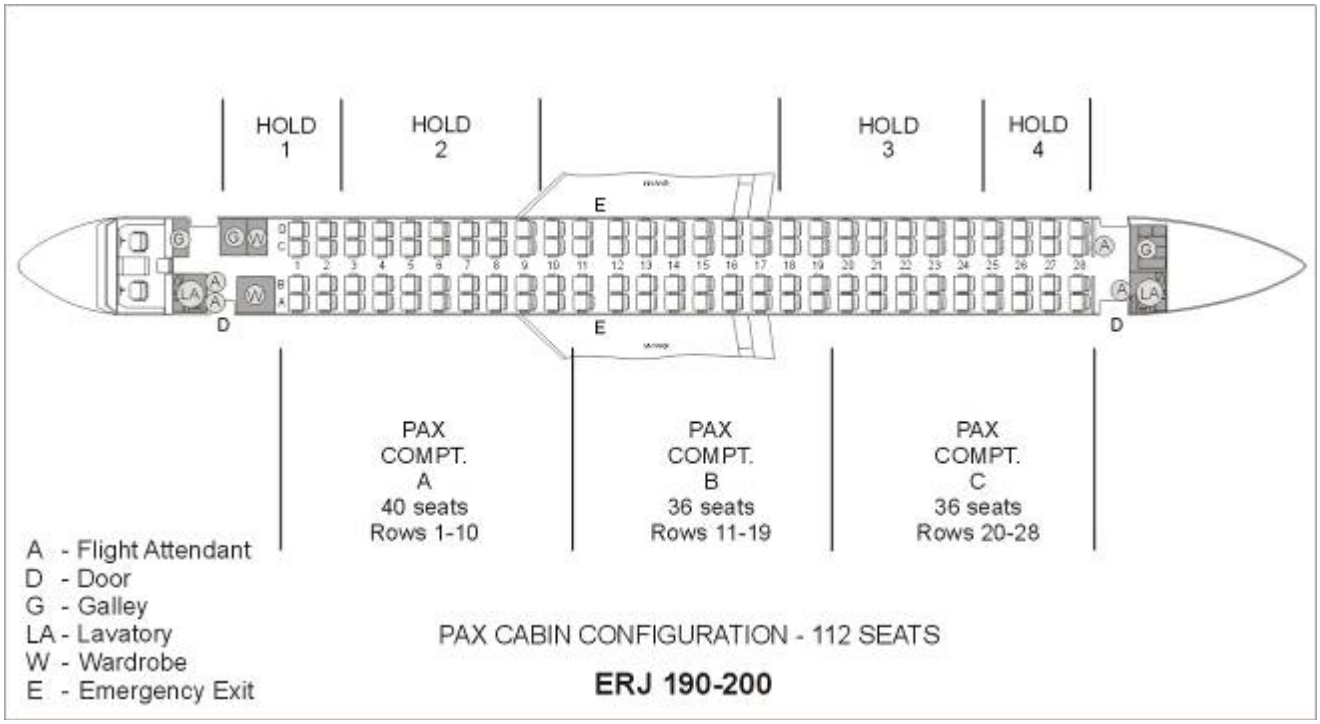


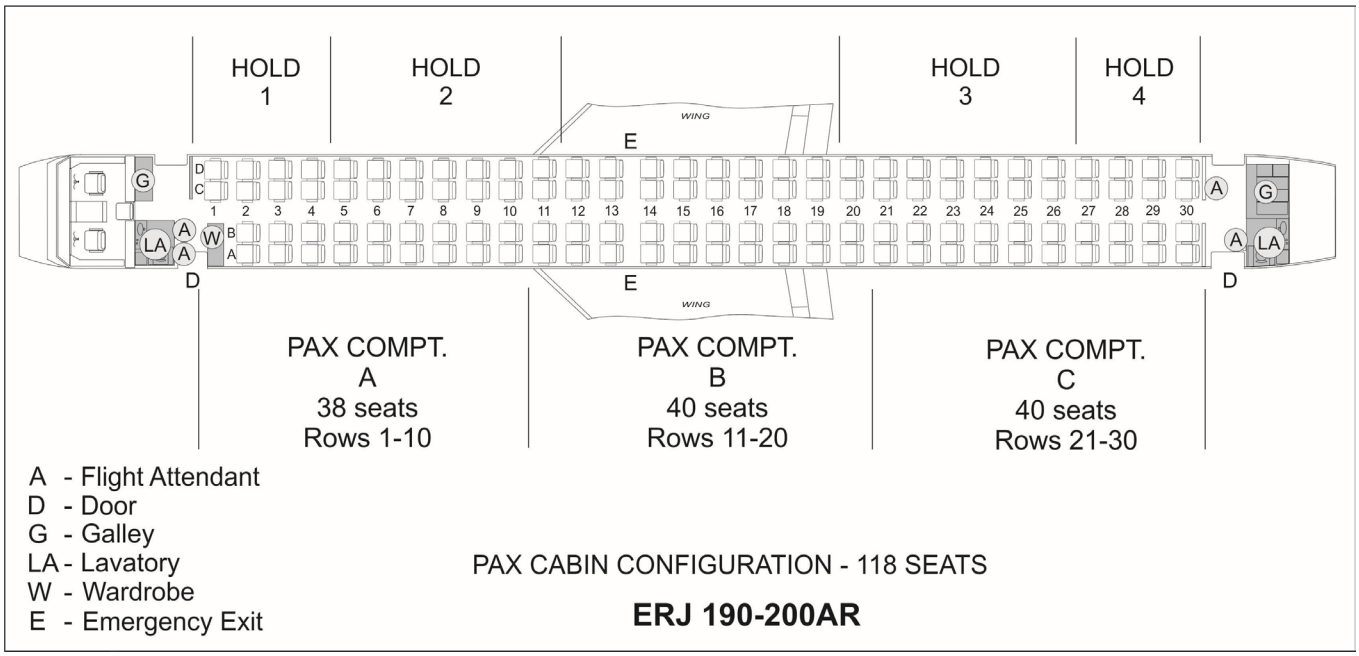

HOLD 1
HOLD 2
HOLD 3
HOLD 4
E
E
PAX COMPT. A 34 seats Rows 1-9
PAX COMPT. B 36 seats Rows 10-18
PAX COMPT. C 36 seats Rows 19-27
A - Flight Attendant
D - Door
G - Galley
LA - Lavatory
S - Stowage
E - Emergency Exit
PAX CABIN CONFIGURATION - 106 SEATS
ERJ 190-100 AR

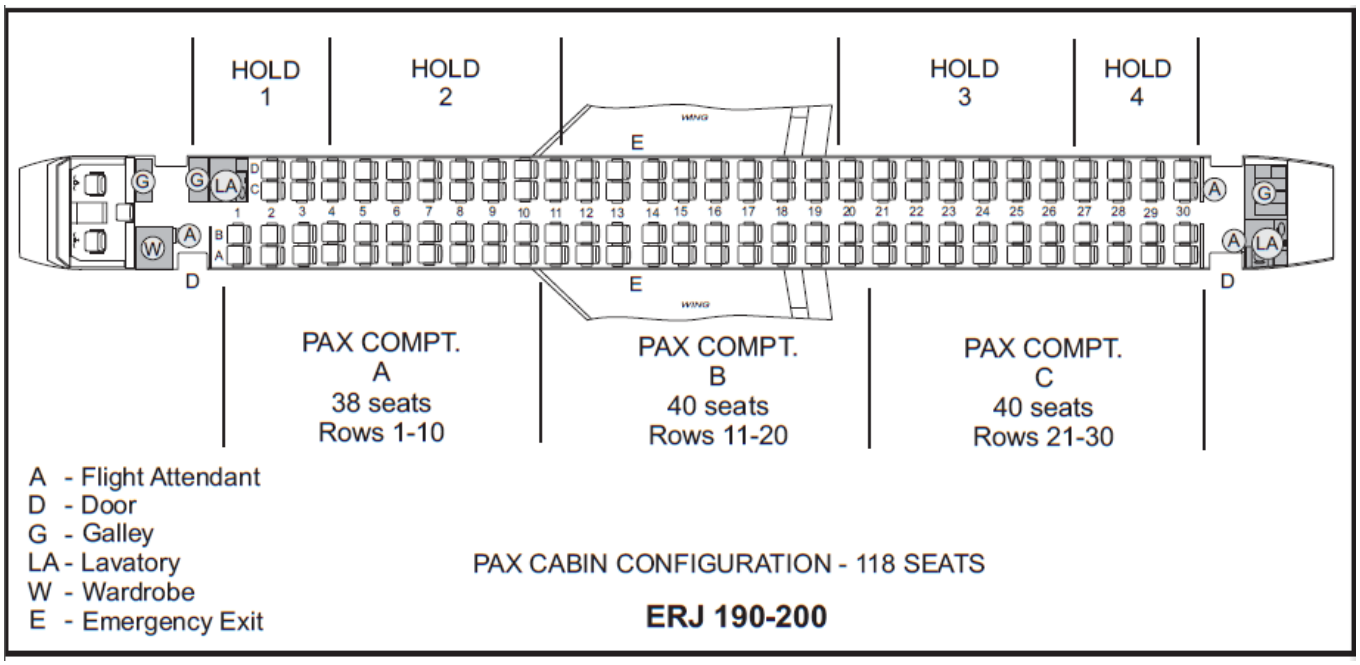
2.1.5 ERJ 190-200 Aircraft



REGISTRATION	TYPE of A/C	CONFIG C/P/Y	MZFW kg	MTOW kg	MLAW kg
SP-LNA	ERJ190-200	112	42500	50790	45000
SP-LNB	ERJ190-200	112	42500	50790	45000
SP-LNC	ERJ190-200	112	42500	50790	45000
SP-LND	ERJ190-200	112	42500	50790	45000
SP-LNE	ERJ190-200	112	42500	50790	45000
SP-LNF	ERJ190-200	112	42500	50790	45000
SP-LNG	ERJ190-200AR	118	42600	52290	45800
SP-LNH	ERJ190-200AR	118	42600	52290	45800
SP-LNI	ERJ190-200AR	118	42600	52290	45800
SP-LNK	ERJ190-200AR	118	42600	52290	45800
SP-LNL	ERJ190-200AR	118	42600	52290	45800
SP-LNM	ERJ190-200AR	118	42600	52290	45800
SP-LNN	ERJ190-200AR	118	42600	52290	45800
SP-LNO	ERJ190-200	118	42500	50790	45000
SP-LNP	ERJ190-200	118	42500	50790	45000


HOLD 1
HOLD 2
HOLD 3
HOLD 4
E
D
E
D
PAX COMPT. A 40 seats Rows 1-10
PAX COMPT. B 36 seats Rows 11-19
PAX COMPT. C 36 seats Rows 20-28
A - Flight Attendant
D - Door
G - Galley
LA - Lavatory
W - Wardrobe
E - Emergency Exit
PAX CABIN CONFIGURATION - 112 SEATS
ERJ 190-200

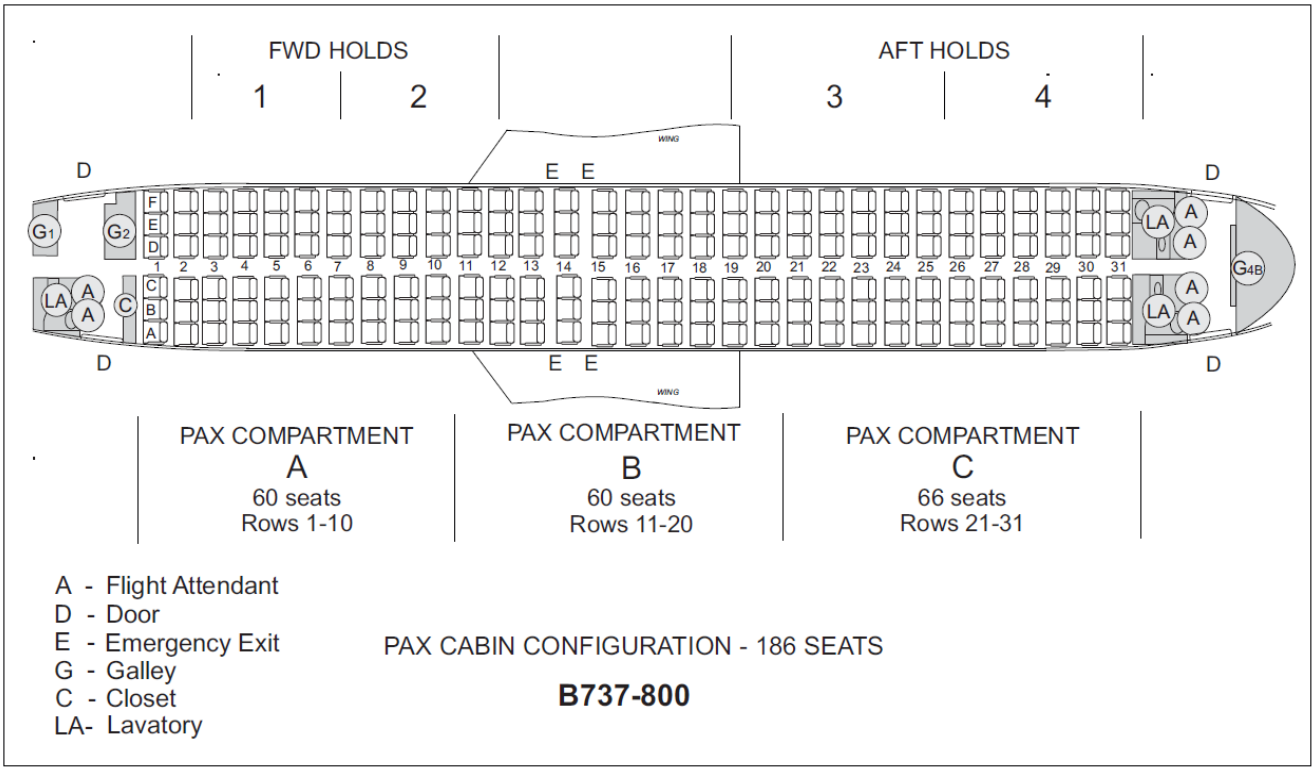

HOLD 1
HOLD 2
HOLD 3
HOLD 4
WING
E
D
E
D
WING
PAX COMPT. A 38 seats Rows 1-10
PAX COMPT. B 40 seats Rows 11-20
PAX COMPT. C 40 seats Rows 21-30
A - Flight Attendant
D - Door
G - Galley
LA - Lavatory
W - Wardrobe
E - Emergency Exit
PAX CABIN CONFIGURATION - 118 SEATS
ERJ 190-200AR

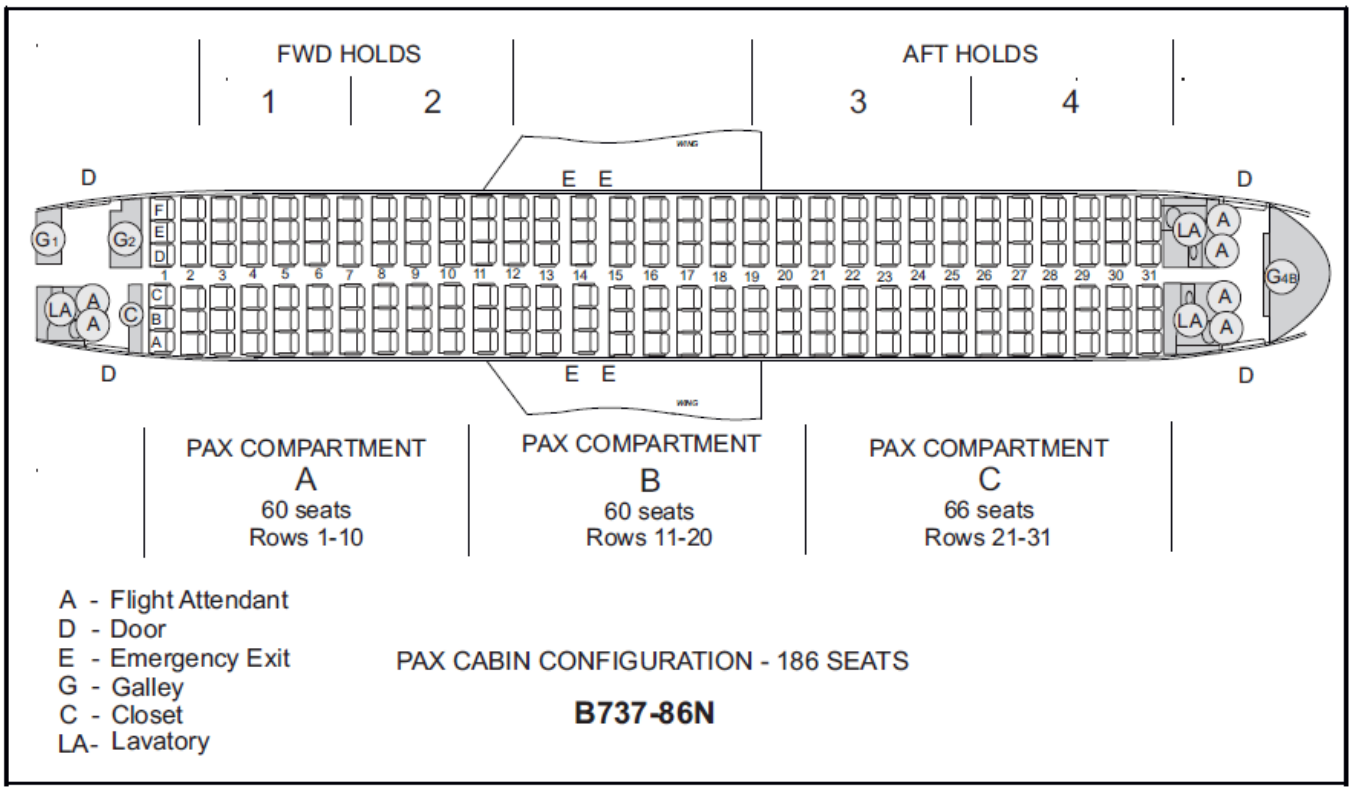

HOLD 1
HOLD 2
HOLD 3
HOLD 4
E
E
D
D
PAX COMPT. A 38 seats Rows 1-10
PAX COMPT. B 40 seats Rows 11-20
PAX COMPT. C 40 seats Rows 21-30
A - Flight Attendant
D - Door
G - Galley
LA - Lavatory
W - Wardrobe
E - Emergency Exit
PAX CABIN CONFIGURATION - 118 SEATS
ERJ 190-200

2.1.6 B737-800 Aircraft



REGISTRATION	TYPE of A/C	CONFIG C/P/Y	MZFW kg	MTOW kg	MLAW kg
SP-LWA	B737-800	186	61688	76657	65317
SP-LWB	B737-800	186	61688	76657	65317
SP-LWC	B737-800	186	61688	76657	65317
SP-LWD	B737-800	186	61688	76657	65317
SP-LWF	B737-86N	186	62731	79015	66360
SP-LWG	B737-86N	186	62731	79015	66360

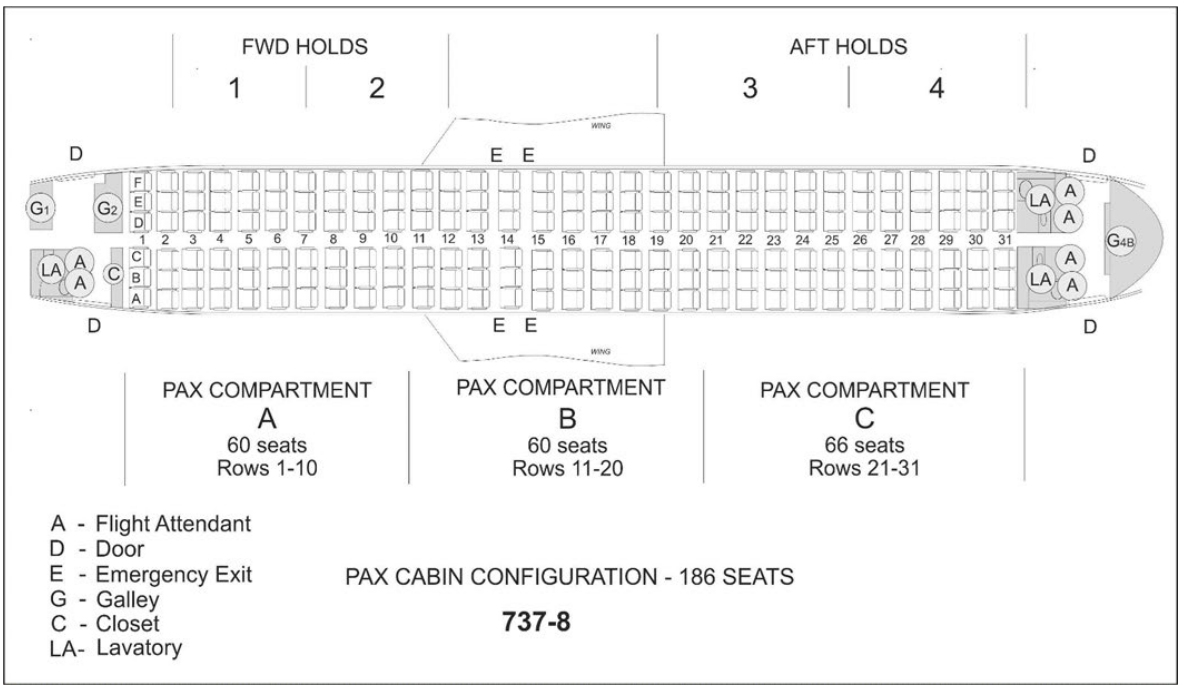


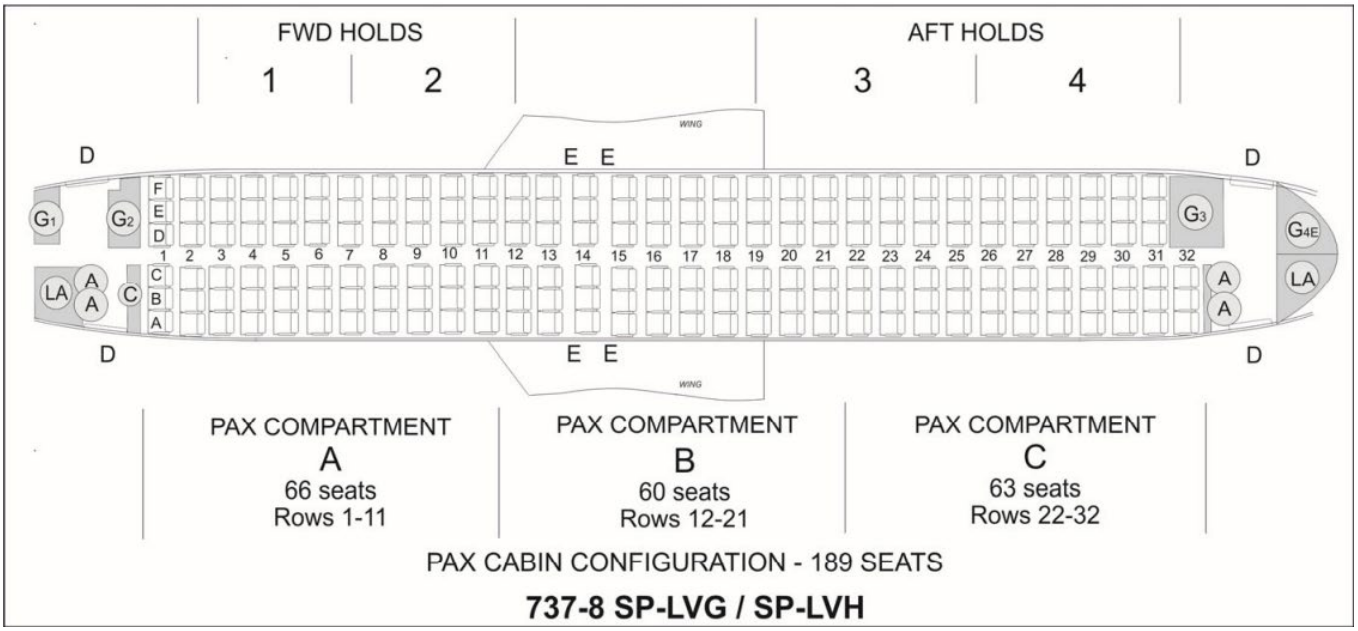

FWD HOLDS
1
2
AFT HOLDS
3
4
D
E E
D
G1
G2
F
E
D
LA
A
A
G4B
C
B
A
D
E E
D
PAX COMPARTMENT
A
60 seats
Rows 1-10
PAX COMPARTMENT
B
60 seats
Rows 11-20
PAX COMPARTMENT
C
66 seats
Rows 21-31
A - Flight Attendant
D - Door
E - Emergency Exit
G - Galley
C - Closet
LA- Lavatory
PAX CABIN CONFIGURATION - 186 SEATS
B737-86N

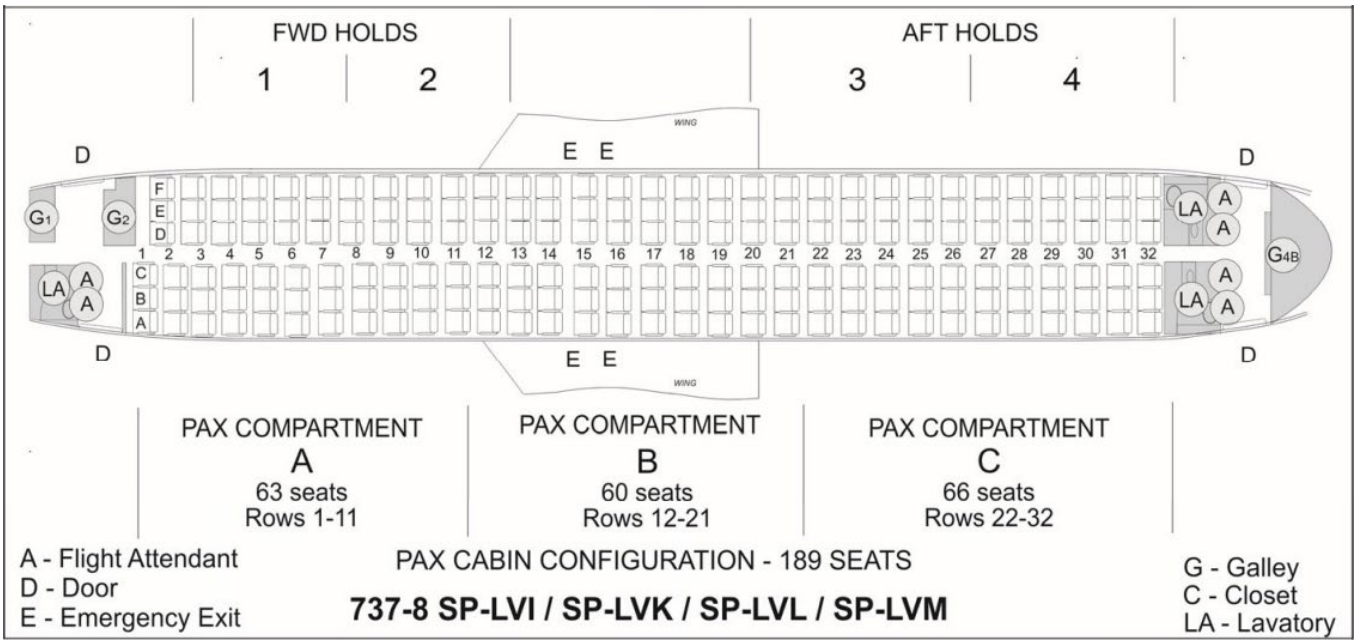
2.1.7 B737-8 Aircraft



REGISTRATION	TYPE of A/C	CONFIG C/P/Y	MZFW kg	MTOW kg	MLAW kg
SP-LVA	737-8	186	65952	76999	69308
SP-LVB	737-8	186	65952	76999	69308
SP-LVC	737-8	186	65952	76999	69308
SP-LVD	737-8	186	65952	76999	69308
SP-LVE	737-8	186	65952	76999	69308
SP-LVF	737-8	186	65952	76999	69308
SP-LVG	737-8	189	64818	77110	68174
SP-LVH	737-8	189	64818	77110	68174
SP-LVI	737-8	189	64818	77110	68174
SP-LVK	737-8	189	64818	77110	68174
SP-LVL	737-8	189	64818	77110	68174
SP-LVM	737-8	189	64818	77110	68174



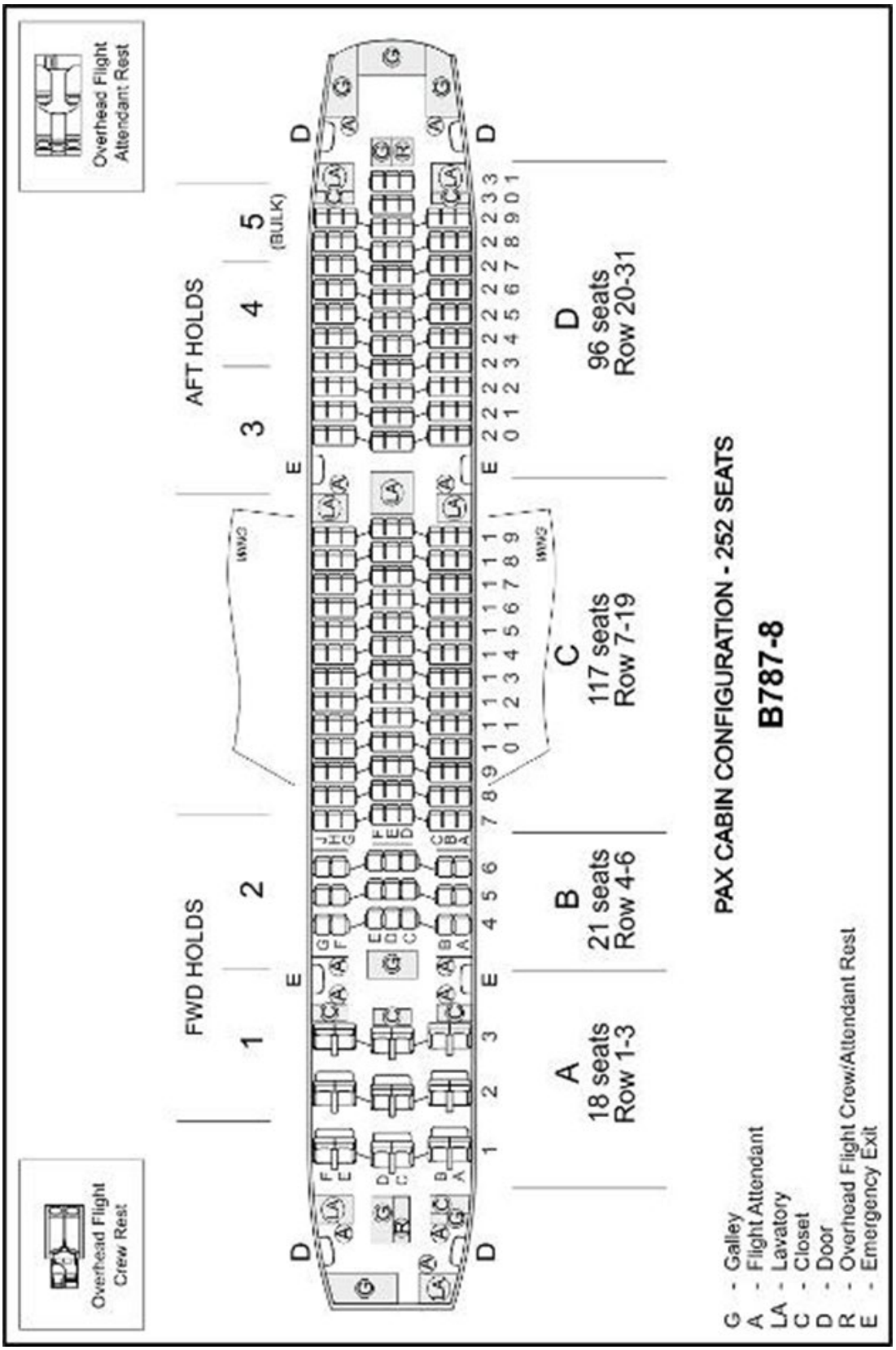

FWD HOLDS
1
2
AFT HOLDS
3
4
D
E E
D
G1
G2
F
E
D
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
G3
G4E
LA
A
A
C
C
B
A
A
A
LA
D
E E
D
PAX COMPARTMENT
A
66 seats
Rows 1-11
PAX COMPARTMENT
B
60 seats
Rows 12-21
PAX COMPARTMENT
C
63 seats
Rows 22-32
PAX CABIN CONFIGURATION - 189 SEATS
737-8 SP-LVG / SP-LVH


FWD HOLDS
1
2
AFT HOLDS
3
4
D
E E
D
G1
G2
F
E
D
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
LA
A
A
G4B
C
B
A
A
A
LA
D
E E
D
PAX COMPARTMENT
A
63 seats
Rows 1-11
PAX COMPARTMENT
B
60 seats
Rows 12-21
PAX COMPARTMENT
C
66 seats
Rows 22-32
A - Flight Attendant
D - Door
E - Emergency Exit
PAX CABIN CONFIGURATION - 189 SEATS
737-8 SP-LVI / SP-LVK / SP-LVL / SP-LVM
G - Galley
C - Closet
LA - Lavatory

2.1.8 Boeing 787-8 Aircraft



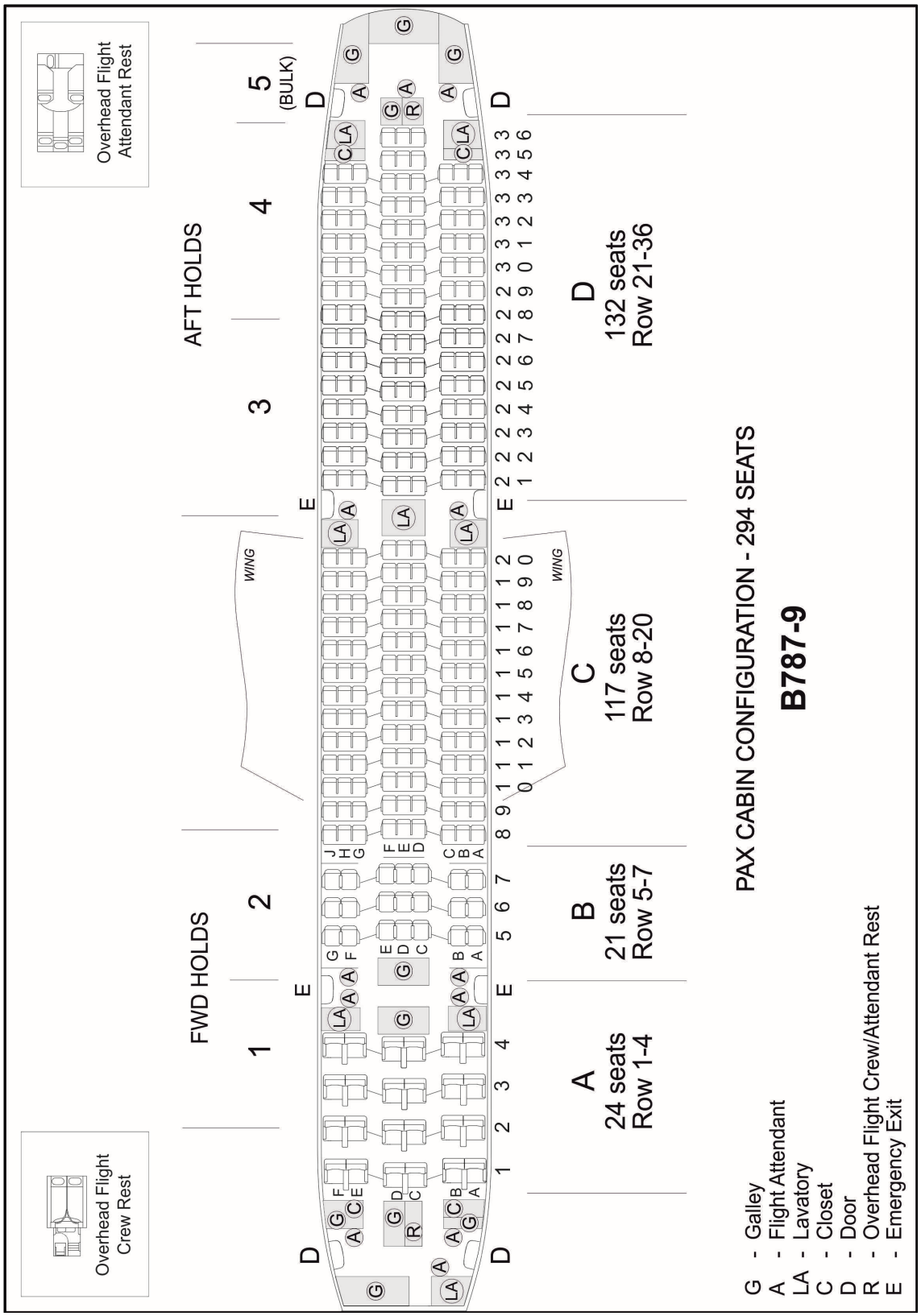
REGISTRATION	TYPE of A/C	CONFIG C/P/Y	MZFW kg	MTOW kg	MLAW kg
SP-LRA	787-8	252	161025	227930	172365
SP-LRB	787-8	252	161025	227930	172365
SP-LRC	787-8	252	161025	227930	172365
SP-LRD	787-8	252	161025	227930	172365
SP-LRE	787-8	252	161025	227930	172365
SP-LRF	787-8	252	161025	227930	172365
SP-LRG	787-8	252	161025	227930	172365
SP-LRH	787-8	252	161025	227930	172365


Overhead Flight Attendant Rest
Overhead Flight Crew Rest
FWD HOLDS
AFT HOLDS
1
2
3
4
5 (BULK)
A
18 seats
Row 1-3
B
21 seats
Row 4-6
C
117 seats
Row 7-19
D
96 seats
Row 20-31
PAX CABIN CONFIGURATION - 252 SEATS
B787-8
G - Galley
A - Flight Attendant
LA - Lavatory
C - Closet
D - Door
R - Overhead Flight Crew/Attendant Rest
E - Emergency Exit

2.1.9 Boeing 787-9 Aircraft



REGISTRATION	TYPE of A/C	CONFIG C/P/Y	MZFW kg	MTOW kg	MLAW kg
SP-LSA	787-9	294	181436	249475	192776
SP-LSB	787-9	294	181436	249475	192776
SP-LSC	787-9	294	181436	249475	192776
SP-LSD	787-9	294	181436	249475	192776
SP-LSE	787-9	294	181436	249475	192776
SP-LSF	787-9	294	181436	**251743**	192776
SP-LSG	787-9	294	181436	**251743**	192776
SP-LSH	787-9	294	181436	**251743**	192776
SP-LSI	787-9	294	181436	249475	192776


Overhead Flight Attendant Rest
Overhead Flight Crew Rest
FWD HOLDS
AFT HOLDS
WING
WING
A
24 seats
Row 1-4
B
21 seats
Row 5-7
C
117 seats
Row 8-20
D
132 seats
Row 21-36
PAX CABIN CONFIGURATION - 294 SEATS
B787-9
G - Galley
A - Flight Attendant
LA - Lavatory
C - Closet
D - Door
R - Overhead Flight Crew/Attendant Rest
E - Emergency Exit

Chapter 3 – Weight & Balance

Table of Content

3.1 INTRODUCTION 5
3.2 WEIGHT VALUES 7
3.2.1 General rules *7*
3.2.2 Standard weights: *7*
3.3 PRINCIPLES OF WEIGHT AND BALANCE 10
3.4 AIRCRAFT WEIGHT DEFINITION 14
3.4.1 Maximum design weights *14*
3.4.2 Operational weights *16*
3.4.3 Fuel As Ballast *17*
3.5. LOAD AND TRIM SHEET 18
3.5.1 DHC-8-400 Loadsheet *20*
3.5.2 DHC-8-400 Trim Chart *21*
3.5.3 DHC-8-400 Index correction tables *22*
3.5.4 ERJ 170–100 Loadsheet *23*
3.5.5 ERJ 170–100 Trim Chart *24*
3.5.6 ERJ 170–100 Index correction tables *25*
3.5.7 ERJ 170–200 Loadsheet *26*
3.5.8 ERJ 170–200 Trim Chart *28*
3.5.9 ERJ 170–200 Index correction tables *30*
3.5.10 ERJ 170-200 STD Loadsheet *32*
3.5.11 ERJ 170–200STD Trim Chart *33*
3.5.12 ERJ 170–200STD Index correction tables *34*
3.5.13 ERJ 190-100 Loadsheet *35*
3.5.14 ERJ 190-100 Trim Chart *36*
3.5.15 ERJ 190-100 Index correction tables *37*
3.5.16 ERJ 190-100AR Loadsheet *38*
3.5.17 ERJ 190-100AR Trim Chart *39*
3.5.18 ERJ 190-100AR Index correction tables *40*
3.5.19 ERJ 190–200 Loadsheet *41*
3.5.20 ERJ 190–200 Trim Chart *43*
3.5.21 ERJ 190–200 Index correction tables *45*
3.5.22 ERJ 190-200AR Loadsheet *47*
3.5.23 ERJ 190-200AR Trim Chart *48*
3.5.24 ERJ 190-200AR Index correction tables *49*
3.5.25 B737-800 Loadsheet *51*
3.5.26 B737-800 Trim Chart *53*
3.5.27 B737-800 Index correction tables *55*
3.5.28 B737-8 Loadsheet *57*
3.5.29 B737-8 Trim Chart *59*
3.5.30 B737-8 Index correction tables *61*
3.5.31 B787-8 Loadsheet *63*
3.5.32 B787-8 Trim Chart *64*
3.5.33 B787-8 Index correction tables *65*
3.5.34 B787-9 Loadsheet *66*
3.5.35 B787-9 Trim Chart *67*
3.5.36 B787-9 Index correction tables *68*

3.6 MANUAL LOADSHEET – DESCRIPTION 69
3.7 EXAMPLES OF COMPLETED LOADSHEETS 75
3.7.1 Example 1 – DHC-8-400 ..... *75*
3.7.2 Example 2 – ERJ 170–100 ..... *79*
3.7.3 Example 3 – ERJ 190-100 ..... *83*
3.7.4 Example 4 – B737-86N *88*
3.7.5 Example 5 – B737-8 ..... *93*
3.7.6 Example 6 – B787-8 ..... *98*
3.8 LOADSHEET PRODUCED BY ELECTRONIC DATA PROCESSING MACHINE 102
3.8.1 ACARS Final Loadsheet *105*
3.9 LMC PROCEDURE 107
3.10 LOADING INSTRUCTION/REPORT 109
3.10.1 Loading Instruction/Report DHC-8-400 ..... *111*
3.10.2 Loading Instruction/Report ERJ 170–100 ..... *114*
3.10.3 Loading Instruction/Report ERJ 170–200/ -200STD *116*
3.10.4 Loading Instruction/Report ERJ 190-100 / ERJ 190-100AR *118*
3.10.5 Loading Instruction/Report ERJ 190–200 / ERJ 190-200AR *121*
3.10.6 Loading Instruction/Report B737-800 ..... *124*
3.10.7 Loading Instruction/Report B737-8 ..... *127*
3.10.8 Loading Instruction/Report B787-8 ..... *130*
3.10.9 Loading Instruction/Report B787-9 ..... *133*
3.11 LOADING INSTRUCTION/REPORT – DESCRIPTION 137
3.11.1 Electronic Loading Instruction Report *139*
3.11.2 Electronic Graphical Loading Instruction *141*
3.11.3 Electronic NOTOC *143*
3.12 AIRCRAFT CHARACTERISTICS 145
3.12.1 DHC-8-400 ..... *145*
3.12.2 ERJ 170-100/ -200/ -200STD and ERJ 190-100/ -100AR/ -200LR / -200AR *146*
3.12.2.1 ERJ 170- 100/-200/-200STD and ERJ 190-100/-100AR/-200 LR&AR – cargo tiedown with vertical cargo net attachment points 170
3.12.2.2 ERJ 170 -100/-200 and ERJ 190-200 LR– cargo tiedown with additional attachment points 178
3.12.3 B737-800/ -86N/ -8 ..... *180*
3.12.4 B787-8/-9 ..... *203*
3.12.4.1.1 B787-8 – cargo compartments description. 206
3.12.4.1.2 B787-9 – cargo compartments description. 207
3.12.4.2 B787-8 / -9 – ULD dimensions and lateral positions – size code K, L and P 208
3.12.4.3 B787-8 / -9 – ULD dimensions and lateral positions – size code A, M, N and Q longitudinal 212
3.12.4.4.1 B787-8 – cargo restraint system – forward hold - size codes K, L, and P 215
3.12.4.4.2 B787-9 – cargo restraint system – forward hold - size codes K, L, and P 221
3.12.4.5.1 B787-8 – cargo restraint system – forward hold - size codes A, M, N, Q longitudinal 227
3.12.4.5.2 B787-9 – cargo restraint system – forward hold - size codes A, M, N, Q longitudinal 234
3.12.4.6.1 B787-8 – cargo restraint system – aft hold - size codes K, L, and P 241
3.12.4.6.2 B787-9 – cargo restraint system – aft hold - size codes K, L, and P 248
3.12.4.7.1 B787-8 – cargo restraint system – aft hold - size codes A, M, N, Q longitudinal 254
3.12.4.7.2 B787-9 – cargo restraint system – aft hold - size codes A, M, N, Q longitudinal 261
3.12.4.8 B787-8 / -9 – barrier net – aft and bulk holds 268
3.12.4.9.2 B787-9 – cargo tiedowns – lower deck 287
3.12.4.10.1 B787-8 – tiedown fitting locations - forward hold 307
3.12.4.10.2 B787-9 – tiedown fitting locations - forward hold 309
3.12.4.11.1 B787-8 – tiedown fitting locations - aft hold 311
3.12.4.11.2 B787-9 – tiedown fitting locations - aft hold 313
3.12.4.12.1 B787-8 – tiedown fitting locations - bulk hold 315
3.12.4.12.2 B787-9 – tiedown fitting locations - bulk hold 316
3.12.4.13.1 B787-8 – cargo lateral imbalance control and limitations 317
3.12.4.13.2 B787-8 – cargo lateral imbalance control and limitations 324

3.13 BASIC LOADING PRINCIPLES 331
3.14 PACKAGE MAXIMUM SIZE DIMENSIONS 332
3.14.1 DHC-8-400 ..... *334*
3.14.2 ERJ 170–100 and ERJ 170-200 ..... *336*
3.14.3 ERJ 190–100 and ERJ 190–200 ..... *338*
3.14.4 B737-800 / -86N/ -8 ..... *340*
3.14.5 B787-8 ..... *342*
3.14.6 B787-9 ..... *352*
3.15 LIVE ANIMALS CARRIAGE 363
3.15.1 General rules *363*
3.15.2 DHC-8-400 ..... *365*
3.15.3 ERJ 170–100/–200 and ERJ 190–100/-200 ..... *366*
3.15.4 B737 -800 / -86N / -8 ..... *369*
3.15.5 B787-8 / -9 ..... *373*
3.16 EFFECT OF COG POSITION ON FUEL CONSUMPTION 374
3.16.1 ERJ 170-100/-200 and ERJ 190-200 loading guidelines *376*
3.17 COST OF WEIGHT (COW) 378
3.18 PASSENGERS SEATS RESTRICTIONS WITH THE EMERGENCY EXITS INOPERATIVE 380
3.18.1 ERJ 170-100 ..... *380*
3.18.2 ERJ 170-200 ..... *381*
3.18.3 ERJ 190-200 ..... *382*
3.19 TOWING AND TIPPING LIMITATIONS 383
3.19.1 DHC-8-400 ..... *383*
3.19.2 ERJ 170-100/-200 and ERJ 190-100/-200 ..... *384*
3.19.3 B737-800 / -86N *385*
3.19.4 B737-8 ..... *387*
3.19.5 B787-8 ..... *388*
3.19.6 B787-9 ..... *389*
3.20 CENTRALIZED LOAD CONTROL 390
3.20.1 Procedures for Load Controller *391*
Duties of Load Controller starting shift 391
Non-Standard Pantry 392
Information about Cargo Provisional / Final 394
Estimated Zero Fuel Weight 395
NOTOC Message 396
Loading Instruction Report 397
Crew Bags 399
Offload Priority in Case of Overload 400
Release Final NOTOC 401
Correct RTOW/RLDW in system 402
Preliminary Load Sheet 403
Final Load Sheet 404
LMC – Last Minute Change 405
Flight Status Departed 406
Seat Blocking 407
Reseating Passenger 409
User ID Locked 410
Allocating Flight to “Dummy” User 411
Actual Time of Departure on Flight 412
Load Sheet Stab Settings 413
Additional leg in flight 415
DAA – Delivery at aircraft 416
VIP flights procedure 417
Diverted Flight 419

3.20.2 Procedures for Ramp Agents *420*
Sign in to flight and subscription of messenger in Altea FM – Ramp Module 420
Information about Cargo Provisional / Final 421
LIR – Loading Instruction Report 422
Printing additional copies of documents: LIR, LS, NOTOC 423
Offload priority in case of overload 424
Potable Water 425
Trip Info – passing fuel, crew and restrictions 426
Crew Bags 427
Ramp Clearance Check Sheet 428
Flight Status Indicators 428
Load Sheet and NOTOC 429
LMC – Last Minute Change 430
Load Messages: LDM, CPM 431
DAA – Delivery at aircraft bags 432
System Outage 433
Contingency Plan – Forms for passing flight data 434
3.20.3 Instructions for Altea FM – Freight Module *437*
3.20.4 Instructions for Altea FM – Ramp Module *438*
3.20.5 CLC information flow – online stations *440*
3.20.6 CLC information flow – offline stations *441*
3.21 WEIGHT AND BALANCE TRAINING 442

3.1 Introduction

	Remarks	
1. Basic rule	**Only original LOT POLISH AILINES documents and loadsheets must be used to determine weight and balance of LOT POLISH AIRLINES' aircraft.**	
	Following documents are obligatory :	
	• **Loadsheet:**	
	-a/c DHC-8-400 (78 seats)	DHC-8-400 Load & Trimsheet, LOT, Rev 3,Feb 2021
	-a/c ERJ 170-100 (76 seats)	Load and Trimsheet ERJ 170-76, Rev2, Jul21
	-a/c ERJ 170-200 (82 seats)	Load and Trimsheet ERJ 170-200, Rev01, Jan21
	-a/c ERJ 170-200 (68 seats)	Load and Trimsheet ERJ 170-200, BC-102-A, Rev1, Jan21
	-a/c ERJ 170-200STD (88 seats)	Load and Trimsheet ERJ 170-200STD, Rev0, 25Apr2022
	-a/c ERJ 190-100 (106 seats)	Load and Trimsheet ERJ 190-100, Rev3, 12Apr22
	-a/c ERJ 190-100AR (106 seats)	Load and Trimsheet ERJ 190-100AR, Rev0, 28Feb2022
	-a/c ERJ 190-200 (112 seats)	Load and Trimsheet ERJ 190-200, Rev2, Oct20
	-a/c ERJ 190-200 (118 seats)	Load and Trimsheet ERJ 190-200/118, Rev2, Aug2020
	-a/c ERJ 190-200AR(118 seats)	Load and Trimsheet ERJ 190-200AR, Rev2, Oct20
	-a/c B737-800 (186 seats)	Load and Trimsheet B737-800, Rev1, Feb2021
	-a/c B737-86N (186 seats)	Load and Trimsheet B737-86N, Rev2, Apr2022
	-a/c B737-8 (186 seats)	D636A080-LOT1C Appendix C, Revision A1, FEB 2021
	-a/c B737-8 (189 seats)	Load and Trimsheet 737-8 189 seats, Rev0, Oct 2022
	-a/c B787-8 (252 seats)	Load and Trimsheet B787-8, Rev2, Jan21
	-a/c B787-9 (294 seats)	Load and Trimsheet B787-9, Rev4, Feb21
	• **Loading Instruction/Report:**	
	-a/c DHC-8-400	DHC-8-400 Loading Instruction/Report, Rev0, Dec2014
	-a/c ERJ 170-100	LIR ERJ-170, REV.1, Mar05
	-a/c ERJ 170-200	LIR ERJ 170-200, REV.0, Apr'06
	-a/c ERJ 170-200STD	LIR ERJ 170-200, REV.0, Apr'06
	-a/c ERJ 190-100	LIR ERJ 190-100, REV 0, Sep18
	-a/c ERJ 190-100AR	LIR ERJ 190-100, REV 0, Sep18
	-a/c ERJ 190-200	LIR ERJ 190-200, REV 2, May18
	-a/c ERJ 190-200AR	LIR ERJ 190-200, REV 2, May18
	-a/c B737-800	Loading Instruction/Report B737-800, Rev0, 17Jan2017
	-a/c B737-86N	Loading Instruction/Report B737-86N,Rev0,26Aug2019
	-a/c B737-8	Loading Instruction/Report B737-8, Rev1, 12Dec2017
	-a/c B787-8	LIR B787-8, REV 2, Nov 15
	-a/c B787-9	LIR B787-9, REV 1, May18

2. Centre of Gravity	• The weight and balance calculations are applied to define the **Centre of Gravity - COG** location of an loaded aircraft. • The Centre of Gravity of an aircraft must be located in a specific area, within the limits given by the aircraft manufacturer. • The proper position of COG is the base of safe and economic flight. • **It is prohibited to operate an aircraft with COG out of limits.**
3. Loadsheet	• **Loadsheet** is a document, which contains data on actual loading and COG location of an aircraft**.** • **Loadsheet must be prepared on the basis of data on Loading Report of Loading Instruction/Report signed by the loading supervisor.** • Loadsheet must be prepared in three copies for: ⇒ pilot in command, ⇒ cabin crew, ⇒ ground handling organization preparing loadsheet.
4. Type of Loadsheets	Loadsheet may be produced by: • Electronic Data Processing machine in **Departure Control System (DCS).** EDP loadsheet has an IATA AHM 517 standard or IATA AHM 518 ACARS format. The database for LOT POLISH AIRLINES' aircraft to produce EDP loadsheets is created on the base of IATA AHM 560 (according to IATA AHM Revision 37). • **Manually.** Manual loadsheet is calculated using the UNIVERSAL INDEX method. This method uses numerical addition to establish aircraft weight and COG location. Manual loadsheet for each aircraft type consists of: • **Standard loadsheet according to IATA AHM 516,** • **Trim Chart.**
5. Actual W&B documents	Ground Handling Agent has access to current weight and balance documents using the website https://plllot.sharepoint.com/sites/external/ghl/AHM560/Forms/AllItems.aspx

3.2 Weight values

3.2.1 General rules

	Remarks
1.	LOT Polish Airlines establish following weight values obligatory for weight and balance calculations purposes: **a) standard weights** - listed in AHM 560 (according to IATA AHM Revision 37): • crew, • passenger, • catering. • baggage **b) actual weights:** • baggage, • cargo, • mail.
2.	**All weights applying in weight and balance calculations must be in kilograms (kg).**

3.2.2 Standard weights:

	Remarks		
1. Crew weights	• Cockpit crew: 85 kg • Cabin crew: 75 kg Crew weight includes cabin baggage. Additional crew baggage carried in cargo compartments must be treated as checked baggage. Standard crew weights are not applied for crew positioning to/from duty not directly involved in the operation of the flight, who are occupying passenger seats (DHC – Dead Head Crew)		
2. Standard passenger weights	• **All flights except Holiday Charters**		
	Passenger category:	Standard	Alternative standard
	Male	84 kg	88 kg
	Female	84 kg	70 kg
	Child (between 2-12 years) or infant under 2 years if occupying a separate seat	35 kg	35 kg
	Infant under 2 years if sharing a seat with an adult	0 kg	0 kg

a) Commander must be informed of weights used by an appropriate remark in the SI-part of the loadsheet.

b) Standard passenger weight includes:
⇒ cabin baggage,
⇒ any infant weight below 2 years of age carried by an adult on one passenger seat.

c) Alternative standard may be applied provided that the percentage of women in the total number of adult passengers is 23% and/or more

- **Holiday Charters**

Passenger category	Standard	Alternative standard
Male	76 kg	83 kg
Female	76 kg	69 kg
Child (between 2-12 years) or infant under 2 years if occupying a separate seat	35 kg	35 kg
Infant under 2 years if sharing a seat with an adult	0 kg	0 kg

a) Holiday charter is treated as an element of a holiday travel package.
It is a flight where the entire passenger capacity is hired by one or more Charterer(s) for the carriage of passengers.
Categories of passengers such as company personnel, tour operators' staff, representatives of the press, can be included within the 5% alleviation without negating the use of holiday charter weight values.

b) Commander must be informed of weights used by an appropriate remark in the SI-part of the loadsheet.

c) Standard passenger weight includes:
⇒ cabin baggage,
⇒ any infant weight below 2 years of age carried by an adult on one passenger seat.

d) alternative standard may be applied provided that the percentage of women in the total number of adult passengers is 50% and/or more

NOTE:
On any flight identified as carrying a significant number of passengers whose weights, including hand baggage, are expected to exceed the standard passenger weight, the actual weight of such passengers must be determined by weighing or by adding an adequate weight increment.

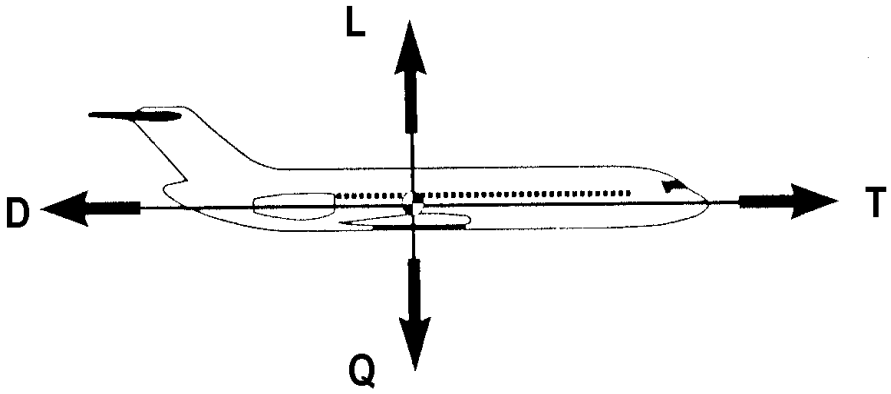
<table>
<tr><td>3. Equivalent passenger</td><td>a) To obtain the number of equivalent passengers corresponding to the standard weights, the actual number of passengers shall be multiplied by the assumed passenger weight then the result divided by standard passenger weight appropriate to the type of the flight (scheduled or charter).
b) In case of carrying cargo in passenger cabin, it is required to divide the weight of cargo by standard passenger weight to obtain the number of equivalent passengers.</td></tr>
<tr><td>4. Catering</td><td>Standard catering weights for given aircraft type are published LOT AHM560 document, Sheet C8, according to IATA AHM Revision 37.</td></tr>
<tr><td>5. Baggage</td><td>In case it is not possible to use the current baggage weight, it is allowed to use standard weights according to the table below.
If standard weights are used, on the weight and balance calculations form (loadsheet), the SI field must state:
"standard bags mass used xx kg".
The "xx" space must indicate the baggage mass used depending on the type of flight.

<table><tr><th>Type of flight</th><th>Baggage standard mass</th></tr><tr><td>Domestic</td><td>11kg</td></tr><tr><td>Within the European region</td><td>13kg</td></tr><tr><td>Intercontinental</td><td>15kg</td></tr><tr><td>All other</td><td>13kg</td></tr></table></td></tr>
</table>

3.3 Principles of weight and balance

Generally, there are four forces affecting an aircraft during the straightforward flight with a constant speed as shown on the drawing below:

Drawing 1



T	**Thrust**
D	**Drag**
L	**Lift**
Q	**Weight**

This case occurs when forces affecting an aircraft and moments from these forces are in balance that means: Thrust equals Drag and Lift equals Weight.

Thrust equals Drag when an aircraft flies at constant speed:

T = D

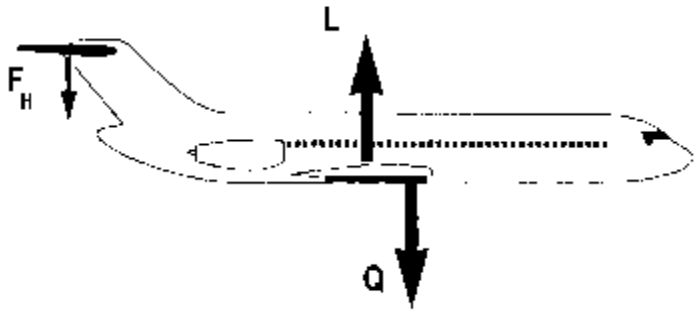
In this situation two vertical forces remains to be taken into consideration: Lift and Weight.
Lift **L** is hung in the Centre of Lift and depends on value of a constant speed of an aircraft.
Weight **Q** is placed in the Centre of Gravity **COG** and depends on the loading of an aircraft.
The centre of gravity of a body is defined as the point at which its total weight may be considered to act as a concentrated force.
These two points: Centre of Lift and Centre of Gravity do not usually cover.
In this case a pair of forces is created and aircraft can tend nose down and up because of a moment which occurs.

Moment equals force multiplied by arm, on which this force affects.

Moment = Force x Arm

To balance an aircraft, that means to eliminate the influence from above moment, additional force coming from horizontal stabilizer $\mathbf{F_H}$ is created.

Drawing 2

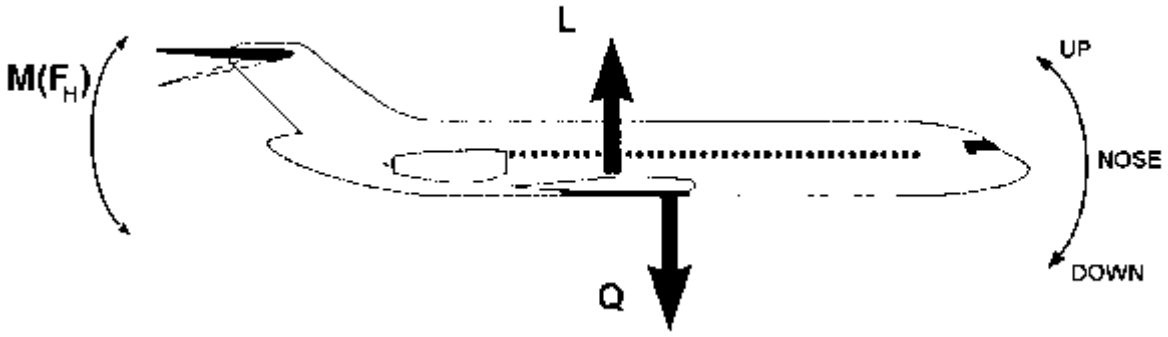


The sum of three forces: Lift **L**, Weight **Q** and Horizontal Stab. $\mathbf{F_H}$ must equal zero and the sum of moments coming from these forces around a given point must equal zero, then the balance is maintained.

$$\mathbf{L + Q + F_H = 0} \qquad \mathbf{M(L) + M(Q) + M(F_H) = 0}$$

A force coming from horizontal stabilizer F_H depends on an angle of swing of stabilizer.
This angle has limited range. That's why moment coming from a pair of forces Lift **L** and Weight **Q** must not exceed strictly defined value, limited by a moment obtained from a force coming from horizontal stabilizer $M(F_H)$.

Drawing 3



Location of Centre of Lift depends on aerodynamics, so we cannot affect on it.
Location of Centre of Gravity can be controlled by appropriate loading of an aircraft.
For each aircraft type therefore the manufacturer specifies a safe range of COG location and operator of an aircraft must not exceed given limitations.

COG location is defined in following units:

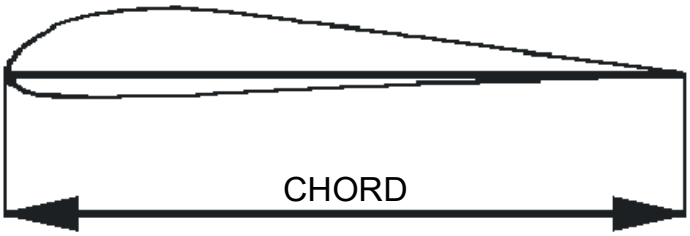
1. **%MAC (Mean Aerodynamic Chord) – percent of Mean Aerodynamic Chord.**
2. **Index - unit without a term**

1. % MAC – PERCENT OF MEAN AERODYNAMIC CHORD.

DEFINITION :

The Aerodynamic Chord is the line linking a wing nose and a trailing edge.

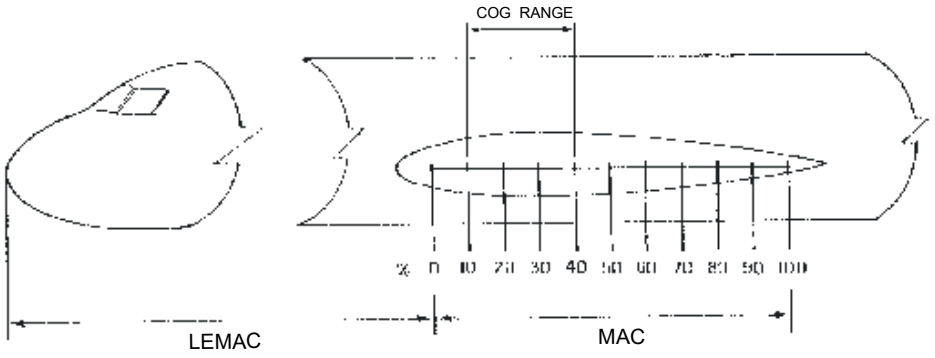
Drawing 4



The Mean Aerodynamic Chord MAC is a conventional chord of a substitute wing with a irregular rectangle shape having the same aerodynamic characteristic as a real wing.
This reference line is used in the design of a wing and its position relative to the wing and the fuselage is accurately known.

Assuming that the full length of MAC line is 100%, it is possible to define COG location on it as an appropriate value of %MAC, as shown on the drawing 5.

Drawing 5.



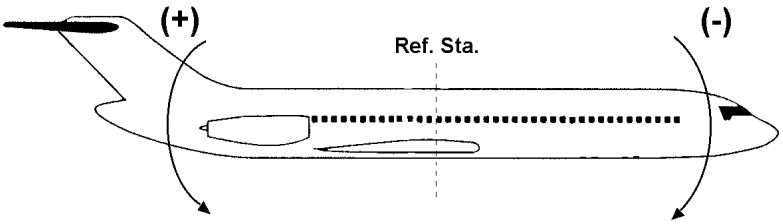
LEMAC - Horizontal distance in inches or meters from the station zero to location of the Leading Edge of MAC.

The Safe Range of COG for an aircraft type, for characteristic aircraft weights, is specified by the manufacturer and is expressed in terms of percentage of MAC.

2. INDEX – unit without a term.

Index expresses an influence of the component weight forces on change of COG position depending on location of the forces relatively to Ref. Station.
Index – it is an equivalent of moment coming from the component weight forces relatively to their positions to Ref. Station.

Drawing 6



Ref. Station – Reference station /axis. Selected station around which all indexes values are calculated.

Depending on position of an loaded item on an aircraft relatively to Ref. Station, the value of arms are following:

- **the arms measured forward of Ref. Station are negative (-)**
- **the arms measured aft of Ref. Station are positive (+)**

Therefore, each weight of an item loaded on an aircraft - relatively to its location - corresponds to negative or positive index correction, which is a measure of an influence of the load on Centre of Gravity location.

The conversion from index value to percent of MAC is obtained from a graph.
The graph represents MAC grids in function of aircraft characteristic weight and index values

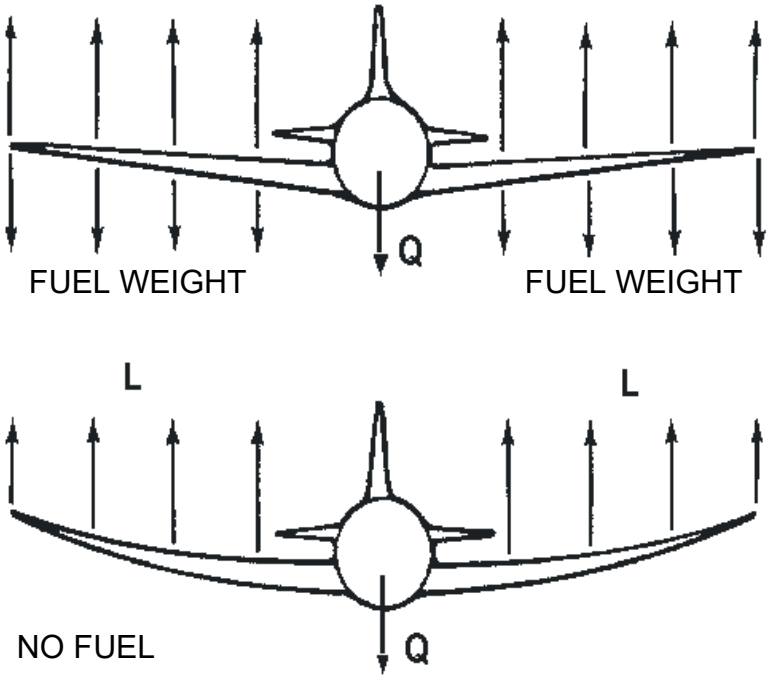
3.4 Aircraft weight definition

3.4.1 Maximum design weights

	Remarks
1. General rule	• **Every aircraft has certain weight restrictions which are determined by the manufacturer.** • **The operator must not exceed the stipulated limitations when loading the aircraft.**
2. MZFW (Maximum Zero Fuel Weight)	• This is maximum design weight of loaded aircraft without fuel. • This weight results from the designed strength of the wings. • The force **Lift L** -from the wings- acting upwards, together with the force **weight Q** of the loaded fuselage acting downwards in the centre, impose a bending moment on the wing. (see drawing 1 below)
3. MTOW (Maximum Take Off Weight)	• This is the **maximum permitted weight at commencement of the take-off run:** ⇒ design – determined by the manufacturer of an aircraft (does not depend on operational conditions), ⇒ operational – reduced by the operator subject to conditions prevailing at the airfield of departure or arrival . • Actual MTOW is calculated accordingly to operational conditions of the runway on the base of Airplane Flight Manual. • Design MTOW may be reduced by: a) runway characteristic: ⇒ length, ⇒ slope, ⇒ pavement, ⇒ elevation, ⇒ obstacles on the climb path. b) weather conditions: ⇒ temperature, ⇒ precipitation, ⇒ wind component. c) noise abatement rules.
4. MLAW (Maximum Landing Weight)	• This is the **maximum permitted weight at which the aircraft may land.** ⇒ design – determined by the manufacturer of an aircraft (does not depend on operational conditions), ⇒ operational – reduced by the operator subject to conditions prevailing at the airfield of departure or arrival. • Design MLAW, similarly to design MTOW, may be reduced by the operator subject because of operational conditions mentioned above. • **Only real MTOW and MLAW values, taking into consideration all operational factors, are allowed to be used for weight and balance calculations.**
5. MTXW (Maximum Taxi Weight)	• This is **maximum permitted weight of the aircraft at which it may be moved, either using its engines or being pushed or towed.** • MTXW includes MTOW and Taxi Fuel.

Drawing 1

MZFW - MAXIMUM ZERO FUEL WEIGHT



The designed strength of the wings limits the weight that may be loaded in the fuselage.
That part of the total aircraft weight which consists of fuel carried in the wings will tend to counterbalance that part of the total weight carried in the fuselage.
The most critical bending moment would occur, therefore, with no fuel in the wings and maximum weight in the fuselage.

3.4.2 Operational weights

	Remarks
1. BW (Basic Weight)	• **Weight of the aircraft prepared for service. BW includes the actual weight of the aircraft including its fixed equipment, unusable fuel, configuration equipment with galley structures, 100% potable water load** • Basic Weight (BW) is published: ⇒ on sheet C3 of AHM560 (according to IATA AHM Revision 37), ⇒ in aircraft weighing report stored in cockpit documents.
2. DOW (Dry Operating Weight)	• Dry Operating Weight consists of: ⇒ Basic Weight (BW), ⇒ Crew weight, ⇒ crew baggage, ⇒ pantry weight, **DOW = BW + CREW + CREW BAG + PANTRY** Fuel ballast, if carried, shall be included in DOW.
3. TOF (Take Off Fuel)	• Fuel quantity necessary at commencement of the take-off run. • **Take-off Fuel does not include Taxi Fuel.**
4. TF (Trip Fuel)	• Fuel quantity necessary for trip calculated from commencement of take-off run to touch-down.
5. TXF (Taxi Fuel)	• Fuel quantity necessary for taxing.
6. OW (Operating Weight)	• Operating Weight includes Dry Operating Weight (DOW) and Take-off Fuel (TOF).
7. TL (Traffic Load)	• Traffic Load consist of following weights: ⇒ passengers ⇒ baggage, ⇒ cargo including non-revenue load as: EIC, CSU, ballast carrying in holds, empty ULD tare weight, ⇒ mail ⇒ non-revenue load as EIC, CSU, ballast carrying in holds, ULD empty weight (treated as cargo) **TTL = PAX + BAG + CARGO + MAIL**
8. ZFW (Zero Fuel Weight)	• Actual weight of loaded aircraft without fuel
9. LAW (Landing Weight)	Actual weight of aircraft for landing.
10. TOW (Take Off Weight)	Actual weight of aircraft for take-off.
11. COG LOCATION – UNITS SPECIFICATION	**BI** BASIC INDEX - index at Basic Weight **DOI** DRY OPERATING INDEX- index at Dry Operating Weight **DLI** DEADLOAD INDEX - index at cargo compartment loaded **DLMAC** DEADLOAD MAC - % MAC at cargo compartment loaded **LIZFW** LOADED INDEX at ZERO FUEL WEIGHT - index at ZFW **MACZFW** % MAC at ZERO FUEL WEIGHT - % MAC at ZFW **LITOW** LOADED INDEX at TAKE OFF WEIGHT - index at TOW **MACTOW** % MAC at TAKE OFF WEIGHT - % MAC at TOW **LILAW** LOADED INDEX at LANDING WEIGHT - index at LAW **MACLAW** % MAC at LANDING WEIGHT - % MAC at LAW

3.4.3 Fuel As Ballast

Fuel may be used as ballast in order to relocate the ZFW inside the CG envelope. The ZFW informed in the FMS, however, must not consider the fuel quantity used as ballast. This additional fuel must not be consumed during flight.

Some airplane configurations such as very low passenger occupation, non-revenue flights or ferry fights may cause the Zero Fuel Weight (ZFW) to be outside the CG envelope.

In order to relocate the ZFW within the CG envelope, fuel can be used as ballast provided this fuel quantity is not considered and not used for flight planning purposes. This additional fuel must remain in tanks for the duration of the relevant flight. Any fuel ballast used in flight may cause balance problems and jeopardize the safety of the aircraft

Fuel ballast must be shown as an adjustment to the dry operating weight which will then be included in the ZFW. However, for CG position determination total fuel on tanks must be considered, which means that, the index influence of fuel ballast and trip fuel cannot be calculated separately.

When using fuel as ballast the ZFW in the FMS must not consider this additional fuel quantity, therefore, flight crew must insert Zero Fuel Weight without the fuel ballast

For example:
ZFW without fuel ballast = 39000 Kg
Fuel Ballast = 1000 Kg
ZFW adjustment considering fuel ballast = 40000 Kg
ZFW in the FMS = ZFW adjustment considering fuel ballast - Fuel Ballast
ZFW in the FMS = 40000 Kg - 1000 Kg
ZFW in the FMS = 39000 Kg

3.5. Load and trim sheet.

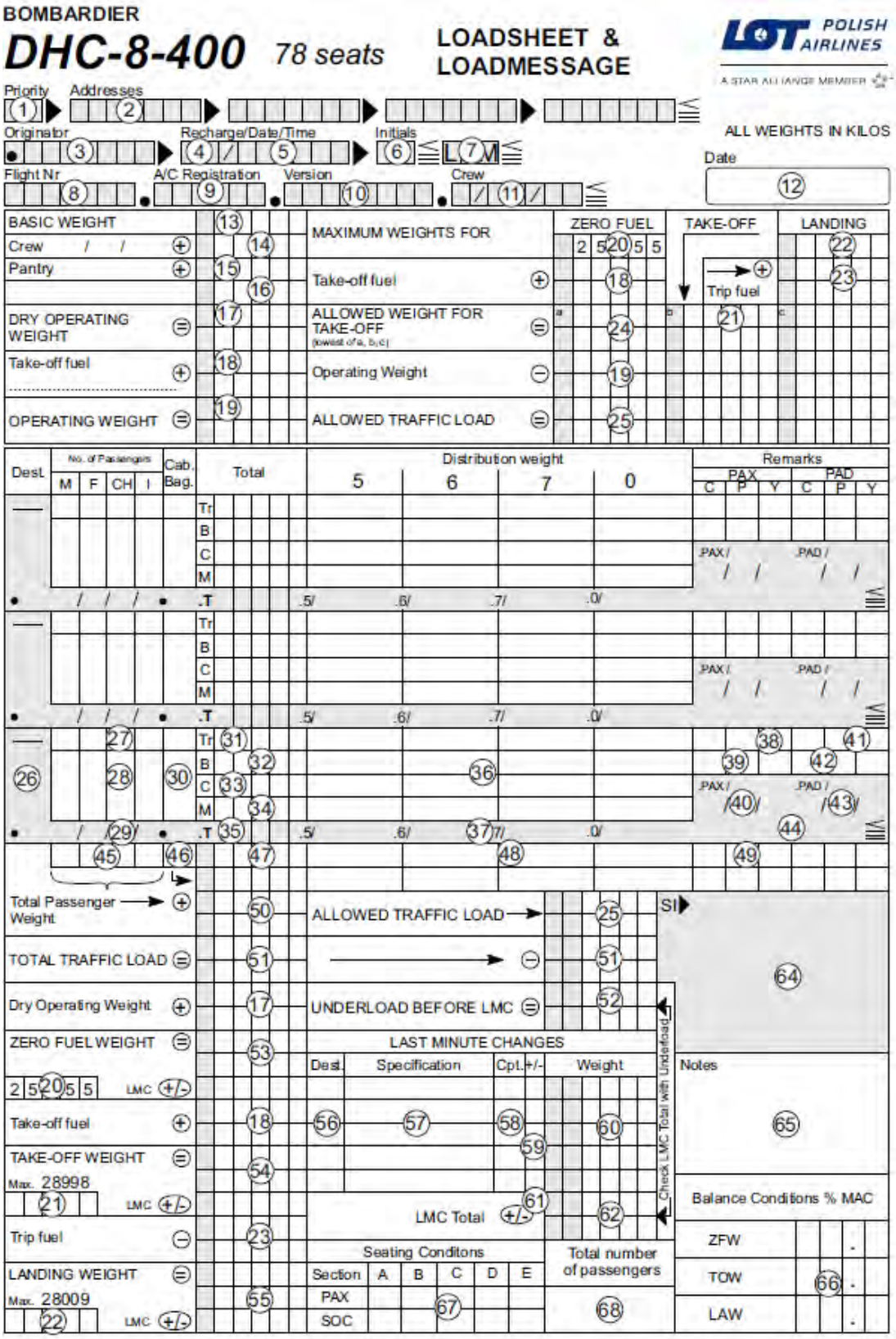
Manual loadsheet formats for following a/c:

- DHC-8-400
- ERJ 170-100
- ERJ 170-200
- ERJ 170-200STD
- ERJ 190-100
- ERJ 190-100AR
- ERJ 190-200
- ERJ 190-200AR
- B737-8
- B737-800 / -86N
- B787-8
- B787-9

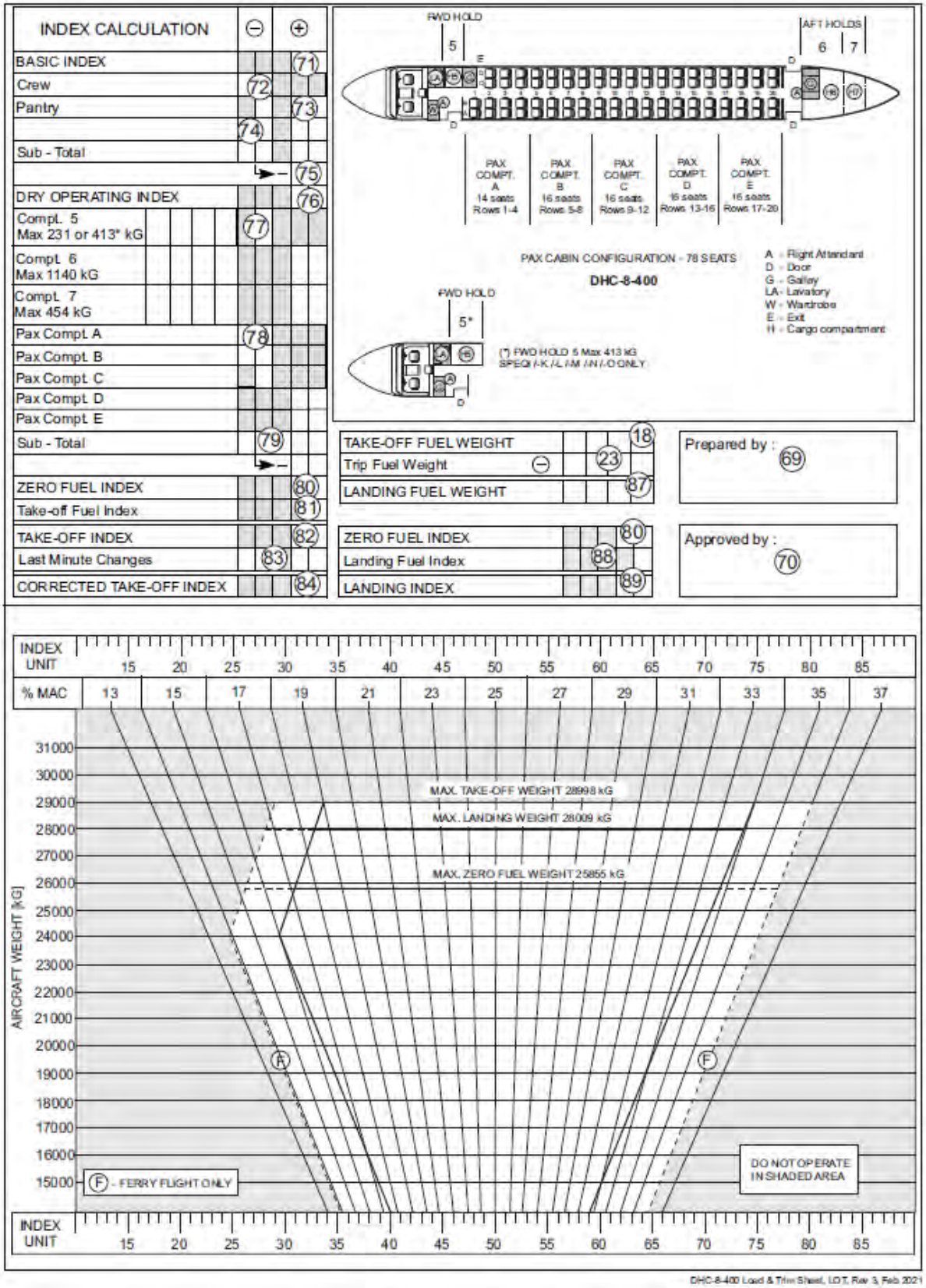
are shown below:

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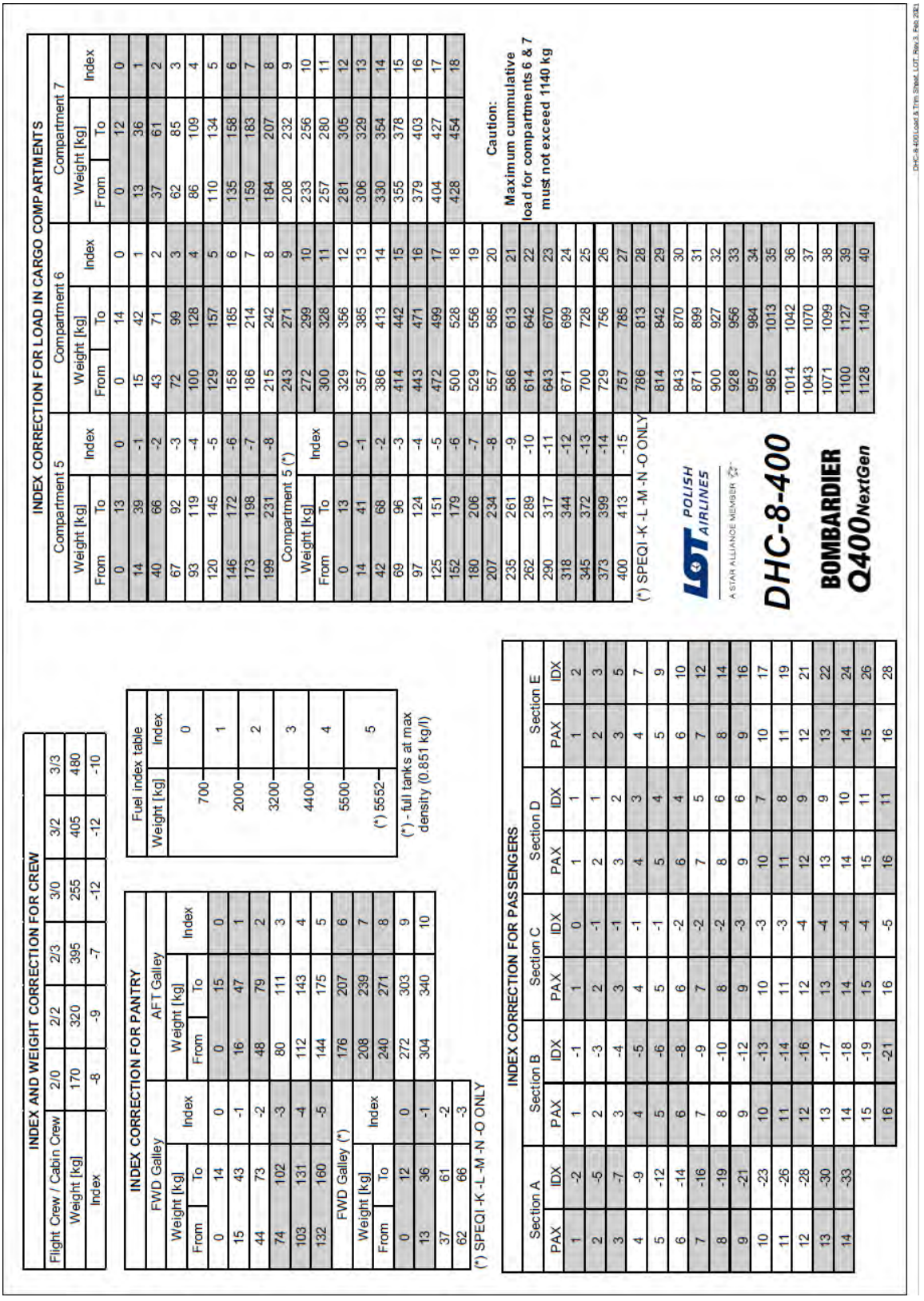
3.5.1 DHC-8-400 Loadsheet



3.5.2 DHC-8-400 Trim Chart



3.5.3 DHC-8-400 Index correction tables



INDEX AND WEIGHT CORRECTION FOR CREW

Flight Crew / Cabin Crew	2/0	2/2	2/3	3/0	3/2	3/3
Weight [kg]	170	320	395	255	405	480
Index	-8	-9	-7	-12	-12	-10

INDEX CORRECTION FOR PANTRY

FWD Galley			AFT Galley		
Weight [kg]		Index	Weight [kg]		Index
From	To		From	To	
0	14	0	0	15	0
15	43	-1	16	47	1
44	73	-2	48	79	2
74	102	-3	80	111	3
103	131	-4	112	143	4
132	160	-5	144	175	5

FWD Galley (*)		
Weight [kg]		Index
From	To	
0	12	0
13	36	-1
37	61	-2
62	66	-3

176	207	6	208	239	7
240	271	8	272	303	9
304	340	10			

(*) SPEQI -K -L -M -N -O ONLY

Fuel index table	
Weight [kg]	Index
700	0
2000	1
3200	2
4400	3
5500	4
(*) 5552	5

(*) - full tanks at max density (0.851 kg/l)

INDEX CORRECTION FOR PASSENGERS

Section A		Section B		Section C		Section D		Section E	
PAX	IDX	PAX	IDX	PAX	IDX	PAX	IDX	PAX	IDX
1	-2	1	-1	1	0	1	1	1	2
2	-5	2	-3	2	-1	2	1	2	3
3	-7	3	-4	3	-1	3	2	3	5
4	-9	4	-5	4	-1	4	3	4	7
5	-12	5	-6	5	-1	5	4	5	9
6	-14	6	-8	6	-2	6	4	6	10
7	-16	7	-9	7	-2	7	5	7	12
8	-19	8	-10	8	-2	8	6	8	14
9	-21	9	-12	9	-3	9	6	9	16
10	-23	10	-13	10	-3	10	7	10	17
11	-26	11	-14	11	-3	11	8	11	19
12	-28	12	-16	12	-4	12	9	12	21
13	-30	13	-17	13	-4	13	9	13	22
14	-33	14	-18	14	-4	14	10	14	24
		15	-19	15	-4	15	11	15	26
		16	-21	16	-5	16	11	16	28

INDEX CORRECTION FOR LOAD IN CARGO COMPARTMENTS

Compartment 5			Compartment 6			Compartment 7		
Weight [kg]		Index	Weight [kg]		Index	Weight [kg]		Index
From	To		From	To		From	To	
0	13	0	0	14	0	0	12	0
14	39	-1	15	42	1	13	36	1
40	66	-2	43	71	2	37	61	2
67	92	-3	72	99	3	62	85	3
93	119	-4	100	128	4	86	109	4
120	145	-5	129	157	5	110	134	5
146	172	-6	158	185	6	135	158	6
173	198	-7	186	214	7	159	183	7
199	231	-8	215	242	8	184	207	8

Compartment 5 (*)									
Weight [kg]		Index							
From	To								
0	13	0	329	356	12	281	305	12	
14	41	-1	357	385	13	306	329	13	
42	68	-2	386	413	14	330	354	14	
69	96	-3	414	442	15	355	378	15	
97	124	-4	443	471	16	379	403	16	
125	151	-5	472	499	17	404	427	17	
152	179	-6	500	528	18	428	454	18	
180	206	-7	529	556	19				
207	234	-8	557	585	20				
235	261	-9	586	613	21				
262	289	-10	614	642	22				
290	317	-11	643	670	23				
318	344	-12	671	699	24				
345	372	-13	700	728	25				
373	399	-14	729	756	26				
400	413	-15	757	785	27				

(*) SPEQI -K -L -M -N -O ONLY

786	813	28			
814	842	29			
843	870	30			
871	899	31			
900	927	32			
928	956	33			
957	984	34			
985	1013	35			
1014	1042	36			
1043	1070	37			
1071	1099	38			
1100	1127	39			
1128	1140	40			

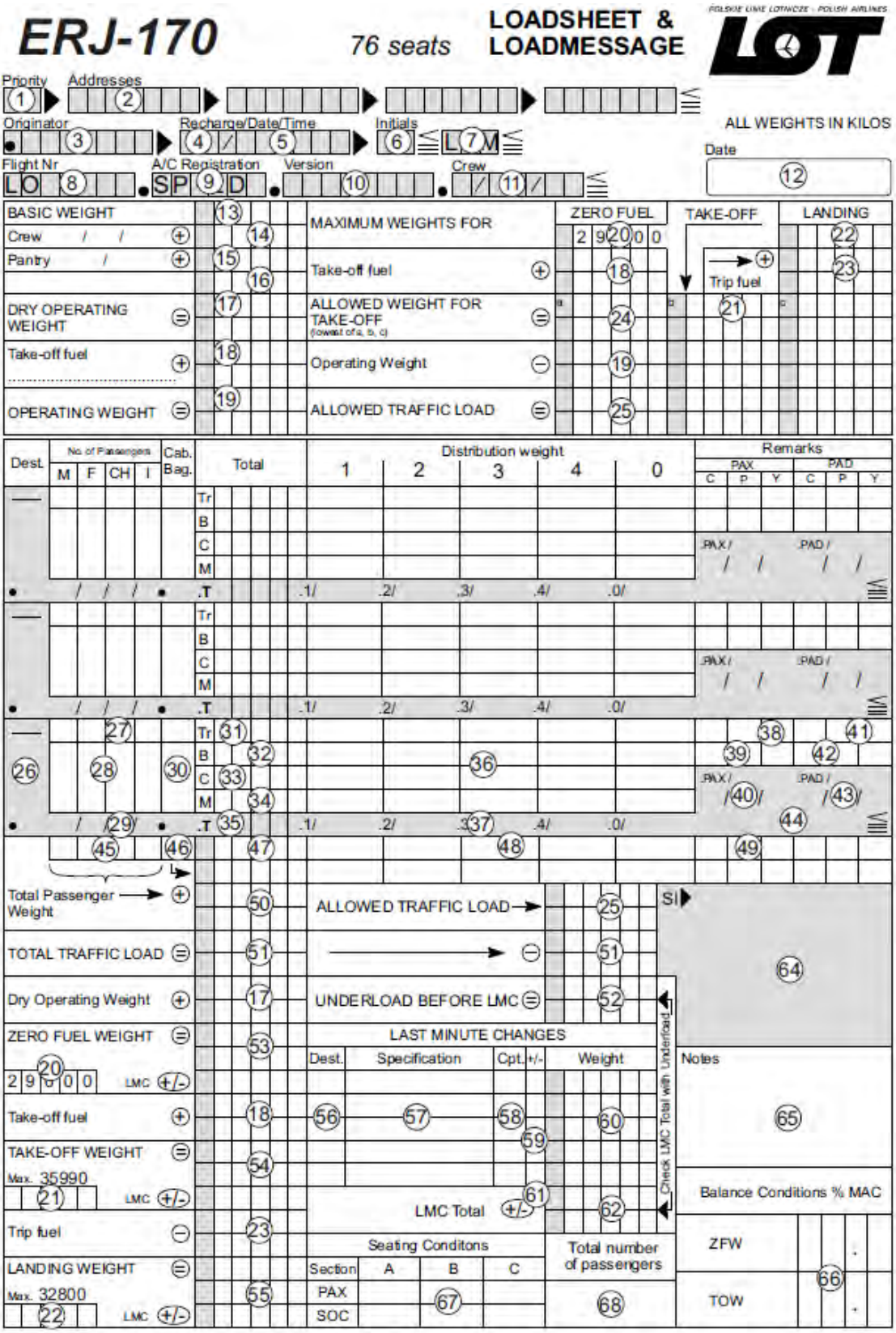
Caution:
Maximum cummulative load for compartments 6 & 7 must not exceed 1140 kg

POLISH AIRLINES
A STAR ALLIANCE MEMBER

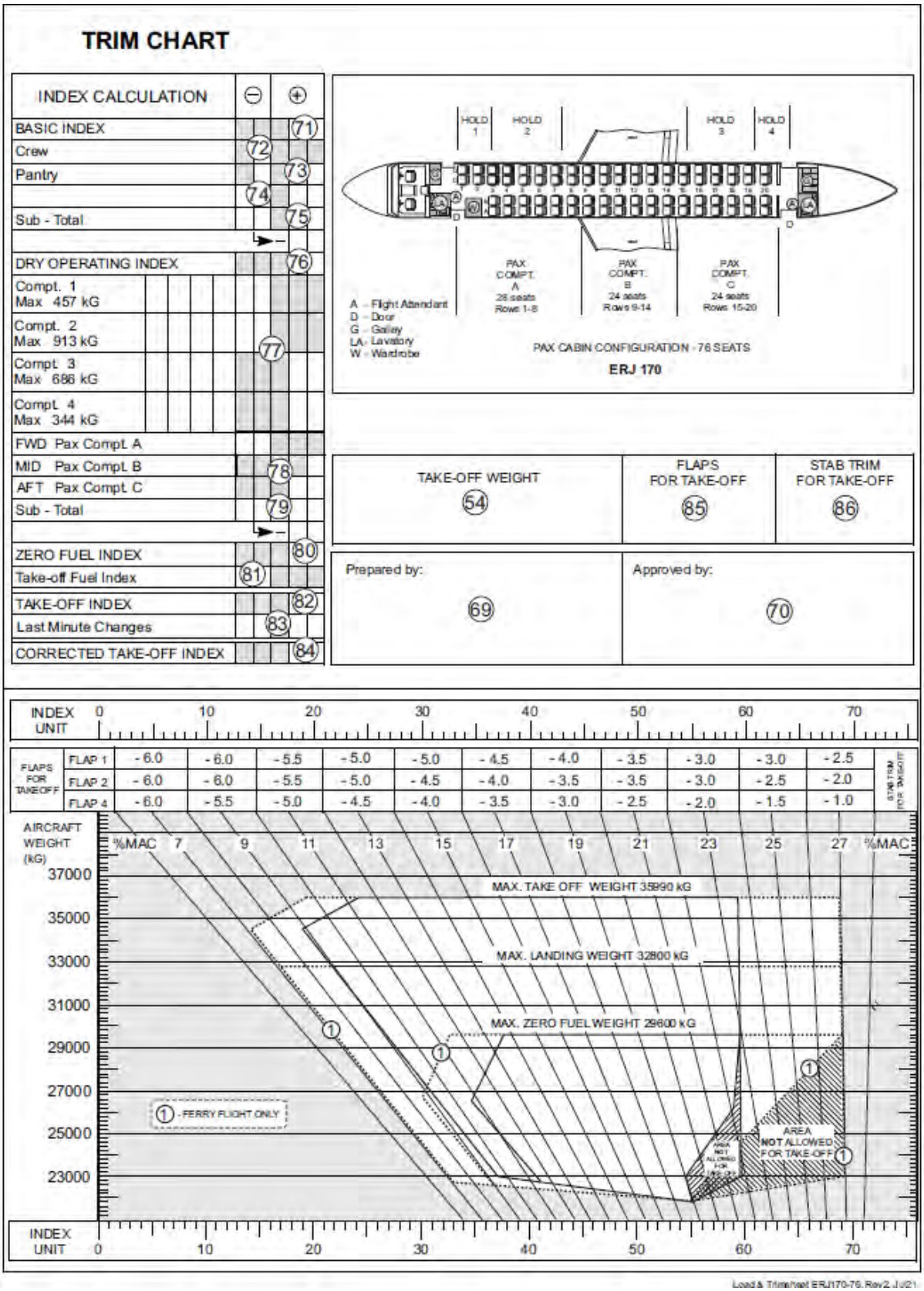
DHC-8-400

BOMBARDIER
Q400NextGen

3.5.4 ERJ 170–100 Loadsheet



3.5.5 ERJ 170–100 Trim Chart



3.5.6 ERJ 170–100 Index correction tables

BAGGAGE - CARGO INDEX TABLES

COMPT. 1		COMPT. 2		COMPT. 3		COMPT. 4	
Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 29	0	0 - 39	0	0 - 49	0	0 - 29	0
30 - 79	- 1	40 - 119	- 1	50 - 139	1	30 - 89	1
80 - 129	- 2	120 - 189	- 2	140 - 229	2	90 - 149	2
130 - 179	- 3	190 - 259	- 3	230 - 309	3	150 - 209	3
180 - 229	- 4	260 - 339	- 4	310 - 399	4	210 - 269	4
230 - 279	- 5	340 - 409	- 5	400 - 489	5	270 - 329	5
280 - 329	- 6	410 - 489	- 6	490 - 579	6	330 - 344	6
330 - 369	- 7	490 - 559	- 7	580 - 669	7		
370 - 419	- 8	560 - 629	- 8	670 - 686	8		
420 - 457	- 9	630 - 709	- 9				
		710 - 779	- 10				
		780 - 859	- 11				
		860 - 913	- 12				

PAX INDEX TABLE

ALL FLIGHTS EXCEPT HOLIDAY CHARTERS						HOLIDAY CHARTERS ONLY					
COMPT. A 28 Max PAX		COMPT. B 24 Max PAX		COMPT. C 24 Max PAX		COMPT. A 28 Max PAX		COMPT. B 24 Max PAX		COMPT. C 24 Max PAX	
PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit
1	- 1	0 - 6	0	1	1	1	- 1	0 - 6	0	1	1
2	- 2	7 - 18	1	2	2	2	- 2	7 - 20	1	2	2
3	- 3	19 - 24	2	3	3	3	- 3	21 - 24	2	3	3
4	- 4			4	4	4	- 4			4	4
5	- 5			5	5	5	- 5			5	5
6	- 6			6	6	6	- 6			6	6
7	- 7			7	7	7	- 7			7	7
8	- 8			8	8	8	- 8			8	8
9	- 9			9	9	9	- 8			9	8
10	- 10			10	10	10	- 9			10	9
11	- 11			11	11	11	- 10			11	10
12	- 13			12	12	12	- 11			12	11
13	- 14			13	14	13	- 12			13	12
14	- 15			14	15	14	- 13			14	13
15	- 16			15	16	15	- 14			15	14
16	- 17			16	17	16	- 15			16	15
17	- 18			17	18	17	- 16			17	16
18	- 19			18	19	18	- 17			18	17
19	- 20			19	20	19	- 18			19	18
20	- 21			20	21	20	- 19			20	19
21	- 22			21	22	21	- 20			21	20
22	- 23			22	23	22	- 21			22	21
23	- 24			23	24	23	- 22			23	22
24	- 25			24	25	24	- 23			24	23
25	- 26					25	- 24				
26	- 27					26	- 25				
27	- 28					27	- 25				
28	- 29					28	- 26				

Load & Trimsheet ERJ170-76 Rev2 - Jul'21

INDEX AND WEIGHT CORRECTION TABLE FOR CREW

Cockpit Crew / Cabin Crew	2 / 2	2 / 0	3 / 2	3 / 0
Weight (kG)	320	170	405	255
Index Units	- 5	- 5	- 7	- 7

FUEL INDEX TABLE

Weight (kG)	Index Units
0 - 320	0
321 - 650	- 1
651 - 1140	- 2
1141 - 1460	- 3
1461 - 1950	- 4
1951 - 2430	- 5
2431 - 2760	- 6
2761 - 3250	- 7
3251 - 3730	- 8
3731 - 4220	- 9
4221 - 4700	- 10
4701 - 5350	- 11
5351 - 5840	- 12
5841 - 6490	- 13
6491 - 8430	- 14
8431 - 8920	- 13
8921 - 9250	- 12
9251 - 9470	- 11

EMBRAER
ERJ 170
76 seats

POTABLE WATER(1)

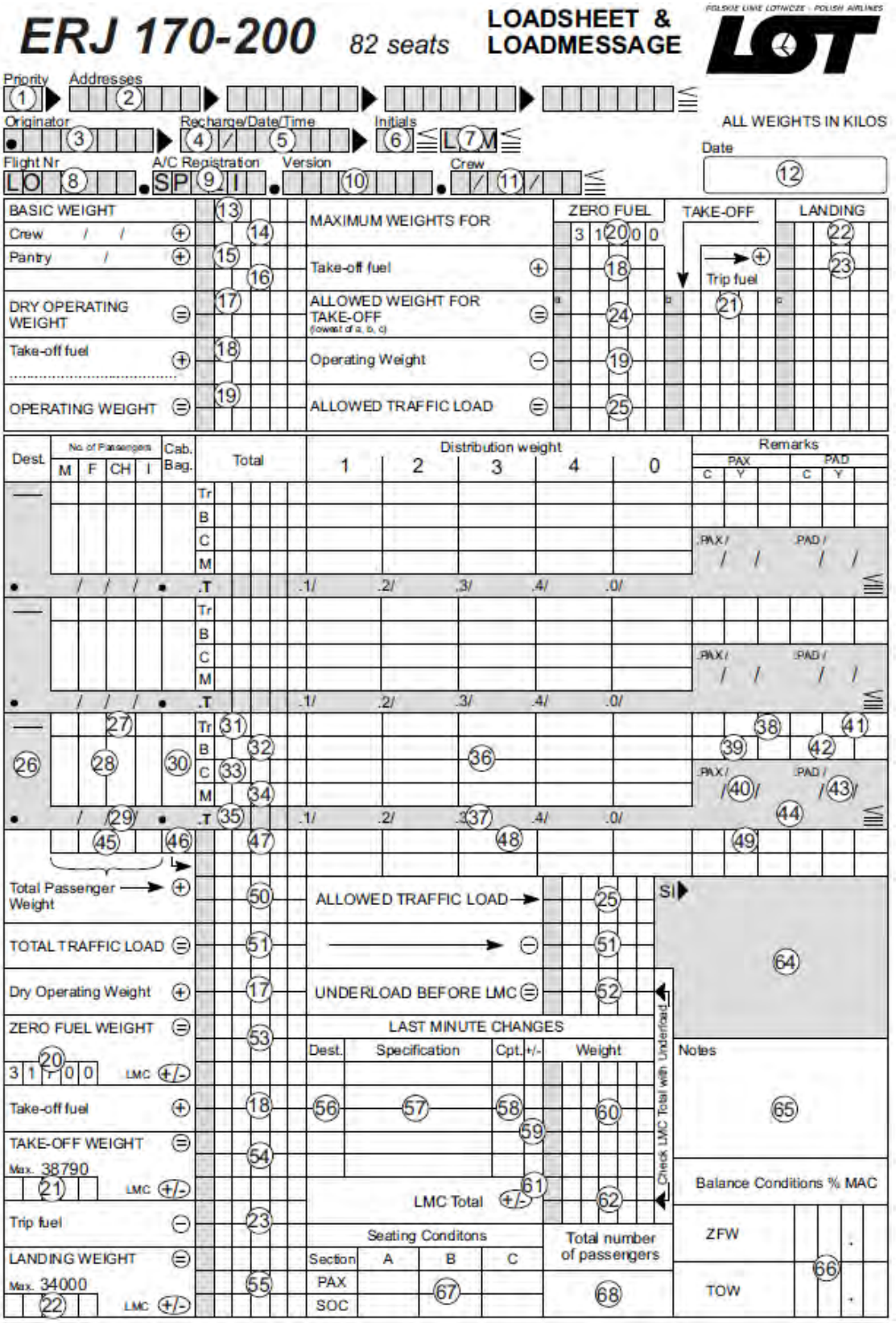
Load	Weight	Index
0%	-110	-2
25%	- 82	-2
50%	- 55	-1
75%	- 27	-1
100%	0	0

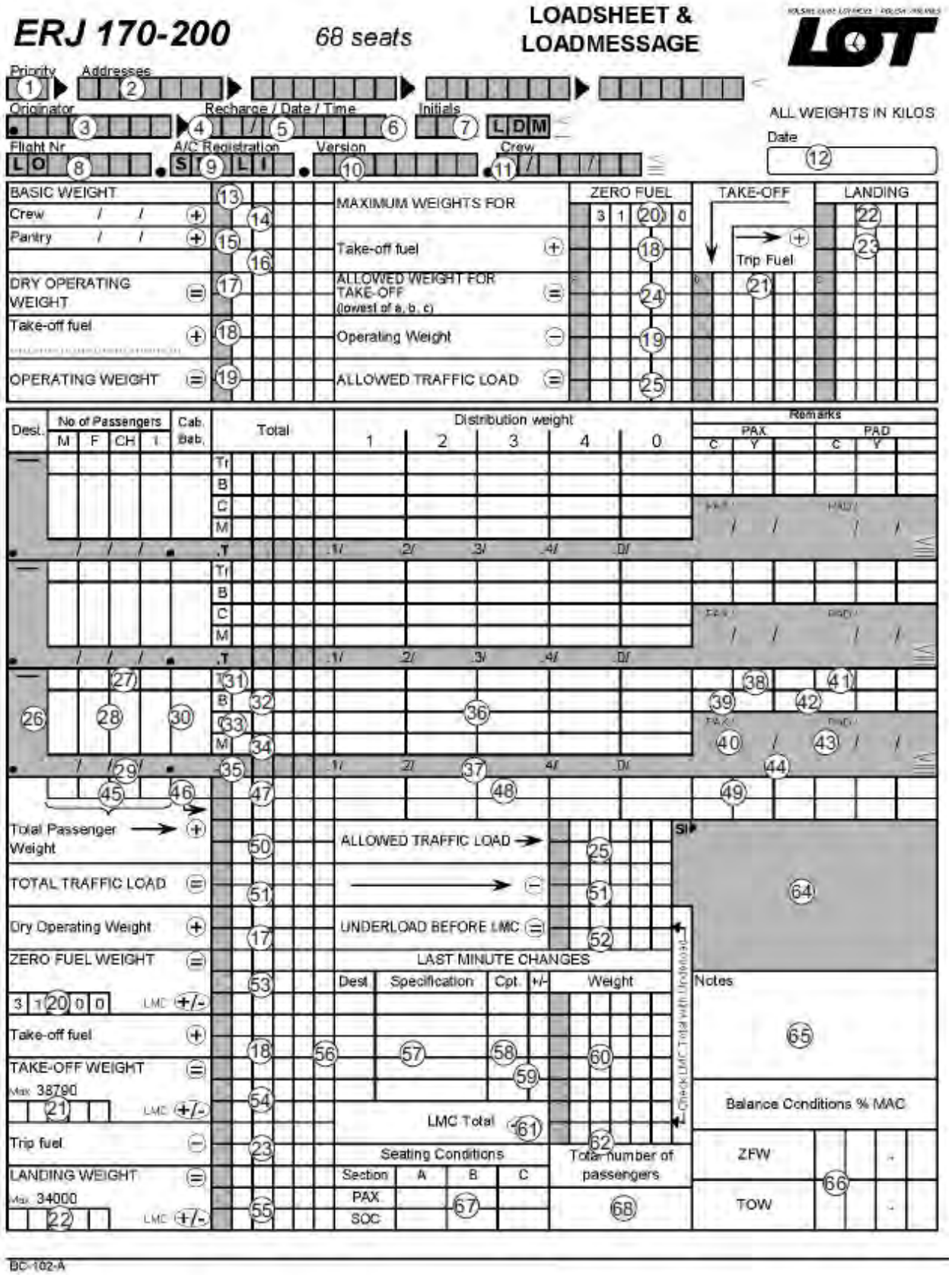
(1) - 100% included in Basic Weight

INDEX CORRECTION FOR PANTRY

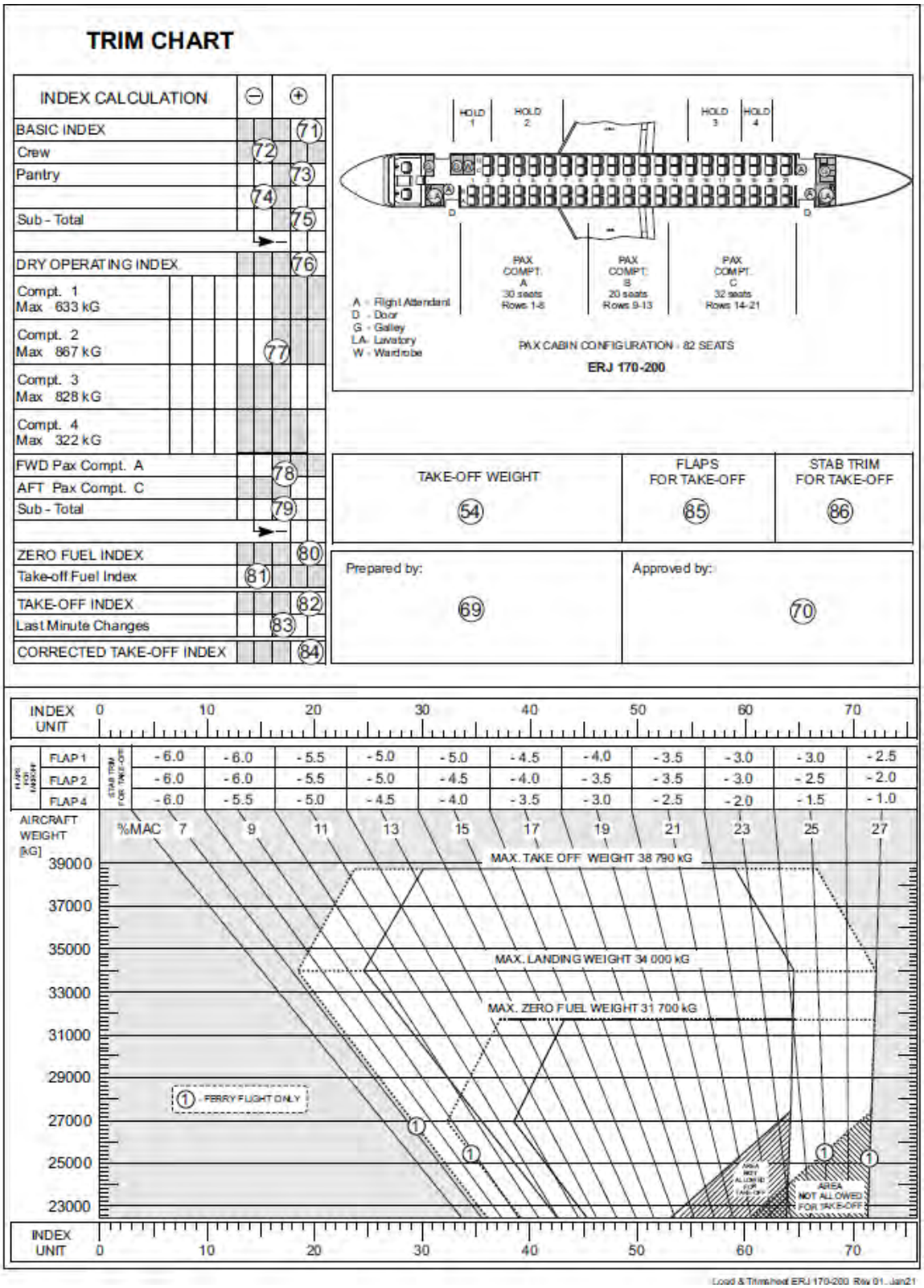
FWD Galley		AFT Galley	
Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 20	0	0 - 23	0
21 - 61	- 1	24 - 69	1
62 - 101	- 2	70 - 113	2
102 - 110	- 3	114 - 159	3
		160 - 205	4
		206 - 249	5
		250 - 295	6
		296 - 341	7
		342 - 353	8

3.5.7 ERJ 170–200 Loadsheet



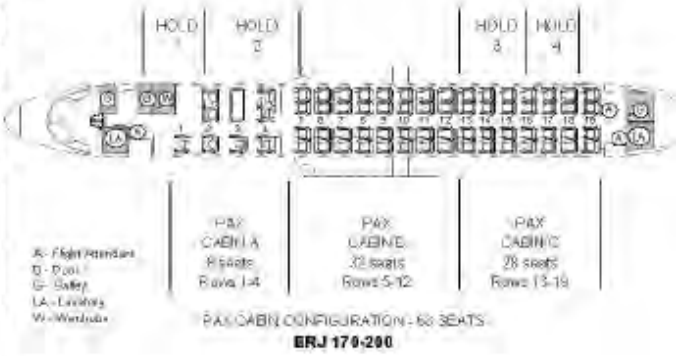

ERJ 170-200
68 seats
LOADSHEET & LOADMESSAGE
LOT
Priority
Addresses
Originator
Recharge / Date / Time
Initials
L D M
ALL WEIGHTS IN KILOS
Flight Nr
L O
A/C Registration
S P L I
Version
Crew
Date
BASIC WEIGHT
Crew
Pantry
DRY OPERATING WEIGHT
Take-off fuel
OPERATING WEIGHT
MAXIMUM WEIGHTS FOR
ZERO FUEL
TAKE-OFF
LANDING
Take-off fuel
ALLOWED WEIGHT FOR TAKE-OFF (lowest of a, b, c)
Operating Weight
ALLOWED TRAFFIC LOAD
Trip Fuel
Desl.
No of Passengers
M F CH I
Cab. Bab.
Total
Distribution weight
1 2 3 4 0
Remarks
PAX
PAD
C Y
Total Passenger Weight
TOTAL TRAFFIC LOAD
Dry Operating Weight
ZERO FUEL WEIGHT
LMC +/-
Take-off fuel
TAKE-OFF WEIGHT
Max 38790
Trip fuel
LANDING WEIGHT
Max 34000
UNDERLOAD BEFORE LMC
LAST MINUTE CHANGES
Dest.
Specification
Cpt.
+/-
Weight
LMC Total
Seating Conditions
Section
A
B
C
PAX
SOC
Total number of passengers
Notes
Balance Conditions % MAC
ZFW
TOW
Check LMC Total with Underload
BC-102-A

3.5.8 ERJ 170–200 Trim Chart



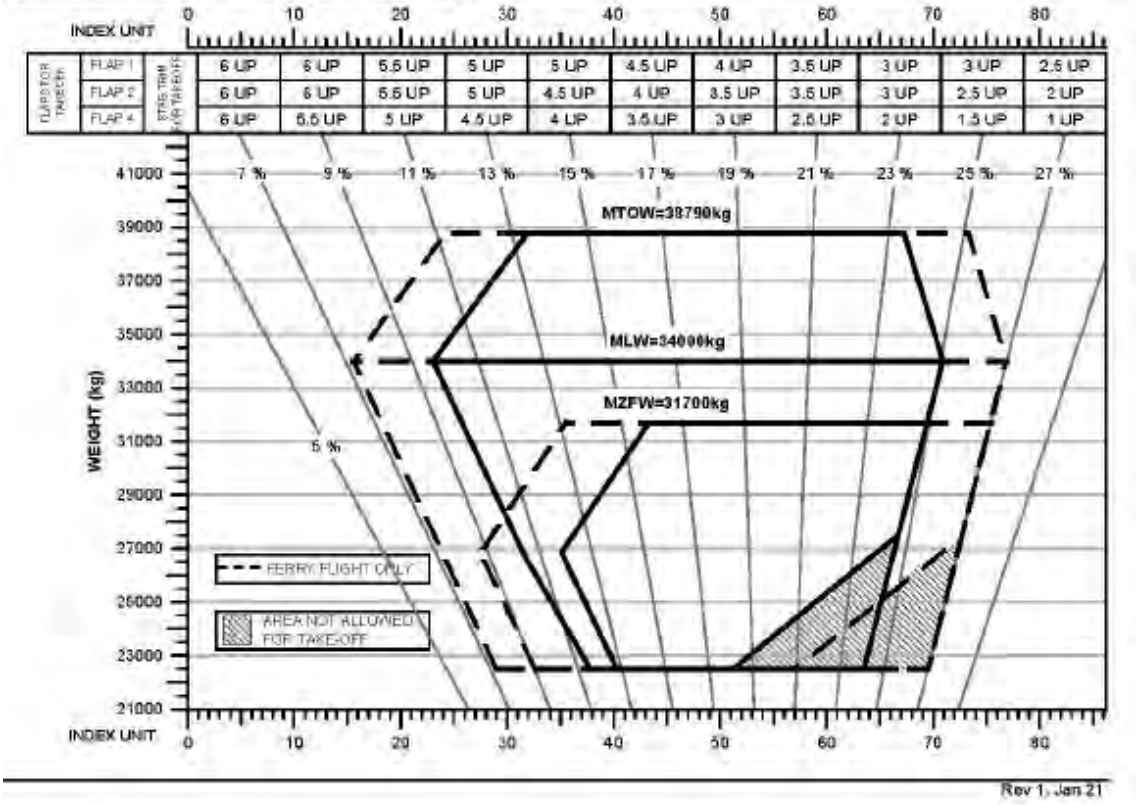
TRIM CHART

INDEX CALCULATION	(−)	(+)
BASIC INDEX		(71)
Crew	(72)	
Pantry		(73)
	(74)	
Sub-Total		(75)
	→ -	
DRY OPERATING INDEX		(76)
Hold 1 Max 633 KG		
Hold 2 Max 867 KG	(77)	
Hold 3 Max 828 KG		
Hold 4 Max 322 KG		
Pax Cabin A		
Pax Cabin B	(78)	
Pax Cabin C		
Sub-Total	(79)	
	→ -	
ZERO FUEL INDEX		(80)
Take-off Fuel index	(81)	
TAKE-OFF INDEX		(82)
Last minute changes	(83)	
CORRECTED TAKE-OFF INDEX		(84)



TAKE-OFF WEIGHT	FLAPS FOR TAKE-OFF	STAB TRIM FOR TAKE-OFF
(54)	(85)	(86)

Prepared by:	Approved by:
(69)	(70)



3.5.9 ERJ 170–200 Index correction tables

EMBRAER
ERJ 170-200

POTABLE WATER(*)

Load	Weight	Index
0%	-110	-3
25%	- 82	-2
50%	- 55	-1
75%	- 27	-1
100%	0	0

(*) - 100% included in Basic Weight

INDEX AND WEIGHT CORRECTION TABLE FOR CREW

Cockpit Crew / Cabin Crew	2 / 3	2 / 2	2 / 0	3 / 3	3 / 2	3 / 0
Weight (kG)	395	320	170	480	405	255
Index Units	- 4	- 5	- 5	- 6	- 8	- 7

FUEL INDEX TABLE

Weight (kG)	Index Units
0 - 320	0
321 - 810	- 1
811 - 1130	- 2
1131 - 1620	- 3
1621 - 1940	- 4
1941 - 2430	- 5
2431 - 2920	- 6
2921 - 3400	- 7
3401 - 3890	- 8
3891 - 4540	- 9
4541 - 5020	- 10
5021 - 5670	- 11
5671 - 6320	- 12
6321 - 8430	- 13
8431 - 8760	- 12
8761 - 9080	- 11
9081 - 9410	- 10
9411 - 9470	- 9

INDEX CORRECTION FOR PANTRY

FWD Galley		AFT Galley	
Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 21	0	0 - 21	0
22 - 61	- 1	22 - 61	1
62 - 101	- 2	62 - 103	2
102 - 141	- 3	104 - 143	3
142 - 181	- 4	144 - 183	4
182 - 223	- 5	184 - 225	5
224 - 263	- 6	226 - 265	6
264 - 303	- 7	266 - 307	7
304 - 343	- 8	308 - 347	8
344 - 383	- 9	348 - 389	9
384 - 405	- 10	390 - 429	10
		430 - 469	11
		470 - 483	12

PAX INDEX TABLE

ALL FLIGHTS EXCEPT HOLIDAY CHARTERS						HOLIDAY CHARTERS ONLY					
COMPT. A 30 Max PAX		COMPT. B 20 Max PAX	COMPT. C 32 Max PAX			COMPT. A 30 Max PAX		COMPT. B 20 Max PAX	COMPT. C 32 Max PAX		
PAX	Index Unit		PAX	Index Unit		PAX	Index Unit		PAX	Index Unit	
1	- 1		1	1		1	- 1		1	1	
2	- 2		2	2		2	- 2		2	2	
3	- 3		3	3		3	- 3		3	3	
4	- 4		4	4		4	- 4		4	4	
5	- 6		5	5		5	- 5		5	5	
6	- 7		6	6		6	- 6		6	6	
7	- 8		7	7		7	- 7		7	7	
8	- 9		8	8		8	- 8		8	8	
9	- 10		9	10		9	- 9		9	9	
10	- 11	No Index change	10	11		10	- 10	No Index change	10	10	
11	- 12		11	12		11	- 11		11 - 12	11	
12	- 13		12	13		12	- 12		13	12	
13	- 14		13	14		13	- 13		14	13	
14	- 15		14	15		14	- 14		15	14	
15	- 17		15	16		15	- 15		16	15	
16	- 18		16	17		16	- 16		17	16	
17	- 19		17	18		17	- 17		18	17	
18	- 20		18	19		18	- 18		19	18	
19	- 21		19	20		19	- 19		20	19	
20	- 22		20	21		20	- 20		21	20	
21	- 23		21	22		21	- 21		22	21	
22	- 24		22	23		22	- 22		23	22	
23	- 25		23	24		23	- 23		24	23	
24	- 26		24	25		24	- 24		25	24	
25	- 28		25	26		25	- 25		26	25	
26	- 29		26	27		26	- 26		27	26	
27	- 30		27	29		27	- 27		28	27	
28	- 31		28	30		28	- 28		29	28	
29	- 32		29	31		29	- 29		30	29	
30	- 33		30	32		30	- 30		31	30	
			31	33					32	31	
			32	34							

BAGGAGE - CARGO INDEX TABLES

COMPT. 1		COMPT. 2		COMPT. 3		COMPT. 4	
Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 29	0	0 - 39	0	0 - 39	0	0 - 29	0
30 - 79	- 1	40 - 119	- 1	40 - 119	1	30 - 79	1
80 - 119	- 2	120 - 189	- 2	120 - 199	2	80 - 129	2
120 - 169	- 3	190 - 269	- 3	200 - 279	3	130 - 189	3
170 - 219	- 4	270 - 339	- 4	280 - 359	4	190 - 239	4
220 - 259	- 5	340 - 419	- 5	360 - 439	5	240 - 289	5
260 - 309	- 6	420 - 489	- 6	440 - 519	6	290 - 322	6
310 - 359	- 7	490 - 569	- 7	520 - 599	7		
360 - 409	- 8	570 - 639	- 8	600 - 669	8		
410 - 449	- 9	640 - 719	- 9	670 - 749	9		
450 - 499	- 10	720 - 789	- 10	750 - 828	10		
500 - 549	- 11	790 - 867	- 11				
550 - 599	- 12						
600 - 633	- 13						

INDEX AND WEIGHT CORRECTION TABLE FOR CREW						
Cockpit Crew / Cabin Crew	2 / 3	2 / 2	2 / 0	3 / 3	3 / 2	3 / 0
Weight (KG)	395	320	170	480	405	255
Index Units	-4	-6	-6	-6	-8	-8

POTABLE WATER(*)		
Load	Weight	Index
0%	-110	-3
25%	- 82	-2
50%	- 55	-1
75%	- 27	-1
100%	0	0

(*) - 100% included in Basic Weight

EMBRAER
ERJ 170-200

FUEL INDEX TABLE	
Weight (KG)	Index Units
0 - 270	0
271 - 720	-1
721 - 1180	-2
1181 - 1660	-3
1661 - 2160	-4
2161 - 2680	-5
2681 - 3240	-6
3241 - 3830	-7
3831 - 4480	-8
4481 - 5190	-9
5191 - 5990	-10
5991 - 7840	-11
7841 - 8290	-10
8291 - 8620	-9
8621 - 8880	-8
8881 - 9110	-7
9111 - 9300	-6
9301 - 9428	-5

INDEX CORRECTION FOR PANTRY			
FWD Galley		AFT Galley	
Weight (KG)	Index Units	Weight (KG)	Index Units
0 - 10	0	0 - 10	0
11 - 50	-1	11 - 50	1
51 - 90	-2	51 - 80	2
91 - 120	-3	81 - 120	3
121 - 160	-4	121 - 150	4
161 - 190	-5	151 - 190	5
191 - 230	-6	191 - 220	6
231 - 270	-7	221 - 260	7
271 - 300	-8	261 - 290	8
301 - 340	-9	291 - 330	9
341 - 370	-10	331 - 360	10
371 - 410	-11	361 - 400	11
		401 - 430	12
		431 - 470	13
		471 - 500	14

BAGGAGE - CARGO INDEX TABLES							
HOLD 1		HOLD 2		HOLD 3		HOLD 4	
Weight (KG)	Index Units	Weight (KG)	Index Units	Weight (KG)	Index Units	Weight (KG)	Index Units
0 - 20	0	0 - 30	0	0 - 30	0	0 - 20	0
21 - 60	-1	31 - 100	-1	31 - 90	1	21 - 60	1
61 - 100	-2	101 - 160	-2	91 - 160	2	61 - 110	2
101 - 140	-3	161 - 230	-3	161 - 230	3	111 - 150	3
141 - 180	-4	231 - 300	-4	231 - 290	4	151 - 190	4
181 - 230	-5	301 - 370	-5	291 - 360	5	191 - 240	5
230 - 270	-6	371 - 440	-6	361 - 420	6	241 - 280	6
271 - 310	-7	441 - 500	-7	421 - 490	7	281 - 322	7
311 - 350	-8	501 - 570	-8	491 - 560	8		
351 - 400	-9	571 - 640	-9	561 - 620	9		
401 - 440	-10	641 - 710	-10	621 - 690	10		
441 - 480	-11	711 - 770	-11	691 - 750	11		
481 - 520	-12	771 - 840	-12	751 - 828	12		
521 - 560	-13	841 - 887	-13				
561 - 610	-14						
611 - 633	-15						

PAX INDEX TABLE											
ALL FLIGHTS EXCEPT HOLIDAY CHARTERS						HOLIDAY CHARTERS ONLY					
CABIN A 8 Max PAX		CABIN B 32 Max PAX		CABIN C 28 Max PAX		CABIN A 8 Max PAX		CABIN B 32 Max PAX		CABIN C 28 Max PAX	
PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit
1	-1	1	0	1	1	1	-1	1	0	1	1
2	-3	2	0	2	3	2	-3	2	0	2	2
3	-4	3	0	3	4	3	-4	3	0	3	4
4	-6	4	0	4	5	4	-5	4	0	4	5
5	-7	5	0	5	7	5	-6	5	0	5	6
6	-8	6	0	6	8	6	-8	6	0	6	7
7	-10	7	0	7	9	7	-9	7	0	7	9
8	-11	8	-1	8	11	8	-10	8	0	8	10
		9	-1	9	12			9	-1	9	11
		10	-1	10	13			10	-1	10	12
		11	-1	11	15			11	-1	11	13
		12	-1	12	16			12	-1	12	15
		13	-1	13	18			13	-1	13	16
		14	-1	14	19			14	-1	14	17
		15	-1	15	20			15	-1	15	18
		16	-1	16	22			16	-1	16	20
		17	-1	17	23			17	-1	17	21
		18	-1	18	24			18	-1	18	22
		19	-1	19	26			19	-1	19	23
		20	-1	20	27			20	-1	20	24
		21	-1	21	28			21	-1	21	26
		22	-1	22	30			22	-1	22	27
		23	-2	23	31			23	-1	23	28
		24	-2	24	32			24	-1	24	29
		25	-2	25	34			25	-2	25	31
		26	-2	26	35			26	-2	26	32
		27	-2	27	36			27	-2	27	33
		28	-2	28	38			28	-2	28	34
		29	-2					29	-2		
		30	-2					30	-2		
		31	-2					31	-2		
		32	-2					32	-2		

3.5.10 ERJ 170-200 STD Loadsheet

ERJ170-200 STD 88 seats

LOADSHEET & LOADMESSAGE

POLISH AIRLINES
A STAR ALLIANCE MEMBER

Priority Addresses

Originator Recharge/Date/Time Initials

Flight Nr A/C Registration Version Crew

ALL WEIGHTS IN KILOS

Date

			MAXIMUM WEIGHTS FOR	ZERO FUEL	TAKEOFF	LANDING
BASIC WEIGHT				31700		
Crew / /	+		Takeoff fuel	+	v > + Trip fuel	
Pantry /	+					
	+		ALLOWED WEIGHT FOR TAKEOFF (lowest of a, b, c)	= a	b	c
Dry Operating Weight	=		Operating Weight	-		
Takeoff fuel	+		ALLOWED TRAFFIC LOAD	=		
OPERATING WEIGHT	=					

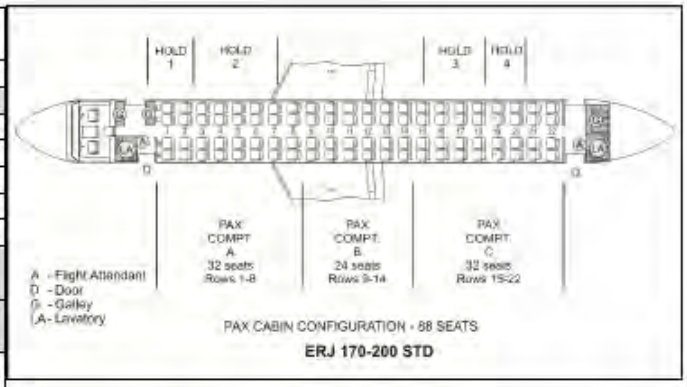
Dest.	No of Passengers M	F	CH	I	Cab Bag	Total	Distribution weight 1	2	3	4	0	Remarks PAX	PAD
						Tr							
						B							
						C						.PAX / /	.PAD / /
						M							
.	/	/	/	.		.T							≤
						Tr							
						B							
						C						.PAX / /	.PAD / /
						M							
.	/	/	/	.		.T							≤
						Tr							
						B							
						C						.PAX / /	.PAD / /
						M							
.	/	/	/	.		.T							≤
	v			>									

Total Passenger Weight	+	ALLOWED TRAFFIC LOAD	>	SI >
TOTAL TRAFFIC LOAD	=	TOTAL TRAFFIC LOAD	-	
Dry Operating Weight	+	UNDERLOAD BEFORE LMC	=	Check LMC Total with Underload
ZERO FUEL WEIGHT	=	LAST MINUTE CHANGES		
31700	LMC +/-	Dest. / Specification / Cpt. / +/- / Weight		Notes
Takeoff fuel	+			
TAKEOFF WEIGHT	=			
Max. 37500				
	LMC +/-	LMC Total	+/-	Balance Conditions %MAC
Trip fuel	-	Seating conditions		Total number of passengers
LANDING WEIGHT	=	Section / A / B / C		ZFW .
Max. 34000		PAX		TOW .
	LMC +/-	SOC		

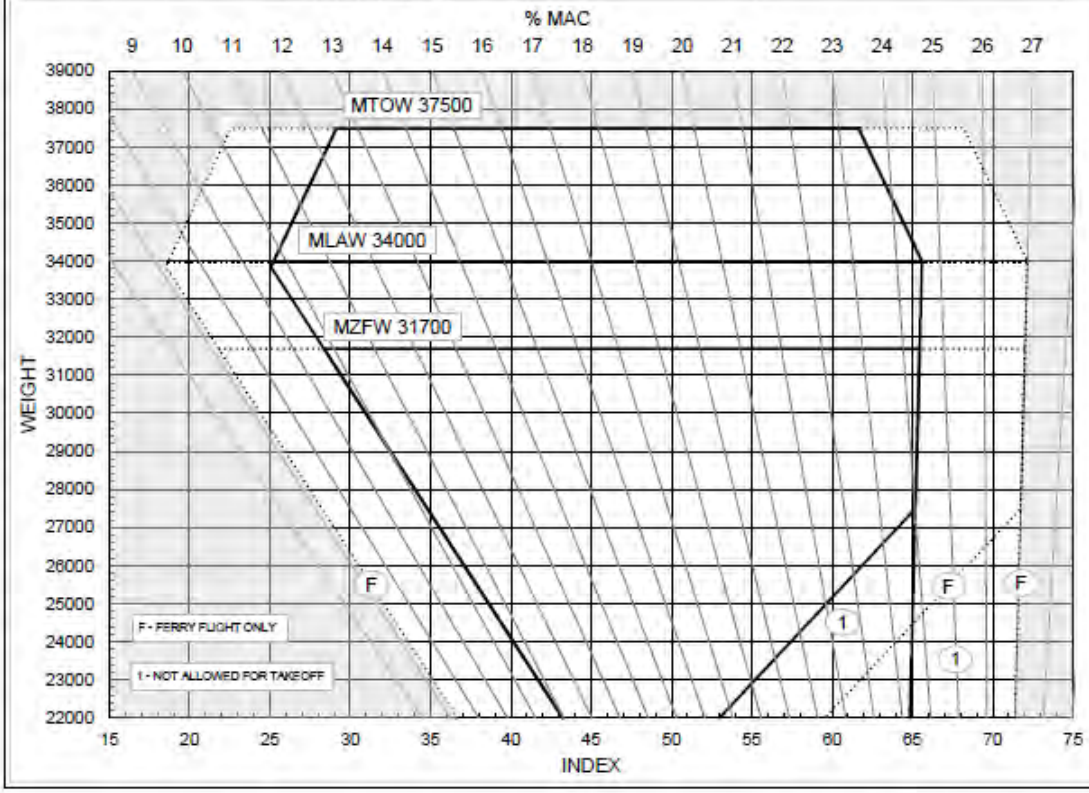
3.5.11 ERJ 170–200STD Trim Chart

TRIM CHART

INDEX CALCULATION	-	+
BASIC INDEX		
Crew		
Pantry		
Sub - Total		
	>	-
DRY OPERATING INDEX		
Compt.1 Max. 633 kG		
Compt.2 Max. 867 kG		
Compt.3 Max. 828 kG		
Compt.4 Max. 322 kG		
FWD Pax Compt. A		
MID Pax Compt. B		
AFT Pax Compt. C		
Sub - Total		
	>	-
ZERO FUEL INDEX		
Takeoff Fuel Index		
TAKEOFF INDEX		
Last Minute Changes		
CORRECTED TAKEOFF INDEX		

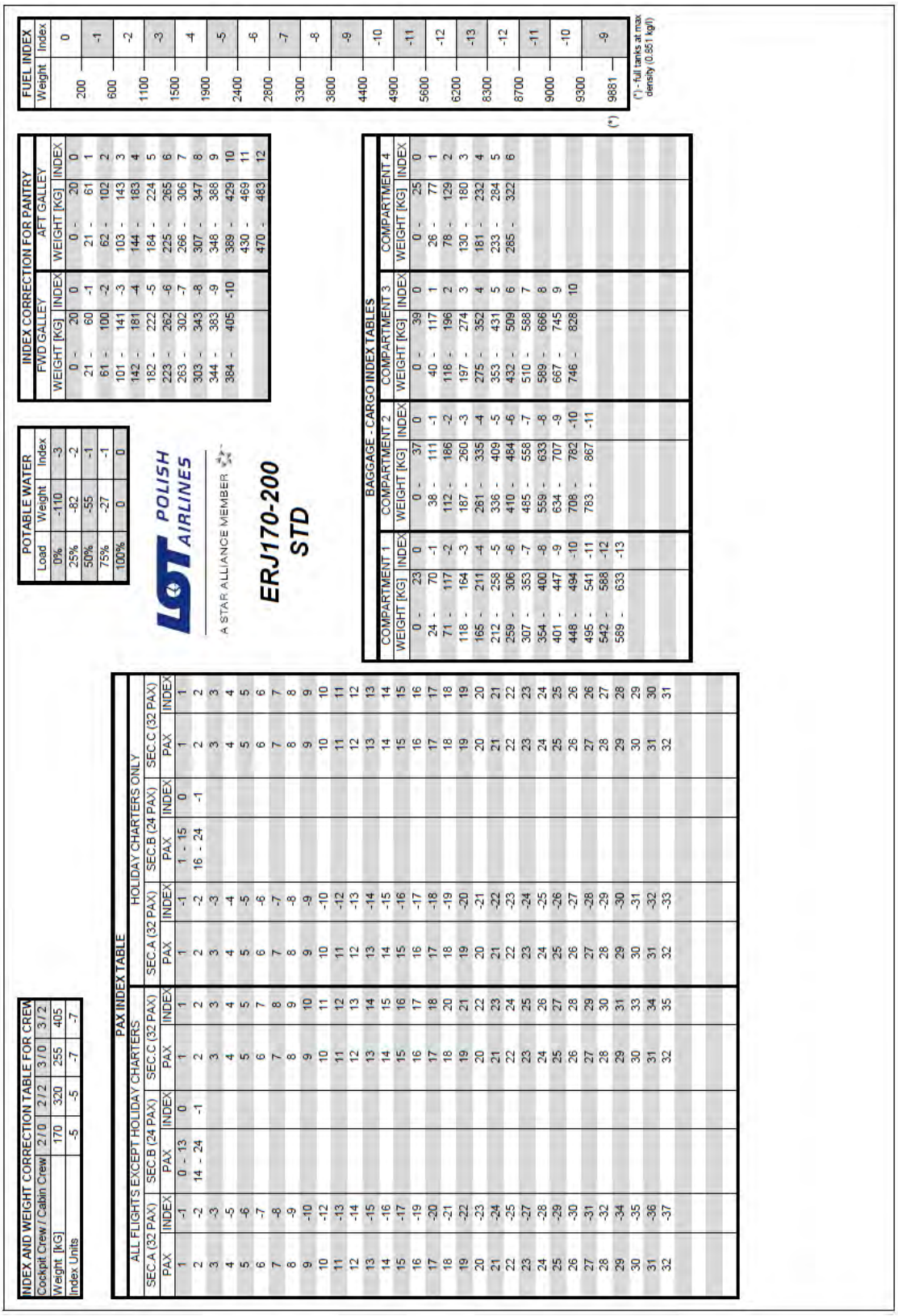


TAKEOFF WEIGHT	%MAC for TOW*
	*REFER TO QRH FOR STAB TRIM SETTINGS FOR TAKEOFF
Prepared by:	Approved by:

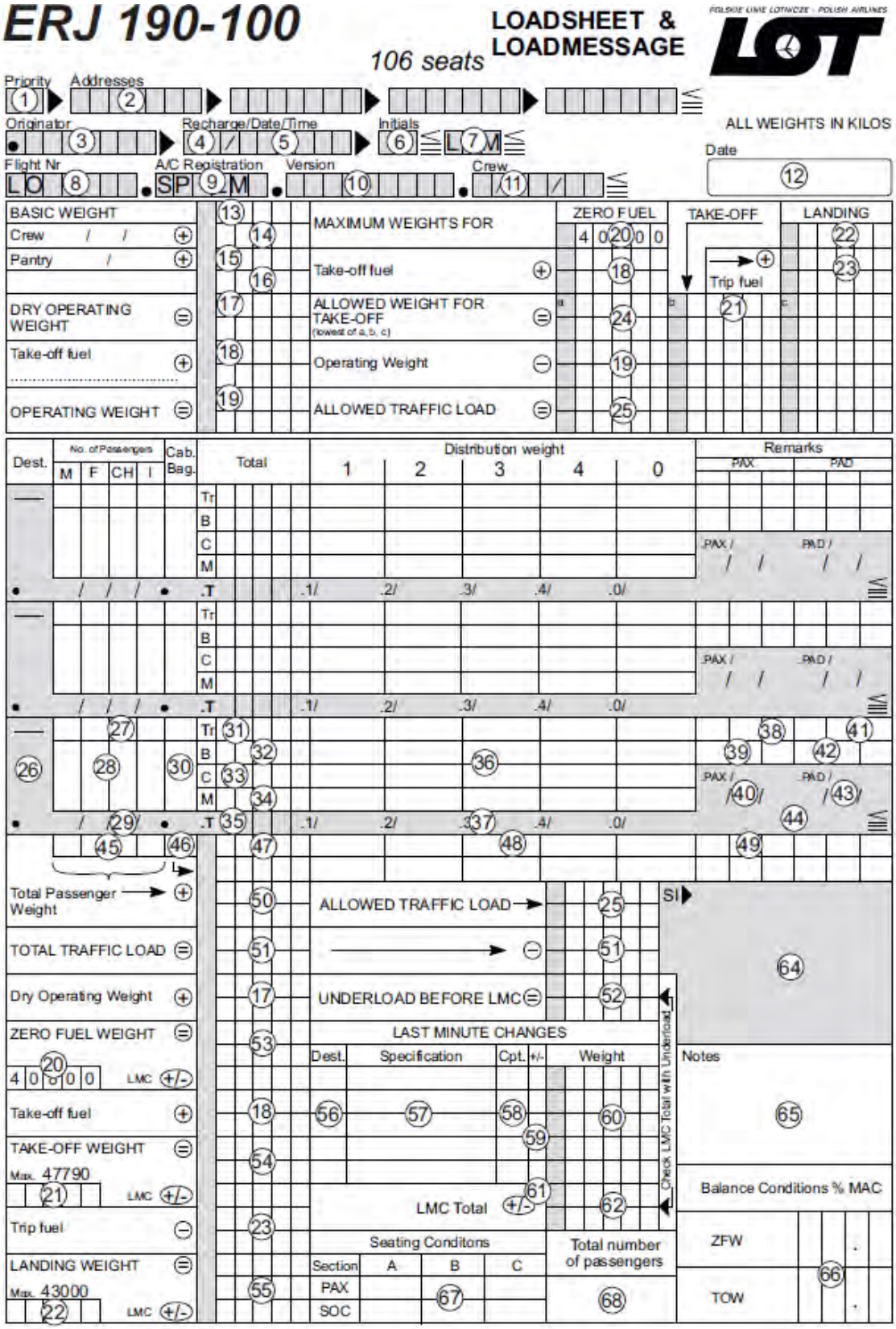


Load Trimsheet ERJ170-200STD, Rev0, 25Apr2022

3.5.12 ERJ 170–200STD Index correction tables

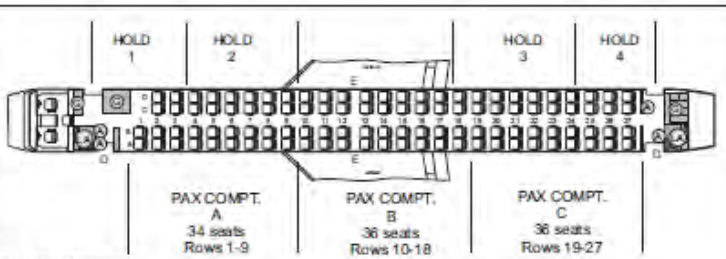


3.5.13 ERJ 190-100 Loadsheet



3.5.14 ERJ 190-100 Trim Chart

INDEX CALCULATION	⊖	⊕
BASIC INDEX		(71)
Crew	(72)	
Pantry		(73)
	(74)	
Sub - Total		(75)
DRY OPERATING INDEX		(76)
Compt. 1 Max 870 kG		
Compt. 2 Max 980 kG	(77)	
Compt. 3 Max 1100 kG		
Compt. 4 Max 550 kG		
FWD Pax Compt. A		
MID Pax Compt. B		(78)
AFT Pax Compt. C		
Sub - Total		(79)
ZERO FUEL INDEX		(80)
Take-off Fuel Index	(81)	
TAKE-OFF INDEX		(82)
Last Minute Changes		(83)
CORRECTED TAKE-OFF INDEX		(84)



A - Flight Attendant
D - Door
G - Galley
LA - Lavatory
W - Wardrobe
E - Emergency Exit

PAX CABIN CONFIGURATION - 106 SEATS
ERJ 190-100

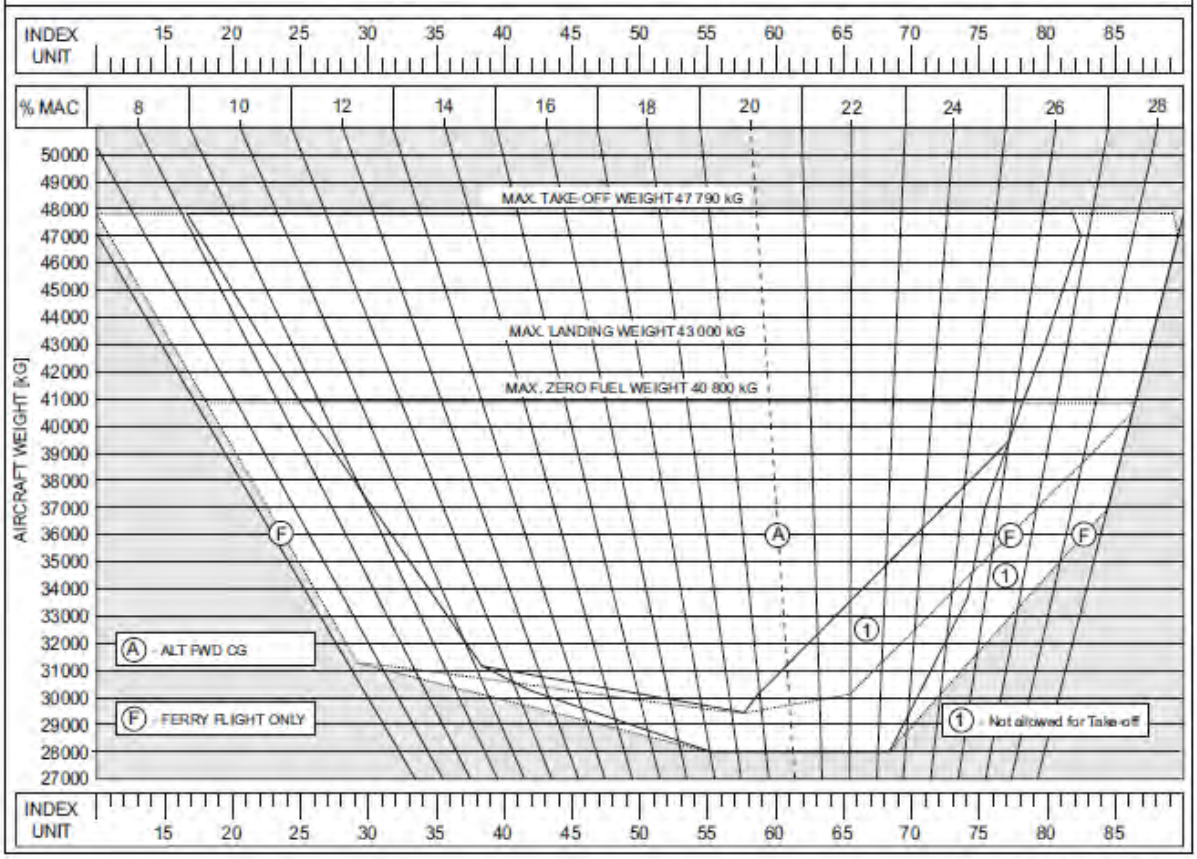
TAKE-OFF WEIGHT	FLAPS FOR TAKE-OFF	STAB TRIM FOR TAKE-OFF
(54)	(85)	(86)

Prepared by: (69) Approved by: (70)

STAB TRIM SETTING FOR TAKE-OFF - FLAPS 2 ONLY

Take-off Weight (1000kG)	% MAC 7	9	11	13	15	17	19	21	23	25	27	29
52	3.5 UP	3.5 UP	3.4 UP	3.0 UP	2.7 UP	2.4 UP	2.1 UP	1.7 UP	1.4 UP	1.0 UP	0.6 UP	0.2 UP
50	3.5 UP	3.5 UP	3.2 UP	2.8 UP	2.5 UP	2.2 UP	1.9 UP	1.5 UP	1.2 UP	0.8 UP	0.4 UP	0
48	3.5 UP	3.5 UP	3.1 UP	2.7 UP	2.4 UP	2.1 UP	1.7 UP	1.4 UP	1.0 UP	0.7 UP	0.3 UP	0.1 DN
46	3.5 UP	3.3 UP	3.0 UP	2.6 UP	2.3 UP	1.9 UP	1.6 UP	1.3 UP	0.9 UP	0.6 UP	0.2 UP	0.2 DN
44	3.4 UP	3.1 UP	2.8 UP	2.4 UP	2.1 UP	1.7 UP	1.4 UP	1.1 UP	0.7 UP	0.4 UP	0	0.4 DN
42	3.3 UP	2.9 UP	2.6 UP	2.2 UP	1.9 UP	1.6 UP	1.3 UP	1.0 UP	0.5 UP	0.2 UP	0.2 DN	0.4 DN
40	3.0 UP	2.7 UP	2.4 UP	2.0 UP	1.7 UP	1.4 UP	1.1 UP	0.8 UP	0.4 UP	0	0.3 DN	0.5 DN
38	2.8 UP	2.4 UP	2.1 UP	1.7 UP	1.5 UP	1.2 UP	0.9 UP	0.5 UP	0.2 UP	0.2 DN	0.4 DN	0.5 DN
36	2.6 UP	2.2 UP	1.9 UP	1.5 UP	1.3 UP	1.0 UP	0.7 UP	0.3 UP	0	0.4 DN	0.5 DN	0.5 DN
34	2.3 UP	2.0 UP	1.6 UP	1.3 UP	1.1 UP	0.8 UP	0.5 UP	0.1 UP	0.2 DN	0.4 DN	0.5 DN	0.5 DN
32	2.0 UP	1.7 UP	1.3 UP	1.1 UP	0.8 UP	0.5 UP	0.2 UP	0.1 DN	0.5 DN	0.5 DN	0.5 DN	0.5 DN
30	1.8 UP	1.5 UP	1.1 UP	0.8 UP	0.6 UP	0.3 UP	0	0.3 DN	0.5 DN	0.5 DN	0.5 DN	0.5 DN

REFER TO QUICK REFERENCE HANDBOOK (QRH) FOR STAB TRIM SETTING FOR TAKE-OFF FOR FLAPS 1, FLAPS 3 AND FLAPS 4



Load & Trimsheet ERJ 190-100, Rev 3, 12Apr22

3.5.15 ERJ 190-100 Index correction tables

INDEX AND WEIGHT CORRECTION TABLE FOR CREW

Cockpit Crew / Cabin Crew	2 / 3	2 / 4	2 / 0	3 / 3	3 / 4	3 / 0
Weight (kG)	395	470	170	480	555	255
Index Units	- 7	- 5	- 5	- 9	- 7	- 7

EMBRAER ERJ 190-100

POTABLE WATER(*)

Load	Weight	Index
0%	-110	-3
25%	- 82	-2
50%	- 55	-1
75%	- 27	-1
100%	0	0

(*) - 100% included in Basic Weight

FUEL INDEX TABLE

Weight (kG)	Index Units
0 - 400	0
401 - 900	- 1
901 - 1400	- 2
1401 - 1900	- 3
1901 - 2500	- 4
2501 - 3000	- 5
3001 - 3600	- 6
3601 - 4200	- 7
4201 - 4800	- 8
4801 - 5400	- 9
5401 - 6100	- 10
6101 - 6800	- 11
6801 - 7500	- 12
7501 - 8300	- 13
8301 - 9200	- 14
9201 - 10300	- 15
10301 - 11200	- 14
11201 - 11700	- 13
11701 - 12100	- 12
12101 - 12400	- 11
12401 - 12700	- 10
12701 - 13000	- 9
13001 - 13730 (*)	- 8

(*)-Full tanks at max density (0.85 kg/l)

INDEX CORRECTION FOR PANTRY

FWD Galley		AFT Galley	
Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 21	0	0 - 20	0
22 - 64	- 1	21 - 61	1
65 - 108	- 2	62 - 102	2
109 - 151	- 3	103 - 142	3
152 - 194	- 4	143 - 183	4
195 - 238	- 5	184 - 224	5
239 - 281	- 6	225 - 265	6
282 - 324	- 7	266 - 306	7
325 - 367	- 8	307 - 347	8
368 - 411	- 9	348 - 387	9
412 - 454	-10	388 - 428	10
455 - 497	-11	429 - 469	11
498 - 541	-12	470 - 510	12
542 - 584	-13	511 - 534	13
585 - 627	-14		
628 - 670	-15		
671 - 699	-16		

BAGGAGE - CARGO INDEX TABLES

COMPT. 1		COMPT. 2		COMPT. 3		COMPT. 4	
Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 24	0	0 - 40	0	0 - 44	0	0 - 27	0
25 - 74	- 1	41 - 122	- 1	45 - 134	1	28 - 83	1
75 - 124	- 2	123 - 204	- 2	135 - 223	2	84 - 138	2
125 - 174	- 3	205 - 286	- 3	224 - 313	3	139 - 194	3
175 - 224	- 4	287 - 368	- 4	314 - 402	4	195 - 249	4
225 - 274	- 5	369 - 450	- 5	403 - 492	5	250 - 305	5
275 - 324	- 6	451 - 532	- 6	493 - 581	6	306 - 360	6
325 - 374	- 7	533 - 614	- 7	582 - 671	7	361 - 416	7
375 - 424	- 8	615 - 696	- 8	672 - 760	8	417 - 471	8
425 - 474	- 9	697 - 778	- 9	761 - 850	9	472 - 527	9
475 - 524	- 10	779 - 860	- 10	851 - 939	10	528 - 550	10
525 - 574	- 11	861 - 942	- 11	940 - 1029	11		
575 - 624	- 12	943 - 980	- 12	1030 - 1100	12		
625 - 673	- 13						
674 - 723	- 14						
724 - 773	- 15						
774 - 823	- 16						
824 - 870	- 17						

PAX INDEX TABLE

ALL FLIGHTS EXCEPT HOLIDAY CHARTERS						HOLIDAY CHARTERS ONLY					
COMPT. A 34 Max PAX		COMPT. B 36 Max PAX		COMPT. C 36 Max PAX		COMPT. A 34 Max PAX		COMPT. B 36 Max PAX		COMPT. C 36 Max PAX	
PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit
1	- 1	0 - 36	0	1	1	1	- 1	0 - 36	0	1	1
2	- 2			2	2	2	- 2			2	2
3	- 4			3	4	3	- 3			3	3
4	- 5			4	5	4	- 4			4	4
5	- 6			5	6	5	- 5			5	5
6	- 7			6	7	6	- 7			6	6
7	- 8			7	8	7	- 8			7	8
8	- 10			8	10	8	- 9			8	9
9	- 11			9	11	9	- 10			9	10
10	- 12			10	12	10	- 11			10	11
11	- 13			11	13	11	- 12			11	12
12	- 14			12	14	12	- 13			12	13
13	- 16			13	16	13	- 14			13	14
14	- 17			14	17	14	- 15			14	15
15	- 18			15	18	15	- 16			15	16
16	- 19			16	19	16	- 17			16	17
17	- 20			17	20	17	- 18			17	18
18	- 22			18	22	18	- 20			18	19
19	- 23			19	23	19	- 21			19	21
20	- 24			20	24	20	- 22			20	22
21	- 25			21	25	21	- 23			21	23
22	- 26			22	26	22	- 24			22	24
23	- 28			23	28	23	- 25			23	25
24	- 29			24	29	24	- 26			24	26
25	- 30			25	30	25	- 27			25	27
26	- 31			26	31	26	- 28			26	28
27	- 32			27	32	27	- 29			27	29
28	- 34			28	34	28	- 30			28	30
29	- 35			29	35	29	- 31			29	31
30	- 36			30	36	30	- 33			30	32
31	- 37			31	37	31	- 34			31	34
32	- 38			32	38	32	- 35			32	35
33	- 40			33	40	33	- 36			33	36
34	- 41			34	41	34	- 37			34	37
				35	42					35	38
				36	43					36	39

Load & Trimsheet ERJ 190-100_Rev 3_12July'22

3.5.16 ERJ 190-100AR Loadsheet

ERJ190-100 AR *106 seats*

LOADSHEET & LOADMESSAGE

POLISH AIRLINES
A STAR ALLIANCE MEMBER

Priority Addresses

Originator Recharge/Date/Time Initials

Flight Nr A/C Registration Version Crew

ALL WEIGHTS IN KILOS

Date

BASIC WEIGHT		MAXIMUM WEIGHTS FOR	ZERO FUEL	TAKEOFF	LANDING
Crew / /	+		4 0 9 0 0		
Pantry /	+	Takeoff fuel	+	v > + Trip fuel	
Dry Operating Weight	=	ALLOWED WEIGHT FOR TAKEOFF (lowest of a, b, c)	= a	b	c
Takeoff fuel	+	Operating Weight	-		
OPERATING WEIGHT	=	ALLOWED TRAFFIC LOAD	=		

Dest.	No of Passengers M	F	CH	I	Cab Bag	Total	Distribution weight 1	2	3	4	0	Remarks PAX	PAD
						Tr							
						B							
						C						PAX / /	PAD / /
						M							
.	/	/	/	.		.T							≤
						Tr							
						B							
						C						PAX / /	PAD / /
						M							
.	/	/	/	.		.T							≤
						Tr							
						B							
						C						PAX / /	PAD / /
						M							
.	/	/	/	.		.T							≤
			v		>								

Total Passenger Weight	+	ALLOWED TRAFFIC LOAD	>	SI >
TOTAL TRAFFIC LOAD	=	TOTAL TRAFFIC LOAD	-	
Dry Operating Weight	+	UNDERLOAD BEFORE LMC	=	
ZERO FUEL WEIGHT	=	LAST MINUTE CHANGES		
4 0 9 0 0	LMC +/-			
Takeoff fuel	+			
TAKEOFF WEIGHT	=			
Max. 51800				
	LMC +/-	LMC Total	+/-	
Trip fuel	-			
LANDING WEIGHT	=			
Max. 44000				
	LMC +/-			

Dest.	Specification	Cpt.	+/-	Weight

Check LMC Total with Underload

Notes

Seating conditions				Total number of passengers
Section	A	B	C	
PAX				
SOC				

Balance Conditions %MAC

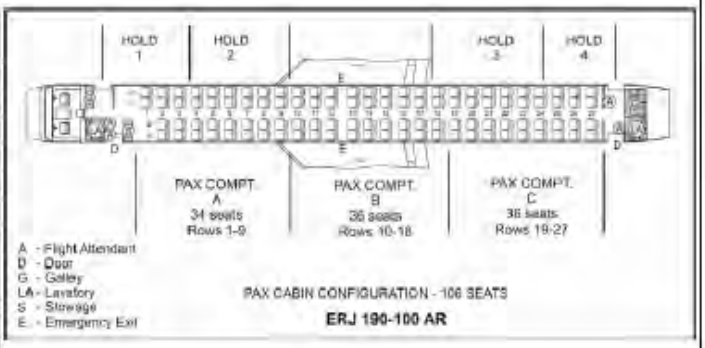
ZFW .

TOW .

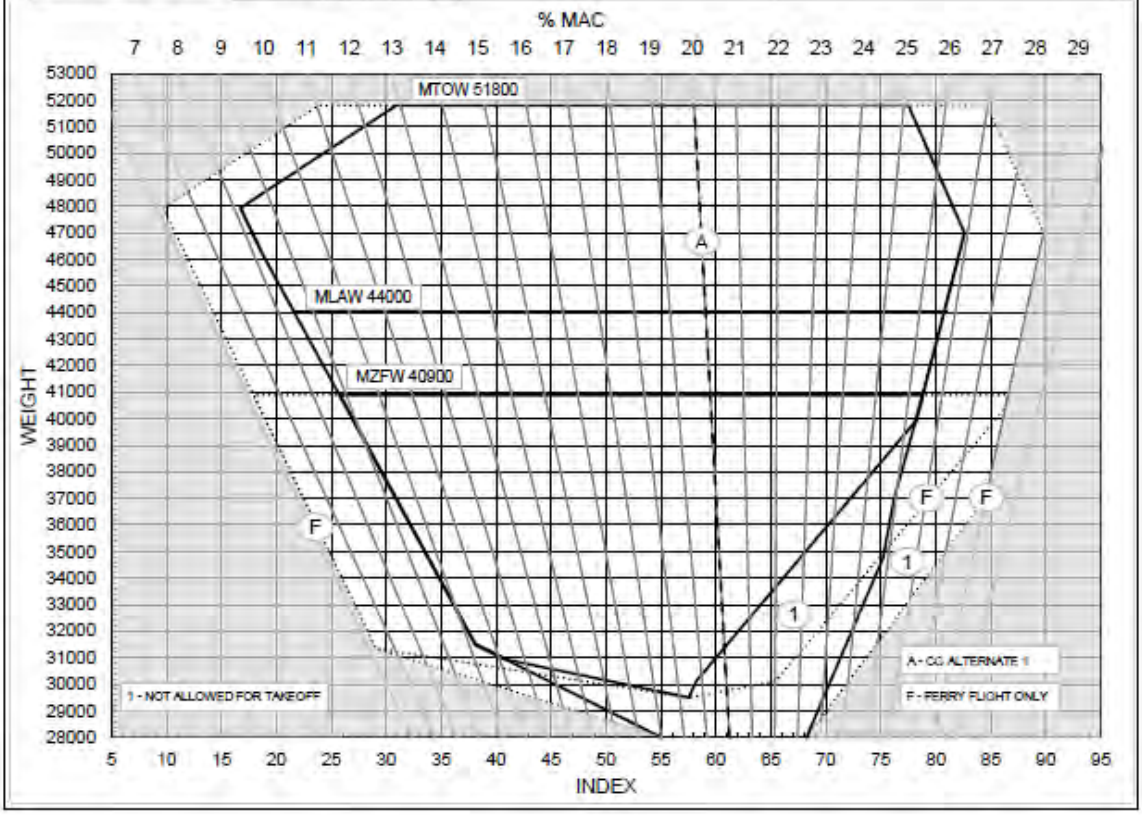
3.5.17 ERJ 190-100AR Trim Chart

TRIM CHART

INDEX CALCULATION	-	+
BASIC INDEX		
Crew		
Pantry		
Sub - Total		
	>	-
DRY OPERATING INDEX		
Compt.1 Max. 870 kG		
Compt.2 Max. 980 kG		
Compt.3 Max. 1100 kG		
Compt.4 Max. 550 kG		
FWD Pax Compt. A		
MID Pax Compt. B		
AFT Pax Compt. C		
Sub - Total		
	>	-
ZERO FUEL INDEX		
Takeoff Fuel Index		
TAKEOFF INDEX		
Last Minute Changes		
CORRECTED TAKEOFF INDEX		

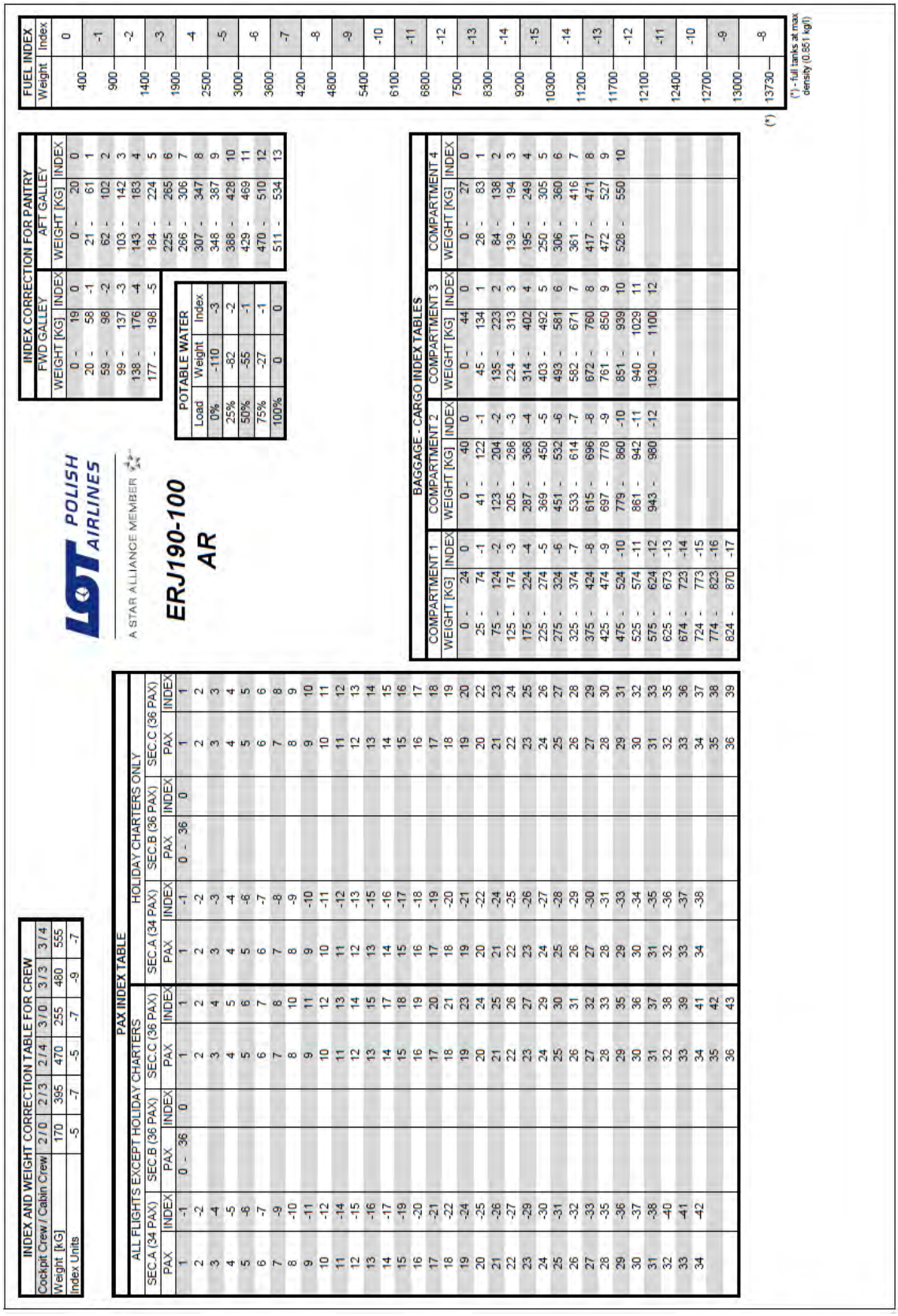


TAKEOFF WEIGHT	%MAC for TOW*
	*REFER TO QRH FOR STAB TRIM SETTINGS FOR TAKEOFF
Prepared by:	Approved by:

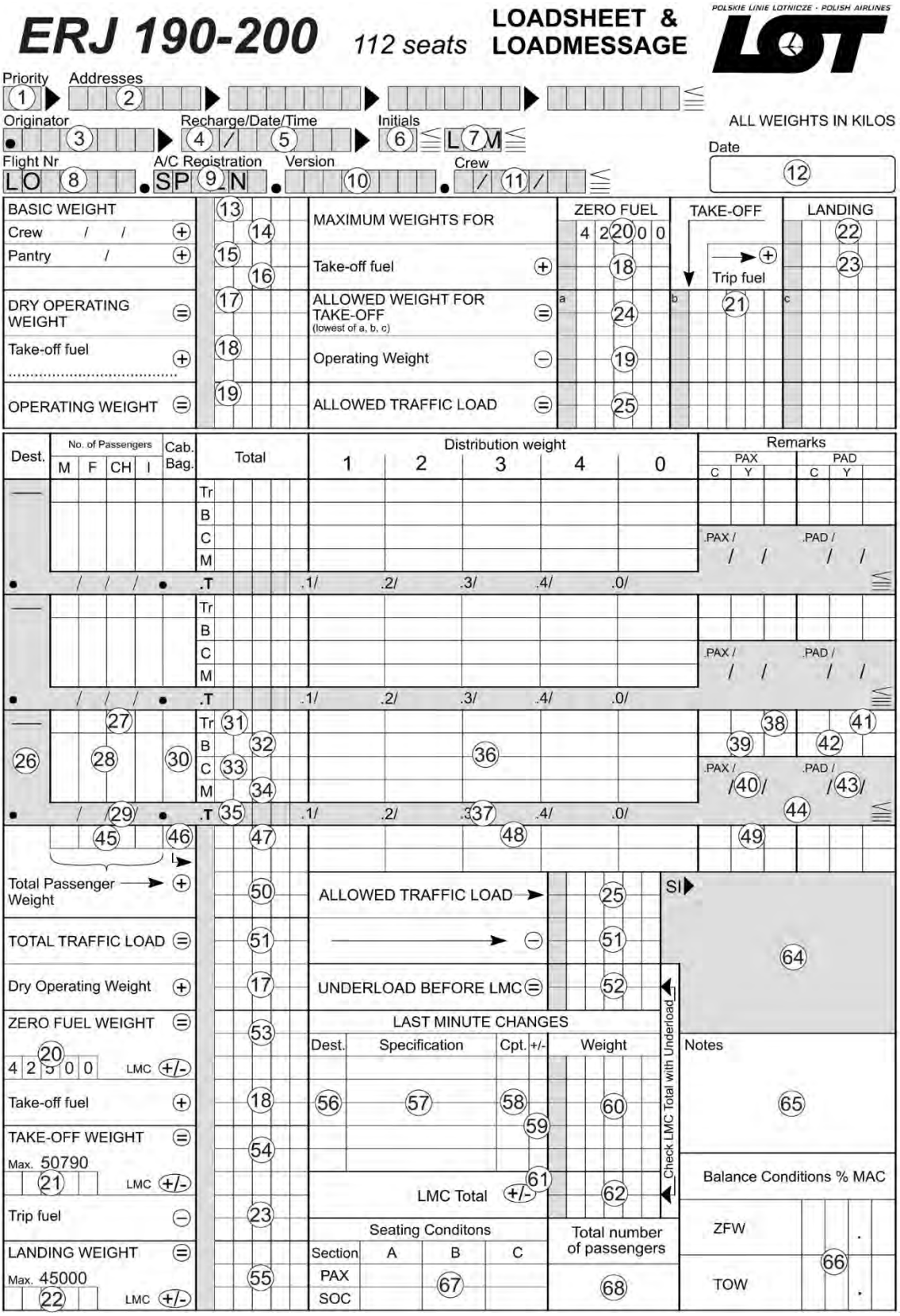


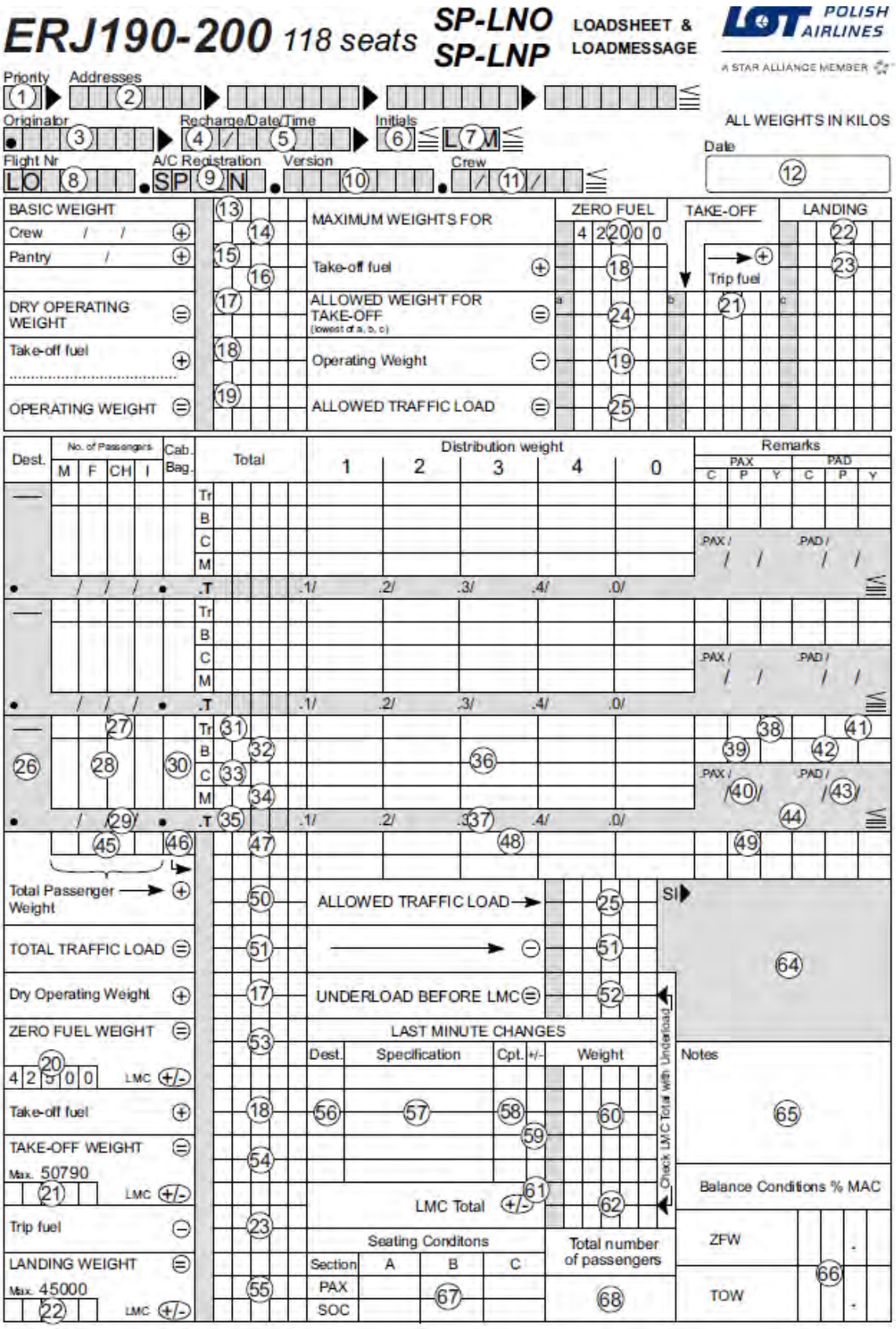
Load Trimsheet ERJ190-100AR, Rev0, 28Feb2022

3.5.18 ERJ 190-100AR Index correction tables



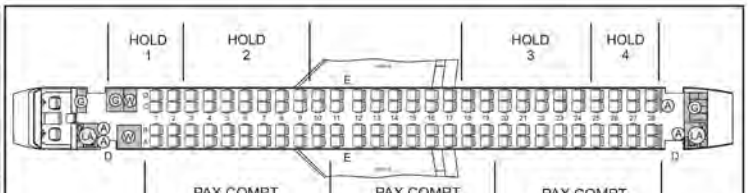
3.5.19 ERJ 190–200 Loadsheet




ERJ190-200 118 seats
SP-LNO
SP-LNP
LOADSHEET & LOADMESSAGE
POLISH AIRLINES
A STAR ALLIANCE MEMBER
Priority
Addresses
Originator
Recharge/Date/Time
Initials
ALL WEIGHTS IN KILOS
Date
Flight Nr
A/C Registration
Version
Crew
BASIC WEIGHT
Crew
Pantry
DRY OPERATING WEIGHT
Take-off fuel
OPERATING WEIGHT
MAXIMUM WEIGHTS FOR
ZERO FUEL
TAKE-OFF
LANDING
Take-off fuel
Trip fuel
ALLOWED WEIGHT FOR TAKE-OFF
(lowest of a, b, c)
Operating Weight
ALLOWED TRAFFIC LOAD
Dest.
No. of Passengers
M F CH I
Cab. Bag.
Total
Distribution weight
1 2 3 4 0
Remarks
PAX
PAD
C P Y C P Y
Tr
B
C
M
.T
.1/ .2/ .3/ .4/ .0/
PAX /
PAD /
Total Passenger Weight
ALLOWED TRAFFIC LOAD
TOTAL TRAFFIC LOAD
Dry Operating Weight
ZERO FUEL WEIGHT
LMC
Take-off fuel
TAKE-OFF WEIGHT
Max. 50790
Trip fuel
LANDING WEIGHT
Max. 45000
UNDERLOAD BEFORE LMC
LAST MINUTE CHANGES
Dest.
Specification
Cpt.
+/-
Weight
Check LMC Total with Underload
LMC Total
Seating Conditons
Section A B C
PAX
SOC
Total number of passengers
SI
Notes
Balance Conditions % MAC
ZFW
TOW

3.5.20 ERJ 190–200 Trim Chart

INDEX CALCULATION	⊖	⊕
BASIC INDEX		(71)
Crew	(72)	
Pantry		(73)
	(74)	
Sub - Total		(75)
DRY OPERATING INDEX		(76)
Compt. 1 Max 710 kG		
Compt. 2 Max 912 kG	(77)	
Compt. 3 Max 851 kG		
Compt. 4 Max 550 kG		
FWD Pax Compt. A		
MID Pax Compt. B	(78)	
AFT Pax Compt. C		
Sub - Total	(79)	
ZERO FUEL INDEX		(80)
Take-off Fuel Index	(81)	
TAKE-OFF INDEX		(82)
Last Minute Changes	(83)	
CORRECTED TAKE-OFF INDEX		(84)



A - Flight Attendant
D - Door
G - Galley
LA - Lavatory
W - Wardrobe
E - Emergency Exit

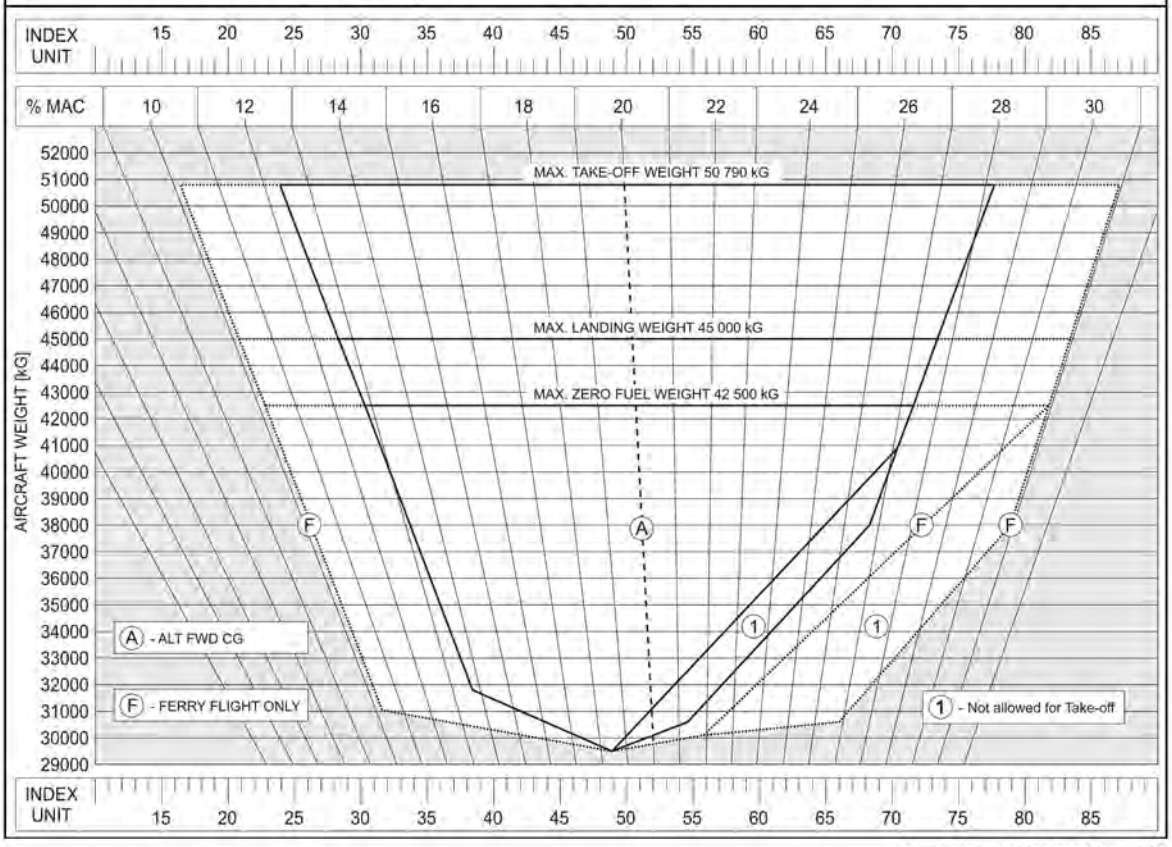
PAX CABIN CONFIGURATION - 112 SEATS
ERJ 190-200

TAKE-OFF WEIGHT (54)	FLAPS FOR TAKE-OFF (85)	STAB TRIM FOR TAKE-OFF (86)

Prepared by: (69) Approved by: (70)

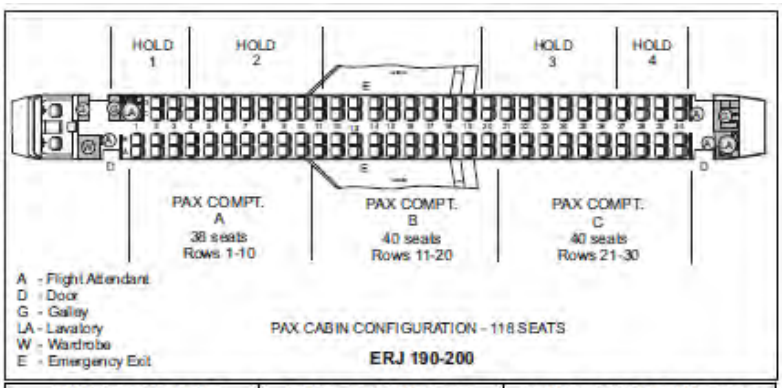
Take-off Weight (1000 KG)	STAB TRIM SETTING FOR TAKE-OFF - FLAPS 2 ONLY % MAC											
	10	12	14	16	18	20	22	24	26	28	30	32
51	2.2 UP	1.9 UP	1.6 UP	1.3 UP	1.0 UP	0.7 UP	0.4 UP	0	0.3 DN	0.6 DN	0.9 DN	1.2 DN
49	2.1 UP	1.8 UP	1.5 UP	1.2 UP	0.8 UP	0.5 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.3 DN
47	1.9 UP	1.6 UP	1.3 UP	1.0 UP	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.8 DN	1.1 DN	1.4 DN
45	1.8 UP	1.5 UP	1.2 UP	0.9 UP	0.6 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.3 DN	1.6 DN
43	1.6 UP	1.3 UP	1.0 UP	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.8 DN	1.1 DN	1.4 DN	1.7 DN
41	1.4 UP	1.1 UP	0.8 UP	0.5 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.3 DN	1.6 DN	1.9 DN
39	1.2 UP	0.9 UP	0.6 UP	0.3 UP	0	0.3 DN	0.6 DN	0.9 DN	1.2 DN	1.5 DN	1.8 DN	2.1 DN
37	0.9 UP	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.8 DN	1.1 DN	1.4 DN	1.7 DN	2.0 DN	2.3 DN
35	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.7 DN	1.0 DN	1.3 DN	1.6 DN	1.9 DN	2.2 DN	2.5 DN
33	0.5 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.2 DN	1.5 DN	1.8 DN	2.1 DN	2.4 DN	2.7 DN
31	0.2 UP	0.1 DN	0.3 DN	0.6 DN	0.9 DN	1.2 DN	1.5 DN	1.7 DN	2.0 DN	2.3 DN	2.6 DN	2.9 DN

REFER TO QUICK REFERENCE HANDBOOK (QRH) FOR STAB TRIM SETTING FOR TAKE-OFF FOR FLAPS 1, FLAPS 3 AND FLAPS 4



Load & Trimsheet ERJ 190-200, Rev 1, May18

INDEX CALCULATION	⊖	⊕
BASIC INDEX		(71)
Crew	(72)	
Pantry		(73)
	(74)	
Sub - Total		(75)
DRY OPERATING INDEX		(76)
Compt. 1 Max 710 kG		
Compt. 2 Max 912 kG		
Compt. 3 Max 851 kG	(77)	
Compt. 4 Max 550 kG		
FWD Pax Compt. A		
MID Pax Compt. B		(78)
AFT Pax Compt. C		
Sub - Total		(79)
ZERO FUEL INDEX		(80)
Take-off Fuel Index	(81)	
TAKE-OFF INDEX		(82)
Last Minute Changes	(83)	
CORRECTED TAKE-OFF INDEX		(84)



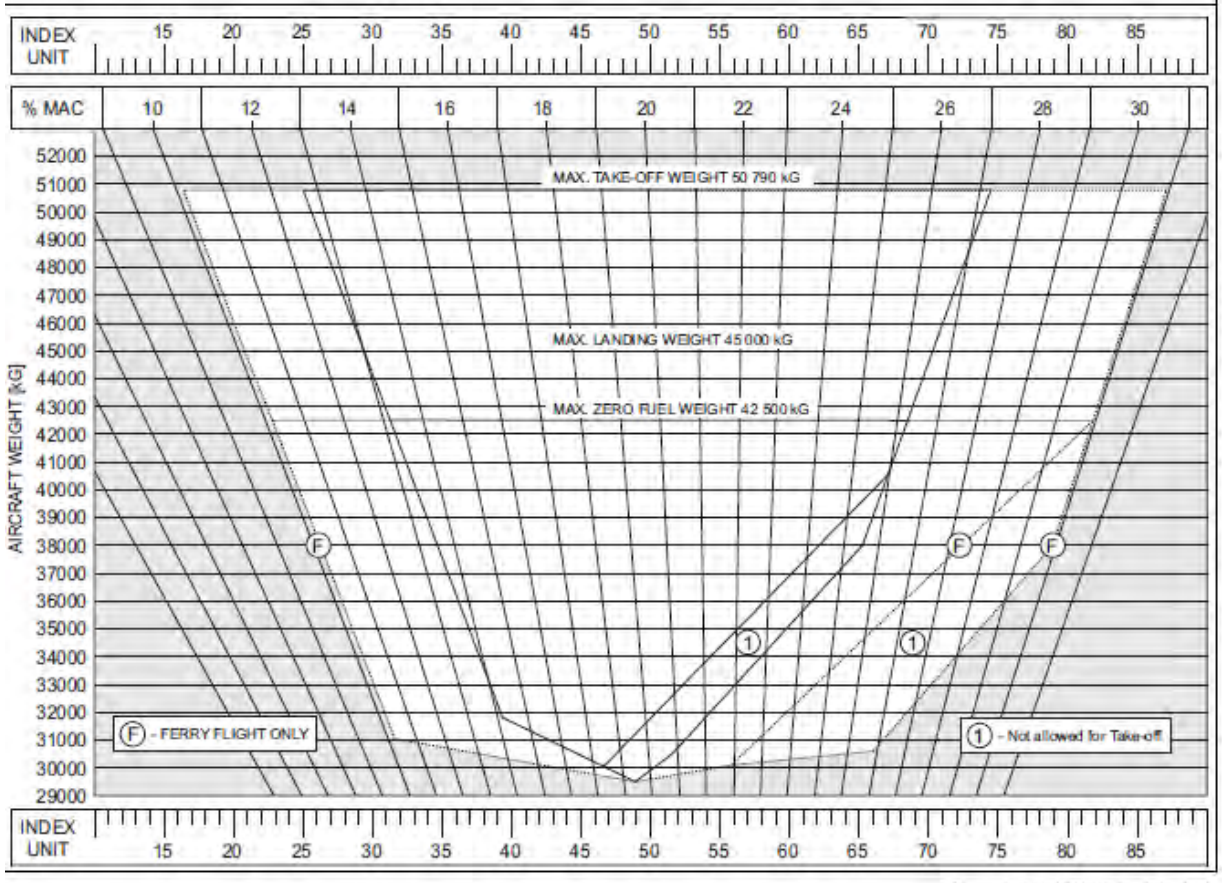
TAKE-OFF WEIGHT	FLAPS FOR TAKE-OFF	STAB TRIM FOR TAKE-OFF
(54)	(85)	(86)

Prepared by: (69)	Approved by: (70)

STAB TRIM SETTING FOR TAKE-OFF - FLAPS 2 ONLY

Take-off Weight (1000kG)	% MAC 10	12	14	16	18	20	22	24	26	28	30	32
51	2.2 UP	1.9 UP	1.6 UP	1.3 UP	1.0 UP	0.7 UP	0.4 UP	0	0.3 DN	0.6 DN	0.9 DN	1.2 DN
49	2.1 UP	1.8 UP	1.5 UP	1.2 UP	0.8 UP	0.5 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.3 DN
47	1.9 UP	1.6 UP	1.3 UP	1.0 UP	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.8 DN	1.1 DN	1.4 DN
45	1.8 UP	1.5 UP	1.2 UP	0.9 UP	0.6 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.3 DN	1.6 DN
43	1.6 UP	1.3 UP	1.0 UP	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.8 DN	1.1 DN	1.4 DN	1.7 DN
41	1.4 UP	1.1 UP	0.8 UP	0.5 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.3 DN	1.6 DN	1.9 DN
39	1.2 UP	0.9 UP	0.6 UP	0.3 UP	0	0.3 DN	0.6 DN	0.9 DN	1.2 DN	1.5 DN	1.8 DN	2.1 DN
37	0.9 UP	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.8 DN	1.1 DN	1.4 DN	1.7 DN	2.0 DN	2.3 DN
35	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.7 DN	1.0 DN	1.3 DN	1.6 DN	1.9 DN	2.2 DN	2.5 DN
33	0.5 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.2 DN	1.5 DN	1.8 DN	2.1 DN	2.4 DN	2.7 DN
31	0.2 UP	0.1 DN	0.3 DN	0.6 DN	0.9 DN	1.2 DN	1.5 DN	1.7 DN	2.0 DN	2.3 DN	2.6 DN	2.9 DN

REFER TO QUICK REFERENCE HANDBOOK (QRH) FOR STAB TRIM SETTING FOR TAKE-OFF FOR FLAPS 1, FLAPS 3 AND FLAPS 4



3.5.21 ERJ 190–200 Index correction tables

EMBRAER
ERJ 190-200

POTABLE WATER(*)

Load	Weight	Index
0%	-110	3
25%	- 82	2
50%	- 55	1
75%	- 27	1
100%	0	0

(*) - 100% included in Basic Weight

INDEX AND WEIGHT CORRECTION TABLE FOR CREW

Cockpit Crew / Cabin Crew	2 / 3	2 / 4	2 / 0	3 / 3	3 / 4	3 / 0
Weight (KG)	395	470	170	480	555	255
Index Units	- 6	- 4	- 5	- 8	- 7	- 7

FUEL INDEX TABLE

Weight (KG)	Index Units
0 - 400	0
401 - 1000	- 1
1001 - 1600	- 2
1601 - 2100	- 3
2101 - 2700	- 4
2701 - 3400	- 5
3401 - 4000	- 6
4001 - 4700	- 7
4701 - 5400	- 8
5401 - 6100	- 9
6101 - 6900	- 10
6901 - 7800	- 11
7801 - 8700	- 12
8701 - 11000	- 13
11001 - 11700	- 12
11701 - 12100	- 11
12101 - 12500	- 10
12501 - 12800	- 9
12801 - 13730 (*)	- 8

(*)-Full tanks at max density (0.85 kg/l)

INDEX CORRECTION FOR PANTRY

FWD Galley			AFT Galley		
Weight (KG)		Index Units	Weight (KG)		Index Units
0 - 21		0	0 - 19		0
22 - 64		- 1	20 - 59		1
65 - 108		- 2	60 - 99		2
109 - 151		- 3	100 - 138		3
152 - 194		- 4	139 - 178		4
195 - 238		- 5	179 - 218		5
239 - 281		- 6	219 - 257		6
282 - 324		- 7	258 - 297		7
325 - 367		- 8	298 - 337		8
368 - 411		- 9	338 - 378		9
412 - 454		- 10	377 - 416		10
455 - 497		- 11	417 - 456		11
498 - 541		- 12	457 - 496		12
542 - 584		- 13	497 - 535		13
585 - 800		- 14	536 - 575		14
			576 - 615		15
			616 - 823		16

PAX INDEX TABLE

ALL FLIGHTS EXCEPT HOLIDAY CHARTERS						HOLIDAY CHARTERS ONLY					
COMPT. A 40 Max PAX		COMPT. B 36 Max PAX		COMPT. C 36 Max PAX		COMPT. A 40 Max PAX		COMPT. B 36 Max PAX		COMPT. C 36 Max PAX	
PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit
1	- 1	0 - 2	0	1	1	1	- 1	0 - 2	0	1	1
2	- 2	3 - 6	1	2	3	2	- 2	3 - 6	1	2	2
3	- 3	7 - 10	2	3	4	3 - 4	- 3	7 - 11	2	3	4
4	- 4	11 - 14	3	4	5	5	- 4	12 - 16	3	4	5
5	- 5	15 - 18	4	5	7	6	- 5	17 - 20	4	5	6
6	- 6	19 - 22	5	6	8	7	- 6	21 - 25	5	6	7
7 - 8	- 7	23 - 27	6	7	9	8	- 7	26 - 29	6	7	8
9	- 8	28 - 31	7	8	11	9 - 10	- 8	30 - 34	7	8	10
10	- 9	32 - 35	8	9	12	11	- 9	35 - 36	8	9	11
11	- 10	36	9	10	13	12	- 10			10	12
12	- 11			11	15	13	- 11			11	13
13	- 12			12	16	14	- 12			12	14
14	- 13			13	17	15	- 13			13	16
15	- 14			14	19	16 - 17	- 14			14	17
16	- 15			15	20	18	- 15			15	18
17	- 16			16	21	19	- 16			16	19
18	- 17			17	23	20	- 17			17	20
19	- 18			18	24	21	- 18			18	22
20	- 19			19	25	22	- 19			19	23
21	- 20			20	27	23 - 24	- 20			20	24
22	- 21			21	28	25	- 21			21	25
23 - 24	- 22			22	29	26	- 22			22	26
25	- 23			23	31	27	- 23			23	28
26	- 24			24	32	28	- 24			24	29
27	- 25			25	33	29 - 30	- 25			25	30
28	- 26			26	34	31	- 26			26	31
29	- 27			27	36	32	- 27			27	32
30	- 28			28	37	33	- 28			28	34
31	- 29			29	38	34	- 29			29	35
32	- 30			30	40	35	- 30			30	36
33	- 31			31	41	36 - 37	- 31			31	37
34	- 32			32	42	38	- 32			32	38
35	- 33			33	44	39	- 33			33	40
36	- 34			34	45	40	- 34			34	41
37	- 35			35	46					35	42
38	- 36			36	48					36	43
39 - 40	- 37										

Load & Trimsheet ERJ 190/200 Rev 2 04/0

BAGGAGE - CARGO INDEX TABLES

COMPT. 1		COMPT. 2		COMPT. 3		COMPT. 4	
Weight (KG)	Index Units	Weight (KG)	Index Units	Weight (KG)	Index Units	Weight (KG)	Index Units
0 - 26	0	0 - 42	0	0 - 43	0	0 - 25	0
27 - 78	- 1	43 - 127	- 1	44 - 129	1	26 - 76	1
79 - 131	- 2	128 - 213	- 2	130 - 215	2	77 - 127	2
132 - 183	- 3	214 - 298	- 3	216 - 302	3	128 - 178	3
184 - 236	- 4	299 - 383	- 4	303 - 388	4	179 - 229	4
237 - 288	- 5	384 - 468	- 5	389 - 474	5	230 - 280	5
289 - 340	- 6	469 - 553	- 6	475 - 561	6	281 - 331	6
341 - 393	- 7	554 - 639	- 7	562 - 647	7	332 - 383	7
394 - 445	- 8	640 - 724	- 8	648 - 733	8	384 - 434	8
446 - 498	- 9	725 - 809	- 9	734 - 820	9	435 - 485	9
499 - 550	- 10	810 - 894	- 10	821 - 851	10	486 - 536	10
551 - 603	- 11	895 - 912	- 11			537 - 550	11
604 - 655	- 12						
656 - 710	- 13						

INDEX AND WEIGHT CORRECTION TABLE FOR CREW				
Cockpit Crew / Cabin Crew	**2 / 3**	**2 / 0**	**3 / 3**	**3 / 0**
Weight (kG)	395	170	480	255
Index Units	- 3	- 5	- 5	- 7

POTABLE WATER(*)		
Load	Weight	Index
0%	-110	3
25%	- 82	2
50%	- 55	1
75%	- 27	1
100%	0	0

(*) - 100% included in Basic Weight

POLISH AIRLINES
A STAR ALLIANCE MEMBER

ERJ190-200 118 seats SP-LNO SP-LNP

FUEL INDEX TABLE	
Weight (kG)	Index Units
0 - 400	0
401 - 1000	- 1
1001 - 1600	- 2
1601 - 2100	- 3
2101 - 2700	- 4
2701 - 3400	- 5
3401 - 4000	- 6
4001 - 4700	- 7
4701 - 5400	- 8
5401 - 6100	- 9
6101 - 6900	- 10
6901 - 7800	- 11
7801 - 8700	- 12
8701 - 11000	- 13
11001 - 11700	- 12
11701 - 12100	- 11
12101 - 12500	- 10
12501 - 12800	- 9
12801 - 13730 (*)	- 8

(*)-Full tanks at max density (0.85 kg/l)

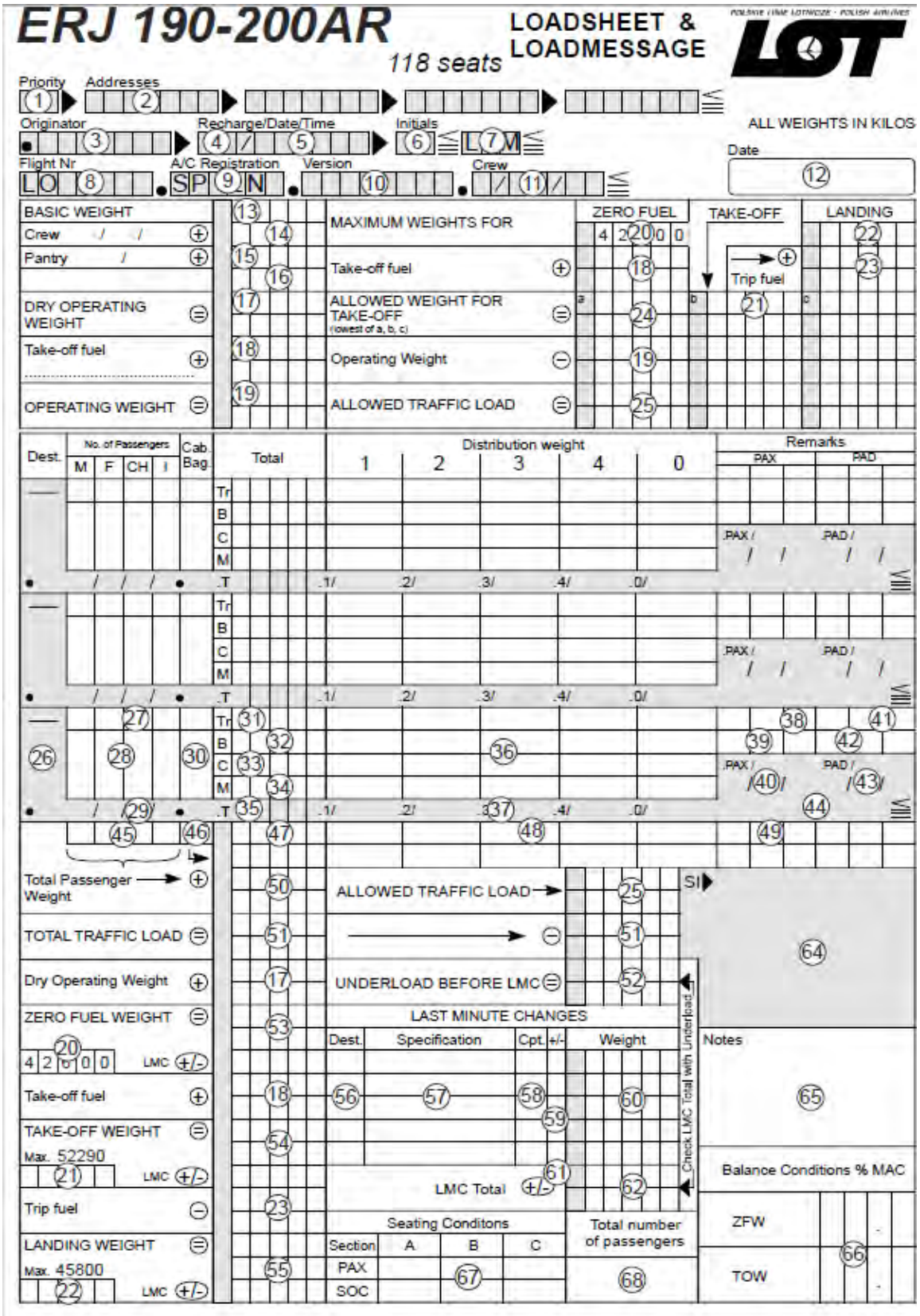
INDEX CORRECTION FOR PANTRY			
FWD Galley		AFT Galley	
Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 21	0	0 - 19	0
22 - 64	- 1	20 - 59	1
65 - 107	- 2	60 - 99	2
108 - 150	- 3	100 - 138	3
151 - 193	- 4	139 - 178	4
194 - 236	- 5	179 - 218	5
237 - 279	- 6	219 - 257	6
280 - 322	- 7	258 - 297	7
323 - 365	- 8	298 - 337	8
366 - 408	- 9	338 - 376	9
409 - 451	-10	377 - 416	10
452 - 494	-11	417 - 456	11
495 - 537	-12	457 - 496	12
538 - 580	-13	497 - 535	13
581 - 800	-14	536 - 575	14
		576 - 615	15
		616 - 623	16

BAGGAGE - CARGO INDEX TABLES							
COMPT. 1		COMPT. 2		COMPT. 3		COMPT. 4	
Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 26	0	0 - 42	0	0 - 43	0	0 - 25	0
27 - 78	- 1	43 - 127	- 1	44 - 129	1	26 - 76	1
79 - 131	- 2	128 - 213	- 2	130 - 215	2	77 - 127	2
132 - 183	- 3	214 - 298	- 3	216 - 302	3	128 - 178	3
184 - 236	- 4	299 - 383	- 4	303 - 388	4	179 - 229	4
237 - 288	- 5	384 - 468	- 5	389 - 474	5	230 - 280	5
289 - 340	- 6	469 - 553	- 6	475 - 561	6	281 - 331	6
341 - 393	- 7	554 - 639	- 7	562 - 647	7	332 - 383	7
394 - 445	- 8	640 - 724	- 8	648 - 733	8	384 - 434	8
446 - 498	- 9	725 - 809	- 9	734 - 820	9	435 - 485	9
499 - 550	- 10	810 - 894	- 10	821 - 851	10	486 - 536	10
551 - 603	- 11	895 - 912	- 11			537 - 550	11
604 - 655	- 12						
656 - 710	- 13						

PAX INDEX TABLE											
ALL FLIGHTS EXCEPT HOLIDAY CHARTERS						HOLIDAY CHARTERS ONLY					
COMPT. A 38 Max PAX		COMPT. B 40 Max PAX		COMPT. C 40 Max PAX		COMPT. A 38 Max PAX		COMPT. B 40 Max PAX		COMPT. C 40 Max PAX	
PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit
1	- 1	0 - 8	0	1	1	1	- 1	0 - 8	0	1	1
2	- 2	9 - 24	1	2	3	2	- 2	9 - 26	1	2	2
3	- 3	25 - 40	2	3	4	3	- 3	27 - 40	2	3	3
4	- 5			4	5	4	- 4			4	5
5	- 6			5	6	5	- 5			5	6
6	- 7			6	8	6	- 6			6	7
7	- 8			7	9	7	- 7			7	8
8	- 9			8	10	8	- 8			8	9
9	- 10			9	11	9	- 9			9	10
10	- 11			10	13	10	- 10			10	12
11	- 12			11	14	11	- 11			11	13
12	- 14			12	15	12	- 12			12	14
13	- 15			13	17	13	- 13			13	15
14	- 16			14	18	14	- 14			14	16
15	- 17			15	19	15	- 15			15	17
16	- 18			16	20	16	- 16			16	18
17	- 19			17	22	17	- 17			17	20
18	- 20			18	23	18	- 18			18	21
19	- 22			19	24	19	- 20			19	22
20	- 23			20	25	20	- 21			20	23
21	- 24			21	27	21	- 22			21	24
22	- 25			22	28	22	- 23			22	25
23	- 26			23	29	23	- 24			23	26
24	- 27			24	31	24	- 25			24	28
25	- 28			25	32	25	- 26			25	29
26	- 30			26	33	26	- 27			26	30
27	- 31			27	34	27	- 28			27	31
28	- 32			28	36	28	- 29			28	32
29	- 33			29	37	29	- 30			29	33
30	- 34			30	38	30	- 31			30	35
31	- 35			31	39	31	- 32			31	36
32	- 36			32	41	32	- 33			32	37
33	- 37			33	42	33	- 34			33	38
34	- 39			34	43	34	- 35			34	39
35	- 40			35	45	35	- 36			35	40
36	- 41			36	46	36	- 37			36	41
37	- 42			37	47	37	- 38			37	43
38	- 43			38	48	38	- 39			38	44
				39	50					39	45
				40	51					40	46

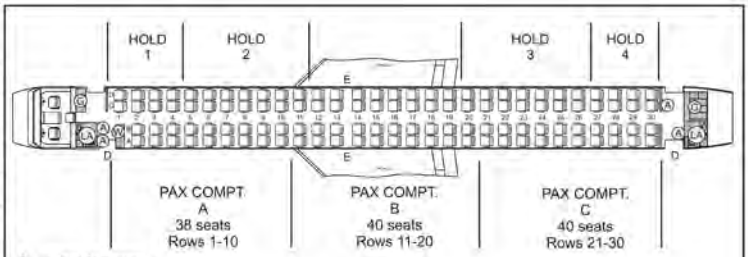
Load & Trimsheet ERJ 190-200/118, Rev 2, Aug 2020

3.5.22 ERJ 190-200AR Loadsheet



3.5.23 ERJ 190-200AR Trim Chart

INDEX CALCULATION	⊖	⊕
BASIC INDEX		(71)
Crew	(72)	
Pantry		(73)
	(74)	
Sub - Total		(75)
DRY OPERATING INDEX		(76)
Compt. 1 Max 710 kG		
Compt. 2 Max 912 kG	(77)	
Compt. 3 Max 851 kG		
Compt. 4 Max 550 kG		
FWD Pax Compt. A		
MID Pax Compt. B	(78)	
AFT Pax Compt. C		
Sub - Total	(79)	
ZERO FUEL INDEX		(80)
Take-off Fuel Index	(81)	
TAKE-OFF INDEX		(82)
Last Minute Changes	(83)	
CORRECTED TAKE-OFF INDEX		(84)



A - Flight Attendant
D - Door
G - Galley
LA - Lavatory
W - Wardrobe
E - Emergency Exit

PAX CABIN CONFIGURATION - 118 SEATS
ERJ 190-200AR

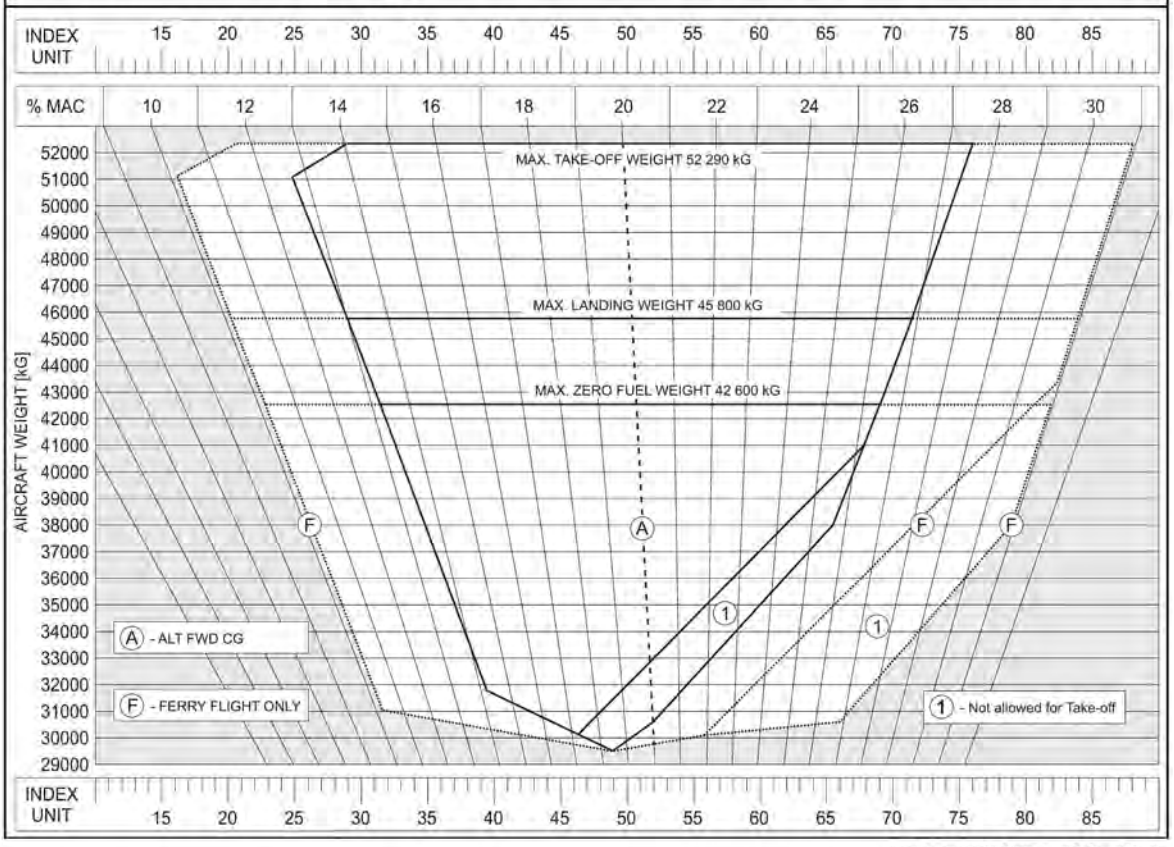
TAKE-OFF WEIGHT (54)	FLAPS FOR TAKE-OFF (85)	STAB TRIM FOR TAKE-OFF (86)

Prepared by: (69) Approved by: (70)

STAB TRIM SETTING FOR TAKE-OFF - FLAPS 2 ONLY

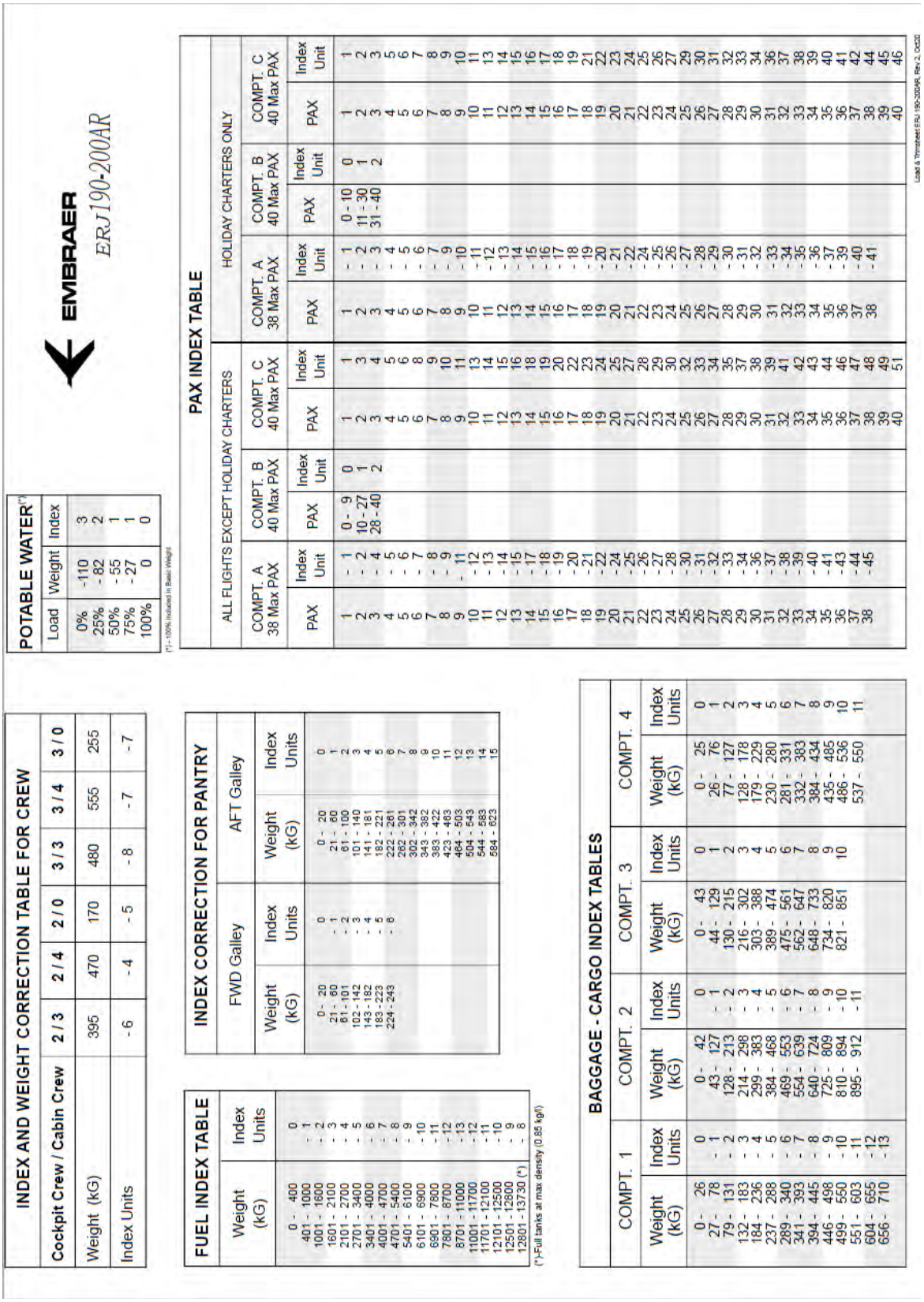
Take-off Weight (1000KG)	% MAC 10	12	14	16	18	20	22	24	26	28	30	32
53	2.4 UP	2.0 UP	1.7 UP	1.4 UP	1.1 UP	0.8 UP	0.5 UP	0.2 UP	0.1 DN	0.5 DN	0.8 DN	1.1 DN
51	2.2 UP	1.9 UP	1.6 UP	1.3 UP	1.0 UP	0.7 UP	0.4 UP	0	0.3 DN	0.6 DN	0.9 DN	1.2 DN
49	2.1 UP	1.8 UP	1.5 UP	1.2 UP	0.8 UP	0.5 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.3 DN
47	1.9 UP	1.6 UP	1.3 UP	1.0 UP	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.8 DN	1.1 DN	1.4 DN
45	1.8 UP	1.5 UP	1.2 UP	0.9 UP	0.6 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.3 DN	1.6 DN
43	1.6 UP	1.3 UP	1.0 UP	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.8 DN	1.1 DN	1.4 DN	1.7 DN
41	1.4 UP	1.1 UP	0.8 UP	0.5 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.3 DN	1.6 DN	1.9 DN
39	1.2 UP	0.9 UP	0.6 UP	0.3 UP	0	0.3 DN	0.6 DN	0.9 DN	1.2 DN	1.5 DN	1.8 DN	2.1 DN
37	0.9 UP	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.8 DN	1.1 DN	1.4 DN	1.7 DN	2.0 DN	2.3 DN
35	0.7 UP	0.4 UP	0.1 UP	0.2 DN	0.5 DN	0.7 DN	1.0 DN	1.3 DN	1.6 DN	1.9 DN	2.2 DN	2.5 DN
33	0.5 UP	0.2 UP	0.1 DN	0.4 DN	0.7 DN	1.0 DN	1.2 DN	1.5 DN	1.8 DN	2.1 DN	2.4 DN	2.7 DN
31	0.2 UP	0.1 DN	0.3 DN	0.6 DN	0.9 DN	1.2 DN	1.5 DN	1.7 DN	2.0 DN	2.3 DN	2.6 DN	2.9 DN

REFER TO QUICK REFERENCE HANDBOOK (QRH) FOR STAB TRIM SETTING FOR TAKE-OFF FOR FLAPS 1, FLAPS 3 AND FLAPS 4.



Load & Trimsheet ERJ 190-200AR Rev 1, May18

3.5.24 ERJ 190-200AR Index correction tables



EMBRAER
ERJ190-200AR

INDEX AND WEIGHT CORRECTION TABLE FOR CREW

Cockpit Crew / Cabin Crew	2 / 3	2 / 4	2 / 0	3 / 3	3 / 4	3 / 0
Weight (kG)	395	470	170	480	555	255
Index Units	- 6	- 4	- 5	- 8	- 7	- 7

POTABLE WATER(1)

Load	Weight	Index
0%	-110	3
25%	- 82	2
50%	- 55	1
75%	- 27	1
100%	0	0

(1) - 100% Included In Basic Weight

FUEL INDEX TABLE

Weight (kG)	Index Units
0 - 400	0
401 - 1000	- 1
1001 - 1600	- 2
1601 - 2100	- 3
2101 - 2700	- 4
2701 - 3400	- 5
3401 - 4000	- 6
4001 - 4700	- 7
4701 - 5400	- 8
5401 - 6100	- 9
6101 - 6900	- 10
6901 - 7800	- 11
7801 - 8700	- 12
8701 - 11000	- 13
11001 - 11700	- 12
11701 - 12100	- 11
12101 - 12500	- 10
12501 - 12800	- 9
12801 - 13730 (*)	- 8

(*)-Full tanks at max density (0.85 kg/l)

INDEX CORRECTION FOR PANTRY

FWD Galley		AFT Galley	
Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 20	0	0 - 20	0
21 - 60	- 1	21 - 60	1
61 - 101	- 2	61 - 100	2
102 - 142	- 3	101 - 140	3
143 - 182	- 4	141 - 181	4
183 - 223	- 5	182 - 221	5
224 - 243	- 6	222 - 261	6
		262 - 301	7
		302 - 342	8
		343 - 382	9
		383 - 422	10
		423 - 463	11
		464 - 503	12
		504 - 543	13
		544 - 583	14
		584 - 623	15

PAX INDEX TABLE

ALL FLIGHTS EXCEPT HOLIDAY CHARTERS						HOLIDAY CHARTERS ONLY					
COMPT. A 38 Max PAX		COMPT. B 40 Max PAX		COMPT. C 40 Max PAX		COMPT. A 38 Max PAX		COMPT. B 40 Max PAX		COMPT. C 40 Max PAX	
PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit
1	- 1	0 - 9	0	1	1	1	- 1	0 - 10	0	1	1
2	- 2	10 - 27	1	2	3	2	- 2	11 - 30	1	2	2
3	- 4	28 - 40	2	3	4	3	- 3	31 - 40	2	3	3
4	- 5			4	5	4	- 4			4	5
5	- 6			5	6	5	- 5			5	6
6	- 7			6	8	6	- 6			6	7
7	- 8			7	9	7	- 7			7	8
8	- 9			8	10	8	- 9			8	9
9	- 11			9	11	9	- 10			9	10
10	- 12			10	13	10	- 11			10	11
11	- 13			11	14	11	- 12			11	13
12	- 14			12	15	12	- 13			12	14
13	- 15			13	16	13	- 14			13	15
14	- 17			14	18	14	- 15			14	16
15	- 18			15	19	15	- 16			15	17
16	- 19			16	20	16	- 17			16	18
17	- 20			17	22	17	- 18			17	19
18	- 21			18	23	18	- 19			18	21
19	- 22			19	24	19	- 20			19	22
20	- 24			20	25	20	- 21			20	23
21	- 25			21	27	21	- 22			21	24
22	- 26			22	28	22	- 24			22	25
23	- 27			23	29	23	- 25			23	26
24	- 28			24	30	24	- 26			24	27
25	- 30			25	32	25	- 27			25	29
26	- 31			26	33	26	- 28			26	30
27	- 32			27	34	27	- 29			27	31
28	- 33			28	35	28	- 30			28	32
29	- 34			29	37	29	- 31			29	33
30	- 36			30	38	30	- 32			30	34
31	- 37			31	39	31	- 33			31	36
32	- 38			32	41	32	- 34			32	37
33	- 39			33	42	33	- 35			33	38
34	- 40			34	43	34	- 36			34	39
35	- 41			35	44	35	- 37			35	40
36	- 43			36	46	36	- 39			36	41
37	- 44			37	47	37	- 40			37	42
38	- 45			38	48	38	- 41			38	44
				39	49					39	45
				40	51					40	46

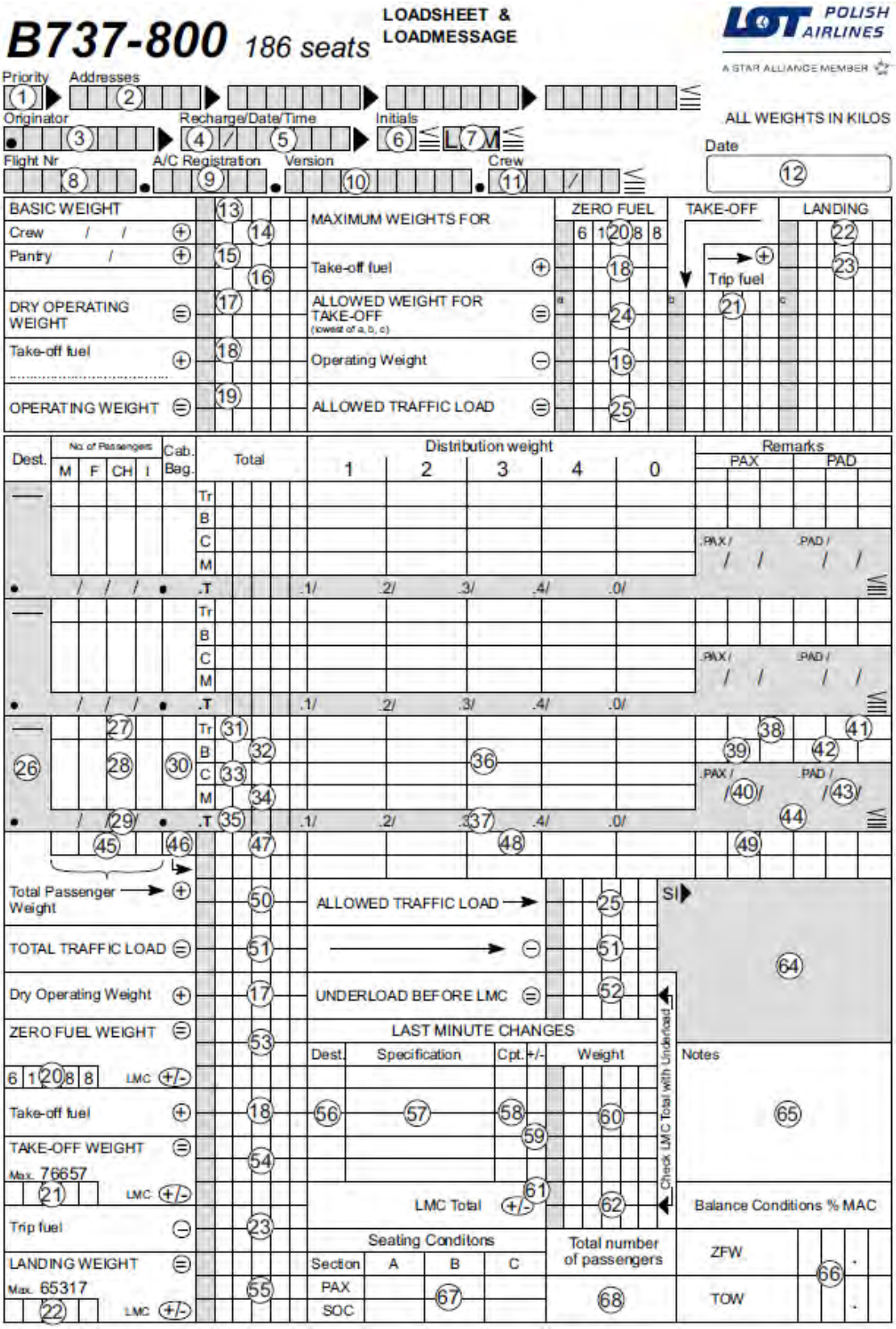
Load & Trimsheet FRJ 190-200AR, Rev 2, 0000

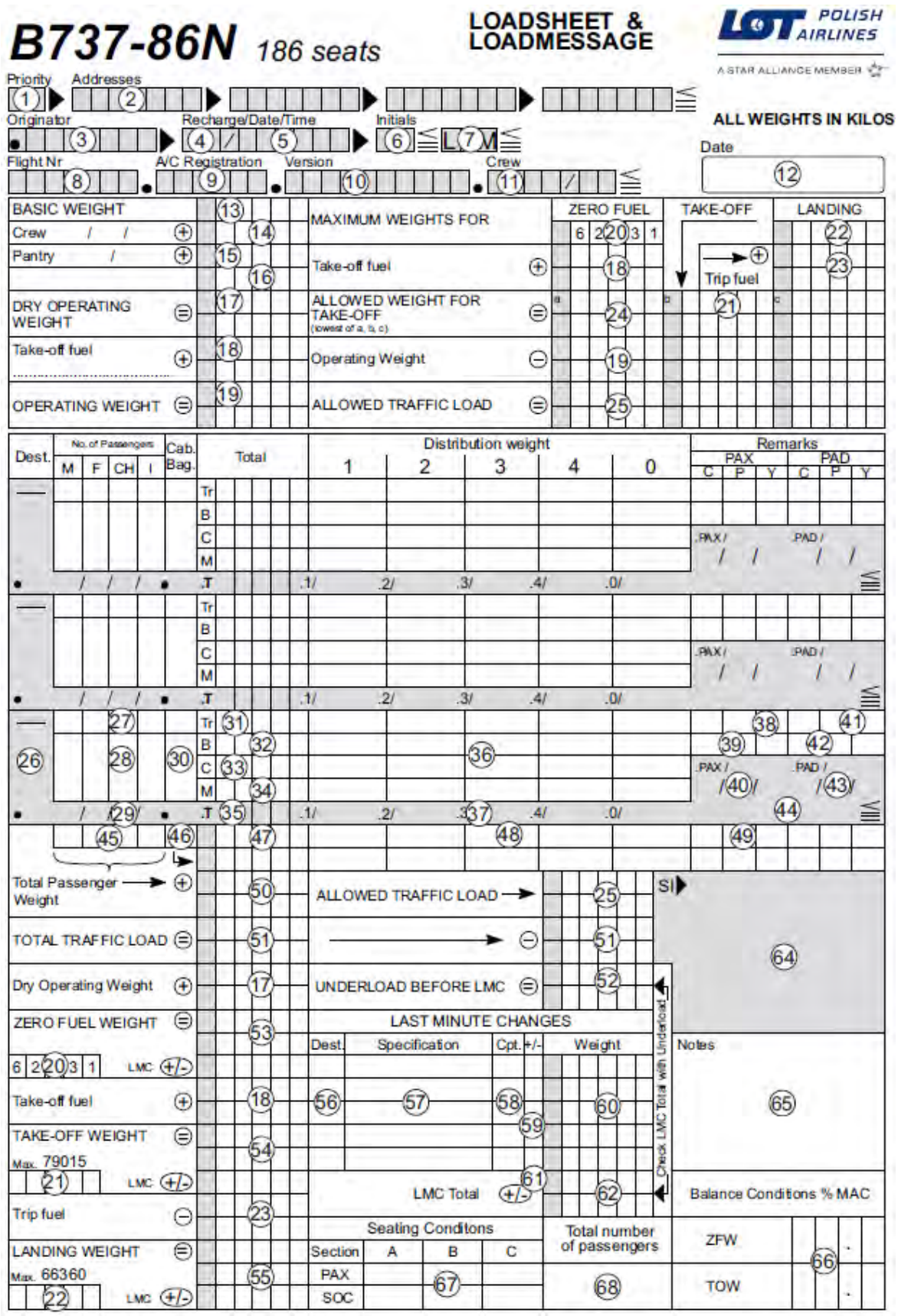
BAGGAGE - CARGO INDEX TABLES

COMPT. 1		COMPT. 2		COMPT. 3		COMPT. 4	
Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 26	0	0 - 42	0	0 - 43	0	0 - 25	0
27 - 78	- 1	43 - 127	- 1	44 - 129	1	26 - 76	1
79 - 131	- 2	128 - 213	- 2	130 - 215	2	77 - 127	2
132 - 183	- 3	214 - 298	- 3	216 - 302	3	128 - 178	3
184 - 236	- 4	299 - 383	- 4	303 - 388	4	179 - 229	4
237 - 288	- 5	384 - 468	- 5	389 - 474	5	230 - 280	5
289 - 340	- 6	469 - 553	- 6	475 - 561	6	281 - 331	6
341 - 393	- 7	554 - 639	- 7	562 - 647	7	332 - 383	7
394 - 445	- 8	640 - 724	- 8	648 - 733	8	384 - 434	8
446 - 498	- 9	725 - 809	- 9	734 - 820	9	435 - 485	9
499 - 550	- 10	810 - 894	- 10	821 - 851	10	486 - 536	10
551 - 603	- 11	895 - 912	- 11			537 - 550	11
604 - 655	- 12						
656 - 710	- 13						

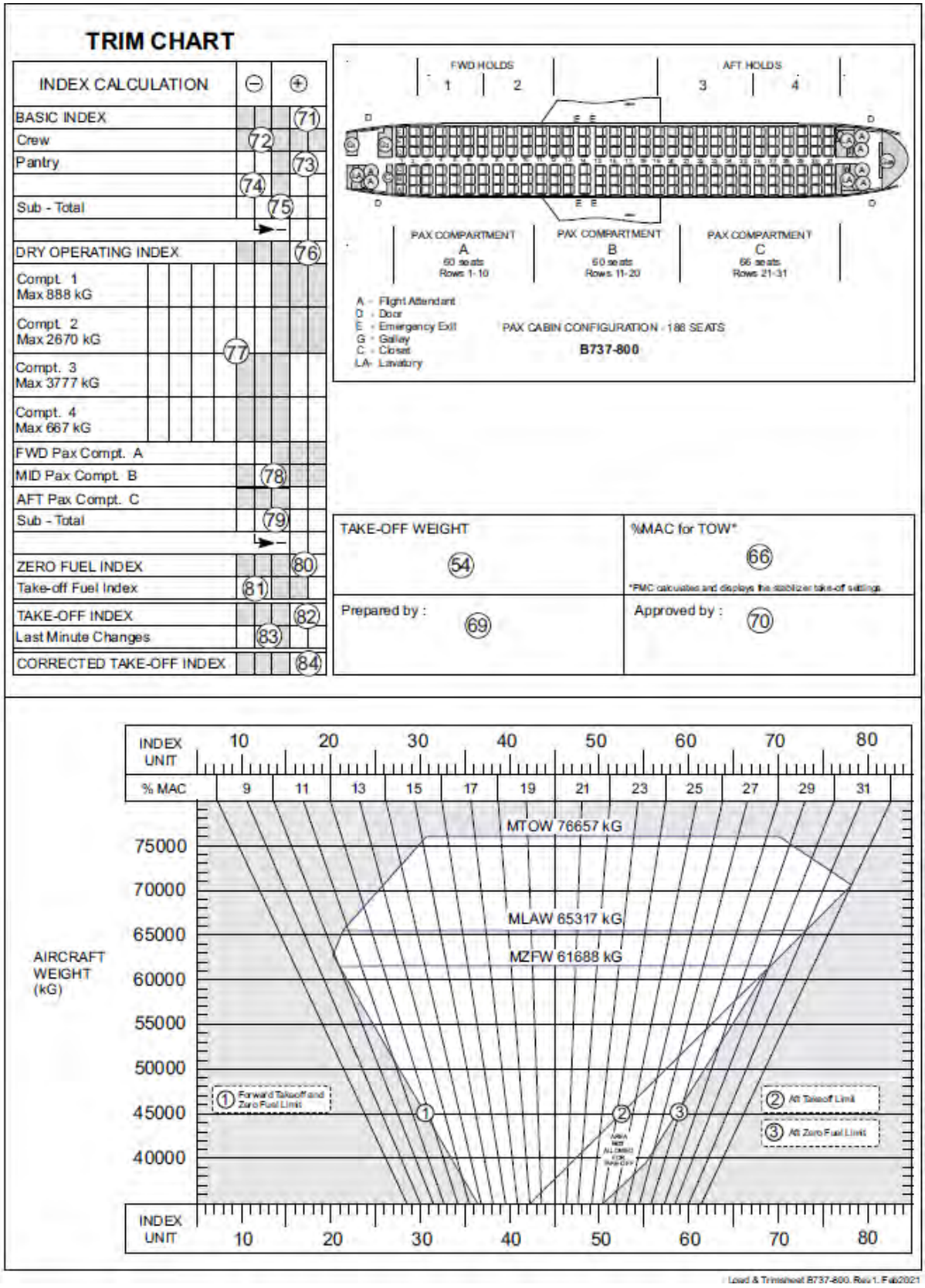
INTENTIONALLY LEFT BLANK

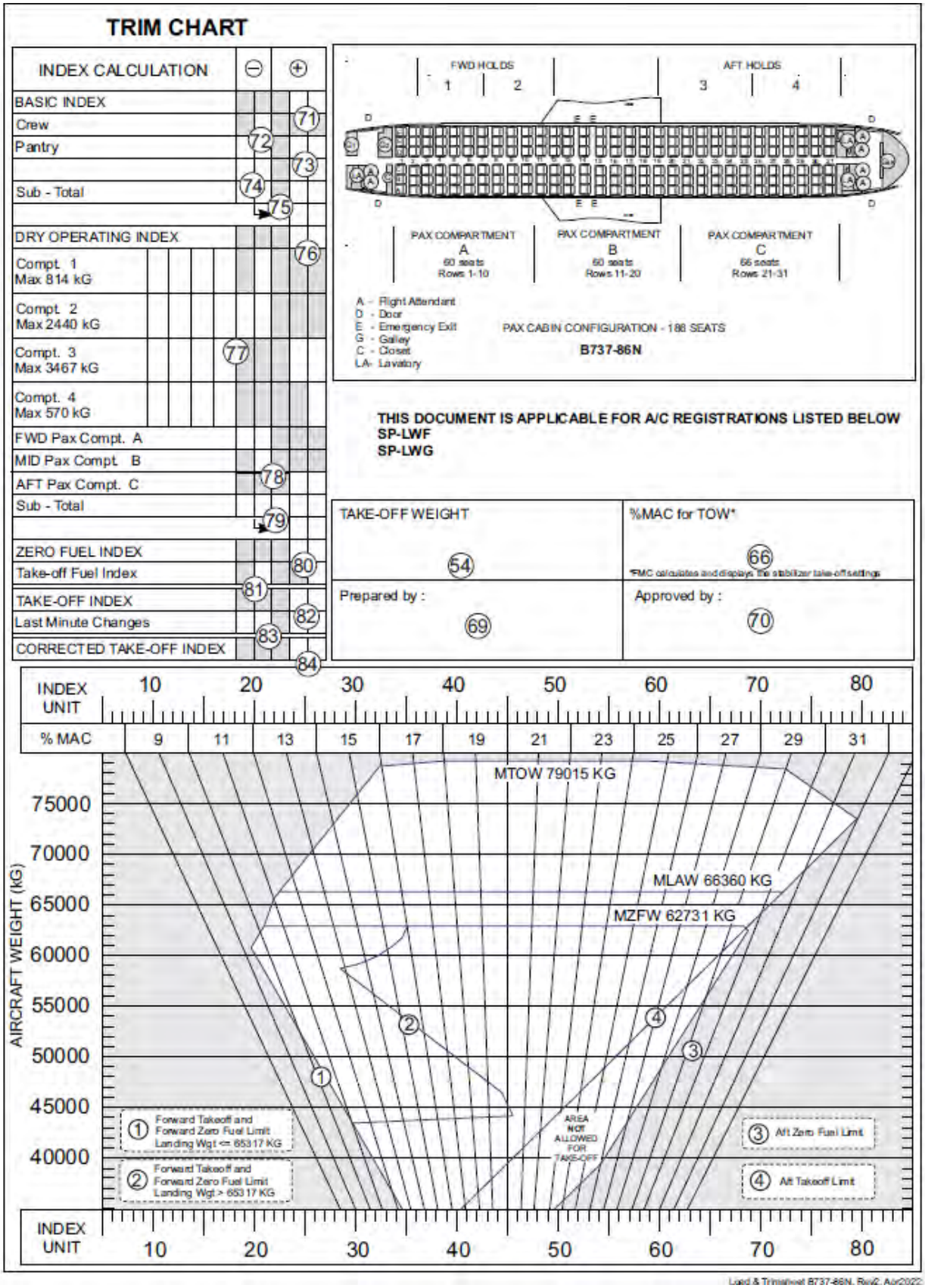
3.5.25 B737-800 Loadsheet



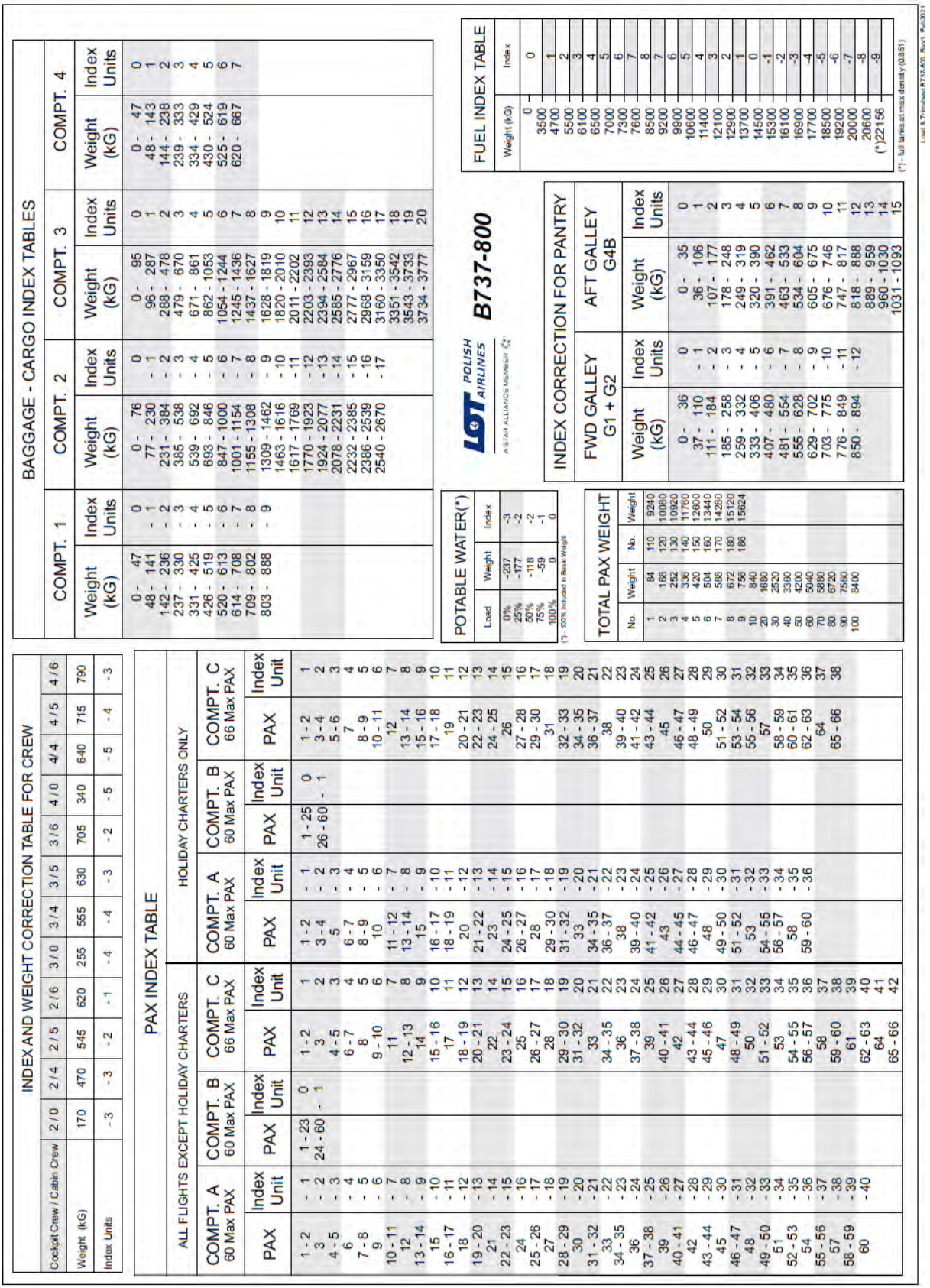

B737-86N 186 seats
LOADSHEET & LOADMESSAGE
POLISH AIRLINES
A STAR ALLIANCE MEMBER
ALL WEIGHTS IN KILOS
Priority
Addresses
Originator
Recharge/Date/Time
Initials
Flight Nr
A/C Registration
Version
Crew
Date
BASIC WEIGHT
Crew
Pantry
DRY OPERATING WEIGHT
Take-off fuel
OPERATING WEIGHT
MAXIMUM WEIGHTS FOR
ZERO FUEL
TAKE-OFF
LANDING
Take-off fuel
Trip fuel
ALLOWED WEIGHT FOR TAKE-OFF
(lowest of a, b, c)
Operating Weight
ALLOWED TRAFFIC LOAD
Dest.
No. of Passengers
M F CH I
Cab. Bag.
Total
Distribution weight
1 2 3 4 0
Remarks
PAX C P Y
PAD C P Y
Tr
B
C
M
.T
.1/ .2/ .3/ .4/ .0/
.PAX/ .PAD/
Total Passenger Weight
ALLOWED TRAFFIC LOAD
TOTAL TRAFFIC LOAD
Dry Operating Weight
ZERO FUEL WEIGHT
LMC
Take-off fuel
TAKE-OFF WEIGHT
Max. 79015
Trip fuel
LANDING WEIGHT
Max. 66360
UNDERLOAD BEFORE LMC
LAST MINUTE CHANGES
Dest. Specification Cpt. +/- Weight
LMC Total
Check LMC Total with Underload
Seating Conditons
Section A B C
PAX
SOC
Total number of passengers
SI
Notes
Balance Conditions % MAC
ZFW
TOW

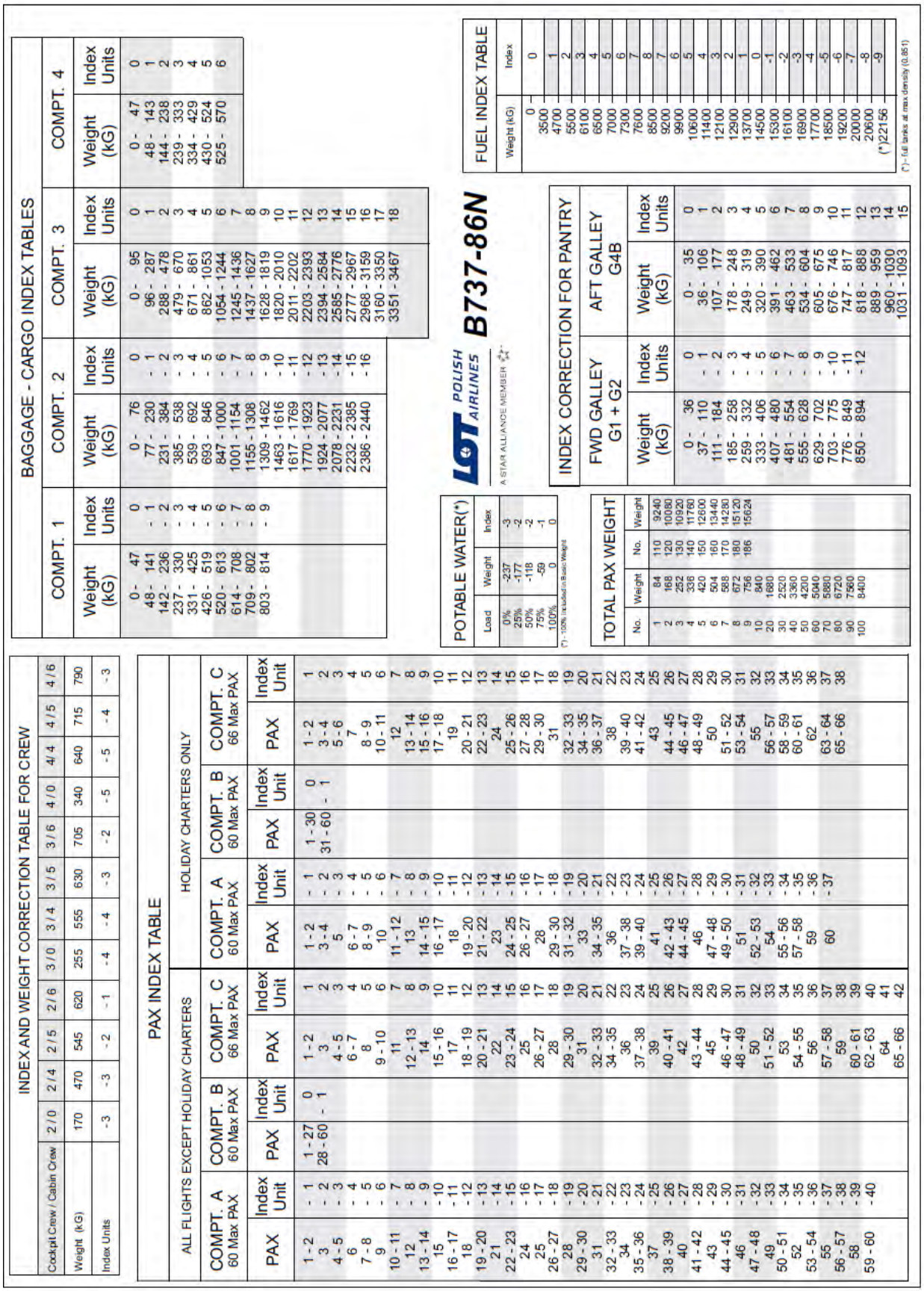
3.5.26 B737-800 Trim Chart



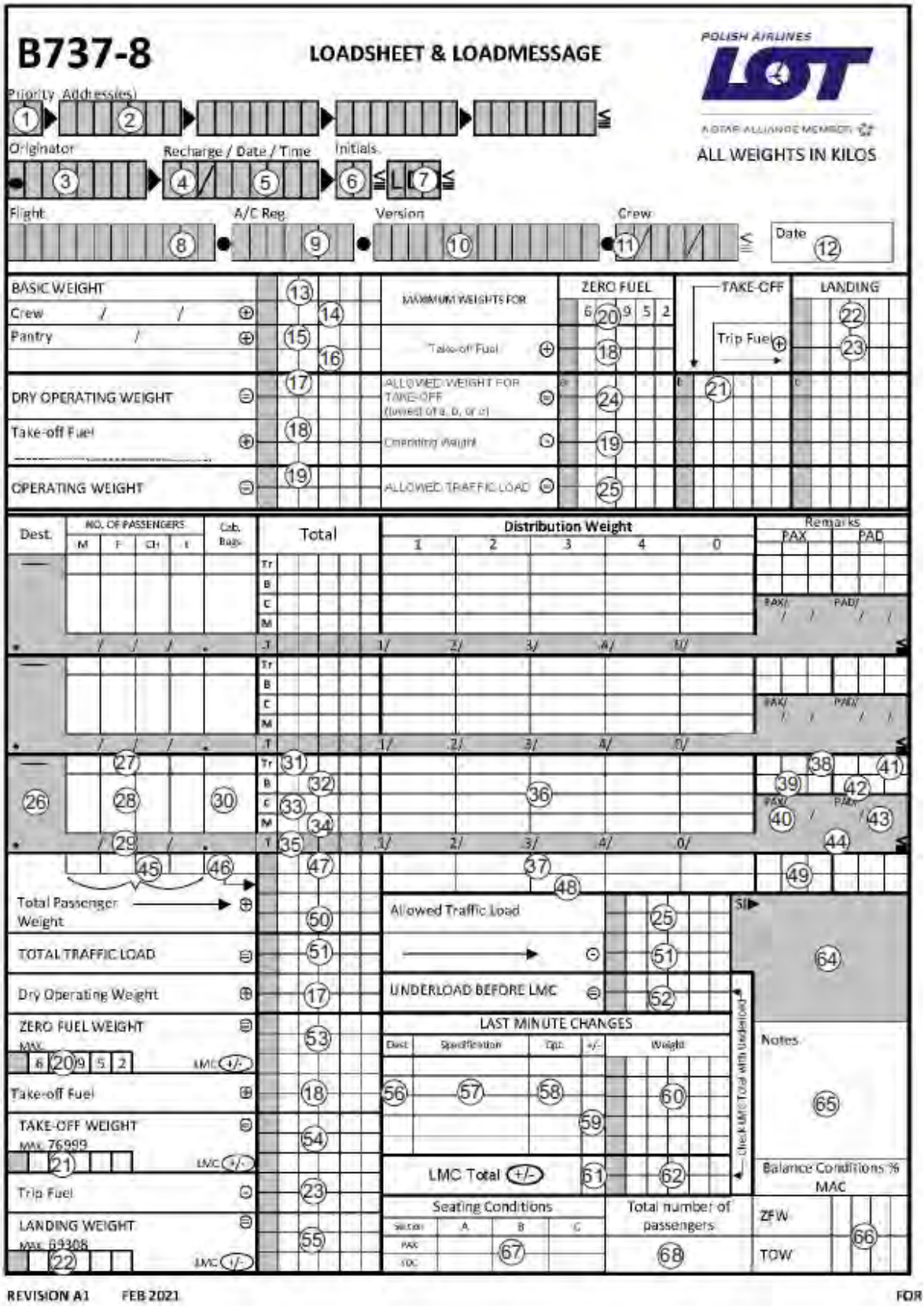

TRIM CHART
INDEX CALCULATION
BASIC INDEX
Crew
Pantry
Sub - Total
DRY OPERATING INDEX
Compt. 1 Max 814 kG
Compt. 2 Max 2440 kG
Compt. 3 Max 3467 kG
Compt. 4 Max 570 kG
FWD Pax Compt. A
MID Pax Compt. B
AFT Pax Compt. C
Sub - Total
ZERO FUEL INDEX
Take-off Fuel Index
TAKE-OFF INDEX
Last Minute Changes
CORRECTED TAKE-OFF INDEX
71
72
73
74
75
76
77
78
79
80
81
82
83
84
FWD HOLDS
1
2
AFT HOLDS
3
4
PAX COMPARTMENT A
60 seats
Rows 1-10
PAX COMPARTMENT B
60 seats
Rows 11-20
PAX COMPARTMENT C
66 seats
Rows 21-31
A - Right Attendant
D - Door
E - Emergency Exit
G - Galley
C - Closet
LA- Lavatory
PAX CABIN CONFIGURATION - 186 SEATS
B737-86N
THIS DOCUMENT IS APPLICABLE FOR A/C REGISTRATIONS LISTED BELOW
SP-LWF
SP-LWG
TAKE-OFF WEIGHT
54
%MAC for TOW*
66
*FMC calculates and displays the stabilizer take-off settings
Prepared by :
69
Approved by :
70
INDEX UNIT
10 20 30 40 50 60 70 80
% MAC
9 11 13 15 17 19 21 23 25 27 29 31
AIRCRAFT WEIGHT (kG)
75000
70000
65000
60000
55000
50000
45000
40000
MTOW 79015 KG
MLAW 66360 KG
MZFW 62731 KG
1
2
3
4
① Forward Takeoff and Forward Zero Fuel Limit Landing Wgt <= 65317 KG
② Forward Takeoff and Forward Zero Fuel Limit Landing Wgt > 65317 KG
AREA NOT ALLOWED FOR TAKE-OFF
③ Aft Zero Fuel Limit
④ Aft Takeoff Limit
INDEX UNIT
10 20 30 40 50 60 70 80
Load & Trimsheet B737-86N, Rev2, Apr2022

3.5.27 B737-800 Index correction tables




INDEX AND WEIGHT CORRECTION TABLE FOR CREW
Cockpit Crew / Cabin Crew 2 / 0 2 / 4 2 / 5 2 / 6 3 / 0 3 / 4 3 / 5 3 / 6 4 / 0 4 / 4 4 / 5 4 / 6
Weight (kG) 170 470 545 620 255 555 630 705 340 640 715 790
Index Units -3 -3 -2 -1 -4 -4 -3 -2 -5 -5 -4 -3
PAX INDEX TABLE
ALL FLIGHTS EXCEPT HOLIDAY CHARTERS
HOLIDAY CHARTERS ONLY
COMPT. A 60 Max PAX
COMPT. B 60 Max PAX
COMPT. C 66 Max PAX
PAX
Index Unit
BAGGAGE - CARGO INDEX TABLES
COMPT. 1
COMPT. 2
COMPT. 3
COMPT. 4
Weight (kG)
Index Units
POTABLE WATER(*)
Load
Weight
Index
(*) - 100% included in Basic Weight
TOTAL PAX WEIGHT
No.
Weight
INDEX CORRECTION FOR PANTRY
FWD GALLEY G1 + G2
AFT GALLEY G4B
FUEL INDEX TABLE
Weight (kG)
Index
(*) - full tanks at max density (0.851)
POLISH AIRLINES
A STAR ALLIANCE MEMBER
B737-86N
Load & Trimsheet B737-86N, Rev2, Apr2022

3.5.28 B737-8 Loadsheet



B737-8 *189 seats*

LOADSHEET & LOADMESSAGE

POLISH AIRLINES
A STAR ALLIANCE MEMBER

Priority Addresses

Originator Recharge/Date/Time Initials ≤ L D M ≤

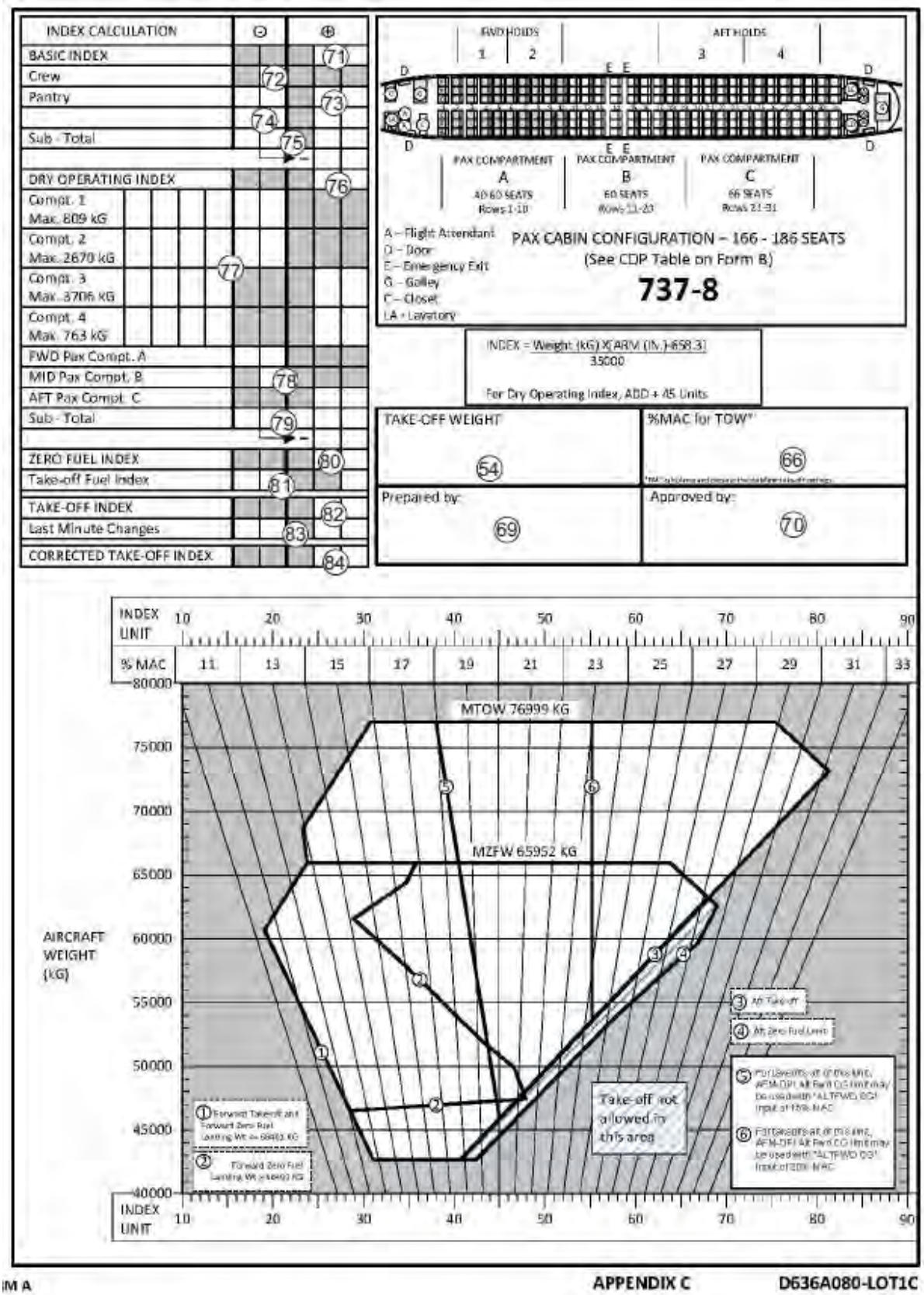
ALL WEIGHTS IN KILOS

Flight Nr A/C Registration Version Crew

Date

| | | |

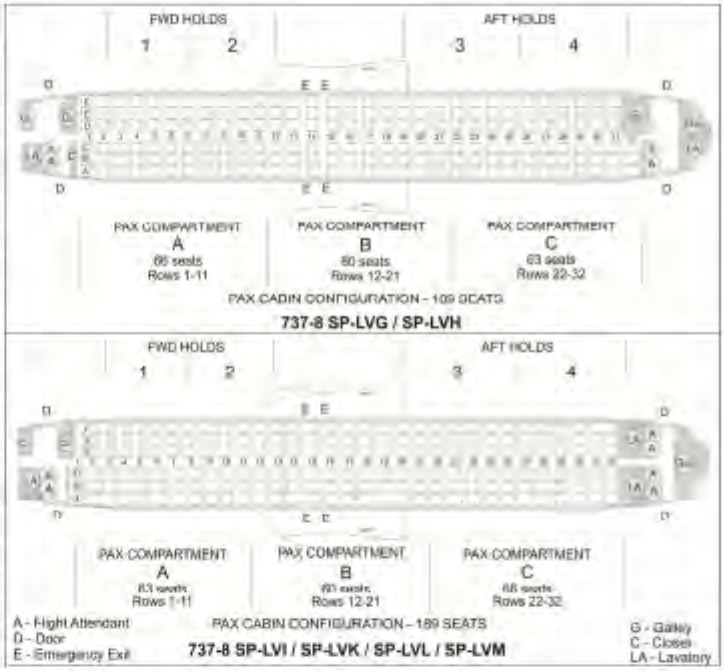
3.5.29 B737-8 Trim Chart



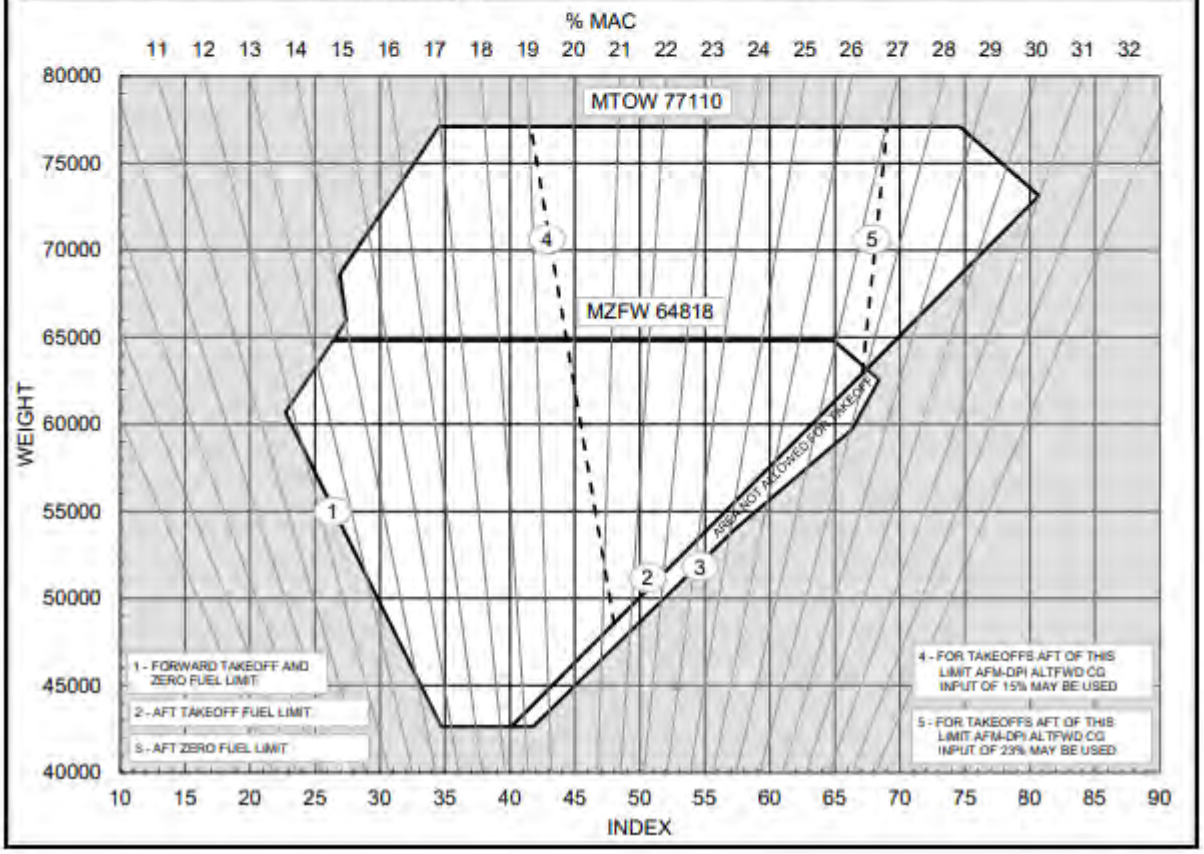
IM A APPENDIX C D636A080-LOT1C

TRIM CHART

INDEX CALCULATION	-	+
BASIC INDEX		
Crew		
Pantry		
Sub - Total		
	>	-
DRY OPERATING INDEX		
Comp.1 max. 809 kg		
Comp.2 max. 2670 kg		
Comp.3 max. 3706 kg		
Comp.4 max. 763 kg		
Comp. A - PAX		
Comp. B - PAX		
Comp. C - PAX		
Sub - Total		
	>	-
ZERO FUEL INDEX		
Takeoff Fuel Index		
TAKEOFF INDEX		
Last Minute Changes		
CORRECTED TAKEOFF INDEX		

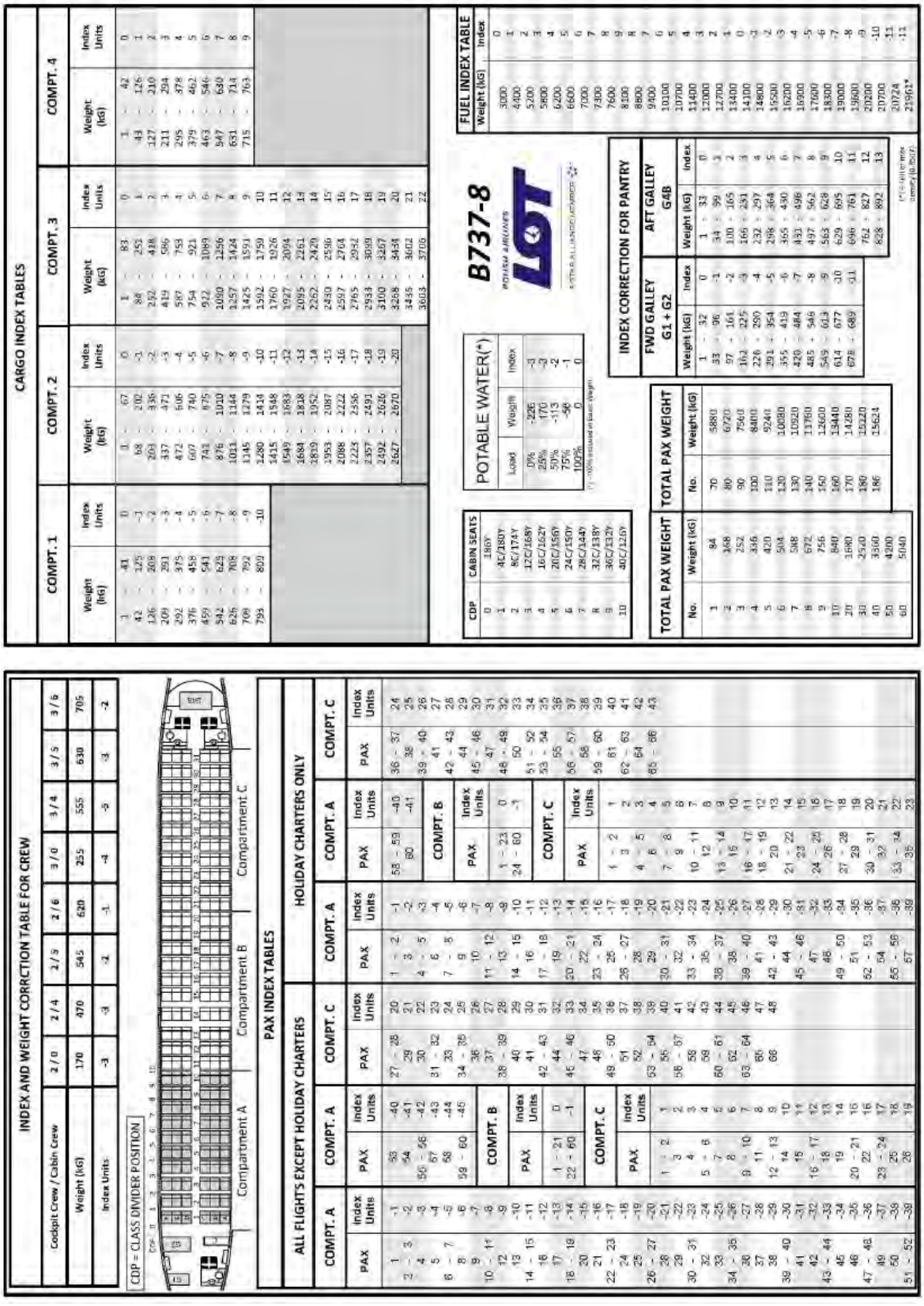


TAKEOFF WEIGHT	%MAC for TOW
Prepared by:	Approved by:



Load and Trimsheet 737-8 189 seats, Rev0, Oct 2022

3.5.30 B737-8 Index correction tables



WEIGHT AND INDEX CORRECTION TABLE FOR CREW

Flt/Cab Crew	2/0	2/ 4	2/ 5	2/ 6	3/ 0	3/ 4	3/ 5	3/ 6	4/ 0	4/ 4	4/ 5	4/ 6
Weight [KG]	170	470	545	620	255	555	630	705	340	640	715	790
Index Units	-3	-3	-2	-1	-4	-5	-3	-2	-6	-6	-5	-4

INDEX CORRECTION FOR PANTRY

FWD GALLEY		AFT GALLEY	
WEIGHT [KG]	INDEX	WEIGHT [KG]	INDEX
0 - 33	0	0 - 31	0
34 - 99	-1	32 - 93	1
100 - 165	-2	94 - 156	2
166 - 232	-3	157 - 219	3
233 - 298	-4	220 - 281	4
299 - 365	-5	282 - 344	5
366 - 431	-6	345 - 407	6
432 - 497	-7	408 - 469	7
498 - 564	-8	470 - 532	8
565 - 630	-9	533 - 595	9
631 - 668	-10	596 - 657	10
		658 - 720	11
		721 - 783	12
		784 - 845	13
		846 - 855	14

POTABLE WATER(*)

Load	Weight	Index
0%	-226	-3
25%	-170	-3
50%	-113	-2
75%	-56	-1
100%	0	0

(*) - 100% included in Basic Weight

POLISH AIRLINES
A STAR ALLIANCE MEMBER

B737-8

189 seats

PAX INDEX TABLE

ALL FLTS EXCEPT HOLIDAY CHART.						HOLIDAY CHARTERS ONLY					
COMPT. A		COMPT. B		COMPT. C		COMPT. A		COMPT. B		COMPT. C	
PAX	INDEX	PAX	INDEX	PAX	INDEX	PAX	INDEX	PAX	INDEX	PAX	INDEX
1	-1	1 - 34	0	62	48	1 - 2	-1	1 - 38	0		
2 - 3	-2	35 - 60	1	63	49	3	-2	39 - 60	1		
4	-3	COMPT. C		64 - 65	50	4 - 5	-3	COMPT. C			
5	-4	PAX	INDEX	66	51	6	-4	PAX	INDEX		
6 - 7	-5	1	1			7	-5	1 - 2	1		
8	-6	2 - 3	2			8 - 9	-6	3	2		
9	-7	4	3			10	-7	4	3		
10 - 11	-8	5	4			11 - 12	-8	5 - 6	4		
12	-9	6 - 7	5			13	-9	7	5		
13	-10	8	6			14 - 15	-10	8 - 9	6		
14 - 15	-11	9	7			16	-11	10	7		
16	-12	10	8			17 - 18	-12	11 - 12	8		
17	-13	11 - 12	9			19	-13	13	9		
18 - 19	-14	13	10			20 - 21	-14	14	10		
20	-15	14	11			22	-15	15 - 16	11		
21	-16	15 - 16	12			23	-16	17	12		
22	-17	17	13			24 - 25	-17	18 - 19	13		
23 - 24	-18	18	14			26	-18	20	14		
25	-19	19 - 20	15			27 - 28	-19	21 - 22	15		
26	-20	21	16			29	-20	23	16		
27 - 28	-21	22	17			30 - 31	-21	24	17		
29	-22	23	18			32	-22	25 - 26	18		
30	-23	24 - 25	19			33 - 34	-23	27	19		
31 - 32	-24	26	20			35	-24	28 - 29	20		
33	-25	27	21			36 - 37	-25	30	21		
34	-26	28 - 29	22			38	-26	31 - 32	22		
35 - 36	-27	30	23			39	-27	33	23		
37	-28	31	24			40 - 41	-28	34	24		
38	-29	32	25			42	-29	35 - 36	25		
39 - 40	-30	33 - 34	26			43 - 44	-30	37	26		
41	-31	35	27			45	-31	38 - 39	27		
42	-32	36	28			46 - 47	-32	40	28		
43 - 44	-33	37 - 38	29			48	-33	41 - 42	29		
45	-34	39	30			49 - 50	-34	43	30		
46	-35	40	31			51	-35	44	31		
47	-36	41	32			52 - 53	-36	45 - 46	32		
48 - 49	-37	42 - 43	33			54	-37	47	33		
50	-38	44	34			55	-38	48 - 49	34		
51	-39	45	35			56 - 57	-39	50	35		
52 - 53	-40	46 - 47	36			58	-40	51 - 52	36		
54	-41	48	37			59 - 60	-41	53	37		
55	-42	49	38			61	-42	54	38		
56 - 57	-43	50	39			62 - 63	-43	55 - 56	39		
58	-44	51 - 52	40			64	-44	57	40		
59	-45	53	41			65 - 66	-45	58 - 59	41		
60 - 61	-46	54	42					60	42		
62	-47	55 - 56	43					61 - 62	43		
63	-48	57	44					63	44		
64 - 65	-49	58	45					64	45		
66	-50	59 - 60	46					65 - 66	46		
		61	47								

FUEL INDEX

Weight	Index	Weight	Index
3000	0		-7
		19000	
4400	1		-8
		19600	
5200	2		-9
		20200	
5800	3		-10
		20700	
6200	4	21961 (a)	-11
6600	5		
7000	6		
7300	7		
7600	8		
8100	9		
8800	8		
9400	7		
10100	6		
10700	5		
11400	4		
12000	3		
12700	2		
13400	1		
14100	0		
14800	-1		
15500	-2		
16200	-3		
16900	-4		
17600	-5		
18300	-6		
19000	-7		

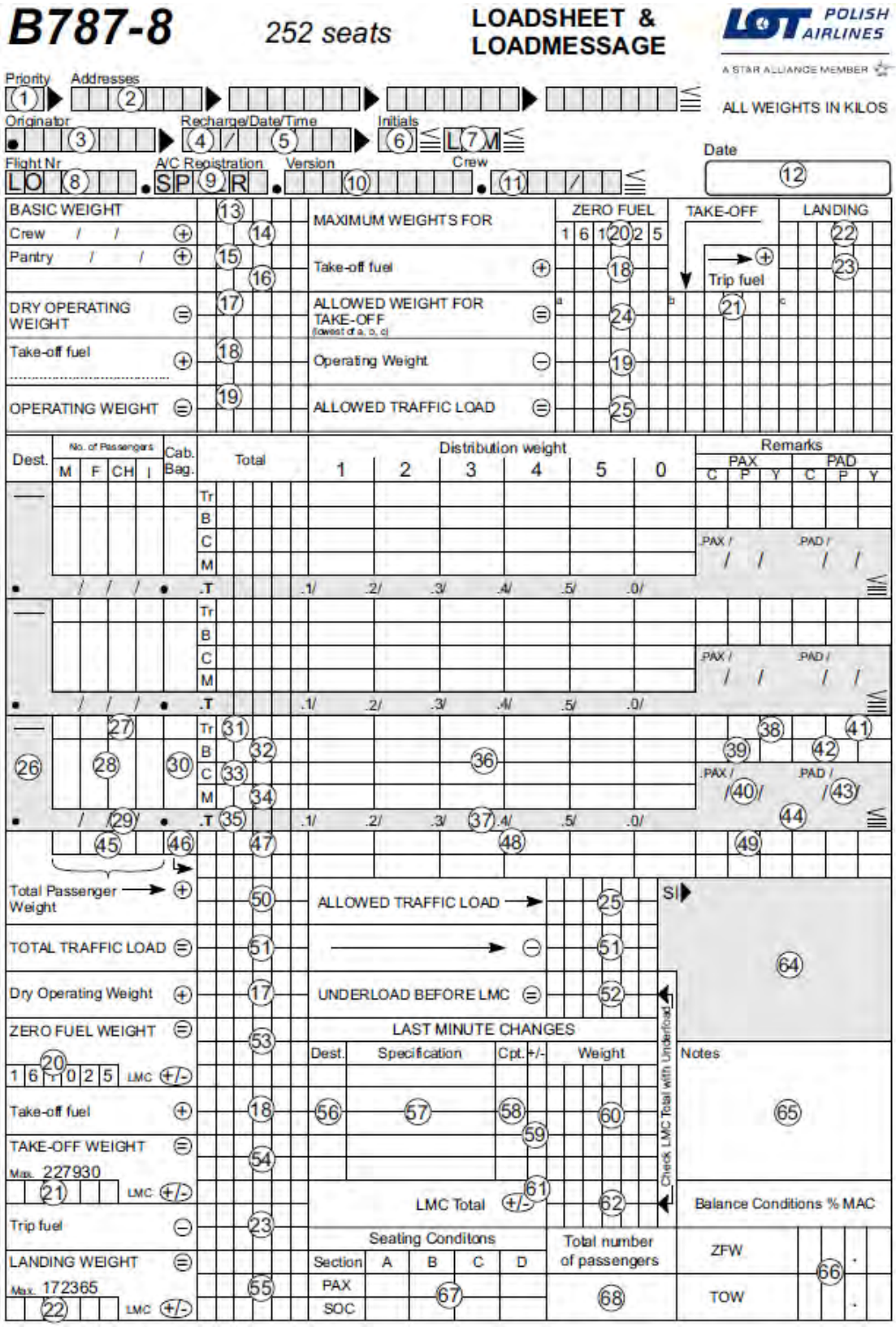
(a) - main & center tanks full at max density (0.851 kg/l)

BAGGAGE - CARGO INDEX TABLES

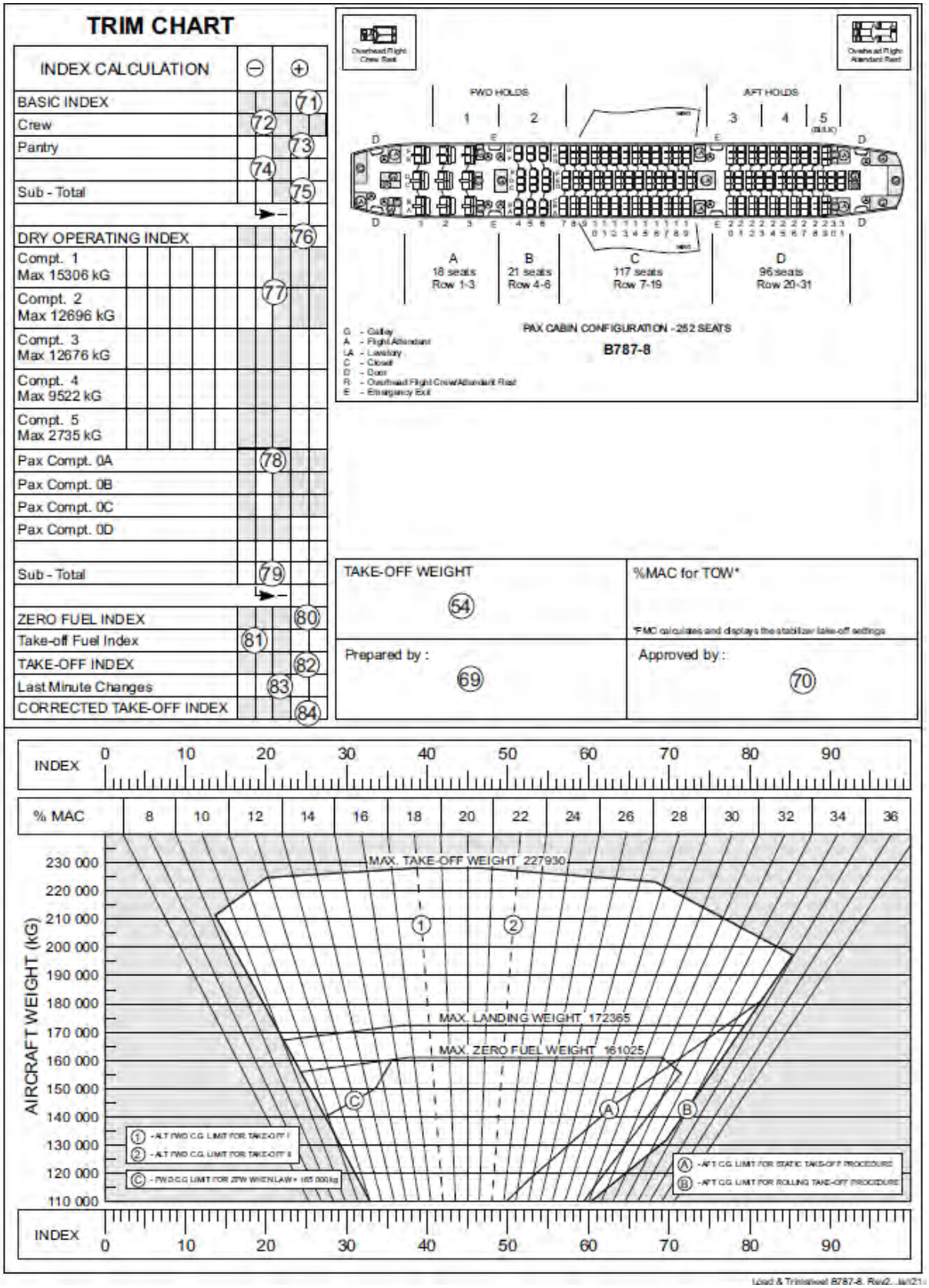
COMPARTMENT 1		COMPARTMENT 2		COMPARTMENT 3		COMPARTMENT 4	
WEIGHT [KG]	INDEX	WEIGHT [KG]	INDEX	WEIGHT [KG]	INDEX	WEIGHT [KG]	INDEX
0 - 41	0	0 - 67	0	0 - 83	0	0 - 42	0
42 - 125	-1	68 - 202	-1	84 - 251	1	43 - 126	1
126 - 208	-2	203 - 336	-2	252 - 418	2	127 - 210	2
209 - 291	-3	337 - 471	-3	419 - 586	3	211 - 294	3
292 - 375	-4	472 - 606	-4	587 - 753	4	295 - 378	4
376 - 458	-5	607 - 740	-5	754 - 921	5	379 - 462	5
459 - 541	-6	741 - 875	-6	922 - 1089	6	463 - 546	6
542 - 625	-7	876 - 1010	-7	1090 - 1256	7	547 - 630	7
626 - 708	-8	1011 - 1144	-8	1257 - 1424	8	631 - 714	8
709 - 792	-9	1145 - 1279	-9	1425 - 1591	9	715 - 763	9
793 - 809	-10	1280 - 1414	-10	1592 - 1759	10		
		1415 - 1548	-11	1760 - 1926	11		
		1549 - 1683	-12	1927 - 2094	12		
		1684 - 1818	-13	2095 - 2261	13		
		1819 - 1952	-14	2262 - 2429	14		
		1953 - 2087	-15	2430 - 2596	15		
		2088 - 2222	-16	2597 - 2764	16		
		2223 - 2356	-17	2765 - 2932	17		
		2357 - 2491	-18	2933 - 3099	18		
		2492 - 2626	-19	3100 - 3267	19		
		2627 - 2670	-20	3268 - 3434	20		
				3435 - 3602	21		
				3603 - 3706	22		

Load and Trimsheet 737-8 189 seats, Rev0, Oct 2022

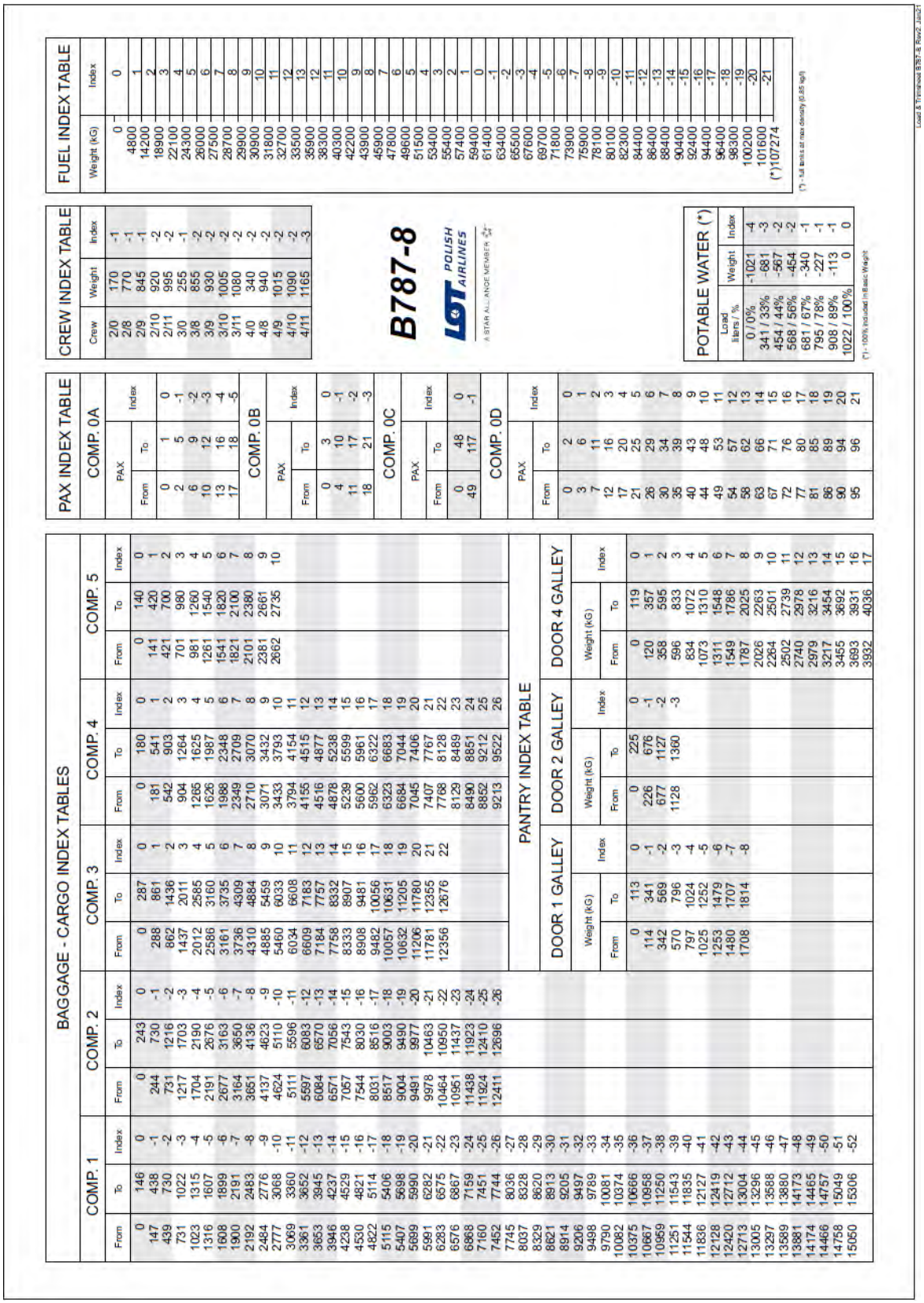
3.5.31 B787-8 Loadsheet



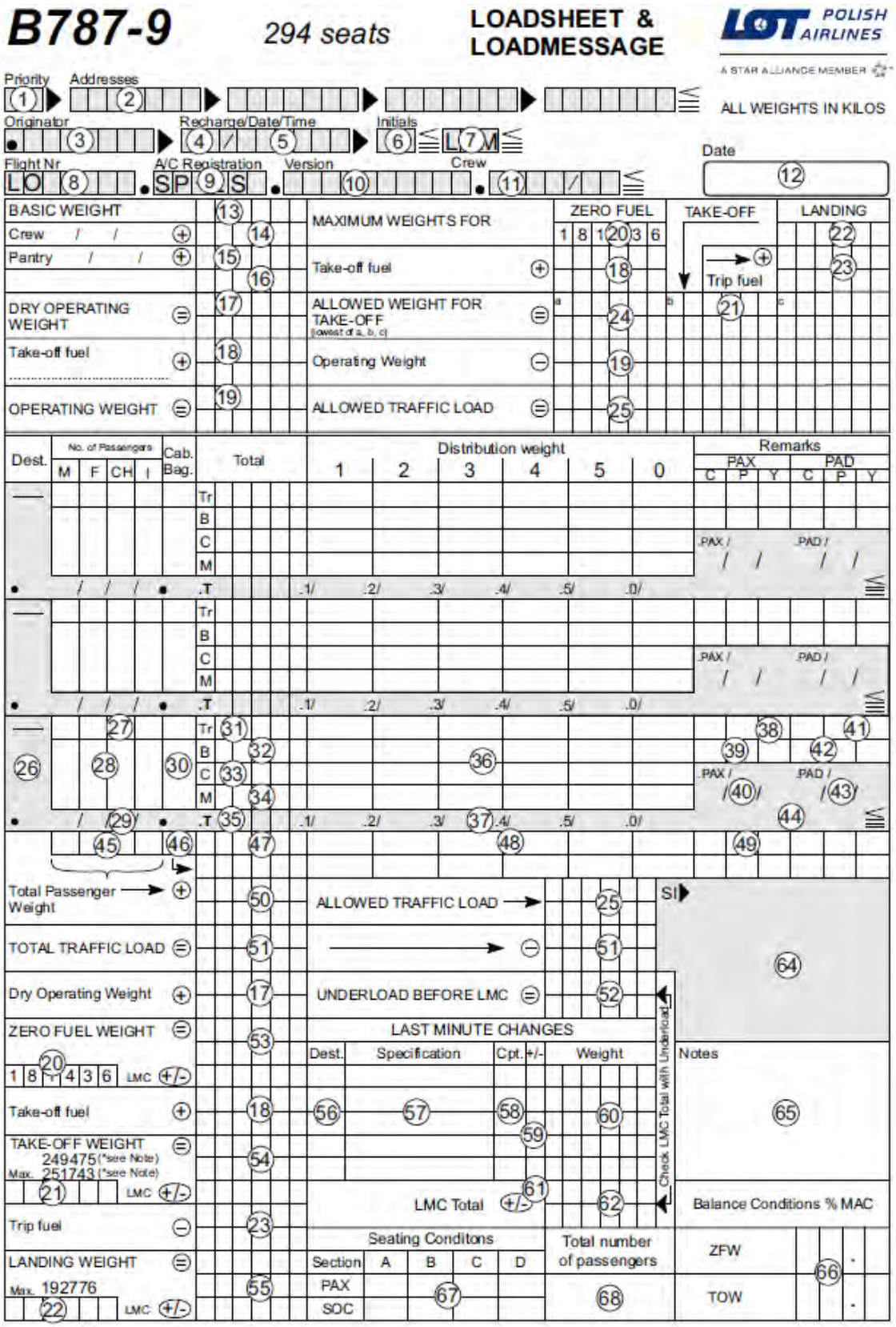
3.5.32 B787-8 Trim Chart



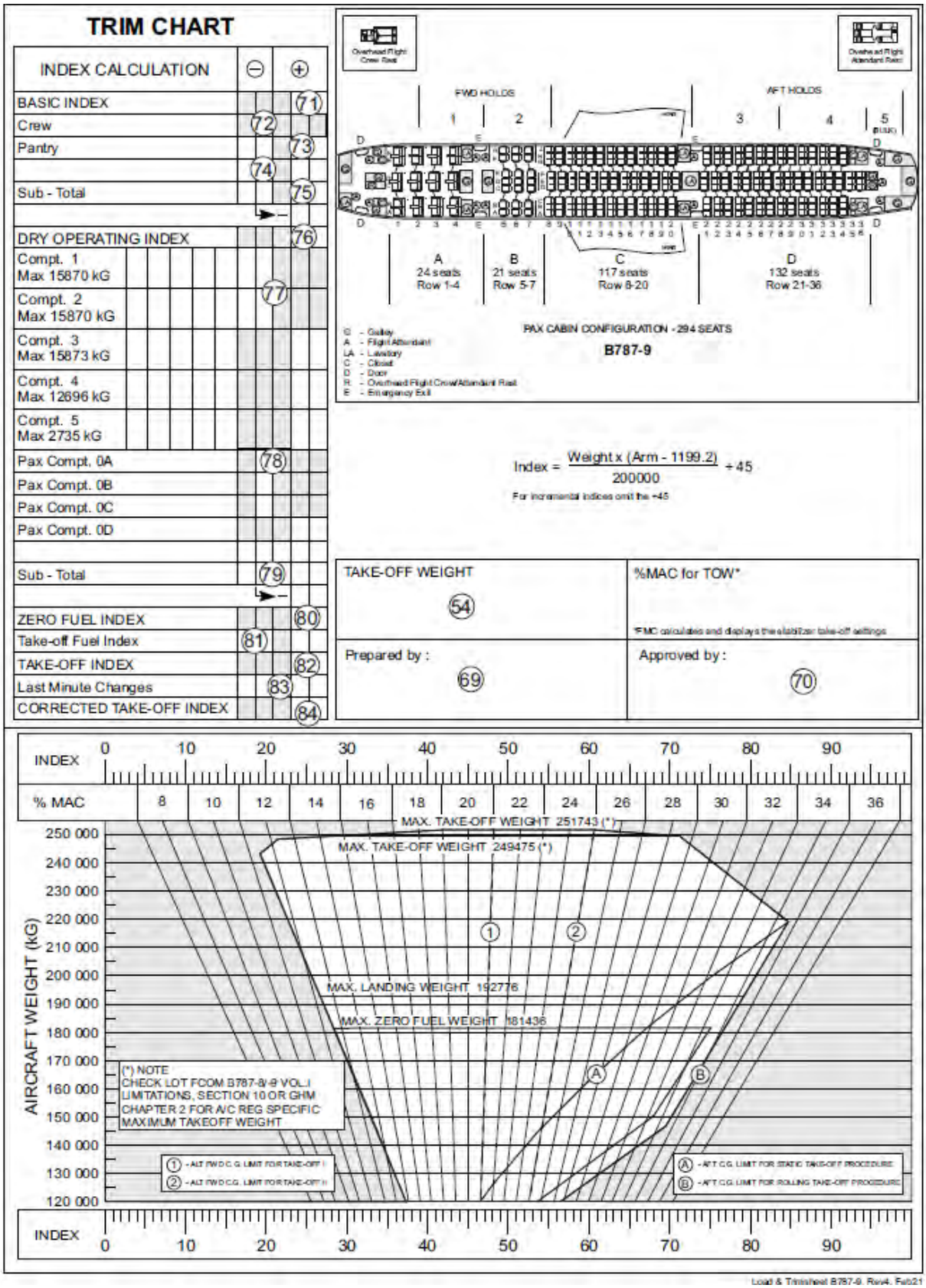
3.5.33 B787-8 Index correction tables



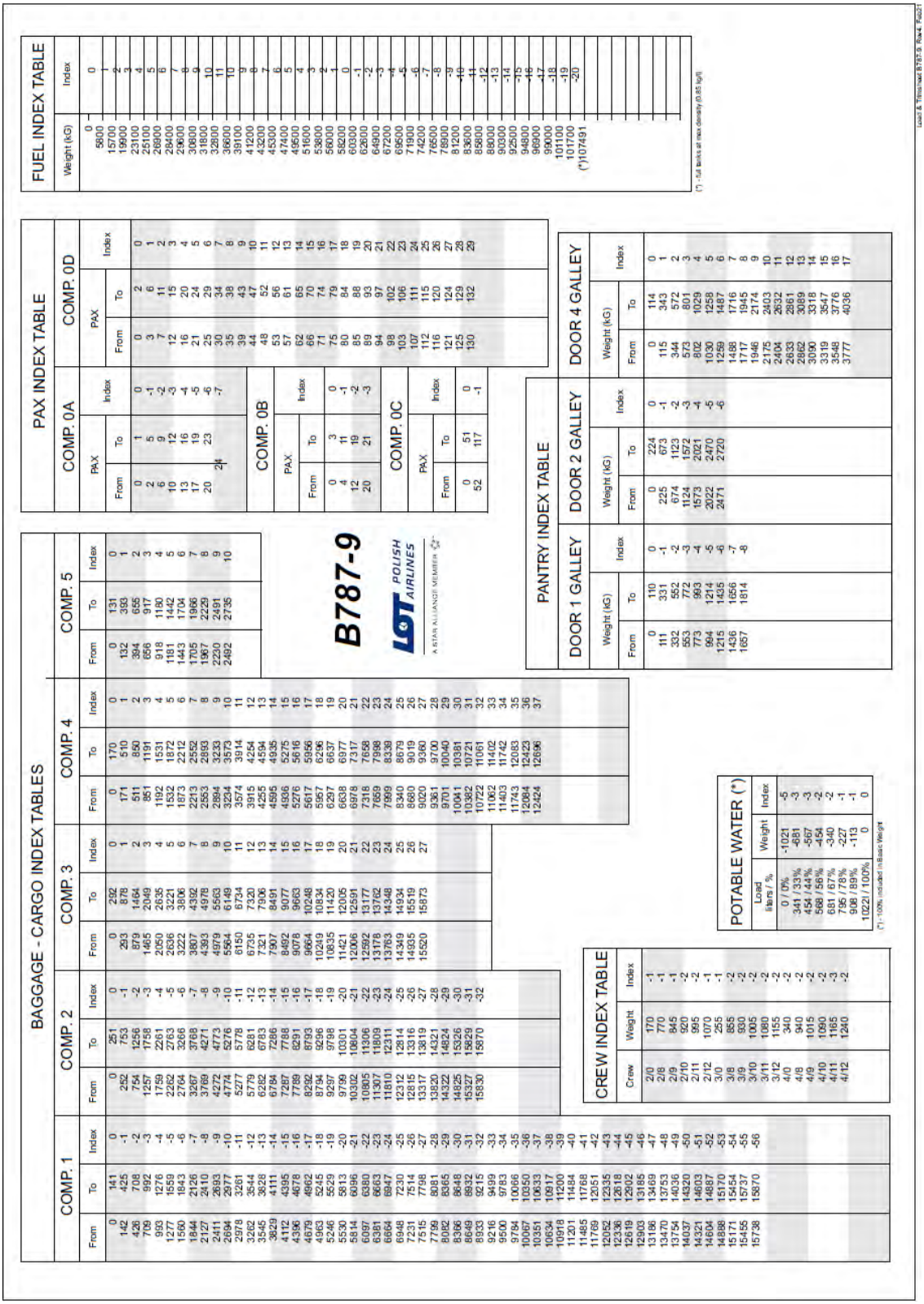
3.5.34 B787-9 Loadsheet



3.5.35 B787-9 Trim Chart



3.5.36 B787-9 Index correction tables



3.6 Manual loadsheet – description

	Remarks	
Addresses and Heading	Data in the shaded areas of the loadsheet constitute the load message LDM	
	1. Priority	Priority indicator (e.g. QU)
	2. Addresses	SITA addresses for load message LDM (e.g. JFKAPLO)
	3. Originator	SITA addresses of originator (e.g. WAWKKLO)
	4. Recharge	Recharge facility (e.g. LO)
	5. Date/time	Date and time group.(e.g. 120111)
	6. Initials	Initials of agent preparing loadsheet
	7. LDM	Standard message indicator (LOADMESSAGE)
	8. Flight	Flight number/identifier (e.g. LO006)
	9. A/c Reg.	Aircraft registration (e.g. SPLRA)
	10. Version	Version of aircraft (e.g. C18P21Y213)
	11. Crew	Number of crew excluding crew travelling as passengers (e.g. 2/10/1)
	12. Date	Date of preparing loadsheet
Operating Weight Calculation	**13.** Basic Weight	Basic Weight includes all fixed equipment, system fluids, unusable fuel and configuration equipment including galley structure
	14. Crew	Weight of crew members shown under Ref.No.11
	15. Pantry	Weight of pantry and additional unmanifested catering material transported in the galley
	16.	Spare line for adjustments to the basic weight
	17. Dry Operating Weight	Basic Weight plus Operational Items, e.g. crew, flight equipment and pantry
	18. Take-off Fuel	The amount of fuel on board less fuel consumed before take-off
	.....	Total fuel in tanks minus taxi fuel
	19. Operating Weight	Sum of Ref.Nos.17 and 18.
Allowed Traffic Load Calculation	**20.** Maximum weight for Zero Fuel	Maximum Design Zero Fuel Weight
	21. Maximum Weight For Take Off	Maximum Design Take Off Weight or Operational Take-off Weight, whichever is lower
	22. Maximum Weight For Landing	Maximum Design Landing Weight or Operational Landing Weight, whichever is lower
	23. Trip Fuel	The amount of fuel planned to be consumed from take-off to the airport of first intended landing
	24. Allowed Weight For Take Off	Use lowest of items a, b, c: Ref. a - sum of Ref. Nos.20 and 18 Ref. b – No. 21 Ref. c – sum of Ref. Nos.22 and 23
	25. Allowed Traffic Load	Difference between the lowest of Ref.Nos.24 a, b, c and 19.

Load Information	**26.** Dest.	Airport of destination - IATA code
	27. No. of Passengers (transit)	Total number of transit passenger(s), including PAD(s): M – male, F – female, CH – children, I – infants
	28. No. of Passengers (joining)	Total number of joining passenger(s), including PAD(s):
	29. No. of Passengers	Total number of outgoing passenger(s): Sum of Ref. Nos. 27 and 28. Note: • If there is a dead load to this destination, but no passengers, zeros must be filled in. • If there is no traffic load to this destination, enter NIL
	30. Cab. Bag	Cabin baggage not included in standard passenger weight: transit passengers', joining passengers', total cabin baggage
	31. Total Tr.	Weight of transit dead load (to be obtained from incoming LDM or loadsheet)
	32. Total B	Weight of joining baggage excluding Ref.No.30
	33. Total C	Weight of joining cargo
	34. Total M	Weight of joining mail
	35. Total T	Total weight of dead load
	36. Distribution Weight	Weight distribution of the different load categories per compartment. Column "0" is specified for load carried in passenger cabin.
	37. Total Weight	Total weight of dead load (transit dead load plus joining baggage, cargo, mail and LMC) per compartment.
	38. PAX C/Y	Seat(s) occupied by transit passenger(s) per class, including PAD(s).
	39. PAX C/Y	Seat(s) occupied by joining passenger(s) per class, including PAD(s).
	40. PAX / /	Total seats occupied by outgoing passenger(s) per class, including PAD(s) and LMC Sum of Ref. Nos.38 and 39.
	41. PAD C/Y	Seat(s) occupied by transit PAD(s) per class
	42. PAD C/Y	Seat(s) occupied by joining PAD(s) per class.
	43. PAD / /	Total seats occupied by outgoing PAD(s) by class, including LMC. Figure group of each class to be separated by an oblique. All PAD(s) are included in the CY distribution.

	44.	Additional remarks applying three-letters codes (e.g. HEA/1/200)
	45.	Total number of passenger(s) as per /M, F, CH, I/
	46.	Total weight of cabin baggage
	47.	Total weight of dead load Sum of Ref. Nos. 31, 32, 33 and 34
	48.	Total weight of dead load per compartment
	49.	Total number of seats occupied by passengers per class Sum of Ref. Nos.38 and 39.
	50. Total Passenger Weight	Total passenger weight calculated according to the standard passenger weight.
	51. Total Traffic Load	The total weight of passengers, baggage , cargo and mail. Operational items not included in DOW, e.g. pallets, nets, must be added to the cargo weight figures.
	52. Underload Before LMC	Underload before LMC. Ref. Nos.25 minus 51.
Actual Gross Weight Calculation	**53.** Zero Fuel Weight	Actual zero fuel weight Sum of: Total Traffic Load (Ref. No.51) and Dry Operating Weight (ref. No.17)
	54. Take-Off Weight	Actual take-off weight. Sum of: Zero Fuel Weight (Ref.No.53) and Take-off Fuel (Ref.No.18)
	55. Landing Weight	Actual landing weight Take-off Weight (Ref. No.54) minus Trip Fuel (Ref. No.23)
Last Minute Changes	The changes in the weight of the traffic load (passengers, baggage, cargo and mail) or in its distribution are to be recorded in the LMC box of the loadsheet. If the changes in the number of passengers and/or in the weight of the deadload do not exceed the LMC tolerances specified for the aircraft type concerned, the previously calculated balance conditions need not be corrected.	
	56.	Destination of LMC
	57. Specification	Kind of LMC e.g. B - baggage, C - cargo, M - mail, PAX - passengers, CREW - crew.
	58. Cpt.	Passenger sector code or compartment number.
	59. "+/- "	Identification of on “+” or off-load “-“.
	60. Weight	Weight of LMC stated in Ref. No 57.
	61. LMC Total "+/-"	Identification of LMC, sum total
	62. LMC Total Weight	Resultant weight of all LMC.
	63. LMC +/-	Weight of LMC
Supplementary Information and Notes	**64.** SI	Supplementary Information to be included in LDM. Free format.
	65. Notes	Information not transmitted with LDM.

Balance and Seating Conditions	**66.** Balance Conditions % MAC	Balance Condition in % MAC at ZFW, TOW, LAW
	67. Seating Conditions	PAX - seats occupied by passenger per sectors. SOC- seats occupied by cargo per sectors
	68. Total number of passengers	Total number of passengers on board. Sum of Ref. Nos.45 and LMC e.g. 155 + 2 INF.
Loadsheet Preparation and Acceptance	**69.** Prepared by:	Loadsheet agent's signature.
	70. Approved by:	Signature of authorised person.
Index Calculation – Index Correction Table	**71.** Basic Index	Basic Index as integer.
	72. Crew	Index correction for crew.
	73. Pantry	Index correction for pantry in particular galleys.
	74.	Spare line for index corrections for adjustments to the basic index included in Dry Operating Weight is specified in Ref. No.16.
	75. Sub-Total	Sum of index corrections "-" and "+".
	76. Dry Operating Index	Index correction at Dry Operating Weight. Algebraic sum of index correction "-" and "+".
	77. Compt. 1 Compt. 2, Compt. 3,	Weight of deadload in compartment No.1 and its index correction Similarly other compartments.
	78. Pax. Compt. A Pax. Compt. B, C,	Index correction for passengers in section A. Similarly other sections. Index correction for equivalent passengers shall be written from the same table as for actual passengers (PAX. INDEX TABLE).
	79. Sub-Total	Sum of index corrections "-" and "+".
	80. Zero Fuel Index	Index at Zero Fuel Weight Algebraic sum of index correction "-" and "+"
	81. Take-off Fuel Index	Index correction for take-off fuel
	82. Take-off Index	Index at Take-off Weight.
	83. Last Minute Changes	Index correction for LMC accordingly to Ref. No. 63
	84. Corrected Take-off Index	Index correction at Take-off Weight after LMC.
	85. Flap Position	Flap position at Take-off Weight (except of ATR-72/42, , EMB-145)
	86. STAB TRIM For Take-off	Stab Trim for different flaps positions (Ref. No. 90 for ATR-72/42), for 787 Stab Trim is calculated by FMC
	87. Landing Fuel Weight	Only for ATR-72/42.
	88. Landing Fuel Index	Index correction for landing fuel (only for ATR-72/42)
	89. Landing Index	Index at Landing Weight (only for ATR-72/42)
	90. STAB TRIM For Take-off	Stab Trim for different flaps position (only for ATR-72/42)
Index Corrections Tables	Relation between the weight of deadload and its location on the aircraft expressed in values of index correction is read from the following tables.	

	• Index and Weight Correction Table For Crew, • PAX Index Table, • Fuel Index Table, • Index Correction For Load In PAX Compartments, • Index Correction For Pantry, • Baggage – Cargo Index Tables.
Operational Limits Graph, Stabilizer TRIM Setting	The graph shows COG limits for characteristic aircraft weights – not shaded area. Horizontal index axle determines index value, vertical index axle – weight and diagonal lines - %MAC. To read, from graph, the COG location in % MAC for appropriate aircraft weight, it is necessary to: 1. *draw horizontal line at aircraft weight* 2. *draw vertical line at index corresponding to appropriate weight,* 3. *check if intersection point lies within the operational limits – not shaded area* 4. *read location of intersection point in* ***% MAC.*** **Stabilizer Trim Setting at Take-off** depends on Take-off Weight (TOW), flaps position and Centre of Gravity of an aircraft, and is read from the table *"**STAB TRIM SETTING- FLAP**"*

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3.7 Examples of completed loadsheets

3.7.1 Example 1 – DHC-8-400

	Database
Flight No/Date:	LO3923 / 01 FEB 2021
Routing:	WAW-KRK
Aircraft:	DHC-8-400, reg. marks SP-EQL
Pax cabin configuration:	Y78
Crew:	2/2
Pantry:	FWD galley – 20 kg, AFT galley - 110 kg
Take off Fuel:	3140 kg
Trip Fuel:	790 kg
Taxi Fuel:	60 kg
No operational limits at TOW.	
Passengers:	Male – 18, Female –25, Children – 2, infant –1
Total baggage weight:	B – 380 kg,

BOMBARDIER

DHC-8-400 78 seats

LOADSHEET & LOADMESSAGE

POLISH AIRLINES LOT A STAR ALLIANCE MEMBER

Priority: QU ▶ Addresses: KRKAPLO ▶

Originator: .WAWAPLO ▶ Recharge/Date/Time: LO/011630 ▶ Initials: PD LDM

ALL WEIGHTS IN KILOS

Flight Nr: LO3923 . A/C Registration: SP-EQL . Version: Y78 . Crew: 2/2 /

Date: 01 FEB 2021

		MAXIMUM WEIGHTS FOR	ZERO FUEL	TAKE-OFF	LANDING
BASIC WEIGHT	17653		25855		28009
Crew 2 / 2 / ⊕	320				
Pantry 20 / 110 ⊕	130	Take-off fuel ⊕	3140	Trip fuel ⊕	790
DRY OPERATING WEIGHT ⊜	18103	ALLOWED WEIGHT FOR TAKE-OFF (lowest of a, b, c) ⊜	a 28995	b 28998	c 28799
Take-off fuel 3200 - 60 ⊕	3140	Operating Weight ⊖			21243
OPERATING WEIGHT ⊜	21243	ALLOWED TRAFFIC LOAD ⊜			7556

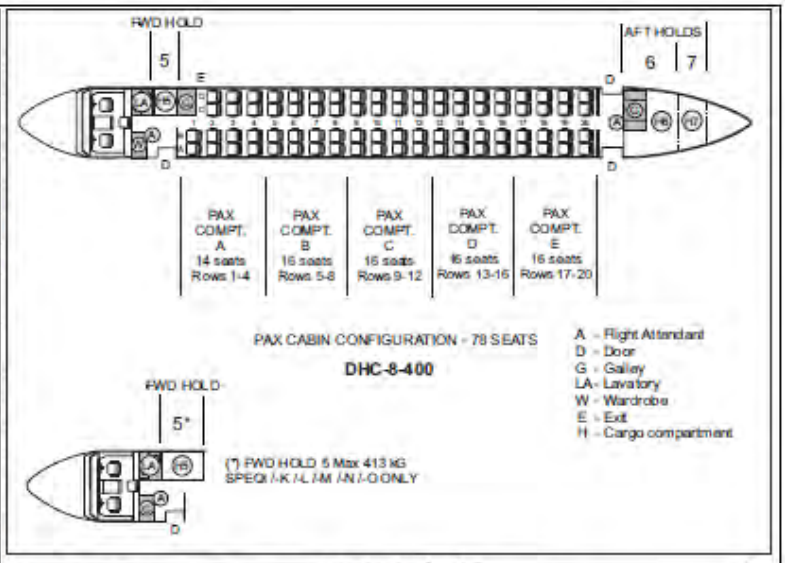
Dest.	No. of Passengers M	F	CH	I	Cab. Bag.	Total				Distribution weight 5	6	7	0	Remarks PAX C	P	Y	PAD C	P	Y
—						Tr													
						B													
						C													
						M								PAX /			PAD /		
•	/	/	/	•		.T				.5/	.6/	.7/	.0/						
—						Tr													
						B													
						C													
						M								PAX /			PAD /		
•	/	/	/	•		.T				.5/	.6/	.7/	.0/						
—						Tr													
K						B		380				380		-	-	45			
R	18	25	2	1		C													
K						M								PAX / 45			PAD /		
•	18/25/2/1			•		.T		380		.5/	.6/	.7/	380 .0/	- / - / 45			/	/	
	18	25	2	1				380				380		-	-	45			

Total Passenger Weight ⊕	3404	ALLOWED TRAFFIC LOAD →	7556	SI	PAX WEIGHT USED M/88 F/70 CH/35 I/0			
TOTAL TRAFFIC LOAD ⊜	3784	→ ⊖	3784					
Dry Operating Weight ⊕	18103	UNDERLOAD BEFORE LMC ⊜	3772					
ZERO FUEL WEIGHT ⊜	21887	LAST MINUTE CHANGES						
25855 LMC ⊕/⊖		Dest.	Specification	Cpt.	+/-	Weight	Notes	
Take-off fuel ⊕	3140							
TAKE-OFF WEIGHT ⊜	25027							
Max. 28998								
28998 LMC ⊕/⊖							Balance Conditions % MAC	
Trip fuel ⊖	790	LMC Total ⊕/⊖					ZFW	19.1
LANDING WEIGHT ⊜	24237	Seating Conditons					TOW	20.6
Max. 28009		Section	A	B	C	D	E	LAW	20.4
28009 LMC ⊕/⊖		PAX	8	10	10	8	9		
		SOC							

Total number of passengers: 46

Check LMC Total with Underload

INDEX CALCULATION	⊖	⊕
BASIC INDEX		42
Crew 2 / 2	9	
Pantry 20 / 110	1	3
Sub - Total	10	45
	→−	10
DRY OPERATING INDEX		35
Compt. 5 Max 231 or 413* kG		
Compt. 6 Max 1140 kG		
Compt. 7 Max 454 kG 380		16
Pax Compt. A 8	19	
Pax Compt. B 10	13	
Pax Compt. C 10	3	
Pax Compt. D 8		6
Pax Compt. E 9		16
Sub - Total	35	73
	→−	35
ZERO FUEL INDEX		38
Take-off Fuel Index 3140		2
TAKE-OFF INDEX		40
Last Minute Changes		
CORRECTED TAKE-OFF INDEX		

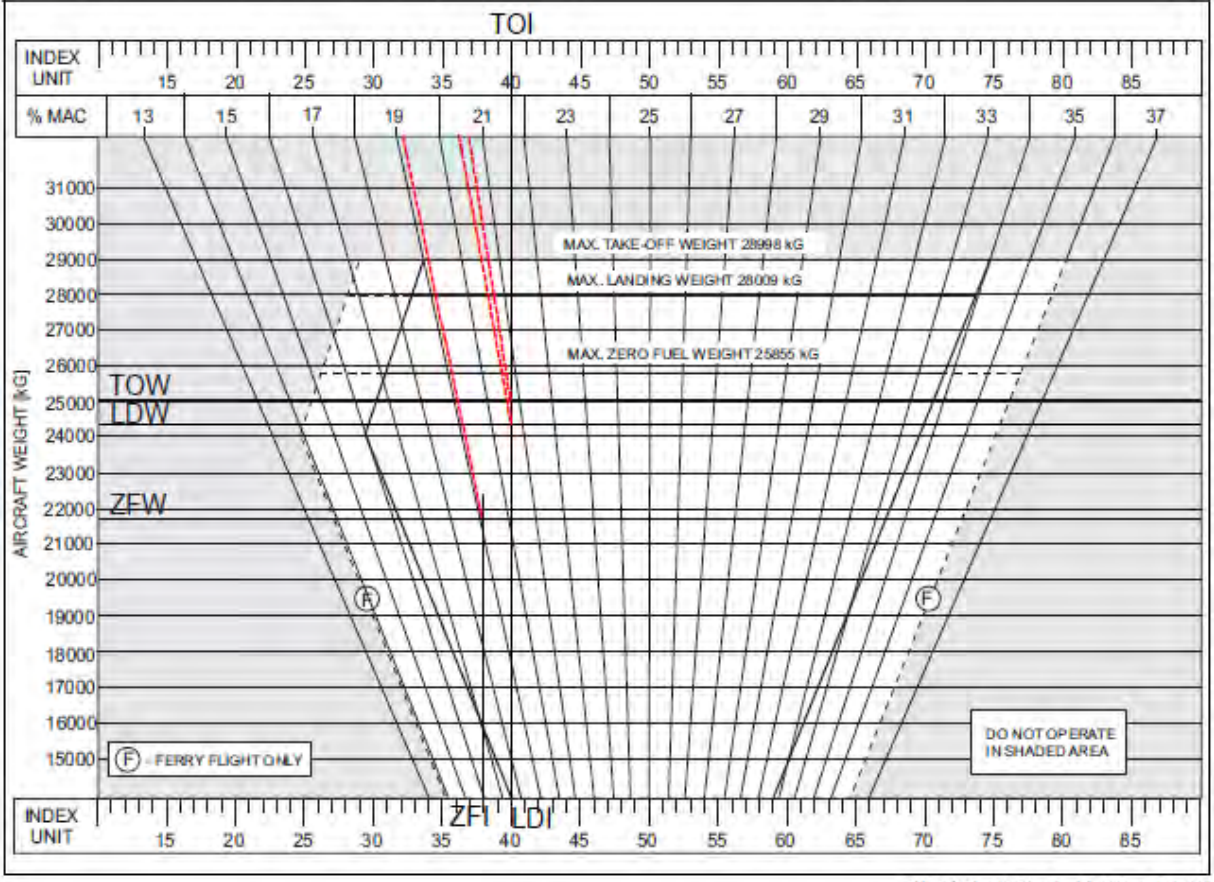


TAKE-OFF FUEL WEIGHT	3	1	4	0
Trip Fuel Weight ⊖		7	9	0
LANDING FUEL WEIGHT	2	3	5	0

Prepared by : P.DZIEDZIC

ZERO FUEL INDEX	3	8
Landing Fuel Index		2
LANDING INDEX	4	0

Approved by : CPT.



DHC-8-400 Load & Trim Sheet, LOT, Rev. 3, Feb 2021

INDEX AND WEIGHT CORRECTION FOR CREW						
Flight Crew / Cabin Crew	2/0	2/2	2/3	3/0	3/2	3/3
Weight [kg]	170	320	395	255	405	480
Index	-8	-9	-7	-12	-12	-10

INDEX CORRECTION FOR PANTRY					
FWD Galley			AFT Galley		
Weight [kg]		Index	Weight [kg]		Index
From	To		From	To	
0	14	0	0	15	0
15	43	-1	16	47	1
44	73	-2	48	79	2
74	102	-3	80	111	3
103	131	-4	112	143	4
132	160	-5	144	175	5
FWD Galley (*)			176	207	6
Weight [kg]		Index	208	239	7
From	To		240	271	8
0	12	0	272	303	9
13	36	-1	304	340	10
37	61	-2			
62	66	-3			

(*) SPEQI -K -L -M -N -O ONLY

Fuel index table	
Weight [kg]	Index
700	0
	1
2000	
TOF 3140	2
3200	
	3
4400	
	4
5500	
(*) 5552	5

LDF 2350

(*) - full tanks at max density (0.851 kg/l)

INDEX CORRECTION FOR PASSENGERS									
Section A		Section B		Section C		Section D		Section E	
PAX	IDX	PAX	IDX	PAX	IDX	PAX	IDX	PAX	IDX
1	-2	1	-1	1	0	1	1	1	2
2	-5	2	-3	2	-1	2	1	2	3
3	-7	3	-4	3	-1	3	2	3	5
4	-9	4	-5	4	-1	4	3	4	7
5	-12	5	-6	5	-1	5	4	5	9
6	-14	6	-8	6	-2	6	4	6	10
7	-16	7	-9	7	-2	7	5	7	12
8	-19	8	-10	8	-2	8	6	8	14
9	-21	9	-12	9	-3	9	6	9	16
10	-23	10	-13	10	-3	10	7	10	17
11	-26	11	-14	11	-3	11	8	11	19
12	-28	12	-16	12	-4	12	9	12	21
13	-30	13	-17	13	-4	13	9	13	22
14	-33	14	-18	14	-4	14	10	14	24
		15	-19	15	-4	15	11	15	26
		16	-21	16	-5	16	11	16	28

INDEX CORRECTION FOR LOAD IN CARGO COMPARTMENTS								
Compartment 5			Compartment 6			Compartment 7		
Weight [kg]		Index	Weight [kg]		Index	Weight [kg]		Index
From	To		From	To		From	To	
0	13	0	0	14	0	0	12	0
14	39	-1	15	42	1	13	36	1
40	66	-2	43	71	2	37	61	2
67	92	-3	72	99	3	62	85	3
93	119	-4	100	128	4	86	109	4
120	145	-5	129	157	5	110	134	5
146	172	-6	158	185	6	135	158	6
173	198	-7	186	214	7	159	183	7
199	231	-8	215	242	8	184	207	8
Compartment 5 (*)			243	271	9	208	232	9
Weight [kg]		Index	272	299	10	233	256	10
From	To		300	328	11	257	280	11
0	13	0	329	356	12	281	305	12
14	41	-1	357	385	13	306	329	13
42	68	-2	386	413	14	330	354	14
69	96	-3	414	442	15	355	378	15
97	124	-4	443	471	16	379	403	16
125	151	-5	472	499	17	404	427	17
152	179	-6	500	528	18	428	454	18
180	206	-7	529	556	19			
207	234	-8	557	585	20			
235	261	-9	586	613	21			
262	289	-10	614	642	22			
290	317	-11	643	670	23			
318	344	-12	671	699	24			
345	372	-13	700	728	25			
373	399	-14	729	756	26			
400	413	-15	757	785	27			
(*) SPEQI -K -L -M -N -O ONLY			786	813	28			
			814	842	29			
			843	870	30			
			871	899	31			
			900	927	32			
			928	956	33			
			957	984	34			
			985	1013	35			
			1014	1042	36			
			1043	1070	37			
			1071	1099	38			
			1100	1127	39			
			1128	1140	40			

Caution:
Maximum cummulative load for compartments 6 & 7 must not exceed 1140 kg

POLISH AIRLINES
A STAR ALLIANCE MEMBER

DHC-8-400

BOMBARDIER Q400NextGen

DHC-8-400 Load & Trim Sheet, LOT, Rev 3, Feb 2021

3.7.2 Example 2 – ERJ 170–100

	Database
Flight No/Date:	LO437 / 01 MAY 2022
Routing:	WAW-BCN
Aircraft:	ERJ - 170, reg. marks SP-LDH
Pax cabin configuration:	C8Y60
Crew:	2/2
Pantry:	FWD galley – 110 kg, AFT galley - 240 kg
Potable water:	100%
Take off Fuel:	7000 kg
Trip Fuel:	5000 kg
Taxi Fuel:	150 kg
No operational limits at TOW.	
Passengers:	Male – 30, Female – 20, Children – 5, infant –0
Total baggage weight:	B – 1100 kg,
Total cargo weight:	C – 500 kg,

ERJ-170 76 seats LOADSHEET & LOADMESSAGE

POLSKIE LINIE LOTNICZE - POLISH AIRLINES LOT

Priority: QU ▶ Addresses: BCNAPLO ▶ ▶ ▶

Originator: WAWAPLO ▶ Recharge/Date/Time: LO/01140 0 ▶ Initials: PD LDM

ALL WEIGHTS IN KILOS

Date: 01 / MAY / 2022

Flight Nr: LO437 Δ SP-LDH Δ A/C Registration Version: C8Y60 Δ Crew: 2/2/

		ZERO FUEL	TAKE-OFF	LANDING
BASIC WEIGHT	21381	MAXIMUM WEIGHTS FOR	29600	32800
Crew 2 / 2 / ⊕	320			
Pantry 110 / 240 ⊕	350	Take-off fuel ⊕	7000	5000
			Trip fuel ⊕	
DRY OPERATING WEIGHT ⊖	22051	ALLOWED WEIGHT FOR TAKE-OFF (lowest of a, b, c) ⊖	a 36600 b 35990 c 37800	
Take-off fuel 7150 - 150 TX ⊕	7000	Operating Weight ⊖	29051	
OPERATING WEIGHT ⊜	29051	ALLOWED TRAFFIC LOAD ⊜	6939	

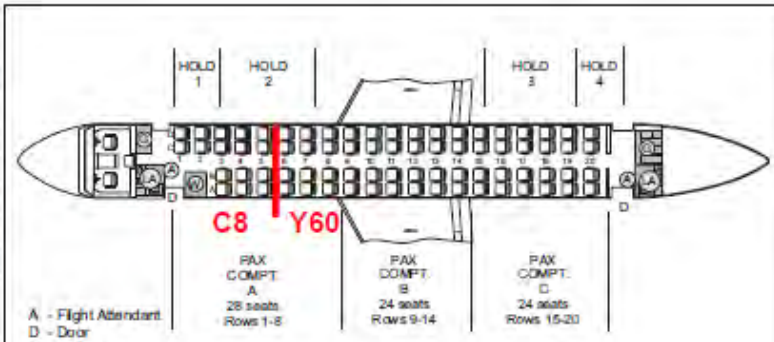
Dest.	No. of Passengers M	F	CH	I	Cab. Bag.		Total	Distribution weight 1	2	3	4	0	Remarks PAX C	P	Y	PAD C	P	Y
—						Tr												
						B												
						C												
						M							PAX / /			PAD / /		
•	/	/	/	•		.T		.1/	.2/	.3/	.4/	.0/						
—						Tr												
						B												
						C												
						M							PAX / /			PAD / /		
•	/	/	/	•		.T		.1/	.2/	.3/	.4/	.0/						
—						Tr												
B						B	1100	350	750				6		49			
C	30	20	5	0		C	500			300	200		PAX / 55 6 /		/49	PAD / /		
N						M												
•	30/20/5/0 •					.T	1600	01/ 350	.2/ 750	.3/ 300	.4/ 200	.0/						
	30	20	5	0			1600	350	750	300	200		6		49			

Total Passenger Weight ⊕	4215	ALLOWED TRAFFIC LOAD →	6939	SI ▶	PAX WEIGHT USED M/88 F/70 CH/35 I/0
TOTAL TRAFFIC LOAD ⊖	5815	→ ⊖	5815		WATER 100%
Dry Operating Weight ⊕	22051	UNDERLOAD BEFORE LMC ⊖	1124		
ZERO FUEL WEIGHT ⊖	27866	LAST MINUTE CHANGES			
29600 LMC ⊕/⊖		Dest. / Specification / Cpt. / +/- / Weight			Notes
Take-off fuel ⊕	7000				
TAKE-OFF WEIGHT ⊖	34866				
Max. 35990 35990 LMC ⊕/⊖		LMC Total ⊕/⊖			Balance Conditions % MAC
Trip fuel ⊖	5000				ZFW 20.6
LANDING WEIGHT ⊖	29866	Seating Conditons		Total number of passengers	TOW 17.0
Max. 32800 32800 LMC ⊕/⊖		Section A B C			
		PAX 18 15 22		55	
		SOC			

Check LMC Total with Underload

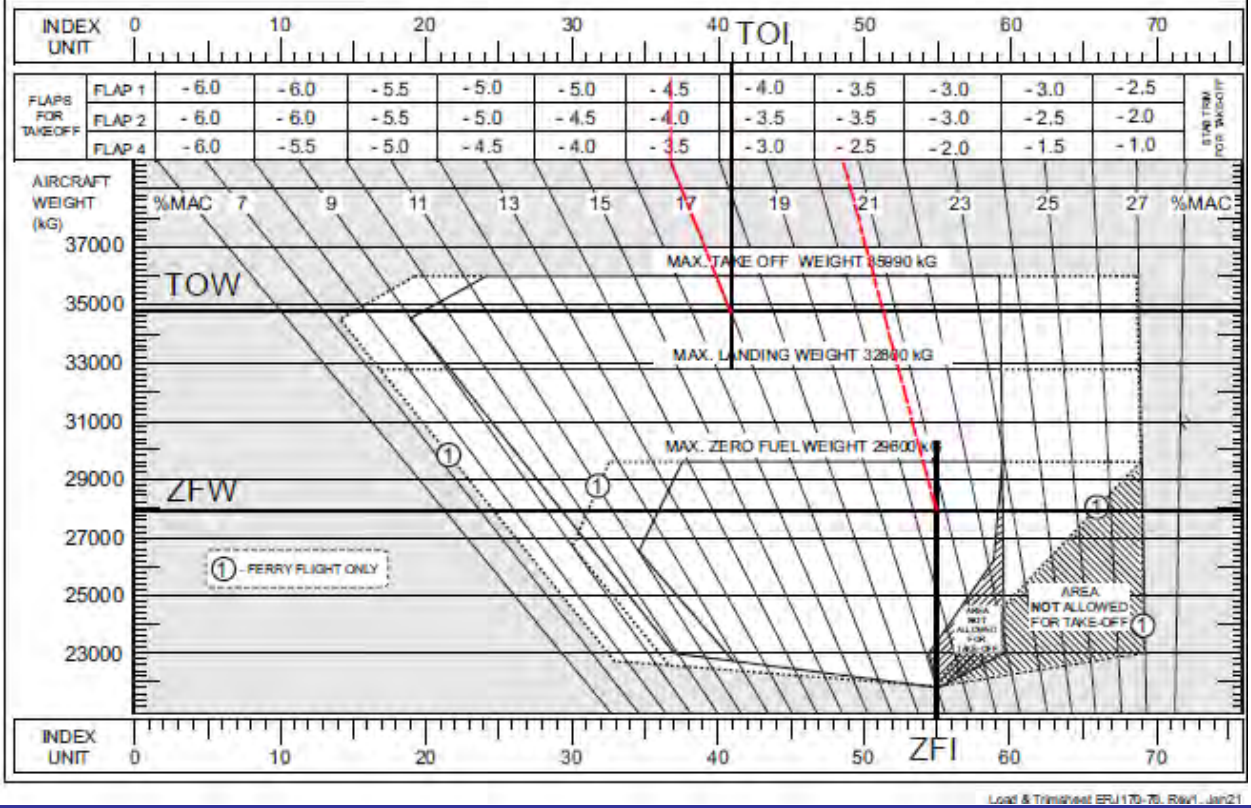
TRIM CHART

INDEX CALCULATION	⊖	⊕
BASIC INDEX		64
Crew 2/2	5	
Pantry 110/240	3	5
Sub - Total	8	69
	↳ −	8
DRY OPERATING INDEX		61
Compt. 1 Max 457 kG 350	7	
Compt. 2 Max 913 kG 750	10	
Compt. 3 Max 686 kG 300		3
Compt. 4 Max 344 kG 200		3
FWD Pax Compt. A 18	19	
MID Pax Compt. B 15		1
AFT Pax Compt. C 22		23
Sub - Total	36	91
	↳ −	36
ZERO FUEL INDEX		55
Take-off Fuel Index 7000	14	
TAKE-OFF INDEX		41
Last Minute Changes		
CORRECTED TAKE-OFF INDEX		



TAKE-OFF WEIGHT	FLAPS FOR TAKE-OFF	STAB TRIM FOR TAKE-OFF
34866	1/2/4	-4.5/-4.0/-3.5

Prepared by:	Approved by:
P.DZIEDZIC	CPT.



Load & Trimsheet ERJ170-76, Rev1, Jan21

INDEX AND WEIGHT CORRECTION TABLE FOR CREW				
Cockpit Crew / Cabin Crew	**2 / 2**	**2 / 0**	**3 / 2**	**3 / 0**
Weight (kG)	320	170	405	255
Index Units	- 5	- 5	- 7	- 7

FUEL INDEX TABLE	
Weight (kG)	Index Units
0 - 320	0
321 - 650	- 1
651 - 1140	- 2
1141 - 1460	- 3
1461 - 1950	- 4
1951 - 2430	- 5
2431 - 2760	- 6
2761 - 3250	- 7
3251 - 3730	- 8
3731 - 4220	- 9
4221 - 4700	- 10
4701 - 5350	- 11
5351 - 5840	- 12
5841 - 6490	- 13
6491 - 8430	- 14
8431 - 8920	- 13
8921 - 9250	- 12
9251 - 9470	- 11

EMBRAER

ERJ 170
76 seats

INDEX CORRECTION FOR PANTRY			
FWD Galley		AFT Galley	
Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 20	0	0 - 23	0
21 - 61	- 1	24 - 69	1
62 - 101	- 2	70 - 113	2
102 - 110	- 3	114 - 159	3
		160 - 205	4
		206 - 249	5
		250 - 295	6
		296 - 341	7
		342 - 353	8

POTABLE WATER(*)		
Load	Weight	Index
0%	-110	-2
25%	- 82	-2
50%	- 55	-1
75%	- 27	-1
100%	0	0

(*) - 100% included in Basic Weight

BAGGAGE - CARGO INDEX TABLES							
COMPT. 1		COMPT. 2		COMPT. 3		COMPT. 4	
Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 29	0	0 - 39	0	0 - 49	0	0 - 29	0
30 - 79	- 1	40 - 119	- 1	50 - 139	1	30 - 89	1
80 - 129	- 2	120 - 189	- 2	140 - 229	2	90 - 149	2
130 - 179	- 3	190 - 259	- 3	230 - 309	3	150 - 209	3
180 - 229	- 4	260 - 339	- 4	310 - 399	4	210 - 269	4
230 - 279	- 5	340 - 409	- 5	400 - 489	5	270 - 329	5
280 - 329	- 6	410 - 489	- 6	490 - 579	6	330 - 344	6
330 - 369	- 7	490 - 559	- 7	580 - 669	7		
370 - 419	- 8	560 - 629	- 8	670 - 686	8		
420 - 457	- 9	630 - 709	- 9				
		710 - 779	- 10				
		780 - 859	- 11				
		860 - 913	- 12				

PAX INDEX TABLE											
ALL FLIGHTS EXCEPT HOLIDAY CHARTERS						HOLIDAY CHARTERS ONLY					
COMPT. A 28 Max PAX		COMPT. B 24 Max PAX		COMPT. C 24 Max PAX		COMPT. A 28 Max PAX		COMPT. B 24 Max PAX		COMPT. C 24 Max PAX	
PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit
1	- 1	0 - 6	0	1	1	1	- 1	0 - 6	0	1	1
2	- 2	7 - 18	1	2	2	2	- 2	7 - 20	1	2	2
3	- 3	19 - 24	2	3	3	3	- 3	21 - 24	2	3	3
4	- 4			4	4	4	- 4			4	4
5	- 5			5	5	5	- 5			5	5
6	- 6			6	6	6	- 6			6	6
7	- 7			7	7	7	- 7			7	7
8	- 8			8	8	8	- 8			8	8
9	- 9			9	9	9	- 8			9	8
10	- 10			10	10	10	- 9			10	9
11	- 11			11	11	11	- 10			11	10
12	- 13			12	12	12	- 11			12	11
13	- 14			13	14	13	- 12			13	12
14	- 15			14	15	14	- 13			14	13
15	- 16			15	16	15	- 14			15	14
16	- 17			16	17	16	- 15			16	15
17	- 18			17	18	17	- 16			17	16
18	- 19			18	19	18	- 17			18	17
19	- 20			19	20	19	- 18			19	18
20	- 21			20	21	20	- 19			20	19
21	- 22			21	22	21	- 20			21	20
22	- 23			22	23	22	- 21			22	21
23	- 24			23	24	23	- 22			23	22
24	- 25			24	25	24	- 23			24	23
25	- 26					25	- 24				
26	- 27					26	- 25				
27	- 28					27	- 25				
28	- 29					28	- 26				

Load & Trimsheet ERJ170-76, Rev1, Jan21

3.7.3 Example 3 – ERJ 190-100

	Database
Flight No/Date:	LO9001 / 01 FEB 2021
Routing:	WRO-WAW
Aircraft:	SP-LMB
Pax cabin configuration:	Y106
Crew:	2/0
Pantry:	0 / 0
Potable water:	50%
Take off Fuel:	4200kg
Trip Fuel:	1600 kg
Taxi Fuel:	150 kg
No operational limits at TOW.	
Passengers:	Male – 0, Female – 0, Children – 0, infant – 0
Deadload:	B – 0 kg, C – 0 kg, M – 0 kg

ERJ 190-100

106 seats

LOADSHEET & LOADMESSAGE

POLSKIE LINIE LOTNICZE · POLISH AIRLINES LOT

Priority: QU ▶ Addresses: WAWAPLO ▶

Originator: WROAPLO ▶ Recharge/Date/Time: LO/011400 ▶ Initials: PD LDM

ALL WEIGHTS IN KILOS

Date: 01 / FEB / 2021

Flight Nr: LO9001 • A/C Registration: SP-LMB • Version: Y106 • Crew: 2/0

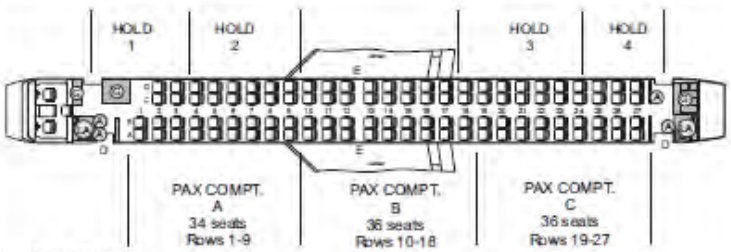
		ZERO FUEL	TAKE-OFF	LANDING
BASIC WEIGHT	28206	MAXIMUM WEIGHTS FOR	40800	43000
Crew 2/0/ ⊕	170			
Pantry / ⊕		Take-off fuel ⊕	4200	1600
WATER 50% ⊖	55		→ ⊕ Trip fuel	
DRY OPERATING WEIGHT ⊜	28321	ALLOWED WEIGHT FOR TAKE-OFF (lowest of a, b, c) ⊜	a 45000 b 47790 c	44600
Take-off fuel 4350 - 150 ⊕	4200	Operating Weight ⊖		32521
OPERATING WEIGHT ⊜	32521	ALLOWED TRAFFIC LOAD ⊜		12079

Dest.	No. of Passengers M	F	CH	I	Cab. Bag.		Total	Distribution weight 1	2	3	4	0	Remarks PAX C	P	Y	PAD C	P	Y
—						Tr												
						B												
						C							PAX /			PAD /		
						M							/			/		
•	/	/	/	•		.T		.1/	.2/	.3/	.4/	.0/						
—						Tr												
						B												
						C							PAX /			PAD /		
						M							/			/		
•	/	/	/	•		.T		.1/	.2/	.3/	.4/	.0/						
—						Tr												
W						B												
A	0	0	0	0		C							PAX /			PAD /		
W						M							/			/		
•	0/0/0/0				•	.T	-	.1/	.2/	.3/	.4/	.0/						
	0000																	

Total Passenger Weight ⊕	--	ALLOWED TRAFFIC LOAD →	12079 SI	FERRY FLT.	
TOTAL TRAFFIC LOAD ⊜	--	→ ⊖	--		
Dry Operating Weight ⊕	28321	UNDERLOAD BEFORE LMC ⊜	12079		
ZERO FUEL WEIGHT ⊜	28321	LAST MINUTE CHANGES			
40800 LMC ⊕/⊖		Dest. / Specification / Cpt. / +/- / Weight		Notes	
Take-off fuel ⊕	4200				
TAKE-OFF WEIGHT ⊜	32521				
Max. 47790 47790 LMC ⊕/⊖				Balance Conditions % MAC	
Trip fuel ⊖	1600	LMC Total ⊕/⊖		ZFW	22.2
LANDING WEIGHT ⊜	30921	Seating Conditons: Section / A / B / C	Total number of passengers	TOW	19.2
Max. 43000 43000 LMC ⊕/⊖		PAX / SOC	0		

Check LMC Total with Underload

INDEX CALCULATION	⊖	⊕
BASIC INDEX		72
Crew 2 / 0	5	
Pantry		
WATER 50%	1	
Sub - Total	6	72
	→ −	6
DRY OPERATING INDEX		66
Compt. 1 Max 870 kG		
Compt. 2 Max 980 kG		
Compt. 3 Max 1100 kG		
Compt. 4 Max 550 kG		
FWD Pax Compt. A		
MID Pax Compt. B		
AFT Pax Compt. C		
Sub - Total		
	→ −	
ZERO FUEL INDEX		66
Take-off Fuel Index 4200	7	
TAKE-OFF INDEX		59
Last Minute Changes		
CORRECTED TAKE-OFF INDEX		



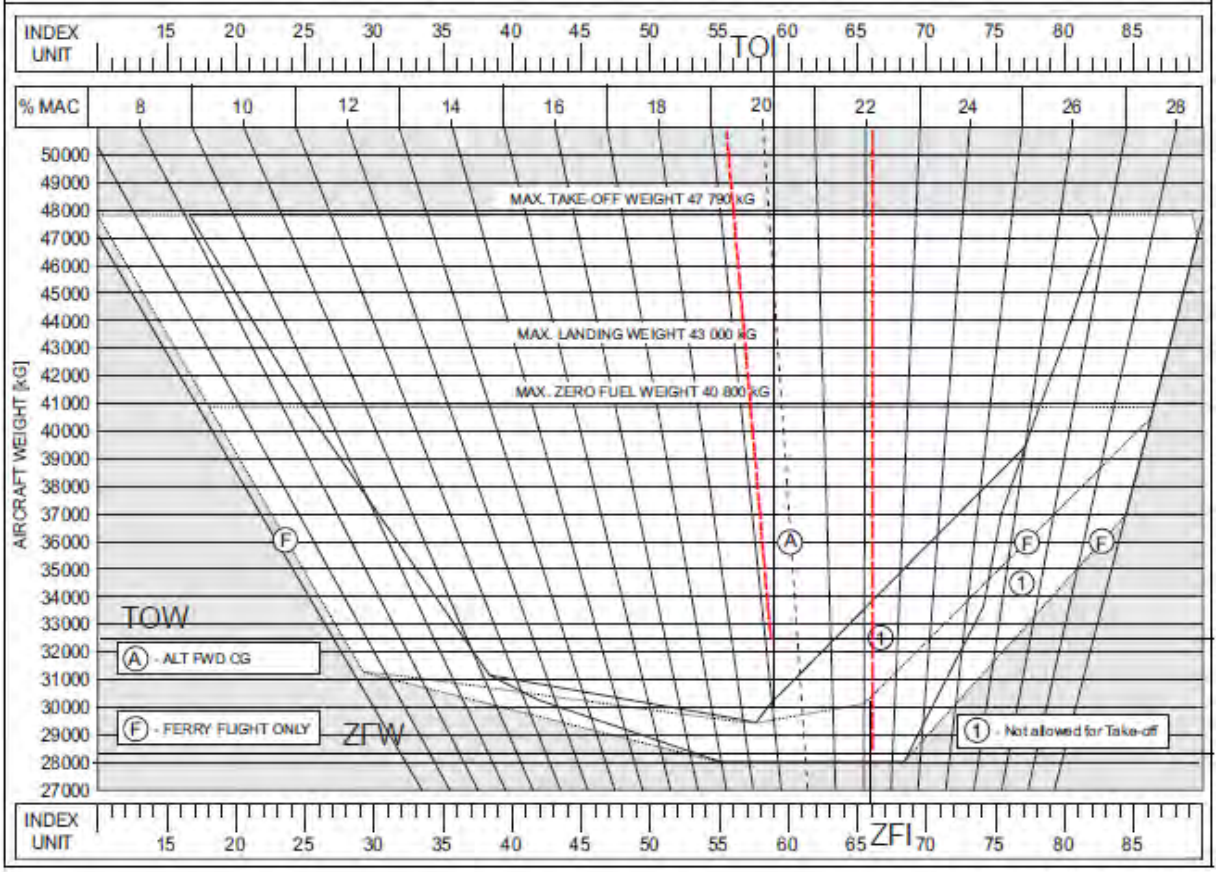
TAKE-OFF WEIGHT	FLAPS FOR TAKE-OFF	STAB TRIM FOR TAKE-OFF
32494	2	0,2 UP

Prepared by: P.DZIEDZIC Approved by: CPT.

STAB TRIM SETTING FOR TAKE-OFF - FLAPS 2 ONLY

Take-off Weight (1000kG)	% MAC 7	9	11	13	15	17	19	21	23	25	27	29
52	3.5 UP	3.5 UP	3.4 UP	3.0 UP	2.7 UP	2.4 UP	2.1 UP	1.7 UP	1.4 UP	1.0 UP	0.6 UP	0.2 UP
50	3.5 UP	3.5 UP	3.2 UP	2.8 UP	2.5 UP	2.2 UP	1.9 UP	1.5 UP	1.2 UP	0.8 UP	0.4 UP	0
48	3.5 UP	3.5 UP	3.1 UP	2.7 UP	2.4 UP	2.1 UP	1.7 UP	1.4 UP	1.0 UP	0.7 UP	0.3 UP	0.1 DN
46	3.5 UP	3.3 UP	3.0 UP	2.6 UP	2.3 UP	1.9 UP	1.6 UP	1.3 UP	0.9 UP	0.6 UP	0.2 UP	0.2 DN
44	3.4 UP	3.1 UP	2.8 UP	2.4 UP	2.1 UP	1.7 UP	1.4 UP	1.1 UP	0.7 UP	0.4 UP	0	0.4 DN
42	3.3 UP	2.9 UP	2.6 UP	2.2 UP	1.9 UP	1.6 UP	1.3 UP	1.0 UP	0.6 UP	0.2 UP	0.2 DN	0.4 DN
40	3.0 UP	2.7 UP	2.4 UP	2.0 UP	1.7 UP	1.4 UP	1.1 UP	0.8 UP	0.4 UP	0	0.3 DN	0.5 DN
38	2.8 UP	2.4 UP	2.1 UP	1.7 UP	1.5 UP	1.2 UP	0.9 UP	0.5 UP	0.2 UP	0.2 DN	0.4 DN	0.5 DN
36	2.6 UP	2.2 UP	1.9 UP	1.5 UP	1.3 UP	1.0 UP	0.7 UP	0.3 UP	0	0.4 DN	0.5 DN	0.5 DN
34	2.3 UP	2.0 UP	1.6 UP	1.3 UP	1.1 UP	0.8 UP	0.5 UP	0.1 UP	0.2 DN	0.4 DN	0.5 DN	0.5 DN
32	2.0 UP	1.7 UP	1.3 UP	1.1 UP	0.8 UP	0.5 UP	0.2 UP	0.1 DN	0.5 DN	0.5 DN	0.5 DN	0.5 DN
30	1.8 UP	1.5 UP	1.1 UP	0.8 UP	0.6 UP	0.3 UP	0	0.3 DN	0.5 DN	0.5 DN	0.5 DN	0.5 DN

REFER TO QUICK REFERENCE HANDBOOK (QRH) FOR STAB TRIM SETTING FOR TAKE-OFF FOR FLAPS 1, FLAPS 3 AND FLAPS 4



Load & Trimsheet ERJ 190-100. Rev 1. Jan21

EMBRAER
ERJ 190-100

INDEX AND WEIGHT CORRECTION TABLE FOR CREW

Cockpit Crew / Cabin Crew	2 / 3	2 / 4	2 / 0	3 / 3	3 / 4	3 / 0
Weight (kG)	395	470	170	480	555	255
Index Units	- 7	- 5	- 5	- 9	- 7	- 7

POTABLE WATER(*)

Load	Weight	Index
0%	-110	-3
25%	- 82	-2
50%	- 55	-1
75%	- 27	-1
100%	0	0

(*) - 100% included in Basic Weight

FUEL INDEX TABLE

Weight (kG)	Index Units
0 - 400	0
401 - 900	- 1
901 - 1400	- 2
1401 - 1900	- 3
1901 - 2500	- 4
2501 - 3000	- 5
3001 - 3600	- 6
3601 - 4200	- 7
4201 - 4800	- 8
4801 - 5400	- 9
5401 - 6100	- 10
6101 - 6800	- 11
6801 - 7500	- 12
7501 - 8300	- 13
8301 - 9200	- 14
9201 - 10300	- 15
10301 - 11200	- 14
11201 - 11700	- 13
11701 - 12100	- 12
12101 - 12400	- 11
12401 - 12700	- 10
12701 - 13000	- 9
13001 - 13730 (*)	- 8

(*)-Full tanks at max density (0.85 kg/l)

INDEX CORRECTION FOR PANTRY

FWD Galley		AFT Galley	
Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 21	0	0 - 20	0
22 - 64	- 1	21 - 61	1
65 - 108	- 2	62 - 102	2
109 - 151	- 3	103 - 142	3
152 - 194	- 4	143 - 183	4
195 - 238	- 5	184 - 224	5
239 - 281	- 6	225 - 265	6
282 - 324	- 7	266 - 306	7
325 - 367	- 8	307 - 347	8
368 - 411	- 9	348 - 387	9
412 - 454	-10	388 - 428	10
455 - 497	-11	429 - 469	11
498 - 541	-12	470 - 510	12
542 - 584	-13	511 - 534	13
585 - 627	-14		
628 - 670	-15		
671 - 699	-16		

PAX INDEX TABLE

ALL FLIGHTS EXCEPT HOLIDAY CHARTERS						HOLIDAY CHARTERS ONLY					
COMPT. A 34 Max PAX		COMPT. B 36 Max PAX		COMPT. C 36 Max PAX		COMPT. A 34 Max PAX		COMPT. B 36 Max PAX		COMPT. C 36 Max PAX	
PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit
1	- 1	0 - 9	0	1	1	1	- 1	0 - 11	0	1	1
2	- 2	10 - 29	1	2	3	2	- 2	12 - 33	1	2	2
3	- 3	30 - 36	2	3	4	3	- 3	34 - 36	2	3	3
4	- 5			4	5	4	- 4			4	5
5	- 6			5	6	5	- 5			5	6
6	- 7			6	8	6	- 6			6	7
7	- 8			7	9	7	- 7			7	8
8	- 9			8	10	8	- 8			8	9
9	- 10			9	11	9	- 9			9	10
10	- 11			10	13	10	- 10			10	11
11	- 13			11	14	11	- 11			11	12
12	- 14			12	15	12	- 12			12	14
13	- 15			13	16	13	- 13			13	15
14	- 16			14	18	14	- 14			14	16
15	- 17			15	19	15	- 15			15	17
16	- 18			16	20	16	- 17			16	18
17	- 19			17	21	17	- 18			17	19
18	- 21			18	23	18	- 19			18	20
19	- 22			19	24	19	- 20			19	22
20	- 23			20	25	20	- 21			20	23
21	- 24			21	26	21	- 22			21	24
22	- 25			22	28	22	- 23			22	25
23	- 26			23	29	23	- 24			23	26
24	- 27			24	30	24	- 25			24	27
25	- 29			25	31	25	- 26			25	28
26	- 30			26	33	26	- 27			26	30
27	- 31			27	34	27	- 28			27	31
28	- 32			28	35	28	- 29			28	32
29	- 33			29	36	29	- 30			29	33
30	- 34			30	38	30	- 31			30	34
31	- 35			31	39	31	- 32			31	35
32	- 37			32	40	32	- 33			32	36
33	- 38			33	41	33	- 34			33	37
34	- 39			34	43	34	- 35			34	39
				35	44					35	40
				36	45					36	41

BAGGAGE - CARGO INDEX TABLES

COMPT. 1		COMPT. 2		COMPT. 3		COMPT. 4	
Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units	Weight (kG)	Index Units
0 - 24	0	0 - 40	0	0 - 44	0	0 - 27	0
25 - 74	- 1	41 - 122	- 1	45 - 134	1	28 - 83	1
75 - 124	- 2	123 - 204	- 2	135 - 223	2	84 - 138	2
125 - 174	- 3	205 - 286	- 3	224 - 313	3	139 - 194	3
175 - 224	- 4	287 - 368	- 4	314 - 402	4	195 - 249	4
225 - 274	- 5	369 - 450	- 5	403 - 492	5	250 - 305	5
275 - 324	- 6	451 - 532	- 6	493 - 581	6	306 - 360	6
325 - 374	- 7	533 - 614	- 7	582 - 671	7	361 - 416	7
375 - 424	- 8	615 - 696	- 8	672 - 760	8	417 - 471	8
425 - 474	- 9	697 - 778	- 9	761 - 850	9	472 - 527	9
475 - 524	- 10	779 - 860	- 10	851 - 939	10	528 - 550	10
525 - 574	- 11	861 - 942	- 11	940 - 1029	11		
575 - 624	- 12	943 - 980	- 12	1030 - 1100	12		
625 - 673	- 13						
674 - 723	- 14						
724 - 773	- 15						
774 - 823	- 16						
824 - 870	- 17						

Load & Trimsheet ERJ 190-100, Rev 1, Jan21

3.7.4 Example 4 – B737-86N

	Database
Flight No/Date:	LO281 / 26 APR 2022
Routing:	WAW-LHR
Aircraft:	SP-LWF
Pax cabin configuration:	C20Y156
Crew:	2/4
Pantry:	380 / 410
Take off Fuel:	8200kg
Trip Fuel:	5600 kg
Taxi Fuel:	200 kg
No operational limits at TOW.	
Passengers:	Male – 50, Female – 50, Children – 15, infant – 0
Deadload:	B – 1725 kg, C – 4360 kg, M – 320 kg

B737-86N 186 seats

LOADSHEET & LOADMESSAGE

POLISH AIRLINES LOT A STAR ALLIANCE MEMBER

Priority: QU ▶ Addresses: LHRAPLO ▶ ≦

Originator: ● WAWAPLO ▶ Recharge/Date/Time: LO/011200 ▶ Initials: PD ≦ LDM ≦

Flight Nr: LO281 ● A/C Registration: SP-LWF ● Version: C20Y156 ● Crew: 2/4 / ≦

ALL WEIGHTS IN KILOS

Date: 26 APR 2022

			ZERO FUEL	TAKE-OFF	LANDING
BASIC WEIGHT	41833	MAXIMUM WEIGHTS FOR	62731		66360
Crew 2/4 / ⊕	470				
Pantry 390 / 410 ⊕	800	Take-off fuel ⊕	8200	→ ⊕ Trip fuel	5600
DRY OPERATING WEIGHT ⊜	43103	ALLOWED WEIGHT FOR TAKE-OFF (lowest of a, b, c) ⊜	a 71931	b 76000	c 71960
Take-off fuel ⊕ 8400 200	8200	Operating Weight ⊖	51303		
OPERATING WEIGHT ⊜	51303	ALLOWED TRAFFIC LOAD ⊜	20628		

Dest.	No. of Passengers M	F	CH	I	Cab. Bag.		Total	Distribution weight 1	2	3	4	0	Remarks PAX C	P	Y	PAD C	P	Y
—						Tr												
						B												
						C												
						M							PAX /			PAD /		
●	/	/	/	●		.T		.1/	.2/	.3/	.4/	.0/	/			/		
—						Tr												
						B												
						C												
						M							PAX /			PAD /		
●	/	/	/	●		.T		.1/	.2/	.3/	.4/	.0/	/			/		
—						Tr												
L H R	50	50	15	0		B	1725			1400	325		10		105			
						C	43600		2100	1900		360	PAX / 115			PAD /		
						M	3200	320					10/		/ 105	/		
●	50/	50/	15/	0 ●		.T	64005	.1/ 320	.2/ 2100	.3/ 3300	.4/ 325	.0/ 360						
	50	50	15	0			64005	320	2100	3300	325	360	10		105			

Total Passenger Weight ⊕	84255	ALLOWED TRAFFIC LOAD →	20628	SI ▶ PAX WEIGHT USED F => 23% ALT. WEIGHTS M/88 F/70 CH/35 I/0																
TOTAL TRAFFIC LOAD ⊜	14830	→ ⊖	14830																	
Dry Operating Weight ⊕	43103	UNDERLOAD BEFORE LMC ⊜	5798																	
ZERO FUEL WEIGHT ⊜	57933	LAST MINUTE CHANGES																		
62731 LMC ⊕/⊖		Dest.	Specification	Cpt.	+/-	Weight														
Take-off fuel ⊕	8200																			
TAKE-OFF WEIGHT ⊜	66133																			
Max. 79015																				
76000 LMC ⊕/⊖		LMC Total ⊕/⊖																		
Trip fuel ⊖	5600																			
LANDING WEIGHT ⊜	60533	Seating Conditons																		
Max. 66360		Section	A	B	C															
66360 LMC ⊕/⊖		PAX	26	49	40															
		SOC			360															

Check LMC Total with Underload

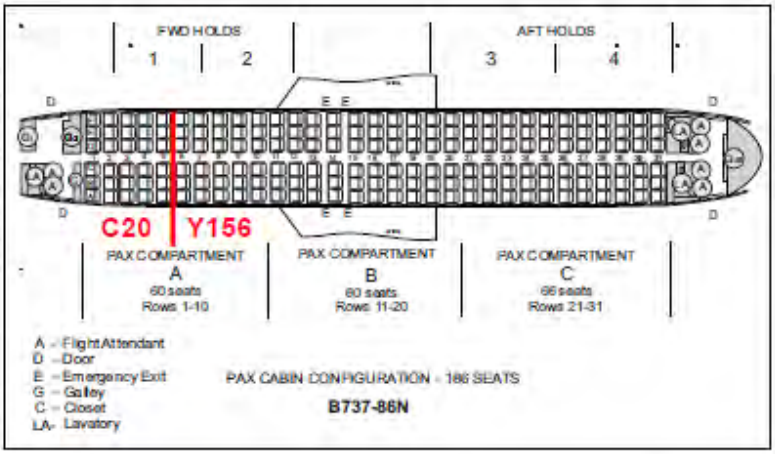
Total number of passengers: 115

Notes: CARGO ON BOARD 360/84=4,2 PAX INDEX CORRECTION FOR 4 PAX

Balance Conditions % MAC: ZFW 25.6 TOW 28.1

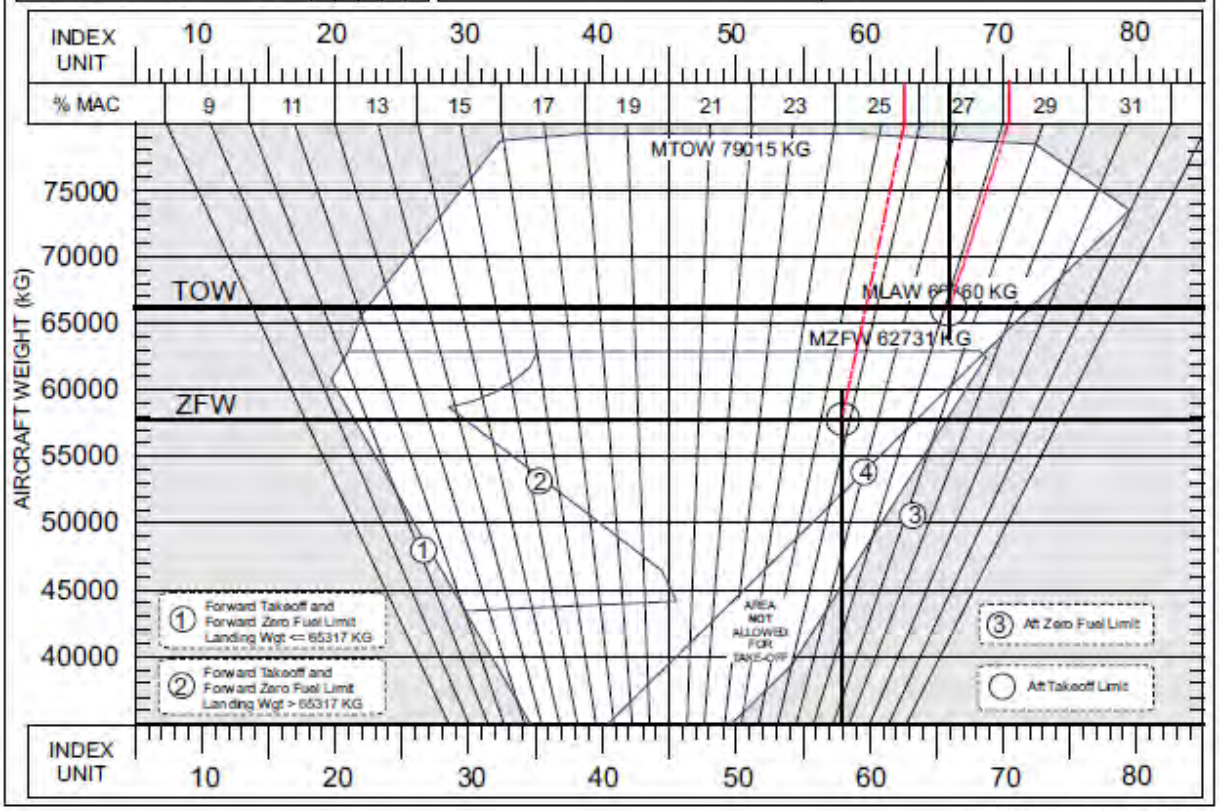
TRIM CHART

INDEX CALCULATION	⊖	⊕
BASIC INDEX		47
Crew 2 / 4	3	
Pantry 390 / 410	5	6
Sub - Total	8	53
		8
DRY OPERATING INDEX		45
Compt. 1 Max 814 kG (3 2 0)	3	
Compt. 2 Max 2440 kG (2 1 0 0)	1 4	
Compt. 3 Max 3467 kG (3 3 0 0)		17
Compt. 4 Max 570 kG (3 2 5)		3
FWD Pax Compt. A /26	18	
MID Pax Compt. B /49	1	
AFT Pax Compt. C /40 + 4		28
Sub - Total	35	93
		35
ZERO FUEL INDEX		58
Take-off Fuel Index		8
TAKE-OFF INDEX		66
Last Minute Changes		
CORRECTED TAKE-OFF INDEX		

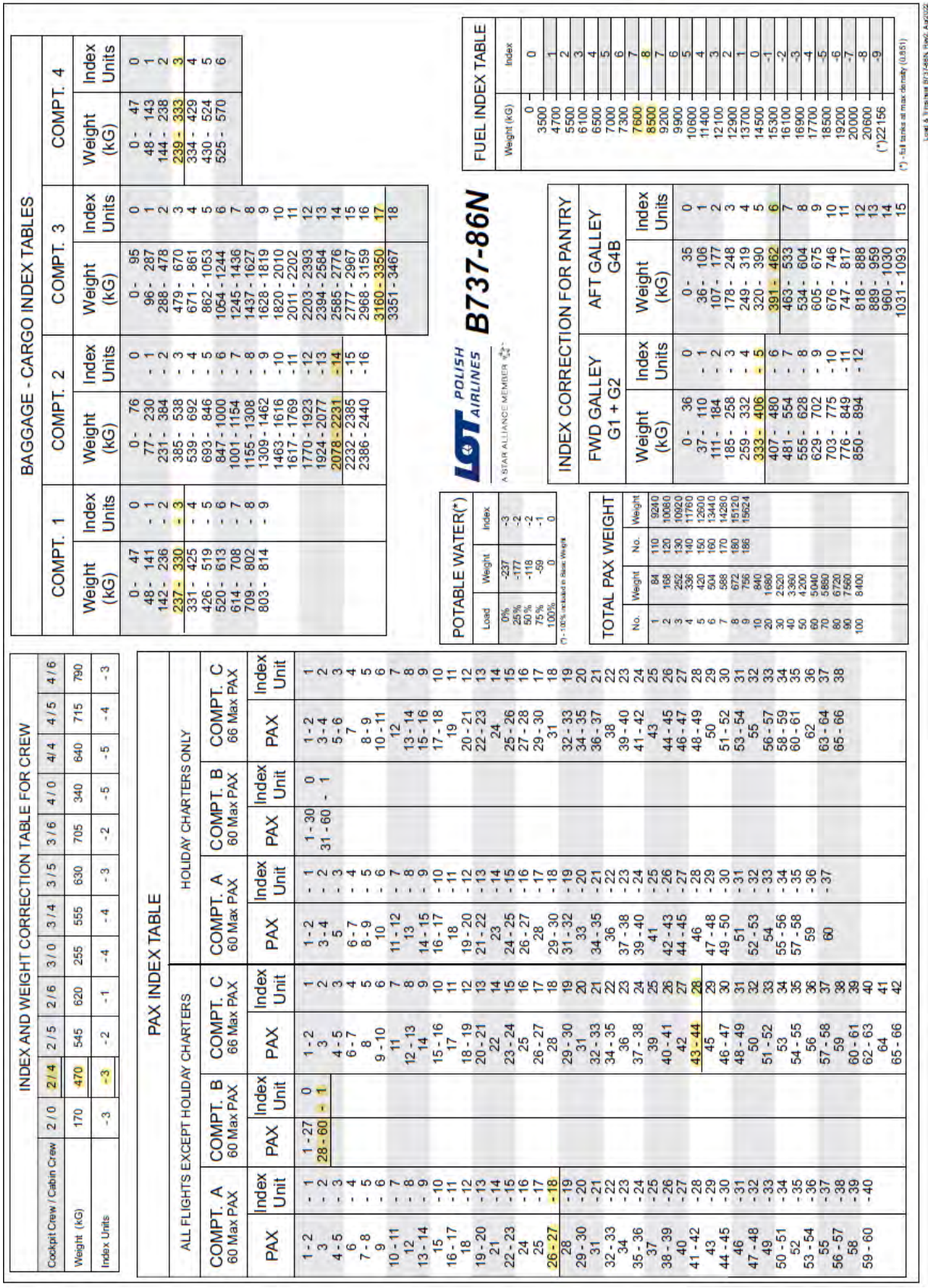


THIS DOCUMENT IS APPLICABLE FOR A/C REGISTRATIONS LISTED BELOW
SP-LWF
SP-LWG

TAKE-OFF WEIGHT	%MAC for TOW*
66133	23,1
	*FMC calculates and displays the stabilizer take-off settings
Prepared by : P.DZIEDZIC	Approved by : CPT.



Load & Trimsheet B737-86N, Rev2, Apr2022



INDEX AND WEIGHT CORRECTION TABLE FOR CREW

Cockpit Crew / Cabin Crew	2 / 0	2 / 4	2 / 5	2 / 6	3 / 0	3 / 4	3 / 5	3 / 6	4 / 0	4 / 4	4 / 5	4 / 6
Weight (kG)	170	470	545	620	255	555	630	705	340	640	715	790
Index Units	-3	-3	-2	-1	-4	-4	-3	-2	-5	-5	-4	-3

PAX INDEX TABLE

ALL FLIGHTS EXCEPT HOLIDAY CHARTERS													HOLIDAY CHARTERS ONLY									
COMPT. A 60 Max PAX		COMPT. B 60 Max PAX		COMPT. C 66 Max PAX		COMPT. A 60 Max PAX		COMPT. B 60 Max PAX		COMPT. C 66 Max PAX		COMPT. A 60 Max PAX		COMPT. B 60 Max PAX		COMPT. C 66 Max PAX	
PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit	PAX	Index Unit
1 - 2	- 1	1 - 27	0	1 - 2	1	1 - 2	- 1	1 - 30	0	1 - 2	1	1 - 2	- 2	28 - 60	- 1	3 - 4	2
3	- 2	28 - 60	- 1	3	2	3 - 4	- 2	31 - 60	- 1	3 - 4	2	3 - 4	- 3			5 - 6	3
4 - 5	- 3			4 - 5	3	5	- 3			5 - 6	3	5 - 6	- 4			7	4
6	- 4			6 - 7	4	6 - 7	- 4			7	4	7	- 5			8 - 9	5
7 - 8	- 5			8	5	8 - 9	- 5			8 - 9	5	8 - 9	- 6			10 - 11	6
9	- 6			9 - 10	6	10	- 6			10 - 11	6	10	- 7			12	7
10 - 11	- 7			11	7	11 - 12	- 7			12	7	11 - 12	- 8			13 - 14	8
12	- 8			12 - 13	8	13	- 8			13 - 14	8	13	- 9			15 - 16	9
13 - 14	- 9			14	9	14 - 15	- 9			15 - 16	9	14 - 15	- 10			17 - 18	10
15	- 10			15 - 16	10	16 - 17	- 10			17 - 18	10	16 - 17	- 11			19	11
16 - 17	- 11			17	11	18	- 11			19	11	18	- 12			20 - 21	12
18	- 12			18 - 19	12	19 - 20	- 12			20 - 21	12	19 - 20	- 13			22 - 23	13
19 - 20	- 13			20 - 21	13	21 - 22	- 13			22 - 23	13	21 - 22	- 14			24	14
21	- 14			22	14	23	- 14			24	14	23	- 15			25 - 26	15
22 - 23	- 15			23 - 24	15	24 - 25	- 15			25 - 26	15	24 - 25	- 16			27 - 28	16
24	- 16			25	16	26 - 27	- 16			27 - 28	16	26 - 27	- 17			29 - 30	17
25	- 17			26 - 27	17	28	- 17			29 - 30	17	28	- 18			31	18
26 - 27	- 18			28	18	29 - 30	- 18			31	18	29 - 30	- 19			32 - 33	19
28	- 19			29 - 30	19	31 - 32	- 19			32 - 33	19	31 - 32	- 20			34 - 35	20
29 - 30	- 20			31	20	33	- 20			34 - 35	20	33	- 21			36 - 37	21
31	- 21			32 - 33	21	34 - 35	- 21			36 - 37	21	34 - 35	- 22			38	22
32 - 33	- 22			34 - 35	22	36	- 22			38	22	36	- 23			39 - 40	23
34	- 23			36	23	37 - 38	- 23			39 - 40	23	37 - 38	- 24			41 - 42	24
35 - 36	- 24			37 - 38	24	39 - 40	- 24			41 - 42	24	39 - 40	- 25			43	25
37	- 25			39	25	41	- 25			43	25	41 - 42	- 26			44 - 45	26
38 - 39	- 26			40 - 41	26	42 - 43	- 26			44 - 45	26	43 - 44	- 27			46 - 47	27
40	- 27			42	27	44 - 45	- 27			46 - 47	27	45	- 28			48 - 49	28
41 - 42	- 28			43 - 44	28	46	- 28			48 - 49	28	46 - 47	- 29			50	29
43	- 29			45	29	47 - 48	- 29			50	29	48 - 49	- 30			51 - 52	30
44 - 45	- 30			46 - 47	30	49 - 50	- 30			51 - 52	30	50	- 31			53 - 54	31
46	- 31			48 - 49	31	51	- 31			53 - 54	31	51 - 52	- 32			55	32
47 - 48	- 32			50	32	52 - 53	- 32			55	32	53 - 54	- 33			56 - 57	33
49	- 33			51 - 52	33	54	- 33			56 - 57	33	55	- 34			58 - 59	34
50 - 51	- 34			53	34	55 - 56	- 34			58 - 59	34	56 - 57	- 35			60 - 61	35
52	- 35			54 - 55	35	57 - 58	- 35			60 - 61	35	58 - 59	- 36			62	36
53 - 54	- 36			56	36	59	- 36			62	36	60 - 61	- 37			63 - 64	37
55	- 37			57 - 58	37	60	- 37			63 - 64	37	62 - 63	- 38			65 - 66	38
56 - 57	- 38			59	38					65 - 66	38	64	- 39				
58	- 39			60 - 61	39							65 - 66	- 40				
59 - 60	- 40			62 - 63	40												
				64	41												
				65 - 66	42												

BAGGAGE - CARGO INDEX TABLES

COMPT. 1 Weight (kG)	COMPT. 1 Index Units	COMPT. 2 Weight (kG)	COMPT. 2 Index Units	COMPT. 3 Weight (kG)	COMPT. 3 Index Units	COMPT. 4 Weight (kG)	COMPT. 4 Index Units
0 - 47	0	0 - 76	0	0 - 95	0	0 - 47	0
48 - 141	- 1	77 - 230	- 1	96 - 287	1	48 - 143	1
142 - 236	- 2	231 - 384	- 2	288 - 478	2	144 - 238	2
237 - 330	- 3	385 - 538	- 3	479 - 670	3	239 - 333	3
331 - 425	- 4	539 - 692	- 4	671 - 861	4	334 - 429	4
426 - 519	- 5	693 - 846	- 5	862 - 1053	5	430 - 524	5
520 - 613	- 6	847 - 1000	- 6	1054 - 1244	6	525 - 570	6
614 - 708	- 7	1001 - 1154	- 7	1245 - 1436	7		
709 - 802	- 8	1155 - 1308	- 8	1437 - 1627	8		
803 - 814	- 9	1309 - 1462	- 9	1628 - 1819	9		
		1463 - 1616	- 10	1820 - 2010	10		
		1617 - 1769	- 11	2011 - 2202	11		
		1770 - 1923	- 12	2203 - 2393	12		
		1924 - 2077	- 13	2394 - 2584	13		
		2078 - 2231	- 14	2585 - 2776	14		
		2232 - 2385	- 15	2777 - 2967	15		
		2386 - 2440	- 16	2968 - 3159	16		
				3160 - 3350	17		
				3351 - 3467	18		

POTABLE WATER(*)

Load	Weight	Index
0%	-237	-3
25%	-177	-2
50%	-118	-2
75%	-59	-1
100%	0	0

(*) - 100% included in Basic Weight

POLISH AIRLINES
A STAR ALLIANCE MEMBER
B737-86N

TOTAL PAX WEIGHT

No.	Weight	No.	Weight
1	84	110	9240
2	168	120	10080
3	252	130	10920
4	336	140	11760
5	420	150	12600
6	504	160	13440
7	588	170	14280
8	672	180	15120
9	756	186	15624
10	840		
20	1680		
30	2520		
40	3360		
50	4200		
60	5040		
70	5880		
80	6720		
90	7560		
100	8400		

INDEX CORRECTION FOR PANTRY

FWD GALLEY G1 + G2 Weight (kG)	FWD GALLEY G1 + G2 Index Units	AFT GALLEY G4B Weight (kG)	AFT GALLEY G4B Index Units
0 - 36	0	0 - 35	0
37 - 110	- 1	36 - 106	1
111 - 184	- 2	107 - 177	2
185 - 258	- 3	178 - 248	3
259 - 332	- 4	249 - 319	4
333 - 406	- 5	320 - 390	5
407 - 480	- 6	391 - 462	6
481 - 554	- 7	463 - 533	7
555 - 628	- 8	534 - 604	8
629 - 702	- 9	605 - 675	9
703 - 775	- 10	676 - 746	10
776 - 849	- 11	747 - 817	11
850 - 894	- 12	818 - 888	12
		889 - 959	13
		960 - 1030	14
		1031 - 1093	15

FUEL INDEX TABLE

Weight (kG)	Index
0	0
3500	1
4700	2
5500	3
6100	4
6500	5
7000	6
7300	7
7600	8
8500	7
9200	6
9900	5
10600	4
11400	3
12100	2
12900	1
13700	0
14500	-1
15300	-2
16100	-3
16900	-4
17700	-5
18500	-6
19200	-7
20000	-8
20600	-9
(*)22156	

(*) - full tanks at max density (0.851)

Load & Trimsheet B737-86N, Rev2, Apr2022

3.7.5 Example 5 – B737-8

	Database
Flight No/Date:	LO281 / 28 JAN 2021
Routing:	WAW-LHR
Aircraft:	SP-LVA
Pax cabin configuration:	C12Y168
Crew:	2/4
Pantry:	550 / 470
Take off Fuel:	10000kg
Trip Fuel:	7000 kg
Taxi Fuel:	200 kg
No operational limits at TOW.	
Passengers:	Male – 80, Female – 80, Children – 10, infant – 0
Deadload:	B – 2550 kg, C – 1000 kg, M – 0 kg

B737-8

LOADSHEET & LOADMESSAGE

POLISH AIRLINES LOT
A STAR ALLIANCE MEMBER

ALL WEIGHTS IN KILOS

Priority Address(es): QU ▶ LHRAPLO ▶ ▶ ▶ ≦

Originator: ●WAWAPLO ▶ Recharge / Date / Time: LO/281450 ▶ Initials: PD ≦ LDM ≦

Flight: LO281 ● A/C Reg.: SP-LVA ● Version: C12Y168 ● Crew: 2/4 ≦

Date: 28/JAN/2021

		MAXIMUM WEIGHTS FOR	ZERO FUEL	TAKE-OFF	LANDING
BASIC WEIGHT	44954		65952		69308
Crew 2 / 4 / ⊕	4700				
Pantry 550 / 470 ⊕	1020	Take-off Fuel ⊕	10000	Trip Fuel ⊕	7000
DRY OPERATING WEIGHT ⊖	46444	ALLOWED WEIGHT FOR TAKE-OFF (lowest of a, b, or c) ⊖	a 75952	b 76999	c 76308
Take-off Fuel 10200 - 200 ⊕	10000	Operating Weight ⊖	56444		
OPERATING WEIGHT ⊖	56444	ALLOWED TRAFFIC LOAD ⊖	19508		

Dest.	NO. OF PASSENGERS M	F	CH	I	Cab. Bags	Total	Distribution Weight 1	2	3	4	0	Remarks PAX C	Y	PAD
—						Tr / B / C / M / .T								
—						Tr / B / C / M / .T								
LHR	80	80	10			Tr / B 2550 / C 1000 / M / .T 3550		1000	2550			7	163	
	80	80	10			3550		1000	2550			7	163	

PAX/ 170 7 /163/ PAD/

Total Passenger Weight ⊕	12990	Allowed Traffic Load	19508
TOTAL TRAFFIC LOAD ⊖	16540	⊖	16540
Dry Operating Weight ⊕	46444	UNDERLOAD BEFORE LMC ⊖	2968
ZERO FUEL WEIGHT ⊖ MAX. 65952 LMC +/-	62984		
Take-off Fuel ⊕	10000		
TAKE-OFF WEIGHT ⊖ MAX. 76999 LMC +/-	72984		
Trip Fuel ⊖	7000		
LANDING WEIGHT ⊖ MAX. 69308 LMC +/-	65984		

SI ▶ PAX WEIGHT USED M/88 F/70 CH/35 WATER 100%

LAST MINUTE CHANGES

Dest	Specification	Cpt.	+/-	Weight

Check LMC Total with Underload

LMC Total +/-

Notes

Seating Conditions

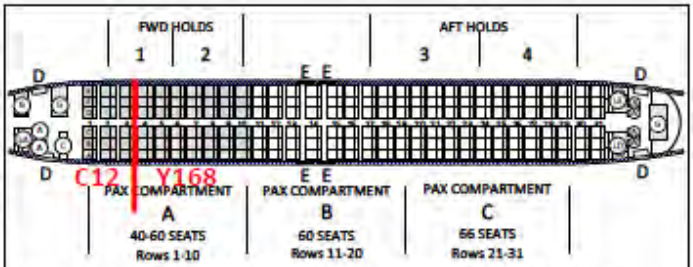
Section	A	B	C
PAX	44	60	66
SOC			

Total number of passengers: 170

Balance Conditions % MAC: ZFW 25.7 TOW 26.8

REVISION A1 FEB 2021 FOR

INDEX CALCULATION		⊖	⊕
BASIC INDEX			44
Crew	2/4	3	
Pantry	550/470	9	7
Sub - Total		12	51
		-	12
DRY OPERATING INDEX			39
Compt. 1 Max. 809 kG			
Compt. 2 Max. 2670 kG	1000	7	
Compt. 3 Max. 3706 kG	2550		15
Compt. 4 Max. 763 kG			
FWD Pax Compt. A	44	33	
MID Pax Compt. B	60	1	
AFT Pax Compt. C	66		48
Sub - Total		41	102
		-	41
ZERO FUEL INDEX			61
Take-off Fuel Index			6
TAKE-OFF INDEX			67
Last Minute Changes			
CORRECTED TAKE-OFF INDEX			



A – Flight Attendant
D – Door
E – Emergency Exit
G – Galley
C – Closet
LA - Lavatory

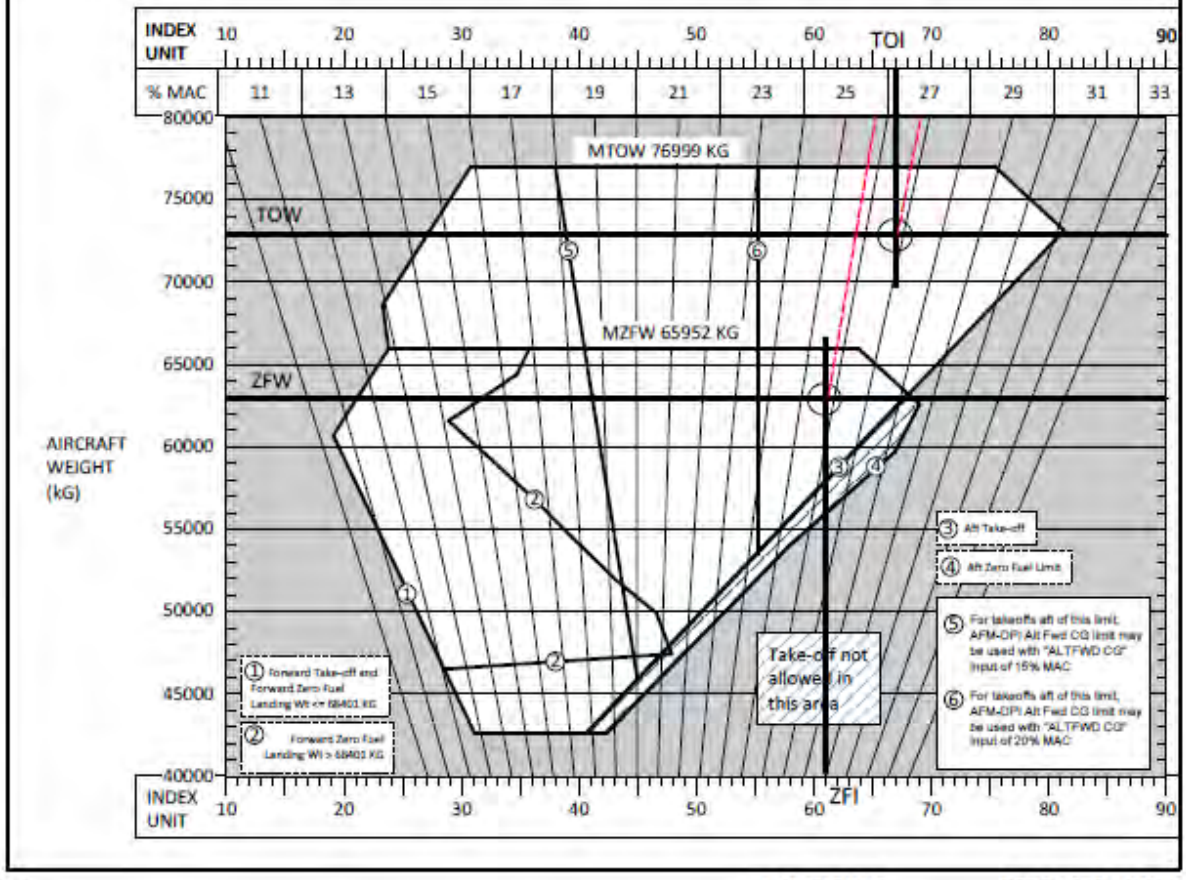
PAX CABIN CONFIGURATION – 166 - 186 SEATS
(See CDP Table on Form B)

737-8

INDEX = Weight (kG) X(ARM (IN.)-658.3) / 35000

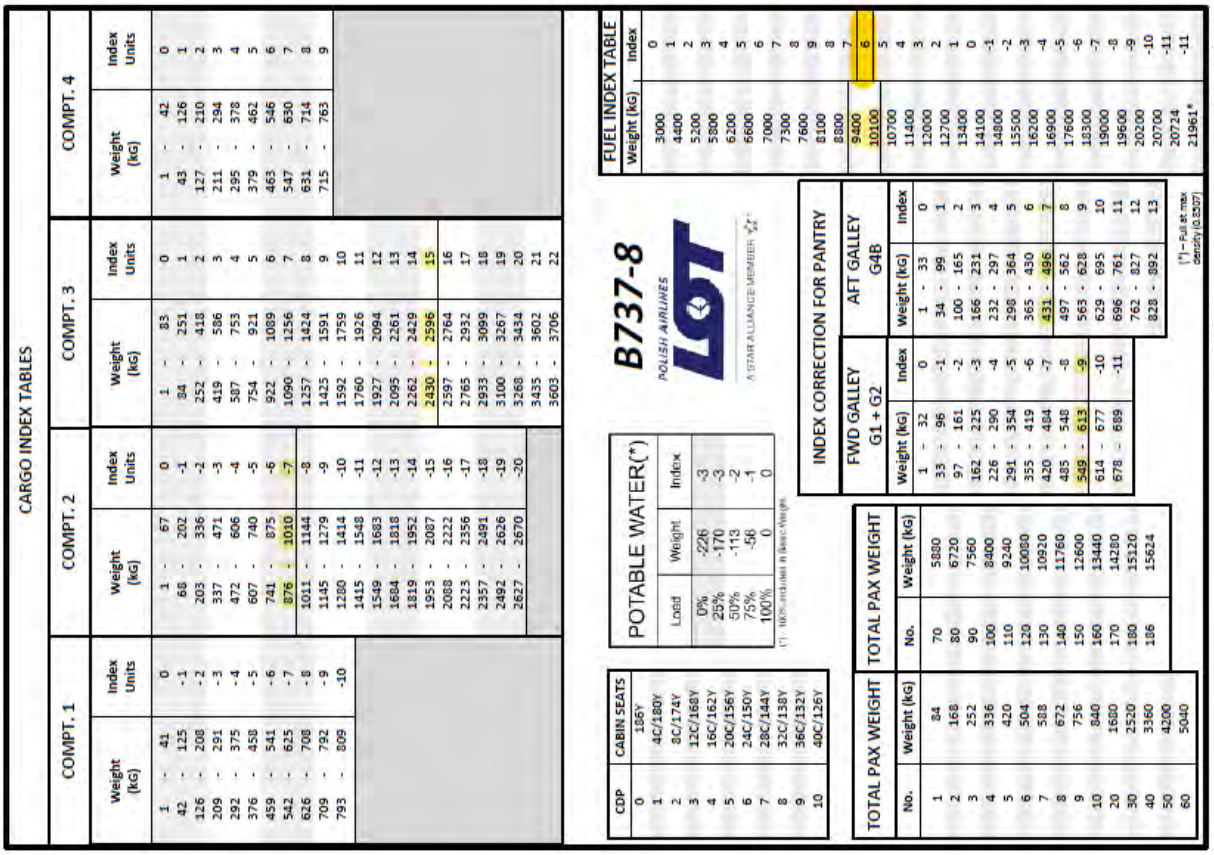
For Dry Operating Index, ADD + 45 Units

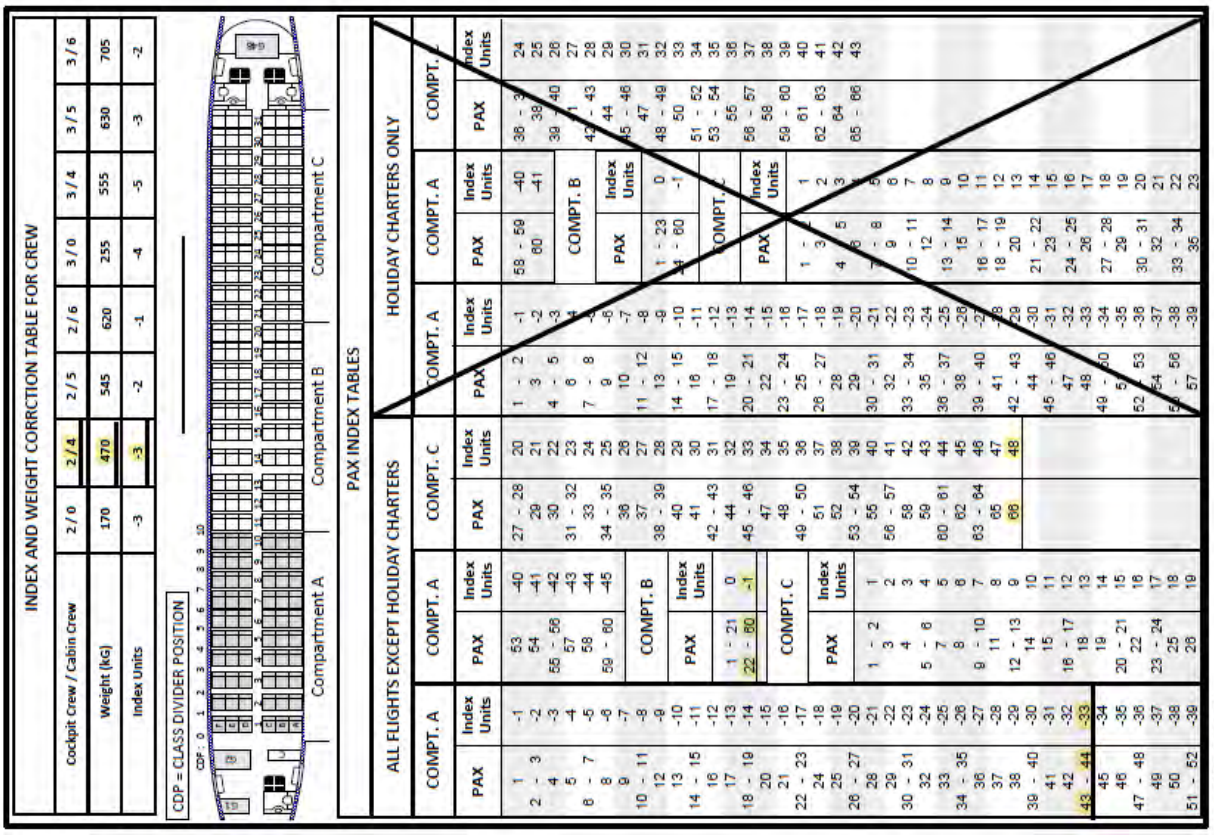
TAKE-OFF WEIGHT	%MAC for TOW*
72984	26,8
Prepared by: P.DZIEDZIC	Approved by: CPT.



M A

APPENDIX C D636A080-LOT1C


CARGO INDEX TABLES
COMPT. 1
COMPT. 2
COMPT. 3
COMPT. 4
Weight (kg)
Index Units
POTABLE WATER(*)
Load
Weight
Index
CDP
CABIN SEATS
B737-8
POLISH AIRLINES
A STAR ALLIANCE MEMBER
INDEX CORRECTION FOR PANTRY
FWD GALLEY G1 + G2
AFT GALLEY G4B
TOTAL PAX WEIGHT
FUEL INDEX TABLE
Weight (kg)
Index
(*) – Fuel at max density (0.8507)
FORM B
D636A080-LOT1C
APPENDIX C


INDEX AND WEIGHT CORRCTION TABLE FOR CREW
Cockpit Crew / Cabin Crew
Weight (kg)
Index Units
CDP = CLASS DIVIDER POSITION
Compartment A
Compartment B
Compartment C
PAX INDEX TABLES
ALL FLIGHTS EXCEPT HOLIDAY CHARTERS
HOLIDAY CHARTERS ONLY
COMPT. A
COMPT. B
COMPT. C
PAX
Index Units
REVISION A1 FEB 2021

3.7.6 Example 6 – B787-8

	Database
Flight No/Date:	LO091 / 01 FEB 2021
Routing:	WAW-PEK
Aircraft:	SP-LRA
Pax cabin configuration:	C18P21Y213
Crew:	3/11
Pantry:	750 / 1050 / 1210 kg
Take off Fuel:	80000kg
Trip Fuel:	71000 kg
Taxi Fuel:	400 kg
No operational limits at TOW.	
Passengers:	Male – 80, Female – 20, Children – 5, infant – 1
Deadload:	B – 6600 kg, C – 11000 kg, M – 830 kg

B787-8 252 seats LOADSHEET & LOADMESSAGE

POLISH AIRLINES LOT — A STAR ALLIANCE MEMBER

ALL WEIGHTS IN KILOS

Priority: QU ▶ Addresses: PEKAPLO ▶

Originator: •WAWAPLO ▶ Recharge/Date/Time: LO/01140 0 ▶ Initials: PD LDM

Flight Nr: LO091 • A/C Registration: SP-LRA • Version: C18F21Y213 • Crew: 3/11/

Date: 01/FEB/2021

		ZERO FUEL	TAKE-OFF	LANDING
BASIC WEIGHT	115200	MAXIMUM WEIGHTS FOR	161025	172365
Crew 3 / 11 / ⊕	10800			
Pantry 750/1050/1210 ⊕	30100	Take-off fuel ⊕	80000	71000
			→ ⊕ Trip fuel	
DRY OPERATING WEIGHT ⊖	119290	ALLOWED WEIGHT FOR TAKE-OFF (lowest of a, b, c) ⊖	241025	227000	243365
Take-off fuel 80400-400 ⊕	80000	Operating Weight ⊖		199290	
OPERATING WEIGHT ⊖	199290	ALLOWED TRAFFIC LOAD ⊖		27710	

Dest.	No. of Passengers M	F	CH	I	Cab. Bag.	Total	Distribution weight 1	2	3	4	5	0	Remarks PAX C	P	Y	PAD C	P	Y
—						Tr												
						B												
						C												
						M												
•	/	/	/	•		.T	.1/	.2/	.3/	.4/	.5/	.0/	PAX /			PAD /		
—						Tr												
						B												
						C												
						M												
•	/	/	/	•		.T	.1/	.2/	.3/	.4/	.5/	.0/	PAX /			PAD /		
—						Tr												
P						B	6600			5600	1000			10	5	90		
E	80	20	5	1		C	11000	2000	6000	1000	2000							
K						M	830			550		280						
•	80/20/5/1 •					.T	18430	1/2000	2/6000	3/7150	4/3000	5/280	.0/	PAX / 105 10/5/90			PAD / / /		
	80	20	5	1			18430	2000	6000	7150	3000	280		10	5	90		

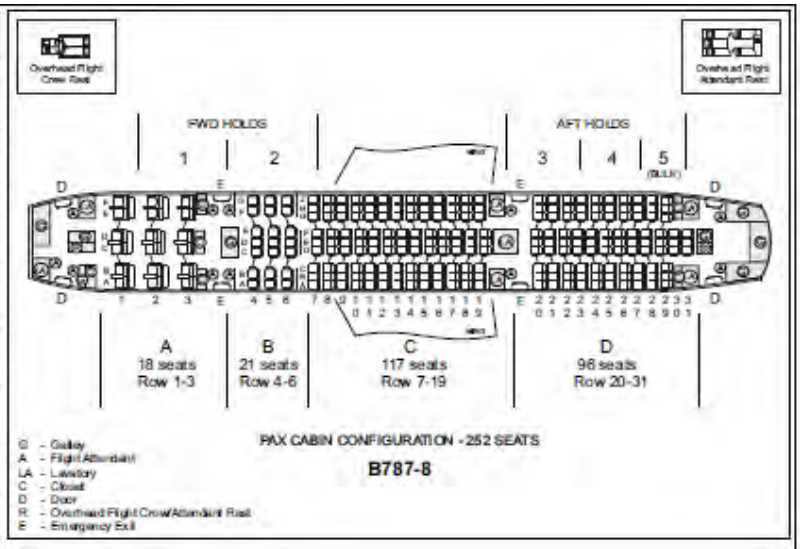
Total Passenger Weight ⊕	8575	ALLOWED TRAFFIC LOAD →	27710	SI ▶ PAX WEIGHT USED M/F/84 CH/35 I/0
TOTAL TRAFFIC LOAD ⊖	27005	→ ⊖	27005	EIC/11L/340
Dry Operating Weight ⊕	119290	UNDERLOAD BEFORE LMC ⊖	705	CRB/41R/210
ZERO FUEL WEIGHT ⊖	146295	LAST MINUTE CHANGES		
161025 LMC ⊕/⊖		Dest. / Specification / Cpt. / +/- / Weight		Notes
Take-off fuel ⊕	80000			
TAKE-OFF WEIGHT ⊖	226295			
Max. 227930				
227000 LMC ⊕/⊖		LMC Total ⊕/⊖		Balance Conditions % MAC
Trip fuel ⊖	71000			

Check LMC Total with Underload

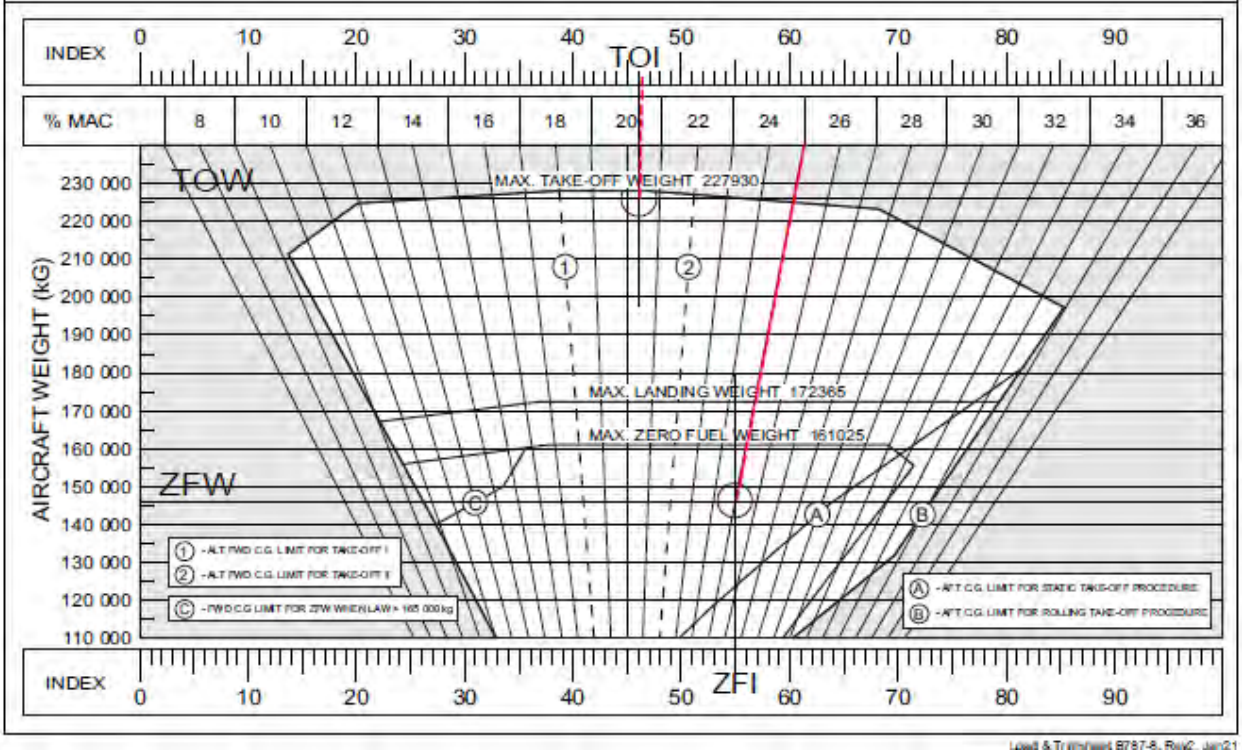
LANDING WEIGHT ⊖	155295	Seating Conditons					Total number of passengers	ZFW	25.0
Max. 172365		Section	A	B	C	D			
172365 LMC ⊕/⊖		PAX	10	5	70	20	105 + 1 INF	TOW	20.4
		SOC							

TRIM CHART

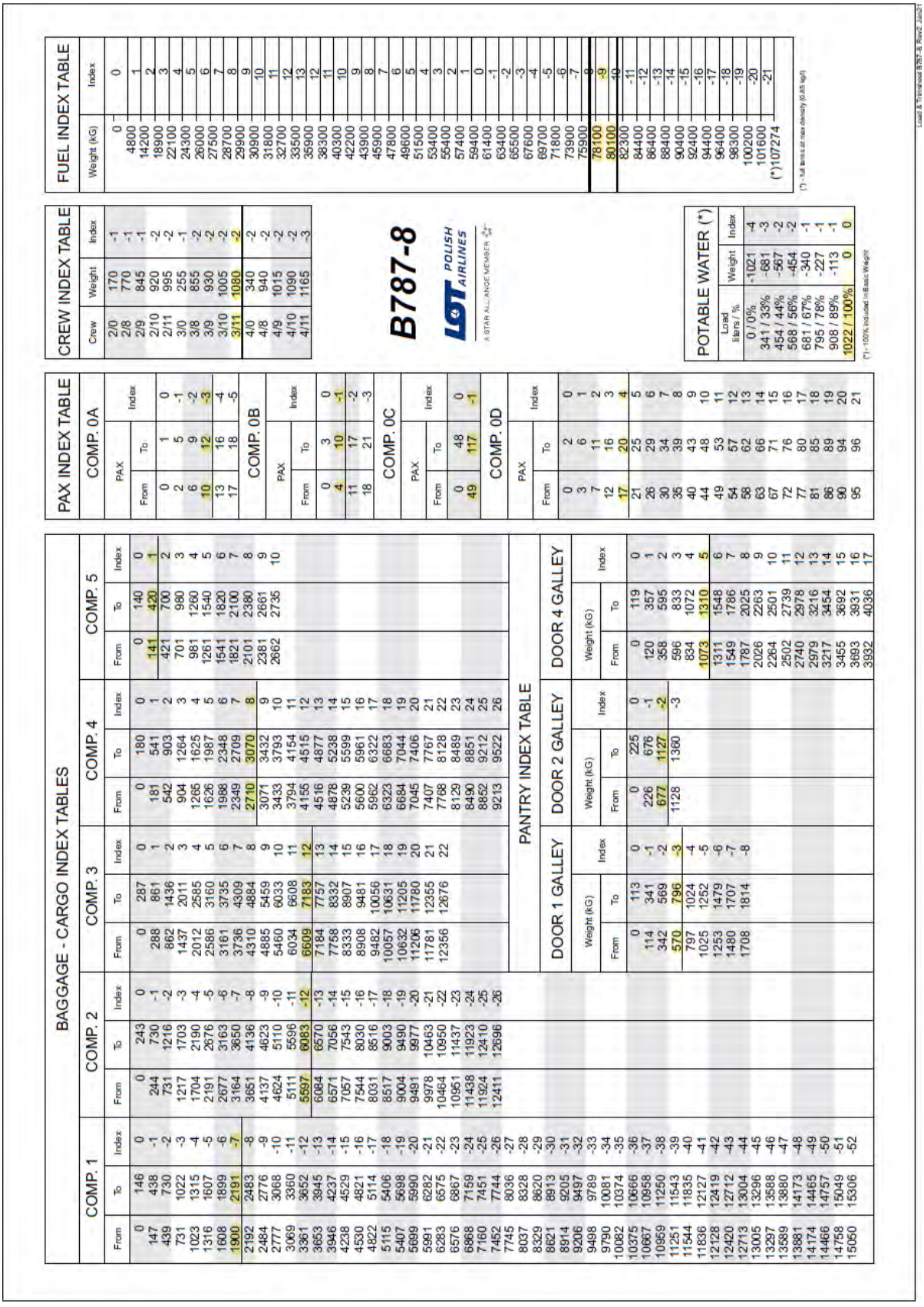
INDEX CALCULATION		⊖	⊕
BASIC INDEX			56
Crew 3/11		2	
Pantry 750/1050/1210		5	5
Sub - Total		7	61
		→ −	7
DRY OPERATING INDEX			54
Compt. 1 Max 15306 kG	2000	7	
Compt. 2 Max 12696 kG	6000	12	
Compt. 3 Max 12676 kG	7150		12
Compt. 4 Max 9522 kG	3000		8
Compt. 5 Max 2735 kG	280		1
Pax Compt. 0A	10	3	
Pax Compt. 0B	5	1	
Pax Compt. 0C	70	1	
Pax Compt. 0D	20		4
Sub - Total		24	79
		→ −	24
ZERO FUEL INDEX			55
Take-off Fuel Index 80000		9	
TAKE-OFF INDEX			46
Last Minute Changes			
CORRECTED TAKE-OFF INDEX			



TAKE-OFF WEIGHT	%MAC for TOW*
226295	20,4
	*FMC calculates and displays the stabilizer take-off settings
Prepared by :	Approved by :
P.DZIEDZIC	CPT.



Lowell & Tri Winfoam B787-8, Rev2, Jan21


BAGGAGE - CARGO INDEX TABLES
COMP. 1
COMP. 2
COMP. 3
COMP. 4
COMP. 5
PANTRY INDEX TABLE
DOOR 1 GALLEY
DOOR 2 GALLEY
DOOR 4 GALLEY
PAX INDEX TABLE
COMP. 0A
COMP. 0B
COMP. 0C
COMP. 0D
CREW INDEX TABLE
FUEL INDEX TABLE
POTABLE WATER (*)
B787-8
POLISH AIRLINES
A STAR ALLIANCE MEMBER

3.8 Loadsheet produced by electronic data processing machine

1	L O A D S H E E T CHECKED APPROVED EDNO
2	ALL WEIGHTS IN KILOGRAMS J SMITH 01
3	
4	CAPTAINS NAME LOTOWSKI MICHAL
5	FROM/TO FLIGHT A/C REG VERSION CREW DATE TIME
6	AMS WAW LO270/21 SP-LIE Y82 2/2 21DEC16 0708
7	
8	WEIGHT DISTRIBUTION
9	LOAD IN COMPARTMENTS 1445 1/ 624 2/ 395 3/ 426
10	4/ 0 0/ 0
11	
12	PASSENGER/CABIN BAG 5531 37/ 31/ 3/ 0 TTL 71 CAB 0
13	PAX 1/ 0/ 70 SOC 0/ 0/ 0
14	BLKD 0
15	TOTAL TRAFFIC LOAD 6976
16	DRY OPERATING WEIGHT 22751
17	ZERO FUEL WEIGHT ACTUAL 29727 MAX 31700 ADJ
18	TAKE OFF FUEL 5550
19	TAKE OFF WEIGHT ACTUAL 35277 MAX 38790 ADJ
20	TRIP FUEL 3145
21	LANDING WEIGHT ACTUAL 32132 MAX 34000 L ADJ
22	
23	BALANCE AND SEATING CONDITIONS . LAST MINUTE CHANGES
24	BI 67.8 DOI 65.2 .DEST SPEC CL/CPT | - WEIGHT
25	DLI 52.1 LIZFW 65.1 .
26	MACZFW 24.2 .
27	LITOW 53.7 MACTOW 20.4 .
28	STAB:1 3.6 UP.
29	STAB:2 3.5 UP.
30	STAB:4 2.6 UP.
31	A21.B20.C30 .
32	SEATROW TRIM .
33	.
34	UNDERLOAD BEFORE LMC 1868. LMC TOTAL
35	LOADMESSAGE AND CAPTAINS INFORMATION BEFORE LMC
36	
37	TAXI FUEL 150 TAXI WGT 35427 MAX 38950
38	
39	-WAW.37/31/3/0.0.T1445.1/624.2/395.3/426
40	.PAX/1/0/70.PAD/0/0/1
41	
42	SI NOTOC: NO
43	CHECKED BAGGAGE PIECES WAW 1/T/12/Y/15 3/T/23/Y/2
44	BW 21978
45	
46	SERVICE WEIGHT ADJUSTMENT WEIGHT/INDEX
47	DEDUCTIONS
48	WAW POT#75% ADJ 27 0.7-
49	PREPARED BY SMITH/JOHN 22 4450172
50	PANTRY CODE D
51	PAX WEIGHTS USED M88 F70 C35 I0
52	WAW C 4 M 570 B 52/ 871 O 0 T 0
53	ADD
54	WAW POTABLE WATER 110 2.6
55	SALEABLE CONFIGURATION 3C/4P/72Y
56	
57	LIZFW LIMITS + 36.6/+ 71.3 NOW: + 65.1
58	LITOW LIMITS + 20.5/+ 69.9 NOW: + 53.7
59	
60	AUTHORISED WEIGHTS USED FOR PASSENGERS CREW AND BAGGAGE
61	
62	
63	WAW FRE 4 POS 570 BAG 871 TRA 0

1	Message designator, Checked, Approved, Edition

2	Weight units used, Load controllers name, Edition number
4	Captains name
5,6	Flight leg, Aircraft registration, Passenger compartment version, Crew configuration, Edition date and time (local)
8	Weight distribution
9,10	Load in compartments
12	Passengers weight , gender split, total, cabin load
13	Passengers per class, seats occupied by cardo
14	Blocked seats
15	Total traffic load
16	Dry Operating Weight
17	Zero fuel weight actual and maximum, Adjustments, L – marks limiting weight
18	Take off fuel
19	Take off weight actual and maximum, Adjustments
20	Trip Fuel
21	Landing weight actual and maximum, Adjustments
23	Balance, Seating Conditions, Last minute changes
24	Basic index, Dry operating index,
25	Deadload index, Index at ZFW
26	CG location at ZFW [% MAC]
27	Index at TOW, CG location at TOW [% MAC]
28,29,30	Stabilizer setting per different flaps
31	Passengers distribution per cabin section
32	Trim method
34	Underload before LMC, LMC total weight
35	Loadmessage and captains information before LMC
37	Taxi fuel, Taxi weight actual and maximum
39	Gender split, Load in compartments,
40	Passengers per class
42	NOTOC required?
43	Checked baggage pieces per baggage type
44	Basic weight
46	Service Weight Adjustments
47	Deductions
48	Portable water adjustment
49	Load Controller Name / Phone number
50	Pantry code
51	Passenger weights used
52	Load by category Freight / Post (Mail) / Baggage / Transit Baggage
53	Additional
54	Potable water weight / index
55	Saleable configuration
57,58	LIZFW, LITOW values with FWD & AFT Limits
60	Authorized weight statement
63	Load by category Freight / Post (Mail) / Baggage / Transit Baggage

3.8.1 ACARS Final Loadsheet

LOADSHEET FINAL 2106 EDNO1	Message designator, Edition time, Edition number
LO004/06 05MAY15	Flight number / day of month, Local date
ORD WAW SP-LRE 3/10	Dep. airport, Dest. airport, Aircraft registration, Crew
ZFW 154603 MAX 161025 L	Zero Fuel Weight - actual, maximum
TOF 52600	Takeoff fuel
TOW 207203 MAX 227930	Takeoff Weight - actual, maximum
TIF 44067	Trip fuel
LAW 163136 MAX 172365	Landing Weight - actual, maximum
UNDLD 6422	Underload
PAX/8/12/203 TTL 227	Number of PAX per class, Total number of PAX
BI 42.3	Basic Index
DOI 43.9	Dry Operating Index
DLI 40.8	Deadload Index
LIZFW 54.3	Index at ZFW
LITOW 58.2	Index at TOW
LILAW 55.2	Index at LAW
MACZFW 24.4	CG location at ZFW [% MAC]
MACTOW 24.7	CG location at TOW [% MAC]
MACLAW 24.5	CG location at LAW [% MAC]
FUEL DENSITY 0.805	Fuel density
A8 B12 C110 D93	Passengers distribution per cabin section
SEATROW TRIM	Trim method
WAW FRE11087 POS 416 BAG 5021 TRA 0	Load by category Freight / Post (Mail) / Baggage / Transit Baggage
SI DLW 137372 DLI 40.77 MACDL 17.77	Deadload weight / index / %MAC
LOAD IN CPTS 0/0 1/5368 2/3938 3/2942 4 /5004 5/812	Load in compartments distribution
NOTOC: YES	NOTOC required?
SERVICE WEIGHT ADJUSTMENT WEIGHT/INDEX	Service Weight Adjustments
DEDUCTIONS	Deductions
NIL	
PREPARED BY Milosz/Smus 48 22 4450172	Load Controller Name / Phone number
DOW 119308	Dry Operating Weight
PANTRY CODE B	Pantry code
CHARYTONOWICZ RYSZARD	Captain Name
PAX WEIGHTS USED M88 F70 C35 I0	PAX weights used
ADD	Additions
WAW POTABLE WATER	
567 2.4	Potable water weight / index

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3.9 LMC Procedure

<table>
<tr><td></td><td>Remarks</td></tr>
<tr><td>1.</td><td>LMC can only be performed by a person who has received dedicated LOT weight and balance manual training for specific type of aircraft. The training shall be given by LOT certified instructor.</td></tr>
<tr><td>2.</td><td>The loadsheet must reflect the actual loaded state of an aircraft prior to take-off.</td></tr>
<tr><td>3.</td><td>Last Minute Changes (LMC) procedure is provided as a means of including load changes after the loadsheet has been completed.</td></tr>
<tr><td>4.</td><td>In general, only changes in the weight of the traffic load (passengers, baggage, cargo and mail) or in its distribution are to be recorded in the LMC box of the loadsheet.</td></tr>
<tr><td>5.</td><td>LMC adjustments are allowed to be done under following conditions:
• weight increase represented by the LMC entries must not exceed the UNDERLOAD before LMC
• the maximum gross weights (ZFW, TOW and LAW) applicable for the flight are not exceeded
• the maximum weight limitation of each compartment /sector are not exceeded
• the calculated Centre of Gravity at ZFW, TOW and, if applicable, at LAW is within the allowed limits.</td></tr>
<tr><td>6.</td><td>Fuel LMC must not be entered in the LMC box.</td></tr>
<tr><td>7.</td><td>All weight changes entered in LMC must be shown in the appropriate LMC boxes.</td></tr>
<tr><td>8.</td><td>LMC must not exceed the limits specified in the table below:

<table>
<tr><th>AIRCRAFT TYPE</th><th>WEIGHT (+) OR (-) (KG)</th><th></th><th>INDEX (+) OR (-)</th></tr>
<tr><td>DHC-8-400</td><td>200</td><td rowspan="4">AND</td><td>5</td></tr>
<tr><td>ERJ 170/190</td><td>300</td><td>5</td></tr>
<tr><td>B737</td><td>400</td><td>5</td></tr>
<tr><td>B787</td><td>1000</td><td>5</td></tr>
</table>

For calculations purposes it is assumed that passenger and baggage weight is standard.</td></tr>
<tr><td>9.</td><td>LMC items should be distributed in a way to minimize CG movement.</td></tr>
<tr><td>10.</td><td>In the case that LMC adjustments exceed established tolerances given in the table above, it is necessary to make corrections of the previously calculated balance conditions at Zero Fuel, Take-off and Landing weights. If EDP loadsheet is issued, it is required to reprint final version of loadsheet including LMC adjustments.
All LMC changes must be included in the LDM CPM messages.
The aircraft commander must be informed of the LMC change.</td></tr>
</table>

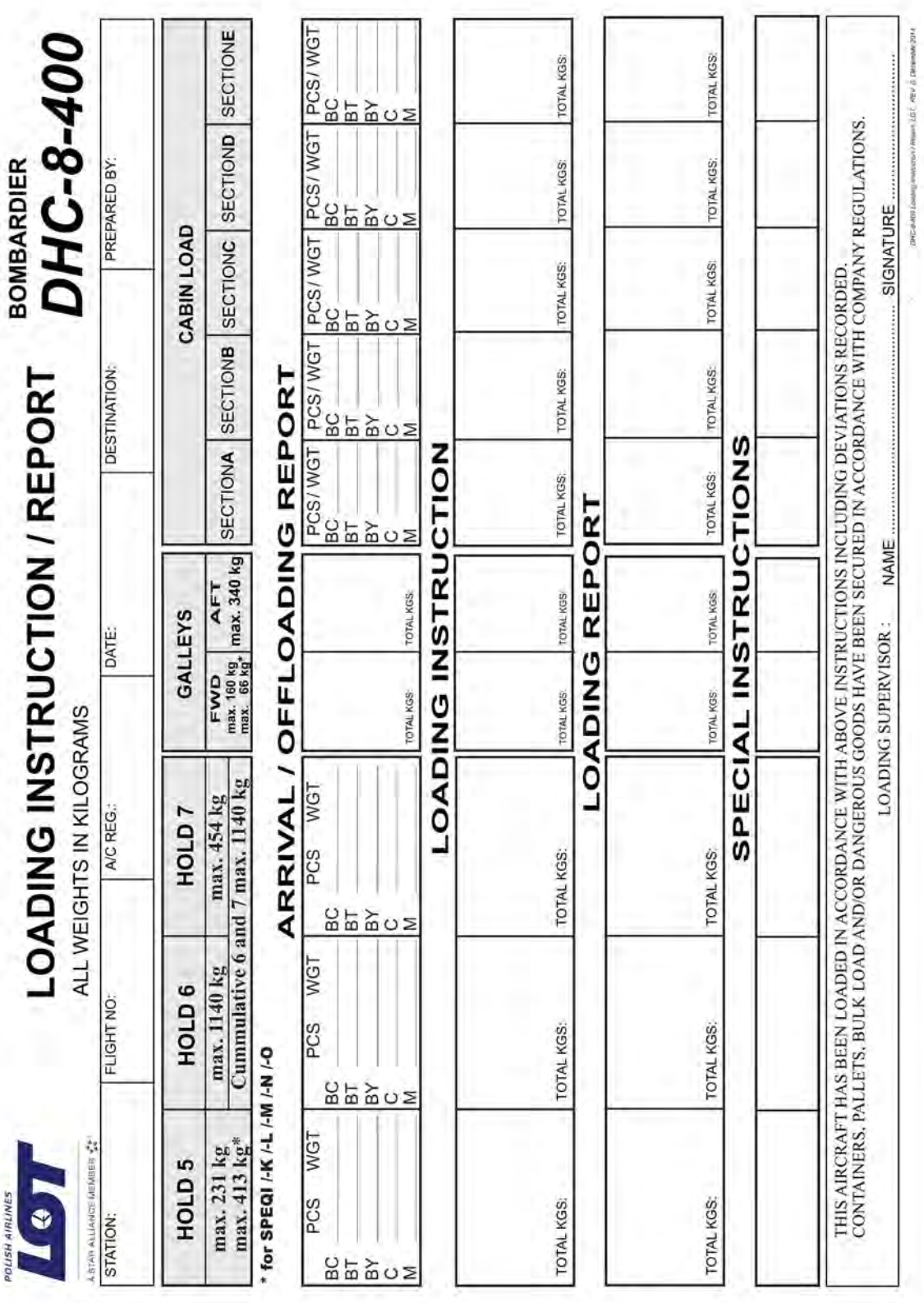
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3.10 Loading Instruction/Report

	Remarks
Loading Instruction/Report	• It is a two parts document prepared for each type of aircraft. • Format of Loading Instruction/Report is in accordance to IATA AHM 515
Loading Instruction part	• Is to instruct the Loading Supervisor about the distribution of the load,
Loading Report part	• Must be completed by the Loading Supervisor to confirm that the aircraft has been loaded in accordance with the given instructions. • Loading Supervisors are not allowed to deviate from the instructions unless confirmation has been obtained from the Loadsheet Agent. • Deviations from the instructions must be clearly on the report.
	Loading Instruction/Report formats for following a/c: • DHC-8-400 • ERJ 170-100 • ERJ 170-200 • ERJ 190-100 • ERJ 190-200 / ERJ 190-200AR • B737-8 • B737-800 / - 86N • B787-8 • B787-9 are shown below.

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3.10.1 Loading Instruction/Report DHC-8-400



BOMBARDIER DHC-8-400

LOADING INSTRUCTION / REPORT

ALL WEIGHTS IN KILOGRAMS

STATION: | FLIGHT NO: | A/C REG.: | DATE: | DESTINATION: | PREPARED BY:

HOLD 5	HOLD 6	HOLD 7	GALLEYS		CABIN LOAD				
	max. 1140 kg	max. 454 kg	FWD	AFT	SECTIONA	SECTIONB	SECTIONC	SECTIOND	SECTIONE
max. 231 kg max. 413 kg*	Cummulative 6 and 7 max. 1140 kg		max. 160 kg max. 66 kg*	max. 340 kg					

* for SPEQI /-K /-L /-M /-N /-O

ARRIVAL / OFFLOADING REPORT

PCS	WGT		PCS	WGT		PCS/WGT	PCS/WGT	PCS/WGT	PCS/WGT	PCS/WGT
		BC			BC	BC	BC	BC	BC	BC
		BT			BT	BT	BT	BT	BT	BT
		BY			BY	BY	BY	BY	BY	BY
		C			C	C	C	C	C	C
		M			M	M	M	M	M	M
TOTAL KGS:		TOTAL KGS:			TOTAL KGS:	TOTAL KGS:	TOTAL KGS:	TOTAL KGS:	TOTAL KGS:	TOTAL KGS:

LOADING INSTRUCTION

TOTAL KGS:	TOTAL KGS:	TOTAL KGS:	TOTAL KGS:	TOTAL KGS:

LOADING REPORT

TOTAL KGS:	TOTAL KGS:	TOTAL KGS:	TOTAL KGS:	TOTAL KGS:

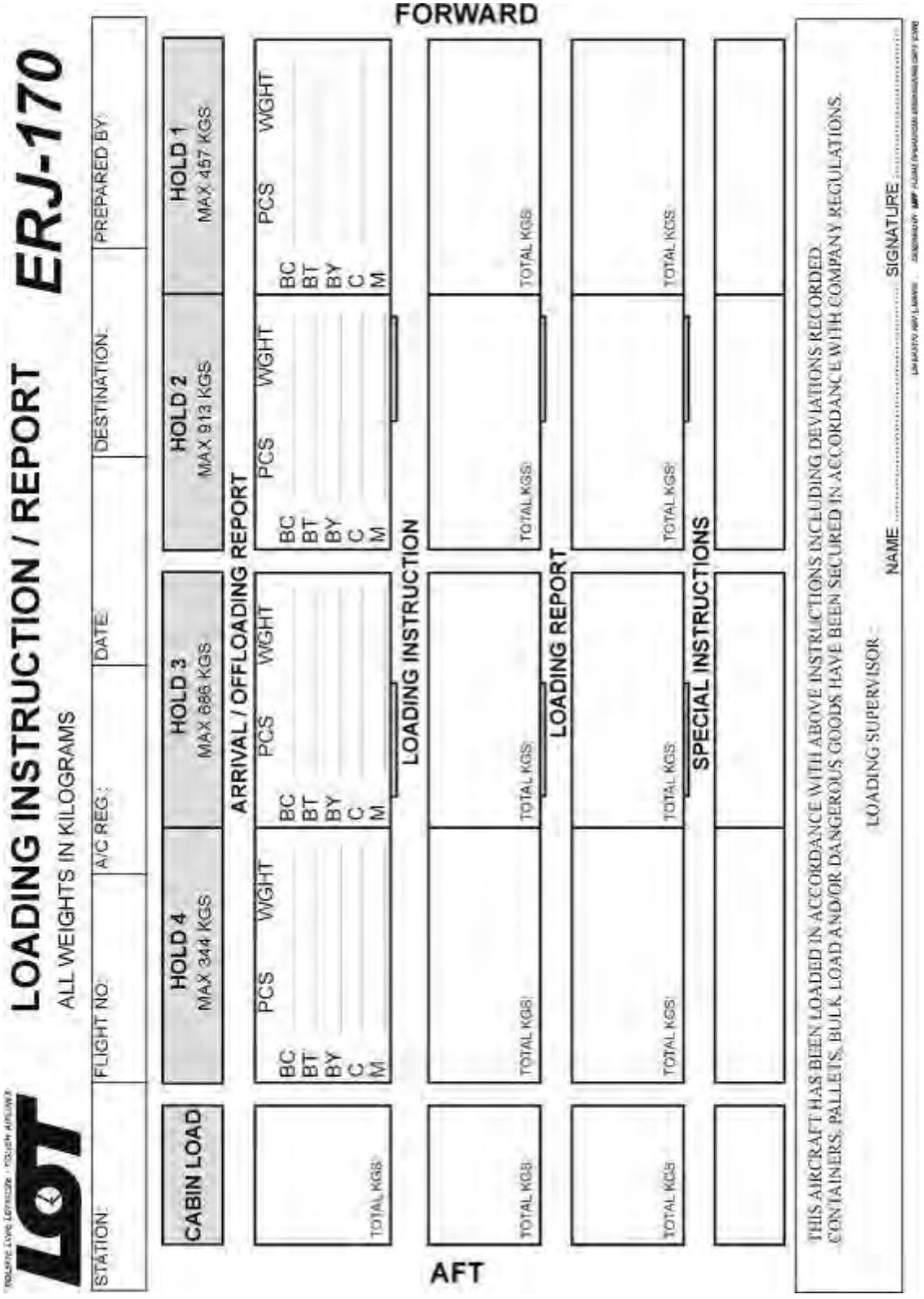
SPECIAL INSTRUCTIONS

THIS AIRCRAFT HAS BEEN LOADED IN ACCORDANCE WITH ABOVE INSTRUCTIONS INCLUDING DEVIATIONS RECORDED.
CONTAINERS, PALLETS, BULK LOAD AND/OR DANGEROUS GOODS HAVE BEEN SECURED IN ACCORDANCE WITH COMPANY REGULATIONS.

LOADING SUPERVISOR : NAME ..... SIGNATURE .....

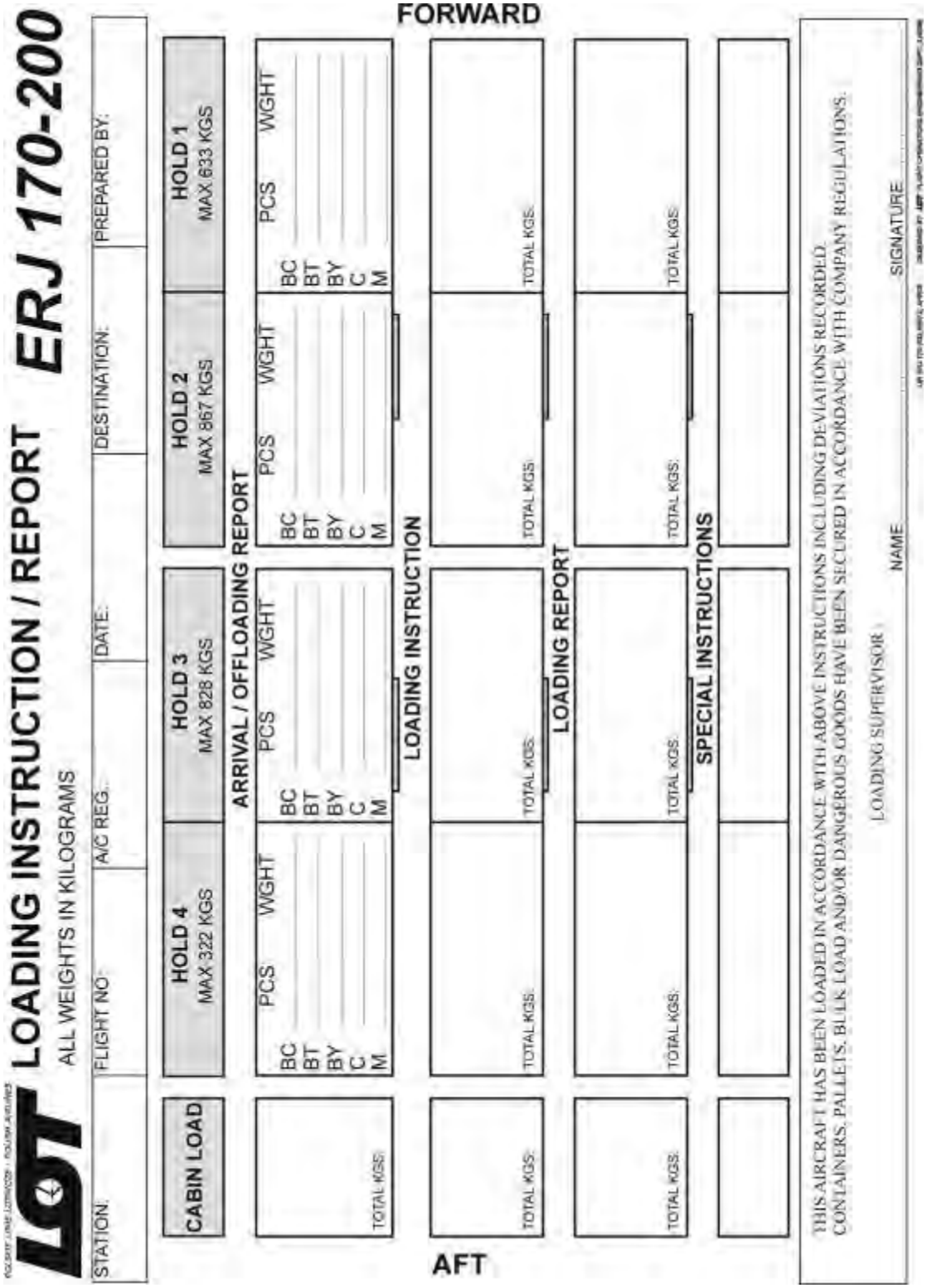
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3.10.2 Loading Instruction/Report ERJ 170–100



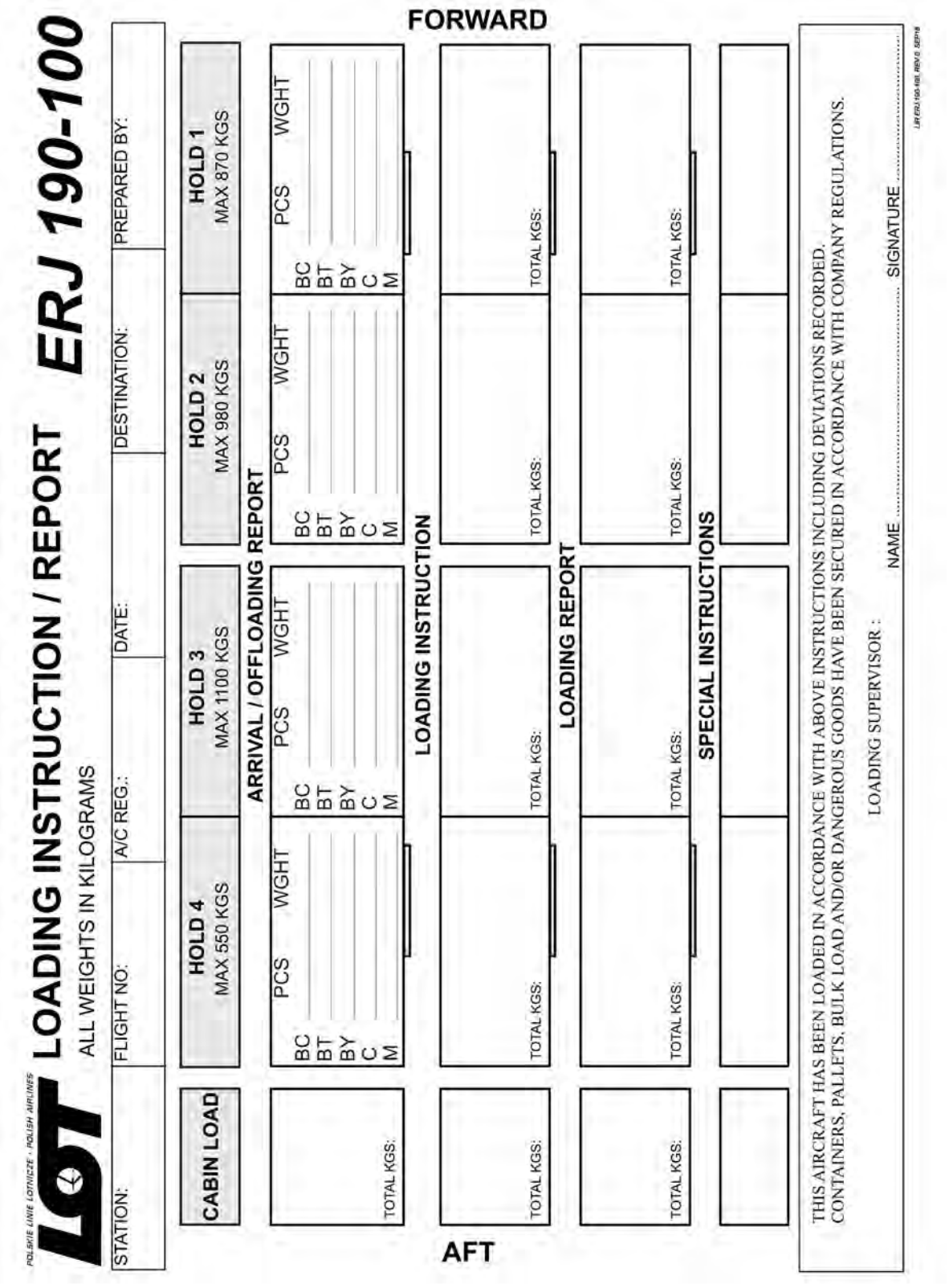
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3.10.3 Loading Instruction/Report ERJ 170–200/ -200STD



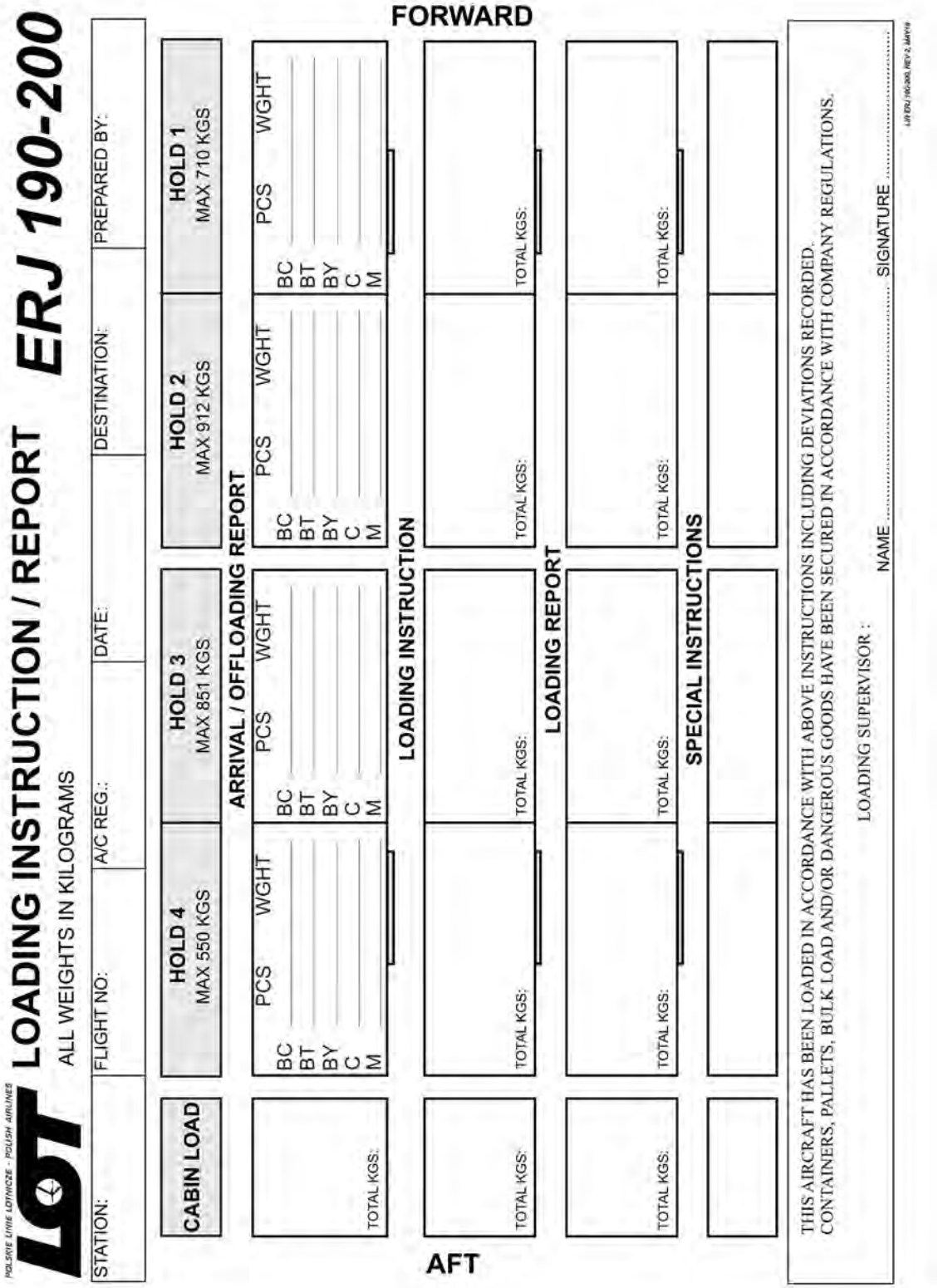
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3.10.4 Loading Instruction/Report ERJ 190-100 / ERJ 190-100AR



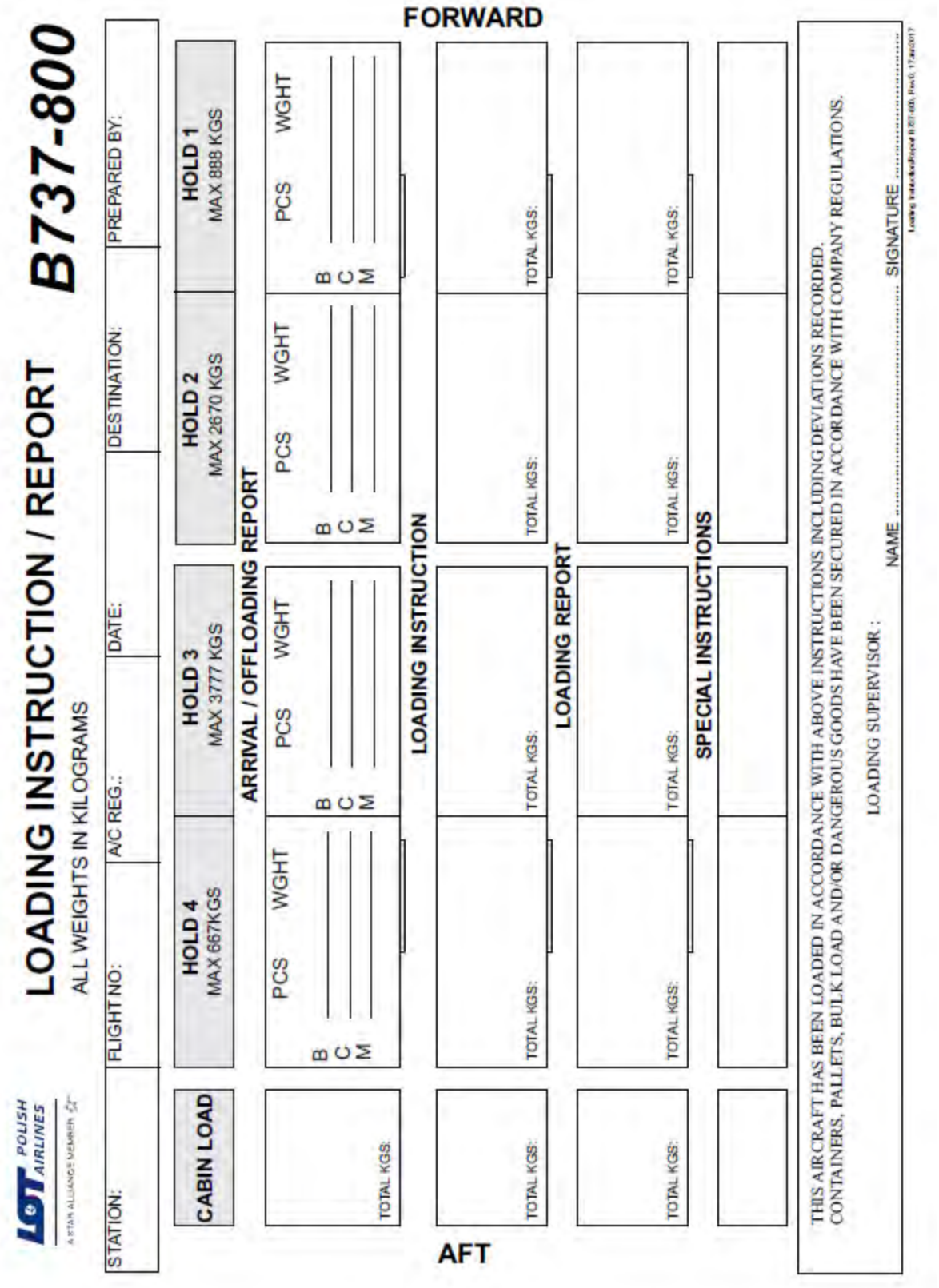
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3.10.5 Loading Instruction/Report ERJ 190–200 / ERJ 190-200AR


LOADING INSTRUCTION / REPORT
ERJ 190-200
ALL WEIGHTS IN KILOGRAMS
POLSKIE LINIE LOTNICZE - POLISH AIRLINES
STATION:
FLIGHT NO:
A/C REG.:
DATE:
DESTINATION:
PREPARED BY:
FORWARD
CABIN LOAD
HOLD 4
MAX 550 KGS
HOLD 3
MAX 851 KGS
HOLD 2
MAX 912 KGS
HOLD 1
MAX 710 KGS
ARRIVAL / OFFLOADING REPORT
PCS
WGHT
BC
BT
BY
C
M
TOTAL KGS:
LOADING INSTRUCTION
LOADING REPORT
SPECIAL INSTRUCTIONS
AFT
THIS AIRCRAFT HAS BEEN LOADED IN ACCORDANCE WITH ABOVE INSTRUCTIONS INCLUDING DEVIATIONS RECORDED.
CONTAINERS, PALLETS, BULK LOAD AND/OR DANGEROUS GOODS HAVE BEEN SECURED IN ACCORDANCE WITH COMPANY REGULATIONS.
LOADING SUPERVISOR :
NAME .....
SIGNATURE .....

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3.10.6 Loading Instruction/Report B737-800



LOADING INSTRUCTION / REPORT B737-86N

ALL WEIGHTS IN KILOGRAMS

POLISH AIRLINES
A STAR ALLIANCE MEMBER

STATION:	FLIGHT NO:	A/C REG.:	DATE:	DESTINATION:	PREPARED BY:

FORWARD

CABIN LOAD	HOLD 4 MAX 570 KGS	HOLD 3 MAX 3467 KGS	HOLD 2 MAX 2440 KGS	HOLD 1 MAX 814 KGS
ARRIVAL / OFFLOADING REPORT	PCS WGHT B C M	PCS WGHT B C M	PCS WGHT B C M	PCS WGHT B C M
	TOTAL KGS:	TOTAL KGS:	TOTAL KGS:	TOTAL KGS:
LOADING INSTRUCTION		TOTAL KGS:	TOTAL KGS:	TOTAL KGS:
LOADING REPORT		TOTAL KGS:	TOTAL KGS:	TOTAL KGS:
SPECIAL INSTRUCTIONS				

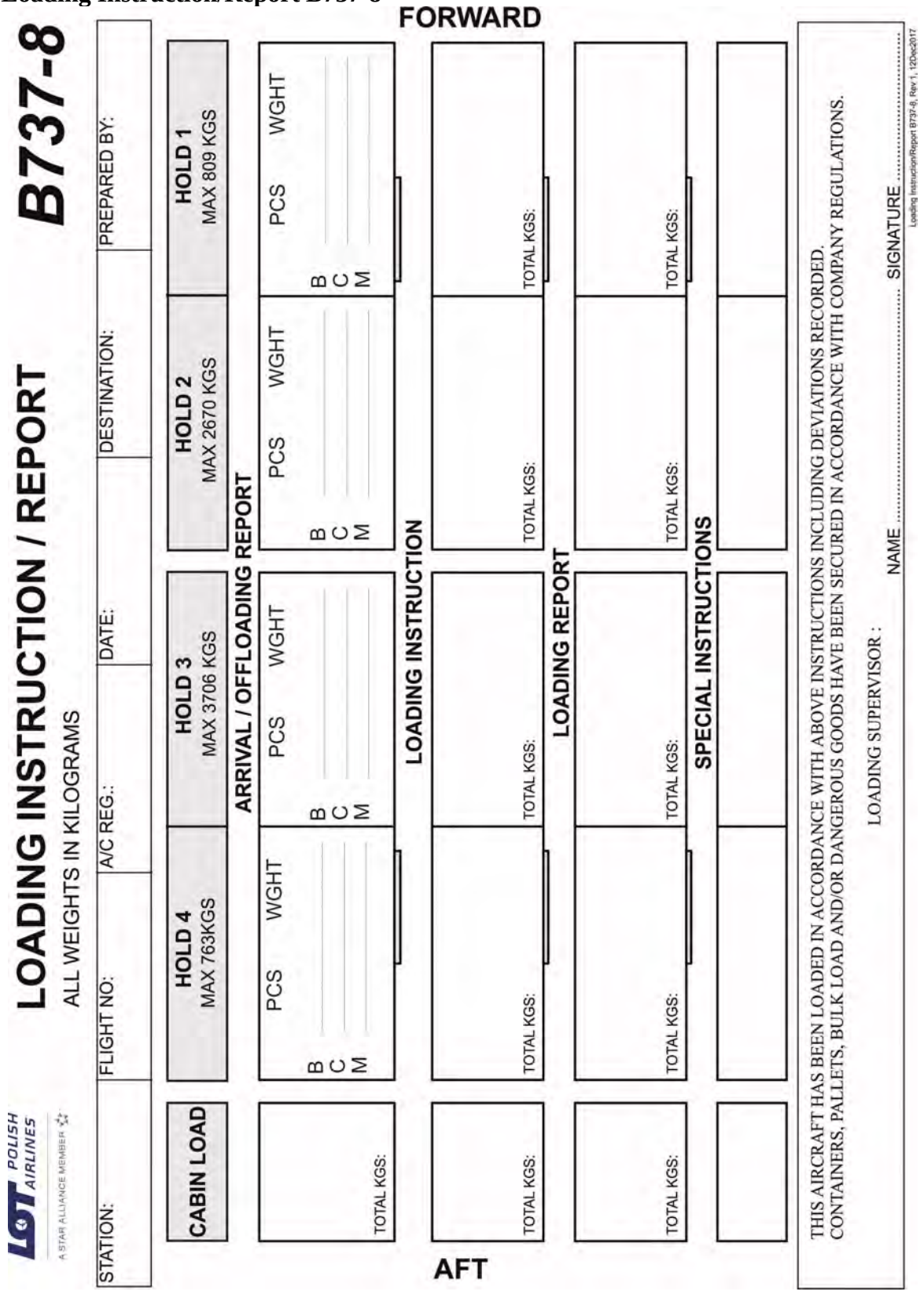
AFT

THIS AIRCRAFT HAS BEEN LOADED IN ACCORDANCE WITH ABOVE INSTRUCTIONS INCLUDING DEVIATIONS RECORDED.
CONTAINERS, PALLETS, BULK LOAD AND/OR DANGEROUS GOODS HAVE BEEN SECURED IN ACCORDANCE WITH COMPANY REGULATIONS.

LOADING SUPERVISOR : NAME ..... SIGNATURE .....

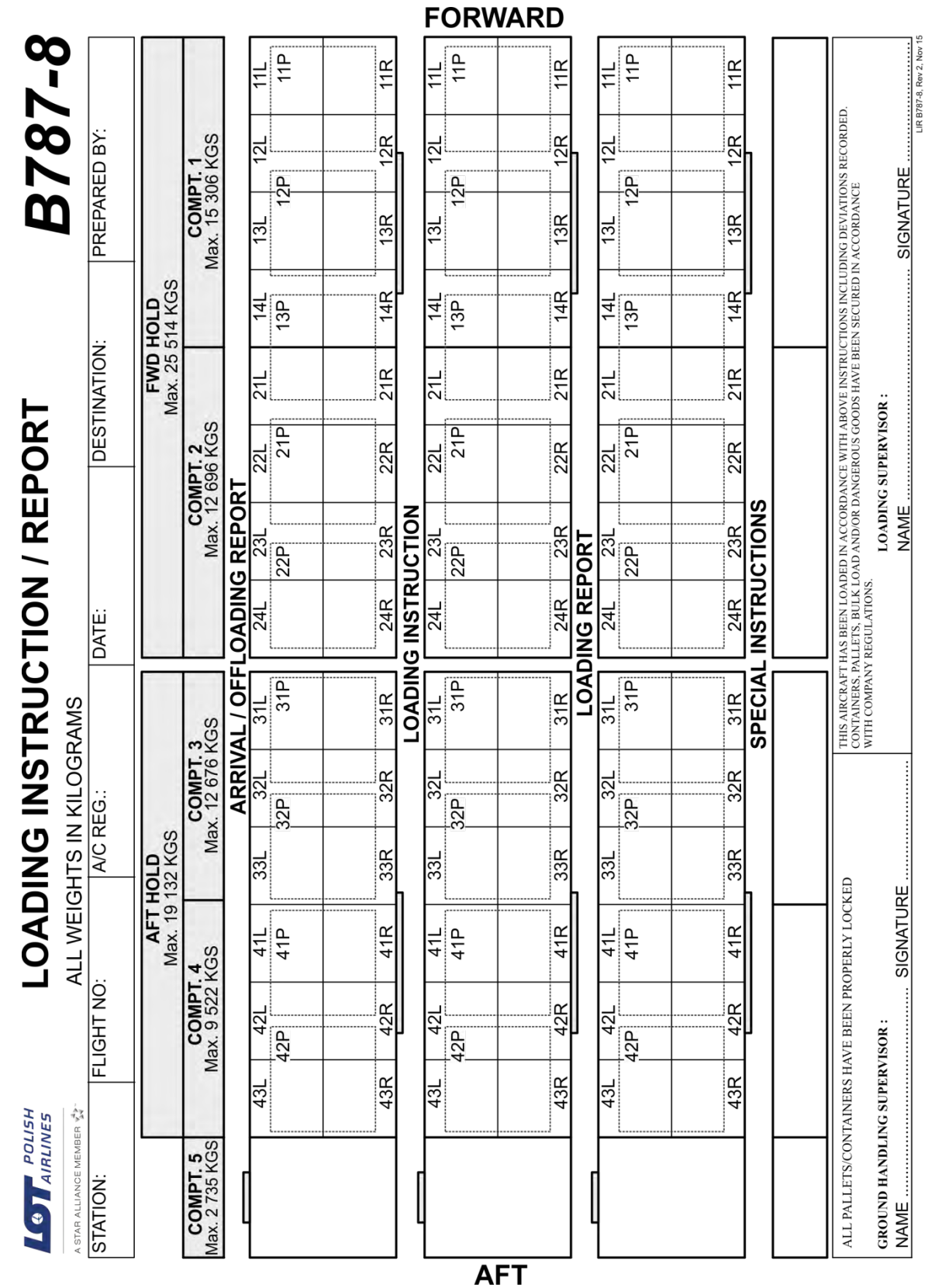
Loading Instruction/Report B737 86N, Rev 0, 26Aug2019

3.10.7 Loading Instruction/Report B737-8



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3.10.8 Loading Instruction/Report B787-8



MAXIMUM ALLOWED POSITION WEIGHTS FOR GIVEN SIZE CODE

Position	K	P
11L & 11R	1587	1224
12L & 12R	1587	1224
13L & 13R	1587	not allowed
14L & 14R	1587	1224
21L & 21R	1587	1224
22L & 22R	1587	1224
23L & 23R	1587	1224
24L & 24R	1587	1224
31L & 31R	1587	1224
32L & 32R	1587	1224
33L & 33R	1587	1224
41L & 41R	1587	not allowed
42L & 42R	1587	1224
43L & 43R	1587	1224

Position	L
11	3174
12	3174
13	3174
14	3174
21	3174
22	3174
23	3174
24	3174
31	3174
32	3174
33	3174
41	3174
42	3174
43	3174

Position	A	M
11P	4646	5102
12P	4646	5102
13P	4646	5102
21P	4646	5102
22P	5102	5669
31P	5102	5669
32P	4646	5102
41P	4646	not allowed
42P	4646	5102

Position	N	LD-4	LD-8
11PL & 11PR	2510	1587	not allowed
12PL & 12PR	2510	1587	1587(*)
13PL & 13PR	2510	1587	not allowed
21PL & 21PR	2510	1587	1587
22PL & 22PR	2510	1587	not allowed
31PL & 31PR	2510	1587	not allowed
32PL & 32PR	2510	1587	1587
41PL & 41PR	not allowed	not allowed	not allowed
42PL & 42PR	2510	1587	not allowed

(*) LD-8 NOT ALLOWED 12PR

LATERAL POSITION

B787-8

POLISH AIRLINES
A STAR ALLIANCE MEMBER

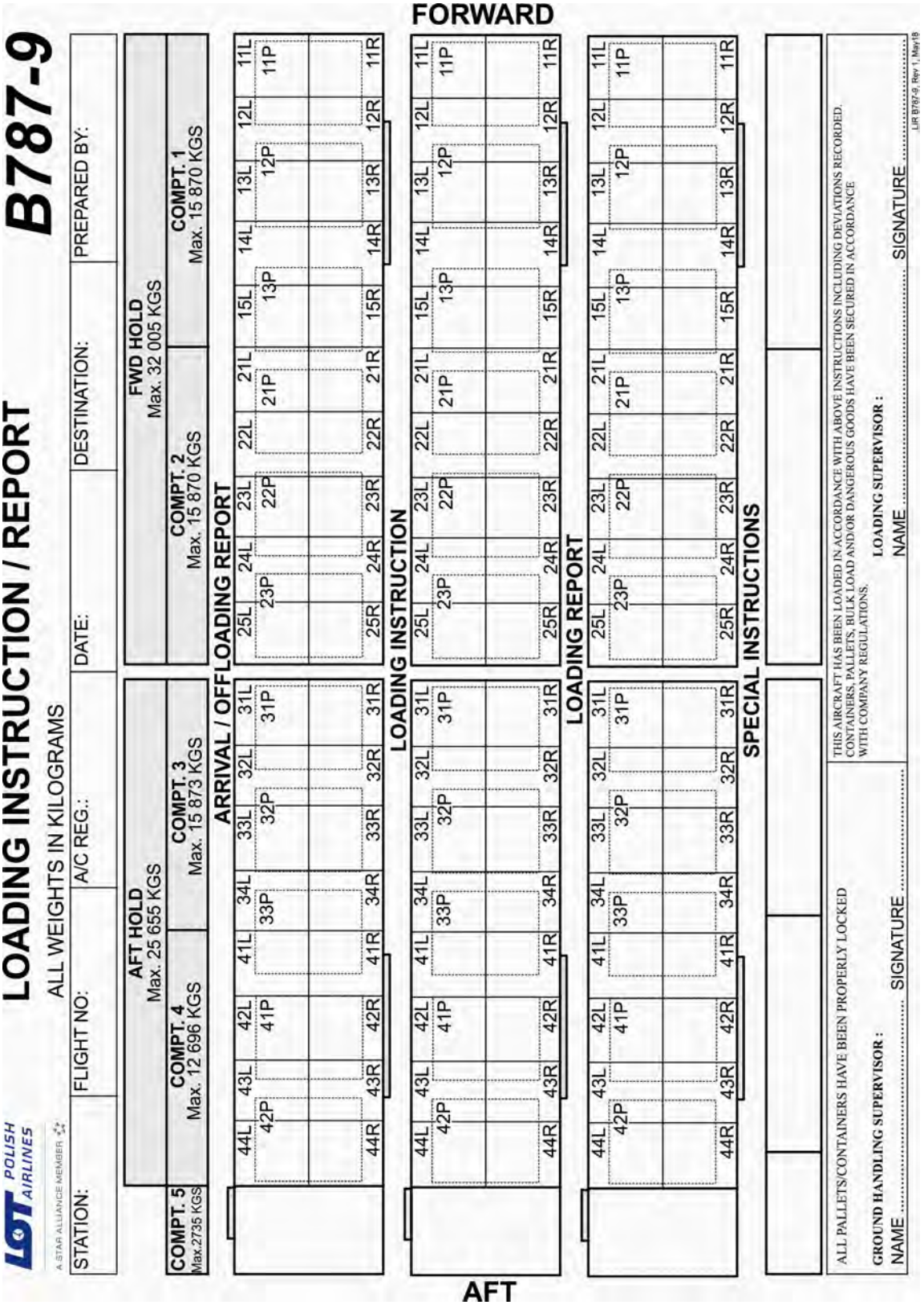
ULD LOAD CONFIGURATIONS (EXAMPLES)

CONFIG	IATA SIZE CODE	COMMON TYPES	FORWARD HOLD	AFT HOLD
1	K (LEFT) (60.4Lx61.5Wx64H)	LD-1	11L 12L 13L 14L 21L 22L 23L 24L	31L 32L 33L 41L 42L 43L
2	K (RIGHT) (60.4Lx61.5Wx64H)	LD-1	11R 12R 13R 14R 21R 22R 23R 24R	31R 32R 33R 41R 42R 43R
3	P (60.4Lx47Wx64H)	LD-2	11R 12R 14R 21R 22R 23R 24R 11L 12L 14L 21L 22L 23L 24L	31R 32R 33R 42R 43R 31L 32L 33L 42L 43L
4	K (60.4Lx61.5Wx64H)	LD-3	11R 12R 13R 14R 21R 22R 23R 24R 11L 12L 13L 14L 21L 22L 23L 24L	31R 32R 33R 41R 42R 43R 31L 32L 33L 41L 42L 43L
5	L (60.4Lx125Wx64H)	LD-5/6 LD-10/11	11 12 13 14 21 22 23 24	31 32 33 41 42 43
6	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-4	P11R P12R P13R P21R P22R P11L P12L P13L P21L P22L	P31R P32R P42R P31L P32L P42L
7	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-8	P12L P21R P21L	P32R P32L
8	A (88Lx125Wx64H)	LD-7/9 A	P11 P12 P13 P21 P22	P31 P32 P41 P42
9	M (96Lx125Wx64H)	M	P11 P12 P13 P21 P22	P31 P32 P42
10	N (96Lx61.5Wx64H)	Half Pallet	P11R P12R P13R P21R P22R P11L P12L P13L P21L P22L	P31R P32R P42R P31L P32L P42L

NOTE:
1) DOOR AREA POSITIONS ARE SHOWN WITH A DOUBLE LINE BORDER.
2) HEAVY WEIGHT ULD POSITIONS ARE SHOWN WITH A BOLD LINE BORDER.
3) OTHER CONFIGURATIONS ARE POSSIBLE WITH A MIXTURE OF CONTAINER AND PALLET SIZES.
4) LD-4 AND LD-8 IN LONGITUDINAL DIRECTION ONLY.
5) LD-2 MUST BE PAIRED WITH ANOTHER LD-2 OR LD-3 CONTAINER.
6) LD-3 LOAD SIDE BY SIDE. IF AN ODD NUMBER OF LD-3, LEAVE ONLY ONE EMPTY POSITION.

LIR B787-8, Rev 2, Nov 15

3.10.9 Loading Instruction/Report B787-9



ULD LOAD CONFIGURATIONS(EXAMPLES)

CONFIG	IATA SIZE CODE	COMMON TYPES	FORWARD COMPARTMENT												AFT COMPARTMENT										
			11L	12L	13L	14L	15L	21L	22L	23L	24L	25L			31L	32L	33L	34L	41L	42L	43L	44L			
1	K (LEFT) (60.4Lx61.5Wx64H)	LD-1	11R	12R	13R	14R	15R	21R	22R	23R	24R	25R			31R	32R	33R	34R	41R	42R	43R	44R			
2	K (RIGHT) (60.4Lx61.5Wx64H)	LD-1	11R	12R	13R	14R	15R	21R	22R	23R	24R	25R			31R	32R	33R	34R	41R	42R	43R	44R			
3	P (60.4Lx47Wx64H)	LD-2	11R	12R		14R	15R	21R	22R	23R	24R	25R			31R	32R	33R	34R	41R		43R	44R			
			11L	12L		14L	15L	21L	22L	23L	24L	25L			31L	32L	33L	34L	41L		43L	44L			
4	K (60.4Lx61.5Wx64H)	LD-3	11R	12R	13R	14R	15R	21R	22R	23R	24R	25R			31R	32R	33R	34R	41R	42R	43R	44R			
			11L	12L	13L	14L	15L	21L	22L	23L	24L	25L			31L	32L	33L	34L	41L	42L	43L	44L			
5	L (60.4Lx125Wx64H)	LD-5/6 LD-10/11	11	12	13	14	15	21	22	23	24	25			31	32	33	34	41	42	43	44			
6	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-4	P11R	P12R		P13R		P21R		P22R		P23R			P31R	P32R		P33R		P41R		P42R			
			P11L	P12L		P13L		P21L		P22L		P23L			P31L	P32L		P33L		P41L		P42L			
7a	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-8				P13R			P22R							P32R				P41L					
						P13L			P22L							P32L									
7b	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-8			P12L			P21R									P33R								
								P21L									P33L								
8	A (88Lx125Wx64H)	LD-7/9 A	P11		P12		P13		P21		P22		P23		P31		P32		P33		P41		P42		
9	M (96Lx125Wx64H)	M	P11		P12		P13		P21		P22		P23		P31		P32		P33		P41		P42		
10	N (96Lx61.5Wx64H)	HALF PALLET	P11R		P12R		P13R		P21R		P22R		P23R		P31R		P32R		P33R		P41R		P42R		
			P11L		P12L		P13L		P21L		P22L		P23L		P31L		P32L		P33L		P41L		P42L		

NOTE:

1) DOOR AREA POSITIONS ARE SHOWN WITH A DOUBLE LINE BORDER.
2) HEAVY WEIGHT ULD POSITIONS ARE SHOWN WITH A BOLD LINE BORDER.
3) OTHER CONFIGURATIONS ARE POSSIBLE WITH A MIXTURE OF CONTAINER AND PALLET SIZES.
4) LD-4 AND LD-8 IN LONGITUDINAL DIRECTION ONLY.
5) LD-2 MUST BE PAIRED WITH ANOTHER LD-2 OR LD-3 CONTAINER.
6) LD-3 LOAD SIDE BY SIDE. IF AN ODD NUMBER OF LD-3, LEAVE ONLY ONE EMPTY POSITION.

LATERAL POSITION

LD-2

LD-3

LIR B787-9, Rev 1, May18

MAXIMUM ALLOWED POSITION WEIGHTS FOR GIVEN SIZE CODE

Position	K	P	Position	L
11L & 11R	1587	1224	11	3174
12L & 12R	1587	1224	12	3174
13L & 13R	1587	not allowed	13	3174
14L & 14R	1587	1224	14	3174
15L & 15R	1587	1224	15	3174
21L & 21R	1587	1224	21	3174
22L & 22R	1587	1224	22	3174
23L & 23R	1587	1224	23	3174
24L & 24R	1587	1224	24	3174
25L & 25R	1587	1224	25	3174
31L & 31R	1587	1224	31	3174
32L & 32R	1587	1224	32	3174
33L & 33R	1587	1224	33	3174
34L & 34R	1587	1224	34	3174
41L & 41R	1587	1224	41	3174
42L & 42R	1587	not allowed	42	3174
43L & 43R	1587	1224	43	3174
43L & 43R	1587	1224	44	3174

Position	A	M	Position	A	M
11P	4676	5102	31P	5102	5669
12P	4676	5102	32P	4676	5102
13P	4676	5102	33P	4676	5102
21P	4676	5102	41P	4676	5102
22P	4676	5102	42P	4676	5102
23P	5102	5669			

B787-9

3.11 Loading Instruction/Report – description

	Remarks	
1. Heading	Station	Three-letter IATA airport code of issuing station
	Flight	Flight number for which the instruction is issued
	A/C Reg.	Aircraft registration
	Date	Local date e.g. 05JUN94
	Destination	Three-letter IATA airport code(s) of route station(s)
	Prepared by	Name in capital letters of Loadsheet Agent.
2. Instruction of onloading	• Loading Instruction/Report is to be filled for each compartment taking into consideration the compartments weight limitations, its volume and the structural strength limits. • The Loading Instructions must be completed by the Loadsheet Agent. The information specified on it must include details of the load per compartment as follows: ⇒ for multi-sector flights the destinations using three-letters IATA codes, ⇒ followed by category of load e.g. Baggage (B), Cargo (C), Mail (M) ⇒ followed by weight and, if necessary number of pieces ⇒ followed by specific handling code(s) in case of special load • The Loading Report must be completed by the Loading Supervisor while loading is in progress. The information specified on it must include actual load details per compartment or deviations from original instructions. For aircraft equipped with ULD additional information must be enter: ⇒ for multi-sector flights the destinations using the 3-letter IATA airport codes, ⇒ IATA ULD identification code together with category of load, ⇒ weight of cargo, ⇒ for empty ULD write “X”, ⇒ write “N’ (no fit) when a ULD position is to be left empty, • Loading Report must inform about actual load details per ULD position or deviations from original instructions.	
3. Special instructions	• The Special Instructions must be completed by the Loadsheet Agent. • This part is to instruct the Loading Supervisor about: ⇒ goods which require special handling or stowage, e.g. live animals, dangerous goods, etc., ⇒ supporting of heavy items, ⇒ securing of items which may cause a hazard, ⇒ relocation of transit load, ⇒ load to be located in passenger cabin, ⇒ and any other information which is useful for the Loading Supervisor e.g. summary of planned onload.	
4. Signatures	• This part is designed for confirmation that the aircraft has been loaded in accordance with the instructions, including the deviations shown on the report, and that the load has been secured in accordance with company instructions.	

	• Signature of responsible Loadsheet Agent and name and signature of responsible Loading Supervisor must be placed.

INTENTIONALLY LEFT BLANK

3.11.1 Electronic Loading Instruction Report

1

```
LOADING INSTRUCTION/REPORT  PREPARED BY Adela Martyniuk  EDNO1
ALL WEIGHTS IN KG
FROM/TO FLIGHT  A/C REG   VERSION   GATE TARMAC   DATE     TIME
ODS WAW LO770   SP-LIE    ERJ170-200             02JUL15  1622
PLANNED JOINING LOAD
WAW    C 0      P 0      Y 46     C 0      M 1      B 657
JOINING SPECS:   SEE SUMMARY
TRANSIT SPECS:   SEE SUMMARY
RELOADS:
```

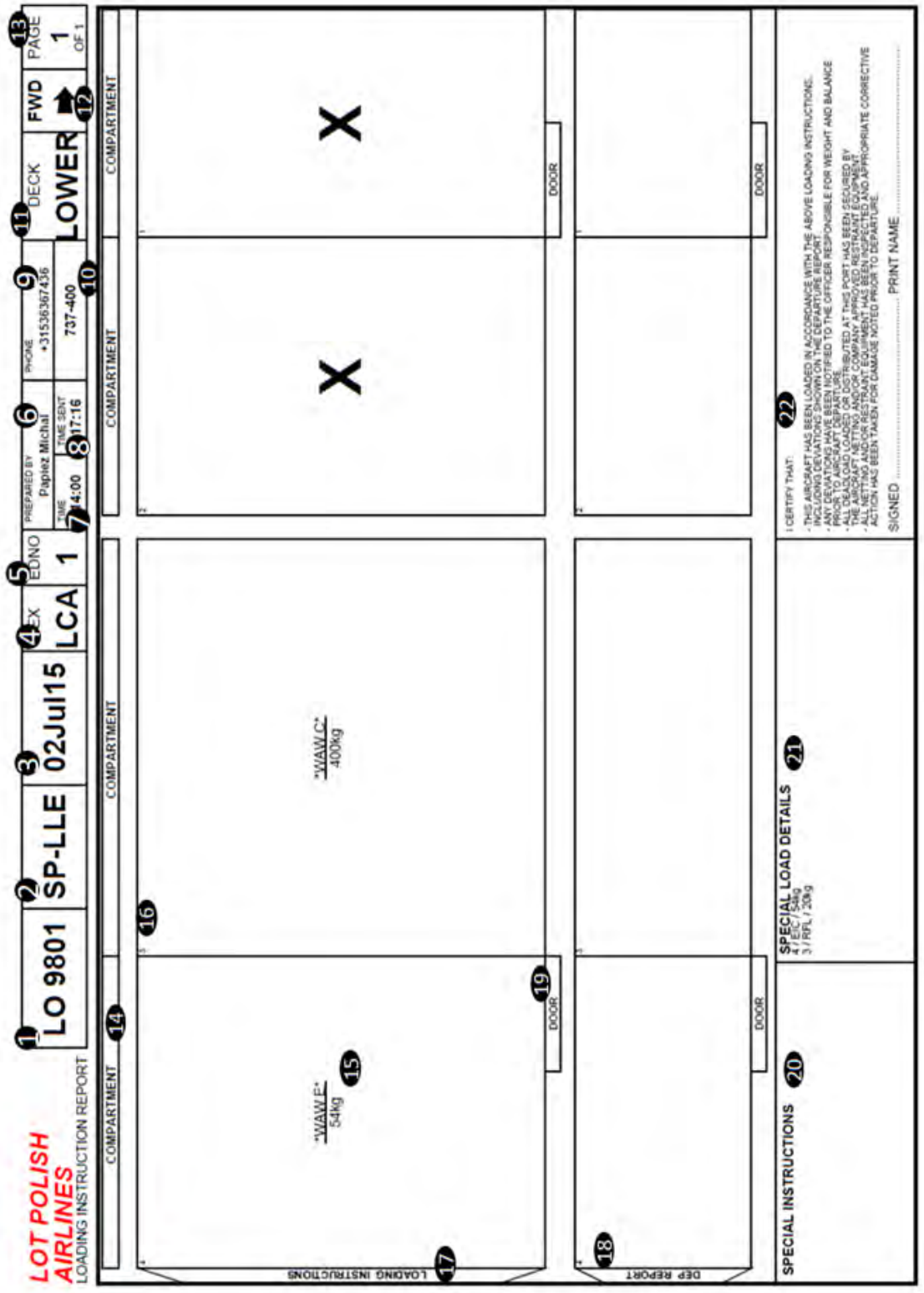
2

```
                                                        ACTUAL
                                                        PIECES
LOADING INSTRUCTION                                     WEIGHT
*************************************************************
CPT 1     MAX 00633
:1                                                     :
:ONLOAD: WAW BY R/                                     :
:            50/3PCS                                   :
:SPECS: NONE                                           :
:REPORT:                                  CPT  1 TOTAL:
*************************************************************
CPT 2     MAX 00867
:2                                                     :
:ONLOAD: WAW BT R/                                     :
:            347/20PCS                                 :
:SPECS: NONE                                           :
:REPORT:                                  CPT  2 TOTAL:
*************************************************************
CPT 3     MAX 00828
:3                                                     :
:ONLOAD: WAW BT/                                       :
:            260/15PCS                                 :
:SPECS: NONE                                           :
:REPORT:                                  CPT  3 TOTAL:
*************************************************************
CPT 4     MAX 00322
:4                                                     :
:NO FIT                                                :
:                                                      :
:                                         CPT  4 TOTAL:
*************************************************************
CPT 0
:ONLOAD: WAW M/1                                       :
:SPECS: COM                                            :
:REPORT:                                  CPT  0 TOTAL:
*************************************************************
LOCN  JOIN/TRAN DEST  CAT  IMP  PCS  WEIGHT  TI    AWB
*************************************************************
CBN   JOIN      WAW   M    COM       1
SI LOAD IN CPTS 0/1 1/50 2/347 3/260 4/0
NOTOC: NO
```

3	PREPARED BY Adela/Martyniuk 48 22 4450172 I CERTIFY THAT: - THIS AIRCRAFT HAS BEEN LOADED IN ACCORDANCE WITH THE ABOVE LOADING INSTRUCTIONS, INCLUDING DEVIATIONS SHOWN ON THE DEPARTURE REPORT. - ANY DEVIATIONS HAVE BEEN NOTIFIED TO THE OFFICER RESPONSIBLE FOR WEIGHT AND BALANCE PRIOR TO AIRCRAFT DEPARTURE. - ALL DEADLOAD LOADED OR DISTRIBUTED AT THIS PORT HAS BEEN SECURED BY THE AIRCRAFT NETTING AND/OR COMPANY APPROVED RESTRAINT EQUIPMENT. - ALL NETTING AND/OR RESTRAINT EQUIPMENT HAS BEEN INSPECTED AND APPROPRIATE CORRECTIVE ACTION HAS BEEN TAKEN FOR DAMAGE NOTED PRIOR TO DEPARTURE. SIGNED ..... PRINT NAME ....
4	

1	Document title, Prepared by, Edition number
	Weights used
	Flight leg, Flight number, Aircraft registration, Aircraft type, Aircraft location, Edition date and time
	Load by category Passenegers per class / Cargo / Mail / Baggage
	Joining/Transit loads
2	Loading Instructions per each compartment
	Actual pieces weight – to be filled by ramp agent
	Cpt 1 – compartment number
	Maximum compartment weight
	Onload Destination, type of load, weight of load, pieces of load,
	Special loads (dangerous goods/special loads)
	Loading report
	Compartment 1 total weight of load - to be filled by ramp agent
3	Loads on passenger deck (cabin joining)
	Load in compartments
	NOTOC reqired?
	Load Controller Name / Phone number
4	Loading statement
	Signature of load master
	Name of load master

3.11.2 Electronic Graphical Loading Instruction



1	Flight Number
2	Aircraft Registration
3	Date of flight
4	Departure Station
5	Edition Number
6	Load Controller Name
7	Standard Time of Departure
8	Time Sent
9	Load Controllers Telephone Number
10	Type of Aircraft
11	Aircraft Deck
12	Direction of Aircraft Nose
13	Page Number
14	Compartment
15	Load information
16	Compartment number
17	Loading Instruction
18	Final Loading Report
19	Door location
20	Special Instructions
21	Special Load Details
22	Load Master Statement, Load Master Signature, Load Master Name

3.11.3 Electronic NOTOC

1

```
SPECIAL LOAD NOTIFICATION TO CAPTAIN
FROM   FLIGHT      DATE       A/C REG
WAW    LO006/03    03JUL15    SP-LRE
************************************************************
*** DANGEROUS GOODS ***
TO  AWB NR   CL/DV UN/ID SUB PCS QTY/TI RRR PCK IMP  CAO    POS
              COMP  NR   RSK            CAT GRP CODE   ULD/CODE
------------------------------------------------------------
01.DRY ICE
JFK 32028684 9     UN        1   7              ICE  N      13P
                   1845                            PMC38635LO
............................................................
02.DRY ICE
JFK 32124444 9     UN        2   7              ICE  N      13P
                   1845                            PMC38635LO
************************************************************
*** OTHER SPECIAL LOADS ***
TO  AWB NR   CONTENTS              PCS  QTY     IMP         POS
                                                CODE   ULD/CODE
------------------------------------------------------------
NO SPECIAL LOAD UPLIFTED EX WAW

************************************************************
SI
PREPARED BY Katarzyna/Bichta 48 22 2069468
```

2

```
01 PMC38635LO
02 PMC38635LO
************************************************************
THERE IS NO EVIDENCE THAT ANY DAMAGED OR LEAKING PACKAGES
CONTAINING DANGEROUS GOODS HAVE BEEN LOADED ON THE AIRCRAFT.
************************************************************
LOADING SUPERVISOR                              CAPTAIN
(NAME AND SIGNATURE)                  (NAME AND SIGNATURE)
```

1	Message designator
	Flight leg, Edition date , Aircraft registration
	Per each Dangerous Good item:
	Destination
	Airway bill number
	Class/Division
	UN Code
	Sub Risk
	Pieces
	Quantity/ Transport Index
	Radioactive category
	Packing Group
	IMP Code
	Cargo Aircraft Only
	Position/Unit Loading Devices

	Information about special load
2	Supplementary Information
	Load Controller Name / Phone number
	Dangerous Goods/Special Loads marked on positions/ULD number
	Dangerous Goods/Special Load statement
	Signature of load master
	Signature of pilot in command

3.12 Aircraft characteristics

3.12.1 DHC-8-400

DHC-8-400		
DESIGN WEIGHTS	[kg]	
MAXIMUM TAXI WEIGHT (MTXW)	29089	
MAXIMUM TAKE-OFF WEIGHT (MTOW)	28998	
MAXIMUM LANDING WEIGHT (MLAW)	28009	
MAXIMUM ZERO FUEL WEIGHT (MZFW)	25855	
MAXIMUM FUEL LOAD	5318	
CREW		
COCKPIT CREW – STANDARD (TTL)	2 (3)	
CABIN CREW SEATS - FWD/AFT (TTL)	1 / 1 (2) [1]	
PANTRY	AHM 560 sheet C8 (according to IATA AHM Revision 37)	
PAX CABIN		
VERSION - C/Y (TTL)	CY 78	
PAX SECTOR **A**: C/Y	14	
PAX SECTOR **B**: Y	16	
PAX SECTOR **C**: Y	16	
PAX SECTOR **D**: Y	16	
PAX SECTOR **E**: Y	16	
CARGO COMPARTMENTS	gross weight [kg]; volume [m^3]	
FWD **5**	231 ; 1.44 / 413 [3] ; 2.58 [3]	
FWD **6**	1140 [2]	10.33
AFT **7**	454	
CARGO DOOR DIMENSIONS	[m]	
FWD	1.36 x 0.623	
AFT	1.43 x 1.27	
MAXIMUM FLOOR LOADING	[kg /m^2]	[kg /m]
PASSENGER CABIN CENTER AISLE	366	
PASSENGER CABIN FLOOR UNDER SEATS	366	
CARGO COMP. 5 and 6	610	
CARGO COMP. 7	366	

Remark:

1. **Additional third F/A is allocated on seat 20C.**
2. **Maximum total loading of AFT Cargo Compartments 6 and 7 may not exceed 1140 kg.**
3. **Relates to A/C reg SPEQI /-K /-L /-M /-N /-O**

3.12.2 ERJ 170-100/ -200/ -200STD and ERJ 190-100/ -100AR/ -200LR / -200AR

	ERJ170-100	ERJ170-200	ERJ170-200STD
MAX WEIGHTS	[kg]		
MTXW	36150	38950	37660
MTOW	35990	38790	37500
MLAW	32800	34000	34000
MZFW	29600	31700	31700
FUEL	9470		9881
ALT FWD CG	N/A		
CREW – STD (TTL)			
COCKPIT	2 (3)		
CABIN - FWD/AFT	1 / 1 (2)[1]	1 / 2 (3)[2]	1 / 1 (2)[3]
PANTRY	AHM 560 sheet C8 (according to IATA AHM Revision 37)		
PAX CABIN			
NBR OF SEATS	76	82 | 68[4]	88
PAX SECTOR **A**	28	30 | 08	32
PAX SECTOR **B**	24	20 | 32	24
PAX SECTOR **C**	24	32 | 28	32
CARGO COMP.	gross weight [kg]		
FWD **1**	457 A–137/B–320	633 A–155/B–210/C–268	
FWD **2**	913 C–457/D–240/E–216	867 D–434/E–228/F–205	
AFT **3**	686 A–342/B–344	828 A–506/B–322	
AFT **4**	344 C–172/D–172	322 C–161/D–161	
CARGO COMP.	gross weight [kg]; volume [m^3]		
FWD 1 + 2	1370; 8.7	1500; 10.6	
AFT 3 + 4	1030; 5.8	1150; 7.19	
CARGO DOOR DIM	[m]		
FWD	1.10 x 0.90		
AFT	0.99 x (0.87 - 0.78)		
MAX. FLOOR LOAD	[kg/m^2]		
MAIN DECK	200		
COMPARTMENTS	488		

Remark:

1. **A/C ERJ170-100 – additional third F/A is allocated on seat 20C**
2. **A/C ERJ170-200 SP-LIG / -LIH - additional two (2) F/A is allocated on seats 8B / 8C**
3. **A/C ERJ170-200STD - additional third F/A is allocated on seat 22C**
4. **PAX CABIN for SP-LIG / -LIH only**

To ensure proper of the smoke detection and fire suppression systems under all operating conditions, placards are installed inside the compartment to restrict cargo from being loaded to within 2 inches (51 mm) of the cargo compartment ceiling

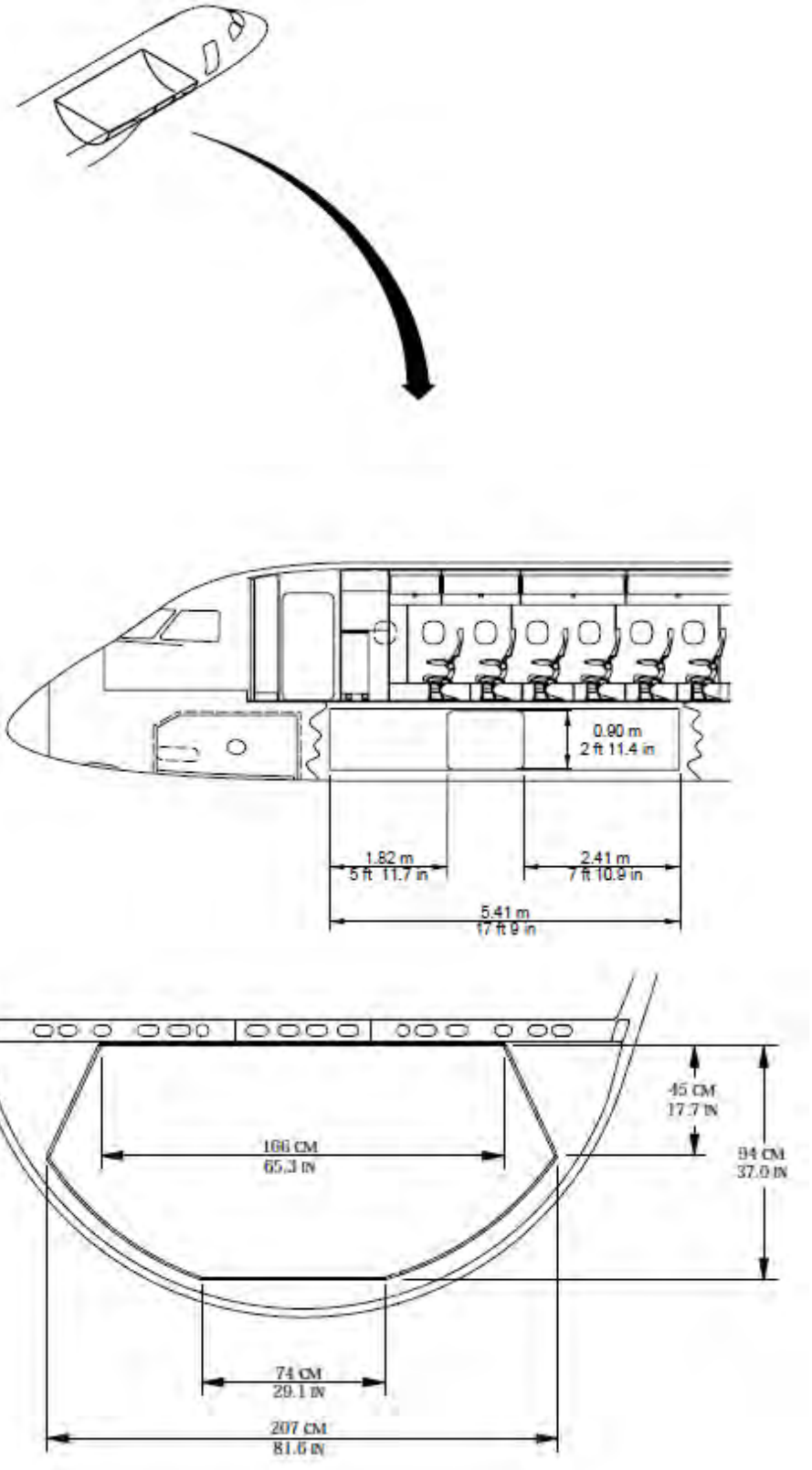
	ERJ190-100	ERJ190-100AR	ERJ190-200LR	ERJ190-200AR
MAX WEIGHTS	[kg]			
MTXW	47950	51960	50950	52450
MTOW	47790	51800	50790	52290
MLAW	43000	44000	45000	45800
MZFW	40800	40900	42500	42600
FUEL	13730			
ALT FWD CG	MAC ≥ 20%[1]			
CREW – STD (TTL)				
COCKPIT	2 (3)			
CABIN - FWD/AFT	2 / 2 (4)[2]			
PANTRY	AHM 560 sheet C8 (according to IATA AHM Revision 37)			
PAX CABIN				
NBR OF SEATS	106		112 | 118[3]	118
PAX SECTOR **A**	34		40 | 38	38
PAX SECTOR **B**	36		36 | 40	40
PAX SECTOR **C**	36		36 | 40	40
CARGO COMP.	gross weight [kg]			
FWD **1**	870 A–137/B–303/C–430		710 A–90/B–190/C–430	
FWD **2**	980 D–240/E–370/F–370		1190 D–240/E–370/F–270/G-310	
AFT **3**	1100 A–260/B–445/C-395		1250 A–360/B–230/C-310/D-350	
AFT **4**	550 D–340/E–130/F-80		550 E–340/F–130/G-80	
CARGO COMP.	gross weight [kg]; volume [m^3]			
FWD 1 + 2	1850; 10.99		1900; 11.14	
AFT 3 + 4	1650; 8.92		1800; 11.25	
CARGO DOOR DIM	[m]			
FWD	1.10 x 0.90			
AFT	0.99 x (0.87 - 0.78)			
MAX. FLOOR LOAD	[kg/m^2]			
MAIN DECK	200			
COMPARTMENTS	488			

Remark:

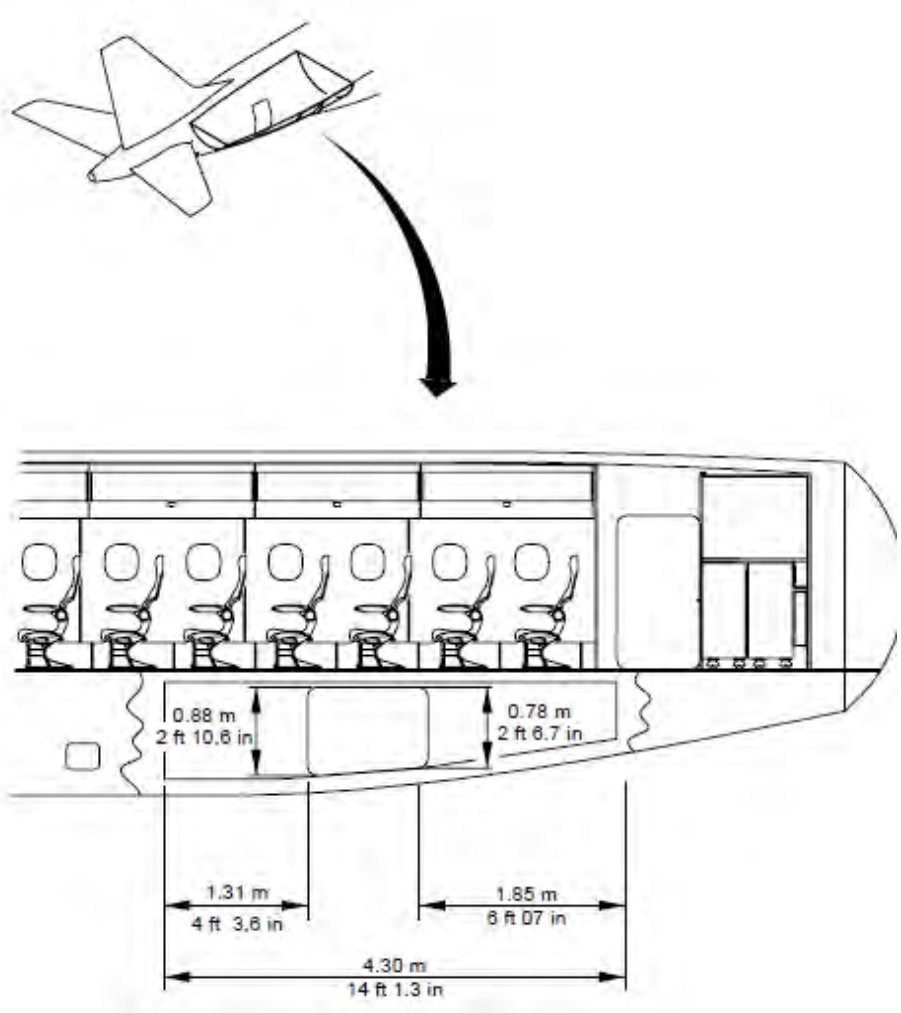
1. **Except A/C ERJ190-200LR – SP-LNO/-LNP**
2. **A/C ERJ190-200LR – SP-LNO / -LNP standard cabin crew is 1 / 2 (3)**
3. **PAX CABIN for SP-LNO / -LNP only**

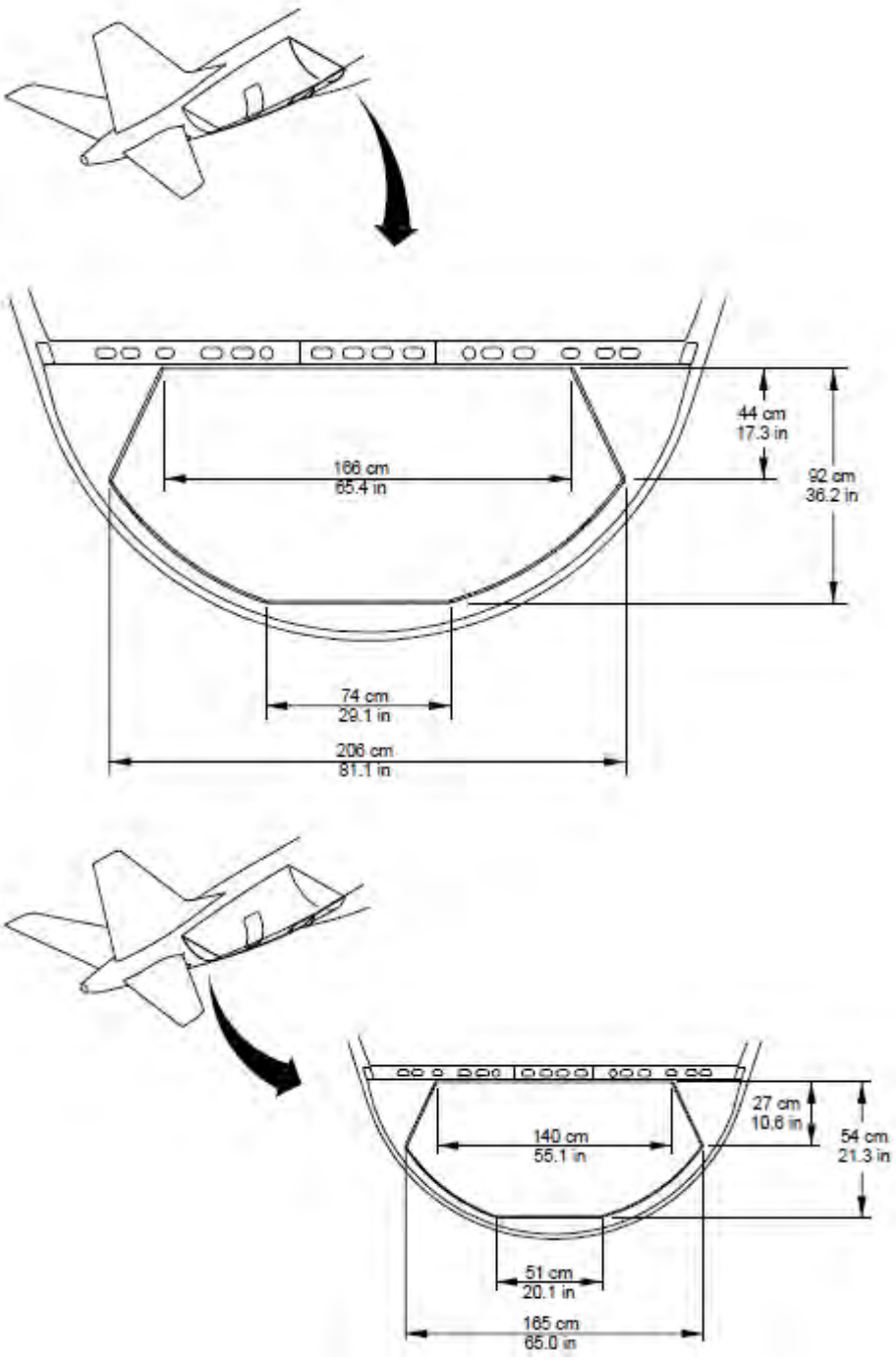
To ensure proper of the smoke detection and fire suppression systems under all operating conditions, placards are installed inside the compartment to restrict cargo from being loaded to within 2 inches (51 mm) of the cargo compartment ceiling

ERJ170-100 - FORWARD CARGO HOLD Dimensions



ERJ170-100 - AFT CARGO HOLD Dimensions




44 cm
17.3 in
166 cm
65.4 in
92 cm
36.2 in
74 cm
29.1 in
206 cm
81.1 in
27 cm
10.6 in
140 cm
55.1 in
54 cm
21.3 in
51 cm
20.1 in
165 cm
65.0 in

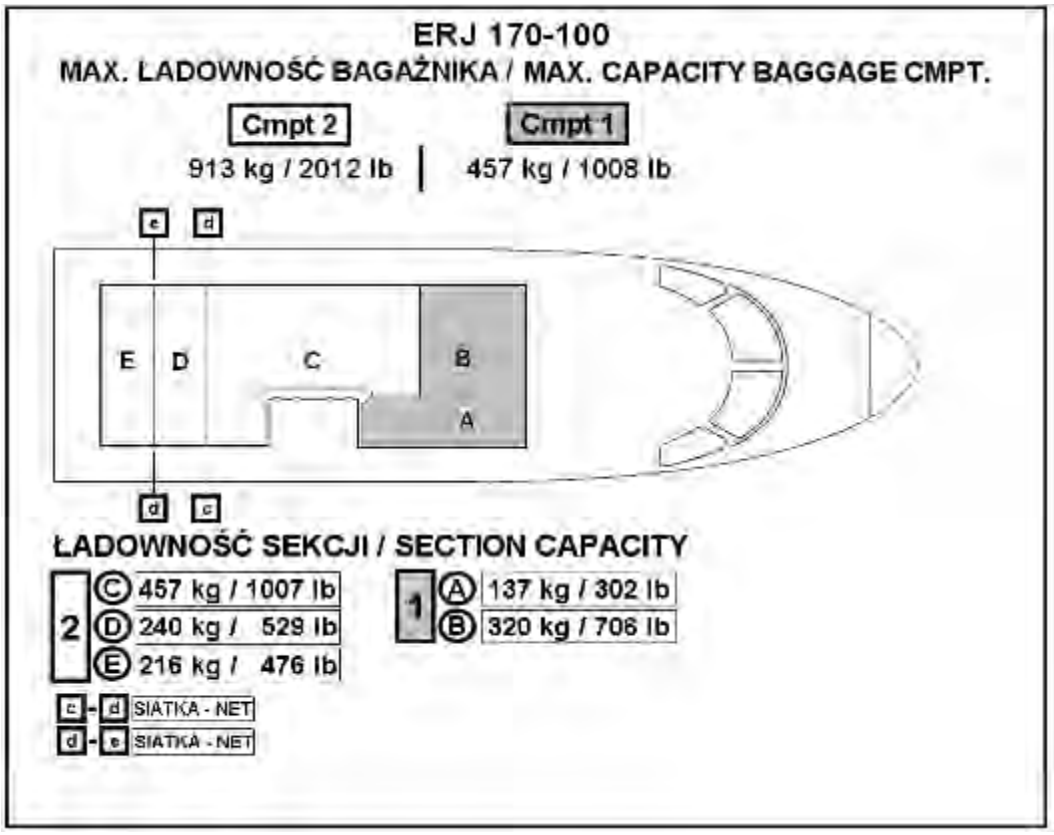
ERJ 170-100 FWD CARGO COMPT. (1 + 2)
Operations with cargo nets missing

Load limits shown below must be observed when operating with cargo nets missing. The only nets allowed to be missing are (c-d) and (d-e).

Y- net operative

CARGO CMPT. 1 [kg]		
section B	section A	max weight
320	137	457

CARGO CMPT.2 [kg]					
section E	net (d-e)	section D	net (c-d)	section C	max weight
216	Y	240	Y	457	913
216	Y	456			672
456			Y	457	913
456					456

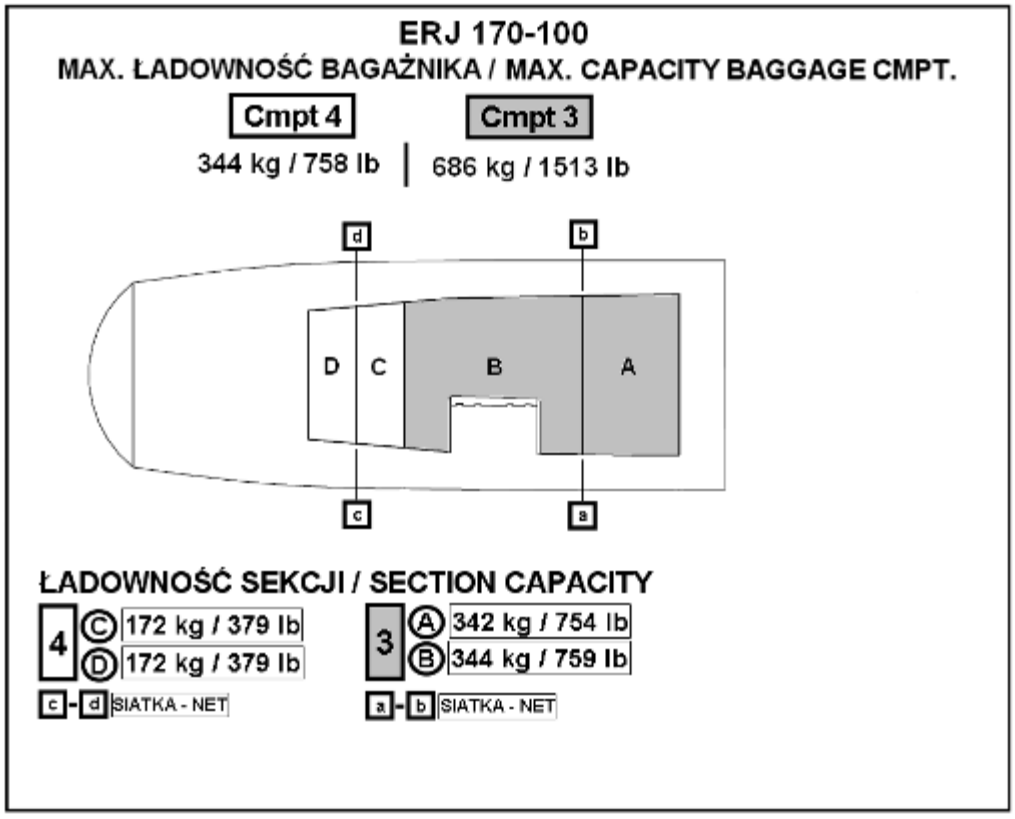


ERJ 170-100 AFT CARGO COMPT. (3 + 4)
Operations with cargo nets missing

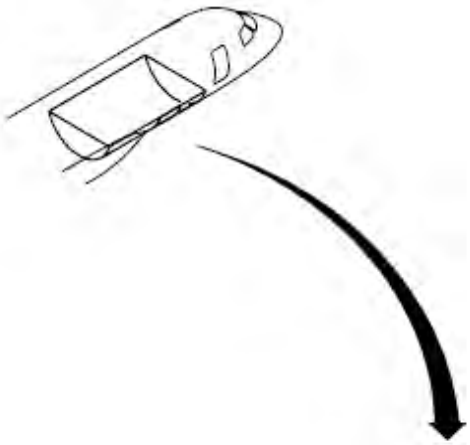
Load limits shown below must be observed when operating with cargo nets missing. The only nets allowed to be missing are (a-b) and (c-d).

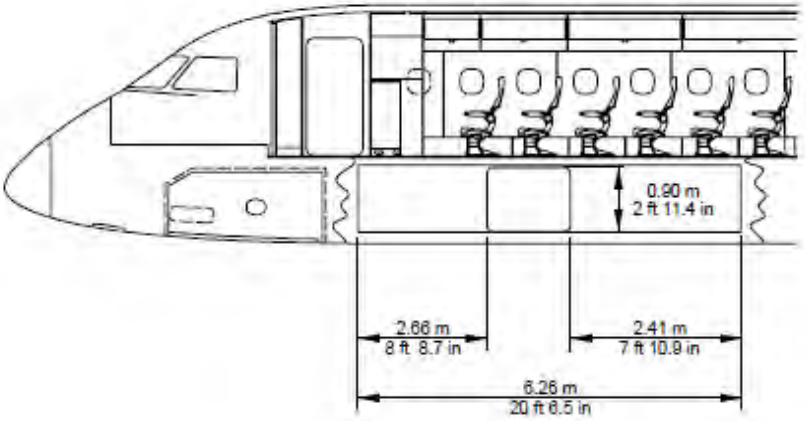
Y- net operative

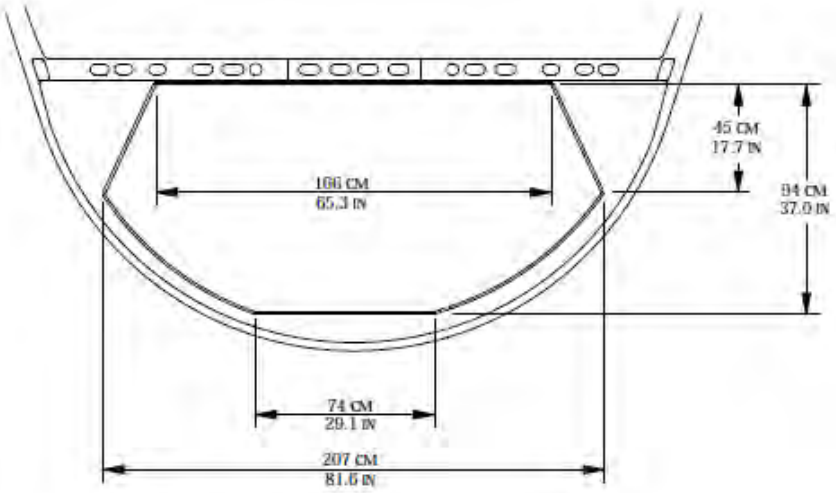
CARGO CMPT. 3 [kg]			
section B	net (a-b)	section A	max weight
344	Y	342	686
343			343
CARGO CMPT. 4 [kg]			
section D	net (c-d)	section C	max weight
172	Y	172	344
343			343



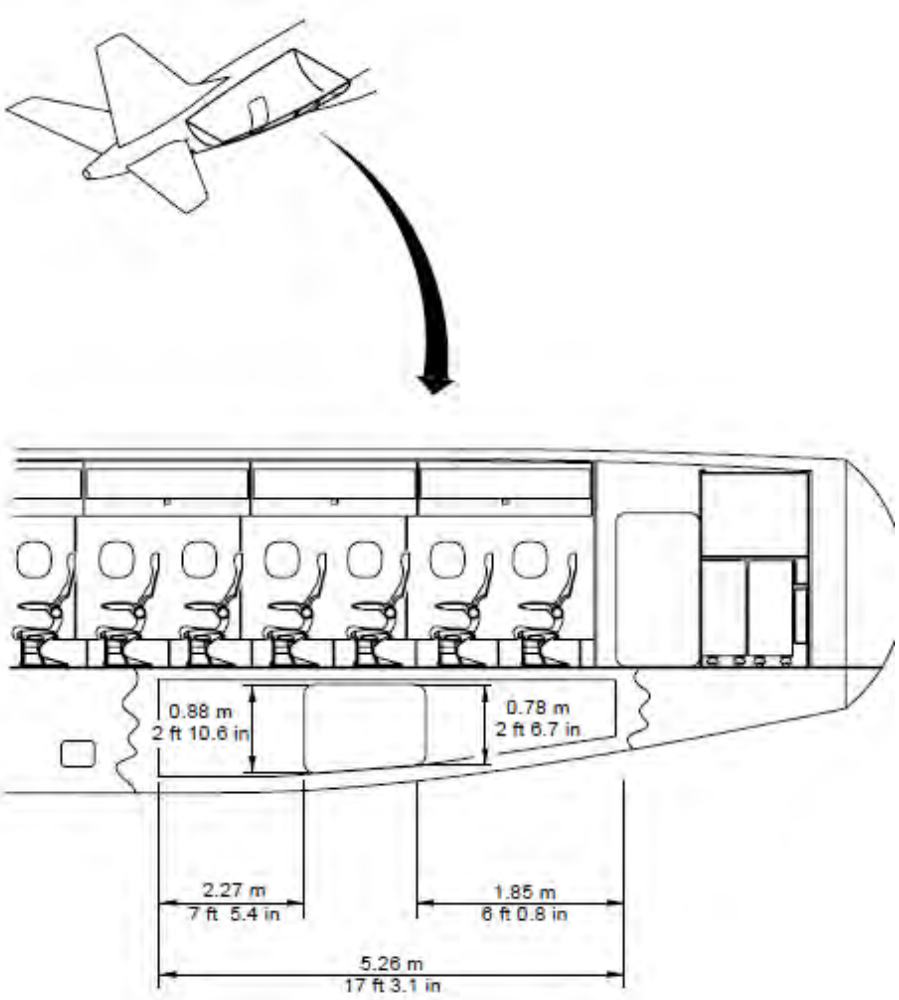
ERJ170-200/ -200STD - FORWARD CARGO HOLD Dimensions

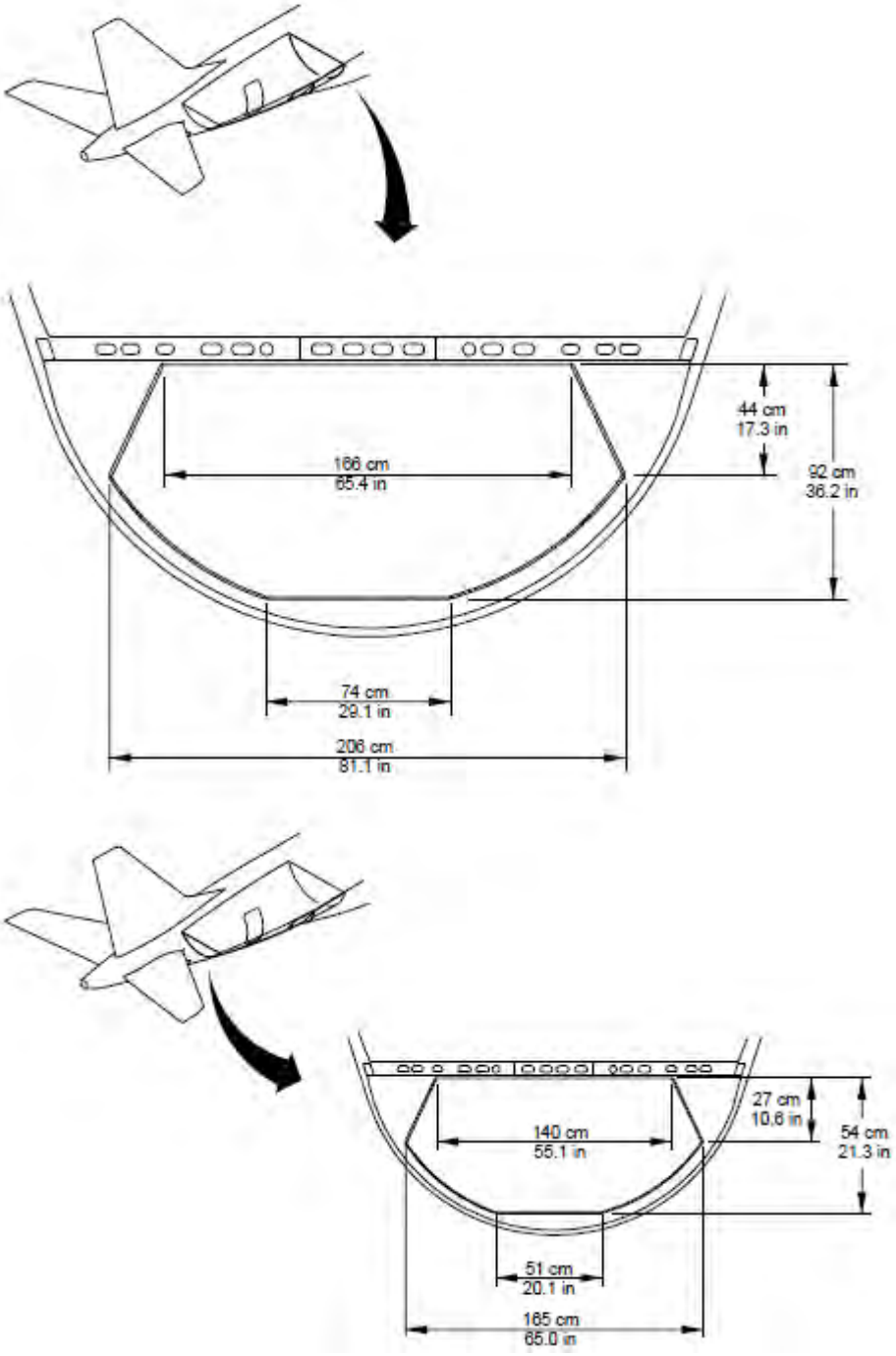






ERJ170-200/ -200STD - AFT CARGO HOLD Dimensions




44 cm
17.3 in
166 cm
65.4 in
92 cm
36.2 in
74 cm
29.1 in
206 cm
81.1 in
27 cm
10.6 in
140 cm
55.1 in
54 cm
21.3 in
51 cm
20.1 in
165 cm
65.0 in

ERJ 170-200/ -200STD FWD CARGO COMPT. (1 + 2)

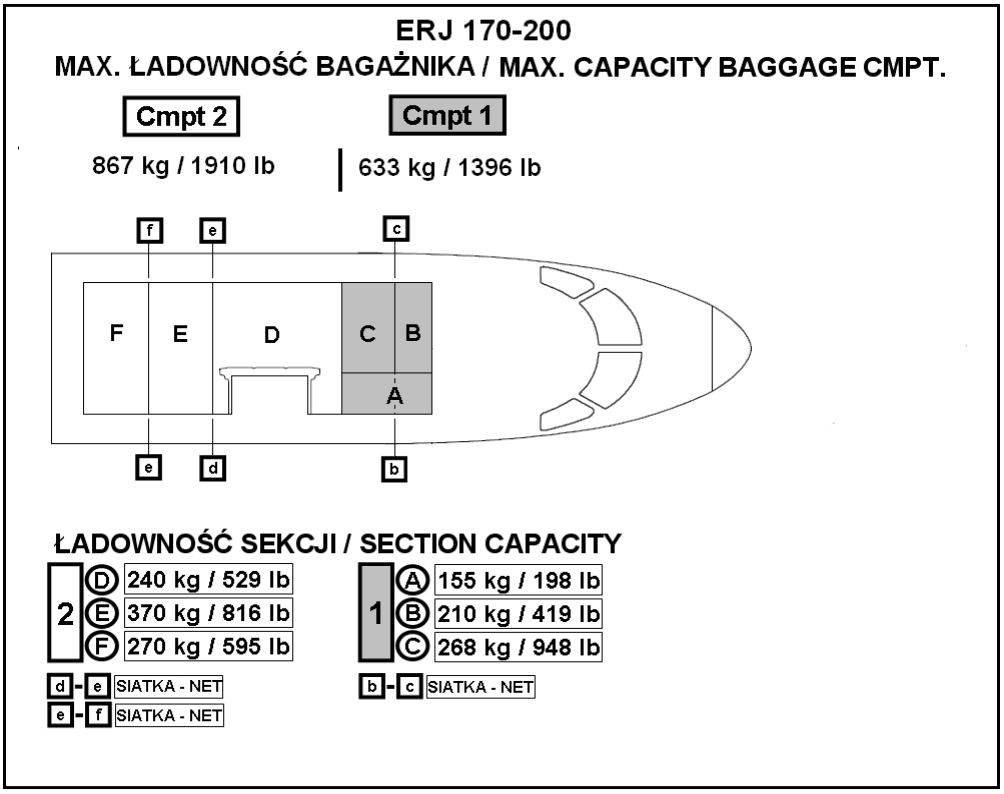
Operations with cargo nets missing

Load limits shown below must be observed when operating with cargo nets missing. The only nets allowed to be missing are (b-c) ,(d-e) and (e-f).

Y- net operative

CARGO CMPT. 1 [kg]				
section C	net (b-c)	section B	section A	max weight
268	Y	210	155	633
456			155	611

CARGO CMPT.2 [kg]					
section F	net (e-f)	section E	net(d-e)	section D	max weight
205	Y	228	Y	434	867
205	Y	456			661
433			Y	434	867
456					456



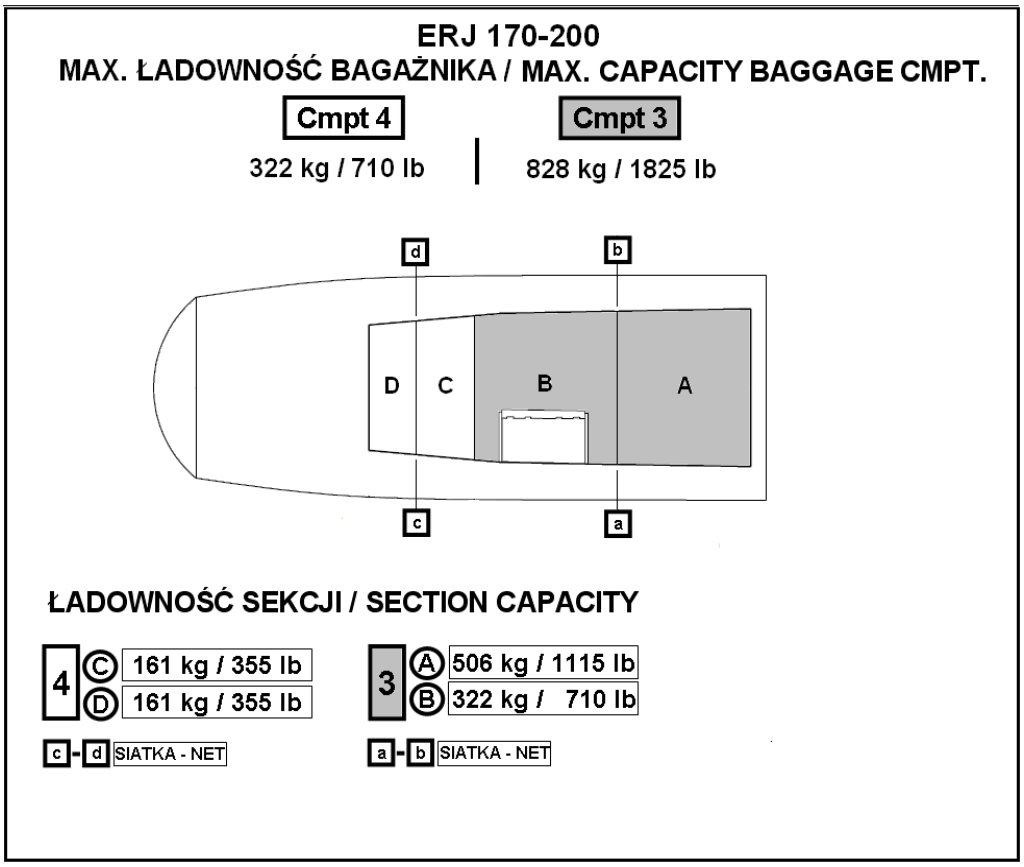
ERJ 170 – 200/ -200STD AFT CARGO COMPT. (3 + 4)

Operations with cargo nets missing

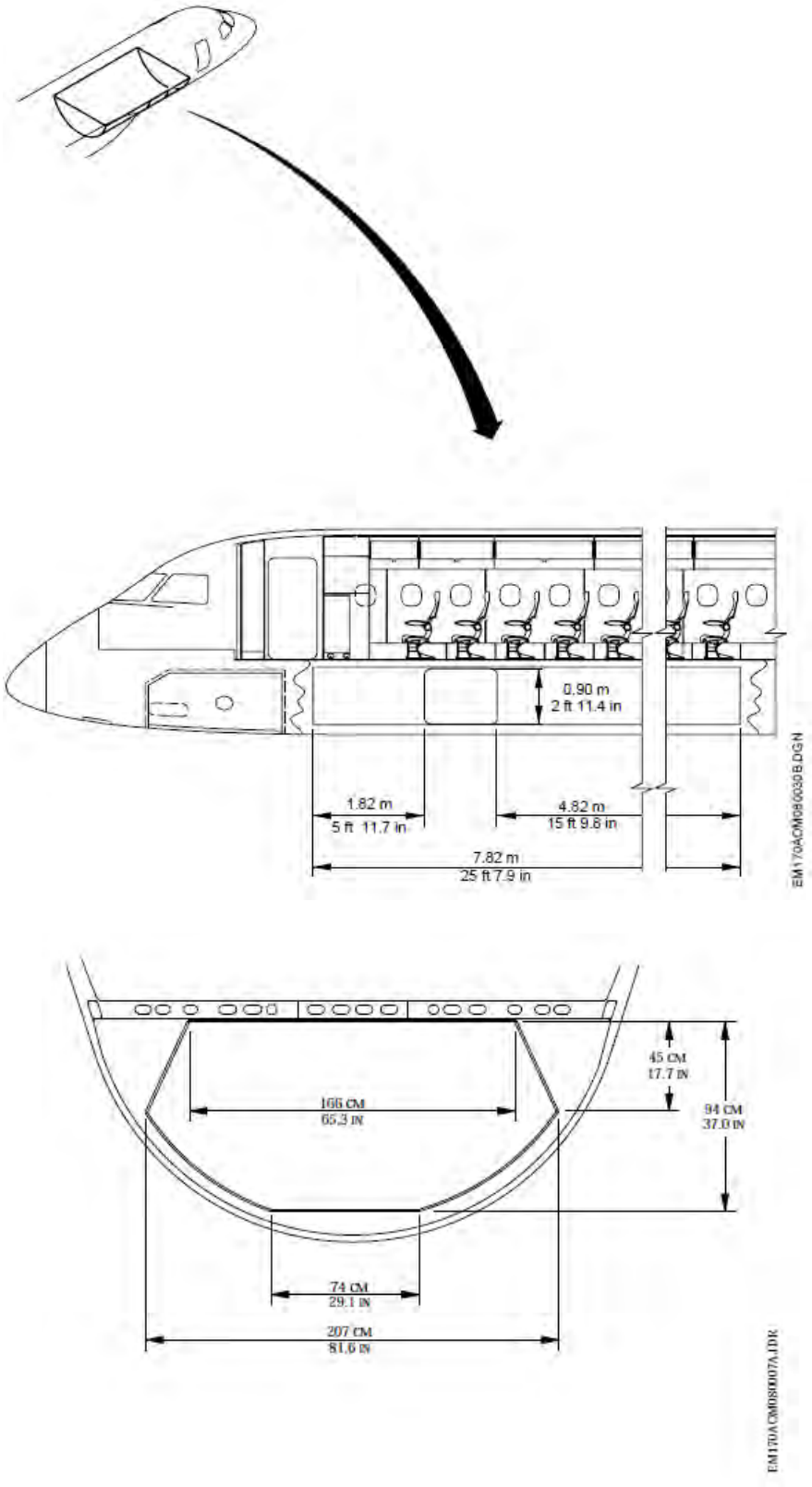
Load limits shown below must be observed when operating with cargo nets missing. The only nets allowed to be missing are (a-b) and (c-d).

Y- net operative

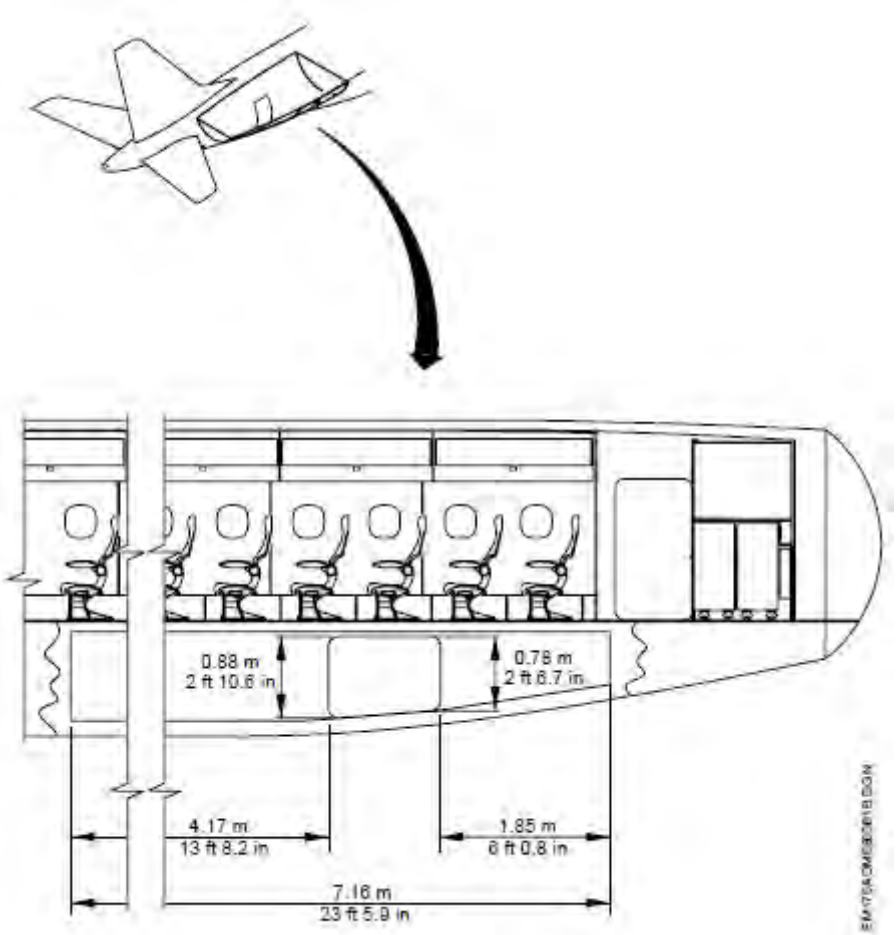
CARGO CMPT. 3 [kg]			
section B	net (a-b)	section A	max weight
322	Y	506	828
343			343
CARGO CMPT. 4 [kg]			
section D	net (c-d)	section C	max weight
161	Y	161	322
322			322

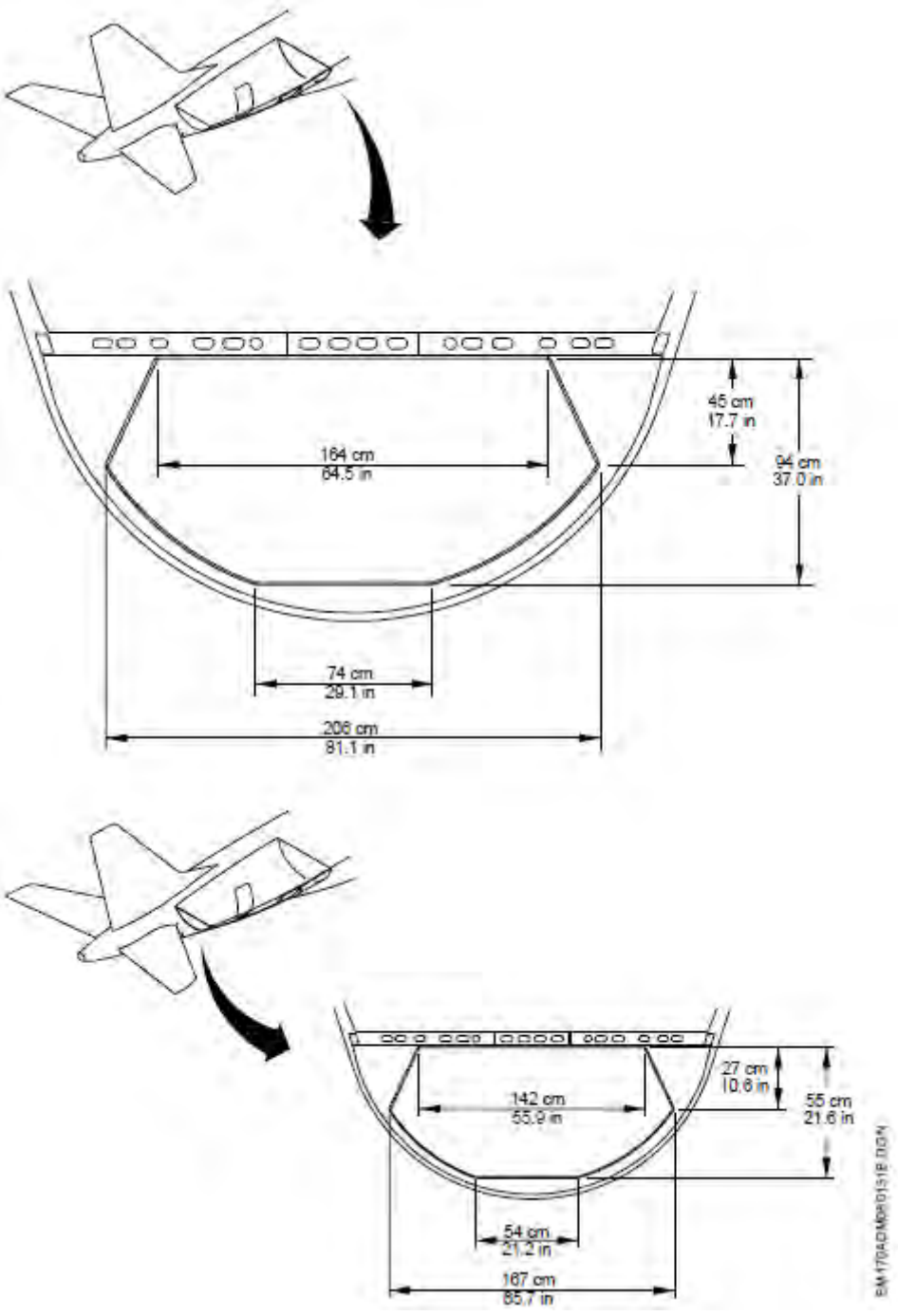


ERJ190-100 / -100AR - FORWARD CARGO HOLD Dimensions



ERJ190-100 / -100AR - AFT CARGO HOLD Dimensions




45 cm
17.7 in
164 cm
64.5 in
94 cm
37.0 in
74 cm
29.1 in
206 cm
81.1 in
27 cm
10.6 in
142 cm
55.9 in
55 cm
21.6 in
54 cm
21.2 in
167 cm
65.7 in

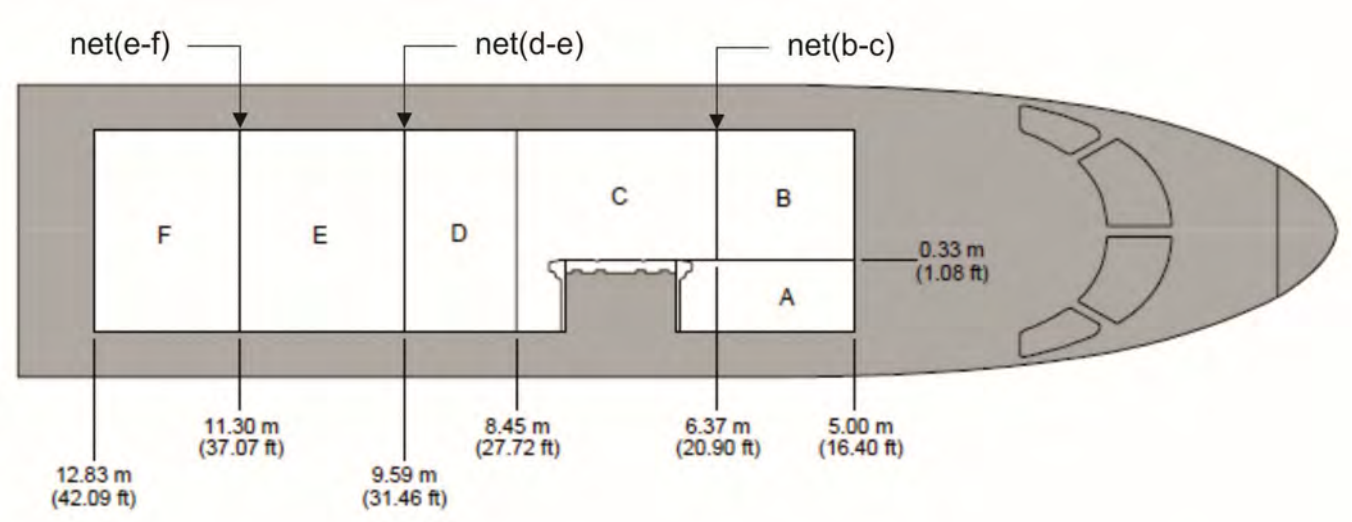
ERJ 190-100 FWD CARGO COMPARTMENT (1 + 2)
Operations with cargo nets missing

Load limits shown below must be observed when operating with cargo nets missing.
The only nets allowed to be missing are (b-c) ,(d-e) and (e-f).

Y- net operative

CARGO CMPT. 1 (kg)				
section C	net(b-c)	section B	section A	max weight
430	Y	303	137	870
456			137	593

CARGO CMPT. 2 (kg)					
section F	net(e-f)	section E	net(d-e)	section D	max weight
370	Y	370	Y	240	980
370	Y	456			826
456			Y	240	696
456					456

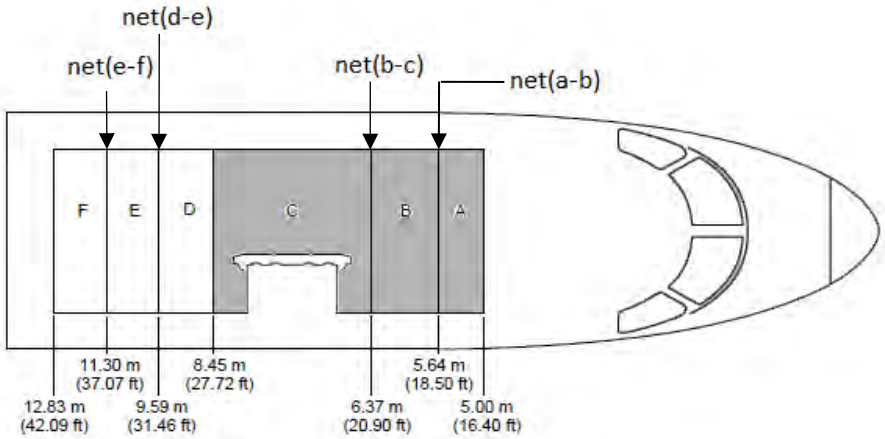


ERJ 190-100AR FWD CARGO COMPARTMENT (1 + 2)
Operations with cargo nets missing

Load limits shown below must be observed when operating with cargo nets missing.
The only nets allowed to be missing are (a-b), (b-c), (d-e) and (e-f).

Y- net operative

CARGO CMPT. 1 (kg)					
section C	net(b-c)	section B	net(a-b)	section A	max weight
430	Y	220	Y	220	870
430	Y	440			870
456			Y	220	676
456					456
CARGO CMPT. 2 (kg)					
section F	net(e-f)	section E	net(d-e)	section D	max weight
370	Y	370	Y	240	980
370	Y	456			826
456			Y	240	696
456					456



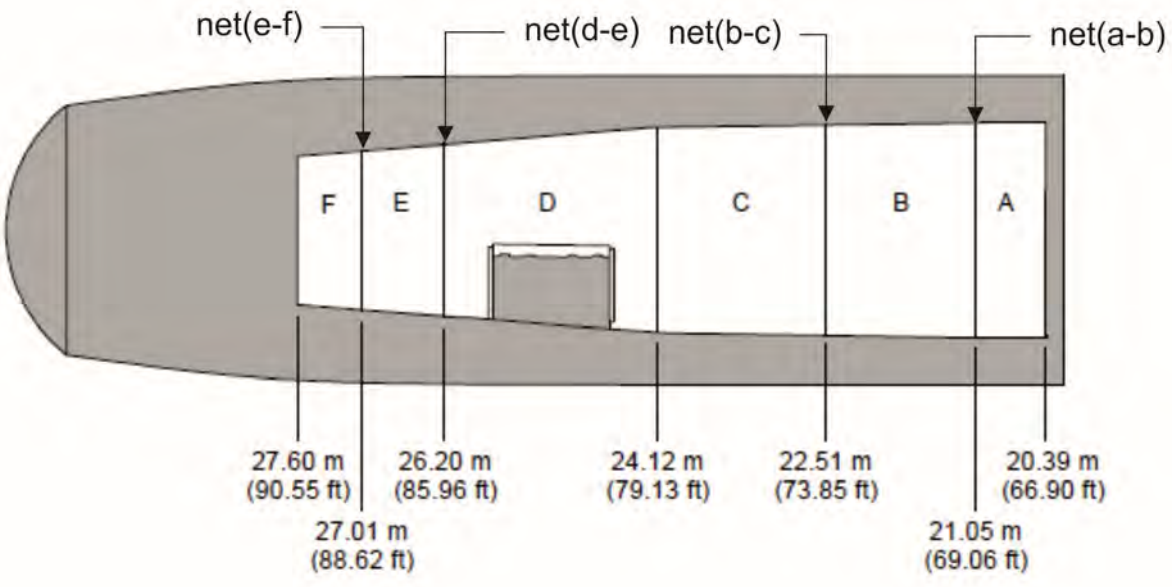
ERJ 190-100&AR AFT CARGO COMPARTMENT (3 + 4)

Operations with cargo nets missing

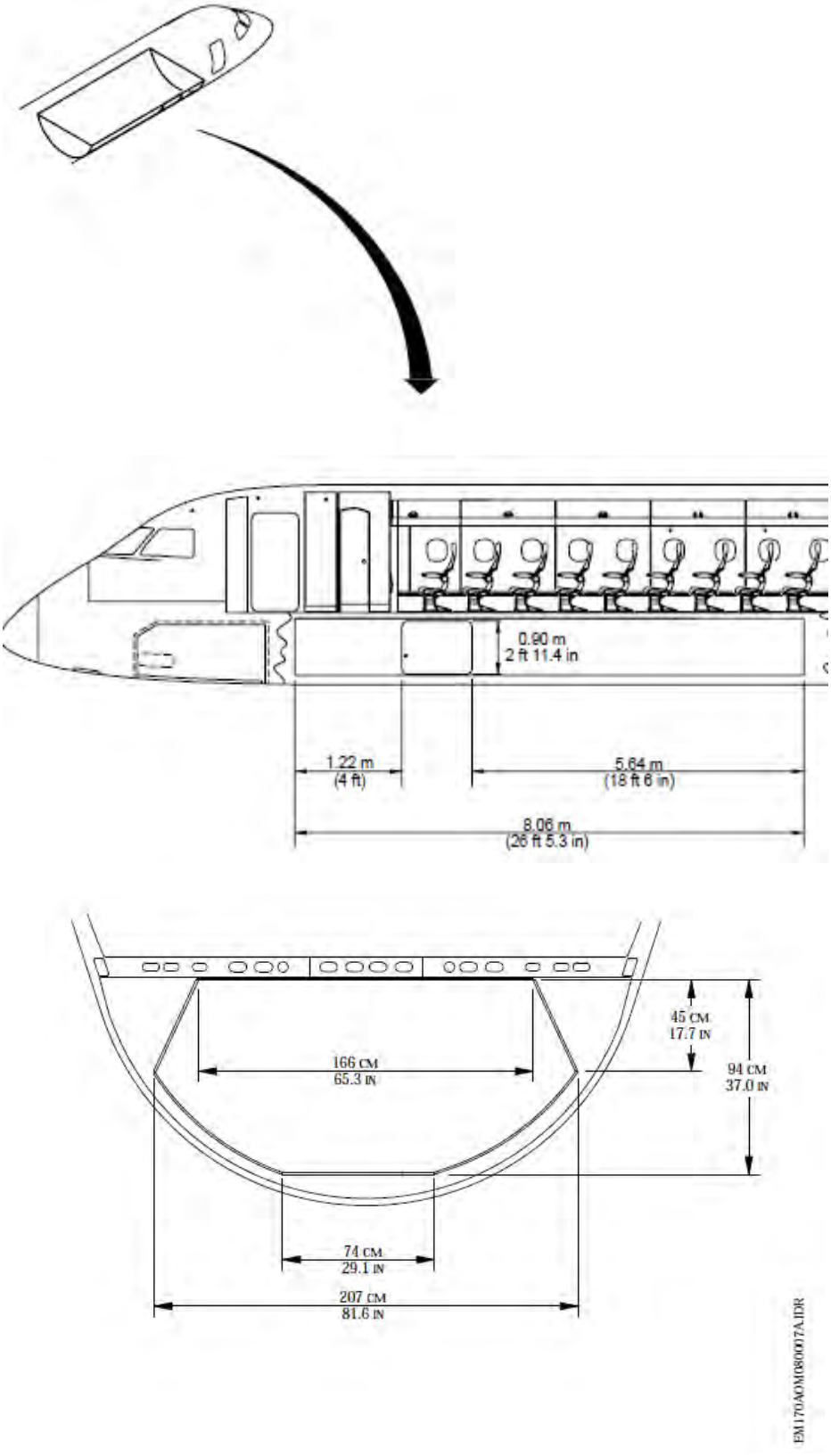
Load limits shown below must be observed when operating with cargo nets missing.
The only nets allowed to be missing are (a-b), (b-c), (d-e) and (e-f).

Y- net operative

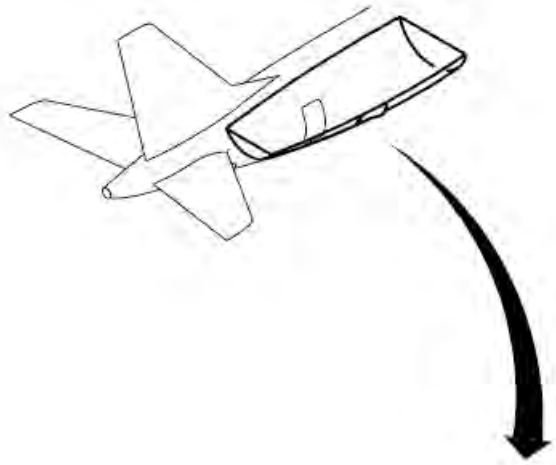
CARGO CMPT. 3 (kg)					
section C	net(b-c)	section B	net(a-b)	section A	max weight
395	Y	445	Y	260	1100
395	Y	456			851
395			Y	260	655
395					395
CARGO CMPT. 4 (kg)					
section F	net(e-f)	section E	net(d-e)	section D	max weight
80	Y	130	Y	340	550
80	Y	343			423
210			Y	340	550
343					343

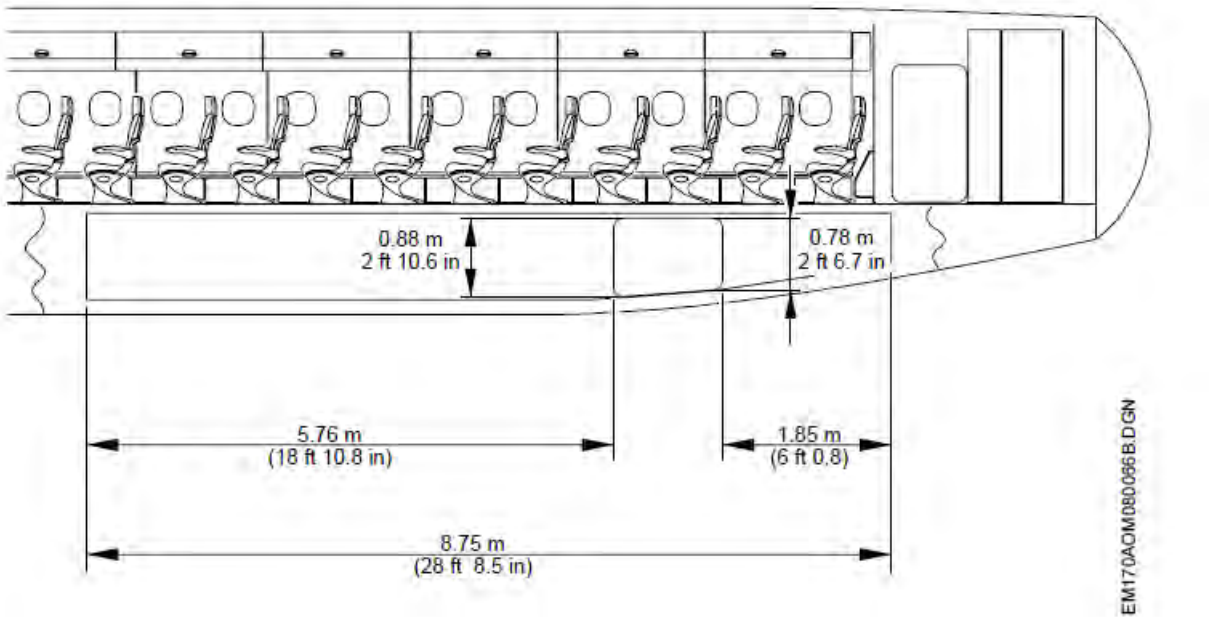


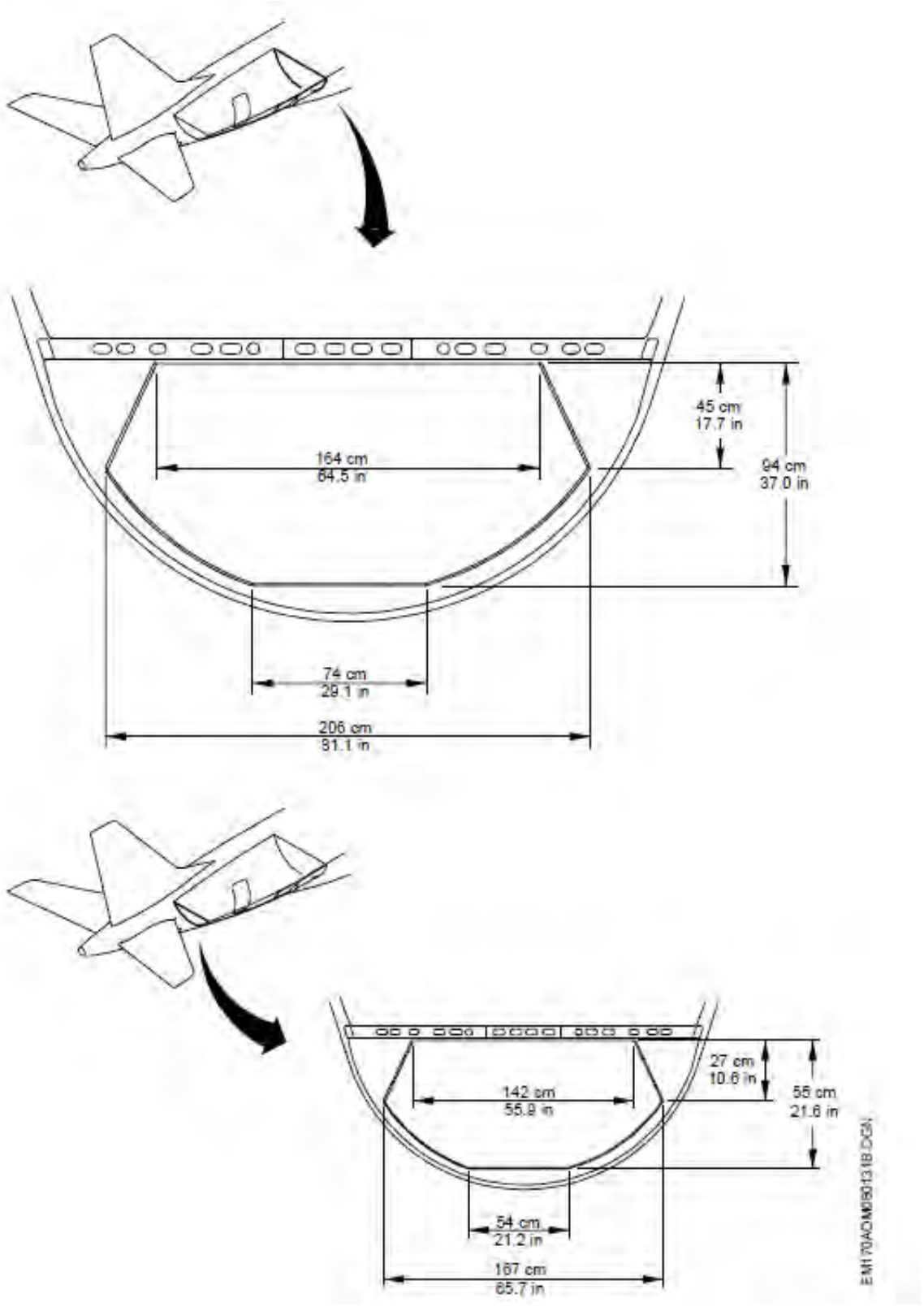
ERJ190-200 LR&AR - FORWARD CARGO HOLD Dimensions



ERJ190-200 LR&AR - AFT CARGO HOLD Dimensions






45 cm
17.7 in
164 cm
64.5 in
94 cm
37.0 in
74 cm
29.1 in
206 cm
81.1 in
27 cm
10.6 in
142 cm
55.9 in
55 cm
21.6 in
54 cm
21.2 in
167 cm
65.7 in
EM170AOM060131B.DGN

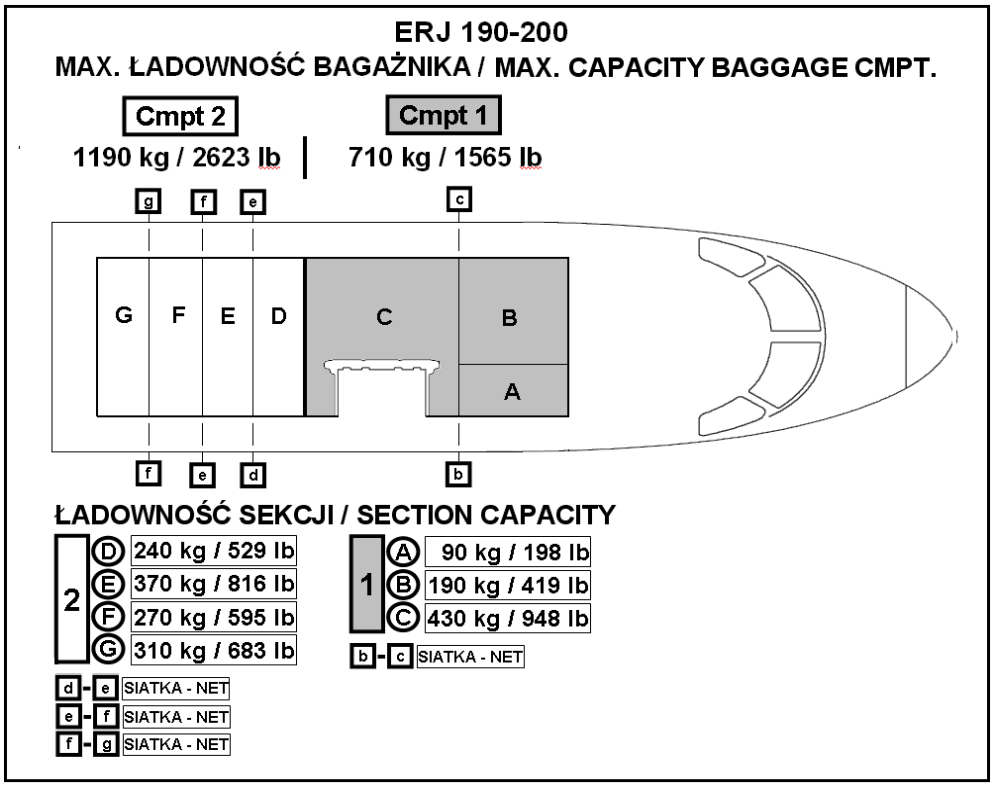
ERJ 190-200 LR FWD CARGO COMPARTMENT (1 + 2)
Operations with cargo nets missing

Load limits shown below must be observed when operating with cargo nets missing.
The only nets allowed to be missing are (b-c) ,(d-e), (e-f) and (f-g).

Y- net operative

CARGO CMPT. 1 [kg]				
section C	net (b-c)	section B	section A	max weight
430	Y	190	90	710
366			90	456

CARGO CMPT. 2 [kg]							
section G	net (f-g)	section F	net (e-f)	section E	net (d-e)	section D	max weight
310	Y	270	Y	370	Y	240	1190
310	Y	270	Y	456			1036
310	Y	456			Y	240	1006
456			Y	370	Y	240	1066
310	Y	456					766
456					Y	240	696
456			Y	456			912
456							456



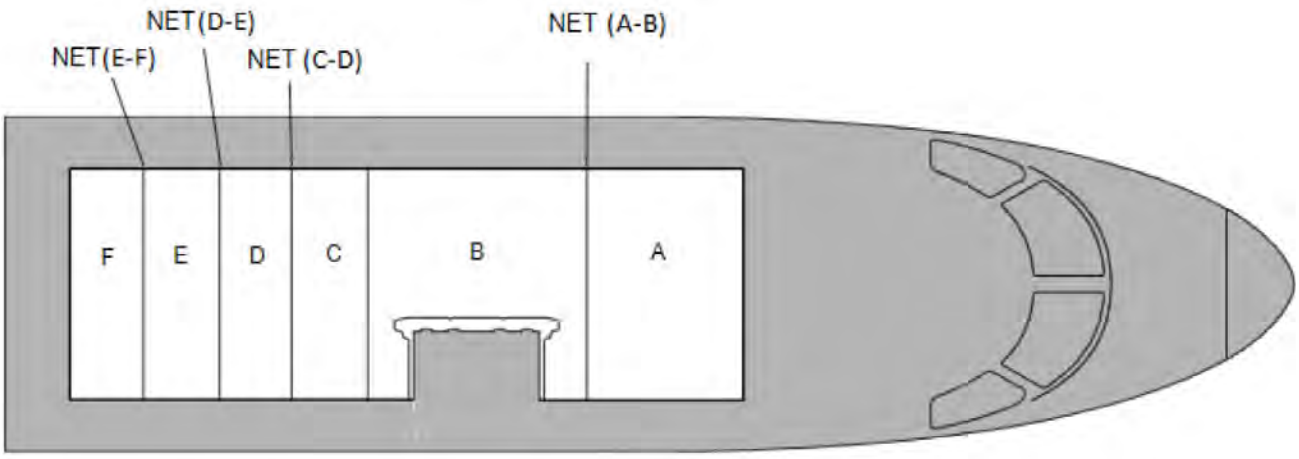
ERJ 190-200 AR FWD CARGO COMPARTMENT (1 + 2)
Operations with cargo nets missing

Load limits shown below must be observed when operating with cargo nets missing.
The only nets allowed to be missing are (a-b) ,(c-d), (d-e) and (e-f).

Y- net operative

CARGO CMPT. 1 [kg]			
section B	net (a-b)	section A	max weight
430	Y	280	710
456			456

CARGO CMPT. 2 [kg]							
section F	net (e-f)	section E	net (d-e)	section D	net (c-d)	section C	max weight
310	Y	270	Y	370	Y	240	1190
310	Y	270	Y	456			1036
310	Y	456			Y	240	1006
456			Y	370	Y	240	1066
310	Y	456					766
456					Y	240	696
456			Y	456			912
456							456



ERJ 190-200 LR&AR AFT CARGO COMPARTMENT (3 + 4)

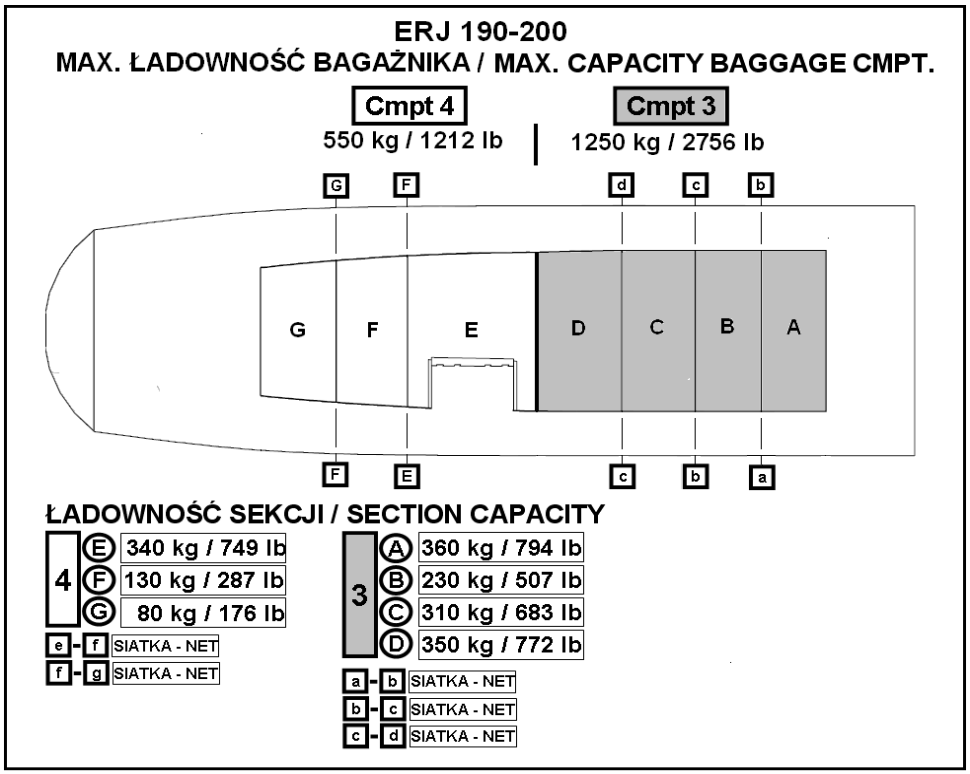
Operations with cargo nets missing

Load limits shown below must be observed when operating with cargo nets missing.
The only nets allowed to be missing are (a-b), (b-c), (c-d), (e-f) and (f-g).

Y- net operative

CARGO CMPT. 3 [kg]							
section D	net (c-d)	section C	net (b-c)	section B	net (a-b)	section A	max weight
350	Y	310	Y	230	Y	360	1250
350	Y	310	Y	456			1116
350	Y	456			Y	360	1166
395			Y	230	Y	360	985
350	Y	456					806
395					Y	360	755
395			Y	456			851
395							395

CARGO CMPT. 4 [kg]					
section G	net (f-g)	section F	net (e-f)	section E	max weight
80	Y	130	Y	340	550
80	Y	343			423
210			Y	340	550
343					343



3.12.2.1 ERJ 170- 100/-200/-200STD and ERJ 190-100/-100AR/-200 LR&AR – cargo tiedown with vertical cargo net attachment points

The vertical cargo net attachment points may be used to tie down volumes. When using attachment points to tie down volumes, all the following conditions must be met:

- Volumes must be tied down in a manner to prevent shifting,
- Vertical cargo net located at that position must be removed,
- Loose volumes are not allowed in the same section where tie down fitting cups are being used to restrain cargo.

NOTE: Cargo door nets and crew baggage net attachment points as well as attachment points located on the cargo compartment ceiling shall not be used to tie down volumes.

The following schemes of attachment should be used to attach volumes. Each scheme has its related table which specifies the limits for volume dimensions and weight that can be alocated in each pair of nets.

ERJ170-100

For example, in the case of a volume of 40 cm of width, 60 cm of length, 50 cm of height and 60 kg of weight, its allocation could be in the forward compartment through scheme 2.

ERJ170-200

For example, in the case of a volume of 30 cm of width, 60 cm of length, 40 cm of height and 55 kg of weight, its allocation could be in the forward compartment through scheme 2.

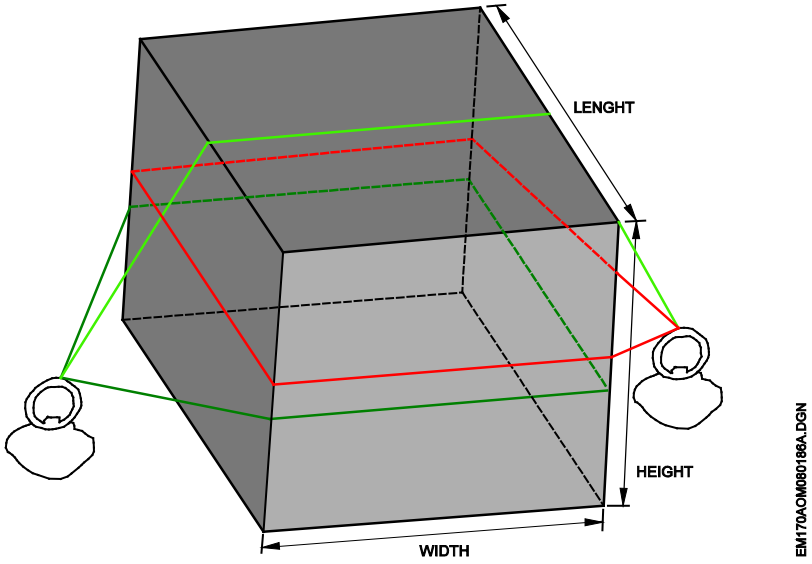
ERJ190-100 / -100AR

For example, in the case of a volume of 70 cm of width, 120 cm of length,45 cm of height and 82 kg of weight, its allocation could be between AFT net pair (d-e)(e-f) through scheme 4.

ERJ190-200 LR&AR

For example, in the case of a volume of 60 cm of width, 200 cm of length,70 cm of height and 70 kg of weight, its allocation could be between AFT net pair (a-b)(b-c) through scheme 3.

SCHEME 1



ERJ170-100

	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FORWARD CARGO	10 – 80	25 – 50	10
AFT CARGO	10 – 50	25 – 50	7

ERJ170-200/ -200STD

	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FORWARD CARGO	10 – 80	25 – 50	19
AFT CARGO	10 – 50	25 – 50	8

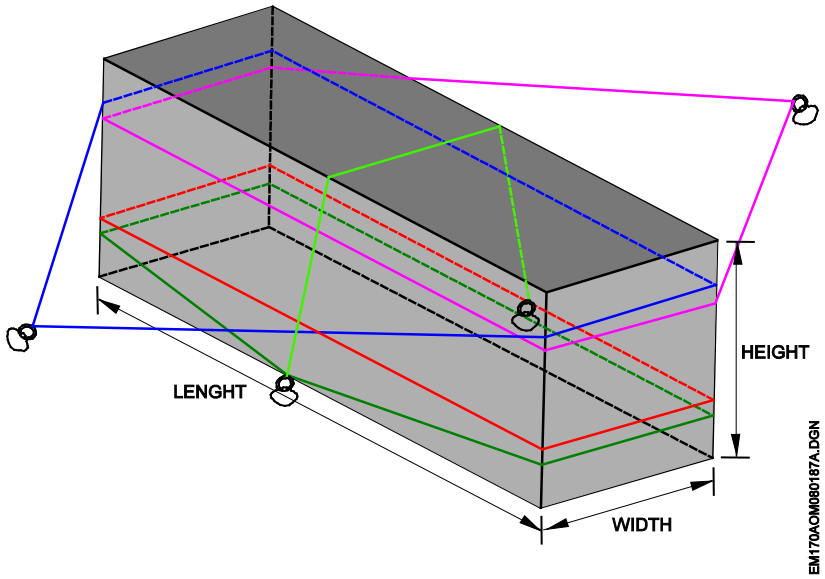
ERJ190-100 / -100AR

	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FORWARD CARGO	10 – 80	25 – 50	26
AFT CARGO	10 – 50	25 – 50	15

ERJ190-200 LR&AR

	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FORWARD CARGO	10 – 80	25 – 50	28
AFT CARGO	10 – 50	25 – 50	17

SCHEME 2



ERJ170-100

	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FORWARD CARGO	34 – 80	25 – 67	68
AFT CARGO	40 – 50	25 – 59	38

ERJ170-200/ -200STD

	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FORWARD CARGO	34 – 80	25 – 67	87
AFT CARGO	40 – 50	25 – 59	50

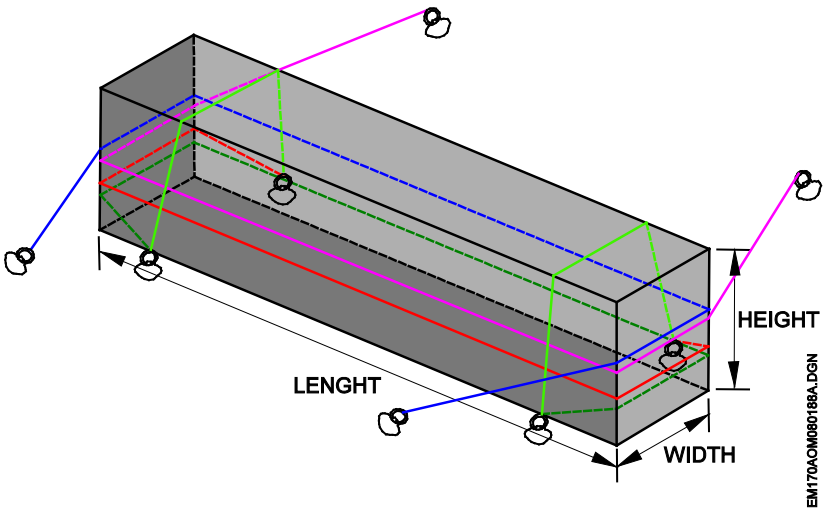
ERJ190-100 / -100AR

	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FORWARD CARGO	34 – 80	25 – 64	98
AFT CARGO	40 – 50	25 – 66	99

ERJ190-200 LR&AR

	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FORWARD CARGO	34 – 80	25 – 78	104
AFT CARGO	40 – 50	25 – 59	113

SCHEME 3



ERJ170-100

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FWD (c-d)(d-e)	34 – 63	144 – 228	136

ERJ170-200/ -200STD

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		25 – 38	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FWD (d-e)(e-f)	34 – 56	144 – 228	196

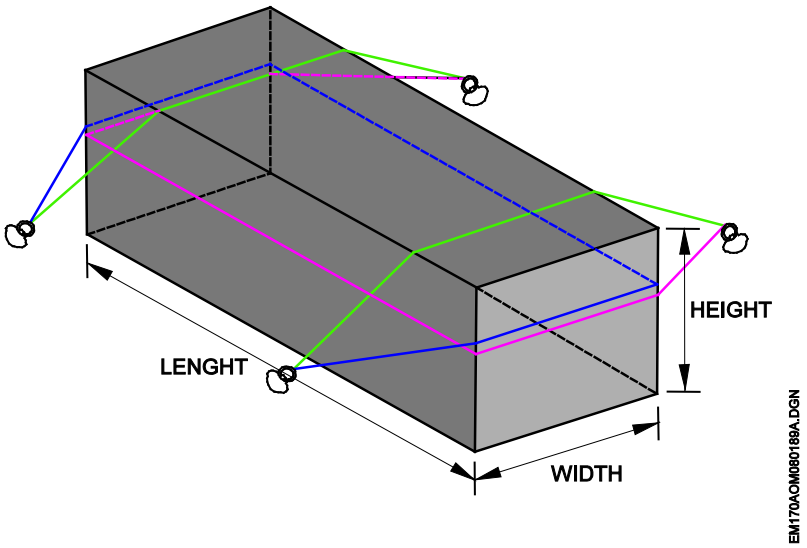
ERJ190-100 / -100AR

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FWD (a-b)(b-c)	34 – 71	103 – 146	218
FWD (d-e)(e-f)	34 – 51	201 – 313	251
AFT (a-b)(b-c)	34 – 55	176 – 285	250
AFT (d-e)(e-f)	35 – 52	111 – 162	225

ERJ190-200 LR&AR

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		25 – 40	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FWD (d-e)(e-f)	34 – 71	201 – 285	254
FWD (e-f)(f-g)	34 – 71	138 – 250	256
AFT (a-b)(b-c)	34 – 55	124 – 203	260
AFT (b-c)(c-d)	34 – 55	164 – 287	254
AFT (e-f)(f-g)	35– 52	111 – 162	254

SCHEME 4



ERJ170-100

Not applicable

ERJ170-200/ -200STD

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		40 – 63	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FWD (d-e)(e-f)	52 – 63	144 –170	64

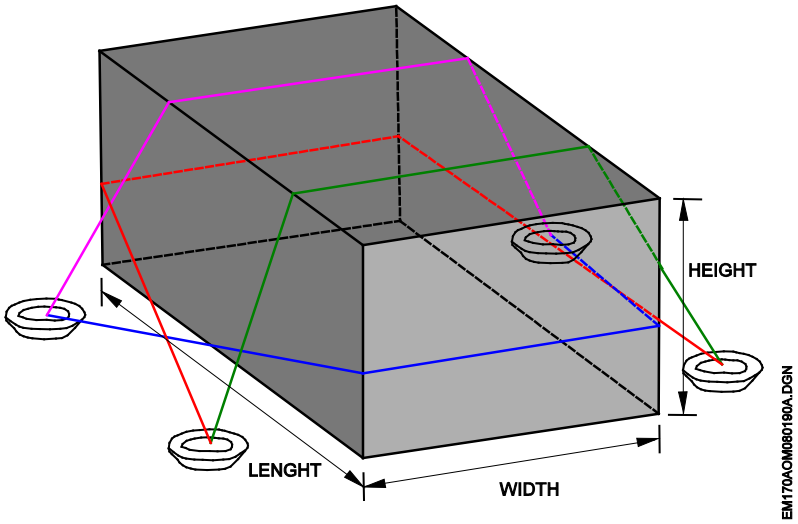
ERJ190-100 / -100AR

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		40 – 71	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
AFT (a-b)(b-c)	34 – 56	176 – 200	78
AFT (d-e)(e-f)	40 – 52	111 – 162	84

ERJ190-200 LR&AR

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		40 – 63	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FWD (d-e)(e-f)	34 – 48	201 – 240	83
AFT (a-b)(b-c)	50 – 63	150 – 170	150
AFT (b-c)(c-d)	37 – 56	164 – 180	70
AFT (e-f)(f-g)	35 – 52	111 – 162	59

SCHEME 5



ERJ170-100

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		25 – 35	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FWD (c-d)(d-e)	25 – 63	144 – 200	17

ERJ170-200/ -200STD

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		25 – 43	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT KG ()
FWD (d-e)(e-f)	25 – 63	144 – 228	16

ERJ190-100 / -100AR

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		25 – 35	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FWD (d-e)(e-f)	25 – 55	201 – 313	48
AFT (a-b)(b-c)	25 – 63	176 – 285	41
AFT (d-e)(e-f)	25 – 63	111 – 162	12

ERJ190-200 LR&AR

Net attachment used	HEIGHT (CM)	WIDTH (CM)	
		25 – 35	
		PACKAGE LENGTH (CM)	MAXIMUM WEIGHT (KG)
FWD (d-e)(e-f)	25 – 63	201 – 250	50
FWD (e-f)(f-g)	25 – 63	138 – 250	50
AFT (a-b)(b-c)	25 – 80	124 – 203	43
AFT (b-c)(c-d)	25 – 50	164 – 280	39
AFT (e-f)(f-g)	25 – 63	111 – 162	13

COFFINS ATTACHMENT

Standard coffins with dimensions as shown in the table below can be attached using the attachment points of the following net pairs:

ERJ170-100

Net Pairs	FWD (c-d)(d-e)

ERJ170-200/ -200STD

Net Pairs	FWD (d-e)(e-f)

ERJ190-100 / -100AR

Net Pairs	AFT (a-b)(b-c)

ERJ190-200 LR&AR

Net Pairs	FWD (e-f)(f-g), AFT (a-b)(b-c), AFT (b-c)(c-d)

The maximum allowable coffin weight that can be attached is 149 kg (326 lb).

COFFIN 1 DIMENSIONS

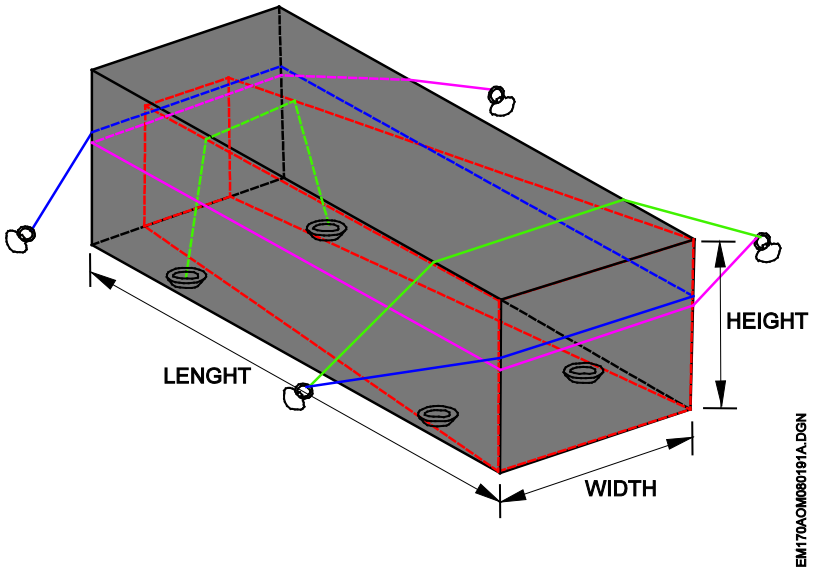
ERJ170-100 and ERJ170-200/ -200STD

Length	200 cm (78.7 in)
Cross Section Head	50 x 40 cm (19.7 x 15.7 in)
Cross Section Foot	35 x 30 cm (13.8 x 11.8 in)

COFFIN 1 DIMENSIONS

ERJ190-100 / -100AR and ERJ190-200 LR&AR

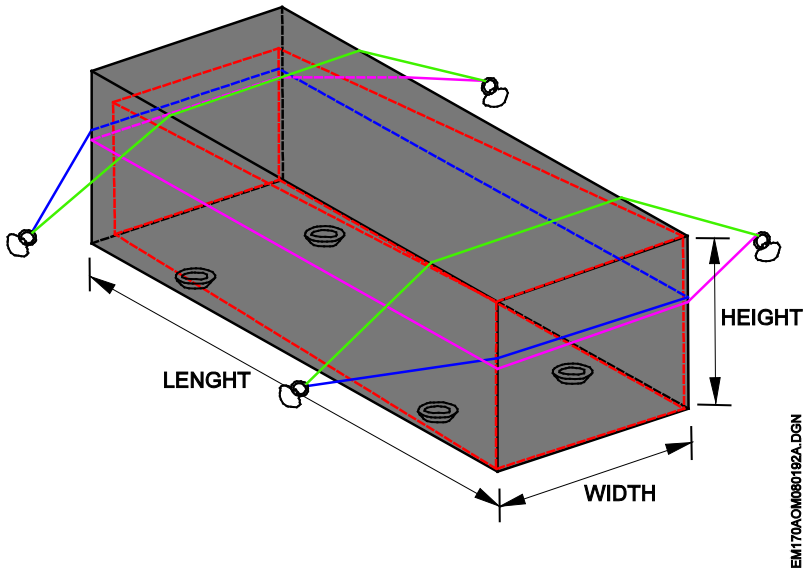
Length	200 cm (78.7 in)
Cross Section Head	50 x 34 cm (19.7 x 13.4 in)
Cross Section Foot	40 x 30 cm (15.7 x 11.8 in)



COFFIN 1 ATTACHMENT SCHEME

COFFIN 2 DIMENSIONS

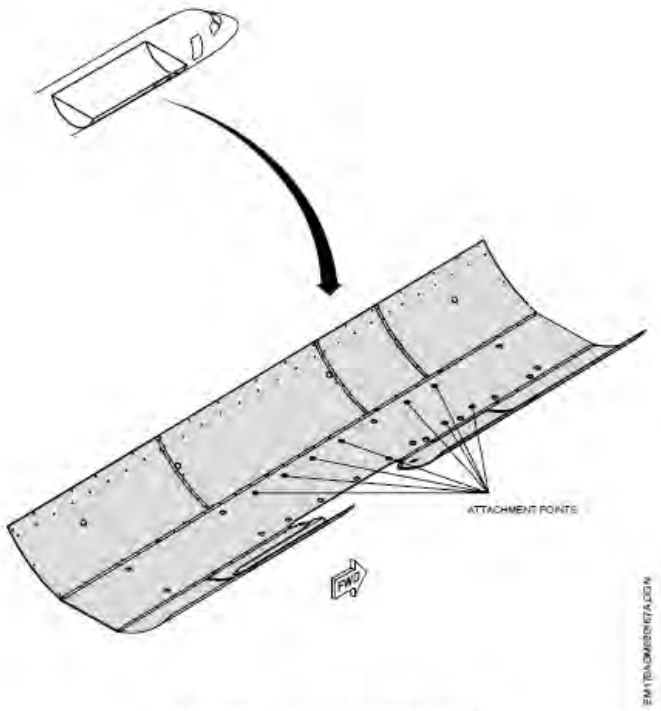
Length	205 cm (80.7 in)
Cross Section Head	59 x 42 cm (23.2 x 16.5 in)
Cross Section Foot	46 x 35 cm (18.1 x 13.8 in)



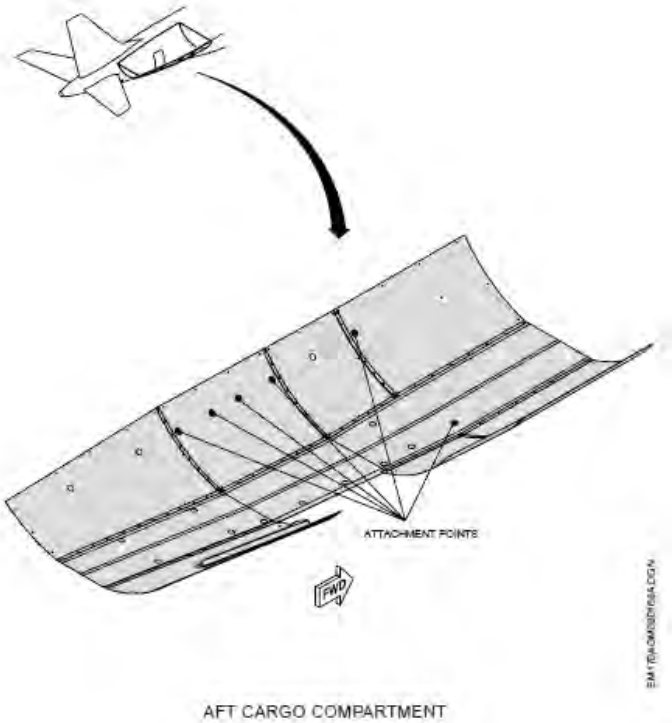
COFFIN 2 ATTACHMENT SCHEME

3.12.2.2 ERJ 170 -100/-200 and ERJ 190-200 LR– cargo tiedown with additional attachment points

There are additional attachment points installed on ERJ170-100/-200 and ERJ190-200 LR that can be used for cargo tiedown. Maximum allowable weight for each additional point is limited to 40 kg.



FORWARD CARGO COMPARTMENT



AFT CARGO COMPARTMENT

Additional attachment points location					
ERJ170-100		**ERJ170-200**		**ERJ190-200 LR**	
BA [m]	CPT	BA [m]	CPT	BA [m]	CPT
5.675	1	6.472	1	5.675	1
5.675	1	6.472	1	5.675	1
6.043	1	6.830	1	6.043	1
6.043	1	6.830	1	6.043	1
6.846	2	7.683	2	6.846	1
7.226	2	8.063	2	7.226	1
7.598	2	8.435	2	7.598	1
7.978	2	8.815	2	7.978	1
17.358	3	19.134	3	26.108	3
17.358	3	19.134	3	26.108	3
18.291	3	20.067	3	27.040	4
18.671	3	20.447	3	27.420	4
18.976	3	20.752	3	27.726	4
19.357	3	21.133	3	28.106	4

3.12.3 B737-800/ -86N/ -8

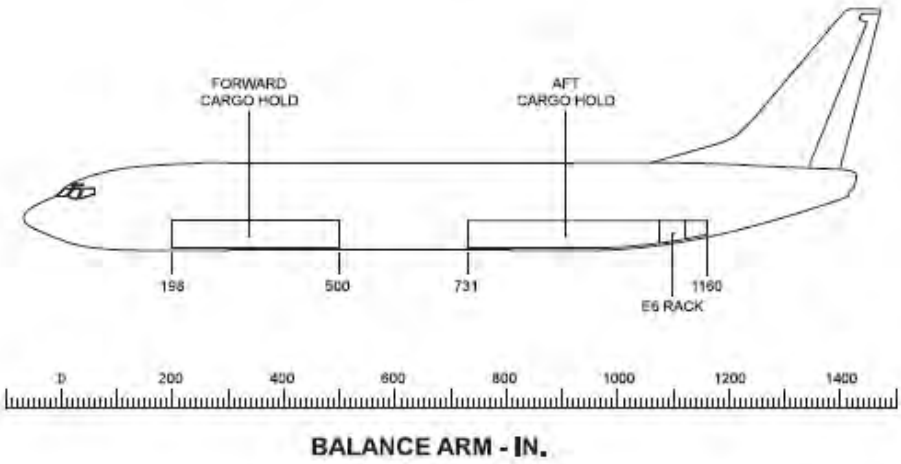
	B737-800	B737-86N
MAX WEIGHTS	[kg]	
MTXW	76883	79242
MTOW	76657	79015
MLAW	65317	66360
MZFW	61688	62731
FUEL	20966	
CREW – STD (TTL)		
COCKPIT	2 (4)	
CABIN - FWD/AFT	2 / 4 (6)	
PANTRY	AHM 560 Sheet C8 (according to IATA AHM Revision 37)	
PAX CABIN C/Y		
NBR OF SEATS	Y186	
PAX SECTOR **A**:	60	
PAX SECTOR **B**:	60	
PAX SECTOR **C**:	66	
CARGO COMPARTMENTS	gross wgt [kg] / vol [m^3]	
FWD **1**	888 / 4,4	814 / 4,4
FWD **2**	2670 / 14,6	2440 /14,6
AFT **3**	3777 / 20,8	3467 /20,8
AFT **4**	667 / 3,9	570 / 3,9
CARGO DOOR DIM	[m]	
FWD	1.22 x 0.89	
AFT	1.22 x 0.89 ÷ 0.79	
MAXIMUM FLOOR LOADING	[kg/m^2] / [kg/m]	
MAIN CABIN	488 / 740	
CARGO COMPARTMENTS		
FWD 1	732 / 516	
FWD Door Section	732 / 228	
FWD 2	732 / 516	
AFT 3	732 / 543	
AFT Door Section	732 / 213	
AFT 4	732 / 142	

B737-8	SP-LVA SP-LVB SP-LVC SP-LVD SP-LVE SP-LVF	SP-LVG SP-LVH	SP-LVI SP-LVK SP-LVL SP-LVM
MAX WEIGHTS	[kg]		
MTXW	77225	77337	
MTOW	76999	77110	
MLAW	69308	68174	
MZFW	65952	64818	
FUEL	21961		
CREW – STD (TTL)			
COCKPIT	2 (3)	2 (4)	
CABIN - FWD/AFT	2 / 4 (6)	2 / 2 (4)	2 / 4 (6)
PANTRY	AHM 560 Sheet C8 (according to IATA AHM Revision 37)		
PAX CABIN C/Y			
NBR OF SEATS	Y186	Y189	Y189
PAX SECTOR **A**:	60	66	63
PAX SECTOR **B**:	60	60	60
PAX SECTOR **C**:	66	63	66
CARGO COMPARTMENTS	gross wgt [kg] / vol [m^3]		
FWD **1**	809; 4,0		
FWD **2**	2670; 14,6		
AFT **3**	3706; 20,4		
AFT **4**	763; 3,5		
CARGO DOOR DIM	[m]		
FWD	1.22 x 0.89		
AFT	1.22 x 0.89 ÷ 0.79		
MAXIMUM FLOOR LOADING	[kg/m^2] / [kg/m]		
MAIN CABIN	488 / 740		
CARGO COMPARTMENTS			
FWD 1	732 / 516		
FWD Door Section	732 / 228		
FWD 2	732 / 516		
AFT 3	732 / 543		
AFT Door Section	732 / 213		
AFT 4	732 / 142		

B737-800

CARGO COMPARTMENTS

The following airplane profile illustrates cargo compartment locations.

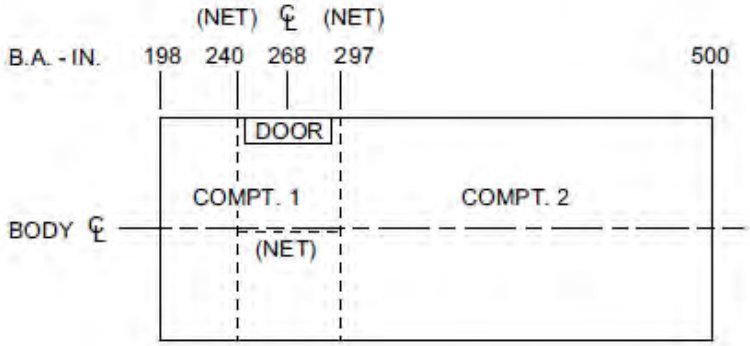


The following table provides cargo compartment locations, usable volumes and the corresponding volumetric centroid arms for cargo compartments with the cargo door net installed.

CARGO COMPARTMENT	LOCATION - B.A.		USABLE VOLUME CU FT	B. A. IN.
	FROM	TO		
Forward	198	500	672	360.7
Aft	731	1160	869	900.2
Total			1541	664.9

FORWARD CARGO COMPARTMENTS

The following figure shows forward cargo hold compartment boundaries. The cargo door net is installed.



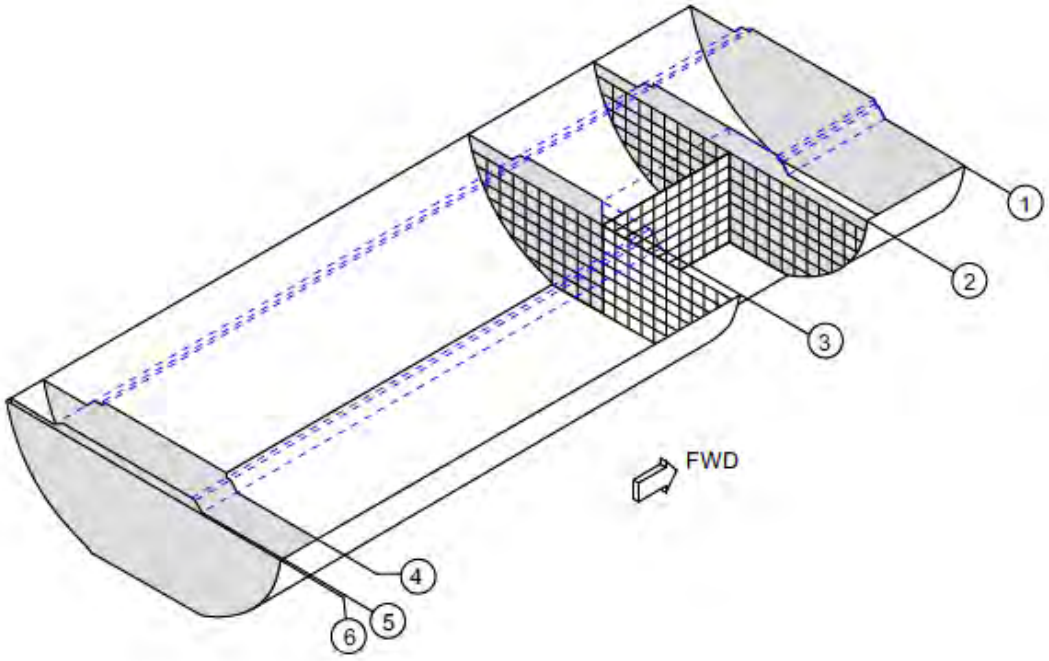
Volumes and centroids for the above figure are provided in the following table.

VOLUMES	COMPARTMENTS		
	1		2
Forward Compartment Volumes CU FT	105	50	517
Total Forward Hold CU FT	672		
Volumetric Centroids B.A. - IN.	219.0	268.1	398.4
	360.7		

FORWARD CARGO COMPARTMENTS (Continued)

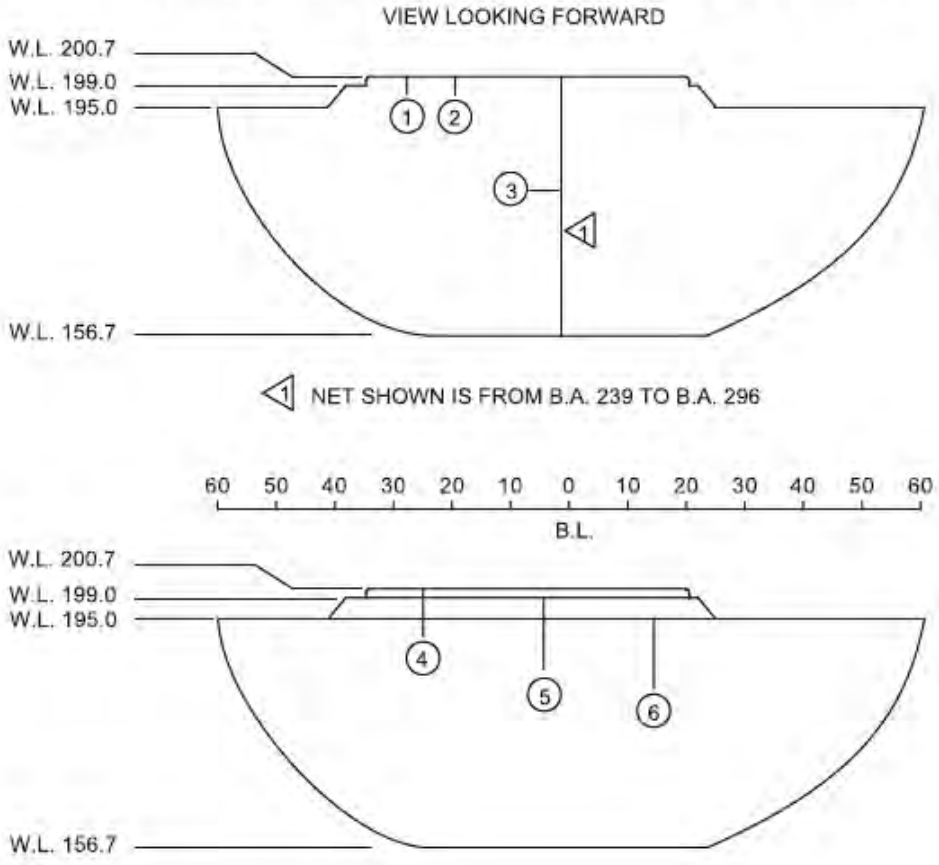
FORWARD CARGO COMPARTMENT CROSS SECTIONS

The figure below illustrates the general layout of the forward cargo compartments. The numbered labels and shaded panels correspond to the cross-sections provided on the next page.



FORWARD CARGO COMPARTMENTS (Continued)

The following cross-sections for compartments 1 and 2 can be used to determine ceiling clearances at various forward cargo compartment balance arms. The relative location of the cross-sectional cut can be determined by correlating the cross-section number to the general layout on the previous page.

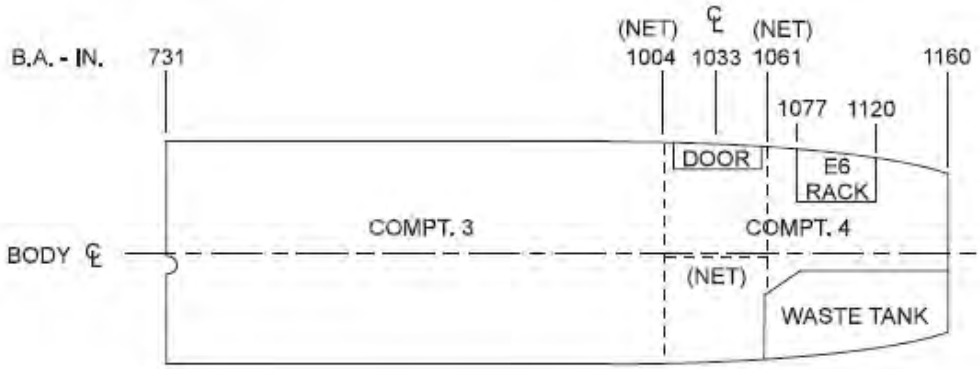


CROSS SECTION NO.	B.A. IN.
1	198.0
2	240.0
3	297.0
4	482.0
5	498.0
6	500.0

AFT CARGO COMPARTMENTS

AFT CARGO COMPARTMENT VOLUMES

The following figure shows aft cargo hold compartment boundaries. The cargo door net is installed.



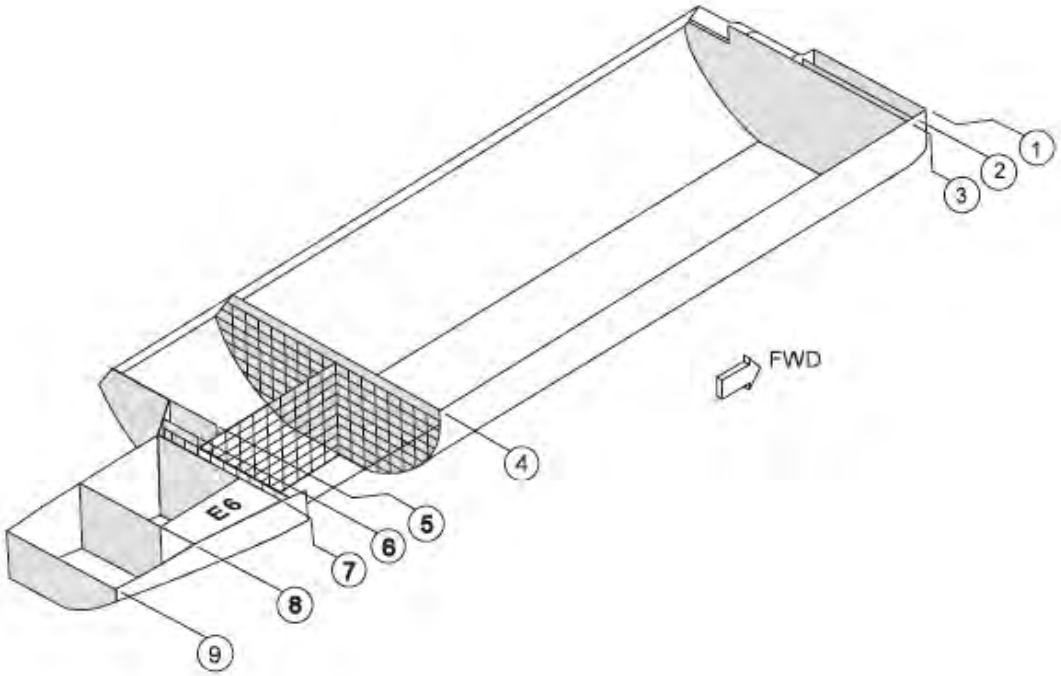
Volumes and centroids for compartments 3 and 4 in the above figure are provided in the following table.

VOLUMES	COMPARTMENTS		
	3	4	
Aft Compartment Volumes CU FT	733	50	86
Total Aft Hold CU FT	869		
Volumetric Centroids B.A. - IN.	867.2	1030.9	1105.0
	900.2		

AFT CARGO COMPARTMENTS (Continued)

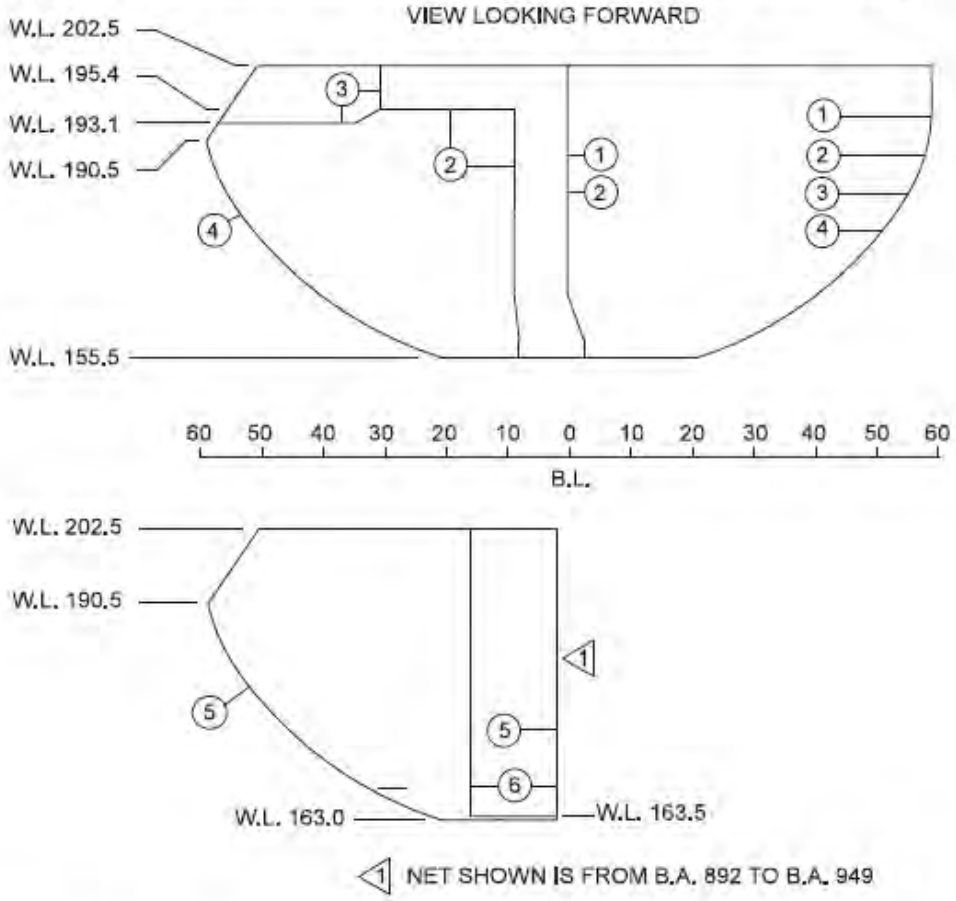
AFT CARGO COMPARTMENT CROSS SECTIONS

The figure below illustrates the general layout of the aft cargo compartments. The numbered labels and shaded panels correspond to the cross-sections provided on the next page.

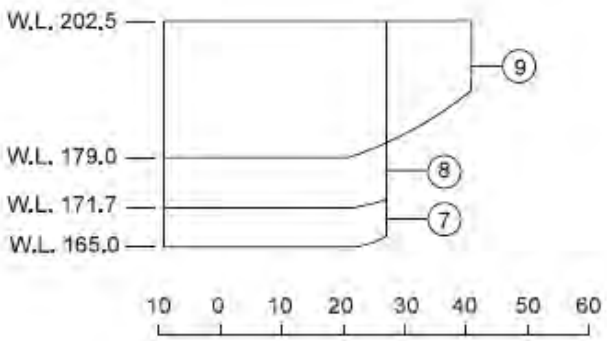


AFT CARGO COMPARTMENTS (Continued)

The following cross-sections for compartments 3 and 4 can be used to determine ceiling clearances at various aft cargo compartment balance arms. The relative location of the cross-sectional cut can be determined by correlating the cross-section number to the general layout on the previous page.



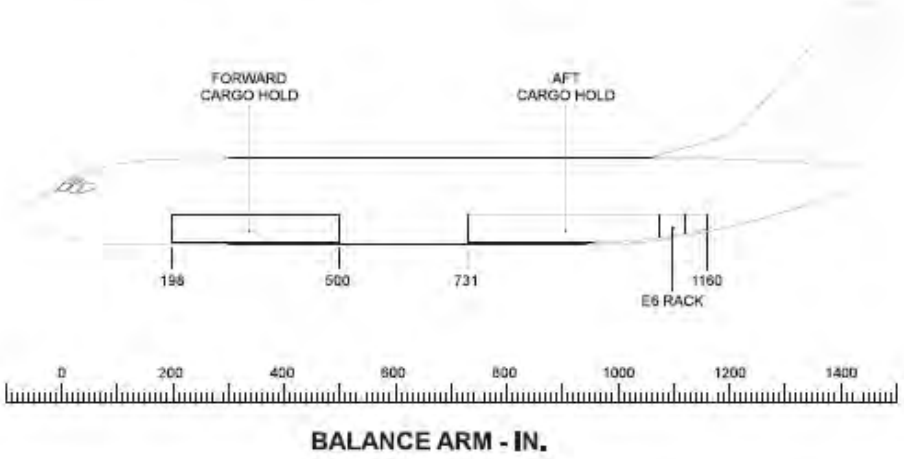
CROSS SECTION NO.	B.A. IN.
1	731.0
2	732.0
3	741.0
4	1004.0
5	1057.0
6	1061.0
7	1077.0
8	1120.0
9	1160.0



B737-86N

CARGO COMPARTMENTS

The following airplane profile illustrates cargo compartment locations.

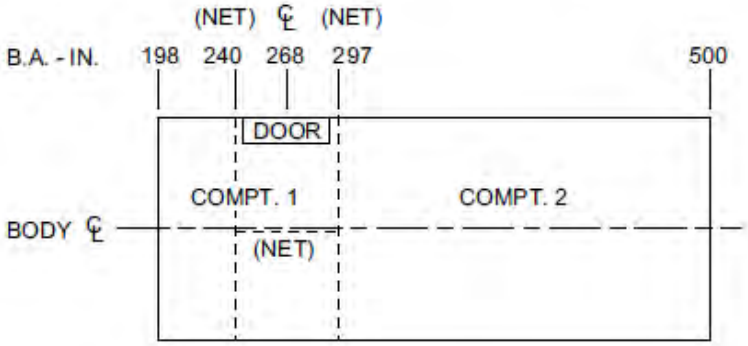


The following table provides cargo compartment locations, usable volumes and the corresponding volumetric centroid arms for cargo compartments with the cargo door net installed.

CARGO COMPARTMENT	LOCATION - B.A.		USABLE VOLUME CU FT	B. A. IN.
	FROM	TO		
Forward	198	500	672	360.7
Aft	731	1160	869	900.2
Total			1541	664.9

FORWARD CARGO COMPARTMENTS

The following figure shows forward cargo hold compartment boundaries. The cargo door net is installed.



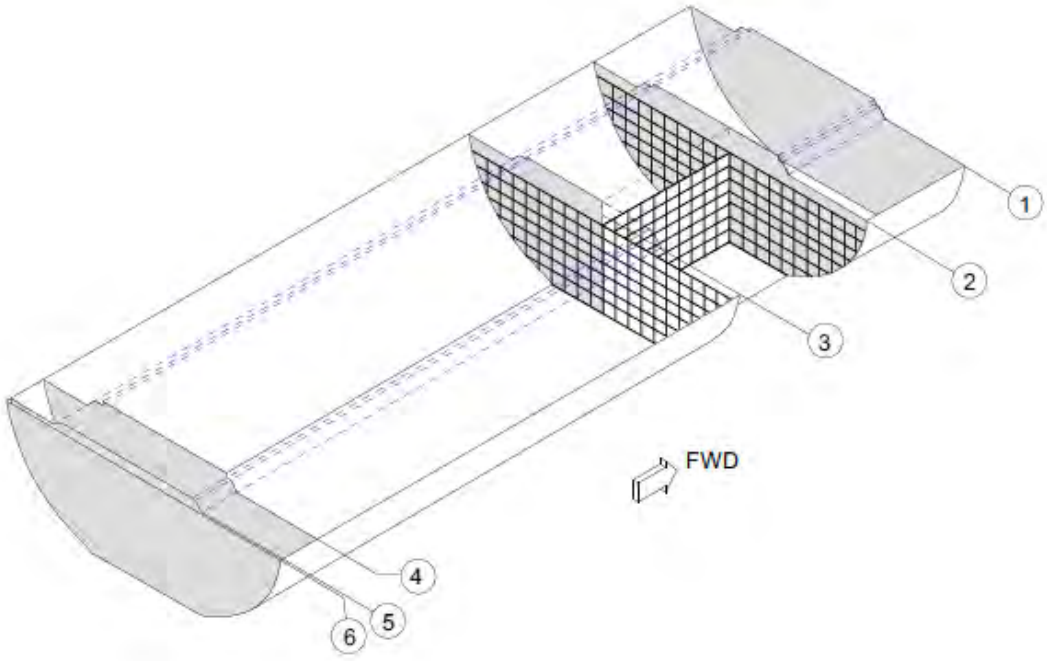
Volumes and centroids for the above figure are provided in the following table.

VOLUMES	COMPARTMENTS		
	1		2
Forward Compartment Volumes CU FT	105	50	517
Total Forward Hold CU FT	672		
Volumetric Centroids B.A. - IN.	219.0	268.1	398.4
	360.7		

FORWARD CARGO COMPARTMENTS (Continued)

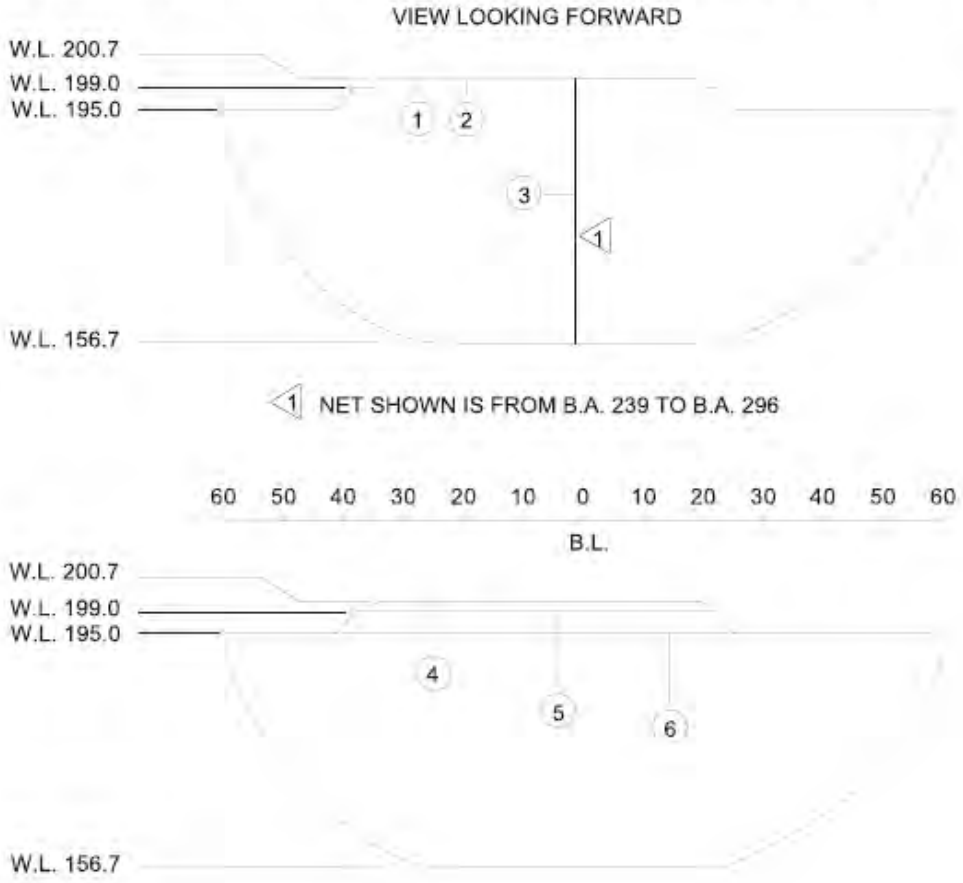
FORWARD CARGO COMPARTMENT CROSS SECTIONS

The figure below illustrates the general layout of the forward cargo compartments. The numbered labels and shaded panels correspond to the cross-sections provided on the next page.



FORWARD CARGO COMPARTMENTS (Continued)

The following cross-sections for compartments 1 and 2 can be used to determine ceiling clearances at various forward cargo compartment balance arms. The relative location of the cross-sectional cut can be determined by correlating the cross-section number to the general layout on the previous page.

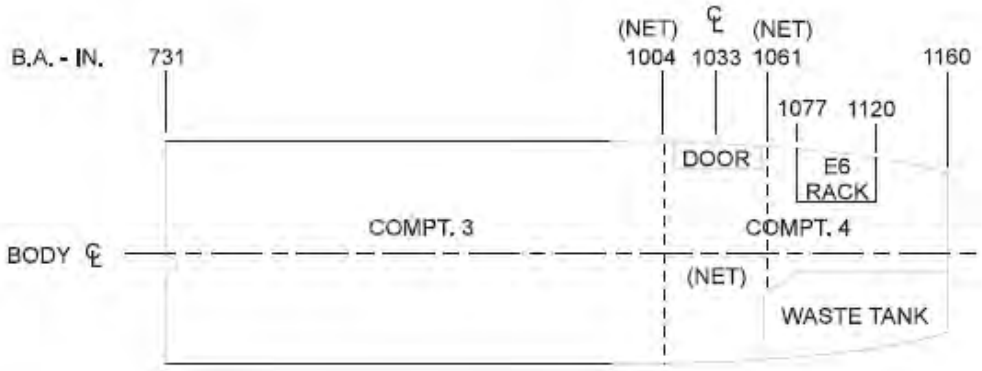


CROSS SECTION NO.	B.A. IN.
1	198.0
2	240.0
3	297.0
4	482.0
5	498.0
6	500.0

AFT CARGO COMPARTMENTS

AFT CARGO COMPARTMENT VOLUMES

The following figure shows aft cargo hold compartment boundaries. The cargo door net is installed.



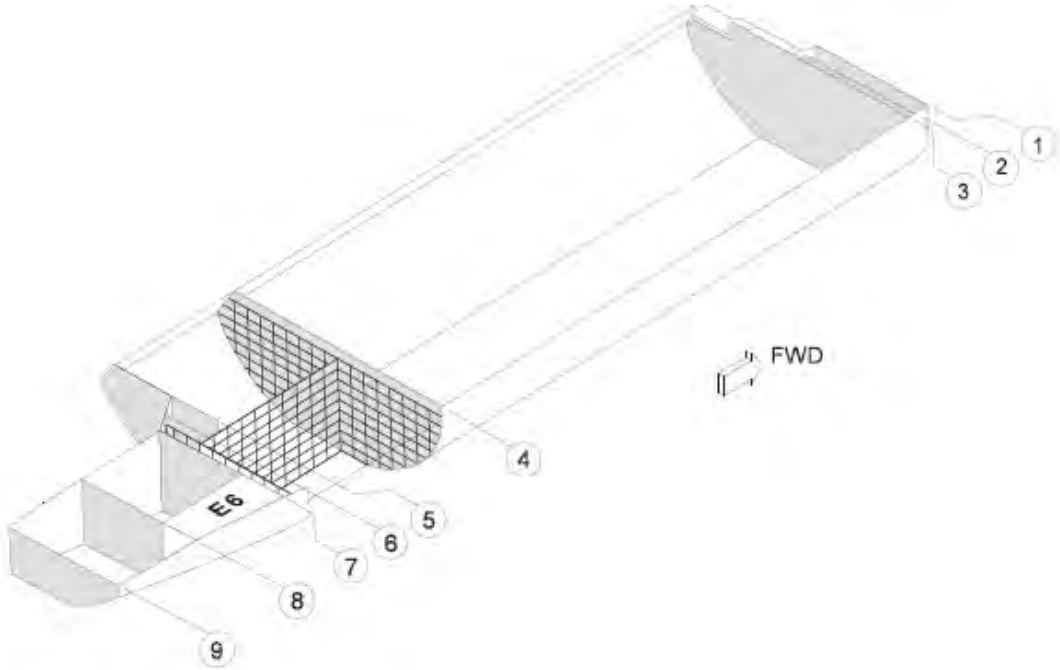
Volumes and centroids for compartments 3 and 4 in the above figure are provided in the following table.

VOLUMES	COMPARTMENTS		
	3	4	
Aft Compartment Volumes CU FT	733	50	86
Total Aft Hold CU FT	869		
Volumetric Centroids B.A. - IN.	867.2	1030.9	1105.0
	900.2		

AFT CARGO COMPARTMENTS (Continued)

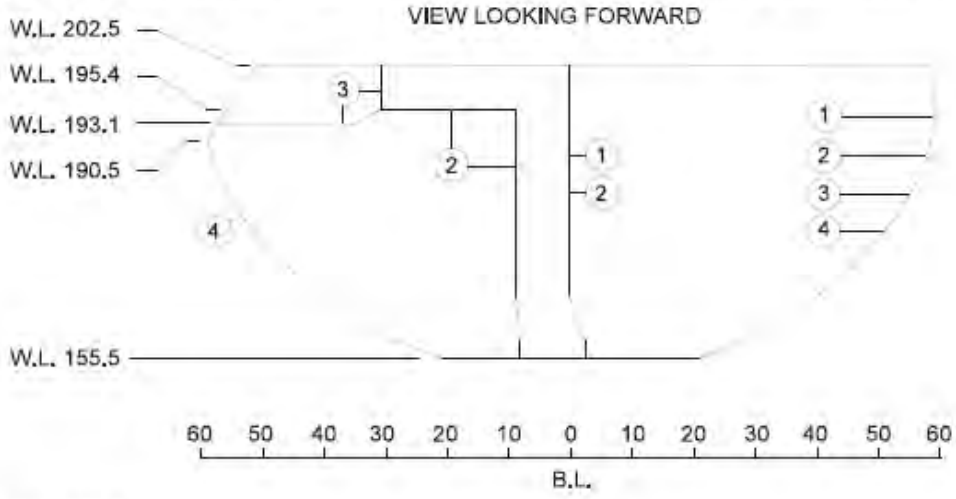
AFT CARGO COMPARTMENT CROSS SECTIONS

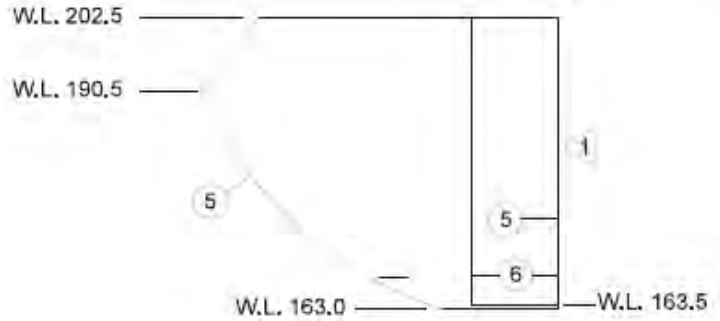
The figure below illustrates the general layout of the aft cargo compartments. The numbered labels and shaded panels correspond to the cross-sections provided on the next page.



AFT CARGO COMPARTMENTS (Continued)

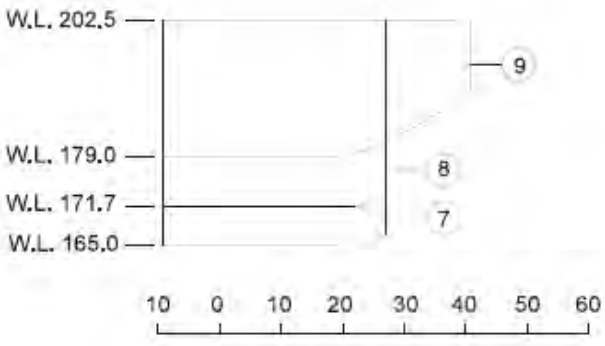
The following cross-sections for compartments 3 and 4 can be used to determine ceiling clearances at various aft cargo compartment balance arms. The relative location of the cross-sectional cut can be determined by correlating the cross-section number to the general layout on the previous page.





1 NET SHOWN IS FROM B.A. 892 TO B.A. 949

CROSS SECTION NO.	B.A. IN.
1	731.0
2	732.0
3	741.0
4	1004.0
5	1057.0
6	1061.0
7	1077.0
8	1120.0
9	1160.0

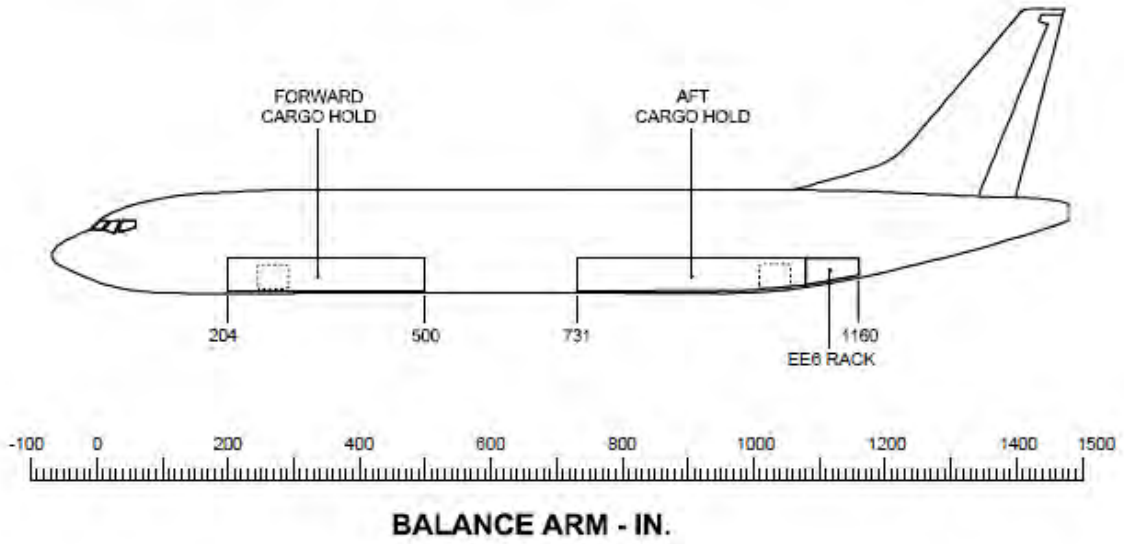


B737-8

CARGO COMPARTMENTS

GENERAL LOCATION AND ARRANGEMENT

The following airplane profile illustrates cargo compartment locations:



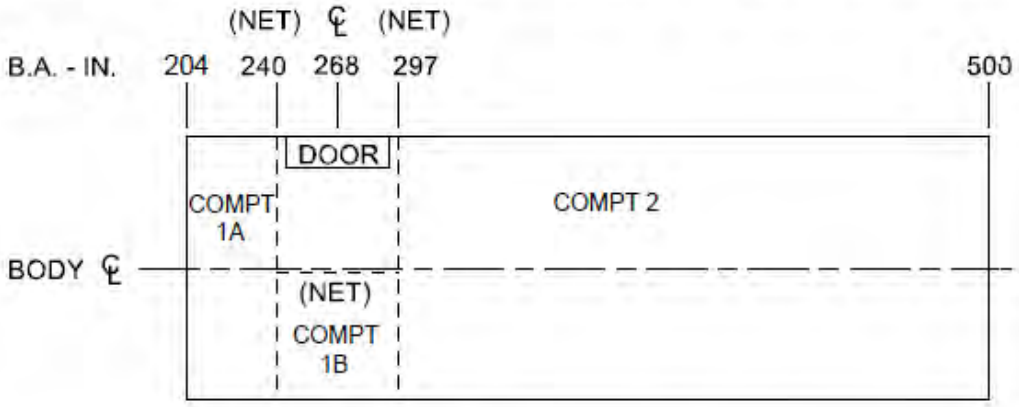
The following table provides cargo compartment locations, usable volumes and the corresponding volumetric centroid arms for cargo compartments with the cargo door net installed.

CARGO COMPARTMENT	LOCATION - B.A.		USABLE VOLUME CU FT	B. A. IN
	FROM	TO		
Forward	204	500	657	364.3
Aft	731	1160	858	897.4
Total			1515	666.2

FORWARD CARGO COMPARTMENTS

FORWARD CARGO COMPARTMENT VOLUMES

The following figure shows forward cargo hold compartment boundaries. The cargo door net is installed.



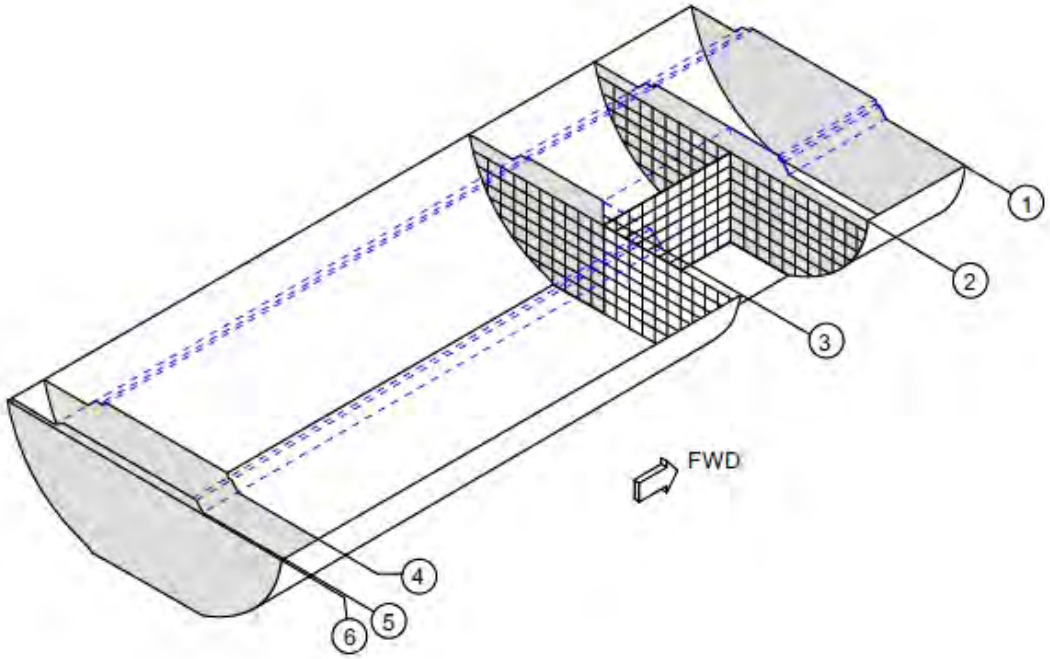
Volumes and centroids for the above figure are provided in the following table.

VOLUMES	COMPARTMENTS		
	1A	1B	2
Forward Compartment Volumes CU FT	90	50	517
Total Forward Hold CU FT	657		
Volumetric Centroids B.A. - IN.	222.0	268.1	398.4
	364.3		

FORWARD CARGO COMPARTMENTS (Continued)

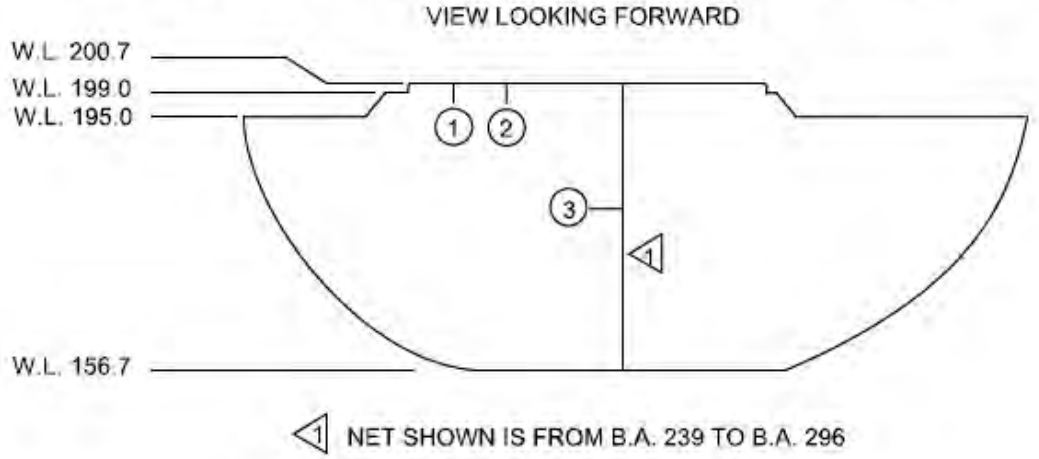
FORWARD CARGO COMPARTMENT CROSS SECTIONS

The figure below illustrates the general layout of the forward cargo compartments. The numbered labels and shaded panels correspond to the cross-sections provided on the next page.

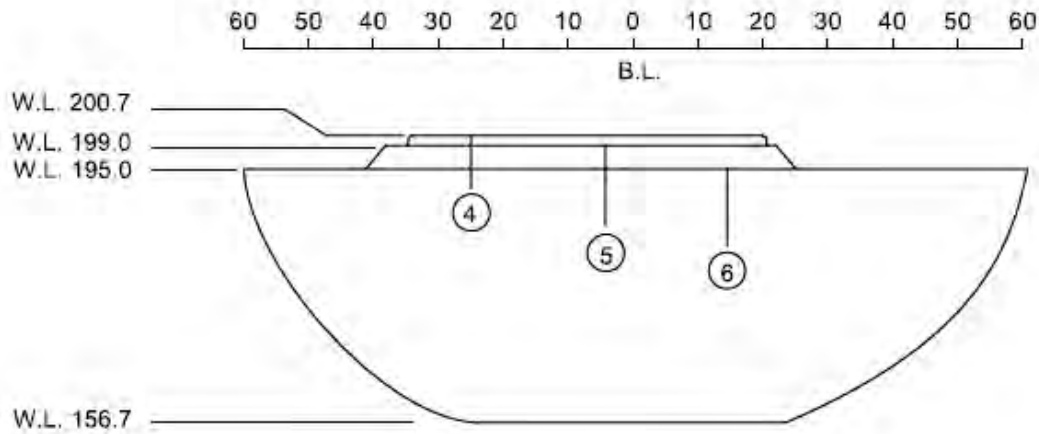


FORWARD CARGO COMPARTMENTS (Continued)

The following cross-sections for compartments 1 and 2 can be used to determine ceiling clearances at various forward cargo compartment balance arms. The relative location of the cross-sectional cut can be determined by correlating the cross-section number to the general layout on the previous page.



1 NET SHOWN IS FROM B.A. 239 TO B.A. 296

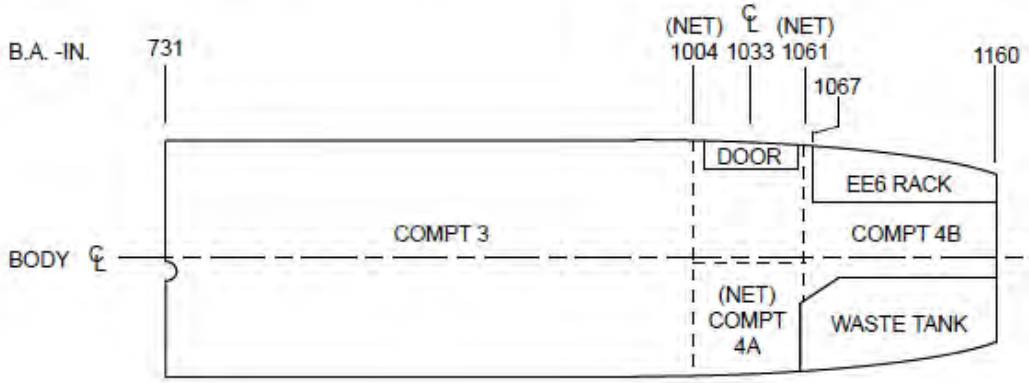


CROSS SECTION NO.	B.A. IN.
1	204.0
2	240.0
3	297.0
4	482.0
5	498.0
6	500.0

AFT CARGO COMPARTMENTS

AFT CARGO COMPARTMENT VOLUMES

The following figure shows aft cargo hold compartment boundaries. The cargo door net and enhanced E6 (EE6) rack is installed.



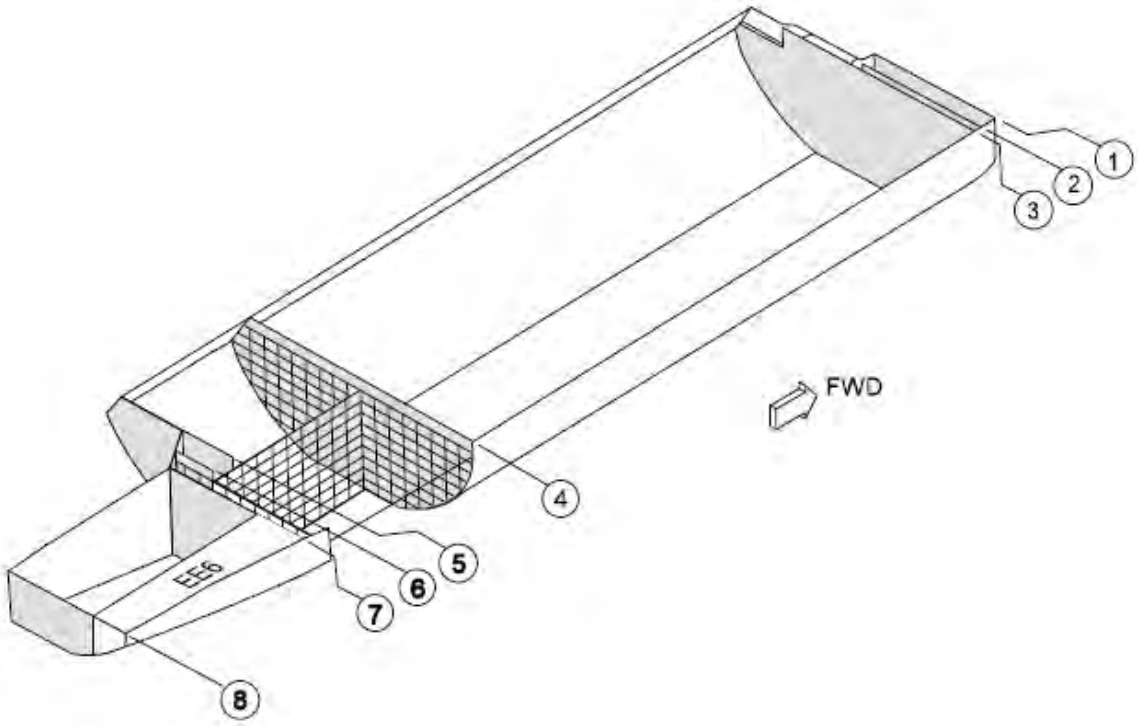
Volumes and centroids for the above figure are provided in the following table.

VOLUMES	COMPARTMENTS		
	3	4A	4B
Aft Compartment Volumes CU FT	733	50	75
Total Aft Hold CU FT	858		
Volumetric Centroids B.A. - IN.	867.2	1030.9	1103.7
	897.4		

AFT CARGO COMPARTMENTS (Continued)

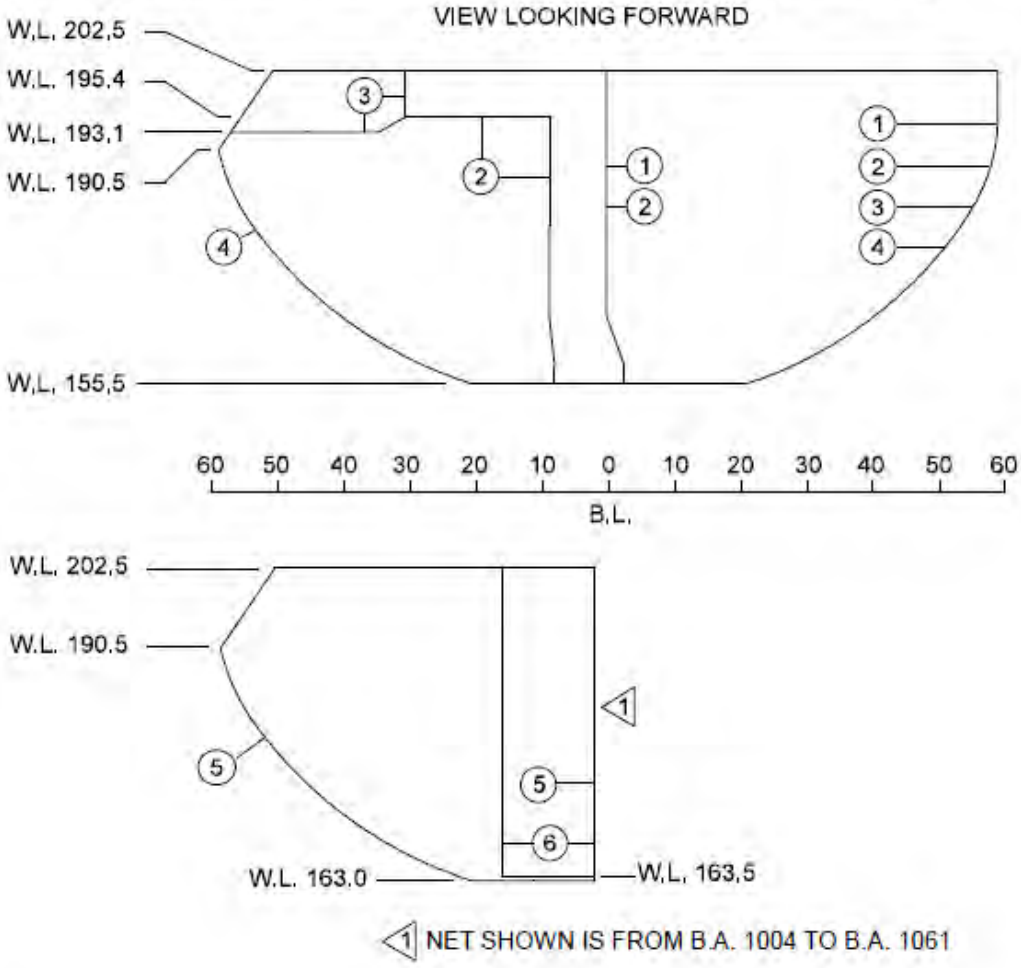
AFT CARGO COMPARTMENT CROSS SECTIONS

The figure below illustrates the general layout of the aft cargo compartments. The numbered labels and shaded panels correspond to the cross-sections provided on the next page.

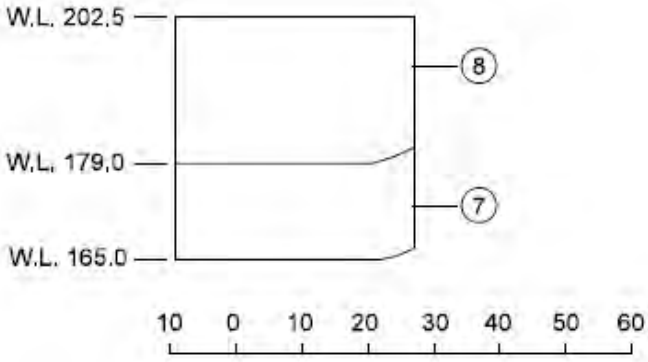


AFT CARGO COMPARTMENTS (Continued)

The following cross-sections for compartments 3 and 4 can be used to determine ceiling clearances at various aft cargo compartment balance arms. The relative location of the cross-sectional cut can be determined by correlating the cross-section number to the general layout on the previous page.



CROSS SECTION NO.	B.A. IN.
1	731.0
2	732.0
3	741.0
4	1004.0
5	1057.0
6	1061.0
7	1067.0
8	1160.0



3.12.4 B787-8/-9

	787-8	787-9
DESIGN WEIGHTS		
MAX. TAXI WEIGHT (MTXW)	228 383 kg	250382 kg | 252650 kg(*)
MAX. TAKE-OFF WEIGHT (MTOW)	227 930 kg	249475 kg | 251743 kg(*)
MAX. LANDING WEIGHT (MLAW)	172 365 kg	192776 kg
MAX. ZERO FUEL WEIGHT (MZFW)	161 025 kg	181436 kg
MAX. FUEL LOAD (at density 0.85 kg/l)	107 274 kg	107491 kg
ALTERNATE FWD CG LIMITS		
ALT FWD CG I	MAC >= 18%	MAC >= 21%
ALT FWD CG II	MAC >= 22%	MAC >= 25%
CREW		
COCKPIT – STANDARD (MAX)	2 (4)	2 (4)
CABIN SEATS – D1/D2/D3/D4 (TTL)	3 / 4 / 2 / 2 (11)	3 / 4 / 2 / 3 (12)
PANTRY	AHM 560 Sheet C8 (according to IATA AHM Revision 37)	
PAX CABIN		
VERSION – C/P/Y (TTL)	18/21/213 (252)	24 / 21 / 249 (294)
PAX SECTOR **A**: C	18	24
PAX SECTOR **B**: P	21	21
PAX SECTOR **C**: Y	117	117
PAX SECTOR **D**: Y	96	132
CARGO COMPARTMENTS (gross weight / volume)		
1 (FWD)	15306 kg	15870 kg
2 (FWD)	12696 kg	15870 kg
3 (AFT)	12676 kg	15873 kg
4 (AFT)	9522 kg	12696 kg
5 (AFT BULK)	2735 kg / 11.38 cu.m	2735 kg / 11.38 cu.m
CARGO DOOR DIMENSIONS		
FWD	269 cm x 170 cm	
AFT	269 cm x 170 cm	
BULK	102 cm x 114 cm	
MAX. FLOOR LOADING		
	Max area load ; Max linear load	
MAIN DECK	487 kg/sq.m ; 13.1 kg/m	
FWD CGO CMPT BA 340.9 TO 736.6	976 kg/sq.m ; 20.9 kg/m	
FWD CGO CMPT BA 736.6 TO 832.8	976 kg/sq.m ; 31.0 kg/m (**)	
AFT CGO CMPT BA 1299.9 TO 1396.1	976 kg/sq.m ; 31.0 kg/m (**)	
AFT CGO CMPT BA 1396.1 TO 1669.1	976 kg/sq.m ; 20.9 kg/m	
BULK	732 kg/sq.m ; 10.7 kg/m	

(*) – Maximum weights for SP-LSF/ -LSG/ -LSH

(**) – cargo tiedown required when loading above 20.9 kg/m

787-8 ULD LOAD CONFIGURATIONS (examples)

CONFIG	IATA SIZE CODE	COMMON TYPES	FORWARD COMPARTMENT	AFT COMPARTMENT
1	K (LEFT) (60.4Lx61.5Wx64H)	LD-1	11L 12L **13L** 14L 21L 22L 23L **24L**	**31L** 32L 33L **41L** 42L 43L
2	K (RIGHT) (60.4Lx61.5Wx64H)	LD-1	11R 12R **13R** 14R 21R 22R 23R **24R**	**31R** 32R 33R **41R** 42R 43R
3	P (60.4Lx47Wx64H)	LD-2	11R 12R 14R 21R 22R 23R **24R** 11L 12L 14L 21L 22L 23L **24L**	**31R** 32R 33R 42R 43R **31L** 32L 33L 42L 43L
4	K (60.4Lx61.5Wx64H)	LD-3	11R 12R **13R** 14R 21R 22R 23R **24R** 11L 12L **13L** 14L 21L 22L 23L **24L**	**31R** 32R 33R **41R** 42R 43R **31L** 32L 33L **41L** 42L 43L
5	L (60.4Lx125Wx64H)	LD-5/6 LD-10/11	11 12 **13** 14 21 22 23 **24**	**31** 32 33 **41** 42 43
6	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-4	P11R P12R P13R P21R P22R P11L P12L P13L P21L P22L	P31R P32R P42R P31L P32L P42L
7	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-8	P21R P12L P21L	P32R P32L
8	A (88Lx125Wx64H)	LD-7/9 A	P11 P12 P13 P21 P22	P31 P32 P41 P42
9	M (96Lx125Wx64H)	M	P11 P12 P13 P21 P22	P31 P32 P42
10	N (96Lx61.5Wx64H)	Half Pallet	P11R P12R P13R P21R P22R P11L P12L P13L P21L P22L	P31R P32R P42R P31L P32L P42L

NOTE:

1. **DOOR AREA POSITIONS ARE SHOWN WITH A DOUBLE LINE BORDER.**
2. **HEAVY WEIGHT ULD POSITIONS ARE SHOWN WITH A BOLD LINE BORDER.**
3. **OTHER CONFIGURATIONS ARE POSSIBLE WITH A MIXTURE OF CONTAINER AND PALLET TYPES/SIZES.**
4. **ULD RECOMMENDED FOR LO FLIGHTS: LD-3, LD-6, PMC, PAJ, PNA, PKC, PLA.**

787-9 ULD LOAD CONFIGURATIONS (examples)

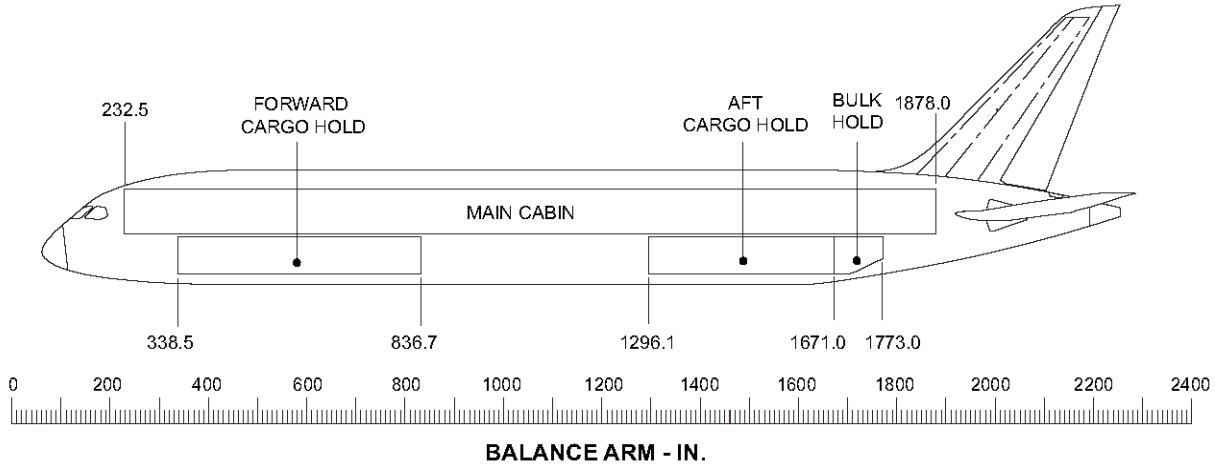
CONFIG	IATA SIZE CODE	COMMON TYPES	FORWARD COMPARTMENT	AFT COMPARTMENT
1	K (LEFT) (60.4Lx61.5Wx64H)	LD-1	11L 12L 13L 14L 15L 21L 22L 23L 24L 25L	31L 32L 33L 34L 41L 42L 43L 44L
2	K (RIGHT) (60.4Lx61.5Wx64H)	LD-1	11R 12R 13R 14R 15R 21R 22R 23R 24R 25R	31R 32R 33R 34R 41R 42R 43R 44R
3	P (60.4Lx47Wx64H)	LD-2	11R 12R 14R 15R 21R 22R 23R 24R 25R 11L 12L 14L 15L 21L 22L 23L 24L 25L	31R 32R 33R 34R 41R 43R 44R 31L 32L 33L 34L 41L 43L 44L
4	K (60.4Lx61.5Wx64H)	LD-3	11R 12R 13R 14R 15R 21R 22R 23R 24R 25R 11L 12L 13L 14L 15L 21L 22L 23L 24L 25L	31R 32R 33R 34R 41R 42R 43R 44R 31L 32L 33L 34L 41L 42L 43L 44L
5	L (60.4Lx125Wx64H)	LD-5/6 LD-10/11	11 12 13 14 15 21 22 23 24 25	31 32 33 34 41 42 43 44
6	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-4	P11R P12R P13R P21R P22R P23R P11L P12L P13L P21L P22L P23L	P31R P32R P33R P41R P42R P31L P32L P33L P41L P42L
7a	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-8	P13R P22R P13L P22L	P32R P32L P41L
7b	Q (LONGITUDINAL) (96Lx60.4Wx64H)	LD-8	P21R P12L P21L	P33R P33L
8	A (88Lx125Wx64H)	LD-7/9 A	P11 P12 P13 P21 P22 P23	P31 P32 P33 P41 P42
9	M (96Lx125Wx64H)	M	P11 P12 P13 P21 P22 P23	P31 P32 P33 P41 P42
10	N (96Lx61.5Wx64H)	HALF PALLET	P11R P12R P13R P21R P22R P23R P11L P12L P13L P21L P22L P23L	P31R P32R P33R P41R P42R P31L P32L P33L P41L P42L

NOTE:

1. **DOOR AREA POSITIONS ARE SHOWN WITH A DOUBLE LINE BORDER.**
2. **HEAVY WEIGHT ULD POSITIONS ARE SHOWN WITH A BOLD LINE BORDER.**
3. **OTHER CONFIGURATIONS ARE POSSIBLE WITH A MIXTURE OF CONTAINER AND PALLET TYPES/SIZES.**
4. **ULD RECOMMENDED FOR LO FLIGHTS: LD-3, LD-6, PMC, PAJ, PNA, PKC, PLA.**

3.12.4.1.1 B787-8 – cargo compartments description.

The following airplane profile illustrates the cargo hold locations.

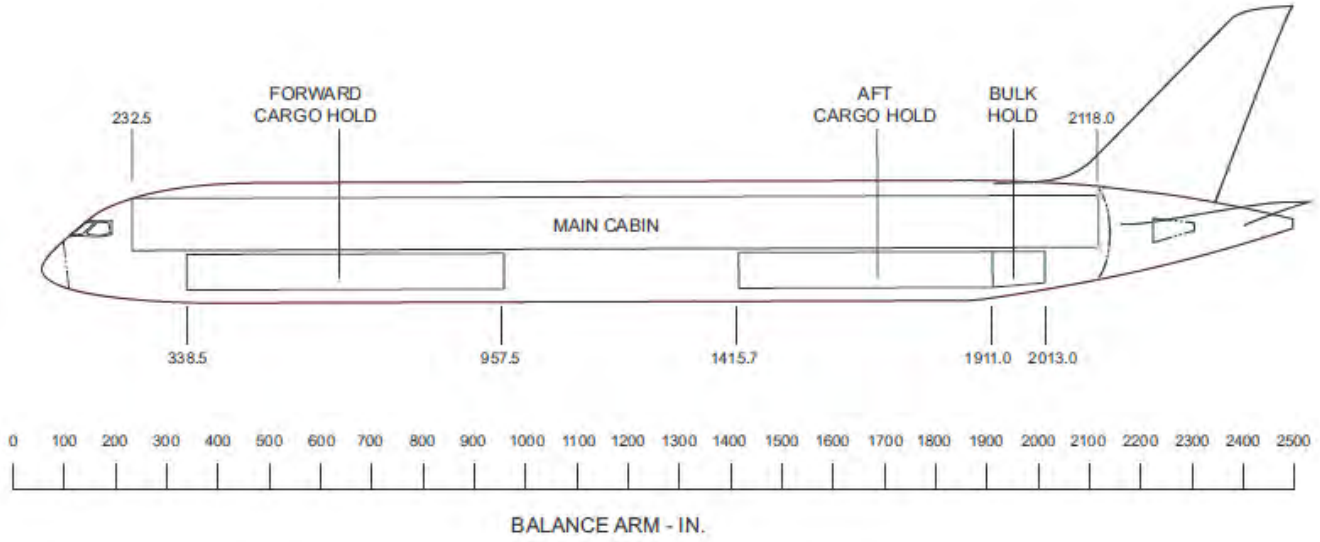


	fm BA [in]	to BA [in]	Vol [cu.m]	Max wgt [kg]	Hold	Max wgt [kg]	Position	Max wgt [kg] *	
								L	R
FWD	338.5	836.7	58.76	25514	1	15306	11	1587	1587
							12	1587	1587
							13	1587	1587
							14	1587	1587
					2	12696	21	1587	1587
							22	1587	1587
							23	1587	1587
							24	1587	1587
AFT	1296.1	1671.0	43.04	19132	3	12676	31	1587	1587
							32	1587	1587
							33	1587	1587
					4	9522	41	1587	1587
							42	1587	1587
							43	1587	1587
	1671.0	1773.0	11.38	2735	5	2735	5	2735	

(*) – LD-3, no tiedowns

3.12.4.1.2 B787-9 – cargo compartments description.

The following airplane profile illustrates the cargo hold locations.



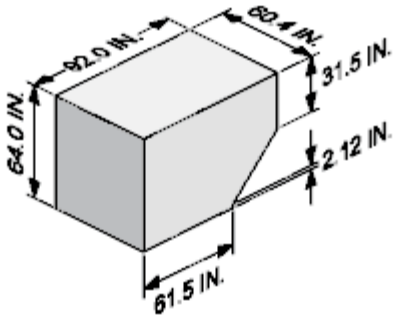
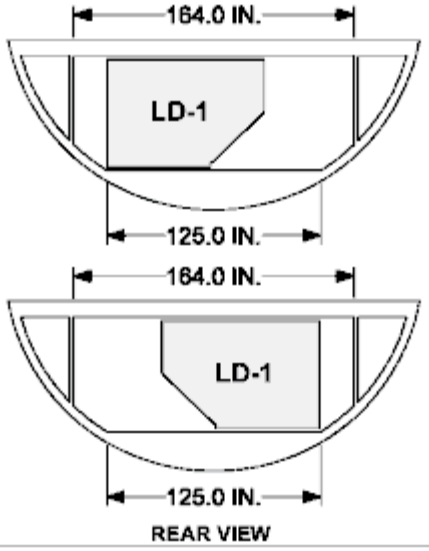
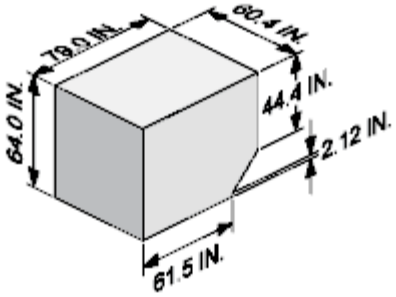
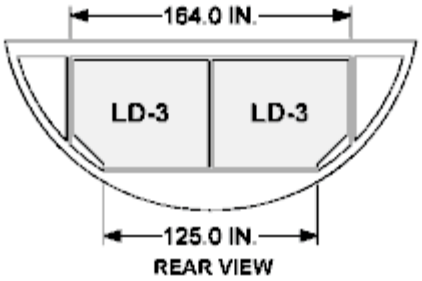
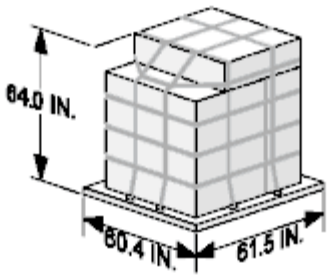
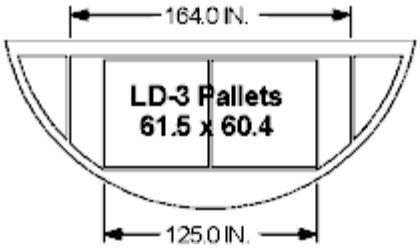
	fm BA [in]	to BA [in]	Vol [cu.m]	Max wgt [kg]	Hold	Max wgt [kg]	Position	Max wgt [kg]*	
								L	R
FWD	338.5	957.5	73.00	32005	1	15870	11	1587	1587
							12	1587	1587
							13	1587	1587
							14	1587	1587
							15	1587	1587
					2	15870	21	1587	1587
							22	1587	1587
							23	1587	1587
							24	1587	1587
							25	1587	1587
AFT	1415.7	1911.0	56.86	25655	3	15873	31	1587	1587
							32	1587	1587
							33	1587	1587
							34	1587	1587
					4	12696	41	1587	1587
							42	1587	1587
							43	1587	1587
							44	1587	1587
	1911.0	2013.0	11.38	2735	5	2735	5	2735	

(*) – LD-3, no tiedowns

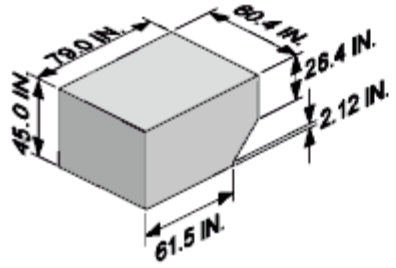
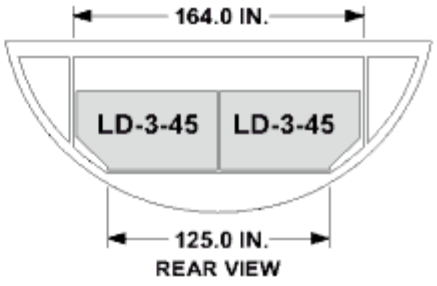
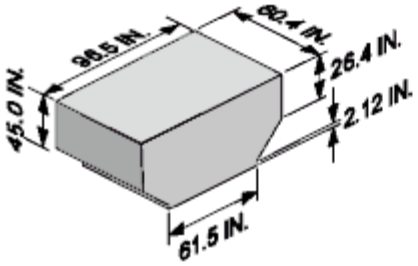
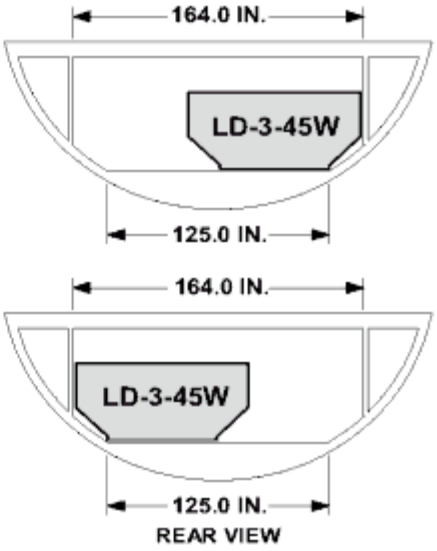
3.12.4.2 B787-8 / -9 – ULD dimensions and lateral positions – size code K, L and P

The external dimensions and lateral positions of Size Code K, L, and P ULDs on the lower deck are provided in the following illustrations.

Size Code K

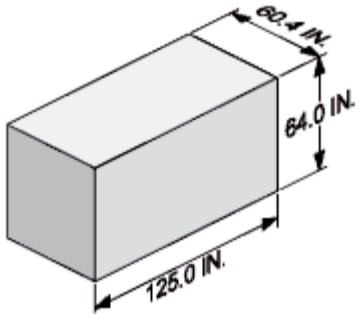
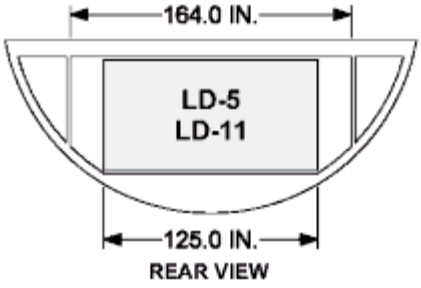
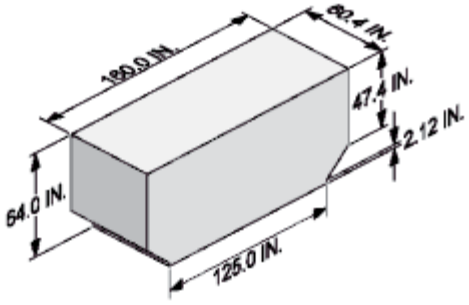
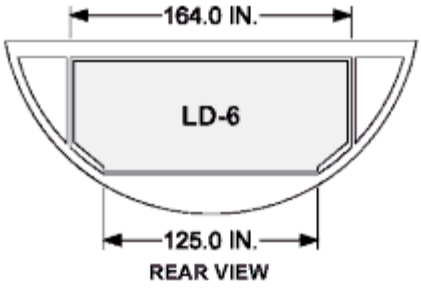
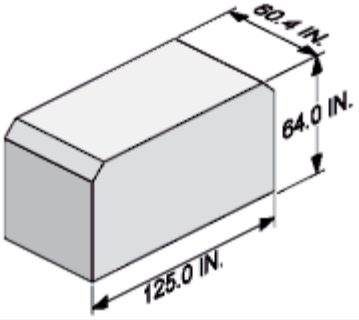
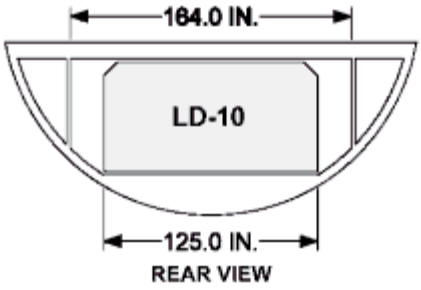
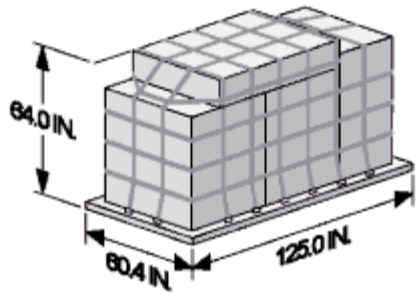
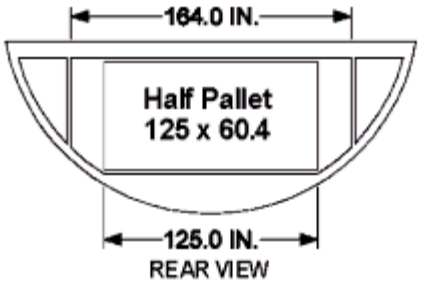
ULD DIMENSIONS	LATERAL POSITION
LD-1 	
LD-3 	
LD-3 Pallet 	

Size Code K (continued)

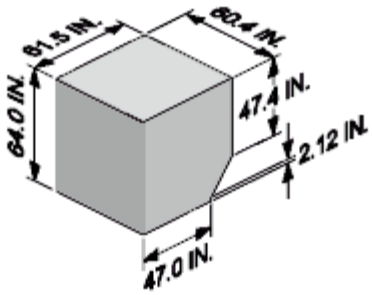
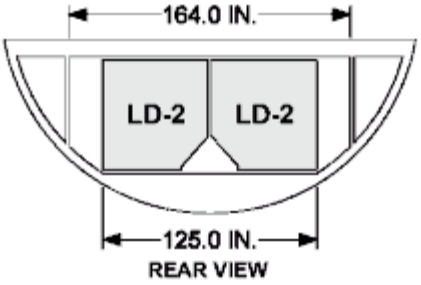
ULD DIMENSIONS	LATERAL POSITION
LD-3-45 	
LD-3-45W 	

Caution: tiedowns are required when loading ULD shown above

Size Code L

ULD DIMENSIONS	LATERAL POSITION
LD-5 LD-11 	
LD-6 	
LD-10 	
Half Pallet 	

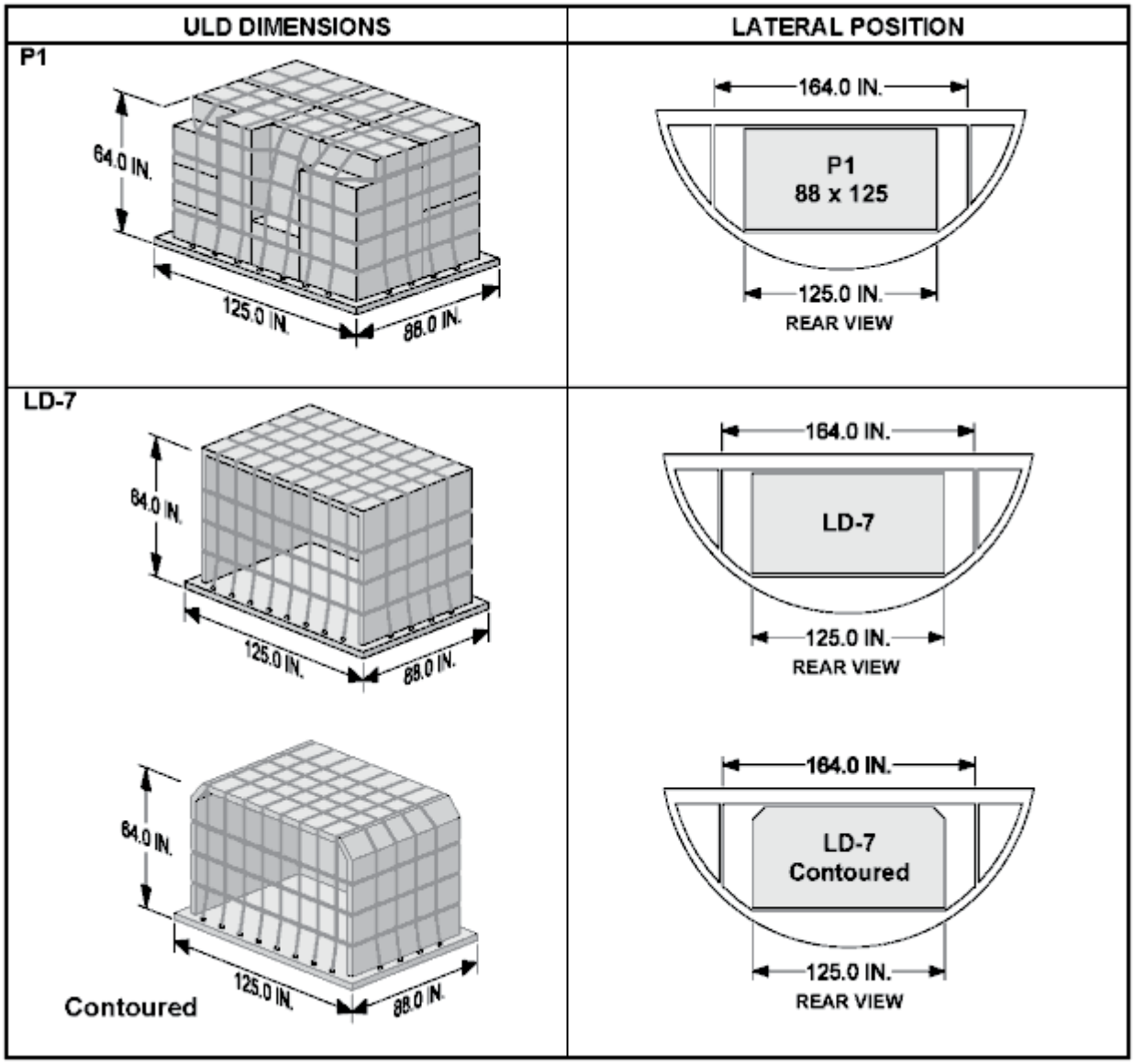
Size Code P

ULD DIMENSIONS	LATERAL POSITION
LD-2 	

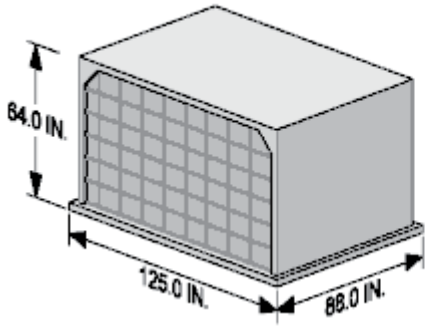
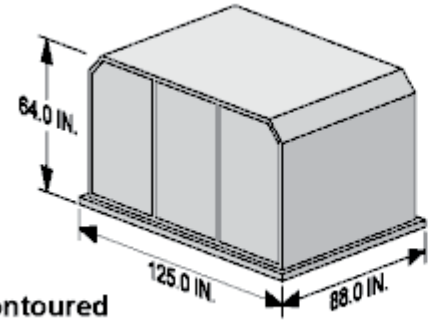
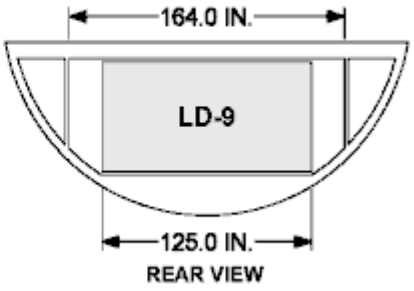
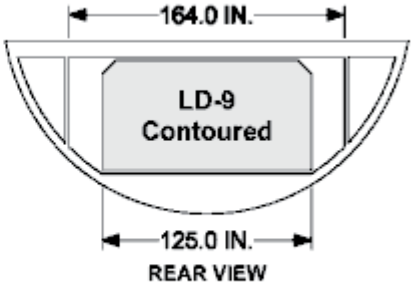
3.12.4.3 B787-8 / -9 – ULD dimensions and lateral positions – size code A, M, N and Q longitudinal

The external dimensions and lateral positions of Size Code A, M, N, and Q longitudinal ULDs on the lower deck are provided in the following illustrations.

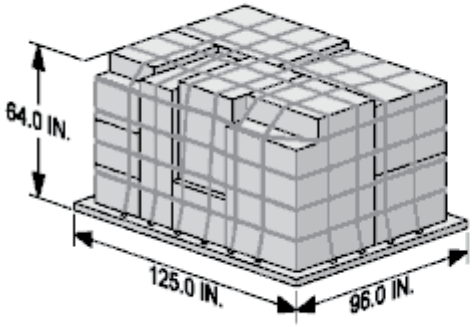
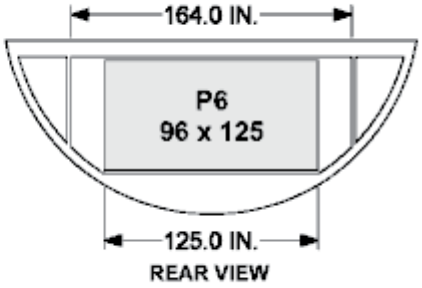
Size code A



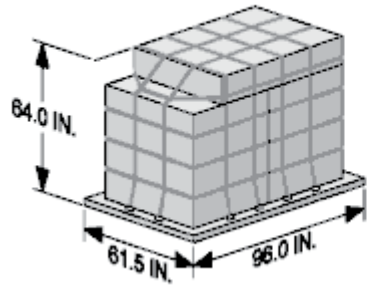
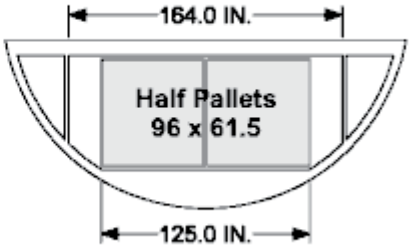
Size code A (continued)

ULD DIMENSIONS	LATERAL POSITION
LD-9   Contoured	 

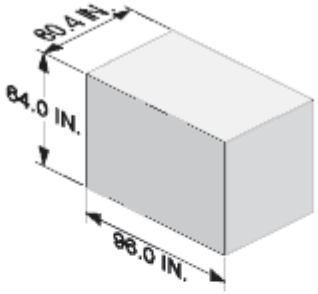
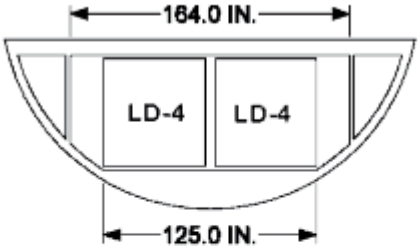
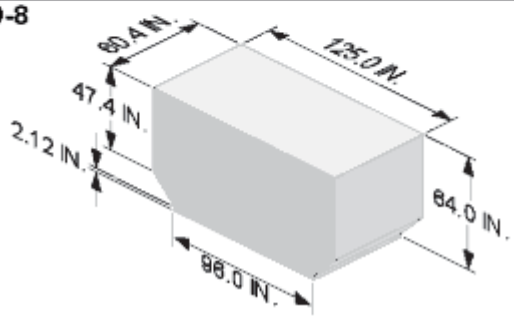
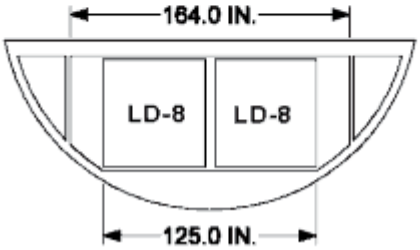
Size code M

ULD DIMENSIONS	LATERAL POSITION
P6  	

Size code N

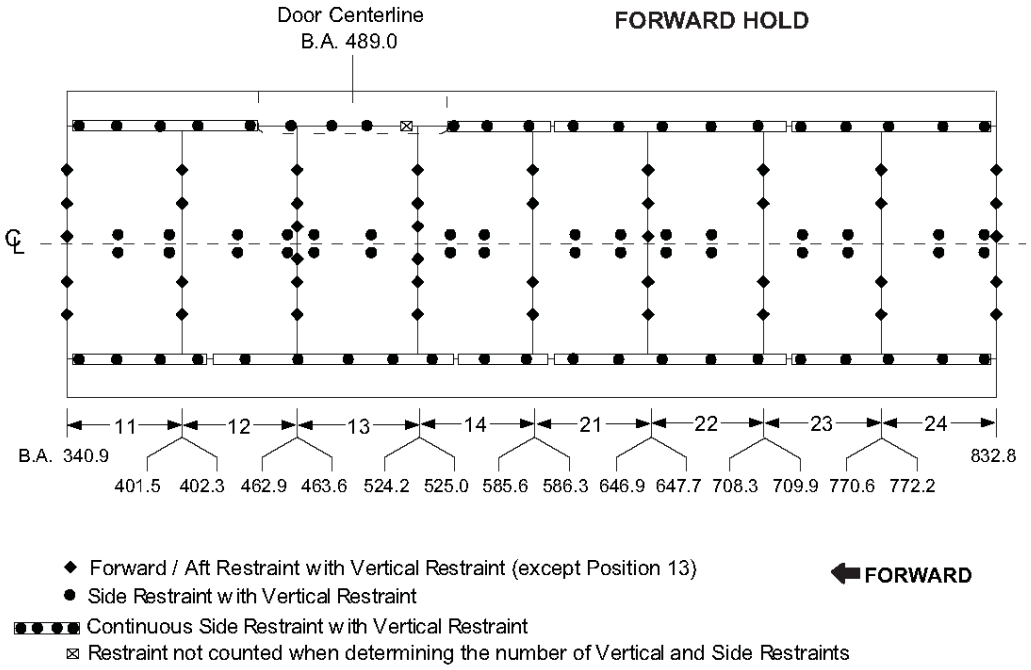
ULD DIMENSIONS	LATERAL POSITION
Half Pallet 	

Size code Q Longitudinal

ULD DIMENSIONS	LATERAL POSITION
LD-4 	
LD-8 	

3.12.4.4.1 B787-8 – cargo restraint system – forward hold - size codes K, L, and P

Each Unit Load Device (ULD) must be restrained on all four sides with forward / aft and side restraints, except for LD-2 containers which must be paired with another LD-2 or LD-3. The area between each combination of forward / aft restraints is referred to as a ULD position. The illustration below identifies the locations of the forward / aft and side restraints, and the associated positions for Size Code K, L, and P ULDs.



Loading Considerations

The allowable weight for each position is a function of the restraint capabilities, the load factors, and the ULD capabilities. Unless otherwise stated, the following guidelines must be used to determine the allowable ULD weight in a position.

- The allowable position weight includes ULD tare. Any weight in excess of the allowable specified herein must be restrained by additional tiedowns
- Allowable weights may further be restricted by limitations in this manual.
- All ULDs, except Size Code P (LD-2), must be restrained by hardware on all four sides. LD-2 containers are restrained by hardware on three sides and a container on the fourth side.
- LD-2 containers must be paired with another LD-2 or LD-3 container.
- LD-2 containers must not occupy doorway Position 13.
- Use of ULDs not specified in this manual require tiedowns for the ULD's gross weight at the specified load factors.
- To reduce inadvertent cargo movement, it is recommended that all available restraints in unoccupied positions be raised.

Missing / Inoperative Restraints

Maximum ULD weights shown in this section assume all equipment is installed and operable. When equipment is missing or inoperable, allowable weight may be reduced. Certain instances of missing or inoperable equipment reduce the allowable weight to zero.

CAUTION CARE MUST BE EXERCISED DURING LOADING AND UNLOADING OF UNIT LOAD DEVICES WHEN EQUIPMENT IS MISSING / INOPERATIVE TO PREVENT DAMAGE TO AIRPLANE STRUCTURE. IT IS ADVISABLE THAT MALFUNCTIONING EQUIPMENT BE REPAIRED OR REPLACED TO PREVENT DAMAGE TO OPERATIVE EQUIPMENT.

The following equipment malfunctions do not constitute a weight limit restriction, except when specifically noted herein:

- Jammed or missing sill rollers
- Jammed or missing doorsill rollout stop guide heads
- Jammed or missing balls in a ball mat
- Jammed or missing conveyance rollers
- Jammed or missing doorway center guides
- Jammed or missing doorway entrance guide rollers
- Jammed or missing braking rollers or PDUs
- Cracked Side Guide rail, except as noted in Maximum Allowable Weight tables

Restraint systems fall into two categories: side restraints and forward / aft restraints. Each restraint direction is considered separately when missing / inoperative restraint equipment exists (i.e. forward, aft, side left, side right and vertical loading). When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately and using the most limiting resultant allowable weight.

Unless otherwise stated, the following guidelines must be used to determine the number of operable restraints in a ULD position:

- The operator determines the number of restraints available for each position.
- A missing side guide rail will cause the allowable weight on that side of the position to be 0 KG).
- Missing / inoperative restraints cannot be adjacent (i.e. two adjacent side restraints or two adjacent forward or aft restraints, or two restraints adjacent to a common ULD corner, may not be missing or inoperative). If this condition exists, tiedowns are required.
- An empty ULD can be carried in any position provided at least one restraint is operable in each direction (forward, aft, left, and right), except for Size Code P (LD-2) containers which must be paired with another container.
- ULDs less than 63 inches in height require at least one vertical restraint on each edge (forward, aft, left, and right).

Size Code K - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE K - KG										
RESTRAINT		CONTAINER POSITION								
DIRECTION	NUMBER OPERABLE	11	12	13L	13R	14	21	22	23	24
Maximum Weight/Side		1587	1587	1587	1587	1587	1587	1587	1587	1587
Vertical[a]	10		1587			1587				
	9	1587	1587			1165		1587		1587
	8	1152	1115			966	1587	1065	1587	929
	7	1043	1075			0	898	957	1152	839
	6	0	0			0	789	0	993	0
	5	0	0	1587		0	0	0	0	0
	4	0	0	0	1587	0	0	0	0	0
	3	0	0	0	0	0	0	0	0	0
Forward	3			1587	1587	1587				
	2	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	1474	1474	1587	1587	1587	1587	1587	1587	1587
Aft	3		1587	1587	1587					
	2	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587	1587	1587	1587
Left	2	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	879	1587	1587	1587	1587	943	1174	1242	875
Right	2	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	879	1587	1587	1587	1587	943	1174	1242	875

[a] For Size Code K ULDs on the right side, do not count the end stops and container locks located in the RBL 3.32 trays when determining the number of vertical restraints.

Size Code L - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE L - KG									
RESTRAINT		CONTAINER POSITION							
DIRECTION	NUMBER OPERABLE	11	12	13	14	21	22	23	24
Maximum Weight		3175	3175	3175	3175	3175	3175	3175	3175
Vertical	16				3175				
	15	3175	3175		2653		3175		3175
	14	2590	2562		2258		2612		2562
	13	2277	2231		0	3175	2331		2263
	12	0	0		0	2354	0	3175	0
	11	0	0		0	1995	0	2676	0
	10	0	0		0	0	0	2267	0
	9	0	0		0	0	0	0	0
	8	0	0		0	0	0	0	0
	7	0	0		0	0	0	0	0
	6	0	0		0	0	0	0	0
	5	0	0	3175	0	0	0	0	0
	4	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
Forward	6			3175	3175				
	5	3175		3175	3175		3175		
	4	2009	3175	3175	3175	3175	3175	3175	3175
	3	1782	2009	0	0	3175	2930	3175	3175
	2	0	1782	0	0	3175	0	3175	3175
	1	0	0	0	0	0	0	0	0
Aft	6		3175	3175					
	5		3175	3175		3175			3175
	4	3175	3175	3175	3175	3175	3175	3175	2753
	3	3175	0	0	3175	2930	2753	2753	2381
	2	3175	0	0	3175	0	2381	2381	0
	1	0	0	0	0	0	0	0	0

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE L - KG (Continued)									
RESTRAINT		CONTAINER POSITION							
DIRECTION	NUMBER OPERABLE	11	12	13	14	21	22	23	24
Left	3	3175		3175	3175[a]		3175		3175
	2	0	3175	0	0	3175	0	3175	0
	1	0	0	0	0	0	0	0	0
Right	3	3175	3175		3175[b]		3175		3175
	2	0	3175	3175	0	3175	0	3175	0
	1	0	0	3175	0	0	0	0	0

[a] For Position 14, the allowable weight is 2227 KG with a crack in the left side guide rail between B.A 561 and 585.

[b] For Position 14, the allowable weight is 2227 KG with a crack in the right side guide rail between B.A. 561 and 585, and/or a missing/inoperative doorway entrance guide (except vertical roller).

Size Code P - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE P - KG									
RESTRAINT		CONTAINER POSITION							
DIRECTION	NUMBER OPERABLE	11	12	13	14	21	22	23	24
Maximum Weight/Side		1224	1224	0[a]	1224	1224	1224	1224	1224
Vertical[b]	4	1224	1224		1224	1224	1224	1224	1224
	3	530	530		557	557	612	612	730
	2	0	0		0	0	0	0	0
Forward	2	1224	1224		1224	1224	1224	1224	1224
	1	1224	1224		1224	1224	1224	1224	1224
Aft	2	1224	1224		1224	1224	1224	1224	1224
	1	1224	1224		1224	1224	1224	1224	1224
Left	3	1224			1224[c]		1224		1224
	2	0	1224		0	1224	0	1224	0
	1	0	0		0	0	0	0	0
Right	3	1224	1224		1224[d]		1224		1224
	2	0	1224		0	1224	0	1224	0
	1	0	0		0	0	0	0	0

[a] Size Code P ULDs must not occupy the doorway Positions (13L and 13R).

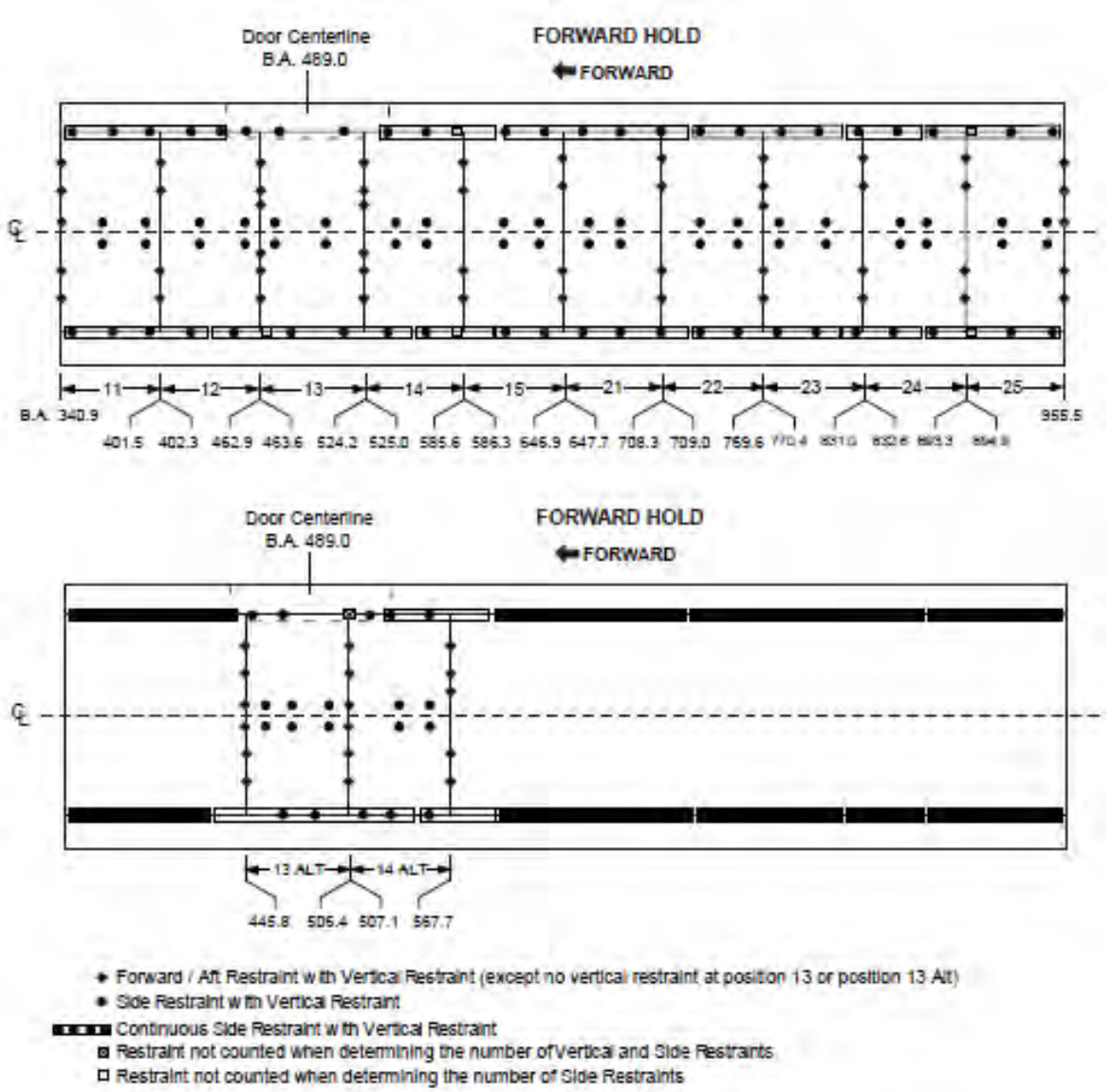
[b] For Size Code P ULDs, do not count the center guides at BL 0.0, side guides at L/RBL 62.6, and the end stops and container locks located in the RBL 3.32 trays when determining the number of vertical restraints.

[c] For Position 14, the allowable weight is 1115 KG with a crack in the left side guide rail between B.A. 561 and 585.

[d] For Position 14, the allowable weight is 1115 KG with a crack in the right side guide rail between B.A. 561 and 585, and/or a missing / inoperative doorway entrance guide (except vertical roller).

3.12.4.4.2 B787-9 – cargo restraint system – forward hold - size codes K, L, and P

Each Unit Load Device (ULD) must be restrained on all four sides with forward / aft and side restraints, except for LD-2 containers which must be paired with another LD-2 or LD-3. The area between each combination of forward / aft restraints is referred to as a ULD position. The illustration below identifies the locations of the forward / aft and side restraints, and the associated positions for Size Code K, L, and P ULDs.



When loading Size Code A, M, N or Q (LD-4) longitudinal ULDs in positions outside the doorway area, alternate positions are available for 13L, 13R, 14L and 14R. These alternate positions are 17.9 inches forward of the standard positions.

Loading Considerations

The allowable weight for each position is a function of the restraint capabilities, the load factors, and the ULD capabilities. Unless otherwise stated, the following guidelines must be used to determine the allowable ULD weight in a position.

- The allowable position weight includes ULD tare. Any weight in excess of the allowable specified herein must be restrained by additional tiedowns
- Allowable weights may further be restricted by limitations in this manual.
- All ULDs, except Size Code P (LD-2), must be restrained by hardware on all four sides. LD-2 containers are restrained by hardware on three sides and a container on the fourth side.
- LD-2 containers must be paired with another LD-2 or LD-3 container.
- LD-2 containers must not occupy doorway Position 13 or 13 Alt.
- Use of ULDs not specified in this manual require tiedowns for the ULD's gross weight at the specified load factors.
- To reduce inadvertent cargo movement, it is recommended that all available restraints in unoccupied positions be raised.

Missing / Inoperative Restraints

Maximum ULD weights shown in this section assume all equipment is installed and operable. When equipment is missing or inoperable, allowable weight may be reduced. Certain instances of missing or inoperable equipment reduce the allowable weight to zero.

CAUTION CARE MUST BE EXERCISED DURING LOADING AND UNLOADING OF UNIT LOAD DEVICES WHEN EQUIPMENT IS MISSING / INOPERATIVE TO PREVENT DAMAGE TO AIRPLANE STRUCTURE. IT IS ADVISABLE THAT MALFUNCTIONING EQUIPMENT BE REPAIRED OR REPLACED TO PREVENT DAMAGE TO OPERATIVE EQUIPMENT.

The following equipment malfunctions do not constitute a weight limit restriction, except when specifically noted herein:

- Jammed or missing sill rollers
- Jammed or missing doorsill rollout stop guide heads
- Jammed or missing balls in a ball mat
- Jammed or missing conveyance rollers
- Jammed or missing doorway center guides
- Jammed or missing doorway entrance guide rollers
- Jammed or missing braking rollers or PDUs
- Cracked Side Guide rail, except as noted in Maximum Allowable Weight tables

Restraint systems fall into two categories: side restraints and forward / aft restraints. Each restraint direction is considered separately when missing / inoperative restraint equipment exists (i.e. forward, aft, side left, side right and vertical loading). When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately and using the most limiting resultant allowable weight.

Unless otherwise stated, the following guidelines must be used to determine the number of operable restraints in a ULD position:

- The operator determines the number of restraints available for each position.
- A missing side guide rail will cause the allowable weight on that side of the position to be 0 KG).
- Missing / inoperative restraints cannot be adjacent (i.e. two adjacent side restraints or two adjacent forward or aft restraints, or two restraints adjacent to a common ULD corner, may not be missing or inoperative). If this condition exists, tiedowns are required.
- An empty ULD can be carried in any position provided at least one restraint is operable in each direction (forward, aft, left, and right), except for Size Code P (LD-2) containers which must be paired with another container.
- ULDs less than 63 inches in height require at least one vertical restraint on each edge (forward, aft, left, and right).

Size Code K - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS
SIZE CODE K - KG

RESTRAINT		CONTAINER POSITION															
DIRECTION	NUMBER OPERABLE	11	12	13L	13R	13L ALT [a]	13R ALT [a]	14L	14R	14L ALT [a]	14R ALT [a]	15	21	22	23	24	25
Maximum Weight/ Side		1587	1587	1587	1587	1587	1133	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
Vertical[b]	10		1587					1587	1587	1587	1587						
	9	1587	1528					1406	1338	1451	1297		1587		1587		1587
	8	1202	1016					1002	1124	1183	1111	1587	1174	1587	1115	1587	1111
	7	948	0					0	0	0	0	1020	961	1043	875	1070	889
	6	0	0					0	0	0	0	866	0	898	0	907	0
	5	0	0	1587		1587	1133	0	0	0	0	0	0	0	0	0	0
	4	0	0	0	1587	0	0	0	0	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forward	3			1587	1587	1587	1133	1587	1587	1587	1587						
	2	1587	1587	1560	1560	1537	1133	1560	1560	1537	1587	1587	1587	1587	1587	1587	1587
	1	1206	1206	1560	1560	1537	1133	1560	1560	1537	1587	1587	1587	1188	1188	1587	1587
Aft	3		1587	1587	1587	1587	1133										
	2	1587	1587	1587	1587	1229	988	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1229	988	1587	1587	1587	1587	1587	1188	1188	1256	1256	1256
Left	3					1587	1133										
	2	1587	1587	1587	1587	1587	1133	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	875	1587	1587	1587	1587	1133	1474	1474	1474	1474	852	526	1070	1029	1197	902
Right	3		1587	1587	1587	1587	1133										
	2	1587	1587	1587	1587	1587	1133	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	875	1587	1587	1587	1587	1133	1474	1474	1474	1474	852	526	1070	1029	1197	902

[a] Positions 13L Alt., 13R Alt., 14L Alt. and 14R Alt. are alternate positions in the doorway area that can be used when loading Size Code A, M, N or Q (LD-4) longitudinal ULDs. These alternate positions are shifted 17.9 inches forward of the standard Positions 13L/R and 14L/R.

[b] For Size Code K ULDs on the right side, do not count the end stops and container locks located in the RBL 3.32 trays when determining the number of vertical restraints.

Size Code L - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE L - KG													
RESTRAINT		CONTAINER POSITION											
DIRECTION	NUMBER OPERABLE	11	12	13	13 ALT [a]	14	14 ALT [a]	15	21	22	23	24	25
Maximum Weight		3175	3175	3175	1587	3175	3175	3175	3175	3175	3175	3175	3175
Vertical	17						3175						
	16					3175	2685						
	15	3175	3175			2671	2376				3175		3175
	14	2630	2599			2154	0		3175		2612		2617
	13	2313	2267			0	0		2644	3175	2308		2336
	12	0	0			0	0	3175	2345	2399	0	3175	0
	11	0	0			0	0	2363	0	2050	0	2562	0
	10	0	0			0	0	1991	0	0	0	2195	0
	9	0	0			0	0	0	0	0	0	0	0
	8	0	0			0	0	0	0	0	0	0	0
	7	0	0			0	0	0	0	0	0	0	0
	6	0	0			0	0	0	0	0	0	0	0
	5	0	0	3175		0	0	0	0	0	0	0	0
	4	0	0	0	1587	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0	0	0	0	0
Forward	6			3175	1587	3175	3175						
	5	3175		2934	1587	2934	3175				3175		
	4	1651	3175	2104	1378	2104	2762	3175	3175	3175	1619	3175	3175
	3	1460	1651	0	0	0	0	2358	2358	1619	1437	2358	2358
	2	0	1460	0	0	0	0	2295	2295	1437	0	2190	2190
	1	0	0	0	0	0	0	0	0	0	0	0	0
Aft	6		3175	3175	1587								
	5		2984	2984	1206		3175			3175			3175
	4	3175	2140	2140	961	3175	2150	3175	3175	1619	3175	3175	1660
	3	2381	0	0	0	2050	1809	2050	1619	1437	1660	1660	1496
	2	2208	0	0	0	1905	0	1905	1437	0	1496	1496	0
	1	0	0	0	0	0	0	0	0	0	0	0	0
Left	3	3175							3175		3175		
	2	0	3175	3175	1587	3175	3175	3175	0	3175	0	3175	3175
	1	0	0	0	0	0	0	0	0	0	0	0	0
Right	3	3175	3175						3175		3175		
	2	0	3175	3175	1587	3175	3175	3175	0	3175	0	3175	3175
	1	0	0	3175	1587	3175	0	0	0	0	0	0	0

[a] Positions 13 Alt. and 14 Alt. are alternate positions in the doorway area that can be used when loading Size Code A, M, N or Q (LD-4) longitudinal ULDs. These alternate positions are shifted 17.9 inches forward of the standard Positions 13 and 14.

Size Code P - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE P - KG												
RESTRAINT		CONTAINER POSITION										
DIRECTION	NUMBER OPERABLE	11	12	13 & 13 ALT	14	14 ALT [a]	15	21	22	23	24	25
Maximum Weight/Side		1224	1224	0[b]	1224	1224	1224	1224	1224	1224	1224	1224
Vertical[c]	4	1224	1224		1224	1224	1224	1224	1224	1224	1224	1224
	3	494	494		671	544	671	675	675	684	585	585
	2	0	0		0	0	0	0	0	0	0	0
	1	0	0		0	0	0	0	0	0	0	0
Fwd	2	1224	1224		1224	1224	1224	1224	1224	1224	1224	1224
	1	1206	1206		1224	0	1224	1224	1224	1224	1224	1224
Aft	2	1224	1224		1224	1224	1224	1224	1224	1224	1224	1224
	1	1224	1224		1224	993	1224	1224	1224	1224	1224	1224
Left	3	1224						1224		1224		
	2	0	1224		1224	1224	1224	0	1224	0	1224	1224
	1	0	0		0	0	0	0	0	0	0	0
Right	3	1224	1224			1224		1224		1224		
	2	0	1224		1224	1224	1224	0	1224	0	1224	1224
	1	0	0		1224	0	0	0	0	0	0	0

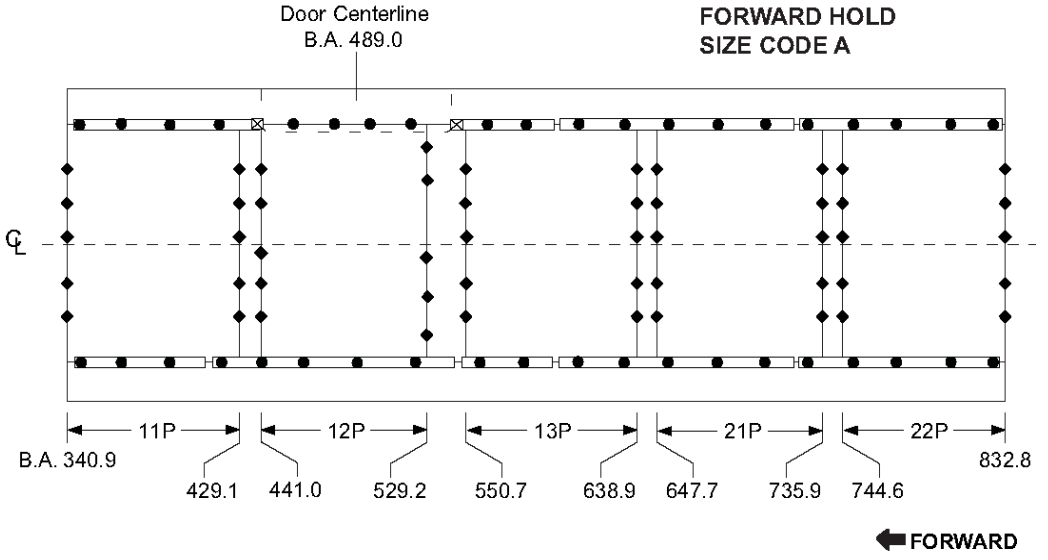
[a] Position 14 Alt. is an alternate position in the doorway area that can be used when loading Size Code A, M, N or Q (LD-4) longitudinal ULDs. This alternate position is shifted 17.9 inches forward of the standard Position 14.

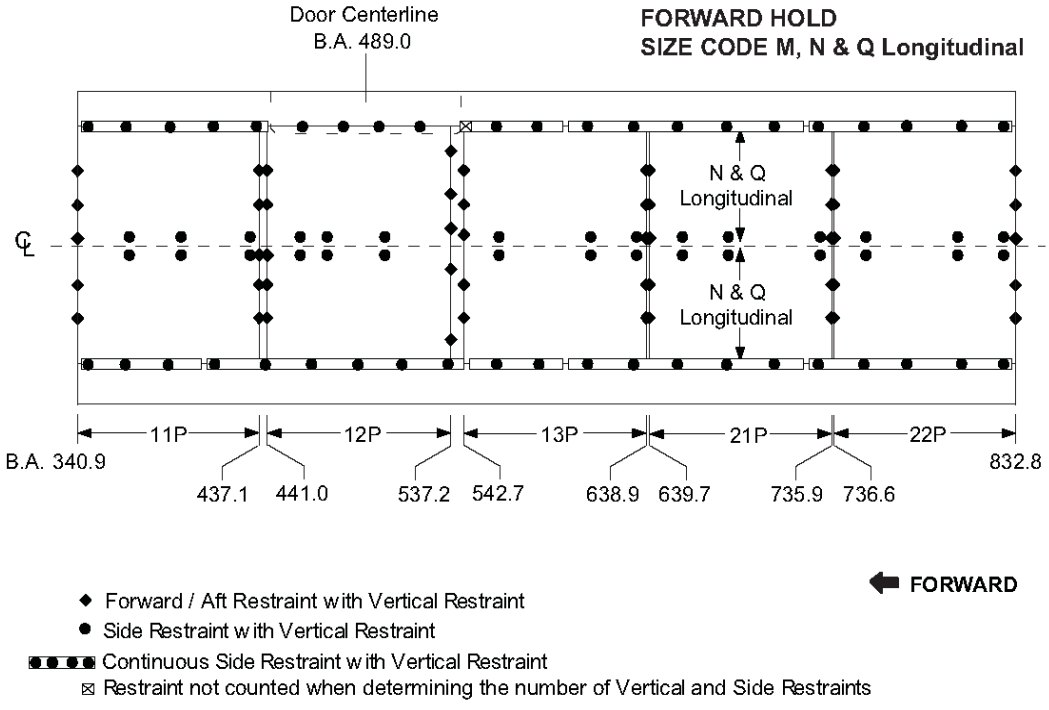
[b] Size Code P ULDs must not occupy the doorway Positions (13L, 13R, 13L Alt. and 13R Alt.).

[c] For Size Code P ULDs, do not count the center guides at BL 0.0, side guides at L/RBL 62.6, container locks in the ball mats at L/RBL 10.4 or LBL 7.235, and the container locks located in the RBL 3.32 trays when determining the number of vertical restraints.

3.12.4.5.1 B787-8 – cargo restraint system – forward hold - size codes A, M, N, Q longitudinal

The area between each combination of forward / aft restraints is a Unit Load Device (ULD) position. The illustrations below identify the locations of the forward / aft and side restraints and the associated positions for Size Code A, M, N, and Q longitudinal ULDs.





Loading Considerations

The allowable weight for each position is a function of the restraint capabilities, the load factors, and the ULD capabilities.

Unless otherwise stated, the following guidelines must be followed to determine the allowable ULD weight in a position.

- The allowable position weight includes ULD tare. Any weight in excess of the allowable specified herein must be restrained by additional tiedowns.
- Allowable weights may further be restricted by limitations in this manual.
- All ULDs, except Size Code Q, must be restrained vertically on all four sides.
- Size Code Q ULDs loaded longitudinally must be a minimum of 63 inches in height (per SAE AS1677) and may have any number of vertical restraints on the side guides or center guides missing without a load limit restriction. Those less than 63 inches must be vertically restrained by tiedowns.
- Use of ULDs not specified in this manual require tiedowns for the ULD's gross weight at the specified load factors.
- To reduce inadvertent cargo movement, it is recommended that all available restraints in unoccupied positions be raised.

Missing / Inoperative Restraints

Maximum ULD weights shown in this section assume all equipment is installed and operable. When equipment is missing or inoperable, allowable weight may be reduced. Certain instances of missing or inoperable equipment reduce the allowable weight to zero.

CAUTION CARE MUST BE EXERCISED DURING LOADING AND UNLOADING OF UNIT LOAD DEVICES WHEN EQUIPMENT IS MISSING / INOPERATIVE TO PREVENT DAMAGE TO AIRPLANE STRUCTURE. IT IS ADVISABLE THAT MALFUNCTIONING EQUIPMENT BE REPAIRED OR REPLACED TO PREVENT DAMAGE TO OPERATIVE EQUIPMENT.

The following equipment malfunctions do not constitute a weight limit restriction, except when specifically noted herein:

- Jammed or missing sill rollers
- Jammed or missing balls in a ball mat
- Jammed or missing conveyance rollers
- Jammed or missing doorsill rollout stop guide heads
- Jammed or missing doorway center guides
- Jammed or missing doorway entrance guide rollers
- Jammed or missing braking rollers or PDUs
- Cracked Side Guide rail, except as noted in Maximum Allowable Weight tables

Restraint systems fall into two categories: side restraints and forward / aft restraints. Each restraint direction is considered separately when missing / inoperative restraint equipment exists (i.e. forward, aft, side left, side right and vertical loading). When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately and using the most limiting resultant allowable weight.

Unless otherwise stated, the following guidelines must be used to determine the number of operable restraints in a ULD position:

- The operator determines the number of restraints available for each position.
- A missing side guide rail will cause the allowable weight on that side of the position to be 0 KG.
- Missing / inoperative restraints cannot be adjacent (i.e. two adjacent side restraints or two adjacent forward or aft restraints, or two restraints adjacent to a common ULD corner, may not be missing or inoperative). If this condition exists, tiedowns are required.
- An empty ULD can be carried in any position provided at least one restraint is operable in each direction (forward, aft, left, and right) .
- ULDs less than 63 inches in height require at least one vertical restraint on each edge (forward, aft, left, and right).

Size Code A (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE A - KG						
RESTRAINT		PALLET POSITION				
DIRECTION	NUMBER OPERABLE	11P	12P	13P	21P	22P
Maximum Weight		4676	4676	4676	4676	5102
Vertical	18	4676	4676	4676	4676	5102
	17	4055	3955	3982	4254	4327
	16	3624	3556	3610	3792	3869
	15	0	0	0	0	0
Forward	5	4676	4676	4676	4676	5102
	4	4676	4676	2830	2830	3769
	3	3733	4018	2599	2599	2957
	2	0	0	0	0	0
Aft	5	4676	4676	4676	4676	5102
	4	3333	3333	3769	3669	3669
	3	3029	3029	2957	2957	3365
	2	0	0	0	0	0
Left	4	4676	4676	4676	4676	5102
	3	0	0	0	0	0
	2	0	0	0	0	0
	1	0	0	0	0	0
Right	4	4676	4676	4676	4676	5102
	3	0	4676	0	0	0
	2	0	4549	0	0	0
	1	0	0	0	0	0

Size Code M (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE M - KG						
RESTRAINT		PALLET POSITION				
DIRECTION	NUMBER OPERABLE	11P	12P	13P	21P	22P
Maximum Weight		5102	5102	5102	5102	5669
Vertical	19	5102	5102			
	18	4440	4145	5102	5102	5669
	17	4014	3746	4145	4309	4336
	16	0	0	3746	3823	3850
	15	0	0	0	0	0
Forward	5	5102	5102	5102	5102	5669
	4	4758	5102	2830	2830	3769
	3	3733	4018	2599	2599	2957
	2	0	0	0	0	0
Aft	5	5102	5102	5102	5102	5669
	4	2576	2576	3769	3701	3701
	3	2195	2195	2957	2957	3397
	2	0	0	0	0	0
Left	5		5102			
	4	5102	0	5102	5102	5669
	3	0	0	0	0	0
	2	0	0	0	0	0
Right	5	5102				
	4	0	5102	5102	5102	5669
	3	0	5102	0	0	0
	2	0	4708	0	0	0
	1	0	0	0	0	0

Size Code N (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE N - KG											
RESTRAINT		PALLET POSITION									
DIRECTION	NUMBER OPERABLE	11PL	11PR	12PL	12PR	13PL	13PR	21PL	21PR	22PL	22PR
Maximum Weight/Side		2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
Vertical	14										
	13		2510	2510			2510		2510		2510
	12	2510	2349	2431	2510		2345		2163		2032
	11	1682	2009	2000	2322	2510	1973	2510	1850	2510	1737
	10	1483	0	0	1977	1710	0	1773	0	1728	0
	9	0	0	0	0	1560	0	1460	0	1519	0
	8	0	0	0	0	0	0	0	0	0	0
Forward	3		2510	2510			2510		2510		2510
	2	2510	2510	2510	2510	2510	2510	2510	2336	2510	2336
	1	2510	2510	2510	2510	2510	2510	2336	2336	2336	2336
Aft	3	2510			2510		2510		2510		2510
	2	1941	2510	2510	1818	2510	2336	2510	2336	2510	2510
	1	1941	1818	1941	1818	2336	2336	2336	2336	2510	2510
Left	5			2510							
	4	2510		0		2510		2510		2510	
	3	0	2510	0	2510	0	2510	0	2510	0	2510
	2	0	879	0	2510	0	1478	0	1555	0	1528
	1	0	879	0	2510	0	1478	0	1555	0	1528
Right	5		2510								
	4		0		2510		2510		2510		2510
	3	2510	0	2510	2510	2510	0	2510	0	2510	0
	2	879	0	2510	2510	1478	0	1555	0	1528	0
	1	879	0	2510	0	1478	0	1555	0	1528	0

Size Code Q Longitudinal (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

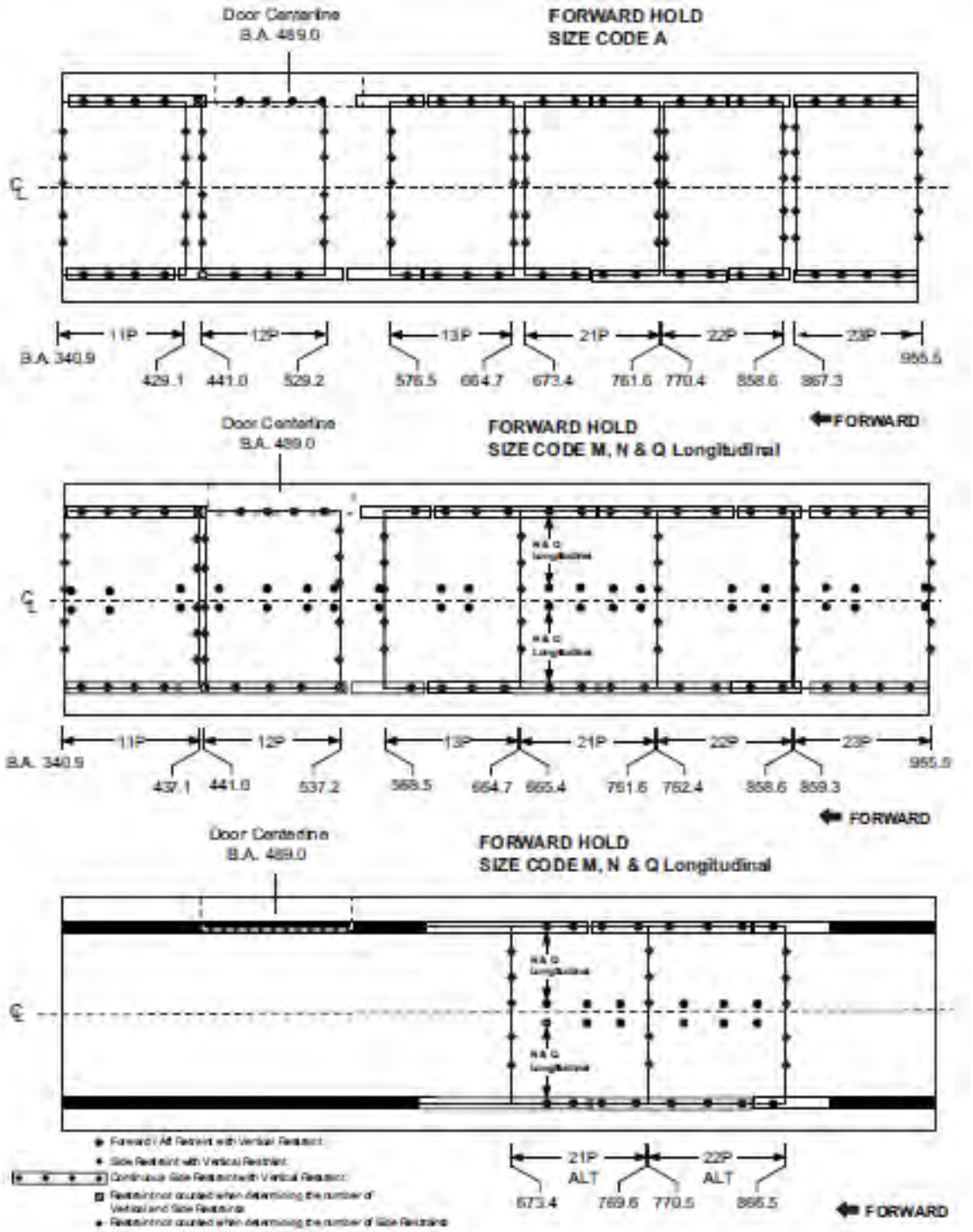
MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE Q LONGITUDINAL - LB											
RESTRAINT		PALLET POSITION									
DIRECTION	NUMBER OPERABLE	11PL	11PR	12PL	12PR	13PL	13PR	21PL	21PR	22PL	22PR
Maximum Weight/Side		3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
Vertical[a]	5				3500						
	4	3500	3500	3500	860	3500	3500	3500	3500	3500	3500
	3	720	720	720	0	860	860	1100	1100	1310	1310
	2	0	0	0	0	0	0	0	0	0	0
Forward[b]	2	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
	1	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
Aft[b]	3				3500						
	2	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
	1	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
Left	5			3500							
	4	3500		0		3500		3500		3500	
	3	0	3500	0	3500	0	3500	0	3500	0	3500
	2	0	1940	0	3500	0	3260	0	3430	0	3370
	1	0	1940	0	3500	0	3260	0	3430	0	3370
Right	5		3500								
	4		0		3500		3500		3500		3500
	3	3500	0	3500	3500	3500	0	3500	0	3500	0
	2	1940	0	3500	3500	3260	0	3430	0	3370	0
	1	1940	0	3500	0	3260	0	3430	0	3370	0

[a] For Size Code Q ULDs, do not count the center guides at BL 0.0, side guides at L/RBL 62.6, and the end stops and pallet locks located in the L/RBL 3.32 trays when determining the number of vertical restraints.

[b] For Size Code Q ULDs, do not count the end stops and pallet locks located in the L/RBL 3.32 trays when determing the number of forward / aft restraints.

3.12.4.5.2 B787-9 – cargo restraint system – forward hold - size codes A, M, N, Q longitudinal

The area between each combination of forward / aft restraints is a Unit Load Device (ULD) position. The illustrations below identify the locations of the forward / aft and side restraints and the associated positions for Size Code A, M, N, and Q longitudinal ULDs.



When a Size Code A pallet is loaded in Position 23P, Positions 21P ALT., 21 PL ALT., 21PR ALT., 22P ALT., 22PL ALT., and 22PR ALT. are available. These positions are 8.0 inches aft the standard Positions 21P, 21 PL, 21PR, 22P, 22PL,and 22PR.

Loading Considerations

The allowable weight for each position is a function of the restraint capabilities, the load factors, and the ULD capabilities.

Unless otherwise stated, the following guidelines must be followed to determine the allowable ULD weight in a position.

- The allowable position weight includes ULD tare. Any weight in excess of the allowable specified herein must be restrained by additional tiedowns.
- Allowable weights may further be restricted by limitations in this manual.
- All ULDs, except Size Code Q, must be restrained vertically on all four sides.
- Size Code Q ULDs loaded longitudinally must be a minimum of 63 inches in height (per SAE AS1677) and may have any number of vertical restraints on the side guides or center guides missing without a load limit restriction. Those less than 63 inches must be vertically restrained by tiedowns.
- Use of ULDs not specified in this manual require tiedowns for the ULD's gross weight at the specified load factors.
- To reduce inadvertent cargo movement, it is recommended that all available restraints in unoccupied positions be raised.

Missing / Inoperative Restraints

Maximum ULD weights shown in this section assume all equipment is installed and operable. When equipment is missing or inoperable, allowable weight may be reduced. Certain instances of missing or inoperable equipment reduce the allowable weight to zero.

CAUTION CARE MUST BE EXERCISED DURING LOADING AND UNLOADING OF UNIT LOAD DEVICES WHEN EQUIPMENT IS MISSING / INOPERATIVE TO PREVENT DAMAGE TO AIRPLANE STRUCTURE. IT IS ADVISABLE THAT MALFUNCTIONING EQUIPMENT BE REPAIRED OR REPLACED TO PREVENT DAMAGE TO OPERATIVE EQUIPMENT.

The following equipment malfunctions do not constitute a weight limit restriction, except when specifically noted herein:

- Jammed or missing sill rollers
- Jammed or missing balls in a ball mat
- Jammed or missing conveyance rollers
- Jammed or missing doorsill rollout stop guide heads
- Jammed or missing doorway center guides
- Jammed or missing doorway entrance guide rollers
- Jammed or missing braking rollers or PDUs
- Cracked Side Guide rail, except as noted in Maximum Allowable Weight tables

Restraint systems fall into two categories: side restraints and forward / aft restraints. Each restraint direction is considered separately when missing / inoperative restraint equipment exists (i.e. forward, aft, side left, side right and vertical loading). When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately and using the most limiting resultant allowable weight.

Unless otherwise stated, the following guidelines must be used to determine the number of operable restraints in a ULD position:

- The operator determines the number of restraints available for each position.
- A missing side guide rail will cause the allowable weight on that side of the position to be 0 KG.
- Missing / inoperative restraints cannot be adjacent (i.e. two adjacent side restraints or two adjacent forward or aft restraints, or two restraints adjacent to a common ULD corner, may not be missing or inoperative). If this condition exists, tiedowns are required.
- An empty ULD can be carried in any position provided at least one restraint is operable in each direction (forward, aft, left, and right) .
- ULDs less than 63 inches in height require at least one vertical restraint on each edge (forward, aft, left, and right).

Size Code A (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE A - KG							
RESTRAINT		PALLET POSITION					
DIRECTION	NUMBER OPERABLE	11P	12P	13P	21P	22P	23P
Maximum Weight		4676	4676	4676	4676	4676	5102
Vertical	18	4676	4676	4676	4676	4676	5102
	17	4123	3814	3043	3043	3560	3637
	16	3696	3460	2712	2712	3193	3302
	15	0	0	0	0	0	0
Forward	5	4676	4676	4676	4676	4676	5102
	4	3510	4581	2803	2803	3261	3261
	3	2952	3855	2358	2358	2884	2884
	2	0	0	0	0	0	0
Aft	5	4676	4676	4676	4676	4676	5102
	4	2789	2789	3746	3547	2680	2925
	3	2426	2426	3152	2984	2258	2381
	2	0	0	0	0	0	0
Left	4	4676		4676	4676	4676	5102
	3	0	4676	0	0	0	0
	2	0	0	0	0	0	0
	1	0	0	0	0	0	0
Right	4	4676		4676	4676	4676	5102
	3	0	4676	0	0	0	0
	2	0	3873	0	0	0	0
	1	0	3873	0	0	0	0

Size Code M (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE M - KG								
RESTRAINT		PALLET POSITION						
DIRECTION	NUMBER OPERABLE	11P	12P	13P	21P	22P	22P ALT[a]	23P
Maximum Weight		5102	5102	5102	5102	5102	5102	5669
Vertical	19		5102					
	18	5102	3760	5102	5102	5102	5102	5669
	17	4368	2984	3538	3547	3560	3728	3583
	16	3905	0	3147	3157	3170	3361	3202
	15	0	0	0	0	0	0	0
Forward	5	5102	5102	5102	5102	5102	5102	5669
	4	3510	4581	2803	2803	3261	3261	3261
	3	2952	3855	2358	2358	2884	2884	2884
	2	0	0	0	0	0	0	0
Aft	5	5102	5102	5102	5102	5102	5102	5669
	4	1964	1964	3270	3347	2658	3034	2952
	3	1855	1855	2912	2984	2236	2381	2485
	2	0	0	0	0	0	0	0
Left	4	5102		5102	5102	5102	5102	5669
	3	0	5102	0	0	0	0	0
	2	0	0	0	0	0	0	0
Right	4	5102	5102	5102	5102	5102	5102	5669
	3	0	5030	0	0	0	0	0
	2	0	4463	0	0	0	0	0
	1	0	0	0	0	0	0	0

[a] Position 22P alt. is an alternate position that can be used when loading a Size Code A ULD in Position 23P. This alternate position is shifted 8.0 inches aft of the standard Position 22P.

Size Code N (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE N- KG															
RESTRAINT		CONTAINER POSITION													
DIRECTION	NUMBER OPERABLE	11 PL	11 PR	12 PL	12 PR	13 PL	13 PR	21 PL	21 PR	22 PL	22 PR	22PL ALT [a]	22PR ALT [a]	23 PL	23 PR
Maximum Weight/ Side		2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
Vertical	13			2510			2510		2510		2510		2510		2510
	12	2510	2510	2249	2510		2104		2000		2136		2059		2009
	11	1950	1954	1855	2032	2510	1682	2510	1682	2510	1691	2510	1601	2510	1700
	10	1433	1660	0	1710	1605	0	1805	0	1877	0	1927	0	1832	0
	9	0	0	0	0	1315	0	1392	0	1460	0	1424	0	1415	0
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fwd	2	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
	1	2354	2354	2510	2510	1882	1882	1882	1882	2336	2336	2336	2336	2336	2336
Aft	3				2510										
	2	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
	1	1945	2186	2163	2510	1873	1873	2381	2381	1882	1882	1437	1437	1882	1882
Left	4	2510				2510		2510		2510		2510		2510	
	3	0	2510	2510	2510	0	2510	0	2510	0	2510	0	2510	0	2510
	2	0	875	0	2510	0	852	0	1170	0	1161	0	1524	0	1469
	1	0	875	0	2510	0	852	0	1170	0	1161	0	1220	0	1220
Right	4		2510		2510		2510		2510		2510		2510		2510
	3	2510	0	2510	2510	2510	0	2510	0	2510	0	2510	0	2510	0
	2	875	0	2510	2510	852	0	1170	0	1161	0	1524	0	1469	0
	1	875	0	2510	0	852	0	1170	0	1161	0	1220	0	1220	0

[a] Positions 22PL alt. and 22PR alt. are alternate positions that can be used when loading a Size Code A ULD in Position 23P. These alternate positions are shifted 8.0 inches aft of the standard Positions 22PL and 22PR.

Size Code Q Longitudinal (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE Q LONGITUDINAL - KG															
RESTRAINT		CONTAINER POSITION													
DIRECTION	NUMBER OPERABLE	11 PL	11 PR	12 PL	12 PR	13 PL	13 PR	21 PL	21 PR	22 PL	22 PR	22PL ALT [a]	22PR ALT [a]	23 PL	23 PR
Maximum Weight/ Side		1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
Vertical [b]	5				1587										
	4	1587	1587	1587	866	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	3	712	866	712	0	1120	1124	1120	1124	1215	1215	1215	1215	1215	1215
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fwd [c]	2	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
Aft [c]	3				1587										
	2	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1238	1238	1587	1587
Left	4	1587				1587		1587		1587		1587		1587	
	3	0	1587	1587	1587	0	1587	0	1587	0	1587	0	1587	0	1587
	2	0	875	0	1587	0	852	0	1170	0	1524	0	1174	0	1469
	1	0	875	0	1587	0	852	0	1170	0	1524	0	1174	0	1469
Right	4		1587		1587		1587		1587		1587		1587		1587
	3	1587	0	1587	0	1587	0	1587	0	1587	0	1587	0	1587	0
	2	875	0	1587	0	852	0	1170	0	1524	0	1174	0	1469	0
	1	875	0	1587	0	852	0	1034	0	1524	0	1174	0	1469	0

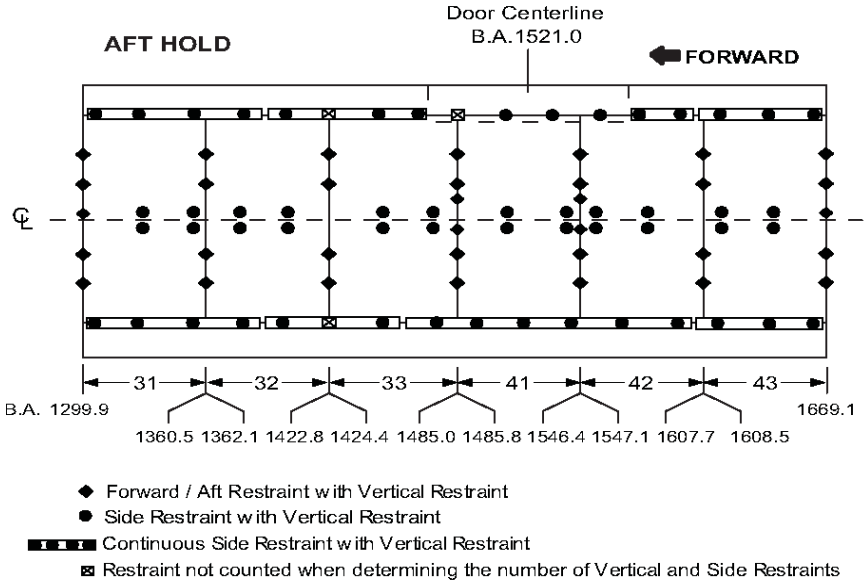
[a] Positions 22PL alt. and 22PR alt. are alternate positions that can be used when loading a Size Code A ULD in Position 23P. These alternate positions are shifted 8.0 inches aft of the standard Positions 22PL and 22PR.

[b] For Size Code Q Longitudinal ULDs, do not count the center guides at BL 0.0, side guides at L/RBL 62.6, and the end stops and pallet locks located in the L/RBL 3.32 trays when determining the number of vertical restraints.

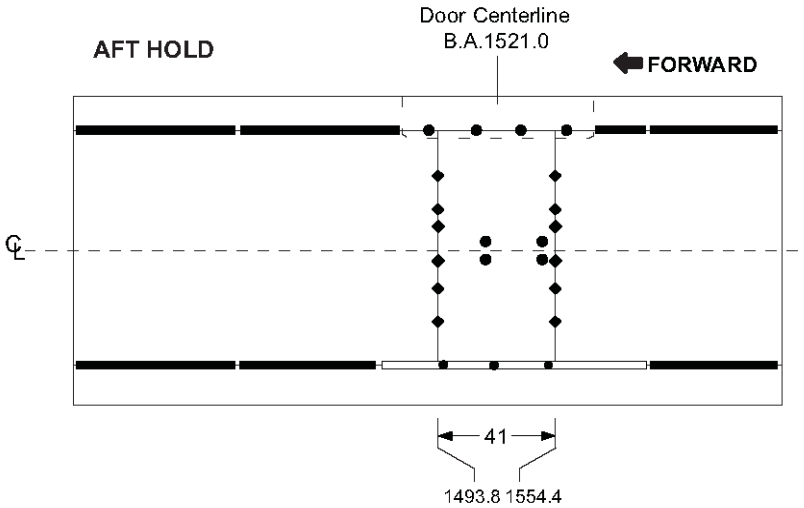
[c] For Size Code Q Longitudinal ULDs, do not count the end stops and pallet locks located in the L/RBL 3.32 trays when determining the number of forward/aft restraints.

3.12.4.6.1 B787-8 – cargo restraint system – aft hold - size codes K, L, and P

Each Unit Load Device (ULD) must be restrained on all four sides with forward / aft and side restraints, except for LD-2 containers which must be paired with another LD-2 or LD-3. The area between each combination of forward / aft restraints is referred to as a ULD position. The illustration below identifies the locations of the forward / aft and side restraints, and the associated positions for Size Code K, L, and P ULDs.



The illustration below identifies the Position 41 location that is used when two Size Code M or four Size Code N ULDs are loaded forward of the doorway area.



Loading Considerations

The allowable weight for each position is a function of the restraint capabilities, the load factors, and the ULD capabilities. Unless otherwise stated, the following guidelines must be used to determine the allowable ULD weight in a position.

- The allowable position weight includes ULD tare. Any weight in excess of the allowable specified herein must be restrained by additional.
- Allowable weights may further be restricted by limitations in this manual.
- All ULDs, except Size Code P (LD-2), must be restrained by hardware on all four sides. LD-2 containers are restrained by hardware on three sides and a container on the fourth side.
- LD-2 containers must be paired with another LD-2 or LD-3 container.
- LD-2 containers must not occupy doorway Position 41.
- Use of ULDs not specified in this manual require tiedowns for the ULD's gross weight at the specified load factors.
- To reduce inadvertent cargo movement, it is recommended that all available restraints in unoccupied positions be raised.
- See cargo weight restrictions with a damaged cargo barrier net.

Missing / Inoperative Restraints

Maximum ULD weights shown in this section assume all equipment is installed and operable. When equipment is missing or inoperable, allowable weight may be reduced. Certain instances of missing or inoperable equipment reduce the allowable weight to zero.

CAUTION CARE MUST BE EXERCISED DURING LOADING AND UNLOADING OF UNIT LOAD DEVICES WHEN EQUIPMENT IS MISSING / INOPERATIVE TO PREVENT DAMAGE TO AIRPLANE STRUCTURE. IT IS ADVISABLE THAT MALFUNCTIONING EQUIPMENT BE REPAIRED OR REPLACED TO PREVENT DAMAGE TO OPERATIVE EQUIPMENT.

The following equipment malfunctions do not constitute a weight limit restriction, except when specifically noted herein:

- Jammed or missing sill rollers
- Jammed or missing doorsill rollout stop guide heads
- Jammed or missing balls in a ball mat
- Jammed or missing conveyance rollers
- Jammed or missing doorway center guides
- Jammed or missing doorway entrance guide rollers
- Jammed or missing braking rollers or PDUs
- Cracked Side Guide rail, except as noted in Maximum Allowable Weight table

Restraint systems fall into two categories: side restraints and forward / aft restraints. Each restraint direction is considered separately when missing / inoperative restraint equipment exists (i.e. forward, aft, side left, side right and vertical loading). When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately and using the most limiting resultant allowable weight.

Unless otherwise stated, the following guidelines must be used to determine the number of operable restraints in a ULD position:

- The operator determines the number of restraints available for each position.
- A missing side guide rail will cause the allowable weight on that side of the position to be 0 KG.
- Missing / inoperative restraints cannot be adjacent (i.e. two adjacent side restraints or two adjacent forward or aft restraints, or two restraints adjacent to a common ULD corner, may not be missing or inoperative). If this condition exists, tiedowns are required.
- An empty ULD can be carried in any position provided at least one restraint is operable in each direction (forward, aft, left, and right), except for Size Code P (LD-2) container which must be paired with another container.
- ULDs less than 63 inches in height require at least one vertical restraint on each edge (forward, aft, left, and right).

Size Code K (Kilograms) - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE K - KG									
RESTRAINT		CONTAINER POSITION							
DIRECTION	NUMBER OPERABLE	31	32	33	41L	41R	42	43L	43R
Maximum weight/Side		1587	1587	1587	1587	1587	1587	1587	1587
Vertical[a]	9	1587		1587			1587	1587	1587
	8	1202	1587	1129			1043	1197	1152
	7	566	1070	521			621	566	566
	6	0	594	0			0	0	0
	5	0	0	0	1587		0	0	0
	4	0	0	0	0	1587	0	0	0
	3	0	0	0	0	0	0	0	0
Forward	3				1587	1587	1587		
	2	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1474	1587	1587	1587	1587	1587	1263
Aft	3			1587	1587	1587			
	2	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587	1587	1587
Left	2	1587	1587	1587	1587	1587	1587	1587	1587
	1	784	993	1369	1587	1587	1587	857	857
Right	2	1587	1587	1587	1587	1587	1587	1587	1587
	1	784	993	1369	1587	1587	1587	857	857

[a] For Size Code K ULDs on the right side, do not count the end stops and container locks located in the RBL 3.32 trays when determining the number of vertical restraints.

Size Code L (Kilograms) - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE L - KG							
RESTRAINT		CONTAINER POSITION					
DIRECTION	NUMBER OPERABLE	31	32	33	41	42	43
Maximum Weight		3175	3175	3175	3175	3175	3175
Vertical	15	3175				3175	3175
	14	2703		3175		3075	2535
	13	2390		2617		2685	2204
	12	0	3175	2340		0	0
	11	0	2680	0		0	0
	10	0	2299	0		0	0
	9	0	0	0		0	0
	8	0	0	0		0	0
	7	0	0	0		0	0
	6	0	0	0		0	0
	5	0	0	0	3175	0	0
	4	0	0	0	0	0	0
	3	0	0	0	0	0	0
Forward	6				3175	3175	
	5	3175			2834	2834	
	4	2753	3175	3175	2290	2290	3175
	3	2381	2753	2753	0	0	1868
	2	0	2381	2381	0	0	1732
	1	0	0	0	0	0	0
Aft	6			3175	3175		
	5			2626	2626		3175
	4	3175	3175	2118	2118	3175	2626
	3	3175	3175	0	0	2626	2118
	2	3175	3175	0	0	2118	0
	1	0	0	0	0	0	0

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE L - KG (Continued)							
RESTRAINT		CONTAINER POSITION					
DIRECTION	NUMBER OPERABLE	31	32	33	41	42	43
Left	3	3175		3175[a]	3175		3175[b]
	2	0	3175	0	0	3175	0
	1	0	0	0	0	0	0
Right	3	3175		3175[c]		3175	3175[b]
	2	0	3175	0	3175	3152	0
	1	0	0	0	3111	0	0

[a] For Position 33, the allowable weight is 2100 KG with a crack in the left side guide rail between B.A 1425 and 1449.

[b] For Position 43, the allowable weight is 2304 KG with a crack in the left or right side guide rail between B.A. 1644 and 1670.

[c] For Position 33, the allowable weight is 2140 KG with a missing / inoperative doorway entrance guide (except vertical roller) or a crack in the right side guide rail between B.A 1425 and 1449.

Size Code P (Kilograms) - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE P - KG							
RESTRAINT		CONTAINER POSITION					
DIRECTION	NUMBER OPERABLE	31	32	33	41	42	43
Maximum Weight/Side		1224	1224	1224	0[a]	1224	1224
Vertical[b]	4	1224	1224	1224		1224	1224
	3	743	698	689		689	730
	2	0	0	0		0	0
Forward	2	1224	1224	1224		1224	1224
	1	1224	1224	1224		1224	1224
Aft	2	1224	1224	1224		1224	1224
	1	1224	1224	1224		1224	1224
Left	3	1224		1224[c]			1224[d]
	2	0	1224	0		1224	0
	1	0	0	0		0	0
Right	3	1224		1224[e]		1224	1224[d]
	2	0	1224	0		1224	0
	1	0	0	0		0	0

[a] Size Code P ULDs must not occupy the doorway Positions (41L and 42R).

[b] For Size Code P ULDs, do not count the center guides at BL 0.0, side guides at L/RBL 62.6, and the end stops and container locks located in the RBL 3.32 trays when determining the number of vertical restraints.

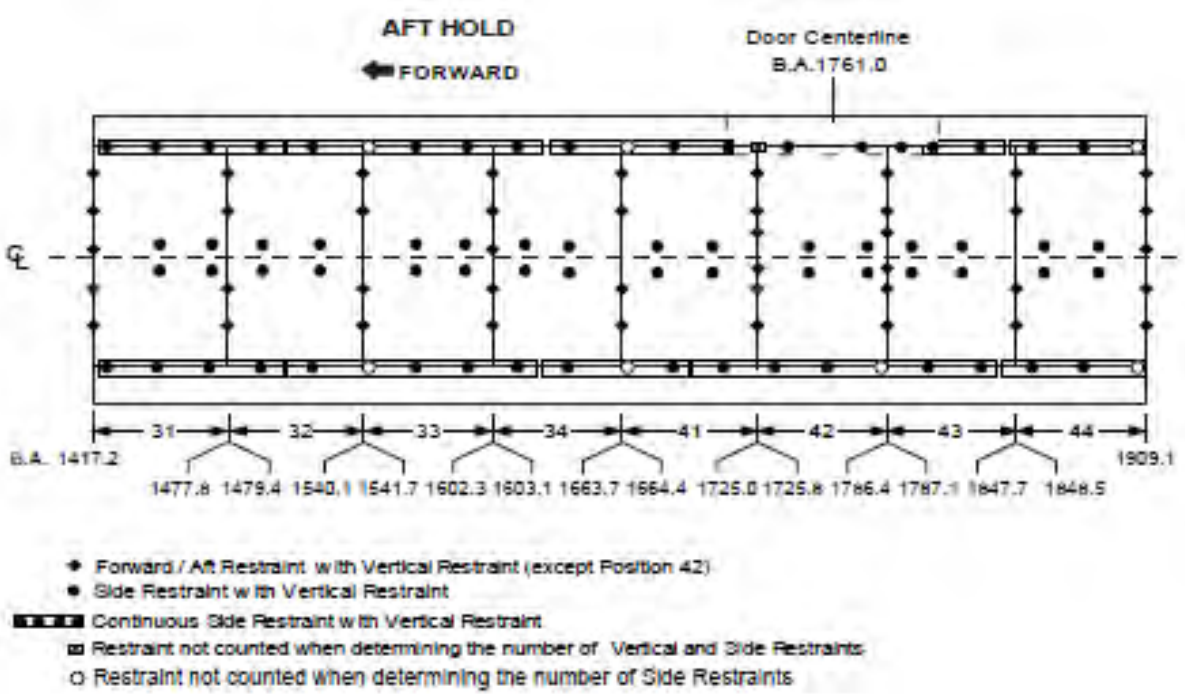
[c] For Position 33, the allowable weight is1047 KG with a crack in the left side guide rail between B.A. 1425 and 1449.

[d] For Position 43, the allowable weight is1152 KG with a crack in the left or right side guide rail between B.A. 1644 and 1670.

[e] For Position 33, the allowable weight is 1070 KG with a missing / inoperative doorway entrance guide (except vertical roller) or a crack in the right side guide rail between B.A. 1425 and 1449.

3.12.4.6.2 B787-9 – cargo restraint system – aft hold - size codes K, L, and P

Each Unit Load Device (ULD) must be restrained on all four sides with forward / aft and side restraints, except for LD-2 containers which must be paired with another LD-2 or LD-3. The area between each combination of forward / aft restraints is referred to as a ULD position. The illustration below identifies the locations of the forward / aft and side restraints, and the associated positions for Size Code K, L, and P ULDs.



Loading Considerations

The allowable weight for each position is a function of the restraint capabilities, the load factors, and the ULD capabilities. Unless otherwise stated, the following guidelines must be used to determine the allowable ULD weight in a position.

- The allowable position weight includes ULD tare. Any weight in excess of the allowable specified herein must be restrained by additional.
- Allowable weights may further be restricted by limitations in this manual.
- All ULDs, except Size Code P (LD-2), must be restrained by hardware on all four sides. LD-2 containers are restrained by hardware on three sides and a container on the fourth side.
- LD-2 containers must be paired with another LD-2 or LD-3 container.
- LD-2 containers must not occupy doorway Position 42.
- Use of ULDs not specified in this manual require tiedowns for the ULD's gross weight at the specified load factors.
- To reduce inadvertent cargo movement, it is recommended that all available restraints in unoccupied positions be raised.
- See cargo weight restrictions with a damaged cargo barrier net.

Missing / Inoperative Restraints

Maximum ULD weights shown in this section assume all equipment is installed and operable. When equipment is missing or inoperable, allowable weight may be reduced. Certain instances of missing or inoperable equipment reduce the allowable weight to zero.

CAUTION CARE MUST BE EXERCISED DURING LOADING AND UNLOADING OF UNIT LOAD DEVICES WHEN EQUIPMENT IS MISSING / INOPERATIVE TO PREVENT DAMAGE TO AIRPLANE STRUCTURE. IT IS ADVISABLE THAT MALFUNCTIONING EQUIPMENT BE REPAIRED OR REPLACED TO PREVENT DAMAGE TO OPERATIVE EQUIPMENT.

The following equipment malfunctions do not constitute a weight limit restriction, except when specifically noted herein:

- Jammed or missing sill rollers
- Jammed or missing doorsill rollout stop guide heads
- Jammed or missing balls in a ball mat
- Jammed or missing conveyance rollers
- Jammed or missing doorway center guides
- Jammed or missing doorway entrance guide rollers
- Jammed or missing braking rollers or PDUs
- Cracked Side Guide rail, except as noted in Maximum Allowable Weight table

Restraint systems fall into two categories: side restraints and forward / aft restraints. Each restraint direction is considered separately when missing / inoperative restraint equipment exists (i.e. forward, aft, side left, side right and vertical loading). When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately and using the most limiting resultant allowable weight.

Unless otherwise stated, the following guidelines must be used to determine the number of operable restraints in a ULD position:

- The operator determines the number of restraints available for each position.
- A missing side guide rail will cause the allowable weight on that side of the position to be 0 KG.
- Missing / inoperative restraints cannot be adjacent (i.e. two adjacent side restraints or two adjacent forward or aft restraints, or two restraints adjacent to a common ULD corner, may not be missing or inoperative). If this condition exists, tiedowns are required.
- An empty ULD can be carried in any position provided at least one restraint is operable in each direction (forward, aft, left, and right), except for Size Code P (LD-2) container which must be paired with another container.
- ULDs less than 63 inches in height require at least one vertical restraint on each edge (forward, aft, left, and right).

Size Code K (Kilograms) - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE K - KG												
RESTRAINT		CONTAINER POSITION										
DIRECTION	NUMBER OPERABLE	31	32	33	34	41	42L	42R	43L	43R	44L	44R
Maximum Weight/Side		1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
Vertical[a]	10					1587				1587		
	9	1587		1587		1202			1587	1587	1587	1587
	8	1192	1587	1115	1587	1006			1587	1147	1251	1016
	7	911	1056	884	1075	0			1324	0	1011	784
	6	0	902	0	830	0			0	0	0	0
	5	0	0	0	0	0	1587		0	0	0	0
	4	0	0	0	0	0	0	1587	0	0	0	0
	3	0	0	0	0	0	0	0	0	0	0	0
Forward	3						1587	1587	1587	1587		
	2	1587	1587	1587	1587	1587	1587	1260	1587	1260	1587	1587
	1	1256	1256	1256	1587	1587	1587	1260	1587	1260	1587	889
Aft	3					1587	1587	1587				
	2	1587	1587	1587	1587	1410	1410	1410	1587	1587	1587	1587
	1	1587	1587	1587	1587	1410	1410	1410	1410	1410	1410	1410
Left	2	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	775	907	1029	1002	1215	1587	1587	1587	1587	907	852
Right	2	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	775	907	1029	1002	1215	1587	1587	1587	1587	907	852

[a] For Size Code K ULDs on the right side, do not count the end stops and container locks located in the RBL 3.32 trays when determining the number of vertical restraints.

Size Code L (Kilograms) - Missing / Inoperative Restraints

The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE L - KG									
RESTRAINT		CONTAINER POSITION							
DIRECTION	NUMBER OPERABLE	31	32	33	34	41	42	43	44
Maximum Weight		3175	3175	3175	3175	3175	3175	3175	3175
Vertical	16					3175			
	15	3175		3175		2644		3175	3175
	14	2626		2599		2372		2966	2707
	13	2336		2308	3175	0		2753	2363
	12	0	3175	0	2254	0		0	0
	11	0	2789	0	1945	0		0	0
	10	0	2381	0	0	0		0	0
	9	0	0	0	0	0		0	0
	8	0	0	0	0	0		0	0
	7	0	0	0	0	0		0	0
	6	0	0	0	0	0		0	0
	5	0	0	0	0	0	3175	0	0
	4	0	0	0	0	0	0	0	0
	3	0	0	0	0	0	0	0	0
Forward	6						3175	3175	
	5	3175			3175		1900	1900	
	4	1660	3175	3175	2562	3175	1406	1406	3175
	3	1623	1660	1660	2272	2050	0	0	299
	2	0	1623	1623	0	1905	0	0	258
	1	0	0	0	0	0	0	0	0
Aft	6					3175	3175		
	5			3175		2231	2231		3175
	4	3175	3175	2562	3175	1796	1796	3175	2231
	3	2358	2358	2272	2562	0	0	2050	1796
	2	2190	2190	0	2272	0	0	1796	0
	1	0	0	0	0	0	0	0	0
Left	3	3175							
	2	0	3175	3175	3175	3175	3175	3175	3175
	1	0	0	0	0	0	0	0	0
Right	3	3175						3175	
	2	0	3175	3175	3175	3175	3175	3175	3175
	1	0	0	0	0	2902	3161	0	0

Size Code P (Kilograms) - Missing / Inoperative Restraints

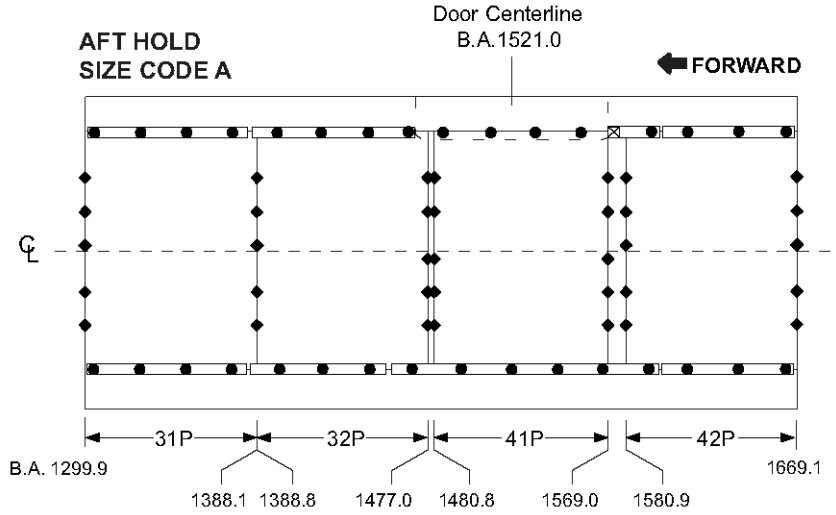
The following table shows the maximum allowable position weights, in kilograms, with missing or inoperative restraints:

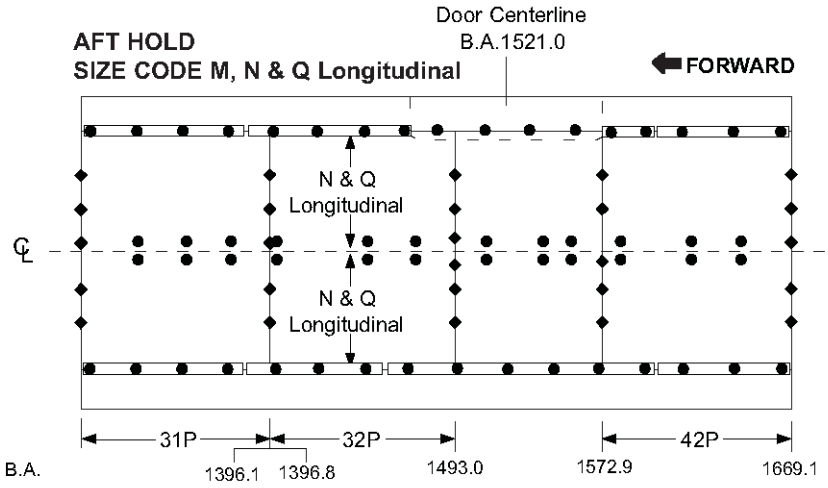
MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE P - KG									
RESTRAINT		CONTAINER POSITION							
DIRECTION	NUMBER OPERABLE	31	32	33	34	41	42	43	44
Maximum Weight/Side		1224	1224	1224	1224	1224	0[a]	1224	1224
Vertical[b]	4	1224	1224	1224	1224	1224		1224	1224
	3	793	766	766	616	616		653	748
	2	0	0	0	0	0		0	0
	1	0	0	0	0	0		0	0
Forward	2	1224	1224	1224	1224	1224		1224	1224
	1	1224	1224	1224	1224	1224		1224	1165
Aft	2	1224	1224	1224	1224	1224		1224	1224
	1	1224	1224	1224	1224	1224		1224	1224
Left	3	1224							
	2	0	1224	1224	1224	1224		1224	1224
	1	0	0	0	0	0		0	0
Right	3	1224						1224	
	2	0	1224	1224	1224	1224		1224	1224
	1	0	0	0	0	1224		0	0

[a] Size Code P ULDs must not occupy the doorway Positions (42L and 42R).
[b] For Size Code P ULDs, do not count the center guides at BL 0.0, side guides at L/RBL 62.6, container locks in ball mat area at L/RBL 10.4 or 7.235, and the container locks located in the RBL 3.32 trays when determining the number of vertical restraints.

3.12.4.7.1 B787-8 – cargo restraint system – aft hold - size codes A, M, N, Q longitudinal

The area between each combination of fwd / aft restraints is a Unit Load Device (ULD) position. The illustration below identifies the locations of the forward / aft and side restraints, and the associated positions for Size Code A, M, N, and Q Longitudinal ULDs.





◆ Forward / Aft Restraint with Vertical Restraint
● Side Restraint with Vertical Restraint
●●●● Continuous Side Restraint with Vertical Restraint
⊠ Restraint not counted when determining the number of Vertical and Side Restraints

Loading Considerations

The allowable weight for each position is a function of the restraint capabilities, the load factors, and the ULD capabilities.

Unless otherwise stated, the following guidelines must be followed to determine the allowable ULD weight in a position.

- The allowable position weight includes ULD tare. Any weight in excess of the allowable specified herein must be restrained by additional.
- Allowable weights may further be restricted by limitations in this manual.
- All ULDs, except Size Code Q, must be restrained vertically on all four sides.
- Size Code Q ULDs loaded longitudinally must be a minimum of 63 inches in height (per SAE AS1677) and may have any number of vertical restraints on the side guides or center guides missing without a weight limit restriction. Those less than 63 inches must be vertically restrained by tiedowns.
- Use of ULDs not specified in this manual require tiedowns for the ULD's gross weight at the specified load factors.
- To reduce inadvertent cargo movement, it is recommended that all available restraints in unoccupied positions be raised.
- See cargo weight restrictions with a damaged cargo barrier net.

Missing / Inoperative Restraints

Maximum ULD weights shown in this section assume all equipment is installed and operable. When equipment is missing or inoperable, allowable weight may be reduced. Certain instances of missing or inoperable equipment reduce the allowable weight to zero.

CAUTION CARE MUST BE EXERCISED DURING LOADING AND UNLOADING OF UNIT LOAD DEVICES WHEN EQUIPMENT IS MISSING / INOPERATIVE TO PREVENT DAMAGE TO AIRPLANE STRUCTURE. IT IS ADVISABLE THAT MALFUNCTIONING EQUIPMENT BE REPAIRED OR REPLACED TO PREVENT DAMAGE TO OPERATIVE EQUIPMENT.

The following equipment malfunctions do not constitute a weight limit restriction, except when specifically noted herein:

- Jammed or missing sill rollers
- Jammed or missing balls in a ball mat
- Jammed or missing conveyance rollers
- Jammed or missing doorsill rollout stop guide heads
- Jammed or missing doorway center guides
- Jammed or missing doorway entrance guide rollers
- Jammed or missing braking rollers or PDUs
- Cracked Side Guide rail, except as noted in Maximum Allowable Weight table

Restraint systems fall into two categories: side restraints and forward / aft restraints. Each restraint direction is considered separately when missing / inoperative restraint equipment exists (i.e. forward, aft, side left, side right and vertical loading). When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately and using the most limiting resultant allowable weight.

Unless otherwise stated, the following guidelines must be used to determine the number of operable restraints in a ULD position:

- The operator determines the number of restraints available for each position.
- A missing side guide rail will cause the allowable weight on that side of the position to be 0 KG.
- Missing / inoperative restraints cannot be adjacent (i.e. two adjacent side restraints, two adjacent forward or aft restraints, or two restraints adjacent to a common ULD corner, may not be missing or inoperative). If this condition exists, tiedowns are required.
- An empty ULD can be carried in any position provided at least one restraint is operable in each direction (forward, aft, left, and right).
- ULDs less than 63 inches in height require at least one vertical restraint on each edge (forward, aft, left, and right)

Size Code A (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE A - KG					
RESTRAINT		PALLET POSITION			
DIRECTION	NUMBER OPERABLE	31P	32P	41P	42P
Maximum Weight		5102	4676	4676	4676
Vertical	18	5102	4676	4676	4676
	17	4640	4023	3968	4000
	16	4150	3596	3565	3547
	15	0	0	0	0
Forward	5	5102	4676	4676	4676
	4	3669	3669	3628	3628
	3	3365	2957	3320	2617
	2	0	0	0	0
Aft	5	5102	4676	4676	4676
	4	3769	3102	3102	3102
	3	2957	2807	2807	2807
	2	0	0	0	0
Left	4	5102	4676	4676	4676[a]
	3	0	0	0	0
	2	0	0	0	0
	1	0	0	0	0
Right	4	5102	4676	4676	4676[a]
	3	0	0	3660	0
	2	0	0	3302	0
	1	0	0	0	0

[a] For Position 42P, the allowable weight is 3610 KG with a crack in the left or right side guide rail between B.A. 1644 and 1670.

Size Code M (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE M - KG				
RESTRAINT		PALLET POSITION		
DIRECTION	NUMBER OPERABLE	31P	32P	42P
Maximum Weight		5669	5102	5102
Vertical	20		5102	
	19		4458	5102
	18	5669	4036	4286
	17	4744	0	4018
	16	4232	0	0
	15	0	0	0
Forward	5	5669	5102	5102
	4	3701	3701	3029
	3	3397	2957	2717
	2	0	0	0
Aft	6		5102	
	5	5669	2662	5102
	4	3769	2426	2662
	3	2957	0	2426
	2	0	0	0
Left	5			
	4	5669	5102	5102[a]
	3	0	0	0
	2	0	0	0
Right	5		5102	5102[a]
	4	5669	5102	0
	3	0	0	0
	2	0	0	0

[a] For Position 42P, the allowable weight is 4009 KG with a crack in the left or right side guide rail between B.A. 1644 and 1670.

Size Code N (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE N - KG							
RESTRAINT		PALLET POSITION					
DIRECTION	NUMBER OPERABLE	31PL	31PR	32PL	32PR	42PL	42PR
Maximum Weight/Side		2510	2510	2510	2510	2510	2510
Vertical	14				2510		
	13		2510		1896		2510
	12		1868	2510	1814	2510	2485
	11	2510	1592	1778	0	1737	2104
	10	1723	0	1592	0	1537	0
	9	1546	0	0	0	0	0
	8	0	0	0	0	0	0
Forward	3		2510		2510	2510	
	2	2510	2510	2510	2336	2494	2510
	1	2510	2510	2336	2336	2494	1950
Aft	3		2510	2510	2510		2510
	2	2510	2336	2163	2023	2510	2023
	1	2336	2336	2163	2023	2163	2023
Left	5						
	4	2510		2510		2510	
	3	0	2510	0	2510	0	2510
	2	0	784	0	1528	0	857
	1	0	784	0	1528	0	857
Right	5				2510		2510
	4		2510		2510		0
	3	2510	0	2510	0	2510	0
	2	784	0	1528	0	857	0
	1	784	0	1528	0	857	0

Size Code Q Longitudinal (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

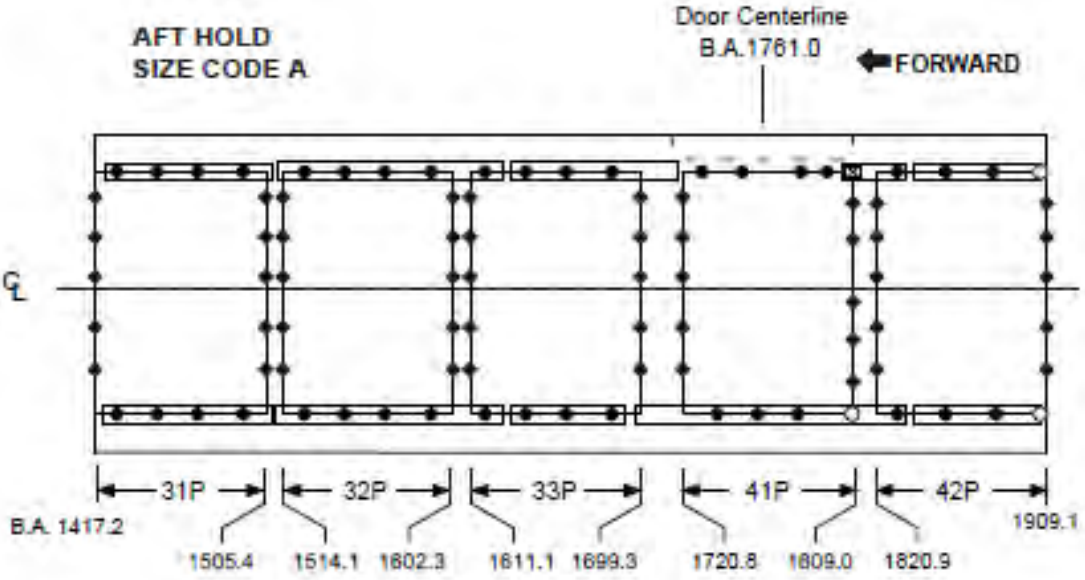
MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE Q LONGITUDINAL - KG							
RESTRAINT		PALLET POSITION					
DIRECTION	NUMBER OPERABLE	31PL	31PR	32PL	32PR	42PL	42PR
Maximum Weight/Side		1587	1587	1587	1587	1587	1587
Vertical[a]	5			1587	1587		
	4	1587	1587	449	449	1587	1587
	3	449	449	0	0	444	444
	2	0	0	0	0	0	0
Forward[b]	2	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587
Aft[b]	3			1587	1587		
	2	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587
Left	4	1587		1587		1587	
	3	0	1587	0	1587	0	1587
	2	0	784	0	1528	0	857
	1	0	784	0	1528	0	857
Right	5				1587		1587
	4		1587		1587		0
	3	1587	0	1587	0	1587	0
	2	784	0	1528	0	857	0
	1	784	0	1528	0	857	0

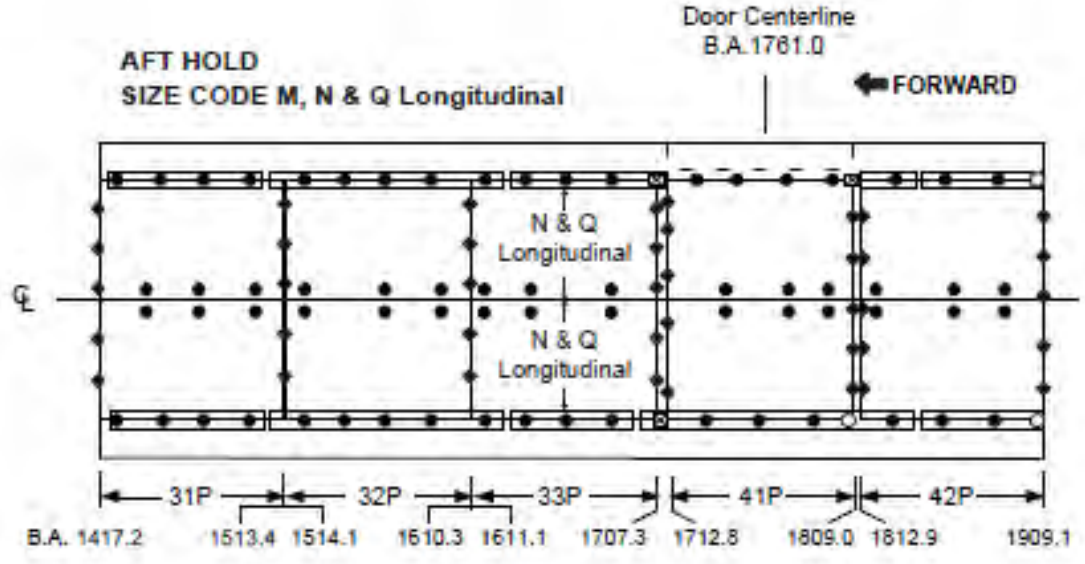
[a] For Size Code Q ULDs, do not count the center guides at BL 0.0, side guides at L/RBL 62.6, and the end stops and pallet locks located in the L/RBL 3.32 trays when determining the number of vertical restraints.

[b] For Size Code Q ULDs, do not count the end stops and pallet locks located in the L/RBL 3.32 trays when determining the number of forward / aft restraints.

3.12.4.7.2 B787-9 – cargo restraint system – aft hold - size codes A, M, N, Q longitudinal

The area between each combination of fwd / aft restraints is a Unit Load Device (ULD) position. The illustration below identifies the locations of the forward / aft and side restraints, and the associated positions for Size Code A, M, N, and Q Longitudinal ULDs.





- Forward / Aft Restraint with Vertical Restraint
- Side Restraint with Vertical Restraint
- Continuous Side Restraint with Vertical Restraint
- Restraint not counted when determining the number of Vertical and Side Restraints
- Restraint not counted when determining the number of Side Restraints

Loading Considerations

The allowable weight for each position is a function of the restraint capabilities, the load factors, and the ULD capabilities.

Unless otherwise stated, the following guidelines must be followed to determine the allowable ULD weight in a position.

- The allowable position weight includes ULD tare. Any weight in excess of the allowable specified herein must be restrained by additional.
- Allowable weights may further be restricted by limitations in this manual.
- All ULDs, except Size Code Q, must be restrained vertically on all four sides.
- Size Code Q ULDs loaded longitudinally must be a minimum of 63 inches in height (per SAE AS1677) and may have any number of vertical restraints on the side guides or center guides missing without a weight limit restriction. Those less than 63 inches must be vertically restrained by tiedowns.
- Use of ULDs not specified in this manual require tiedowns for the ULD's gross weight at the specified load factors.
- To reduce inadvertent cargo movement, it is recommended that all available restraints in unoccupied positions be raised.
- See cargo weight restrictions with a damaged cargo barrier net.

Missing / Inoperative Restraints

Maximum ULD weights shown in this section assume all equipment is installed and operable. When equipment is missing or inoperable, allowable weight may be reduced. Certain instances of missing or inoperable equipment reduce the allowable weight to zero.

CAUTION CARE MUST BE EXERCISED DURING LOADING AND UNLOADING OF UNIT LOAD DEVICES WHEN EQUIPMENT IS MISSING / INOPERATIVE TO PREVENT DAMAGE TO AIRPLANE STRUCTURE. IT IS ADVISABLE THAT MALFUNCTIONING EQUIPMENT BE REPAIRED OR REPLACED TO PREVENT DAMAGE TO OPERATIVE EQUIPMENT.

The following equipment malfunctions do not constitute a weight limit restriction, except when specifically noted herein:

- Jammed or missing sill rollers
- Jammed or missing balls in a ball mat
- Jammed or missing conveyance rollers
- Jammed or missing doorsill rollout stop guide heads
- Jammed or missing doorway center guides
- Jammed or missing doorway entrance guide rollers
- Jammed or missing braking rollers or PDUs
- Cracked Side Guide rail, except as noted in Maximum Allowable Weight table

Restraint systems fall into two categories: side restraints and forward / aft restraints. Each restraint direction is considered separately when missing / inoperative restraint equipment exists (i.e. forward, aft, side left, side right and vertical loading). When a missing or inoperative restraint condition exists, the allowable weight is determined by considering each restraint direction separately and using the most limiting resultant allowable weight.

Unless otherwise stated, the following guidelines must be used to determine the number of operable restraints in a ULD position:

- The operator determines the number of restraints available for each position.
- A missing side guide rail will cause the allowable weight on that side of the position to be 0 KG.
- Missing / inoperative restraints cannot be adjacent (i.e. two adjacent side restraints, two adjacent forward or aft restraints, or two restraints adjacent to a common ULD corner, may not be missing or inoperative). If this condition exists, tiedowns are required.
- An empty ULD can be carried in any position provided at least one restraint is operable in each direction (forward, aft, left, and right).
- ULDs less than 63 inches in height require at least one vertical restraint on each edge (forward, aft, left, and right)

Size Code A (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE A - LB						
RESTRAINT		PALLET POSITION				
DIRECTION	NUMBER OPERABLE	31P	32P	33P	41P	42P
Maximum Weight		11250	10310	10310	10310	10310
Vertical	18	11250	10310	10310	10310	10310
	17	8550	7860	7900	9470	8860
	16	7700	7050	7100	8550	7910
	15	0	0	0	0	0
Forward	5	11250	10310	10310	10310	10310
	4	6450	5910	8260	5630	3090
	3	5250	4980	6950	4550	2060
	2	0	0	0	0	0
Aft	5	11250	10310	10310	10310	10310
	4	7190	6180	6180	9890	8260
	3	6360	5200	5200	7810	6950
	2	0	0	0	0	0
Left	4	11250	10310	10310		
	3	0	0	0	10310	10310
	2	0	0	0	0	0
	1	0	0	0	0	0
Right	4	11250	10310	10310		
	3	0	0	0	10310	10310
	2	0	0	0	6970	0
	1	0	0	0	6970	0

Size Code M (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE M - KG								
RESTRAINT		PALLET POSITION						
DIRECTION	NUMBER OPERABLE	31P	32P	32P ALT.[a]	33P	33P ALT.[a]	41P	42P
Maximum Weight		5669	5102	5102	5102	5102	5102	5102
Vertical	18	5669	5102	5102	5102	5102	5102	5102
	17	3887	3714	3583	3737	3592	4508	4336
	16	3479	3347	3193	3374	3206	4077	3828
	15	0	0	0	0	0	0	0
Forward	5	5669	5102	5102	5102	5102	5102	5102
	4	2952	2658	3034	3746	3746	1823	1256
	3	2485	2236	2381	3152	3152	1587	934
	2	0	0	0	0	0	0	0
Aft	5	5669	5102	5102	5102	5102	5102	5102
	4	3261	3261	2803	2925	2803	2925	2925
	3	2884	2884	2358	2358	2358	2358	2358
	2	0	0	0	0	0	0	0
Left	4	5669	5102	5102	5102	5102		
	3	0	0	0	0	0	5102	5102
	2	0	0	0	0	0	0	0
Right	4	5669	5102	5102	5102	5102	5102	
	3	0	0	0	0	0	4091	5102
	2	0	0	0	0	0	3633	0
	1	0	0	0	0	0	0	0

[a] Positions 32 alt. and 33 alt. are alternate positions that can be used when loading a Size Code A ULD in position 31P. These alternate positions are shifted 8.0 inches forward of the standard Positions 32P and 33P.

Size Code N (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE N- KG															
RESTRAINT		CONTAINER POSITION													
DIRECTION	NUMBER OPERABLE	31 PL	31 PR	32 PL	32 PR	32 PL ALT [a]	32 PR ALT [a]	33 PL	33 PR	33 PL ALT [a]	33 PR ALT [a]	41 PL	41 PR	42 PL	42 PR
Maximum Weight/ Side		2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
Vertical	13		2510		2510		2510		2510		2510				
	12		1959		2036		2109		2077		2154	2510	2510	2510	2510
	11	2510	1660	2510	1755	2510	1791	2510	1791	2510	1846	2463	2510	2000	1964
	10	1914	0	1868	0	1823	0	1914	0	1900	0	2109	2510	1537	1673
	9	1642	0	1496	0	1419	0	1424	0	1474	0	0	0	0	0
	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Forward	3												2510		
	2	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
	1	1882	1882	1882	1882	1437	1437	2510	2510	2510	2510	2510	2510	2490	1419
Aft	2	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510	2510
	1	2336	2336	2336	2336	1882	1882	1882	1882	1882	1882	1882	1882	1882	1882
Left	4	2510		2510		2510		2510		2510					
	3	0	2510	0	2510	0	2510	0	2510	0	2510	2510	2510	2510	2510
	2	0	775	0	1102	0	1524	0	1433	0	1433	0	2510	0	852
	1	0	775	0	1102	0	1152	0	1111	0	1111	0	2510	0	852
Right	4		2510		2510		2510		2510		2510		2510		
	3	2510	0	2510	0	2510	0	2510	0	2510	0	2510	0	2510	2510
	2	775	0	1102	0	1524	0	1433	0	1433	0	2510	0	852	0
	1	775	0	1102	0	1152	0	1111	0	1111	0	2510	0	852	0

[a] Positions 32 PL alt., 32PR alt., 33PL alt. and 33PR alt. are alternate positions that can be used when loading a Size Code A ULD in Position 31P. These alternate positions are shifted 8.0 inches forward of the standard Positions 32PL, 32PR, 33PL and 32 PR.

Size Code Q Longitudinal (Kilograms) - Missing / Inoperative Restraint

The following table shows the maximum allowable pallet position weights, in kilograms, with missing or inoperative restraints:

MAXIMUM ALLOWABLE WEIGHT WITH MISSING / INOPERATIVE RESTRAINTS SIZE CODE Q LONGITUDINAL - KG															
RESTRAINT		CONTAINER POSITION													
DIRECTION	NUMBER OPERABLE	31 PL	31 PR	32 PL	32 PR	32 PL ALT [a]	32 PR ALT [a]	33 PL	33 PR	33 PL ALT [a]	33 PR ALT [a]	41 PL	41 PR	42 PL	42 PR
Maximum Weight/ Side		1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
Vertical [b]	5												1587		
	4	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	966	1587	1587
	3	1215	1215	1215	1215	1215	1215	1020	1020	1020	1020	666	0	762	762
	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fwd [c]	3												1587		
	2	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1238	1238	1587	1587	1587	1587	1587	1587	1587	1587
Aft	2	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
	1	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587	1587
Left	4	1587		1587		1587		1587		1587					
	3	0	1587	0	1587	0	1587	0	1587	0	1587	1587	1587	1587	1587
	2	0	775	0	1524	0	1174	0	1433	0	957	0	1587	0	852
	1	0	775	0	1524	0	1174	0	1433	0	957	0	1587	0	852
Right	4		1587		1587		1587		1587		1587		1587		
	3	1587	0	1587	0	1587	0	1587	0	1587	0	1587	0	1587	1587
	2	775	0	1524	0	1174	0	1433	0	957	0	1587	0	852	0
	1	775	0	1524	0	1174	0	1433	0	957	0	1587	0	852	0

[a] Positions 32 PL alt., 32PR alt., 33PL alt. and 33PR alt. are alternate positions that can be used when loading a Size Code A ULD in Position 31P. These alternate positions are shifted 8.0 inches forward of the standard Positions 32PL, 32PR, 33PL and 32 PR.

[b] For Size Code Q Longitudinal ULDs, do not count the center guides at BL 0.0, side guides L/RBL 62.6, and the end stops and pallet locks located in the L/RBL 3.32 trays when determining the number of vertical restraints.

[c] For Size Code Q Longitudinal ULDs, do not count the end stops and pallet locks located in the L/RBL 3.32 trays when determining the number of forward/aft restraints.

3.12.4.8 B787-8 / -9 – barrier net – aft and bulk holds

BARRIER NET DAMAGE	LOAD RESTRICTIONS	
	AFT HOLD	BULK HOLD
Two fully severed horizontal straps that are 1) not adjacent and 2) not severed between the same adjacent vertical straps.	No Restriction	No Restriction
One vertical strap with a cut that is less than 0.3 inch across the strap and at least 1.0 inch away from attachment fitting stitching		
Any number of horizontal straps with cuts that are less than 0.3 inch across the strap		
Superficial damage to attachment fittings not potentially affecting retention of the net (e.g. scratched paint)		
One vertical strap with a 0.3 inch or longer cut across the strap that is at least 1.0 inch away from attachment fitting stitching.	Use certified ULDs only OR Limit hold to 38500 LB (17463 KG) OR Tie down uncertified ULDs and bulk cargo in the aft direction[a] OR See alternate restrictions below on page 2	No Restriction
One attachment fitting damaged, or adjacent stitching damaged, potentially affecting retention of the net (e.g. bent fitting, broken spring, cut stitch)		
Two or more attachment fittings damaged, or adjacent stitching damaged, potentially affecting retention of the net (e.g. bent fitting, broken spring, cut stitch)	Use certified ULDs only OR Limit hold to 0 LB OR Tie down uncertified ULDs and bulk cargo in the aft direction[a] OR See alternate restrictions below on page 2	Limit hold to 0 LB OR Tie down bulk cargo in the forward direction[a] OR See alternate restrictions below on page 2
Two or more vertical straps with a 0.3 inch or longer cut across the strap		
Two or more adjacent horizontal straps, with 0.3 inch or longer cuts across each strap, that are located between any two adjacent vertical straps		
Barrier net missing or inoperative.		

Alternate restrictions for when the Barrier Net is missing or inoperative:

1. One full-width certified container must occupy the aft-most position of the aft hold with all restraints operable and engaged (i.e. no missing restraints). The container must be of a height and width sufficient to block the opening between the bulk hold and aft hold (e.g. an LD-6 is acceptable; one or two LD-3s are not acceptable).
2. Only certified ULDs or uncertified ULDs tied down for the aft direction may occupy the other aft hold positions (refer to CHP-SEC 1-68-00x for tiedown information).
3. The combined weight of the aft-most certified ULD and cargo in the bulk hold does not exceed the weight limitation for the aft-most ULD position or the bulk hold, whichever is less.
4. It is recommended that the aft-most certified ULD's center of gravity should be centered laterally and as low as possible to minimize any offset loading effect from the bulk hold cargo.
5. It is recommended that all ULD positions forward of the aft-most certified ULD be filled to help avoid in-flight center of gravity shifts (these additional ULDs can be empty).

3.12.4.9.1 B787-8 – cargo tiedowns – lower deck

General information

A certified Unit Load Device (ULD) will not require tiedowns unless one of the following conditions exist:

- The ULD contains cargo of such shape and/or densities as to pose a hazard to the airplane structure or systems. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is limited either by restraint configurations or by missing / inoperative restraints. If so, the weight in excess of the ULD load limit data, must be tied down.
- The ULD does not satisfy the center of gravity. If so, the entire weight of the ULD and its cargo must be tied down.

A non-certified ULD will not require tiedowns unless one of the following conditions exist:

- The ULD contains cargo of such shape and/or densities as to pose a hazard to the airplane structure or systems. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is limited either by restraint configurations or by missing / inoperative restraints. If so, the weight in excess of the ULD load limit data, must be tied down.
- The ULD does not satisfy the center of gravity limitations. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is not specified in this manual. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is less than 63” in height. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is not serviceable, not well constructed, or loaded in a manner that could result in it being a hazard to the airplane structure or systems. If so, the entire weight of the ULD and its cargo must be tied down.

Bulk cargo will not require tiedowns unless one of the following conditions exist:

- The bulk cargo is loaded on rollers, balls or devices to assist in moving cargo within the hold.
- The bulk cargo is of shape or density that could become a hazard to the airplane structure or systems (e.g. dense or piercing items that could become projectiles).
- Bulk cargo movement within the hold due to operational loads would cause a large change in airplane C.G.
- Barrier net has appreciable damage

Good judgment must be used in selecting the location and number of tiedowns to give sufficient safety margin for uneven strap and net stretch, strap and cargo slippage, and for varying allowables of rings used in combination. To prevent overloading of hardware, ring loops should be correctly oriented as closely as possible to the strap direction.

CAUTIONS

- DO NOT MIX DIFFERENT STIFFNESSES OF TIEDOWN STRAPS (FOR EXAMPLE, KEVLAR AND NYLON WEBS) WHEN RESTRAINING CARGO. MIXING STRAP STIFFNESSES MAY CAUSE PREMATURE FAILURE OF THE STIFFER STRAP. THE USE OF CHAINS FOR TIEDOWNS IS NOT RECOMMENDED.
- TIEDOWN ON THE LOWER DECK IS LIMITED TO THE TIEDOWN LOCATIONS IDENTIFIED LATER IN THIS CHAPTER. TIEDOWN TO ANY OTHER POINT IS NOT ALLOWED.

TIEDOWN ALLOWABLES

The following sect ons describe the basic tiedown requirements and provide the tiedown fitting load limits.

Tiedown Requirements

The required tiedown load for each basic direction (forward, aft, side-left side-right, and up) is determined from the following equation.

$$L = LF \cdot W$$

Where

L = The applied load for a given direction
LF = The applicable load factor (from the table below)
W = The weight of the cargo to be tied down

The following table provides the load factors used to determine the applied load

LOCATION	LOAD FACTOR			
	FWD	AFT	SIDE	UP
Forward Hold	1.50	1.50	1.38	1.63
Aft Hold	1.50	1.50	1.64	2.05
Bulk Hold	1.50	1.50	1.90	2.33

The total restraint capability (i.e. sum of the tiedown strap capabilities) in each of the five basic restraint directions must be equal to or greater than the calculated applied load in that direction. Each strap must have a minimum rating of 5000 LB (2268 KG)

CAUTION UNEVEN MASS DISTRIBUTION MUST BE ACCOUNTED FOR IN DETERMINING STRAP LOADS AND SELECTING TIEDOWN POINTS.

NOTES

- Tiedown straps are not allowed at B.A. 465, 489, 513, 1497, 1521 and 1545 side guide rail locations when Size Code L ULDs are loaded in Positions 13 and 41
- Tiedown straps are not allowed on pallet locks and end stops that engage longitudinal Size Code Q ULDs.
- Tiedown straps are not allowed on the pallet locks at: B.A 647.9, B.B.L. +39.2 and -39.2 if the lock engages one or more Size Code P ULDs

Tiedown Fitting Load Limits

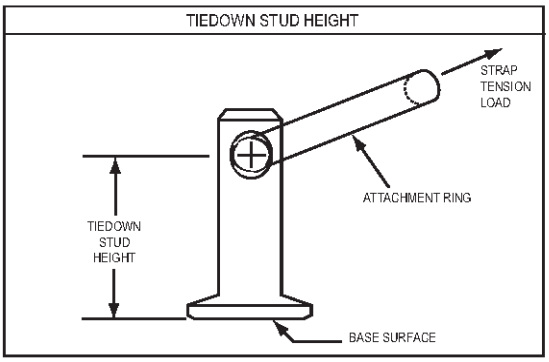
Utilizing Brown Line tiedown fitting P/N's 20050 and 10730, Ancra P/N's 40000 and 40340 or equivalent, the tiedown fitting load limits, as a function of the floor angle (refer to TIEDOWN CALCULATION on Page 6 of this section for an illustration of floor angle), are summarized in the table below

ANGLE BETWEEN TIEDOWN STRAP AND FLOOR (DEGREES)	TIEDOWN FITTING LOAD LIMIT[a][b]			
	SIDE GUIDE TIEDOWN FITTING LOCATIONS (B.B.L. ±65.9)		ALL OTHER TIEDOWN FITTING LOCATIONS	
	LB	KG	LB	KG
0° (Horizontal)	2000	907	2000	907
5°	2111	957	2111	957
10°	2222	1007	2222	1007
15°	2333	1058	2333	1058
20°	2444	1106	2444	1108
25°	2478	1124	2556	1159
30°	2461	1116	2667	1209
35°	2463	1117	2778	1260
40°	2483	1126	2889	1310
45°	2524	1144	3000	1360
50°	2586	1172	3111	1411
55°	2671	1211	3222	1461
60°	2785	1263	3333	1511
65°	2932	1329	3444	1562
70°	3121	1415	3556	1612
75°	3362	1524	3667	1663
80°	3675	1666	3778	1713
85°	3889	1764	3889	1764
90° (Vertical)	4000	1814	4000	1814

[a] The tiedown fitting load limit must be reduced when the tiedown stud heights are greater than 0.875 inches. See Example 2 for handling tiedowns when stud heights are greater than 0.875 inch.

[b] If the actual floor angle is between the angles shown in the table, use the tiedown fitting load limit associated with the smaller floor angle. For example, the tiedown fitting load limit for a 13° tiedown strap angle would be 2222 LB (1007 KG).

Refer to Tiedown Stud Height illustration below for stud height definition and the Tiedown Calculation section on Page 6 of this section for an illustration of the floor angle.



The combined loading on any two laterally adjacent tiedown fittings must not exceed the limits noted in the above table for a single tiedown fitting.

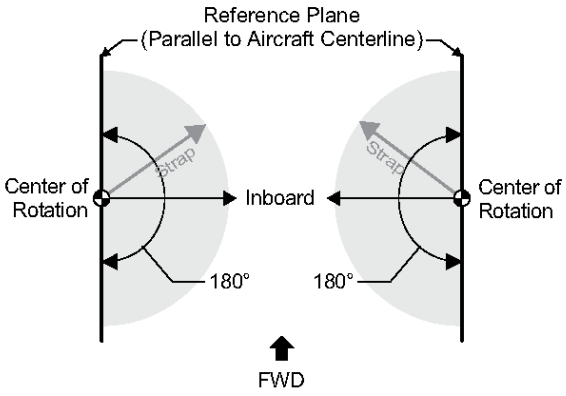
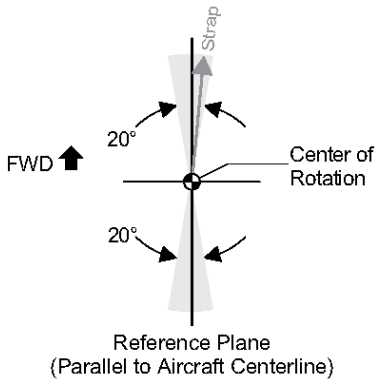
The sum of the up components from all longitudinally adjacent tiedown fittings within a 26 inch span must not exceed 4000 LB (1814 KG).

The sum of the forward / aft components from all longitudinally adjacent tiedown fittings within a 26 inch span must not exceed 2121 LB (962 KG).

The tiedown strap load varies based on the restraint direction. To obtain the tiedown strap load in a given direction, divide the tiedown strap load by the load factor, from Page 3 of this section, for that direction.

Tiedown Strap Orientation

The allowable orientation of the tiedown strap relative to the tiedown fitting is a function of the location of the tiedown fitting. The following graphics define the aircraft centerline angle restrictions for the various tie-down fittings.

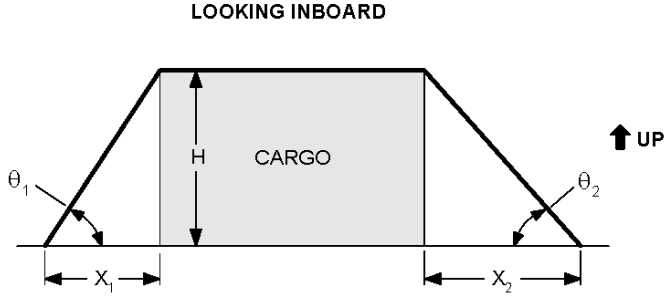
SIDE GUIDES AND SILL ROLLERS	FIXED END STOPS AND PALLET LOCKS
The following figure illustrates allowable strap rotation about a vertical axis located at the center of the tie-down fitting.  The shaded area shows the range of rotation of 180 degrees relative to a reference plane that is parallel to the centerline of the aircraft. The strap orientation must always be inboard of the reference plane.	The following figure illustrates allowable strap rotation about a vertical axis located at the center of the tie-down fitting.  The shaded area shows the range of rotation of 20 degrees relative to a reference plane that is parallel to the centerline of the aircraft. The allowable range applies to straps oriented forward or aft of the tiedown fitting.

TIEDOWN CALCULATION

The following sections provide the methodology for determining the number of tiedown straps required for each of the basic restraint directions.

Tiedown Straps Required for Up Load with Tiedown Stud Height Equal to 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the up direction with cargo tiedown stud heights equal to 0.875 inch.



θ_{Floor} is equal to the smaller of the two angles, θ_1 and θ_2.

If floor angles cannot be determined directly, the following equations may be used to determine these angles:

$$\theta_1 = \tan^{-1}\left[\frac{H}{X_1}\right] \quad \text{and} \quad \theta_2 = \tan^{-1}\left[\frac{H}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required:

Floor Angle[a] θ_{Floor} = _____ °		Up Load Factor[b] ULF= _____
Cargo Weight (including tare)	W = _____ LB or _____ KG	
Restrained Weight (including tare)[c]	RL = _____ LB or _____ KG	
Unrestrained Load	P = (W - RL) x ULF	P = _____ LB or _____ KG
Allowable Tiedown Load[d]		AL = _____ LB or _____ KG
Allowable Load Up Direction	$AL_Z = AL \times \sin(\theta_{Floor})$	AL_Z = _____ LB or _____ KG
Number of Straps Required	N = P / (2 x AL_Z)	N = _____ Strap(s)

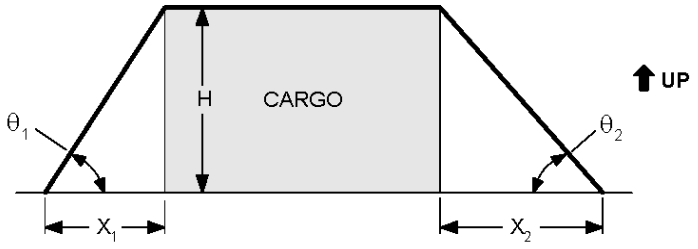
[a] Floor angle, θ_{Floor} is equal to the smaller of θ_1 and θ_2.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[d] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tie-down stud heights > 0.875 inches.

NOTE A minimum of two straps are required to restrain cargo in the up direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Up Load with Tiedown Stud Height Greater than 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the up direction with cargo tiedown stud heights greater than 0.875 inch.

LOOKING INBOARD



θ_{Floor} is equal to the smaller of the two angles, θ_1 and θ_2.

If floor angles cannot be determined directly, the following equations may be used to determine these angles:

$$\theta_1 = \tan^{-1}\left[\frac{H}{X_1}\right] \quad \text{and} \quad \theta_2 = \tan^{-1}\left[\frac{H}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required:

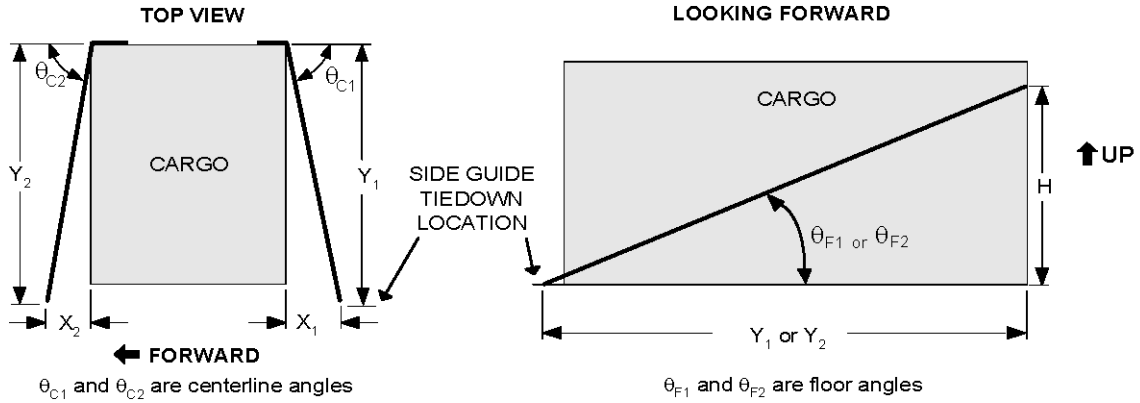
Floor Angle[a]	θ_{Floor} = _____ °	Up Load Factor[b]	ULF= _____
Cargo Weight (including tare)	W = _____ LB	or	_____ KG
Restrained Weight (including tare)[c]	RL = _____ LB	or	_____ KG
Unrestrained Load	P = (W - RL) x ULF	P = _____ LB	or _____ KG
Allowable Tiedown Load[d]	$AL = AL_{TABLE} - (AL_{TABLE}) \times \left(1 - \frac{0.875 \text{ inch stud}}{\text{Actual Stud Height}}\right) \times \left(\frac{90° - \theta_{Floor}}{90°}\right)$	AL = _____LB or	_____KG
Allowable Load Up Direction	$AL_Z = AL \times \sin(\theta_{Floor})$	AL_Z = _____ LB	or _____ KG
Number of Straps Required	N = P / (2 x AL_Z)	N = _____ Strap(s)	

[a] Floor angle, θ_{Floor} is equal to the smaller of θ_1 and θ_2.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[d] AL_{TABLE} is from the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of two straps are required to restrain cargo in the up direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Side Load with Tiedown Stud Height Equal to 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the side directions with cargo tiedown stud heights equal to 0.875 inch.



If angles cannot be determined directly, use the following equations for calculation:

$$\theta_{F1} \quad \tan^{-1}\left[\frac{H}{Y_1}\right] \qquad \theta_{F2} \quad \tan^{-1}\left[\frac{H}{Y_2}\right] \qquad \theta_{C1} \quad \tan^{-1}\left[\frac{Y_1}{X_1}\right] \qquad \theta_{C2} \quad \tan^{-1}\left[\frac{Y_2}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

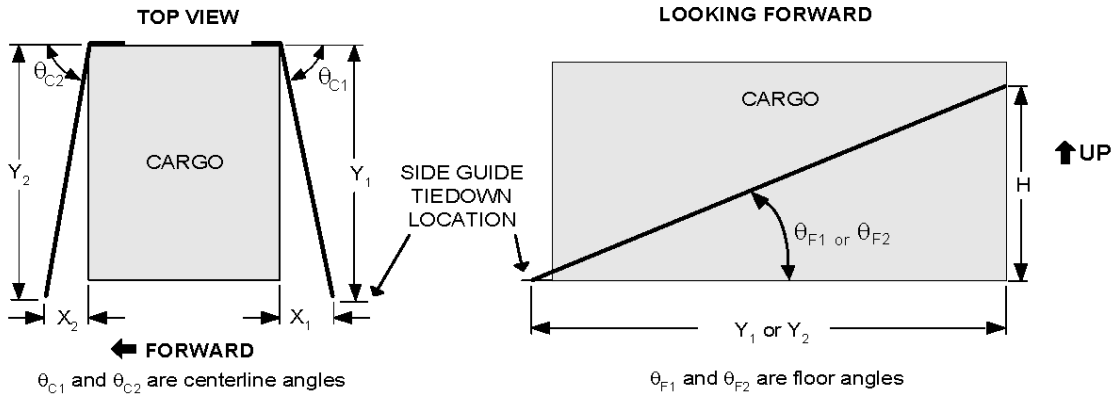
Floor Angle[a] θ_{Floor} = _____ °		Side Load Factor[b] SLF= _____	
Centerline Angle[c] θ_{Center}= _____ °			
Cargo Weight (including tare)	W = _____ LB	or _____ KG	
Restrained Load (including tare)[d]	RL = _____ LB	or _____ KG	
Unrestrained Load	P = (W - RL) x SLF	P = _____ LB	or _____ KG
Allowable Tiedown Load[e]		AL = _____ LB	or _____ KG
Allowable Load Side Direction	$AL_Y = AL \times [\cos(\theta_{Floor}) \times \sin(\theta_{Center})]$	AL_Y = _____ LB	or _____ KG
Number of Straps Required	$N = P / (2 \times AL_Y)$	N = _____ Strap(s)	

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of one strap is required to restrain cargo for each side restraint. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Side Load with Tiedown Stud Height Greater than 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the side directions with cargo tiedown stud heights greater than 0.875 inch.



If angles cannot be determined directly, use the following equations for calculation:

$\theta_{F1} = \tan^{-1}\left[\frac{H}{Y_1}\right]$ $\theta_{F2} = \tan^{-1}\left[\frac{H}{Y_2}\right]$ $\theta_{C1} = \tan^{-1}\left[\frac{Y_1}{X_1}\right]$ $\theta_{C2} = \tan^{-1}\left[\frac{Y_2}{X_2}\right]$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

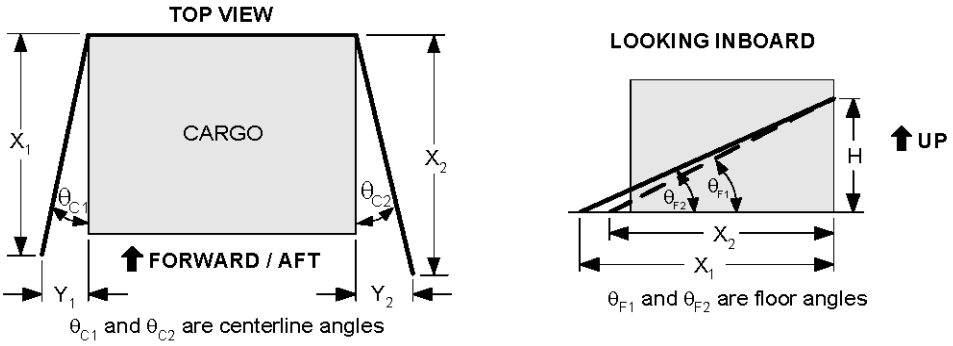
Floor Angle[a] θ_{Floor} = _____ °		Side Load Factor[b] SLF= _____
Centerline Angle[c] θ_{Center}= _____ °		
Cargo Weight (including tare)	W = _____ LB or _____ KG	
Restrained Load (including tare)[d]	RL = _____ LB or _____ KG	
Unrestrained Load	P = (W - RL) x SLF	P = _____ LB or _____ KG
Allowable Tiedown Load[e]	$AL = AL_{TABLE} - (AL_{TABLE}) \times \left(1 - \frac{0.875 \text{ inch stud}}{\text{Actual Stud Height}}\right) \times \left(\frac{90° - \theta_{Floor}}{90°}\right)$	AL = _____ LB or _____ KG
Allowable Load Side Direction	$AL_Y = AL \times [\cos(\theta_{Floor}) \times \sin(\theta_{Center})]$	AL_Y = _____ LB or _____ KG
Number of Straps Required	N = P / (2 x AL_Y)	N = _____ Strap(s)

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] AL_{TABLE} is from the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of one strap is required to restrain cargo for each side restraint. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Forward/Aft Load with Tiedown Stud Height Equal to 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the forward/aft directions with cargo tiedown stud heights equal to 0.875 inch.



If angles cannot be determined directly, use the following equations for calculation:

$$\theta_{F1} = \tan^{-1}\left[\frac{H}{X_2}\right] \qquad \theta_{F2} = \tan^{-1}\left[\frac{H}{X_1}\right] \qquad \theta_{C1} = \tan^{-1}\left[\frac{Y_1}{X_1}\right] \qquad \theta_{C2} = \tan^{-1}\left[\frac{Y_2}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

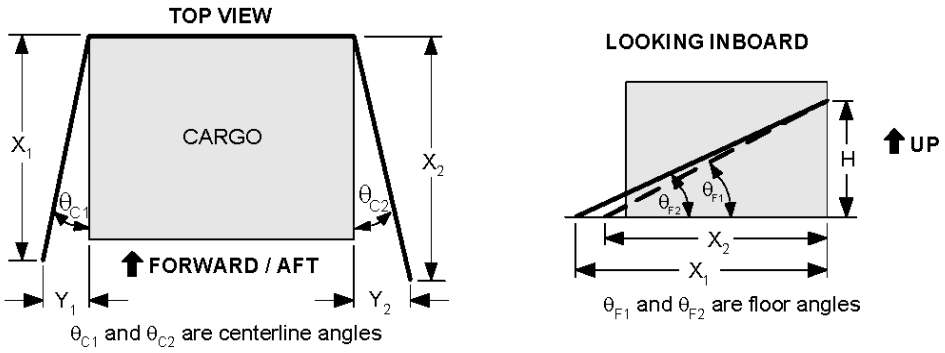
Floor Angle[a]	θ_{Floor} = _____ °		Forward/Aft Load Factor[b]	FALF=_____	
Centerline Angle[c]	θ_{Center}=_____ °				
Cargo Weight (including tare)	W = _____ LB	or _____ KG			
Restrained Load (including tare)[d]	RL = _____ LB	or _____ KG			
Unrestrained Load	P = (W - RL) x FALF		P = _____ LB	or	_____ KG
Allowable Tiedown Load[e]			AL = _____ LB	or	_____ KG
Allowable Load Fwd/Aft Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$		AL_X = _____ LB	or	_____ KG
Number of Straps Required		N = P / (2 x AL_X)	N = _____ Strap(s)		

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of one strap is required to restrain cargo in the forward/aft direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Forward/Aft Load with Tiedown Stud Height Greater than 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the forward/aft directions with cargo tiedown stud heights greater than 0.875 inch.



If angles cannot be determined directly, use the following equations for calculation:

$$\theta_{F1} = \tan^{-1}\left[\frac{H}{X_2}\right] \qquad \theta_{F2} = \tan^{-1}\left[\frac{H}{X_1}\right] \qquad \theta_{C1} = \tan^{-1}\left[\frac{Y_1}{X_1}\right] \qquad \theta_{C2} = \tan^{-1}\left[\frac{Y_2}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

Floor Angle[a] θ_{Floor} = _____ °		Forward/Aft Load Factor[b] FALF=_____
Centerline Angle[c] θ_{Center}=_____ °		
Cargo Weight (including tare)	W = _____ LB or _____ KG	
Restrained Load (including tare)[d]	RL = _____ LB or _____ KG	
Unrestrained Load	P = (W - RL) x FALF	P = _____ LB or _____ KG
Allowable Tiedown Load[e]	$AL = AL_{TABLE} - (AL_{TABLE}) \times \left(1 - \frac{0.875 \text{ inch stud}}{\text{Actual Stud Height}}\right) \times \left(\frac{90° - \theta_{Floor}}{90°}\right)$	AL = _____ LB or _____ KG
Allowable Load Fwd/Aft Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$	AL_X = _____ LB or _____ KG
Number of Straps Required	N = P / (2 x AL_X)	N = _____ Strap(s)

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] AL_{TABLE} is from the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

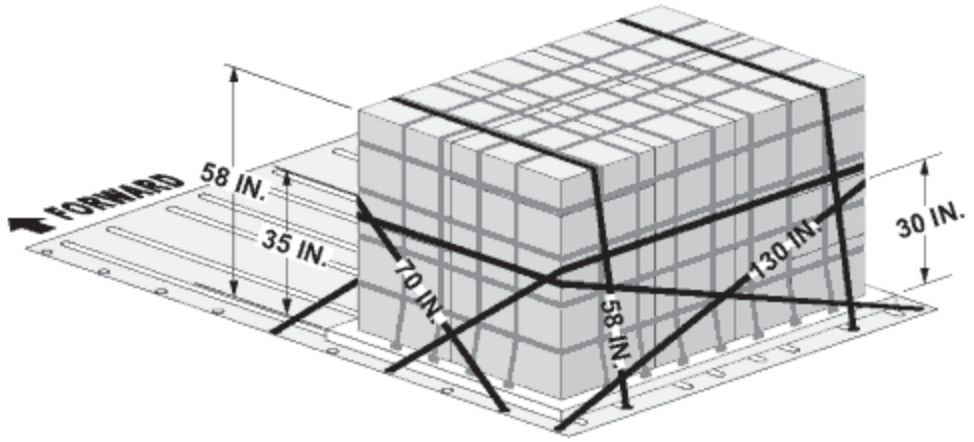
NOTE A minimum of one strap is required to restrain cargo in the forward/aft direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

TIEDOWN EXAMPLE

This section provides two tiedown examples. The first example shows the determination of the number of straps required for each of the five basic restraint directions. The second example demonstrates a calculation of tiedown requirements for a missing restraint condition with cargo tiedown stud height greater than 0.875 inch.

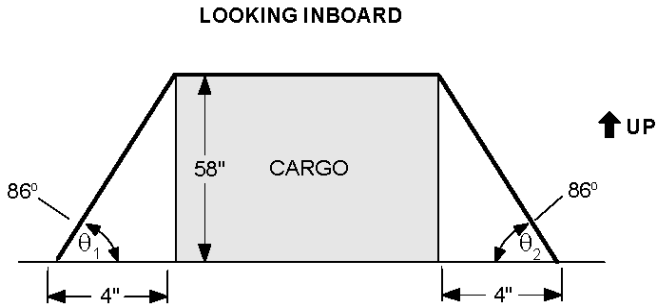
Example 1

In the following example, a Size Code A (88 x 125 inch) pallet is loaded to 13500 LB (6123 KG), and will be carried in Position 22P. The maximum weight allowed in this position with all restraints operative is 11250 LB (5102 KG) without tiedowns and 15310 LB (6944 KG) with tiedowns. Refer to CHP-SEC 1-60-02x for forward hold capabilities. The example pallet can be carried in this position, but the weight in excess of 11250 LB (5102 KG) must be restrained with tiedowns. The strap lengths used to solve this problem are shown below. The cargo tiedown stud height is 0.875 inch.



NOTE When a pallet weight exceeds the maximum allowed with all restraints operative, a minimum of six straps are required for tiedown.

Determination of the number of straps required for up load restraint. Cargo tiedown stud heights equal 0.875 inch.



Fwd/Aft and Side straps omitted for clarity.

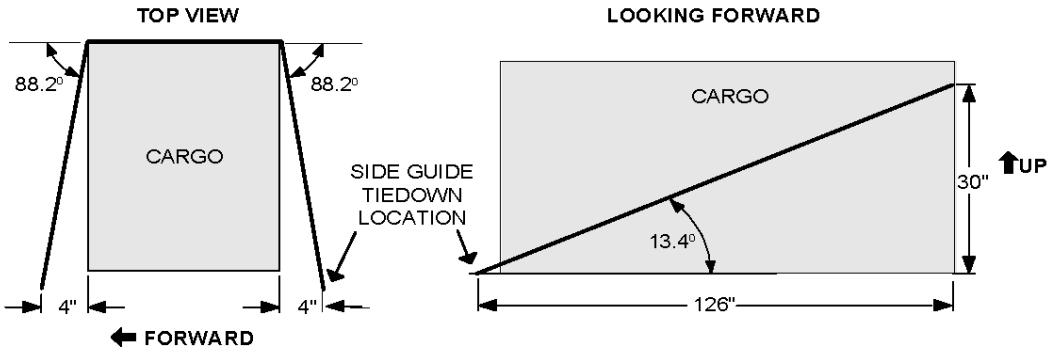
Floor Angle[a]	θ_{Floor}= **86°**		Up Load Factor[b]	ULF=	**1.63**	
Cargo Weight (including tare)			W = **13500**	LB	or **6123**	KG
Restrained Weight (including tare)[c]			RL = **11250**	LB	or **5102**	KG
Unrestrained Load	P = (W - RL) x ULF		P = **3668**	LB	or **1664**	KG
Allowable Tiedown Load[d]			AL = **3889**	LB	or **1764**	KG
Allowable Load Up Direction	$AL_Z = AL \times \sin(\theta_{Floor})$		AL_Z = **3880**	LB	or **1759**	KG
Number of Straps Required		N = P / (2 x AL_Z)	N = **0.47 → 2**	Strap(s)		

[a] Floor angle, θ_{Floor} is equal to the smaller of θ_1 and θ_2.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[d] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tie-down stud heights > 0.875 inches.

NOTE The Up Load Factor is 2.05 in the aft hold, and 2.33 in the bulk hold.

NOTE A minimum of two straps are required to restrain cargo in the up direction.

Determination of the number of straps required for side load restraint. Cargo tiedown stud heights equal 0.875 inch.



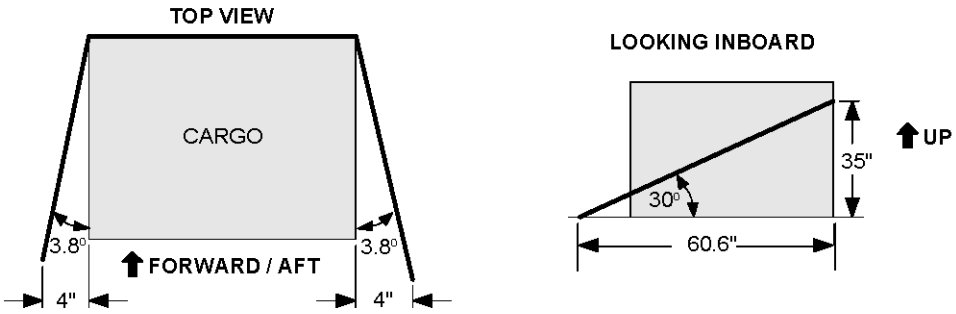
Fwd/Aft and Up straps omitted for clarity.

Floor Angle[a]	θ_{Floor}= **13.4°**		Side Load Factor[b]	SLF=	**1.38**	
Centerline Angle[c]	θ_{Center}= **88.2°**					
Cargo Weight (including tare)			W = **13500**	LB	or **6123**	KG
Restrained Load (including tare)[d]			RL = **11250**	LB	or **5102**	KG
Unrestrained Load	P = (W - RL) x SLF		P = **3105**	LB	or **1409**	KG
Allowable Tiedown Load[e]			AL = **2222**	LB	or **1007**	KG
Allowable Load Side Direction	$AL_Y = AL \times [\cos(\theta_{Floor}) \times \sin(\theta_{Center})]$		AL_Y = **2160**	LB	or **979**	KG
Number of Straps Required		N = P / (2 x AL_Y)			N = **0.72 → 1**	Strap(s)

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tie-down stud heights > 0.875 inches.

NOTE The Side Load Factor is 1.64 in the aft hold, and 1.90 in the bulk hold.

Determination of the number of straps required for forward / aft load restraint. Cargo tiedown stud heights equal 0.875 inch.



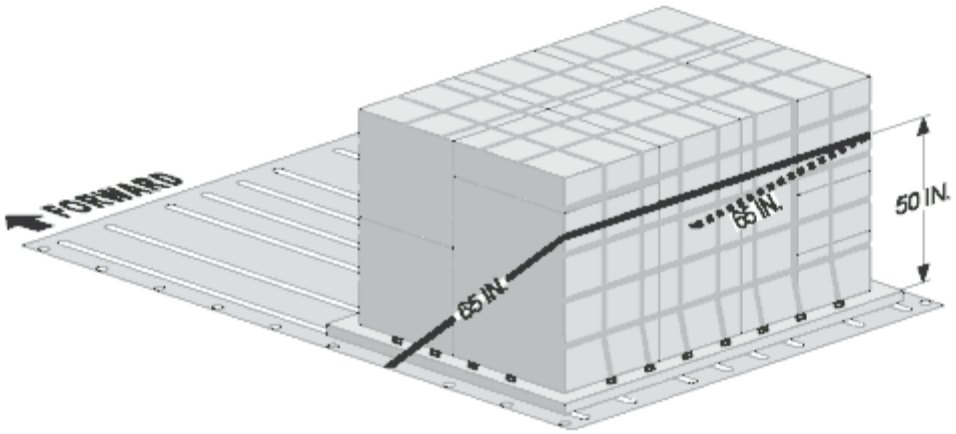
Side and up straps omitted for clarity.

Floor Angle[a]	θ_{Floor} = **30°**	Forward/Aft Load Factor[b]	FALF= **1.50**
Centerline Angle[c]	θ_{Center}= **3.8°**		
Cargo Weight (including tare)		W = **13500** LB	or **6123** KG
Restrained Load (including tare)[d]		RL = **11250** LB	or **5102** KG
Unrestrained Load	P = (W - RL) x FALF	P = **3375** LB	or **1532** KG
Allowable Tiedown Load[e]		AL = **2461** LB	or **1116** KG
Allowable Load Fwd/Aft Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$	AL_X = **2126** LB	or **964** KG
Number of Straps Required	N = P / (2 x AL_X)	N = **0.79 → 1** Strap(s)	

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tie-down stud heights > 0.875 inches.

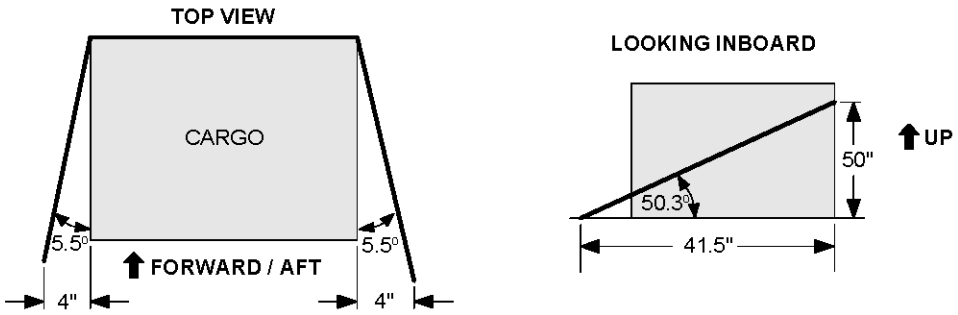
Example 2

In this example, a Size Code A (88 x 125 inch) pallet is loaded to 8400 LB (3810 KG), and will be carried in Position 22P. Furthermore, two restraints located at the aft end of the pallet are missing or inoperative. As a result, the remaining restraint hardware capability is reduced to 7420 LB (3365 KG) in the aft direction. Restraint hardware for the other directions can restrain the entire 8400 LB (3810 KG). Refer to CHP-SEC 1-66-2xx for forward hold missing / inoperative restraint capabilities. Thus, the pallet can be carried in this position, but the weight in excess of 7420 LB (3365 KG) must be restrained with tiedowns in the aft direction. The strap lengths used to solve this problem are shown below. The cargo tiedown stud height for this example is 1.0 inch.



CAUTION CARE SHOULD BE TAKEN TO PREVENT STRAPS FROM "WALKING DOWN" (I.E., LOOSENING OR FALLING TO THE FLOOR) AS CARGO SHIFTS IN FLIGHT.

Determination of the number of straps required for forward / aft load restraint using tiedown studs with a 1.0 inch height (see Page 5 for tiedown stud height dimension information):



Side and up straps omitted for clarity.

Floor Angle[a]	θ_{Floor} = **50.3°**	Forward/Aft Load Factor[b]	FALF= **1.50**
Centerline Angle[c]	θ_{Center}= **5.5°**		
Cargo Weight (including tare)		W= **8400** LB	or **3810** KG
Restrained Load (including tare)[d]		RL= **7420** LB	or **3365** KG
Unrestrained Load	P = (W - RL) x FALF	P= **1470** LB	or **667** KG
Allowable Tiedown Load[e]	$AL = AL_{TABLE} - (AL_{TABLE}) \times \left(1 - \frac{0.875 \text{ inch stud}}{\text{Actual Stud Height}}\right) \times \left(\frac{90° - \theta_{Floor}}{90°}\right)$		
	$AL = 2586 - (2586 \text{ LB}) \times \left(1 - \frac{0.875 \text{ inch}}{1.00 \text{ inch}}\right) \times \left(\frac{90° - 50.3°}{90°}\right)$	AL = **2443** LB or **1108** KG	
Allowable Load Fwd/Aft Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$	AL_X= **1553** LB	or **704** KG
Number of Straps Required	N = P / (2 x AL_X)	N = **0.47 → 1** Strap(s)	

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] AL_{Table} is from the Tiedown Fitting Load Limit Table on Page 4. AL_{Table} is reduced because the 1.0 inch tiedown stud height exceeds the allowable 0.875 inch tiedown stud height.

3.12.4.9.2 B787-9 – cargo tiedowns – lower deck

General information

A certified Unit Load Device (ULD) will not require tiedowns unless one of the following conditions exist:

- The ULD contains cargo of such shape and/or densities as to pose a hazard to the airplane structure or systems. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is limited either by restraint configurations or by missing / inoperative restraints. If so, the weight in excess of the ULD load limit data, must be tied down.
- The ULD does not satisfy the center of gravity. If so, the entire weight of the ULD and its cargo must be tied down.

A non-certified ULD will not require tiedowns unless one of the following conditions exist:

- The ULD contains cargo of such shape and/or densities as to pose a hazard to the airplane structure or systems. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is limited either by restraint configurations or by missing / inoperative restraints. If so, the weight in excess of the ULD load limit data, must be tied down.
- The ULD does not satisfy the center of gravity limitations. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is not specified in this manual. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is less than 63” in height. If so, the entire weight of the ULD and its cargo must be tied down.
- The ULD is not serviceable, not well constructed, or loaded in a manner that could result in it being a hazard to the airplane structure or systems. If so, the entire weight of the ULD and its cargo must be tied down.

Bulk cargo will not require tiedowns unless one of the following conditions exist:

- The bulk cargo is loaded on rollers, balls or devices to assist in moving cargo within the hold.
- The bulk cargo is of shape or density that could become a hazard to the airplane structure or systems (e.g. dense or piercing items that could become projectiles).
- Bulk cargo movement within the hold due to operational loads would cause a large change in airplane C.G.
- Barrier net has appreciable damage

Good judgment must be used in selecting the location and number of tiedowns to give sufficient safety margin for uneven strap and net stretch, strap and cargo slippage, and for varying allowables of rings used in combination. To prevent overloading of hardware, ring loops should be correctly oriented as closely as possible to the strap direction.

CAUTIONS

- DO NOT MIX DIFFERENT STIFFNESSES OF TIEDOWN STRAPS (FOR EXAMPLE, KEVLAR AND NYLON WEBS) WHEN RESTRAINING CARGO. MIXING STRAP STIFFNESSES MAY CAUSE PREMATURE FAILURE OF THE STIFFER STRAP. THE USE OF CHAINS FOR TIEDOWNS IS NOT RECOMMENDED.
- TIEDOWN ON THE LOWER DECK IS LIMITED TO THE TIEDOWN LOCATIONS IDENTIFIED LATER IN THIS CHAPTER. TIEDOWN TO ANY OTHER POINT IS NOT ALLOWED.

TIEDOWN ALLOWABLES

The following sections describe the basic tiedown requirements and provide the tiedown fitting load limits.

Tiedown Requirements

The required tiedown load for each basic direction (forward, aft, side-left, side-right, and up) is determined from the following equation:

$$L = LF \times W$$

Where,

L = The applied load for a given direction
LF = The applicable load factor (from the table below)
W = The weight of the cargo to be tied down

The following table provides the load factors used to determine the applied load.

LOCATION	LOAD FACTOR			
	FWD	AFT	SIDE	UP
Forward Hold	1.60	1.50	1.23	1.50
Aft Hold	1.50	1.50	1.39	2.14
Bulk Hold	1.50	1.50	1.65	2.54

The total restraint capability (i.e. sum of the tiedown strap capabilities) in each of the five basic restraint directions must be equal to or greater than the calculated applied load in that direction. Each strap must have a minimum rating of 5000 LB (2268 KG).

CAUTION UNEVEN MASS DISTRIBUTION MUST BE ACCOUNTED FOR IN DETERMINING STRAP LOADS AND SELECTING TIEDOWN POINTS.

NOTES
- Tiedown straps are not allowed at B.A. 464.7, 488.7, 512.7, 1736.7, 1760.7 and 1784.7 side guide rail locations when Size Code L ULDs are loaded in Positions 13 and 42.
- Tiedown straps are not allowed on pallet locks and end stops that engage longitudinal Size Code Q ULDs.
- Tiedown straps are not allowed on pallet locks at BA 568.5, 770.4 and 1602.0 that engage Size Code P ULDs.

Tiedown Fitting Load Limits

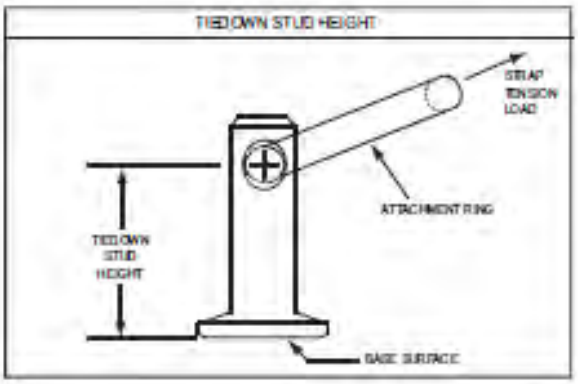
Utilizing Brown Line tiedown fitting P/N's 20050 and 10730, Ancra P/N's 40000 and 40340, or equivalent, the tiedown fitting load limits, as a function of the floor angle (refer to TIEDOWN CALCULATION on page 6 of this section for an illustration of floor angle), are summarized in the table below:

ANGLE BETWEEN TIEDOWN STRAP AND FLOOR (DEGREES)	TIEDOWN FITTING LOAD LIMIT[a][b] TIEDOWN FITTING LOCATIONS	
	LB	KG
0° (Horizontal)	2000	907
5°	2111	957
10°	2222	1007
15°	2333	1058
20°	2444	1108
25°	2556	1159
30°	2667	1209
35°	2778	1260
40°	2889	1310
45°	3000	1360
50°	3111	1411
55°	3222	1461
60°	3333	1511
65°	3444	1562
70°	3556	1612
75°	3667	1663
80°	3778	1713
85°	3889	1764
90° (Vertical)	4000	1814

[a] The tiedown fitting load limit must be reduced when the tiedown stud heights are greater than 0.875 inches. See Example 2 for handling tiedowns when stud heights are greater than 0.875 inch.

[b] If the actual floor angle is between the angles shown in the table, use the tie-down fitting load limit associated with the smaller floor angle. For example, the tiedown fitting load limit for a 13° tiedown strap angle would be 2222 LB (1007 KG).

Refer to Tiedown Stud Height illustration below for stud height definition and the "Tiedown Calculation" section on page 6 for an illustration of the floor angle.



The combined loading on any two laterally adjacent tiedown fittings must not exceed the limits noted in the above table for a single tiedown fitting.

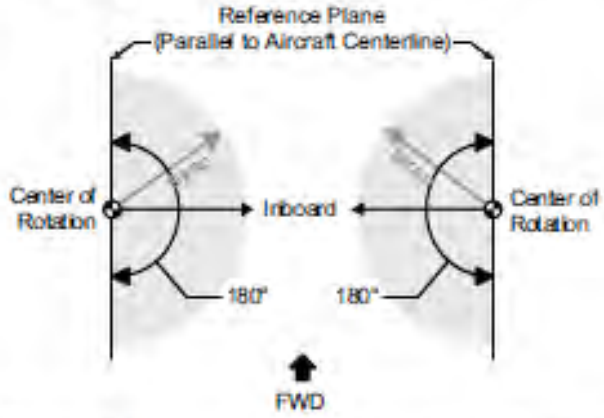
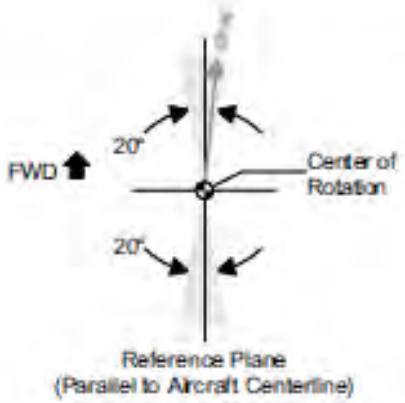
The sum of the up components from all longitudinally adjacent tiedown fittings within a 26 inch span must not exceed 4000 LB (1814 KG).

The sum of the forward / aft components from all longitudinally adjacent tiedown fittings within a 26 inch span must not exceed 2121 LB (962 KG).

The tiedown strap load varies based on the restraint direction. To obtain the tiedown strap load in a given direction, divide the tiedown strap load by the load factor, from Page 3 of this section, for that direction.

Tiedown Strap Orientation

The allowable orientation of the tiedown strap relative to the tiedown fitting is a function of the location of the tiedown fitting. The following graphics define the aircraft centerline angle restrictions for the various tie-down fittings.

SIDE GUIDES, SILL ROLLERS, BALL MATS AND THE BULK HOLD	FIXED END STOPS AND PALLET LOCKS
The following figure illustrates allowable strap rotation about a vertical axis located at the center of the tie-down fitting.  The shaded area shows the range of rotation of 180 degrees relative to a reference plane that is parallel to the centerline of the aircraft. The strap orientation must always be inboard of the reference plane.	The following figure illustrates allowable strap rotation about a vertical axis located at the center of the tie-down fitting.  The shaded area shows the range of rotation of 20 degrees relative to a reference plane that is parallel to the centerline of the aircraft. The allowable range applies to straps oriented forward or aft of the tiedown fitting.

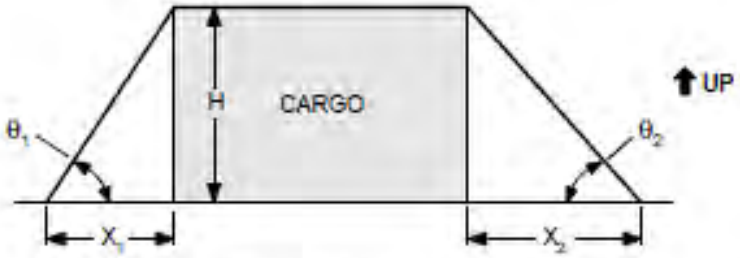
TIEDOWN CALCULATION

The following sections provide the methodology for determining the number of tiedown straps required for each of the basic restraint directions.

Tiedown Straps Required for Up Load with Tiedown Stud Height Equal to 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the up direction with cargo tiedown stud heights equal to 0.875 inch.

LOOKING INBOARD



θ_{Floor} is equal to the smaller of the two angles, θ_1 and θ_2.

If floor angles cannot be determined directly, the following equations may be used to determine these angles:

$$\theta_1 = \tan^{-1}\left[\frac{H}{X_1}\right] \quad \text{and} \quad \theta_2 = \tan^{-1}\left[\frac{H}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required:

Floor Angle[a]	θ_{Floor} = _____°		Up Load Factor[b]	ULF=	_____	
Cargo Weight (including tare)		W =	_____ LB	or	_____	KG
Restrained Load (including tare)[c]		RL =	_____ LB	or	_____	KG
Unrestrained Load	P = (W - RL) x ULF	P =	_____ LB	or	_____	KG
Allowable Tiedown Load[d]		AL =	_____ LB	or	_____	KG
Allowable Load Up Direction	$AL_Z = AL \times \sin(\theta_{Floor})$	AL_Z =	_____ LB	or	_____	KG
Number of Straps Required	N = P / (2 x AL_Z)	N =	_____ Strap(s)			

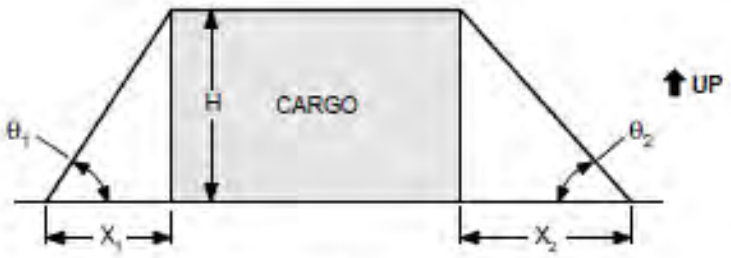
[a] Floor angle, θ_{Floor} is equal to the smaller of θ_1 and θ_2.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[d] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tie-down stud heights > 0.875 inches.

NOTE A minimum of two straps are required to restrain cargo in the up direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Up Load with Tiedown Stud Height Greater than 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the up direction with cargo tiedown stud heights greater than 0.875 inch.

LOOKING INBOARD



θ_{Floor} is equal to the smaller of the two angles, θ_1 and θ_2.

If floor angles cannot be determined directly, the following equations may be used to determine these angles:

$$\theta_1 = \tan^{-1}\left[\frac{H}{X_1}\right] \quad \text{and} \quad \theta_2 = \tan^{-1}\left[\frac{H}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required:

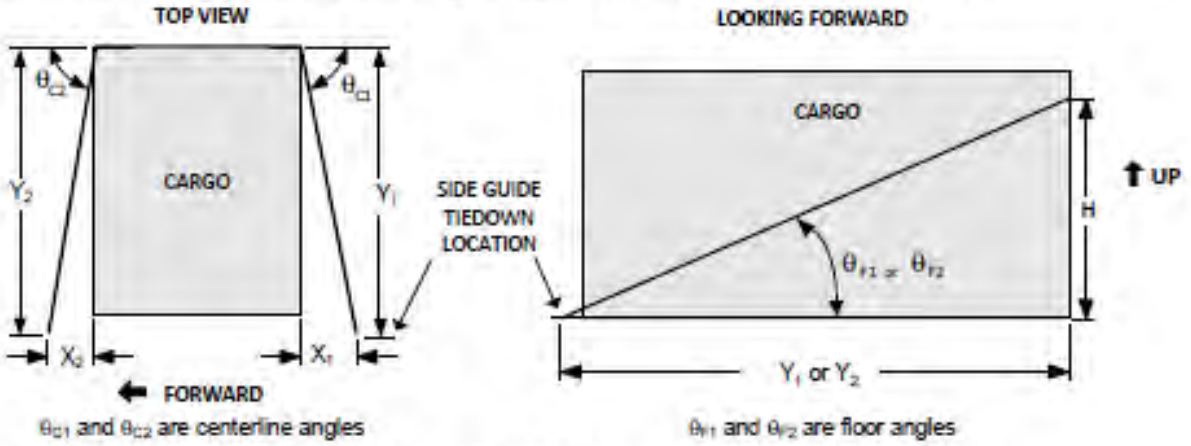
Floor Angle[a]	θ_{Floor} = _____°	Up Load Factor[b]	ULF= _____
Cargo Weight (including tare)	W = _____ LB	or	_____ KG
Restrained Load (including tare)[c]	RL = _____ LB	or	_____ KG
Unrestrained Load	P = (W - RL) x ULF	P = _____ LB	or _____ KG
Allowable Tiedown Load[d]	$AL = AL_{TABLE} - (AL_{TABLE}) \times \left(1 - \frac{0.875 \text{ inch stud}}{\text{Actual Stud Height}}\right) \times \left(\frac{90° - \theta_{Floor}}{90°}\right)$	AL = _____LB or	_____KG
Allowable Load Up Direction	$AL_Z = AL \times \sin(\theta_{Floor})$	AL_Z = _____ LB	or _____ KG
Number of Straps Required	N = P / (2 x AL_Z)	N = _____	Strap(s)

[a] Floor angle, θ_{Floor} is equal to the smaller of θ_1 and θ_2.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[d] AL_{TABLE} is from the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of two straps are required to restrain cargo in the up direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Side Load with Tiedown Stud Height Equal to 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the side directions with cargo tiedown stud heights equal to 0.875 inch.



θ_{C1} and θ_{C2} are centerline angles

θ_{F1} and θ_{F2} are floor angles

If angles cannot be determined directly, use the following equations for calculation:

$$\theta_{F1} = \tan^{-1}\left[\frac{H}{Y_1}\right] \qquad \theta_{F2} = \tan^{-1}\left[\frac{H}{Y_2}\right] \qquad \theta_{C1} = \tan^{-1}\left[\frac{Y_1}{X_1}\right] \qquad \theta_{C2} = \tan^{-1}\left[\frac{Y_2}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

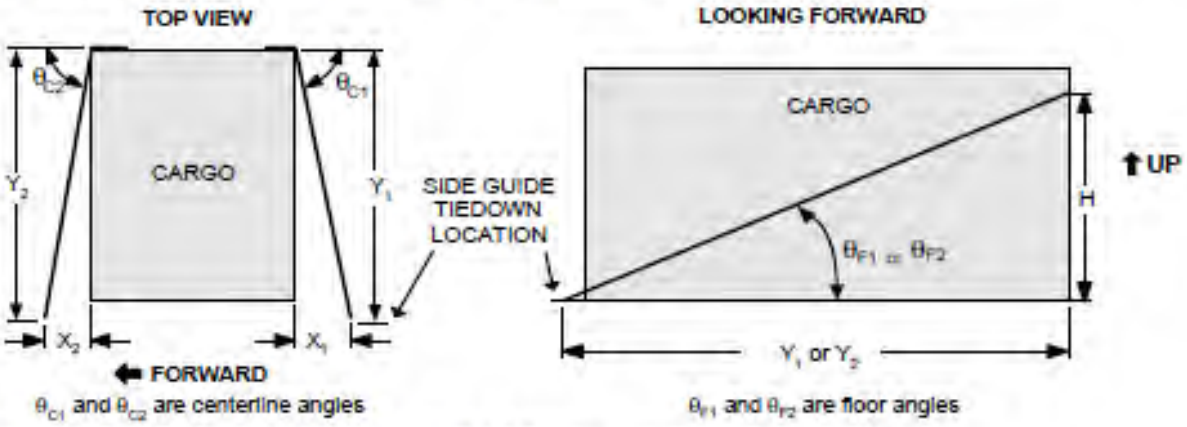
Floor Angle[a]	θ_{Floor} = _____ °	Side Load Factor[b]	SLF= _____
Centerline Angle[c]	θ_{Center} = _____ °		
Cargo Weight (including tare)	W = _____ LB or _____ KG		
Restrained Load (including tare)[d]	RL = _____ LB or _____ KG		
Unrestrained Load	P = (W - RL) x SLF	P = _____ LB or _____ KG	
Allowable Tiedown Load[e]		AL = _____ LB or _____ KG	
Allowable Load Side Direction	$AL_Y = AL \times [\cos(\theta_{Floor}) \times \sin(\theta_{Center})]$	AL_Y = _____ LB or _____ KG	
Number of Straps Required	N = P / (2 x AL_Y)	N = _____ Strap(s)	

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of one strap is required to restrain cargo in each side direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Side Load with Tiedown Stud Height Greater than 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the side directions with cargo tiedown stud heights greater than 0.875 inch.



If angles cannot be determined directly, use the following equations for calculation:

$$\theta_{F1} = \tan^{-1}\left[\frac{H}{Y_1}\right] \qquad \theta_{F2} = \tan^{-1}\left[\frac{H}{Y_2}\right] \qquad \theta_{C1} = \tan^{-1}\left[\frac{Y_1}{X_1}\right] \qquad \theta_{C2} = \tan^{-1}\left[\frac{Y_2}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

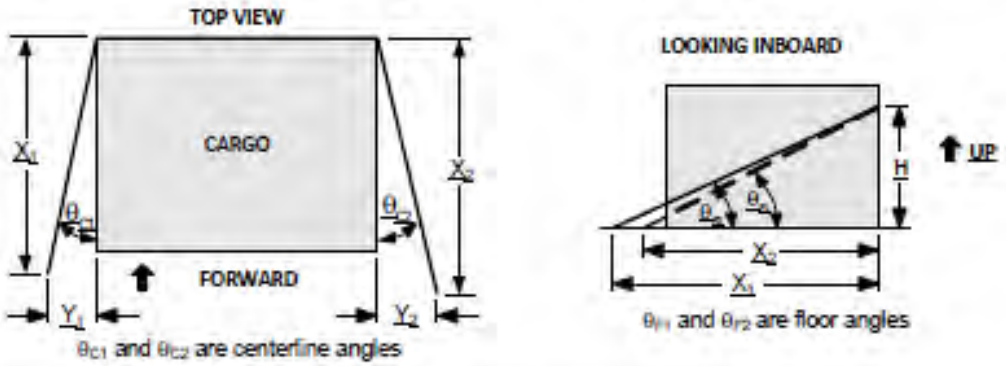
Floor Angle[a]	θ_{Floor} = _____ °	Side Load Factor[b]	SLF= _____
Centerline Angle[c]	θ_{Center} = _____ °		
Cargo Weight (including tare)	W = _____ LB or _____ KG		
Restrained Load (including tare)[d]	RL = _____ LB or _____ KG		
Unrestrained Load	P = (W - RL) x SLF	P = _____ LB or _____ KG	
Allowable Tiedown Load[e]	$AL = AL_{TABLE} - (AL_{TABLE}) \times \left(1 - \frac{0.875 \text{ Inch stud}}{\text{Actual Stud Height}}\right) \times \left(\frac{90° - \theta_{Floor}}{90°}\right)$	AL = _____ LB or _____ KG	
Allowable Load Side Direction	$AL_Y = AL \times [\cos(\theta_{Floor}) \times \sin(\theta_{Center})]$	AL_Y = _____ LB or _____ KG	
Number of Straps Required	$N = P / (2 \times AL_Y)$	N = _____ Strap(s)	

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] AL_{TABLE} is from the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of one strap is required to restrain cargo in each side direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Forward Load with Tiedown Stud Height Equal to 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the forward directions with cargo tiedown stud heights equal to 0.875 inch.



If angles cannot be determined directly, use the following equations for calculation:

$$\theta_{F1} = \tan^{-1}\left[\frac{H}{X_2}\right] \qquad \theta_{F2} = \tan^{-1}\left[\frac{H}{X_1}\right] \qquad \theta_{C1} = \tan^{-1}\left[\frac{Y_1}{X_1}\right] \qquad \theta_{C2} = \tan^{-1}\left[\frac{Y_2}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

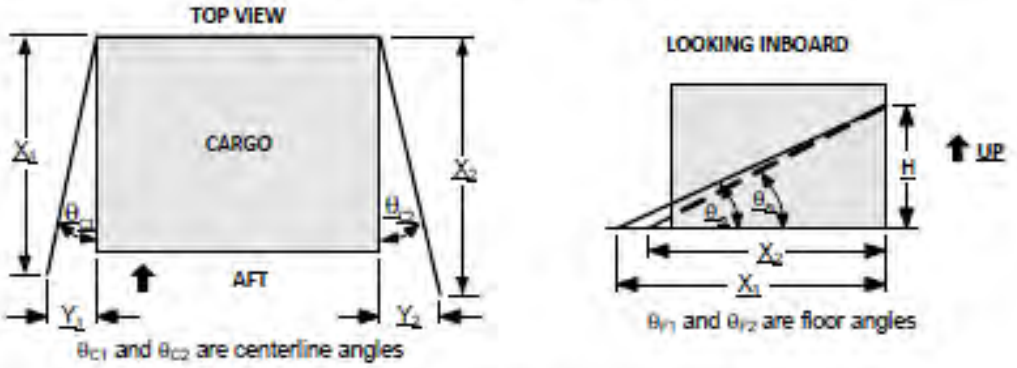
Floor Angle[a] θ_{Floor} = _____°		Forward Load Factor[b]	FLF=_____
Centerline Angle[c] θ_{Center}=_____°			
Cargo Weight (including tare)	W = _____ LB or _____ KG		
Restrained Load (including tare)[d]	RL = _____ LB or _____ KG		
Unrestrained Load	P = (W - RL) x FLF	P = _____ LB	or _____ KG
Allowable Tiedown Load[e]		AL = _____ LB	or _____ KG
Allowable Load Fwd Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$	AL_X = _____ LB	or _____ KG
Number of Straps Required	N = P / (2 x AL_X)	N = _____	Strap(s)

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of one strap is required to restrain cargo in the forward direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Aft Load with Tiedown Stud Height Equal to 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the aft directions with cargo tiedown stud heights equal to 0.875 inch.



If angles cannot be determined directly, use the following equations for calculation:

$$\theta_{F1} = \tan^{-1}\left[\frac{H}{X_2}\right] \qquad \theta_{F2} = \tan^{-1}\left[\frac{H}{X_1}\right] \qquad \theta_{C1} = \tan^{-1}\left[\frac{Y_1}{X_1}\right] \qquad \theta_{C2} = \tan^{-1}\left[\frac{Y_2}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

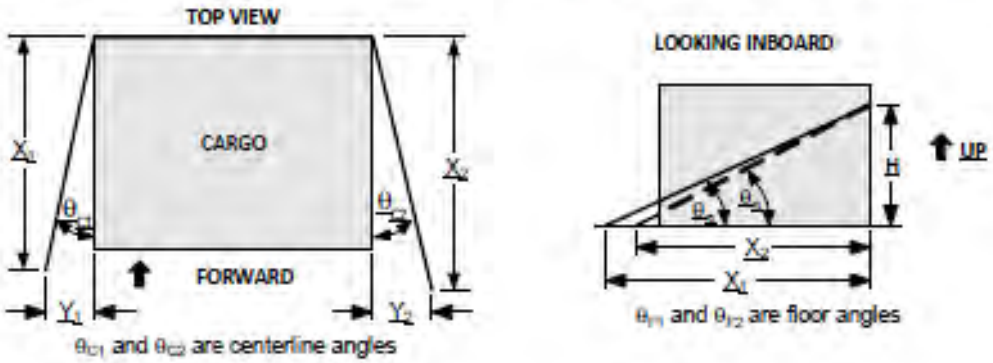
Floor Angle[a]	θ_{Floor}= _____°	Aft Load Factor[b]	ALF=_____
Centerline Angle[c]	θ_{Center}=_____°		
Cargo Weight (including tare)	W = _____ LB or _____ KG		
Restrained Load (including tare)[d]	RL = _____ LB or _____ KG		
Unrestrained Load	P = (W - RL) x ALF	P = _____ LB or _____ KG	
Allowable Tiedown Load[e]		AL = _____ LB or _____ KG	
Allowable Load AFT Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$	AL_X = _____ LB or _____ KG	
Number of Straps Required	N = P / (2 x AL_X)	N = _____ Strap(s)	

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of one strap is required to restrain cargo in the aft direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Forward Load with Tiedown Stud Height Greater than 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the forward directions with cargo tiedown stud heights greater than 0.875 inch.



If angles cannot be determined directly, use the following equations for calculation:

$$\theta_{F1} = \tan^{-1}\left[\frac{H}{X_2}\right] \qquad \theta_{F2} = \tan^{-1}\left[\frac{H}{X_1}\right] \qquad \theta_{C1} = \tan^{-1}\left[\frac{Y_1}{X_1}\right] \qquad \theta_{C2} = \tan^{-1}\left[\frac{Y_2}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

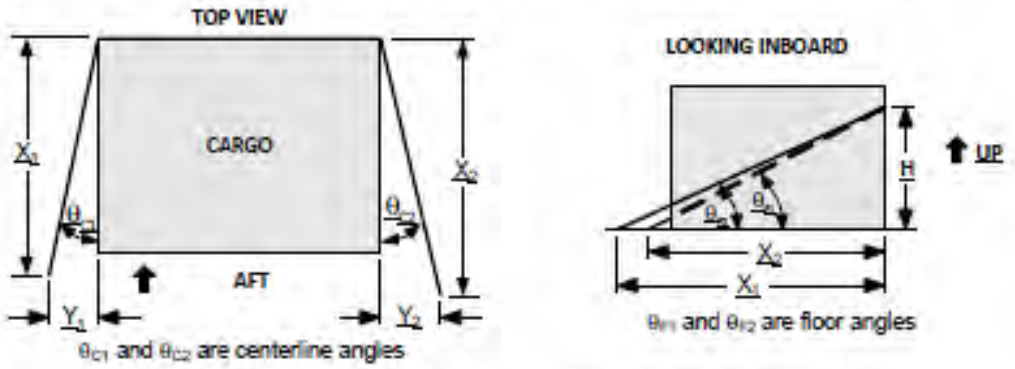
Floor Angle[a]	θ_{Floor}= _____ °	Forward Load Factor[b]	FLF=_____
Centerline Angle[c]	θ_{Center}=_____ °		
Cargo Weight (including tare)	W = _____ LB or _____ KG		
Restrained Load (including tare)[d]	RL = _____ LB or _____ KG		
Unrestrained Load	P = (W - RL) x FLF	P = _____ LB or _____ KG	
Allowable Tiedown Load[e]	$AL = AL_{TABLE} - (AL_{TABLE}) \times \left(1 - \frac{0.875 \text{ Inch stud}}{\text{Actual Stud Height}}\right) \times \left(\frac{90° - \theta_{Floor}}{90°}\right)$	AL = _____ LB or _____ KG	
Allowable Load Fwd Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$	AL_X = _____ LB or _____ KG	
Number of Straps Required	N = P / (2 x AL_X)	N = _____ Strap(s)	

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] AL_{TABLE} is from the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

NOTE A minimum of one strap is required to restrain cargo in the forward direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

Tiedown Straps Required for Aft Load with Tiedown Stud Height Greater than 0.875 Inch

The following illustration and form provide a method for calculating the number of tiedown straps required for restraint in the aft directions with cargo tiedown stud heights greater than 0.875 inch.



If angles cannot be determined directly, use the following equations for calculation:

$$\theta_{F1} = \tan^{-1}\left[\frac{H}{X_2}\right] \qquad \theta_{F2} = \tan^{-1}\left[\frac{H}{X_1}\right] \qquad \theta_{C1} = \tan^{-1}\left[\frac{Y_1}{X_1}\right] \qquad \theta_{C2} = \tan^{-1}\left[\frac{Y_2}{X_2}\right]$$

Complete the following form to determine the number of tiedown straps required. Perform calculations twice: once using θ_{F1} and θ_{C1} as floor and centerline angles, then using θ_{F2} and θ_{C2}. Use the higher number of straps.

Floor Angle[a]	θ_{Floor} = _____°	Aft Load Factor[b]	ALF=_____
Centerline Angle[c]	θ_{Center}=_____°		
Cargo Weight (including tare)	W =_____ LB or _____ KG		
Restrained Load (including tare)[d]	RL =_____ LB or _____ KG		
Unrestrained Load	P = (W - RL) x ALF	P =_____ LB or _____ KG	
Allowable Tiedown Load[e]	$AL = AL_{TABLE} - (AL_{TABLE}) \times \left(1 - \frac{0.875 \text{ Inch stud}}{\text{Actual Stud Height}}\right) \times \left(\frac{90° - \theta_{Floor}}{90°}\right)$	AL =_____ LB or _____ KG	
Allowable Load Aft Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$	AL_X =_____ LB or _____ KG	
Number of Straps Required	N = P / (2 x AL_X)	N =_____ Strap(s)	

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] AL_{TABLE} is from the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tiedown stud heights > 0.875 inches.

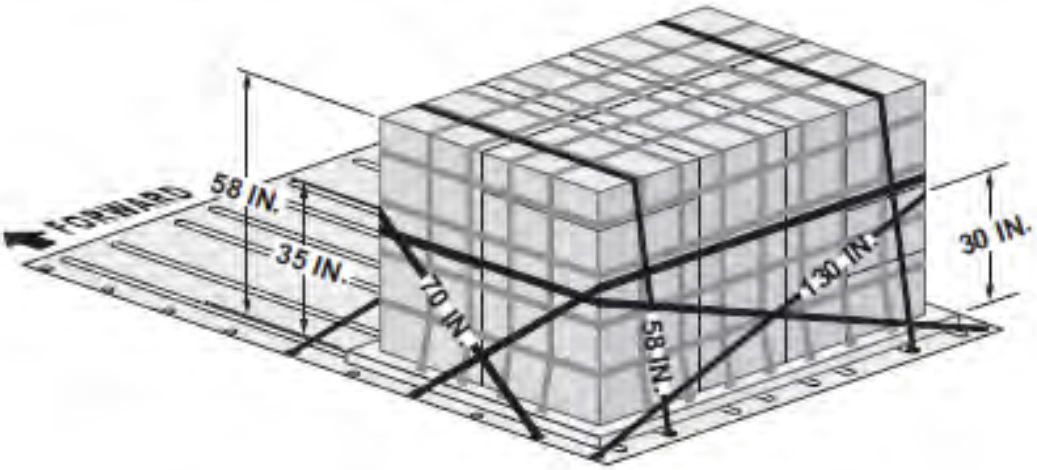
NOTE A minimum of one strap is required to restrain cargo in the aft direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

TIEDOWN EXAMPLE

This section provides two tiedown examples. The first example shows the determination of the number of straps required for each of the five basic restraint directions. The second example demonstrates a calculation of tiedown requirements for a missing restraint condition with cargo tiedown stud height greater than 0.875 inch.

Example 1

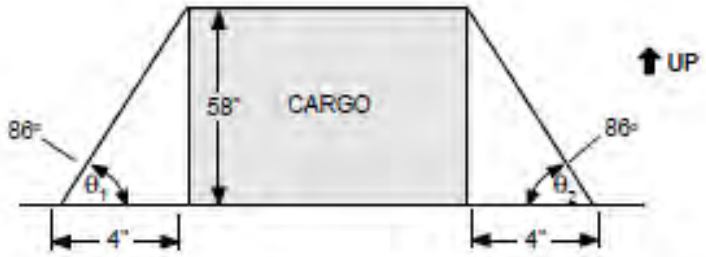
In the following example, a Size Code A (88 x 125 inch) pallet is loaded to 13500 LB (6123 KG), and will be carried in Position 23P. The maximum weight allowed in this position with all restraints operative is 11250 LB (5102 KG) without tiedowns and 15310 LB (6944 KG) with tiedowns. Refer to CHP-SEC 1-60-20x for forward hold capabilities. The example pallet can be carried in this position, but the weight in excess of 11250 LB (5102 KG) must be restrained with tiedowns. The strap lengths used to solve this problem are shown below. The cargo tiedown stud height is 0.875 inch.



NOTE When a pallet weight exceeds the maximum allowed with all restraints operative, a minimum of six straps are required for tiedown.

Determination of the number of straps required for up load restraint. Cargo tiedown stud heights equal 0.875 inch.

LOOKING INBOARD



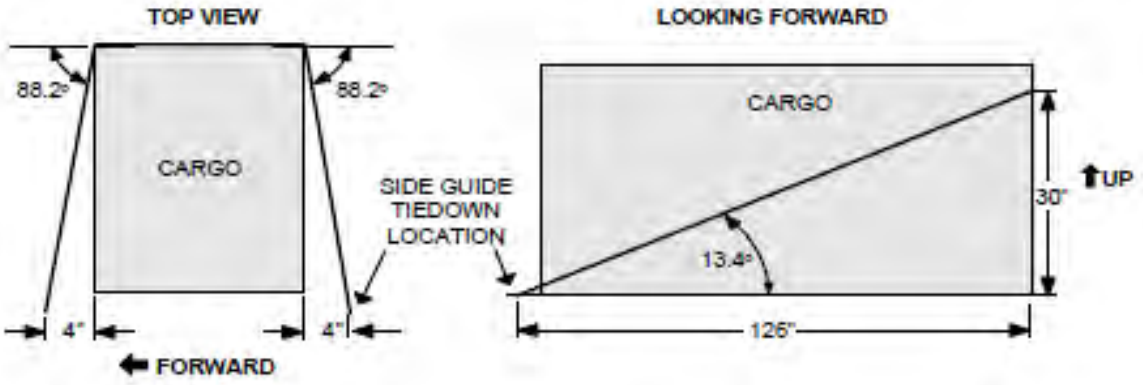
Fwd/Aft and Side straps omitted for clarity.

Floor Angle[a]	θ_{Floor}= 86°		Up Load Factor[b]	ULF=	1.50	
Cargo Weight (including tare)			W = 13500 LB	or	6123 KG	
Restrained Load (including tare)[c]			RL = 11250 LB	or	5102 KG	
Unrestrained Load	P = (W - RL) x ULF		P = 3375 LB	or	1532 KG	
Allowable Tiedown Load[d]			AL = 3889 LB	or	1764 KG	
Allowable Load Up Direction	$AL_Z = AL \times \sin(\theta_{Floor})$		AL_Z = 3879 LB	or	1759 KG	
Number of Straps Required		N = P / (2 x AL_Z)	N = 0.43 → 2[e] Strap(s)			

[a] Floor angle, θ_{Floor} is equal to the smaller of θ_1 and θ_2.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[d] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tie-down stud heights > 0.875 inches.
[e] A minimum of two straps are required to restrain cargo in the up direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

NOTE The Up Load Factor is 2.14 in the aft hold, and 2.54 in the bulk hold.

Determination of the number of straps required for side load restraint. Cargo tiedown stud heights equal 0.875 inch.



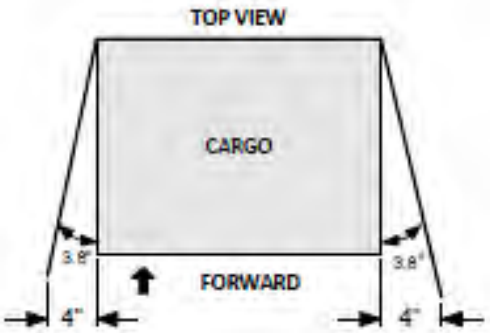
Fwd/Aft and Up straps omitted for clarity.

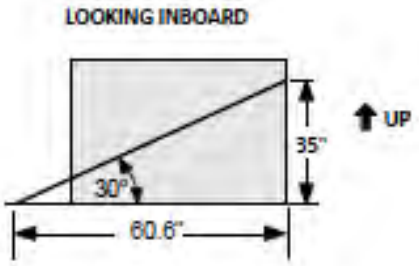
Floor Angle[a]	θ_{Floor}= 13.4°		Side Load Factor[b]	SLF= 1.23	
Centerline Angle[c]	θ_{Center}= 88.2°				
Cargo Weight (including tare)			W = 13500 LB	or	6123 KG
Restrained Load (including tare)[d]			RL = 11250 LB	or	5102 KG
Unrestrained Load	P = (W - RL) x SLF		P = 2768 LB	or	1256 KG
Allowable Tiedown Load[e]			AL = 2222 LB	or	1007 KG
Allowable Load Side Direction	$AL_Y = AL \times [\cos(\theta_{Floor}) \times \sin(\theta_{Center})]$		AL_Y = 2160 LB	or	979 KG
Number of Straps Required		N = P / (2 x AL_Y)		N = 0.64 → 1[f] Strap(s)	

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tie-down stud heights > 0.875 inches.
[f] A minimum of one strap is required to restrain cargo in each side direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

NOTE The Side Load Factor is 1.39 in the aft hold, and 1.65 in the bulk hold.

Determination of the number of straps required for forward load restraint. Cargo tiedown stud heights equal 0.875 inch.





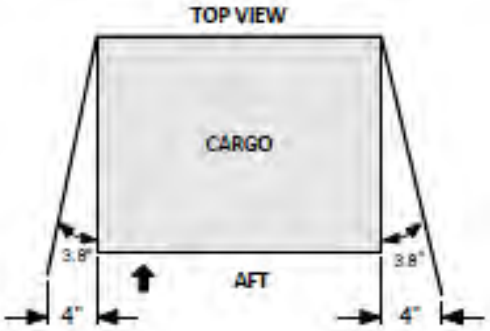
Side and up straps omitted for clarity.

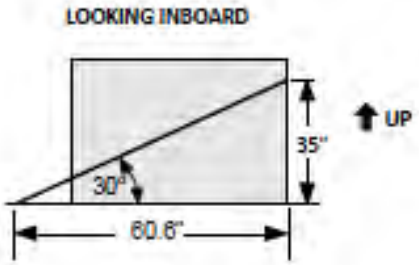
Floor Angle[a]	θ_{Floor} = 30°		Forward Load Factor[b]	FLF= 1.60		
Centerline Angle[c]	θ_{Center}= 3.8°					
Cargo Weight (including tare)			W = 13500	LB	or 6123	KG
Restrained Load (including tare)[d]			RL = 11250	LB	or 5102	KG
Unrestrained Load	P = (W - RL) x FLF		P = 3600	LB	or 1634	KG
Allowable Tiedown Load[e]			AL = 2667	LB	or 1209	KG
Allowable Load Fwd Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$		AL_X = 2304	LB	or 1044	KG
Number of Straps Required		N = P / (2 x AL_X)		N = 0.78 → 1[f] Strap(s)		

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tie-down stud heights > 0.875 inches.
[f] A minimum of one strap is required to restrain cargo in the forward direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

NOTE The Forward Load Factor is 1.50 in the aft hold and bulk hold.

Determination of the number of straps required for aft load restraint. Cargo tiedown stud heights equal 0.875 inch.





Side and up straps omitted for clarity.

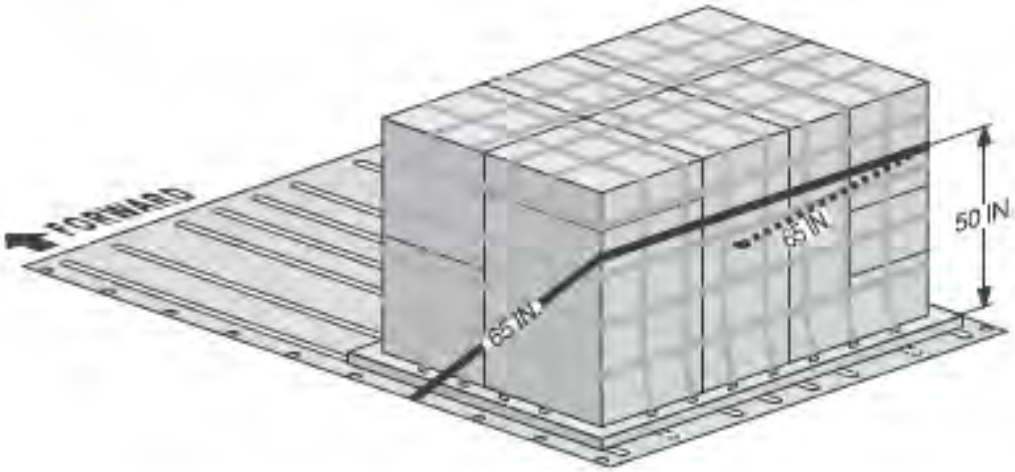
Floor Angle[a]	θ_{Floor} = 30°		Aft Load Factor[b]	ALF= 1.50		
Centerline Angle[c]	θ_{Center}= 3.8°					
Cargo Weight (including tare)			W = 13500 LB	or	6123 KG	
Restrained Load (including tare)[d]			RL = 11250 LB	or	5102 KG	
Unrestrained Load	P = (W - RL) x ALF		P = 3375 LB	or	1532 KG	
Allowable Tiedown Load[e]			AL = 2667 LB	or	1209 KG	
Allowable Load Aft Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$		AL_X = 2304 LB	or	1044 KG	
Number of Straps Required		N = P / (2 x AL_X)	N = 0.73 → 1[f] Strap(s)			

[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] From the Tiedown Fitting Load Limit Table on Page 4. See Example 2 for calculating allowable tiedown load with tie-down stud heights > 0.875 inches.
[f] A minimum of one strap is required to restrain cargo in the aft direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g. if N is calculated to be 2.3, the required number of straps is 3).

NOTE The Aft Load Factor is 1.50 in the aft hold and bulk hold.

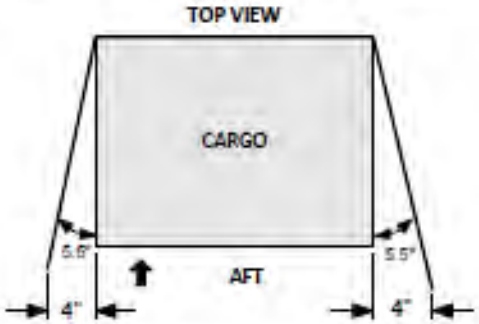
Example 2

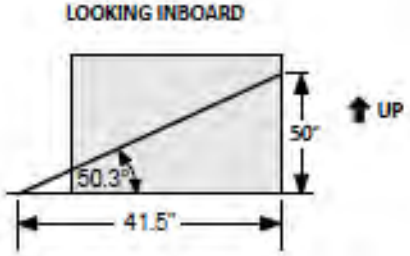
In this example, a Size Code A (88 x 125 inch) pallet is loaded to 7100 LB (3221 KG), and will be carried in Position 23P. Furthermore, two restraints located at the aft end of the pallet are missing or inoperative. As a result, the remaining restraint hardware capability is reduced to 5250 LB (2381 KG) in the aft direction. Restraint hardware for the other directions can restrain the entire 7100 LB (3221 KG). Refer to CHP-SEC 1-66-20x for forward hold missing / inoperative restraint capabilities. Thus, the pallet can be carried in this position, but the weight in excess of 5250 LB (2381 KG) must be restrained with tiedowns in the aft direction. The strap lengths used to solve this problem are shown below. The cargo tiedown stud height for this example is 1.0 inch.



CAUTION CARE SHOULD BE TAKEN TO PREVENT STRAPS FROM "WALKING DOWN" (I.E., LOOSENING OR FALLING TO THE FLOOR) AS CARGO SHIFTS IN FLIGHT.

Determination of the number of straps required for aft load restraint using tiedown studs with a 1.0 inch height (see Page 5 for tiedown stud height dimension information):





Side and up straps omitted for clarity.

Floor Angle[a]	θ_{Floor}= 50.3°	Aft Load Factor[b]	ALF= 1.50
Centerline Angle[c]	θ_{Center}= 5.5°		
Cargo Weight (including tare)		W= 7100 LB	or 3221 KG
Restrained Load (including tare)[d]		RL= 5250 LB	or 2381 KG
Unrestrained Load	P = (W - RL) x ALF	P= 2775 LB	or 1260 KG
Allowable Tiedown Load[e]	$AL = AL_{TABLE} - (AL_{TABLE}) \times \left(1 - \frac{0.875 \text{ inch stud}}{\text{Actual Stud Height}}\right) \times \left(\frac{90° - \theta_{Floor}}{90°}\right)$		
	$AL = 3111 - (3111 \text{ LB}) \times \left(1 - \frac{0.875 \text{ inch}}{1.00 \text{ inch}}\right) \times \left(\frac{90° - 50.3°}{90°}\right)$	AL = 2939 LB	or 1333 KG
Allowable Load Aft Direction	$AL_X = AL \times [\cos(\theta_{Floor}) \times \cos(\theta_{Center})]$	AL_X= 1868 LB	or 847 KG
Number of Straps Required	N = P / (2 x AL_X)	N = 0.74 → 1[f]	Strap(s)

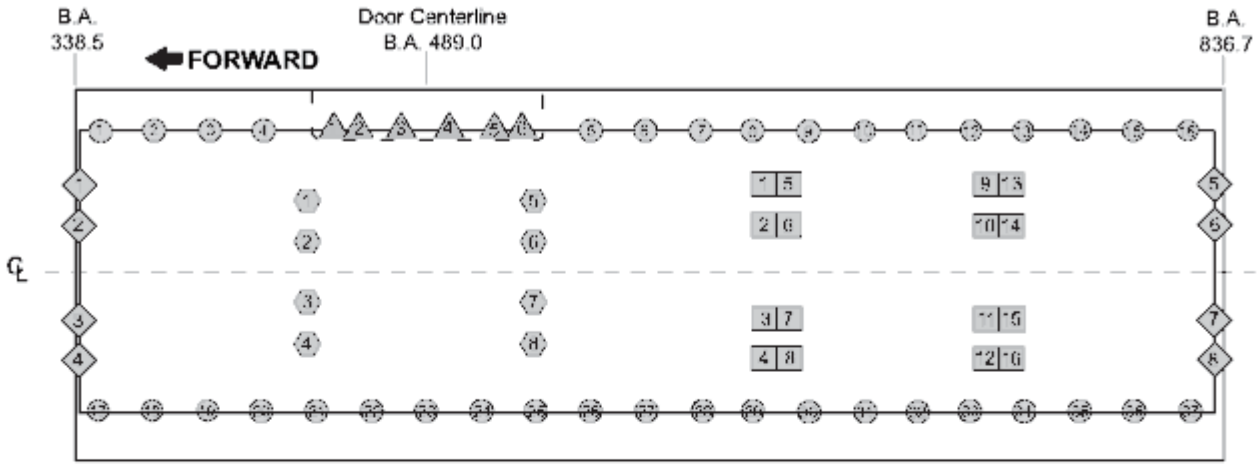
[a] $\theta_{Floor} = \theta_{F1}$ or θ_{F2}.
[b] From the Load Factor Table in "Tiedown Allowables" section on Page 3.
[c] $\theta_{Center} = \theta_{C1}$ or θ_{C2}.
[d] Value of restrained weight from missing restraint tables (refer to CHP-SEC 1-66-xxx).
[e] AL_{Table} is from the Tiedown Fitting Load Limit Table on Page 4. AL_{Table} is reduced because the 1.0 inch tiedown stud height exceeds the allowable 0.875 inch tiedown stud height.
[f] A minimum of one strap is required to restrain cargo in the aft direction. If N is not a whole number, it must be rounded to the next higher integer value (e.g.) N is calculated to be 2.3, the required number of straps is 3).

NOTE The Aft Load Factor is 1.50 in the aft hold and bulk hold.

3.12.4.10.1 B787-8 – tiedown fitting locations - forward hold

FITTING LOCATIONS

The following illustration shows the layout of tiedown fittings in the forward hold.



The following tables provide the locations for each tiedown fitting in the forward hold.

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Guide	1	343.8	+65.9	127.2
	2	369.0	+65.9	127.2
	3	393.0	+65.9	127.2
	4	417.0	+65.9	127.2
	5	561.0	+65.9	127.2
	6	585.0	+65.9	127.2
	7	609.0	+65.9	127.2
	8	632.0	+65.9	127.2
	9	657.0	+65.9	127.2
	10	682.0	+65.9	127.2
	11	705.0	+65.9	127.2
	12	729.0	+65.9	127.2
	13	753.0	+65.9	127.2
	14	777.0	+65.9	127.2
	15	801.0	+65.9	127.2
	16	824.8	+65.9	127.2
	17	343.8	-65.9	127.2
	18	369.0	-65.9	127.2
	19	393.0	-65.9	127.2

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Guide (Continued)	20	417.0	-65.9	127.2
	21	441.0	-65.9	127.2
	22	465.0	-65.9	127.2
	23	489.0	-65.9	127.2
	24	513.0	-65.9	127.2
	25	537.0	-65.9	127.2
	26	561.0	-65.9	127.2
	27	585.0	-65.9	127.2
	28	609.0	-65.9	127.2
	29	632.0	-65.9	127.2
	30	657.0	-65.9	127.2
	31	682.0	-65.9	127.2
	32	705.0	-65.9	127.2
	33	729.0	-65.9	127.2
	34	753.0	-65.9	127.2
	35	777.0	-65.9	127.2
	36	801.0	-65.9	127.2
	37	824.8	-65.9	127.2

□	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Pallet Lock	1	639.9	39.2	127.0
	2	639.9	21.1	127.0
	3	639.9	-21.1	127.0
	4	639.9	-39.2	127.0
	5	647.9	39.2	127.0
	6	647.9	21.1	127.0
	7	647.9	-21.1	127.0
	8	647.9	-39.2	127.0
	9	736.8	39.2	127.0
	10	736.8	21.1	127.0
	11	736.8	-21.1	127.0
	12	736.8	-39.2	127.0
	13	744.8	39.2	127.0
	14	744.8	21.1	127.0
	15	744.8	-21.1	127.0
	16	744.8	-39.2	127.0

◇	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
End Stop	1	340.8	39.2	127.2
	2	340.8	21.1	127.2
	3	340.8	-21.1	127.2
	4	340.8	-39.2	127.2
	5	833.0	39.2	127.2
	6	833.0	21.1	127.2
	7	833.0	-21.1	127.2
	8	833.0	-39.2	127.2

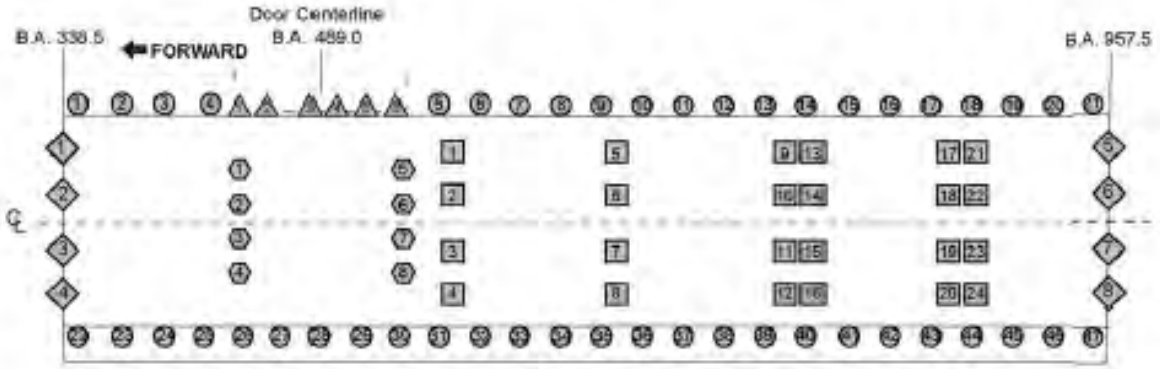
○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Ball Mat Area	1	440.1	32.0	124.8
	2	440.1	14.0	124.8
	3	440.1	-14.0	124.8
	4	440.1	-32.0	124.8
	5	538.0	33.4	124.8
	6	538.0	14.6	124.8
	7	538.0	-10.5	124.8
	8	538.0	-33.4	124.8

△	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Sill Roller	1	447.6	59.2	123.7
	2	459.0	59.2	123.7
	3	478.9	59.2	123.7
	4	498.3	59.2	123.7
	5	519.2	59.2	123.7
	6	530.5	59.2	123.7

3.12.4.10.2 B787-9 – tiedown fitting locations - forward hold

FITTING LOCATIONS

The following illustration shows the layout of tiedown fittings in the forward hold.



The following tables provide the locations for each tiedown fitting in the forward hold.

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Guide	1	343.8	66.1	127.2
	2	368.7	65.9	127.2
	3	392.7	65.9	127.2
	4	416.8	65.9	127.2
	5	560.8	65.9	127.2
	6	584.8	65.9	127.2
	7	608.8	65.9	127.2
	8	632.8	65.9	127.2
	9	656.8	65.9	127.2
	10	680.8	65.9	127.2
	11	704.8	65.9	127.2
	12	728.8	65.9	127.2
	13	752.0	65.9	127.2
	14	776.8	65.9	127.2
	15	802.0	65.9	127.2
	16	824.8	65.9	127.2
	17	848.8	65.9	127.2
	18	872.8	65.9	127.2
	19	896.8	65.9	127.2

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Guide (Continued)	20	920.8	65.9	127.2
	21	944.8	65.9	127.2
	22	343.8	-66.1	127.2
	23	368.7	-65.9	127.2
	24	392.7	-65.9	127.2
	25	416.8	-65.9	127.2
	26	440.8	-65.9	127.2
	27	464.7	-65.9	127.2
	28	488.7	-65.9	127.2
	29	512.7	-65.9	127.2
	30	536.8	-65.9	127.2
	31	560.8	-65.9	127.2
	32	584.8	-65.9	127.2
	33	608.8	-65.9	127.2
	34	632.8	-65.9	127.2
	35	656.8	-65.9	127.2
	36	680.8	-65.9	127.2
	37	704.8	-65.9	127.2
	38	728.8	-65.9	127.2

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Guide (Continued)	39	752.0	-65.9	127.2
	40	776.8	-65.9	127.2
	41	802.0	-65.9	127.2
	42	824.8	-65.9	127.2
	43	848.8	-65.9	127.2
	44	872.8	-65.9	127.2
	45	896.8	-65.9	127.2
	46	920.8	-65.9	127.2
	47	944.8	-65.9	127.2

The following tables provide the locations for each tiedown fitting in the forward hold.

□	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Pallet Lock	1	568.8	39.2	127.0
	2	568.8	21.1	127.0
	3	568.8	-21.1	127.0
	4	568.8	-39.2	127.0
	5	665.8	39.2	127.0
	6	665.8	21.1	127.0
	7	665.8	-21.1	127.0
	8	665.8	-39.2	127.0
	9	762.7	39.2	127.0
	10	762.7	21.1	127.0
	11	762.7	-21.1	127.0
	12	762.7	-39.2	127.0
	13	770.7	39.2	127.0
	14	770.7	21.1	127.0
	15	770.7	-21.1	127.0
	16	770.7	-39.2	127.0
	17	859.7	39.2	127.0
	18	859.7	21.1	127.0
	19	859.7	-21.1	127.0
	20	859.7	-39.2	127.0
	21	867.7	39.2	127.0
	22	867.7	21.1	127.0
	23	867.7	-21.1	127.0
	24	867.7	-39.2	127.0

◇	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
End Stop	1	340.8	39.2	127.2
	2	340.8	21.1	127.2
	3	340.8	-21.1	127.2
	4	340.8	-39.2	127.2
	5	955.7	39.2	127.2
	6	955.7	21.1	127.2
	7	955.7	-21.1	127.2
	8	955.7	-39.2	127.2

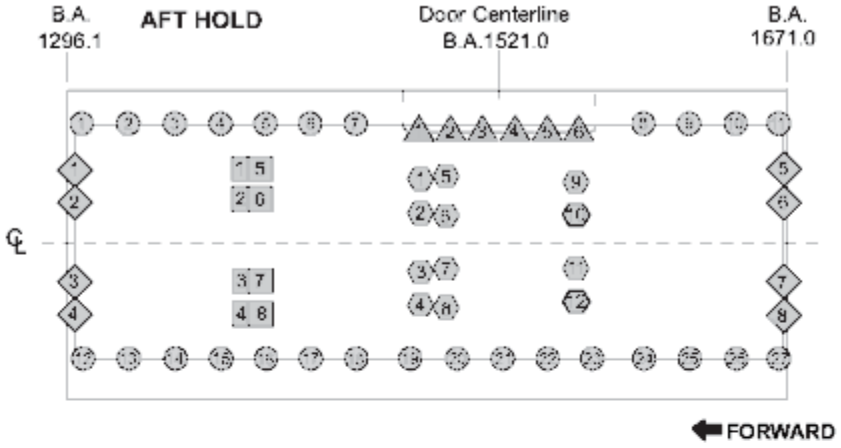
○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Ball Mat Area	1	440.1	32.0	124.8
	2	440.1	14.0	124.8
	3	440.1	-14.0	124.8
	4	440.1	-32.0	124.8
	5	538.0	33.4	124.8
	6	538.0	14.8	124.8
	7	538.0	-10.5	124.8
	8	538.0	-33.4	124.8

△	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Roller	1	447.6	59.2	123.7
	2	459.0	59.2	123.7
	3	478.9	59.2	123.7
	4	498.3	59.2	123.7
	5	519.2	59.2	123.7
	6	530.5	59.2	123.7

3.12.4.11.1 B787-8 – tiedown fitting locations - aft hold

FITTING LOCATIONS

The following illustration shows the layout of tiedown fittings in the aft hold.



The following tables provide the locations for each tiedown fitting in the aft hold.

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Guide	1	1303.8	+65.9	127.2
	2	1329.0	+65.9	127.2
	3	1354.0	+65.9	127.2
	4	1377.0	+65.9	127.2
	5	1401.0	+65.9	127.2
	6	1425.0	+65.9	127.2
	7	1449.0	+65.9	127.2
	8	1593.0	+65.9	127.2
	9	1618.0	+65.9	127.2
	10	1644.0	+65.9	127.2
	11	1668.8	+65.9	127.2
	12	1303.8	-65.9	127.2
	13	1329.0	-65.9	127.2
	14	1354.0	-65.9	127.2
	15	1377.0	-65.9	127.2
	16	1401.0	-65.9	127.2
	17	1425.0	-65.9	127.2
	18	1449.0	-65.9	127.2

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Guide (Continued)	19	1473.0	-65.9	127.2
	20	1497.0	-65.9	127.2
	21	1521.0	-65.9	127.2
	22	1545.0	-65.9	127.2
	23	1569.0	-65.9	127.2
	24	1593.0	-65.9	127.2
	25	1618.0	-65.9	127.2
	26	1644.0	-65.9	127.2
	27	1668.8	-65.9	127.2

△	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Sill Roller	1	1479.6	+59.2	123.7
	2	1491.0	+59.2	123.7
	3	1510.9	+59.2	123.7
	4	1530.3	+59.2	123.7
	5	1551.2	+59.2	123.7
	6	1562.5	+59.2	123.7

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Ball Mat Area	1	1479.8	+34.0	124.8
	2	1479.8	+15.6	124.8
	3	1479.8	-15.6	124.8
	4	1479.8	-34.0	124.8
	5	1493.4	+35.0	124.8
	6	1493.4	+14.4	124.8
	7	1493.4	-14.4	124.8
	8	1493.4	-35.0	124.8
	9	1569.9	+32.0	124.8
	10	1569.9	+14.0	124.8
	11	1569.9	-14.0	124.8
	12	1569.9	-32.0	124.8

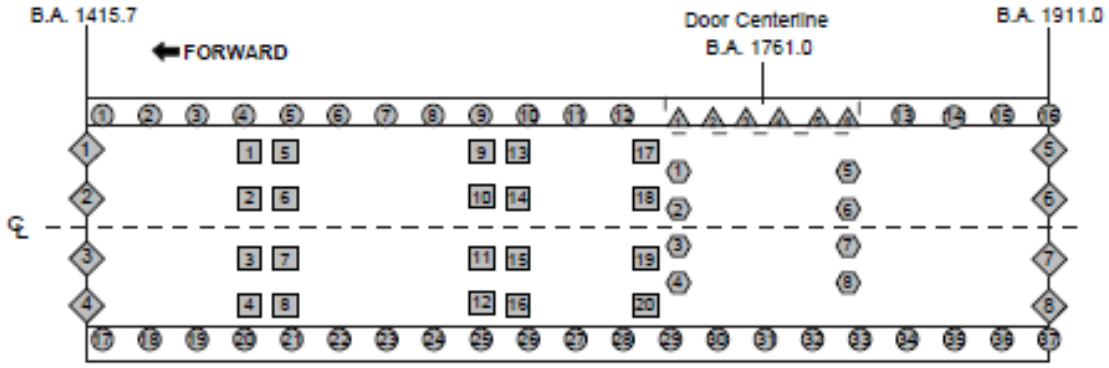
◇	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
End Stop	1	1299.8	+39.2	127.2
	2	1299.8	+21.1	127.2
	3	1299.8	-21.1	127.2
	4	1299.8	-39.2	127.2
	5	1669.2	+39.2	127.2
	6	1669.2	+21.1	127.2
	7	1669.2	-21.1	127.2
	8	1669.2	-39.2	127.2

□	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Pallet Lock	1	1387.9	+39.2	127.0
	2	1387.9	+21.1	127.0
	3	1387.9	-21.1	127.0
	4	1387.9	-39.2	127.0
	5	1395.9	+39.2	127.0
	6	1395.9	+21.1	127.0
	7	1395.9	-21.1	127.0
	8	1395.9	-39.2	127.0

3.12.4.11.2 B787-9 – tiedown fitting locations - aft hold

FITTING LOCATIONS

The following illustration shows the layout of tiedown fittings in the aft hold.



The following tables provide the locations for each tiedown fitting in the aft hold.

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Guide	1	1423.8	65.9	127.2
	2	1448.8	65.9	127.2
	3	1473.7	65.9	127.2
	4	1496.7	65.9	127.2
	5	1520.8	65.9	127.2
	6	1544.7	65.8	127.2
	7	1568.7	65.8	127.2
	8	1592.7	65.8	127.2
	9	1616.7	65.8	127.2
	10	1640.7	65.8	127.2
	11	1664.7	65.8	127.2
	12	1688.7	65.8	127.2
	13	1832.7	65.9	127.2
	14	1857.8	65.9	127.2
	15	1883.7	65.9	127.2
	16	1908.8	65.8	127.2
	17	1423.8	-65.9	127.2
	18	1448.8	-65.9	127.2
	19	1473.7	-65.9	127.2

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Guide (Continued)	20	1496.7	-65.9	127.2
	21	1520.8	-65.9	127.2
	22	1544.8	-65.9	127.2
	23	1568.8	-65.9	127.2
	24	1592.8	-65.9	127.2
	25	1616.8	-65.9	127.2
	26	1640.8	-65.9	127.2
	27	1664.8	-65.9	127.2
	28	1688.7	-65.9	127.2
	29	1712.7	-65.9	127.2
	30	1736.7	-65.9	127.2
	31	1760.7	-65.9	127.2
	32	1784.7	-65.9	127.2
	33	1808.7	-65.9	127.2
	34	1832.7	-65.9	127.2
	35	1857.8	-65.9	127.2
	36	1883.7	-65.9	127.2
	37	1909.0	-65.8	127.2

□	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Pallet Lock	1	1505.0	39.2	127.0
	2	1505.0	21.1	127.0
	3	1505.0	-21.1	127.0
	4	1505.0	-39.2	127.0
	5	1513.0	39.2	127.0
	6	1513.0	21.1	127.0
	7	1513.0	-21.1	127.0
	8	1513.0	-39.2	127.0
	9	1602.0	39.2	127.0
	10	1602.0	21.1	127.0
	11	1602.0	-21.1	127.0
	12	1602.0	-39.2	127.0
	13	1610.0	39.2	127.0
	14	1610.0	21.1	127.0
	15	1610.0	-21.1	127.0
	16	1610.0	-39.2	127.0
	17	1706.9	39.2	127.0
	18	1706.9	21.1	127.0
	19	1706.9	-21.1	127.0
	20	1706.9	-39.2	127.0

The following tables provide the locations for each tiedown fitting in the aft hold.

◇	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
End Stop	1	1417.1	39.2	127.2
	2	1417.1	21.1	127.2
	3	1417.1	-21.1	127.2
	4	1417.1	-39.2	127.2
	5	1909.2	39.2	127.2
	6	1909.2	21.1	127.2
	7	1909.2	-21.1	127.2
	8	1909.2	-39.2	127.2

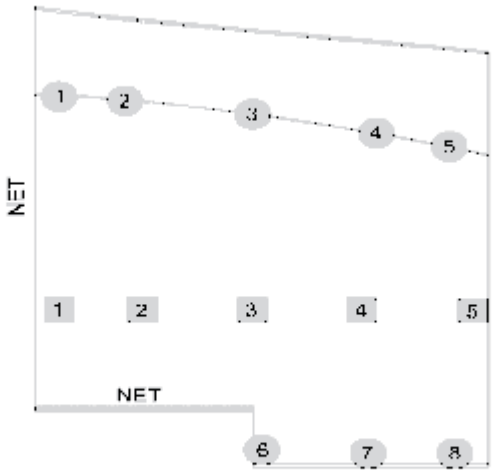
△	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Roller	1	1719.6	59.2	123.7
	2	1731.0	59.2	123.7
	3	1750.9	59.2	123.7
	4	1770.3	59.2	123.7
	5	1791.2	59.2	123.7
	6	1802.5	59.2	123.7

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Ball Mat Area	1	1719.8	34.0	124.8
	2	1719.8	15.6	124.8
	3	1719.8	-15.6	124.8
	4	1719.8	-34.0	124.8
	5	1809.9	32.0	124.8
	6	1809.9	14.0	124.8
	7	1809.9	-14.0	124.8
	8	1809.9	-32.0	124.8

3.12.4.12.1 B787-8 – tiedown fitting locations - bulk hold

FITTING LOCATIONS

The following illustration shows the layout of tiedown fittings in the bulk hold.



The following tables provide the locations for each tiedown fitting in the bulk hold.

□	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Center Tiedowns	1	1672.4	0.0	123.2
	2	1694.8	0.0	125.1
	3	1718.9	0.0	127.1
	4	1743.9	0.0	129.1
	5	1768.8	0.0	131.2

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Tiedowns	1	1674.6	+59.3	123.4
	2	1694.1	+56.2	125.0
	3	1718.0	+52.8	127.0
	4	1743.1	+47.7	129.1
	5	1768.1	+41.1	131.1
	6[a]	1720.0	-39.2	127.2
	7	1743.2	-41.6	129.1
	8	1768.2	-41.6	131.1

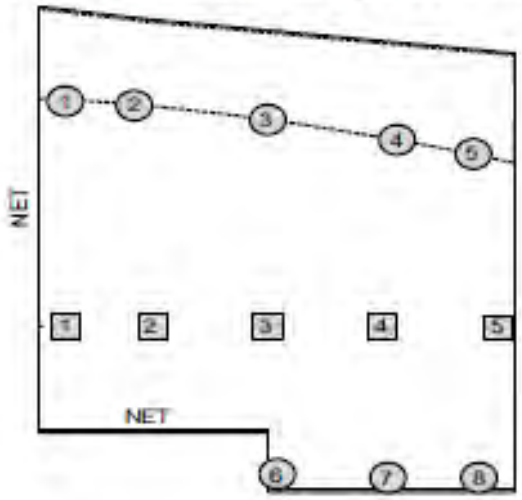
[a] Located between two cargo door net fittings at B.A. 1720.

NOTE Cargo door net fittings are not to be used for cargo tiedown.

3.12.4.12.2 B787-9 – tiedown fitting locations - bulk hold

FITTING LOCATIONS

The following illustration shows the layout of tiedown fittings in the bulk hold.



The following tables provide the locations for each tiedown fitting in the bulk hold.

□	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Center Tiedowns	1	1912.4	0.0	123.2
	2	1934.8	0.0	125.1
	3	1958.9	0.0	127.1
	4	1983.9	0.0	129.1
	5	2008.8	0.0	131.2

○	NO.	B.A. IN.	B.B.L. IN.	W.L. IN.
Side Tiedowns	1	1914.8	+59.3	123.4
	2	1934.1	+56.2	125.0
	3	1958.0	+52.8	127.0
	4	1983.1	+47.7	129.1
	5	2008.1	+41.1	131.1
	6[a]	1960.0	-39.2	127.2
	7	1983.2	-41.6	129.1
	8	2008.2	-41.6	131.1

[a] Located between two cargo door net fittings at B.A. 1960.

NOTE Cargo door net fittings are not to be used for cargo tiedown.

3.12.4.13.1 B787-8 – cargo lateral imbalance control and limitations

Lateral imbalance occurs when the airplane's lateral c.g. is offset from the airplane's centerline. It is expressed as a moment about the airplane centerline. Operators should attempt to load payload and fuel symmetrically about the airplane's centerline. However, due to variations in cargo distribution and fuel tank loads it is reasonable to expect that lateral imbalance occurs on every flight.

There are two types of lateral imbalance: random and intentional.

Random lateral imbalance occurs when the operator attempts to load payload and fuel symmetrically about the airplane's centerline. Because it is difficult to obtain a zero lateral imbalance, a small imbalance can be considered as random imbalance. The following are examples of small random imbalances:

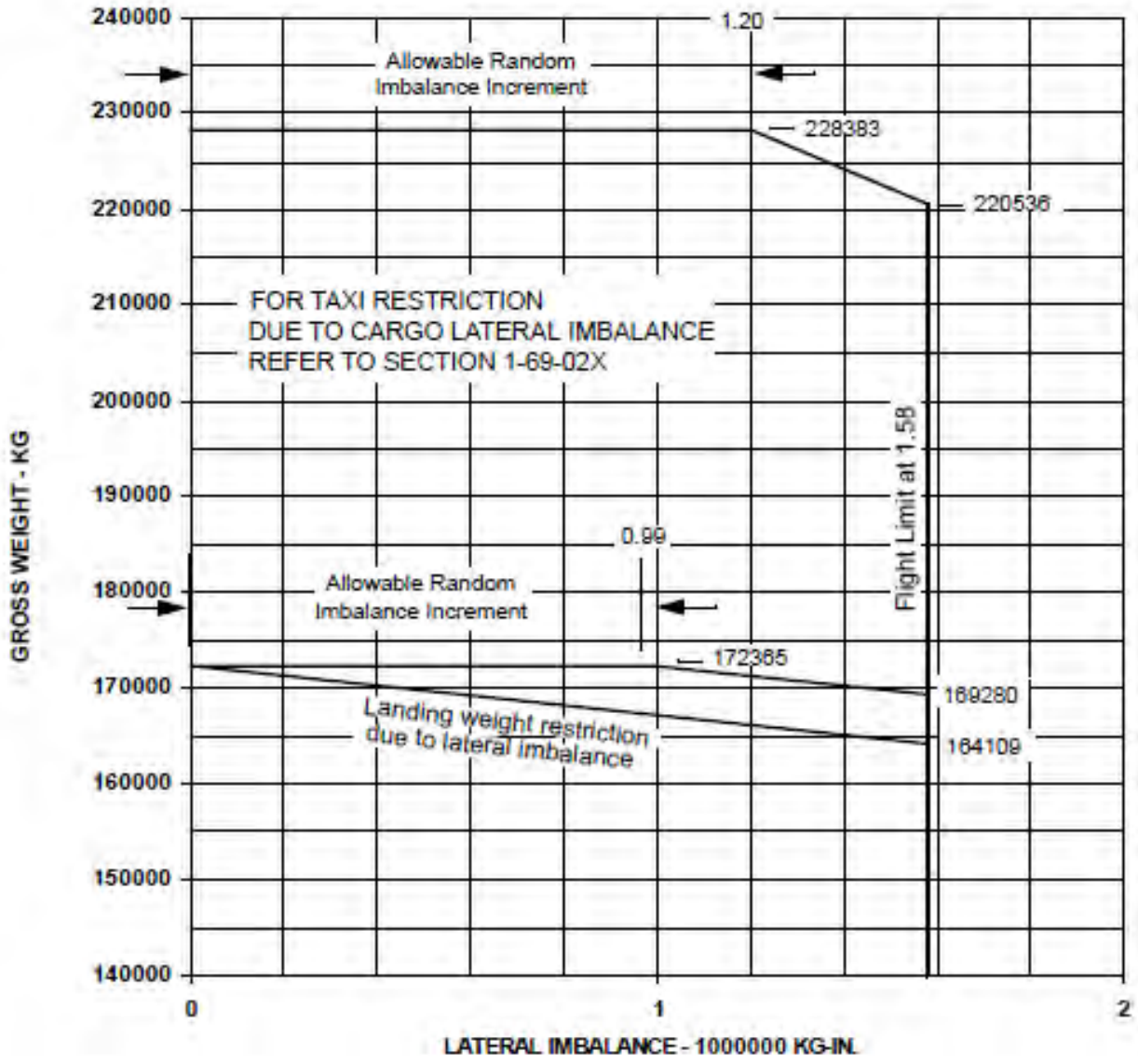
- Loading of fuel using the automated fuel loading system and dispatch without exceeding the Lateral Fuel Imbalance
- Similar number of ULD on each side of the airplane (for ULDs that are loaded laterally in pairs).
- Heavy and light ULDs loaded on both sides on the airplane, resulting from either random loading or attempting to load the airplane symmetrically.

Intentional lateral imbalance occurs when payload is loaded to one side of the airplane centerline without any attempt to equalize the imbalance. The following are examples of intentional imbalance:

- Filled ULDs are loaded along one side of a compartment. Opposite side is empty.
- Payload is carried in multiple ULDs that when loaded have a lateral cg offset and cannot be loaded laterally in pairs. (e.g. LD-1 in lower holds).
- Heaviest ULDs are loaded along one side of a compartment and lighter ones along the opposite side.

LATERAL IMBALANCE LIMITATIONS (KILOGRAMS)

The following chart presents lateral imbalance data in kilograms.



PROCEDURE FOR CALCULATION OF IMBALANCE

Procedures in this section show how to increase the allowable airplane Taxi Weight by controlling the cargo lateral imbalance. Cargo lateral imbalance is one component of the total airplane lateral imbalance.

Occurrence

Cargo lateral imbalance occurs when the Center of Gravity of the cargo loaded is offset to the right or left of the airplane centerline. Note that this condition does not affect the longitudinal Center of Gravity which is measured as a percent of Mean Aerodynamic Chord (MAC).

Measurement

Cargo lateral imbalance is measured by the cargo lateral imbalance moment (CLIM) of the total cargo load. It is the responsibility of the operator to determine the cargo lateral imbalance moment. CLIM is determined as follows:

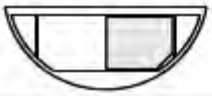
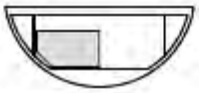
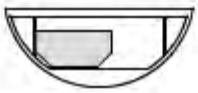
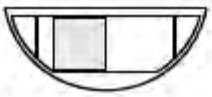
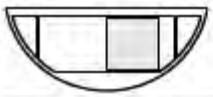
1. Determine the actual body buttock line (B.B.L.) for each loaded unit load device (ULD) based on the operator's loading practices. The actual B.B.L. must be within the allowable B.B.L. shown in the following table for the type of ULD loaded. Actual buttock lines to the left of the airplane centerline are negative and buttock lines to the right of the airplane centerline are positive.

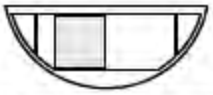
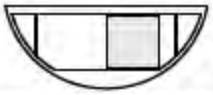
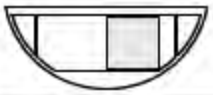
2. Calculate the CLIM for each ULD using the following equation:
   CLIM = Cargo Weight in Kilograms × Actual B.B.L. in Inches

3. Calculate the NET CLIM by summing the CLIM for each ULD:
   NET CLIM = ∑CLIM (for each ULD)

4. Determine the allowable taxi weight using the calculated NET CLIM

Allowable B.B.L.'s for cargo loaded into ULDs are shown in the following table.

UNIT LOAD DEVICE LATERAL CENTER OF GRAVITY RANGE					
SIZE CODE	COMMON NAME	ORIENTATION REAR VIEW	ALLOWABLE LATERAL C.G.		
			LEFTMOST B.B.L. - IN.	NOMINAL B.B.L. - IN.	RIGHTMOST B.B.L. - IN.
A	P1 LD-7 LD-9		-12.5	0.0	+12.5
K	LD-1		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
	LD-3		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
	LD-3-45		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
	LD-3-45W		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
	LD-3 Pallet		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1

UNIT LOAD DEVICE LATERAL CENTER OF GRAVITY RANGE (Continued)					
SIZE CODE	COMMON NAME	ORIENTATION REAR VIEW	ALLOWABLE LATERAL C.G.		
			LEFTMOST B.B.L. - IN.	NOMINAL B.B.L. - IN.	RIGHTMOST B.B.L. - IN.
L	LD-5 LD-11 Half Pallet		-12.5	0.0	+12.5
	LD-6		-12.5	0.0	+12.5
	LD-10		-12.5	0.0	+12.5
M	P6		-12.5	0.0	+12.5
N	Half Pallet		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
P	LD-2		-43.8	-39.1	-34.4
			+34.4	+39.1	+43.8
Q	LD-4 LD-8 Longitudinal		-38.4	-32.4	-26.4
			+26.4	+32.4	+38.4

Bulk Cargo Hold

Cargo and baggage uniformly loaded in the aft bulk cargo hold will have a nominal B.B.L. C.G. of +18.8 inches.

Operator Convenience

The following ULDs may be assumed to have zero CLIM provided they are uniformly loaded about their base, since they are symmetrical about the airplane centerline.

- LD-5's
- LD-6’s
- LD-7’s
- LD-9’s
- LD-10's
- LD-11's
- P1’s (Size Code A)
- P6’s (Size Code M)
- Half Pallets (Size Code L)

The following combined pairs of ULDs may be assumed to have zero CLIM, provided each of the paired ULDs is uniformly loaded about its base and the weight between the left and right ULDs is evenly distributed, since for these conditions the calculated net cargo lateral imbalance moment for the pair is zero.

- LD-2's
- LD-3's
- LD-4’s Longitudinal
- LD-8’s Longitudinal
- Half Pallets (Size Code N)

Sample Problem

Seven LD-1's are loaded on the left side of the airplane to a weight of 2000 LB (907.2 KG) each. The other ULDs are assumed to be symmetrical about the centerline of the airplane. The lateral center of gravity for each ULD loaded is at B.B.L. = -31.9 inches. Thus, the cargo lateral imbalance moment equals:

NET CLIM = (7 LD-1s) × (907.2 KG) × (-31.9 IN.) = -202578 KG-IN

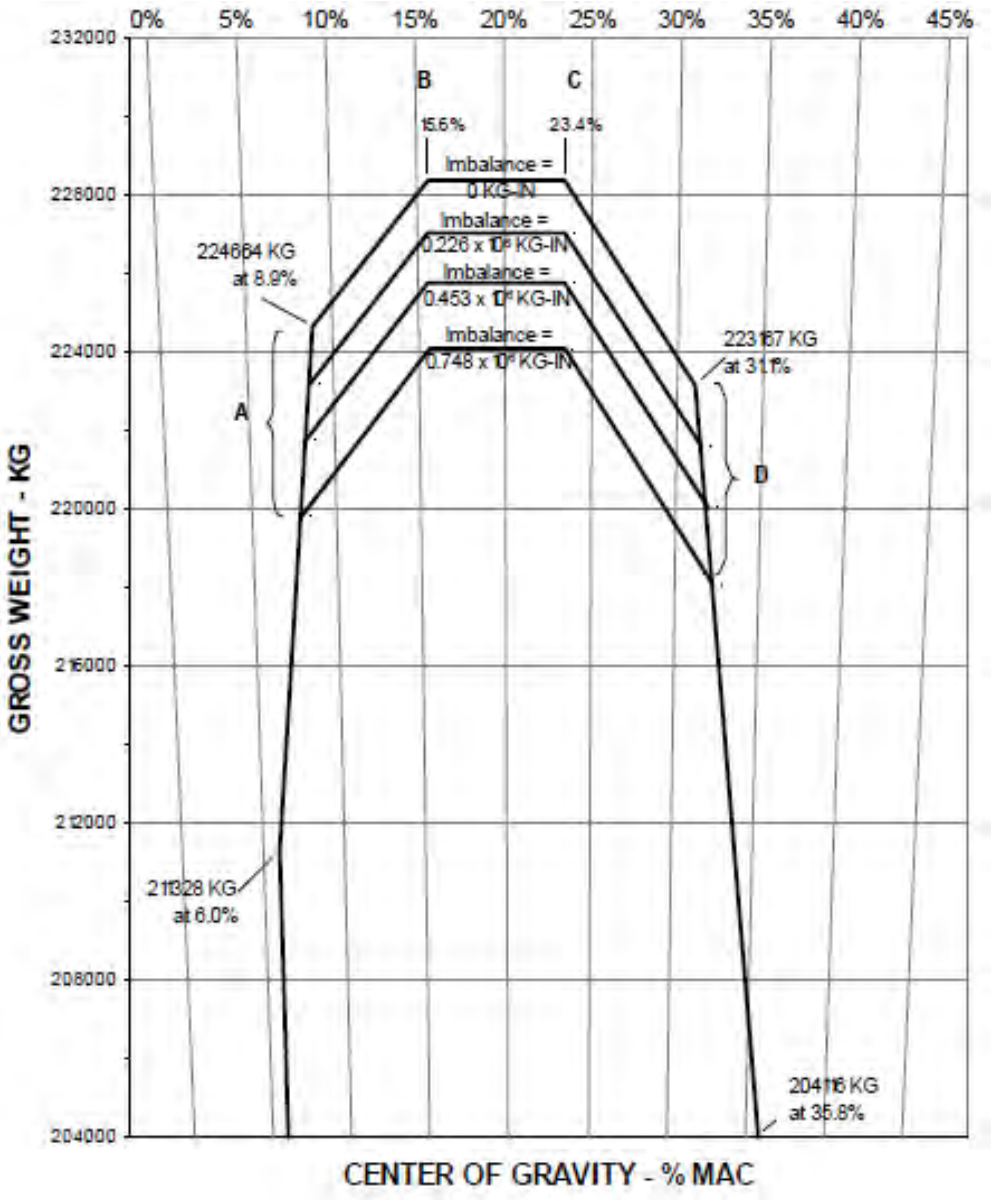
To reduce the lateral imbalance, three of the LD-1's are switched to the right hand side of the airplane, leaving four on the left hand side, and the new cargo lateral imbalance calculation is:

CLIM (Left Side) = (4 LD-1s) × (907.2 KG) × (-31.9 IN.) = -115759 KG-IN.
CLIM (Right Side) = (3 LD-1s) × (907.2 KG) × (+31.9 IN.) = +86819 KG-IN.
NET CLIM = (-115759 KG-IN.) + (+86819 KG-IN.) = -28940 KG-IN.

By switching the three ULDs to the right side, an attempt was made to load the airplane symmetrically. Therefore, using the guidelines provided earlier in this section, the NET CLIM of -28940 KG-IN. can be considered random. No reduction is required in either taxi or landing weight.

CARGO LATERAL IMBALANCE MOMENT VERSUS TAXI WEIGHT

The following diagram represents the taxi weight and C.G. limits with intentional cargo lateral imbalance.



IMBALANCE KG-IN X 10^6	POINT A		POINT B		POINT C		POINT D	
	WEIGHT	C.G.	WEIGHT	C.G.	WEIGHT	C.G.	WEIGHT	C.G.
0.0	224664	8.9	228383	15.6	228383	23.4	223167	31.1
0.226	223212	8.6	227068	15.6	227068	23.4	221625	31.5
0.453	221761	8.3	225798	15.6	225798	23.4	220037	31.9
0.748	219856	7.9	224120	15.6	224120	23.4	218132	32.3

3.12.4.13.2 B787-8 – cargo lateral imbalance control and limitations

Lateral imbalance occurs when the airplane's lateral c.g. is offset from the airplane's centerline. It is expressed as a moment about the airplane centerline. Operators should attempt to load payload and fuel symmetrically about the airplane's centerline. However, due to variations in cargo distribution and fuel tank loads it is reasonable to expect that lateral imbalance occurs on every flight.

There are two types of lateral imbalance: random and intentional.

Random lateral imbalance occurs when the operator attempts to load payload and fuel symmetrically about the airplane's centerline. Because it is difficult to obtain a zero lateral imbalance, a small imbalance can be considered as random imbalance. The following are examples of small random imbalances:

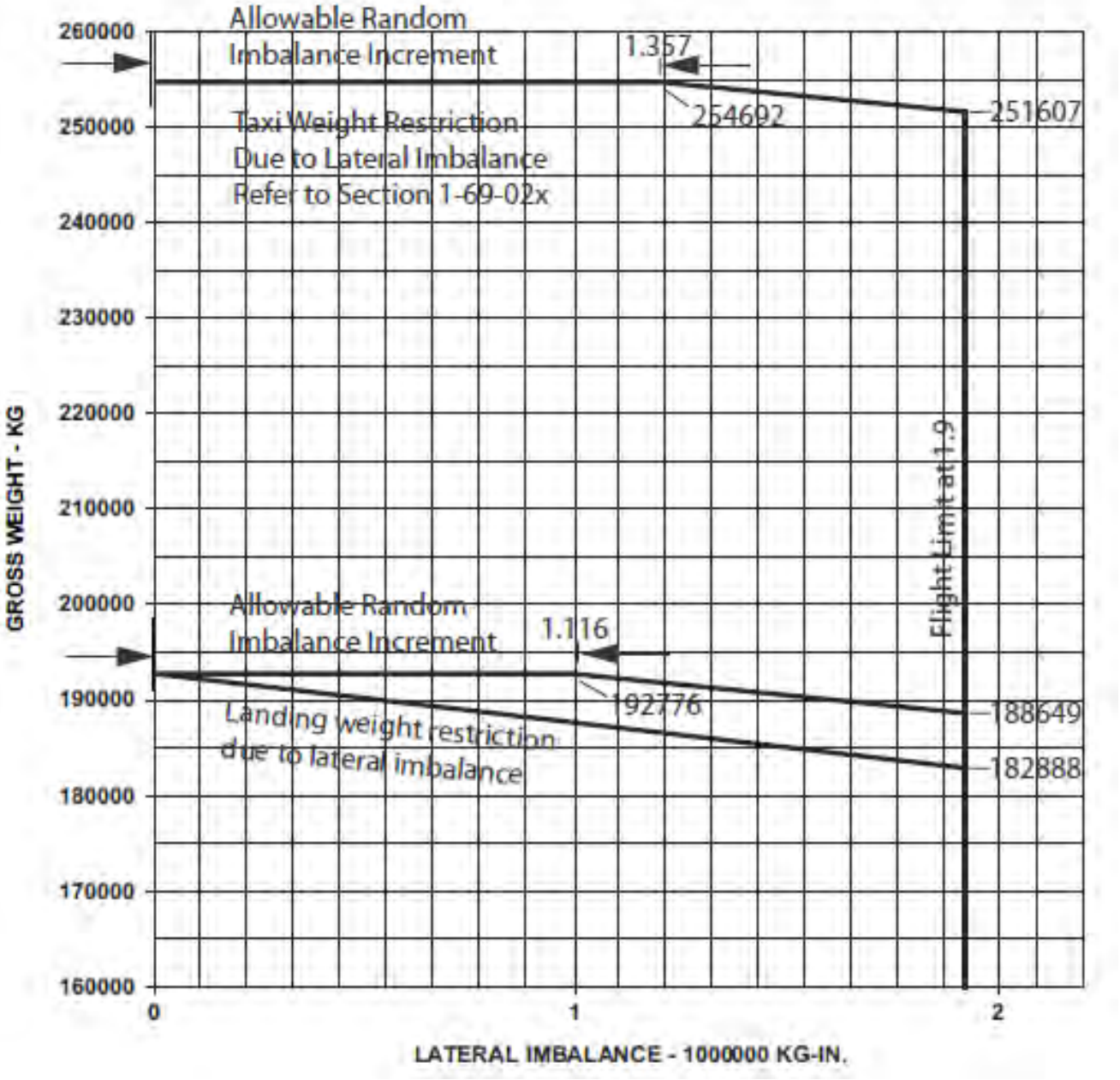
- Loading of fuel using the automated fuel loading system and dispatch without exceeding the Lateral Fuel Imbalance
- Similar number of ULD on each side of the airplane (for ULDs that are loaded laterally in pairs).
- Heavy and light ULDs loaded on both sides on the airplane, resulting from either random loading or attempting to load the airplane symmetrically.

Intentional lateral imbalance occurs when payload is loaded to one side of the airplane centerline without any attempt to equalize the imbalance. The following are examples of intentional imbalance:

- Filled ULDs are loaded along one side of a compartment. Opposite side is empty.
- Payload is carried in multiple ULDs that when loaded have a lateral cg offset and cannot be loaded laterally in pairs. (e.g. LD-1 in lower holds).
- Heaviest ULDs are loaded along one side of a compartment and lighter ones along the opposite side.

LATERAL IMBALANCE LIMITATIONS (KILOGRAMS)

The following chart presents lateral imbalance data in kilograms.



PROCEDURE FOR CALCULATION OF IMBALANCE

Procedures in this section show how to increase the allowable airplane Taxi Weight by controlling the cargo lateral imbalance. Cargo lateral imbalance is one component of the total airplane lateral imbalance.

Occurrence

Cargo lateral imbalance occurs when the Center of Gravity of the cargo loaded is offset to the right or left of the airplane centerline. Note that this condition does not affect the longitudinal Center of Gravity which is measured as a percent of Mean Aerodynamic Chord (MAC).

Measurement

Cargo lateral imbalance is measured by the cargo lateral imbalance moment (CLIM) of the total cargo load. It is the responsibility of the operator to determine the cargo lateral imbalance moment. CLIM is determined as follows:

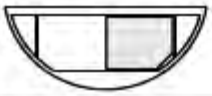
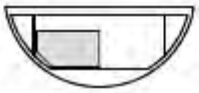
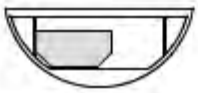
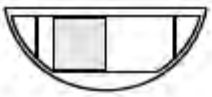
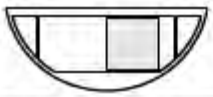
5. Determine the actual body buttock line (B.B.L.) for each loaded unit load device (ULD) based on the operator's loading practices. The actual B.B.L. must be within the allowable B.B.L. shown in the following table for the type of ULD loaded. Actual buttock lines to the left of the airplane centerline are negative and buttock lines to the right of the airplane centerline are positive.

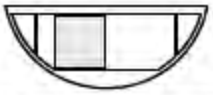
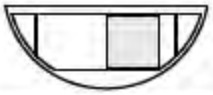
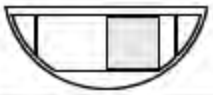
6. Calculate the CLIM for each ULD using the following equation:
   CLIM = Cargo Weight in Kilograms × Actual B.B.L. in Inches

7. Calculate the NET CLIM by summing the CLIM for each ULD:
   NET CLIM = ∑CLIM (for each ULD)

8. Determine the allowable taxi weight using the calculated NET CLIM

Allowable B.B.L.'s for cargo loaded into ULDs are shown in the following table.

UNIT LOAD DEVICE LATERAL CENTER OF GRAVITY RANGE					
SIZE CODE	COMMON NAME	ORIENTATION REAR VIEW	ALLOWABLE LATERAL C.G.		
			LEFTMOST B.B.L. - IN.	NOMINAL B.B.L. - IN.	RIGHTMOST B.B.L. - IN.
A	P1 LD-7 LD-9		-12.5	0.0	+12.5
K	LD-1		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
	LD-3		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
	LD-3-45		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
	LD-3-45W		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
	LD-3 Pallet		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1

UNIT LOAD DEVICE LATERAL CENTER OF GRAVITY RANGE (Continued)					
SIZE CODE	COMMON NAME	ORIENTATION REAR VIEW	ALLOWABLE LATERAL C.G.		
			LEFTMOST B.B.L. - IN.	NOMINAL B.B.L. - IN.	RIGHTMOST B.B.L. - IN.
L	LD-5 LD-11 Half Pallet		-12.5	0.0	+12.5
	LD-6		-12.5	0.0	+12.5
	LD-10		-12.5	0.0	+12.5
M	P6		-12.5	0.0	+12.5
N	Half Pallet		-38.1	-31.9	-25.7
			+25.7	+31.9	+38.1
P	LD-2		-43.8	-39.1	-34.4
			+34.4	+39.1	+43.8
Q	LD-4 LD-8 Longitudinal		-38.4	-32.4	-26.4
			+26.4	+32.4	+38.4

Bulk Cargo Hold

Cargo and baggage uniformly loaded in the aft bulk cargo hold will have a nominal B.B.L. C.G. of +18.8 inches.

Operator Convenience

The following ULDs may be assumed to have zero CLIM provided they are uniformly loaded about their base, since they are symmetrical about the airplane centerline.

- LD-5's
- LD-6’s
- LD-7’s
- LD-9’s
- LD-10's
- LD-11's
- P1’s (Size Code A)
- P6’s (Size Code M)
- Half Pallets (Size Code L)

The following combined pairs of ULDs may be assumed to have zero CLIM, provided each of the paired ULDs is uniformly loaded about its base and the weight between the left and right ULDs is evenly distributed, since for these conditions the calculated net cargo lateral imbalance moment for the pair is zero.

- LD-2's
- LD-3's
- LD-4’s Longitudinal
- LD-8’s Longitudinal
- Half Pallets (Size Code N)

Sample Problem

Seven LD-1's are loaded on the left side of the airplane to a weight of 2000 LB (907.2 KG) each. The other ULDs are assumed to be symmetrical about the centerline of the airplane. The lateral center of gravity for each ULD loaded is at B.B.L. = -31.9 inches. Thus, the cargo lateral imbalance moment equals:

NET CLIM = (7 LD-1s) × (907.2 KG) × (-31.9 IN.) = -202578 KG-IN

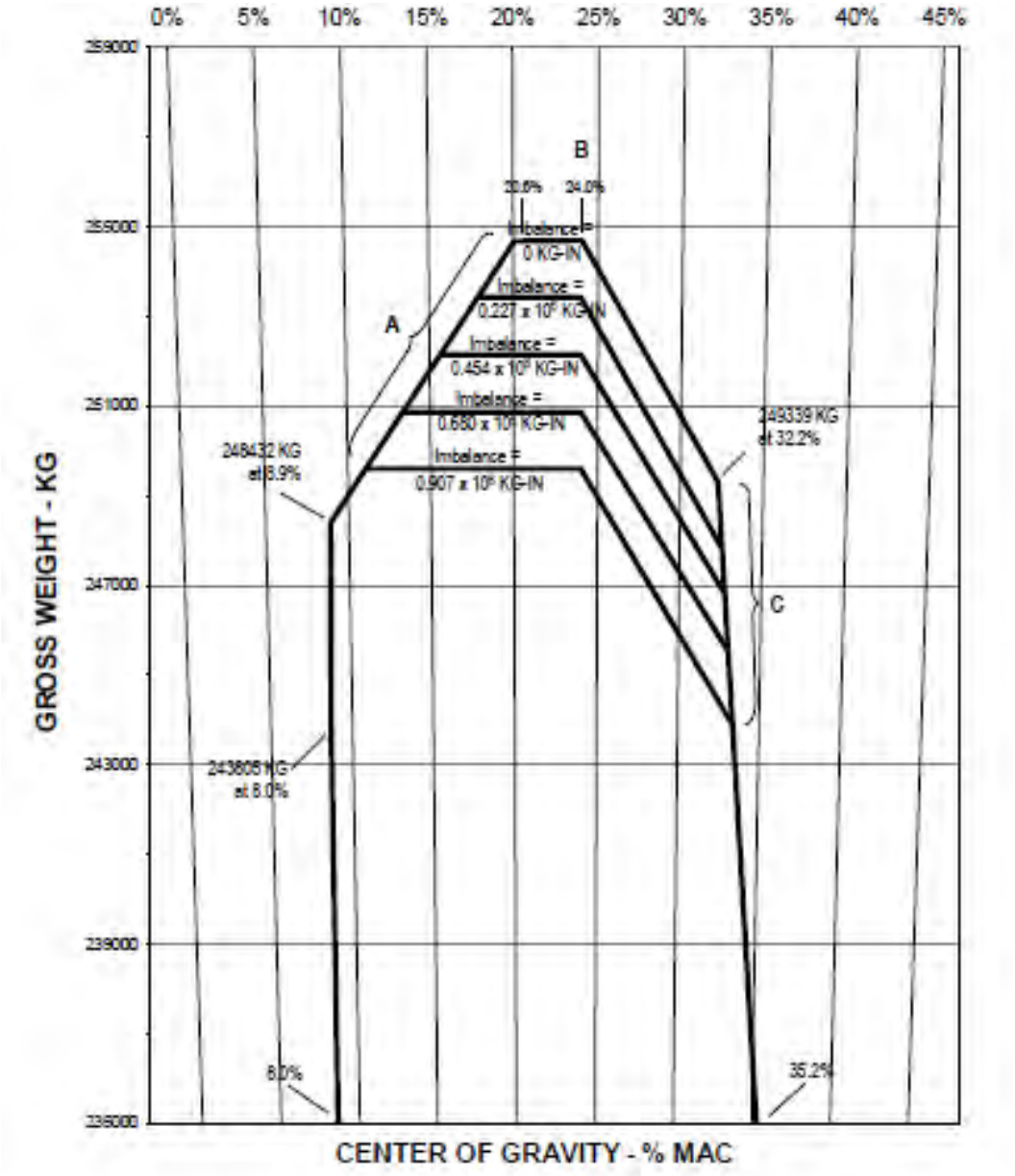
To reduce the lateral imbalance, three of the LD-1's are switched to the right hand side of the airplane, leaving four on the left hand side, and the new cargo lateral imbalance calculation is:

CLIM (Left Side) = (4 LD-1s) × (907.2 KG) × (-31.9 IN.) = -115759 KG-IN.
CLIM (Right Side) = (3 LD-1s) × (907.2 KG) × (+31.9 IN.) = +86819 KG-IN.
NET CLIM = (-115759 KG-IN.) + (+86819 KG-IN.) = -28940 KG-IN.

By switching the three ULDs to the right side, an attempt was made to load the airplane symmetrically. Therefore, using the guidelines provided earlier in this section, the NET CLIM of -28940 KG-IN. can be considered random. No reduction is required in either taxi or landing weight.

CARGO LATERAL IMBALANCE MOMENT VERSUS TAXI WEIGHT

The following diagram represents the taxi weight and C.G. limits with intentional cargo lateral imbalance.



IMBALANCE KG-IN X 10^6	POINT A		POINT B		POINT C	
	WEIGHT	C.G.	WEIGHT	C.G.	WEIGHT	C.G.
0.0	254692	20.6	254692	24.0	249339	32.2
0.227	253422	18.0	253422	24.0	247888	32.5
0.454	252151	15.7	252151	24.0	246391	32.8
0.680	250881	13.4	250881	24.0	244939	33.1
0.907	249611	11.1	249611	24.0	243488	33.4

3.13 Basic loading principles

	Remarks
1.	Proper loading of an aircraft must guarantee that: ⇒ Centre of Gravity position is within limits, ⇒ all load on an aircraft is correctly secured to prevent any movement because of accelerations imposed on it by the movement of the aircraft on the ground and in the air, ⇒ all requirements concerning package dimensions, area limitations and linear limitations are met.
2.	• In the case of carrying piece of cargo which weight exceeds area limitations (maximum floor loading), it is necessary to calculate the area of spreader to be used, to decrease the weight of the load pressing upon an area of the compartment floor. • The above is applied in bulk compartments.
3.	• On containerized aircraft the load is carried on pallets, containers i.e. ULD (UNIT LOAD DEVICES). The manufacturer determines ULD types certified to be used on a type of aircraft. • The containers have certain structural limits which must not be exceeded and characteristic data as: tare weight, dimensions, volume. They must be positioned in their allocated places and safely locked against any moving.
4.	The manufacturer, comparing the size of a piece of cargo with size of door openings, provides maximum package chart to establish that the package can be accommodated in the compartment as well as pass through the door opening.
5.	Restricted articles because of their inherent characteristics (radioactive, flammable materials, dry ice, poison etc.) may be carried on the board of an aircraft only under condition that IATA Dangerous Goods Regulations are strictly adhered to.
6.	When loading an aircraft following conditions must be taken into consideration: ⇒ load destined for the various stations en route must be easily accessible, loaded in the reverse order of destination, ⇒ load for the same destination should preferably be stowed in the same hold, ⇒ baggage should be loaded last so that it is available for offload first at its destination, ⇒ business passenger baggage should be equipped with appropriate baggage tags and loaded separately.

3.14 Package maximum size dimensions

	Remarks
	The tables below show approximate package size dimensions, which will pass through the cargo door openings. Individual tables are presented for heavy and light packages.
Heavy packages	• Refer to those that require the use of a fork lift or other loading device to manoeuvre them through the door. • The package length is restricted by the inward curve of the cargo hold sidewall liner opposite the door. • It is assumed that the packages are loaded in an upright position and cannot be elevated to clear this interference.
Light packages	• refer to those which may be loaded by hand and can be elevated to clear the inward curve of the cargo sidewall liner opposite the door. • Tilting, twisting, bending and/or rotating packages through door openings will allow additional lengths in some cases. • Dimensions shown in the tables below apply to packages that are loaded first to the empty holds. • For packages which dimensions are close to maximum permitted, the check of on loading is required.
NOTE:	**Dimensions of packages are determined in centimetres.**

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3.14.1 DHC-8-400

AFT CARGO COMPARTMENT /No 6 + 7/

Width	7	15	22	30	38	45	53	60	68	76	83	91	99	106	114	121
Height	Length [cm]															
7	297	292	284	279	274	269	264	259	256	251	248	246	243	231	218	203
15	297	289	284	279	274	269	264	259	254	251	248	246	241	228	215	203
22	294	289	284	279	271	266	264	259	254	251	248	246	241	228	215	203
30	294	289	284	276	271	266	261	259	254	251	246	243	241	228	215	203
38	294	289	284	276	271	266	261	256	254	248	246	243	238	226	213	203
45	292	289	281	276	271	266	261	256	251	248	246	243	238	226	213	203
53	292	287	281	276	271	266	261	256	251	248	246	243	238	226	213	203
60	292	287	281	276	269	264	259	256	251	248	243	241	238	226	213	203
68	292	287	281	274	269	264	259	254	251	246	243	241	236	223	210	200
76	292	287	279	274	269	264	259	254	248	246	243	241	236	223	210	200
83	292	284	279	274	266	261	256	254	248	246	241	238	233	220	208	193
91	190	182	177	170	162	154	152	152	152	149	149	147	147	144	142	139
99	190	182	177	170	162	154	152	152	152	149	149	147	147	144	142	139
106	190	182	177	170	162	154	152	152	152	149	149	147	147	144	142	139
114	190	182	177	170	162	154	152	152	152	149	149	147	147	144	142	139
121	149	149	149	149	147	147	144	142	139	137	137					
129	149	149	149	149	147	147	144	142	139	137	137					
137	144	144	144	144	142	139	139	137	134	132	129					
144	116	114	114	114	114	111	111	109	109	106	106					
152	114	114	111	111	111											

3.14.2 ERJ 170–100 and ERJ 170-200

The following tables show packages dimensions which pass through the cargo compartments doors without interference with airplane fuselage or cargo compartments interior.

Enter the package width and height and read the maximum package length that can be stowed in the cargo compartment

NOTE: Packages with dimensions (width and height) not covered by the table may fit in the cargo compartment.
Respect to the weight capacity, maximum load distribution and clearance to the compartment ceiling is mandatory.

FORWARD CARGO COMPARTMENT /No 1 + 2/

Width	13	25	38	51	64	76	89	102
Height	Length [cm]							
13	400	400	340	300	280	270	220	200
20	380	360	320	290	280	240	220	200
25	375	360	320	290	260	230	200	170
33	365	355	310	280	260	230	200	170
41	360	350	310	280	240	210	190	160
48	360	350	300	270	240	210	170	150
56	340	320	260	215	180	170	150	130
64	300	240	200	180	170	150	130	130
71	230	210	160	150	140	140	130	120

AFT CARGO COMPARTMENT /No 3 + 4/

Width	13	25	38	51	64	76	89	102
Height	Length [cm]							
13	320	320	320	300	195	185	185	180
20	310	310	310	295	190	180	180	168
25	310	310	310	270	190	180	180	162
33	310	310	310	243	190	180	162	157
41	250	250	240	220	155	150	150	149
48	235	235	230	200	155	150	150	145
56	220	220	210	200	150	145	143	141

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3.14.3 ERJ 190–100 and ERJ 190–200

The following tables show packages dimensions which pass through the cargo compartments doors without interference with airplane fuselage or cargo compartments interior.

Enter the package width and height and read the maximum package length that can be stowed in the cargo compartment

NOTE: Packages with dimensions (width and height) not covered by the table may fit in the cargo compartment.
Respect to the weight capacity, maximum load distribution and clearance to the compartment ceiling is mandatory.

FORWARD CARGO COMPARTMENT /No 1 + 2/

Width	13	25	38	51	64	76	89	102
Height	Length [cm]							
13	570	570	366	311	280	270	220	200
20	516	453	354	300	280	240	220	200
25	510	448	348	290	260	230	200	170
33	505	416	340	280	260	230	200	170
41	500	410	310	280	240	210	190	160
48	495	400	300	270	240	210	170	150
56	483	396	294	215	180	170	150	130
64	344	256	221	180	170	150	130	130
71	302	250	215	150	140	140	130	120

AFT CARGO COMPARTMENT /No 3 + 4/

Width	13	25	38	51	64	76	89	102
Height	Length [cm]							
13	470	450	420	380	350	300	250	210
20	470	380	340	319	250	230	190	179
25	470	360	320	293	230	210	170	162
33	460	350	290	257	210	200	163	159
41	450	340	280	240	210	200	155	154
48	450	340	280	235	200	195	150	149
56	400	340	270	230	200	195	145	145

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3.14.4 B737-800 / -86N/ -8

FORWARD CARGO COMPARTMENT - Heavy packages lift assisted

The following table is applicable for packages loaded aft from the forward cargo door.

Width	13	25	38	51	64	76	89	102	114	122
Height	Length [cm]									
13	396	305	267	239	213	188	163	137	127	114
25	333	295	264	239	213	188	163	137	127	114
30	328	292	264	239	213	188	163	137	127	114
36	323	290	264	239	213	188	163	137	127	114
41	320	290	264	239	213	188	163	137	127	114
46	318	290	264	239	213	188	163	137	127	114
51	318	290	264	239	213	188	163	137	127	114
56	315	290	264	239	213	188	163	137	127	114
61	315	290	264	239	213	188	163	137	127	114
66	315	290	264	239	213	188	163	137	127	114
71	315	290	264	239	213	188	163	137	127	114
76	315	290	264	239	213	188	163	137	127	114
81	315	290	264	239	213	188	163	137	127	114
86	315	290	264	239	213	188	163	137	127	114

FORWARD CARGO COMPARTMENT - Light packages hand maneuvered [a]

The following table is applicable for packages loaded aft from the forward cargo door.

Width	13	25	38	51	64	76	89	102	114	122
Height	Length [cm]									
13	711	701	693	615	521	452	401	361	330	295
25	704	696	635	533	460	404	361	328	300	284
30	704	693	592	500	434	384	343	312	287	279
36	699	678	559	478	429	368	330	302	279	272
41	696	627	523	450	401	353	318	290	269	262
46	693	579	490	424	373	335	302	279	259	254
51	645	533	457	399	353	318	290	267	249	244
56	587	493	424	373	333	300	274	254	239	231
61	533	450	391	348	310	282	257	239	226	221
66	478	409	361	320	287	262	239	224	211	206
71	427	373	315	295	267	241	224	208	196	193
76	381	333	297	267	241	221	203	188	180	175
81	333	295	264	239	216	196	180	168	160	157
86	284	254	229	206	185	170	155	145	137	135

[a] Package length is limited to a maximum of 205 inches when transverse cargo nets are installed.

AFT CARGO COMPARTMENT - Heavy packages lift assisted

The following table is applicable for packages loaded forward from the aft cargo door.

Width	13	25	38	51	64	76	89	102	114	122
Height	Length [cm]									
13	417	330	274	234	208	183	157	132	109	109
25	351	297	262	234	208	183	157	132	109	109
30	328	287	259	234	208	183	157	132	109	109
36	323	284	259	234	208	183	157	132	109	109
41	318	284	259	234	208	183	157	132	109	109
46	315	284	259	234	208	183	157	132	109	109
51	312	284	259	234	208	183	157	132	109	109
56	310	284	259	234	208	183	157	132	109	109
61	310	284	259	234	208	183	157	132	109	109
66	310	284	259	234	208	183	157	132	109	109
71	310	284	259	234	208	183	157	132	109	109
76	310	284	259	234	208	183	157	132	109	109
79	310	284	259	234	208	183	157	132	109	109
81	251	226	201	178	152	124				
86	178	152								

AFT CARGO COMPARTMENT – Light packages hand maneuvered [a]

The following table is applicable for packages loaded forward from the aft cargo door.

Width	13	25	38	51	64	76	89	102	114	122
Height	Length [cm]									
13	876	864	856	681	561	478	414	366	333	305
25	871	861	693	574	483	422	376	338	310	279
30	866	859	643	538	462	406	363	330	302	272
36	864	744	605	511	442	389	340	307	282	264
41	861	673	559	478	417	363	325	295	269	254
46	859	615	523	447	394	343	310	282	259	246
51	699	572	485	422	373	325	295	267	246	234
56	627	523	450	386	340	305	274	251	234	224
61	579	480	411	361	320	287	259	236	221	208
66	511	434	376	330	295	264	239	218	203	193
71	447	386	338	300	267	239	216	198	185	178
76	406	356	312	279	251	226	206	191	178	170
81	315	274	236	208	183	163	145	132	124	124
86	226	196	168	147	132	[b]	[b]	[b]	[b]	[b]

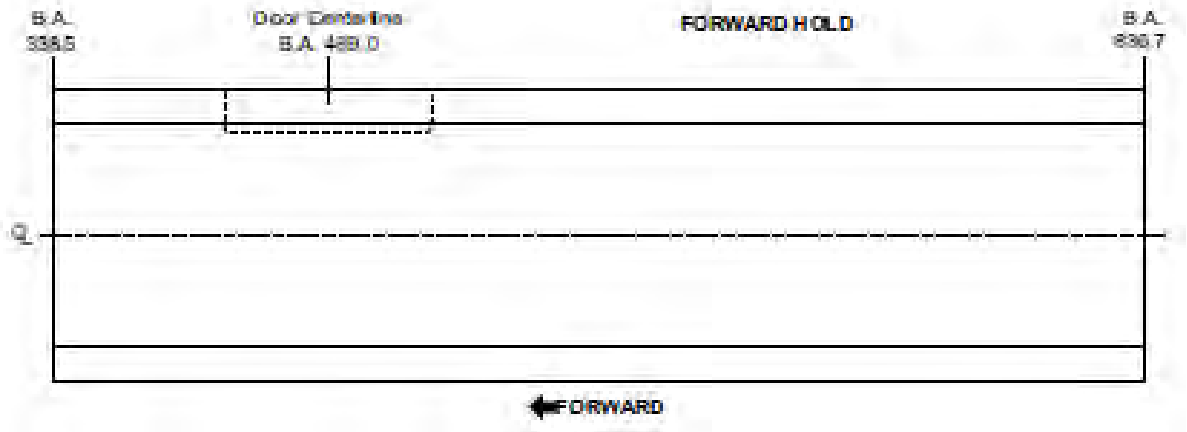
[a] Package length is limited to a maximum of 277 inches when transverse cargo nets are installed

[b] Any length package will require tilting to clear compartment taper.

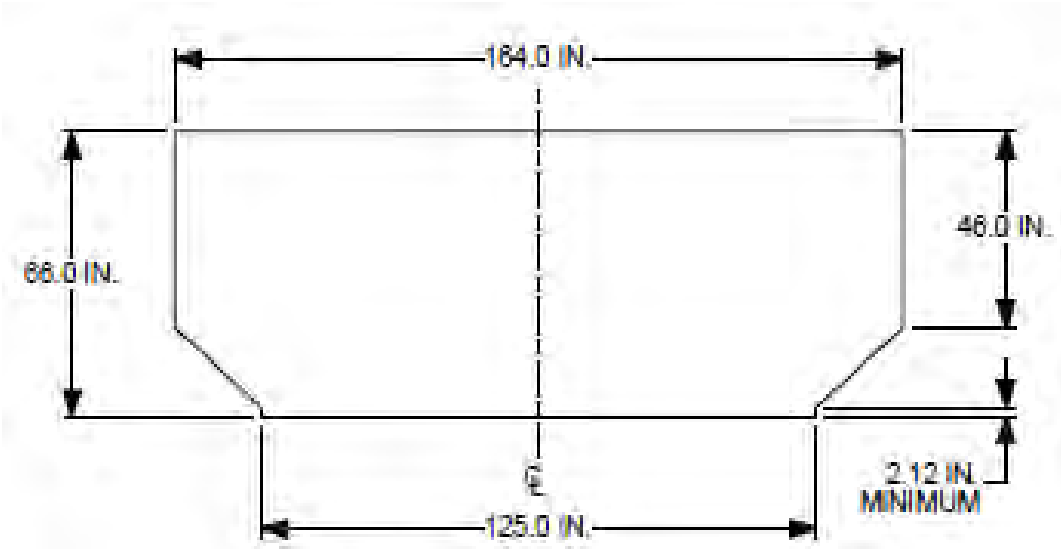
3.14.5 B787-8

FORWARD CARGO HOLD

The following figure shows the forward cargo hold boundaries.



The figure below illustrates the cross-section of the forward cargo hold. This cross-section is constant throughout the length of the forward cargo hold, except in the doorway area where the height is 67.0 inches.



Cargo door dimensions and allowable package sizes

This section provides dimensions of the maximum package sizes which will pass through the forward cargo door opening. The maximum length is restricted by the geometry of the sidewall liner opposite the door.

Package sizes are approximate. Tilting, twisting, bending and/or rotating packages through door openings will allow additional lengths in many cases, but should be determined for each situation. A trial loading is recommended for packages with dimensions close to maximum dimensions indicated in the tables.

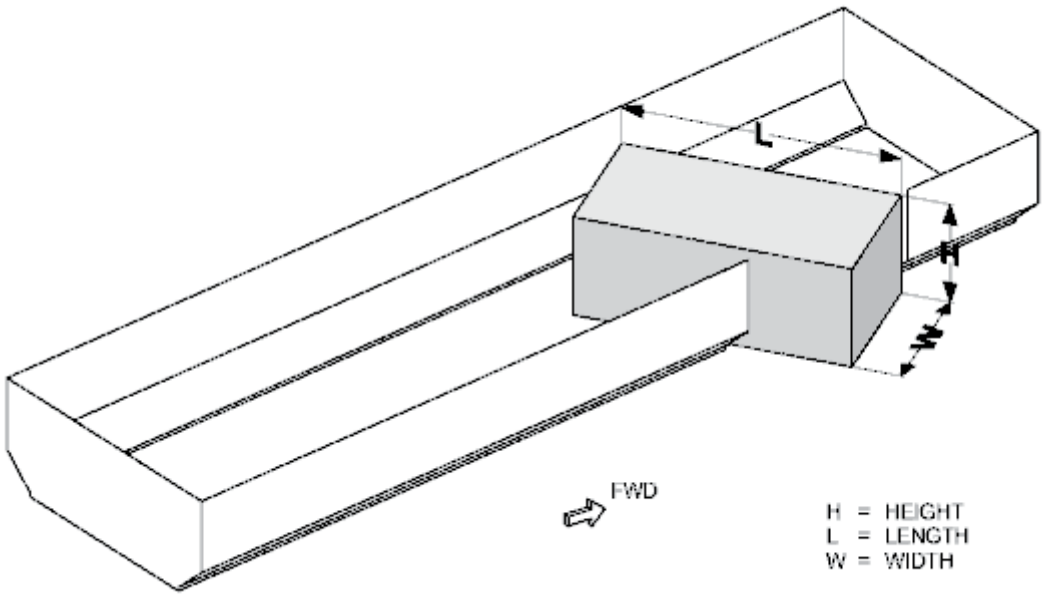
The height dimensions do not include allowances for items increasing package height such as fork lift tyne thicknesses, pallet depths, skid tub heights, etc. Any such devices must be accounted for in the total height.

Bulk cargo is usually carried in the bulk hold. Bulk cargo can also be carried in the forward cargo hold, or as a mix with containerized and palletized loads, provided it:

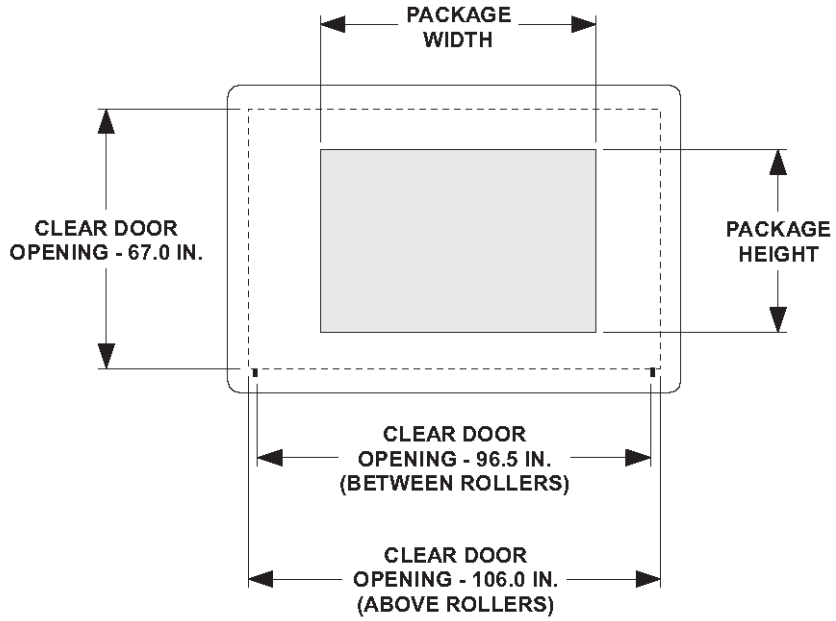
1. Is loaded on a pallet or equivalent non-combustible surface.
2. Is restrained to prevent shifting onto the floor panels, sloping sidewalls, cargo door liner, or causing a large change in the airplane C.G.
3. Has a 2 inch minimum clearance from the ceiling lights, smoke detectors, and hold liners.
4. Does not exceed the hold's area and longitudinal loading.

Tiedowns may be required.

Package size illustration.
The following illustration shows package dimensioning used in the allowable package size tables.



Door dimensions.
The following figure provides the forward cargo door dimensions.

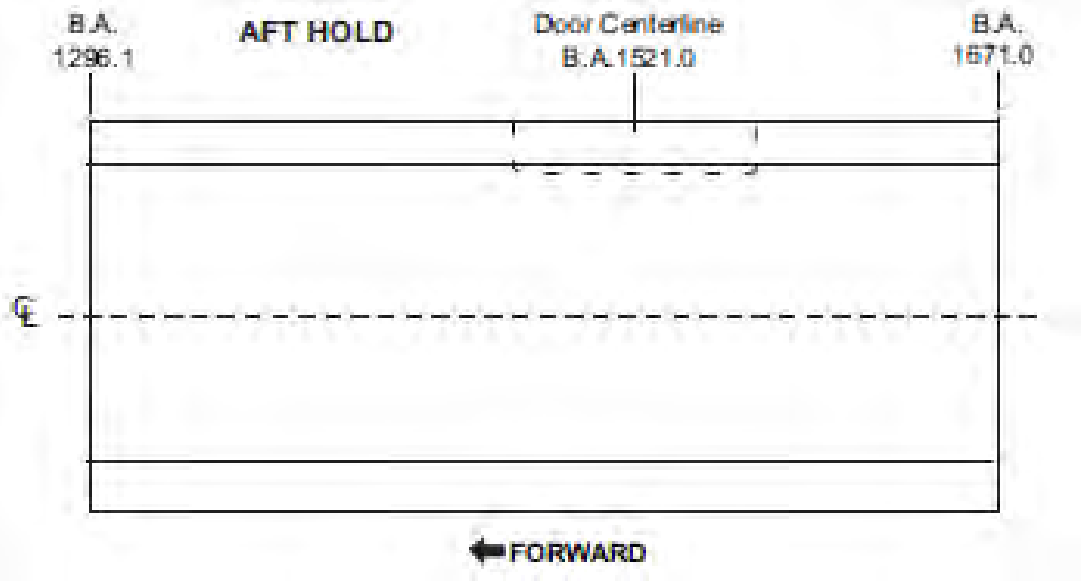


Allowable package sizes.
The following tables are applicable for packages loaded aft of the forward cargo door (B.A. 489.0 IN.).

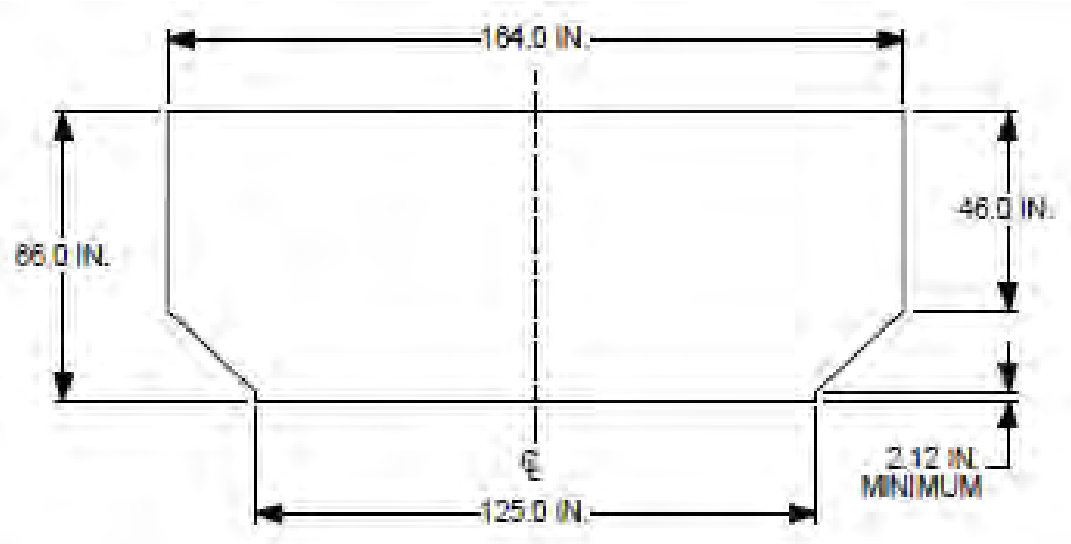
FORWARD HOLD ALLOWABLE PACKAGE SIZES										
HEIGHT [CM]	WIDTH [CM]									
	25	51	76	102	127	152	178	203	229	259
	LENGTH [CM]									
163	744	693	643	592	541	490	437	386	330	
152	792	739	688	638	587	536	483	432	378	338
140	833	782	732	681	627	577	523	470	417	371
127	871	820	767	716	665	612	559	505	450	399
114	881	831	777	726	673	622	569	516	460	406
102	881	831	777	726	673	622	569	516	460	406
89	881	831	777	726	673	622	569	516	460	406
76	881	831	777	726	673	622	569	516	460	406
64	881	831	777	726	673	622	569	516	460	406
51	881	831	777	726	673	622	569	516	460	406
38	881	831	777	726	673	622	569	516	460	406
25	881	831	777	726	673	622	569	516	460	406
13	881	831	777	726	673	622	569	516	460	406

AFT CARGO HOLD

The following figure shows the aft cargo hold boundaries.



The figure below illustrates the cross-section of the aft cargo hold. This cross-section is constant throughout the length of the aft cargo hold, except in the doorway area where the height is 67.0 inches.



Cargo door dimensions and allowable package sizes.

This section provides dimensions of the maximum package sizes which will pass through the aft cargo door opening. The maximum length is restricted by the geometry of the sidewall liner opposite the door.

Package sizes are approximate. Tilting, twisting, bending and/or rotating packages through door openings will allow additional lengths in many cases, but should be determined for each situation. A trial loading is recommended for packages with dimensions close to maximum dimensions indicated in the tables.

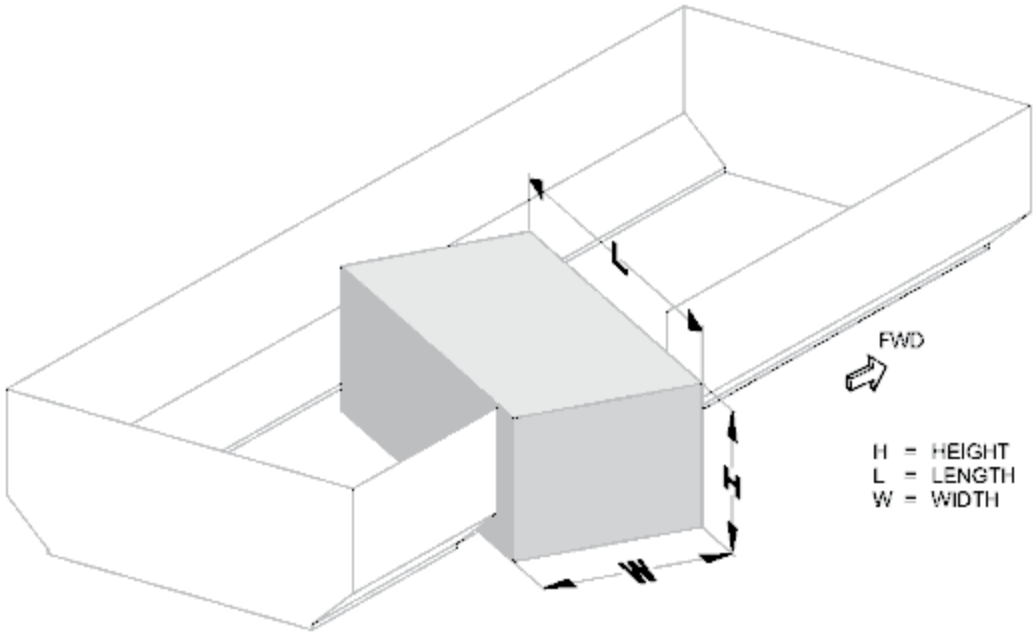
The height dimensions do not include allowances for items increasing package height such as fork lift tyne thicknesses, pallet depths, skid tub heights, etc. Any such devices must be accounted for in the total height.

Bulk cargo is usually carried in the bulk hold. Bulk cargo can also be carried in the aft cargo hold, or as a mix with containerized and palletized loads, provided it:

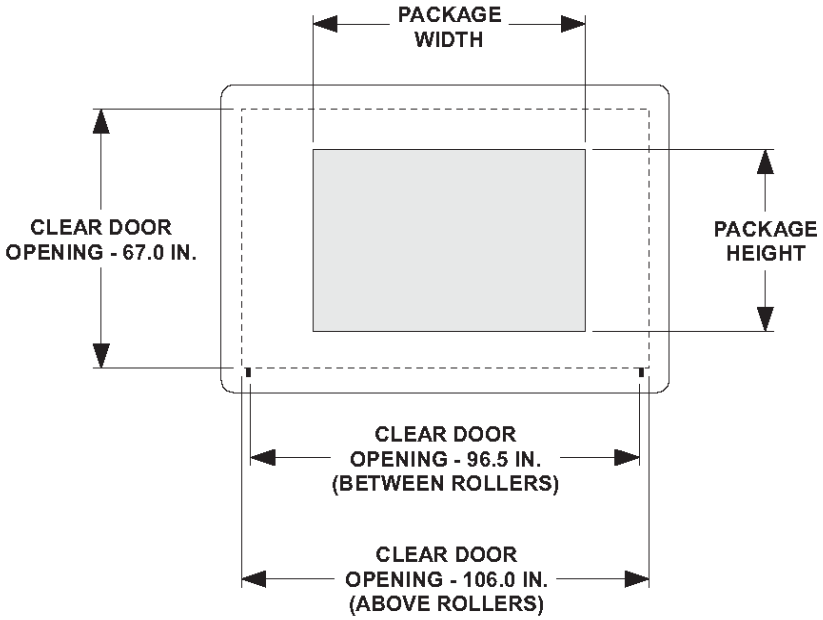
1. Is loaded on a pallet or equivalent non-combustible surface.
2. Is restrained to prevent shifting onto the floor panels, sloping sidewalls, cargo door liner, or causing a large change in the airplane C.G.
3. Has a 2 inch minimum clearance from the ceiling lights, smoke detectors, and hold liners.
4. Does not exceed the hold's area and longitudinal loading limits

.
Tiedowns may be required.

Package size illustration
The following illustration shows package dimensioning used in the allowable package size tables.



Door dimensions.
The following figure provides the aft cargo door dimensions.

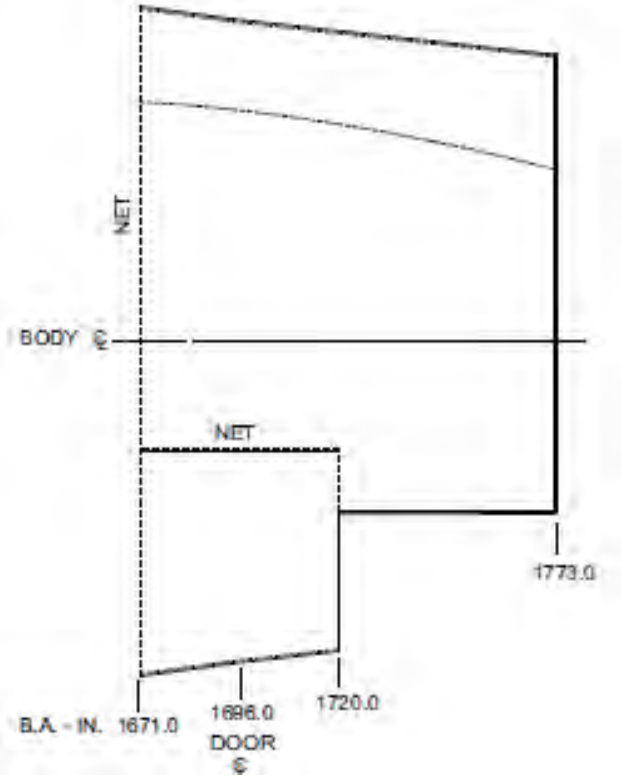


Allowable package sizes.
The following tables are applicable for packages loaded forward of the aft cargo door (B.A. 1521.0 IN.).

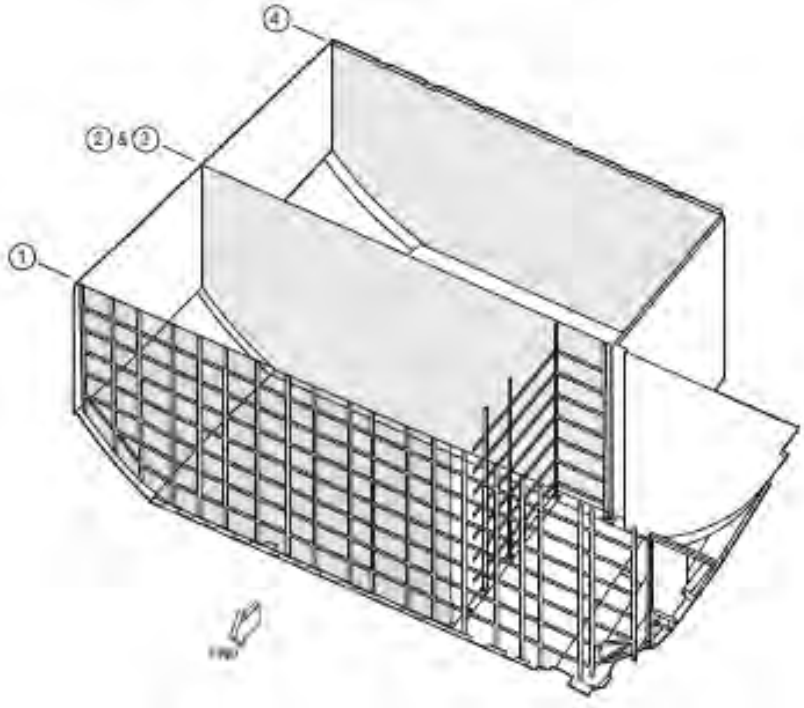
AFT HOLD ALLOWABLE PACKAGE SIZES										
HEIGHT [CM]	WIDTH [CM]									
	25	51	76	102	127	152	178	203	229	259
	LENGTH [CM]									
163	744	693	643	592	541	490	437	386	330	0
152	792	739	688	638	587	536	483	432	378	338
140	833	782	732	681	627	577	523	470	417	371
127	871	820	767	716	665	612	559	505	450	399
114	881	831	777	726	673	622	569	516	460	406
102	881	831	777	726	673	622	569	516	460	406
89	881	831	777	726	673	622	569	516	460	406
76	881	831	777	726	673	622	569	516	460	406
64	881	831	777	726	673	622	569	516	460	406
51	881	831	777	726	673	622	569	516	460	406
38	881	831	777	726	673	622	569	516	460	406
25	881	831	777	726	673	622	569	516	460	406
13	881	831	777	726	673	622	569	516	460	406

BULK CARGO HOLD

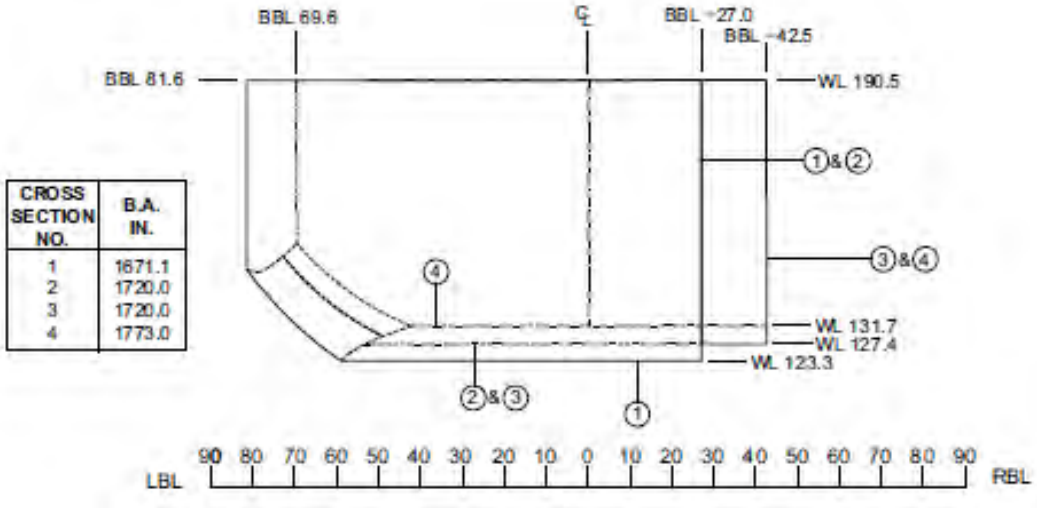
The following figure shows the bulk cargo hold boundaries.



The figure below illustrates the general layout of the bulk cargo hold. The numbered labels and shaded panels correspond to the cross-sections that follow the illustration.



The following cross-sections for the bulk hold can be used to determine ceiling clearances at various bulk cargo hold balance arms. The relative location of the cross-sectional cut can be determined by correlating the cross-section number to the general layout shown above.



CROSS SECTION NO.	B.A. IN.
1	1671.1
2	1720.0
3	1720.0
4	1773.0

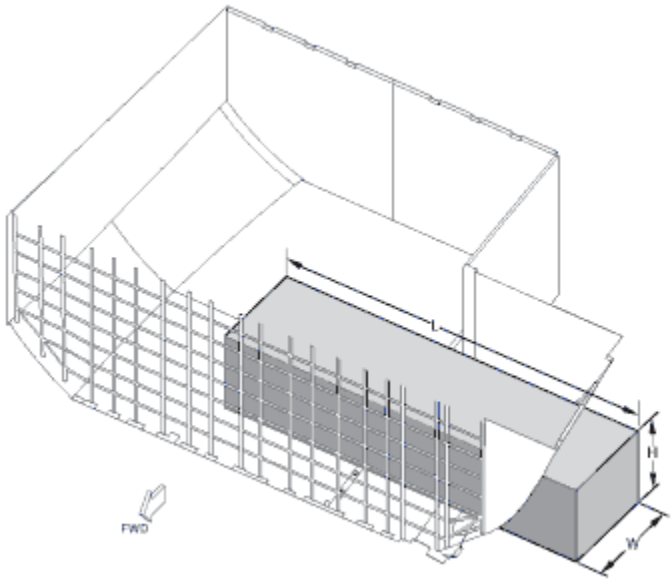
Cargo door dimensions and allowable package sizes.

This section provides dimensions of the maximum package sizes which will pass through the bulk cargo door opening. The maximum length is restricted by the geometry of the hold.

Package sizes are approximate. Tilting, twisting, bending and/or rotating packages through door openings will allow additional lengths in many cases, but should be determined for each situation. A trial loading is recommended for packages with dimensions close to maximum dimensions indicated in the tables.

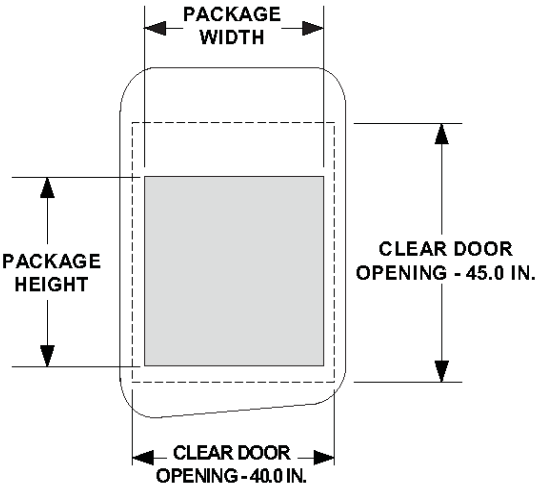
Allow for a minimum clearance of 2 inches from the ceiling liner, lights, and smoke detectors when loading the bulk hold.

Package size illustration.
The following illustration shows package dimensioning used in the allowable package size tables.



Door dimensions.

The following figure provides the bulk cargo door dimensions.



Allowable package sizes.

The following tables are applicable for packages loaded aft of the bulk cargo door (B.A. 1696.0 IN.).

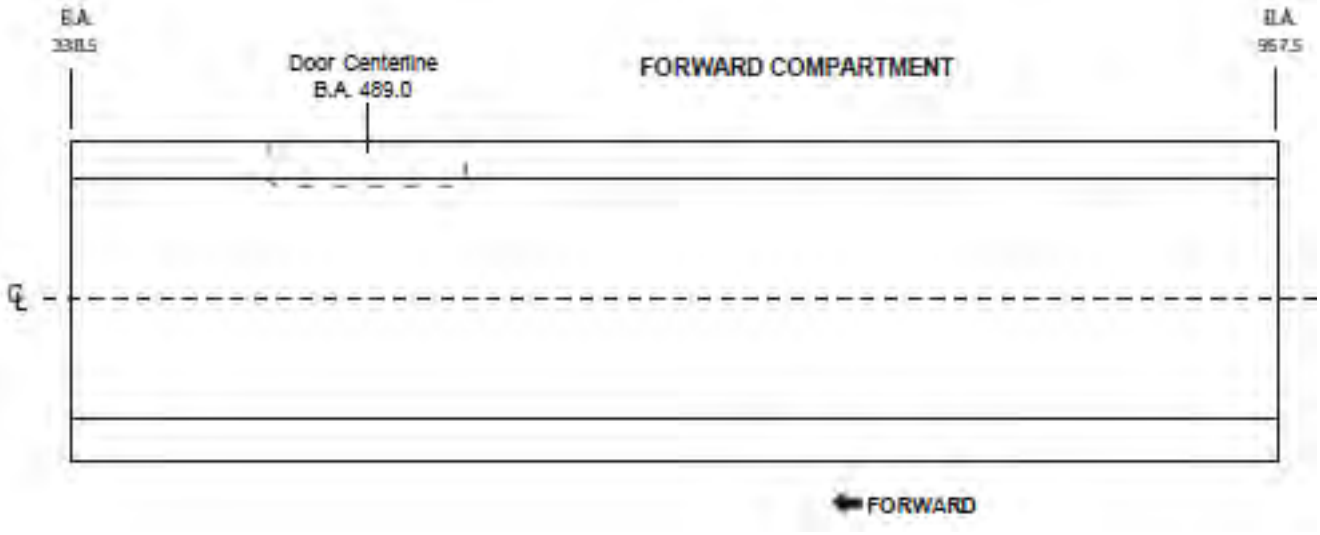
BULK HOLD ALLOWABLE PACKAGE SIZES							
HEIGHT [CM]	WIDTH [CM]						
	13	25	38	51	64	76	89
	LENGTH [CM]						
112	305	305	292	279	267	254	241
102	318	305	292	279	267	254	241
91	318	305	292	279	267	254	241
81	318	305	292	279	267	267	241
71	330	318	305	292	279	267	254
61	330	318	305	292	279	267	254
51	330	318	318	305	292	279	267
41	343	330	318	305	292	279	267
30	343	343	330	318	305	292	279
20	356	343	330	318	305	305	292
10	368	356	343	330	318	305	292

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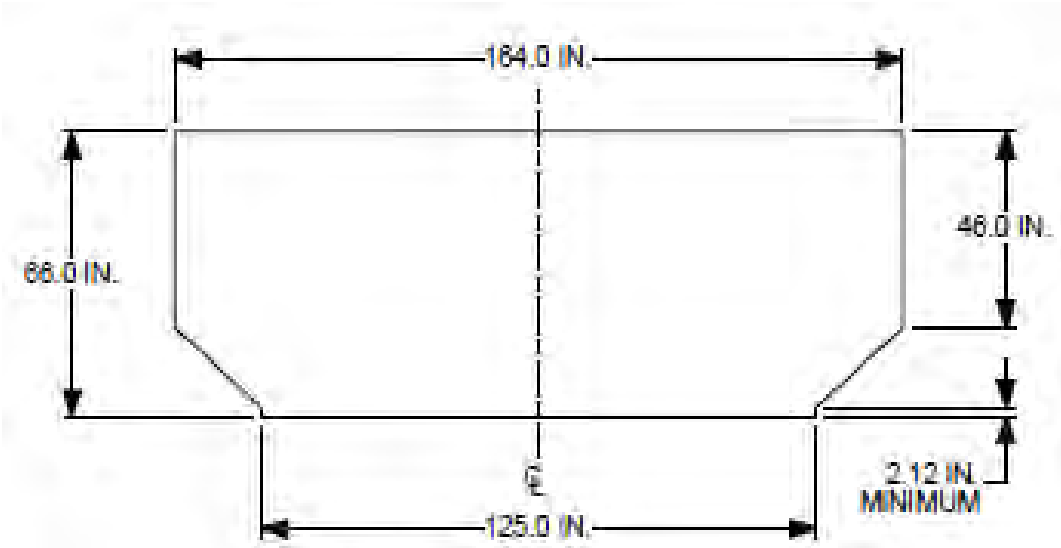
3.14.6 B787-9

FORWARD CARGO HOLD

The following figure shows the forward cargo hold boundaries.



The figure below illustrates the cross-section of the forward cargo hold. This cross-section is constant throughout the length of the forward cargo hold, except in the doorway area where the height is 67.0 inches.



Cargo door dimensions and allowable package sizes

This section provides dimensions of the maximum package sizes which will pass through the forward cargo door opening. The maximum length is restricted by the geometry of the sidewall liner opposite the door.

Package sizes are approximate. Tilting, twisting, bending and/or rotating packages through door openings will allow additional lengths in many cases, but should be determined for each situation. A trial loading is recommended for packages with dimensions close to maximum dimensions indicated in the tables.

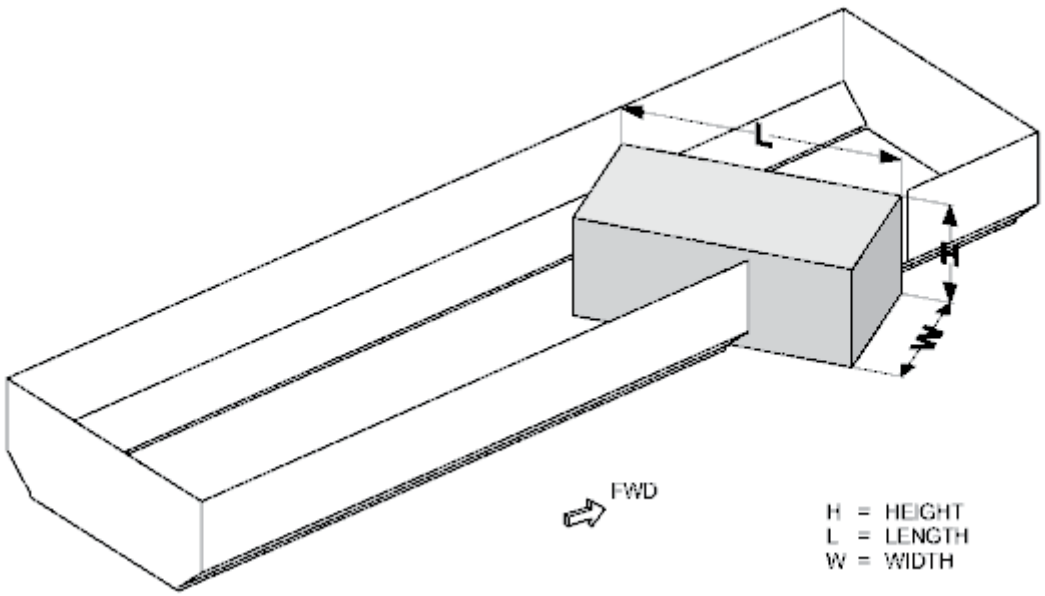
The height dimensions do not include allowances for items increasing package height such as fork lift tyne thicknesses, pallet depths, skid tub heights, etc. Any such devices must be accounted for in the total height.

Bulk cargo is usually carried in the bulk hold. Bulk cargo can also be carried in the forward cargo hold, or as a mix with containerized and palletized loads, provided it:

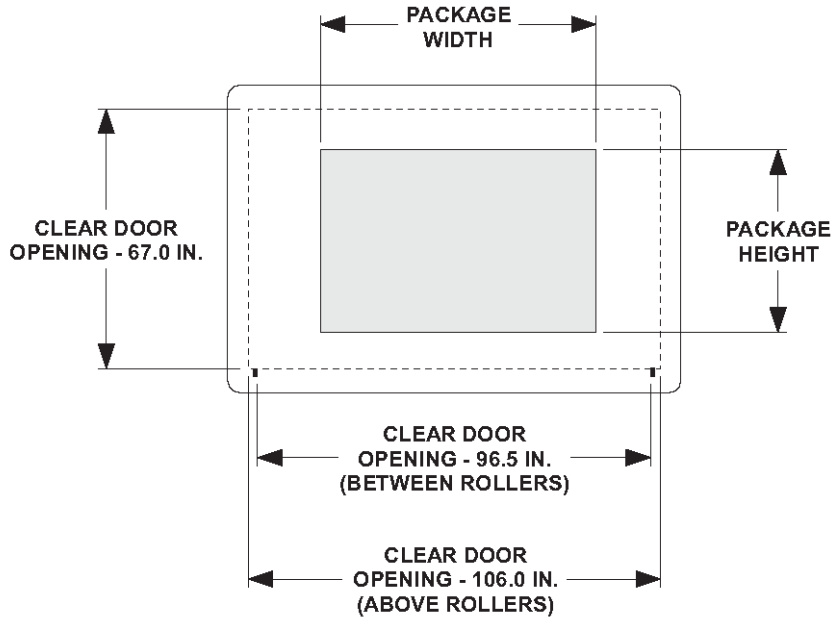
1. Is loaded on a pallet or equivalent non-combustible surface.
2. Is restrained to prevent shifting onto the floor panels, sloping sidewalls, cargo door liner, or causing a large change in the airplane C.G.
3. Has a 2 inch minimum clearance from the ceiling lights, smoke detectors, and hold liners.
4. Does not exceed the hold's area and longitudinal loading.
5. the bulk cargo is not of shape or density that could become a hazard to the airplane structure or systems (e.g. dense or piercing items that could become projectiles), otherwise tie down is required.
6. the bulk cargo cannot shift in flight and become a hazard when opening the cargo door

Tiedowns may be required.

Package size illustration.
The following illustration shows package dimensioning used in the allowable package size tables.



Door dimensions.
The following figure provides the forward cargo door dimensions.

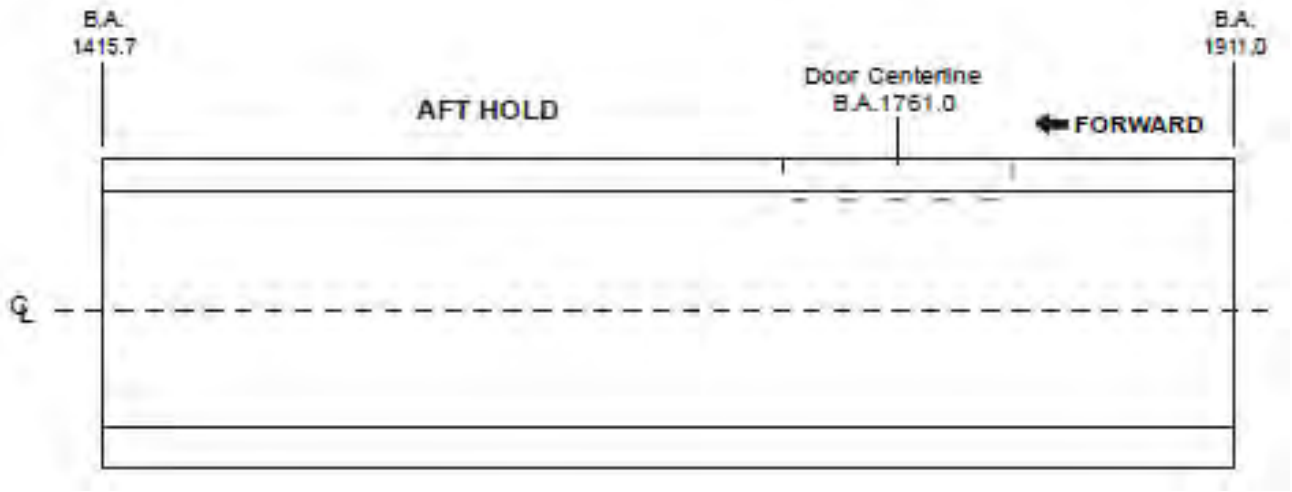


Allowable package sizes.
The following tables are applicable for packages loaded aft of the forward cargo door (B.A. 489.0 IN.).

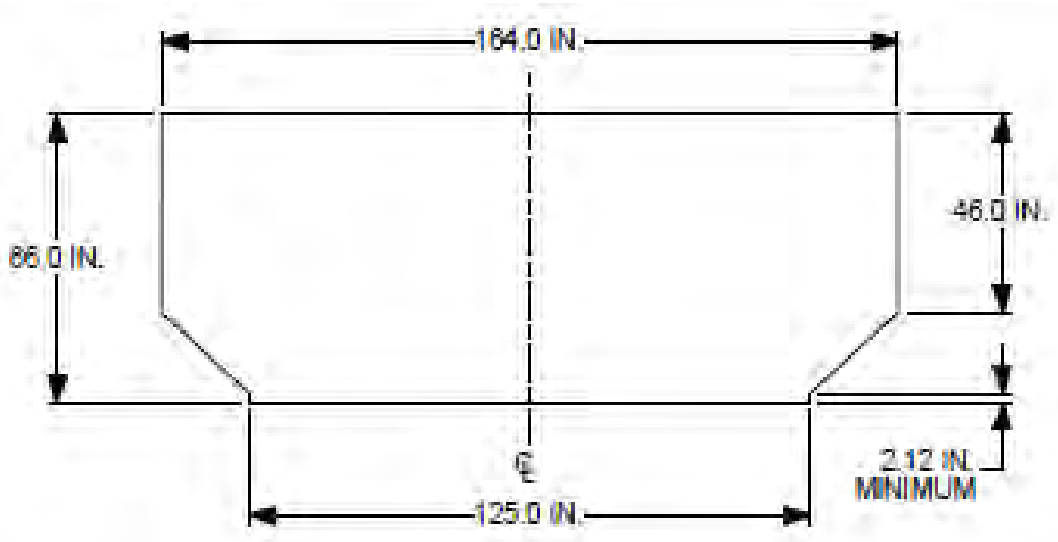
FORWARD HOLD ALLOWABLE PACKAGE SIZES										
HEIGHT [CM]	WIDTH [CM]									
	25	51	76	102	127	152	178	203	229	259
	LENGTH [CM]									
163	744	693	643	592	541	490	437	386	330	
152	792	739	688	638	587	536	483	432	378	338
140	833	782	732	681	627	577	523	470	417	371
127	871	820	767	716	665	612	559	505	450	399
114	881	831	777	726	673	622	569	516	460	406
102	881	831	777	726	673	622	569	516	460	406
89	881	831	777	726	673	622	569	516	460	406
76	881	831	777	726	673	622	569	516	460	406
64	881	831	777	726	673	622	569	516	460	406
51	881	831	777	726	673	622	569	516	460	406
38	881	831	777	726	673	622	569	516	460	406
25	881	831	777	726	673	622	569	516	460	406
13	881	831	777	726	673	622	569	516	460	406

AFT CARGO HOLD

The following figure shows the aft cargo hold boundaries.



The figure below illustrates the cross-section of the aft cargo hold. This cross-section is constant throughout the length of the aft cargo hold, except in the doorway area where the height is 67.0 inches.



Cargo door dimensions and allowable package sizes.

This section provides dimensions of the maximum package sizes which will pass through the aft cargo door opening. The maximum length is restricted by the geometry of the sidewall liner opposite the door.

Package sizes are approximate. Tilting, twisting, bending and/or rotating packages through door openings will allow additional lengths in many cases, but should be determined for each situation. A trial loading is recommended for packages with dimensions close to maximum dimensions indicated in the tables.

The height dimensions do not include allowances for items increasing package height such as fork lift tyne thicknesses, pallet depths, skid tub heights, etc. Any such devices must be accounted for in the total height.

Bulk cargo is usually carried in the bulk hold. Bulk cargo can also be carried in the aft cargo hold, or as a mix with containerized and palletized loads, provided it:

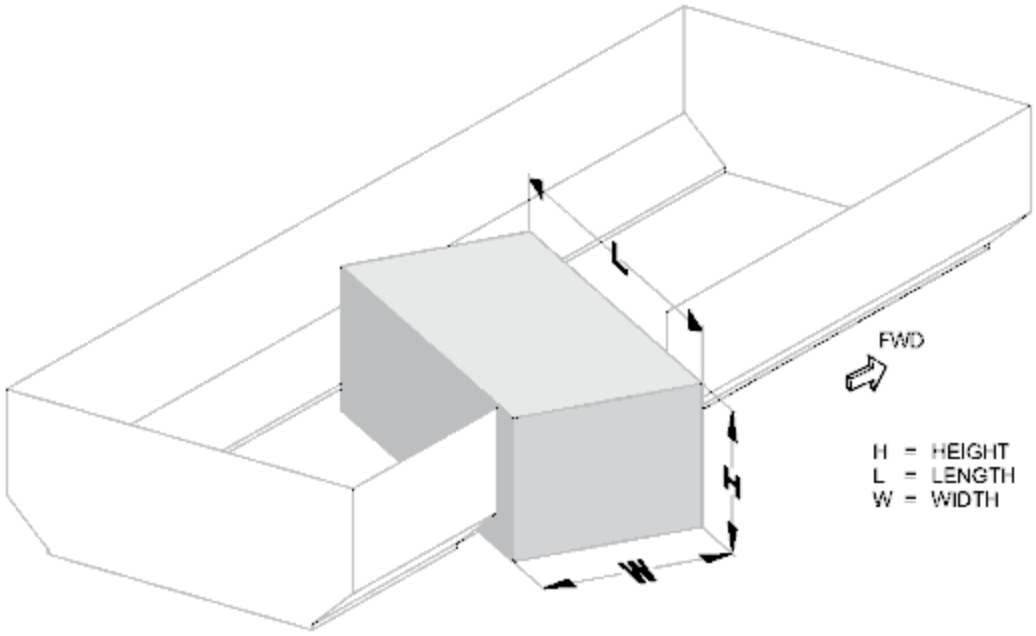
1. Is loaded on a pallet or equivalent non-combustible surface.
2. Is restrained to prevent shifting onto the floor panels, sloping sidewalls, cargo door liner, or causing a large change in the airplane C.G.
3. Has a 2 inch minimum clearance from the ceiling lights, smoke detectors, and hold liners.
4. Does not exceed the hold's area and longitudinal loading limits
5. the bulk cargo is not of shape or density that could become a hazard to the airplane structure or systems (e.g. dense or piercing items that could become projectiles), otherwise tie down is required.
6. the barrier net at the end of the cargo hold is installed when carrying non-certified ULDs or bulk cargo.
7. the bulk cargo cannot shift in flight and become a hazard when opening the cargo door

.

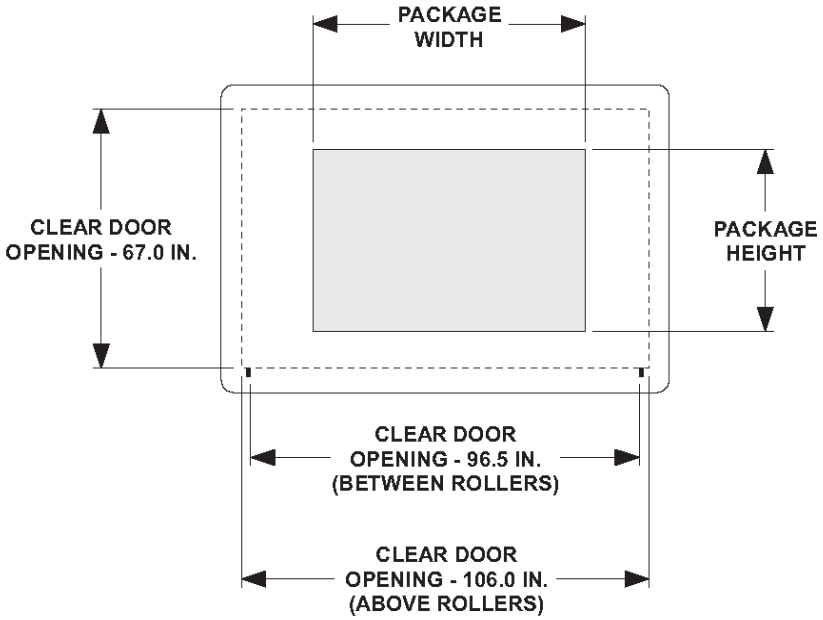
Tiedowns may be required.

Package size illustration

The following illustration shows package dimensioning used in the allowable package size tables.



Door dimensions.
The following figure provides the aft cargo door dimensions.

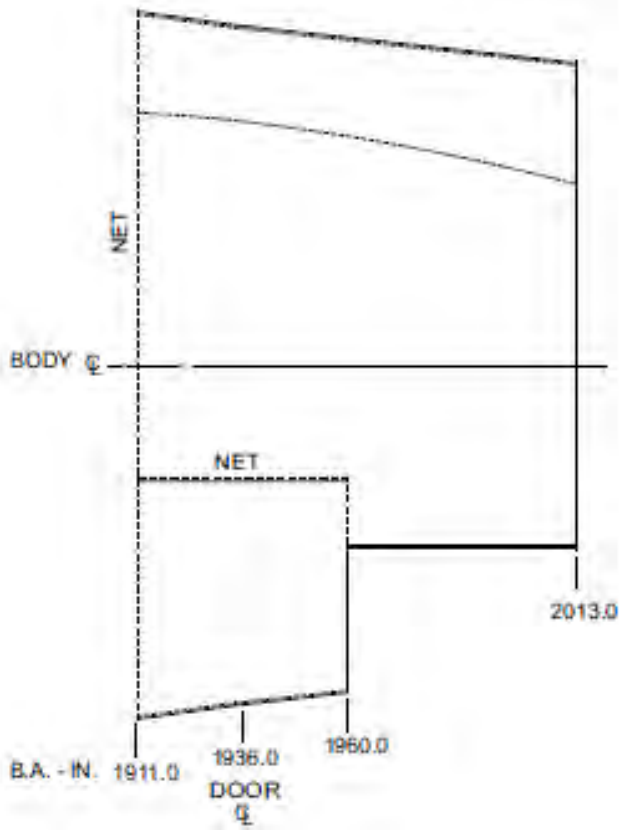


Allowable package sizes.
The following tables are applicable for packages loaded forward of the aft cargo door (B.A. 1761.0 IN.).

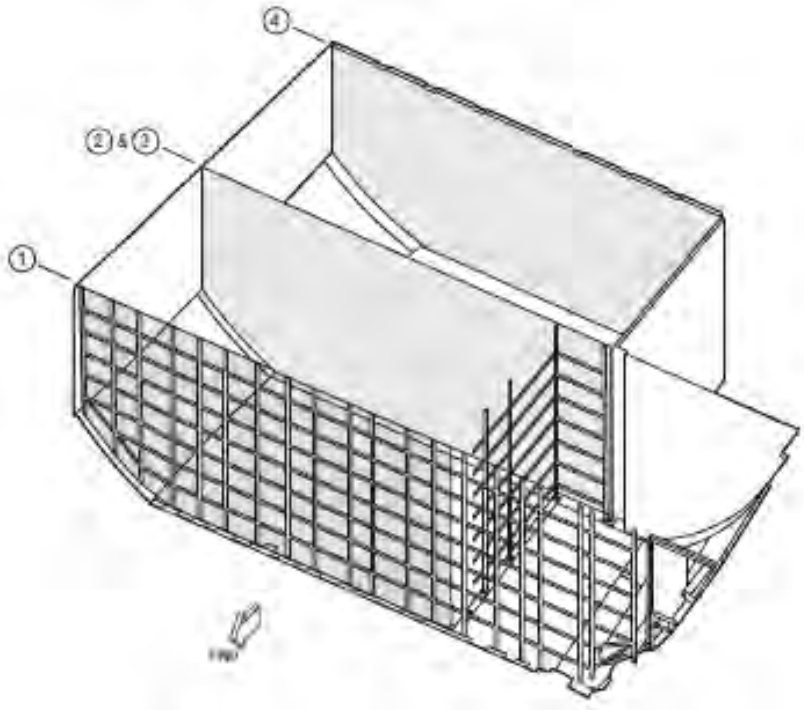
AFT HOLD ALLOWABLE PACKAGE SIZES										
HEIGHT [CM]	WIDTH [CM]									
	25	51	76	102	127	152	178	203	229	259
	LENGTH [CM]									
163	744	693	643	592	541	490	437	386	330	0
152	792	739	688	638	587	536	483	432	378	338
140	833	782	732	681	627	577	523	470	417	371
127	871	820	767	716	665	612	559	505	450	399
114	881	831	777	726	673	622	569	516	460	406
102	881	831	777	726	673	622	569	516	460	406
89	881	831	777	726	673	622	569	516	460	406
76	881	831	777	726	673	622	569	516	460	406
64	881	831	777	726	673	622	569	516	460	406
51	881	831	777	726	673	622	569	516	460	406
38	881	831	777	726	673	622	569	516	460	406
25	881	831	777	726	673	622	569	516	460	406
13	881	831	777	726	673	622	569	516	460	406

BULK CARGO HOLD

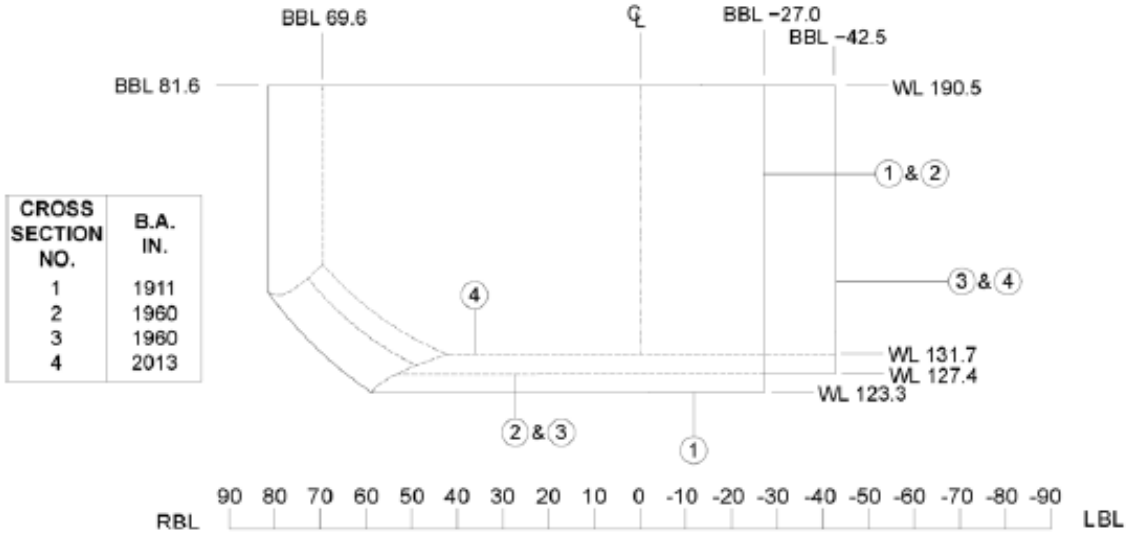
The following figure shows the bulk cargo hold boundaries.



The figure below illustrates the general layout of the bulk cargo hold. The numbered labels and shaded panels correspond to the cross-sections that follow the illustration.



The following cross-sections for the bulk hold can be used to determine ceiling clearances at various bulk cargo hold balance arms. The relative location of the cross-sectional cut can be determined by correlating the cross-section number to the general layout shown above.



CROSS SECTION NO.	B.A. IN.
1	1911
2	1960
3	1960
4	2013

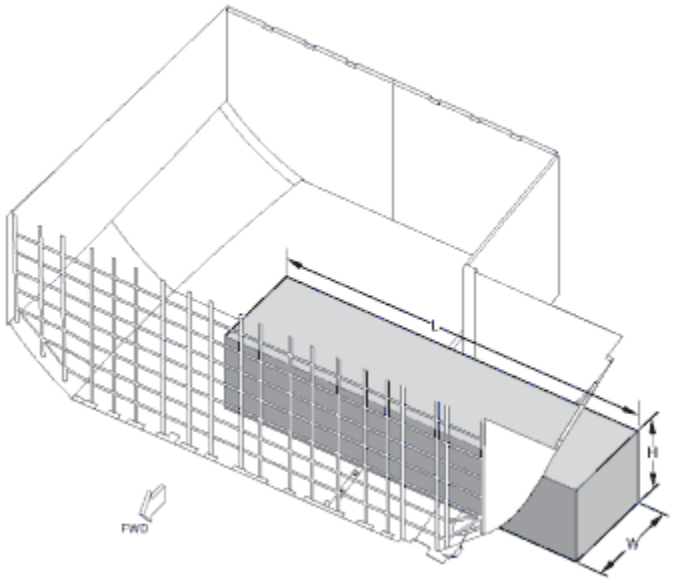
Cargo door dimensions and allowable package sizes.

This section provides dimensions of the maximum package sizes which will pass through the bulk cargo door opening. The maximum length is restricted by the geometry of the hold.

Package sizes are approximate. Tilting, twisting, bending and/or rotating packages through door openings will allow additional lengths in many cases, but should be determined for each situation. A trial loading is recommended for packages with dimensions close to maximum dimensions indicated in the tables.

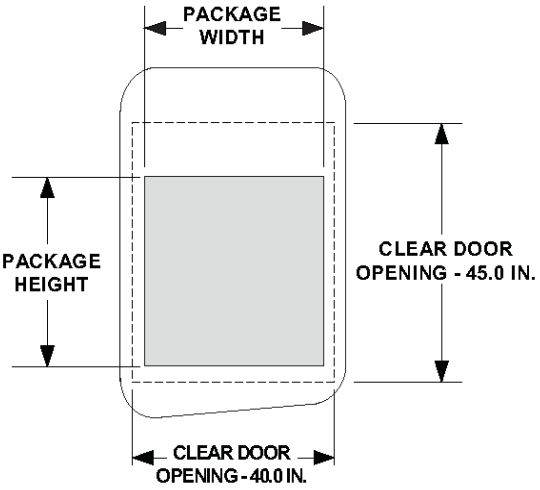
Allow for a minimum clearance of 2 inches from the ceiling liner, lights, and smoke detectors when loading the bulk hold.

Package size illustration.
The following illustration shows package dimensioning used in the allowable package size tables.


L
H
W
FWD

Door dimensions.

The following figure provides the bulk cargo door dimensions.



Allowable package sizes.

The following tables are applicable for packages loaded aft of the bulk cargo door (B.A. 1936.0 IN.).

BULK HOLD ALLOWABLE PACKAGE SIZES							
HEIGHT [CM]	WIDTH [CM]						
	13	25	38	51	64	76	89
	LENGTH [CM]						
112	305	305	292	279	267	254	241
102	318	305	292	279	267	254	241
91	318	305	292	279	267	254	241
81	318	305	292	279	267	267	241
71	330	318	305	292	279	267	254
61	330	318	305	292	279	267	254
51	330	318	318	305	292	279	267
41	343	330	318	305	292	279	267
30	343	343	330	318	305	292	279
20	356	343	330	318	305	305	292
10	368	356	343	330	318	305	292

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3.15 Live animals carriage

3.15.1 General rules

	Remarks
1.	There is no ventilation at all on the ground, or when flying unpressurized in the cargo compartments, so for the comfort and safety of the animal cargo it is important to minimize ground and taxi time.
2.	Animals should be loaded last and unloaded first.
3.	Luggage and other objects reduce the air available for animals to breath and therefore must be taken into account in estimates of compartment air volume.
4.	For safe transport of animal cargo in compartments it is important to determine the maximum number of hours that the cargo can remain in the compartments due to carbon dioxide concentration and cargo compartment temperature and humidity.
5.	When the flight arrives at its destination and at intermediate stops, the cargo door should be immediately open to ventilate the compartments, and then check the condition of the animals.
6.	• Containers for animal shall have ample ventilation holes. • The stacking arrangement of animal containers shall allow air circulation around and through the containers. • Additionally, dry ice, a frozen form of carbon dioxide used for refrigeration of cargo, shall never be loaded in the same compartment with live animals, as this can quickly produce dangerous concentrations of carbon dioxide in the air.
7.	Use a container that is escape-proof, leak-proof and of a proper size.
8.	Animals containers should be loaded at least 15 cm above the floor of the compartments to prevent excessive chilling, and container sides should be at least 10 cm from the other baggage to maximize ventilation.
9.	Animals containers must be securely attached to the compartment to prevent shifting.
10.	Other cargo should be restrained to prevent it from shifting and crushing the animal containers.
11.	Never use the baggage chute to deliver an animal.
12.	**Sick animals or animals in poor condition must not be loaded.**

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3.15.2 DHC-8-400

	Remarks
1.	The shipping of live animals in the aft baggage compartment of the Dash-8 Q400 is possible as the compartment is supplied with heated and pressurized cabin air as a function of the air-conditioning system.
2.	The greatest point of concern however is that the aft baggage compartment is a sealed area. With the door closed the door seal will inflate and seal the area, and if the aircraft has no power, the air inlet and outlet vents are also closed (Note that vent valves can be monitored via the Fire Protection Panel annunciator lights). This will lead to a lack of fresh air and depleted oxygen over an extended period - such as parking the aircraft for an extended period of time.
3.	If the Fire Suppression System were to be used, the inlet and outlet vents would close and the compartment would fill with Halon, resulting in the suffocation of any live cargo.

3.15.3 ERJ 170–100/–200 and ERJ 190–100/-200

CAUTION
Due to lack of Fwd Cargo Compartment Ventilation live animals carriage is **PROHIBITED** in ERJ190-200AR (registrations SP-LNG, SP-LNH, SP-LNI, SP-LNK, SP-LNL, SP-LNM, SP-LNN) ERJ190-100AR (registrations SP-LME, SP-LMF)

	Remarks
1.	Forward cargo compartment has ventilation system installed, but no dedicated temperature control is available for it.
2.	The air flowing from passenger cabin heats the FWD cargo compartment, providing proper conditions for live animal carriage.

The maximum and minimum shipment temperature (OAT) allowed to carry animals must be observed as in the table below:

ON GROUND TEMPERATURE LIMITATION OUTSIDE AIR TEMPERATURE DURING LOADING (OAT)		
LOAD	MIN. TEMPERATURE	MAX. TEMPERATURE
0 to Half Load	-7°C	35°C
Half Load to Full Load	-7°C	30°C

The minimum in flight temperature (SAT) allowed to carry animals is presented in the table below:

INFLIGHT TEMPERATURE LIMITATION STATIC AIR TEMPERATURE (SAT)		
LOAD	BLOCK TIME MAX 2 H. MIN. TEMPERATURE	BLOCK TIME MORE THAN 2 H MIN. TEMPERATURE
0 to 1/3 Part Load	-65°C	-34°C
1/3 to 2/3 Part Load		-40°C
2/3 to Full Load		-54°C

This information is not meant to ramp personnel, it is only for the pilot, who must know the maximum flight times versus load weight and outside temperature.
Even though the cargo compartment is climatized and ventilated, there is heat loss, then the maximum times must be complied with.

The volume of luggage placed in the cargo compartment does not affects the quantity of animals, as described in the AOM.
The amount of fresh airflow stays the same, as the quantity of air designated for ventilation does not alter.
The temperature of the environment tends to be even better, as the volume to be ventilated decreases with the increase of luggage. It is necessary to respect common sense and not let too many animals to be loaded together.

MAXIMUM SAFE ANIMAL LOADING ACCORDING TO CONDITIONS ABOVE ARE:

1. Dogs and cats

The temperature limits for these animals are within 10°C to 30°C range. Considering this and the humidity and CO_2 generation by animal metabolism, the number of animals as function of animal weight are stated in the table below:

Dog and Cat	
Weight [kg]	Load limitation [1]
1	140
5	36
10	18
25	8
50	4

[1] volume capacity is not taken into account herein

2. Small Birds

Small Birds weight [kg]	Load limitation [1]
0.03	4500
0.1	1500
0.3	500
1	160
2.5	80

[1] volume capacity is not taken into account herein.

3.15.4 B737 -800 / -86N / -8

The forward and aft compartments both have advantages for carrying animals. The warmest temperatures will occur in the forward end of the forward compartment, so it is the recommended location for transport of cold-sensitive animals. However, large animal loads may be better accommodated in the higher-volume aft compartment. The aft compartments is also preferred for odorous cargo, as there is a lower chance of odors reaching the passenger cabin from that location. The aft compartment is cooler and may be slightly better for animal transport in hot weather.

Approximate 737 Forward Cargo Compartment Temperature (°C) During Stable Cruise

Cold Day (below 0C on ground)

	Airspeed [Mach]		
Altitude [ft]	0.6	0.7	0.8
20000	5	7	9
25000	0	2	4
30000	-3	-1	1
35000	-3	-1	1
40000	-3	-1	1

Standard Day (0C to 32C on ground)

	Airspeed [Mach]		
Altitude [ft]	0.6	0.7	0.8
20000	15	17	20
25000	10	13	15
30000	6	8	11
35000	2	4	6
40000	1	3	5

Hot Day (above 32 C on ground)

	Airspeed [Mach]		
Altitude [ft]	0.6	0.7	0.8
20000	24	27	30
25000	20	22	25
30000	16	18	21
35000	11	14	16
40000	7	9	11

Notes: Temperatures are reached after 1.5 hours

Approximate 737 Aft Cargo Compartment Temperature (°C) During Stable Cruise

Cold Day (below 0C on ground)

	Airspeed [Mach]		
Altitude [ft]	0.6	0.7	0.8
20000	0	2	5
25000	-4	-2	0
30000	-7	-5	-3
35000	-7	-5	-3
40000	-7	-5	-3

Standard Day (0C to 32C on ground)

	Airspeed [Mach]		
Altitude [ft]	0.6	0.7	0.8
20000	10	12	14
25000	6	8	10
30000	2	4	6
35000	-2	0	2
40000	-3	-1	1

Hot Day (above 32 C on ground)

	Airspeed [Mach]		
Altitude [ft]	0.6	0.7	0.8
20000	19	21	24
25000	15	17	20
30000	11	13	15
35000	6	9	11
40000	2	4	7

Notes: Temperatures are reached after 1.5 hours

Tables below give the maximum loadings recommended for the 737 cargo compartments for different species of animals. The tables also include generic weight limits based on individual animal weight that may be used for animal species that are not specifically listed. The tables assume that the cargo compartment is empty and unmodified. If other luggage or compartment design modifications are present, the animal load limits should be reduced in proportion to the compartment space taken by the luggage/modifications. For example, if 25% of the compartment is filled with luggage or an auxiliary fuel tank, the animal load limits should be reduced by 25%.

737-800 / -86N / -8 Forward Compartment

Animal Type	Individual Animal weight (Kg.)	Maximum Animal Load (Kg.) (empty cargo compartment)*			
		Flight Length (Hours)			
		1	2	3	4 or more
Baby Chicks	0.05	113	110	74	55
Chickens	1	225	221	147	110
Small Birds	0.02	23	22	15	11
Large Birds	2	300	294	196	147
Monkeys	10	450	441	294	221
Small dogs	5	225	221	147	110
Medium Dogs	15	300	294	196	147
Large Dogs	50	500	490	327	245
Domestic Cats	4	180	176	118	88
Sheep	50	500	490	327	245
Other Animals (by animal weight)	0.1	30	29	20	15
	0.2	45	44	29	22
	0.5	64	63	42	32
	1	90	88	59	44
	2	113	110	74	55
	5	150	147	98	74
	10	225	221	147	110
	20	265	259	173	130
	50	409	401	267	201
	100	563	551	368	276
	200	750	735	490	368

(*) Reduce loading by 25% if compartment is 25% full of baggage; reduce loading by 50% if compartment is 50% full of baggage, etc.

737-800 / -86N / -8 Aft Compartment

Animal Type	Individual Animal weight (Kg.)	Maximum Animal Load (Kg.) (empty cargo compartment)*			
		Flight Length (Hours)			
		1	2	3	4 or more
Baby Chicks	0.05	163	151	100	75
Chickens	1	325	301	201	151
Small Birds	0.02	33	30	20	15
Large Birds	2	433	401	268	201
Monkeys	10	650	602	401	301
Small dogs	5	325	301	201	151
Medium Dogs	15	433	401	268	201
Large Dogs	50	722	669	446	334
Domestic Cats	4	260	241	161	120
Sheep	50	722	669	446	334
Other Animals (by animal weight)	0.1	43	40	27	20
	0.2	65	60	40	30
	0.5	93	86	57	43
	1	130	120	80	60
	2	163	151	100	75
	5	217	201	134	100
	10	325	301	201	151
	20	382	354	236	177
	50	591	547	365	274
	100	813	753	502	376
	200	1083	1003	669	502

(*) Reduce loading by 25% if compartment is 25% full of baggage; reduce loading by 50% if compartment is 50% full of baggage, etc.

3.15.5 B787-8 / -9

The Boeing 787 has a heating and ventilation system for the forward, aft and bulk cargo compartments, as well as a dedicated forward cargo exhaust system for odor control. In addition, Forward Cargo Air Conditioning system (FCAC) is available. Air conditioning is not available for either the aft or bulk compartments.

The cargo ventilation airflows and temperature control are summarized in table below:

Cargo Ventilation Summary		
Compartment	Air flow from cabin [cu.m / min]	Temperature Control point (deg C)
Forward with FCAC selected ON	34.0	4-27
Forward with FCAC selected OFF	34.0	None
Aft	22.7*	None
Bulk	3.5	21
*to bilge All other flows are to the sidewall nozzles (after L/N 90). Prior to L/N 90, the forward compartment sidewall nozzles get 17 cu.m / min.		

The warmest temperatures will occur in the forward compartment, so it is the recommended location for transport of cold-sensitive animals

The forward, aft and bulk actual temperatures are shown on the Air Synoptic Page along with the forward and bulk target temperatures. The target temperature is shown first followed by the actual temperature. Since the aft compartment temperature is not controlled, there is no target temperature shown. With FCAC, the forward target temperature is blanked out when FCAC is selected OFF, but the actual temperature will be displayed. The displayed forward and bulk temperatures are the average of the two compartment temperature sensors. Aft cargo temperature indication is provided by temperature measurement function of the smoke detectors. The average temperature at all the smoke detectors is used.

Refer to Boeing document D624Z003-01 “Live Animal Carriage in 787 Cargo Compartments” for details.

3.16 Effect of COG position on fuel consumption

	Remarks	
Policy	• The table below shows, for LOT Polish Airlines' aircraft, the IDEAL TRIM VALUES expressed in %MACZFW which need be achieved, whenever possible, for fuel saving purposes. • It is recommended to distribute the load in such a way that the Centre of Gravity position at Zero Fuel Weight (%MACZFW) is in range shown below.	
	Type of aircraft	**MACZFW [%]**
	ERJ 170-100	19% - 22%
	ERJ 170-200	20% - 23%
	ERJ 190-100/-200	22% - 26%
	DHC-8-400	25% - 27%
	B787-8 / -9	27% - 30%
	B737-800 / -8	24% - 28%

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3.16.1 ERJ 170-100/-200 and ERJ 190-200 loading guidelines

It is common knowledge that aft center of gravity location saves fuel. Load distribution tables published below are intended to help load control agents to achieve optimum trim in typical loading cases. Please mind that your flight may vary from what we assumed and our guidelines may not always works. Nevertheless we believe that they can help in your load planning work.

ERJ 170-100 LOADING GUIDELINES
Suggested PAX / BAGS distribution to achieve optimum trim line (MACTOW 18% or more)
Assumptions:
* baggage 14 kg / pc
* average DOW / DOI for the fleet (22078 kg / 60)
* fuel uplift up to 5000 kg

pax	pax per sectors			baggage (pcs)	baggage per compartment (pcs)			
	A	B	C		1	2	3	4
10	4	3	3	10	4			6
20	7	7	6	20	10			10
30	10	10	10	30	15		5	10
40	14	14	12	40	15		15	10
50	17	17	16	50	20	3	17	10
60	20	20	20	60	20	10	20	10
70	22	24	24	70	20	20	20	10

ERJ 170-200 LOADING GUIDELINES
Suggested PAX / BAGS distribution to achieve optimum trim line (MACTOW 18% or more)
Assumptions:
* baggage 14 kg / pc
* average DOW / DOI for the fleet (22793 kg / 68)
* fuel uplift up to 5000 kg

pax	pax per sectors			baggage (pcs)	baggage per compartment (pcs)			
	A	B	C		1	2	3	4
10	5	5	0	10	5			5
20	7	7	6	20	15			5
30	10	10	10	30	23			7
40	14	14	12	40	24		6	10
50	17	17	16	50	30		10	10
60	20	20	20	60	30	3	17	10
70	25	20	25	70	30	10	20	10
82	30	20	32	82	30	21	21	10

ERJ 190-200 LOADING GUIDELINES

Suggested PAX / BAGS distribution to achieve optimum trim line (MACTOW 20% or more)
Assumptions:
* baggage 14 kg / pc
* average DOW / DOI for the fleet (30259 kg / 53)
* fuel uplift up to 6900 kg

pax	pax per sectors			baggage (pcs)	baggage per compartment (pcs)			
	A	B	C		1	2	3	4
10	2	8	0	10			10	
20	4	16	0	20			20	
30	6	24	0	30			30	
40	8	32	0	40			40	
50	12	36	2	50			45	5
60	18	36	6	60			58	2
70	24	36	10	70			58	12
80	30	36	14	80			58	22
90	35	36	19	90		10	58	22
100	40	36	24	100		19	58	23
112	40	36	36	112	33	21	58	

3.17 Cost of weight (COW)

Cost of weight (COW) is a primary parameter for determination of the associated cost impact expressed in fuel burn change when weight is added to, or removed from, a flight.' (IATA: Guidance Material for Best Practices for Fuel and Environmental Management, 4th Edition, October 2009). Weight can be fuel, water, aircraft equipment, duty-free goods, payload, etc.

Cost of Weight per Flight Hour

A/C Type	Average Flight Time [hh:mm]	COW-LW [%]	COW-TOW [%]
DHC-8-400	00:51	3.5%	3.4%
ERJ170/175	01:15	4.7%	4.4%
ERJ190/195	01:20	4.4%	4.2%
737-800	02:14	3.6%	3.3%
737-8	02:23	2.9%	2.7%
787-8/-9	09:07	3.0%	2.4%

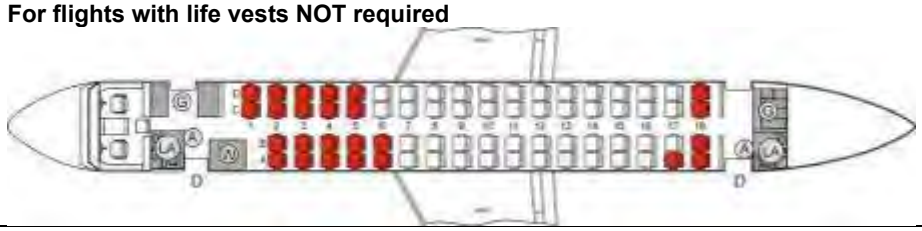
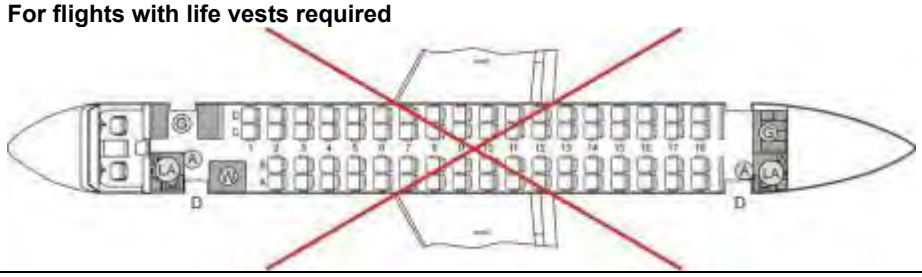
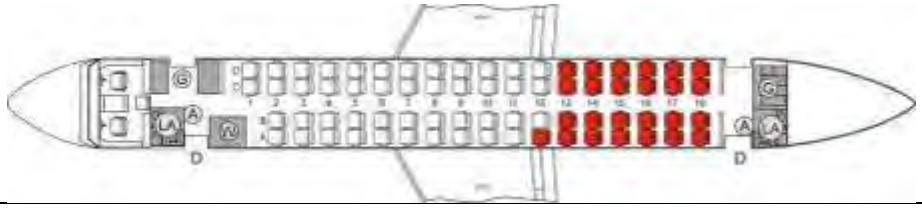
COW (TOW) factor should be used in cases where there is a change of fuel carried: extra fuel uplift, tankering, reduced reserves.

COW (LW) factor should be used for weight changes in ZFW: extra payload, reduced water, reduced catering, aircraft ZFW reduction projects.

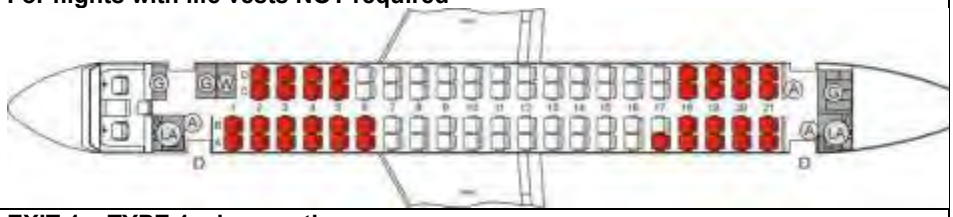
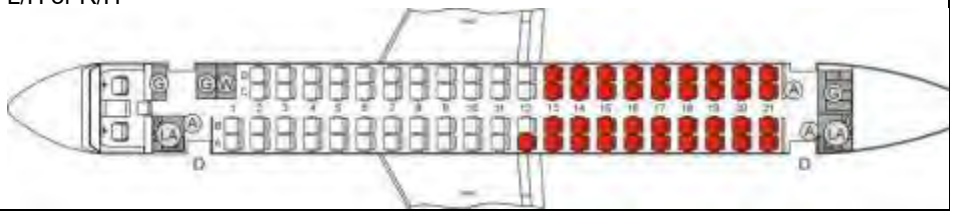
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3.18 Passengers seats restrictions with the emergency exits inoperative

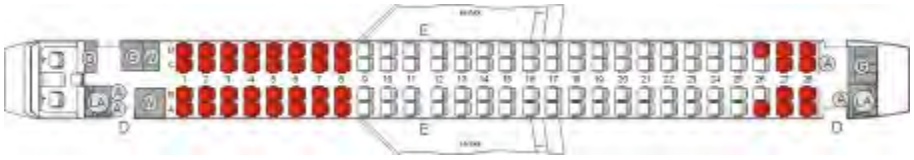
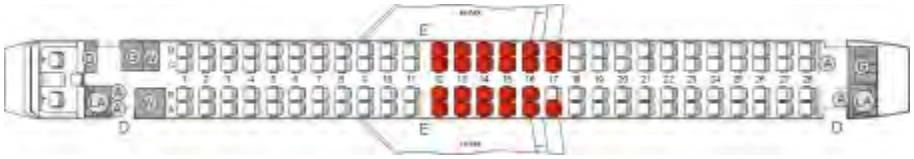
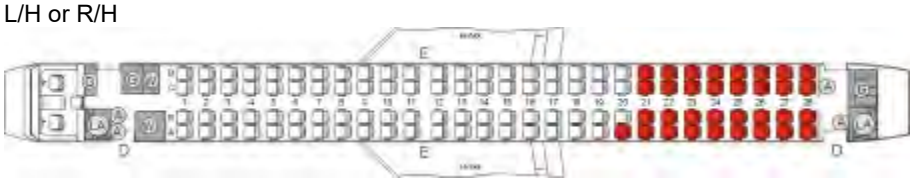
3.18.1 ERJ 170-100

ERJ 170-100 Blocked seats: Row 1 – Row 6AB Row 17A – Row 18	**EXIT 1 – TYPE 1 – inoperative** L/H or R/H **For flights with life vests NOT required** 
ERJ 170-100 A/C not admitted to flight	**EXIT 1 – TYPE 1 – inoperative** L/H or R/H **For flights with life vests required** 
ERJ 170-100 Blocked seats: Row 12A – Row 18	**EXIT 3 – TYPE 1 – inoperative** L/H or R/H 

3.18.2 ERJ 170-200

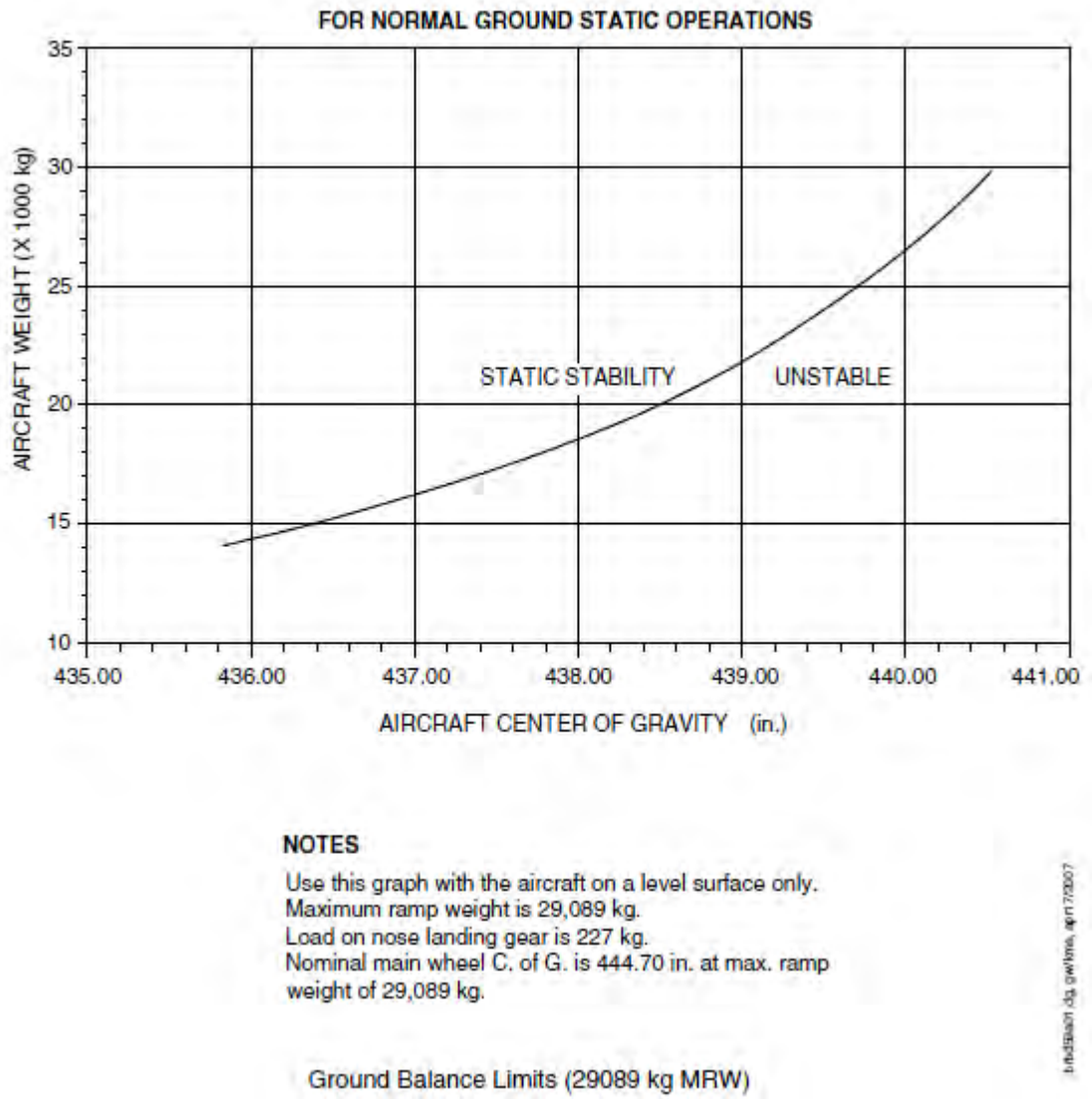
ERJ 170-200 Blocked seats: Row 1 – Row 6AB Row 17A – Row 21	**EXIT 1 – TYPE 1 – inoperative** L/H or R/H **For flights with life vests NOT required** 
ERJ 170-200 A/C not admitted to flight	**EXIT 1 – TYPE 1 – inoperative** L/H or R/H **For flights with life vests required** 
ERJ 170-200 Blocked seats: Row 12A – Row 21	**EXIT 3 – TYPE 1 – inoperative** L/H or R/H 

3.18.3 ERJ 190-200

ERJ 190-200 Blocked seats: Rows 1 – 8 Rows 27 – 28 Row 26 AD	**EXIT 1 – TYPE I – inoperative** L/H or R/H 
ERJ 190-200 Blocked seats: Rows 12 – 16 Row 17A&CD	**EXIT 2 – TYPE III – inoperative** L/H or R/H 
ERJ 190-200 Blocked seats: Rows 21 – 28 Row 20A	**EXIT 3 – TYPE I – inoperative** L/H or R/H 

3.19 Towing and tipping limitations

3.19.1 DHC-8-400



NOTES

Use this graph with the aircraft on a level surface only.
Maximum ramp weight is 29,089 kg.
Load on nose landing gear is 227 kg.
Nominal main wheel C. of G. is 444.70 in. at max. ramp weight of 29,089 kg.

Ground Balance Limits (29089 kg MRW)

Arm to MAC conversion

Arm [in]	435	436	437	438	439	440	441
MAC [%]	64%	65%	67%	68%	69%	70%	71%

3.19.2 ERJ 170-100/-200 and ERJ 190-100/-200

The aft tipping limit is at 56.0% CG, which corresponds to the CG of the main landing gear wheel axle position measured from airplane datum. From CG positions greater than this, tipping is expected. The minimum recommended static margin (difference between the aft tipping limit and the airplane CG) is 5%.

To avoid the occurrence of airplane tail tipping, it is recommended :

- to have assigned seats avoiding a concentrated passengers distribution. However, if it is detected a tendency of passengers concentration forward or aft, the crew shall move the passengers in order to allow for a better distribution along the cabin.
- the forward cargo compartment should begin to be loaded before the aft cargo compartment, while the aft cargo compartment should begin to be unloaded before the forward cargo compartment

3.19.3 B737-800 / -86N

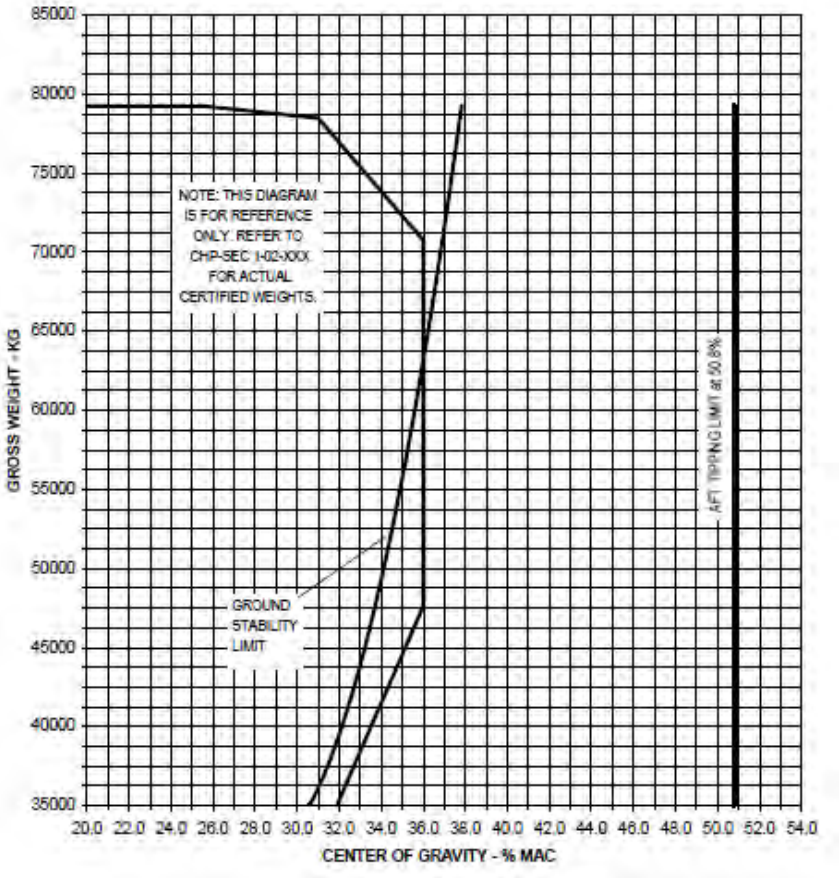
Tipping is generally not a concern for 737-800 airplanes if good judgement is exercised in maintaining airplane stability during ground operations. Effects of towing and ground operations on the airplane center of gravity must be taken into account. The absolute tipping limit for the 737-800 airplane is at 50.8% MAC, considerably aft of the ground stability limit. Some of the major factors affecting the airplane tipping and stability limits will include, but are not limited to the following items:

- Airplane Empty Weight
- Airplane Attitude
- Fuel Loading
- Passenger Loading
- Cargo Loading
- Ramp Slope
- Runway Surface Condition
- Snow Loads
- Wind Loads

The ground stability limit takes into account the effects of the following:

- 3% Ramp slope
- Towing forces
- 40 knot headwind

By ensuring that the airplane center of gravity during towing is more forward than the ground stability limit a tipping situation will be avoided.



Warning!

During unloading / disembarkation
It is forbidden:
- *To unload forward cargo hold (compartments 1 and 2) before the aft cargo hold (compartments 3 and 4) is fully unloaded;*

It is recommended:
- *Whenever possible, if both forward and aft doors are in use to start disembarkation through aft door first*
- *To invite passengers to seat or remain seated in the forward part of the cabin*

During loading / embarkation
It is recommended:
- *To load up to 70% of the deadload mass into aft hold and at least 30% of the deadload mass into forward hold.*
- *Always load the forward hold first.*
- *If both forward and aft doors are in use to start boarding through forward door first.*

3.19.4 B737-8

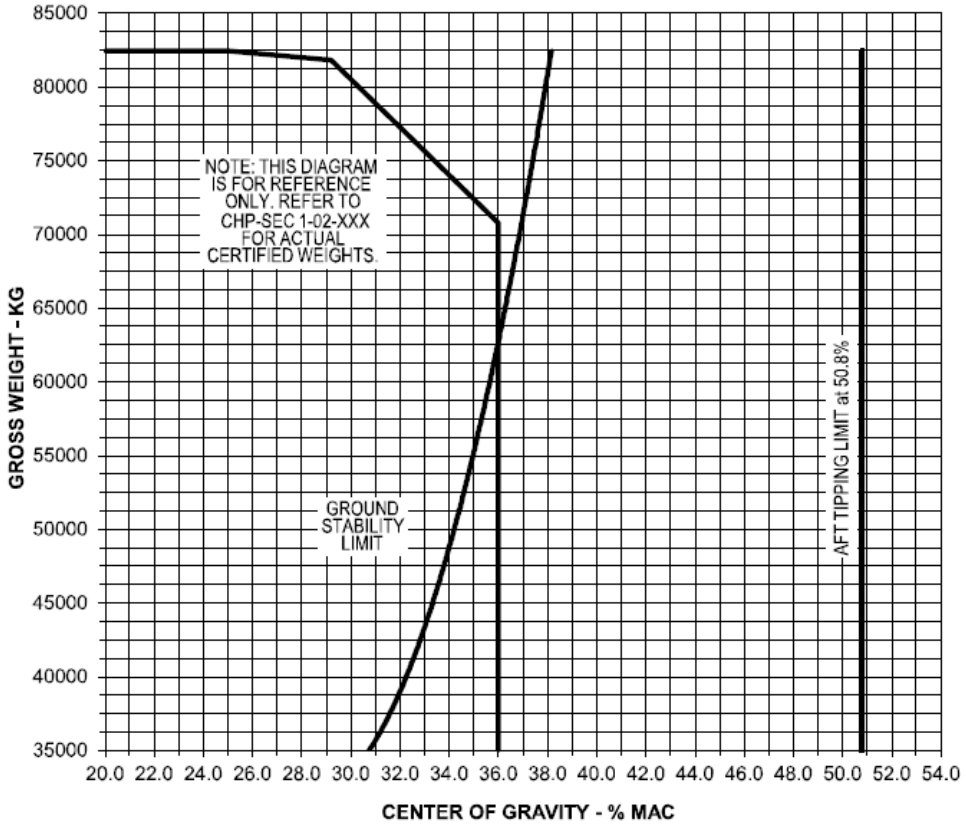
Tipping is generally not a concern for 737-8 airplanes if good judgement is exercised in maintaining airplane stability during ground operations. Effects of towing and ground operations on the airplane center of gravity must be taken into account. The absolute tipping limit for the 737-8 airplane is at 50.8% MAC, considerably aft of the ground stability limit. Some of the major factors affecting the airplane tipping and stability limits will include, but are not limited to the following items:

- Airplane Empty Weight
- Airplane Attitude
- Fuel Loading
- Passenger Loading
- Cargo Loading
- Ramp Slope
- Runway Surface Condition
- Snow Loads
- Wind Loads

The ground stability limit takes into account the effects of the following:

- 3% Ramp slope
- Towing forces
- 40 knot headwind

By ensuring that the airplane center of gravity during towing is more forward than the ground stability limit a tipping situation will be avoided.



3.19.5 B787-8

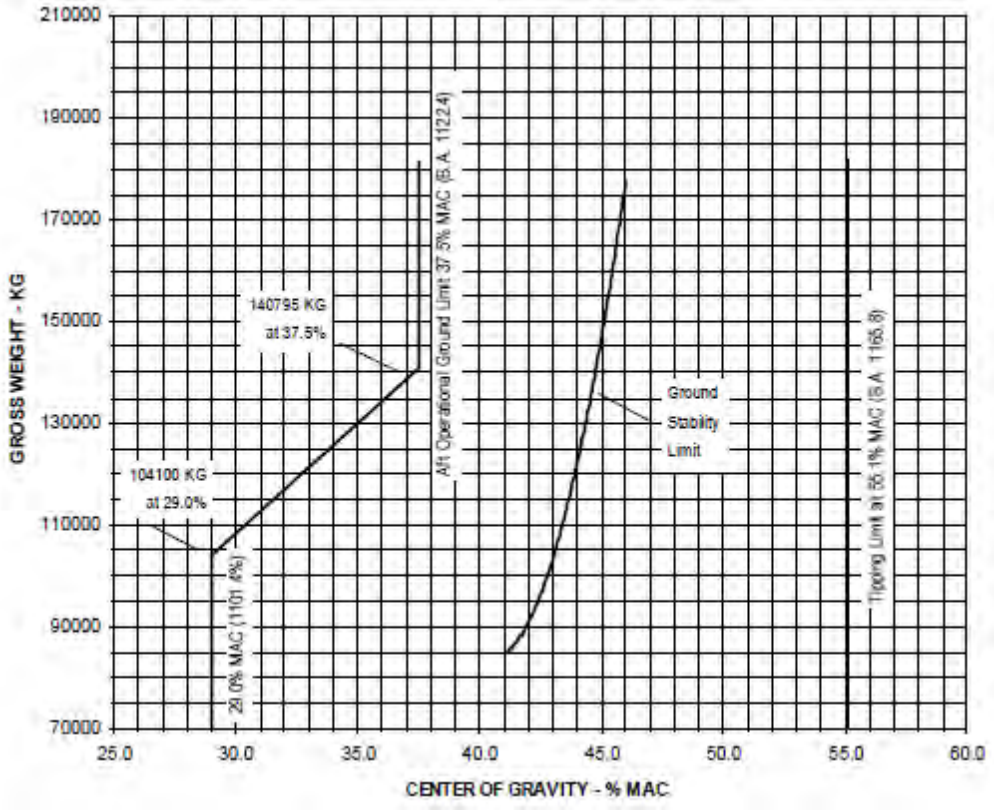
Tipping is generally not a concern for 787-8 airplanes if good judgement is exercised in maintaining airplane stability during ground operations. Effects of towing and ground operations on the airplane center of gravity must be taken into account. The absolute tipping limit for the 787-8 airplane is at 55.1% MAC, considerably aft of the ground stability limit. Some of the major factors affecting the airplane tipping and stability limits will include, but are not limited to the following items:

- Airplane Empty Weight
- Airplane Attitude
- Fuel Loading
- Passenger Loading
- Cargo Loading
- Ramp Slope
- Snow Loads
- Wind Loads

The ground stability limit takes into account the effects of the following:

- 3% Ramp slope
- Towing forces
- 35 knot headwind

By ensuring that the airplane center of gravity during towing is more forward than the ground stability limit, a tipping situation will be avoided. See the Maintenance Manual for towing procedures and ground stability limits during maintenance.



3.19.6 B787-9

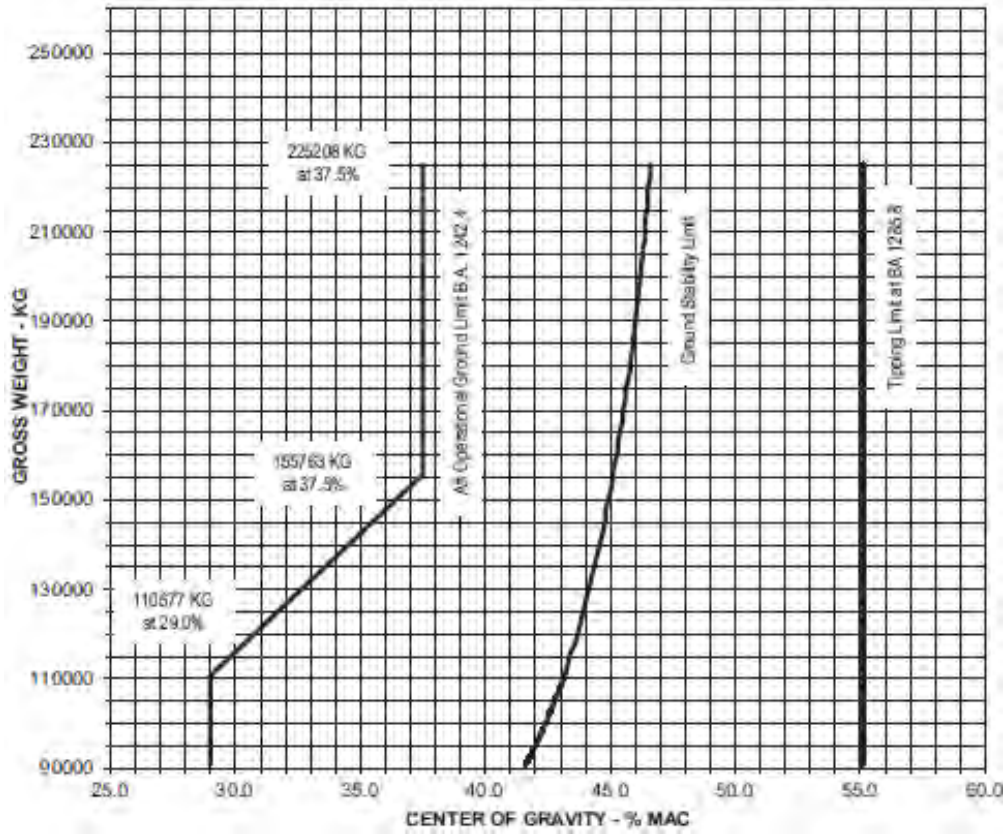
Tipping is generally not a concern for 787-9 airplanes if good judgement is exercised in maintaining airplane stability during ground operations. Effects of towing and ground operations on the airplane center of gravity must be taken into account. The absolute tipping limit for the 787-9 airplane is at 55.1% MAC, considerably aft of the ground stability limit. Some of the major factors affecting the airplane tipping and stability limits will include, but are not limited to the following items:

- Airplane Empty Weight
- Airplane Attitude
- Fuel Loading
- Passenger Loading
- Cargo Loading
- Ramp Slope
- Snow Loads
- Wind Loads

The ground stability limit takes into account the effects of the following:

- 3% Ramp slope
- Towing forces
- 35 knot headwind

By ensuring that the airplane center of gravity during towing is more forward than the ground stability limit, a tipping situation will be avoided. See the Maintenance Manual for towing procedures and ground stability limits during maintenance.



3.20 Centralized Load Control

Flight allocation to respective CLC HUB

- LO WAW LSL – all flight departing from airports in Poland and selected flights departing from airports outside Poland

Contact details:

Domain name:	LO WAW LSL
Email addresses:	vera-lh@lsas.aero
SITA:	WAWKKXH, WAWVRXH WAWSVXH
Telephone:	+48 22 206 94 40 +48 22 206 94 29
Fax:	+48 22 206 95 39

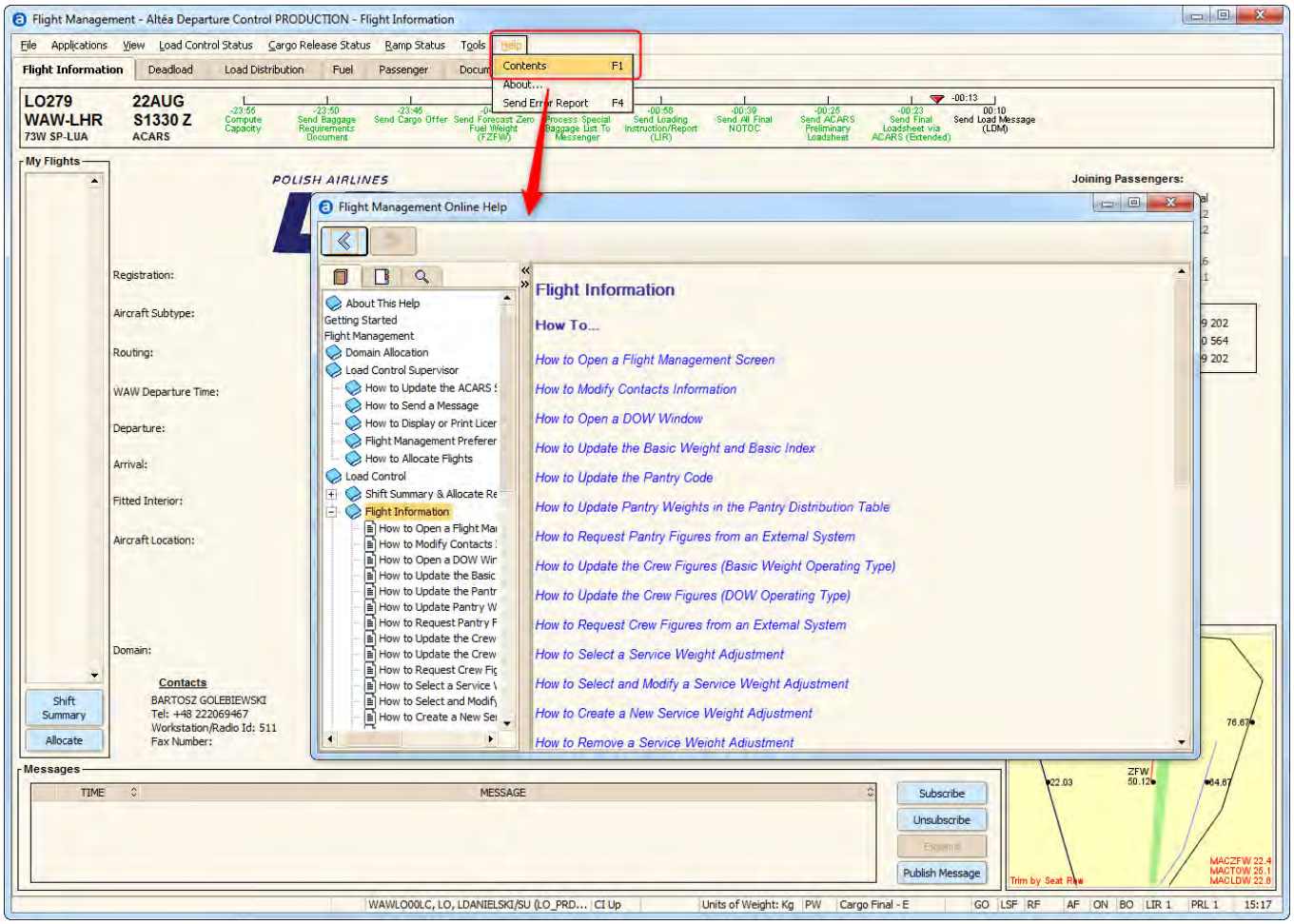
Note that conversations with phone numbers above are recorded.

3.20.1 Procedures for Load Controller

Note: Below provisions are applicable for both CLC and local load control
Duties of Load Controller starting shift

	Actions to be taken by Load Controller starting shift
1	**Add phone number to Welcome Screen**
2	**Allocate flights**
3	**Subscribe Messenger**
4	**Check flights – FZFW, Pantry etc.**
5	**Reallocate flight – at the end of the shift please allocate all flights to shift supervisor (make sure that supervisor has received them)**

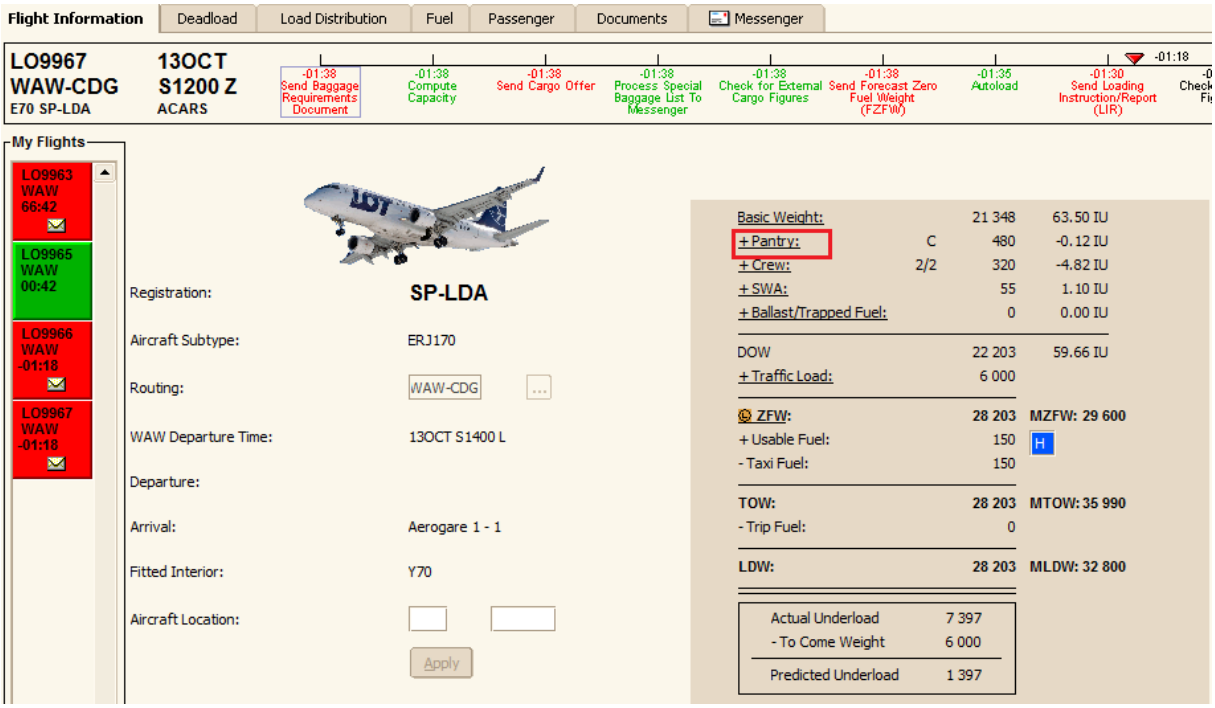
Reminder
Instructions and procedures for use of Altea FM are published in the "LOT Altea Flight Management Load Controller Manual."
They are also available under Help menu (F1) in the Altea FM system.



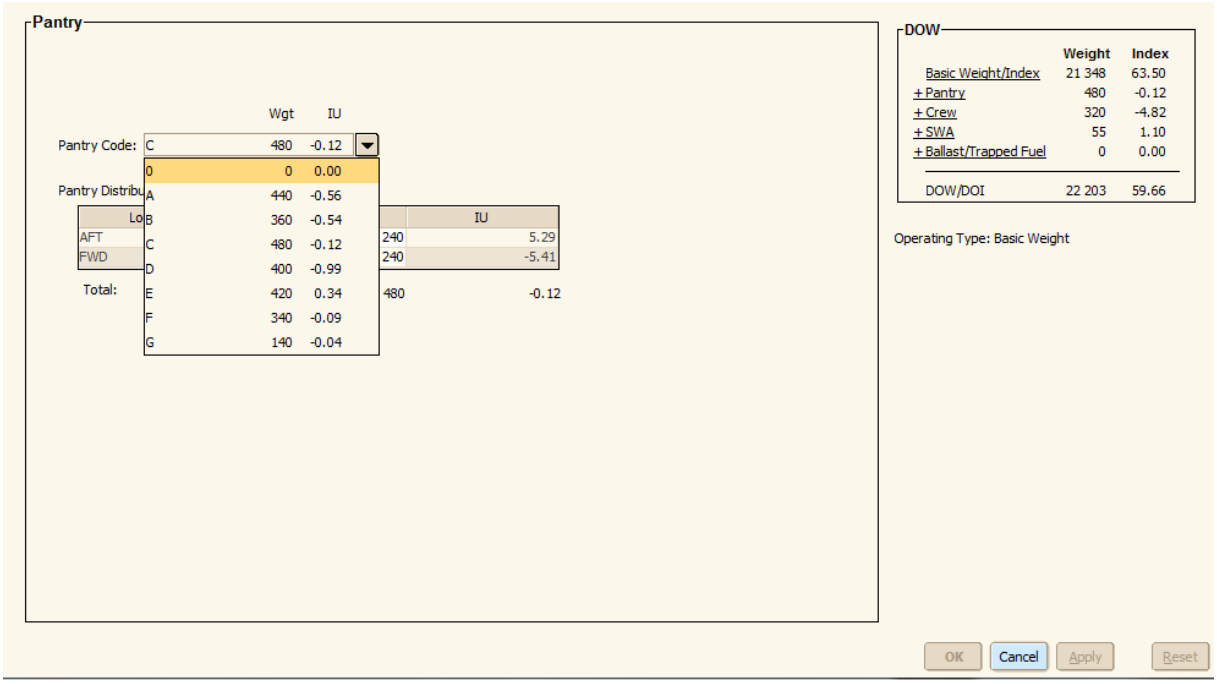
Non-Standard Pantry

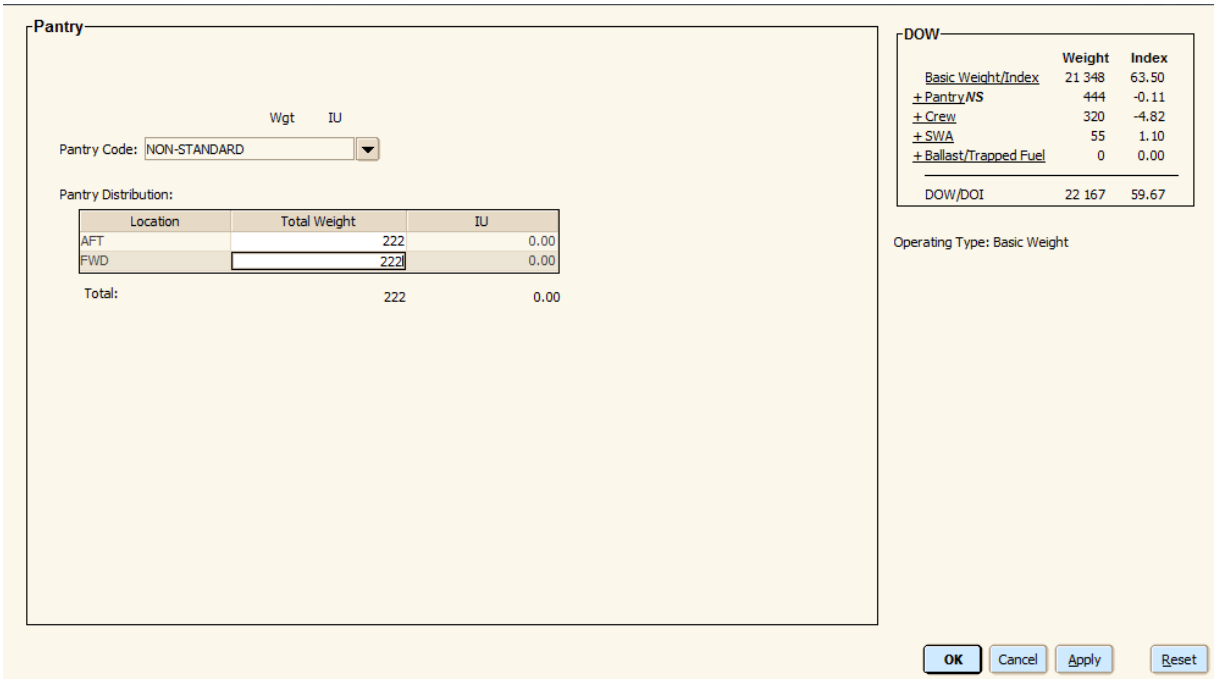
If there will be non-standard pantry Load Controller must change it in the Pantry Tab. Please fallow steps below:

1. Go to the Flight Information Screen
2. Click on the Pantry



3. Go to the Pantry codes and please choose Pantry "0"





4. Please put new pantry weights for correct location and pleas click OK or Apply

Information about Cargo Provisional / Final

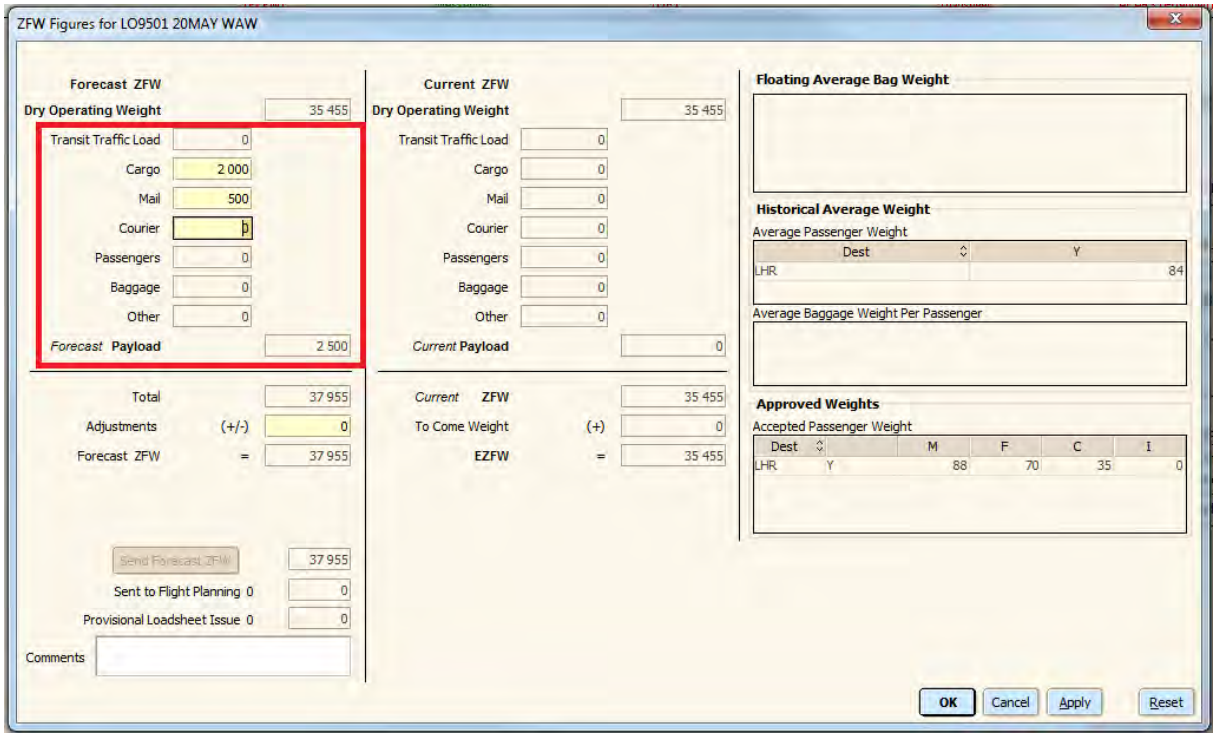
In case of system failure at station side Load Controller will receive information about the provisional cargo and will put figures manually into system to provide correct EZFW.

Load Controller is also obliged to put final cargo figures in case of station system failures.

Estimated Zero Fuel Weight

EZFW message will be send automatically from Altea FM system to LOT dispatch. To provide correct EZFW figures Load Controller must check each flight for figures:

- Cargo figures
- Mail Figures
- In case of offline stations passenger and baggage figures



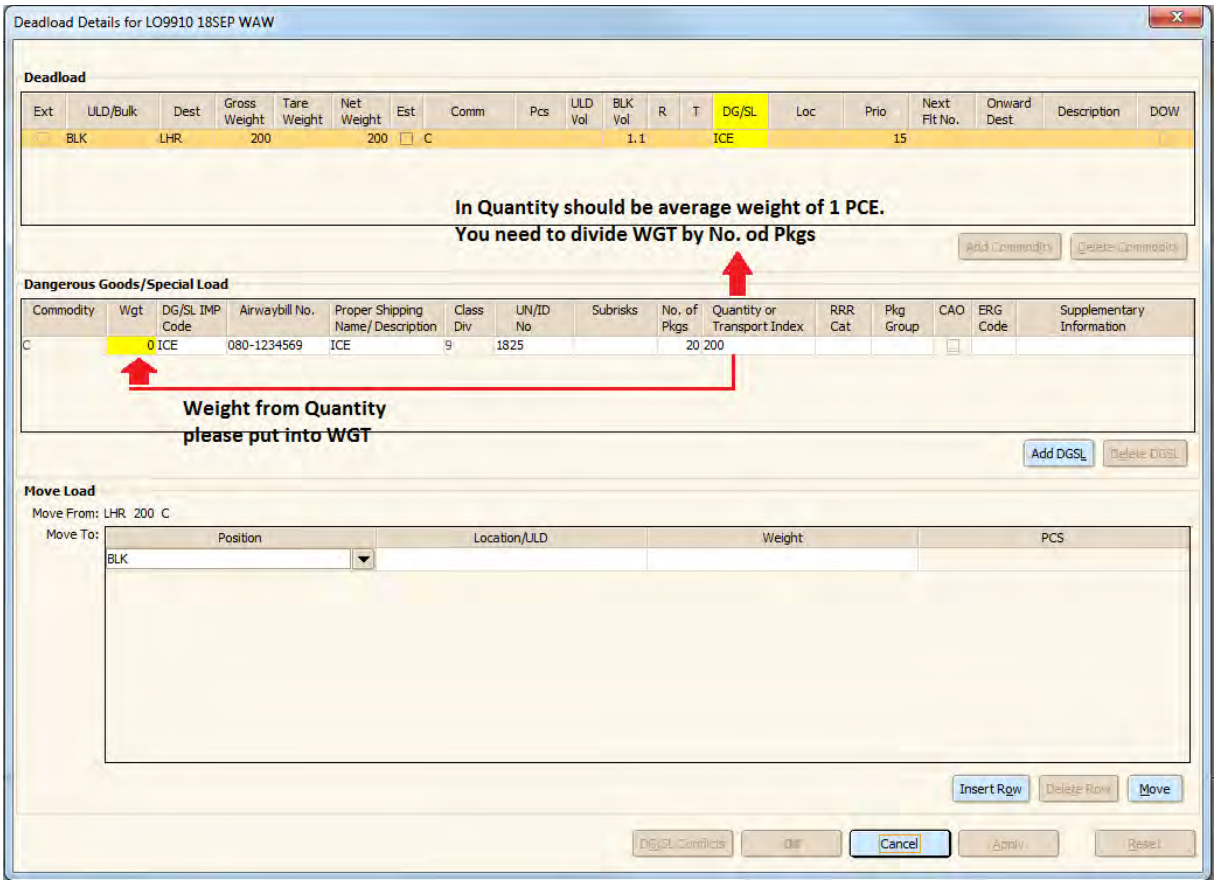
Update of EZFW will be send when change in EZFW will exceed limits. Altea FM will ask for permission to send new figures. Load Controller must check all figures to send message without any mistake in new EZFW figures. To see limits please refer to table below.

Type of Aircraft	Change
Containerized Aircraft	More than 800 kgs
Non-Containerized Aircraft	More than 500 kgs

NOTOC Message

When system receive the NTM (NOTOC Message) Load Controller must update the DG/SL fields because in this window field WGT will be empty. Please follow instruction below:

1. NTM Message received
2. Go to Deadload Screen



3. Please put weight in the WGT field from Quantity or Transport Index
4. Please update the Quantity or Transport Index by dividing WGT by No. of Pkgs
5. Please click OK or Apply

Loading Instruction Report

After having finalized Loading Instruction Report (LIR), Load Controller will release it to the designated email/TTY addresses of the station. The ramp agent in charge will verify flight nbr, aircraft reg. and date, to ensure the correct document is received. Load Controller will send two editions of LIR. First will be sent to Ramp Agent to update all ULD's number. After adding all details Load Controller is obligate to send Final LIR.

Contingency

If the standard distribution of LIR is not possible, then LIR will be sent manually via SITA message or e-mail or fax.

Timings for LIR:

Type of Aircraft	Times STD (-HH:MM)
Containerized Aircraft	-02:00 STD
Non-Containerized Aircraft	-01:30 STD

Baggage commodities in LIR:

COMMODITY	SUBCOMMODITY	CATEGORY
B - Baggage	**C**	BUSINESS BAGGAGE
	P	PREMIUM ECONOMY BAGGAGE
	T	TRANSFER BAGGAGE
	Y	ECONOMY BAGGAGE
C		CARGO
		DIPLOMATIC
E		EQUIPMENT
L	**H**	DAA
	X	RUSH TAG BAGS
	D	CREW BAGS
		PALLET STACK
		COMAIL
M		MAIL
Q		COURIER
X		EMPTY ULD'S

Please remind that when the aircraft registration will be change you need to send once again LIR in other case you won't be able to send Final LS.

Change of Loading Instruction Report (out stations)

Each Load Controller in case when Trim is not sufficient is able to change loading instruction report not later than 50 min before STD. New edition of LIR must be sent to station and Load Controller must informed them about this change by the messenger or the telephone.

Crew Bags

Crew baggage shall be checked-in in Altéa CM. The Crew baggage will be added to the deadload as commodity LD (in weight) with DG/SL CRB by CLC HUB, as per the crew figures and route. The total number of crew bags loaded shall be confirmed by Ramp Agent during Ramp Clearance process. Standard weight for Crew Bags is 15 kgs per piece.

Offload Priority in Case of Overload

In case of overload on LO flight please refer to GHM 4.7.6 to check offloading priority.

Release Final NOTOC

Load Controller is obliged to send Final NOTOC, it will be send via ACARS to airplane fitted with this system. NOTOC will be created in Altea FM system after adding cargo and NOTOC details by Ramp Agent. Load Controllers duty is to check all DG/SL codes, quantities and loading separations according to GHM Chapter 7.4.2.3
On Non-Acars airplanes Final NOTOC can be send via TTY message, e-mail or fax.

Contingency
In case that Altea FM is not available to provide NOTOC, the local Cargo department will make a manual NOTOC at the station.

Correct RTOW/RLDW in system

In case of overload caused by RTOW / RLDW or any doubts regarding RTOW / RLDW finals, Load Controller shall contact flight crew for clarification.

Preliminary Load Sheet

In order to provide PIC with a Preliminary Load Sheet, the document will be sent to aircraft via an ACARS message and to the designated station address. As the Preliminary Load Sheet is for information only, no confirmation is required.

Contingency

The Preliminary Load Sheet is as a standard sent to a designated station address, should ACARS delivery fail or for airplane not equipped with ACARS, this copy can be printed and presented to PIC.

Final Load Sheet

Load Controller will release Final ACARS Load Sheet directly to the aircraft and to the designated TTY, printer address or e-mail , after Ramp Clearance and Acceptance Finalized. Altea FM will receive an automated message regarding the delivery status of the Load Sheet.

Ramp Clearance shall be done at load control status approve distribution completed (LC) and acceptance status finalized (AF) only.

Contingency

The Final Load sheet is as a standard sent to the station gate or office, should ACARS delivery fail, this copy needs to be printed and presented to PIC**. In case of outage of Altea FM in CLC HUB Load Controller is obligated to prepare manual Load Sheet and send it to station. For manual Load Sheet please go to the Appendix 1 in this document.**

Additionally

Each Load Controller before sending Final Load Sheet must do the cross check to prevent sending incorrect Load Sheet. Figures to check:

- Fuel Figures
- Crew
- Restrictions
- Registration of Aircraft
- Load Distribution

LMC – Last Minute Change

Each time when Load Controller receive information about the LMC must check limits for LMC (please refer to GHM Chapter 3.9 to see limits on LOT aircrafts).

ACARS Loadsheet shall be sent after each LMC.

EDP Loadsheet shall be sent only when the LMC exceed limits.

Each change must be done before departure of aircraft.

Flight Status Departed

There are 2 ways to depart the flight in the system:

1. By MVT message
2. Manually in system

By MVT message

Each flight can receive MVT message going form the NETLINE and the status will go from GO to GD.

Manually in system

Sometimes MVT can be wrongly written and won't go to system automatically. If the status won't change couple minutes after aircraft airborne Load Controller must put ATD to system

Steps to put ATD to system:

1. Go to the applications
2. Click on the Departure Control
3. Go to the bottom of the menu
4. Put ATD in the Timings section in ATD(L)
5. Click Apply or OK

Statuses needed to depart the flight (the same when the MVT will be send)

GO – General Open	LSF – Load Sheet Finalized	RF – Ramp Finalized	AF – Acceptance Finalized

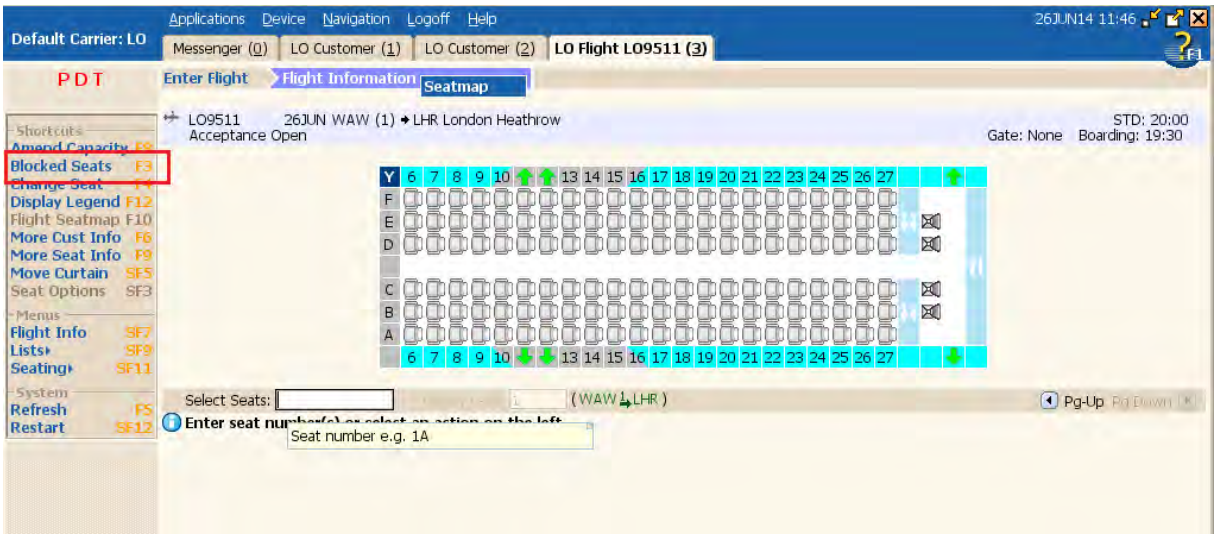
What to do in case o LMC

1. *Open Flight to do changes in loading or in passenger figures*
2. *Wait till changes will be done*
3. *Wait for confirmation of the loading and for acceptance status*
4. *Send new Load Sheet.*

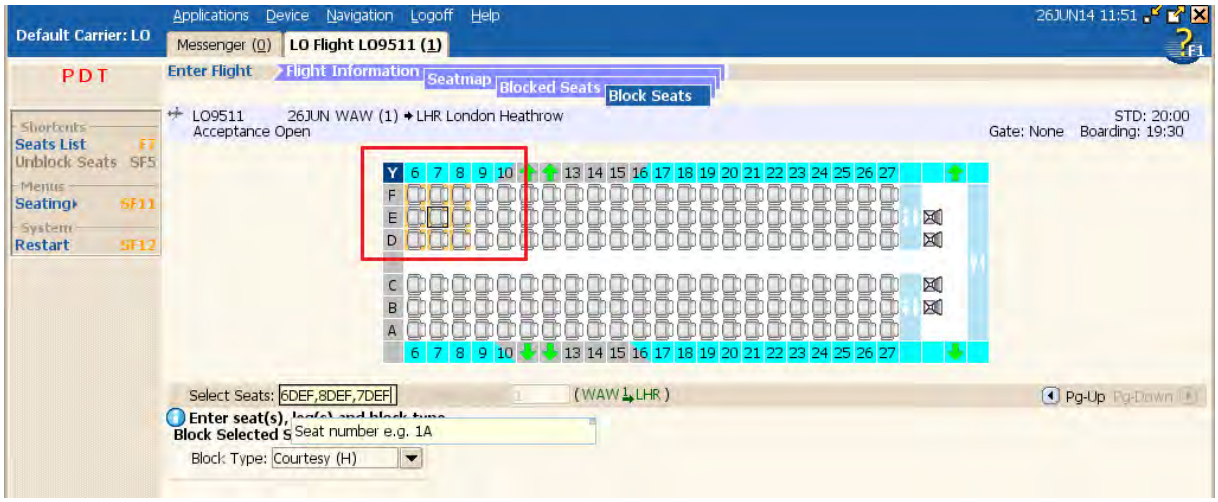
Seat Blocking

Seat Blocking – All Station
In case Load Controller expects trim problems it is allowed to block seats. Load Controller must inform check in supervisor (HELP DCS in WAW or CKI Supervisor in out stations) about seats blocking.
Follow steps below to block a seat:

1. Contact HELP DCS (WAW) (or CKI Supervisor in out stations) to agree seats to be blocked.
2. Find Flight in Altea CM

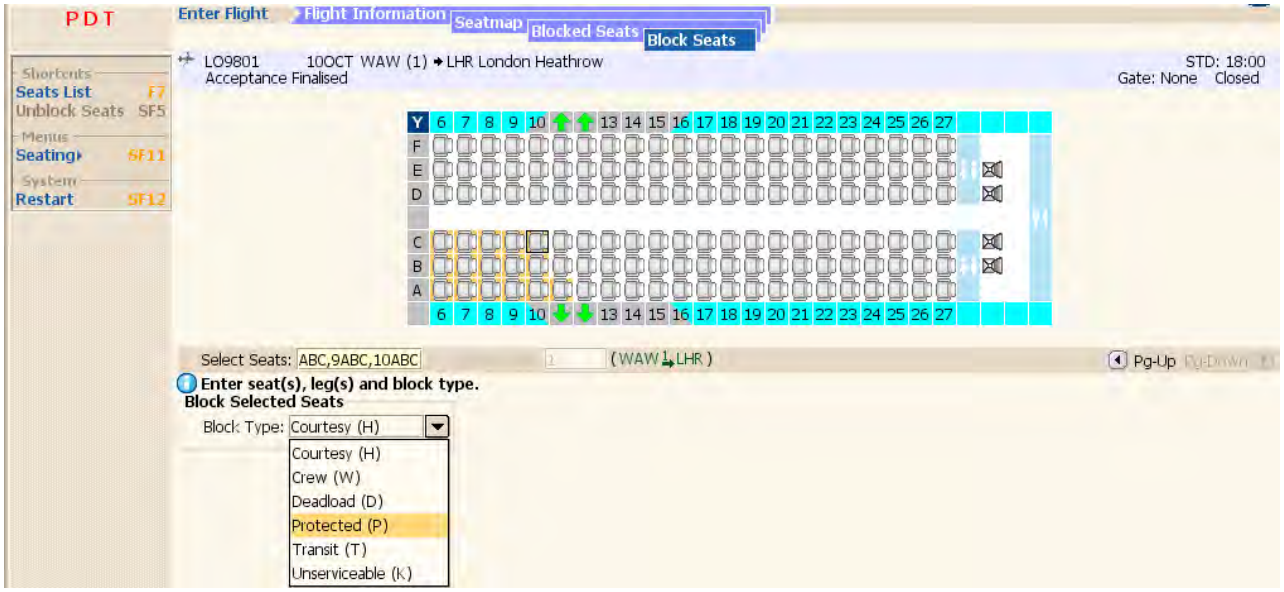


3. Go to the Seat Map by clicking F7 button
4. Click again on F3 or from the menu

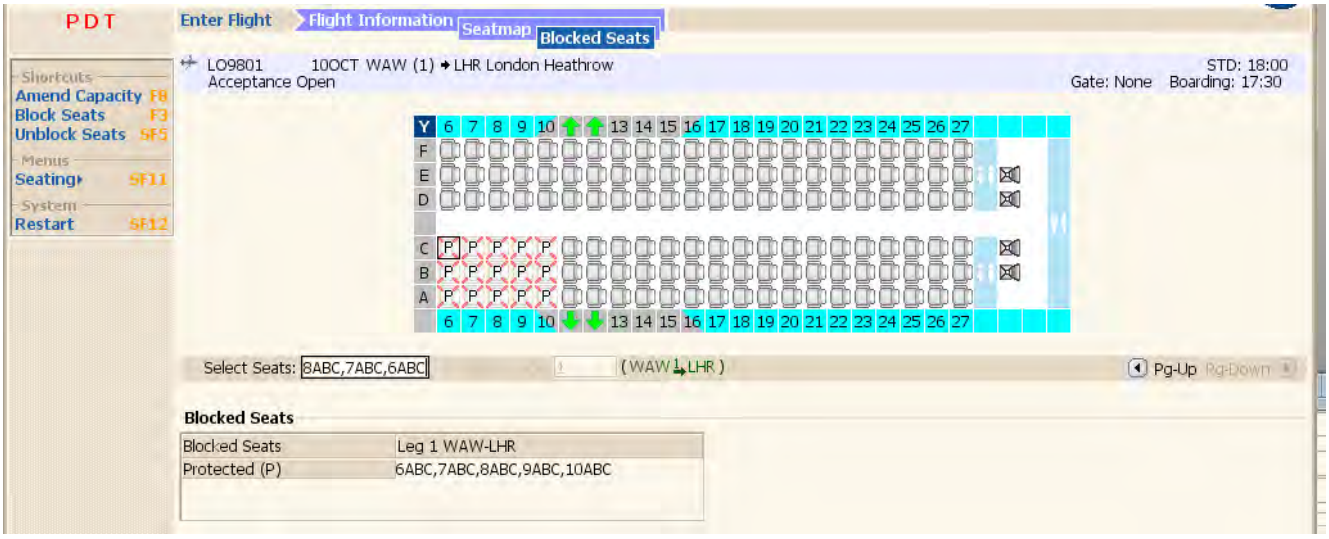


5. Mark seat which you want to block

6. Select from the drop down menu way how to bloc seat
   Please remember to block seat as a “P” mark (Protected).



7. When all activities are done pleas click one the bottom “Block Seats”



8. Please put comment in the Altea CM (with booking when you block seat).
9. Contact with HELP DCS or out station Check In Supervisor.

Reseating Passenger

In case the aircraft is out of trim after check in is closed (status AC or AF) and there is no way to be back in trim moving load in cargo compartments it is possible to change seat for passengers.
Steps to do the reseating passenger:

1. Reseating can be done only when the aircraft is out of trim.
2. Prepare information which passengers need to be reseated (give information about the current seat and the new seat for passenger).
3. Contact HELP DCS (WAW) (contact details below) or CKI Supervisor in out stations (contacts in Flight Information Screen - Contacts)
4. All changes must be accepted by DCS / CKI Supervisor.

In case of changing seat between different classes information about this fact need to be passed to the DCS supervisor. Only this person can make decision about the change of seat between classes (upgrade / downgrade).

Passenger Service Contact

E-Mail	helpdcs@lot.pl
Phone	+48 22 650 44 55
TTY	WAWPHLO

User ID Locked

In case of problems with login to system like User ID locked please contact with LOT LSS

E-Mail	logindcs@lot.pl
Phone	+48 22 650 44 55

Allocating Flight to "Dummy" User

Load Controller can allocate his flight with statuses GD and GX to "Dummy User". This can be only done at the end of the shift.

Dummy users for CLC HUB:

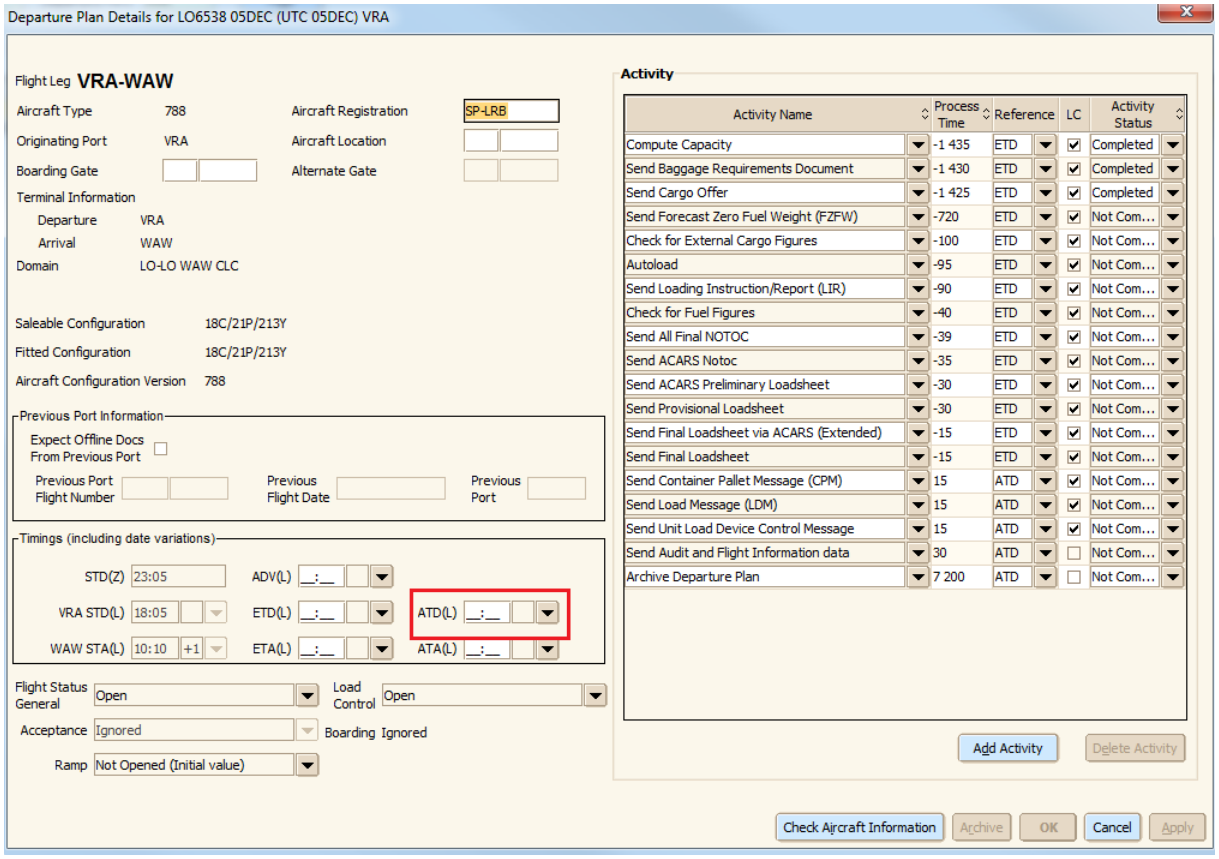
Domain	LO WAW LSL	LO WAW CLC
User	WAWLSLO99	WAWCLCLO99

Actual Time of Departure on Flight

Load Controller on each flight must check if the MVT went to the system and the flight changed status from GO to GD.

Contingency

If the system won't receive MVT (or it will be wrong) Load Controller must put ATD in the Departure Control Screen:

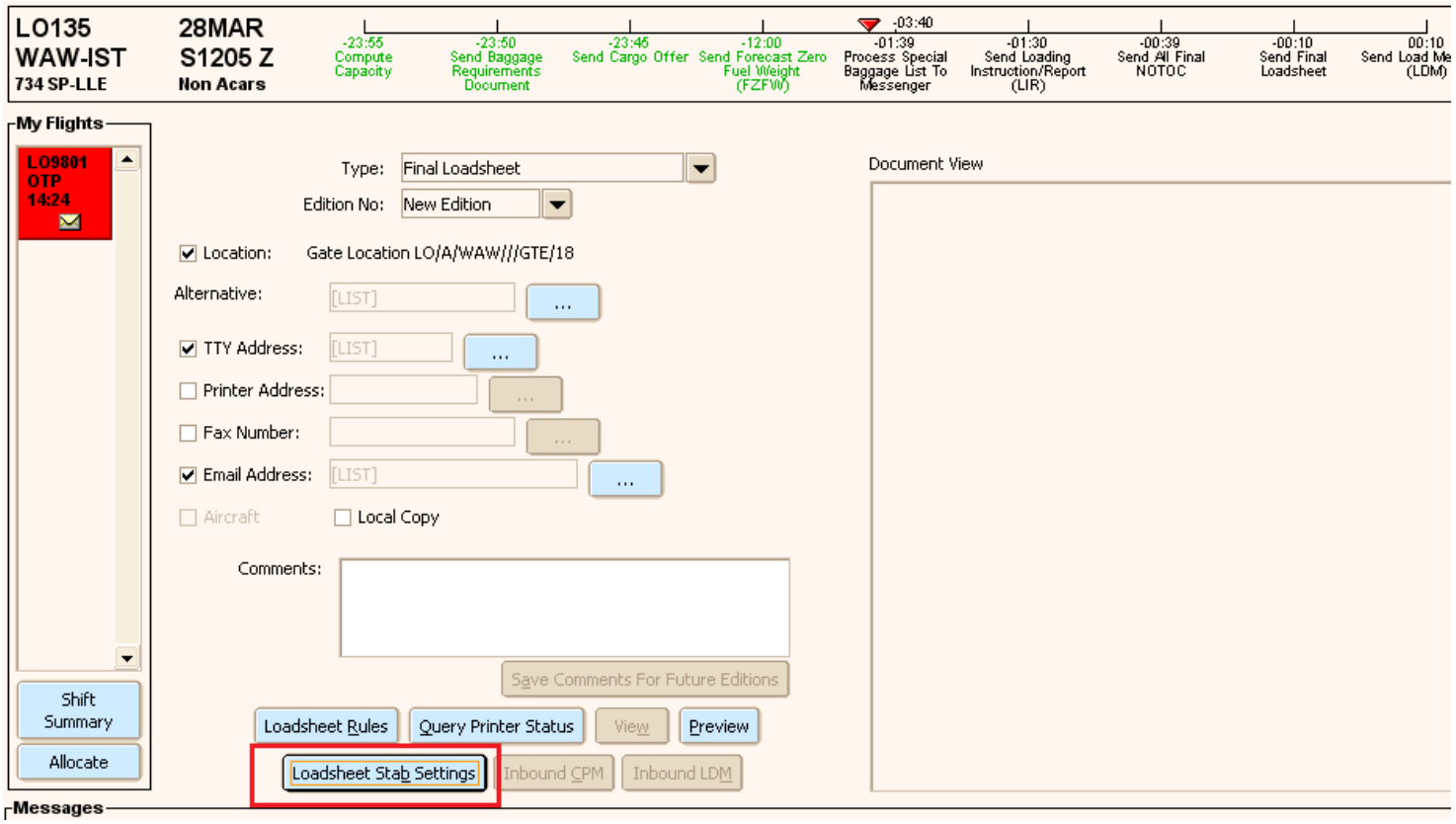


When time of departure will be there then flight will change status to GD and all messages (e.g. LDM, PTM, PSM) will be send.

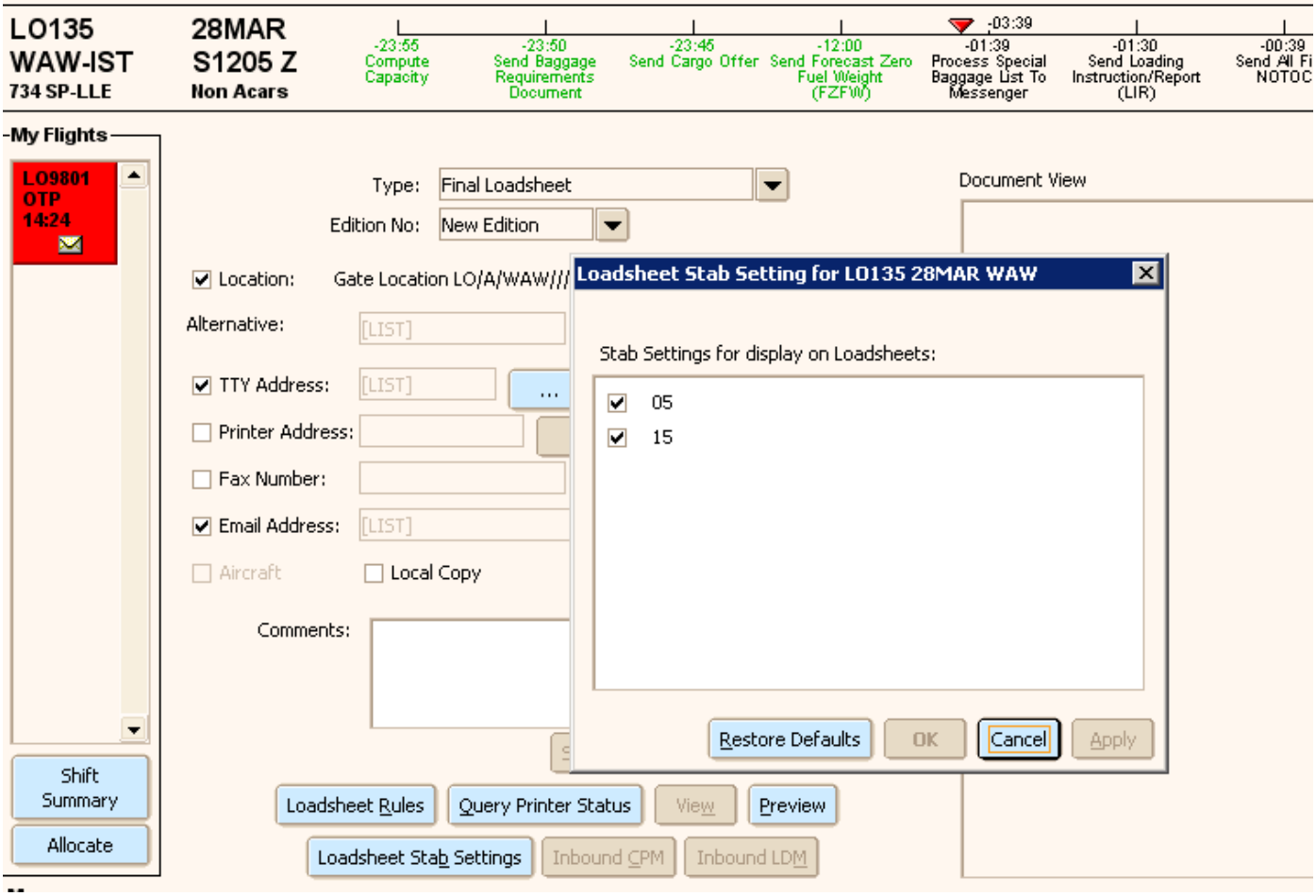
Load Sheet Stab Settings

There is option to change the Stab Setting Parameter in the Altea FM. Please follow short instruction below:

1. Go to the flight
2. Go to the Documents Tab
3. Choose Final Load Sheet
4. Click on the Load Sheet Stab Settings



5. Choose Stab Settings for display on Final Load Sheet

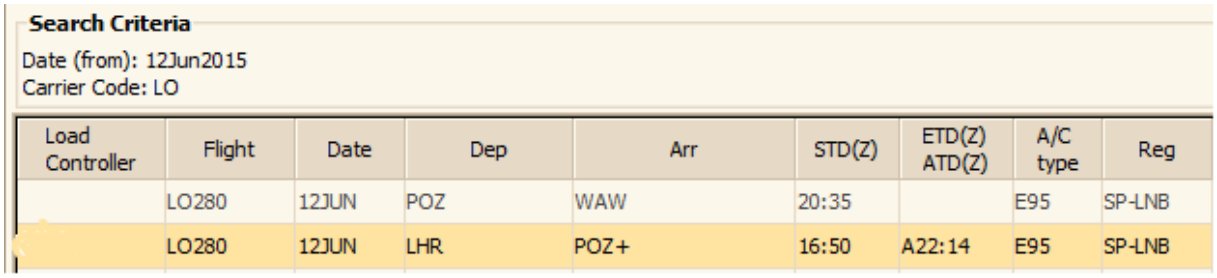


1. Click OK

Additional leg in flight

In case of any disruptions caused by weather or anything other to flight will be add one more leg. Ex. Flight is going from LHR to WAW but there is a weather problem then the flight will divert to POZ. And when we add the second leg routing of the aircraft will be LHR-POZ-WAW. Flight number will be the same as the one leg flight.

If load controller want to find this flight must search for flight number not by the departure port or arrival port. Whole routing will be split on two legs:



Search Criteria

Date (from): 12Jun2015
Carrier Code: LO

Load Controller	Flight	Date	Dep	Arr	STD(Z)	ETD(Z) ATD(Z)	A/C type	Reg
	LO280	12JUN	POZ	WAW	20:35		E95	SP-LNB
	LO280	12JUN	LHR	POZ+	16:50	A22:14	E95	SP-LNB

When new leg will appear in system duty manager or load controller will need to only allocate this flight into your sing in and do all necessary thing on flight.

DAA – Delivery at aircraft

All load controllers must put information to system about the DAA. This information will be from the ramp agent.
DAA's must be add into deadload with weight 6 kgs and commodity LH and there must be DG/SL designator DAA. All load controllers must include information about number of DAA and cargo hold number in the LDM.

VIP flights procedure

Performing VIP flights please follow steps below:

1. Pantry weight and distribution is passed to LO WAW LSL to e-mail address vera-lh@lsas.aero. In case of multi legs please use pantry weight and distribution from first leg. For returning flights use the same pantry weight and distribution as on the flight departing from Poland

2. The gender split of passengers should always be based on current data on each flight

3. Seating - standard distribution (free seating flight):
   - Section A - VIP passengers only
   - Sections B and C - distribute evenly
   Example: total passengers 41 (included 5 VIP) seating will be A-5// B-19// C-17. In case of balance problems LOCO may adjust the seating to safely trim the A/C.
   LOCO must put in the SI of load sheet information: FREE SEATING FLIGHT. PLEASE CHECK SEATING IN CABIN.

4. Use the actual weight of baggage for weight and balance calculation. If it is not possible to use the actual baggage weight, use the weights specified in section 3.2.2 for VIP/HEAD flights

5. Flight Brief –e-mail is sent to CLC. It contains all necessary information's like:
   - Crew – including additional number of crew and mechanics
   - Cargo information
   - All necessary addresses for LDM, LIR, LS – all addresses to be set by LO in the system
   - Contacts to station

6. Final figures for flight – all final figures for flight are transferred to CLC by station in a standard way (Altéa stations) or by the PIC by phone (non-Altéa stations) according to Flight Information Form

7. Flight Kit for flight is created automatically in system. LOCO need to only confirm those weight in system.

8. When CLC receives this data they need to put it to flight in the system and send LDS to addresses in system.

VIP Flight Information Form					
Valid For:		Ground Operations / Crew			
Version:	2	Revision:	2/12-2017	Created by:	Leszek Danielski

To be completed by Pilot In Command:

Flight number:	
Date:	
Registration:	
Crew (flight deck/cabin):	
Block Fuel [kg]:	
Taxi Fuel [kg]:	
Trip Fuel [kg]:	
Potable Water:	
RTOW [kg] (*see note below):	
RLDW [kg] (*see note below):	
Signature PIC:	

(*) Note: RTOW = minimum of aFDP / TLR MTOW and OFP MTOW
RLDW = minimum of aFDP / TLR MLDW and OFP MLDW

To be completed by handling agent/flight coordinator:

Number of Passengers (VIP / Total)		
Aircraft Loading		
	Baggage (pieces)	**Cargo (kg)**
CPT1		
CPT2		
CPT3		
CPT4		
Cabin Load		
Total		
Signature handling agent/flight		

Data must be forwarded to CLC using telephone: **+48 22 206 94 74**

Diverted Flight

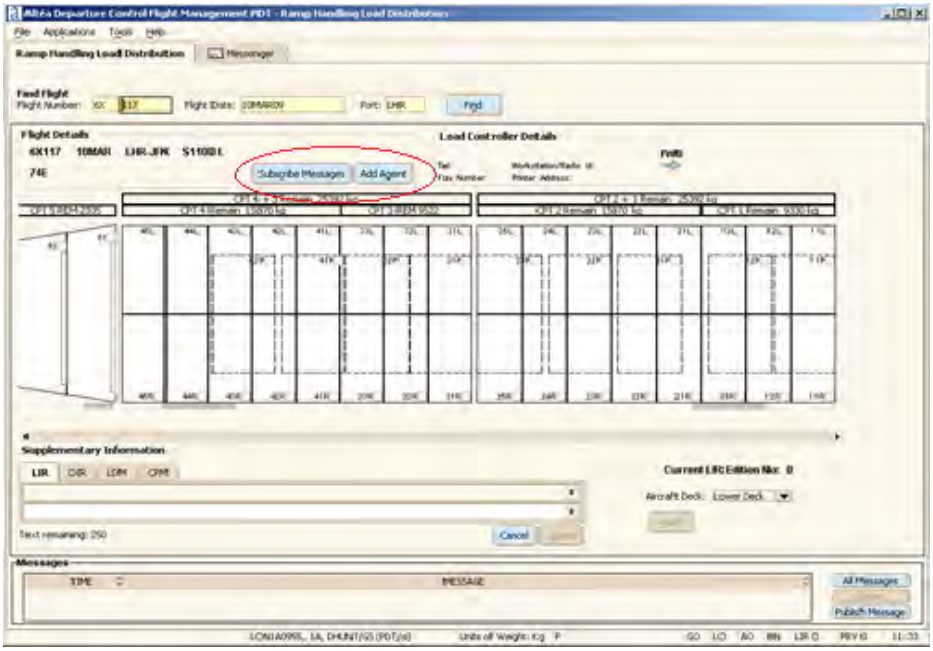
All diverted flight should be done in system Altea FM. When flight due to any irregularity is landing on different airport then in routing there should be new leg created in the system. Normally flight will be created by message ASM/SSM. It will take couple of minutes. In case when you will receive ASM/SSM and the flight will not appear in system after max. 20 min please prepare paper lodsheet on this flight.

3.20.2 Procedures for Ramp Agents

Sign in to flight and subscription of messenger in Altea FM – Ramp Module

	Actions to be taken
1	**Add Contacts to Welcome Screen**
2	**Click on Add Agent -** tick add yourself in the appearing popup and make sure that your phone number is correct; you may also enter your first and last name when un-ticking add yourself
3	**Click on Subscribe Messenger[1)] -** for every single flight to enable communication with CLC Hub
4	**Refresh Messenger -** messenger tab – actions – refresh all. This may be done after assigning to a series of flights or after every single flight. This is required to received messages for CLC HUB

1) **<u>On each flight Ramp Agent must be subscribed to messenger to communicate with Load Controller from CLC HUB. In case of work station change procedure must be repeated.</u>**



Information about Cargo Provisional / Final

Information about the cargo by UWS and NTM messages.

Action	STD (-HH:MM)	Example
Provisional UWS - Ramp Agent or Cargo Agent is obliged to send information about amount of cargo and mail in UWS	(-)06:00	UWS LO016/13.ORD BULK -WAW/3000P/C -WAW/200P/M **For containerized and non-containerized airplane format is the same**
Final UWS – Ramp Agent or Cargo Agent is obliged to Send Final UWS with final information about the cargo. Format of messages please see ‘’Example”	(-)02:30	**For Non-Containerized Airplanes** UWS LO222/13.MUC.FINAL BULK -WAW/3832A/C **For Containerized Airplanes** UWS LO002/25.WAW.FINAL -PAG37012LO/ORD/833A/M -PAJ32018LO/ORD/2016A/C.RMD -PMC41042LO/ORD/1136A/M BULK -ORD/110A/
NTM – NOTOC message. Ramp Agent or Cargo Agent must send NTM message after Final UWS. In other case Altea FM won’t let in information about DG/SL	(-)02:20	NTM LO002/25APR WAW 1/20140425032954/SPLRE DNGORDPAJ39018LO 080-180495332/28///RNG//N NITROGEN REFRIGERATED LIQUID LAST

The Final Cargo details, including Special Loads, Dangerous Goods and other relevant planning information will be sent as UWS and NTM message. If those messages don’t go into system then those figures need to be entered in Altea Freight Module by the Ramp Agent.
If the event Freight Module is not accessible at the station, the standard information message, Cargo and Mail information, will be sent by email or SITA depending on the reason for the failure and processed manually in Altea FM by the CLC Hub.

NOTE:
Always include one of following addresses while sending UWS and NTM:
CHACSLO – all flight origins except for United States and Canada
MUCKMLO – for flights departing from United States and Canada

LIR – Loading Instruction Report

Ramp Agent must confirm receiving LIR to CLC HUB.

Timings STD (-HH:MM)	Aircraft Type
-02:00	Containerized Aircraft
-01:30	Non-Containerized Aircraft

Ramp Agent is obliged to load the aircraft according to LIR and PLL LOT procedures.
The Ramp Agent will verify flight nbr, aircraft reg. and date, to ensure the correct document is received.

Ramp Agent will receive two editions of LIR. First will be provisional and after receiving it Ramp Agent is obligate to put all ULD's number. After updating LIR Edno 1 Ramp Agent will receive Finial LIR with all details.

Note that Ramp Clearance must not be done via the telephone conversation between Ramp Agent and CLC.

In case of system outage or absence of authorized Ramp Agent on duty, Ramp Clearance can be performed by the Flight Crew by the phone to WAW CLC:
+48 22 206 94 40
+48 22 206 94 29

Printing additional copies of documents: LIR, LS, NOTOC

Ramp agent is responsible for print outs additional copies of documents send by load controller. In the ramp module now there is available documents tab in which ramp agent can find all necessary copies of documents like NOTOC, LIR, LS. CLC is sending only first copy of each document.

Offload priority in case of overload

In case of overload on LO flight please refer to GHM 4.7.6 to check offloading priority.

Potable Water

Ramp Agent when is sending fuel figures to CLC must also send information of quantity of portable water. This information must be send on all type of aircrafts in LO except Dash Q400.

Trip Info – passing fuel, crew and restrictions

Fuel Figures must be passed till (-) 00:40 STD. Please find below of formats of Trip Info:

- ACARS
- TTY message
- Messenger

Proper Format of Fuel Figures broken down by ways of passing them:

1. ACARS

Fuel message will be sent by PIC like in example below:

Flight No…….
Reg:……
Total fuel:…….
Taxi:……
Trip Fuel:……
Crew:……
RTOW:……..
RLAW:……
Fuel Density:……..

2. TTY Message

Date of Flight:……
Flight No……..
Reg:…….
Total fuel:……..
Taxi:…….
Trip Fuel:……
Crew:……..
RTOW:……
RLAW:…….
Fuel Density:……..

4. Ramp Agent when aircraft is not equipped with ACARS and station don't have TTY

Block Fuel……../ Taxi……/ Trip Fuel……./ Crew……../ Reg……./
RTOW……./ RLAW:……/ Fuel Density…….

*When there is no ACARS connectivity the Trip Info must be taken from the Commander and transmitted through the FM messenger or e-mail to respective CLC.

Crew Bags

Ramp Agent must send information about the number of pieces of Crew Bags and their location to the CLC HUB.

Crew bags will be marked in Altea FM system as commodity LD with DG/SL CRB.

Ramp Clearance Check Sheet

ITEM	ACTION
Update Load	Updating cargo, mail, bags pcs, and other loads, changing amount of baggage (baggage variation)
Update ULD serial numbers	Updating all ULD serial numbers on containerized aircraft
Ramp Clearance	Confirming Load
Update of CPM, LDM	Add to LDM, CPM information.

1) Ramp Agent must add to load plan on containerized aircraft ULD numbers.
2) The issuance of a Load Sheet without ramp clearance is not possible.
3) Ramp clearance must be given as soon as possible after AF to enable CLC to produce and sent the Load Sheet on time.
4) In case of difference between check in baggage figures and total numbers of baggage, number of bags can be change. Ramp Agent must do the baggage variation in rest location “R”. In can be done only when the acceptance status is AF.

Ramp Clearance is confirmation of the loading according to LIR and PLL LOT procedures.

Note that Ramp Clearance must not be done via the telephone conversation between Ramp Agent and CLC.

In case of system outage or absence of authorized Ramp Agent on duty, Ramp Clearance can be performed by the Flight Crew by the phone to WAW CLC:
+48 22 206 94 40
+48 22 206 94 29

Ramp Clearance shall be done at load control status approve distribution completed (LC) and acceptance status finalized (AF) only. Load control status changes to finalized (LF) when the ramp clearance has been applied.

For any additional load, where no commodity has been planned, the handling agent must inform CLC Hub with details of load and request load to be included in load distribution (when already ramp cleared, status will change from LF to LC and ramp clearance must be applied again).

Flight Status Indicators

General Status	Load Control Status	Acceptance Status	Boarding Status
GO Open	LO Open	AN Not open	BN Not open
GX Cancel	LC Approve distribution complete	AO Open	BO Open
GD Suspended	LL Approve distribution required	AG Gate	BC Closed
GL Locked	**LF Load Finalized**	AC Closed	BI Ignored (FM only)
GD Departed	LSF Load Sheet Finalized	**AF Finalized**	
	LX Cancelled	AS Suspended	
	LI Ignored (CM only)	AI Ignored (FM only)	

Load Sheet and NOTOC

ACARS Load Sheet

In order to provide the PIC with a Preliminary Load sheet and Final Load Sheet, the document will be sent to aircraft via an ACARS message and to the designated station address. As the Preliminary Load sheet is for information only, no confirmation is required but Final Load Sheet is official document and delivery must be confirmed by message in Altea. Altea FM will receive an automated message regarding the delivery status of the Load sheet.

ACARS NOTOC

NOTOC document will be sent on ACARS to airplane from Altea FM.

Contingency

For the Final Load Sheet and NOTOC is as a standard sent to the station gate or office, should ACARS delivery fail, this copy needs to be printed and presented to PIC.

Non-ACARS Load Sheet or Non-Connectivity of ACARS system

At Non-ACARS aircraft or stations without ACARS conections Ramp Agent must print out and hand over to PIC hard copy of Load Sheet. After approving of PIC, Ramp Agent must confirm to CLC HUB approval of the Final Load Sheet.

Non-ACARS NOTOC

On Non-ACARS airplanes NOTOC will be send on printer and handed over to PIC by Ramp Agent.

LMC – Last Minute Change

When the additional load is within the LMC limit, adjustments may be done also manually as LMC on Load Sheet (ACARS or Hard Copy) but have to be reported to CLC Hub before MVT is sent. In case that LMC will exceed limit new Load Sheet (ACARS or Hard Copy) is required. To see limits of the LMC please refer to GHM Chapter 3.9

Load Messages: LDM, CPM

Any necessary information for the destination has to be entered as Supplementary Information on the LDM/CPM tab in the RAMP GUI **before the general flight status is GD (departed).**

SI LDM:

- amount and location of DAA
- amount and location of WEAP
- information of special baggage (e.g. buggies, wheelchairs, AVI etc.)
- Information of ballast (BAL) how many kilograms were taken o/b

SI CPM - CPMs shall be transmitted immediately after departure for all ULD aircraft flights.

- CPM informs the next station about ULD positions and load distribution in bulk compartments.
- The contents of CPM are taken from entries in Loading Instructions Report (LIR). All entries shall correspond with the actual loading of the aircraft, including all last minute changes.
- At DCS stations CPM is generated automatically.

DAA – Delivery at aircraft bags

All ramp agents need to inform CLC (Load Controller) about number of pieces DAA bags.

System Outage

There can be 4 different outage scenarios:

1. Station: Altea FM is unavailable at the station but is still operational at the CLC Hub. CM still working.
2. Station: Altea CM is unavailable at the station, but FM still working.
3. Station: Both CM and FM are unavailable at the station, but systems still available at CLC Hub
4. Station: CM and FM are unavailable both at the departure airport and at the CLC Hub

	Activity	Timing (STD -HH:MM)	Responsible
Station - FM down	Report FM connectivity issue to CLC		Station
	Send final loading figures to CLC	-00:15	Station
	Finalize flight and send DCS LSF	-00:10	CLC Hub
	Send operational messages	As per FM setup	CLC Hub
Station - CM down	Report CM connectivity issue to CLC		Station
	Toggle link CM to FM	After reported	CLC Hub
	Send final PAX and baggage figures to CLC	-00:40	Station
	Confirm boarding completed and report any changes	-00:15	Station
	Finalize flight and send DCS LSF	-00:10	CLC Hub
	Send operational messages	As per FM setup	CLC Hub
Station - All systems down	Report connectivity issues to CLC		Station
	Toggle link CM to FM	After reported	CLC Hub
	Send final PAX figures to CLC	-00:40	Station
	Report final fuel figures & crew to CLC	-00:40	Station
	Report final Loading figures to CLC	-00:15	Station
	Confirm boarding completed and report any changes to CLC	-00:15	Station
	Finalize flight and send DCS LSF	-00:10	CLC Hub
	Send operational messages	As per FM setup	CLC Hub
Station - FM/CM down worldwide	Issue manual final load sheet	-00:15	CLC Hub
	Send operational messages	After ATD	Station

Note: confirmation of loading by the Ramp Agent by the telephone to CLC is strictly forbidden.

Only flight deck crew is authorized to confirm loading to CLC by the telephone.

Contingency Plan – Forms for passing flight data

For offline stations or when the connection is down between CLC Hub and airport of departure there are some forms to fill and send to the CLC Hub. Below please find examples of the forms with fill in fields.

1. Fuel Message

THIS IS EXAPLE HOW TO FILL THE FORM

FUEL INFO MESSAGE
LO288/130614 REG.SP-LLE - LHR
BLOCK FUEL (OPERATIONAL) **8000KG**
TAXI FUEL **200KG**
TRIP FUEL **3500KG**
FUEL DENSITY **0,800**
CREW **.2/4.**
SI-.....
.....
INFORMATION CHECKED BY: **Michał Papież**.....
PHONE / CONTACT:**48226069606**.....

2. Passenger Message

THIS IS EXAPLE HOW TO FILL THE FORM

.
PASSENGER CLOSE OUT
FLT NO LO01/130614 REG SP-LRC STN
PAX C-CLASS P-CLASS Y-CLASS
DEST M F C I M F C I M F C I
WAW 10 .5 .2 .0 15 15 .. .. 80 50 20 10
... .
... .
ZONE SEATING (EXCLUDING INFANTS)
A17 B30 C80 D80 JMP0
CABIN VERSION: C.../P.../Y...
TOTAL BAGS CHECKED IN (PCS/WEIGHT):
BY…… BT…… BP…… BC……

CONFIRMING LOADING DETAILS

. QU WAWLCLO
CONFIRMING LOADING DETAILS
FLT NO ....LO01/130614 REG SP-LRC JFK-WAW
Loads: BC/BP/BY/BT/C/M/X

POS	PCS Weight	ULD NUMBER	DEST	DG/SL/REMARKS
.11/L	**30PCS/.400KG**	**AKE11111LO**	**WAW**	**.....**
.11/R	**30PCS/.400KG**	**AKE11111LO**	**WAW**	**.....**
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….
.../.	..PCS/....KG	.....LO	…….	…….

SI-.....
AIRCRAFT LOADED AS PER LIR ISSUE NUMBER: ..
AIRCRAFT HAS BEEN LOADED IN ACCORDANCE WITH THESE INSTRUCTIONS AND THE CONTAINERS/PALLETS AND BULK LOAD HAVE BEEN SECURED IN ACCORDANCE WITH COMPANY INSTRUCTIONS
NAME AND CONTACT: **Michał Papież 48226069606**.....

Procedure/Approval		**Final Fuel for Load Control**			
Version:	3	Revision:	3/06-2015	Created by:	Michał Papież Leszek Danielski
Valid for: LO – GROUND OPS					
Pages:	1				

Final Fuel for Load Control

To be completed by Pilot In Command:

Flight number:	
Date:	
Registration:	
Crew (flightdeck/cabin):	
Block Fuel [kg]:	
Taxi Fuel [kg]:	
Trip Fuel [kg]:	
Potable Water:	
Flight Time:	
DOW (If corrections):	
DOI (If corrections):	
RTOW [kg] (*see note below):	
RLDW [kg] (*see note below):	
PIC Name:	
Signature PIC:	

(*) Note: RTOW = minimum of aFDP / TLR MTOW and OFP MTOW
RLDW = minimum of aFDP / TLR MLDW and OFP MLDW

To be completed by handling agent:

Fuel density [kg/liter]:	
EZFW (if requested by PIC):	
Signature handling agent:	

Data in **bold** must be forwarded to CLC using Altea FM Messenger or E-mail or TTY no later than 40 minutes prior to ETD.

3.20.3 Instructions for Altea FM – Freight Module

Altea FM – Freight Module

1. Go to the Application and choose the Freight
2. Find flight (put number of flight, date and departure airport)
3. Click on Add Agent
4. Tick Add Self and click apply
5. Add Cargo and Mail by clicking Add ULD/BULK/BORROW
6. Put BULK/BORROW designator (bulk – BLK, Barrow – BAR)
7. Put weight and code of load (e.g. M – Mail, C – Cargo)
8. If you have DG/SL then click on Deadload Details
9. Add DG/SL
10. Put Weight and IMP code
11. Click Apply
12. Put all mandatory information's (marked by yellow color)
13. Click Apply or OK
14. When you add cargo click on the Modify Status to Complete

REMEMBER – EVEN WHEN THE CARGO IS 0 KGS PLEASE PUT 0 KGS IN FREIGHT AND MODIFY STATUS TO COMPLETE

3.20.4 Instructions for Altea FM – Ramp Module

Altea FM – Ramp Module

1. Go to the applications and choose the RAMP
2. **Click Add Agent**
3. **Click Add Self and click Apply**
4. **Click Subscribe Messages**
5. **Go to the Messenger Tab (over Find Flight)**
6. **Click on Actions and Refresh All**
7. Send Final Fuel to LOCO (Send – Fuel, Crew, Water)

Modifying Load

1. Go on the compartment from which you want to move load
2. Click right button on your mouse
3. Choose:
   3.1 Modify – when you want to move load without DGR and Special Loads
   3.2 View – when you want to move load with DGR's
4. Move Load to other compartment by drag and drop
5. Put weight or pieces
6. Click Update
7. Click Apply

Confirming Load (Ramp Clearance)

1. Click in small boxes in the up right corner on each compartment (even when you don't have load there)
2. Click on Apply

How to print copy of LIR or Load Sheet

1. Click on Applications and choose Supervisor
2. Click ok
3. Click on Customized Search
4. Choose Date
5. Put departure Port and click Apply
6. Mark Flight which you want to display
7. Click on Flight Details
8. Go to the Documents
9. Choose the documents from Type
10. Choose Edition Number
11. Un tick the TTY and E-Mail
12. Click Send

Remember you can only print the documents which were send by the Load Controller

3.20.5 CLC information flow – online stations

Item	STD (HH:MM)	Action By:
Create flight in Altea	-48:00	LOT
Open Acceptance, Booked Pax, Tail NBR, Crew	-39:00	LOT
Booked Pax, Tail NBR	-24:00	LOT
Altea FM Compute Capacity	-23:55	CLC
Create Baggage	-23:50	CLC
Create Cargo offer	-23:45	CLC
Send Preliminary Cargo UWS (LongHaul Flights only)	-06:00	Station
Send Preliminary EZFW to Sabre FPM	-12:00	CLC
PROVISIONAL Fuel, RTOW, RLAW	-03:00	LOT
UWS FINAL (Final Cargo details)	-02:30	Station / LOT
NTM (Notoc message, including Special Loads and Dangerous Goods)	-02:20	Station / LOT
FZFW Update (optional)	-02:10	CLC
BAG SPECIAL LOAD MESSAGE (SSR) (widebody a/c)	-02:09	Station
Loading Instruction (LIR / GLR) (widebody a/c)	-02:00	CLC
BAG SPECIAL LOAD MESSAGE (SSR) (narrowbody a/c)	-01:35	Station
Loading Instruction (LIR / GLR) (narrowbody a/c)	-01:30	CLC
Crew	-01:00	LOT
Final NOTOC	-00:40	CLC
Final Fuel Figures	-00:40	Station/LOT
Preliminary Load Sheet	-00:30	CLC
Finalized Pax Figures – Acceptance Finalized	-00:20	Station
Finalized Loading – Ramp Clearance	-00:20	Station
Final Load Sheet (ACARS or HARD COPY)	-00:15	CLC
Update LDM, CPM, UCM	00:00	Station
Send MVT Message	00:15	Station
Send LDM, CPM, UCM	00:15	CLC
Archive Flight	120:00	

3.20.6 CLC information flow – offline stations

Please find below table with actions and timings for CLC and Offline stations:

Item	STD (HH:MM)	Action By:
Enter Passenger Book Load into FM	-24:00	CLC
Tail Number	-24:00	LOT
Altea FM - capacity calculation	-23:55	CLC
Create Baggage	-23:50	CLC
Create Cargo offer	-23:45	CLC
Advise CLC of Special Load control Items (STCR, STCK Pallets, etc)	-13:00	Station
Send Preliminary Cargo UWS	-06:00	Station
Send Preliminary EZFW to Sabre FPM	-12:00	CLC
Check all flights assigned to the CLC and Load Controllers	-4:00	CLC
Send Preliminary Fuel Figures and restricted weights	-3:00	
UWS FINAL (Final Cargo details)	-02:30	Station / LOT
NTM (Notoc message, including Special Loads and Dangerous Goods)	-02:20	Station / LOT
EIC standard or passed message	-2:10	Cargo
CSU standard or passed message	-2:10	Catering
Release Loading Instruction Report to Station/GHA	-2:00	CLC
Crew	-1:00	LOT
Release Final NOTOC	-00:40	CLC
Update Load with relevant check-in / flight information	-00:40	Station
Send Final Fuel and Passengers/Baggage figures to CLC	-00:35	Station
Send Preliminary ACARS Load Sheet	-00:30	CLC
Preliminary Load Sheet corrections (if needed)	-00:28	CLC
Send final loading report to CLC/Ramp Clearance	-00:25	Station
Send LIRF and make Final adjustments in FM	-00:25	Station
Send Final ACARS Load Sheet	-00:15	CLC
Signing of Final Load Sheet and NOTOC by PIC	-00:10	PIC/Station
Last Minute Changes via CLC and PIC	-00:05	CLC/PIC
Send MVT message	+00:30	Station
Send all flight messages and file all required documents	+00:30	Station/CLC

3.21 Weight and Balance Training

Terminology

Authorization	Authorization proven by the written certificate or login number to: - Preparing aircraft load planning and weight and balance of aircraft used by LOT Polish Airlines - Supervision of loading of the aircraft operated by LOT Polish Airlines
MAN	Manual Method Calculations for preparing and performing aircraft load plan and weight and balance
DCS LOT	Computerized Method Preparing aircraft load planning and weight and balance in the DCS system used by LOT Polish Airlines

Authorization to plan mass and balance of airplanes in LOT is required for ground handling personnel involved in the supervision or planning mass and balance of aircraft operated by LOT:

- Preparing aircraft load planning and weight and balance
- Aircraft loading supervision
- Supervision of both above mentioned processes

Such personnel must possess an authorization granted after: the training performed by LOT Polish Airlines and/or other training recognized by LOT Polish Airlines – the recognized training program must be in accordance with the LOT Polish Airlines' training program.

Training certificates can be recognized by LOT Polish Airlines LOW team after participation in the training provided by other organization. The program of such training must be compliant with LOT Polish Airlines training program

Training certificate can be recognized if:

- The bearer delivers the confirmation issued by the training organization, certifying that the training was performed in accordance to the LOT Polish Airlines Training program;
- The bearer holds valid certificate issued after such training

Such individual will be registered in LOT Polish Airlines' database of personnel entitled to:

- Preparing aircraft load planning and weight and balance
- Aircraft loading supervision
- Supervision of both above mentioned processes

In accordance to OM D and IATA regulations, mass and balance trainings at LOT Polish Airlines are performed in accordance to following schedules:

a. Training program for planning mass and balance of aircraft MAN- – basic course for ground handling personnel

No.	Subject	Time [h]
1	Introduction: - definition - documentation used: loadsheet, trim chart, loading manual, AHM560 in accordance with IATA AHM ed.37 - use of commercial Load Tables - limitations for takeoff and landing from the operational flight plan	0,5
2	Principles of balancing the aircraft: - the forces and moments of forces acting on an aircraft - definitions: Ref.Sta, LEMAC, MAC, MAC%, Index	1

3	The weight of the aircraft - definitions and abbreviations: - maximum structural weights: - Maximum Zero Fuel Weight (MZFW) - Maximum Take-Off Weight (MTOW) - Maximum Landing Weight (MLAW) - Maximum Taxi Weight (MTXW) - operating weights: - Aircraft Basic Empty Weight (BW) - Dry Operating Weight (DOW) - Operating Weight (OW) - Deviations from the standard weights - Traffic Load (TL) - Zero Fuel Weight (ZFW) - Take-Off Weight (TOW) - Landing Weight (LAW) - Taxi Weight (TXW) - Take-off Fuel (TOF) - Trip fuel (TF) - Taxi Fuel (TXF) - center of gravity location - Index at BW (BI) - Index at DOW (DOI) - Index for a plane loaded only with luggage (DLI) - % MAC for a plane loaded only with luggage (DLMAC) - Index at ZFW (LIZFW) - % MAC at ZFW (MACZFW) - Index at TOW (LITOW) - % MAC at TOW (MACTOW) - Index at LAW (LILAW) - % MAC at LAW (MACLAW)	3

4	Loadsheet - description: - addresses and headers - calculation of Operating Weight - calculation of allowed Traffic Load - Payload data - calculation of the current weights of the aircraft - Last Minute Changes (LMC) - additional information and notes - distribution of passengers and balance - index calculation table - index correction tables - center of gravity chart, position of the stabilizer - computerized loadsheet	2,5
5	Loading Instruction/Report - headline - loading manual and loading report - special instructions - confirmation of proper loading - three letter codes used to identify the special cargo	1
6	Loading problems in operation - carriage of live animals in trunks - calculation of load on the trunk floor maximum dimensions of packages to be loaded in the cargo	1
7	Examples	3
Total		**12**

b. Training program for planning mass and balance of aircraft MAN – type specific course for ground handling personnel

No.	Subject	Time [h]
1	Introduction: - documentation used: loadsheet, trim chart, loading manual, AHM560 in accordance with IATA AHM ed.37 - use of commercial Loads Tables Limitations for takeoff and landing from the operational flight plan	0,5
2	Characteristics of the aircraft: - specific weights - crew / composition, distribution / - cockpit - cabin - catering / weight, distribution / - passenger cabin - configuration, division into sectors, the maximum floor load - bluggage compartments - the quantity, numbering, maximum payload and volume, door dimensions, maximum floor loading, maximum dimensions of packages - fuel tanks - arrangement, maximum amount of fuel - -center of gravity permissible range for given weights - -method of determining the center of gravity of the loaded aircraft	2
3	Description of the aircraft loadsheet (manual and computerized) and Loading Instruction / Report: - discussion on the loadsheet, rules on filling individual fields - discussion on loading manual, rules on filling individual fields making a sample loadsheet and loading instructions	0,5
4	Operational problems associated with mass and balance: Last Minute Changes - transport of live animals in the luggage compartments - impact of the center of gravity location on fuel consumption impact of changes in the ZFW on fuel consumption	1
5	Exercises	3
6	Exam	1
Total		**8**

c. Training program for planning mass and balance of aircraft MAN – renewing authorization course for ground handling personnel

No.	Subject	Time (h)
1	Introduction: A reminder of the most important issues referring to discussed aircraft types	1
2	Discussion on: - Problems / issues that have occurred since the last renewal of authorizations Topics raised by the participants	2
3	Renewal test	2
Total		**5**

d. Training program for planning mass and balance of aircraft MAN – recurrent course for ground handling personnel

No.	Subject	Time [h]
1	Introduction: - A reminder of the most important issues referring to discussed aircraft types	1
2	Characteristics of the aircraft: - specific weights - elements included in the DOW / weight, distribution / - calculation of the Traffic Load - planning of Traffic Load utilization / distribution /	2
3	Operational problems associated with mass and balance - impact of the center of gravity location on fuel consumption - impact of changes in the ZFW on fuel consumption - providing guidelines for aircraft loading	1
4	Exercises	1
Total		**5**

e. Training program for planning mass and balance of aircraft DCS LOT – basic course for ground handling personnel

No.	Subject	Time (h)
1	Preliminary information about Altea FM	1
2	Logging in to Altea FM	0,5
3	Overview of the Home screen and its functions. - Overview of Time Line Indications	1
4	Allocate Resource: - Assign flights for LC - Assigning more flights to LC - Transfer a flight to another person - Overview of the signs in this screen Un Allocate	2
5	Flight Information: - Crew - Catering (code entering and modification) - SWA - ZFW - Traffic Load - DOW/DOI Correction - Flight Details - Contacts	2

5	- baggage Variation - discussion on the status and markings - entering aircraft registration	
6	Dead Load: - cabin Load - DG/SL - adding containers - change of "r" - rest location - understanding the markings on Dead Load screen	2
7	Compute capacity: - when we do it - what for we are using it	0,5
8	Load Distribution: - onscreen features - LIR preparation (narrow and wide body aircraft - separately) - adding DG / SL from this screen - loading statuses - limitation (hold, compartment, net section, position) - DG/SL Conflict - SI - auto load - dead load, change of position - DG/SL Dead load, change of position - offload	2,5
9	Fuel Figures: - entering fuel - change of restrictions - markings - fuel density - top up fuel Standard fueling / nonstandard fueling	1
10	Passenger: - passenger panel - manual update ETB - bag categories - total rush tag bags - deleting link between FM a CM - plan baggage - manually entering passengers figures - bag variation panel	1

11	Documents: - Viewing documents - Coping - Sending messages or re-sending LS - Updating information on SI	0,5
12	Messenger Screen: - Refreshing - Sending a message	0,5
13	Overview of Altea CM – *optional element*: - Blocking of seats - Changing passengers seating - Comments for check in - Checking the weight and the amount of luggage	2
14	Discussion on the steps in preparing the LS - Special situations: overload, out of trim	1
15	Training flights: - Changes of the crew, the DOW/DOI, SWA - Flights with DG/SL - Flights on wide and narrow body airplanes - Multi-sectors flights - DGR conflicts, etc.	20
16	Final exam It will consist of a test and practical exercises. LDM, CPM and other messages and explanations will be added to the flights. Responsibilities of the applicant: - Corrections of DOW/DOI - Change the crew - Adding DG/SL - Preparing and sending a LIR - Manual entering of passengers - Manual loading correction Sending Final LS	2
Total		**39**

f. Training program for planning mass and balance of aircraft DCS LOT – recurrent course for ground handling personnel

No.	Subject	Time [h]
1	Reminding of Altea FM functions and major issues related to planning mass and balance of aircraft. Discussion on issues related to flights and possible countermeasures.	3
2	Practical exercises on training flights (flights on narrow and wide body aircraft)	2
3	Theoretical and practical test	2
Total		7

g. Training program for planning mass and balance of aircraft DCS LOT – renewing authorization course for ground handling personnel

No.	Subject	Time [h]
1	Reminding of Altea FM functions and major issues related to planning mass and balance of aircraft. Discussion on issues related to flights and possible countermeasures.	2
2	Practical exercises on training flights (flights on narrow and wide body aircraft)	1
3	Theoretical and practical test	2
Total		5

h. Training program for aircraft loading supervision DCS LOT – ramp agent basic DCS course for ground handling personnel

No.	Subject	Time (h)
1	Information about Altea Ramp Module	0,5
2	Logging in to Altea Ramp Module	0,5
3	Assignment of agent to a flight - Add Agent - Subscribe Messenger	0,5
4	Overview of ramp module screen	1
5	Freight Module: - Adding cargo, mail, containers	1
6	Adding Dangerous Goods and Special Load	0,5
7	Information from the Ramp Agent: - Fuel - Loading change - Emergency situations when the system is not working properly	1
8	Training flights	2
9	Exam	1
Total		8

Procedure:
The training described in this section shall be performed in following circumstances:

- Opening a new connection / station
- Change of the ground handling company in certain station
- Ground handling company's request
- Change of the weight and balance form in certain station

To obtain the authorization for load planning and weight and balance of the aircraft – MAN one must in accordance to the current needs, participate in relevant training, pass the exercise and exam;
The said training may consist of:

a. Basic Course (in accordance to paragraph a)
b. Type Specific Course (in accordance to paragraph b)
c. Refresh Course (in accordance to paragraph c)
d. Recurrent Course (in accordance to paragraph d)

In order to attend the type specific course one must have attended in the basic course or possess authorization to perform load planning and weight and balance for another type of the aircraft.

The exam is consisting of: calculation the take-off weight, calculation of allowable payload for certain flight and planning of loading and weight and balance of the aircraft, using proper loadsheet form, basing on the knowledge gathered during the training.

If the individual who is trained and does not pass the exam, one must retake the exam no sooner than 2 weeks, but within 2 months after the first exam. The second negative exam result causes a necessity for training load planning and weight and balance of the aircraft – MAN again.

Completion of exercises by trained individual, which means execution of 10 sample load sheets for aircraft types, which are subject to the training, should be done within one month from the date of the exam. Failing of exercise causes a necessity for training load planning and weight and balance of the aircraft – MAN again.

An individual who holds authorization for load planning and weight and balance of the aircraft – MAN is obliged to participate in the recurrent training once in every three years. Participation in such recurrent training is possible in the last calendar year of the validity of the certificate. Validity date of the new certificate counts from the previous certificate expiry date. Training consists of refresh course.

Every individual who holds authorization for load planning and weight and balance of the aircraft – MAN at the period of authorization validity is obliged to perform quarterly one loadsheet for the aircraft type subject to authorization. Such loadsheets shall be kept for a period of 12 months and shall be presented on demand of controlling authority.

The individual not possessing above mentioned loadsheets is obliged to pass the load planning and weight and balance of the aircraft – MAN exam.

Only persons who have completed the above mentioned training or have been trained by another LOT certified instructor are allowed to make changes to the LMC

Training in load planning and weight and balance of the aircraft – DCS LOT

The individual who participates in the Training in load planning and weight and balance of the aircraft – DCS LOT is obliged to hold an authorization for load planning and weight and balance of the aircraft – MAN granted by LOT Polish Airlines or authorization given by other body, recognized by the Trainer. The training program of the above mentioned other organization must be compatible with LOT Polish Airlines training program.
Assessment of program compliance is done by LOT Polish Airlines training compatibility table and training syllabuses sent by the agent.

To obtain the authorization for load planning and weight and balance of the aircraft – DCS LOT one must in accordance to the current needs participate in training and pass the exam.
The said training consists of:

a. Basic DCS Course (in accordance to paragraph f)
b. Refresh DCS Course (in accordance to paragraph g)
c. Recurrent DCS Course (in accordance to paragraph h)
d. Ramp agent DCS Course (in accordance to paragraph i)
e. Ramp agent recurrent Course (in accordance to paragraph j)

If the individual who is trained does not pass the exam, one must retake the exam no sooner than 2 weeks, but within 2 months after the first exam. The second negative exam result causes a necessity for training load planning and weight and balance of the aircraft – DCS LOT again.

Authorization given by other organization can be recognized after participation in the training provided by other organization. Program of such training must be compliant with LOT Polish Airlines training program and the individual must possess the authorization.

Note that only basic weight and balance (in accordance to paragraph a) and DCS (in accordance to paragraphs e,f,g,h and i) certificates can be recognized.

Type specific course certificates issues by other organizations will not be subject to recognition.

Recognition of the DCS certificates and verification of other organization's training program should be based on the systems functionalities, despite the aircraft types on which they are used in the certificate issuing organization.

An individual who holds authorization for load planning and weight and balance of the aircraft – DCS LOT is obliged to participate in the recurrent training once in every three years. Such training must be followed by an exam. Participation in such recurrent training is possible in the last calendar year of the validity of the certificate. Validity date of the new certificate counts from the previous certificate expiry date. Training consists of refresh course.

In order to obtain the authorization for planning weight and balance on an aircraft in the **DCS system other than the DCS LOT**, one shall in accordance to the provision of IATA AHM 561:

- obtain authorization for database containing the specifications of aircraft operated by LOT Polish Airlines;

- obtain acceptance of two sample loadsheets, for each aircraft type, performed in the system subject to acceptance
- The authorization subject to this paragraph is granted for period of six months.

Train the Trainer Training both MAN and DCS LOT
Following conditions must be fulfilled in order for one to participate in the Train the Trainer Training:

- at least three years of work experience in load planning and weight and balance of the aircraft;
- participation in the training

Trainers trained on the Train the Trainer formula are entitled to train other personnel in their organization in load planning and weight and balance of the aircraft operated by LOT Polish Airlines, to provide services for LOT Polish Airlines.

The training syllabus used by the certain organization must be in accordance to the training program specified above.

Trainers are obliged to provide the training certificates of the trained personnel. Such certificate must state the validity date.

- **MAN**



- **MAN TTT**



POLSKIE LINIE LOTNICZE LOT A STAR ALLIANCE MEMBER

This is to certify that

.....

has successfully completed

the ***Train the Trainer***

Weight and Balance Course

05 DEC 2019

Training Supervisor:

Flight Operations Engineering

Date of validity of the CERTIFICATE: 05 DEC 2022

LOT Polish Airlines joint stock company with its head office AT 43, KOR 8L, 00-906 Warsaw,
Registered in the Register of Entrepreneurs kept by the District Court for the City of Warsaw XIII Commercial Division of the Domestic Court Register under the no. KRS 0000056844 Tax Identification Number NIP 522-000-23-34, and equity capital 478 000 901 PLN (paid up in full).

- **DCS LOT Load Control TTT**



This is to certify that

.....

has successfully completed:

Altea DCS FM Load Control

Train the Trainer Course

In accordance to provisions of LOT Operations Manual Part D section 1.3.3.g

Date of issue: January 11th, 2019

This certificate is valid 36 months

.....

Certified Trainer:
On behalf of LOT Polish Airlines

- **DCS LOT Load Control**



This is to certify that

.....

has successfully completed:

Altea DCS FM Load Control Course

In accordance to provisions of LOT Operations Manual Part D section 1.3.3.g

Date of issue: January 11th, 2019

This certificate is valid 36 months

.....

Certified Trainer:
On behalf of LOT Polish Airlines

- **DCS LOT Load Control Recurrent**



This is to certify that

.....

has successfully completed:

Altea DCS FM Load Control Recurrent Course

In accordance to provisions of LOT Operations Manual Part D section 1.3.3.h

Date of issue: January 11th, 2019

This certificate is valid 36 months

.....

Certified Trainer:
On behalf of LOT Polish Airlines

- **DCS LOT Ramp**



This is to certify that

.....

has successfully completed:

Altea DCS FM Ramp and Freight Course

In accordance to provisions of LOT Operations Manual Part D section 1.3.3.i

Date of issue: January 11th, 2019

This certificate is valid 36 months

.....

Certified Trainer:
On behalf of LOT Polish Airlines

- **DCS LOT Ramp Recurrent**



This is to certify that

.....

has successfully completed:

Altea DCS FM Ramp and Freight Recurrent Course

In accordance to provisions of LOT Operations Manual Part D section 1.3.3.j

Date of issue: January 11th, 2019

This certificate is valid 36 months

.....

Certified Trainer:
On behalf of LOT Polish Airlines

Chapter 4 – Ramp Handling

4.1 Handling agent staff training ... 3/126
4.2 Handling agent functions ... 5/126
4.3 Ground support equipment ... 7/126
4.3.1 Ground Power Unit (GPU) ... 9/126
4.3.2 Air Starter Unit (ASU) ... 11/126
4.3.3 Air Heater / Air Cooler ... 12/126
4.3.4 Boarding bridge ... 12/126
4.4 List of ground handling activities on the ramp during turnaround ... 13/126
4.4.1 PRE arrival/departure inspection ... 14/126
4.4.2 Walk around inspection ... 14/126
4.4.2.1 General information ... 14/126
4.4.2.2 The PRE departure walk around check ... 15/126
4.5 LOT Polish Airlines ramp handling requirements ... 17/126
4.5.1. General Safety Measures on the Ramp ... 19/126
4.6 Chapter deleted ... 22/126
4.7 Baggage handling ... 23/126
4.7.1 Handle baggage in the baggage sorting area ... 23/126
4.7.2 Prepare baggage for delivery onto flights ... 24/126
4.7.3 Loading sequence ... 26/126
4.7.4 Handling of damaged baggage, cargo and mail (general and dangerous goods) ... 28/126
4.7.5 Passenger items transported in the passenger seats of the aircraft cabin ... 30/126
4.7.6 Stowing of load in the passenger cabin ... 31/126
4.7.7 Withdrawing load from the flight ... 32/126
4.7.8 Arriving baggage handling standards ... 33/126
4.8 Marshalling at arrival/departure ... 35/126
4.9 Parking ... 37/126
4.9.1 Position and/or remove wheel chocks ... 37/126
4.9.2 Position or remove tail stands and/or aircraft tethering and safety cones ... 40/126
4.9.3 Adverse weather Condition ... 41/126
4.9.3.1 Winter Conditions ... 41/126
4.9.3.2 Storm- Lightning ... 41/126
4.9.3.3 Strong Wind Conditions ... 43/126
4.9.3.1.1 High winds pose a great risk of damage and the following minimum actions shall be taken: ... 43/126
4.9.4 Chapter (please see Chapter 4.3.1 and 4.3.2) ... 46/126
4.9.5 Aircraft servicing arrangements - no contact policy ... 47/126
4.9.5.1 deleted ... 47/126
4.9.5.2 ERJ 170-100/200 ... 47/126
4.9.5.3 ERJ 190-200 ... 48/126
4.9.5.4 B737-800/MAX8 ... 49/126
4.9.5.5 B787 ... 50/126
4.9.5.6 DHC-8-400 ... 51/126
4.9.5.7 DHC-8-400 - continue ... 52/126
4.9.6 Access to the aircraft ... 52/126
4.9.7 Door operations ... 53/126
4.9.8 Minimum ground handling time ... 56/126
4.10 Chapter (please see Chapter 4.3.3) ... 56/126

4.11 Ramp to flight communication 57/126
4.12 Safety risk management 59/126
4.12.1 Hazard Report Form 60/126
4.13 Safety measures 63/126
4.13.1 Aircraft danger zones 65/126
4.13.1.1 B737 Aircraft 66/126
4.13.1.2 ERJ 170 – 100/200 Aircraft 67/126
4.13.1.3 ERJ 190-200 ..... 68/126
4.13.1.4 B787 Aircraft 69/126
4.13.1.5 – DHC-8-400 ..... 70/126
4.13.2 Ramp accidents/incidents 71/126
4.13.2.1 Air/Ground Safety Report 73/126
4.13.3 Damage to the aircraft 75/126
4.13.3.1 Aircraft Damage Report 76/126
4.13.4 Safety precaution during fuelling/defueling 86/126
4.13.5 Safety precaution during fuelling with passengers embarking, disembarking or remaining on board 89/126
4.14 Interior cleaning 91/126
4.15 Disinfections and disinsections of the aircraft 93/126
4.16 Potable Water and Lavatory Service 95/126
4.17 De-Icing and Anti-Icing 97/126
4.18 Catering and provisioning 99/126
4.19 ULD management 101/126
4.19.1 General rules 101/126
4.19.2 LO ULD devices for cargo and baggage loading – description 106/126
4.19.3 Movements and stock control 106/126
4.19.4 ULD securing 107/126
4.20 Push back 109/126
4.20.1 Push back procedure and communication 113/126
4.21 Station file 115/126
4.22 Operation coordination and supervision 116/126
4.22.1 Operation supervision 116/126
4.22.2 ATS Flight plan and Slot Management 117/126
4.22.2.1 Examples of slot messages: 118/126
4.22.3 Cooperation between Station Manager and Flight Dispatcher 119/126
4.22.4 Handling agent's ATM Quick Reference List 121/126
4.23 Death on board of a LOT Polish Airlines aircraft 125/126
4.23.1 Procedure 125/126

4.1 Handling agent staff training

	Remarks
1. General policy (GRH 2.1.1; GRH 2.1.4; GRH 2.2.1; GRH 2.3.2 GRH 3.4.2)	• The handling agent shall be in possession of ground emergencies plan in case of: aircraft or airport evacuation, bomb threats, ramp facility evacuation and in case of natural disasters. In such situations handling agent is obliged strictly follow the rules. • The handling agent shall be properly trained prior to being assigned to perform operational duties. • Handling agents shall have a training system in operation: ➢ **initial** - before performing operational duties ➢ **recurrent** (not less than once during every 36-month period, except for DGR which is required not less than once within 24 months) ➢ **re-qualification** training applicable to personnel that become unqualified for any reason, prior to being reassigned to perform operational duties • Qualification of staff shall be based on IATA, ICAO and local airport requirements and shall cover the ramp handling area incl.: ➢ aircraft weight & balance, ➢ loading/embarking and unloading/disembarking, ➢ de-icing/anti-icing, ➢ dangerous goods and special cargo **NOTE**: Personnel shall be trained according to IATA DGR Table 1.5.A Minimum Requirements for Training Curricula ➢ cleaning of aircraft, ➢ water and toilet service, ➢ fueling, ➢ push-back and towing, ➢ operation of specialized equipment used at an airport, ➢ airside safety and associated operational hazards, ➢ human factor, ➢ Safety Management System (SMS*)* ➢ PRM awareness in accordance with EC 1107/2007 Article 11. • Training in the scope of security - accordingly to performed duties. • Trainings must be recorded to ensure that the content and retention of such records are in accordance with requirements of LOT.

2. Training System-requirements concerning personnel training database. (GRH 2.1.3; GRH 2.1.5)	• The handling agent shall have a documented training system in operation, in which the duration (number of hours), validity periods of certificates, and an evaluation system are specified, and which has been approved at a relevant management level. • Handling agent training shall include final test or evaluation by written, oral or practical means. • Handling agent training shall require a demonstration of adequate knowledge, competency and proficiency to perform duties, execute procedures and/or operate equipment. • The handling agent shall have in place a system of renewing, updating and modifying training programs in case of an introduction of new regulations, implementation of corrective measures or changes in company polices. • The handling agent shall have an up-to-date database concerning the training of permanent employees, temporary employees or any staff employed on any other basis, which can be made available for review at each request of LOT Polish Airlines representative. • All databases shall be protected.
3. Training Program (GRH 2.1.2; GRH 2.2.3); GRH 2.2.4)	The training programs completed by ground handling operations personnel shall be in accordance with Table 6.1 in appendix 5 , provide the knowledge necessary to perform duties, execute procedures and operate the equipment associated with specific ground handling functions and responsibilities. Such programs shall include: • Familiarization training on applicable regulations; • In-depth training on requirements, including policies, procedures and operating practices; • Training in human factors principles; • Safety training on associated operational hazards. Training for ground handling personnel in operational areas as specified shall include elements that address specific ground handling functions in accordance with the Tables included in the appendix 5. i.e.: • Airside driving as specified in Table 6.2; • Load control as specified in Table 6.3; • Aircraft handling and loading as specified in Table 6.6; • Aircraft loading supervision as specified in Table 6.8; • Aircraft ground movement as specified in Table 6.9; • Aircraft fueling as specified in Table 6.10; • Aircraft de/anti-icing as specified in Table 6.11; • Other operational ground handling functions as specified by the Operator. **Note:** *Subject areas in the tables specified in the appendix 5 are typical for training of personnel in each associated ground handling function. Personnel assigned to perform more than one ground handling function as defined by the Operator could have different ground handling roles and responsibilities that would require training in a combination of the functions specified in the provision.*

4.2 Handling agent functions

Functions:	Remarks	
1. Supervisory functions	• Main function requiring supervision based on agreement are: ➢ Liase with local authority ➢ Administrative functions ➢ Supervision and /or co-ordination of services contracted by the carrier with third party(ies) • Following functions performed under the aircrafts requires supervision: ➢ loading/unloading ➢ Weight & Balance ➢ cleaning ➢ refueling ➢ deicing/antyicing ➢ documentation exchange ➢ safety factors	
2. Coordination functions	Coordination of aircraft turnaround activities is essential to achieve a safe, secure and efficient operation through adherence to local regulations and standard operating procedures. Coordination functions means:	
	to check:	• if the all required equipment for ramp handling, loading/unloading, boarding/deboarding is available. • if all the loads for a given destination are offloaded. • with loading personnel if all baggage, cargo for the flight concerned has been loaded and distributed according to the load control's instructions. • with the captain if the aircraft is ready and the purser has completed the cabin services
	to ensure:	• the proper loading and securing of the load. • that all necessary documents required for the flight are on board the aircraft.
	to confirm:	correct load distribution and securing of load by signature
	to inform:	• the captain/purser if any passenger needs special handling or care is on board: ➢ VIP, ➢ PRM, UM, DEPO, INAD • the captain/purser if any special load is to be loaded: ➢ live animals (AVIH and PETC). ➢ dangerous goods, ➢ heavy cargo
	to make:	A visual check and inspect if cabin cleaning has been performed
	NOTE: All handling agents shall ensure that a ramp-coordinator or ramp-supervisor is available during the complete ground time to coordinate and supervise all process	

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4.3 Ground support equipment

	Remarks
1. General rules (GRH 3.5.1 i.; GRH 3.5.1 vii. GRH 3.5.3 iii.)	• Only certified equipment, dedicated to the particular aircraft type, must be used for ramp handling • Only trained and qualified personnel will be permitted to operate ground support equipment. • Ground support equipment shall be serviceable and in good condition. • A walkaround safety inspection prior to use of GSE shall be done. **NOTE:** Unserviceable equipment shall be clearly tagged "Out of Service" and immediately be sent to repair/maintenance department • Personnel must not operate motor vehicles or equipment whilst using hand held portable electronic devices. Such devices shall not be used unless a suitable "hands Free" device, either personal or installed, is available • Equipment shall only be used for its intended purposes • Equipment shall be positioned so as not to obstruct an aircraft evacuation or the free movement of other GSE. • When operator needs to leave the GSE cabin, the following minimum condition must be met: - Parking break is set - Chock under wheel is placed. • All electric and diesel GSE including other vehicles within ERA must be positioned in parallel direction to the aircraft when not used. • Driving with elevating equipment in the raised position, except during final positioning of the equipment to the aircraft is prohibited. • The Operator of electrical or motorized GSE that is positioned at the aircraft, and is being utilized in the operating mode are not left unattended with engine running, except in Cold Weather Operations with the GSE vehicle chocked.
2. Responsibility in case of LOT equipment (GRH 3.5.3 i.)	• Equipment owned by LOT Polish Airlines, delivered to Handling Agent, can be used only as specified in the Agreement. The Agreement must include the Maintenance Requirements. • Equipment owned by Handling Agent, used to service LOT Polish Airlines aircraft, must be serviced according to the Maintenance System required by manufacturer and local Civil Aviation authorities. The Maintenance System is verified periodically by LOT Polish Airlines audit.

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4.3.1 Ground Power Unit (GPU)

Remarks	
1. Definition	• Ground power unit is a vehicle capable of supplying power to aircraft parked on the ground. • Ground power units may also be built into the jetway, making it even easier to supply electrical power to aircraft
2. General information	• All aircraft require 28V of direct current and 110V 400 Hz of alternating current. • The electric energy is carried from a generator to a connection on the aircraft via 3 phase 4-wire insulated cable capable of handling 200 amps. These connectors are standard for all aircraft. **NOTE:** In case of B787 the use of 2 GPU is required

3. Connecting GPU:

When placing the GPU the minimum safety distance from the aircraft fuselage must be kept (2 meters) The GPU must be placed in such a way, so that the exhaust gasses are directed away from the aircraft's fuselage and the fire safety zones.
The mobile GPU must always be disconnected from the tow vehicle before connecting the cable to the aircraft and properly immobilized (fixed by putting the tow bar up and locking it in the up-lifted position or by placing chocks under the GPU wheel).

Procedure:

Make sure the GPU is working properly
ØCheck voltage indicators
ØPlug in GPU to aircraft (APU switched ON)

After the aircraft has come to a complete stop at the parking stand:

1. Chock the nose landing gear
2. Position the Ground Power Unit,
3. Disconnect GPU from towing vehicle
4. Place chocks under GPU
5. Connect GPU

After connecting the GPU, inform crew via the intercom or by using the appropriate hand signals.

During Non-APU arrival Ground Power Unit is the only GSE that may be placed at the aircraft with an engine running and the anti-collision light on.
Non-APU arrival is the procedure to secure fuel economy and APU cycles and is also used in case of APU malfunction.
Immediately after complete stop at the parking stand, the aircraft shuts down the engine on the exit side and with the other engine on idle is waiting for the GPU connection (APU is switched off).

After the aircraft has come to a complete stop at the parking stand:

1. Chock the nose landing gear
2. Position the Ground Power Unit,
3. Disconnect GPU from towing vehicle
4. Place chocks under GPU
5. Connect GPU

After connecting the GPU, inform crew via the intercom or by using the appropriate hand signals and wait until:

1. Engines have been switched off and are spooling down
2. Anti-collision lights are switched off.

Chock the main landing gear and place the safety cones, the rest of the arrival procedure is standard. NOTE: During this procedure (especially during chocking the nose gear) it is necessary to be extremely cautious and strictly avoid the dangerous zones of the engines!	
4. GPU Disconnecting. The GPU may be disconnected from the aircraft only upon the definite approval from the crew of the aircraft and/or engineer. Before switching off/disconnecting the GPU always make sure first the control “External power not in use” is on on the service panel of the aircraft. First the power supply must be switched off, only then the connector may be pulled out of the aircraft's socket (otherwise it might cause, especially when wet, a serious injury by electricity) The mobile GPU cable must always be disconnected from aircraft before connecting the GPU to the tow vehicle.	
5. Preventive actions-correct usage of GPU	All handling and maintenance staff responsible for GPU connection is obliged to: • Check the aircraft external power receptacle and ensure it is free of liquids, ice, debris or other contaminants; • Verify that all electrical pins in the external power receptacle are clean and in good standing, ensuring that there is no deep corrosion, no local melting due to prior arcing, or any deformation. • If necessary, remove any contamination found on the receptacle and pins, then wipe them dry with a lint-free cloth. In case of damage on the receptacle and/or pin, schedule their replacement. • Make sure the GPU is set to "OFF" prior to its connection to the aircraft; • Make sure the GPU plug is in good condition and free of liquids, ice, debris or other contaminants prior to its connection to the aircraft;
	• Insert firmly the GPU plug into the external power receptacle, then power "ON" the GPU; • Do not connect to the aircraft a GPU with voltage out of range (115 +3/-2 VAC) or with known voltage spike issue; • Turn the GPU switch to "OFF" before disconnecting its plug from the aircraft. • Do not keep the GPU plug connected to the aircraft with the GPU switch pushed "OUT" for long periods (AVAIL lamp "ON" on the electrical control panel). • External power cables not be connected to either of the forward, or aft, EP connectors on the airplane when there is potential for a lightning strike.

	NOTE 1: If GPU do not obey the specified range of parameters the aircraft EPM (EXTERNAL POWER MODULE) overvoltage/undervoltage protection will actuate and the external AC power supply will beautomatically disconnected from the a/c. **NOTE 2:** After GPU connected, only when AVAIL lamp on the AC GPU panel (on the external AC power receptacle) comes on it is allowed to push GROUND SERVICE SW switch (on the external ac power panel or inside RH. monument) to power on the a/c.
NOTE: When the aircraft is parked by the air bridge, before engine start-up the air bridge must be retracted for a safe distance, thus enabling proper deployment of escape slide. In this case: - bridge - mounted GPU may be used if power cable length is sufficient - otherwise mobile GPU should be used	

4.3.2 Air Starter Unit (ASU)

- In the event of the APU being unserviceable or when an airport has an APU running restriction a ground supply will be required.
- In case of APU failure, engine No. 2 shall be started first. At operator's discretion air-starter unit can be also used to start the engine No. 1. (This must be agreed with flight crew before start-up)
- The air-starter must be placed in such a way, so that the exhaust gasses are directed away from the aircraft's fuselage and the fire safety zones.
- The air-starter minimum safety distance from the aircraft fuselage must be kept (2,5 meters).
- Make sure the air-starter hose and connection head is in good condition and free of liquids, ice, debris or other contaminants prior to its connection to the aircraft. The minimum length of hose shall be 10 m (30Ft).
- CROSS-BLEED START RESTRICTIONS
  Flight Deck crew shall not attempt to cross bleed start until:
  1. Pushback is complete,
  2. The parking brake is set,
  3. Push back tug is disconnected.
- Cross-bleed starts during pushback are not permitted.
  1. All staff and equipment (other than ASU) is clear on self-manoeuvring stands
  2. Any request to perform a cross bleed start must be declined until all 3 points above are complete.

4.3.3 Air Heater / Air Cooler

	Remarks
1. General rules	• In the case of malfunctioning of the Auxiliary Power Unit or if use of the unit is not allowed, the passenger cabin may be air conditioned only by an external device (Air Heater or Air Cooler). • It is recommended to cool the air in the passenger cabin if the temperature outside is higher than 25 ^{0}C, and to heat up the air if the temperature outside is below 5 ^{0}C. • In the case of ERJ 170-100/200, ERJ 190-200; B737, and B787 type aircraft the unit shall be connected approx. 60 minutes before ETD and 45 minutes for DHC-8-400. • It is recommended to disconnect the air conditioning unit just before passengers' boarding. • **Air Heater -** the heater and its controls shall be designed to offer two different modes of heating. The heating unit shall be pressure and temperature controlled. • **Air Cooler (Conditioning Unit)** - it is desirable that the cooling system shall have minimum capacity to reduce the aircraft cabin temperature through a range of 380C in a maximum time of 70 minutes from initial start and be capable of maintaining the aircraft cabin at a constant temperature between 220C and 240C. The air conditioning hose on mobile units shall have a minimum length of 10m (30ft)
2. Removal of ground support equipment	**Authorised ground staff must make sure that:** • Ground support equipment, which is no longer needed, is removed as soon as possible. • Ground support equipment is parked in the designated parking areas • Cabin doors are closed by the flight attendants when embarkation of passengers is completed. • Passenger steps or loading bridges are removed only after cabin doors have been closed.

4.3.4 Boarding bridge (GRH 3.5.2)

1. General rules	**Boarding bridge shall be:** • Fully retracted or parked in the designated parking position prior to aircraft arrival and departure movement. • Moved slowly to the aircraft cabin access doors. • Engaged using the auto leveling safety system. • Secured to prevent movement from non-authorized persons.

4.4 List of ground handling activities on the ramp during turnaround (GRH 3.2.3)

	Activities
1.	Preflight duties: • stand allocation for arriving aircraft • collection of inbound flight information • check for serviceability of stand guidance and passenger bridge or stairs (The condition of the steps must be checked. Any debris must be removed, during winter season pay particular attention to snow, frost and liquid residues such as deicing fluids and other that may cause skidding, falling. Contamination (i.e. ice, snow) must be removed mechanically or with use of special chemicals.) • stand inspection for FOD • check for serviceability of GSE - a walkaround safety inspection prior tu use shall be done • check the passenger bridge/stairs are correctly parked and GSE are clear of stand • check stand guidance/marshaller in position • vehicles and personnel remain clear of parking stand until engines are shut down and anticollision lights are turned off (before approaching the aircraft, please make sure that both beacons, on the top and bottom of the fuselage are switched off) - the exception is non-APU arrival procedure p. 4.3.1 (3)
2.	Aircraft chocked (verbal/visual confirmation to the flight crew required)
3.	GPU connected
4.	Safety cones placed
5.	Visual check of aircraft for damages – walk around inspection form (point 4.4.2)
6.	Passenger bridge/stairs positioned
7.	Passenger doors opened
8.	Passenger embarkation
9.	GSE positioned and safety devices correctly used
10.	Catering equipment positioned
11.	Compartments doors opened
12.	Compartments offloading (check if empty)
13.	Catering off/on loading
14.	Cabin cleaning
15.	Refueling
16.	Crew change
17.	Compartments loading
18.	Water service
19.	Toilet service
20.	Passenger embarkation
21.	Baggage reconciliation
22.	Documentation completed
23.	Pushback positioned
24.	Compartments doors closed
25.	GSE clear
26.	Safety cones removed
27.	Cabin doors closed
28.	Passenger bridge/stairs removed
29.	De-icing
30.	Walk around – walk around inspection form (point 4.4.2)
31.	GPU disconnected
32.	Chocks removed
33.	Aircraft off blocks/engine start
34.	Post flight duties

4.4.1 PRE arrival/departure inspection (GRH 3.2.2; GRH 3.2.7; GRH 3.2.8)

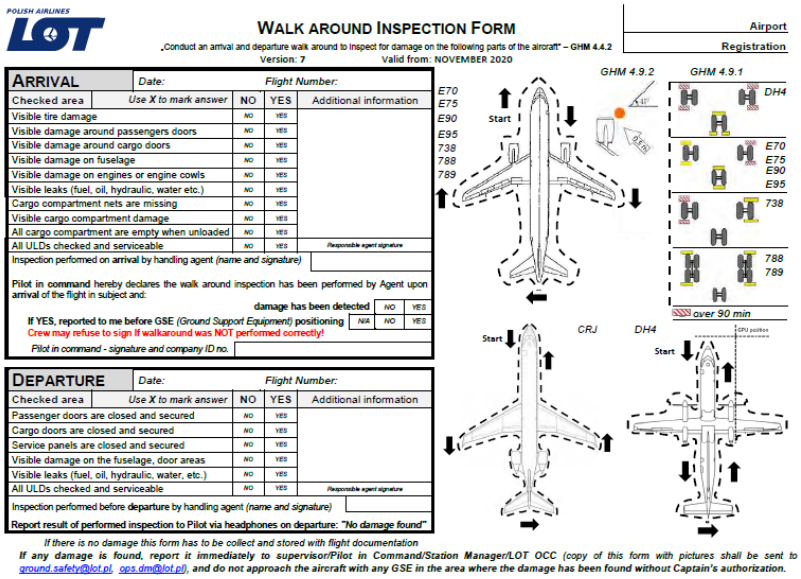
ARR	actions	DEP
x	Required GSE is available and positioned clear of the ERA and the aircraft docking guidance system is operational or, if applicable, marshalling personnel are in place	
x	The ramp area surface is free of: - debris that could cause foreign object damage (FOD) - contamination that could be hazardous to aircraft movement - objects that could be subjected to jet blast effect	x
x	The aircraft movement path is clear of objects and obstacles	x
x	Any visible aircraft damage or abnormalities are reported to the flight crew and maintenance (walkaround)	x
x	Landing gear safety pin is installed after arrival and removed after push back (it does not apply to EMB)	x
x	Personnel not involved in the aircraft arrival/departure are positioned outside the ERA	x
x	If applicable, wing walkers and/or other applicable personnel are present	x
	Passenger boarding equipment are detached from the aircraft and parked in a fully retracted position prior to aircraft departure movement	x
	GSE are detached from the aircraft and vehicles are positioned clear of the aircraft movement path	x
	Aircraft servicing panels and/or hatches are closed and secured (except external power and headset panels);	x
	Aircraft cabin and cargo doors are closed and handles are flush with the fuselage	x
	Communication is established with the flight crew (if applicable, air starter unit (ASU) positioning, engine start sequence and identification of minimum specifications for volume and pressure of air supply	x
x	Use of anti-collision light(s)	x
	Vehicles and personnel remain clear of aircraft engine intake and/or blast areas during engine start	x

4.4.2 Walk around inspection

4.4.2.1 General information

- Direction of walk around depends on aircraft's type and is marked on form. Shall be started at front passenger door to position stairs as first.
- Conduct an arrival walkaround to inspect for damage on the following parts of the aircraft:
  - All cargo doors
  - All access panels and servicing access points
  - Aircraft fuselage
  - Aircraft engine cowlings
  - Aircraft passenger doors.
- Give clearance for GSE to approach aircraft.

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WALK AROUND INSPECTION FORM

„Conduct an arrival and departure walk around to inspect for damage on the following parts of the aircraft" – GHM 4.4.2

Version: 7 Valid from: NOVEMBER 2020

Airport

Registration

ARRIVAL Date: Flight Number:

Checked area (Use X to mark answer)	NO	YES	Additional information
Visible tire damage	NO	YES	
Visible damage around passengers doors	NO	YES	
Visible damage around cargo doors	NO	YES	
Visible damage on fuselage	NO	YES	
Visible damage on engines or engine cowls	NO	YES	
Visible leaks (fuel, oil, hydraulic, water etc.)	NO	YES	
Cargo compartment nets are missing	NO	YES	
Visible cargo compartment damage	NO	YES	
All cargo compartment are empty when unloaded	NO	YES	
All ULDs checked and serviceable	NO	YES	Responsible agent signature

Inspection performed on arrival by handling agent (name and signature)

Pilot in command hereby declares the walk around inspection has been performed by Agent upon arrival of the flight in subject and:

damage has been detected NO YES

If YES, reported to me before GSE (Ground Support Equipment) positioning N/A NO YES

Crew may refuse to sign If walkaround was NOT performed correctly!

Pilot in command - signature and company ID no.

DEPARTURE Date: Flight Number:

Checked area (Use X to mark answer)	NO	YES	Additional information
Passenger doors are closed and secured	NO	YES	
Cargo doors are closed and secured	NO	YES	
Service panels are closed and secured	NO	YES	
Visible damage on the fuselage, door areas	NO	YES	
Visible leaks (fuel, oil, hydraulic, water, etc.)	NO	YES	
All ULDs checked and serviceable	NO	YES	Responsible agent signature

Inspection performed before departure by handling agent (name and signature)

Report result of performed inspection to Pilot via headphones on departure: "No damage found"

GHM 4.9.2 GHM 4.9.1

E70 E75 E90 E95 738 788 789 Start DH4 E70 E75 E90 E95 738 788 789 over 90 min

Start CRJ Start DH4

If there is no damage this form has to be collect and stored with flight documentation

If any damage is found, report it immediately to supervisor/Pilot in Command/Station Manager/LOT OCC (copy of this form with pictures shall be sent to ground.safety@lot.pl, ops.dm@lot.pl), and do not approach the aircraft with any GSE in the area where the damage has been found without Captain's authorization.

4.4.2.2 The PRE departure walk around check

The walkaround shall start as soon as possible after all ground servicing activities have been completed. Walk around the entire aircraft at normal walking pace. The check shall start as close as possible to departure time. If any part of the aircraft still has GSE engaged at the time of the check, or if GSE re-engages with the aircraft after the check, the applicable area(s) shall be reinspected.

The pre departure walk around check shall include the following:

1.	The apron is **clear** of all FOD items that may cause aircraft damages or pose a risk.
2.	All GSE including passenger boarding device are **detached**.
3.	The stand area (ERA) is **clear of obstructions**, GSE and vehicles are positioned **clear of the aircraft path**.
4.	Adequate **clearance** exists between the aircraft and facilities or fixed obstacles along the aircraft movement path.
5.	All aircraft servicing panels and/or hatches are closed and secured: >> **water** panel | **toilet** panel | **fueling** panel | Exception: *external power* and *headset panel*
6.	Cabin/ Cargo doors: >> Handles are flush with the fuselage There is no visible damage on the aircraft, particularly around cabin and cargo doors.
7.	Any abnormalities on the aircraft observed are immediately brought to the attention of the flight crew and maintenance personnel. >> obvious **damage** >> fluid **leakage** >> **unremoved** pitot covers >> **unremoved** safety pins (landing gear) >> landing gear low tire pressure or **damage**
8.	Items such as propeller straps and tail stands are removed.

Note 1: *In the event of the aircraft returning to the stand, the pre departure walk around check shall be repeated.*

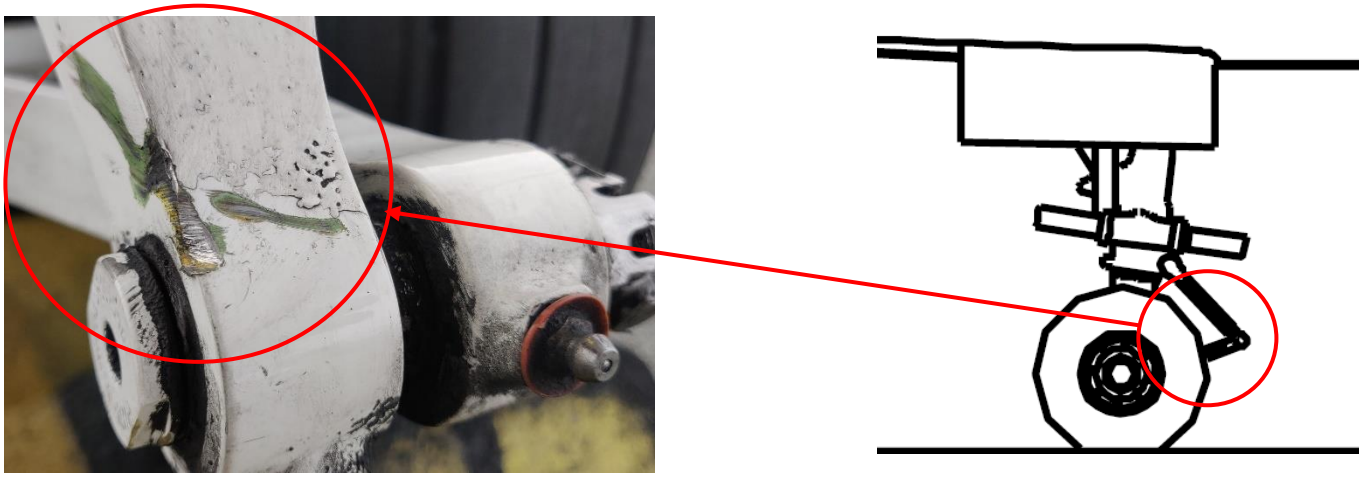
Note 2: *It is essential to have adequate lighting when doing the walk around check. If the lighting is insufficient,* ***use a flashlight***

NOTE:

Walkaround mandatory check:

For the safety reason and proper reporting system PLL LOT requires to inspect the nose landing gear prior being connected to towbarless tractor and after being disconnected. If any damage has been found, inform:

- Flight crew
- Provide a report to ground.safety@lot.pl



NOTE:

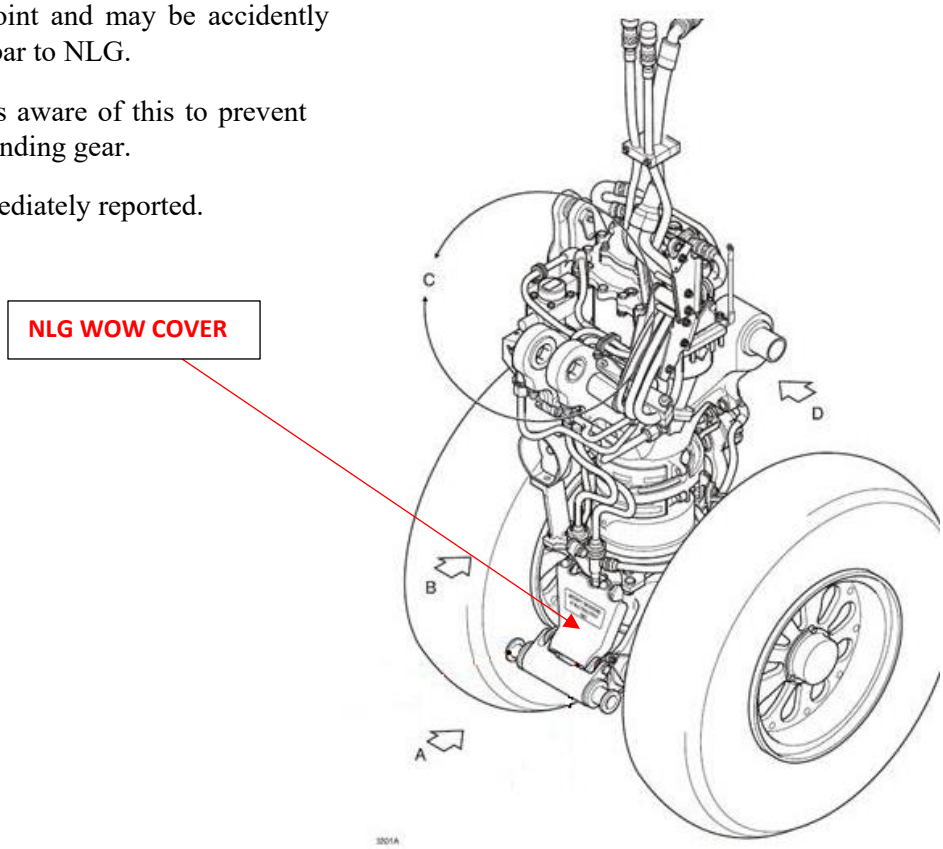
WEIGHT ON WHEEL (WOW) sensor indicate whether the weight of an aircraft is resting on its wheels. This information reveals whether the aircraft is airborne or on the ground. WoW sensors are important because they help to prevent accidents relating to the incorrect position of the landing gear, as well as protect the aircraft from damage.

WoW sensors is considered a safety critical part of aircraft landing gear control systems.

Please be aware the WoW sensor is located in a close proximity of towbar attachment point and may be accidently damaged while connecting the towbar to NLG.

Make sure Your operational staff is aware of this to prevent potential damage or incident with landing gear.

Any sights of damage must be immediately reported.



4.5 LOT Polish Airlines ramp handling requirements

	Remarks
1. General (GRH 3.5.3 ii.)	• Ground handling of LOT aircrafts is provided according to the handling agreement signed between LOT and handling agent operating in given airport. • Ground handling is accomplished according to standards defined in GHM. • Station Manager or other LOT representative ensures that ground services are delivered according to the signed agreement **NOTE:** Where there is no LOT representative, commander supervises required handling. • GSE must be in good condition with it's maintenance documented and recorded • Additional handling services not included in the agreement may be arranged at the commander's or Station Manger's order.
2. Operating practices	• Personnel shall not walk or stand on a moving conveyer belt • Personnel must not ride up or down on the rear platform of a loader • Personnel shall never attempt to jump off or on a moving vehicle • Personnel shall not be transported on equipment unless there is a seat for them • Personnel on moving equipment must be seated properly and shall keep their bodies within the confines of vehicle structure • Personnel must not ride on elevating platforms when the vehicle is in the drive mode • Personnel shall not walk on rollers or castors • On arriving aircraft all personnel must remain clear of the propellers, engine inlets and exhausts until the engines have spooled down and, in case of propellers stopped turning. Personnel must not approach an aircraft until the anti-collision beacons have switch off. • Personnel and equipment must not pass through the arc of the propeller at any time, including when it is stationary • On departing aircraft, as soon as the anti-collision beacons are on, personnel must remain clear propellers, engine inlets and exhausts. Personnel, unless required to perform specific function must immediately vacate the area. • Extreme care shall be exercised when entering and leaving aircraft cabin holds and compartments. ➢ Aircraft cabins shall only be entered or exited by using steps, stands or loading bridges and which have been properly positioned and secured. ➢ Holds and compartments shall only be entered or exited by using the appropriate elevating device and which has been positioned and secured (conveyer belt, cargo loader) • Drawing or scrawling on fuselage and other parts of aircraft is strictly prohibited. It may be offensive and impact the image of LOT Polish Airlines. The drawing or scrawling if observed shall be photographed, documented and supervisor shall be informed.

	• If towbar is connected to tractor and aircraft, it is forbidden to cross drawbar! • It is forbidden to put baggage net out of baggage compartment (*as seen below*). Do not leave loose metal hangings, it may cause damage of fuselage. Attach hangings to the metal o-rings to avoid net hanging free. This will also prevent attempts to climb the net.

Wrong *Bombardier Dash Q400 only*



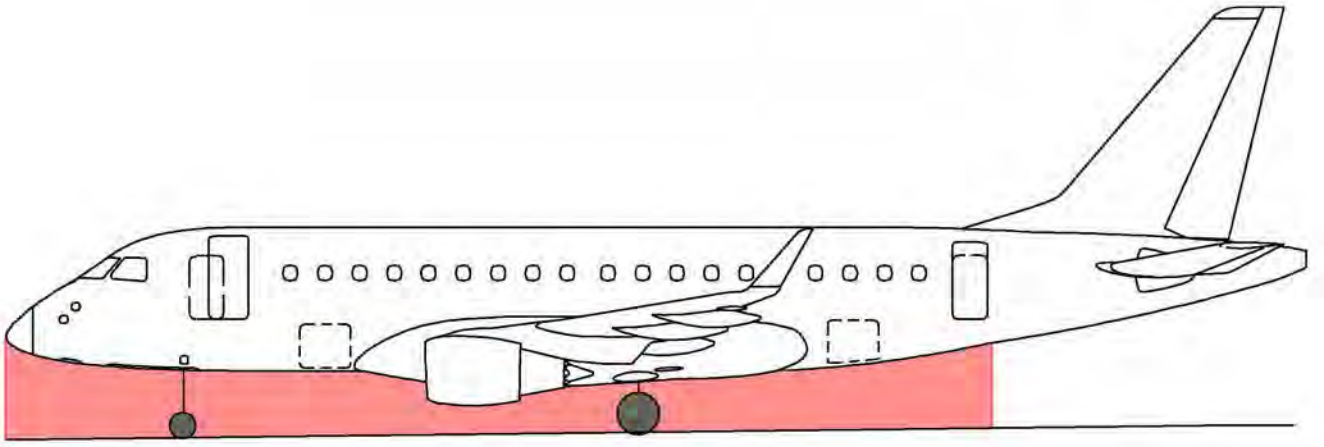
Correct *Bombardier Dash Q400 only*



4.5.1. General Safety Measures on the Ramp

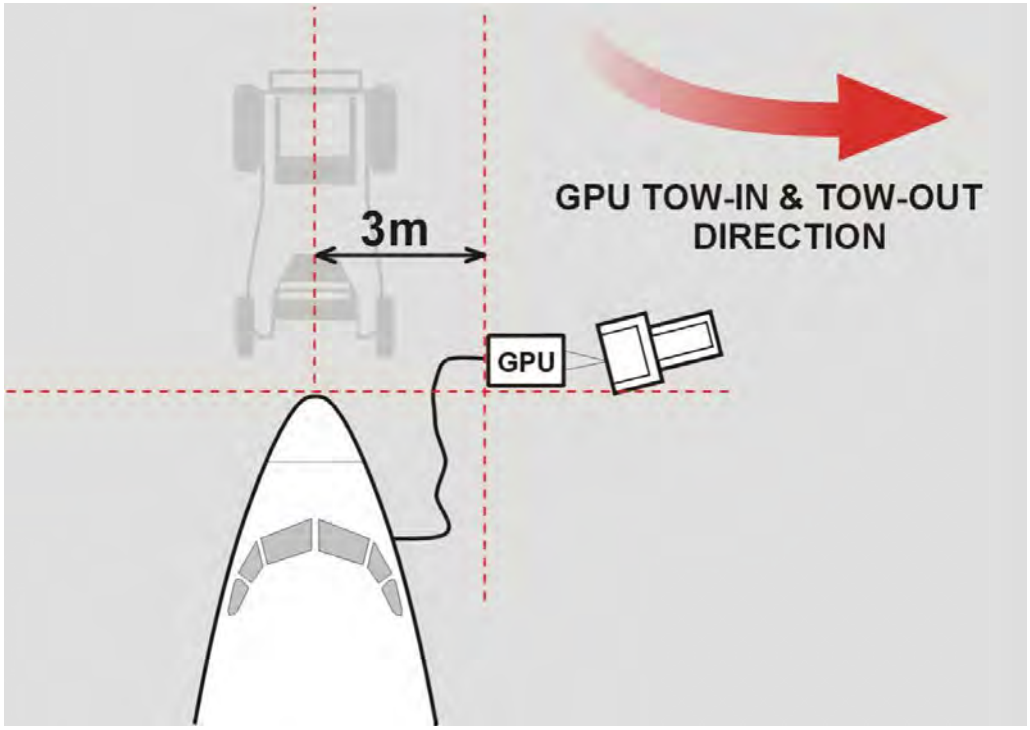
1. General Rules	Safety regulations related to specific handling tasks (which are described on the pages in this manual) as well as the local airport regulations must be strictly observed.
2. Security	No unauthorized person may enter the ramp or an aircraft. If any unauthorized person is detected: Inform the local authorities directly or through your Operations Supervisor, according to local regulations. Handling agent personnel is obliged to challenging persons without badge.
3. Ramp traffic	Use only the marked walkways and traffic routes according to the local airport regulations. Wear fluorescent safety vests.
4. Protection from noise	Wear ear protection all the time while on duty on the ramp, for example ear muffs
5. Ramp surface	Check the ramp surface frequently to avoid accidents, injuries of persons or damage to aircraft and equipment caused by oil, ice, snow, F.O.D. (Foreign Object Damage: small or big stones or objects like tie-down rings, waste, etc.) If any contamination of the ramp surface is detected: Initiate an immediate removal of the contamination.
6. Passenger routes	Lead passengers to and from the aircraft in a way that the risk of accidents is kept to a minimum. If boarding or deboarding and fuelling take place at the same time do not lead passengers through the fuel venting areas . Observe safety rules Ch. 4.13.5.

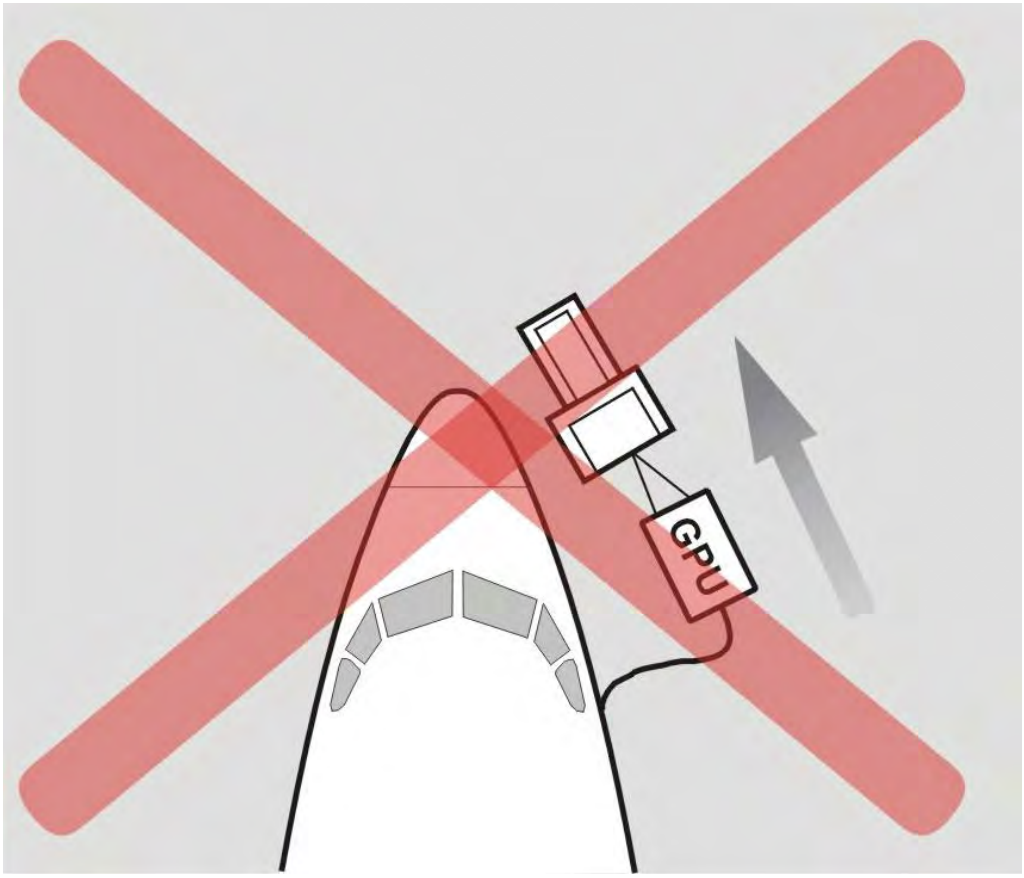
7. Movement under the aircraft engines and fuselage shall be restricted to technical staff and flight crew, only.



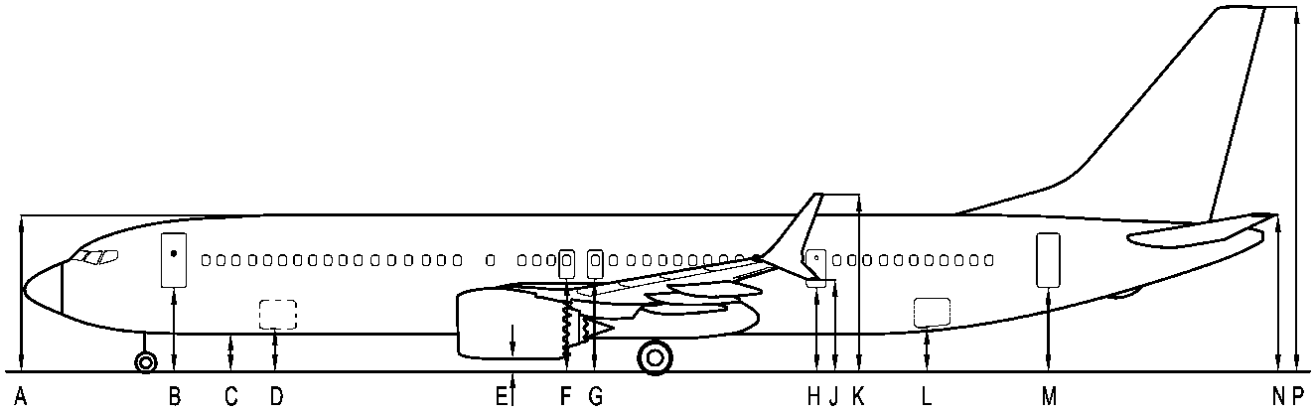


8. GPU positioning *(aircrafts other than Bombardier Dash 8 Q400)*





9. *B737-8MAX winglet*



	DESCRIPTION	737-8 / -8-200 / BBJ8 *[1]			
		MINIMUM		MAXIMUM	
		FT - IN	M	FT - IN	M
A	FUSELAGE - TOP	16-8	5.08	18-1	5.51
B	FORWARD DOOR, LEFT & RIGHT	9-1	2.77	10-1	3.07
C	FUSELAGE - BOTTOM	4-2	1.27	5-1	1.55
D	FORWARD CARGO DOOR	4-8	1.42	5-6	1.68
E	ENGINE	1-5	0.43	1-10	0.56
F	FORWARD OVERWING EXIT DOOR, LEFT & RIGHT	10-2	3.10	10-5	3.18
G	AFT OVERWING EXIT, LEFT & RIGHT	10-2	3.10	10-5	3.18
H	MID EXIT DOOR, LEFT & RIGHT *[2]	8-8	2.64	9-5	2.87
J	WINGLET BLADE, LOWER	9-2	2.79	10-4	3.15
K	WINGLET BLADE, UPPER	15-8	4.78	19-11	6.07
L	AFT CARGO DOOR	4-4	1.32	5-4	1.63
M	AFT PASSENGER DOOR, LEFT & RIGHT	8-2	2.49	9-3	2.82
N	HORIZONTAL STABILIZER	18-9	5.72	17-6	5.33
P	VERTICAL STABILIZER	38-11	11.86	40-8	12.40

NOTES:

*[1] CLEARANCES SHOWN ARE NOMINAL. ADD PLUS OR MINUS 3 INCHES TO ACCOUNT FOR VARIATIONS IN LOADING, OLEO AND TIRE PRESSURES, CENTER OF GRAVITY, ETC. DURING ROUTINE SERVICING, THE AIRPLANE REMAINS RELATIVELY STABLE, PITCH AND ELEVATION CHANGES OCCURRING SLOWLY.

*[2] MID EXIT DOOR ONLY EQUIPPED ON 737-8-200.

4.6 Chapter deleted

4.7 Baggage handling

4.7.1 Handle baggage in the baggage sorting area.

	Remarks
1. Baggage handling area	• All baggage make-up areas and baggage transfer points are restricted to authorized personnel only • All areas shall be supervised and access shall be controlled, • All area should be well lighted. • Surveillance cameras shall be used, where feasible. • Periodic checks of all areas shall be undertaken • Loading supervisors shall ensure that loaded baggage carts are not left unattended in areas accessible to the public • Loading supervisors shall retain baggage in make-up area, moving it to the aircraft not earlier than necessary. • Driver of baggage carts shall keep ground route from make-up area to the aircraft as short as possible. • Baggage carts must be kept in good condition and shall not be overloaded. • Before the flight is closed the handling agent shall to confirm the final number of accompanied and unaccompanied (RUSH) hold baggage pieces load into the hold. This may be done either by using the automatic reconciliation system or by manual methods.
2. Damage, theft and pilferage prevention	• Baggage held outside normal operating hours shall be stored in secure area. • Route from make-up area to the aircraft should be as short as possible and well illuminated. • Ramp agent or supervisor shall always: ➢ view compartment into which baggage is being loaded, ➢ keep constant observation during loading operation, ➢ observe state of baggage, ➢ report to the appropriate department (e.g. baggage tracing) if any damage or pilferage is stated. ➢ Weight the damage piece of baggage and enter information in the relevant documentation **NOTE:** Leaking baggage must not be loaded. • The baggage must be properly protected against rain and snow until it is put on board aircraft.
3. Baggage with missing tag	• Should it be discovered that any piece of baggage is not marked with a destination tag, report this fact to the supervisor • Information on the location where lack of baggage tag was discovered, weight of the piece and baggage handling persons shall be entered in the relevant documentation • Afterwards the baggage shall be delivered to the staff handling baggage-related complaints (LL, LZ) so that appropriate action may be taken.

4.7.2 Prepare baggage for delivery onto flights (GRH 3.4.1)

1. Baggage loading (bulk) (GRH 3.7.7)	• Checked baggage is loaded onto the aircraft by the employees of the handling agent providing ramp handling services to LOT Polish Airlines aircraft • It shall start and finish within the deadlines agreed with the Station Manager or another authorized person who represents LOT Polish Airlines • While handling baggage at the sorting facility, transporting it between the sorting facility and the aircraft and loading it onto the aircraft, the baggage shall be protected against damage and unauthorized access. • Baggage must be loaded in accordance with the Loading Instruction prepared by the Weight & Balance staff. **NOTE**: The Station Manager or another person representing LOT Polish Airlines may introduce additional local regulations applicable to loading checked baggage onto the aircraft, which shall be passed on to the handling agent's staff in the form of a written instruction**.** • Any baggage with missing identification tag must be identified before loading. **Procedure:** ➢ Report to supervisor any piece of baggage not marked with a destination tag, ➢ Deliver baggage to the Lost and Found to take action • Particular attention shall be paid for handling baggage which requires special care during handling, marked by tags such as „This Way Up",„Heavy" „Live Animals" etc. The baggage which exceeds allowed unchecked baggage limits, taken from the passenger at the GATE or at the entrance to the aircraft, tagged as „Limited Release", shall be treated, while loading, in the same way as checked baggage • The condition of the load must be inspected prior to loading, in order to detect leaking or damaged shipments. **NOTE:** Leaking shipments must not be loaded. Any damage noticed must be reported to the appropriate departments (e.g. baggage tracing, cargo department, mail handling). • The available separation nets must be properly secured to prevent shifting of load in flight. • Heavy loads must be stowed at the bottom; if necessary, put heavy loads on spreaders in order not to exceed the maximum floor load and running load limitations. • Special loads must be stowed in accordance with the relevant regulations (Dangerous goods, Live animals, and Miscellaneous special loads. • For maximum utilisation of the available compartment volume, load must be stowed as tightly as possible. • When loading is completed, a visual check of the compartment shall be done to roughly compare the volumes and weights with those mentioned on the loadsheet. • Door protection nets must be properly secured before closing the compartment door.

	• **Carrying baggage which is not accompanied by a passenger is prohibited** ➢ Should a decision be made to remove from the flight a passenger who has already checked his/her baggage in, it is absolutely necessary to remove the passenger's baggage from the flight at the same airport. . ➢ If such baggage has already been loaded onto the aircraft, one must ensure it is taken off the aircraft, regardless of any delays it may cause **NOTE:** It is forbidden to carry passenger's baggage if the passenger is not present on board unless such baggage has been subjected to additional security check
2. Baggage loading (ULD containers)	• ULD shall be in serviceable condition before loading - refer to IATA ULD. • Do not pack baggage pieces too tightly into a container. • Make sure baggage pieces are arranged with enough space left, with tags visible immediately upon opening the container. • Having loaded the baggage into the ULD, close the container and place the list with numbers of baggage tags affixed to baggage pieces loaded into the unit in the external "pocket" of the ULD. • Container must be equipped with tag (for baggage – black lettering and a red slash or a white background). The tag shall be placed in position easily seen from eye level. In case of fixed-size ULDs, the tag shall be inserted in a fixed placard holder. **NOTE:** Any old tag must be removed. • If possible, baggage carried on a single-leg route should be loaded into a container other than the one containing baggage carried on a multi-leg route • The transfer baggage shall be sorted regarding final destination and loaded to the separate ULD's. If possible, ULD's containing transfer baggage should be loaded into separate hold.

4.7.3 Loading sequence

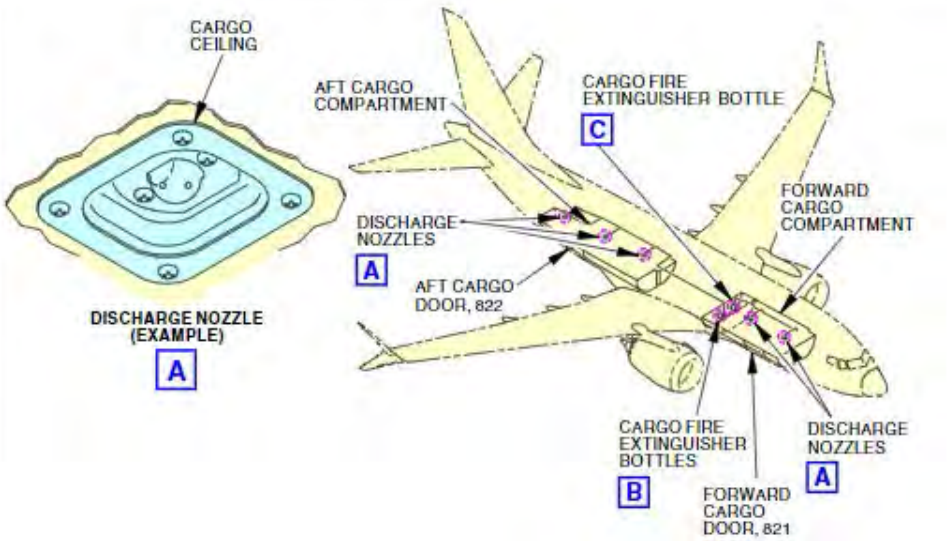
1. Sorting checked baggage *(Star Alliance A2.3; B1.5)*	Checked baggage is being sorted in order to ensure that baggage is loaded onto the aircraft in a way which makes it possible to offload baggage at destination in the following order:
10. Moving/walking aids **9. DAA baggage and baby strollers / car-type seats** **8. SHORT TRANSFER baggage** *(refer to GHM 6.13)* **7. TRANSFER baggage** *(including Priority in transfer)* **6. PRIORITY local baggage** *(marked priority tag)*	**5. LOCAL baggage** **4. SPECIAL NEEDS Passengers baggage** *(refer to GHM 5.11.6)* **3. RUSH** **2. MAIL** **1. CARGO** ***Note:** The loading position of transfer baggage, priority baggage and short transfer baggage must be shown on the LDM and/or CPM message. The bagagge codes according to IATA must be applied.*
2. Securing of bulk load-general	The load must be secured in such a way that: • In flight, it cannot work loose and cause hazardous displacement of the centre of gravity of the aircraft, injure passengers and crew, or damage the aircraft • In case of forced landings, it cannot injure passengers and crew. • Load must be restrained against shifting forwards, backwards, sideward and upwards.
3. Securing load	• Items weighing 150 kg or more, irrespective whether the compartment or net section is volumetrically full or not. • Items with an individual weight between 50 kg and 150 kg, if the compartment is not volumetrically full. • Items with an individual weight of less than 50 kg, but having a density of more than 240 kg/m3 (high density load, e.g. pieces of machinery, metal bars) must be lashed if the compartment or net section is volumetrically full and remains full up to the point of unloading of these items.
4. Methods for securing load must be used	• Items described above must be tied down to the tie-down tracks of the securing load must be used compartment by means of tie-down footing and ropes or straps. • Any other individual items which by their nature, shape or density may constitute a hazard must be restrained by either filling the compartment or net section to its volumetric capacity or by using the previous method. • If transit cargo is found to be damaged, the ramp handling agent must inform the carrier's Station Manager or representative and/or captain to receive further instruction.

5. Lashing regulation	For lashing of bulk load, the following regulations apply: • Whenever possible, ropes and straps must be put around the item in such a way that the angle between the actual force direction and the rope or strap is not more than 45°. • Ropes or straps securing an item for different force directions (e.g. upwards and forwards), may be attached to the same tie-down fitting. • Ropes or straps can be attached in advance to tie-down fittings in those places which may be difficult to reach later on. • Load may not be tied to attachment points not intended for this purpose (e.g. fire detector guards, compartment door latches, net attachment points in the compartment ceiling, etc.). • Tie-down fittings must be installed in the tracks with a minimum spacing of 50cm/20 inches. • Ropes and straps must be firmly tensioned, but not too tautly to avoid damage to the lashing equipment or to the item. • The same tension must be applied to all lashings. • Wet ropes may not be used, as they may loosen up when they dry out. • Ropes, straps and tie –down fitting of foreign origin may only be used if their restraint capacity is known **NOTE:** Lashing materials must be returned to the carrier
6. Loading of ERJ170/190	Loads MUST NOT be loaded into ERJ170/190 over the line showing maximum loading level (5 cm from the ceiling surface)







7. Loading of B737 Loads MUST NOT be loaded close to the nozzles of fire extinguisher. Maximum loading level (5 cm/2in from the ceiling surface)	

4.7.4 Handling of damaged baggage, cargo and mail (general and dangerous goods) (GRH 3.6.5)

1. Requirements	• The handling agent's staff shall be properly trained. Detailed traning requirements has been laid down in IATA DGR and this manual. Chapter 1.3.1 Operational Manual Part D for LOT staff only. • Is the duty of the local handling agent: ➢ to have an up-to-date NOTIFICATION LIST, appropriate for the local airport, concerning dangerous goods incidents or unknown chemical substance incidents, ➢ to have the DGOR (Dangerous Goods Occurrence Report) form.
2. Loading basic rules	It is the duty of the ramp-handling agent to: • respect basic rules while loading/unloading the aircraft. • use appropriate equipment, • apply appropriate protection to immobilize loaded consignments in the aircraft for the duration of flight.
3. Cargo documents requirements	The cargo handling agent shall hand the consignments ready for the carriage together with the documents: AWB, DGD, MSDS – if applicable, Cargo Manifest, NOTOC over to the ramp handling agent.
4. Handling agent tasks	It is the duty of the ramp handling agent to check whether: the packaging, the markings, the stickers (type and quantity), the documents are in conformity with the regulations.
5. Damage to the packaging	When cargo is found to be damaged, the following action must be taken: a) to assess to extent of the damage b) to assess the possible effects of the damage on: • the safety on proposed flight, • the safety of handling staff, • the shipment itself, including other load • If any damage to packaging has occurred, but it has been found that: ➢ no one has accessed the contents, ➢ no leakage has occurred, ➢ no spillage has occurred, ➢ not contains DGR, and nevertheless is considered to be loaded the ramp handling agent must ✓ drown up the Damage Report ✓ ensure that all details of extent time, location, etc.are recorded on the Damage Report, Loading Instruction ✓ notify by means the en route and destination station of the fact that damage has been recorded and if necessary give the instruction for the safe handling of the items • If any damage packages are considered NOT to be loaded the ramp handling agent must: ✓ remove the packages to the safe place ✓ remove from the normal storage area ➢ Inform cargo and return cargo/mail shipment together with the documents to the cargo handling agent ➢ update entries in appropriate cargo/mail documents — attached to the Loadsheet — and connected with the withdrawn consignment (Cargo Manifest, NOTOC); ➢ notify the captain (also, if applicable, the engineer) about the potential

	consequences, including the influence of the occurrence on the schedule of the planned flight. • If transit cargo is found to be damaged, the ramp handling agent must inform the carrier's Station Manager or representative and/or captain to receive further instruction.
6. Leakage or spillage of DGR (during loading/unloading process) –procedure for handling agent a) Immediately notify: - persons responsible in accordance with local Notification List, - the captain or the engineer, - LOT Polish Airlines Station Manager (a supervisor or other personrepresenting the interests of LOT Polish Airlines at the airport), - his direct superior, - the cargo/mail handling agent b) Fill in the DGOR form if necessary. Pass a copy of the DGOR form to the Station Manager or the person representing the interests of Polish Airlines at the airport (within 72 hours original DGORdocument should be on hands of the local Aviation Authority) c) Update the entries in appropriate documents — attached to the Loadsheet. d) Obtain written confirmation from the Airport Fire Brigade or the Chemical Rescue Staff providing the following information: - effectiveness of the neutralisation operation — whether the lethalthreat or health hazard has been eliminated, - start time of the operation, - specification of substances or dangerous goods (if any) which havebeen deactivated, - substance used for neutralisation, - areas which have been cleaned, - the number of cargo pieces covered by the deactivation, specifying the parcels withheld by the - chemical Rescue Staff, - the number of baggage pieces covered by the deactivation, specifyingthe withheld pieces (further proceedings concerning baggage arecarried out in accordance with baggage complaint procedures,including drawing up of the PIR); - time of the neutralisation operation, e) After the completed neutralisation of the contamination: - hand over the packages (baggage, cargo and mail) secured by the Fire Brigade or other specialised chemical rescue staff to the Lost & Foundoffice, cargo shipments together with documents to the cargo handlingto transfer them to the cargo facilities. - take further steps as regards the damaged consignment in accordancewith relevant complaint procedure applicable to baggage, cargo ormail.	
7. Procedure for Station Manager (a supervisor, agent or person representing the interests of LOT at airport: (GRH 3.1.2)	• Supervise the above mentioned operations of the ramp handling agent, • Notify the Operation Center, • Provide to the LOT Polish Flight Safety Department flight.safety@lot.pl ➢ Filled copy of the DGOR form, ➢ a copy of the written confirmation issued by the Airport Fire Brigade or other authorized chemical rescue staff concerning the completed operation. (if needed)

	• Based on (EU) REGULATION No 376/2014 DG Occurrence Report (DGOR) shall be reported no later than 72 hours to all below: ➢ Local Civil Aviation Authority ➢ Local Airport Authority; ➢ PLL LOT S.A. (e-mail: DGOR@lot.pl andflight.safety@lot.pl)
	Dangerous Goods Regulations, Section 9, , Chapter 7

4.7.5 Passenger items transported in the passenger seats of the aircraft cabin (GRH 3.4.12)

	Remarks
1. Policy:	• Passenger items (e.g. valuable baggage) might be transported in the passenger seats of the aircraft cabin.
2. Loading requirements	Such passenger items shall: • be secured by a safety belt or restraint device having enough strength to eliminate the possibility of shifting under all normal anticipated flight and ground conditions; • be packaged or covered in a manner to avoid possible injury to passengers and cabin crew members; • not impose any load on the seats that exceeds the load limitation for the seats; • not restrict access to or use of any required emergency or regular exit, or aisle(s) in the cabin; • not obscure any passenger's view of the seat belt sign, no smoking sign or required exit sign. For more info refer to Chapter 5.3.3 (6) and 6.3.5.

4.7.6 Stowing of load in the passenger cabin (GRH 3.4.10)

	Remarks
1. Policy:	• Passengers and cargo carriage within passenger compartment at the same time (combined flights) is forbidden. • In case when available holds capacity is insufficient to carry whole payload LOT Polish Airlines accept stowing of load in the passenger cabin. • LOT Polish Airlines is equipped with the special „seat container" (certified by manufacturer), different to each aircraft type.
2. Stowing of load in the passenger cabin is limited to;	• Regular cargo and mail accepted in accordance with the Cargo Bureau regulations and procedures. **NOTE:** Dangerous goods are not allowed to carry in passenger cabin. • Checked baggage **NOTE:** Baggage with contents of firearm, ammunition and other dangerous items are not allowed to carry in passenger cabin.
3. Conditions	• Cargo or baggage shall be stowed in an approved seat container that does not exceed the load limitation for the seats. • Maximum weight allowed per triple seats 225 kg B737 A/C • Perishable cargo is not allowed to stowing in the passenger cabin. • Live animal cargo – AVI is not allowed to stowing in the passenger cabin. • All loads stowed in the passenger cabin must be screened. • All loads stowed in the passenger cabin are packaged or covered in a manner to avoid possible injury to passengers and cabin crew members • Dangerous goods shipments must not be stowed in passenger cabin • Crew must be informed.
4. Loading instruction	• Containers are placed on the same side of cabin on: ➢ triple seats (B737) • The safety belts must be used whenever suitable. • The seat containers must be individually tied down. • It is forbidden to place the seat containers in emergency exit rows. • Emergency signs, no smoking signs or seat belt signs inside cabin can not be obscured by baggage and load. • Load placed in the containers can not exceed the upper level of the seat. • One row between container and passengers' seats must be left. • Destination station must be informed about load in passenger cabin by LDM message.

4.7.7 Withdrawing load from the flight

	Remarks
1. Responsibility	In case when available payload carrying capacity is insufficient to carry the whole payload, the LOT Polish Airlines Station Manager or a person authorized by the Station Manager or (at the airports where there is no LOT Polish Airlines office at the airport) an authorized representative of the handling agent representing the interest of LOT Polish Airlines, makes a decision to withdraw part of the load from the flight.
2. The order in which checked baggage (and other load) has to be offloaded from the flight	• Empty ULD's • Non Revenue Cargo • Cargo of LOT Polish Airlines staff carried at 90% discount and unaccompanied luggage belonging to LOT Polish Airlines and other persons carried according to the ‚Service" tariff (except for persons mentioned under point 9) below), • Cargo carried at discount-fare tariffs (including unaccompanied luggage belonging to fare-paying passengers), • Baggage which belongs to LOT Polish Airlines staff and other persons traveling under ‚Service " tariff, • Baggage of passengers holding Open Tickets, • Baggage of passengers on the Waiting List, • Baggage of discount-fare passengers, • General cargo, Mail • Baggage of Presidents, Directors and flying crew members of other airlines • Economy class baggage • Transit passenger baggage • Premium passenger baggage • Priority and Express cargo - AAA - OPERATIONAL PRIORITY CARGO - PRI – SERVICE SELECT CARGO - EXC – SERVICE SUPER CARGO • Special Cargo: - NWP – NEWSPAPERS or MAGAZINES - FRI/FRO – FROZEN CARGO - COL/CRT – TEMPERATURE SENSITIVE CARGO - PER/PEF/EAT/PEM/PEP/PES – PERISHABLE CARGO - ICE – SHIPMENT IN DRY ICE - RRE/RRW/RRY – RADIOACTIVE MATERIAL IN EXCEPTED QUANTITIES/ RADOACTIVE MATERIAL CATEGORY I/II/III - VAL- VALUABLE CARGO - ACT – ACTIVE TEMPERATURE CONTROLLED SYSTEM - PIL – PHARMACEUTICAL CARGO - DIP – DIPLOMATIC MAIL - HUM - HUMAN REMAINS - AVI – LIVE ANIMALS

	• Baggage of LOT Polish Airlines employees traveling on business, • Baggage of passengers traveling with full-fare business class tickets, • Special Cargo: diplomatic and courier mail and diplomatic and courier baggage, • Flight Kit • EIC – Equipment in compartment • CSU – Catering Service Unit. Catering • Baggage of the crew members who perform a given flight operation as well as baggage of members of the Management Board of LOT Polish Airlines, • Parts required for urgent aircraft repair marked in the Load Message (LDM) by the ,,AOG" code. • LHO – LIVE HUMAN ORGANS / SHL – SAVE HUMAN LIFE
3. Procedure	• Baggage withdrawn from the flight shall be immediately delivered to the staff in charge of baggage-related complaints in order to agree on the way of sending the baggage to its destination. • The staff at the point of baggage offloading are responsible for sending a message to the staff in charge of baggage-related complaints at the destination airport, with the information on how and when the baggage withdrawn from the flight will be sent to its destination

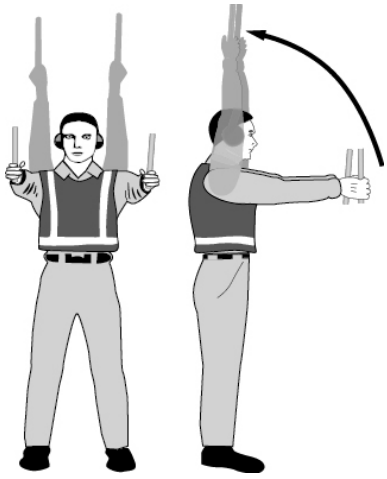
4.7.8 Arriving baggage handling standards

	Remarks
1. Offloading sequence	According to the point 4.7.3
2. Deliver baggage to the claim area *(Star Alliance B1.5)*	• Signs over the baggage belt shall indicate where the incoming flight is being handled (operating and marketing flight numbers). • Baggage equipped with Priority baggage tag must be delivered as first • The first piece of baggage shall arrive on the belt not later than 15 min after the aircraft stop on the parking position (block time). • The last piece of baggage shall arrive on the belt not later than 25 min
3. Direct transfer of baggage from aircraft to aircraft	• In the event transfer of Schengen to Schengen, it is allowed to transfer such baggage directly from one aircraft to the other one without additional security check. • In case of any other transfer the same rule may be applied, unless it violates any customs, immigration, or security regulations of a given airport/country.

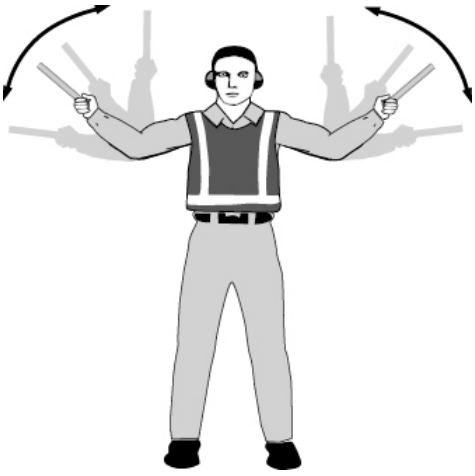
4. Delivery at Aircraft Tag	• The Delivery at Aircraft (DAA) procedure includes acceptance until boarding and delivery directly after d-boarding of all baggage items which a passengers is depending on, e.g. baby strollers/car-type seats or wheelchairs. • DAA items will be loaded in the door area of the bulk compartment where they can easily be unloaded. • In order to facilitate quick unloading, the next destination shall be informed about the number of DAA items and loading position. • Upon arrival loading staff will check the delivery position on DAA tag and decide if the DAA item has to be delivered to the customer or transferred to a connecting flight.
5. Delivery at Aircraft handling	• If the DAA item has to be delivered to the customer, it shall be handled over directly at the aircraft or in the jetway – in consideration of local circumstances. • If de-boarding is finished and the DAA item was not picked up by the passenger, loading staff shall check the delivery station on the DAA tag and the baggage tag: - If the entry on the DAA tag shows your station and the baggage tag shows your station as final destination than deliver the DAA item to the baggage claim area, - If the entry on DAA tag shows your station and the baggage tag shows your station as transfer station then transfer the DAA item to the connecting flight, - If the entry on the DAA tag shows your station and the routing tag does not show your station then handle the DAA item as expedite baggage - If the entry on the DAA item does not show your station and the baggage tag shows your station as final destination then deliver the DAA item to the baggage claim area.

4.8 Marshalling at arrival/departure

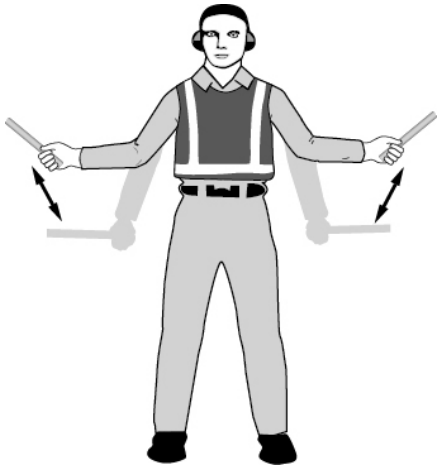
	Remarks
1. General rule	No person shall guide an aircraft unless trained, qualified and approved by appropriate Authority to carry out the functions of a marshaller.
2. Responsibility	A Marshaller is responsible for providing standard marshalling signals, in clear and precise manner, to arriving and departing aircraft
3. Requirements	• The Marshaller shall wear a distinctive fluorescent identification west to allow the flight crew to identify that they are person responsible for operation. • "Dayglo" wands table tennis bats or gloves shall be used for ALL signaling by ALL participating ground staff. Illuminated wands shall be used at night or in low visibility • Signals shall be used to provide a standard means of nonverbal communication between the ground personnel involved. • It is the responsibility of all ground staff to be aware of the dangers that may be present when the aircraft is taxing onto stand.



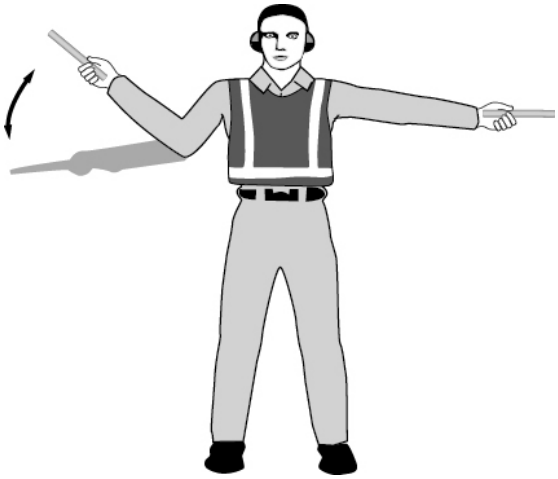
Identify gate



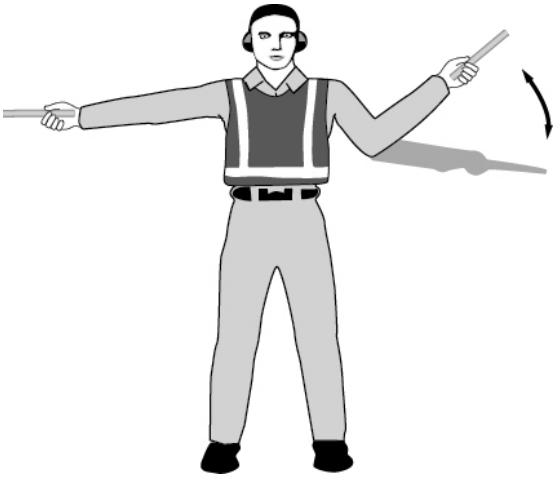
Continue to Taxi Straight Ahead



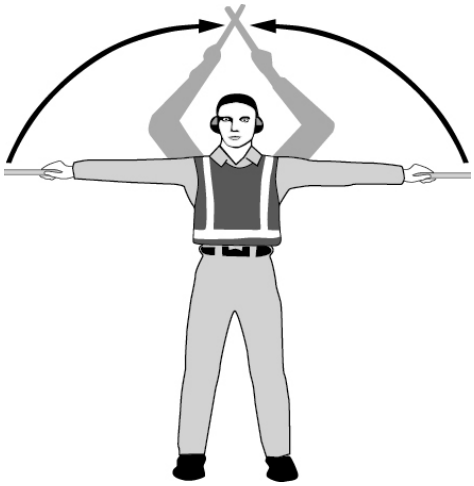
Slow down



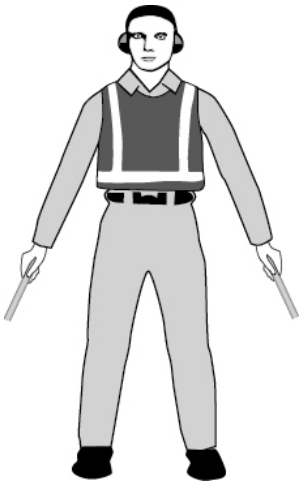
Turn Right (From the Pilots Point of View)



Turn Left (From the Pilots Point of View)



Stop-emergency stop.

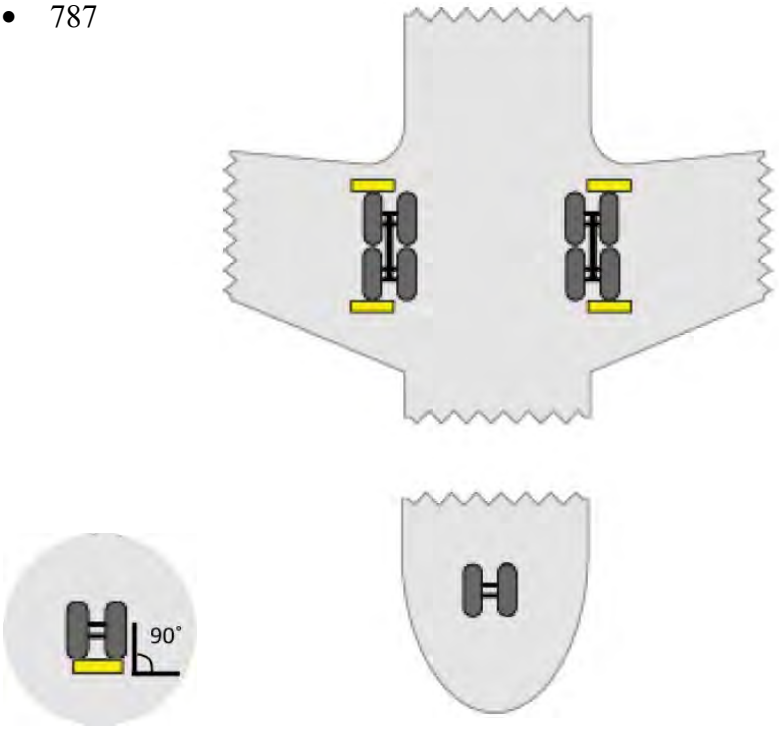


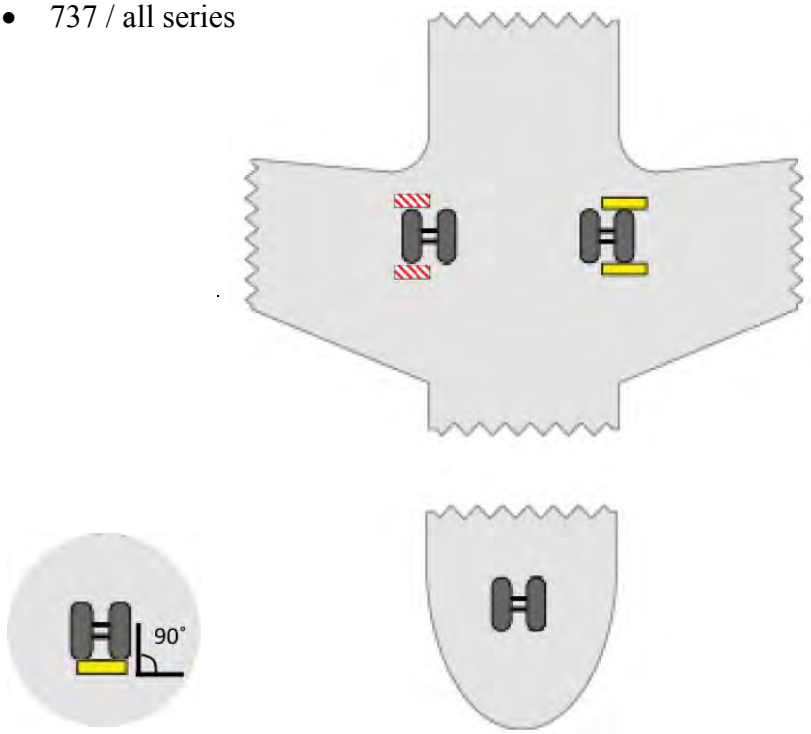
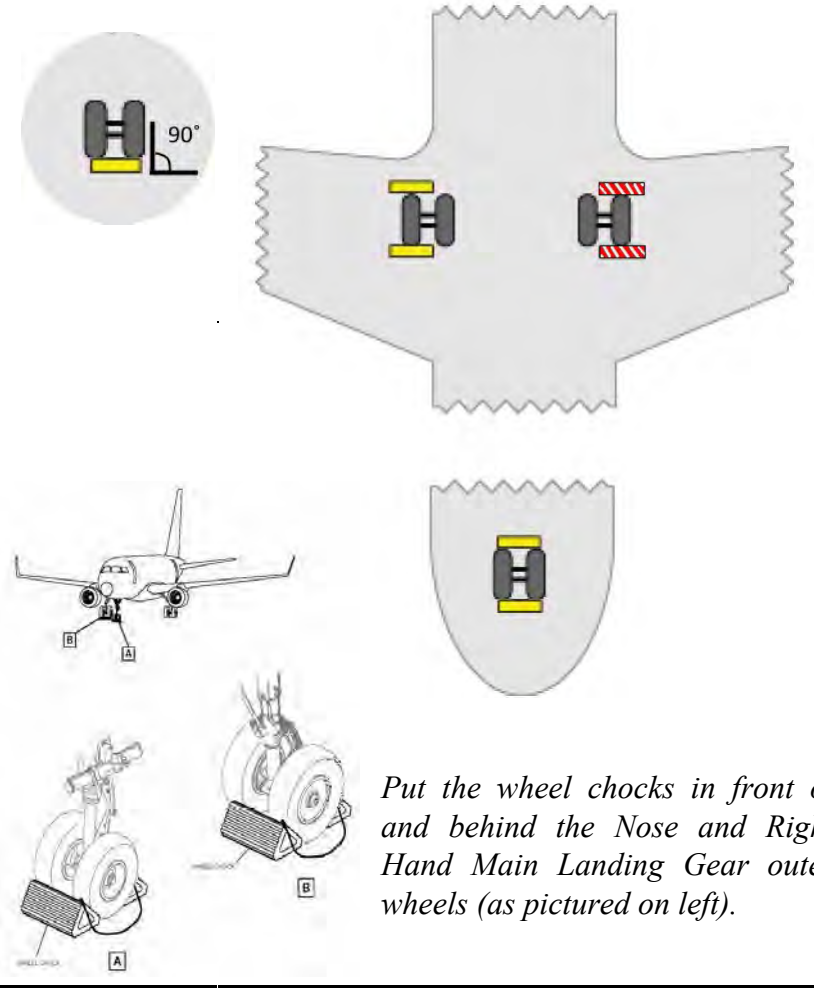
hold position standby



Proceed to Next Marshaller or as Directed by Tower/Ground Control

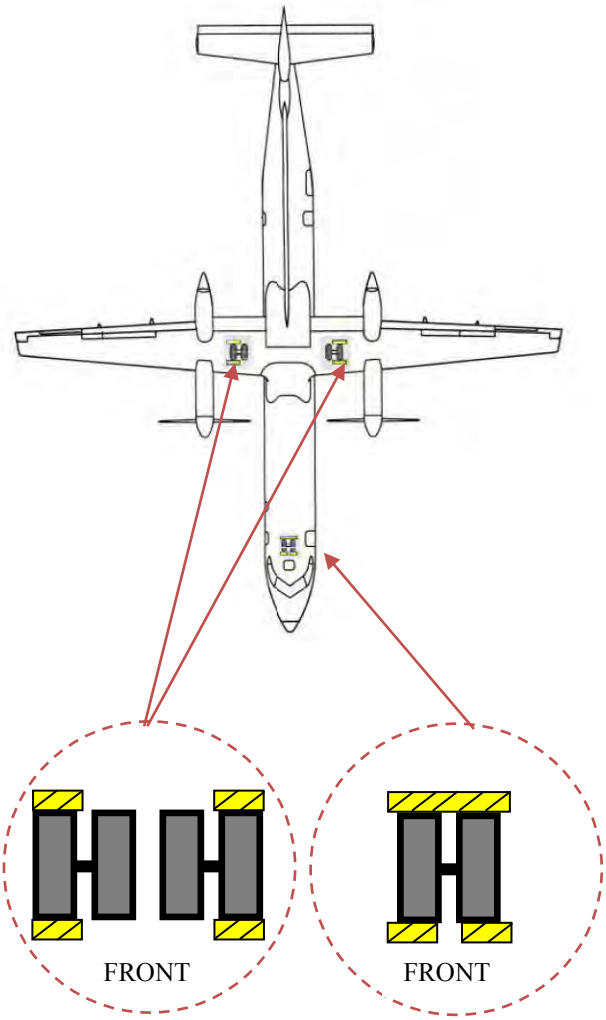
4.9 Parking
4.9.1 Position and/or remove wheel chocks

	Remarks
General requirements	• Chocks should be of a high visibility color or be identified by high visibility markings • Chocks should be triangular in shape with an approximate 45° angle at the point at which the tire makes contact • Chocks shall be made of a material that has a suitable coefficient of friction and that has adequate rigidity **NOTE:** Chocks made of rubber must always be used for LOT Polish Airlines aircrafts • The length of the chock should be such that it covers the full width of the wheel(s) required to be chocked • The height of the chock shall be in relation to the size of the wheel and the type on tyre • Chocks shall be stored in a dedicated area so they are not the cause of FOD
Procedure:	• Ensure that the aircraft has come to a complete stop and the anti-collision lights are off before approaching the aircraft's main wheel on arriving • Wheel chocks must always be positioned according to Lot Polish Airlines rules • Chocks shall never be removed from an aircraft until clearance is given by the person responsible.
• 787 	Wheel chocks **W88**, • Made of rubber 7"W X 5.5"H X 24"L as per Manufacturer's AMM • Weight: 24 lbs (9L752 Scientific Developments INC.175 S Danebo PO Box 2522 Eugene, OR 97402) **Procedure:** • Install the chocks on the main landing gear wheels. • Put chocks in front of one forward and behind one aft inboard or outboard wheel on each of the main landing gear trucks

• 737 / all series  	Wheel chocks **W92 ,** • Made of rubber 7”W x 5.5” H x 52”L as per Manufacturer’s AMM • Weight: 23 kg (9L752 Scientific Developments INC. 175 S Danebo PO Box 2522 Eugene, OR 97402) **Procedure:** • Install the chocks on the main landing gear wheels. • Put wheel chocks in front of and behind a minimum of one set of the main gear wheels. **NOTE:** In case of aircraft parking for a time longer than 90 min. wheel chocks must be placed in front of and behind both sets of the main landing gear.
• ERJ 170-100/-200, ERJ 190-100/200  *Put the wheel chocks in front of and behind the Nose and Right Hand Main Landing Gear outer wheels (as pictured on left).*	Wheel Chocks **P/N 99-9028-6024** as per Manufacturer’s AMM (TRONAIR) • Composed of two 24 in x 6 in x 6 in beams, each weighting 40,08 lbs (18,18 kg), • Made of rubber, • Black with orange stripes or any other color affording high visibility) – qty 3. **Normal operations:** 1. After complete stop place chocks under nose landing gear and start connecting GPU. 2. When beacon light is off begin servicing and put chocks under right hand main landing gear wheels before boarding/ deboarding starts. **Chock all wheels in case of:** 1. Overnight stop, 2. Turnaround over 90 minutes, 3. Requested by crew, 4. Strong wind or gust 20m/s based on current meteorological report (METAR, ATIS etc.)

- Placing chocks DHC-8-400





Main Landing Gear Nose Landing Gear

Placing wheel chocks – DHC-8-400;

- **Up to 90 minutes:**
  Put the wheel chocks in front of and behind the **Nose Landing Gear** wheels,
- **over 90 minutes:**
  Over 90 minutes, for overnight stop or if the wind speed exceeds 40 kts (20 m/s) put the wheel chocks in front of and behind of **Nose Landing Gear wheels** and the both of **Main Landing Gear** wheels.

Minimum chocks dimensions:
800 x 250 x 250 mm and 10,2 kg weight; chocks must immobilize all Main Landing Gear wheels. If described chocks are not available - alternative ones must be used, placed under all wheels of all landing gears Nose and Main left / right).

CAUTION:
In DHC-8-400 Nose Landing Gear support is very close to the ground.

If wheel chocks are too high – after aircraft loading may be blocked by Nose Landing gear support, and chocks removal may be difficult.

To avoid this – wheel chocks shall be put SEPARATELY in front of EACH nose landing wheel.

4.9.2 Position or remove tail stands and/or aircraft tethering and safety cones

	Remarks
1. Tipping (aircraft ground stability)	• A critical aft centre of gravity situation may lead to tail tipping of the aircraft during the handling or towing operations. • Precautions must be taken to eliminate this possibility: ➢ Load planning: when planning the load distribution, sufficient load shall be allocated in the compartments forward of the centre of gravity to ensure ground stability. Particular attention must be paid to the distribution of the transit load on multi-sector flights ➢ Loading/offloading: Unloading shall start in the aft compartments then the forward ones. Loading shall start in the forward compartments then the forward ones. The same sequence shall be applied for aft and forward galleys **Note:** Passenger distribution shall not be used to ensure ground stability A tail support stanchion or nose tether can be used as recommended or required by aircraft manufacturer

2. Safety cones are a caution sign for drivers to maintain required safety clearances. Cones protect parts of the aircraft against collision caused by GSE.

Do not approach the aircraft to position cones unless all of the following criteria are met:

- *Aircraft has come to a complete stop.*
- *Engines have been shut down*
- *Anti-collision lights are switched off.*
- *Aircraft has been chocked.*

- Design of cones should:

be conical in shape,

be of a minimum height of 750 mm (28,5”)

weight of 4,53 kg (10 lbs)

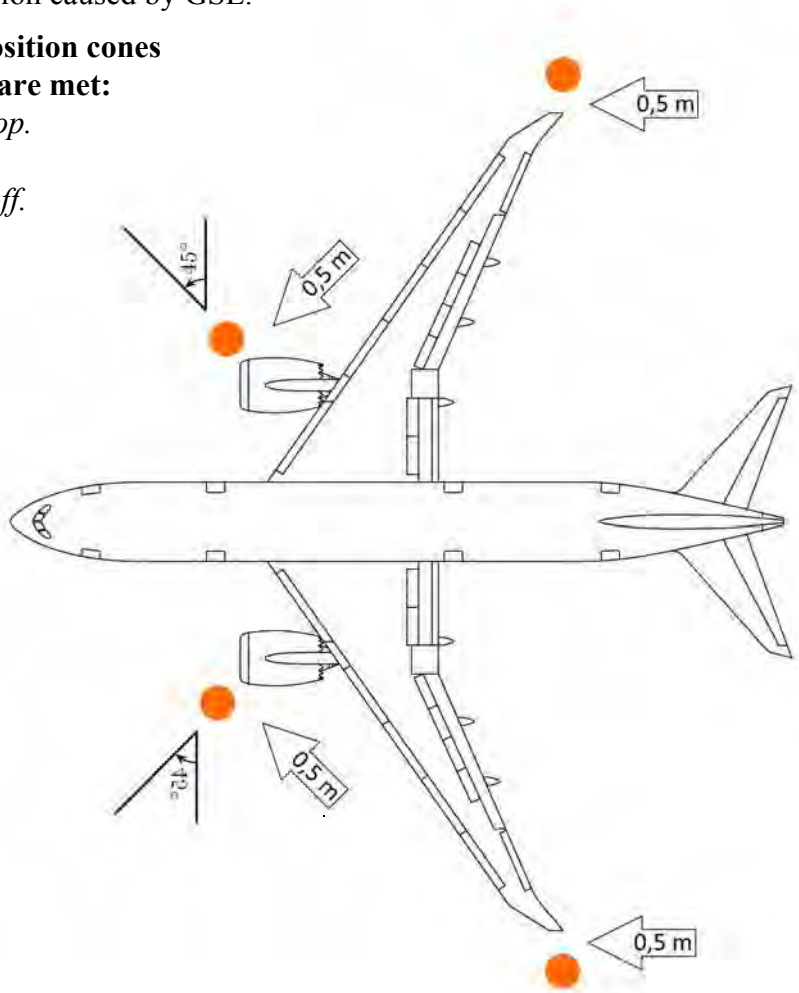
be orange in color with reflective striping

- Positioning:

  at each wing tip immediately after the aircraft is at its parking position and in front of all wing mountend engines (distance 0,5 m)

- Removing:

  just prior to aircraft departure and after use, to designated storage area.



4.9.3 Adverse weather Condition (GRH 3.2.10)

1. General	Airside operational staff shall follow these procedures during adverse or poor weather conditions which may have a negative impact on aircraft handling activities and ground safety.

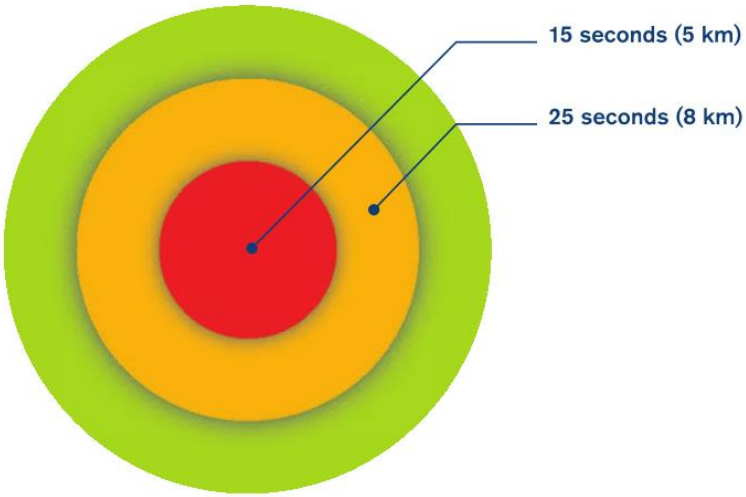
4.9.3.1 Winter Conditions

1. General Roles	Winter weather brings extra hazards, which require awareness and more care on the part of personnel working on the apron to prevent accidents. The following precautions to reduce accident risk shall be taken: • Plan additional time for all ramp activities and take extra care when walking across apron surfaces, which can be slippery. • Take extra care when driving, especially when approaching the aircraft. Remember that GSE require greater distances to stop safely on slippery surfaces. • Operators of potable water tankers and toilet servicing units shall be vigilant that there is no spillage or leakage that can lead to subsequent freezing. Care shall be taken to keep spillage and overflow to a minimum. • If apron conditions are hazardous, contact the competent authority to mitigate the hazard. In the event the hazard cannot be mitigated, suspend the affected operations. • Close all entrance and cargo hold doors as soon as possible and keep them closed to avoid precipitation entry into the aircraft.
2. Ground Equipment:	During winter season, pay particular attention to snow, frost and liquid residues such as de-icing fluids and other that may cause skidding, falling. Contamination (i.e. ice, snow) must be removed mechanically or with the use of special chemicals. Before use, check: • Serviceability (by conduction daily check) • the condition of GSE for safe use. (Any debris/ contamination must be removed).
3. Caution:	Reduce speeds in slippery apron conditions. Adjust all activities and operations on the ramp to suit the conditions at the time.

4.9.3.2 Storm- Lightning

ALERT - Amber Lightning activity is detected at a distance in excess of 8 km (5miles) from your operation.	1. Disseminate lightning warning to airside operating staff. 2. Prepare and plan activities to be ready in case of a Red Alert in accordance with local regulatory requirements. Make preparations for the **STOP** phase.

	• Suspend non-essential activities in open areas and ensure any staff using or about to use headsets are informed of the alert. • Fueling operations can continue, however the proximity of the thunderstorm/lightning should be continually monitored. • Avoid using highly conductive equipment.
STOP/ SUSPEND – RED Lightning activity is detected within 5 km (3 miles) of your operation.	Disseminate the order to stop all airside activities. • Stop fueling. Fueling hoses cannot be left attached to the aircraft during any Thunderstorm/Lighting event. • Discontinue aircraft communication by headset. • Stop all ramp activity and clear ramp. • Personnel should seek shelter inside buildings or inside metal bodied vehicles. No one should seek shelter under any part of the aircraft, loading bridge, near light poles, fences, under trees. • In accordance with local procedures, the aircraft may come on stand but the aircraft doors should remain closed and ground servicing suspended.
ALL CLEAR – GREEN Lightning activity has moved beyond 5 km (3 miles) and is heading away from your operation.	Disseminate the order to resume normal activities to all airside operating staff.
Lightning Alert Callout	In the absence of an integrated airport notification system, all airside operating staff shall be aware of the following procedures: • Use the counting method to detect/predict lightning activity. Determine the corresponding level based on the counting method diagram below. • The responsible person notifies all airside operating staff of the lightning alert level. If the person responsible is not available, the counting method should be used by all airside operating staff for self-protection. • In case of a Red Alert, proceed to a designated shelter.

Counting Method:	The counting method is used when an integrated airport notification system is absent. It is used to estimate the level of lightning activity.  *Note 1: The time indicated is the time between the lightning and the sound of thunder.* *Note 2: If the counted time is less than 15 seconds, the lightning activity is less than 5 km from the airport.* *Note 3: If the counted time is between 15 seconds and 25 seconds, the lightning activity is between 5 and 8 km from the airport.*

4.9.3.3 Strong Wind Conditions

1. neral Roles	Strong wind: Wind speed equal to or more than 25 knts (12 m/s).

4.9.3.1.1 High winds pose a great risk of damage and the following minimum actions shall be taken:

Ground Handling Actions	25 to 39 kt 46 to 72 km/h	40 to 59 kt 73 to 110 km/h	Above 60kt Above 111 km/h
Chock **all landing wheels** (Nose and Main Gear)	X	X	X
Remove safety Cones	X	X	X
Secure Preconditioned Air Hoses (PCA)	X	X	X
Remove FOD	X	X	X
Secure ULDs	X	X	X

Remove GSE from parking stand (GPU, Belt loaders, etc.)		X	X
Ground handling activities stops		X	X
Secure Passenger Boarding Bridge and position to minimize surface exposed to the direct force of the wind		X	X
Close Cargo hold, passenger doors and access panels		X	X
Do not initiate the elevation of high-lift equipment and stairs		X	X
Park GSE closely together, and adjacent to a building, if possible			X
Retract Passenger Boarding Bridge			X
Minimum fuel in aircraft tanks (if less, refueling required)		B737-800: 7800 kg B737-8: 7600 kg EMB170/175 : 4700 kg EMB190/195 : 6500 kg Q400: 4000 kg	B737-800: 7800 kg B737-8: 7600 kg EMB170/175 : 4700 kg EMB190/195 : 6500 kg Q400: 4000 kg
Maintenance Actions [1]	25 to 39 kt 46 to 72 km/h	40 to 59 kt 73 to 110 km/h	Above 60kt Above 111 km/h
Install ground lock assemblies on the main landing gear and nose landing gear.	X	X	X
Install aircraft covers. [2]		X[3]	X[3]
Apply the parking brake	X	X	X
Strap propellers on Q400 [2]	X	X	X
Apply horizontal stabilizer at ZERO units (Neutral position)	X	X	X

Remove GSE from parking stand (GPU, Belt loaders, etc.)		X	X
Ground handling activities stops		X	X
Secure Passenger Boarding Bridge and position to minimize surface exposed to the direct force of the wind		X	X
Close Cargo hold, passenger doors and access panels		X	X
Do not initiate the elevation of high-lift equipment and stairs		X	X
Park GSE closely together, and adjacent to a building, if possible			X
Retract Passenger Boarding Bridge			X
Minimum fuel in aircraft tanks (if less, refueling required)		B737-800: 7800 kg B737-8: 7600 kg EMB170/175 : 4700 kg EMB190/195 : 6500 kg Q400: 4000 kg	B737-800: 7800 kg B737-8: 7600 kg EMB170/175 : 4700 kg EMB190/195 : 6500 kg Q400: 4000 kg
Maintenance Actions [1]	25 to 39 kt 46 to 72 km/h	40 to 59 kt 73 to 110 km/h	Above 60kt Above 111 km/h
Install ground lock assemblies on the main landing gear and nose landing gear.	X	X	X
Install aircraft covers. [2]		X[3]	X[3]
Apply the parking brake	X	X	X
Strap propellers on Q400 [2]	X	X	X
Apply horizontal stabilizer at ZERO units (Neutral position)	X	X	X

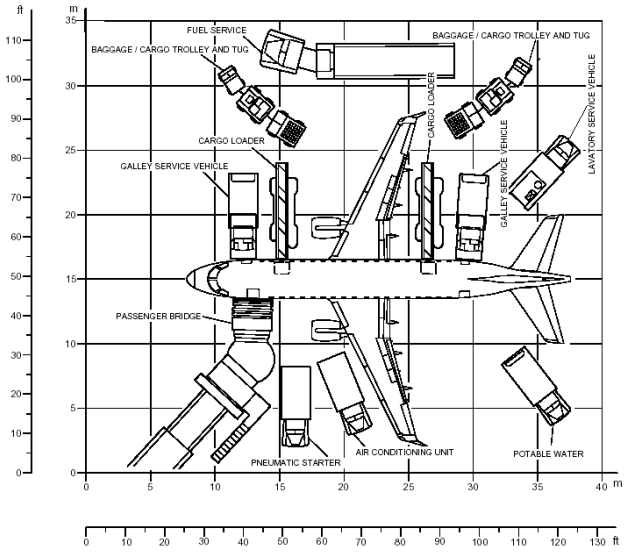
1. Actions performed by Crew in the event of lack of maintenance personnel.
2. Action may be performed by Ground Handling personnel if properly trained (Parking preparation)
3. Install Pitot static probe protective cover; engine covers if available.

4.9.5 Aircraft servicing arrangements - no contact policy

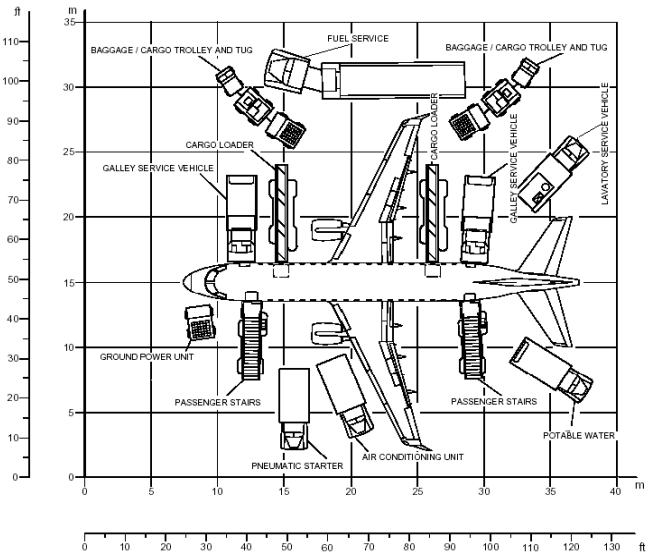
4.9.5.1. deleted

4.9.5.2 ERJ 170-100/200

Servicing using bridge

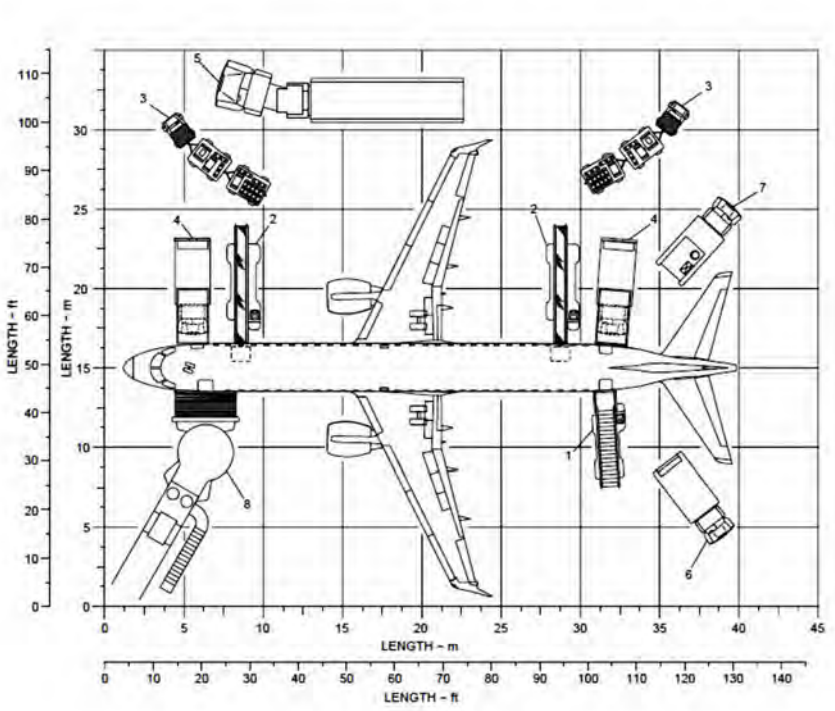


Servicing using passenger steps



4.9.5.3 ERJ 190-200

Servicing using bridge

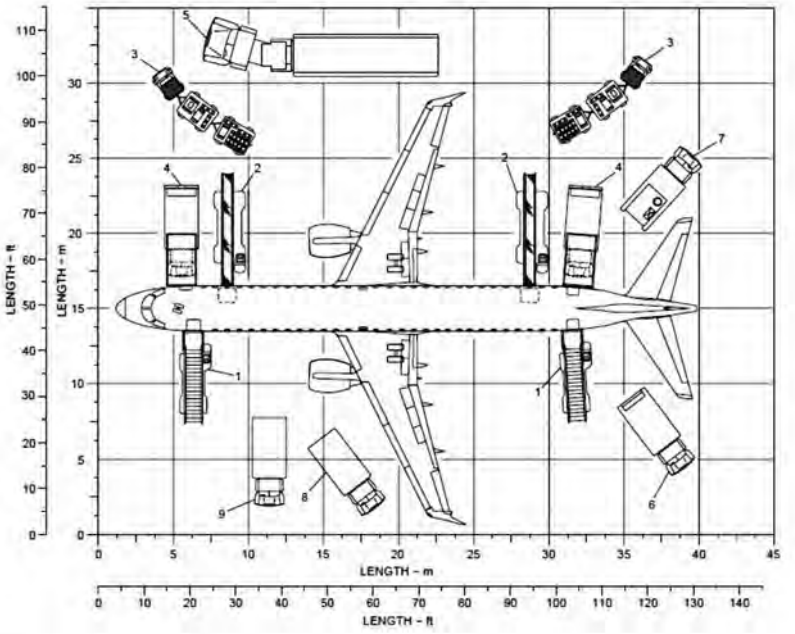


SERVICING ARRANGEMENT

01 – PASSENGER STAIRS
02 – BAGGAGE LOADER
03 – BAGGAGE / CARGO
04 – GALLEY SERVICE
05 – FUEL SERVICE
06 – POTABLE WATER
07 – LAVATORY SERVICE
08 – PASSENGER BRIDGE

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Servicing using passengers steps



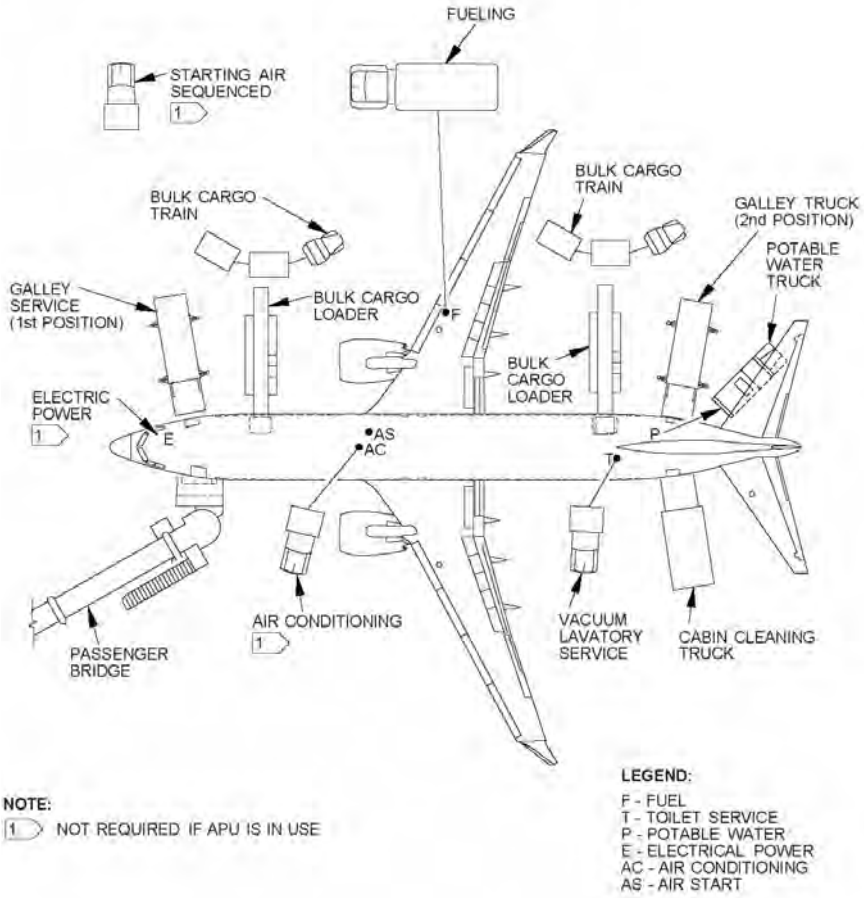
SERVICING ARRANGEMENT

01 – PASSENGER STAIRS
02 – BAGGAGE LOADER
03 – BAGGAGE / CARGO
04 – GALLEY SERVICE
05 – FUEL SERVICE
06 – POTABLE WATER
07 – LAVATORY SERVICE
08 – AIR CONDITIONING
09 – PNEUMATIC STARTER

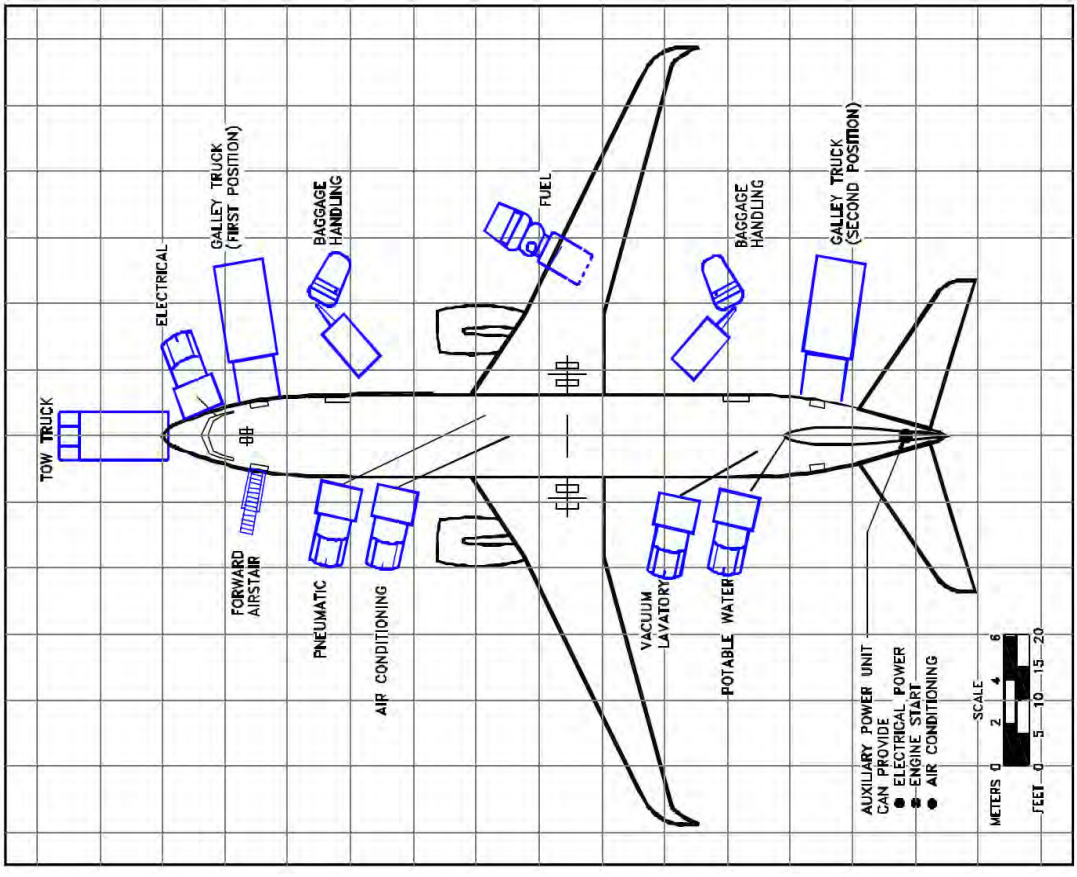
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4.9.5.4 B737-800/MAX8

Servicing using bridge

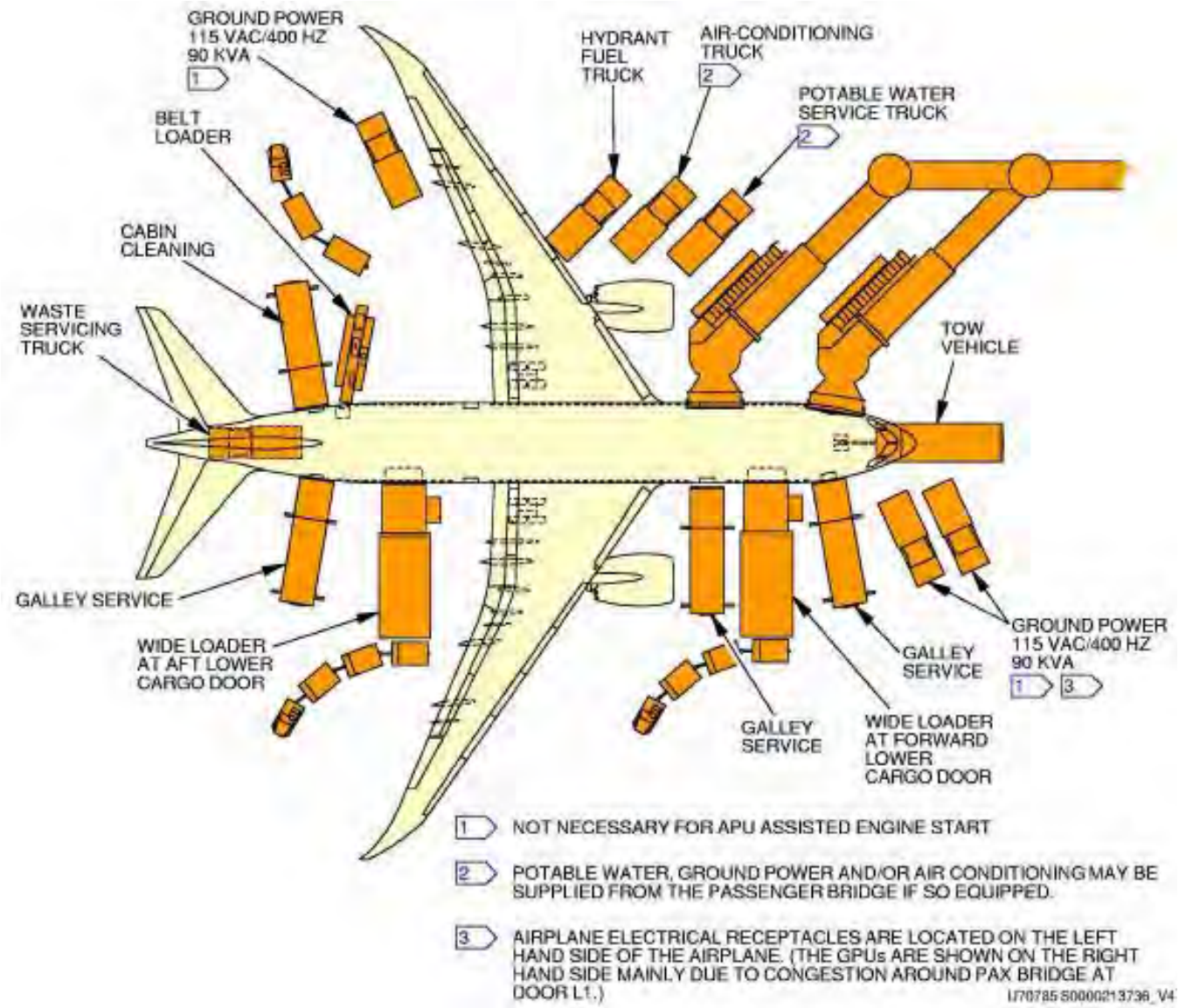


Servicing using passengers steps

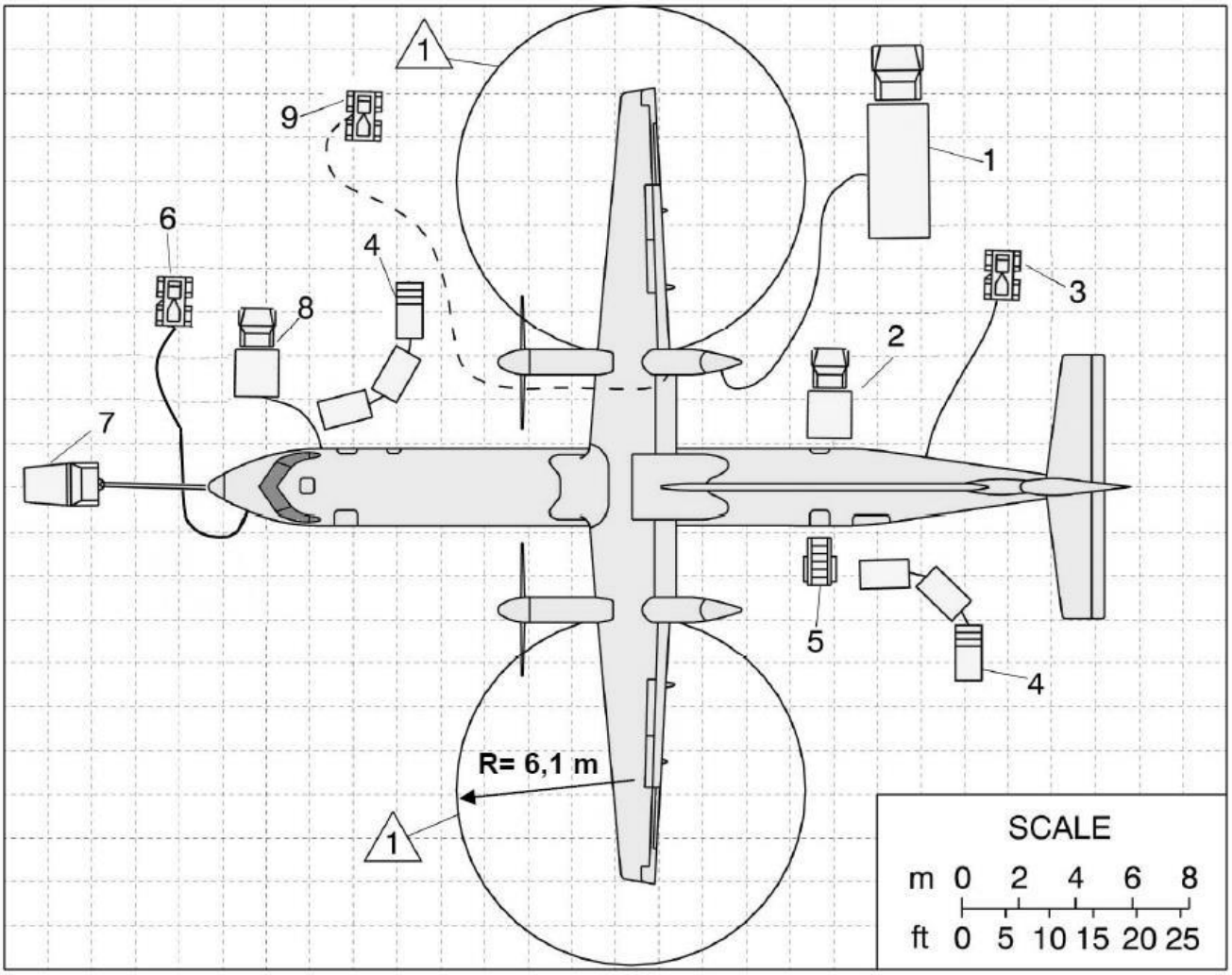


4.9.5.5 B787

When servicing using stairs, shall be positioned at 2L and 4L



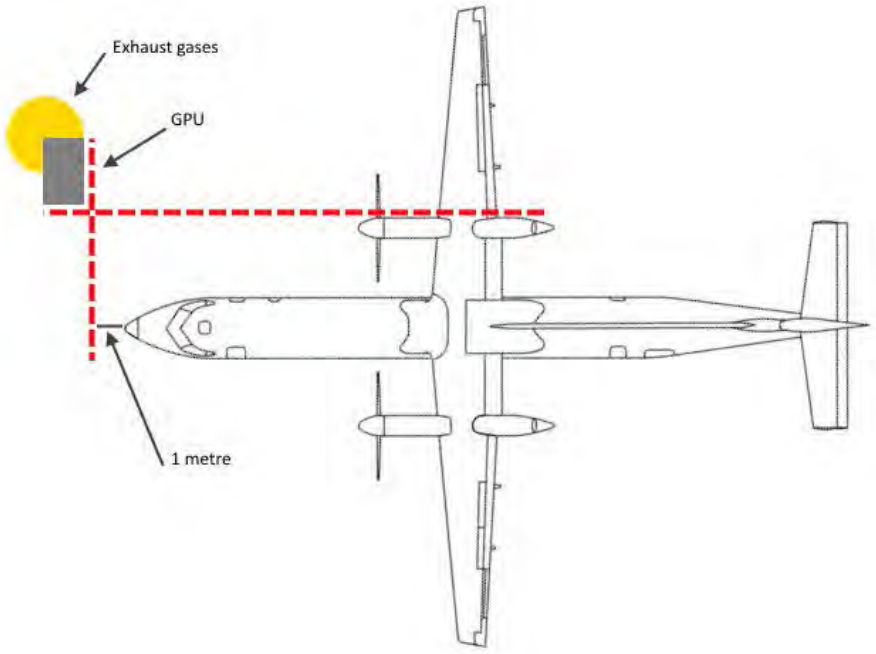
4.9.5.6 DHC-8-400



1. Fuel truck
2. Catering service vehicle
3. Ground air-conditioning unit / heater
4. Tractor with baggage carts
5. Aft door stairs
6. DC 28V Ground Power Unit
7. Towing tractor
8. Toilet service vehicle / water service vehicle
9. AC 115V Ground Power Unit (if required for maintenance activities)

Zone around fuel vents – keep clear during refueling

4.9.5.7 DHC-8-400 - continue

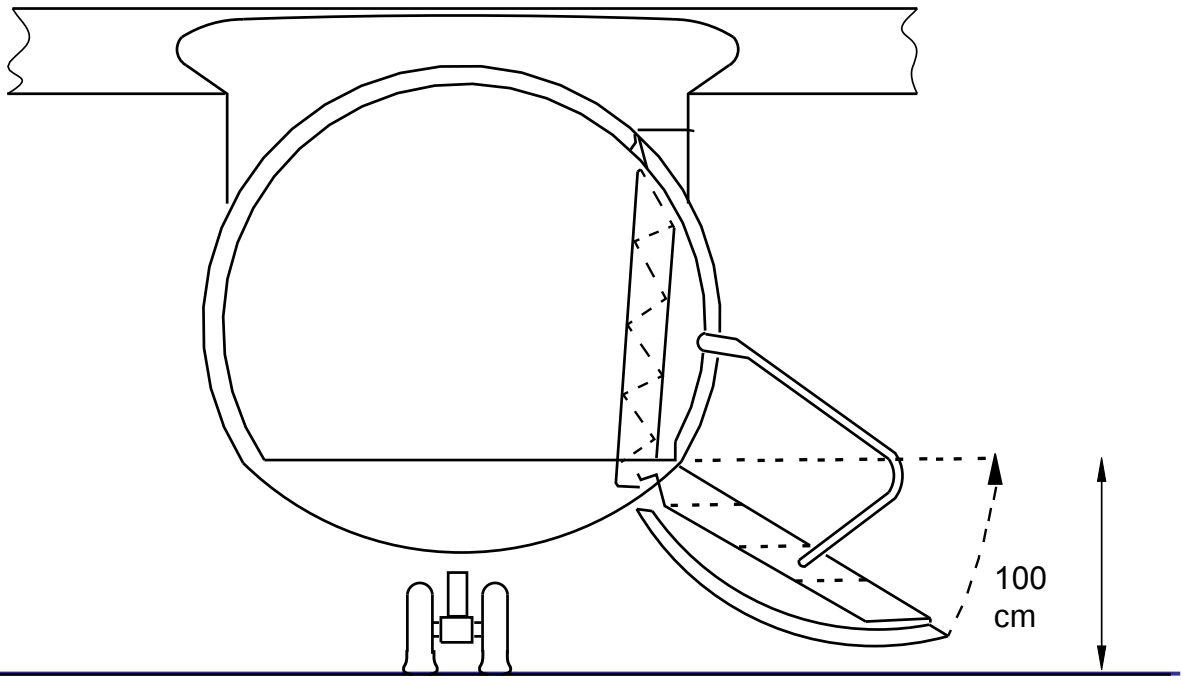


4.9.6 Access to the aircraft

	Remarks
1. Basic principle	• Access to an aircraft being prepared for flight is permitted only for: ➢ Flight crew ➢ Staff on duty involved in the ground handling of the aircraft, ➢ Officials on duty (police, customs, immigration and health authorities, security). • Exceptions: ➢ Other airline staff, ➢ Guided tours for small groups of quests **NOTE:** In such cases, the station responsible must: ➢ Obtain permission from the airport authorities , if required, ➢ Provide competent supervision of the visitors, Visitors are not allowed during fuelling.
2. The safeguarding of the aircraft	The following precaution must be taken if aircraft is left unattended: • Cabin doors and compartment doors must be closed. • After co-ordination with the flight crew and/or ground engineer, passenger stairs, passenger loading bridges, container/pallet loaders, catering vehicles and conveyor belts must be removed • Arrangements must be made with authorities and/or handling agent to make sure that unauthorised person have no access to the : ➢ Aircraft parking area, ➢ Parking areas for ground handling equipment, ➢ Load storage and processing areas. • If it is required by the local regulations, during on overnight stop the aircraft must be sealed (see Chapter 8),

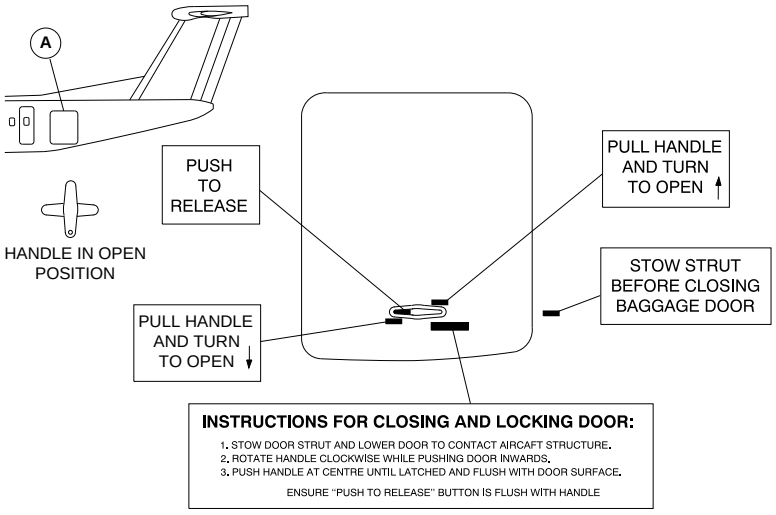
4.9.7 Door operations

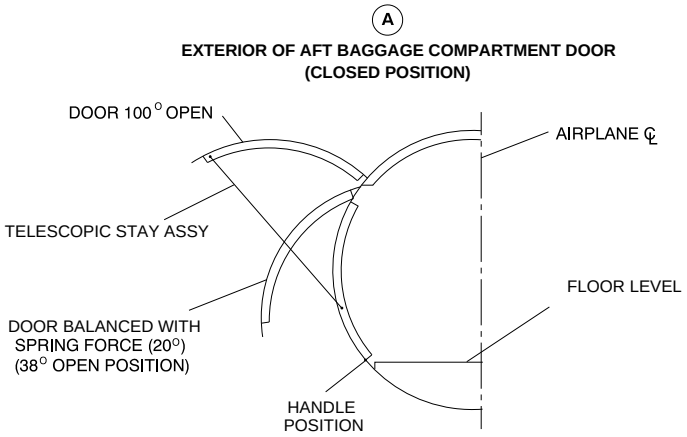
	Remarks
1. Passenger doors (GRH 3.2.5; GRH 3.2.6A)	• All passenger doors may be opened/closed from inside or outside, by cabin crew (if present) or by properly trained handling agent. • Before opening the doors, it must be ensured that: ➢ the positioning of the passenger steps/air jetty has definitely been completed and, ➢ an OK-sign (thumbs up) or "door knock" has been given by the ground personnel to the flight attendant responsible for the respective cabin door before passengers enter the air jetty/stairway, in order to avoid accidents. • Before removing ground support equipment (jetway/steps/catering truck etc.) from any aircraft's cabin access door, the driver must inform the cabin crew. • Ground support equipment must not be removed unless a safety device has been put across the door opening or the door is being closed. • In cases, when doors are opened without any ground equipment outside (due to safety or climatic reasons) securing with red safety ribbons and surveillance by flight attendants is strictly to be observed. • Cabin doors are closed by cabin crew when embarkation of passengers is completed. • GSE shall be removed from a cabin access door immediately after such door is closed. • Before opening DHC-8-400 door wait 5-7 seconds to allow the seal to deflate. Otherwise seal may be damaged. • DCH-8-400 door closing on departure: Due to low level of door on DHC-8-400, handling agent shall help crew with the door closing on departure. 1. Lift door 1 meter above ground (cleared of snow or water) 2. Door shall be lifted above the aircraft floor level • Observe all door vents are closed for DHC-8-400.



2. Cargo doors (GRH 3.2.6B)	• Opening and closing of hold doors (manually or electrically operated) shall only be performed by loading staff having been duly instructed • Compartment doors may only be opened: ➢ After the engines have been shut down. ➢ The anti-collision light has been switched off. • Compartment doors must be closed as soon as loading is completed Before closing the doors, make sure that: ➢ The ULD loaded in the door section is properly secured. ➢ The load restraint nets and the door protection nets are properly installed. ➢ The compartment lights are switched off. ➢ The loading supervisor has given the authorisation to close the compartment door. ➢ The door and doorframe show no visible damage. • Technical steps, belt loaders or other GSE used to reach cargo hold doors shall have safety rails to prevent falls. ➢ Safety rails shall be raised or extended while personnel are accessing, opening and closing the doors.

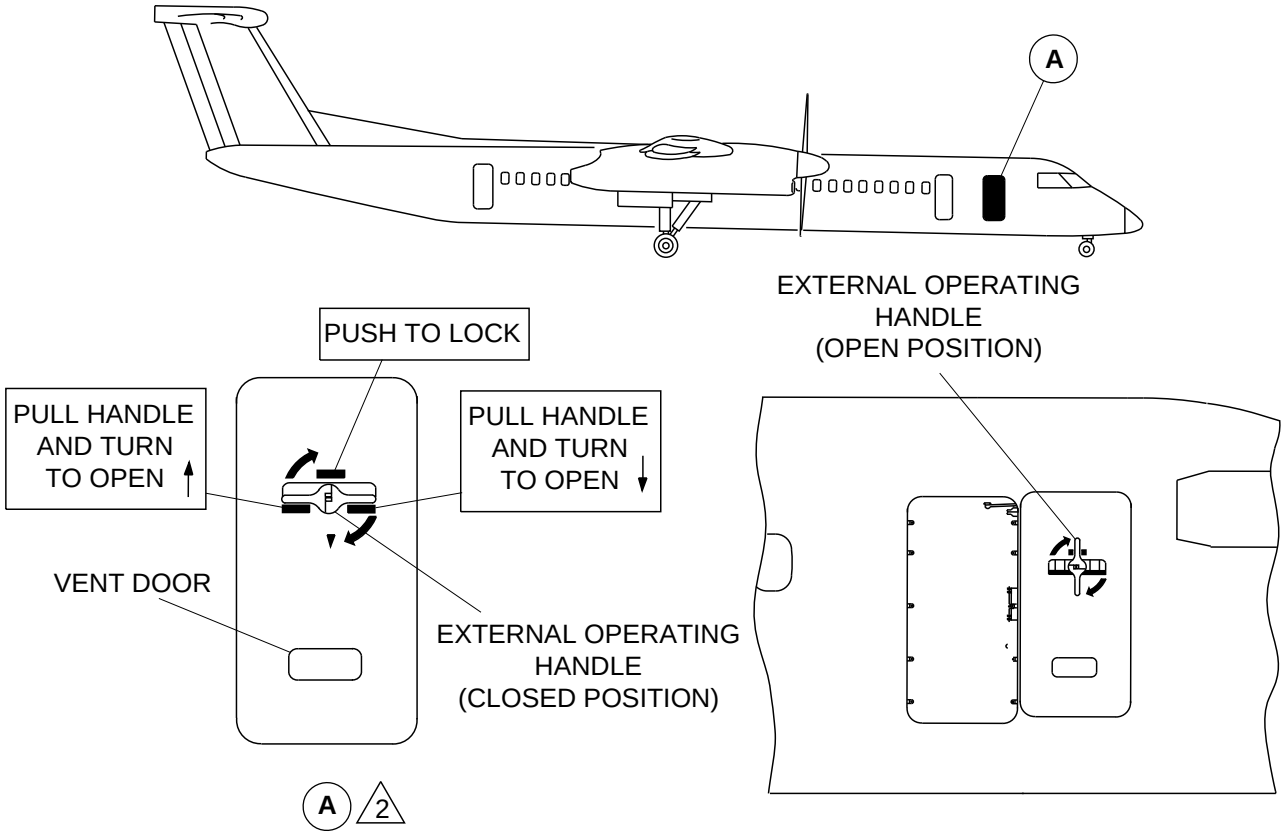
3. DH4 Cargo doors





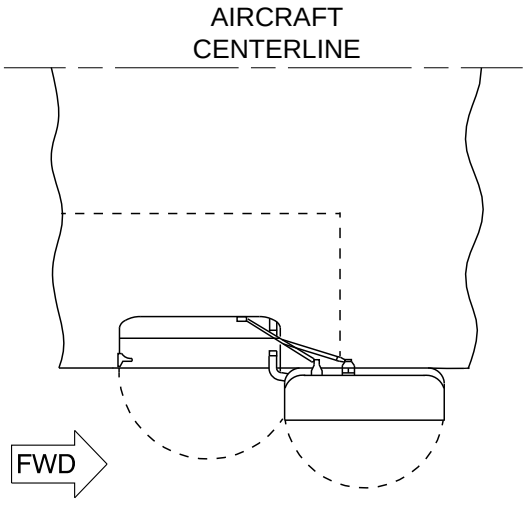
AFT BAGGAGE COMPARTMENT DOOR – LOCATION AND OPERATION

3. DH4 Cargo doors - continue



EXTERIOR OF FORWARD BAGGAGE DOOR/ FORWARD TYPE I EMERGENCY EXIT DOOR

VIEW LOOKING INBOARD ON R/H SIDE



VIEW LOOKING DOWN ON R/H SIDE FORWARD BAGGAGE DOOR/ FORWARD TYPE I EMERGENCY EXIT DOOR (OPEN POSITION)

NOTES

1. The forward baggage door has a separate interior lockable door which can prevent exterior access.

2 Forward type I emergency exit door is installed only on aircraft with extra capacity configuration and cargo combi configuration.

FORWARD BAGGAGE DOOR/ FORWARD TYPE I EMERGENCY EXIT DOOR OPERATION

4.9 8 Minimum ground handling time

	Remarks
1. General	• The aircraft ground time is the lapse time between arrival and departure, required to perform the station operations needed • The ground time may be different for each station, route area and aircraft type, according to the schemes advised by manufacturers • Types of aircraft ground times: ➢ Planning Ground Time: the office is dealing with schedule planning in order to process and handle the activity plans ➢ Published Ground Time: ground time within which all ground operations shall be performed, with respect to quality and punctuality standards. Is equal or greater that the Planning Ground Time ➢ Minimum Ground Time: maximum allowed time in case of late arrival. It allows a partial or total recovery of the delay by speeding up some operations. It is less than, or sometimes equal to the Published Ground Time
2. LOT Polish Airlines policy	• A certain amount of work and time is necessary in order: ➢ to make the aircraft ready for each flight ➢ to ensure increased efficiency of aircraft handling, • Special schedules have been drawn up for each aircraft type, specifying the sequence of tasks and their duration. • The following MGST shall apply for LOT flights, unless otherwise agreed in SLA: ➢ B787: 90 min ➢ B737: 40 min ➢ ERJ 190-200: 40 min ➢ ERJ 170-100/200: 35 min ➢ DHC-8-400: 30 min

4.10 Chapter (please see Chapter 4.3.3)

4.11 Ramp to flight communication

	Remarks
1. General rules	Ground to flight deck communication shall be conducted in English or Polish, or by means of appropriate hand signals.
2. LOT requirements:	• Flight crew and ground staff shall communicate by interphone. This way of communication is mandatory for all LO fleet. • Communication shall be simple and distinct • Before proceeding to next activity, the previous activity completion must be confirmed **NOTE:** Using phrases "Roger", :OK" for this purpose is prohibited • Before connection and after disconnection of external headsets and in case interphone cannot be used, standard IATA hand signals shall be used. • Flight crew informs ground staff about external communication need by taxi light flashing or signal. • Termination of the communication is up to Commander • From the captain's seat facing forward, engine on his/her left is referenced as engine number one.
3. Engine Fire	• The Flight Crew normally detects an engine or APU fire and will take action using the engine fire extinguishing system. However, alert the flight crew immediately via headset if flames are noticed from the engine or engine pylon. • In the event that a headset is not available, the appropriate "FIRE"HAND SIGNAL must be used.
4. Departure communication without interphone	• An aircraft departure must always be conducted using interphone communications. • In the event the interphone becomes unserviceable or due weather conditions IATA hand signals shall be applied • Prior to departure a briefing must be held between the Commander and the ground agent responsible for the departure, including: - Review of departure specifics. E.g. taxi out directions - The hand signals to be used, including emergency signals. **Note:** When interphone was unserviceable the info must be provided to ground.safety@lot.pl

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4.12 Safety risk management (GRH 1.11.2; GRH 1.11.3; GRH 1.11.4; GRH 2.3.2)

1. Policy	• The objective of hazard identification is to identify those hazards on the ground which either currently exist and can cause an immediate problem or may pose potential hazards in the future. A hazard can be considered a latent error or threat that has some level of risk associated with it. • All mishaps have a cause and do not occur by chance. • Mishaps are caused by hazards. • Identifying hazards is the first step in mishap prevention and can prevent mishaps • Ground Handling Agents providing service for PLL LOT are part of the LOT Polish Airlines safety management system where in terms of safety are primarily responsible for reporting. This shall be implemented by: - reporting situation that may affect the safety of ground operations, - reporting any identified or potential risk. - reporting any occurred safety events Each employee shall be familiar with PLL LOT Safety reporting system included in SMS training. This information shall be considered as a basic awareness training regarding SMS.
2. Safety reporting	• Handling personnel (both Ramp and Cargo handling) may anonymously report hazards using Hazard Report Form accessible at each station. • The handling company will be informed about what action shall be taken to correct the hazard or the reasons why the condition was determined not to be hazardous. • There will be no discrimination against any employee who reports unsafe conditions or hazards.
3. Mandatory reporting	• Ground Service Providers are required to immediately report within 72 hours all events listed in: • Commission Implementing Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council. • **Report shall be sent to:** Ground.safety@lot.pl and flight.safety@lot.pl
4. Procedure for voluntary reporting:	• Operator encourages and facilitates ground operations personnel to submit reports that identify safety hazards, expose safety deficiencies and raise safety concerns. • An individual encountering a hazard may fill the Hazard Form or simply sent the email describing the hazard. • The Hazard Report Form may be handed over to the Station Manager or Supervisor or emailed to ground.safety@lot.pl • The handling agent will be then informed what steps was taken to correct the hazard if needed.
5. SMS training program	• SMS training program ensures training for ground handling personnel of external service providers is appropriate to individual SMS involvement.

4.12.1 Hazard Report Form

HAZARD REPORT FORM

Reference # **Assigned by Safety Manager**

DESCRIPTION OF THE HAZARD:

LOCATION (IF APPROPRIATE):

POTENTIAL CONSEQUENCES: (Check you assessment of the consequences to the company)

Injury ☐
Damage ☐
Cost ☐

POTENTIAL CONSEQUENCES OF THE SEVERITY: _____ (Assign a Number 1-5)

1=Negligible 2=Minor 3=Major 4=Hazardous 5=Catastrophic

PROBABILITY - _____ (Assign a Number 1-5)

1=Extremely Improbable 2=Improbable 3=Remote 4=Occasional 5=Frequent

CAUSE OF HAZARD IF KNOWN: WHY DO YOU THINK THIS HAZARD EXISTS?

Forward to Safety Manager or Appropriate Safety Representative: Log the Document

Safety Manager/Safety Representative forward to Responsible Party for evaluation:

HAZARD OWNER: RESPONSIBLE PARTY(S): Fill out Side 2.

Side 1

RISK ASSESSMENT: Use the approved company risk assessment process.

POTENTIAL CONSEQUENCES: (Check you assessment of the consequences to the company)

Injury ☐
Damage ☐
Cost ☐

POTENTIAL CONSEQUENCES OF THE SEVERITY: _____ (Assign a Number 1-5)

1=Negligible 2=Minor 3=Major 4=Hazardous 5=Catastrophic

PROBABILITY - _____ (Assign a Number 1-5)

1=Extremely Improbable 2=Improbable 3=Remote 4=Occasional 5=Frequent

LIST TOTAL CALCULATED RISK: Severity x Probability = _____ **Green: 1-3** _____ **Yellow: 4-12** _____ **Red: 15-25**

OTHER EVENTS: List other actual incidents or events associated with this hazard if known.

RECOMMENDED RISK CONTROLS OR ACTIONS TAKEN:

☐ I recommend this hazard be reviewed by the Safety Action committee.

☐ I will take the following actions. (Attach separate sheet if necessary.)

RISK TOLERABILITY STATEMENT: If risk is acceptable, state so.

☐ I accept this level of risk.

☐ I intend to initiate the corrective actions above.

Proposed Date for Corrections: _____

Responsible Party Signature: **Position:**

Forward to Safety Manager for review or recommend Safety Committee action/review.

Safety Manager Review & Comments: Signature/Date: _____

Distribution: Originator, Responsible Party, Safety Action committee, SMS File

Side 2

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4.13 Safety measures (GRH 1.11.3; GRH 3.6.3)

	Remarks
1. Precautions should be taken	• Aircraft and pedestrians shall always have the right-of-way. Ground equipment shall never move across the path of taxiing aircraft or embarking and disembarking passengers. • Unserviceable equipment shall be clearly tagged "out of service" and immediately sent to be repaired. • The surface on the ramp shall be kept clear of any loose equipment or other objects that might cause damage to aircraft or engines. • Care must be taken during loading and unloading operations to avoid damage to the doors and hatches. • Watch out for and report unattended equipment. • Handling Agent is obliged to inform and report to Cabin Crew chief on board any unconventional situations appearing during the ramp handling activities with passengers on board or during boarding/de-boarding, especially about any service's vehicles movements in the area of emergency exits of the aircraft
2. Fire fighting protection on the ramp	• Portable fire extinguishers must be available for immediate use. • They must be used for fighting fires of spilled liquids and other combustible materials and for landing gear brake fires. • Portable fire extinguishers must meet the applicable standards and must be periodically checked according to the local regulations. • Fire extinguishers must be available in/on the ramp vehicles and at least one extinguisher (capacity depending on the local regulations) must be available within a radius of 50 meters from the aircraft parking position.
3. Prevention of Foreign Object Damaged	Foreign Object Damage means any damage cause to any part of an aircraft on the apron by a mobile object that is not a piece of ground support equipment (except jet blast damage). • All aircraft movement areas (ramp, taxiways, and runways) must be regularly cleaned, as bolts, nails, stones or other objects may cause damage to the aircraft engine and tires. Normally it is the responsibility of airport authority. • The station responsible must make sure that: ➢ the passenger walkways, the ramp, taxiways and runways are regularly inspected, ➢ passenger steps, loading bridges and passenger walkways between the aircraft and bus or terminal are cleaned and free of ice, ➢ the airport authority is informed of any unclean areas, ➢ corrective action is taken, ➢ parking positions are cleaned, ➢ staff is instructed to immediately remove any debris lying around the ramp, ➢ no personal belongings of staff can be left near the aircraft

4. Required caution to avoid damage to the aircraft (GRH 3.5.1 iii.; GRH 3.5.1 iv.)	• As long as the aircraft is taxiing, ground equipment shall be parked at a safe distance • Ground equipment and jetties (loading bridges) shall only be directed to the aircraft after it has come to a complete stop, chocks in position, engines shut down and, if applicable, ground/flight deck intercom contact established • Ground equipment placed at a distance from the aircraft shall have brakes on to avoid rolling equipment caused by the blast of the engines • The ground equipment operated with a load shall be securely locked. • The ground equipment shall be in good technical condition. • Ground equipment shall be manoeuvred in the aircraft's vicinity at low speed with accuracy and care according to local procedures • Brakes or chocks shall be applied to prevent slipping or other uncontrolled movements, when in position at the aircraft's-side. • Placing any handling equipment under the wings is prohibited • Driving any handling equipment under the aircraft fuselage is prohibited • Driving under the wings if the gap between the vehicle and the wings is less then 1.5 meters is prohibited. Including E70/5, E95, 737, DH4 a/c type. • When loading has been completed, remove all ground equipment to a safe distance.
5. Positioning of ground support equipment (GRH 3.5.1 v.; GRH 3.5.1 vi.)  **NO CONTACT POLICY**	Ground support equipment means any motor vehicle or piece of equipment, fixed, mobile or towed, that's use is exclusively for aircraft ground handling operations • Ground support equipment must be positioned behind the equipment restraint line prior the arrival of the aircraft at parking position. • GSE must be positioned with assistance of 2nd person (guideman) • The aircraft may not be approached by ground support equipment until it has come to a complete stop at the assigned parking position • The ground equipment operated with stabilizers, handrails, attachment fittings, transfer bridges and/or platforms shall be correctly deployed when in position at the aircraft. • Make sure all safety devices are fitted on GSE (e.g. bumpers, handrails, stabilizers, etc.) during aircraft handling and servicing. • Trolleys/carts must be positioned at least a minimum 1 metre from the aircraft and moved in/out manually within this 2 metres zone. Brakes must be applied during loading. Only baggage trolleys with buffering attached may be brought to the 1 metre zone. • Ensure protective rubber bumpers **DO NOT TOUCH** aircraft fuselage. When positioning GSE, make sure: • Clearance is kept between all GSE and the aircraft to allow vertical movement of the aircraft during the entire ground handling process – preventing contact between the aircraft and equipment.
6. Removal of ground support equipment (GRH 3.5.1 ii.)	Authorised ground staff must make sure that: a) Ground support equipment, which is no longer needed, is removed as soon as possible. b) Ground support equipment is parked in the designated parking areas c) Cabin doors are closed by the flight attendants when embarkation of passengers is completed. d) Passenger steps or loading bridges are removed only after cabin doors have been closed.

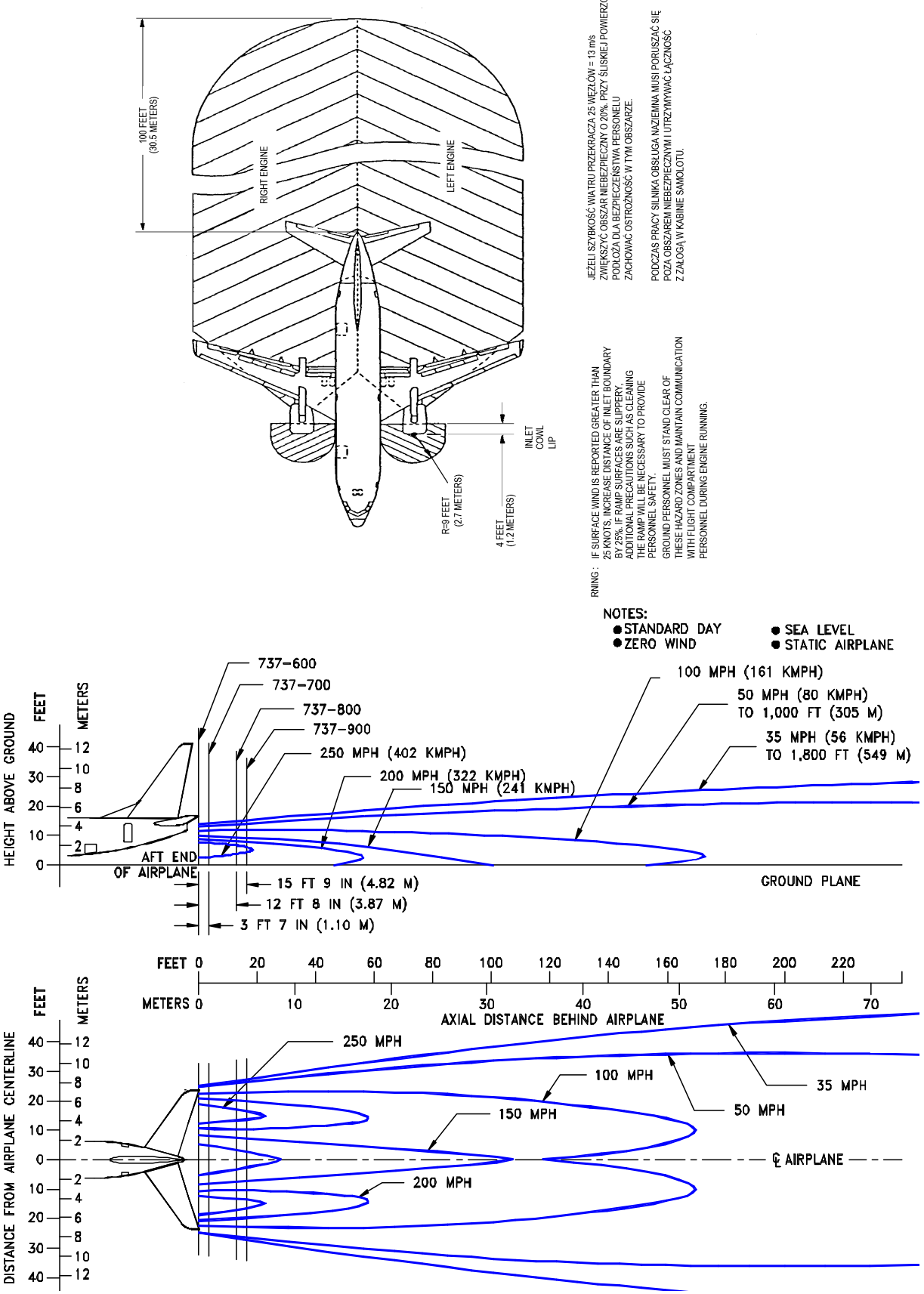


4.13.1 Aircraft danger zones

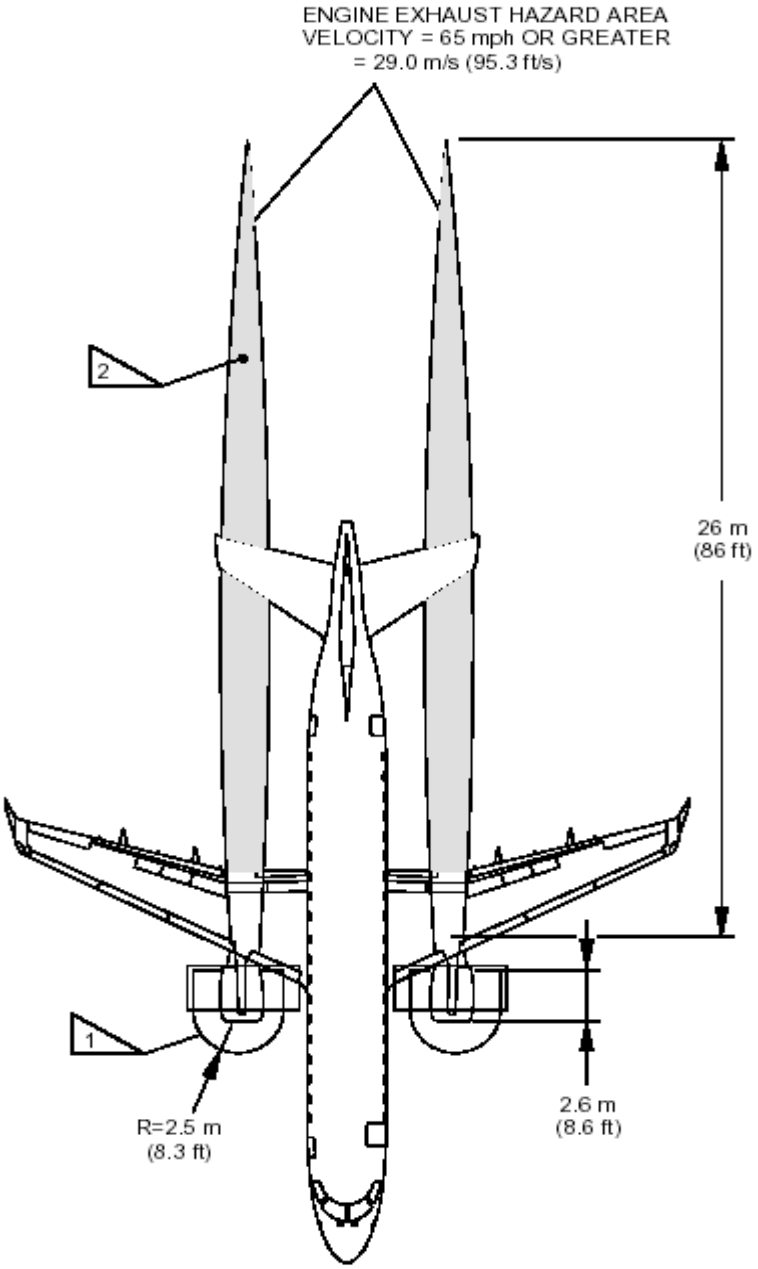
	Rules		
1.	Personnel working around the aircraft shall observe the danger zone.		
2.	• When the signal for the start of the engines is given (anti-collision lights ON), the air intake / exhaust zone must be cleared immediately. • These areas must then be kept clear of: ⇒ people, ⇒ vehicles and, ⇒ equipment.		
3.	The following minimum distances shall be adheres to:		
	Aircraft Type	**Air Intake Zone in front of engine Idle power**	**Exhaust Zone Idle power**
	B 787	4,57 m/15 feet	53,34 m/175 feet
	B 737	2,7 m/9 feet	30,5 m/100 feet
	ERJ 170-100/200	2,5 m/8,3 feet	26,0 m/86,0 feet
	ERJ 190-200	2,6 m/8,5 feet	17,0 m/55,0 feet
	DHC-8-400	As shown on picture 4.13.1.5	

4.13.1.1 B737 Aircraft

Hazard zones for ground idle engines:



4.13.1.2 ERJ 170 – 100/200 Aircraft

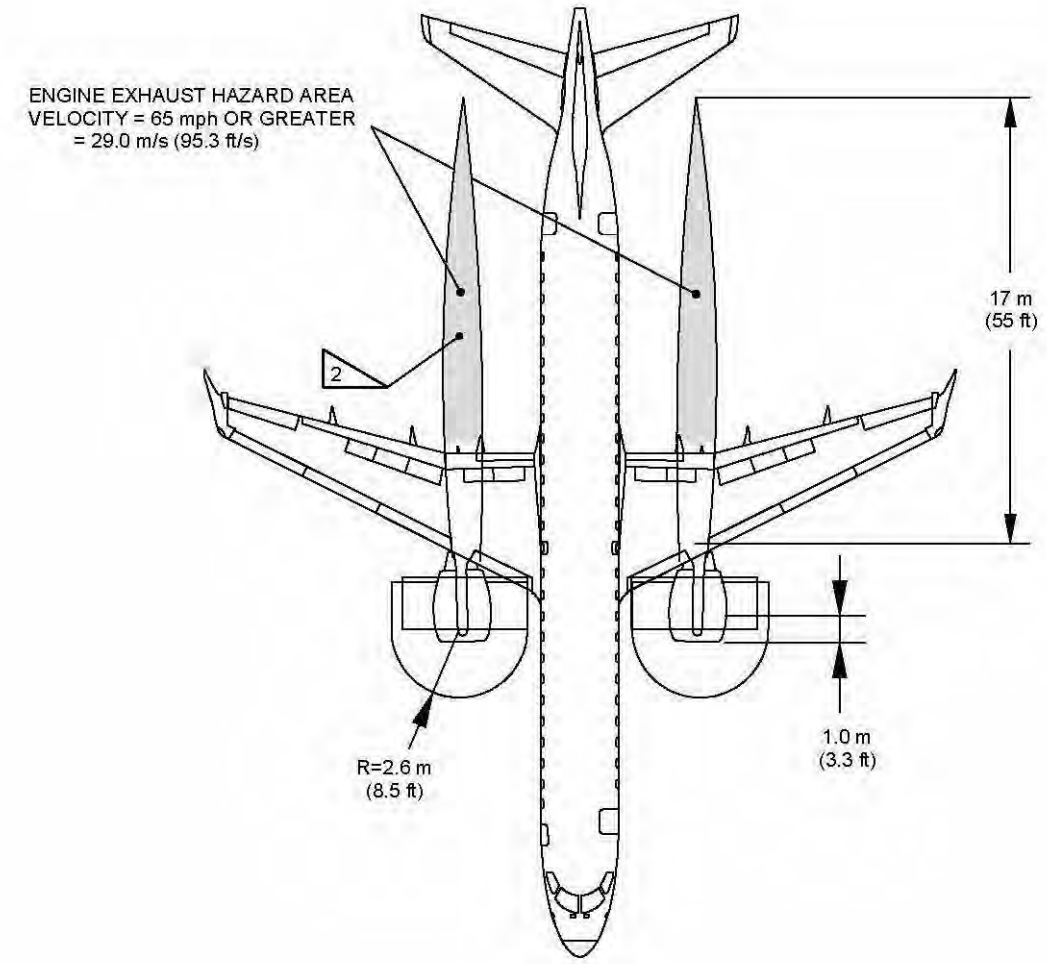


1 INLET HAZARD AREA – CONDITION: 20 kn HEADWIND/CROSSWIND/TAILWIND BASED ON 12.2 m/s (40 ft/s) CRITICAL VELOCITY WITH 0.9 m (3 ft) CONTINGENCY FACTOR.

2 EXHAUST HAZARD AREA – CONDITION: 20 kn HEADWIND WITH GROUND EFFECTS.

Hazard Areas - Ground Idle

4.13.1.3 ERJ 190-200

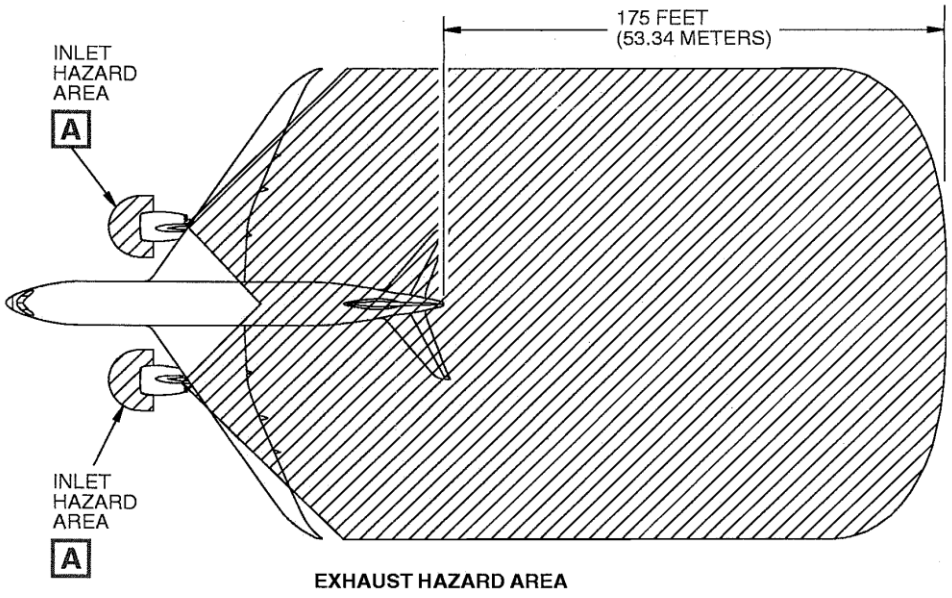


1 INLET HAZARD AREA – CONDITION: 20 kn HEADWIND/CROSSWIND/TAILWIND BASED ON 12.2 m/s (40 ft/s) CRITICAL VELOCITY WITH 0.9 m (3 ft) CONTINGENCY FACTOR.

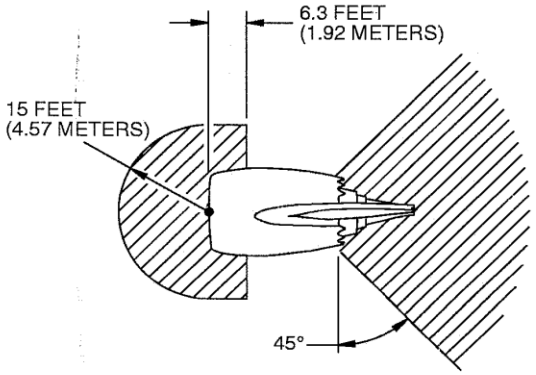
2 EXHAUST HAZARD AREA – CONDITION: 20 kn HEADWIND WITH GROUND EFFECTS.

Hazard Areas - Ground Idle

4.13.1.4 B787 Aircraft



EXHAUST HAZARD AREA



INLET HAZARD AREA

A

NOTE:

THE DANGEROUS AREA IS SHOWN FOR THE LEFT ENGINE ONLY. THE DANGEROUS AREA AROUND THE RIGHT ENGINE HAS THE SAME DIMENSIONS. WHEN YOU OPERATE TWO ENGINES, THE DANGEROUS AREA IS THE SUM OF THE LEFT AND RIGHT DANGEROUS AREAS.

WARNING:

KEEP ALL PERSONS OUT OF THE DANGEROUS AREA DURING ENGINE OPERATION. IF THE SURFACE WIND IS MORE THAN 25 KNOTS, INCREASE THE DANGEROUS AREA AT THE ENGINE INLET BY 20 PERCENT.

CLEAN THE RAMP IF THERE IS SNOW, ICE, WATER, OIL OR OTHER CONTAMINATION, OR MOVE THE AIRPLANE TO A LOCATION THAT IS CLEAN.

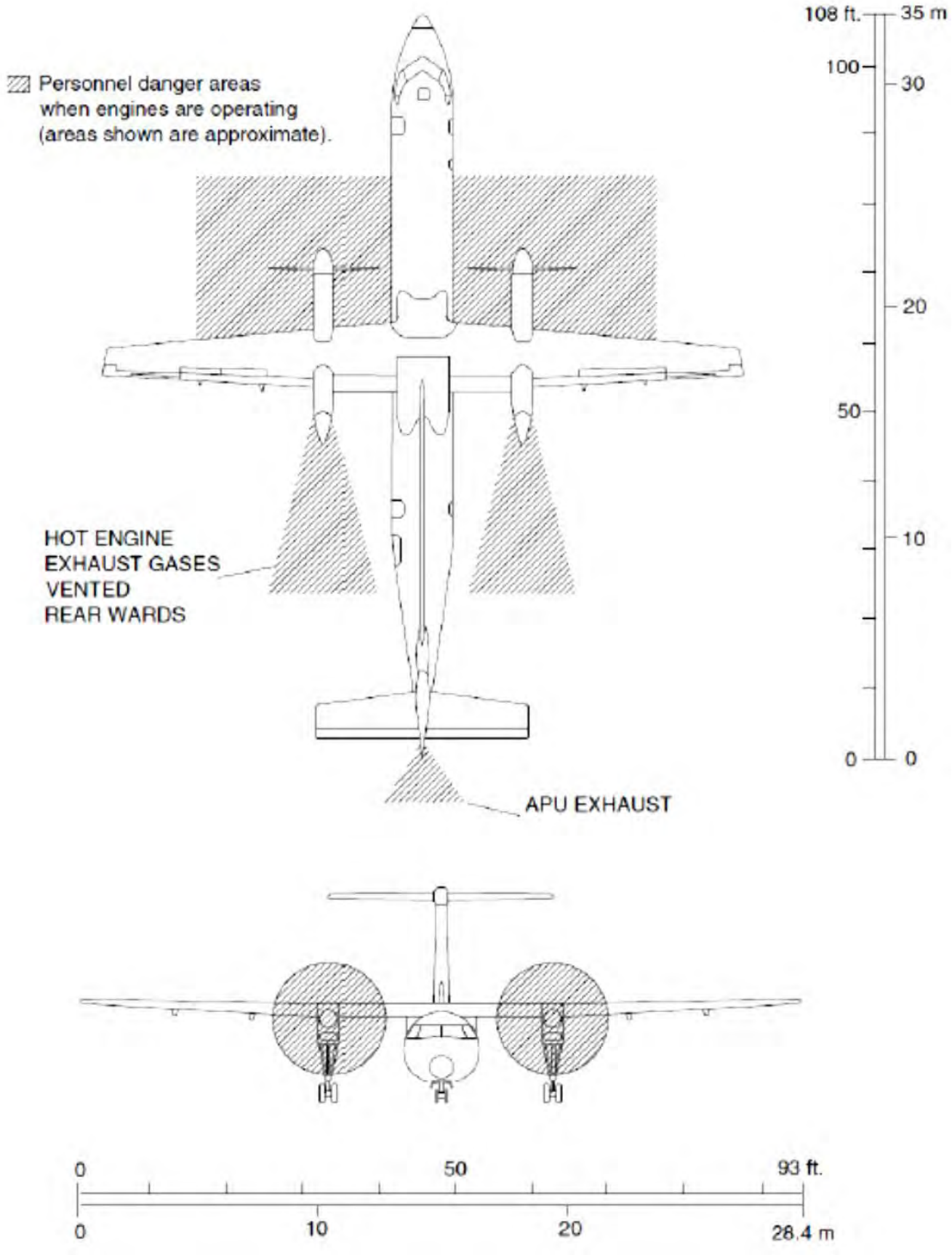
MAKE SURE THAT ALL PERSONS ARE SAFE BEFORE YOU START THE ENGINE. MAKE SURE THE PERSONS IN THE FLIGHT COMPARTMENT CAN SPEAK TO ALL PERSONS NEAR THE DANGEROUS AREA DURING ENGINE OPERATION.

OBEY ALL OF THE GROUND SAFETY PRECAUTIONS FOR THE ENGINES.

THE ENGINES CAN PULL PERSONS OR UNWANTED MATERIALS INTO THEM AND CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

FOR COMPLETE INFORMATION ON ENGINE GROUND SAFETY AND ENTRY CORRIDOR PRE-CAUTIONS, REFER TO CHAPTER 71-00-00 OF APPROPRIATE MAINTENANCE MANUALS.

4.13.1.5 – DHC-8-400



4.13.2 Ramp accidents/incidents (GRH 3.6.4)

	Remarks
1. Rules:	• Facilities and written procedures are provided and duties and responsibilities are identified, to be activated/implemented in the event of an aircraft emergency. • The staff of handling agent company must be conversant with such facilities and procedures. • Regular reviews of this facilities and procedures shall be undertaken and appropriate action taken to up-date when necessary.
2. Duties of the station responsible	The station responsible **must**: • Focus on prevention of damage to the aircraft. • Actively support and promote actions designed to enhance ramp safety. • Make sure that staff is instructed about hazards on the ramp and the relevant safety regulations. • Conduct staff briefings on ramp safety. • Make sure that ramp accidents and incidents are properly reported and followed up.
3. Immediate action to be taken when incident/accident occurs	1. In the event of an incident or accident, the work must stop, the scene must be frozen and isolated. **Procedure:** • Do not put yourself or others at further risk • Deal with any personal injuries and request appropriate assistance • Stabilize the incident to prevent any movement. Keep equipment in place and inform the crew and locally defined appropriate authorities • Take suitable photographic evidence of incident scene as well as any pertinent areas pertaining the incident. A close up photograph with a scale reference and wide angle shot as minimum • Do not remove any equip • Event shall immediately be reported. • The scene may be released when agreed with PLL LOT representative or the captain and local authorities. ment until documenation and photos are prepared
4. Reporting of ramp accidents incidents	• Any damage discovered to an aircraft must be immediately reported to the flight crew and ground engineer. **NOTE:** Should even the slightest scratch or dent in the aircraft's skin occurs or is noticed, it is necessary to report this fact immediately to LOT Polish Airlines company representative. Remember that even minor deformations, apart from detracting from performance, could be the direct cause of serious accidents • A proper reports (Ground Incident/Accident/Damage/Report Air/Ground Safety Report, Aircraft Damage Report, Dangerous Goods Occurrence Report) are to be issued for any ramp incident/accident, • Filled report are to be transferred to person responsible PLL LOT representative and local authorities if required.

5. Procedure for handling agent	• Immediately notify: ➢ persons responsible in accordance with the local Notification List, ➢ the captain, ➢ LOT Polish Airlines Station Manager (a supervisor or other person representing the interests of LOT Polish Airlines at the airport), • Fill proper report (Ground Incident/Accident/Damage Report, ASR/GSR, Aircraft Damage Report, Dangerous Goods Occurrence Report) • Attach all other relevant documents, • Transfer the set of documents to the Station Manager, supervisor or other person representing LOT Polish Airlines at the airport. • Occurrence report shall be sent to: damage@lot.pl including: photographs, testimonials, reports, sketches, maps, and any other relevant information.
6. Procedure for Station Manager	• Supervise the above mentioned operations of the ramp handling agent, • Notify the Operation Center, • Pass all relevant documents to WAW. Copy of this documents shall be kept in station file for three (3) years • If not available at the time of occurrence, further details for any of the report shall be submitted as soon as are collected. • After occurrence send report by email to: damage@lot.pl

4.13.2.1 Air/Ground Safety Report

LOT S.A. — **AIR / GROUND SAFETY REPORT** — ASR / GSR No

1. TYPE OF EVENT	AIRMISS ATC ☐	BIRD STRIKE ☐	WAKE TURB. ☐	TCAS RA ☐	D. G. ☐	GRND. COLL ☐	OTHER ☐

2. CAPTAIN LIC. NO	**OTHER CREW** LIC. NO	**GROUND ENGINEER** LIC. NO			
3. DATE OF OCCURRENCE D D / M M / Y Y	**4. TIME LOCAL/UTC** DAY/NIGHT	**5. FLIGHT No**	**6. ROUTE** From / To / Diverted	**7. SQUAWK**	
8. A/C TYPE	**9. REGISTRATION**	**10. PASSENGERS/CREW**	**11. FUEL JETTISONED** kg	**12. ETOPS** YES/NO	
13. ALTITUDE FL / FT	**14. SPEED/MACH**	**15. A/C WEIGHT** Kg	**16. A/C TECH. REP. REF.** D/L SEQ. NO / TRIP NO. / ITEM	**17. FLIGHT PLAN** IFR / VFR / NO	

18. FLIGHT PHASE

TOWING PARKED AIRPORT + STAND ..... PUSH BACK TAXI-OUT TAKE-OFF INITIAL CLIMB BELOW 1500 FT CLIMB

CRUISE (at GEOG. POS.:) ..... DESCENT HOLDING APPROACH BELOW 1500 FT LANDING TAXI-IN

19. METEO IMC / VMC ..... Km	**20. WX ACTUAL** WIND ... / ...	VIS. ... Km	CLOUD ... / ...	TEMP ... °C	QNH ...	CAVOK **21. SIGNIFICANT WX** MODERATE / SEVERE RAIN / SNOW / ICING / FOG / TURBULENCE HAIL / WINDSHEAR
22. RUNWAY	**23. RUNWAY STATE** DRY / WET / ICE / SNOW / SLUSH / STANDING WATER					**24. CONFIGURATION** A/P ... A.THROTTL. ... GEAR ... FLAPS / SLATS ... / ... SPOILERS ... REV ...

25. SUMMARY (TITLE OF THE EVENT)

26. EVENT AND CAUSE (DETAILED DESCRIPTION OF THE EVENT)

27. ACTIONS AND RESULTS (ACTION TAKEN, THEIR RESULTS AND ANY SUBSEQUENT EVENTS)

28. A/C ENGINEER / STN MGR REPORT

LDP- 50

29. DANGEROUS GOODS INCIDENT | AIRWAY BILL No: ..... | Point of loading as per manifest.....

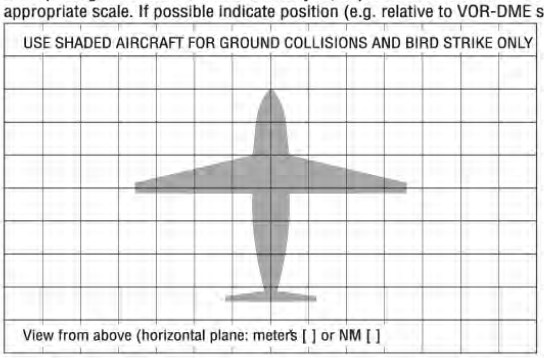
Was incident discovered: In warehouse ☐ During ramp handling ☐ in A/C on ground ☐ While airborne ☐

Were following forms correctly completed?	YES	NO	N/A		YES	NO	N/A
The Airway bill				Was the D.G. stowage proper?			
The shippers declaration of DG.....				Was the packing correct?			
NOTOC				Was the marking and labeling correct?.....			

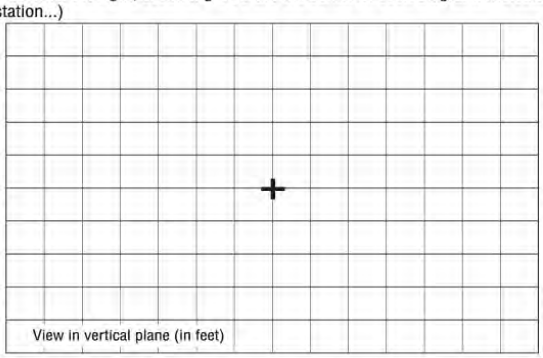
30. AIRMISS ☐ **ATC INCIDENT** ☐ **TCAS RA** ☐ **31. GROUND COLLISION** ☐

Mark passage of other aircraft relative to you, in plan on the left and in elevation on the right, assuming YOU are the center of each diagram. Indicate appropriate scale. If possible indicate position (e.g. relative to VOR-DME station...)

USE SHADED AIRCRAFT FOR GROUND COLLISIONS AND BIRD STRIKE ONLY



View from above (horizontal plane: meters [ ] or NM [ ])



View in vertical plane (in feet)

SEVERITY OF RISK	LOW / MED / HIGH	MINIMUM VERTICAL SEPARATION	..... ft
AVOIDING ACTION TAKEN	YES / NO	MINIMUM HORIZONTAL SEPARATION	..... M /NM*
REPORTED TO ACT	..... UNIT	TCAS ALERT	RA / TA / NONE
ACT INSTRUCTIONS ISSUED	.....	TYPE OF RA	.....
YOUR CALLSIGN	.....	RA FOLLOWED	YES / NO (VERT. DEVIATION ..... ft)
FREQUENCY IN USE	..... *	WAS TCAS ALERT	NECESSARY / USEFUL / NUISANCE
HEADING	..... DEG	DESCRIBE OVERLEAF IN (26) SUCH AS OTHER A/C TYPE, MARKINGS,COLOUR, LIGHTING, CALLSIGN ETC.	
CLEARED ALTITUDE	.....		

REPORTED TO ACT: YES / NO IF YES TO WHICH ATS: BY RADIO / PHONE / FAX / TELEX

32. WAKE TURBULENCE

HEADING..... DEG TURNING: LEFT / NO / RIGHT

POSITION ON EXTENDED CENTERLINE LEFT / ON / RIGHT

POSITION ON GLIDESLOPE HIGH / ON / LOW

CHANGE IN ATTITUDE PITCH ....ROLL .... YAW.... DEG

CHANGE IN ALTITUDE ..... FT

WAS THERE BUFFET? YES / NO STICK SHAKER? YES / NO

WHAT MADE YOU SUSPECT WAKE TURBULENCE?

DESCRIBE ANY VERTICAL ACCELERATION

GIVE DETAILS OF PRECEDING A/C (TYPE, CALLSIGN ETC...)

WERE YOU AWARE OF OTHER A/C BEFORE INCIDENT YES / NO

33. BIRD STRIKE

TYPE OF BIRDS: .....

NR SEEN 1 ☐ 2-10 ☐ 1-100 ☐ MORE ☐

NR STRUCK 1 ☐ 2-10 ☐ 1-100 ☐ MORE ☐

TIME DAWN ☐ DAY ☐ DUSK ☐ NIGHT ☐

PILOT WARNED OF BIRDS: YES / NO

DESCRIBE IMPACT POINTS AND DAMAGE IN (26) and / or 30

FILING INSTRUCTIONS:

- MAKE ENTRY IN A/C TECH. REP: 'ASR' OR 'GSR' RAISED
- WAW -CREW - LEAVE ASR/GSR IN FLIGHT CREW BRIEFING (LOT OPERATION)
  - A/C ENGINEER - LEAVE GSR IN LINE MAINT. MGR ON DUTY OFFICE
- ALL OTHER STATIONS - STN MGR AND IMMEDIATELY FAX TO LOT OPERATION, ORIGINAL ASAP TO LOT OPERATION.

DATE and SIGNATURE:

33. MAND. **Mark "X" if you consider that this Report should be forwared to the Polish CAA** ☐

4.13.3 Damage to the aircraft

	Remarks
1. General rule	• Ground Handling Company shall ensure that safety/ground damage inspection will be performed immediately upon arrival and immediately prior departure. • The safety/ground damage inspection shall include proper doors and panels closure check as well as check for any damages on wings and fuselage that are likely to occur during ground handling and taxiing. • Any Polish Airlines employee or any employee of the handling agent, who has caused damage to or discovered damage caused to the aircraft is obliged to immediately notify one's superior of the fact. • The superior who is not in the position of Station Manager is obliged to notify: ➢ the captain, ➢ the Station Manager or the designated employee of the ground handling staff acting on behalf of the LOT Polish Airlines.
2. Necessary massages	• **Immediately** after having received information about damage caused to aircraft the Station Manager/aircraft captain sends a message to notify the following recipients: ➢ **WAWOOLO** (Network Operations Supervision Department), ➢ **WAWTCLO** (Maintenance Control Center).
3. Filling the Aircraft Damage Report	• If possible, the Station Manager/the captain should draw up (in two copies) the FHWOS 6 report on the day when the damage was discovered. • The Aircraft Damage Report shall be drawn up irrespective of the existing procedures concerning the documents within the logbook (LDP – 6). • The report shall be made out: ➢ in the Polish language – in Poland; ➢ in the English language – other places then Poland. • All Polish Airlines staff in Warsaw and at domestic airports, handling agents staff are obliged to provide the required information and assistance to the person drawing up the Aircraft Damage Report.
4. Distribution of the Aircraft Damage Report	• The Aircraft Damage Report shall be drawn up and distribute to: ➢ copy no. 1: to the Flight Dispatch ➢ copy no 2: shall be kept on file by the person who made out the report.
5. Confirmation required	• The Station Manager /aircraft captain has the obligation to obtain confirmation of the information in The Aircraft Damage Report provided by a representative of the organization, whose employee took part in the incident, or a representative of the local airport authorities/handling agent.
6. Storing the Aircraft Damage Report	• The Aircraft Damage Report FHWOS6 is filed/stored: ➢ on board — in copilot's locker for keeping operational and navigation-related documentation – in the "Forms and Preprinted Sheets" folder), ➢ in the documentation held by the Station Manager.
7. Reporting	• All damages to the LOT aircrafts and operated under LO designator shall be reported damage@lot.pl

4.13.3.1 Aircraft Damage Report

POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU AIRCRAFT DAMAGE REPORT	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* **Data wydania: Październik 2020** *Date of issue: October 2020*		**Strona: 1/10** Page: 1/10

1. Data zdarzenia: *Date of incident*	**2. Czas zdarzenia (czas lokalny)** *Time od incident (local mean time)*	**3. Miejsce zdarzenia** *Place of incident*
4. Numer rejsu *Flight no.*	**5. Z / Do** *From / To*	**6. Typ samolotu** *Type of aircraft*
7. Znaki rejestracyjne *Registration mark*	**8. Użytkownik** *Operator*	
9. Rodzaj / Stan nawierzchni (beton, asfalt, czysta, sucha, morka, zalodzona, zaolejona, inne) Kind of surface / Condition of surface – (concrete, asphalt, clean, dry, wet, freezing, greased, other)		
10. Stan pogody *Weather conditions*	**11. Środowisko** (oślepiające światło-słońce, złe oświetlenie, cień, półmrok, słaba widoczność linii, inne) *Environment – (glaring sunlight, poor light, shade, dusk, night, low visibility of lines, other)*	

12. Opis uszkodzenia

Description of damage

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13. Opis zdarzenia i prawdopodobna przyczyna

Description of the incident and probable cause

Należy załączyć, w miarę możliwości zdjęcia (str. 4) oraz obowiązkowo szkice sytuacyjne str. (5-10)

If possible enclose photos (page 4) and obligatory situational sketch (page 5-10)

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14. Nazwiska i stanowiska służbowe osób, w których dyspozycji znajdował się samolot w czasie zdarzenia

Names and positions of the persons responsible for the aircraft at the time of incident

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POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* **Data wydania: Październik 2020** *Date of issue: October 2020*	AIRCRAFT DAMAGE REPORT	**Strona: 2/10** Page: 2/10

15. Udział pojazdów i osób
Participating vehicles and persons:

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.....
.....

Rodzaj pojazdu: *Type of vehicle:*	**Marka:** *Mark:*	**Nr rejestracyjne:** *Registration No.:*	**Dzierżawiący, właściciel:** *Leasholder, owner:*
Kierowca (osoba obsługująca): *Driver (person in chargé of service):* **Imię i nazwisko:** *Name and surname:*			
Zawód i pracodawca: *Occupation, employer:* ..... . **Miejsce pracy, tel:** *Place of work, phone no:* ..... **Uprawnienia do używania pojazdu (urządzenia):** *Permits to operate the vehicle (equipment):* ..... **Wydane przez:** **dnia:** *Issued by:* ..... *date:*			

Wyjaśnienie osoby (osób), która spowodowała zdarzenie lub miała z nim związek, podpis:
Statement of the person (s) who caused or where involved in the incident, signature:

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POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* Data wydania: Październik 2020 *Date of issue: October 2020*	AIRCRAFT DAMAGE REPORT	Strona: 3/10 Page: 3/10

16. Podjęte działanie (np. opis napraw, wymiana części) decyzje o wewnętrznym sposobie załatwienia, wnioski.
Action taken (description of repairs, part replacement) decisions regarding the method of settiling the matter internally, conclusions.

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17. Uwagi / konsekwencje np. opóźnienia, przebukowania, przeładowania
Remarks / consequences e.g. delays, rebooking, reloading.

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18. Raport sporządziła osoba */ Report drawn up by:*
Nazwisko, stanowisko:
Surname, position: .....
Raport sporządzono dnia:
Report drawn up on (date): .....

19. Akceptacja danych zawartych w raporcie przez przedstawiciela organizacji, której pracownik uczestniczył w zdarzeniu lub przedstawiciela miejscowych władz lotniska.
Acceptation of facts stated in the report by a representative of local airport authorities or a representative of the handling agent / the supervisor of the employee who took part in the incident:

Nazwisko, stanowisko:
Surname, position: .....
Podpis, data, stempel:
Signature, date, stamp: .....
Raport otrzymują:
Report is sent to: .....

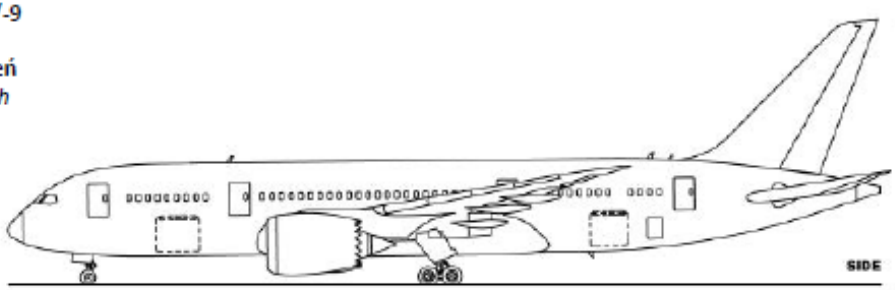
POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* **Data wydania: Październik 2020** *Date of issue: October 2020*	AIRCRAFT DAMAGE REPORT	**Strona: 4/10** Page: 4/10

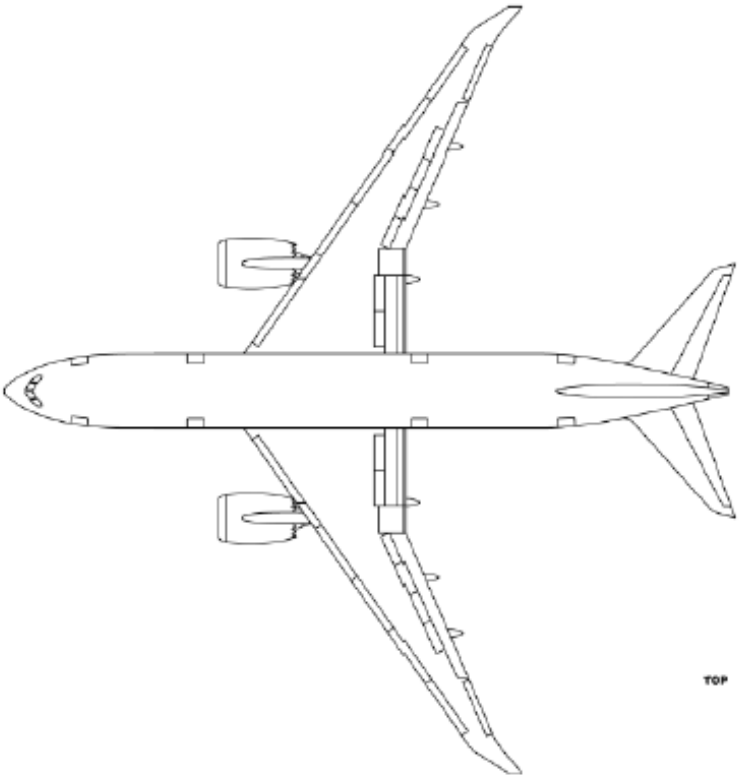
20. Zdjęcia lub inne załączniki
Photos or others appendices

POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* **Data wydania: Październik 2020** *Date of issue: October 2020*	**AIRCRAFT DAMAGE REPORT**	**Strona: 5/10** Page: 5/10

Boeing 787-8/-9

Szkic uszkodzeń
Damage sketch



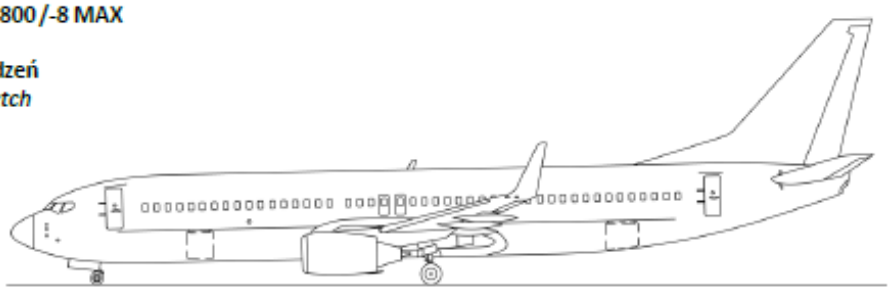


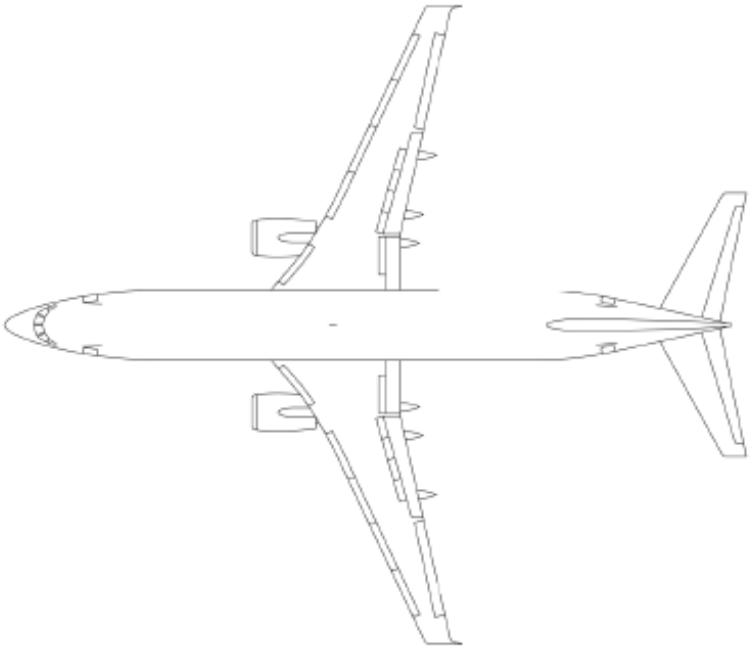


POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* **Data wydania: Październik 2020** *Date of issue: October 2020*	**AIRCRAFT DAMAGE REPORT**	**Strona: 6/10** **Page: 6/10**

Boeing 737-800 /-8 MAX

Szkic uszkodzeń
Damage sketch



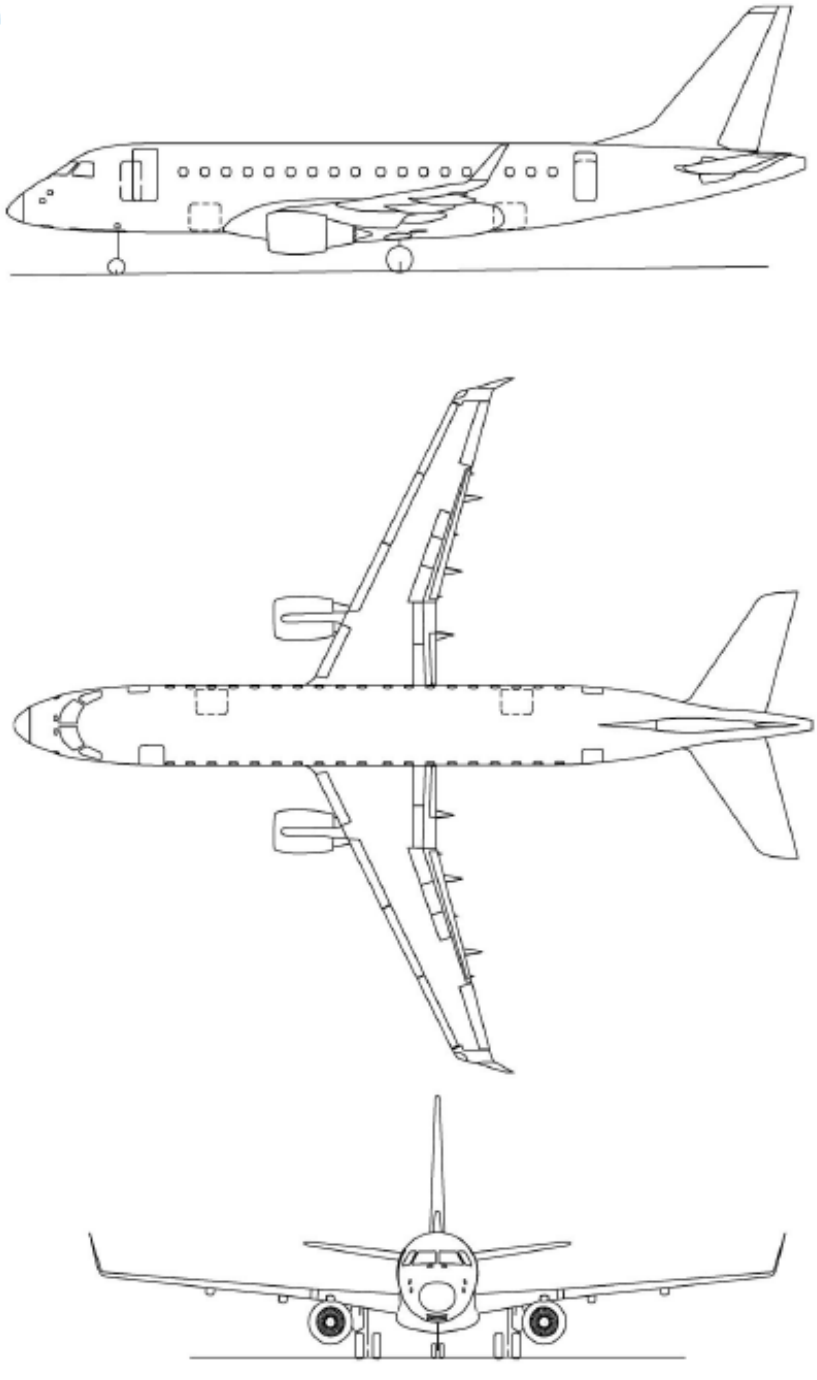




POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* Data wydania: Październik 2020 *Date of issue: October 2020*	AIRCRAFT DAMAGE REPORT	Strona: 7/10 Page: 7/10

Embraer 170-100

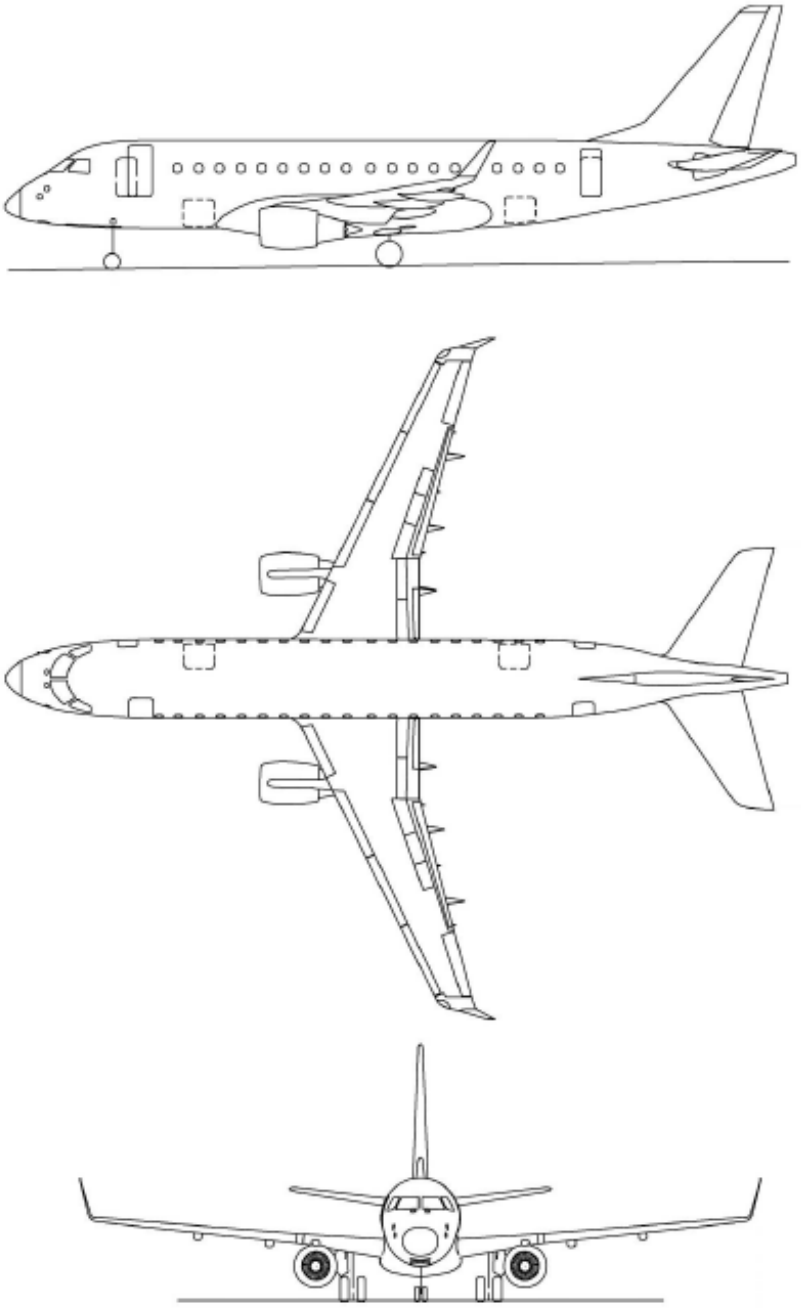
Szkic uszkodzeń
Damage sketch



POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* Data wydania: Październik 2020 *Date of issue: October 2020*	AIRCRAFT DAMAGE REPORT	Strona: 8/10 Page: 8/10

Embraer 170-200

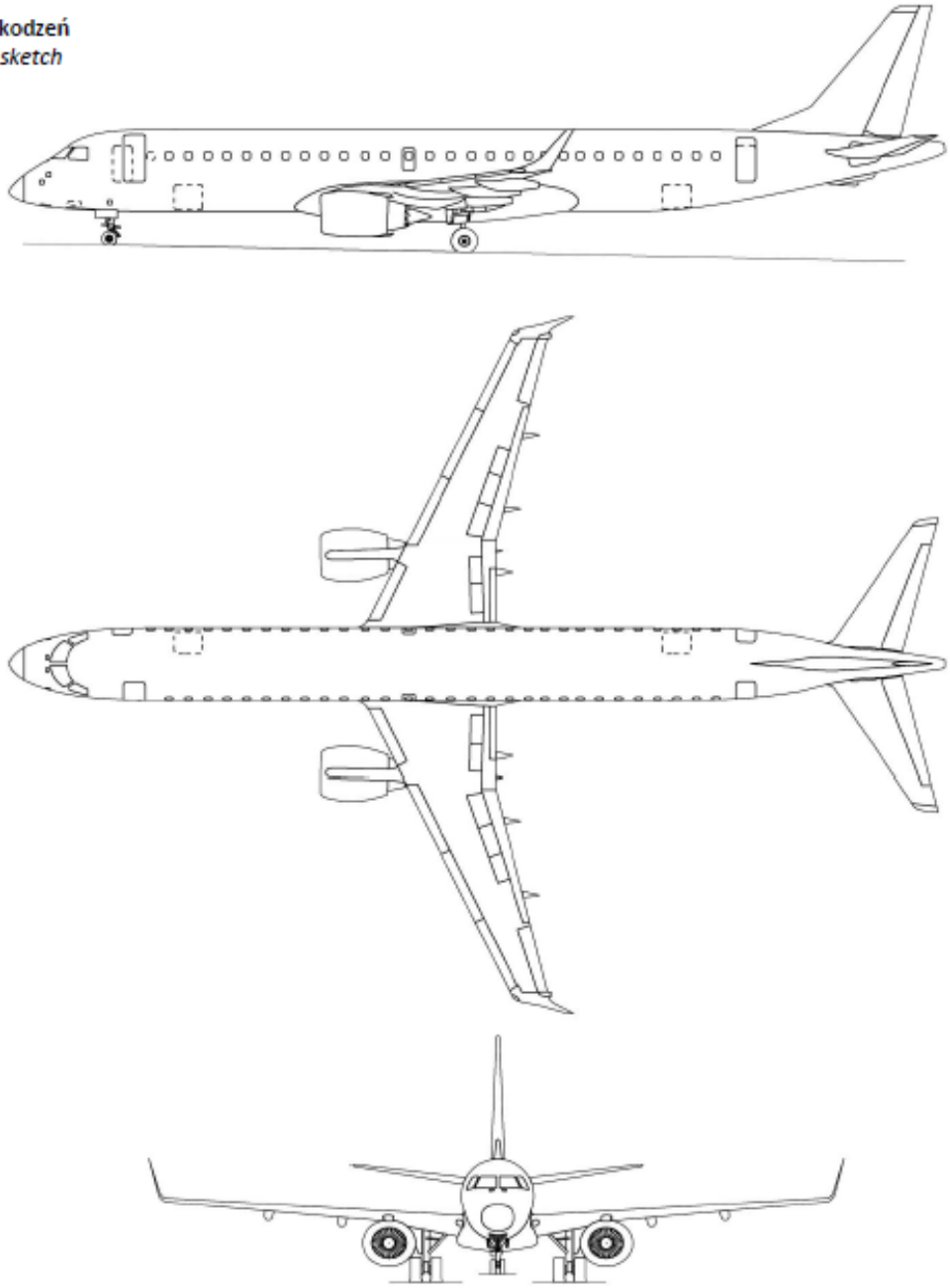
Szkic uszkodzeń
Damage sketch



POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* Data wydania: Październik 2020 *Date of issue: October 2020*	AIRCRAFT DAMAGE REPORT	Strona: 9/10 Page: 9/10

Embraer 190-100/200

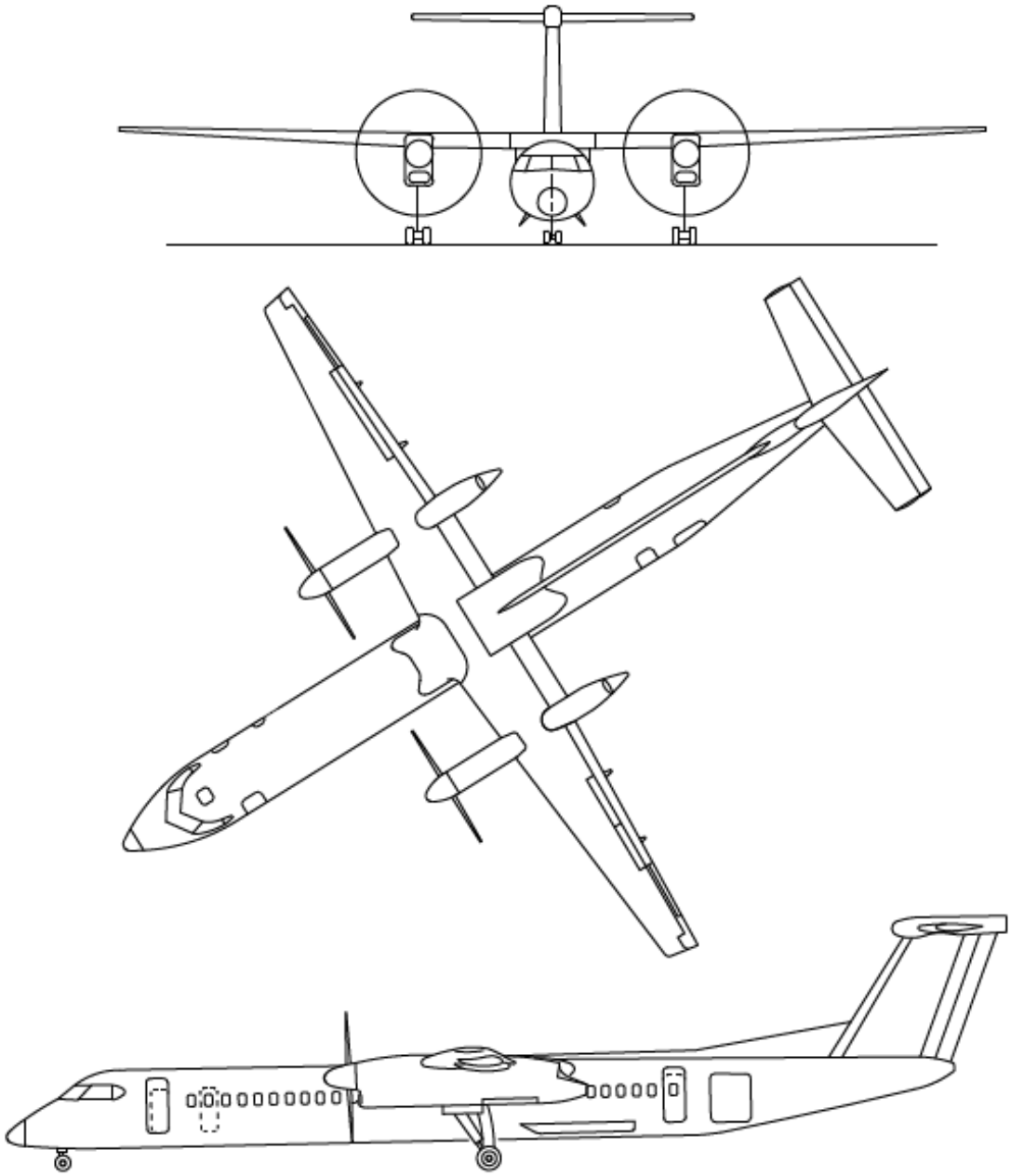
Szkic uszkodzeń
Damage sketch



POLSKIE LINIE LOTNICZE	RAPORT O USZKODZENIU SAMOLOTU	FHWOS 6
Zmiana nr 11 *Modifiaction no. 11* Data wydania: Październik 2020 *Date of issue: October 2020*	AIRCRAFT DAMAGE REPORT	Strona: 10/10 Page: 10/10

Bombardier Dash 8 Q400

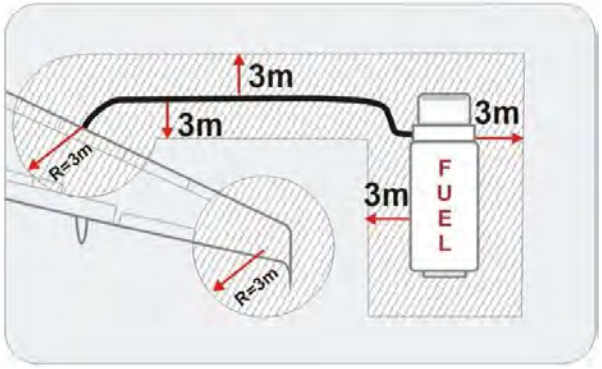
Szkic uszkodzeń
Damage sketch



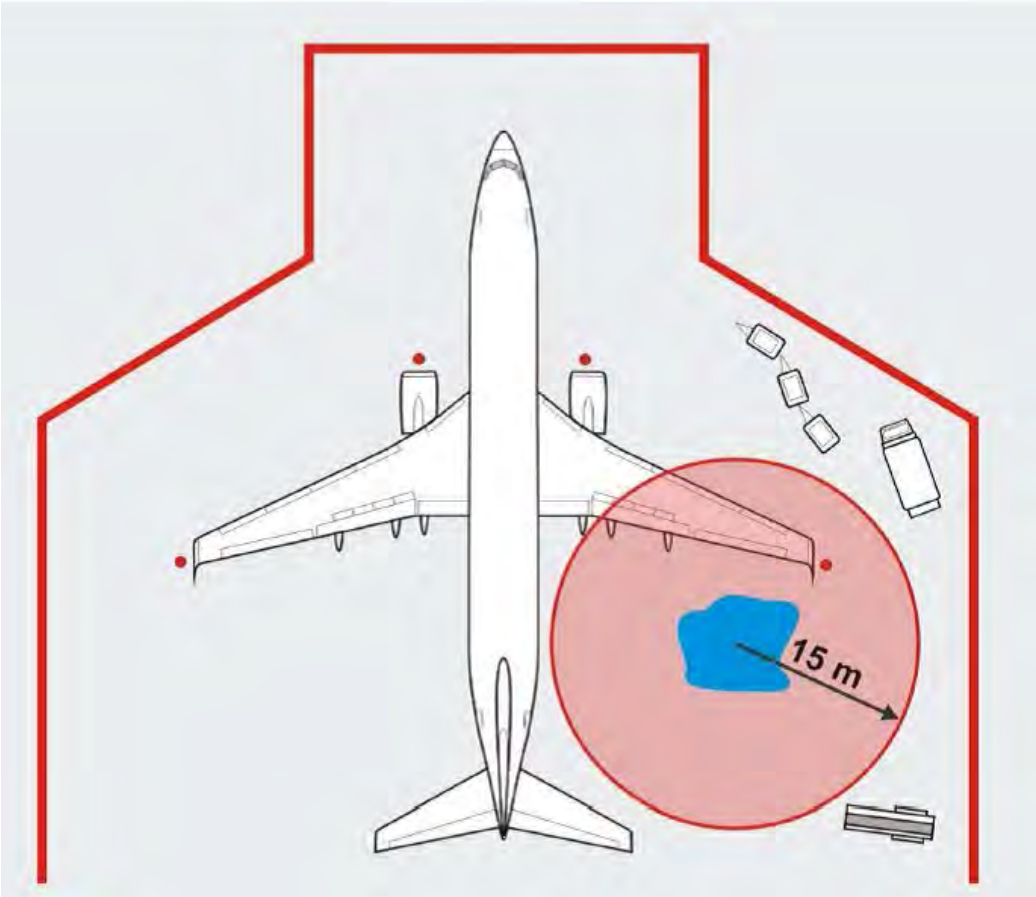
4.13.4 Safety precaution during fuelling/defueling (GRH 4.1.4; GRH 4.1.6; GRH 4.1.7)

	Remarks
1. General rules	• Fire extinguishing equipment suitable for at least initial intervention in the event of a fuel fire must be readily available, and personnel have been trained in the use of such equipment; • Procedures are in place for quickly summoning the rescue and fire fighting service in the event of a fire or major fuel spill. Refuelling/defueling must be always supervised by Commander or authorised maintenance personnel The fuelling/defueling of aircraft is **prohibited:** ➢ within a distance shorter than 50 meters from an open fire or sparks, aircraft with running engines, ➢ inside the hangars, ➢ during the engine start up ➢ during the engine operate in Hotel Mode ➢ during a thunderstorm and heavy precipitation ➢ during heavy rain, when a wind blows more than 25 m/h and when a thunderstorm is closer than 5 km from the airport ➢ when using of non-certified or inefficient fuelling equipment ➢ in the fuelling zone which is unsecured by fire extinguishing equipment
2. Responsibilities	• The Commander is obliged to determine quantity of fuel required for the flight and pass this data to the handling agent • The Commander has the final responsibility for the quantity and type fuel loaded as well as acceptance of fuel quality inspection results
3. Fuel truck/ fuel hydrant dispenser:	• Whenever possible, the fuelling truck should be positioned leeward of the aircraft and in such a manner that damage to the aircraft by the departing truck is unlikely. • Under the wing positioning is forbidden (excluding Boeing 787). • The fuelling truck: ➢ shall be parked within the distance of minimum 3 meters from the aircraft and minimum 6 meters from the GPU, ➢ it shall not be blocked by any other ground equipment and in the case of emergency must be able to depart immediately, ➢ must not have its engine shut down during duelling/refuelling.
4. Fuelling Safety Zones.	Fuelling safety zone is an area of 3 metres in any direction from the centre-point of all fuel vent scopes, venting points on the aircraft, aircraft refuelling ports, fuel hydrants, fuelling vehicle, fuel hose, fuel receptacles, and the hydrant pits (Fuelling Safety Zone under of underwing vent scopes extends to the ground). The distance may be further increased as required by local airport or civil aviation regulations

5. Operating practices: (including fuelling with passengers on board)	• A distance of 3 m must be maintained, between ground support equipment and any fuelling equipment eg vehicles, hoses, grounding wires, hydrant pins, etc. • Portable electronic devices, such as mobile phones, non-certified portable radios, portable music players, portable game units or earpiece or headset, electronic cigarettes, photographic flashbulbs, etc. shall not be used within the fuel safety zone. • Wheel chocks on the aircraft wheels must placed while in fuelling operations • Smoking, using vehicles, devices or tools which are not protected against sparking as well as conducting activities which could cause electrical or mechanical sparking are prohibited. • It is forbidden to drive or walk over the hose, bonding wires and other fueling support equipment • The use of non-certified or inefficient fuelling equipment is prohibited • Start up GPU or APU aggregates during the refuelling/defueling processes is prohibited • Fuel hoses shall be prevented from damage and shall be laid in the most direct path to the fuel inlets; a sufficient safety distance, from the aircraft wheel brakes and from APU air intakes • Bonding connections from the fuelling truck to the aircraft and to the ground shall be established to discharge any static electricity before fuelling is commenced. • Fuelling / defueling is not considered to have started before the fuel is actually pumped into the aircraft. • During pressure fuelling, electrical and/or electronically systems may be operated as required during pre-flight activities, except weather radar and microphone buttons on HF • Mobile equipment, with the exception of fuelling trucks, is not permitted within the venting areas • Fuelling shall not be commenced before passenger steps/passenger air jetties are positioned and the passengers have disembarked the aircraft. • Whenever a considerable amount of fuel is spilled due to a damaged hose or overflow, this shall be removed or dried up in the presence of the fire brigade before passengers are boarded • Fuelling or de-fuelling is considered to be terminated when the fuel is no longer pumped into the aircraft



6. Fuel Spillage – Emergency Procedures (GRH 4.1.3)	In the event of a fuel spillage following actions shall take place: • Fuelling must be stopped and Emergency Services/Airport Firefighting Service must be informed. • Notify the flight crew or other qualified persons on board the aircraft. • Emergency Action must be commenced and personnel and passengers from immediate area must be evacuated if necessary according to local airport requirements. • Movement of unauthorized personnel and equipment within area must be stopped or limited to necessary minimum (it is forbidden to enter spilled area by personnel and GSE/vehicles). • All activities outside spilled area must be restricted to minimum to reduce risk of ignition. • An area of radius of 15 m (45 ft) must be secured from contaminated area. • Normal operation must not be resumed on the aircraft or any engines started before the person in charge of the emergency determines that it is safe to continue ground operations. • If the fuel is spilled on any item (baggage, cargo, equipment, materials, other), then such items CANNOT be loaded into aircraft. • In the event of a fire occurring either on or in the vicinity of the aircraft fuelling must be STOPPED and fire emergency services must be called immediately.



4.13.5 Safety precaution during fuelling with passengers embarking, disembarking or remaining on board (GRH 4.1.2)

	Remarks
1. General rules	• Defueling is prohibited • Refuelling is allowed provided safety instructions determined in point 4.13.4 with additional requirements (below)
2. Additional requirements (GRH 4.1.5)	a) If local regulation allows and according to the local Airport Authorities instruction b) During fuelling Commander is responsible for passenger safety and takes decision about refuelling with embarking/disembarking or remaining on board passengers, paying attention to effective evacuation (e.g. special care passengers) c) Commander requests refuelling at the handling agent d) If requested, handling agent must notify appropriate authorities (fire brigade) and personnel engaged in aircraft ground handling activities that refuelling with passengers embarking/disembarking or remaining on board will take place e) Pressure fuelling shall be accomplished f) Where a boarding bridge is in use , an interior access path is maintained from the aircraft to the teminal g) Where a passenger boarding bridge is not in use, aircraft passenger steps or an alternate means of emergency evacuation is in place. h) The ground area beneath aircraft exit doors that have been designated for rapid deplaning or emergency evacuation must be kept clear of any obstructions. **NOTE:** The overwing fuelling is prohibited i) During refuelling with passengers on board at least one flight crew member and a minimum required cabin crew must be on board j) One flight crew member must stay in flight deck and maintain both side communication with: ➢ cabin crew ➢ fuelling supervisor to set up fire extinguish procedures, initiate and coordinate evacuation. The other one is located outside of the airplane maintaining the communication with flight deck as fueling supervisor in case the process cannot be maintained by ground dispatcher. Fueling supervisor shall inform the flight crew: ➢ when fueling is about to begin and has been completed. ➢ when a hazardous condition or situation has been determined to exist. k)In the event of spillage (or other hazardous situation) refuelling must be stopped, the flight crew or other qualified persons onboard must be informed, appropriate ground response personnel or airport fire service must be informed, spot must be secured, passengers disembarked and aircraft must be moved to the clear apron. **NOTE**: Refuelling must be stopped also in other situation the Commander deems as endangering safety.

(GRH 4.1.4)	l) Procedures are in place that establish a fueling safety zone and specify restrictions and limitations for the use of devices, conduct of activities and operation of vehicles and ground support equipment within the safety zone. *(for more details see point 4.13.4)* m)To keep refuelling ability with embarking/disembarking or remaining on board passengers, all crew members and ground staff must be trained and periodically checked in respect of their theoretical knowledge and proficiency in compliance with above requirements
3. Before refuelling	• Commander ➢ shall notify crew member about refuelling with embarking/disembarking or remaining on board passengers and about time of starting the fuelling process. • Handling agent: ➢ informs crew about terms of local requirements concerning crew and the ground staff cooperation (passengers directing, seat occupation, amount of groups of boarding passengers etc.) with reference to refuelling option (embarking, disembarking passengers or remaining on board) PED, T-PED including mobile phones switching off requirements) ➢ informs passengers before boarding about security procedures (e.g. smoking prohibition, mobile phone switching off requirements) ➢ ensures that all special care passengers are boarded after refuelling • Cabin crew shall: ➢ follow the cooperation principles stated by handling agent ➢ inform the handling agent if there any STCR, which seats occupies and which exit would be evacuated through, if such situation occurs ➢ prepare passenger cabin for the refuelling process and be ready on Commander's order to perform the passenger evacuation in case of danger
4. Mandatory safety instruction	• Zones under the emergency exits, including slide rolling place, must stay free of obstacles • FASTEN SEAT BELTS signs must be off, NO SMOKING signs must be on • Passengers must be informed that during refuelling their seat belts must be unfasten. Smoking, using any matches, lighters or similar items are prohibited • Passengers must be announced to switch off all portable electronic devices (PED, T-PED) including mobile phones and not to use • Cabin crew members shall positioned all stations as determined in evacuation procedure, switch on full lights, to make easier identification of emergency exits • All passengers must stay free of obstructions • If there are disabled passengers or children on board, passenger occupied AP seats (assigned to able bodied person) should be requested for help in the event of evacuation • After preparation passenger and cabin, cabin crew member announces the Commander readiness for refuelling operation

5. During refuelling	Cabin crew stationed in passenger cabin shall: ➢ require passengers to stay on their seats with unfasten belts ➢ ensure that passengers not to smoke, use any matches, lighters, items which could make sparkle or fire and not to use their mobile phones ➢ not permit light switch manipulation ➢ observe that fuel vapour appears, otherwise inform the Commander, who orders fuelling interruption and passenger evacuation

4.14 Interior cleaning

	Remarks
1. Policy	The interior of all LOT Polish Airlines aircraft must be kept clean to the highest possible standards.
2. Responsibility	The handling agent shall be responsible for the coordination and initiation of all actions necessary on behalf of Polish Airlines to ensure the performance of a proper cleaning.
3. LOT requirements regarding the cabin cleaning	• empty and close ashtrays, • take out any garbage, • remove any garbage left in the back seat pocket and on overhead shelves, • wipe the tables, • vacuum the carpeting, • wipe external surfaces in the galleys and catering compartments (such as sinks and working surfaces) as well as in the toilets (wash basins, toilet bowls, toilet seats, mirrors and surrounding surfaces), • remove, if necessary, any contamination resulting from illness, spilled drink or food, remove any stains, • empty and clean all garbage bins, • clean the equipment in the galleys and catering compartments, • change the headrests and pillowcases (headrests and pillowcases will be supplied by Polish Airlines) if an exchange is required, • at the crew's request – clean the aircraft windows from the inside, • arrange the seat belts properly and position the seat backs in the vertical position, • wipe the passenger shelves on the outside, if necessary.
4. The above mentioned tasks shall be performed in:	• the crew's quarters (other than the cabin), • galleys and catering compartments, • passenger cabins, • toilets, • cloakrooms – only on long-haul flights.
5. Visual check	The handling agent designated, supervisor on duty or ramp coordinator shall perform a visual check for each flight ensure that the cabin has been properly cleaned prior to the passengers' embarkation of the aircraft.

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4.15 Disinfections and disinsections of the aircraft

	Remarks
1. Policy	• This procedure is to be applied for the disinfection of suspicious aircraft (e.g. after transportation of passenger with contagious diseases) to prevent direct transmission of contagious diseases. • It is independent from routine disinfections during aircraft maintenance.
2. The following departments or persons may decide that disinfections is to be carried out:	• At the respective home bases: ➢ The Head of the Health Department, ➢ The Head of the Medical Department, ➢ The Airport Health Authorities. ➢ At out stations: • The station responsible, after consultation of the airport Health Authorities
3. Procedure for disinfections of the cabin	All parts of the cabin that could have been contaminated must be treated with the antiseptic product**:** • the seat used by the passenger with contagious diseases, • the toilet, • any other object that might have been in contact with the passenger with contagious diseases. **NOTE:** After completion, all staff involved in the disinfections must carefully wash their hands and any other exposed parts with the disinfecting product.
4. Disinfecting operation	The disinfections of the aircraft shall be done by Cabin Cleaning staff (ad hoc services) or by an external subcontracted company.
5. Disinfecting of aircraft toilets	• A deodorising and disinfectant chemical must be added to the toilets in the aircraft: ➢ for hygienic reasons and to avoid obnoxious odours, ➢ in liquid or powder form, ➢ to be added to the prime charge (the amount of water being pumped into the tanks). • The list of disinfectant toilet products recommended by aircraft manufacturers is available at Lot Polish Airlines Aircraft Potable Water/Lavatory Servicing Manual,
6. Disinfection of aircraft	Disinfections of aircraft is required by a number of states to prevent introduction or spreading of communicable diseases. • The decision about the need to carry out the disinfections and the measures to be applied is made by the local Health Authorities, or Veterinary services. • The disinfections of the cargo holds is carried out by the staff of the handling agent (ad hoc services) or by an external subcontracted company. • The disinfections of the cargo holds shall be carried out not earlier than 15 minutes before closing the cargo holds. • Pouring of disinfections agents directly on live animals is not allowed. • Empty cans must always be returned to the cabin crew or the handling

	agent shall keep them. They might be needed as evidence. NOTE: If for any reasons aircraft doors are opening after disinfections is completed, the treatment must be repeated prior to take-off. Lot Polish Airlines recommended PERMETHRIN –Spray as disinfections chemicals.

4.16 Potable Water and Lavatory Service

1. Potable water service	• Handling agents must make arrangements to have water and a water cart provided and drinking water replenished. • All food and potable water taken on board an aircraft and intended for human consumption must meet the national health standards. • The Provider shall have procedures for the application of water quality standards in the preparation, handling and inspection of aircraft potable water to ensure no contamination when loaded into the aircraft in accordance with local health authorities.
2. Lavatory service	The aircraft toilet waste tank must be serviced after each scheduled flight. Handling agents shall arrange to have: • toilet truck positioned and removed, • toilets flushed, • emptied tanks, • recharged with fluid containing a dye-deodorant-disinfectant chemical solution. • Unserviceable toilet is marked in MVT message "TOILET INOP/US" Gate agents shall inform passenger before borading about inop toilets on board.
3. A servicing vehicle requirement	• hold waste, • provide flushing and recharging solutions, • illuminate the work area, • have an all-weather operating capability to -3°C.(-40° F). • All components, lines and fittings not in heated areas have provisions to prevent freezing whenever aircraft is powered and the relevant circuit breakers are closed.
4. Special Note for USA:	• Aircraft inbound or outbound on an international flight shall not discharge any excrement, wastewater or other polluting materials over the USA. • Arriving aircraft shall discharge such matter only at servicing areas approved under FDA Code of regulations (Title 21, Parts 1240 and 1250).
	For more details „LOT Polish Airlines aircraft potable water/lavatory servicing manual" – Evid.no.2030.

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4.17 De-Icing and Anti-Icing (GRH 2.2.6)

	Remarks
1. Requirements	• During icy conditions in the winter the decision to perform aircraft de-icing/ anti-icing is made by an authorized employee of the handling agent on the basis of information provided by the person conducting initial inspection of aircraft as well as current weather information and weather forecasts. • The aircraft captain is authorized to make a decision to commission aircraft de-icing/ anti-icing at any time during pre-flight preparation phase. • The aircraft captain's decision has highest priority and is final — irrespectively of decisions made by other people.
2. Responsibility	If de-icing/ anti-icing is necessary the handling agent is responsible for ordering and supervising these services. **NOTE:** De-Icing and Anti-Icing services for aircraft used by LOT Polish Airlines shall be performed according to LOT Polish Airlines ICE-M procedure. • There is no differences in procedure beetwen 787 subtypes -8 and -9.
3. Training requirements	• The handling agent providing de-icing/anti-icing services shall have a de-icing/ anti-icing license issued by relevant authorities — (if applicable). • The training has to be carried out in accordance with the current revision of SAE AS6286 standards.
4. Handling agent entitlement	The employees of the handling agent, who have to be properly trained are entitled to: • perform initial inspection of aircraft, • perform aircraft de-icing/anti-icing, • check aerodynamic surfaces of aircraft before take-off. • transmit the Anti-Icing Code to the aircraft captain
5. Persons who are responsible for individual stages of aircraft de-icing/ anti-icing operation:	• the person conducting the initial inspection of aircraft — for providing information about the condition of the aircraft's aerodynamic surfaces to the aircraft's captain • an authorized employee of the handling agent — for making the decision that aircraft de-icing/anti-icing is necessary and provisions of appropriate information to the staff performing de-icing/anti-icing • authorized employees of the handling agent — for the execution of the de-icing/ anti-icing operation; authorized employees of the handling agent — for checking the condition of aircraft's aerodynamic surfaces before flight and confirming that the de-icing/ anti-icing operation has been completed successfully (Anti-Icing Code).
	For more details see following procedures: ICE-M procedure, Procedure for De-Icing/Anti-Icing

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4.18 Catering and provisioning

	Remarks
1. Handling agents liaise with catering supplies to ensure	• On/off-loading and stowing of pantry equipment and catering supplies from/to aircraft. • Refill removable galley containers with hot and/or cold drinks/food and ice. • Convey removable pantry equipment and catering supplies between aircraft and catering department, (if requested by LOT Polish Airlines).
2. Special Safety note:	• The passenger and service doors are only to be opened from the inside by crew members, technical staff when the platform of the catering truck is at the same level as the cabin floor. • When loading/unloading catering, additional bridge shall be use to avoid aircraft damage. • Moving catering trolley carts on board (aisle) is foribbden if dediceted service doors are avialable. • All catering trucks shall be guided during positioning. • The vehicle platform shall be always perpendicular to the aircraft door sill. • The catering vehicle stabilizers must be extended (if equipped). • The load in the vehicle must be properly secured and cart brakes set • Guardrails shall be retracted and ground clearance over both sides of the truck shall be checked. • The vehicle body shall be lowered into the fully lowered position. • Front vehicle body door shall be closed and secured • While exiting, the door of vehicle body shall be closed and latched • A walk around inspection to check for FOD and stabilizer clearance shall be performed. • Stabilizers shall be raised.
3. High Wind Operations	• Distance between the vehicle and the aircraft is maintained. • No loose items are stowed on the vehicle loading platform or transported on top of catering carts. • Only one catering cart at a time can be pushed and using both hands. • Operations conducted with high loaders at winds speeds greater that 40 kts are prohibited.

When loading/unloading catering, additional bridge shall be use to avoid aircraft damage!



4.19 ULD management
4.19.1 General rules

	Remarks
1. ULD supervising	• The ULD Control Centre WAWPULO is responsible for ULD management and control process. • In order to control the current status of ULDs, the Centre utilises electronic management and control system, which helps to maintain the flow of information contained in documents. • Groud Handing Agent shall ensure a copy of the current edition of IATA ULD Regulations (ULDR), or the OM containing equivalent ULD related content, is available or accessible at each location where ULDs are utilized.
2. Loading Devices and Accessories	PMC, PAJ, PAG, PNA, PLA, PKC, P1P, PKC, DQF, DPE, AKE, ALF For details see point 4.19.2
3. Loading accessories for LO ULDs	• Plastic sheets – to be ordered locally • Tie-down fittings : ➢ single stud (weight per piece 0.1kg) to be ordered from WAWPULO ➢ double stud (weight per piece 0.1kg) to be ordered from WAWPULO • Tie-down material: ➢ standard straps (weight per piece 1.5kg) to be ordered from WAWPULO
4. ULD tags.	• In order to identify loaded aircraft pallets/containers, the following tags are used (size A:5 148x210 mm): a) For baggage: black lettering and a red slash on a white background b) For dangerous goods: black lettering with prominent red hatchings surrounding the tag on both size NOTE: Where dangerous goods are contained in ULD, the primary and subsidiary hazard class(es) or division(s) numbers of such dangerous goods must be clearly marked on this tag c) For unserviceable units: black lettering on an orange background d) For other load: black lettering on a white background • Completion: a) One tag shall be completed for each individual container/pallet, including empty units b) Tag should contain: destination, net weight (kg), tare weight (kg), total (kg), loaded at, position on aircraft, contents, remarks (if any) • In the case of fixed-size ULDs, the tag shall be inserted in a fixed placard holder. • If a pallet has the net, the tag shall be affixed to the net. • The tag shall be placed in a position easily seen from the eye level.

5. Certified/non - certified ULDa	• Certified ULD: a) ULDs received airworthiness approval under a TSO/ETSO authorisation or other procedure. b) Certification process is conducted between ULD manufacturer and the applicable authorities (FAA, EASA). c) Are proven to meet the Minimum Performance Standards NAS3610 d) Are marked with A,B, J, L, N, P, Q, R, S or U in Position IATA ULD Identification code. • Non-Certified ULD: a) ULD used exclusively for the lower deck of wide dody aircraft which is not subject to airworthiness approval but maybe carried under conditions specified by the Aircraft Weight and Balance Manual. b) ULDs (containers, pallets, nets)are marked with D,F, G or M in position 1 of the IATA ULD Identification code
6. ULD build-up/brake down - procedure: (GRH 3.4.14)	• Ensure that ULD is of correct size and type to built up cargo safely and securely • Prior to built up the ULD shall be inspected - refer to IATA ULD. If inspected ULD shows that it is un-airworthy, shall be equipped with identification tag and different ULD shall be used • Special care shall be taken during built up/brake down to avoid damages • Ensure and check if all factors relating the built up process are fulfilled with the following requirements: a) Area load d) Contour b) Point load e) Individual restraint and heavy items c) Maximum gross weight f) Centre of gravityof loaded ULD • During brake down special precausion must be taken: a) Always open the container doors and/or remove cargo nets without damaging the doors/nets b) Doors and/ or nets shall never be cut c) Container doors shall be closed and locked shut after all container contents are removed
7. ULD loading	• ULD shall be in serviceable condition before loading and meets safety requirements pertaining to the loading and securing of cargo - refer IATA ULD. • When stacking cargo, spread load evenly over the entire floor of the pallet and ensure that the heavy items are on the bottom and lighter items on top, to prevent crushing. • Cargo shall not be placed within 50mm (2in) of the outside edge of the pallet. • When the established maximum floor loading limitations is exceeded, the items of cargo concerned must be loaded on wooden boards (spreaders) to distribute the weight over a greater area. • Any components of the in-plane loading system found to be missing orunserviceable must be immediately reported to the LOT prior to loading/ unloading and taken into consideration in the aircraft loading and weight & balance process if ULD's are to be loaded with any missing locks or latches.

	• arrels, drums and containers that contain liquids shall be positioned on a pallet far enough from the pallet edge or secured by positioning other hard freight around the barrel. • Pallet loads must conform to the contour of the aircraft fuselage. The load shall therefore, be either built-up with a loading gauge or passed through it before netting down. • To prevent wet damage it is recommended that water-proof sheeting be placed over the whole load top and sides underneath the net. • After the net has been placed over the load and fitted to the pallet edge, it must be tensioned firmly in all directions. However, tensioning shall not bend the pallet. • No loose ends webbing, net or ropes are hanging down over pallet. • ULD tags identifying the unit load device shall be completed by authorized staff and securely fastened. Any old tags must be removed.
8. ULD transportation	• Any transportation on an airport is a subject to the airport rules and regulations in that jurisdiction. • If transported by a dolly, ULD base size shall always be compatible with the dolly size. **NOTE:** If the ULD base size is smaller than the dolly size, the dolly shall be equipped with additional horizontal and vertical restrains • If transported off airport: a) Local road transportation regulations must be applied b) Road vehicle shall be fully enclosed on all sides c) Road vehicle shall be equipped with roller system or equivalent d) ULDs shall always be transported in the correct orientation e) Loose cargo shall never be stacked or placed on top of container or loaded pallet f) Empty pallets of different sizes may be transported in a single stack provided that the larger pallets are at the bottom g) Cargo nets, straps, fittings and other peripheral equipments shall not be removed from the cargo during transportation
9. ULD storage and handling	• Universal storage and handling requirements: a) Easy access for loading and unloading facilities b) safe access for inspection c) ULDs shall not be stored on the ground but on a suitable ULD Base Support System d) Before placing ULD into storage plastic sheeting, spreader board, tie-down straps, garments frames and etc. shall be removed e) Containers shall always be stored base downwards f) Pallets shall always be stored horizontally g) Container doors must either be in the fully closed and locked position and secured in the open position • Outdoor storage: a) Keep ULD secure in strong wind b) Prevent ULD becoming unretrievable due to snow covering/drifting

	• Specific store requirements based on ULD category: a) Containers A,B;E,F, G, H, J, K, L, M, N, P, Q, R, X, Y and Z depends on non-forklift base: if empty must be stored in Base Support system. If Loaded: must be stored on a Base Support System or the device used to position/remove container shall be purpose designed to transfer the container without risk and damage b) Containers A,B;E,F, G, H, J, K, L, M, N, P, Q, R, X, Y and Z depends on forklift base: if empty and loaded may be stored on flat ground or industrial racking of sufficient strength NOTE: Loaded container must never be stacked on top of one another • Pallet: A, B, E, F, K, L, M, N, P, Q, X, Y and Z: a) empty – must be stored individually or in stacks b) loaded: must be stored on an ULD Base Support System • Pallet: G, H, J and R: a) Empty: ULD base Support System or equipment designed to allow for empty pallets to be placed in storage by a forklift b) Loaded: must be stored in ULD Base Support System
10. Continued airworthiness (GRH 3.4.14)	• The condition of all arriving ULDs shall be checked immediately upon off-loading, and LO Control Centre WAWPULO shall be informed of any damage/irregularity noticed as soon as practicable. • In case damaged units will be sent back to WAW- not earlier reported by station as incoming damaged to the station , the cost of repair or exchange will be moved to the station . • Damaged ULD equipment shall always be kept separated from the serviceable equipment. • Before use, the station shall ensure that the ULD is in serviceable condition. Damaged ULDs can cause handling problems and inflict damage to the ground handling equipment and to the aircraft loading and they may restrain the system itself. • ULDs shall be kept covered to prevent their wetting or damage. • Pallets and containers of each carrier shall be well separated • ULDs shall not be handled with fork-lifts, unless they are specially designed for this purpose. • LO damaged/unserviceable pallets and containers shall be withdrawn from service and returned to WAW empty with proper labeling as dead load; pre-advice message shall be sent to uldcare@lot.pl Flight number, date and ULD number (which is marked with U tag) shall be inclduded. • LO containers shall be repaired at a certified repair station. Periodic inspection of ULD equipment shall be conducted in Warsaw with the assistance of qualified personnel of a repair station. Emergency repairs of ULD equipment can be carried out at a local repair station under LO representatives supervision and after their final approval. Documentation is retained within ULD Control. • UCM messages are retained within the system.

	• The Airworthiness Inspection Criteria, which can be found on the ODLN (Operational Damage Limits Notice) sticker which is attached to the ULD, describe the limits under which the relevant ULD is still airworthy and can be used for flight operation. • If Operational Damage Limits Notice (ODLN) sticker is not visible, The ULD should be classified as unservicable and Ground Handling Agent should contact the operator to check the continued airworthiness of the ULD. • Ground Handling Agent is obligated to fill „ULD'S ACCEPTANCE EXPORT/IMPORT CHECKLIST" before usage for the ULD and send a copy by e-mail to the uldcare@lot.pl • In case the ULD does not meet the requirements for proper use, it is necessary to draw up a damage report and send it to the address uldcare@lot.pl together with the „ULD'S ACCEPTANCE EXPORT/ IMPORT CHECKLIST" for a particular ULD.
11. Minimum training requirements	• Training level requirements: a) Operators: basic ULD operations training (to understand that ULD must be operated correctly) b) Supervisors/warehouse Operations Manager: basic ULD operations level plus more complex aspects c) Trainers: fully conversant with the contents of any ULD training courses d) Managers: equivalent to Supervisors/Warehouse operations • Frequency of training: a) before starting to work with ULD b) Recurrent training: with a maximum interval of 24 months • Training records: a) All training shall involve written test b) Training records shall be maintained • Training programme elements: a) Methods: computer based training, classroom training, video training, others permitted b) Testing: any training shall include the a formal testing c) Certification: after satisfactory completion and passing the test • Syllabus: a) The essential safety requirements b) The relationship between ULD and aircraft c) Other important functions that ULDs perform d) Overview of ULD design, testing and certification e) Different types of ULDs f) Documentation, labelling and marking g) General safety and handling procedures h) Detailed instructions for ULD (pre- inspection, build up/brake down) i) Important rules j) Additional requirements for managers and supervisors: handling of heavy cargo, load spreading of HEA, different types of aircraft holds, certified and non-certified ULD, special purpose ULD

4.19.2 LO ULD devices for cargo and baggage loading – description

Type	Size of base(in)	Weight (kg)		Usable Volume (m3)	ULD type Code
		Tare kg	Max gross		
Pallet	96 x 125	100	5102	11.7/64 in. max. height	PMC
Pallet	88 x 125	90	4646	10.7/64 in. max. height	PAJ
Pallet	61.5 x 96	55	2510	5.5/64 in. max. height	PNA
LD 2	60.4 x 47	70	1224	3.4	DPE
LD 3	60.4 x 61.5	65	1587	4.5	AKE
LD 6	60.4 x 125	135	3174	8.9	ALF
LD 8	60,4 x 96	120	1587	7.3	DQF

4.19.3 Movements and stock control

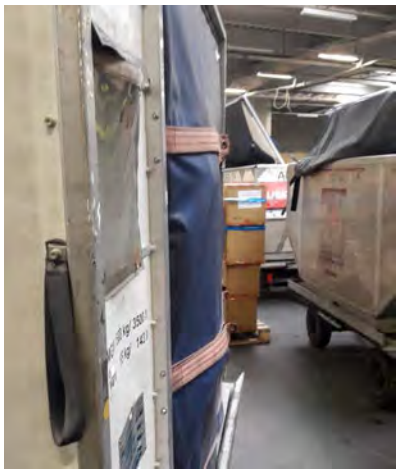
1. UCM – ULD Control Message	• The ID codes shall be attached to all ULDs, both, loaded and empty, arriving and departing. • ULDs shall be recorded immediately upon off-loading/loading. • UCM shall be sent to the ULD Control System address CHAFPLO and to ULD Control Centre WAWPULO by the station of ULD movement as soon as possible after the arrival/departure. • "IN" and "OUT" shall mean respectively ULDs which were added to or ULDs which were removed from the station inventory. • "N" (nil) shall mean that no ULD was added to or removed from the station inventory. • One UCM may include both incoming and outgoing flight numbers. • Further information concerning ULDs included in UCM shall be reported under SI or by a separate plain language message. • Number of straps for each ULD shall be reported under SI.
2. CPM – Container/Pallet Distribution Message.	• CPM shall show all ULD positions, including those not occupied by ULDs (N). • In order to facilitate CPM reading, ULD positions should be specified in agreement with their actual arrangement in the aircraft. • The information necessary to compile CPM shall be obtained from the Loading Instruction/Report.
3. Control of transferred Unit Load Devices (LUC).	• A Control Receipt, , shall be completed at the time of transfer of a loaded or empty unit. • The transferring party shall complete the data relevant to each unit, as indicated on the form, and shall obtain the signature from the receiving carrier. • The above procedure shall apply to all operators, also those which are not members of the IATA Multilateral Agreement for Interline Handling and Control of Carrier Owned Aircraft ULDs.

4. LUC – ULD EXCHANGE CONTROL MESSAGE	• LUC message shall be sent for each completed Control Receipt to inform LO ULD Control Centre WAWPULO of transaction. • LUC message should be generated on the basis of the Receipt. • Example of LUC for a transfer of ULD between participants: JFKFFLO WAWPULO PMC00025LO/15DEC02/1800/AA/LO/JFK/080-00000254/LAX/SER
5. Stock Control of Unit Load Devices / SCM – ULD STOCK CHECK MESSAGE	• In order to verify Unit Load Device stock, a Stock Check Message (SCM) shall be sent periodically (weekly) to the LO ULD Control Centre (refer to GHM 10.3). SCM shall be sent for all LO ULDs, including those for which LUC /ULD Control Receipts have been signed and those which are under repair or damaged. • Number of straps for LOT stations shall be reported under SI for each SCM. • SCM shall be compiled after the physical inventory. • LOT stations are recommended not to exceed the pallet stock of: ➢ 12 serviceable PMC pallets ➢ 8 serviceable PAJ pallets ➢ 8 serviceable PNA half pallets • Following serviceable AKE containers shall be secured on stock: **LONG HAUL STATIONS** (weekly flight freq – 3 and more) – between 20 and 30 pieces of AKE **LONG HAUL STATIONS** (weekly flight freq – less than 3) – between 8 and 15 pieces of AKE It means station where LO wide body aircrafts operate on the regular basis (excl. seasonal flights). • Excessive equipment shall be returned to WAW and ID codes of containers to uldcare@lot.pl • Requests for additional equipment shall be submitted to uldcare@lot.pl

4.19.4 ULD securing

a) It is forbidden to load on aircraft Unit Load Device, which is improperly secured.
b) Flexible material of doors shall, when closed and secured, follow the design contour of the ULD at all times. No bulging in excess of 25 mm (1 in) is allowable.
c) While building up a container, the contents shall be stacked in such a manner that they do not extend beyond the door opening of the container.
d) Attention shall be given to stacking the content so that they are not likely to fall against the door during flight.
e) The rule is part of internal and external audit of handling agent.


WARNING!









4.20 Push back (GRH 3.2.9)

	Remarks
1. Preparing aircraft for push back	**Procedure**: • Before pushback make sure that aircraft movement area is free of FODs and paving condition allows safe execution of procedure • Make sure that the cockpit's nose-wheel gear control is locked, i.e. that the locking pins have been inserted in the hydraulic actuators of the nose-wheel gear. **NOTE**: ERJ 170-100/200, ERJ 190-200 disconnects the device using the switch in the cockpit. **NOTE:** POWER BACK on DHC-8-400 is not allowed – PUSH BACK procedure must be executed. • 5 minutes before push back start establish communication via headphones between the ground and the cockpit. Use conventional phrases. Ensure that the head set man will observe safe distance between the aircraft and pushback tractor. Should the communication be interrupted, pushback operation shall be stopped until the communication is re-established. • If it is not possible to establish ground-cockpit communication due to phone malfunction or adverse weather conditions, the person in charge of push back shall go to the cockpit and agree the use of the conventional hand signals (in accordance with IATA standards), and the push back direction with the captain • Make sure that all doors and hatches are closed and then give a signal to the aircrew that they may switch on the Auxiliary Power Unit (APU) ➢ Ground staff performing and assisting in pushback operation shall wear high visibility jackets, wands shall be illuminated or equipped in high visibility bars **NOTE:** If the push back operation is carried out during a lightning storm, it is not allowed to connect headphones to the aircraft. ➢ If it is not possible to establish ground-cockpit communication due to phone malfunction or adverse weather conditions, the person in charge of push back shall go to the cockpit and agree the use of the conventional hand signals, and the push back direction with the captain. ➢ Connect the towbar to the nose-wheel gear first and then to the tractor. ➢ Make sure that all doors and hatches are closed, and then give a signal to the aircrew that they may switch on the Auxiliary Power Unit (APU). ➢ Following a signal received from the aircrew, switch off and disconnect the following equipment from the aircraft: ⇒ the GPU (Ground Power Unit); ⇒ the air cooler/heater - if it was connected. ➢ Make sure that the airbridge (passenger platform) is moved back from the aircraft and that all technical/service equipment is located at a safe distance away from the aircraft. ➢ Remove the chocks blocking the aircraft's wheels (before doing so make sure that the tractor has its parking brakes on) and notify the aircrew that the aircraft is ready for push back.

<table>
<tr><td></td><td>
➢ Make sure that the ground crew is at a safe distance from the aircraft, and the space behind the aircraft is clear of obstacles.
➢ If the engine(s) are started before push-back, one should first take away the chock immobilizing the main undercarriage wheels.
</td></tr>
<tr><td>2. Aircraft Push Back Service</td><td>
• Handling agents are responsible for ordering towing/pushback services in time for departure.
• The following policies and procedures shall be adhered to in order to ensure the safety of ground personnel and avoid damage to the aircraft and ground equipment.
➢ Push back operations at airports are governed by the local instructions valid in each individual airport.
➢ In normal circumstances the push back is performed using an aircraft tractor, which is connected by means of a towbar to the aircraft's nose-wheel gear.
NOTE:
LOT Polish Airlines also accept to used Towbarless equipment certify by aircraft manufacturer.
➢ Towbarless towing shall be based on the applicable practices.
➢ Pre- or post-taxi positioning of the aircraft shall only be executed by barless towing if one of the following conditions are met:
- an aircraft is protected by its own design from damage to the nose wheel steering system;
- a system/procedure is provided to alert the flight crew that damage may have or has occurred;
- the towing vehicle is designed to prevent damage to the aircraft type; or
- the aircraft manufacturer has published procedures and these are included in the operations manual.
➢ To ensure the safety of the operation the aircraft push back tractor, shall meet appropriate specifications:
❖ sufficient power and weight,
❖ overall dimensions required for push back vehicles.
NOTE:
Appropriate towbars shall be used, in accordance with the information given in point 5 below.
</td></tr>
<tr><td>3. Maximum turning angles</td><td>
The maximum turning angles allowed for the nose-wheel gear during push back
<table>
<tr><td>Aircraft</td><td>Recommended</td><td>Maximum allowed</td></tr>
<tr><td>B 787</td><td>65 degrees</td><td>75 degrees</td></tr>
<tr><td>B 737</td><td>70 degrees</td><td>75 degrees</td></tr>
<tr><td>ERJ 170-100/200,
ERJ 190-200</td><td>71 degrees</td><td>76 degrees</td></tr>
<tr><td>DHC-8-400</td><td>-</td><td>70 degrees</td></tr>
</table>
NOTE:
If these maximum values are exceeded (if the tractor's towbar goes beyond the red lines), damage to the nose-wheel gear hydraulic control system may occur.
NOTE:
DGC-8-400 - painted red lines on nose landing gear doors show these limits.
</td></tr>
</table>

<table>
<tr><td>4. Push –back equipment specif.</td><td colspan="2">The towing power and weight of a tractor required for a given aircraft type is specified in the table below.</td></tr>
<tr><td>5. The towbar's specification</td><td colspan="2">The towbar required for a given aircraft type is specified in the table below</td></tr>
<tr><td rowspan="6"></td><td>Aircraft Type</td><td>Aircraft Towbar Code</td></tr>
<tr><td>B 787</td><td>SST B767, Art. No. 0111000</td></tr>
<tr><td>B 737</td><td>FOM 08118 P.N.200439-102, series 14695-5</td></tr>
<tr><td>EJR 170-100/200</td><td>AGE-01306-401, TOWE170-C-4, AST-3, Kalmar TBL180, TPX-100E (TLD), AP8850SDA-AL-100, TANA 42, TANA 53, TPX-200MT</td></tr>
<tr><td>ERJ190-200</td><td>AST-3, Douglas TBL280, TPX-100E (TLD) AP8850SDA-AL-100, TANA 42, TANA 53 TPX-200MT, AM210R, AM110R</td></tr>
<tr><td>DHC-8-400
(If use towbarless)</td><td>Lektro Model AP8750B
LektroModel AP8850SDA
Kalmar Motor AB TBL 50</td></tr>
<tr><td colspan="2">NOTE:
LOT Polish Airlines also accepted to use all other towbars certify by aircraft manufacturers.
NOTE:
Towing / pushback may only be performed using dedicated towbar approved for DHC-8-400 (towbar approved for DHC-8-100/-200/-300 only cannot be used for DHC-8-400).</td></tr>
<tr><td>6. Push Back staff tasks</td><td colspan="2">The following number of persons are needed during push back:</td></tr>
<tr><td></td><td>1 person</td><td>To start 1 person pushback offical approval by LOT Ground Ops Department onp@lot.pl shall be granted!
Following conditions must be met to perform one man pushback:
• towbarless (certifited for aircraft type) tractor in use,
• ground to cockpit communication via headphones only,
• driver communicating with the crew speaks english language (min. ICAO level 4 or equivalent)
• Minimum clearances on parking stands between aircrafts wingtips 5 m
• No service road behind an aircraft, unless it is secured by other means to avoid collision with ground vehicles during push-back process.
Note: Staff involved must have an appropriate training for pushback operation and ground-cockpit communication.</td></tr>
</table>

	2 persons	• Towbar tractor in use, • Ground to cockpit communication via headphones only, • Driver(with an appropriate license valid for aircraft ground handling) or the right-wingman is the person who communicates with the crew in the cockpit, • Once pushback is complete, the towbar shall be disconnected by right wing-man.
	3 persons	if ground-cockpit phone communication is via hand signals: 3 persons are needed: • tractor driver, • left-winger and • right-winger
	4 persons	In extreme circumstances (e.g. bad weather condition or traffic build up on the apron) the team leader can increase the number of push back staff.
	• It is the person in charge of the push back operation (team manager), duly authorized to provide handling services to aircraft, who shall communicate via headphones or keep eye contact with the crew in the cockpit. • Task allocation to team members during aircraft push back:	
	Push back team manager	• Communicates with the crew in the cockpit via headphones and passes information between the cockpit and other members of the push back team, at the same time watching the port (left-hand) side of the aircraft. • If communication via headphones is not possible, the team manager acts only as an intermediary between the cockpit and the ground staff, and manages the push back operation, giving appropriate orders via hand signals. • An additional, fourth person acts as the left-winger.
	Right-winger	• Keeps a continuous watch on the starboard (right-hand) side of the aircraft and gives hand signals informing that the push back operation proceeds successfully. Should any irregularity occur, the right-winger gives an order to stop the aircraft.
	Push back tractor driver/ tow vehicle	• Releases the push back tractor brakes and, following the approval given by the push back team manager, starts to push back the aircraft, • Halts the aircraft by stopping the push back tractor, if an order to stop has been given by any team member. It is allowed for the driver to be the person who communicates with the crew in the cockpit by radio or phone during the push back operation.

4.20.1 Push back procedure and communication

Push-back procedure is normally conducted with a dialogue between flight crew and ground staff in charge of the departure via an interphone (headset). This procedure ensures the highest level of safety during departure based on a precise exchange of information. The ground person in charge of the departure operation shall maintain continous contact with the flight crew and is responsible for the ground maneuver.

Actions prior push-back:

1. The ramp area is clear of all FOD and any equipment
2. Apron surface condition is sufficient free of ice, snow, oil or any other contaminats to ensure safe aircraft movement.
3. The ramp area is free of objects/ obstacles that maybe impacted by the aircraft or may endanger others due to jet bast effects.
4. All persons not involved in the aircraft push-back shall remain clear of the parking stand behind ERA.
5. Wing walkers positioned - *if required.*
6. Verbal communication established.
7. In the event an ASU is required for engine start – communicate and confirm with crew - ASU position and engine start sequence. (*GHM 4.3.2*)

Communication must always be conducted by interphone. In the event the interphone becomes unserviceable or due weather conditions IATA hand signals shall be applied.
Prior to departure:
- a briefing must be held between the Commander and the ground agent responsible for the departure, including:
- *Review of departure specifics, i.e. (taxi out directions, ASU)*
- *The hand signals to be used, including emergency signals.*

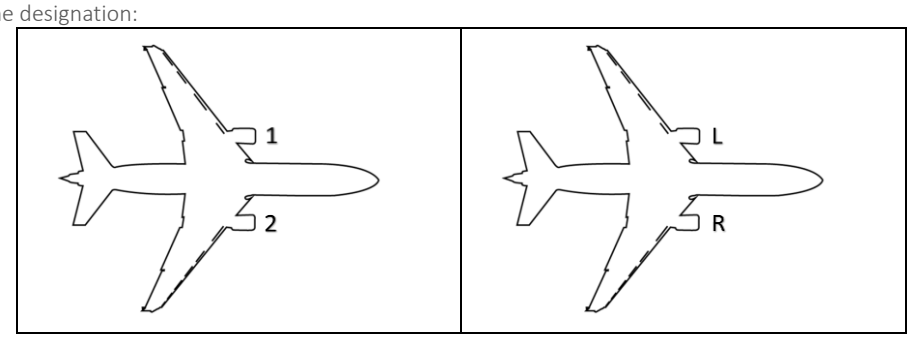
Pre departure walk-around check
- performed in accordance with GHM 4.4.2.2 *The PRE departure walk around check*

Communication process between Ground Staff and Flight Crew during departure

Phase	Task	Ground Staff Action
Pre departure	GPU removal	**Get permission** from the flight crew to disconnect and remove GPU
	Towbar/ Towbarless Tractor connection	a) **Confirm** parking breaks are set
		b) **Advice** the nose steering bypass pin has been installed (*if applicable) or* deactivated;
		c) **Confirm** with the flight crew steering is deactivated
		d) Connect the (towbar and then tractor) [1]/ towbarless [2]
	Chocks removal	*if parking breaks are set and Towbar with tractor connected*
		a) Remove chocks (*remove nose chocks before connecting towbarless)*
	Walk-around Checks	**Advice** the flight crew pre-departure check has been completed and communicate any discrepancies. [3]

Engine start	ASU	a) **Agree** ASU position and engine start sequence. [4] b) When requested by the flight crew, signal to the ASU operator to supply the pressure. c) **When confirmed** with flight crew - disconnect the GPU and ASU and position the GSE outside of ERA
	Engine start-up	a) **Advice** when engines may be started and the start sequence.
Push-back and engine start	Brakes	**Confirm** parking brakes are released
	Nose direction	**Confirm** which direction the aircraft must be pushed or/in which direction the nose should point after pushback
	Aircraft movement	**Confirm** with the flight crew permission to commence the pushback
Pushback completed and engine start completed.	Towbar/ Towbarless Tractor disconnect	a) **Confirm** parking brakes are set.
		b) disconnect Tractor and then towbar/ towbarless [5]
		c) Remove bypass pin, activate the steering and **confirm** steering is activated
		d) **Confirm** with the flight crew steering is activated
	Headset removal	a) **Get permission** from the flight crew to disconnect the headset
		b) **Advice** the flight crew to hold position and wait for visual signal at left/front/right of the aircraft
Departure	"All clear" signal	a) **Advice** the flight crew with the bypass pin in hand (*if applicable*)
		b) **Give** the "all clear" (tomb-up) signal when path of the aircraft is clear of any obstacles
		c) **Get acknowledgement** of the "all clear" signal.

[1] *Connect the tow bar to the nose gear first, then connect Tractor to the tow bar.*
[2] *Remove NLG chocks and connect towbarless; if agreed lift the aircraft.*
[3] The following confirmation shall be provided: "*All doors and panels are closed, handles checked, by-pass pin installed (if applicable). Tow bar connected and ready for pushback.*"
[4] Engine designation:



[5] *Disconnect tractor first, then tow bar from the NLG*

NLG – *Nose Landing Gear*
GPU – *Ground Power Unit*
ASU – *Air Starter Unit*
ERA – *Equipment Restrain Area*
GSE – *Ground Service Equipment*

4.21 Station file (GRH 1.7.1; GRH 3.3.5; GRH 3.6.4)

	Remarks
1. General rule	• According to International Airline Practices and Civil Aviation Authorities, it is mandatory that the station of departure keeps a record of: ➢ the documentation pertaining to each flight. ➢ all documentation concerning ground handling accidents and incidents • All handling agents are instructed to ensure that a "LOT Polish Airlines Station File" is kept, and they will be held responsible in case of possible future problems.
2. Filing period, maintenance, disposal and archiving.	The documents in the LOT station file concerning ground handling accidents and incidents must be retained for a period of 3 years, and documents (weight and balance, documents concerning passengers) for each flight must be retained for a period of min. 3 months. The documents shall be stored in electronic or in paper form. The electronic documentation can be stored only on company discs. Paper files must be retained within premises of GRH and available for review on LOT request. After the time specified above, the documents should be disposed by the GHA, unless local requirements indicate otherwise (i.e. storage period is extended).
3. Contents of Station File.	The documents required for the station file (for each flight handled) are listed below: • Security Inspection Check List (if arranged to be collected by Handling Agent) • General Declaration (if needed), • Passenger Manifest, • Cargo Manifest, • Load-/Trim Sheet, • Loading Instruction and Report, • NOTOC, • Copy of Shipper's Declaration, - if dangerous goods are loaded, • DGR-Acceptance Check Sheet and all concerning telexes, • All Messages concerning the Flight, • Flight Report - if completed as required for statistic purposes by local authorities at station of origin, • Airwaybill / Airmail - if cargo, service cargo or airmail is loaded, • All documents concerning passengers - e.g. forms for UM's, handicapped passenger, PETC or AVIH etc. service, • All documents concerning ticketing - e.g. sticker statement, sales report, ticket statement, • Station Report, • A photocopy of MEDA document when carrying a "Medical case" passenger, • All documents concerning ground handling accidents and incidents • Altea DCS Payment Charge Form - shall be stored for period of 3 years.

4.22 Operation coordination and supervision

4.22.1 Operation supervision (GRH 3.2.1)

Step	Action
1.	Collecting weather bulletins and NOTAM bulletin from the airport's meteorological station and AIS (Aeronautical Information Services) and delivering these to the cockpit crew — in accordance with recommendations of LOT Polish Airlines
2.	Delivering an operational flight plan (or its sections) prepared by the Operations Supervision Department of LOT Polish Airlines to the cockpit crew.
3.	For this purpose, the provider of handling services is obliged to specify a SITA address to which such a flight plan is to be sent. The provider has the obligation to deliver a flight plan to the crew each time, if applicable.
4.	Providing information to the cockpit crew about delays and other deviations from the flight schedule.
5.	Providing to Operations Supervision Department information about the necessity to postpone the existing ATC flight plan, submitting a new ATC plan or corrections to the existing ATC flight plan.
6.	According to LOT Polish Airlines guidelines – suggesting any appropriate actions that should be taken under circumstances in which operational irregularities have arisen due to weather conditions, restricted availability of ground handling services or other operational requirements to the aircraft's captain.
7.	Preparing request for fuel.
8.	Providing information to the relevant aircraft handling services regarding the assumed weight of the aircraft and quantity of fuel.
9.	At departure airports where LOT Polish Airlines operations are assigned ATC slots, service providers are obliged to maintain current contact with the Flow Control unit (in Operations Supervision Department), phone + 48 22 606 6695 and + 48 536 36 31 25, in order to coordinate actions taken in relation to reducing the existing movement restrictions.
10.	All changes related to movement restrictions for LOT Polish Airlines flight operations (communicating with the CFMU computer – the need to move the slot, slot correction request, loss of the slot and request for a new one) must be made only be the Flow Control unit at the Operation Centre of LOT Polish Airlines.
11.	Deviations from this rule are allowed only if stipulated otherwise in a handling agreement between LOT Polish Airlines and service provider at the airport in question.

4.22.2 ATS Flight plan and Slot Management

	Remarks	
1. Terminology:	**ATS**	Air Traffic Service
	ATC	Air Traffic Control
	ATFM	Air Traffic Flow Management
	CFMU	Central Flow Management Unit
	CHG	Change message
	CTOT	Calculated Take off Time
	DLA	Delay message
	EOBT	Estimated Off Block Time
	COBT	Calculated Off Block Time
	ETD	Estimated Time of Departure
	REA	Ready To Depart Message
	SAM	Slot Allocation Message
	SRM	Slot Revision Message
	SLC	Slot Requirement Cancellation Message
2. ATS	• An ATS flight plan ensures a flight execution in ATS controlled airspace. • ATS flight plan is valid 30 minutes after last EOBT • It may be filed or changed only by an authorized licensed flight dispatcher or pilots conducting the flight. • ATS flight plan validity is assured by the flight dispatcher on duty in the Polish Airlines Operations Centre at Warsaw.	
3. Changes	In European airspace every change of EOBT exceeding 15 minutes must be communicated to CFMU.	
4. Slot value	• A SLOT is a Calculated Take-Off Time computed and allocated to an individual flight by CFMU in case of ATFM measures implemented in European airspace. • This is a CTOT value in Slot Allocation Message (SAM) which is issued by CFMU from 2 hours before last received EOBT till the take off. • Subsequent significant changes of CTOT are notified with a Slot Revision Message (SRM). • The aircraft Operator must comply with the CTOT. • The aircraft must be ready to taxi out not later than COBT : • CTOT minus taxi time specified in the TAXITIME field of the SAM or SRM.	
5. Tolerance	Time tolerance: CTOT – 5/ + 10 minutes is for ATC only which means that the aircraft may be allowed to take off within this period.	
6. Information	Whenever the EOBT will be delayed in excess of 15 minutes, Aircraft Operator must send a DLA message to CFMU**.**	
7. Operator	• All LOT flights are in Request for Improvement (RFI) status which means that the flights are ready to depart at any better CTOT automatically allocated by CFMU**.** • Regardless of a slot value a crew is obliged to be ready to depart according to a schedule unless LOT Operation Centre manager decides differently.	

4.22.2.1 Examples of slot messages:

- TITLE **SAM**
- ARCID LOT380 flight number
- ADEP EDDF departure aerodrome
- ADES EPWA destination aerodrome
- EOBD 020725 estimated off-block date (yy mm dd)
- EOBT 1700 estimated off-block time (hh mm)
- CTOT 1734 calculated take off time
- REGUL EDFA25N the most penalizing regulation
- TAXITIME 0020 taxi time
- REGCAUSE TA 83 regulation reason

- TITLE **SRM**
- ARCID LOT380
- ADEP EDDF
- ADES EPWA
- EOBD 020725
- EOBT 1700
- NEWCTOT 1715 new calculated take off time
- REGUL EDF34N25
- TAXITIME 0020
- REGCAUSE TA 83

- TITLE **SLC**
- ARCID LOT380
- ADEP EDDF
- ADES EPWA
- EOBD 020725
- EOBT 1700
- REASON OUTREG slot cancellation reason
- TAXITIME 0020

4.22.3 Cooperation between Station Manager and Flight Dispatcher

	Remarks
1. Responsibility	The only person authorized to manage slots and flight plans is a licensed flight dispatcher on duty in Slot Management Cell of LOT Operations Centre who controls current flight operations.
2. Communication channel	To assure communication between the dispatcher on duty and the station it is important to provide the Slot Management Cell with all actual telephone and fax numbers as well as all proper SITA/ATFN or e-mail addresses for sending and receiving computer flight plans and/or all necessary information.
3. Updating	• Every change of contact data shall be updated as soon as possible. • All data mentioned above and any useful information shall be delivered to the Slot Management Cell that deals with slots and flight plans
4. LOT Polish Airlines Operation Centre Slot Management Cell Operation contact	Tel: +48 22 606 6695 Mobile: +48 536 36 31 25 Fax: +48 22 8461185 AFTN: EPWALOTO e-mail**:** dispatch@lot.pl
5. Note:	To insure an immediate appropriate action depending on the situation, the Station Manager should supply a person currently handling an aircraft with a mobile phone. It enables communication between flight dispatcher, the aircraft handling person and cockpit crew**.**
6. It is necessary to call flight dispatcher in following cases:	• lack of the flight plan and/or necessary information concerning the flight; • the flight has diverted to the aerodrome other than destination. • any estimated off block delay exceeding 15 minutes regardless of slot allocation and its value; • significant delay caused by allocated slot; - pleases delete since it is known from CFMU system • take off is not possible at CTOT and new slot is needed; • allocated slot should be preserved • better slot is needed; • the aircraft is ready for take off 30 minutes or more before EOBT; • to provide or to receive essential information concerning the slot, the aerodrome or actual situation of the handled flight. **NOTE:** Information about off block delay shall be passed on as soon as possible and not later than 15 minutes before EOBT or COBT. The proposed estimated off block time shall be given either directly to dispatcher or via MVT ED**.**

7. Procedure	• On the basis of such information, the flight dispatcher on duty provides flight plan validity, starts action to minimize delay, passes on any important information about ATFM situation and measures taken (i. e slots). • In order to ensure the punctuality of the operation, an optimum in a given situation solution shall be agreed and executed in cooperation between the flight dispatcher, station representative and pilot in command. • In case of flight rerouting or profile change made by the dispatcher on duty, a person who currently handles the flight on the ground, shall deliver the new computer flight plan and all the necessary information to the cockpit crew
8. READY situation.	• READY procedure is applicable only for the aircraft having already received the slot and ready to depart (door closed) before CTOT. • REA message can only be sent by ATC not more than 30 minutes before the last EOBT. When the aircraft is ready to depart earlier than 30 minutes before EOBT, please call dispatcher on duty to cancel the original flight plan and file the new one with the appropriate EOBT. • A person handling the flight shall make sure that the cockpit crew has requested local ATC to send REA message to CFMU. Informing the dispatcher on duty about such a situation is recommended for it is possible to get the better take off time direct from CFMU. • It is the Station Manager or LOT representative's obligation to supervise all handling activity including passengers and aircraft in order to ensure departure of the aircraft on time. • Delay of departure caused by ATFM measures dynamically varies, and it is very important to perform ground handling irrespective of slot value accordingly to the scheduled timetable unless LOT Operation Centre Duty Manager decides differently

4.22.4 Handling agent's ATM Quick Reference List

	Terminology	Definition
Slot (CTOT)	Calculated Take off Time	A time calculated and issued by CFMU at which a flight is expected to become airborne
COBT	Calculated off Block Time	A time at which aircraft should be ready for taxiing in order to take-off at CTOT COBT = CTOT – Taxi Time
Taxi Time		Time which aircraft needs to achieve take-off position from its actual position. Since the taxi time varies locally it is important to know its actual value.
EOBT	Estimated Off Block Time	Aircraft Operator's estimated off block time originally determined in a flight plan and updated according to CFMU requirements.
FLS	Flight suspended	Flight is suspended and its flight plan is deactivated.
DES	Flight de-suspended	Flight is de-suspended and its flight plan is active again.
RFI	Request for Direct Improvement	Flight is ready to receive and execute any slot improvement.

	Remarks	LOT Operations Contacts:
Communications	Person currently handling the aircraft on the ground shall be accessible via mobile phone, and shall pass any relevant information to LOT Operations as soon as possible. Current contact data shall be passed to appropriate LOT department.	**UKF: 131.6 KHz** **Tel.: +48 22 606 6695** **Mob.: + 48 536 36 31 25** **Fax: +48 22 846 1185** **AFTN: EPWALOTO** **SITA: WAWOALO**

	General Information	
Flight Plan	Flight plan validity	Flight Plan is valid 30 minutes from the last EOBT
	EOBT validity	EOBT is valid 15 minutes.
	EOBT change	Any change to the EOBT of more than 15 minutes shall be communicated to CFMU via LOT Operations. Regardless slot allocation crew shall prepare aircraft for departure according to schedule time, unless LOT Operations shift manager decides differently.

	What if		Action
Flight Plan	Slot is allocated:		New validity of flight plan is calculated as follows CTOT – Taxi time
	If you handle no-scheduled flight		Check the validity of its flight plan
	Slot is allocated	An aircraft is ready out not earlier not e than 30 minutes bef last known EOBT	A crew should request ATC to send a REA message
		An aircraft is ready to taxi out more than 15 minutes before last known EOBT	Request LOT Operations to cancel the flight plan and file the new one with appropriate new EOBT
	No slot	An aircraft is ready to taxi out more than 15 minutes before last known EOBT	Request LOT Operations to cancel the flight plan the new one with appropriate new EOBT

	General Information	
SLOT	An aircraft shall be ready to taxi at CTOT – Taxi time at the latest.	
	Slot tolerance: – 5minutes + 10 minutes are for ATC purposes only.	
	All LOT aircrafts are in RFI status which means that they are constantly ready for slot improvement	
	What if	**Action**
SLOT	Take-off at CTOT is not possible	Inform LOT Operations about the EOBT which the aircraft will be able to comply with.
	Take-off at CTOT is possible but OBT must be delayed	Inform LOT Operations about the EOBT which the aircraft will be able to comply with.
	Take-off before CTOT is not possible	Request LOT Operations to freeze the slot
	Slot cancelled	Make sure that the aircraft will taxi out a inform LOT Operations about the EOBT which the aircraft will be able to comply with.
	Slot missed	Inform LOT Operations about the EOBT which the aircraft will be able to comply with

	What if	Action
ATFM	Flight is suspended	Inform LOT Operations about a situation and agree convenient EOBT
	Flight is de-suspended	If the aircraft is not able to comply with its valid EOBT, inform LOT Operations about the new EOBT.
	ATC declares unusual situation (i.e. closure of airspace, aerodrome, industrial action, adverse weather conditions etc.)	Comply with the local airport manager's commands and procedures
	Flight has diverted to departure aerodrome	Inform LOT Operations and agree further action
	Flight has landed at an alternate aerodrome	Inform LOT Operations and agree furthe

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4.23 Death on board of a LOT Polish Airlines aircraft

	Notification to airport services.
General rules:	The aircraft captain shall send notification about passenger's death on board of an aircraft by radio or through ACARS message
Upon receipt of the information, the handling agent is responsible for notifying:	The Station Manager, supervisor or other person representing the interests of LOT Polish Airlines at the airport. Appropriate services in accordance with local procedures and the Notification List applicable for a given airport.
At Warsaw Chopin Airport: the employee at the Operation Center, who has received the message is responsible for notifying:	The Services Supervision Department at WAW Airport (Station Manager at WAW Airport); The handling agent; The Airport Duty Officer. **NOTE:** The local handling agent has to hold an up-to-date Notification List providing the contacts at the airport who have to be notified in the event of passenger's death on board of an aircraft. The Station Manager, supervisor or other person representing the interests of LOT Polish Airlines at the airport has the obligation to check whether the local agent has an up-to-date Notification List.

4.23.1 Procedure

In case of death on board of an aircraft the following action must be taken!

The person responsible	Action
1. The cabin crew	• After landing has to keep all passengers on board.
2. The airport doctor on duty, police, Border Guard (if required so by the regulations in a given country)	• Enters the aircraft and makes a preliminary examination of the body.
3. The doctor if:	• Finds that the death cause was natural: he/she shall allow the passengers to disembark; shall draw up a death testimony. This testimony does not mean that a death certificate has been issued. A Forensic Medicine Institution or an equivalent institution existing in a given country, after having carried out a detailed examination of the body will issue the death certificate. • Suspects that the death might have been caused by an infectious disease or interference of a third party, then the proceedings are carried out in accordance with the regulations in a given country and the local airport procedures.

4. The handling agent	• Should arrange the body transportation from the aircraft to a Forensic Medicine Institution or an equivalent institution, in accordance with the regulations in force in a given country. • The body may be transported only by a specialized company, using motor vehicles conforming with the requirements specified by the local sanitary authorities. • Is obliged to secure the baggage of the deceased passenger with a view to satisfy the requirements of the Border Guard, the Customs and the Police, and in order to hand the baggage over to the family of the deceased.
5. The Handling Agent (airports other than Warsaw)	• Dismantles the seat, which was occupied by the deceased passenger by removing the stuffing and protective cover (complete seat), and shall put it into a plastic bag in order to protect these items. • Makes sure that the seat (or seats, depending on the circumstances), which was occupied by the deceased passenger will not be offered for sale on the entire route to Warsaw. • Loads the seat parts — secured in a plastic bag — into the aircraft's cargo hold. • Sends a message to Warsaw to both WAWTCLO (Maintenance Control Center) and WAWOOLO Operation Center, specifying the location of the bag. • Performs disinfection of the space in the proximity of the place, where the person's death occurred, using substances recommended by the local sanitary and epidemiology authorities.
6. Handling agent and Technical Department at Warsaw airport	• The Maintenance Control Center orders the Line Services Department to replace the whole seat (stuffing and protective cover), which was occupied by the passenger during the flight, based on the information provided by the Operation Center. • The LSAS handling agent performs disinfection of the space in the proximity of the place, where the death occurred, using substances recommended by SANEPID (10% solution of Aldewir liquid).

Chapter 5 – Passenger Handling

5.1 Pre – departure 5/146
5.1.1 Personnel: 5/146
5.1.2 Check-in facilities 6/146
5.1.3 Necessary information 7/146
5.1.4 LOT Signage (check-in area) 8/146
5.2 Travel documents 9/146
5.2.1 Passenger ticket 10/146
5.2.1.1 Ticket validity 11/146
5.2.1.2 Handling of passengers who have lost their paper tickets, ticket coupons or excess baggage tickets 12/146
5.2.2 Miscellaneous charge order (MCO) 14/146
5.2.3 Manual/automated excess baggage ticket 14/146
5.2.4 Other transportation documents 15/146
5.2.4.1 Flight Interruption Manifest (FIM) 15/146
5.2.4.1.1 Flight Interruption Manifest (FIM) example 17/146
5.2.4.2. Flight Interruption Manifest Envelope 18/146
5.2.5 Passport and visa 19/146
5.2.5.1 General rules 19/146
5.2.5.2 Travel documents (passport, seaman's book, visas and/or other certificates) 20/146
5.3 Check-in 21/146
5.3.1 General rules and definitions 21/146
5.3.1.1 Procedure for ID tickets acceptance 25/146
5.3.1.2 Priorities concept of LOT Polish Airlines 26/146
5.3.2 Check in procedure 29/146
5.3.3 Booking restrictions and seating limitations 30/146
5.4 Boarding 33/146
5.4.1 General rules 33/146
5.4.2 Boarding procedure 36/146
5.4.2.1 Zone boarding - procedure 37/146
5.4.3 Denied boarding condition 40/146
5.5 Mandatory information to the crew 40/146
5.5.1 Passenger Information List (PIL) 40/146
5.6 Arrival 41/146
5.6.1 Pre-arrival 41/146
5.6.2 Disembarkation 41/146
5.7 Very important persons (VIP) 43/146
5.7.1 Important persons (IP) 44/146
5.7.2 HEAD and VIP flights/operations (flight numbers 7001-7100) 45/146
5.8 Frequent flyers 47/146
5.8.1 General rules 47/146
5.8.2 The Miles & More Card 48/146
5.8.3 Frequent Traveller card (Star Silver) 49/146
5.8.4 Senator Card (Star Gold) 50/146
5.8.5 HON Circle Card (Star Gold) 51/146
5.9 Minors travelling alone 53/146
5.9.1 General rules 53/146
5.9.1.1 "Request for carriage" document 55/146

5.9.1.1.1 Distribution 56/146
5.9.2 Procedures for handling Unaccompanied Minors 61/146
5.9.2.1 Departure station 61/146
5.9.2.2 Transit station 62/146
5.9.2.3 Transfer station 62/146
5.9.2.4 Arrival station 62/146
5.9.2.5 Operational irregularities 63/146
5.9.3 Minors escorted by company escort 65/146
5.9.3.1 General rules 65/146
5.9.3.2 Handling procedure 66/146
5.9.3.2.1 Departure station 66/146
5.9.3.2.2 Transfer station 66/146
5.9.4. MAAS Meet and Assist - the service is suspended 67/146
5.10 Passengers with infants and children 69/146
5.10.1 Passengers with infants 69/146
5.10.2 Passengers with children 70/146
5.10.3 Expectant Mothers 70/146
5.11 Passengers with reduced mobility 71/146
5.11.1 General information 71/146
5.11.2 Blind and deaf passengers 72/146
5.11.2.1 Assistance dogs 72/146
5.11.3 Leg rest 72/146
5.11.4 Stretcher cases (STCR) - the service is suspended 73/146
5.11.5 Supplementary oxygen (OXYG) 74/146
5.11.6 Wheelchair Code based on the passengers' needs 75/146
5.11.7 Wheelchair Code based on power type 76/146
5.11.8 MEDA message 77/146
5.11.9 MEDIF form 77/146
5.11.10 FREMEC Card 81/146
5.11.11 Handling procedures 83/146
5.11.12 Handling of Passenger with Reduced Mobility (PRM) in Atlantic Flights 87/146
5.12 Irregularities 95/146
5.12.1 General rules 95/146
5.12.1.1 Rules for handling agent 96/146
5.12.2 Delay 98/146
5.12.2.1 Decision criteria 98/146
5.12.2.2 Handling if the delay is known before boarding 99/146
5.12.2.3 Handling if the delay known after completion of boarding 100/146
5.12.2.4 Delay involving night stop 100/146
5.12.2.5 Long delays 101/146
5.12.3 Cancellation 102/146
5.12.4 Change of the aircraft 104/146
5.12.5 Meals and refreshments 104/146
5.12.6 Hotel accommodation 105/146
5.12.7 Denied boarding due to an irregularity 107/146
5.12.7.1 Denied Boarding Compensation (amounts and form of payment) 108/146
5.12.8 Involuntary change of class (upgrading, downgrading) 109/146
5.12.9 Substitute surface transportation 111/146

5.12.10 Cash Payment Order 116/146
5.13 Inadmissible passengers and deportees 117/146
5.13.1 General rules 117/146
5.13.2 Handling of INADs 119/146
5.13.3 Handling of deportees 121/146
5.13.4 INAD/DEPO Notification Form Template 124/146
5.14 Handling Agent staff training 126/146
5.15 Electronic Ticket 125/146
5.15.1 Check-in procedure 127/146
5.15.2 Irregularity 128/146
5.16 Flight certificate 133/146
5.16.1. Flight Certificate form 136/146
5.17 Warsaw HUB Station 137/146

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5.1 Pre – departure

The handling agents shall prepare and pay attention to the following check-in elements:

5.1.1 Personnel:

Product or process element	Standards
1. General appearance	The staff uniforms must be clean, neat and tidy and of the same standard.
2. Name badges	Each member of staff must wear a name badge on his/her uniform. It must be visible to customers.
3. Foreign language skill	Front line staff must speak the local language and have a knowledge of English (conversation level).
4. Knowledge of procedures and systems	• Staff shall have the necessary working knowledge of current LOT Polish Airlines procedures and product concerning passenger and baggage services. • Staff shall have basic knowledge of the Partner Alliance product. • The staff who accepts passengers for boarding shall have completed a Departure Control System course, and be trained with regard to customer (passenger) relations and basic safety rules applicable to accepting passengers and baggage for air carriage.
5. Customer service	• Staff shall be service-minded and professional. • Staff welcomes the customers, provides them with all necessary information in a friendly manner and says goodbye to customers.

5.1.2 Check-in facilities

Product or process element	Standards
1. Check-in counters (GRH 1.6.6; GRH 3.1.1)	• Check-in area shall be neat and presentable. • Information concerning materials, which must not be transported in passenger baggage and the kinds of electronic equipment, which must not be used during the flight, shall be displayed in appropriate places. **NOTE:** The current copy of IATA DGR must be always available at check-in area. The current copy of Table 2.3.A of the IATA DGR must be always available at each check in counter. • A sizer to control cabin baggage parameters shall be made available to passengers. • LOT Polish Airlines advertising materials shall be made available to passengers at the check-in area. **NOTE:** The check-in materials (boarding passes, baggage tags etc) must always be secured from unauthorized use. • Information concerning LOT Polish Airlines flights, displayed in the check-in area, shall be correct. • Check-in shall begin punctually. **NOTE**: The information describing Dangerous Goods not permitted in passenger and crew baggage shall be accessible.
2. Location and identification of counters *(Star Alliance B1.1)*	• Designated counters for different classes shall be situated next to each other. HON, C/Class/LOT Business Class/Premium Economy (+ FTL-Star Gold, Star Silver) check-in counters must be different in appearance from Y/Class check-in counters. • Check-in counters shall be marked properly (if applicable). by: ⇒ the logo of LOT Polish Airlines ⇒ the logo of Star Alliance and the code-share partner - if agreement to share air connections has been conducted, ⇒ name of destination airport (and transit airport, if the flight is multi-leg), ⇒ flight number (also the number of the code-share partner's flight), ⇒ scheduled time of departure (STD), ⇒ in the case of delayed flights - expected time of departure (ETD).
3. Number and availability of counters	• Number and availability of counters shall be adequate to the actual needs - to ensure a punctual departure with no less than one Business and one Economy passenger desk. • Counters must be opened at least 120 min prior to the schedule time of departure or in accordance with local conditions. • Counters must be open until the station's published check-in deadline.
4. Check-in queue length *(Star Alliance B1.1)*	• The waiting time in the queue for economy class shall not exceed 15 minutes. • No more than 3 passengers shall queue for business class /LOT Business Class/Premium Economy and no more than 1 person for HON counter (where applies).

5.1.3 Necessary information

List	Definition
1. Passenger Name List (PNL)	• Is a list used for check-in giving for particular flight: ⇒ all passenger names, titles and initials, ⇒ information on groups, ⇒ information on HON, ⇒ in- and outbound connections, ⇒ SSR items.
2. Addition/Deletion List (ADL)	• Is a list showing the latest changes to the PNL or previous ADL for particular flight: ⇒ new bookings, ⇒ cancellations, ⇒ changes in the fact fields, ⇒ revised passenger figures per flight.
3. Booking status: (inventory leg/segment)	• Gives number of firm booked passenger per leg. • Gives number of firm booked and waitlisted passenger per segment.
4. Passenger boarding survey	• Gives information on: ⇒ capacity per class, ⇒ booking figure, ⇒ special needs passengers, alphabetically listed, with SSR and OSI items relevant for catering purposes from various PNR, ⇒ each segment from a chosen boarding point.
5. Passenger through-check list	• Gives information on: ⇒ through check-in passenger, ⇒ connecting flight and destination: per class, per transfer station.
6. Seat assignment information list	• Gives information on seats reserved along the route (to avoid double seating) and seat allotments, if applicable for a multi-leg flight.
7. Seat request list	• Gives information on: ⇒ seat request made by passengers (ASR – Advanced Seat Reservation) and, ⇒ mandatory seat assignments made by reservation staff for special passengers requiring a facility seat (WCHC, INF,UM etc.).
8. Passenger upgrading list	• Gives information on passengers eligible for upgrading at check-in.
9. Close-out message	• Gives information on the maximum number of passengers allowed to board per station on multi-leg flights.
10. VIP message	• Gives information on VIPs booked.

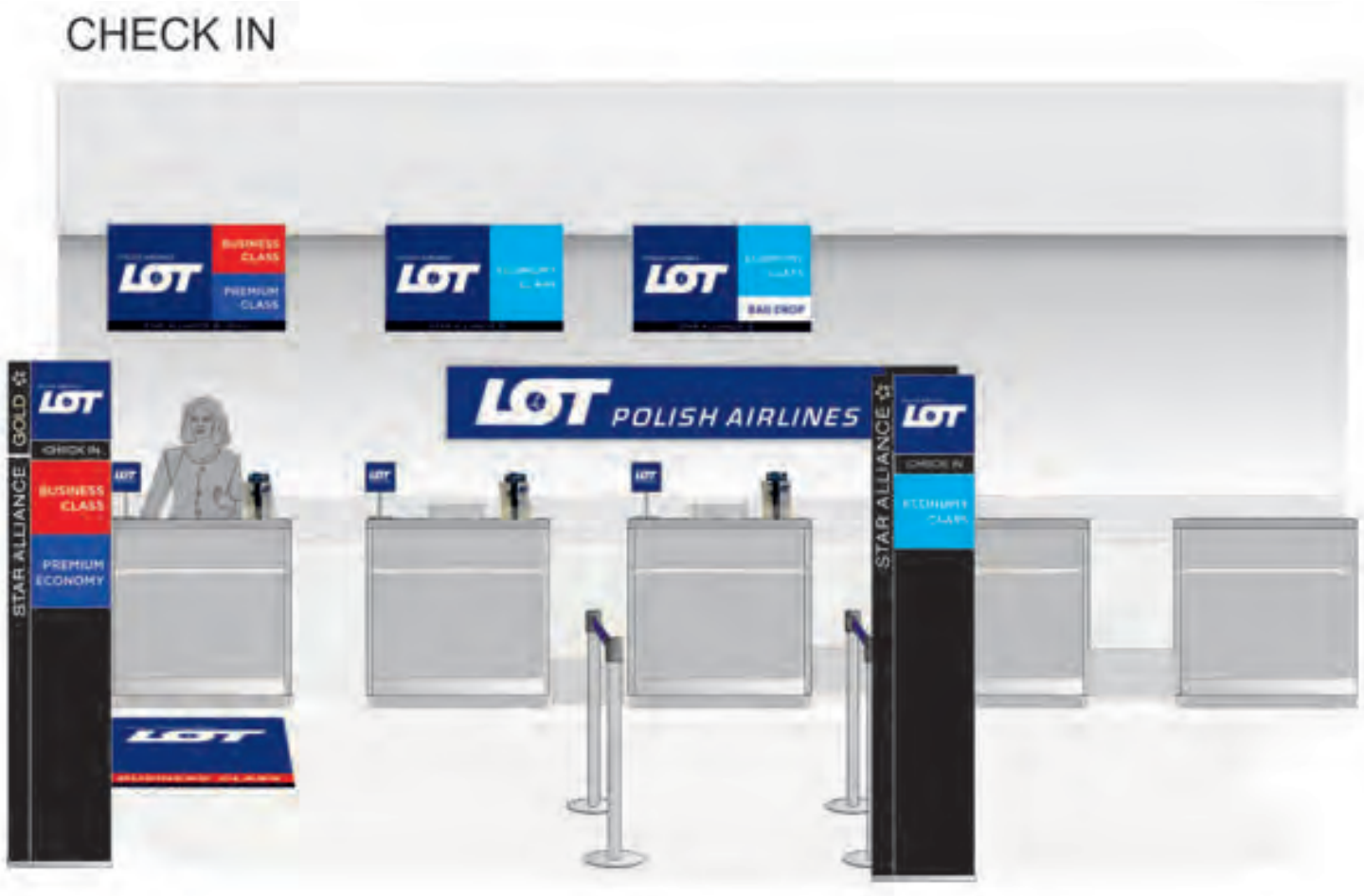
11. Flight status	• On time/delay • In the case of delay, the check-in agents shall have the following information: ⇒ reasons of the flight's delay, ⇒ length of the delay, ⇒ expected boarding start time, ⇒ services to which passengers are entitled in connection with the delay of departure.

5.1.4 LOT Signage (check-in area) *(Star Alliance A1.1; B1.1)*















5.2 Travel documents.

General rules:	**Type**
1. Each LOT Polish Airlines passenger must be in possession of all necessary valid documents:	• Identification document: ⇒ passport (if required), ⇒ seaman's book, ⇒ identity card in case of Schengen zone and UE countries flights ⇒ in case of point-to-point domestic flights any document with photo of the passenger (e.g. driving license, credit card etc.) is acceptable, for infant – passport, ID, or certificate of birth is required **NOTE**: Children traveling from Poland abroad shall hold their own passport. Other documents (e.g. attachment to parent's passport about children) shall not be acceptable. • Required visas (visitor's visa, also transit visas, if necessary). • Vaccination certificate (if necessary). • Passenger reservation /ticket/, • Miscellaneous charge order (MCO/EMD) (if issued). • Excess baggage ticket (if issued). • Other transportation documents (GEBA, GEBAT, FIM, etc.).

5.2.1 Passenger ticket

General rules:

	Remarks
1. Purpose	• Passenger ticket constitutes evidence of entering into contract of carriage between carrier and the passenger named in this ticket. "Ticket" means either the document entitled "Passenger Ticket and Baggage Check" or the Electronic ticket, in each case issued by or on behalf of carrier, and including Conditions of Contract, notices and the Coupons contained in it. • In case of paper value document (for ID travel, open tickets only), ticket is needed for check-in purposes; • In case of electronic version – positive identification of the passenger is needed i.e. by passport or national identity card, (other forms of identity: driver's licence with photograph, employment identity with photograph, the credit card used to purchase the ticket).
2. Type	• Manually issued ticket with airline code and document number, issued by airlines. • Transitional automated ticket with airline code and document number, issued by airlines (TAT). • Off premise automated ticket and boarding pass (OPATB/OPTB2) – only in agency locations in USA, • Automated ticket and boarding pass designed for use in automated devices and with ticket information also encoded on a magnetic stripe on the reverse (ATB) issued by the airlines. • ALL types of ticket: OPTATB TAT, ATB, OPATB2 ATB2 could be issued by IATA agencies in USA and airlines offices, • Electronic ticket – Itinerary/Receipt issued by or behalf of Carrier (the electronic coupons are kept in carrier's database).
3. Restriction	• Each passenger must have a separate ticket. • Flight coupons must be used in the sequence as shown on the ticket, or in case of electronic ticket as stored in the electronic ticket record. • Each flight coupon must be properly validated. • The period of validity must be correct. • Tickets are not transferable to any other person. • Endorsement and interline agreements, must be respected. • All restriction on the ticket must be correctly applied.

5.2.1.1 Ticket validity

	Remarks
1. Definition	• Ticket(s) validity for the flight(s), for which they are presented, must be checked (the check shall not include the fare). • The ticket is only valid for carriage: ⇒ the passenger whose name is correctly entered in the name boxes, or in case of electronic tickets as stored in the electronic ticket record ⇒ from the airport of departure to the airport of destination via the airport(s) shown in the respective boxes, or in case of electronic tickets as stored in the electronic ticket record. ⇒ only when the date and place of issue is duly completed and signed, or in case of electronic tickets as stored in the electronic ticket record ⇒ only for the date and flight shown in the respective boxes, or in case of electronic tickets as stored in the electronic ticket record
2. Ticket control	• The ticket presented by a passenger during check-in is controlled with regard to: ⇒ conformity with identification document, ⇒ validity, ⇒ authenticity of paper documents, ⇒ availability of electronic ticket and status of respective electronic coupon which shall be opened for use.
3. Action taken in the event of discovering, the ticket was bought with the use of stolen/blacklisted/ credit card	• The ticket must be blocked. • In case of electronic ticket, coupon's status must be changed into status S.
4. If the authenticity of a given travel document seems doubtful:	• If it is possible – take hold of the document, inform the passenger that certain data in the document need to be explained and ask the passenger to contact the agent at a later time in order to take the document back. • Contact the issuer of the document or their representative in order to confirm the authenticity of the document. • If it has been confirmed that the document is counterfeit or if it has been blacklisted/restricted (see point 5 below). • Only after the suspected travel document has been confirmed as genuine, it may be accepted as valid for transportation**.**
5. "Fraudulent Ticket Interception Report"	• As a confirmation of having intercepted the document, fill out the "Fraudulent Ticket Interception Report". After having filled out the report, keep one copy and distribute a copy of the report to each of the following recipients: ⇒ to the passenger, as the confirmation of having intercepted the document,

	⇒ along with the travel document attached (or a copy of the document if it was not possible to intercept the original ticket) — to the LOT Polish Airlines fraud prevention co-ordinator Aviation and IATA Regulations Department.

5.2.1.2 Handling of passengers who have lost their paper tickets, ticket coupons or excess baggage tickets

	Activities
1. If a passenger report that his/her LOT Polish Airlines carriage document (passenger ticket, MCO, excess baggage ticket) has been lost, stolen or damaged, a duplicate may be issued.	• Receive written (for example telex) approval from the issuer of the lost document for issuing the duplicate (the approval shall be accompanied by detailed information about the original document; this information is necessary to issue the duplicate), • Ask the passenger to fill in the "Indemnity Form in respect to the loss of a traffic document", which obligates the passenger to cover possible costs borne by the carrier, connected with use of the lost document by unauthorized persons (use of the ticket for a flight, exchange for another route or refund) • Collect the appropriate charge from the passenger for issuing the duplicate (the charge depends on the LOT Polish Airlines trade policy in a given market).
2. Information about the original document:	• In the case of having issued a duplicate, passing it to the Passenger and Baggage Claims Department (SITA code: WAWRKLO) – an alert with the following information: ⇒ the number of the document to be put on the black list, ⇒ the circumstances, in which it may have been lost or damaged, ⇒ the place, where the document had been lost or damaged, ⇒ action which has been taken (for example a duplicate issued, or a refund).

POLISH AIRLINES LOT S.A.

Warsaw, 17 Stycznia 43 St.

INDEMNITY FORM IN RESPECT OF LOST TRAFFIC DOCUMENT

I, the undersigned, request the issuance of a duplicate of/refund for* the lost Passenger Ticket /Miscellaneous Charges Order/ Excess Baggage Ticket*. In consideration of such on issue/refund*. I hereby undertake and agree that, if any claim for refund of the fare shall be made to •LOT• Polish Airlines and/or carriers involved or if the said traffic document shall be found and used or otherwise dealt with. I will indemnify •LOT• Polish Airlines and/or carriers involved from and against cost of the said traffic document and against all cost and expenses in connection therewith.

Full No, of lost traffic document _____

Routing _____

Date of issue _____

Address and name of ticketing office

_____

_____

Flight sectors already flown _____

_____

Signature of passenger

Date _____ Place _____

Name of passenger _____ Issued duplicate No. _____

Permanent address _____ Name/title of authorized person _____

Passport/Identify card details _____ Signature _____

Distribution:

1 st copy – for passenger
2 nd copy – Revenue Accounting Dept.
3 rd copy – office issuing original doc.
4 th copy – for issuing office

* cross out inapplicable

5.2.2 Miscellaneous charge order (MCO)

	Remarks
1. Definition	• A Miscellaneous charge order is a document issued to cover the collection of payment for services related to air travel. • It may be not used for transmittal fund only.
2. Types	• Manually issued MCO with airline code and document number, issued by airlines. • Electronic **Miscellaneous Document - EMD** Itinerary/Receipt issued by LOT (080); Electronic record/coupon is kept in carrier's database; • Virtually issued MPD with airline code and document number issued by travel agencies (via BSPlink- Bans Settlement Plan order or reservation systems)- VMPD. • Automated MCO (Miscellaneous Document on ATB2).
3. Restrictions	• A separate coupon must be issued for each service and each honouring party. • An MCO/EMD may be issued for specified or unspecified use. • An MCO/EMD is valid for 1 year from the date of issue.

5.2.3 Manual/automated excess baggage ticket

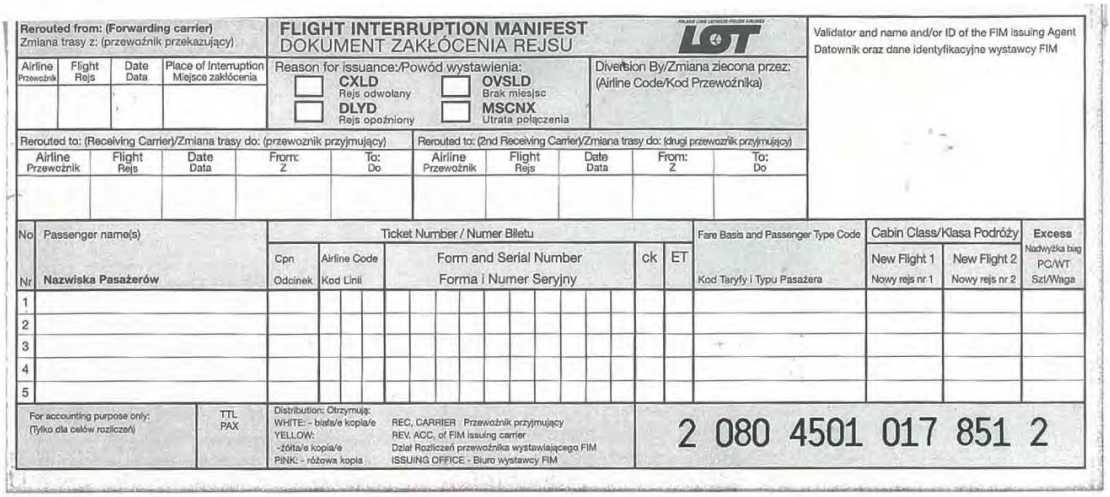
	Remarks
1. Definition	• An excess baggage ticket is the receipt for excess baggage charges paid and is accounting document between carriers. • For more details refer to chapter 6.3.
2. Types	• Manually issued excess ticket with airline code and document number, issued by airlines. • Automated excess baggage ticket on ATB2 issued by airline.
3. Restrictions	• A separate coupon must be issued for each part of the journey entailing: ⇒ a change of carrier, flight or class, ⇒ stopover. • Coupons must be used in the sequence issued. • The coupon must be firmly attached to the front cover of the passenger ticket (paper MCO)

5.2.4 Other transportation documents
5.2.4.1 Flight Interruption Manifest (FIM)

	Remarks
1. Purpose	• A FIM document is being issued in one of two cases: ⇒ If the route of the passenger's travel gets changed due to flight interruptions and if because of time or specific conditions it is impossible to exchange/replace original flight coupons, ⇒ If, due to unplanned flight interruption, there's the necessity to either change the passengers' route to destination or interrupt the travel, and flight coupons are unavailable at the airport where flight interruption occurred.
2. Types of FIM	• There are three different types of FIM: ⇒ A4 FIM form, ⇒ Ticket-size FIM, ⇒ Teletype FIM. • In LOT Polish Airlines there are two types of FIM forms: ⇒ A- 4-sized form (on which one may write in many passenger names), ⇒ Ticket-sized form, consists of five slips: two white slips, two yellow slips (copies), one pink slip (copy). ⇒ It is allowed in LOT Polish Airlines to use teletype of FIM, but a special agreement with the other carrier, must be obtained in advance.
3. Issuing rules	a) Fill out FIM forms (regardless of their type) in English language and use IATA codes. b) Legibly entered data shall be placed in appropriate fields as per FIM boxes/data elements description. c) Noncompliance with these requirements may result in a financial loss to LOT Polish Airlines. d) Paper flight coupons upon which the FIM was based shall be stamped by appropriate stamp. e) For electronic coupons, the passenger shall be provided with a receipt indicating the place of re-routing; the place to which rerouting will take place and the new receiving carrier. This information may be stamped on the passenger itinerary receipt where available. f) The Station Manager (a supervisor or a person authorized to represent LOT Polish Airlines at the airport) has the duty to notify the representative of the second carrier with whom the passengers will fly in written by e-mail, by telex or fax about the FIM the carrier will receive.
4. Distribution	• 1st white copy: ⇒ for receiving carrier. • 2nd white copy: ⇒ for the 2nd receiving carrier, if any, ⇒ if not, it must be attached to the pink copy. • Yellow copies (and lifted flight coupons) to be sent to:

	⇒ the Interline Settlement Section in Warsaw, SITA address: WAWHRLO, tel.+4822 6068767, fax.+ 4822 6066470. • Pink copy: ⇒ for the station file.

5.2.4.1.1 Flight Interruption Manifest (FIM) example



Rerouted from: (Forwarding carrier)
Zmiana trasy z: (przewoźnik przekazujący)

FLIGHT INTERRUPTION MANIFEST
DOKUMENT ZAKŁÓCENIA REJSU

Validator and name and/or ID of the FIM issuing Agent
Datownik oraz dane identyfikacyjne wystawcy FIM

Airline Przewoźnik	Flight Rejs	Date Data	Place of Interruption Miejsce zakłócenia

Reason for issuance:/Powód wystawienia:
CXLD Rejs odwołany
DLYD Rejs opóźniony
OVSLD Brak miejsc
MSCNX Utrata połączenia

Diversion By/Zmiana ziecona przez: (Airline Code/Kod Przewoźnika)

Rerouted to: (Receiving Carrier)/Zmiana trasy do: (przewoznik przyjmujący)

Airline Przewoźnik	Flight Rejs	Date Data	From: Z	To: Do

Rerouted to: (2nd Receiving Carrier)/Zmiana trasy do: (drugi przewoźnik przyjmujący)

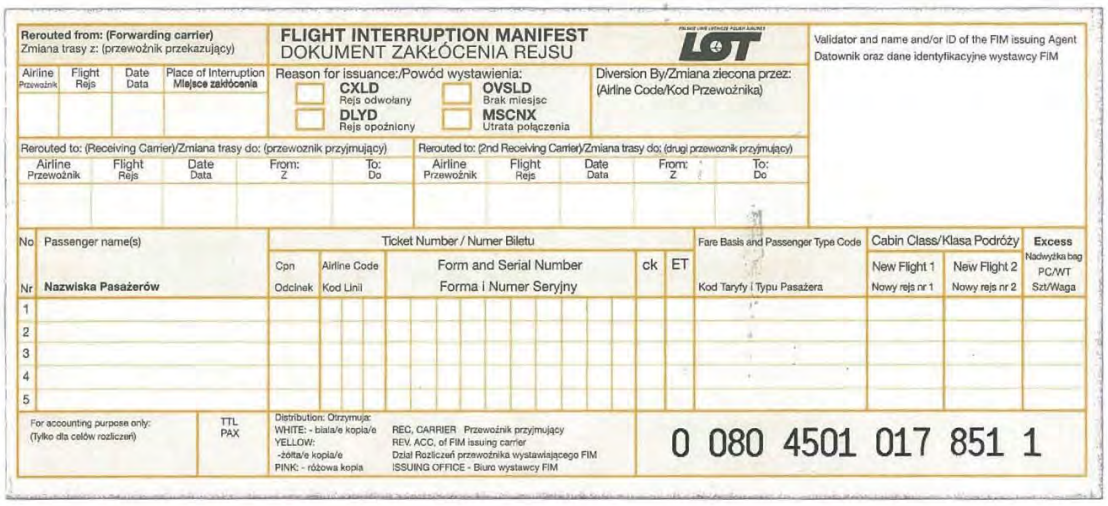
Airline Przewoźnik	Flight Rejs	Date Data	From: Z	To: Do

No Nr	Passenger name(s) Nazwiska Pasażerów	Ticket Number / Numer Biletu: Cpn Odcinek	Airline Code Kod Linii	Form and Serial Number Forma i Numer Seryjny	ck	ET	Fare Basis and Passenger Type Code Kod Taryfy i Typu Pasażera	Cabin Class/Klasa Podróży: New Flight 1 Nowy rejs nr 1	New Flight 2 Nowy rejs nr 2	Excess Nadwyżka bag PC/WT Szt/Waga
1										
2										
3										
4										
5										

For accounting purpose only: (Tylko dla celów rozliczeń)
TTL PAX

Distribution: Otrzymują:
WHITE: - biała/e kopia/e — REC, CARRIER Przewoźnik przyjmujący
YELLOW: - żółta/e kopia/e — REV. ACC, of FIM issuing carrier Dział Rozliczeń przewoźnika wystawiającego FIM
PINK: - różowa kopia — ISSUING OFFICE - Biuro wystawcy FIM

2 080 4501 017 851 2



Rerouted from: (Forwarding carrier)
Zmiana trasy z: (przewoźnik przekazujący)

FLIGHT INTERRUPTION MANIFEST
DOKUMENT ZAKŁÓCENIA REJSU

Validator and name and/or ID of the FIM issuing Agent
Datownik oraz dane identyfikacyjne wystawcy FIM

Airline Przewoźnik	Flight Rejs	Date Data	Place of Interruption Miejsce zakłócenia

Reason for issuance:/Powód wystawienia:
CXLD Rejs odwołany
DLYD Rejs opóźniony
OVSLD Brak miejsc
MSCNX Utrata połączenia

Diversion By/Zmiana ziecona przez: (Airline Code/Kod Przewoźnika)

Rerouted to: (Receiving Carrier)/Zmiana trasy do: (przewoznik przyjmujący)

Airline Przewoźnik	Flight Rejs	Date Data	From: Z	To: Do

Rerouted to: (2nd Receiving Carrier)/Zmiana trasy do: (drugi przewoźnik przyjmujący)

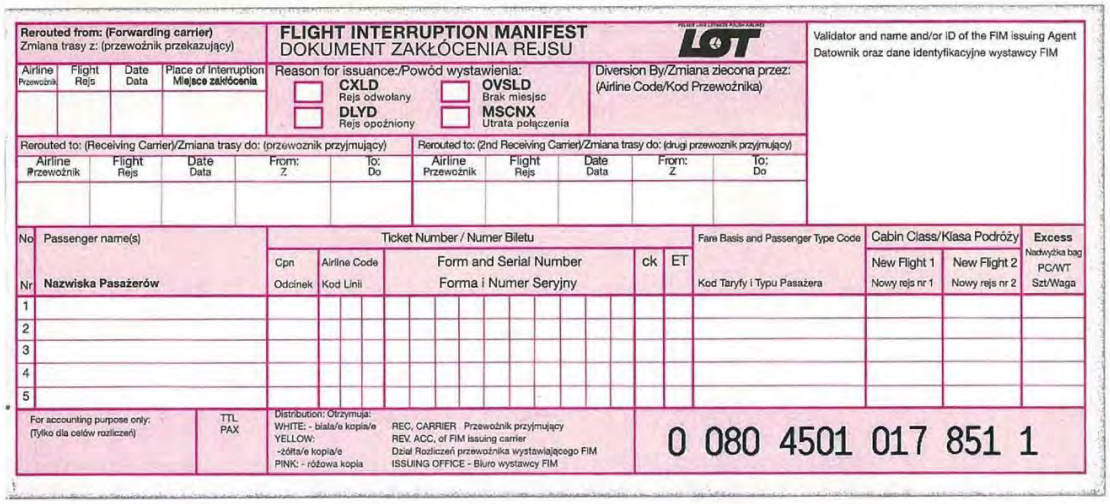
Airline Przewoźnik	Flight Rejs	Date Data	From: Z	To: Do

No Nr	Passenger name(s) Nazwiska Pasażerów	Ticket Number / Numer Biletu: Cpn Odcinek	Airline Code Kod Linii	Form and Serial Number Forma i Numer Seryjny	ck	ET	Fare Basis and Passenger Type Code Kod Taryfy i Typu Pasażera	Cabin Class/Klasa Podróży: New Flight 1 Nowy rejs nr 1	New Flight 2 Nowy rejs nr 2	Excess Nadwyżka bag PC/WT Szt/Waga
1										
2										
3										
4										
5										

For accounting purpose only: (Tylko dla celów rozliczeń)
TTL PAX

Distribution: Otrzymują:
WHITE: - biała/e kopia/e — REC, CARRIER Przewoźnik przyjmujący
YELLOW: - żółta/e kopia/e — REV. ACC, of FIM issuing carrier Dział Rozliczeń przewoźnika wystawiającego FIM
PINK: - różowa kopia — ISSUING OFFICE - Biuro wystawcy FIM

0 080 4501 017 851 1



Rerouted from: (Forwarding carrier)
Zmiana trasy z: (przewoźnik przekazujący)

FLIGHT INTERRUPTION MANIFEST
DOKUMENT ZAKŁÓCENIA REJSU

Validator and name and/or ID of the FIM issuing Agent
Datownik oraz dane identyfikacyjne wystawcy FIM

Airline Przewoźnik	Flight Rejs	Date Data	Place of Interruption Miejsce zakłócenia

Reason for issuance:/Powód wystawienia:
CXLD Rejs odwołany
DLYD Rejs opóźniony
OVSLD Brak miejsc
MSCNX Utrata połączenia

Diversion By/Zmiana ziecona przez: (Airline Code/Kod Przewoźnika)

Rerouted to: (Receiving Carrier)/Zmiana trasy do: (przewoznik przyjmujący)

Airline Przewoźnik	Flight Rejs	Date Data	From: Z	To: Do

Rerouted to: (2nd Receiving Carrier)/Zmiana trasy do: (drugi przewoźnik przyjmujący)

Airline Przewoźnik	Flight Rejs	Date Data	From: Z	To: Do

No Nr	Passenger name(s) Nazwiska Pasażerów	Ticket Number / Numer Biletu: Cpn Odcinek	Airline Code Kod Linii	Form and Serial Number Forma i Numer Seryjny	ck	ET	Fare Basis and Passenger Type Code Kod Taryfy i Typu Pasażera	Cabin Class/Klasa Podróży: New Flight 1 Nowy rejs nr 1	New Flight 2 Nowy rejs nr 2	Excess Nadwyżka bag PC/WT Szt/Waga
1										
2										
3										
4										
5										

For accounting purpose only: (Tylko dla celów rozliczeń)
TTL PAX

Distribution: Otrzymują:
WHITE: - biała/e kopia/e — REC, CARRIER Przewoźnik przyjmujący
YELLOW: - żółta/e kopia/e — REV. ACC, of FIM issuing carrier Dział Rozliczeń przewoźnika wystawiającego FIM
PINK: - różowa kopia — ISSUING OFFICE - Biuro wystawcy FIM

0 080 4501 017 851 1

5.2.4.2. Flight Interruption Manifest Envelope

General information - Envelope	FIM sould be sent to Revenue LOT Department – FHS in special envelope (example below)

POLSKIE LINIE LOTNICZE

FLIGHT INTERRUPTION MANIFEST No 080 .....

MANIFEST ZAKŁÓCONEGO REJSU

FLIGHT/REJS .....
DATE/DATA .....

WAW

TO: INTERLINE DEPARTAMENT FHI
LOT POLISH AIRLINES
DO: DZIAŁ ROZLICZEŃ Z PRZEWOŹNIKAMI OBCYMI
FHI - POLSKIE LINIE LOTNICZE LOT SA

R U S H / BARDZO PILNE

5.2.5 Passport and visa
5.2.5.1 General rules

	Remarks
1. Policy	• According to the "General Conditions of Carriage of Passengers and Baggage", the passenger is fully responsible for complying with rules and regulations imposed by the authorities of countries of: ⇒ departure, ⇒ transit, ⇒ transfer and, ⇒ destination. • Information about requirements should be given to passenger during reservation and/or ticket sales (web sites, sales agents, ticket offices)
2. Non-compliance	• Non-compliance with the above policy may result in: ⇒ refusal of admission and immediate removal of the passenger, ⇒ heavy fines imposed on the carrier and/or the passenger, ⇒ damaged relations between the carrier and authorities. • Passport and visa must be checked before check-in or boarding. • LOT Polish Airlines reserves the right to refuse transportation of passengers whose travel documents are incomplete or invalid. Passenger with incomplete travel documents: ⇒ must be refused, if travelling to certain countries, ⇒ in other cases, they may be accepted if authorities of the destination give a written clearance (by telex or fax) before departure.
3. Responsibility	• Based on handling agreement the handling agent is authorised and responsible for checking the passports and visas during the check-in and/or boarding; • Passport and visa checks at check-in or boarding are responsibility of and may be performed by: ⇒ Handling agents' check-in staff or specialised staff,
4. Health certificates	• Health certificates are under the passenger's responsibility and are not to be checked by the airlines.

5.2.5.2 Travel documents (passport, seaman's book, visas and/or other certificates).

	Remarks
1. Identification document control	• The handling agent's staff shall thoroughly control the documents of all passengers to be transported. • Control the documents, of passengers taken from other carriers who are being accepted for carriage in LOT Polish Airlines aircraft at transit check-in counters with special care and attention. **Procedure:** 1. Check validity and expiry date of required documents. 2. If in an unknown language, check legible details such as: ⇒ validity, ⇒ expiry date, ⇒ place of issue, ⇒ date of issue etc. 3. In case of through check-in, make sure that documents are checked for final destination and for all transfer points.
2. When doubtful as to the authenticity of documents and visa or passport expiry dates contact:	• Immigration authorities(e.g. the local Border Guard), ⇒ the Border Guard Services Manager at Warsaw Frederic Chopin airport (tel. + 48 22 5003546 up-to 49 - 24 hours a day). • LOT Polish Airlines visa specialist in Warsaw (SITA address: WAWAPLO; tel. + 48 22 6504436; 05^{00}-$22^{00,}$ hrs local time (Saturdays up to 20.00)

5.3 Check-in
5.3.1 General rules and definitions

	Description
1. Check-in deadlines	• Check-in deadlines depends on the station and the type of flight. • Strict application of the deadlines helps on-time departure of the flight. The deadlines are published in the website. • Flights are opened at least 36 hours in advance
2. Flight preparation	• Normally, special facility seats are pre-allocated at the time of reservation. If the seat is not assigned by the reservation, allocate a suitable seat.
3. LOT Business Class	• LOT Business Class offered by LO on long haul and short haul routes
4. LOT Premium Economy Class	• Name of the middle class on long haul flights operated by B787. The offered standard is between Economy Class and LOT Business Class. • Name of the middle class on LO short haul flights. The offered standard is between Business and Economy Class.
5. LOT Economy Class	• Economy class offered by LO on all long haul and short haul routes.
6. Special Categories of Passengers (SCPs)	• Persons requiring special conditions, assistance and/or devices when carried on a flight are considered as SCPs including at least: ➢ Persons with reduced mobility (PRMs) who, without are understood to be any person whose mobility is reduced due to any physical disability, sensory or locomotory, permanent or temporary, intellectual disability or impairment, any other cause of disability, or age ➢ Infants (INF) and unaccompanied children (UMs) ➢ Deportees, inadmissible passengers or prisoners in custody Information concerning seating restrictions see Chapter 5.3.3.
7. Waitlisted passengers	➢ Waitlisted passenger are passengers holding a ticket with booking status "RQ" i.e. waitlisted in the reservation system for the particular flight. ➢ The passenger is checked in as RQ status: ⇒ immediately receives a seat number (if the flight is "wide open") or, ⇒ name is put on waiting list.
8. Standby passengers / ID	➢ Standby passengers are revenue, non revenue passengers or staff, travelling as a passenger on seat available basis. ➢ ID/AD boarding priority fixes the reception sequence of all ID/AD passengers that can turn up check-in counters of LOT Polish Airlines. ➢ It consists of 15 priority levels which are divided into 3 priority groups: ⇒ revenue passengers priority – confirmed ⇒ behind revenue passengers – confirmed

	⇒ standby ➢ The specified status determines the priority of acceptance from the waiting list. ➢ ID/AD codes on tickets consist of: ⇒ ID passenger employment date - seniority (optional on ticket order) ⇒ Company code of ID/AD passenger ⇒ Check-in priority number ⇒ Right for upgrade (optional on ticket order) **NOTE:** • Each employee is obliged to show the company ID during check in • Family members of employee travelling alone do not show the company ID • Travel Partner (fare basis IDR6) must always travel with the employee • Family members traveling together with an employee have the same ID code (priority) as the employee More information about LOT Polish Airlines priority can be found on GGAIRLOIDDIDSCOUNT pages and in chapter 5.3.1.1
9. Overbooked passengers	• Overbooked passengers are passengers holding a ticket with booking status OK. on an oversold flight. **For more details see point Passenger irregularity.**
10. NOREC passengers at check-in	• NOREC passengers at check-in are passengers holding a ticket with booking status OK, but who are not on the PNL of that flight. • These passengers have priority on the waiting list.
11. Passengers with open tickets	• Passengers with open ticket with booking status OPEN i.e. without reservation on particular flight. • The passenger is checked in as OPEN and, ⇒ immediately receives a seat number (if the flight is “wide open”) or, ⇒ name is put on waiting list.
12. Manual check-in	• Is used in station: ⇒ where there is no DCS available, ⇒ in certain cases - for special flights or, ⇒ when the DCS system is not working. • Manual baggage tags are issued. • Boarding passes are filled out manually. • All close-out activities must be manually performed.
13. DCS non-ATB check-in	• Check-in is performed with a computerised departure control system. • Seat allocation is done automatically. • Baggage tags may be issued automatically (if not available– manual baggage tags must be issued and the baggage tag numbers must be introduced in the check-in record). • Boarding passes are issued automatically. • Most close-out activities are automated.

14. ATB check-in	• If a separate ATB pass is issued: ⇒ check-in is performed as with a non-ATB DCS and, ⇒ the DCS issues an ATB boarding pass with magnetic stripe, ⇒ if the passenger coupon is an ATB, the stub of the coupon must be removed and handed to the passenger with the record of the pieces and weight of checked-in baggage. • If the ATB check-in application is used: ⇒ check-in is performed by introducing the ATB coupon in the DCS boarding pass printer, ⇒ the sub is automatically filled out with the relevant boarding information, ⇒ the complete coupon with sub is handed back to the passenger and serves as a combined ticket/boarding pass.
15. Late check-in	• Is check-in performed after the official check-in deadline. • Late passengers may be accepted, with or without baggage, with approval of the Station Manager or the authorised staff under following conditions: ⇒ departure must not be delayed, ⇒ no additional meals will be ordered if this would cause a delay of the flight, ⇒ passenger departure is not guaranteed, ⇒ last minute passenger card or manual boarding pass may be issued to allow the passenger go to the gate. ⇒ mark on the Limited Release area of the baggage tag "late check in" to avoid any liability resulting from late check-in.
16. Through check-in	• Is check-in at the departure station on the continuing flight(s) beyond the passenger's next transfer point(s). Through check-in means better customer service by: ⇒ offering one-stop check-in for transfer passenger at the station of origin and, ⇒ reducing or even eliminating the waiting time at the transfer station. **Procedure:** 1. If available - the passenger (including his/her baggage) **must be** checked in through to the destination airport; 2. Information about total weight and quantity of baggage must be entered in the DCS system. 3. During check-in at the departure airport the check-in agent shall tell the passenger: ⇒ name of the airport to which the passenger's baggage has been checked in; ⇒ name of the airport to which the passenger has checked in; ⇒ gate number at the airport at which the next flight leg is supposed to commence; ⇒ that it is necessary to check the gate number after landing at the transfer airport.

	• IATCI is supported through all SSCI channels More info Baggage Through Check-in Chapter 6.2.2.1.3
17. Return check-in	• Return check-in means that at the outbound station the passenger is checked in for both out- and inbound flight • If available, return check must be performed. • Conditions: ⇒ the return journey must be within 24 hours after departure, ⇒ passenger need to hold an OK. ticket, ⇒ no checked baggage permitted.
18. On-line check-in *(Star Alliance A1.1)*	• Service is available at the **Online Check-in** website on www.lot.com Flights are opened at least 36 hours in advance . • Passengers who check-in via on-line facility and have a Web Browser installed in their mobile phones, may receive downloaded link of their boarding pass. A passenger with mobile boarding pass is entitled to proceed to the gate directly. In case of registering the baggage, passenger can use dedicated Baggage Drop Off counters.
19. Self check-in at the airport – CUSS/WEB kiosks *(Star Alliance A1.1)*	⇒ A self check-in option, available at some airports and applicable by presenting the reference number of the reservation, passport or other identify card (Frequent Flyer card is also possible if is booked in the reservation)(often depending on the device). ⇒ After self check-in passenger can proceed straight to the gate. In case of registering the baggage, dedicated Baggage Drop Off counters are available.
20. Baggage Drop Off *(Star Alliance A1.1)*	⇒ is available at the airport for passengers, who are checked-in on-line or at the kiosks and want to drop off their baggage.
21. Pre-check-in of Passengers ROBOT system	⇒ In case of fully booked flight pre-check is done automatically by the system to guarantee seats for the passengers ⇒ The pre-acceptance is applicable for selected passengers group: ⇒ HON/ SEN/ Star Alliance Gold passengers ⇒ Dead Head Crews ⇒ WCHR/S/C ⇒ Families with infants (INF) ⇒ Families with children (CHD) ⇒ Unaccompanied Minors (UM) ⇒ The time of pre-check-in can be configured individually by each station. Recommended deadlines in general: ⇒ max. 5 hours prior departure for intercontinental flights, ⇒ max. 3 hours prior departure for continental and domestic flights. • General rules for the pre-acceptance of passengers: ⇒ only pre-accept passengers without inbound element ⇒ only pre-accept passengers holding a confirmed booking ⇒ use the "TEL" item to prevent the printing of a boarding pass and itinerary receipt.

	• By using the "TEL" item the passenger can pick up the boarding pass either online or mobile in the internet , otherwise at any Check-in Kiosk or counter. ⇒ Pre-checked passengers who are not in possession of a boarding pass will be listed in section "Need notification list". ⇒ Pre Check-in Robot – the special system of acceptance of mentioned passengers group holding ETIX. ⇒ Gate procedure - When the check-in deadline is reached, all pre-checked passengers who have not obtained their boarding pass at this time are to be cancelled. The applicable check-in deadlines may vary from station to station
22. Baggage tagging *(Star Alliance A2.2)*	• Use tear-proof automated baggage tags in accordance with IATA Resolution 740 • Enter the baggage tag details into the Departure Control System (DCS) whenever manual baggage tags are used in order to process the proper messages. • Show operating carrier and operating carrier's flight number details on bag tags on all member carrier flights, regardless of the marketing flight number. • Clearly identify bags that weigh more than 50lbs (or 23kg) by following the guidelines (GHM 6.2.2.1.2 - heavy baggage tag).

5.3.1.1. Procedure for ID tickets acceptance

1.General rules	➢ The specified status determines the priority of acceptance from the waiting list.
2.Acceptance	➢ The information of ID standby travel appears in the PNR as: P...ID?? ETX SA ➢ Before acceptance of ID passenger the check-in agent must observe the discount code which is visible on the printed ETKT or in the system mask of ETKT. ➢ To display the mask of ETKT following steps in FrontCheck System must be taken: F5 – Passenger Handling – Accept Passenger – E-Ticket or via Native Mode: NRT TN/080123456789 ➢ The example of ID code in the ETKT:

	- Employee: NIDZLR2 - Travel Partner: NIDZHR6 ➢ The check-in agent choose correct code which corresponds to its status in ticket, examples: **P106 IDR2/SEP80 ACS PAD for PRIVATE TRIP – LOT STAFF - SERVICE FARE** **P111 IDR2/P13/SEP80 ACS PAD for PRIVATE TRIP - FAMILIY OF LOT STAFF** **P113 IDR6/SEP80 ACS PAD *for* PRIVATE TRIP- TRAVEL PARTNER LOT STAFF** ➢ Check-in agent is required to assign individual ID/AD code to each ID passenger separately – different to LO employee, different to his/her family, different for Travel Partner. **NOTE**: Travel Partner (fare basis IDR6) must always travel with the employee

5.3.1.2. Priorities concept of LOT Polish Airlines

PRIORITIES CONCEPT

FrontCheck Priorities / ENTRY/		Host LO DCS Input **CODE**	**ENTITLED or NOT ENTITLED** to book	**STAFF JOINED** the company	**BOOKED** priority	**WAITLISTED** priority	**UNBOOKED** priority
ID PAX ENTITLED TO BOOK - TOP PRIORITIES							
DEAD HEAD CREW – LOT		IDS1/DHC	E	N	1	2	3
DEAD HEAD TRVL – LOT MECHANICS	N	IDS1/P1	E	N	4	5	6
CREW TRVL – PILOT TRAINING	N	IDS1	E	N	4	5	6
DUTY TRVL – LOT EXECUTIVE BOARD MEMBERS	N	IDS1/P2	E	N	7	10	13
DUTY TRVL - ULC EXECUTIVE BOARD MEMBERS	N	IDS1/P2	E	N	7	10	13
DUTY TRVL - STAR/A EXECUTIVE BOARD MEMBERS	N	IDS1/P3	E	N	8	11	14
DEAD HEAD CREW – STAR ALLIANCE	N	IDS1/P3	E	N	8	11	14
DEAD HEAD CREW – OTHER AIRLINES	N	IDS1/P4	E	N	9	12	15
DUTY TRVL – GUEST OF LOT EXECUTIVE BOARD	N	IDS1/P4	E	N	9	12	15
FULL FARE PASSENGERS							
VIP	**R**	VIP	E	N	16	16	16
HON	**R**	HON	E	N	16	16	16

LOT GOLD CARD / CUSTOMER – INCL M&M	**R**	*G	E	N	17	17	17
STAR ALLIANCE GOLD CARD – INCL M&M	**R**	*G	E	N	18	18	18
LOT SILVER CARD/ CUSTOMER – INCL M&M	**R**	*S	E	N	19	19	19
STAR ALLIANCE SILVER CARD – INCL M&M	**R**	*S	E	N	20	20	20
SPECIAL PAX – UMNR / WCHR ETC.	**R**	SPE	E	N	21	27	33
TRANSFER	**R**	TRA	E	N	22	28	34
M&M BASIC CARD	**R**	BCM	E	N	23	29	35
LOCAL PASSANGER	**R**	LOC	E	N	24	30	36
PRIVATE TRIP / FARE R150	**R**	ID50R1	E	N	25	31	37
PRIVATE AGENT TRIP / FARE AD 50	**R**	IDAD50	E	N	26	32	38
ID PASSENGERS UNTAILED TO BOOK							
DUTY TRVL - LOT MANAGEMENT	N	IDS1/P5	E	N	40	60	80
PRIVATE TRIP - LOT EXECUTIVE BOARD	N	IDR1/P5	E	N	41	61	81
PREMIUM TRIP FOR LOT STAFF	N	IDR1/P5	E	N	41	61	81
DUTY TRVL – LOT STAFF	N	IDS1/P6	E	N	42	62	82
PROMOTION TKT - RECLAME	N	IDS1/P6	E	N	42	62	82
DUTY TRVL – ULC STAFF	N	IDS1/P6	E	N	42	62	82
DUTY TRVL – STAR ALLIANCE STAFF	N	IDS1/P7	E	N	43	63	83
DUTY TRVL – LOT STAFF WORKING ABROAD	N	IDS1/P7	E	N	43	63	83
TRVL ON MARKETING PURPOSES	N	IDS1/P7	E	N	43	63	83
PRIVATE TRIP / BOOKED – LOT STAFF	N	IDR1/P7	E	N	44	64	84
AGENT TRVL FOR TRAINING PURPOSE -	N	IDN1/P7	E	N	45	65	85
PRIVATE TRIP / BOOKED – STAR/A STAFF	N	IDR1/P8	E	N	46	66	86
DUTY TRVL – STAFF OF OTHER CARRIERS	N	IDN1/P8	E	N	47	67	87
DUTY TRVL – LOT CONSULTANT AND CONTRACTOR	N	IDN1/P8	E	N	47	67	87
DUTY TRVL - TOP MANAGEMENT OF PPL COMPANY	N	IDB1/P8	E	N	48	68	88
PRIVATE TRIP / BOOKED STAFF OF OTHER CARRIERS	N	IDN1/P9	E	N	49	69	89
PRIVATE TRIP / BOOKED - ZONE FARE	N	IDZ1/P9	E	N	50	70	90
DUTY TRVL – STAFF OF IATA	N	IDN1/P9	E	N	51	71	91
DUTY TRVL – STAFF OF LOT CORPORATION	N	IDB1/P9	E	N	52	72	92
DUTY TRVL – STAFF OF PPL COMPANY	N	IDB1/P9	E	N	52	72	92

PRIVATE TRIP / BOOKED - STAFF OF PPL COMPANY	N	IDB1/P9	E	N	52	72	92
ID PASSENGERS NON - UNTAILED TO BOOK							
DUTY TRVL /NOT BOOKED LOT STAFF	N	IDS2/P10	**N/E**	N	100	101	102
DUTY TRVL /NOT BOOKED LOT CONSULTANT	N	IDS2/P10	**N/E**	N	100	101	102
DUTY TRVL /NOT BOOKED STAR/A STAFF	N	IDN2/P10	**N/E**	N	103	104	105
PRIVATE TRIP – LOT STAFF - SERVICE FARE	N	IDR2	**N/E**	Y	106	107	107
DUTY TRVL / NOT BOOKED STAFF OF PPL COMPANY	N	IDB2/P12	**N/E**	N	108	109	110
DUTY TRVL / NOT BOOKED STAFF LOT CORPORATION	N	IDB2/P12	**N/E**	N	108	109	110
PRIVATE TRIP - FAMILIY OF LOT STAFF	N	IDR2/P13	**N/E**	Y	111	112	113
PRIVATE TRIP- TRAVEL PARTNER LOT STAFF	N	IDR6	**N/E**	N	113	113	113
DUTY TRVL / NOT BOOKED STAFF OF OTHER CARR.	**N**	**IDN2/P14**	**N/E**	**N**	**114**	**115**	**116**
AGENT TRVL / NOT BOOKED – AD75	N	IDAD75	**N/E**	N	117	118	119
AGENT TRVL / NOT BOOKED – AD00	N	IDAD00	**N/E**	N	120	121	122
PRIVATE TRIP - STAR ALLIANCE STAFF/75	N	ID75N2/P14	**N/E**	N	123	124	125
PRIVATE TRIP - STAR ALLIANCE STAFF/90	N	ID90N2/P14	**N/E**	N	126	127	128
PRIVATE TRIP - STAR ALLIANCE STAFF/00	N	ID00N2/P14	**N/E**	N	129	130	131
PRIVATE TRIP - STAFF OF THE OTHER CARRIERS /75	N	ID75N2/P15	**N/E**	N	132	133	134
PRIVATE TRIP - STAFF OF THE OTHER CARRIERS /90	N	ID90N2/P14	**N/E**	N	135	136	137
PRIVATE TRIP - STAFF OF THE OTHER CARRIERS /00	N	ID00N2/P14	**N/E**	N	138	139	140
PRIVATE TRIP - STAFF LOT COTPORATION OR PPL/75	N	ID75B2/P15	**N/E**	N	141	142	143
PRIVATE TRIP - STAFF LOT COTPORATION OR PPL/90	N	ID90B2/P14	**N/E**	N	144	145	146
PRIVATE TRIP - STAFF LOT COTPORATION OR PPL/00	N	ID00B2/P14	**N/E**	N	147	148	149
PRIVET TRIP / NOT BOOKED – ZONER FARE	N	IDZONER	**N/E**	N	150	151	152

5.3.2 Check-in procedure

Step	Action
1.	Welcome the passenger and ask for flight itinerary or document
2.	• Ask passenger if he/she is a Frequent Flyer member. If yes, ask for a number and enter the number to the DCS. If not, propose joining the program handling an application (if available) • Check in his/her according to the Frequent Flyer rules (see point 5.8).
3.	Compare the name on the e-ticket with the name on the official travel documents.
4.	Check travel documents, if required (see also point 5.2.5).
5.	If there is no record of passenger's reservation for the flight check the ticket data: (see also point 5.2.1.): • itinerary, flight, date, carrier, reservation status, class, restriction.
6.	Check-in the passenger to his/her final destination (if the interline agreement allows)
7.	Verify passenger data in DCS and follow appropriate procedures if passenger needs special assistance.
8.	Check the number, weight and size of carry-on baggage, according to the rules, and attached the carry- on baggage label (see Chapter 6, Baggage Handling, point 6.2.2.2, point 6.10. and 6.10.1).
9.	• Check if the baggage is properly packed and examine it for any damage. If you detect any damage, mark in on the designated area of baggage tag (Limited Release) (see Chapter 6 Baggage Handling, point 6.10)
10.	• Weigh all baggage and remove all old baggage tags. • It is advised that each piece of checked-in baggage should be marked by a name tag.
11. (GRH 1.6.7; GRH 3.1.1)	Ask if any dangerous goods are carried in carry-on baggage and checked baggage (see Chapter 6 Baggage Handling, point 6.5.). Items prohibited in carry on baggage or in hold baggage must be removed.
12.	Observe the free allowance for checked baggage (see Chapter 6 Baggage Handling point 6.2.2.1.) and inform passenger in case of excess baggage (see Chapter 6 Baggage Handling, point 6.2.).
13. GRH 3.3.6)	• Enter the actual baggage weight in DCS, if applicable. • Inform Load Control of: ⇒ hold baggage, individual or cumulative weights, that exceed normal allowances ⇒ other non-normal items must be considered in the load control process.
14.	The total number of registered pieces of baggage is printed on the passengers boarding pass
15.	If an interline agreement with subsequent carrier is in force, issue new baggage tag(s) to the final destination, using the correct airport codes.
16. *(Star Alliance B1.5)*	Attached baggage tags and, if applicable, special purpose labels to the baggage. Priority baggage tag shall be inserted between the adhesive stripes of the regular bag tag at a right angle (In the way priority wording and Star Alliance logo is clearly visible.)
17.	Attach the baggage identification portion to the passenger ticket cover.

18.	In the case of excess baggage, excess baggage ticket must be issued.
19.	Check for any special seat request. Ask passenger for any seat preference (applies only to SEN, HON, Star Alliance Gold, LOT Business Class, LOT Premium Class passengers)
20.	Issue the boarding pass.
21.	Through-check the passenger, if applicable. (also for marketing flight numbers)
22.	Hand over boarding pass(s) and ticket(s) (if available) to the passenger, confirming number of pieces and destination to which baggage has been checked.
23.	If needed, inform passenger about customs procedures and baggage transfer
24.	Inform the passenger about departure gate and boarding time, additionally circle the gate number and boarding time on the boarding pass.
25.	Invite passenger to: the Executive Lounge/Fast Track/Star Gold Track security/Star Gold Track immigration, if applicable. *(Star Alliance B1.2)*
26.	Give any other relevant information concerning the flight.
27.	Say good-bye and wish the passenger a pleasant flight.

5.3.3 Booking restrictions and seating limitations

1. Saleable seats	• The number of saleable seats can be limited due to: ⇒ government restrictions, ⇒ payload restrictions, ⇒ balance of the aircraft, ⇒ crew rest seats, ⇒ the presence of extra crew on board, ⇒ the number of qualified cabin attendants on duty, ⇒ the presence of accompanying station engineers or security officers on board, ⇒ the technical or aircraft equipment restrictions, such as the number of oxygen masks, life rafts, inoperative passenger or service door.
2. Moveable curtain	• Some flights operated in a variable Business-Economy class configuration, although there is only one cabin in the aircraft. • Separation between Business and Economy class is done by moveable curtain. • The position of the curtain is based on the booking status and decided by Station Manager or Supervisor of handling agent. **Rules for using moveable curtain**: 1. Most space must be offered to Business passengers. 2. If necessary, upgrading is preferred over downgrading. 3. Stations are informed of the version through PSD (seat assignment and allotment list). 4. The outstations the curtain is adjusted by the crew, the station engineer or the handling agent, whichever is agreed on. 5. If the need arises, last minute changes of the version may be locally decided and implemented by authorised staff. 6. When deciding on the version, the staff listed on the flight must be taken into account. 7. **Adjusting curtain is impossible after row:** *1, 5, 9, and from row 13 to 18 for E70,* *1, 2, 6, 10 and from row 14 do 21 for E75.*

Embraer aircraft only	There are red markers, where curtain shall be placed. It is forbidden to adjust curtain, if it makes difficult or impossible to access PSU and emergency light! Adjusting and control of proper curtain position may be part of inspection.
3. Passengers are not allowed to travel on technical or ferry flights	
4. Seating restrictions	• Middle seats D, E, F in row no. 20 on B788 are available for SCPs. • Middle seats D, E, F in row no. 21 on B789 are available for SCPs. • The seat choice is limited for certain categories of passengers: ⇒ SCPs (children including infants and Ums, deportees, inadmissible passengers, prisoners in custody, passenger with reduced mobility) and passengers with pets in cabin may not be seated at emergency exit rows, ⇒ infants must be seated in a row where a supplementary oxygen mask is available ⇒ passengers who are allocated seats which permit direct access to emergency exits, must be adult (18 years old), should be able to communicate in the language of the crew (Polish or English), appear to be reasonably fit, strong and able to assist the rapid evacuation of the aeroplane in an emergency after an appropriate briefing by the crew, ⇒ in all cases, passengers who, because of their condition, might hinder other passengers during an evacuation or who impede the crew in carrying out their duties, should not be allocated seats which permit direct access to emergency exits or emergency equipment ⇒ The commander shall be notified in advance when SCPs are to be carried on board. ⇒ These rules apply to all special categories of passengers (SCPs).
5. Non-standard size passenger	• A passenger who because of his/her size, weight or height cannot be located on a single seat in the aircraft cabin • The maximum number of non-standard size passengers on board must not exceeded the number of extensions to safety belts on board the aircraft: o B787 – 6 pcs o B737 – 3 pcs o ERJ-170 – 4 pcs o ERJ-190 – 4 pcs o DH4 – 6 pcs Every LOT's aircraft is equipped in extended safety belts. If more non-standard size passengers – more extended safety belts must be ordered on the flight (order LOT MCC Department) **PROCEDURE:** ⇒ While checking-in allocate for this kind of passenger a seat in a multiple-seats row, possibly near the aircraft exit but not at the emergency row - even if this requires a change of seat allocated on ASR. ⇒ Obey restrictions concerning seat allocation for Passengers with Reduced Mobility. ⇒ Block a seat close by in the DCS. ⇒ Inform the Station Manager or the supervisor and Load Control.

6. Extra Seat (EXST, CBBG)	• Available on request: ⇒ for passenger's comfort (SSR code: EXST) ⇒ because of passenger size or weight (SSR code: EXST) ⇒ for valuable baggage (SSR code: CBBG) e.g. musical instrument under special conditions: • the maximum weight must not exceed 75 kg • two boarding passes shall be issued - one for passenger and another one for CBBG **NOTE:** Passenger with CBBG must not be seated on emergency exit rows. Additional charge must be paid.
7. Passengers on crew seats	• Travelling on crew seats (flight deck seats, cabin crew seats, crew rest seats) is not allowed for revenue passengers.
8. Passenger on positioning flights	• Passengers travelling on positioning flights are permitted if: ⇒ the passenger holds a ticket, ⇒ cabin crew on duty is on board, ⇒ the head office gives prior consent

5.4 Boarding

5.4.1 General rules *(Star Alliance B1.3)*

1. Gate facilities (GRH 3.1.1)	• Monitors shall be checked whether the information concerning the flight is correctly displayed (flight number, destination, flight on-time, delayed, cancelled, etc.) **NOTE**: The information describing Dangerous Goods not permitted in passenger and crew baggage shall be accessible.
2.General rules (GRH 3.1.5 i.)	• To make boarding easier and smoother the pre-boarding and zone boarding rules must be observed. • Please inform cabin crew about every suspicious and unruly behavior of passengers in gate!
3. Pre-Boarding	• Applies to passengers eligible to be pre-boarded (LOT Business Class/Star Alliance Gold/LOT Premium Economy passengers, families with small children, PRMs, UMs, Deportees)
4. Zone Boarding - when using boarding bridge	• There are two (2) ways of Zone Boarding: ⇒ by rows ⇒ by zone on boarding pass • Seat factor is more than: 70 passengers on E95, 100 passengers on 737, 787 • Zone boarding by rows beginning with passengers seated in the back of the aircraft before passengers seated in front of the aircraft. • When automated gates in use, there is no need to perform zone 2 and 3.
5.Boarding times (GRH 3.1.1)	• Boarding times are locally established and vary according to: ⇒ local airport infrastructure, ⇒ type of aircraft, ⇒ parking position, ⇒ number of loading bridges, aircraft stairs or busses available, ⇒ number of passengers, ⇒ extra security measures required. • Declared boarding times must be established with the aim of on-time departure (i.e. in principle the scheduled time of departure). • For safety reasons, minimum crew must be on board before boarding starts. • The boarding decision is taken in coordination with the flight crew and authorised ground staff. • Pre-boarding is mandatory for boarding by rows and a/c parked by bridge and when the seat factor exceeds: 70 on E95 and 100 on 737, 787. • Pre-boarding announcement shall contain the following information: ⇒ LOT Business Class/LOT Premium Economy customers and Star Alliance Gold card holders may board the aircraft first or at their convenience ⇒ passengers travelling with small children are invited on board before all passengers • Shortened announcement (no pre-boarding) can be performed in case of flights with booking under 70 pax on E95 and 100 pax on B737, B787 and also for aircrafts parked at apron stands.

	NOTE: Even if the pre-boarding procedure does not apply, Star Alliance Gold customers can board the aircraft before non-premium passengers or may board at their convenience. Pre-boarding and boarding announcement contains the information about priority for Star Alliance Gold customers. A dedicated boarding line should be arranged for LOT Business/ Premium Economy/Star Alliance Gold cards holders. **NOTE**: The information describing dangerous goods not permitted in passenger and crew baggage shall be accessible at locations where passengers check-in and/or board the aircraft.
4. Announcements	• Announcing readiness for boarding (or flight delay information) should take place no later than 20 minutes for short haul flights and 30 minutes for long haul flights prior to the scheduled (or expected) time of flight departure. • Announcements must be in accordance with Announcements Handbook. ⇒ be at least in the local language(s) and in English, and if possible in Polish (at non-Polish airports) ⇒ contain flight number, information about Star Alliance member, code share partner, destination, gate number and boarding sequence, if applicable. ⇒ contain information about pre-boarding (if needed), the main boarding announcement • Use simple and clear sentences in different languages, as locally agreed upon. **Procedure:** 1. Make a local announcement before the start of boarding. 2. Make announcement that LOT Business Class/Premium Economy, Star Alliance Gold passengers can board before non-premium passengers or may board at their convenience 3. Thank the passengers for flying with the airline concerned and wish them pleasant flight. 4. During boarding, make or request a general boarding call as a reminder. 5. Make a nominative call for any missing passengers.
5. Missing/lost boarding pass/ flight coupon	**Procedure:** In case of lost boarding pass between check-in and gate, the agent re-issues the boarding pass for passenger; In case of lost flight coupon between check-in and gate: 1. Request the passenger to check his pockets, baggage, etc. Rule: Insist that the passenger perform through check. 2. Check the ticket, 3. Verify if the passenger has been checked in the DCS, 4. Check if there was any message about a wrongly uplifted flight coupon at previous station, 5. Check with immigration, customs and duty-free shops if anything was found, 6. If flight coupon cannot be located, then apply procedure for lost ticket (see point 5.2.1.2.).

6. Missing passenger	**Procedure:** 1. Check the name of the passenger. 2. Check if he is not on board. 3. Check earlier/later flights. 4. Check for any check-in error (e.g. checked in twice). 5. Check with immigration and/or customs if the passenger has been delayed there. 6. Make an individual nominative call for the passenger (on board, at the gate and in the terminal). 7. Check if he was through-checked in another station. If yes, check the arrival of his incoming flight. 8. Check if any baggage was checked in. 9. If the passenger does not have any checked baggage, offload him in DCS. 10. If the passenger has checked any piece of baggage: ⇒ retrieve the baggage tag numbers, stored in the passenger check-in file, from the DCS, ⇒ immediately request the ramp supervisor to have the baggage located and offloaded, ⇒ at manual station: perform a physical identification, ⇒ for passenger/baggage reconciliation purposes, checked baggage of any missing passenger must always be offloaded, 11. Advise load-control and/or crew.
7. Fuelling/de-fuelling while boarding or with passengers on board *see Chapter 4 Ramp Handling point 4.13.5*	
8. Basic boarding system	• For aircraft is parked by the air bridge the pre-boarding/zone boarding shall be applied (if seat factor exceeds 50 passengers for the flight). • To make boarding smooth, passengers shall be called according to the row numbers starting with the back side of the aircraft and continuing to the front. **NOTE:** LOT Business/LOT Premium Economy passengers and Star Alliance Gold card holders do not have to follow this rule, they may board the aircraft as first or at their convenience (see p. 2 above).
9. Boarding sequence	1. Deportees and accompanied inadmissible, 2. Passenger needing special assistance: ⇒ UMs, ⇒ Passengers with reduced mobility (such passengers shall not be addressed in the boarding announcement – the gate agent shall inform them individually before boarding starts) 3. LOT Business Class/LOT Premium Economy Class passengers and Gold Star Alliance passengers, - with a priority (before LOT Economy Class passengers) or at any time 4. Passengers with infants and small children, 5. Economy passengers (zone boarding by rows if applicable)

5.4.2 Boarding procedure

Step	Action
1.	Make the boarding announcement:
2.	Start boarding according the sequence
3.	Make identification: passenger, boarding and passport/ID card.
4.	Check boarding passes for the correct flight number, seat number and, if applicable, for presence of the correct flight coupon.
5.	If the passenger travels with animal, check if the excess baggage coupon is attached to the passenger coupon (see 6.3.1.3).
6. (GRH 3.3.6)	Check gate delivery items. Inform Load Control of gate delivery items, including individual or cumulative weights exceed normal allowances.
7.	Apply carry-on baggage policy Act according to Excess Baggage Procedure in case of exceeded hand baggage (see Chapter 6 Baggage Handling point 6.3.2).
8.	Tear off the boarding pass stub or pass the boarding pass through the gate reader. • The number of passengers boarded must be equal to the number of boarding passes and to the number of passengers on the load sheet. • The passenger count on the ground must match the mandatory head count on board
9.	• Avoid creating overcrowded areas and long queues in the loading bridges, on the stairs or entrance of busses • Help passengers requiring special assistance.
10.	• If boarding is done by bus: make sure busses are not overloaded, ⇒ if is possible – separate C /P from Y passengers, ⇒ passengers shall wait no longer than 10 min in the bus before the bus leaves the terminal. • If passengers walk from the gate to the aircraft: ⇒ an agent must escort passengers on the apron. • Passenger safety must be observed through the entire embarkation process.
11.	• In case of B787 handling with 2 bridges - when boarding is finished first the aircraft door 2L shall be disconnected from the gate; flight documents are handed over to the crew by the door 1L; the aircraft door 1L is disconnected as the last one.
12.	• In case of B787 handling with stairs, shall be postioned at 2L and 4L

5.4.2.1 Zone boarding - procedure *(Star Alliance B1.3)*

If boarding passes are printed with zone number on it, *"5.4.2.1 Zone Boarding Procedure"* shall be executed.



At others airports were zones are not marked on boarding passes, zone boarding shall be performed by rows according to aircraft types and seat factor as below.

(a) Zone boarding rules:

1. Applies all passengers and classes
2. Performed in case of seat factor (of all classes together) is more than:
   - 70 passengers on E95
   - 100 passengers on 737, 787
3. Zone is identified with number of zone marked on boarding pass.
4. Zone 0 is preboarded without announcements.
5. Boarding posters, with Zone 1 and Zone 2, shall be displayed (from time of gate preparation) and changed to Zone 2+3 during boarding process.
6. Whenever possible, passenger zone shall be identified by agents, when passengers queuing before boarding starts.

(b) Boarding sequence:

1. Zone 0:
   - Deportees and accompanied inadmissible
   - Passenger needing special assistance: WCHR, WCHC, WCHS, UMNR, DEAF, BLND etc.
2. Zone 1:
   - LOT Business Class, LOT Premium Economy Class and Star Alliance Gold passengers, (may also be boarded at their convenience)
   - Passengers with infants and small children (the gate agent shall inform them individually before boarding starts). Even if designated to other zone on boarding pass.
3. Zone 2:
   - Passengers occupying rows:
   36 to 21 for Boeing 787-9,
   31 to 20 for Boeing 787-8,
   from the last row to 20 for Boeing 737-800,
   from the last row to 17 for Embraer E95
4. Zone 3:
   - Passengers occupying rows:
   20 to 8 for Boeing 787-9,
   19 to 7 for Boeing 787-8,
   19 to 1st economy seats for Boeing 737-800
   16 to 1st economy seats for Embraer E95


Warsaw


POLISH AIRLINES
STAR ALLIANCE


PRIORITY BOARDING
GOLD


POLISH AIRLINES
ZONE
1
HON Circle Senator
BUSINESS CLASS
PREMIUM CLASS
STAR ALLIANCE GOLD


POLISH AIRLINES
ZONE
2
STAR ALLIANCE


POLISH AIRLINES
ZONE
1+2+3
HON Circle Senator
BUSINESS CLASS
PREMIUM CLASS
STAR ALLIANCE


POLISH AIRLINES
ZONE
2+3
STAR ALLIANCE

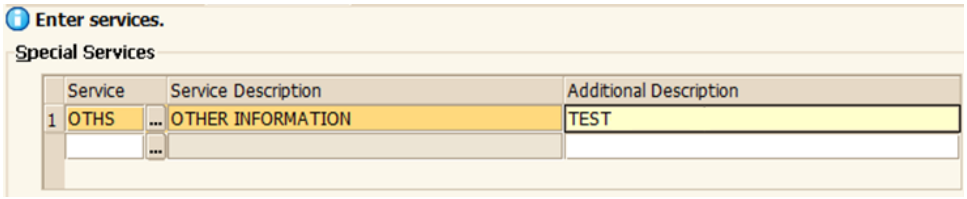
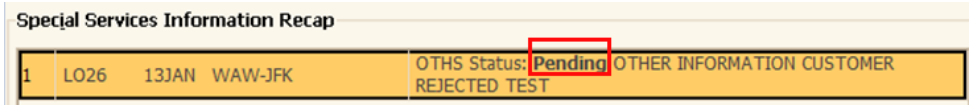
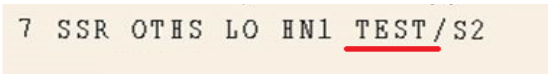
Gate arrangements when zone boarding with zone number is performed!





5.4.3 Denied boarding condition

1. Policy	• Passengers considered potentially disruptive or dangerous must not be checked-in and accepted for carriage. • It is the duty of passenger handling staff to prevent any passenger who violates the regulations of the general rules of carriage in force in LOT Polish Airlines. • The final decision shall be taken as mutually agreed with LOT Polish Airlines. (Report of on ground disturbance incident caused refusal of passenger's carriage see Chapter 8 Security point 8.4.8.1)
2. Principles and reasons for denied boarding (DBC is not applicable)	• The handling agent's staff who qualify passengers for carriage are obliged to deny check-in/boarding to passengers who: 1. Check-in: ⇒ who have no ticket for the flight ⇒ are unable to present complete and valid travel documents, required by the destination or transit countries' authorities, ⇒ require special care during the journey, for example the assistance of doctor or nurse, which has not been ensured, ⇒ the late arrival of passenger i.e. arrival after check-in deadline, etc. 2. Gate: ⇒ who have no ticket for the flight and boarding pass, etc. 3. Check-in, Gate: ⇒ do not comply with the regulations which are in force in air carriage or the regulations established by the airport authorities. 4. Check-in, gate, board of the aircraft: ⇒ due to their behavior or appearance show symptoms of a mental or contagious disease, which may be a threat to other passengers on board or to flight safety in general ⇒ are under the influence of drugs or alcohol otherwise intoxicated, ⇒ refuse to be checked by security services (or have their baggage checked). ⇒ unruliness, etc.

3. Handling procedure **at the check-in counter** & **at the gate**	**Each reason** (other than overbooking) for denied check-in/boarding shall be entered into the Altea CM system by adding a comment according to the instruction below (free text to describe occurrence). **Instruction:** **1)** Customer → Add Service → **OTHS**  **2)** Add a comment (as short as possible)   **NOTE**: Your comment appears in the system as 'pending' and you are not able to confirm it.  **3)** The information appears in the PNR.  **NOTE:** This procedure applies to all passengers who are denied boarding at the check-in counter and at the gate.

5.5 Mandatory information to the crew

5.5.1 Passenger Information List (PIL)

1. Definition	• PIL is mandatory list giving information to the cabin crew about the passengers on board, by giving the names and special service requirements/needs of certain passengers.
2. Purpose	• the purpose of PIL is to give the cabin crew the opportunity to perform an individual customer service, adapted to the needs of the passengers
3. Applicability	• PIL is applicable on all flights. • The PIL must be handed over to the senior cabin crew member before departure.
4. Types	• Two types of PIL: ⇒ automated – issued by DCS, ⇒ manual – issued by stations performing manual check-in.
5. Versions	• Short version: ⇒ seat-plan list with the name of special passengers: C/P/Y class – passengers with special remarks (e.g. UM). • Full version: ⇒ seat-plan with the name of passengers.

5.6 Arrival
5.6.1 Pre-arrival

	Activities
Procedure:	1. Check the number of passengers on board in order to determine the number of busses needed. 2. Check special service messages: • PTM, • PSM, Etc. 3. Arrange for special assistance, if required. 4. Check the estimated time of arrival. • If delayed, check connections and make new reservations if necessary. 5. Check individual messages. 6. Have staff available in the baggage reclaim area for baggage services.

5.6.2 Disembarkation

	Remarks
1. General rules	• Passenger safety must be observed through the entire disembarkation process. • Disembarkation may only start after OK. is given by ground staff to cabin crew. • Cabin doors must be opened by the cabin crew after OK. from the ground staff or commander, whichever is applicable. • Steps or loading bridges must be in a correct position. • Bridges must be free from obstacles
2. Disembarkation sequence	a) Unaccompanied minors (UM) • If not possible, disembark UM after Economy Class passengers. b) VIPs, c) LOT Business Class passengers d) LOT Premium Economy passengers e) LOT Economy Class passengers, f) Passengers with reduced mobility or needing special assistance, g) Deportees.
3. Delivery at aircraft (DAA) baggage	Whenever applicable, "Delivery at aircraft" baggage must be offloaded and returned to the passenger at the time of disembarkation, but without causing any delay in the disembarkation process (see also Chapter 6 Baggage Handling point 6.11.2)
4. Arrival assistance	**Procedure:** a) When applicable, meet and assist arriving passengers. b) Give all relevant information concerning immigration and customs clearance. If possible, this may be done via the public address system on board before disembarkation. c) If the passengers disembark by bus, make sure that busses are not overloaded.

	Passengers should not wait longer than 10 minutes in the bus. d) Arrange a **separate bus for LOT Business Class / LOT Premium Economy** passengers if the aircraft is parked on the apron position **(applies WAW only)** e) If the passengers must walk on the apron, make sure they are escorted. f) If the passengers need special assistance (reduced mobility, mothers with infants, etc.), make sure that they are assisted in every possible way up to the arrival hall. g) If the passengers are unaccompanied minors, make sure that they remain under the airline's or handling agent custody until handed over to the awaiting party.
5. Transfer passengers	**Procedure**: Check the inbound/outbound connections and number of passengers concerned (PTM). a) Check critical connection. b) In case of interline transfer, notify the continuing carrier, using PTM information. c) Meet the transferring passengers upon arrival of the incoming aircraft. d) If possible, have the passengers with a short connection disembark first. e) Direct through-checked passengers to the appropriate departure gate. f) Direct non-through-checked passengers for check-in to the transfer desk or gate.
6. Transit passenger	**Procedure:** a) Based on LDM prepare the correct number of transit boarding passes. b) Advise passenger to take carry-on baggage with them when disembarking. **Note:** Whether or not disembarking transit passengers may leave their carry-on baggage on board depends on local situation. c) When passengers are disembarking, call the transit passenger by destination and flight number. d) Distribute transit boarding passes. • The number of transit passengers disembarking and number of boarding passes distributed must be the same. e) Inform the passengers about boarding time and gate f) Give all relevant information concerning immigration and customs clearance, if applicable. g) If locally available, the following passengers may use the lounge during the transit time: • HON Circle Members, • Senator Members (Star Alliance Gold) • Frequent Traveller Members (only in Miles and More BL) • LOT Business Class passengers.

5.7 Very important persons (VIP)

	Remarks
1. Special services and facilities	• Possibility to make a seat request, even in economy class. • Access to VIP or First class lounge, if available. • Assistance by specially assigned staff upon departure (check-in, emigration and pre-boarding) and arrival (disembarkation, immigration, baggage claim, customs) using fast channel, if available. • Upgrading priority if operationally needed. • Separate boarding/disembarkation channel, if available. • Seat guaranteed up until closure of the flight. • Baggage treated as priority baggage, even if travelling in economy class. • The VIP is to be introduced to the senior flight attendant when pre-boarded
2. Handling	**Procedure:** 1. Prior to commencing the check-in, the Station Manager (a supervisor or person authorized to represent LOT Polish Airlines at the airport) shall obtain from the reservation system information regarding passengers with the VIP status. 2. In the event when the flight has been cancelled or delayed, based on the information present in passengers booking entry, the Station Manager (a supervisor or a person authorized to represent LOT at the airport) should personally (if possible) deliver to the VIP passenger the information regarding flight cancellation or the reasons for and expected time of the flight's delay. 3. Prior to the departure of the VIP passenger, the Station Manager shall make sure that the passenger's baggage has been appropriately marked and loaded – in the way that makes it possible or the baggage to be unloaded first at the destination airport. 4. Following the flight's departure with the VIP passenger on board, one shall send via SITA a telex to passenger service staff of the handling agent and to the Station Manager (a supervisor or person authorized to represent LOT Polish Airlines at the destination airport), with the information about the VIP passenger on board, as well as about the quantity and loading location of the checked-in baggage belonging to the VIP passenger.
3. Notes:	• Assistance shall be given by locally designated staff members, according to: ⇒ local circumstances/facilities/resources, ⇒ the importance of the VIP ⇒ and the wishes of VIP. • A VIP is mentioned on PIL. • A VIP's request to travel incognito must be strictly observed. • IF escorted the procedure described in GHM Chapter 6 point 6.6 shall be fulfilled

5.7.1 Important persons (IP)

	Remarks
1. Special services and facilities	• Possibility to make a seat request, even in economy class. • Access to VIP/IP lounge, if available. • Assistance by specially assigned staff upon departure (check-in, emigration and pre-boarding) and arrival (disembarkation, immigration, baggage claim, customs) using fast channel, if available. • Upgrading priority if operationally needed. • Separate boarding/disembarkation channel, if available. • Baggage treated as priority baggage, even if travelling in economy class.
2. Handling	**Procedure:** 1. Prior to commencing the check-in, the Station Manager (a supervisor or person authorized to represent LOT Polish Airlines at the airport) shall obtain from the reservation system information regarding passengers with the IP status. 2. In the event when the flight has been cancelled or delayed, based on the information present in passengers booking entry, the Station Manager (a supervisor or a person authorized to represent LOT at the airport) should personally (if possible) deliver to the IP passenger the information regarding flight cancellation or the reasons for and expected time of the flight's delay. 3. Prior to the departure of the IP passenger, the Station Manager shall make sure that the passenger's baggage has been appropriately marked and loaded – in the way that makes it possible or the baggage to be unloaded first at the destination airport. 4. Following the flight's departure with the IP passenger on board, one shall send via SITA a telex to passenger service staff of the handling agent and to the Station Manager (a supervisor or person authorized to represent LOT Polish Airlines at the destination airport), with the information about the IP passenger on board, as well as about the quantity and loading location of the checked-in baggage belonging to the IP passenger.
3. Notes:	• Assistance shall be given by locally designated staff members, according to: local circumstances/facilities/resources, • A IP is mentioned on PIL.

5.7.2 HEAD and VIP flights/operations (flight numbers 7001-7100)

1. General information	LOT carries the HEAD and VIP flights/operations for The Republic of Poland government officials and other important persons. a) **HEAD** flights/operations - operations executed in formal mission, whenever on board are present: • President of The Republic of Poland and/or • Prime Minister and/or • Parliament Speakers and/or • Other persons declared to Foreign Affairs Ministry by diplomatic service, equal to persons from foreign countries mentioned in above bullet points b) **VIP** flights/operations - other special flights executed on Government request for the most important persons in The Republic of Poland. Details can be found at VIP Section email: ops.vip@lot.pl tel. +48 22 606 9082, +48 22 606 9083
2. Weight and Balance	Flight LO70XX are handled in LO Altea DCS. All departing passengers shall be accepted for carriage in the system well in advance, on the basis of passenger name list provided by LOT VIP Flights Department. Seat allocation from the incoming flights shall be kept unchanged whenever possible. Load and balance control function for VIP charter flight is always provided by LOT CLC in WAW. LOT CLC contact details: • Email addresses: vera-lh@lsas.aero; • SITA: WAWKKXH WAWVRXH WAWSVXH; • Telephone: +48 22 206 94 40; +48 22 206 94 29; • Fax: +48 22 206 95 39. Standard distribution lists of LIR, LS, LDM and other messages will remain unchanged. All these messages should be additionally copied to e-mail address ops.vip@lot.pl . For more details please refer to chapter 3, point 3.20.1 VIP flights procedure (flights departing from non-PL stations).
3. Handling	• No one can remove security seals and enter the aircraft (cabin and hold) without the Pilot in Command approval • All services like cleaning, disinfection, heating, catering delivery, water or toilet service etc. - must be approved by the Pilot in Command • None of the services shall be performed without crew presence • HEAD status aircraft must be physically protected 24/7 during whole stay. The service must be agreed with VIP Section in advance.

4. WAW LOT VIP Flight Department contact list	**WAW LOT VIP FLIGHTS OPS (07.00am - 19.00pm)**	**TELEPHONE**	**E-MAIL**
	Marta Koperska	00 48 532 141 015	m.koperska@lot.pl
	Kinga Dróżdż	00 48 532 225 207	k.drozdz@lot.pl
	Marko Karić	00 48 536 36 107	m.karic@lot.pl
	Jan Czerniewicz	00 48 698 070 878	j.czerniewicz@lot.pl
	LAND LINE NUMBERS:	00 48 22 606 9689/9083	
	FINANCES/INVOICES	**TELEPHONE**	**E-MAIL**
	Marko Karić	00 48 536 36 107	m.karic@lot.pl
	WAW LOT OCC (19.00pm - 07.00am)	**TELEPHONE**	**E-MAIL**
	Duty Manager	00 48 22 606 6612	ops.dm@lot.pl

5.8 Frequent flyers *(Star Alliance B1.2)*

5.8.1 General rules

	Remarks	
1. Miles & More airlines:	■ Austrian Airlines Group (as of 26.03.2000) ■ Brussels Airlines (as of 25.10.2009) ■ Croatia Airlines (as of 15.12.2004) ■ LOT Polish Airlines (as of 26.10.2003) ■ Lufthansa ■ Lufthansa Privat Jet ■ Lufthansa Regional (Air Dolomiti, CityLine, Eurowings) ■ Luxair (as of 29.03.2009) ■ SWISS (as of 01.04.2006)	
2. Star Alliance Airlines (all Star airlines have frequent flyer cooperation with Miles & More)	• Aegan Airlines, • Air Canada, • Air China, • Air India, • Air New Zealand, • All Nippon Airways, • Asiana, • Austrian Airlines, • Avianca, • Brussels Airlines, • Copa Airlines, • Croatia Airlines, • Egyptair,	• Ethiopian Airlines, • Eva Air • LOT Polish Airlines, • Lufthansa, • Scandinavian Airlines, • Singapore Airlines, • Shenzen Airlines, • South African Airways, • SWISS, • TAP Portugal, • Thai Airways, • Turkish Airlines, • United Airlines.
3. Other Miles & More Partner Airlines	■ Air Astana ■ Air Dolomiti ■ Air Malta ■ Condor ■ Cathay Pacific Airways ■ Eurowings ■ Eurowings Discover	■ Germanwings ■ LATAM ■ Luxair ■ Olimpic Air ■ Silk Air ■ Thai Smile ■ Vistara
4. Membership for Miles & More	• Membership is open to individuals (minimum age 2 years) who reside in Poland or a country in which the Miles & More is available. • Membership is not available to corporations.	
5. How to enrol to Miles & More program	• Via our website: www.miles-and-more.com • Via Miles&More app • By completing and signing enrolment form. Forms are available at all Miles & More airlines offices, check-in counters, planes and at selected	

	travel agencies. • The enrolment form contains a temporary card with the member's permanent number 9999 (total number of digits 15) • Members can immediately begin to earn miles. The M&M membership number must be entered during making/changing reservation and checking- in. • The permanent membership card is mailed upon accrual of at least 1 air-mile with a Miles & More or Partner airline.
6. Star Silver	• The common name and logo of the Silver Card membership status within Star Alliance frequent flyer programmes. Silver level in Miles & More is Frequent Traveller (FTL)
7. Star Gold	• The common name and logo of the top tier membership status within Star Alliance frequent flyer programmes. Gold level in Miles & More is Senator and Hon Circle

5.8.2 The Miles & More Card



	Benefits
1. General	Miles & More member is able to earn miles on Miles & More airlines and on many partner airlines within the programme.
2. Additional miles can be earned:	• for stays at numerous hotels, • on car rentals, • on credit cards, • on insurance (e.g. in Poland - UNIQA) • on duty free shopping aboard (LH, LX) and at airports, • on duty free shopping on the ground, etc.
3. Entry in Amadeus to earn miles	**FFN LH – 992001234567890** **SR FQTV LO HK/-LH992001234567890/P1/S3**
	For more details visit: www.miles-and-more.com

5.8.3 Frequent Traveller card (Star Silver)

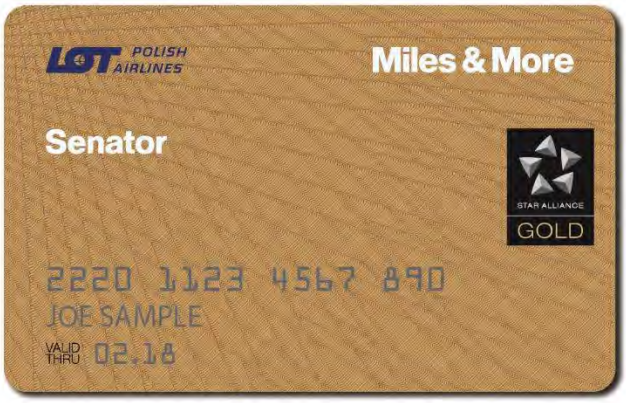


	Description
1.	Frequent Traveller Members are important frequent flyers of our privileged group.
2.	They hold Miles & More Frequent Traveller card (Star Silver)
3.	Amadeus entry: **FFN LH – 992220123456789 or** **SR FQTV LO HK/-LH992220123456789/P1/S3**

	Benefits
1.	A Miles & More member will be upgraded to the Frequent Traveller member when she/he earns at least - 35 000 Status Miles or 30 scheduled flights in one calendar year
2.	A re-qualification period of an existing Frequent Traveller member is based on accrual of 35000 status miles or 30 scheduled flights in one of two calendar years.
3.	**Before departure:** • special information and award reservation number, • priority on waiting list (third highest), • additional **piece** of luggage at no extra cost in Economy Class (On flights operated by LOT, Austrian Airlines, Brussels Airlines, Croatia Airlines, Lufthansa, Lufthansa Private Jet, Luxair and SWISS) **As a result, regardless of the status of the passengers travelling on the **Light fare** of Economy Class (OS, LH,LX), charges apply for each piece of baggage. This also applies to other cheap Economy fares as "Check&Go" (SN)* • Business Class check-in with Miles & More airline partners regardless of the class booked on flight (For scheduled flights operated by Air Dolomiti, Austrian Airlines, Brussels Airlines, Croatia Airlines, Eurowings, Germanwings, LOT Polish Airlines, Lufthansa, Luxair and SWISS) • access to BL in WAW (Polonez, Mazurek) for Frequent Traveller • access to Frequent Traveller lounges, Business lounges of Lufthansa Group with same day boarding pass for Star carrier • Fast Line in WAW (only for scheduled flights operated by LOT Polish Airlines) • Executive Bonus of 25% - on LOT (LO), Lufthansa (LH), Austrian Airlines Group (OS) Air Dolomiti (EN), United Airlines (UA), Croatia Airlines (OU), Air Canada (AC), SWISS (LX), LH Regional LH PrivateJet, Brussels Airlines (SN), Luxair (LG), Germanwings (4U), Eurowings (EW), All Nippon Airways (NH) • unlimited mileage validity, **After landing:** priority luggage delivery (only if booked in First or Business Class).
	For more details visit: www.miles-and-more.com

Access to LOT contracted lounges	
In Poland	In Poland: member must show FTL card and boarding pass on LOT Polish Airlines operated flight departing at the same day and from the same airport /terminal, no guests allowed.
Abroad	Abroad: member must show FTL card and boarding pass on LOT Polish Airlines operated fligth departing at the same day and from the same airport/ terminal, no guests allowed. **/local restrictions may apply/**

5.8.4 Senator Card (Star Gold)



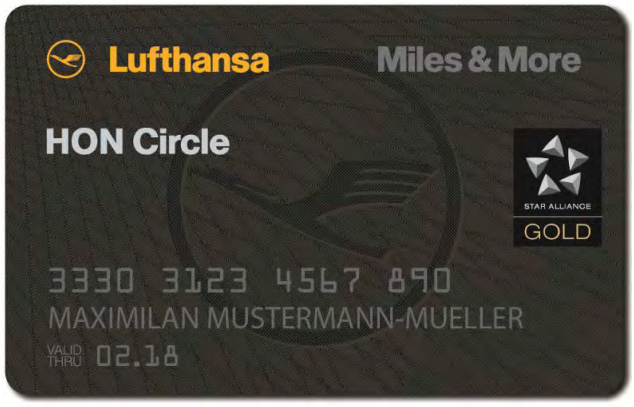
	Description
1.	Senator Members are our most important customers.
2.	They hold a Miles & More Senator card (Star Gold).
3.	Amadeus entry: **FFN LH-22210123456789 or** **SR FQTV LO HK/-LH2220123456789/P1/S3**

	Benefits
1.	• Access to Business Lounges contracted by LOT • Access to Senator Lounges • Acccess to Star Gold lounges with a boarding pass for a Star Alliance flight • Miles validity unlimited, • Privilege to invite max. 1 guest to the bussines lounge • Priority check-in :at Star gold counter (Star Alliance flights - Companions spouses/life Partners have to be on a same-day + same departure flight.), First Class counter (LH Group flights), • Booking guarantee: ⇒ 48 hours before departure in Business Class (C) for all LOT, Croatia Airlines. ⇒ 48 hours before departure in Business Class (J) for Austrian Airlines, Brussels Airlines, Lufthansa, Lufthansa Regional and SWISS ⇒ 48 hours before departure in Economy Class (Y) for all LOT, Croatia Airlines,

	Lufthansa Group. ⇒ 48 hours before departure in Premium Economy Class (P) - LOT Polish Airlines ⇒ 48 hours before departure in Premium Economy Class (G) - Austrian Airlines, Lufthansa. • Priority landing, Fast lane, Priority baggage handling, Star Gold Track Security and Immigration. (Boarding passes on all chanels are displaying "Fast Track" invitation.) • Additional **20 kg** or additional **piece** (if piece concept) of luggage at no extra cost **As a result, regardless of the status of the passengers travelling on the **Light fare** of Economy Class (OS, LH,LX), charges apply for each piece of baggage. This also applies to other cheap Economy fares as "Check&Go" (SN)* • One additional golf bag may be carried free of charge (In addition to all currently-valid free baggage allowances on scheduled flights operated by Austrian Airlines, Brussels Airlines, Croatia Airlines, LOT Polish Airlines, Lufthansa, Lufthansa Private Jet and SWISS -with the exception of North Atlantic routes. The weight of golf equipment is limited to a maximum of 23 kg) **As a result, regardless of the status of the passengers travelling on the **Light fare** of Economy Class (OS, LH,LX), charges apply for each piece of baggage. This also applies to other cheap Economy fares as "Check&Go" (SN)* • Second highest priority on waiting list, / standby list • Executive Bonus of 25% - on LOT (LO), Lufthansa (LH) Austrian Airlines Group (OS) Air Dolomiti (EN) United Airlines (UA) Croatia Airlines (OU) Air Canada (AC) SWISS (LX) LH Regional LH PrivateJet Brussels Airlines (SN) Germanwings (4U) Eurowings (EW) All Nippon Airways (NH) • 2 Upgrade e-vouchers for every qualification and re-qualification to SEN status • 50% mileage reduction for Companion awards on LOT, Lufthansa Group
2.	• Number of miles required to achieve Senator card is: ⇒ 100000 Status Miles during a calendar year Re-qualification – accrual of 100.000 status miles within a one of two calendar years.
	For more details visit: www.miles-and-more.com

Access to LOT contracted lounges	
In Poland	In Poland: member must show SEN card and same day boarding pass on LOT Polish Airlines or Star Alliance Flights operated flight departing at the same day and from the same airport/terminal, one quest.
Abroad	Abroad: member must show SEN card and boarding pass on LOT Polish Airlines or Star Alliance flights operated flight departing at the same day and from the same airport/terminal, one quest. /**local restrictions may apply**/

5.8.5 HON Circle Card (Star Gold)



	Description
1.	HON Circle Members are our **most important** customers.
2.	They hold a Miles & More HON Circle card (Star Gold).
3.	Amadeus entry: **FFN LH-333001234567890 or** **SR FQTV LO HK/-LH33301234567890/P1/S1**

	Benefits
	• Access to LOT contracted business lounges, • Access to HON Circle First Class lounges in FRA, • Access to First Class Terminal in FRA (Operating Carrier: Air Dolomiti, Austrian Airlines, Lufthansa, Swiss) • Access to other lounges-the same Privileges as Senator, • Privilege to invite one guest + spouse + own children to Star Gold lounge (Companions spouses/life Partners have to be on a same-day + same departure flight), • HON Service in WAW, • Miles validity unlimited, • Priority check-in: at Star gold counter (Star Alliance flights), First Class counter (LH Group flights) • Booking guarantee: ⇒ 24 hours before departure in Business Class (C) for all LOT, Croatia Airlines, ⇒ 24 hours before departure in Business Class (J) for Austrian Airlines, Brussels Airlines, Lufthansa, and SWISS ⇒ 24 hours before deprateure in Economy Class (Y) for all LOT, Croatia Airlines, (Y) Lufthansa Group. ⇒ 24 hours before departure in Premium Economy (P) for LOT Polish Airlines ⇒ 24 hours before departure in Premium Economy (G) for Lufthansa, Austrian Airlines • Additional **20kg** or additional **piece** (in case of piece concept) of luggage at no extra cost ***As a result, regardless of the status of the passengers travelling on the ***Light fare*** of Economy Class (OS, LH,LX), charges apply for each piece of baggage. This also applies to other cheap Economy fares as "Check&Go" (SN)* • One additional golf bag may be carried free of charge (In addition to all currently-valid free baggage allowances on scheduled flights operated by Austrian Airlines, Brussels Airlines, Croatia Airlines, LOT Polish Airlines, Lufthansa, Lufthansa Private Jet and SWISS -with the exception of North Atlantic routes. The weight of golf equipment is limited to a maximum of 23 kg) ***As a result, regardless of the status of the passengers travelling on the ***Light fare*** of Economy Class (OS, LH,LX), charges apply for each piece of baggage. This also applies to other cheap Economy fares as "Check&Go" (SN)* • Highest priority on waiting list/standby list, • Executive Bonus of 25% - on LOT (LO), Lufthansa (LH) Austrian Airlines Group (OS) Air Dolomiti (EN) United Airlines (UA) Croatia Airlines (OU) Air Canada (AC) SWISS (LX) LH Regional LH PrivateJet Brussels Airlines (SN) Luxair (LG) Germanwings (4U) Eurowings (EW) All Nippon Airways (NH) • Senator Card for spouse or partner • Extended flight award availability • 6 Upgrade e-vouchers for every qualification and re-qualification to HON Circle status
2.	• Number of miles required to achieve HON Circle status is (**on flights in First and Business Class)** is: ⇒ 600.000 Status Miles during two calendar years • Re-qualification – accrual of 600.000 status miles within a two calendar years.
	For more details visit: www.miles-and-more.com

Access to LOT contracted lounges	
In Poland	In Poland: member must show HON card + boarding pass on LOT Polish Airlines or Star Alliance operated flight departing at the same day and from the same airport/terminal, one guest + spouse + children
Abroad	Abroad: member must show HON card and boarding pass on LOT Polish Airlines or Star Alliance operated flight departing at the same day and from the same airport/terminal, one guest + spouse + children/**local restrictions may apply**/

5.9 Minors travelling alone (GRH 3.1.5 iv.)

5.9.1 General rules

	Remarks
1. Definitions	• **Infant:** A minor under 2 years of age, not having reached its 2nd birthday. • **Child**: A minor between 2 and 12 years of age, having reached its 2nd birthday but not having reached its 12th birthday. • **Adult:** A person over 12 years of age.
2. Categories of Un-accompanied Minors UM (depends on age)	**1-7 days:** • an infant less than 7 days old is subject to the procedure concerning carriage of disabled persons, **8 days-5 years:** • an infant or child between 8 days and 5 years old must be taken care of during the journey by a guardian (additional air hostess), specially appointed by LOT Polish Airlines. **over 5-12 years:** • an unaccompanied minor aged over 5-12 years, shall be taken care of during the journey, • the care is exercised by a member of the cabin crew, • the parents or legal guardians of the child may demand that special care be provided for the child. In such a situation the carriage is subject to the procedure described in item 2 (8 days-5 years). **over 12-17 years:** • young persons aged over 12-17 years can travel completely independently (without the "UM" annotation on the ticket) and are treated as adults (are not subject to the procedure concerning carriage of unaccompanied minors - "UM"), **Allowed possibility:** It is allowed that young people who are over 16 years old take care of unaccompanied minors less than 12 years old. In such circumstances the carriage of a child younger than 12 years old is not subject to the procedure concerning carriage of unaccompanied minors - "UM".
3. Parent's or guardian's responsibility	• The parents or guardian must: ⇒ make the flight reservations, ⇒ arrange for necessary travel documents, ⇒ stay at the airport until the flight is airborne or arrange for an authorised adult on departure to stay at the airport until the flight is airborne, ⇒ arrange for an authorised adult upon arrival to be at the airport at the actual time of arrival, ⇒ sign the "Request for carriage" form, ⇒ pay all costs involved in return transportation (meals, accommodation, ground transport, return fare etc.) in case the authorised adult fails to meet the UM.

<table>
<tr><td>4. Airline's responsibility</td><td>
• The UM becomes the airline's full responsibility from the moment he is handed over by:
⇒ the parents, guardian or authorised adult upon departure or,
⇒ the delivering carrier at the transfer station,
until he/she is handed
⇒ back to the parents, guardian or authorised adult upon arrival or
⇒ over to the receiving carrier at the transfer station.
• The carrier is finally released from their responsibility for air carriage of the child at the moment when the child is being released to the authorized person awaiting the child at the destination airport, which is confirmed by a signature placed in the appropriate field of the "Request for Carriage" form.
• It is forbidden to transfer the custody of the child traveling as an unaccompanied minor on board LOT Polish Airlines aircraft on any leg of the journey without having the fact confirmed by a clearly written name and a handwritten signature of the relevant person.
</td></tr>
<tr><td>5. Handling fee</td><td>
• One handling fee must be paid per:
⇒ one UM,
⇒ one way (per one way i.e. from point of origin to final destination).
• In case of a family (brothers, sisters) each family member is charged per through flight OW.
• The handling fee must be collected on MCO/EMD.
</td></tr>
<tr><td>6. Seating</td><td>
• Normally, seats are pre-allocated at the time of reservation.
• If the seat is not assigned by the reservations, suitable seat must be allocated.
DHC8 - rows: 16 to 18 seats: AB
E170 - rows: 14 to 16 seats: AB
E175 - rows: 17 to 19 seats: AB
E195 - rows: 23 to 26 seats: AB and 22A
B738 - rows: 26 to 28 seats: AB and EF
B788 - rows: 23 to 26 seats: AB, EF and HJ
• UMs may not be seated at emergency exit rows.
• Brothers and sisters shall be seated next to each other.
</td></tr>
<tr><td>7. Documents</td><td>
• "Request for carriage" form (Handling advice) – mandatory.
⇒ Contains the waiver of liability, to be signed by parents/guardian.
⇒ Gives information concerning the UM, routing, adult escort on departure and adult escort upon arrival.
⇒ Contains several coloured coupons/copies – see point 5.9.1.1.
• UM document holder bag – mandatory.
⇒ a slip-on wallet for safe carriage of UM's documents (free of charge),
⇒ given during the check-in,
⇒ space provided to fill out name, routing and other details.
• UM baggage tags – mandatory.
• UM name label/button – if available.
</td></tr>
<tr><td>8. Limits:</td><td>
Depends on the minimum number of cabin crew and cannot exceed:
<table>
<tr><th>B787</th><th>738/7M8</th><th>ERJ 190-100/200</th><th>ERJ 170-100/200</th><th>DHC-8-400</th></tr>
<tr><td>24</td><td>12</td><td>9</td><td>6</td><td>6</td></tr>
</table>
</td></tr>
</table>

5.9.1.1 "Request for carriage" document

	Remarks
1. Is issued in the following cases:	• a one-leg carriage of a child travelling as an unaccompanied minor aboard a LOT Polish Airlines flight (directly from the departure airport to the destination airport); • a transit carriage of a child travelling as an unaccompanied minor aboard a LOT Polish Airlines flight.
2. Consists of:	• the cover, which is given to the person who collects the child at the destination airport, as a proof that the service has been performed; • four coupons – intended for each participant of the carriage process – distinguished by colours: 1) blue; 2) yellow; 3) pink 4) green
3. Filling out:	• a number of fields with their description in the Polish and English languages, which are filled out in turn by: ⇒ the child's parents or statutory guardians (ordering carriage of the child) who enter the following information at the moment when they request carriage of a minor (while booking the flight or during check-in), ⇒ an employee of the Booking and Sales Office or a member of the check-in staff, ⇒ individual members of the carrier's or handling agent's ground handling staff, directly in charge of the child at subsequent stages of the carriage process, ⇒ a person designated by the child's parents or statutory guardians to whom the child is released at the destination airport.
4. An additional (white) coupon to the „Request for carriage" form	• Is issued in the event of a transfer carriage of an unaccompanied minor. • Coupons are issued in the number corresponding to the number of carriers taking part in the air carriage process and are affixed under the last (green) coupon of the "Request for Carriage" form by a member of staff at the Booking and Sales Office or at the check-in counter. • Each additional coupon to the "Request for Carriage" form is intended for each subsequent carrier taking part in carriage of an unaccompanied minor – it is valid only with the "Request for Carriage" form. • An additional coupon to the "Request for Carriage" (white form) for the subsequent carrier consists of three copies. • The Additional Coupon form consists of a number of fields with headings in the Polish and English languages, which are filled out in turn by: ⇒ the child's parents or statutory guardians (ordering carriage of the child) who enter the following information at the moment when they request carriage of a minor (while booking the flight or during check-in), ⇒ an employee of the Booking and Sales Office or a member of the check-in staff, ⇒ individual members of the carrier's or handling agent's ground handling staff, directly in charge of the child at subsequent stages of the carriage.

5.9.1.1.1 Distribution

	Remarks
1. UM traveling with company escort (direct flight):	• The cover of the "Request for Carriage" form is handed over to the person to whom the child has been released. • Escort keeps all color coupons. After the service escort delivers all coupons to the planner on duty at the Crew Planning Department in Warsaw, who then transfers the documents to the Cabin Crew Department where the document will be kept on file for a year from the date of the child's carriage.
2. UM traveling with company escort in case of transfer:	• Two documents are issued: "Request for Carriage" and Additional Coupon to "Request for Carriage" • Upon arrival at each transfer airport, the company escort keeps: a) three coupons of the "Request for Carriage" form (blue, yellow and pink) and one (white) copy of the "Additional Coupon to the Request for Carriage Form". b) the green coupon of the "Request for Carriage" form along with two (white) copies of the "Additional Coupon to the Request for Carriage Form" and the child's documents delivers to the escort designated by the subsequent carrier After the service has been performed, all listed above coupons delivers, to the planner on duty at the Crew Planning Department in Warsaw, who then transfers the documents to Cabin Crew Department., where the document will be kept on file for a year from the date of the child's carriage. • After the release of the child to the authorized person (named in the "Request for Carriage"): **the subsequent carrier's escort:** a) the green coupon along with the "Additional Coupon to the Request for Carriage Form" (white) are kept by the handling agent providing service to passengers on arrival. The documents will be kept on file for a year from the date of the child's carriage; b) the last white copy of the "Additional Coupon to the Request for Carriage Form" is kept by the other carrier's escort; c) the cover of the "Request for Carriage" form is delivered to the person to whom the child is released.
3. Minor between 5–12years of age (direct flight)	• After the unaccompanied minor has been delivered by a member of passenger handling staff to the custody of the chief of flight attendants: a) the blue coupon is kept by the passenger handling agent at the point of departure; b) the yellow coupon is kept by the LOT Polish Airlines Station Manager at the point of departure. • After the unaccompanied minor has been delivered by the chief of flight attendants to the custody of a member of passenger handling staff at the destination airport:

	a) the pink coupon is kept by the chief of flight attendants. After the service has been performed, the chief of flight attendants delivers coupon to the planner on duty at the Crew Planning Department in Warsaw, who then transfers the document to Cabin Crew Department, where the document will be kept on file for a year. • After the release of the child to the authorized person (named in the "Request for Carriage"): a) the green coupon is kept by the handling agent, b) the cover of the "Request for Carriage" form is handed over to the person to whom the child has been released.
4. Minor between 5–12 years of age in case of transfer	• Two documents are issued: "Request for Carriage" and, Additional Coupon to "Request for Carriage". • After the unaccompanied minor has been delivered by a member of passenger handling staff to the custody of the chief of flight attendants: a) the blue coupon is kept by the passenger handling agent at the point of departure, b) the yellow coupon is kept by the LOT Polish Airlines Station Manager at the point of departure. • Upon arrival at each transfer airport: **the chief of flight attendants keeps:** a) the pink coupon and one (white) copy of the "Additional Coupon to the Request for Carriage Form" All coupons listed above delivers, to the planner on duty at the Crew Planning Department in Warsaw, who then transfers the documents to Cabin Crew Department, where the document will be kept on file for a year. **the subsequent carrier (other than LOT Polish Airlines) or the cabin crew of the subsequent LOT Polish Airlines:** a) keeps one white copy of the "Additional Coupon to the Request for Carriage Form". • After the release of the child to the authorized person (named in the "Request for Carriage"): a) the passenger handling agent at the destination airport keeps the green coupon along with the "Additional Coupon to the Request for Carriage Form" (white copy). These documents will be kept on file for a year. b) the cover of the "Request for Carriage" form is delivered to the person to whom the child is released.

Request for Carriage form

Cover



UM

Dziecko podróżujące samodzielnie
Unaccompanied minor

Zlecenie opieki przewoźnikowi lotniczemu
Request for carriage

IMIĘ I NAZWISKO DZIECKA
FULL NAME OF MINOR

PŁEĆ
SEX

WIEK
AGE

ADRES DZIECKA, NR TEL.
ADDRESS OF MINOR, PHONE

NR REJSU
FLIHGT NO.

DATA
DATE

Z
FROM

DO
TO

The first coupon (blue)

DZIECKO PODRÓŻUJĄCE SAMODZIELNIE – UNACCOMPANIED MINOR

Zlecenie opieki przewoźnikowi lotniczemu – Request for carriage
Wskazówki obsługi – Handling advice

Imię i nazwisko dziecka *Full name of minor*	Wiek *Age*	Płeć *Sex*	Używany język *Language spoken*
Adres, nr tel. *Address, tel. No*			

Nr rejsu *Flight No.*	Data *Date*	Z *From*	Do *To*

Potwierdzam, że zapoznałam/em się z warunkami przewozu na okładce zlecenia.
Podpis/*Signature*
I accept the conditions of carriage as set on the cover of this form.

Imię i nazwisko osoby odprowadzającej, adres, nr tel.
Person seeing on departure, name, address, tel. No.

Imię i nazwisko osoby odbierającej w porcie docelowym adres, nr tel.
Person meeting at destination, name, address, tel. No.

Podpis osoby odbierającej – zwalniającej przewoźnika od opieki nad dzieckiem
Signature for release of minor from airline custody.

Zlecenia specjalne
Uwagi
Special instructions
Remarks

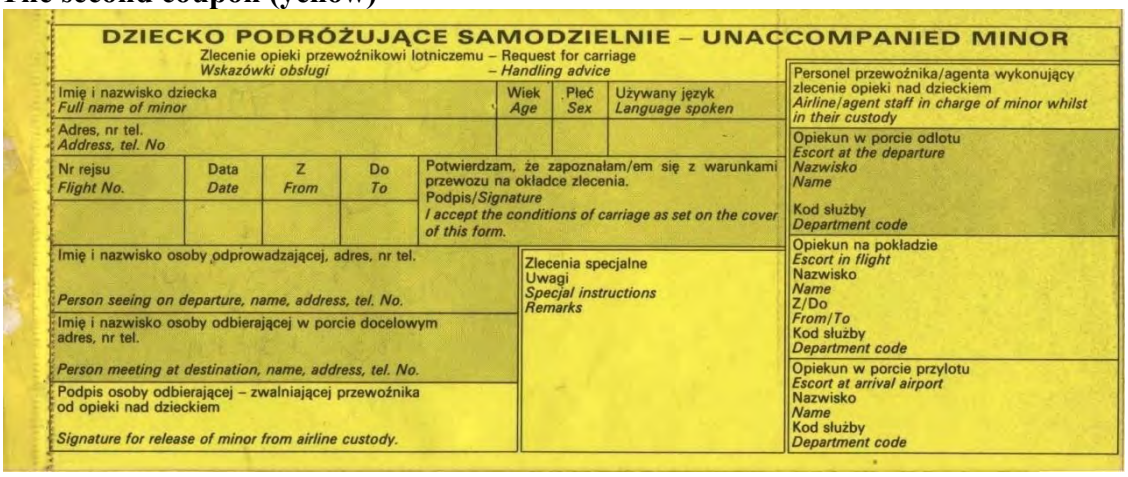
Personel przewoźnika/agenta wykonujący zlecenie opieki nad dzieckiem
Airline/agent staff in charge of minor whilst in their custody

Opiekun w porcie odlotu
Escort at the departure
Nazwisko
Name
Kod służby
Department code

Opiekun na pokładzie
Escort in flight
Nazwisko
Name
Z/Do
From/To
Kod służby
Department code

Opiekun w porcie przylotu
Escort at arrival airport
Nazwisko
Name
Kod służby
Department code

The second coupon (yellow)



DZIECKO PODRÓŻUJĄCE SAMODZIELNIE – UNACCOMPANIED MINOR

Zlecenie opieki przewoźnikowi lotniczemu – Request for carriage
Wskazówki obsługi – Handling advice

Imię i nazwisko dziecka / *Full name of minor* | Wiek / *Age* | Płeć / *Sex* | Używany język / *Language spoken*

Adres, nr tel. / *Address, tel. No*

Nr rejsu / *Flight No.*	Data / *Date*	Z / *From*	Do / *To*

Potwierdzam, że zapoznałam/em się z warunkami przewozu na okładce zlecenia.
Podpis/*Signature*
I accept the conditions of carriage as set on the cover of this form.

Imię i nazwisko osoby odprowadzającej, adres, nr tel.
Person seeing on departure, name, address, tel. No.

Imię i nazwisko osoby odbierającej w porcie docelowym adres, nr tel.
Person meeting at destination, name, address, tel. No.

Podpis osoby odbierającej – zwalniającej przewoźnika od opieki nad dzieckiem
Signature for release of minor from airline custody.

Zlecenia specjalne
Uwagi
Specjal instructions
Remarks

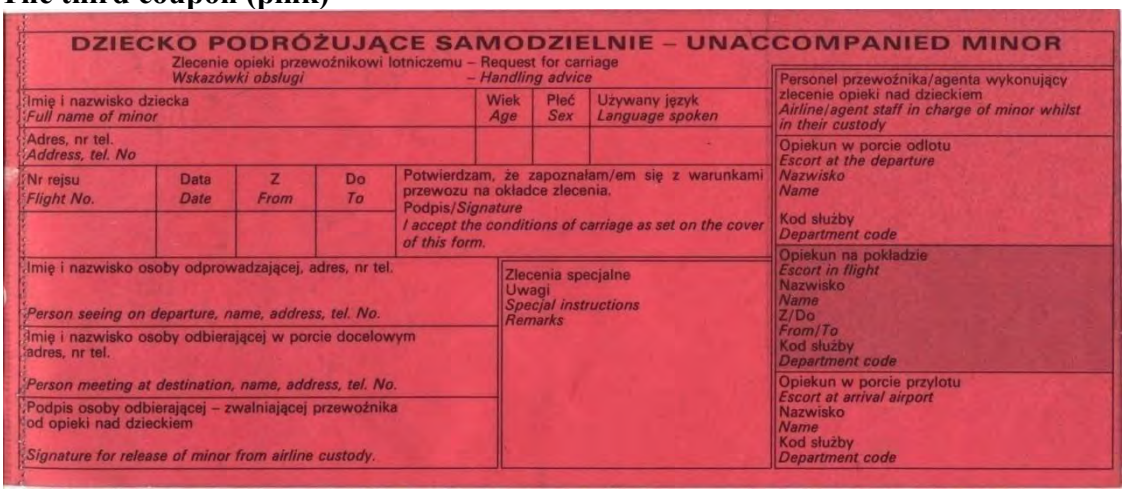
Personel przewoźnika/agenta wykonujący zlecenie opieki nad dzieckiem
Airline/agent staff in charge of minor whilst in their custody

Opiekun w porcie odlotu
Escort at the departure
Nazwisko
Name
Kod służby
Department code

Opiekun na pokładzie
Escort in flight
Nazwisko
Name
Z/Do
From/To
Kod służby
Department code

Opiekun w porcie przylotu
Escort at arrival airport
Nazwisko
Name
Kod służby
Department code

The third coupon (pink)



DZIECKO PODRÓŻUJĄCE SAMODZIELNIE – UNACCOMPANIED MINOR

Zlecenie opieki przewoźnikowi lotniczemu – Request for carriage
Wskazówki obsługi – Handling advice

Imię i nazwisko dziecka / *Full name of minor* | Wiek / *Age* | Płeć / *Sex* | Używany język / *Language spoken*

Adres, nr tel. / *Address, tel. No*

Nr rejsu / *Flight No.*	Data / *Date*	Z / *From*	Do / *To*

Potwierdzam, że zapoznałam/em się z warunkami przewozu na okładce zlecenia.
Podpis/*Signature*
I accept the conditions of carriage as set on the cover of this form.

Imię i nazwisko osoby odprowadzającej, adres, nr tel.
Person seeing on departure, name, address, tel. No.

Imię i nazwisko osoby odbierającej w porcie docelowym adres, nr tel.
Person meeting at destination, name, address, tel. No.

Podpis osoby odbierającej – zwalniającej przewoźnika od opieki nad dzieckiem
Signature for release of minor from airline custody.

Zlecenia specjalne
Uwagi
Specjal instructions
Remarks

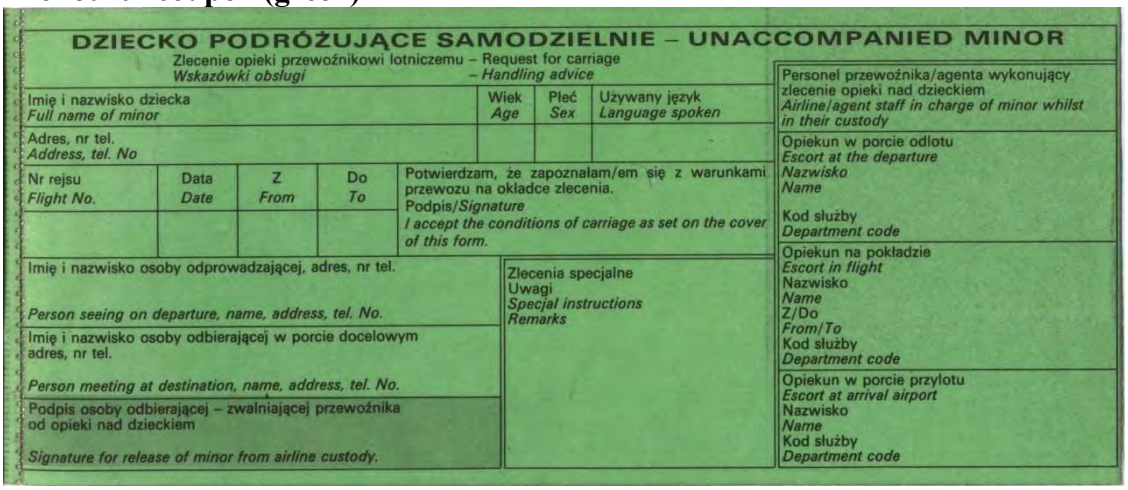
Personel przewoźnika/agenta wykonujący zlecenie opieki nad dzieckiem
Airline/agent staff in charge of minor whilst in their custody

Opiekun w porcie odlotu
Escort at the departure
Nazwisko
Name
Kod służby
Department code

Opiekun na pokładzie
Escort in flight
Nazwisko
Name
Z/Do
From/To
Kod służby
Department code

Opiekun w porcie przylotu
Escort at arrival airport
Nazwisko
Name
Kod służby
Department code

The fourth coupon (green)



DZIECKO PODRÓŻUJĄCE SAMODZIELNIE – UNACCOMPANIED MINOR

Zlecenie opieki przewoźnikowi lotniczemu – Request for carriage
Wskazówki obsługi – Handling advice

Imię i nazwisko dziecka / *Full name of minor* | Wiek / *Age* | Płeć / *Sex* | Używany język / *Language spoken*

Adres, nr tel. / *Address, tel. No*

Nr rejsu / *Flight No.*	Data / *Date*	Z / *From*	Do / *To*

Potwierdzam, że zapoznałam/em się z warunkami przewozu na okładce zlecenia.
Podpis/*Signature*
I accept the conditions of carriage as set on the cover of this form.

Imię i nazwisko osoby odprowadzającej, adres, nr tel.
Person seeing on departure, name, address, tel. No.

Imię i nazwisko osoby odbierającej w porcie docelowym adres, nr tel.
Person meeting at destination, name, address, tel. No.

Podpis osoby odbierającej – zwalniającej przewoźnika od opieki nad dzieckiem
Signature for release of minor from airline custody.

Zlecenia specjalne
Uwagi
Specjal instructions
Remarks

Personel przewoźnika/agenta wykonujący zlecenie opieki nad dzieckiem
Airline/agent staff in charge of minor whilst in their custody

Opiekun w porcie odlotu
Escort at the departure
Nazwisko
Name
Kod służby
Department code

Opiekun na pokładzie
Escort in flight
Nazwisko
Name
Z/Do
From/To
Kod służby
Department code

Opiekun w porcie przylotu
Escort at arrival airport
Nazwisko
Name
Kod służby
Department code

Declaration of Parent/Guardian

DEKLARACJA RODZICÓW/OPIEKUNÓW

1. Oświadczam, że dziecko zostanie doprowadzone do portu odlotu, a osoby odprowadzające pozostaną w porcie odlotu aż do startu samolotu. Dziecko będzie miało zapewnioną opiekę ze strony osoby przeze mnie upoważnionej w porcie przerwania podróży i zostanie odebrane w porcie docelowym przez osobę wymienioną w dokumencie „Zlecenie opieki przewoźnikowi lotniczemu". Osoba upoważniona będzie oczekiwała na dziecko w porcie docelowym o rozkładowym czasie przylotu samolotu.
2. Na wypadek, gdyby dziecko nie mogło zostać odebrane przez osoby wyznaczone do jego odbioru, upoważniam przewoźnika do podjęcia wszystkich niezbędnych środków, które uzna za konieczne w celu zapewnienia dziecku opieki włącznie z dostarczeniem go z powrotem do portu odlotu.
   Zobowiązuję się pokryć wszystkie koszty wynikające z tego tytułu oraz koszty powstałe wskutek nieregularności w przewozie z przyczyn wyłączających odpowiedzialność przewoźnika lotniczego.
3. Oświadczam, że dziecko jest w posiadaniu wszystkich dokumentów podróży (paszport, wizy, świadectwa sanitarne, itp.) wymaganych przez obowiązujące przepisy.
4. Ja niżej podpisana/y, matka/ojciec lub opiekun dziecka, wyrażam zgodę i proszę o dokonanie przewozu dziecka wymienionego w dokumencie „Zlecenie opieki przewoźnikowi lotniczemu" pod opieką przewoźnika lotniczego, stwierdzając jednocześnie prawdziwość podanych informacji.

Imię i nazwisko _____ Podpis _____ Data _____

Adres, nr tel. _____

DECLARATION OF PARENT/GUARDIAN

1. I confirm that I have arranged for the above mentioned minor to be accompanied to the airport on departure and to be met at stopover point and on arrival by the person named. These persons will remain at the airport until the flight has departed and/or available at the airport at the scheduled time of arrival of the flight.
2. Should the minor not be met as stated on the face hereof, I authorize the carrier to take whatever action they consider necessary to ensure the minor's safe custody including return of the minor to the airport of departure.
   I agree to indemnify and reimburse the carrier for the costs and expenses incurred by him in taking auch an action, as well as costs incurred due to irregularities in transport caused by the reasons excluding the liability of the carrier.
3. I certify that the minor is in possession of all travel documents (passport, visa, health certificate, etc.) required by applicable laws.
4. I the undersigned parent or guardian of the above mentioned minor agre to and minor named above and certify that the information provided is accurate.

Name _____ Signature _____ Date _____

Address, phone _____

Additional Coupon for "Request for carriage"

DODATKOWY KUPON DO „ZLECENIA OPIEKI PRZEWOŹNIKOWI LOTNICZEMU"
ADDITIONAL COUPON FOR „REQUEST FOR CARRIAGE" FORM
(Ważny tylko z dokumentem podstawowym/*Valid with basic form only)*

Imię i nazwisko dziecka
Full name of minor

Nr rejsu *Flight No.*	Data *Date*	Z *From*	Do *To*	Zlecenia specjalne/Uwagi *Special instructions/Remarks*

Imię i nazwisko osoby odprowadzającej
Person seeing off on departure

Adres, nr tel.
Address, tel. No.

Imię i nazwisko osoby odbierającej
Person meeting at destination

Adres, nr tel.
Address, tel. No.

Podpis osoby odbierającej – zwalniającej przewoźnika od opieki nad dzieckiem

Signature for release of minor from airline custody.

Opiekun w porcie transferu
Escort at transfer point
Nazwisko
Name
Kod służby
Department code

Opiekun na pokładzie
Escort in flight
Nazwisko
Name
Z/Do
From/To
Kod służby
Department code

<•> niepotrzebne skreślić
<•> *remove incorrect*

Opiekun w porcie przerwania podróży
Escort at stop over point <•>
Nazwisko
Name
Kod służby
Department code

Imię i nazwisko osoby odbierającej i odprowadzającej
Person meeting and seeing off at stopover point <•>
Adres, nr tel.
Address, tel. No.

Opiekun odbierający w porcie przerwania podróży
Escort at stopover point <•>
Nazwisko
Name
Kod służby
Department code

Opiekun w porcie przylotu
Escort at arrival airport
Nazwisko
Name
Kod służby
Department code

5.9.2 Procedures for handling Unaccompanied Minors
5.9.2.1 Departure station

Step	Action
1.	The child and the child's baggage is accepted for carriage during check-in which may be performed only: • on the day of departure, • at the airport, • by the handling agent (passenger handling services) or LOT Polish Airlines handling staff at the airport, • at the designated check-in counter, • at the time specified by LOT Polish Airlines.
2.	The person(s) who see the child off at the airport shall report to check-in with the child no later than: • 60 minutes before the scheduled departure time – for international flights, • 30 minutes before the scheduled departure time – for domestic flights.
3.	Check that the UM is holding all necessary travel documents (passport, visa, etc.).
4.	• Check if MCO/EMD for handling fee is issued (if no, refer the passenger to the ticketing desk cashier).
5.	Verify whether the booking has been confirmed for all legs of the child's journey. Should there be no booking confirmation for any portion of the journey, the child must not be accepted for carriage.
6.	Check whether the number of children traveling alone and accepted for carriage on board a specific aircraft type does not exceed the limits in force at LOT Polish Airlines.
7.	Check whether the "Request for Carriage" has been correctly filled out by the child's parents or statutory guardians. If the "Request for Carriage" is missing, give the form to the child's parents or statutory guardians to have it filled out and then verify whether it has been filled out correctly.
8.	Check the child's age.
9.	Verify the identity of the child's parents or statutory guardians.
10.	Check whether ticket entries are consistent with those in the booking system.
11.	Weigh the baggage and compare the number of pieces, their weight and size with the existing free baggage allowance. If the free baggage allowance has been exceeded (as to the number of pieces, their weight or size) excess baggage charge has to be paid.
12.	Mark the baggage by appropriate baggage tags and affix a portion of each baggage tag to the child's ticket.
13.	Hand the baggage over to appropriate baggage handling services.
14.	Assign an appropriate seat on board (close to cabin crew compartments, however not at emergency exits.
15.	Prepare UM document holder bag.
16.	File the necessary copies of UM handling advice.
17.	In the case of a journey involving transfer(s) – provide the chief of flight attendants with information on the child's planned itinerary (flight numbers, departure times).
18.	Ensure the correct remarks are in the check-in record.
19.	Keep the UM in safe custody until boarding. Due to possibility of cancellation of the flight, person who sees the child off at the airport

	should stay at the airport until the aircraft's departure.
20.	Pre-board the UM and hand him/her over to the cabin crew in charge.
21.	Make sure the information is on the PIL.
22.	Inform the destination station and, if applicable, the transit and/or transfer stations by means of PSM.

5.9.2.2 Transit station

Step	Action
1.	If disembarkation is not required, leave the UM on board during ground stop under the supervision of the cabin crew.
2.	If disembarkation is required, meet the UM at front door of the aircraft and keep him/her in safe custody until re-boarding.
3.	For re-boarding, proceed as described in point 5.9.2.1

5.9.2.3 Transfer station

Step	Action
1.	Meet the UM at the front door of the arriving aircraft.
2.	If applicable, perform check-in for the connecting flight and check travel documents.
3.	Keep the UM in safe custody until boarding or handover to the receiving carrier.
4.	Proceed as described under departure station procedure – point 5.9.2.1.

5.9.2.4 Arrival station

Step	Action
1.	Meet the UM at the front door of the arriving aircraft.
2.	Guide him/her through immigration, baggage claim, customs, etc.
3.	Meet the person present to pick up the UM.
4.	Check the identity of the person.
5.	Ask him/her to sign for receipt of the UM.
6.	Hand the UM.
7.	If there is no person present to pick up the UM, make every effort to contact the designated person for verification.
8.	If designated person cannot be reached, then contact the parents/guardian at the origin station
9.	If necessary, return the UM to the station of origin (all costs involved will be debited to the parents/guardian).

5.9.2.5 Operational irregularities

	Remarks
e) Decision and responsibility	• The LOT Polish Airlines Station Manager (a supervisor or a person authorized to represent LOT at the airport), in agreement with the person who ordered carriage of an unaccompanied minor and signed the "Request for Carriage", makes all decisions regarding carriage of an unaccompanied minor in case any flight interruptions occur which make it impossible for the child to continue their journey as booked, such as: ⇒ flight delays, ⇒ flight cancellations, ⇒ overbooking, ⇒ route changes. • In cases when it's not possible to reach an agreement, the Station Manager (a supervisor or a person authorized to represent LOT at the airport) makes his or her independent decision, for which LOT Polish Airlines bears responsibility, providing notification of the decision and the reasons for not reaching an agreement notifying to the relevant services at: ⇒ the destination airport and, ⇒ the departure airport.
f) Rules for taking care of an unaccompanied minor in the case of flight interruptions at the departure airport.	• In the case of flight interruptions which make it impossible for the child to continue their journey as booked (e.g. flight departure delayed): ⇒ the person who takes care of a child between 5 – 12 years of age: ⇒ before check-in – the person who sees the child off at the airport, ⇒ during or after check-in – an employee of the passenger handling staff (the passenger handling agent at the departure airport).
g) Rules for taking care of an unaccompanied minor in the case of a flight diverted back to the departure airport.	In the situation when the flight is diverted back to the departure airport the person who takes care of the unaccompanied minor is: • a designated employee of passenger handling staff (the passenger handling agent at the departure airport) under direct supervision of the Station Manager (a supervisor or a person authorized to represent LOT at the airport)– in the case of providing carriage to an unaccompanied minor between 5 – 12 years of age. • the member of passenger handling staff (ground handling staff) takes care of the child up to the moment when the child is released to: ⇒ the chief of flight attendants or; ⇒ the person seeing the child off on departure (named in the "Request for Carriage" form) if the flight has been cancelled. This fact shall be confirmed by a signature placed in an appropriate filed of the "Request for Carriage" form.
h) Rules for taking care of the child at a stopover airport.	In a situation of an unscheduled landing at an airport other than the destination airport, the person who takes care of an unaccompanied minor is:

	• an employee of passenger handling staff (the passenger handling agent at the stopover airport) – in the case of an unaccompanied minor between 5 – 12 years of age, under direct supervision of the LOT Polish Airlines Station Manager or the agent providing Supervising services if there's no Representative Office of LOT Polish Airlines at the stopover airport. • The LOT Polish Airlines Station Manager (or the agent providing Supervising services) has the obligation to take any measures required in order to ensure that the child gets safely to the destination or transfer airport and is released to the authorized person awaiting the child there. If it's impossible to continue the journey, the LOT Polish Airlines Station Manager (or the agent providing Supervising services), after an agreement has been reached with the person who ordered the carriage of an unaccompanied minor, makes the decision about the child's return to the departure airport.
i) Services to which an Unaccompanied Minor is Entitled and Refund of Costs Resulting from Flight Interruptions.	• In the event of any flight interruptions, an unaccompanied minor is entitled to receive all services to which an adult passenger is entitled in the case of: ⇒ delayed flights, ⇒ cancelled flights, ⇒ rescheduled flights, ⇒ flights diverted back to the departure airport, if they have already been checked-in or prior to check-in but with their booking confirmed. • In all other cases the decision is made by the Lot Polish Airlines Station Manager taking into account the commercial criteria according to the current regulations regarding the behavior of LOT Polish Airlines and the expenses incurred by the airline in relation to flight interruptions. • All expenses related to the services provided as well as any expenses resulting from: ⇒ route change, ⇒ reasons that are unrelated to the child, the child's parents or statutory guardians, ⇒ overbooking, ⇒ unscheduled landing at an airport other than the destination airport, ⇒ will be borne by LOT Polish Airlines, unless any of these costs result from causes which exclude the liability of LOT Polish Airlines. • Any costs consequent upon flight interruptions resulting from causes which exclude the liability of LOT Polish Airlines will be borne by the child's parents or statutory guardians.

5.9.3 Minors escorted by company escort

5.9.3.1 General rules

	Remarks
1. Applicability	• On request of parents or legal guardian, a company escort is assigned by Polish Airlines to accompany minors between 8 days and 5 years old, traveling without a regular accompanying adult over 16 years old. • 5-12 years - company escort possible on request of the parents/guardian
2. Limitation	• Maximum 1 infant per escort. • Maximum 1 child per escort.
3. Ticket and reservation	• The person who makes the booking for the child shall do reservation no later than 48 hours before the planned departure of the flight. • In special cases when the carriage of a child under 5 years of age will take place within less than 48 hours from the booking, the Booking and Sales Office must – prior to the sale – obtain confirmation from the Crew Control Department that it is possible to provide appropriate assistance to the child – escort (confirmation shall be obtained via Space Control). • In the event that carriage for the child is provided in cooperation with another air carrier, the Booking and Sales Offices have the obligation to: ⇒ verify whether all carriers involved in the carriage process accept carriage of children travelling as unaccompanied minors, ⇒ establish what rules apply to carriage of a child travelling as an unaccompanied minor, ⇒ obtain confirmation of the booking from all carriers involved, ⇒ obtain confirmation from other carriers that it is possible to provide an escort for the child (an additional flight attendant). • The minor holds a passenger regular e-ticket and EMD covering the escort charge. • Escort hostess holds 100 pct normal one way fare ticket (C, P, Y) on compartment in which child is travelling. • Escort travels dressed with personal clothes (not LOT uniforms)
4. Parent's or guardian's responsibility	• The parents or guardian must: ⇒ request the escort person and make the flight reservations, ⇒ arrange for necessary travel documents, ⇒ stay at the airport until the flight is airborne or arrange for an authorized adult on departure to stay at the airport until the flight is airborne, ⇒ arrange for an authorized adult upon arrival to be at the airport at the actual time of arrival, ⇒ sign the "Request for carriage" form, pay all costs involved in return transportation (meals, accommodation, ground transport, return fare etc.) in case the authorized adult fails to meet the UM.
5. Escort responsibility	• The minor becomes the escort full responsibility from the moment he/she is handed over by parents, guardian or authorised adult escort upon departure until he is handed back to the parents, guardian or authorised adult escort upon arrival.

5.9.3.2 Handling procedure
5.9.3.2.1 Departure station

Step	Action
1.	Collect the service ticket at the airport ticket sales counter. The service ticket for the additional flight attendant is being issued at the airport ticket sales counter.
2.	On the flight departure date report to check-in no later than: • 60 minutes before the scheduled flight departure time – for international flights, • 30 minutes before the scheduled flight departure time – for domestic flights.
3.	Prior to check-in collect the child and the child's baggage (carry-on items, cabin baggage and checked baggage) from the person seeing the child off at the airport.
4.	Confirm the fact of taking over guardianship over the child by signing in appropriate fields on the "Request for Carriage" form.
5.	Check-in. Collect the child's documents from the staff member who made the check-in (passport, ticket, MCO, health certificate, if any, „Request for Carriage"). Accompany the child during passport control and around the departure airport, and then on board.
6.	In the event of a journey consisting of a single flight (a LOT Polish Airlines flight) – accompany the child during passport control at the destination airport.
7.	Collect the child's baggage and accompany the child while it goes through customs control, if any, at the destination airport.
8.	Verify the identity of the person who awaits the child at the destination airport.
9.	Release the child and the child's documents and baggage to the authorized person (the person named in the "Request for Carriage").
10.	Obtain confirmation of having delivered the child to the authorized person (a signature in the appropriate field of the "Request for Carriage" form).
11.	Keep all colored coupons (blue, yellow, red and green) of the "Request for Carriage".
12.	Give the cover of the "Request for Carriage" document to the person collecting the child at the destination airport.
13.	Deliver (after the service has been provided) all the retained "Request for Carriage" coupons to the planner on duty at the Crew Planning Department in Warsaw.

5.9.3.2.2 Transfer station

	Action
1.	In the case of a journey which involves transfer (a LOT Polish Airlines flight and transfer to another carrier's flight) – accompany the child during passport control at the transfer airport.
2.	Report with the child to the TRANSFER desk/counter and deliver the child to the child's escort appointed by the subsequent carrier (who takes over from the LOT Polish Airlines. escort).
3.	Obtain confirmation of having delivered the child to the additional flight attendant of the subsequent carrier (a signature in the appropriate field of the "Request for Carriage" form and on the additional coupon to the "Request for Carriage" form).
4.	Keep three coupons of the "Request for Carriage" form (blue, yellow, pink) and one white

	copy of the additional coupon to the "Request for Carriage" form.
5.	Hand over to the additional flight attendant of the subsequent carrier (who takes over from the LOT Polish Airlines escort): • the green coupon of the "Request for Carriage" form along with two white copies of the additional coupon to the "Request for Carriage" form; • the child's documents.
6.	Deliver (after the service has been provided) all the retained "Request for Carriage" coupons to the planner on duty at the Crew Planning Department in Warsaw.
7.	Make every effort and take all measures deemed necessary in order to ensure appropriate care for the child (including delivering the child back to the departure airport) should it transpire that the child can't be collected by the authorized person at the destination airport or by the additional flight attendant of the subsequent carrier at the transfer airport.

5.9.4. MAAS Meet and Assist - the service is suspended

1. General rule	• Category of passengers: ⇒ passengers, who need help, e.g. because they are first time travelers, ⇒ passengers with insufficient knowledge of foreign languages or speak only a language not understood at all visited stations. ⇒ Special attention and assistance should be given during check-in, transit and upon arrival. **NOTE:** Children from 12 to 17 years are NOT offered MAAS service. Upon a special request from parents or guardians may travel under supervision of a member of flight crew and handling agent staff in the same way and charge as for children aged from 5 to 12.
2. Agents tasks	• The role of accompanying agent on departure, arrival or being in transit (WAW-, but for LO connecting flight) is to assist the passenger from check-in counter to the departure gate proceeding security (fast track, if applied) and passport control. **NOTE: The agent is not obliged to wait with the passenger until the boarding time.** • Upon arrival (when requested and paid in advance) assistance from the aircraft (gate stand), or from the terminal entrance (remote stand) up to the claim area and indicating proper baggage belt and exit. The information also should be given to the passenger where to claim problems with baggage if needed.
3. MAAS in WAW	• Since 20.05.13 the MAAS service is chargeable on departure/transit/arrival in WAW.
4. Meet and Greet service	• Meet and Greet service is offered for individual passengers, families and groups outgoing from WAW airport. This service includes: ➢ Carriage of passenger's baggage landside to the check-in counter at departure ➢ Priority check-in at the business class counter ➢ Assistance to the gate ➢ Priority boarding • The service is chargeable and possible to order via AirKiosk.LOT (www.lot.com)

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5.10 Passengers with infants and children (GRH 3.1.5 iv.)

5.10.1 Passengers with infants

1. Definition	• An infant (INF) is a child who has not yet reached its 2nd birthday when travel commence.
2. Acceptance and limitation	• Infants may not be accepted within first 7 days after birth, except as medical case (see point 5.11 Passengers with reduced mobility). • Maximum 2 infants per accompanying adult over 16 years of age. • For any infant in excess of the above number, a company escort must be requested and paid for. • The maximum number of infants allowed per aircraft is decided by the number of oxygen masks available on board the aircraft. • In overseas flights the aircraft shall be equipped with life jackets for each infant on board. The standard number of available life jackets and safety belts for infants: B787s - 10 pcs, B 737s – 10 pcs, ERJ 170-100/200, ERJ 190-200 – 6 pcs DHC-8-400 – 6 pcs
3. Seating	• The infant is not entitled to a separate passenger seat. **Exception:** Passenger with 2 infants (one infant not occupying a separate seat and the second one, on the separate seat using own car type seat). Passenger with 1 infant may occupie extra seat only with extra charge. • Normally, seats are pre-allocated at the time of reservation. If seat is not assigned by reservations, a suitable seat must be allocated. • Infants may not be seated at emergency exit rows. • If all seats on a seat block are occupied, an infant may only be seated on a seat block where a supplementary oxygen mask is available: **B787** – 1 (one) oxygen mask per each double and triple seats. Except for the middle, triple rows of Economy Class seats, where there are 2 additional masks, i.e. a total of 5 masks in each PSU. Also, there is one additional mask for INF in every place where bassinet mounts are provided. **B737** – 1 (one) oxygen mask per each triple seats, **ERJ 170-100/200 , ERJ 190-100/200** – 1 (one) oxygen mask per each double seats – on the right side.
4. Baby bassinet/basket (BSCT)	• Available on B787 only. • B787 is equipped with 6 baby bassinets. • The basket must be istalled on the cabin bulkhead. • The bassinet fixing spots on B787-8: three positions in rows 1,4,7 and one position in row 20 • The bassinet fixing spots on B787-9: three positions in rows 1,5,8 and one position in row 21 • The weight of the baby must not exceed 12kg/25lbs (excluding basket). • Each basket is equipped with linen, a pillow and a blanket and must be used for infants, their personal belongings and baby food only – not for stowing other items. • The bassinet must be requested at the time of reservation and is free of charge. • For take-off and landing the basket must be stowed away and properly secured.

	• The bassinet must not be used during turbulence. In case of turbulence the baby must be taken out and secured on adult's lap. **NOTE**: Baby basket belonging to the passenger is not allowed during the flight.
5. Car-type seat	Infants **not occupying** an individual passenger seat: - Car-type seat (or collapsible baby stroller/pushchair) may be carried free of charge - Car-type seat is stowed in hold (DAA procedure) Infants **occupying** an individual seat: - Car-type seat (and collapsible baby stroller/pushchair) is carried free of charge - Car-type seat is necessary for infants under 2 years old - A regular passenger seat must be booked for the infant at the applicable child fare - A window seat must be allocated - The infant seat must not be installed in an emergency exit row – nor on the row immediately in front or immediately behind the exit row - The infant seat must have shoulder belts for the infant - The seatbelt may not hamper reclining of the seat in front - The infant seat must be lashed before departure and remain that way until arrival - Construction of the infat seat must allow secure lashing with the cabin
6. Baby Strollers	- Collapsible baby stroller/pushchair may be carried free of charge – for more information refer to Chapter 6.2.2.2 (7)) - Baby strollers/pushchairs may be taken up to the aircraft entrance - Baby strollers/pushchairs must be labelled at check-in and stowed in hold using "Delivery at aircraft" and printed Baggage Tag procedure (see Chapter 6 Baggage Handling point 6.11.3)

5.10.2 Passengers with children

1. Definition	• A child (CHD) is a passenger between the age of 2 and 12 who is: ⇒ paying the applicable child fare, ⇒ holding a regular passenger ticket, ⇒ occupying an individual passenger seat.
2. Acceptance and limitation	• In principle, no special acceptance rules apply for accompanied children.
3. Seating	• Is not allow to seated children in emergency exit rows.
4. Special assistance	• Passengers travelling with young children or many children may be assisted and should be pre-embarked.
5. Group of children travelling with an accompany	• An organized group of children travelling with an accompany. i.e. school excursion • Minimum 1 adult should be guaranteed as the guardian for a group of 10 children, 2 per 20 children, etc.
6. Car-type seats and babys strollers	- collapsible baby stroller and car-type seat may be carried free of charge – for more information refer to Chapter 6.2.2.2 (7)) - collapsible baby stroller/pushchair is stowed in hold (DAA procedure) , car-type seat may be taken on board as child occupies an individual passenger seat If car- type seat is taken on board: - A window seat must be allocated

	- The car-type seat must not be installed in an emergency exit row – nor on the row immediately in front or immediately behind the exit row - The car-type seat must have shoulder belts for the infant - The seatbelt may not hamper reclining of the seat in front - The car-type seat must be lashed before departure and remain that way until arrival - Construction of the car-type seat must allow secure lashing with the cabin

5.10.3 Expectant Mothers

1. General rule	• Expectant mothers are accepted on the same terms as any other passenger. Exception is expectant mothers in the last weeks of pregnancy • Special attention and assistance should be given if needed.
2. Acceptance	• Up to the end of the 32th week of pregnancy respective up to four weeks prior to the expected confinement, an expectant mother can freely travel on LOT flights without any doctor's certificate. • MEDIF is required in case of expectant mothers after the 32th week of pregnancy or women with complicated pregnancies or expecting twins, triples, etc.
3. Seating restrictions	• Expectant mothers must not be seated in emergency exit rows.

INTENTIONALLY LEFT BLANK

5.11 Passengers with reduced mobility (GRH 3.1.5 ii.; GRH 3.1.5 iii.)

5.11.1 General information

1. Passenger with reduced mobility (PRM)	• Passengers with reduced mobility mean those passengers who, due to their physical incapacity (sensory or locomotory), an intellectual deficiency, age, illness or any other cause of disability when using transport and when the situation needs special attention and the adaptation to a person's need of the service made available to all passengers. • Categories of PRM: ⇒ medical cases, ⇒ non-medical cases. Considering the level of mobility impairment, PRM may be also classified as: ⇒ walking passengers, ⇒ not walking passengers.
2. Medical cases (MEDA)	• Passengers who suffer from an illness (marked in the booking system by the MEDA code) for whose carriage doctor's approval is required (required documents: MEDIF forms). • This passenger category includes: ⇒ passengers on a stretcher (STCR), ⇒ passengers who require medical assistance, additional oxygen for breathing or other specialized medical equipment during the flight, ⇒ passengers whose behaviour or mental or physical condition, make it impossible for them to travel without additional assistance, ⇒ passengers whose health might deteriorate as a result of air travel, ⇒ infants up to 7 days of age. ⇒ women over 32 week of pregnancy
3. Non-medical cases (NON-MEDA)	• Passengers for whose carriage doctor's consent is not required • This passenger category includes: ⇒ passengers with impaired hearing (DEAF), ⇒ passengers with impaired sight (BLIND), ⇒ elderly passengers (Elders), ⇒ women up to 32 week of pregnancy, ⇒ passengers in a wheelchair (WCHR, WCHS, WCHC), provided their health raises no reservations (the need to use a wheelchair does not result from medical reasons – e.g. a wheelchair is required to make the journey comfortable for the passenger), ⇒ passenger with their limb in cast ⇒ passengers travelling on the basis of a valid FREMEC card.
4. Walking passengers	• passengers, who are able to: ⇒ board the aircraft, ⇒ move around in the cabin, ⇒ disembark on their own.

5.11.2 Blind and deaf passengers

	Remarks
1. Blind Passenger (BLND)	• A passenger who is blind and needs assistance. • He may be accompanied by a seeing-eye dog. • If travelling together with seeing-eye dog on board ERJ 170-100/200 , ERJ 190-200, aircrafts, LOT Polish Airlines guarantee extra seat for dog free of charge. • SSR code: BLND • SRR code: SVAN if blind passenger travelling with a service dog, e.g. seeing eye dog.
2. Deaf Passenger (DEAF)	• A passenger who is deaf and needs assistance for any announcement on the ground and on board. • He may be accompanied by hearing dog. If travelling together with hearing dog on board ERJ 170-100/200 and ERJ 190-200 aircrafts, LOT Polish Airlines guarantee extra seat for dog free of charge. • SSR code: DEAF • SRR code: SVAN if deaf passenger travelling with a service dog,
3. SSR code SVAN	• SVAN – service dog, i.e. seeing-eye dog, (see more chapter 5.11.2.1)

5.11.2.1 Assistance dogs

1. Types	Assistance dog which may be accepted in the cabin. • **Trained service dogs (SSR: SVAN):** ➢ Seeing eye dogs trained to lead passengers with impaired vision; ➢ Hearing aid dogs trained to lead passengers with impaired hearing; ➢ Other service dogs trained to support physically disabled person by i.e. retrieving objects that are out of their reach, by pulling wheelchairs, opening and closing doors, assisting ambulatory tasks; ➢ Rescue dogs. **SVAN must be equipped with a harness and it is recommended that the passenger possess a muzzle (to put on the dog if necessary).**

5.11.3 Leg rest

	Remarks
1. Definition	• A leg rest is used for passenger who is unable to bend his leg(s) and requires a leg rest.
2. SSR codes	• LEGB (Both Leg in cast): ⇒ A passenger with their both legs in cast, (occupies two seats in

	aircraft—one behind the other). • LEGL (Left leg in cast): ⇒ A passenger with their left leg in cast, (occupies two seats in aircraft—one behind the other). • LEGR (Right leg in cast): ⇒ A passenger with their right leg in cast, (occupies two seats in aircraft—one behind the other).
3. General Rules	• EXST for passenger with LEGB/R/L is obligatory • EXST is chargeable by passenger • Seats are blocked from the right or left aircraft's side depending on which leg is in a cast • MEDIF is not required • Passenger with LEGB/R/L may not be seated at emergency row **NOTE**: **In case of a cast below the knee, EXST could be requested by passenger.**
4. Availability	• On request at least 24 hours before departure.
5. Procedure	1. Space Control Section confirms and blocks seats. 2. The recommended location of seats for leg rest for ERJ 170-100/200, ERJ 190-200 ⇒ excluding first 6 rows B737 ⇒ All seats excluding seats at emergency row B787 – Leg Rest available in LOT Business Class and in row no. 20 of economy class in the middle group of seats D,E,F (which is emergency exit but does not belong to a category of unattended by flight crew) DH4 - Not available. Possible EXST next to the occupied seat by passenger (every seat is recommended with exception of 2 first and 2 last rows, which are exit emergency rows) 3. Space Control Section sends message to: ⇒ WAWH1LO ⇒ WAWH2LO 4. Maintenance Control Centre orders to the Line Maintenance removing the- seats for EMB-170,EMB-175, EMB-190 or placing seats in horizontal position for B737 5. Line Maintenance confirms to Maintenance Control Centre execution an order. 6. Full plaster cast - do not accept if less than 48 hours after injury.

5.11.4 Stretcher cases (STCR) - the service is suspended.

	Remarks
1. Definition	• A stretcher case is a passenger (MEDA) who requires transportation on a stretcher.
2. Requirements	• Required documents: MEDIF. • Escort is obligatory. • SSR code: STCR, MEDA.

3. Availability	• On request at least 48 hours before departure. • Available in economy compartment only of B 737. • There is no possibility to carry passenger on the stretcher into cabin of B787, ERJ 170-100/200, ERJ 190-200, DHC-8-400. • The number of passengers carried on a stretcher is restricted to one per flight.
4. Procedure	1. Space Control Section confirms and blocks following seats for stretcher: B 737 Y162 rows 25-27 ABC. 2. In case when the minimum ground time is less than 2 hours, seats shall be blocked on both legs. 3. Space Control Section sends MEDA message to: - WAWH1LO - WAWH2LO 4. Maintenance Control Center orders to the Line Maintenance:ćinstalling stretcher or, ⇒ loading stretcher equipment to the aircraft. 5. Line Maintenance confirms to Maintenance Control Center execution an order.

5.11.5 Supplementary oxygen (OXYG)

	Remarks
1. Definition	• Additional oxygen cyliders provided during journey for MEDA passengers with breathing issues. **NOTE**: Service not available on board of LO flights - oxygen cylinders are not provided by LOT as well as passenger's own oxygen cylinders are not accepted.

5.11.6 Wheelchair Code based on the passengers' needs

	Remarks
1. **WCHC** (Wheelchair – C for Cabin Seat)	• A passenger who is completely immobile. • He requires a wheelchair to and from the aircraft and must be carried up and down the steps and to and from his seat. • Required document: MEDIF only for MEDA passenger, • Escort is mandatory only for MEDA passenger.
2. **WCHR** (Wheelchair – R for Ramp)	• A passenger (MEDA or Non-MEDA) traveling in a wheelchair, able to walk up/down stairs. • The wheelchair is necessary in order to transport the passenger between the terminal and aircraft. • Required document: ⇒ in the case of a MEDA passenger – MEDIF, ⇒ in the case of a Non-MEDA passenger.
3. **WCHS** (Wheelchair – S for Steps)	• A passenger (MEDA or Non-MEDA) traveling in a wheelchair, unable to walk up/down stairs. • The wheelchair is necessary in order to transport the passenger between the terminal and aircraft, and to carry the passenger up/down stairs or to the passenger cabin door. • Required document: ⇒ in the case of a MEDA passenger – MEDIF, ⇒ in the case of a Non-MEDA passenger.

5.11.7 Wheelchair Code based on power type (GRH 3.1.3)

1. **WCBD**	Passenger-owned powered wheelchair with non spillable batteries. For information concerning rules for wheelchair packing, accepting for carriage and carriage *(see GHM Chapter 6 Baggage Handling point 6.5.3)*
2. **WCBW**	Passenger-owned powered wheelchair with spillable cell battery. A wheelchair powered with spillable cell battery may be accepted for carriage as checked baggage, provided that all relevant requirements specified in the IATA Dangerous Goods Regulations (DGR) have been satisfied (*see GHM Chapter 6 Baggage Handling, point 6.5.2*)
3. **WCLB**	Passenger-owned powered wheelchair with lithium-Ion battery. A wheelchair powered with lithium-Ion battery may be accepted for carriage as carry-on baggage, provided that all relevant requirements specified in the IATA Dangerous Goods Regulations (DGR) have been satisfied (*see GHM Chapter 6 Baggage Handling, point 6.5.4*)
4. **WCMP**	A manually powered wheelchair, passenger-owned
5. **WCOB** (On-board Wheelchair)	Fully collapsible wheelchair for use on board aircraft. Available on board LOT Polish Airlines aircraft - on B787 only.
6. **MEQT** (Passenger's own wheelchair on board)	Fully collapsible passenger-owned wheelchair possible to accommodate on board (Ref. US DOT 382.67). More info GHM Chapter 5.11.12

Special needs passenger with one of WCH SSRs shall be tagged as below.



5.11.8 MEDA message

	Remarks
1. The message shall contain the following information:	• the MEDA code, • full name of the PNR passenger, • flight number, date; booking class, itinerary (point of departure, point of transfer, destination airport), • the code for the passenger with reduced mobility (e.g. WCHC, STCR), • short description of the medical condition (type of illness) if applicable/permitted, • actions that need to be taken: ⇒ required technical equipment (including instructions concerning handling and equipment required upon arrival), ⇒ additional services required due to the passenger's health condition (e.g. special meals, type of assistance required on board), • professional escort during the journey – full name of the escort, • full name of the person who meets the passenger at the destination airport, • whether transport from the airport will be provided.

5.11.9 MEDIF form

	Remarks
1. Purpose	• The basis for accepting for carriage a passenger with reduced mobility classified, as MEDA is a doctor's certificate. • The certificate has to be issued in writing on a MEDIF form.
2. Validity of medical clearance	• A medical clearance is only valid for the flight(s) and date(s) specified on the clearance. • Due to the fact that the certificate is issued specifically for the journey's route and time – according to the passenger's booking, the date of the medical examination has not been specified. It must, however, be conducted not earlier than 2 weeks prior to the flight. If the passenger's health has deteriorated between the moment of issuing the MEDIF form and the journey, it is necessary that a new MEDIF form be issued for this passenger.
3. A MEDIF form consists of:	• Attachment A „Information Sheet for Passengers Requiring Special Assistance" which contains handling requirements (info for Handling Agent e.g. if escort is needed, stretcher, wheelchair, ambulance, etc.) • Attachment B „Information for Passengers Requiring Medical Clearance, which contains medical information on the passenger's disease (confidential info)
	NOTE: A copy of the MEDIF document must always be presented to the check-in agent and to the Senior flight attendant before the boarding of a medical case. **NOTE: To print MEDIF use form - App 4. In Chapter 11**

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Answer ALL questions. Mark the respective boxes with cross (X) on YES or NO. Please use BLOCK LETTERS on grey fields.

Information Sheet for Passengers Requiring Special Assistance

Attachment A (Handling advice for Airline Staff)

IATA Resolution 700 Attachment A

1 Passenger's full name | Title | Age | Gender

2 Passenger Name Record (PNR)

3 Flight No. | from | to | Date | Class

Flight No. | from | to | Date | Class

4 Diagnosis or other reason for assistance required (e.g.: woman over 32 week of pregnancy; infant up to 7 days of age; passenger requiring additional oxygen etc.)

5 Stretcher needed onboard? ☐ NO ☐ YES

Note: A special service charge applies. Not all types of aircraft can be adapt to stretcher.

6 Escort for the journey required ☐ NO ☐ YES Medical qualification ☐ none ☐ nurse ☐ physician

Full name PNR if different

7 Wheelchair needed ☐ NO ☐ YES

☐ WCHR - passenger with walking disability (able to walk up/down stairs)
☐ WCHS - passenger with severe walking disability (unable to walk up/down stairs)
☐ WCHC - passenger who is unable to walk (completely immobile)

Passenger-owned wheelchair:	☐ NO	☐ YES
with non spillable batteries WCBD	☐ NO	☐ YES
with spillable cell batteries WCBW	☐ NO	☐ YES
with lithium-ion batteries WCLB	☐ NO	☐ YES
a manually powered wheelchair WCMP	☐ NO	☐ YES
on-board WCOB (on B787 only)	☐ NO	☐ YES
fully collapsible MEQT	☐ NO	☐ YES

Please provide technical specifications of wheelchair

size (L/W/H cm): _____ **weight** (kg): _____ **other:** _____

In case of battery powered wheelchair, please provide

number of batteries: ____ **battery parameters** in watt-hours (Wh) or,: _____

in volt (V) and ampere-hour (Ah): _____

Note:

1) MEQT - fully collapsible passenger-owned wheelchair possible to accommodate on board B787 on routes to/from USA.
2) In case of battery powered wheelchairs, electrical cabling must be protected and isolated by the owner against accidental short circuits.

8 Ambulance needed ☐ NO ☐ YES

Specify ambulance company contact

Note: Designated Ambulance to be organized by passenger, insurance or assistance.

9 Oxygen needed during flight? ☐ NO ☐ YES

If YES, specify: ☐ 2 LPM ☐ 4 LPM

Other:

Passenger's own Portable Oxygen Concentrator (POC) ☐ NO ☐ YES

Brand and model of POC: _____

Technical specifications of POC

size (L/W/H cm): _____ **weight** (kg): _____ **other:** _____

number of batteries: ____ **battery parameters** in watt-hours (Wh) or,: _____

in volt (V) and ampere-hour (Ah): _____

10 Other ground arrangements needed ☐ NO ☐ YES

If YES, specify:
Departure airport
Transit airport
Arrival airport

11 Special inflight arrangements ☐ NO ☐ YES

If YES, specify type of arrangements
(special meal, extra seat, leg rest, special seating etc.)

Specify equipment (e.g. respirator, incubator, oxygen etc.)
and its technical specification (size, weight, battery parameters etc.)

Specify arranging company and at whose expense

12 Date of last medical examination (Conducted not later than two weeks prior to date of planned departure)

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Answer ALL questions. Mark the respective boxes with cross (X) on YES or NO. Please use BLOCK LETTERS on grey fields.

Information Sheet for Passengers Requiring Medical Clearance

Attachment B Part One (to be completed or obtained from the attending physician)

IATA Resolution 700 Attachment B

This form is intended to provide **CONFIDENTAL** information to assess the health of the passenger to travel as indicated. If the passenger is acceptable, this information will permit issuance of the necessary directives designed to provide for the passenger's need and comfort. The incapacitated passenger's ATTENDING PHYSICIAN is requested to answer all questions.

13 **Patient's name** | Date of birth | Sex | Height | Weight

14 **Attending physician** e-mail

Address Telephone, indicate country and area code

15 **Diagnosis** (including date of onset of current illness, episodes or accident and treatment, specify if contagious)

Nature and date of any recent and/or relevant surgery

16 **Current symptoms and severity**

17 Will a 25% to 30% reduction in the ambient partial pressure of oxygen (relative hypoxia) affect the passenger's medical condition? (Cabin pressure to be the equivalent of a fast trip to a mountain elevation of 2400 meters (8000 feet) above sea level)
YES ☐ NO ☐ Not sure ☐

18 **Additional clinical information**

a.	Anemia	YES ☐	NO ☐	If YES, give recent result in grams of hemoglobin
b.	Psychiatric and seizure disorder	YES ☐	NO ☐	If YES, see Part Two
c.	Cardiac condition	YES ☐	NO ☐	If YES, see Part Two
d.	Bladder control problem	YES ☐	NO ☐	If YES, give mode of control
e.	Bowel control problem	YES ☐	NO ☐	
f.	Respiratory condition	YES ☐	NO ☐	If YES, see Part Two
g.	Does the patient use oxygen at home?	YES ☐	NO ☐	If YES, specify how much

19 **Escort**

a.	Is the patient fit to travel unaccompanied?		YES ☐	NO ☐
b.	If NO, would meet-and-assist (provided by the airline to embark and disembark) be sufficient?		YES ☐	NO ☐
c.	If NO, will the patient have a private escort to take care of his/her needs onboard?		YES ☐	NO ☐
d.	If YES, who should escort the passenger?	Doctor ☐	Nurse ☐	Other ☐
e.	If other, is the escort fully capable to attend to all the above needs?		YES ☐	NO ☐

20 **Mobility**
a. Able to walk without assistance YES ☐ NO ☐ b. Wheelchair required for boarding ☐ to aircraft ☐ to seat

21 **Sitting position**
a. The patient can use an aircraft seat with the seatback in the upright position when so required YES ☐ NO ☐

22 **Medication list**

23 **Other medical information**

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Answer ALL questions. Mark the respective boxes with cross (X) on YES or NO. Please use BLOCK LETTERS on grey fields.

Information Sheet for Passengers Requiring Medical Clearance

Attachment B Part Two (to be completed or obtained from the attending physician)

IATA Resolution 700 Attachment B

24

Cardiac condition

a. Angina YES ☐ NO ☐ When was last episode?
- Is the condition stable? YES ☐ NO ☐
- Functional class of the patient? YES ☐ NO ☐

☐ No symptoms ☐ Angina with important efforts ☐ Angina with light efforts ☐ Angina at rest

Can the patient walk 100 meters at a normal pace or climb 10 - 12 stairs without symptoms? ☐ YES ☐ NO

b. Myocardial infraction YES ☐ NO ☐ Date
- Complications? YES ☐ NO ☐ If YES, give details
- Stress EKG done? YES ☐ NO ☐ If YES, what was the result? Metz
- If angioplasty bypass,
- can the patient walk 100 meters at normal place or climb 10 - 12 stairs without symptoms? YES ☐ NO ☐

c. Cardiac failure YES ☐ NO ☐ When was the last episode?
- Functional class of the patient?

☐ No symptoms ☐ Shortness of breath with important efforts ☐ Shortness of breath with light efforts ☐ Shortness of breath at rest

d. Syncope YES ☐ NO ☐ If YES, state results

e. Investigations? YES ☐ NO ☐

25

Chronic pulmonary condition YES ☐ NO ☐

a. Has the patient had recent arterial blood gases? YES ☐ NO ☐

b. Blood gases were taken on: ☐ Room air ☐ Oxygen Liters per minute (LPM)

If yes, what were the results? pCO2(kPa/mm Hg) pO2(kPa/mm Hg) % Saturation Date of test

c. Does the patient retain CO_2? YES ☐ NO ☐

d. Has his/her condition deteriorated recently? YES ☐ NO ☐

e. Can the patient walk 100 meters at a normal pace or climb 10 - 12 stairs without symptoms? YES ☐ NO ☐

f. Has the patient ever taken a commercial aircraft in the same health conditions? YES ☐ NO ☐

If YES, when?
Did the patient have any problems?

26

Psychiatric Conditions

a. Is there a possibility that the patient will become agitated during flight? YES ☐ NO ☐

b. Has He/she taken a commercial aircraft before? YES ☐ NO ☐

If YES, date of travel? Did the patient travel ☐ alone ☐ escorted?

27

Seizure YES ☐ NO ☐

a. What type of seizures?

b. Frequency of the seizures?

c. When was last seizures?

d. Are the seizures controlled by medication? YES ☐ NO ☐

28

Prognosis for trip **GOOD** ☐ **POOR** ☐

Physician signature Date

Note: Cabin attendants are not authorized to give special assistance (e.g. lifting) to particular passengers, to the detriment of their service to other passengers. Additionally, they are trained only in **first aid** and are not permitted to administrate any injection, or to give medication.
Important: Fees, if any, relevant to the provision of above information and for carrier-provided special equipment are to be paid by the passenger concerned.

5.11.10 FREMEC Card

	Remarks
1. Definition	• FREMEC is a frequent traveller's medical card. • The holder of a valid FREMEC is considered as NON-MEDA case.
2. Purpose	A FREMEC facilitates travel for passenger with permanent or chronic reduced mobility.
3. Issuance	A FREMEC is issued and renewed by the respective medical departments.
4. Acceptance criteria	• Passenger must be holder of the FREMEC. • The journey must be completed within the period of validity of the FREMEC. • The passenger's medical condition must correspond with the described on the card. • Booking must be made well in advance, in order to be able to meet special requests. • FREMEC holders do not have any priority in acceptance.
5. LOT Polish Airlines policy	• A FREMEC card is acknowledged by LOT Polish Airlines. • It is not issued for LOT Polish Airlines passengers.

FREQUENT TRAVELLER'S MEDICAL CARD (FREMEC)

Honouring instructions. The data contained in the shaded fields MUST always be transmitted with any reservation request. Journeys requested but not authorized by this Card require completion of the Information Sheet for Passengers Requiring Special Assistance.

FREMEC Number: _____ / _____ Issued by: _____ Valid until: _____

(Airline's Code Number) (Serial Number) (Airline's Medical Dept's Telex Code) (day/month/year)

The holder of this Card. _____ _____ _____ _____ _____

(Surname) (Initial) (Title) (Sex) (Age)

_____ _____

(Permanent Address) (Phone)

has the following permanent/chronic incapacitation _____

_____

_____ _____

(Code, if any example: WCHC, etc.)

The holder is authorised by the Medical Department issuing this Card, to travel by air within the validity of this Card, subject to: (a) the Conditions stated on the reverse, (b) no worsening of the Holder's present health conditions, and (c) full observance of all carrier rules, regulations and instructions, and with the following LIMITATIONS:

_____

_____

_____

(Insert limitations, including any permanent dietary requirements)

(2)

CONDITIONS OF ISSUE

1. Cardholders are required to REPORT ALL CHANGES in their present handicap or incapacitation, and/or the deterioration in their physical or medical condition, to the airline representative or agent with whom they are in contact.
2. Subject to all terms and conditions stated on this Card, the authorisation for air travel is valid only up to the date stated on the front.
3. This Card is not transferable and must be produced, together with proof of the cardholder's identity, on every occasion whenever airline reservations are made for the cardholder, at time of ticket issuance, and when so requested by the airlines or their agents or representatives.
4. Cardholders are reminded that arrangements for travel should be made as much in advance as possible. They should also allow sufficient time for check-in formalities.

Date and Place of Issue

_____

Passenger's Signature

_____

(Legal guardian or Passenger's witness may sign if passenger is physically unable to do so).

5.11.11. Handling procedures

	Remarks
1. General rules	• As a general rule all escorted and unescorted PRMs will be accepted on LO operating flights. • An assist will be offered to the PRM, if needed, i.e. by check-in process, by processing to the gate, while the way to the baggage claim and helping at collecting baggage, etc. The special / professional personnel is dedicated for PRM at airports. • The number of PRMs must not exceed the number of able-bodied passengers capable of assisting with an emergency situation. • Due to legal requirements both by the EU and the US DOT, all limits for unescorted wheelchair passengers (WCHR, WCHS, WCHC) have been lifted.
2. Escorted PRM	• The escort for PRM must be physically able to move the disabled person to the emergency exit and assist her/him during boarding and embarkation/disembarkation. • The escort must be familiar with the condition of the disabled person; • The escort must assist during the entire journey (meals, way to and use of toilets, medication, assistance in case of flight irregularities, etc.) • The escort must be seated in the same compartment and next to the disabled person.
3. Unescorted PRM	• All unescorted wheelchairs passengers are accepted on LO operating flights.
4. Limit of WCHC passengers on board	• The number of escorted/unescorted WCHC passengers is not limited, as long as the number of disabled passengers does not exceed the number of able-bodies person, capable of assisting with an emergency situation.
5. Handling in case of irregularities	• Service to passengers with reduced mobility in the case of flight irregularities is regulated by IATA regulations, EU (in case of flights to/from EU), DOT (in case of flights to/from US). • If carriage involves transfer, the carrier who carried a passenger with reduced mobility to the point of transfer has the duty to ensure assistance and care to the passenger, until releasing the passenger to the subsequent carrier. • In the event of a delayed flight resulting in missing a connecting flight, the carrier whose flight was affected by the irregularity (the carrier which carried the passenger to the point of transfer) is responsible for all actions necessary to ensure safety of and care for the passenger.
6. Booking and Booking Confirmation.	• When confirming a booking for a passenger with reduced mobility by the Space Control Section, the following factors should be taken into account: ⇒ the health condition of the passenger, ⇒ the possibility to provide the equipment necessary for carriage, ⇒ the possibility to provide special care to the passenger during ground handling and on board, ⇒ regulations of other carriers.

	• In order to appropriately prepare carriage of a passenger with reduced mobility, a request for booking confirmation shall be sent to the Space Control Section: ⇒ 72 hours prior to the planned journey, however no later than 24 hours prior to departure; it does not concern women over 32 week of pregnancy and passengers traveling with infants under seven days old. ⇒ in the case of providing carriage for a group of passenger with reduced mobility – 3 weeks before the planned journey. • A request to provide additional equipment, installation of any such equipment and special care shall be sent by the Space Control Section as a message to the addresses of relevant organizational units of all airports involved in carriage no later than 12 hours before the scheduled departure. • If all conditions are met, the Space Control Section accepts for carriage the passenger with reduced mobility.
7. Ground handling at the point of departure.	a) A passenger with reduced mobility should report to check-in at a specified time, required at a given airport (published in the flight timetable). b) A passenger with reduced mobility is entitled to carry two pieces of mobility equipment free of charge. This includes wheelchairs (a collapsible and a self-powered driven), crutches and other medical items. c) While performing check-in for a passenger with reduced mobility all conditions and requirements applicable to check-in shall be observed. Moreover, the check-in staff of the handling agent who perform check-in for the passenger and their baggage have the obligation to: • Check status of passenger. If MEDA cases check a MEDIF form. • Check whether the passengers have their own wheelchair. If yes – verify wheelchair type. ⇒ check if contains dry or wet battery, ⇒ enter the information about the wheelchair or other moving aids into the DCS, ⇒ inform the load control department about having accepted a wheelchair for carriage. ⇒ In case of own wheelchair, which is needed up to the aircraft, the handling agent print the routing baggage tag with the final destination and attach it with Delivery at the Aircraft (DAA) with the transfer port to the wheelchair (see chapter 6.11.3). ⇒ Due to security and emergency reason never seat PRM at EXIT row(emergency row) • Affix labels to the passenger's checked baggage, according with the "Baggage Handling Procedure". • Make sure that all requirements given in the notification message are met. • Ensure that PRM is not allocated, nor occupies, seat where his/her presence could • impede the crew in their duties, • obstruct access to emergency equipment, or • impede the emergency evacuation of the airplane. • Recommended seats for PRM in case of aircrafts B737 and ERJ are the

	window seats (excluding EXIT emergency row) • Offer assistance as specified in the notification message. • Pre-board the passenger. • Inform the cabin crew of the presence on board of a passenger with reduced mobility. • Send a passenger service message (PSM) to all station involved. • Issue a PIL (passenger information list) for the crew. NOTE: In circumstances in with the number of PRMs forms a significant proportion of the total number of passengers carried on board: -the number of PRMs shall not exceed the number of able-bodied persons capable of assisting with an emergency evacuation, and d) Unnotified and emergency cases. If, during check-in, any symptoms of disease are discovered in a passenger who hasn't undergone medical examination, an employee of the agent performing the check-in must: • notify the LOT Polish Airlines Station Manager or the agent providing SUPERVISING services. • If medical clearance is needed, but was not requested (e.g. due to ignorance or negligence of the passenger) – request medical clearance on the spot. • If medical clearance is needed for an emergency case (e.g. due to an accident on the way to the airport, incident at the airport) – request medical clearance on the spot. • If medical clearance on the spot is not possible (lack of time, outside office hours etc.) – refuse the passenger. e) Refusal of acceptance. • The air carrier may refuse carriage of a passenger – even if the passenger holds a valid doctor's certificate (MEDIF) – in the case that: ⇒ the passenger requires individual medical care and there's no escort for the passenger, ⇒ the passenger may shock other passengers with his/her looks or smell, due to the disease, ⇒ the passenger may present a threat to the security of other passengers or the crew, due to his/her mental and medical condition, ⇒ the passenger suffers from an infectious disease. • The Station Manager or the agent providing Supervising services has the obligation to notify the relevant organizational units at the destination and all transit airports listed in the passenger's ticket. ⇒ The notification shall provide information on the reason for refusal or flight rescheduling as well as full information on any action taken in order to enable the passenger to continue journey at another date/time. f) After the check-in, the ground handling agent takes over the care of the passenger with reduced mobility.
8. Ground	• If the journey continues on the same airplane, a passenger with reduced

handling at the point of transit.	mobility who requires special assistance and care and his/her escort may stay on board during a transit stop – if this is not against security requirements at a given airport. • If the passenger with reduced mobility must disembark, this should take place after all other passengers disembarked. • The handling agent at the point of transit has the obligation to provide proper care and conditions to ensure the comfort of the passenger during the transit stop. • If there was a change of crew the handling agent has the obligation to notify the aircraft captain of the presence on board of a passenger with reduced mobility.
9. Ground handling at the point of transfer and at destination	• At the point of transfer and at the destination airport, the handling agent responsible for ground handling has the obligation to: a) provide service and assistance to the passenger with reduced mobility, according to the requirements in the message, including assistance at passport control, baggage claim and customs clearance, b) check whether the subsequent carrier has been notified of carriage of the passenger with reduced mobility – if the transfer involves another airline, c) deliver the passenger aboard the other airplane, d) return any special equipment (e.g. stretcher, oxygen bottles) to the departure airport.
10. Handling in case of irregularities	• Service to passengers with reduced mobility in the case of flight irregularities is regulated by IATA regulations. • If carriage involves transfer, the carrier who carried a passenger with reduced mobility to the point of transfer has the duty to ensure assistance and care to the passenger, until releasing the passenger to the subsequent carrier. • In the event of a delayed flight resulting in missing a connecting flight, the carrier whose flight was affected by the irregularity (the carrier which carried the passenger to the point of transfer) is responsible for all actions necessary to ensure safety of and care for the passenger.

5.11.12. Handling of Passenger with Reduced Mobility (PRM) in Atlantic Flights

1. Air Carrier Access Act (ACAA) DOT 14 CFR Part 382	• Effective May 13, 2009 for flights to and from U.S. by foreign airlines • Valid also for all code-share flights (LO/UA code-share fights from WAW to: AMS, BRU, CDG, LHR, ZRH) • Complete text of the regulations must be available at each destination involved (can be found at: http://airconsumer.ost.dot.gov)
2. Carrier:	• May not refuse transportation to a passenger solely on the basis of disability • May not limit the number of PRM on particular flight • Must provide passage to an individual who has a disability that may affect his or her appearance or involuntary behaviour, even if this disability may offend, annoy, or be inconvenience to crew or other passengers: • May refuse transportation if: ➢ passenger with disability would endanger the health or safety or other passengers, or transporting the person would be a violation of FAA or foreign government safety rules ➢ there are no lifts, boarding chairs or other devices available which can be adopted to enplane the passenger **NOTE:** The requirement will apply for foreign air carrier operations at U.S. airports beginning May 13, 2011 ➢ there are special provisions about persons with certain disabilities or communicable diseases. ➢ it is unable to seat the passenger without violating U.S. or foreign government safety or security rules. **NOTE**: If transportation is refused to any person based on disability, the carrier must provide the written statement to the person within 10 calendar days, stating the basis for the refusal. The statement must include, where applicable, the basis for the carrier's opinion that transporting the person would be harmful to the safety of the flight. • Must ensure that services required by the rule it are provided **NOTE:** If flight is cancelled and passenger must fly with another carrier, the original carrier must, to the maximum extent feasible, provide assistance to the second carrier in furnishing the accommodation requested If the aircraft is changed (e.g. due to technical reason) and substitute aircraft is not fully accessible, carriage should be provided based on own regulations (before the implementation of ACAA rule) • Must have a Complains Resolution Official (CRO) available on a timely basis (even if by phone) to resolve disagreements which may arise between carrier and the passengers with disability

3. Information to passenger	• Passengers with disabilities must be provided information upon request concerning facilities and services available including: ➢ any aircraft or services limitations **NOTE:** Carrier shall provide this information to any passenger who states that she or he uses a wheelchair for boarding even if the passenger does not explicitly request the information) ➢ location of seat (if any) with movable aisle armrests and any seats which the carrier does not make available (e.g. emergency exit rows) ➢ any limitations on the availability of storage facilities in the cabin or cargo compartments for mobility aids or other equipment used ➢ whether the aircraft has an accessible lavatory • If passengers could make reservation or get information about flight by phone, text telephone (TTYs) must be available for hearing-impaired passengers.
4. Information from passenger	Carrier may not require passengers with disabilities to provide advance notice (48 hours and one hour advance check-in) of their intent to travel or of their disability except: ➢ use of the passenger's portable electronic respiratory assistive device during the flight ➢ transportation for an electronic wheelchair ➢ provision by the carrier of hazardous material packaging for the battery of a wheelchair or assistive device ➢ carriage of 10 or more PRM who travel as group ➢ carriage of a psychiatric service dog in the cabin, ➢ carriage of any service animal (dog in cabin, others in the compartment) on a flight segment scheduled to take 8 hours or more, ➢ carriage of a passenger who has both service vision and hearing impairments ➢ provision of an on-board wheelchair on an aircraft that does have an accessible lavatory for person who can use an inaccessible lavatory but need on board chair to do so ➢ medical oxygen for use on board (72 hours' advance notice for international flight) ➢ carriage of an incubator ➢ Carriage on a stretcher
5. Safety assistant	• Safety assistant (only assistance in the event of an emergency evacuation) may be required for passenger: ➢ travelling on a stretcher or in incubator, ➢ who, because of a mental disability, is unable to comprehend or respond appropriately and safety instructions fro crew ➢ with a mobility impairment so severe that passenger is unable to psychically assist in his or her own evacuation from the

	aircraft ➢ who has both severe hearing and severe vision impairments which prevent him or her from receiving and acting on necessary instruction from the crew when evacuating the aircraft during an emergency • Assistant could be: ➢ person (volunteer) from among other passengers on the flight. She/he has to be checked-in in the same time as person with disability. The short training to safety assistant must be delivered. ➢ off duty employee **NOTE:** Free ticket for safety assistant could be provided by the carrier If safety assistance is needed and there is not seat available and passenger with disability holding the confirmed reservation is denied boarding, the passenger is eligible for compensation in an amount equal to denied boarding compensation for oversold flight
6. Airport	• Passengers with disability have timely access to the same information provided to other passengers, including (but not limited to) information on: ➢ ticketing ➢ scheduled departure times and gates ➢ change of gate assignments ➢ status of flight delays ➢ schedule changes ➢ flight check-in ➢ checking and Lost & Found • If airport is equipped with automated kiosk equivalent service to passenger wishing to use it: ➢ assistance to passenger with disability must be delivered or ➢ allowing the passenger to come to the front of the line at check-in counter
7. MEDIF	• Medical Certificate is a written statement from the passenger's physician saying that the passenger is capable of completing the flight safely without requiring extraordinary medical care • A disability alone is not sufficient grounds for carrier to request medical certificate. • Medical Certificate is required for the passenger: ➢ carried on the stretcher or in an incubator ➢ using medical oxygen during the flight ➢ has a medical condition that causes the carrier to have reasonable doubt that the passenger can complete the flight safely, without extraordinary medical assistance during the flight, ➢ has a communicable disease or infection that has severe health consequences and has been determined by federal public health authorities to be readily transmittable during the flight

	NOTE: If the passenger who seeks passage has an infection or disease that would be transmittable during the normal course of the flight, and that has been deemed so by the federal public health authority knowledgeable about disease or infection ➢ carriage could be refused, ➢ passenger could be asked to deliver medical certificate stating that the disease at its current stage would not be transmittable during the normal course flight or describing measures which would prevent transmission during the flight ➢ passenger could be ask to wear a mask If the passenger presents a medical certificate describing conditions or precautions that would prevent the transmission of the disease during the flight, carriage could b refused only in case if it is not possible to act upon the conditions set forth in the certificate to prevent transmission of the disease.
8. Mobility aids and assistive devices	• Passengers may bring on board and use: ➢ ventilators and respirators, powered by non-spillable batteries ➢ continuous positive airway pressure (CPAP) machine ➢ portable oxygen concentrators, ➢ manual, typical adult-sized folding, collapsible wheelchair (13 in x36 in x 42in) • Assistive devices shall not count toward a limit on carry on baggage • Devices could be carried on board of the aircraft on space available basis • When stowed in cargo compartment ➢ priority must be given over cargo and baggage ➢ Must be among the first items unloaded ➢ Shall be returned to the passenger to the door at the aircraft or at the claim area in accordance with the whatever request was made by the passenger before boarding **NOTE:** When assistive devices are disassembled, must be returned to the passenger in the same condition that was received (e.g. assembled)
9. Passenger with own wheelchair on board	• The passengers-own wheelchair can be stowed on board of B787 within the limit of 1 piece. The stowage place is in the closet indicated for WCHs and other assistive devices. This wheelchair has a priority over the other passenger or crew luggage. Other wheelchairs may be stowed in the hold as regular baggage.
10. Handling of wheelchairs	• Battery powered wheelchairs and other similar mobility devices must be transported Exception: Due to cargo compartment size or aircraft airworthiness consideration it is not permitted • Provisions concerning battery powered mobility aids: ➢ A battery (spillable, nonspillable) shall not be transported where it appears to be damaged and leakage of battery fluids is

	possible ➢ The battery may not be drained ➢ When hazardous materials regulations require detaching the battery from the device, the packaging for the battery that will meet safety requirements shall be delivered to the passenger upon request without any charges. ➢ Carrier may require passenger with battery powered mobility aids to check in one hour before the normal check-in deadline. If passenger check later than that time, the carrier must make reasonable effort to carry wheelchair unless this would delay the flight ➢ Carrier must allowed passenger to provide written instructions concerning the disassembly and assembly of the wheelchairs and must follow those instructions of the greatest extent feasible, consistent with government regulations • Spillable batteries: ➢ the battery must be removed unless the wheelchair can be loaded, stored, secured, unloaded always an upright position ➢ battery may not be removed from the chair if it is possible to load, store, secure and unload with the wheelchair always in an upright position and the battery is securely attached to the wheelchair • Nonspillable barrries: ➢ It is never necessary under DOT hazardous materials regulations applicable to U.S. to remove a battery marked as nonspillable from the wheelchair before stowing **NOTE:** Foreign governments rules may be differ. DOT rules require new nonspillable batteries to be marked as such effective September 1995
11. Portable Oxygen Concentrators (POCs)	• Passenger could carried (without any additional expenses) and used on board during the flight Portable Oxygen Concentrators if: ➢ inform the carrier 48 hours before about this fact ➢ has medical certificate issued 10 days before flight states that: ➢ it is necessary to use it during the flight ➢ liters per minute needed ➢ expecting working time of the POC (150% of maximum duration flight must be covered) ➢ POC is approved by FAA **NOTE:** Only the following types of POC are approved by FAA. List of FAA Approved Portable Oxygen Concentrators is available on: https://www.faa.gov/about/initiatives/cabin_safety/portable_oxygen/ 1. AirSep FreeStyle 2. AirSep LifeStyle 3. AirSep Focus 4. AirSep Freestyle 5 5. (Caire) SeQual eQuinox / Oxywell (model 4000) 6. Delphi RS-00400 / Oxus RS-00400 7. DeVilbiss Healthcare iGo 8. Inogen One 9. Inogen One G2 10. lnogen One G3

	11. lnova Labs LifeChoice Activox 12. International Biophysics LifeChoice / lnova Labs LifeChoice 13. Invacare XPO2 / XPO100 14. Invacare Solo 2 15. Oxylife Independence Oxygen Concentrator 16. Precision Medical EasyPulse 17. Respironics EverGo 18. Respironics SimplyGo 19. Sequal Eclipse 20. SeQual SAROS 21. VBox Trooper
12. Service dogs	• Categories of service animals: ➢ Guide, service dog • Only dogs must be accepted. Other service animals may be carried in the cargo compartment • Passenger with disability with service dog is permitted to seat at any seat in which the person sit, unless the dog obstruct the aisle or other area that must remain clear in order to facilitate an emergency evacuation, in which case the passenger will be assigned another seat. • Guide dog: Evidence that dog is a guide dog may include cards or other documentation, presence of harness or markings on harness, tags, or the credible verbal assurance
13. Security procedures	The same as for other passengers
14. On board equipment	Aircraft must be equipped with an operable on board wheelchair
15. Boarding/Deboarding	• Properly trained personnel who are knowledgeable on haw to assist passenger with disability in boarding and exiting must be available if needed • Boarding and exiting most , mobile lounges, boarding lift or boarding chair must be accessible • Pre-boarding for passenger with disability who make such a request on the basis that they need additional time or assistance to board, stow accessibility equipment or be seated • Passenger with disability should be assisted till reaching connecting flight • Passenger with disability cannot be leave unattended for more than 30 min in a ground wheelchair, boarding chair or other device in which the passenger is not independently mobile
16. Seating	• Passenger with disability cannot be required to seat in a particular seat or be excluded from any seat, except as provided by government safety rules (e.g. emergency exit rows) • Recommended seats for PRM in case of B787 aircraft Are aisle seats

	in the middle group of seats (including row 20 D,E,F) • Passenger with disability may be denied certain seat if: ➢ the passenger's involuntary active behaviour is such that it could compromise safety of flight and the safety problem can be mitigated to an acceptable degree by assigning the passenger another seat rather than refusing service or ➢ desired seat cannot accommodate service dog
16. Complains	• Each carrier must have Complains resolution Official (CRO) available at each airport during all times that carrier is operating the airport • CRO can be made by telephone • Any passenger having complaint about disability accommodations is entitled to communicate with a CRO **NOTE:** CRO does not have authority to countermand a safety based decision made by pilot in command

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5.12 Irregularities *(Star Alliance A3.2; A3.3)*

5.12.1 General rules

1. Basic rule	• LOT Operations Control Center in Warsaw cooperate with the local LOT Polish Airlines representative (Station Manager or supervisor). Final decision is made by LOT Operations Center Duty Manager. • In case of flight irregularities affecting carriage provided by LOT Polish Airlines all passengers are treated equally, regardless of issuer of their ticket and regardless of whether the entry in the "Carrier" field of the passenger ticket shows a "LO" designator or LOT's code-share partner.
2. Eligibility for services.	Those eligible for services are: • All revenue passengers and Miles & More Program Members traveling on the basis of free reward tickets who have reported for check-in within the published time and who: ⇒ hold a valid air ticket, representing a single contract of carriage and, ⇒ hold a confirmed booking (booking entered in their ticket for the interrupted flight) and, ⇒ hold other valid travel documents (passport, visa etc.). • Passengers who missed their connecting flight(s) due to an error of the ticket issuer (e.g. wrong flight number or departure time, MCT not ensured). • Passengers with ID/AD tickets, traveling privately or on business, which have been checked-in and assigned a specific seat. Such passengers obtain a right to the same services as those applicable to revenue passengers, except of hotel accommodation and free transportation on route airport–hotel/downtown/railway station-airport. • Passengers who travel on the basis of an ID00S1 ticket as an escort for a revenue passenger (e.g. an escort for an unaccompanied minor on board, medical staff of the carrier traveling as an escort for a disabled passenger) have the right to the same services as those applicable to the passenger whom they are escorting. **Notes:** a) All ID/AD passengers should be checked-in with assigning a seat on board at the latest possible moment, except those ID/AD passengers who travel as an escort for a fare-paying passenger. b) A passenger – Member of the Miles & More Program who travels on the basis of his/her reward ticket – should be notified that: ⇒ if the journey hasn't commenced – the ticket may be returned and miles may be credited back to the Miles & More Program member's account (at no handling charge), ⇒ if the journey has already commenced – after the passenger has presented his/her complaints to the LOT Office, the complaint should be forwarded to Passenger and Baggage Claim Department, ⇒ the unused miles for the portion of the journey not used because of the fault of LOT Polish Airlines will be credited back to the member's account (at no handling charge). ⇒ The basis for calculating the miles is the„Delay/Cancellation/Rerouting Certificate".

3. Irregularities caused by fault of LOT Polish Airlines	• Failure to carry one or more passengers on the flight on which confirmed reservation is held due to overbooking/overloading by LOT Polish Airlines. • Changes to flight schedule, change of equipment, flight cancellation due to commercial reason. • Diverting a flight back to the port of departure, landing at unscheduled stopover airport or by-passing a stopover point due to operational reason.
4. Irregularities not caused by the fault of LOT Polish Airlines	• Force majeure, representing the forces of nature, such as hurricane, earthquake, volcano eruption, floods, and weathers conditions. • Industrial action (except industrial action by the carrier's own personnel) at the airports en route of the passenger's journey. • Air traffic reasons – e.g. change of flight path ordered by authorities, airport closedown. • Unexpected technical failures found during the flight or pre departure check, which could have an influence on safety operation. • Security reasons – e.g. bomb alert. • Other objective reasons – e.g. political situation.
5. Irregularities within the passenger's own responsibility	• Transport of one or more passengers due to missing, incomplete or expired travel/health documents. • Carriage of one or more passengers due to reporting late for check-in. • Transport of one or more passengers under the influence of alcohol or drugs, or having contagious or other forms of disease, which may cause inconvenience to other passengers.

5.12.1.1 Rules for handling agent

	Remarks
1. Basic behaviour rules	• When dealing with irregularity, personnel must be courteous but firm. • Personal behaviour and professionalism keep passengers' faith in LOT Polish Airlines. • Discussions with passengers and statements/speculations concerning responsibility or cause should be avoided in any case. • Never send a complaining passenger back. • Listen to him/her takes his/her problem seriously. • Do not start discussions but take up the complaint on the Passenger Feedback Form and forward this form to Passenger and Baggage Claim Department.
2. Obligation to inform passengers of their rights	Check in desk shall be equipped with a notice containing the following text: "If you are denied boarding or if your flight is cancelled or delayed for the least two hours, ask at the check-in counter or boarding gate for the text stating your rights, particularly with regard to compensation and assistance"
3. Information to the passenger *(Star Alliance A3.3)*	• The passenger shall be verbally informed immediately if any irregularity concerning his travel and/or flight occurs ⇒ First announcement should be given as early as possible, but not later

	than 20 minutes before STD. Second announcement shall be given not later than after 15 minutes from the first announcement and the following ones shall be provided at least every 30 minutes ⇒ Information shall be complete but brief and at minimum provided in English ⇒ Better to advice passengers of the full consequence of the delay than to hold him uncertainty • Systems and airport signage must be updated. • Leaflet with information about due services in case of irregularity should be given to all passengers if the flight has been cancelled, passenger has been denied boarding or delay has been scheduled over 2 hours. NOTE: Information could be given to blind passengers verbally.
4. Information to the operations	• All passenger irregularities shall be reported to final destination and to operations – SITA addresses: ⇒ WAWOOLO, ⇒ WAWAPLO, ⇒ WAWXZLO Date, flight number, stating passenger name, amount of baggage and action taken (e.g. alternate transportation by flight/bus/train and ETA at final destination) as soon as possible after the event.
5. Information to the crew	All given information and actions taken must be reported to the crew.
6. Carrier Communication	• Support receipt of IRROP messages at each station, using dedicated teletype addresses (XXXK9XX, where XXX is the station code and XX is the carrier code); • Forward IRROP information to onward carriers, as defined in teletype message template.
7. Rebooking	• Re-book all passengers in same booking class whenever possible • Provide re-booking based on agreed priority: ➢ *Own carrier* ➢ *Star Alliance member carrier* ➢ *Non-Star Alliance carriers* • Give priority for possible upgrading to priority customers: Star Alliance Gold, Star Alliance Silver, full-fare and redemption First/Business Class; • Forwarding carrier to perform re-booking; • Provide special priority to passengers waitlisted due to re-booking; • Re-direct baggage to follow passenger itinerary; • Accept flight coupons according to IATA 735d and 735e; • Forwarding member is responsible for cancellation of unused sectors in PNR/Res systems.

5.12.2. Delay
5.12.2.1 Decision criteria

	Remarks
1. Basic rule	• In case of delays every possible effort must be taken by all concerned departments to avoid further delays, passenger inconveniences and costs. • All possible steps shall be activated to reduce ground time to minimum
2. When deciding to delay a flight, the following criteria must be taken into account:	• Departure slot, if applicable, • The number of late transfer passenger in relation to the total passenger load, • The status of transfer passengers (Frequent Flyer Members, VIPs, Business Class passengers, long-haul passengers etc.), • The consequence of a delay on: ⇒ aircraft rotation, ⇒ onward connections at down line station(s), ⇒ crew rotation, ⇒ operational and weather conditions and developments, ⇒ transfer passengers booked on the return flight, • Type (e.g. short-haul flight, non-delay able flight) and time of the flight. • Rerouting possibilities to the final destination, • Available hotel accommodation.
	NOTE: Every single case of delaying our flight due to commercial reasons (including acceptance of passenger after check-in closure or late arrival of transfer passengers) shall be approved by LOT Operation Center (SITA address: WAWXZLO, tel. +48 22 606 7749 or +48 22 606 7746)

5.12.2.2 Handling if the delay is known before boarding

Step	Action
1.	Apologise and inform the passengers about the reason for and the extent of the delay (use the public address system, monitors, information boards, check-in staff etc., whichever is available). **NOTE:** If delay is scheduled to be less than 10 minutes, the delay will neither be communicated to the passengers nor displayed.
2.	If the extent of the delay is unknown, then advice when further information will be given.
3.	Reconfirm the departure gate to the passenger.
4.	If requested by the passenger, confirm the details of irregularity issuing Certificate (Concerning delay, cancellation, port of arrival change).
5.	Co-ordinate closely with the crew, informing cabin crew and flight crew about any delay.
6.	**Order and serve refreshments or give meal vouchers for passengers according to LOT's requirements in case of irregular flights (more 5.12.2.5.)**
7.	Confirm when passenger should be back at the gate.
8.	Check onward connections and protect seat.
9.	If delay is causing a misconnection at the next station, anticipate and reroute passengers if necessary.
10.	• In case of Air Traffic Control delay, the boarding time will depend on: ⇒ the parking position of the aircraft (e.g. at a loading bridge, boarding by bus), ⇒ the number of passengers to be boarded, ⇒ the type of the aircraft, ⇒ whether connected to a GPU or not. • If the delay is less than 60 minutes, then board as scheduled. If the delay is more than 60 minutes, then board later, but always keeping a 60 minutes margin.

5.12.2.3 Handling if the delay known after completion of boarding

	Action
1.	The passenger may be kept on board for a limited period time (maximum 60 minutes).
2.	Such decision is to be taken in close cooperation with the flight deck, cabin crew, airport authorities and other relevant departments.
3.	Aspects which should be taken into account when making such decision: • extent of delay, • airport facilities • passenger comfort on board the aircraft (e.g. availability of heating or cooling system), • eventual further delay caused by disembarkation and rebooking.
4.	In case of inadequate airport facilities and subject to local regulations, a refreshment/meal may be served on board.
5.	If all passengers must be disembarked: • advise the passengers to take along all carry-on baggage and other personal belongings, • distribute transit boarding passes, • reconfirm boarding gate and new boarding time.

5.12.2.4 Delay involving night stop

	Action
1.	• Offload and distribute baggage to the passengers as required. If not – offer checked-in and transfer passenger Overnight Kits • Inform the passengers about the baggage pick-up location
2.	Make sure that any baggage left by passenger is kept in a secure place and/or reloaded onto the flight.
3.	Note the passenger's contact address.
4.	Ask if the passenger still wants to travel on the delayed flight.
5.	Arrange hotel accommodation (see point 5.12.6).
6.	Inform the passenger about: • hotel accommodation, • departure time and place to the hotel, departure time and place from the hotel.
7.	Reconfirm the new flight departure time.
8.	Assist passenger with entrance/immigration and customs formalities and documentation, if necessary.
9.	If possible, accompany the passengers by bus to the hotel.

5.12.2.5 Long delays

<table>
<tr><th></th><th>Remarks</th></tr>
<tr><td>1. Basic rule</td><td>All passengers who are personally affected by a delay over two hours must be offered written information about their rights in this specific situation</td></tr>
<tr><td>2. Applicability</td><td>The rules apply only to long delays and cover only the situation when flight is delayed at departure (not when a flight leaves on time and is subsequently delayed)</td></tr>
<tr><td>3. Due services</td><td>Depending on duration of delay and on the distance to the destination:
<table>
<tr><th>Flight distance</th><th>Delay</th></tr>
<tr><td>Less than 932 miles</td><td>2 hours or more</td></tr>
<tr><td>932 – 2175 miles</td><td>3 hours or more</td></tr>
<tr><td>More than 932 miles (within EU)</td><td>3 hours or more</td></tr>
<tr><td>More than 2175 miles (except flights within EU)</td><td>4 hours or more</td></tr>
</table>
• meals and refreshments, reasonably related to waiting time,
• hotel accommodation if applicable,
• transport to/from airport and hotel,
• two phone calls, telex, e-mails or faxes
Note:
LOT Polish Airlines do not offers the care if it would result in further delay</td></tr>
<tr><td></td><td>If flight is delayed more than 5 hours the passenger has a right to:
• reimburse the ticket within 7 days or,
• return flight to the first point of departure at the earliest opportunity</td></tr>
</table>

5.12.3 Cancellation

	Remarks
1. The reasons for which flight could be cancelled	• Not extra ordinary circumstances: ⇒ commercial (example: low booking), ⇒ direct airline fault reasons. • Extra ordinary circumstances: ⇒ political instability (civil unrest, curfews), ⇒ meteorological conditions (fog, snow, storms, ice formation etc.), ⇒ security risk (exceptional passenger, baggage and aircraft/airport security measures), ⇒ unexpected flight safety shortcomings (technical aircraft problems, airport related problems such as runway closures and limitations, equipment malfunctioning etc.), ⇒ strikes (that affect the operation of an operating carrier – strikes in airlines or in essential services such as ATC, airport etc.), ⇒ Air Traffic Management decision (ATC delays, scheduled slots not being available).
2. Decision	LOT Operations Control Center in Warsaw cooperate with the local LOT Polish Airlines representative (Station Manager or supervisor). Final decision is made by LOT Operations Center Duty Manager.
3. Planning of solution	• Immediately plan solutions, e.g.: ⇒ rebooking, ⇒ hotel accommodation, ⇒ meals, refreshments, ⇒ ground or other alternative transportation, ⇒ communication facilities, ⇒ rerouting out of the origin station of incoming transfer passengers.
4. Information to passengers	• Inform the passengers about the cancellation and the planned solutions: ⇒ by phone (in coordination with or done by the reservations department) depending on the time and local facilities or, ⇒ at the airport.
5. Handling procedure	• If the interrupted flight has been cancelled, offer the passenger with the possibility to depart to his/her destination on a route which will ensure the least possible delay and inconvenience. • Check whether the suggested change will not affect the passenger's further journey. • If, due to the suggested change, that the passenger will miss a connecting flight for which he/she has a confirmed booking, suggest another connecting flight and write into the ticket „INVOLUNTARY REBOOKING / REROUTING DUE TO ...".
6. Right to compensation	All passengers who are personally affected by a cancellation must be offered written information about their rights in this specific situation,
7. Due services	• Care (meals and refreshments reasonably related to waiting time)
	• Hotel accommodation for one or more nights if necessary,
	• Transport to/from airport and hotel,

<table>
<tr><td></td><td>
two phone calls, telexes, e-mails or faxes,
</td></tr>
<tr><td></td><td>
Reimbursement within 7 days of coupons not used and for the parts already made if flight no longer serves any purpose plus an earliest possible return flight to the first point of departure or rerouting to the final destination at earliest opportunity under comparable transport conditions or rerouting to the final destination at a later date according to passenger convenience but subject to availability space
</td></tr>
<tr><td></td><td>
Cash compensation:
<table>
<tr><th>Flight distance</th><th>Deviation to reach final destination</th><th>Compensation (cash value)</th></tr>
<tr><td rowspan="2">Less than 932 miles</td><td>Less than 2 hours</td><td>EUR 125</td></tr>
<tr><td>More than 2 hours</td><td>EUR 250</td></tr>
<tr><td rowspan="2">932 – 2175 miles</td><td>Less than 3 hours</td><td>EUR 200</td></tr>
<tr><td>More than 3 hours</td><td>EUR 400</td></tr>
<tr><td rowspan="2">More than 932 miles (within EU)</td><td>Less than 3 hours</td><td>EUR 200</td></tr>
<tr><td>More than 3 hours</td><td>EUR 400</td></tr>
<tr><td rowspan="2">More than 2175 miles (except flights within EU)</td><td>Less than 4 hours</td><td>EUR 300</td></tr>
<tr><td>More than 4 hours</td><td>EUR 600</td></tr>
</table>
</td></tr>
<tr><td></td><td>The compensation is paid only in form of MCO/EMD (“Good for transportation only” or ”Good for refund”).
If the passenger accepts the MCO/EMD “Good for transportation only” the amount of compensation increased by 50%.</td></tr>
<tr><td></td><td>NOTE:
There are no cash compensation if :

the cancellation is caused by extra ordinary circumstances
a passenger was informed about the cancellation more than 2 weeks before the flight date or,
The passenger was informed about the cancellation between 2 weeks and 7 days prior to the departure date and a proposal for a change of route had been made. The flight via the new route must depart no earlier than 2 hours before the departure of the original/cancelled flight and must arrive at its port of destination no more than 4 hours later than the cancelled flight or,
The passenger was informed about cancellation less than 7 days prior to the departure date and a proposal for a change of route had been made. The flight via the new route must depart no earlier than one hour before the departure of the original/ cancelled flight and must arrive at its port of destination no more than 2 hours later than the cancelled flight.

</td></tr>
</table>

5.12.4 Change of the aircraft

	Remarks
1. Seating does not correspond	If passengers are already checked in the original flight and, because of the aircraft change, the new seating does not correspond anymore, then: • re-check in the passengers, • issue the new boarding passes, • call the passengers to exchange the passes, • offer free seating (is necessary).
2. Involuntary up- or downgrading	If involuntary up- or downgrading becomes necessary because of the different version of aircraft, then proceed as described in point 5.12.8. Involuntary change of class.
3. Overbooked flight	If the flight is overbooked as a result of aircraft change, then proceed as described in point 5.12.7. "Denied boarding due to an irregularity".

5.12.5 Meals and refreshments

<table>
<tr><th></th><th colspan="3">Remarks</th></tr>
<tr><td>1. General rules.</td><td colspan="3">• Drinks, refreshments and/or meals should be offered to passengers depending on:
⇒ duration of delay,
⇒ service class,
⇒ number of passengers who have to be provided service at any given time.
• Depending on local circumstances, the passengers will either be served meals/refreshments/drinks or will receive vouchers of adequate value.
• One has to take into account the requirement to provide special meals, e.g. meals for diabetic passengers, meals for children.</td></tr>
<tr><td rowspan="4">2. Time when offered:</td><td colspan="3">• The table below describes the time frame for serving meals and drinks / giving vouchers – depending on the duration of delay relative to the scheduled departure time, in the event when the passenger stays at the airport.</td></tr>
<tr><td>Duration of delay</td><td>Mineral water, coffee and tee</td><td>Meals</td></tr>
<tr><td>60 – 120 min</td><td>Yes</td><td>No</td></tr>
<tr><td>120 min – 4 hours</td><td>Yes</td><td>Yes</td></tr>
<tr><td colspan="3">• In each case, passengers should be offered drinking water, as permitted by local circumstances.
• In the event of delay exceeding 4 hours, additional drinks and refreshments should be offered.</td></tr>
</table>

3. Place	• In the first place use the services of restaurant/fast food outlets at the airport. • If the conditions at the airport make it impossible to meet this request (e.g. due to a large number of passengers from the interrupted flight) one has to: ⇒ arrange for meals to be served at another location, providing free transport by bus or, ⇒ as permitted by the circumstances, arrange for the meal to be served at the gate or on board (in agreement with the crew and local authorities).
4. The value of catering service/voucher	The value of catering service/voucher depends on individual base amounts specified for a given airport. VIP, Star Gold, First and Business Class passengers must be offered 150% base amount vouchers.

5.12.6 Hotel accommodation

	Remarks
1. Rules	• Hotel accommodation has to be arranged for passengers in the situations specified in the table below. **Notes:** ⇒ Passengers who live in the city of departure and are not using hotel accommodation are entitled to transportation to/from their home to be arranged for them, provided that the transportation cost doesn't exceed the cost of hotel accommodation. ⇒ If the transportation cost exceeds the cost of hotel accommodation, such passengers should be offered hotel accommodation. ⇒ LOT Polish Airlines will cover the cost of overnight accommodation for passengers who have found themselves in a specifically difficult position, (e.g. a child traveling as an unaccompanied minor for whom a given airport represents a transit of transfer airport). ⇒ The decision to provide such service is made each time by the Operations Center, the Station Manager or the agent providing supervising services and representing LOT Polish Airlines at the airport after the individual case has been reviewed.
2. Guidelines	• When arranging for hotel accommodation, one should proceed according to the following guidelines: ⇒ specify the meeting point at the airport and at the hotel, ⇒ if possible – notify the hotels in advance (e.g. make preliminary check-in), ⇒ if necessary, accompany the passengers to the hotel.

<table>
<tr><td>3. Hotel standards</td><td colspan="3">• Depending on local circumstances, it is suggested that hotel accommodation and transport should be arranged in accordance with the standard presented below, in the shortest possible time.
Notes:
⇒ Passengers are entitled to the following meals at the hotel: breakfast and dinner, with the provision that breakfast represents an integral part of overnight hotel accommodation.
⇒ LOT Polish Airlines don’t refund any costs related to phone calls made by the passenger from the hotel nor any costs related to using the minibar in the hotel room or watching paid TV channels.</td></tr>
<tr><td></td><td>If the delay exceeds:</td><td colspan="2">Hotel accommodation has to be arranged for:</td></tr>
<tr><td></td><td>6 hours (during the day)</td><td colspan="2">• VIP passengers,
• Star Gold card holders,
• First and Business Class passenger
• Special Needs Passengers (e.g. the elderly, disabled, passengers with small children)</td></tr>
<tr><td></td><td>6 hours and the departure either will not take place on the scheduled day or it requires the passengers to wait between 10.00 p.m. – 5.00 a.m.</td><td colspan="2">All passengers</td></tr>
<tr><td>4. Transfer to the hotel</td><td colspan="3">• Passengers are entitled to free transfer on the route:
⇒ airport-hotel-airport.</td></tr>
<tr><td>5. Hotel accommodation and transport standards</td><td>Passenger category</td><td>Hotel category</td><td></td></tr>
<tr><td></td><td>VIP passengers, Star Gold card holders, First and Business Class passenger</td><td>Minimum hotel ****</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>Y-Class passengers</td><td>Minimum hotel**</td><td></td></tr>
</table>

5.12.7 Denied boarding due to an irregularity

<table>
<tr><th></th><th>Remarks</th></tr>
<tr><td>1. Reasons for denied boarding (DBC is applicable)</td><td>Passengers holding a confirmed reservation may be denied boarding due to:
• overbooking of the flight,
• reduced aircraft seating capacity due to unserviceable equipment (cabin doors, slides, etc.),
• change of aircraft or version (only if change due to commercial reasons)</td></tr>
<tr><td>2. Reasons for denied boarding (DBC is not applicable)</td><td>Passengers may be denied boarding because of:
• the behaviour or mental/physical condition,
• the late arrival of passenger, i.e. arrival after check-in deadline,
• the refusal to undergo security checks or follow company instruction,
• failure to comply with travel document requirements,
• unruliness.</td></tr>
<tr><td>3. Categories of passengers must never be offloaded</td><td>• VIP passengers,
Star Gold card holders (including passenger who travel on the basis of reward tickets),
• First and Business class passenger,
• Special needs passengers, such as unaccompanied minors (UM) and children under 18 traveling unaccompanied, disabled passengers, deportees,
• Passengers traveling as service passengers (e.g. a flight attendant), traveling on the basis of an ID00S1 ticket as an escort for a revenue passenger,</td></tr>
<tr><td>4. Categories of passenger should not be denied</td><td>• FTL M&M and Star Silver card holders,
• Passengers traveling with small children
• Passengers who have further connecting flights or hold restrictive immigration documents (e.g. single-entry visas),
• Passengers who travel as a group,
• Passengers from opinion-making circles,
• Passengers who travel on Study Tours.</td></tr>
<tr><td>5. Handling procedure</td><td>a) If a risk of denied boarding exists, look for volunteers-at check-in, gate. Volunteers will be offered a finance compensation in amounts:

<table>
<tr><th>Flight distance</th><th>Compensation (cash value)</th><th>Deviation to reach final destination</th></tr>
<tr><td rowspan="2">932 miles or less</td><td>Up to 125 EUR</td><td>Less than 2 hours</td></tr>
<tr><td>Up to 250 EUR</td><td>More than 2 hours</td></tr>
<tr><td rowspan="2">More than 932 miles (within EU)</td><td>Up to 200 EUR</td><td>Less than 3 hours</td></tr>
<tr><td>Up to 400 EUR</td><td>More than 3 hours</td></tr>
<tr><td rowspan="2">932-2175 miles</td><td>Up to 200 EUR</td><td>Less than 3 hours</td></tr>
<tr><td>Up to 400 EUR</td><td>More than 3 hours</td></tr>
<tr><td rowspan="2">More than 2175 miles (except flights within EU)</td><td>Up to 300 EUR</td><td>Less than 4 hours</td></tr>
<tr><td>Up to 600 EUR</td><td>More than 4 hours</td></tr>
</table>
</td></tr>
</table>

	b) If no or not sufficient volunteers are available- choose passengers to be offloaded according to point 3 and 4 above taking also into account the following criteria: ⇒ Urgency of the trip, ⇒ Passenger with or without checked baggage, ⇒ Passenger's age and travel experience, ⇒ Rebooking possibilities Note: Volunteers must be approached through a public address system. c) Check passenger and his baggage on waiting list, d) Offer refreshment voucher, **e)** Pay the financial compensation according to the locally established procedure and **ask passenger to sign the receipt,** **NOTE:** Volunteers who receives financial compensation must sign a document by which they give up their rights to any claims resulting from denied boarding- "Release Note" f) Reroute the passenger (reimbursement within 7 days of coupons not used and for the parts already made if flight no longer serves any purpose plus an earliest possible return flight to the first point of departure or rerouting to the final destination at earliest opportunity under comparable transport conditions or rerouting to the final destination at a later date according to passenger convenience but subject to availability space). g) Offer the passenger the facilities and care (two phone calls or faxes, e-mails, hotel accommodation – if necessary, plus free transfer between airport and hotel)

5.12.7.1 Denied Boarding Compensation (amounts and form of payment)

	Remarks
1. Definition	A compensation paid out to a passenger who due to overbooking/ overloading, hasn't been accepted on board despite holding a valid air ticket, confirmed booking, valid travel documents and despite having reported for check-in within the required time.
2. DBC will not be paid to:	• Passengers with ID, AD tickets • Passengers who have been denied boarding in accordance to Article 8.1. of the „General Conditions of Carriage of Passenger and Baggage"
3. Form of payment	• Compensation to be paid immediately using MCO/EMD "Good for transportation only" or "Good for refund" with possibility to exchange for cash payment, electronic bank transfer or checks .The passenger will decide about the form in which DBC will be paid. • MCO/EMD "Good for transportation only" should be proposed as a first option. • MCO/EMD "Good for transportation only " could be used only if pax agrees (in writing)

<table>
<tr><td></td><td colspan="3">• Distance for DBC purpose is calculated on the basis of TPM (Ticketed Point Mileage) from the airport where the passenger was denied boarding to the destination airport (TPM for disrupted sector/sectors booked and shown in the orignal ticket).

NOTE:
The MCO/EMD may only be issued when the “Miscellaneous charge order/ ticket issue order” form is filled in and has been presented at any LOT Polish Airlines ticket office.</td></tr>
<tr><td>4. Payment by MCO/EMD</td><td colspan="3">• Cash refund can be claimed at any LOT Polish Airlines sales office, unless prohibited by local law.
• Value of the MCO/EMD:
⇒ 100% if cash refundable (Good for refund),
⇒ 150% of the DBC value if specified for future transportation (Good for transportation only).
• EUR will be converted into the currency of the country where payment is to be made at the current bank exchange rate.</td></tr>
<tr><td rowspan="13">5. DBC amounts</td><td>Flight distance</td><td>Deviation to reach final destination</td><td>Compensation (cash value)</td></tr>
<tr><td rowspan="2">Less than 932 miles</td><td>Less than 2 hours</td><td>EUR 125</td></tr>
<tr><td>More than 2 hours</td><td>EUR 250</td></tr>
<tr><td rowspan="2">933 – 2175 miles</td><td>Less than 3 hours</td><td>EUR 200</td></tr>
<tr><td>More than 3 hours</td><td>EUR 400</td></tr>
<tr><td rowspan="2">More than 933 miles (within EU)</td><td>Less than 3 hours</td><td>EUR 200</td></tr>
<tr><td>More than 3 hours</td><td>EUR 400</td></tr>
<tr><td rowspan="2">More than 2176 miles (except flights within EU)</td><td>Less than 4 hours</td><td>EUR 300</td></tr>
<tr><td>More than 4 hours</td><td>EUR 600</td></tr>
<tr><td rowspan="3">For flights from USA</td><td>Up to 1 hour</td><td>NIL</td></tr>
<tr><td>From 1 hour up to 4 hours</td><td>200% of OW tariff but no more than 675 USD</td></tr>
<tr><td>More than 4 hours</td><td>400% of OW tariff but no more than 1350 USD</td></tr>
</table>

5.12.8 Involuntary change of class (upgrading, downgrading)

	Remarks
1. General	An involuntary change of class is necessary when the number of passengers holding an OK. ticket exceeds the available allotment in the class concerned, due to: • reservation error, • communication failure, • change of the aircraft, • payload restrictions, • overbooking.

<table>
<tr><td>2. Rules</td><td>In cases of involuntary up- or downgrading following rules are applied:
• free baggage allowance:
⇒ according to the class originally paid for,
• lounge access:
⇒ according to the class shown on the boarding,
• frequent flyer mileage credit:
⇒ miles are granted according to the originally booked class.</td></tr>
<tr><td>3. Involuntary upgrading (no supplementary payments)</td><td>• A passenger holding an OK ticket who cannot be accommodated in proper service class may be upgraded to the next class, according to the following criteria:
⇒ priority sequence:
a) VIPs,
b) Star Alliance Gold card holders,
c) FTL M&M,
d) ID1 passengers,
e) Other revenue passengers,
f) Other staff,
⇒ the standing and/or appearance of the upgraded passenger must be in accordance with standards of the class to which he/she is upgraded.
• the passengers who should not be involuntary upgraded:
⇒ INADs and deportees,
⇒ passenger with reduced mobility,
⇒ children or families with children; NOTE: in case of B787 – up-grading is possible to Premium Club only for families with children
⇒ special or discounted fare passengers (e.g. groups, youth fare, seamen fare),
⇒ passenger who ordered a special meal.</td></tr>
<tr><td rowspan="6">4. Involuntary downgrading</td><td>Rules apply to revenue passengers</td></tr>
<tr><td>Involuntary downgrading is only permitted if the ticketed class is physically full at the closure of flight</td></tr>
<tr><td>Downgraded passengers are entitled to reimbursement within 7 days according to the following principles:</td></tr>
<tr><td><table><tr><td>Flight distance</td><td>Ticket price (%)</td></tr><tr><td>Less than 932 miles</td><td>30 %</td></tr><tr><td>933 – 2175 miles (within EU)</td><td>50 %</td></tr><tr><td>More than 2175 miles</td><td>75 %</td></tr></table></td></tr>
<tr><td>Note: a) The relevant distance is understood to be a sector on which the passenger is downgraded
b) The ticket price is understood to be one-way coupon value for the sector on which the passenger is downgraded</td></tr>
<tr><td>5. Handling procedure</td><td>a) If the passenger refuses the downgrading then:
⇒ reroute him on another flight in the classes originally booked or,
⇒ refund his ticket.
b) If the passenger accepts the downgrading:
⇒ stamp the passenger ticket “Involuntary downgrading from C to Y class or,
⇒ issue MCO/EMD for compensation (if time permits).</td></tr>
</table>

5.12.9 Substitute surface transportation

	Remarks		
1. Definition	• Substitute surface transportation means transportation by: ⇒ train, ⇒ bus, minibus, ⇒ Taxi **Note:** Each station must keep and up-to-date file with information on train, bus operators, contacts.		
2. When to offer	• Can be offered: ⇒ for relatively short distances, ⇒ if air transportation is not available within reasonable time, ⇒ taking into account the urgency, availability, schedules, weather conditions, passenger comfort.		
3. Priorities	• VIPs, Star Gold card holders, FTL M&M card holders over F and C class passengers, • C class passengers over Y class passengers, • Passengers needing special assistance (UM, PRM, elderly, etc.)		
4. Handling procedure	Whenever it is necessary to ensure/arrange substitute transportation for passengers, one has to take the following steps: a) For transportation to replace a portion of the flight one has to: • arrange such transport, while retaining an appropriate ticket coupon or, • suggest to the passenger that they individually purchase a ticket for a scheduled train or coach and that a refund will be made later – upon the customer's claim based on the used train or bus ticket and the unused air ticket, enclosed by the passenger. b) Provide snacks and drinks on the coach or minibus – if locally - possible. c) In the case of the journey by minibus or taxi – make sure that the conditions ensure a comfortable journey. d) Make sure that unaccompanied minors (UM) will be provided escort until the moment when they are released to the designated person at the point of destination.		
5. Standards	**Means of transport***	**VIP passengers, Star Gold card holders, F and C-Class passengers**	**Y-Class passengers, FTL M&M card holders**
	Express train	1st class	2nd class
	Train with sleeping carriages (1)	1st class	2nd class
	Minibus	YES	YES
	Taxi 2	YES (3)	YES

	* depending on local circumstances
	Notes: (1) For an overnight journey exceeding 6 hours. (2) Waiting time for taxi transportation maximum 15 minutes. (3) VIP and Star Gold passengers have to be offered an individual transport.

POLSKIE LINIE LOTNICZE S.A.

ZAŚWIADCZENIE
(O OPÓŹNIENIU, ODWOŁANIU, ZMIANIE MIEJSCA LĄDOWANIA)
DLA

ZAŚWIADCZA SIĘ, ŻE SAMOLOT LINII _____ W DN. _____ 200 ___ r.
ZOSTAŁ OPÓŹNIONY, ODWOŁANY, WYLĄDOWAŁ W _____ O GODZ _____
PRZYLOT WG ROZKŁADU POWINIEN NASTĄPIĆ _____

DATOWNIK **PODPIS PRACOWNIKA PLL LOT S. A.**

WZÓR NR 3b

POLISH AIRLINES

CERTIFICATE
(CONCERNING DELAY, CANCELLATION, PORT OF ARRIVAL CHANGE)
FOR

THIS IS TO CERTIFY THAT FLIGHT NO _____ ON _____ 200
WAS DELAYED/CANCELLED/LANDED AT _____ TIME _____
SCHEDULED ARRIVAL DATE/TIME _____

VALID DATE **SIGNATURE OF PLL LOT EMPLOYEE**

PASSENGER RECEIPT – RELEASE NOTE

I, the undersigned _____ hereby confirm having received compensation in the amount of

_____ as full settlement on any and all claims against LOT Polish Airlines for being denied boarding on flight _____ from

_____ to _____ date _____as per applicable LOT Polish Airlines' rules which have been duly brought to my knowledge,

understood and accepted.

NAME AND SIGNATURE

_____

_____

_____

POKWITOWANIE - ZRZECZENIE SIĘ PASAŻERA

Ja, _____ niżej podpisany(a) niniejszym potwierdzam, że otrzymałem rekompensatę w wysokości

_____ jako pełne zaspokojenie wszystkich roszczeń wobec Polskich Linii Lotniczych LOT S.A. z tytułu odmowy przyjęcia na pokład

rejsu LO _____ z _____ do _____ w dniu _____.

Jednocześnie potwierdzam, że zapoznałem się z przepisami PLL LOT SA, które zaakceptowałem i zrzekam się innej formy rekompensaty lub reklamacji.

NAZWISKO I PODPIS

_____

_____

_____

POLISH AIRLINES LOT A STAR ALLIANCE MEMBER	**MCO / TKT ISSUE ORDER NBR :**

MISCELLANEOUS CHARGE ORDER / TICKET ISSUE ORDER

NAME OF PASSENGER	**FLIGHT NUMBER/ DATE**	**TICKET NUMBER/ ROUTING**	
REASON FOR ISSUE* choose the right option	**MCO: "GOOD for REFUND" or "GOOD for TRANSPORTATION ONLY"*** choose the right option		
	Currency Amount		
DENIED BOARDING COMPENSATION			
CANCELLATION			
DOWNGRADING			
RETURN TICKET			
Debit to: (operating carrier)	**original for passenger**	**Agent's name /Signature/ Validator**	
	copy for issuer	**Date and place of issue**	

5.12.10 Cash Payment Order

POLISH AIRLINES LOT A STAR ALLIANCE MEMBER	**CASH PAYMENT ORDER NBR** **STATION** 1		**000.000.001**
CASH PAYMENT ORDER ***Polecenie wypłaty***			
NAME OF PASSENGER **Imię i nazwisko pasażera**	**FLIGHT NUMBER/ DATE** **Numer rejsu**	**ROUTING** **Trasa**	**FILE REFERENCE NUMBER** **Numer reklamacji**
REASON FOR ISSUE* choose the right option **Przyczyna wypłaty wybierz odpowiednią przyczynę**	**CURRENCY AMOUNT** **Wysokość wypłaty**		
FIRST NEEDS **Wypłata na pierwsze potrzeby**			
BAGGAGE DAMAGE **Uszkodzenie bagażu**			
PASSENGER SIGNATURE **Podpis pasażera**	**ORIGINAL FOR PASSENGER** **Oryginał dla pasażera**	**AGENT'S NAME/SIGNATURE/VALIDATOR** **Nazwisko agenta/podpis/stempel**	
	COPY FOR ISSUER **kopia dla wystawcy**	**DATE AND PLACE OF ISSUE** **Data i miejsce wystawienia**	

5.13 Inadmissible passengers and deportees (GRH 3.1.5 v., GRH 3.1.5 vi., GRH 3.1.5 vii.)

5.13.1 General rules

	Remarks
1. Inadmissible passengers **(INAD)**	• Inadmissible passenger means a passenger who: ⇒ is refused admission to a country by authorities of such country or, ⇒ is refused onward carriage by a Member or government authority at a point of transfer, e.g. due to lack of a visa, expired passport, etc. • There are two categories of INAD: ⇒ Unaccompanied INAD passengers (in most cases), ⇒ Accompanied INAD passengers. An INAD needs to be accompanied if: a) he physically resists carriage, b) he has already been denied transportation by another air carrier/flight, c) there is any sign he might endanger the safety of the flight or passengers. For safety reasons, accompanied INAD passengers must be treated as accompanied deportees – DEPA. • The responsibility for INAD passengers lies fully with the air carrier(s) concerned. • An INAD who is under the responsibility of another air carrier will be accepted for transportation on LOT Polish Airlines.
2. Deportee **(DEPO)**	• Deportee means a person who: ⇒ had legally been admitted to a country by its authorities or had entered a country illegally, and who at some later time is formally ordered by the authorities to be removed from that country. ⇒ is extradited from a country on request of the competent authorities of another country. • There are two categories of DEPO: ⇒ Unaccompanied deportees - DEPU, ⇒ Accompanied deportees – DEPA. • The responsibility for DEPO passengers lies fully with the state(s) concerned.
3. Inbound Air Carrier	The carrier on whose flight an inadmissible passenger has arrived in the country where he/she is refused admission or onward carriage.
4. Person in lawful custody”	Person either under arrest or convicted by courts of law who has to be transported to another State for legal reasons. **NOTE:** For the transport of person in lawful custody, an escort has to be provided by the competent authorities.
5. Participating in Inbound Carriage	All air carriers (including the inbound air carrier) involved in an inadmissible passenger’s continuous through journey from last point of stopover or point of origin, as the case may be, to the place at which admission to a country or onward carriage is refused to the passenger.
6. Outbound Air Carrier	The air carrier on whose flight the passenger is carried from the place at which admission or onward carriage is refused to him (INAD) or from which removal

<table>
<tr><td></td><td>is ordered by the authorities (DEPO)</td></tr>
<tr><td>7. Participating in Outbound Carriage</td><td>All air carriers (including outbound air carrier) involved in an INAD or DEPO outbound carriage to this destination</td></tr>
<tr><td>8. Limitations</td><td>
<table>
<tr><th>Aircraft type</th><th>DEPU (no escort)</th><th>DEPA (escorted)</th><th>INAD (no escort)</th><th>INAD (escorted)</th><th>Person in lawful custody</th></tr>
<tr><td>B-787-8/9</td><td>5</td><td>2</td><td>No limits</td><td>2</td><td>1</td></tr>
<tr><td>B-737-800/MAX</td><td>5</td><td>2</td><td>No limits</td><td>2</td><td>1</td></tr>
<tr><td>ERJ-170-100/200</td><td>3</td><td>2</td><td>No limits</td><td>2</td><td>1</td></tr>
<tr><td>ERJ-190-100/200</td><td>3</td><td>2</td><td>No limits</td><td>2</td><td>1</td></tr>
<tr><td>DHC-8-400</td><td>3</td><td>2</td><td>No limits</td><td>2</td><td>1</td></tr>
</table>
</td></tr>
<tr><td></td><td>For more details see PSM Resolution 701</td></tr>
<tr><td>9. Seating restrictions</td><td>• The deportee (DEPA) passengers must be always escorted by the security officers and seated in the last row on the aircraft.
• On the aircraft B737-800/MAX and B787-8/9 deported passenger must be seated between the security officers. In case of the presence of three (3) security officers – one (1) of them shall take a seat before the escorted person. On the aircraft ERJ-170-100/200, ERJ-190-100/200 and DHC-8-400 deported passengers must take a window seat and the security officer shall take an aisle seat next to him. Second (2nd) security officer shall take a seat in the row before the deportee.</td></tr>
<tr><td>10. Notification of travel by local authorities</td><td>In each case, travel of INAD or DEPO passenger carried on board of LOT Polish Airlines aircraft shall be notified by local authorities. To fulfill this requirement, the authorities shall provide essential information, as described in p. 5.13.1.11. Ground Handling Manual.</td></tr>
<tr><td>11. Flow of information about travel of INAD or DEPO
(GRH 3.7.6)</td><td>• The information provided by competent local authorities about travel of INAD or DEPO Passenger shall be submitted to LOT Polish Airlines Security Department prior to departure via e-mail on depo@lot.pl
• To provide the information, competent local authorities shall complete LOT Polish Airlines DEPO Notification Form (the template provided in p. 5.13.4. Ground Handling Manual) or submit other notification in writing according to local rules, providing that all following information are included:
> identity and gender of the person; and
> reason for transportation; and
> name and title of escorts, if provided; and
> risk assessment by the competent local authority, including reasons to escort or not; and
> prior seating arrangement, if required, if provided; and
> the nature of the available travel documents.</td></tr>
</table>

	• The station manager is responsible for cooperation with the handing agent and the authorities locally involved in the travel and carriage arrangements and he/she shall ensure, that in each case essential information was prepared by competent authorities and communicated to LOT Polish Airlines representative: > LOT Security Department, or > eventually to local handling agent/Station Manager on the departure station. In this case, the information must be communicated to LOT Security Department subsequently. • The notification in either acceptable form must be printed by local handling agent or received in written form directly from competent authorities. The agent shall ensure that the form has been submitted and no essential information are missing. • To avoid boarding denial of INAD or DEPO, the information shall be completed or corrected before boarding of this passenger. **NOTE**: For the above purpose, if the handling agent representative has access granted to Sharepoint domain of Ground Operations Department (ON), they should be able to print out blank LOT Polish Airlines DEPO Notification Form and share it with the authorities to complete the form before distribution to pilot-in-command, if necessary. • Completed notification document in written form shall be delivered directly to pilot in command before INAD or DEPO passenger is boarded.

5.13.2 Handling of INADs

	Remarks
1. Policy for return transportation	• The transporting inbound air carrier is responsible for the removal of the INAD to: ⇒ the point where the passenger commenced his journey or, ⇒ the point of transfer from where the INAD boarded the air carrier's flight or,⇒ any other place where the passenger is admissible.
2. Organisation and coordination	• Station Managers must organize and coordinate INAD transportation with the local authorities, consulates/embassies concerned and with on-line stations and final destination station. • In case of serious operational consequences, Station Managers must coordinate with Operations Center. • The final decision on the acceptance of INAD remains with the pilot in command (regardless whether the INAD is unaccompanied or accompanied).
3. Handling rules	• INADs must be treated with the same courtesy as any other passenger. If support from an authority is needed for removal, experienced staff must handle the case. • INAD's travel documents: ⇒ Inadmissible passenger can be accepted for transportation if he/she has a valid ticket ⇒ In case of no means available for purchase of airline ticket, the inadmissible passenger will travel at the expense of the air carrier who

	had flown him/her into the country that has rejected his/her admission. ⇒ Travel documents shall be given to the senior cabin crew member. • Unless the local rules do not limit such possibility, the administrative authorities of the state which has decided on the non-admission of the passenger should inform the air carrier on the reasons behind such a decision. • The above mentioned state administrative authorities assess the level of hazard posed by the presence of an inadmissible passenger on board of an aircraft, and determine the security conditions of his/her transportation. **NOTE: The station manager is responsible for the adequately organized air transportation of the inadmissible person. In countries with no LOT POLISH AIRLINES representation, it is the pilot in command who is responsible for organizing that air transportation.** • The inadmissible passenger, together with his/her baggage, shall undergo thorough screening. • The Station manager will hand over to the pilot in command the determined conditions of transportation**.** • The station manager informs the destination airport and transfer airports about the transportation of an inadmissible person including his/her personal data. • Before the acceptance of an inadmissible person for transportation the pilot in command shall receive following information included in the copy of notification document, in accordance with pt. 5.13.1.11 Ground Handling Manual. • The pilot in command shall also: ⇒ know the location of the seat occupied by that person on board aircraft, ⇒ order cabin crew to keep that person under surveillance, **NOTE: It is acceptable for the crew to convey the correspondence between immigration authorities involved in transportation of an inadmissible person.** • Information about INAD - before boading! The senior cabin crew member must be informed about INADs by means of the PIL. The pilot in command must be informed about INADs by means of form sent described in pt. 5.13.1.11 Ground Handling Manual. • Boarding. Accompanied INADs must be pre-board. Massage: PSM

5.13.3 Handling of deportees

	Remarks
1. Handling rules (DEPU/DEPA)	• Deportees must be treated with the same courtesy as any other passenger. • Validity of documents (visa, passport, etc.) must be check-in. • If support from an authority is needed for removal, experienced staff must handle the case. • Carriage may be refused if the deportee is under the influence of drugs, except with medical certificate. • Deportees may not be handcuffed, foot-manacled or gagged. • DEPA must be always preboarded. • Information about DEPA/DEPU to: ⇒ pilot in command by means of: verbal crew briefing. ⇒ senior cabin crew member: by means of PIL. • Deportee's documents: **DEPU:** ⇒ Documents shall be given to the senior cabin crew member. ⇒ Upon arrival, the documents must be handed over to the ground staff. **DEPA:** ⇒ Documents remain with the escort. • The administrative authorities of the state which has decided on the deportation of the passenger will inform the air carrier on the reasons behind such a decision. • The above mentioned state administrative authorities assess the level of hazard posed by the presence of a deported passenger on board of an aircraft, and determine the security conditions of his/her transportation. **NOTE:** The station manager is responsible for the adequately organized air transportation of the deported person. In countries with no LOT POLISH AIRLINES representation, it is the pilot in command who is responsible for organizing that air transportation. • The deported passenger, together with his/her baggage, shall undergo thorough screening. • The Station manager will hand over to the pilot in command the determined conditions of transportation. • The station manager informs the destination airport and transfer airports about the transportation of a deported person including his/her personal data. • Before the acceptance of a deported person for transportation, the pilot in command shall receive information included in the copy of notification document in written form, in accordance with pt. 5.13.1.11 Ground Handling Manual. • The pilot in command shall also: know the location of the seat occupied by that person on board aircraft, order cabin crew to keep that person under surveillance, **NOTE:** It is acceptable for the crew to convey the correspondence between immigration authorities involved in transportation of a deported person.

	• Message: a) Immediately after departure of the flight, the deporting carrier must send the following deportee message: ⇒ Name of passenger, followed by DEPA or DEPU, ⇒ Complete routing, ⇒ If necessary, the code SI followed by relevant information. b) The deportee message must be sent to: ⇒ The station of destination, ⇒ All transfer and transit stations.
2. Procedures involving escorted transportation	• The air carrier shall not agree to the transportation of an escorted person, including escort, without prior agreement with the authorities of states and other air carriers, who may be involved en-route and at the estimated destination airport. • When the escorted person is accepted for transportation, the responsibility for maintaining security will rest with the escort commander. • Every escorted person must travel while assisted by at least two functionaries of appropriate services. • The escorting functionaries must make sure the escorted person is not carrying on her/his body any dangerous objects that might pose hazard to the security of that transportation. • The aircraft commander shall be forewarned by the station manager on the transportation of an escorted person and the number of escorting functionaries, he should know their names, their faces and know where they are seated. • If there is other security personnel on board, or passengers permitted to carry arms on board the aircraft, they shall be informed by the crew about the escorted person and the escort , as well as their seat numbers. • Escorted persons ought to embark the aircraft before all remaining passengers and disembark after all passengers have left the aircraft. • Escorted persons shall be assigned seats in the rear section of the aircraft passenger cabin, but not in the area close to entrances/emergency exits. • Escorting functionaries shall be equipped with direct strike means, but shall not have tear gas or similar agents utilizing properties of gas. • The escorted person shall not be handcuffed to any part of the aircraft cabin. • Escorted persons and escorting functionaries must not be served any alcoholic beverages while on board the aircraft. • Escorted persons can be served meals on board but must not be allowed to use metal cutlery and hot drinks.

3. Exceptions in limitations	• In exceptional cases – DEPA, INAD, with escort, a person who has infringed the law – the numerical limitation of passenger may be exceeded with consent of the appropriate unit responsible for transportation security, and confirmed in the reservation system • In exceptional cases – DEPA, INAD with escort, a person who has infringed with the law – the numerical limitation of passenger may be exceeded or passenger without escort may be transported with passenger under escort with consent of the appropriate unit responsible for aviation security and confirmed in the reservation system. • In the case of a transfer travel of passengers (DEPU/DEPA and INAD type under escort, a person who has infringed the law under escort) through any airport in Poland contact should be made with the Operations Center in order to confirm the planned route.
4. Pilot's in command right to refuse	The pilot in command has the right to refuse any deportee: • who is believed to cause discomfort to the passengers or jeopardise the safety of the flight, • not handled according to company rules.

5.13.4 INAD/DEPO Notification Form Template

Polskie Linie Lotnicze LOT S.A.
ul. Komitetu Obrony Robotników 43
02-146 Warszawa
+48 22 606 84 58
depo@lot.pl

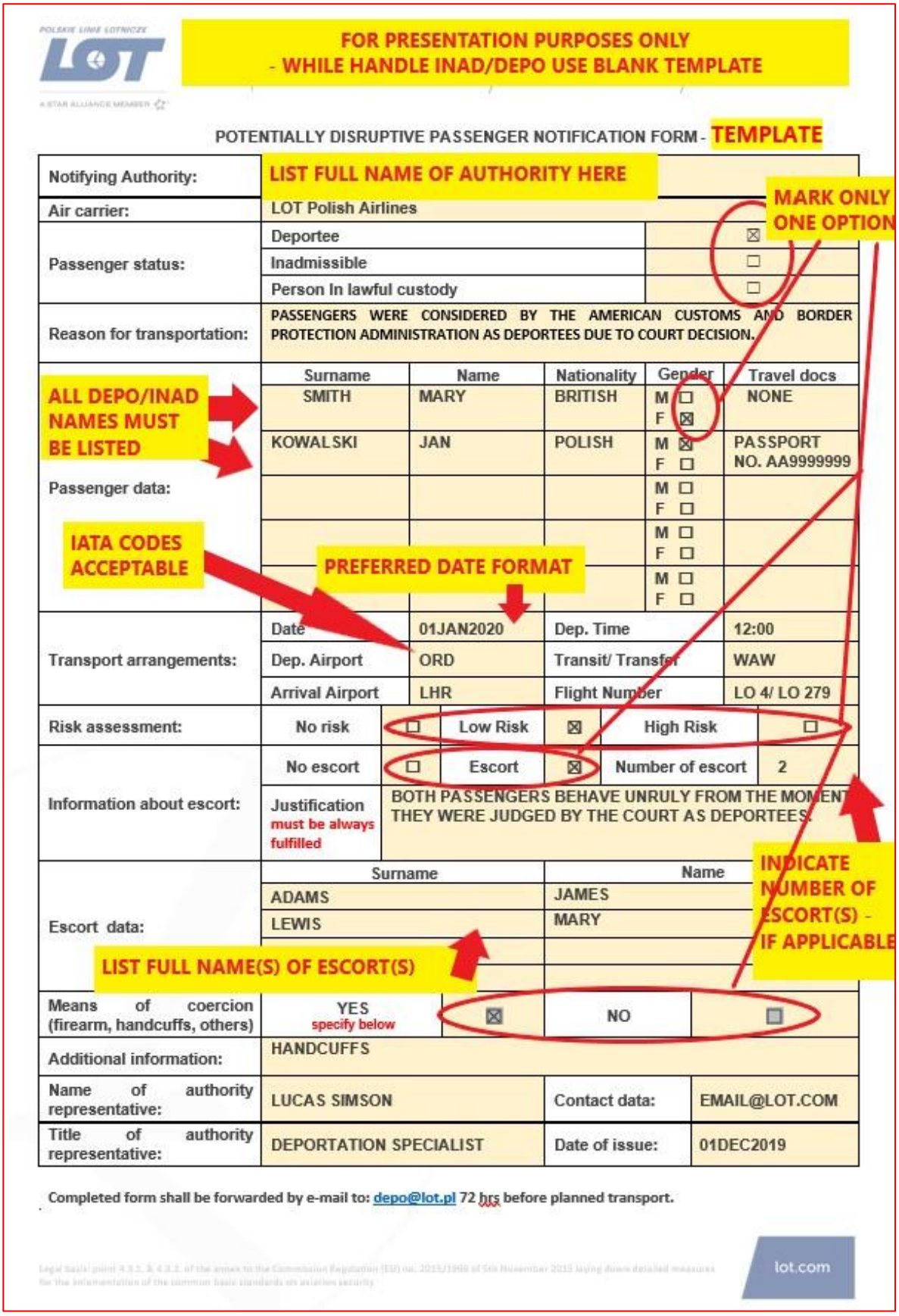
POTENTIALLY DISRUPTIVE PASSENGER NOTIFICATION FORM

Notifying Authority:									
Air carrier:	LOT Polish Airlines								
Passenger status:	Deportee	☐							
	Inadmissible	☐							
	Person In lawful custody	☐							
Reason for transportation:									
Passenger data:	Surname	Name	Nationality	Gender	Travel docs				
				M ☐ F ☐					
				M ☐ F ☐					
				M ☐ F ☐					
				M ☐ F ☐					
				M ☐ F ☐					
Transport arrangements:	Date		Dep. Time						
	Dep. Airport		Transit/ Transfer						
	Arrival Airport		Flight Number						
Risk assessment:	No risk	☐	Low Risk	☐	High Risk	☐			
Information about escort:	No escort	☐	Escort	☐	Number of escort				
	Justification must be always fulfilled								
Escort data:	Surname		Name						
Means of coercion (firearm, handcuffs, others)	YES specify below	☐	NO	☐					
Additional information:									
Name of authority representative:			Contact data:						
Title of authority representative:			Date of issue:						

Completed form shall be forwarded by e-mail to: depo@lot.pl 72 hrs before planned transport.

Legal basis: point 4.3.1. & 4.3.2. of the annex to the Commission Regulation (EU) no. 2015/1998 of 5th November 2015 laying down detailed measures for the implementation of the common basic standards on aviation security

lot.com



FOR PRESENTATION PURPOSES ONLY
- WHILE HANDLE INAD/DEPO USE BLANK TEMPLATE

POTENTIALLY DISRUPTIVE PASSENGER NOTIFICATION FORM - TEMPLATE

Notifying Authority:	LIST FULL NAME OF AUTHORITY HERE					
Air carrier:	LOT Polish Airlines					
Passenger status:	Deportee	☒				
	Inadmissible	☐				
	Person In lawful custody	☐				
Reason for transportation:	PASSENGERS WERE CONSIDERED BY THE AMERICAN CUSTOMS AND BORDER PROTECTION ADMINISTRATION AS DEPORTEES DUE TO COURT DECISION.					
Passenger data:	Surname	Name	Nationality	Gender	Travel docs	
	SMITH	MARY	BRITISH	M ☐ F ☒	NONE	
	KOWALSKI	JAN	POLISH	M ☒ F ☐	PASSPORT NO. AA9999999	
				M ☐ F ☐		
				M ☐ F ☐		
				M ☐ F ☐		
Transport arrangements:	Date	01JAN2020	Dep. Time	12:00		
	Dep. Airport	ORD	Transit/ Transfer	WAW		
	Arrival Airport	LHR	Flight Number	LO 4/ LO 279		
Risk assessment:	No risk	☐	Low Risk	☒	High Risk	☐
Information about escort:	No escort	☐	Escort	☒	Number of escort	2
	Justification must be always fulfilled	BOTH PASSENGERS BEHAVE UNRULY FROM THE MOMENT THEY WERE JUDGED BY THE COURT AS DEPORTEES.				
Escort data:	Surname		Name			
	ADAMS		JAMES			
	LEWIS		MARY			
Means of coercion (firearm, handcuffs, others)	YES specify below	☒	NO	☐		
Additional information:	HANDCUFFS					
Name of authority representative:	LUCAS SIMSON		Contact data:	EMAIL@LOT.COM		
Title of authority representative:	DEPORTATION SPECIALIST		Date of issue:	01DEC2019		

MARK ONLY ONE OPTION

ALL DEPO/INAD NAMES MUST BE LISTED

IATA CODES ACCEPTABLE

PREFERRED DATE FORMAT

INDICATE NUMBER OF ESCORT(S) - IF APPLICABLE

LIST FULL NAME(S) OF ESCORT(S)

Completed form shall be forwarded by e-mail to: depo@lot.pl 72 hrs before planned transport.

lot.com

5.14 Handling Agent staff training

	Remarks
1. General policy (GRH 2.1.1; GRH 2.1.4; GRH 2.2.1; GRH 2.3.2)	• The handling agent shall be in possession of ground emergencies plan in case of: aircraft or airport evacuation, bomb threats, ramp facility evacuation and in case of natural disasters. In such situations handling agent is obliged strictly follow the rules. • The handling agent shall be properly trained prior to being assigned to perform operational duties. • Handling agents shall have a training system in operation: ➢ **initial** - before performing his function, ➢ **recurrent** (not less than once during every 36-month period, except for DGR which is required not less than once within 24 months) ➢ **re-qualification** training applicable to personnel that become unqualified for any reason, prior to being reassigned to perform operational duties • Qualification of staff shall be based on IATA, ICAO and local airport requirements shall cover the passenger handling area, incl.: ➢ check-in system ➢ key elements of the booking system ➢ handling of Special Needs Passengers ➢ security procedures ➢ passenger check-in ➢ baggage check-in ➢ embarking and disembarking, ➢ dangerous goods training, NOTE: Personnel shall be trained according to *IATA DGR Table 1.5.A Minimum Requirements for Training Curricula* ➢ airside safety and associated operational hazards, ➢ human factor, ➢ Safety Management System (SMS), ➢ PRM awareness in accordance with EC 1107/2007 Article 11. • Training in the scope of security - accordingly to performed duties. • Trainings must be recorded to ensure that the content and retention of such records are in accordance with requirements of LOT.

2. Training System - requirements concerning personnel training database. (GRH 2.1.3; GRH 2.1.5)	• The handling agent shall have a documented training system in operation, in which the duration (number of hours), validity periods of certificates, and an evaluation system are specified and which has been approved at a relevant management level. • Handling agent training shall include final test or evaluation by written, oral or practical means. • Handling agent training shall require a demonstration of adequate knowledge, competency and proficiency to perform duties, execute procedures and/or operate equipment. • The handling agent shall have in place a system of renewing updating and modifying training programs in case of an introduction of new regulations, implementation of corrective measures or changes in company polices. • The handling agent shall have an up-to-date database concerning the training of permanent employees, temporary employees or any staff employed on any other basis, which can be made available for review at each request of LOT Polish Airlines representative. • All databases shall be protected.
3. Training Program (GRH 2.1.2; GRH 2.2.3; GRH 2.2.4)	The training programs completed by ground handling operations personnel shall be in accordance with Table 6.1 in appendix 5 , provide the knowledge necessary to perform duties, execute procedures and operate the equipment associated with specific ground handling functions and responsibilities. Such programs shall include: • Familiarization training on applicable regulations; • In-depth training on requirements, including policies, procedures and operating practices; • Training in human factors principles; • Safety training on associated operational hazards. Training for ground handling personnel in operational areas as specified shall include elements that address specific ground handling functions in accordance with the Tables-included in the appendix 5. i.e.: • Passenger handling as specified in Table 6.4; • Baggage handling as specified in Table 6.5; • Passenger boarding bridge operation as specified in Table 6.7; • Other operational ground handling functions as specified by the Operator. **Note:** *Subject areas in the tables specified in the appendix 5 are typical for training of personnel in each associated ground handling function. Personnel assigned to perform more than one ground handling function as defined by the Operator could have different ground handling roles and responsibilities that would require training in a combination of the functions specified in the provision.*

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5.15 Electronic Ticket

	Remarks
Advantages	ETIX - the Electronic Ticket is been indented to bring advantages to passengers as well as to airlines and travel agencies.
Applicability	• LOT Polish Airlines use the Electronic Ticket for all LO operating and marketing flights which are offered to any domestic destinations within Poland and international ones abroad. • LOT Polish Airlines also use interline Electronic Ticket with: ⇒ *AA,AB,AC,AF,AI,AP,AT,AV,AY,AZ,A3,B2,BA,BD,BR,BT,B2,CA,CI,CM,CY,CO,CX,CY,DE,DL,EK,ET,EY,FB,FI,FM,FV,HM,HR,HU,IB,JJ,JL,JP,JU,KA,KC,KE,KF,KL,KM,KU,LA,LG,LH,LR,LX,LY,MD,MH,MK,MS,NH,NZ,OA,OK,OK,OS,OU,OV,OZ,PS,PZ,QF,QI,QR,RO,SA,SK,SN,SQ,SU,SV,SW,S7,TA,TK,TG,TK,TP,T0,UA,UL,US,U8,VN,VS,VV,WF,ZH,Z6,9W.* ⇒ Update info available on GGAIRLO GP13 / GGAIRLOC GP252
Electronic Ticketing	Is a method of documenting the sale and tracking the usage of passenger transportation (Electronic Ticket) and related services (Electronic Miscellaneous documents) without requiring the issuance of printed paper documents.
Electronic ticket	Means the itinerary/a confirmation for the passenger, issued by or on behalf of the carrier, electronic coupons and, if applicable, a boarding document.
Electronic Coupon	Means an electronic flight coupon or other relevant record kept in carrier's database.
Passenger Receipt/Itinerary	Means that part of the ticket that is so marked and which ultimately is in the passenger's possession.
Status Description Input:	• **PAID:** The e-ticket has been paid for and issued, and is ready to be used • **ACC (ACCEPTED)** The passenger has been checked in for the flight with a boarding pass. • **SBY (STANDBY)** The passenger has checked in on standby for the flight with a boarding pass. • **BRD (BOARDED)** The passenger is checked and boarded. Final status. • **EXC (EXCHANGED)** The e-ticket has been reissued. Final status. • **PAPER (PRINTED)** The e-ticket has been transferred to a paper ticket. • **FIM Telex** FIM has been issued instead of e-ticket. • **MXC (MANUALEXCHANGE)** The e-ticket has been manually exchanged. • **HNRD (HONOURED)** The e-ticket has been honored (may not be used). • **REFND (REFUND)** The e-ticket has been refunded. Final status

	• **VOID** The e-ticket has been voided. • **DBLE** Two flight coupon has been accepted as a new one segment-journey. • **T-BRD** The data has been transmitted to accounting
Electronic document search in LH system	**ETIX record search** Once on ETIX has been issued, an electronic record will be created in the database. The following inputs allow to retrieve passenger ticket data. (**NRT** ... entry - LSY Mode). Input Descriptions: • **NRT TN/0802101234567** By this entry you will see the ETIX record with its electronic coupons. • **NRT NM/5340/07JUL04/KOWALSKI** Flight number/departure date with year/passenger's name. This entry will show the list of electronic records together with electronic coupons. • **NRT 1234567891234567** FF Miles & More cards number This allows to display the list of the records for each passenger for the trips originating in the terminal (your PC) location. • **NRT 1234567891234567/ALL** List of the records with all active coupons for the M&M card owner. • **NRT 1234567891234567/OLD** List of the records with all active and inactive (used) electronic coupons for the M&M card owner. • **NRT 1234567891234567/KNR** List of all issued tickets and all M&M card numbers for the requested passenger. • **NRT 1234567891234567/DBLE** All issued coupons which were used for the direct trip but originally printed for an indirect one: e.g. GDN-WAW-LON used for GDN-LON.
Electronic MCO search	By using the NRT function you are able to trace the ETIX record with all electronic coupons and attached electronic MCO. • **NRT 1234567891234567/MCO** This entry will allow you to display all MCO issued for the M&M card holder (card number shown in the input). • **NRT MCO** After previous display of the NRT list, when NRT MCO entry is performed, the system will show all the MCO assigned to the due record of the ETIX
Passenger list with electronic tickets	After departure print the list of accepted passengers with electronic tickets. Forward the list to the Accounting Department together with the traditional (printed) ticket.
Contact with LOT ETK helpdesk	The helpdesk is supported by central DCS LOT helpdesk In WAW Phone: +48 22 650 4498, +48 22650 4455 e-mail helpdcs@lot.pl tlx WAWPHLO available : 24 hours , 7 days a week or Electronic Ticket Helpdesk ph + 48 22 606 97 33 tariffs@lot.pl for reporting system/etix error, statuses problem etc. Mon-Fri 07.30-15.30

5.15.1 Check-in procedure

Step	Action
Standard check-in procedures	• To accept pax with electronic ticket, LOT Polish Airlines use a front check as GUI for LH Unisys Mode as a standard application or B LH Unisys Mode (named as Native Mode). • It is not allow to check-in selected passenger from passenger list in DCS without "ETX" item • In such situation check-in agent has to search ETK database for the purpose of the interpretations status of ETK • Acceptance passenger with ETK from the list without ETX item on the list will be explained in the next procedure.
Document check	It is necessary to check the passenger identity with the help of a passport or with the other ID document. Passenger who cannot provide their identity must not be accepted.
Lack of „ETX" item in pax record in DCS.	Due to different errors or problems, sometimes item „ETX" is not included in passenger record in DCS (lack of ETX item on passenger list in line with passenger name. The standard procedure is: Search ETK and check the status of the electronic ticket. If ETK ticket exist and the status of the ETK allows us to accept passenger. ⇒ In „front check" the best way is to use „Recheck" folder note using „Recheck" folder on electronic ticket id screen is like add sticker in native mode. ⇒ In „front check" the best way is to use „next transaction" under „NRT" display and finalize acceptance process by NPA transaction. ⇒ Optional is add sticker to ETK in „native mode" the best way is to add sticker by NUPD transaction under" NRT" display and finalize acceptance by NPA transaction. **Note:** For more information >APSE NETX >APSE NRT
Control ETK status after close the flight	• The number of boarded passenger in the system must be the same as number of accepted passengers with ETK on NPL list, which are collected to „ticket envelope" for LOT revenue accounting needs. • If due to different problems, the printed list doesn't include all accepted passengers with ETK, such list must be completed by manual comments. **Note:** For more information >APSE NBN and >APSE NBI • All ETK flight coupons for all accepted pax with ETK have to be change to BRD status after close the flight. • In situation when system doesn't' change status to BRD automatically, agent who is responsible for specify flight, has to change status of ETK to BRD manually by NUPD transaction **Note:** For more information > APSE NUPD
Onward connection for Goshow and Norec	To accept passenger "Goshow" or "Norec" on onward connection in ITCI edifact, native mode can be used only

	Very important is to add" ETX" item after information about onward in „NPA" transaction. Example NPA 1, BAGL1/12, M1, OAC555CYYZ,ETX Agent has to add URES item, when status of ticket is open or RQ

5.15.2 Irregularity

The standard Procedure	The standard procedure is start to search ETK and check the status of ETK • If ETK ticket exist and the status of ETK allows us to accept passenger we can "recheck" passenger "under" ETK ticket we can use two application to "recheck" pax on new route: ⇒ a: front check folder on "electronic ticket id - screen" or ⇒ b: native mode NUPD transaction "under" NRT display before the check-in -agent recheck pax from one flight to new one, **Note:** all activities related with booking and fare must be explain with ticket office
A ground transportation voucher	• In case of a flight irregularity, no other flight to the planned destination may be available. Therefore, ground transportation can be offered for polish domestic travel. • Sometimes, due to irregularity problems, it is necessary to print voucher for ground transportation e.g. for bus for passenger with ETK. You may issue this document automatically for the entire routing, for an additional segment or for several different segments a: in front check we can use folder "auxiliary flight coupon" on "electronic ticket id" screen b: in native mode we can use "NUPD" transaction with "GTP" option >NUPD list number, GTP/routing e.g. >NUPD 1,GTP/rzewaw **Note:** For more information >APSE NUPD "GTP" GT print
Automated issuance of an auxiliary flight coupon,	If the planed routing changes (due to irregularity) and the passenger has to use new additional flight to reach the final destination, an "auxiliary flight coupon will be needed for the new additional segment. you may issue this document automatically for the entire routing, ⇒ a: in front check we can use folder "auxiliary document" on" electronic ticket id" screen ⇒ b: in native mode we can use "NUPD" transaction with "EAP" option >NUPD coupon number EAP/new flight data e.g.>NUPD 1,EAP/lo227/./y/krkvie "EAP"- EA print **Remember,** that the ETK flight coupon on the first segment must be updated (by NUPD transaction in native mode or in front check by recheck folder on electronic ticket id screen)
Flight interruption	A FIM can be issued for those cases in which passenger have to be rebooked on either another airline or another LO flight.

manifest - (FIM)	For ETK passengers, two types of FIM can be issued : ⇒ a: paper FIM ⇒ b: a teletype FIM **Note:** a teletype FIM for ETK pax can be only used if a bilateral agreement exists between specify carriers **Paper FIM** step 1: check if the ETK was issued for cancelled flight. If not, add the flight dates of the cancelled using an update. For future information :>APSE NUPD step 2 : invalidate the ETK by "NUPD" transaction >NUPD list number/FIM/flight number/data/class/routing e.g.>NUPD 1/FIM/lo227/23mar/y/krkvie step 3 : issue the paper FIM **Teletype FIM** step 1 : display passenger list: >NPL flight number, TKNE step 2 : select pax from "NPL ,TKNE" list: >NFIM sequence number(s) for future information : APSE NFIM step 3 : a new mask will be display containing all the ETK data of selected pax step 4 : fill in the mandatory fields : SITA address, the internal office code the passenger's new itinerary
Reset status of ETK	Sometimes, due to irregularity problems, it's necessary to "reset" *BRD* of ETK. • deboarded passenger from gate and offload from the flight, change status of ETK, from *BRD* to *PAID* . in such situation , ETK can be used once more. • sometimes, descripted above actions have to be done manually. step 1 - search ETK and check the status of ETK If status of ETK ticket is still *SBY* or *ACC* , agent responsible for the flight must *reset* status of ETK. we can use front check - folder "coupon status" on "electronic ticket id" screen we can use native mode - NUPD transaction **Note**: More info. APSE NUPD
Working during EDP problems	We can specify a few situation connected with EDP failure: 1. check-in system is not available at time of passenger acceptance. 2. check-in system or boarding control device are not available at time of boarding. 3. if the "all" DCS-check in system is not working, and there is no possibility to check whether the passenger has an ETK or not. 4. if the DCS-check in system is not working only in your location (e.g. in check-in and gate areas). **Ad 1.** Check-in system is not available at time of passenger acceptance:

	⇒ step 1 - check ETK, if system is available in the other location e.g. in ticket office at the airport. If not please go to step 2 ⇒ step 2 - call to ETK helpdesk in WAW to get informational about specify ETK note ! - check if passenger has "itinerary receipt, if "yes" you can accept ⇒ passenger without "step 1" and "step 2". ⇒ step 3 - issue manual boarding pass with following information: a) the ETK number b) standard information such as : passenger name , flight number, data ,class , routing, number of checked-in baggage ⇒ step 4 - collect the copy of boarding pass issued for passenger with ETK to the "ticket envelope" for revenue accounting needs. ⇒ step 5 - as soon as system start working, change status of ETK from *PAID* to *BRD*. We can use front check - folder "coupon status" on "electronic ticket id" screen We can use native mode NUPD transaction **Note:** More info APSE NUPD **Ad 2** Check-in system or boarding control devices are not available at time of boarding. ⇒ if the check-in system was available during passenger acceptance, the passenger holds a boarding pass which contains all ETK remarks . electronic ticket Followed by the ticket number on the top and "etix etix etix etix" on the bottom of the boarding pass. ⇒ if either the check-in system or the boarding control devices are not working at time of boarding, the status change for the passenger's ETK coupon to "BRD" cannot be performed. This means that the ETK coupon will not be sent automatically to revenue accounting - for invalidation. **Note:** Immediately after the check-in system will be available again, local staff have to change the status of ETK from *ACC* to *BRD* asap. **Ad. 3** If the "all" DCS-CKI system is not working, and there is no possibility to check whether the passenger has an ETK or not. ⇒ step 1 - check if passenger has itinerary receipt, if "yes" you can accept pax ⇒ step 2 - if pax don't have itinerary receipt, please contact ticket office to search the electronic ticket and to check the status of ETK ⇒ step 3 if "RES" system in ticket office is also not available and if pax don't have itinerary receipt, you can check the "back-up list" with ETK

	pax or you can take contact with help-desk ETK/DCS to get number of ETK. **Note:** Helpdesk DCS/ETK confirm or not possibility to accept pax ⇒ step 4 - issue manual boarding pass with following information. a) the ETK number b) standard information such as : passenger name , flight number, data ,class , routing number of checked-in baggage ⇒ step 5 - collect the copy of boarding pass issued for passenger with ETK to the "ticket envelope" for revenue accounting needs. ⇒ step 6 - as soon as system start working, change status of ETK from *PAID* to *BRD*. We can use front check - folder "coupon status" on "electronic ticket id" screen We can use native mode - NUPD transaction more info apse ⇒ step 7 - if system "not run" before end of day the agent responsible for flight has to send information to help desk CKI/ETK about problems with modify status of ETK **Example:** address: wawphlo - to sita tlx or address: helpdcs@lot.pl to e-mail from : airport / name of agent re: flight number/date problem: system not available / pax accepted manually please check and modify ETK for following checked pax 1. kowalski/jan tn/080..... 2. nowak/jan tn/080..... total : 12 pax end

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5.16 Flight certificate

	Flight Certificate - Description	
Definition:	Set of documents containing information about carriage of passengers, cargo and mail from each of the flight, put in the specially signed paper envelope and sent to Revenue Accounting Office in Warsaw to settle statistical and revenue data for the specific flight.	
Purpose:	Compiling a documents from the flight to: • determine carriage figures, • determine revenue figures from documents with prefix „080”, • determine revenue figure from other carriers for foreign documents, • be able charge other carriers for their documents.	
Distribution:	Revenue Accounting Office is responsible for envelopes orders and distributions and final collections.	
Description of the table on the Flight Certificate:	The table is printed on the exterior part of the envelope. It is obligatory to fill it up. The table containing the following columns and rows:	
	A/C	Three–sign code of type of aircraft according to symbol used by LOT polish Airlines
	ID	The last two letters of an aircraft registration according to the load-sheet
	FLIGHT NO.	A four-letter number of a flight
	FLIGHT DATE	A date of the beginning of flight as a year, a month, a day written in Arabian letters
	FROM	Airport of departure as three – letter code according to IATA
	TO	Airport of arrival as three - letter code according to IATA. In case of multi-leg flights three – letters codes of following landing airport should be written
	Total Pax O/B (incl. NON REV)	Total number of checked-in passengers (included Non Revenue)
	No. of Infants	A number of infants on board (babies not occupying a separate seat in the aircraft)
	E-TIX	A number of passengers in possession of an electronic tickets.
	No. of code share-BSA Pax	A number of passengers form marketing flight of a foreign carrier carried by operating LOT flight according to Block Space Agreement / Code Share. The number of infants (INF) should be written separately
	MCO coupons	Number of MCO coupons
	EXC. BAGGAGE coupons	A number of baggage coupons (Excess baggage)
	FREE BAGGAGE kg	An amount of free of charge baggage in kg (a disparity between baggage in load-sheet and the amount of surplus of paid baggage in kg from flight coupons)
	EXC. Baggage kg	A number of surplus of paid baggage in kg from flight coupons (Excess baggage)

	Load Sheet	A document concerning weight and balance data
	Passenger Manifest	A passenger list document of the flight
	List of ETIX F/C	A list of passengers with electronic tickets. The figures should be divided into: LO – LOT e- flight coupons with prefix (080) and OC - Other carrier's e- flight coupons.
	Report of BSA/Code Share Pax	A number of passengers form marketing flight of a foreign carrier carried by operating LOT flight according to Block Space Agreement / Code Share. The number of infants (INF) should be written separately
	Remarks:	In case of lack of any of required documents the reason of it should be written in the field "Remarks" on the envelope and the way of sending the missing document should be given.
	Signature and date	The Flight Certificate should be signed by issuing person.
Required documents:	Operational documents:	a) Passenger flight coupons - paper version b) Baggage flight coupons - paper version c) List of electronic flight coupons (printed list of passenger heaving electronic ticket with TKNE parameter) d) MCO e) Load-sheet f) Passenger manifest g) Report pax BSA/Code Share h) Envelope with filling up rubrics of table
Preparing of Flight Certificate:	Flight Certificates are compiling by handling agent according to the handling agreement. Supervisory function is done by: a) LOT Polish Airlines Station Manager or, b) Supervisor according to the supervising agreement in all airports on the network where there is no Station Manager on duty.	
Sending of Flight Certificate:	a) From all international and all domestic airports excluding WAW the Flight Certificate should be sent as registered and equipped with SERVICE MAIL tag addressed to Revenue accounting Office in WAW no later than on board the first flight on the next day. b) From WAW airport Flight Certificates are picked up by Revenue Accounting Office employees no later than at 10 am on the next day	

	Procedure: 1. The handling agent is responsible for compiling of passenger documents into the Flight Certificate after departure of the flight. 2. Handling agent transfers compiled Flight Certificate (the filled up envelope containing all required documents) to the Station Manager or supervisor. 3. Station Manager/Supervisor checks and ensures that the Flight Certificate is consistent with LOT's standards. 4. Station Manager/Supervisor prepares the Flight Certificate for shipping on board of the next flight: • each Flight Certificate should be registered, • the comail bag with the Flight Certificate should be equipped with SERVICE MAIL tag with additional sign SABA ENVELOPE, • the List/Confirmation of Transfer the Service mail must be issued. 5. The comail bag should be checked by security according to the regulations before delivering it to the aircraft. 6. the comail bag must be delivered to the cabin crew member and written confirmation must be received (on the List/Confirmation document). 7. After arrival to WAW the cabin crew member transfers the comail bag to the handling agent under written confirmation. 8. The comail bag with SABA ENVELOPE sign has a priority in handling.. and it must be delivered to the carrier immediately.
Missing/lost documents:	All documents: • flight coupons not picked up from the passenger, • lost documents found by agent, must be immediately returned to the Station Manager or supervisor in order to send it to WAW addressed Revenue Accounting Office.

5.16.1. Flight Certificate form

POLISH AIRLINES LOT A STAR ALLIANCE MEMBER

PLEASE SEND THIS ENVELOPE TO:

REVENUE ACCOUNTING DEPARTMENT
43, Komitetu Obrony Robotników St,
02-146 Warsaw, Poland

AC-ID | | | | - | | | FLIGHT NO | | | | | FLIGHT DATE | | | |

YY MM DD

FROM:	TO:

Total Pax O/B (Incl. NON REV.)	
No. of INFANTS	
E-TIX	
No. of Code Share BSA - PAX	
MCO coupons	
EXC. BAGGAGE coupons	
FREE BAGGAGE kg	
EXC. BAGGAGE kg	

1. LOAD SHEET	
2. PASSENGER MANIFEST	
3. list of ETIX F/C	
4. report of BSA/Code Share Pax	

Remarks:

Signature and date:

5.17 Warsaw HUB Station

Product or service	Standards
1. General information	• Warsaw airport plays the role of HUB as a transfer point. • Taking into consideration the importance of WAW station as a HUB there are several unique services being offered to the passengers
2. HON Service	• HON Service is an offer directed to HON Circle customers arriving or departing WAW on LO/OS operated flights. • HON Service offers dedicated check-in counter, personal assistance during check-in, security and passport control (if necessary). A HON Circle member is accompanied by assistance to the business lounge of LOT "Polonez" or to the plane. • The limousine service is offered in case, when the aircraft is parked on apron position. • The detailed procedure is available to WAW station.
3. Business Lounge "Polonez"	• Business class passengers and Frequent Traveller Program members (HON, SEN, FTL) are entitled to access to the Business Lounge at some airports. • Premium Class passengers are allowed to buy an access-ticket to Business Lounge in Warsaw at LO ATO and CTO or at the LOT Transfer Center. • LOT business lounge "Polonez" is dedicated for LOT Business Class passengers, Star Alliance Gold card holders and FTL passengers. The lounge is open from 05:00 a.m. till 11:00 p.m. and is located in the Schengen zone.
4. Quick Transfer QTC	• QTC procedure applies in case of short connecting time for transfer passengers and their baggage for the next flight, when there is probability, that the passenger misses his onward flight. • Quick transfer timelines are as follows: flights within Poland and Europe - 25 minutes, for intercontinental flights - 30 minutes (assuming that transfer baggage is loaded in accordance to the airline's rules) • LOT Operations Center decides on QTC order assigning one of the following statuses: ➢ Quick transfer – acceptance of passengers and their baggage according to quick transfer procedure (MCT – 25minutes from domestic and European flights – 30 minutes from Atlantic flights). ➢ OK – acceptance of the passengers and their baggage. The subsequent flight may be delayed by LOT OCC but only up to required MCT.

	➢ Critical – acceptance of passengers and their baggage for the subsequent flight but only within the time left for the transfer. The fling cannot be delayed. ➢ Negative – refusal of passengers and their baggage • In case of transfer from Schengen to Non-Schengen zone passengers are assisted by designated passenger's service agent, who leads them to the border point in accordance with the border crossing rules. • The QTC process is completed when all transit passengers are on board and their baggage is loaded.
5. LOT Transfer Center (LTC)	• The staff in LOT Transfer Center handles all transfer and local who are in transfer zone and the rerouting, rebooking or waiting time do not require from the passenger leaving the zone. These are passengers: ➢ with missed connection due to late arrival to the transfer airport ➢ with irregular connection over 1 hour ➢ from cancelled flight having onward connections ➢ without boarding's for onward flights ➢ requiring any assistance • Each transfer desk in LOT Transfer Center is manned by at least one cashier and sufficient number of handling agent's staff from the first departure to the last departure/arrival of LOT flight
6. The scope of activities in LOT Transfer Center	• ticket change • excess baggage charges collection • MCO/EMD issuance • rebooking, rerouting • due services realization in the event of irregularity • filling APIS information if such required • checking passengers, boarding printing, other activities connected with seat assignment • other activities connected with handling transfer passengers and irregularity handling
7. Checkin, security and immigration facilites *(Star Alliance A1.1; B1.2)*	• At WAW HUB station LOT Polish Airlines serves checking facilities: ➢ LOT Economy Class check in counters, ➢ dedicated LOT Bussines Class checkin area with HON Circle counter ➢ self check-in and tagging kiosks ➢ clearly marked fast bag drop counters • LOT Bussines Class checkin area is located in opposite of Bussines Class ticketing office and Star Alliance Gold Track Security. • Star Alliance Gold Track Immigration is not avialable at Warsaw Chopin Airport.

Chapter 6 - Baggage Handling

6.1 General policy 3/86
6.2 Baggage Allowances 5/86
6.2.1 Description of baggage 5/86
6.2.2 Free baggage allowances 5/86
6.2.2.1 Free checked baggage allowances 6/86
6.2.2.2 Free unchecked baggage allowance 9/86
6.3 Excess Baggage 15/86
6.3.1 General rules 15/86
6.3.2 Procedure at the gate 15/86
6.3.3 Procedure at check-in counter 16/86
6.3.4 Excess baggage charges - code-share flights 16/86
6.3.5 Size restrictions 16/86
6.4 Carriage of Live Animals (PETC and AVIH) as baggage 19/86
6.4.1 General rules 19/86
6.4.2 Documentation 21/86
6.4.3 Handling of PETC 24/86
6.4.4 Handling of AVIH 25/86
6.4.4.1 Selection of a hold for carriage of live animals, as recommended in LOT Polish Airlines 28/86
6.4.5 Labelling 29/86
6.4.6 Responsibility 30/86
6.5 Dangerous Goods as Baggage 33/86
6.5.1 Recognition of dangerous goods and hidden hazards 36/86
6.5.2 Carriage of wheelchairs or mobility aids with spillable batteries 38/86
6.5.3 Carriage of wheelchairs or mobility aids with non-spillable wet batteries 39/86
6.5.4 Carriage of wheelchairs or mobility aids with lithium batteries 40/86
6.5.5 Limitation 40/86
6.5.6 Carriage of dry ice (carbon dioxide, solid) 41/86
6.6 Carriage of weapons and ammunitions in passenger baggage 43/86
6.6.1 Handling procedures (international and domestic flights) 48/86
6.6.2 Labelling 50/86
6.7 Carriage of a bicycle as checked baggage 51/86
6.7.1 Limitation 51/86
6.8 Crew baggage 53/86
6.8.1 Labelling 53/86
6.9 Stand-by baggage 55/86
6.9.1 Labelling 55/86
6.10 Fragile baggage / Limited Release Tag 57/86
6.10.1 Labelling 58/86
6.10.2 Handling limited release baggage procedure 58/86
6.11 Delivery at aircraft baggage 59/86
6.11.1 Labelling 59/86
6.11.2 Handling procedure 60/86
6.11.3 Handling procedure for baby strollers, pushchairs and wheelchairs 61/86
6.12 Priority baggage 62/86
6.12.1 Labelling 63/86
6.12.2 Baggage of Unaccompanied Minors (UM) 64/86

6.13 Baggage of transfer passenger 65/86
6.13.1 Labelling 65/86
6.13.2 LDM message 66/86
6.14 Baggage pooling 67/86
6.15 Irregularities 69/86
6.15.1 General rules 69/86
6.15.2 Found baggage 70/86
6.15.2.1 General rules 70/86
6.15.2.2 Acceptance of expedite baggage 70/86
6.15.2.3 Labelling 71/86
6.15.3 Missing baggage 73/86
6.15.3.1 General rules 73/86
6.15.3.2 Delivery of mishandled baggage procedure 74/86
6.15.4 Damaged baggage 75/86
6.15.4.1 General rules 75/86
6.15.4.2 Damaged baggage report procedure 75/86
6.15.4.3 Compensation procedure 75/86
6.15.4.4 Baggage claims procedures for Lost&Found offices handling LOT Polish Airlines 76/86
6.16 Carriage of human ashes as baggage 85/86

6.1 General policy

	Remarks
1. General rules	• Baggage is accepted for carriage during check-in of passenger (see Chapter 5 point 5.3). • Baggage must be marked by appropriate labels (see Chapter 6). • Baggage must be carried the same flight as passenger (see Chapter 4). • Maximum handling weight per piece is 32kg/70lbs (exceptions are sporting equipment and musical instruments, which can weigh up to 45 kg/99lbs) • First carrier rules apply for LOT Polish Airlines passengers carry on baggage.
2. Safety	For safety reasons all passenger baggage (checked and unchecked) must be screened.
3. Irregularities	In case of baggage irregularities, the passenger should not be waited for setting a claim no longer than 30 min.
4. Star Alliance standards	In accordance with Star Alliance standards, employees of LOT Contact Center and check-in agents are able to inform customers of other carriers' special baggage requirements and restrictions so as to provide a hassle-free travel experience across two or more member carriers on a single itinerary. In order to check out the latest collated information, please refer to: http://rg.starallianceemployees.com/special-checked-baggage.html

6.2 Baggage Allowances

6.2.1 Description of baggage

Passenger baggage consists of checked baggage and unchecked baggage.

Definition	Remarks
• **Checked baggage** is a baggage of which the carrier takes custody and for which the carrier issues a baggage check (included in the ticket) and one baggage identification tag per piece of baggage.	• must be loaded in holds, • all checked baggage must be properly packed in sufficiently rigid suitcases or similar containers to ensure safe carriage, • shall be sufficiently locked and secured so that it does not open and also does not have any sharp corners, • it is advised that each piece of checked-in baggage should be marked by a name tag. • may not contain following items: ⇒ fragile items, ⇒ valuable items, ⇒ perishable items, ⇒ dangerous goods.

• **Unchecked baggage** is a baggage carried in the cabin, under the passenger's custody depends on travel class and applies for Star Alliance GOLD passengers.	• should exclusively contain such articles which are needed for personal use only during the flight. • It is recommended that following items are carried as cabin or carry-on baggage: ⇒ travel documents, ⇒ medical certificates, ⇒ business documents, ⇒ portable PCs and other electronic equipment, ⇒ musical instruments, pictures, etc. ⇒ money, jewellery, negotiable papers, ⇒ medicines.

6.2.2 Free baggage allowances

	Remarks
1. General rule	• Free baggage allowance limits apply to checked baggage (shown in the passengers' ticket) and, separately - to unchecked baggage, which may be carried by the passenger without the need to pay an excess baggage charge – under the conditions of the tariff applicable to the passenger's air travel ticket.
2. Weight Concept:	• represents the limit expressed in terms of baggage: ⇒ quantity, ⇒ weight, ⇒ dimensions.
3. Piece Concept	• represents the limit expressed in terms of number, dimensions and weight of each piece.

6.2.2.1 Free checked baggage allowances

6.2.2.1.1 Weight Concept *(Star Alliance B1.7)*

1. Weight concept is applicable only on charter flights. Free baggage allowance for checked baggage is individually assigned on each charter flight by the Charter Bureau.

2. In case weight concept applies due to the Most Significant Carrier rule on scheduled flights, use baggage limits according to airline allowance. Refer to allowance stated in passenger's ticket.

3. For STAR Gold/HON passengers travelling according to the weight concept additional 20kg (44lbs) for each travel class applies.

6.2.2.1.2 Piece Concept *(Star Alliance B1.7)*

As from introduction of the piece concept to the whole network (1st of May 2012) the following limits for long haul and short haul flights shall apply:

FREE **CHECKED BAGGAGE** ALLOWANCE

		Distance	Number of pieces	Maximum dimensions of each piece	Maximum weigh of each piece
C class	LOT Business Class (Semi Flex, Full Flex, Standard)	short haul	2	158 cm (62 inches)	32 kg (70 pounds)
		long haul	3	158 cm (62 inches)	32 kg (70 pounds)
	LOT Business Flex Plus	short haul	0 (1 PC (max. 23kg) for FTL and SEN,HON, Star Alliance Gold)	n/a	n/a
		long haul	3	158 cm (62 inches)	32 kg (70 pounds)
P class	LOT Premium Economy	short haul long haul	2	158 cm (62 inches)	23 kg (50 pounds)
Y class	LOT Economy Class (Standard, Flex, Semi Flex)	short haul, domestic	1	158 cm (62 inches)	23 kg (50 pounds)
		long haul	1	158 cm (62 inches)	23 kg (50 pounds)
		long haul: from Europe and Middle East to/from China from Colombo to Europe, USA, Canada from Toronto to Belgrade from Delhi to USA and Canada from/to Tokyo to/from Europe (applies to tickets purchased after February 24, 2021)	2	158 cm (62 inches)	23 kg (50 pounds)
	LOT Economy Saver (no bag)	short haul, domestic long haul	0 (1 PC (max. 23kg) for FTL and SEN,HON, Star Alliance Gold)	n/a	n/a

Infants not occupying a seat	One piece regardless of class of travel or destination (except the tickets in fares with carry-on baggage only)	1	158 cm (62 inches)	23 kg (50 pounds)
	tickets in fares with carry-on baggage only	0 (exception of collapsible baby stroller/pushchair or car-type seat)	n/a	n/a
SEN, HON, Star Alliance Gold	One additional piece according to booking class + golf + ski (ex. US,CA)	+1	158 cm (62 inches)	32kg (70 pounds), or 23 kg (50 pounds) according to booking class
FTL in LOT Economy Class	One additional piece	+1	158 cm (62 inches)	23 kg (50 pounds)

Items under Piece Concept	
In order to simplify the check-in procedure for baggage carried under the Piece Concept System, it has been decided that the items listed below (regardless of their actual dimensions), have a standardized sum of their three dimensions equal to 158 cm (62 inches). For tickets issued on/after 1st July 2013 the concept of transporting sporting equipment is simplified.	
Sporting equipment	**Description**
Bike	a regular bike (no motor/ no e-bike), children's bike, one-wheel bike
Archery Equipment	a set of bow and arrow packed in a protective container
Fishing Equipment	two rods, a bag or a box, a pair of fishing boots, a tackle box or a landing net
Golf Equipment	a golf bag containing one set of golf clubs,
	golf balls and tees, a pair of golf shoes
Hockey Equipment	a hockey bag, hockey sticks, a pair of ice skates, a set of body protection, a helmet
Inline -Skates	a pair of inline skates, a set of body protection, a helmet
Javelin	a set of javelin equipment packed in a container
Boogieboard / Bodyboard	a board for e.x. water sports
Kite surfboard	a kite, a board
Bowling Equipment	a bowling bag, a bowling ball, a pair of shoes
Parachute Equipment	a set of parachute equipment packed in a container
Alpinist Equipment/Hiking	a backpack, an ice pick, a pair of climbing iron, 1 pair of shoes
Scuba Equipment	a diving mask, snorkel, fins, wetsuit, regulator, an empty tank bottle, a lamp
Skateboard / Board	a board, a set of body protection, a helmet
Ski / Waterski Equipment	a pair of ski, a pair of poles, a pair of boots, a helmet
Snowboard	a snowboard, a pair of boots, a helmet
Sporting /Hunting Weapons*	sporting/hunting guns, pistols, rifles plus ammunition (packed in separate bag)
Tenis/Squash /Badminton Equipment	a set of rackets and balls packed in a thermobag
Waterski Equipment	a pair of water ski
Surfboard	a board up to 2 m
Windsurf Equipment	a board, a sail, a boom, a mast, a gear bag
Kayak	a kayak or a canoe (no motor attached)
Hang Gliding Equipment	a set of hang gliding equipment packed in a container

Horse Riding Equipment	a saddle, a set of horse harness, a horse whip, a pair of riding boots, a bareback pad, 1 set of polo sticks
Longboard	a board exceeding 2 m
Pole Vault Equipment	a set of vaulting poles packed in a container
Rubber Dinghy	a rubber dinghy (no motor attached), 1 set of paddles
Tandem Bike	a tandem bike (no motor / no e-bike)

Heavy baggage tag *(Star Alliance A2.2)*

- If bag weighs more than 23 KG/50 LBS it shall be labeled *"heavy bag tag"*.

- Write current weight of bagagge (square on tag)



HEAVY BAGGAGE tag	
• dimensions	• 7 x 10 cm,
• description	• reversible, • hanging
• colour	• orange, grey.

6.2.2.1.3 Baggage Through Checking

1. General rule	Through check-in of baggage is possible for following cases: ⇒ onto flight is operated by LO or other airlines contracted with Interline Agreement with LO (Reference in GGAIRLO)

	⇒ the connecting flight departs from the same airport as the delivering flight ⇒ the connecting flight is scheduled to depart from the airport of transfer on the same day on which the delivering flight is scheduled to arrive ⇒ if local through-check-in rules allow ⇒ if the passenger holds a ticket with confirmed (OK) or requested (RQ) reservation for the connecting flight **NOTE**: Baggage of ID passengers with status seat available (SA) may be checked through if passengers agree.
2. Through-checking in case of separate tickets	Through check-in of baggage in case of separate tickets is allowed on LO and Star Alliance partners – the Electronic Tickets Interline agreement must exist, sufficient connecting time is observed and the local through-check rules allow.

6.2.2.2 Free unchecked baggage allowance

The following articles may be carried by the passengers in the cabin:

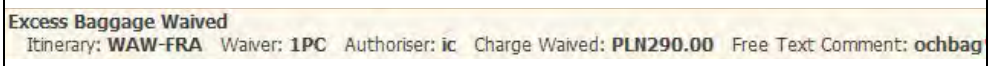
Categories	**Articles allowed**
1. Hand baggage (Carry-On Baggage) or items which are necessary for the passenger during their journey (without additional expenses)	• One piece of ladies bag or shoulder-strapped bag or laptop bag • for travelling with children - food and collapsible baby stroller / push chair for a child and/or car-type seat - for more information refer to point 6.2.2.2 (7) • The handicapped passengers are allowed to carry additionally on board the following necessary items (2 medical items are allowed for free): • Wheelchair (wheelchair will be loaded into the hold before boarding and will be given back to the passenger after landing) • Crutches or other medical devices for personal use **Note:** For security reasons the following articles could not be carried in the cabin baggage: liquids in containers (bottles, boxes, etc.) exceeded 100 ml each containing any liquids, gels, creams, perfumes, pastes, cosmetics in liquid consistency, contents of pressurized containers, lotions, oils, sprays etc. Exception: - dietary requirements including baby food, - medicines. allowed in liquid form if required during the trip. No restrictions on the quantity of liquids that passenger can carry. Passenger can be asked for proof that they are needed during the trip. Liquids in permitted quantities must be packed in one transparent, re-

	sealable plastic bag of not more than one liter capacity and should be present separately to the screeners at security checkpoints for examination. **Note:** Effective 31 January, 2014 new rules apply in EU Members States. Certain liquids are allowed as hand luggage but must be presented at transfer screening checkpoint at EU airports separately from other hand baggage. Liquids allowed: • Liquids in containers of 100ml or less packed in a single transparent, re-sealable 1-litre plastic bag; • Medicines & special dietary products, such as baby food, vital for the trip; • Duty-free liquids purchased from any airport or airline packed in a security bag. A receipt must be inside a security bag with and the bag cannot be opened until the arrival at the final destination. More information on www.lot.com. under Hand Baggage Regulation
2. Cabin baggage (without additional expenses)	• Additional items (except for the items classified as hand baggage), whose carriage free of charge is allowed by the carrier (e.g. umbrella, duty free purchases as alcohol, perfumes or other small accessories)
3. Special baggage carried in the cabin, but subject to special regulations and charges: Fragile, bulky and pets (PETC) in cabin.	
	Articles not permitted (for security reasons)
4. Hand/cabin baggage	• Weapons or weapon parts. • Explosives, e.g. ammunition, flares, fireworks, detonators. • Sharp metal objects, such as pocket-knives, daggers, sabres. • Flammable solids or liquids, e.g. spirit, lighter gas. • Solvents, paints, match. • Radioactive materials. • Compressed gases, e.g. aerosols with flammable contents. • Toxic substances, e.g. pesticides. • Corrosive substances. • Other dangerous items, e.g. items, which are characterised by a strong magnetic field. For more information refer to Chapter 6.5
	Remarks
5. Handling procedure	a) Check-in personnel must observe above restrictions due to limited capacity in the overhead-compartments and under the passenger's seat. b) All articles intended, as hand/cabin baggage shall be presented at the check-in desk. When the items confirm to the restrictions, a cabin baggage tag shall be issued. c) Only items bearing this tag are to be allowed on board at the gate. d) Cabin/hand baggage is subject to quantity, weight and size limitations.

6. Over capacity hand baggage **(OCHBAG)**

It is possible to load passenger hand bagagge in aircraft hold without extra cost if follow OCHBAG regulations and hand baggage limitations.

1. Selected flitghts: banner – OCHBAG, authorised by Station Manager.
2. *Example of flight:* fully loaded with passengers and hand bags. OCHBAG procedure helps with storing baggage in overhead bins
3. Hand baggage limitations are met (7. Limits) and bag is checked
4. Passenger is informed by agent to remove all fragile and valuable items
5. OCHBAG is delivered to bagagge belt like checked baggage (Limited Release tags). Do not use DAA tags!
6. It has to be put ALTEA WAIVE comment, example:



7. Only LOT flights, If continue with other carrier do NOT perform procedure.
8. OCHBAG procedure shall be performed if total booking is over:

E70	50+
E75	60+
E90	75+
E95	80+
B738	120+
B738MAX	150+

9. All other small bags shall be marked UNDER SEAT bag tag.

7. Limits *(Star Alliance B1.6)*

When these limits are exceeded, baggage must be carried as checked baggage!
LOT's sizer/scale shall be used to check baggage!

FREE **CARRY-ON BAGGAGE** ALLOWANCE

		Distance	Number of pieces	Total weight allowed	Remarks
C class	LOT Business Class (all fares)	long haul (except flights to/from USA) short haul	2	18 kg (9 kg each)	One (1) piece max 9 kg One (1) piece of baggage with maximum dimensions of 55cm x 40cm x 23cm (total sum of dimensions = 118cm) or a folding garment bag, which after being folded may not exceed 20 cm in depth
		to/from USA (according to US law regulations)	1	12 kg	One (1) piece of baggage with maximum dimensions of 55cm x 40cm x 23cm (total sum of dimensions = 118cm)
P class	LOT Premium Economy (all fares)	long haul (except flights to/from USA)	2	12 kg	One (1) piece max 8 kg One (1) piece of hand baggage with maximum dimensions of 55cm x 40cm x 23cm (total sum of dimensions = 118cm)
		to/from USA (according to US law regulations)	1	10 kg	One (1) piece of baggage with maximum dimensions of 55cm x 40cm x 23cm (total sum of dimensions = 118cm)
		short haul	1	8 kg	One (1) piece of baggage with maximum dimensions of 55cm x 40cm x 23cm (total sum of dimensions = 118cm)
Y class	LOT Economy Class (all fares)	short haul long haul	1	8 kg	One (1) piece of baggage with maximum dimensions of 55cm x 40cm x 23cm (total sum of dimensions = 118cm)
Charter flights	n/a		1	5 kg (depends on flight)	One (1) piece of baggage with maximum dimensions of 55cm x 40cm x 23cm (total sum of dimensions = 118cm)

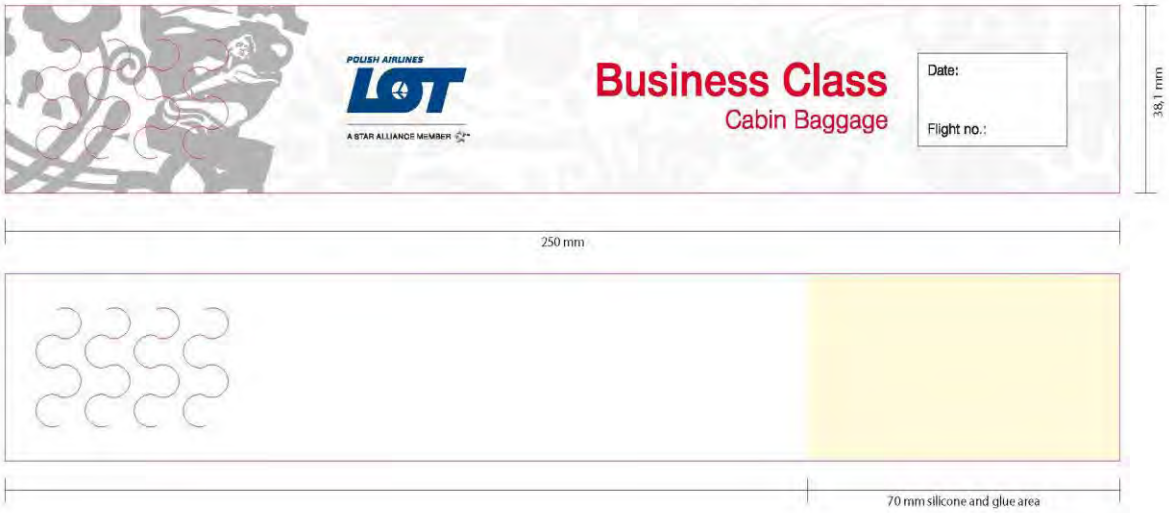
Note: The carry-on baggage allowance applies to all passengers including SEN, HON, Star Alliance Gold, FTL customers according to class of travel.

In addition to the above cabin baggage allowance, the following items may be carried free of charge:

- ladies handbag **OR** men's bag **OR** laptop bag (max.2 kg; 40 cm x 35 cm x 12 cm)
- food and collapsible baby stroller/pushchair **OR** car-type seat (applies to infants under 2 years old (INF) - **not occupying** an individual passenger seat)
- food and collapsible baby stroller/pushchair **AND** car type-seat (applies to infants under 2 years old (INF) and children beetwen the age of 2 and 12 years old (CHD) - **occupying** an individual seat)

6.2.2.2.1 Business class cabin baggage tag

LOT Polish Airlines • Cabin Baggage Tag • 250 x 38,1 mm



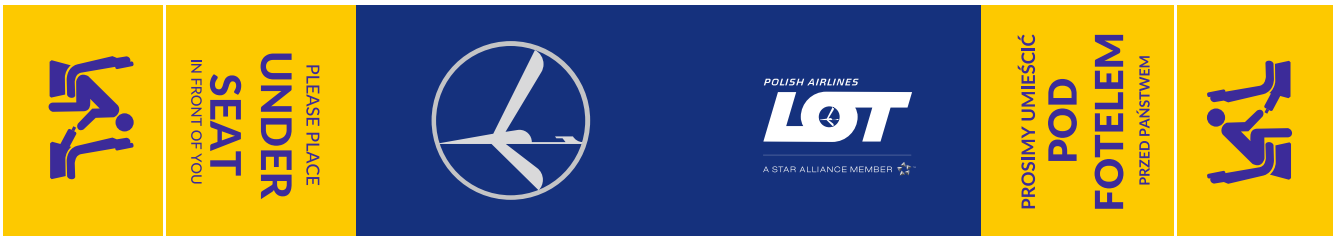
6.2.2.2.2 Economy class cabin baggage tag

LOT Polish Airlines • Cabin Baggage Tag • 250 x 38,1 mm



6.2.2.2.3 Under Seat baggage tag

1. All passengers with small bags other than trollleys.
2. Small bags which fits under the seat in front of passenger: laptop/computer bag, backpack, ladies handbag, shoulder-strapped bag etc.
3. Perform procedure in accordance with OCHBAG booking limits.



Please send all orders to handling.materials@lot.pl

6.2.2.2.4 Transfer to USA baggage tag

1. All passengers in transfer (only via WAW) to USA from their origin destination shall be tagged.
2. Attach this tag to one of the passenger's handbags.



Please send all orders to handling.materials@lot.pl

6.3 Excess Baggage

6.3.1 General rules

1.	The overall rule is that a passenger who carries excess baggage must pay excess charges.
2.	Excess baggage means the portion of baggage which exceeds free baggage allowance in terms of weight, quantity or dimensions, and which is carried at an extra charge.
3.	The passenger handling staff of LOT Polish Airlines may refuse carriage of excess baggage, due to safety considerations, technical reasons etc. The decision regarding this issue is made by the Station Manager, supervisor or a person authorised to represent LOT Polish Airlines at airport (if necessary, upon consultation with the aircraft captain who in such case has the right to make the final decision).
4.	The fact that excess baggage charge has been collected is confirmed by the following carriage documents: • separate Excess Baggage Ticket or, • the EMD/MCO form (Miscellaneous Charge Order).
5.	• There are different passenger categories with an increased free baggage allowance, such as seamen, customers holding status cards (e.g. HON, SEN, Star Alliance Gold) or other passengers with granted excess baggage by LOT Head /Director with the approval in the reservation. • In case of seamen it is not sufficient to show a seaman's book without a seaman ticket to receive the increased allowance. • The free baggage allowance is always entered in the etix. • If an increased allowance is entered in the ticket, always accept this amount.

6.3.2 Procedure at the gate

1.	• The preliminary check of hand luggage shall be done at the gate before boarding, where the handling agent actively checks passenger's hand luggage with the use of hand scales (if available) and sizers (the baggage frame). • The luggage must meet the weight and size requirements of LOT Polish Airlines.
2.	If the hand luggage exceeds the allowed limits (in total with checked baggage) handling agent asks passenger to pay an excess baggage fee.
3.	The proof of payment is EMD/Excess Baggage
4.	After paying and presenting the EMD/EXB passenger's baggage is: ➢ marked by baggage tag/ LIMITED RELEASE (see Ch.6.10), ➢ announced to the person responsible for aircraft/flight coordination, ➢ registered into the DCS (correction to the load sheet) ➢ loaded to the hold of the aircraft. Passenger is asked to collect the hand luggage together with the registered baggage from the conveyor belt at the airport of arrival.
5.	In case the passenger with oversized/overweight hand luggage appears in gate while final boarding and the process of excess baggage charge collection may affect the on-time departure, handling agent contacts LOT's representative or supervisor and proceeds according to suggested instructions.

6.3.3 Procedure at check-in counter

1.	• If the registered baggage exceeds the allowed limits the agent asks passenger to repack, leave (if there is such possibility) or pay an excess baggage fee. • After paying the excess baggage (EMD/EXB) passenger can register the luggage at check-in counter. • Valuable items shall be placed in hand bag

6.3.4 Excess baggage charges - code-share flights

In case of code-share flights, where LO is designated as marketing carrier only – excess baggage charges must be collected according to the operating carrier's regulations and fees (see GGAIRLOBAGS)

6.3.5 Size restrictions

Code	Limits
AVIH	• The size of the container may not exceed the dimensions of: ⇒ B 787 - 125x96x64cm in bulk - 317x243x162 cm in fwd ⇒ B 737 - 137 x 114 x 86 cm, ⇒ ERJ 170-100/200 - 120 x 102 x 71 cm ⇒ ERJ 190-200 - 120 x 102 x 71 cm ⇒ DH4 - 170 x 70 x 143 cm
PETC	• The size of the container may not exceed the dimensions of: ⇒ on B 787, B 737: 55 x 40 x 20 cm on E70, E75, E95, DH4: 45 x 30 x 20 cm • Limits:

Aircraft type	Max per aircraft	C class	P class	Y class	One cabin configuration
B787-900	**4 PETC**	**1 PETC**	**1 PETC**	**2 PETC** 1st seated in section C (row 9-20) 2nd seated in section D (row 22-36)	N/A
B787-800	**4 PETC**	**1 PETC**	**1 PETC**	**2 PETC** 1st seated in section C (row 8-19) 2nd seated in section D (row 21-31)	N/A

Aircraft type	Max per aircraft	C class	Y class	One cabin configuration
B737 ERJ 190-100/200 ERJ 170-100/200 DHC-8-400	**2 PETC**	**1 PETC**	**1 PETC** must be max. isolated from the PETC in C class (recommended last row of Y class)	max. **2 PETC** per aircraft placed in outer two aircraft sections (must be isolated from each other)
		2 PETC animals must be max. isolated from each other (recommended 2nd row and the last row of C class)	**0 PETC**	
		0 PETC	**2 PETC** placed in two outer aircraft sections (must be isolated from each other)	

	• Transportation of more PETCs over the limit must be authorized by the Ground Handling and Procedures Unit. • Max weight 8 kg gross • A guide dog which accompanies a disabled passenger, traveling in an appropriate harness, is always carried free of charge. **NOTE**: Assistance dogs (SVAN) are not included in the quantity limit regarding the number of animals allowed in the cabin.	
CBBG	• Goes with extra seat. • Max weight 75 kg • Charge for each seat occupied by such baggage shall be the fare which would have been charged to the passenger occupying such seat	When calculating the excess baggage charge for CBBG baggage, no group fares, special fares or any discount fares will apply.
FRAG	• Accepted as CBBG or loaded into belly. • On request. • EXB rate applied.	
Sporting Equipment (SPEQ)	• Sporting equipment which is included in FBA is free of charge. • If the item exceeds the limit of FBA the charge of EXB must be collected (see sporting equipment charges in Amadeus) • The list with the fees of carrying sporting equipment is published in Amadeus and on www.lot.com • The maximum weight of sporting equipment must not exceed 45 kg. The heavier items shall be sent as Cargo. • One ski and golf equipment are allowed free of charge as additional baggage for Star Alliance Gold cards holders (HON, SEN, Star Alliance Gold) For details see chapter 6.2.2.1.2. **Items under Piece Concept** **Note:** Security guards on duty are exempt from payment for their personal weapon. TABLE OF SPORTING EQUIPMENT WITH DESCRIPTION!	
XBAG BULK	• Max weight of a regular baggage is 32 kg; Exception is sporting equipment and musician instruments which may weight max 45kg; • NOTE: Some stations have weight limit of max 32 kg per piece (see GGAIRLOBAGS). That should be considered during confirmation in reservation. • Regular baggage exceeding 32 kg shall be sent as Cargo • The size (3 dimensions) of each pieces of XBAG/ BULK must be checked according to the type of the aircraft (GHM Ch.3 14.)	Under the charging rules presented in Amadeus

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6.4 Carriage of Live Animals (PETC and AVIH) as baggage

6.4.1 General rules

	Remarks
1. Policy	• The carriage of live animals is subject to the IATA Live Animal Regulations and to special conditions. • Carriage can only be accepted when all points are adhered to. • Reservations shall be made (SSR is mandatory). • Carriage of animals is chargeable.
2. Requirements	A live animal may be carried as baggage on board LOT Polish Airlines aircraft within the entire connection network, provided the following conditions are met: • Good health and condition of animal, Only animals which appear to be in good health and condition and fit to travel to the final destination will be accepted. • Animal must travel together with passenger, A live animal carried as baggage is carried on the same aircraft as the passenger who takes care of the animal; carriage of live animals is allowed under the regulations in force in the countries of departure, destination and in all transit countries. • Passenger has got all documents (for animal) required for veterinary purposes according to the regulations. The passenger carrying a live animal presents during check-in all the documents required for carriage of an animal, in compliance with the regulations in force in the countries of departure, destination and in all transit countries. • Container (a cage or bag) used for transportation of animal is proper (according to the regulations). The animal is presented for check-in in a container (a cage or bag) provided by the passenger, which meets LOT Polish Airlines requirements regarding its weight, dimensions and construction. Each container must be suitable for the animal(s), it must in general allow the animal(s) to stand up, turn and lie down in a natural manner.
3. Restrictions:	• Females with suckling young and unweaned animals will not be accepted. • Weaned puppies younger than eight weeks must not been shipped due to possible dehydration effects in air transportation • Dogs, cats and ferrets (up to 5 animals) according to Regulation (EU) No. 576/2013; more info: https://www.wetgiw.gov.pl/english/travelling • Polish law does not allow to bring into Poland young dogs, cats or ferrets under 12 weeks of age without valid vaccination against rabies
4. Seeing-eye /assisting	**Seeing-eye/hearing, assisting dogs** are accepted free of charge in the passenger cabin, when accompanying a blind, deaf or disabled passenger. Weight and size limitations do not apply and the animal need not be caged. For more info refer to Chapter 5.11.2.1.

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6.4.2 Documentation

Documents required for carriage of a live animal as baggage (PETC and AVIH):

Categories	Remarks
1. Pet Passport   	Dogs, cats and ferrets are to be accompanied by a passport when they are moved between the European Union Member States (according to the Article 5(1)(b) of Regulation (EC) No 998/2003). a) The format of passport (uniform for all Member States): • Dimension: 100x152 mm, • Color: blue and yellow stars in the upper quarter complying with the specification of the European emblem, • the number of passport, ISO code of the Member State of issue are printed on the cover, • pages are numbered at the bottom of each page, • information shall be given in the official language(s) of the Member State of issue and in English. b) Sequences of the headings: • I. OWNER Name, Surname, Address, Post-code, City, Country • II. DESCRIPTION OF ANIMAL Picture of the Animal (Optional), 1. Name (as stated by owner), 2. Species, 3. Breed, 4. Sex, 5. Date of Birth, 6. Coat (colour and type), • III. IDENTIFICATION OF ANIMAL 1. Microchip Number, 2. Date of Microchipping, 3. Location of Microchip, 4. Tattoo Number, 5. Date of tattooing **Note:** **The identification must be verified before any new entry is made on this passport** • IV. VACCINATION AGAINST RABIES Manufacturer (Name of Vaccine) & Batch (Number), Vaccination Date, Valid until, Authorised Veterinarian (stamp & signature) • V. RABIES SEROLOGICAL TEST I have seen an official record of the result of serological test for the animal, carried out on a sample taken on ....(dd/mm/yyyy) And tested in an EU-approved laboratory, which states that the rabies neutralising antibody titre was equal to or greater than 0.5 IU/ml Name, date and signature of the authorised Veterinarian IN CASE OF A FURTHER TEST I have seen an official record of the result of serological test for the animal, carried out on a sample taken on ....(dd/mm/yyyy) And tested in an EU-approved laboratory, which states that the rabies neutralising antibody titre was equal to or greater than 0.5 IU/ml Name, date and signature of the authorised Veterinarian

	• VI. TICK TREATMENT Manufacturer & Name of product, Date, Time, Veterinarian (stamp & signature) • VII. ECHINOCOCCUS TREATMENT Manufacturer & Name of product, Date, Time, Veterinarian (stamp & signature) • VIII. OTHER VACCINATIONS Manufacturer (Name of Vaccine) & Batch (Number), Vaccination Date, Valid until, Authorised Veterinarian (stamp & signature) • IX. CLINICAL EXAMINATION Declaration (the animal is in good health and able to withstand carriage to its destination), Date, Veterinarian (stamp & signature) • X. LEGALISATION Legalisation Body, Date, Stamp/Seal • XI. OTHERS
2. Veterinary Certificate For Domestic Dogs, Cats entering The European Community For Non-Commercial Movements	Dogs, cats and ferrets are to be accompanied by a Veterinary Certificate when they are moved from third countries (Article 8(4) of Regulation (EC) No 998/2003). a) The format and validity of Veterinary Certificate: • The Certificate shall consist of a single sheet drown up at least in the language of the Member State of entry and in English (in block letters) • Parts I to V of certificate shall be issued and signed by an official veterinarian designated by the competent authority of the country of dispatch or by a veterinary surgeon authorised by the competent authority. In the latter case the competent authority must endorse the certificate, • Parts VI and VII, where applicable, shall be completed and signed by veterinarians authorised to practice veterinary medicine in the country of dispatch. • The certificate must be accompanied by supporting documentation or a certified copy of it, including vaccination details and result of serological test. This documentation must bear identification details of the animal concerned. • The certificate is valid for intra-Community movements for a period of four months from the date of issue or until the date of expiry of the vaccination shown in part IV, whichever is earlier b) Sequences of the headings: • Country of dispatch of the animal, • Serial number of Certificate • I. OWNER/RESPONSIBLE PERSON ACCOMPANYING THE ANIMAL First name, Surname, Address, Postcode, City, Country, Telephone • II. DESCRIPTION OF ANIMAL

	Species, Sex, Date of birth, Breed, Coat (color and type) • III. IDENTIFICATION OF THE ANIMAL • Microchip number, Location of microchip, Date of microchipping, Tattoo number, Date of tattooing • IV. VACCINATION AGAINST RABIES Manufacturer and name of vaccine, Batch number, Vaccination date, Valid until • V. RABIES SEROLOGICAL TEST (when required) I have seen an official record of the result test for the animal, carried out on a sample taken on (dd/mm/yyyy) ..... and tested in an EU-approved laboratory, which states that the rabies neutralising antibody titre was equal to or grater than o,5 IU/ml • OFFICIAL VETERINARIAN AUTHORISED BY THE COMPETENT AUTHORITY (in the latter case, the competent authority must endorse the certificate) First name, Surname, Address, Postcode, City, Country, Telephone, Signature, Date & Stamp • ENDORSEMENT BY THE COMPETENT AUTHORITY (Not necessary when certificate is signed by an official veterinarian) Date & Stamp • VI. TICK TREATMENT (when required) Manufacturer and name of product, Date and time of treatment (dd/mm/yyyy + 24 hour clock), Name of veterinarian, Address, Postcode, City, Country, telephone, Signature, Date & Stamp • VII. ECHINOCOCCUS TREATMENT (when required) Manufacturer and name of product, Date and time of treatment (dd/mm/yyyy + 24 hour clock), Name of veterinarian, Address, Postcode, City, Country, telephone, Signature, Date & Stamp
3. Other documents which are required on the basis of the regulations of the country of: departure, destination or transit (e.g. import licence)	For information on the regulations of specific countries see TIM or webbed pages

6.4.3 Handling of PETC

	Remarks
1. Acceptance	• Only cats , dogs and ferrets are accepted. Others - as cargo (AVI) only. **NOTE: Ferrets, which are transported to CANADA require "PERMIT TO IMPORT" issued by Canadian Food Inspection Agency.** • Weight of the animal together with its container (cage or bag) must not exceed 8 kg. If weight limit is exceeded – as AVIH (pet in hold) only. • Only one PETC per passenger is allowed. **Exception:** 2 small PETCs of the same species in one container not exceeding the dimensions for specific type of aircraft and total weight up to 8 kg (including container). • The container (cage or bag) fits under a passenger seat in the cabin and does not exceed the dimensions specified for cabin baggage (**55 cm x 40 cm x 20 cm**). **Exception:** For carriage of a live animal as cabin baggage on board of ERJ 170-100/200 or ERJ190-200 aircraft, the container (cage or bag) must not be larger than: **45 cm x 30 cm x 20 cm.** • Carriage in the cabin is allowed by the country/ies and carriers regulations ⇒ country of departure, ⇒ country of destination, ⇒ all transit countries, ⇒ as well as by the regulations of the carrier or carriers involved in the whole process of carriage. • Pets must not be allowed to leave the container during flight. ⇒ it's possible to take the container (cage or bag) from under the seat.
2. Limitation	There is a limit for animals carried in the cabin on the same flight: **See point 6.3.5.**
	Note: A guide dog accompanying a blind/deaf or disabled passenger are not included in the quantity limit regarding the number of animals allowed in the cabin. For more info refer to Chapter 5.11.2.1. Assistance dogs
3. Reservation	Based on the limits (depending on aircraft type) animals are automatically confirmed by the reservation system. **Note:** If passenger is travelling together with any assistance dog on board ERJ170-100/200 and ERJ 190-200 aircraft, Space Control Section blocks extra seat for dog (free of charge).

4. Check in	• All the rules that apply to baggage check-in are also relevant for the check-in of a passenger travelling with a live animal carried as baggage. • A live animal carried as baggage can be accepted for carriage only during check-in at the airport on the day of departure. • Pets, which are permitted to be transported in the passenger cabin, shall be loaded into their containers or cages before leaving the departure lounge. • The container/cage shall not be reopened until the passenger is in the arrival building at the destination.
5. Seating	• Passenger with PETC (guide dog / assistance dog) cannot be seated at emergency exit row • Passengers with PETC shall not be seated in a row behind or adjacent to aircraft exit doors where no seat row in front is available (to place the PET under the seat during take-off and landing). • The container is placed in front of passenger's seat. It shall be ensured that aisle between seats is free for unobstructed movement.

SEATS WHICH ARE NOT ALLOWED FOR PASSENGERS TRAVELING WITH PETC

B 787 8	B 787 9	B 737 800	EMB	DHC 8
1 AB CD EF 4 AB CDE FG 7 ABC DEF GHJ 20 ABC DEF GHJ	1 AB CD EF 5 AB CDE FH 8 ABC DEF GHJ 21 ABC DEF GHJ	1 ABC DEF 14 ABC DEF 15 ABC DEF	**170 100** 1 CD 2 AB **170 200** 1 AB 2 CD **190 200** 1 AB CD 12 AB CD **190 NG-NL** 1 CD 2 AB 14 AB CD	1 AB 2 CD

6. Labelling	• A container (cage or bag) with a live animal shall be marked by: ⇒ CABIN BAGGAGE" tag, ⇒ LIVE ANIMALS label (see point 6.4.5).
7. Information on the presence of an animal on board.	• Information on the presence of PETC must be delivered to: ⇒ Senior crew member by means of PIL, ⇒ Handling agent, Station Manager or supervisor at destination by means of LDM message.

6.4.4 Handling of AVIH

	Remarks	
1. Acceptance	• The size of the container does not exceed the limits for a type of aircraft on which the animal is to be transported.	
	Type of aircraft	**Dimensions**
	B787	125x96x64cm in bulk, 317x243x162 cm in fwd
	B 737	137 x 114 x 86 cm
	ERJ 170-100/200, ERJ 190-200	120 x 102 x 71 cm
	DHC-8-400	170 x 70 x 143 cm

	• Container used for transportation of animal is proper (according to the regulations): Separate food and water troughs must be provided by shiper, either fixed inside the container or attached to it so that they are accessible for replenishment purposes. ⇒ is sturdy enough, ⇒ has an adequate number of ventilation openings, ⇒ is tight (not leaking), ⇒ can be handled easily, ⇒ is clean and without unnecessary equipment. • Temperature in the hold during the flight is appropriate for a given animal: ⇒ temperatures required for carriage of specific animal species are provided in IATA „Live Animals Regulations" Appendix C ⇒ temperatures during the flight in holds of LOT Polish Airlines aircraft are provided in point 6.4.4.1. • Carriage of an animal in the hold is allowed by the country/ies and carriers regulations: ⇒ country of departure, ⇒ country of destination, ⇒ all transit countries, ⇒ as well as the regulations of the carrier or carriers involved in the carriage process.
2. Limitation	• The number of animals carried as checked baggage (AVIH) aboard any aircraft and the hold or holds are specified in Chapter 3 (Weight & Balance) • Only one adult animal per one container is allowed for carriage except animals up to 6 months old – up to a maximum quantity of three in the same container.
3. Reservation	• Information of animal (total weight together with the container, dimension of the container) shall be entered into the booking system
4. Check in	• All the rules that apply to baggage check-in are also relevant for the check-in of a passenger travelling with a live animal carried as baggage. • A live animal carried as baggage can be accepted for carriage only during check-in at the airport on the day of departure.
5. Labelling	• A container with a live animal shall be marked by: ⇒ single-leg or multi-leg tag, ⇒ LIVE ANIMALS label, ⇒ THIS WAY UP (see point 6.4.5).
6. Loading	• AVIH shall be loaded and offloaded as close as possible to the aircraft departure or arrival. They shall not be left standing unnecessarily in the open not on standing aircraft, when departure is delayed. • A live animal carried as checked baggage (AVIH) may be carried only in the holds listed in point 6.4.4.1. • If air temperature at the departure or transit airport exceeds +24°C or is below + 4°C, one should consider the possibility to use air-conditioning devices in the hold (either Air Cooler or Air Heater). • If the take-off is delayed for more than 30 min, and if air-conditioning devices in the hold haven't been used, the container with the animal shall be offloaded and temporarily placed in a room adapted for that purpose. • The time when the hold containing a live animal remains closed shall be kept to the absolutely required minimum.

	• The container with the animal shall be placed inside the hold: ⇒ at least 15cm above the floor – in order to prevent excessive cooling of the animal, ⇒ at least 10 cm away from other load or baggage – in order to ensure appropriate ventilation for the animal, ⇒ in such way as to make sure no other items carried inside the same hold may fall onto the container (cage). • Precautions shall be taken to prevent other baggage or cargo falling onto animal boxes. Avoid unnecessary tilting and jolting of containers. • Animal containers shall be handled and stowed in upright position and must be properly lashed inside the cargo compartment. Securing the animal container by other baggage or cargo is in sufficient. • Live animals shall not be packed inside a closed ULD (container). • Live animals shall not be loaded in close proximity to other loads which may have a negative effect on their health and welfare. • Animals which are natural enemies shall not be loaded in close proximity to one another. • Animals shall not be loaded in close proximity to cryogenic liquids(RCL), Dry Ice (ICE), foodstuff (EAT) and human remains (HUM). • Live animals may be loaded together with radioactive materials, provided that the separation distances stated in the IATA Live Animal Regulations are complied with.
7. Information regarding the presence of an animal in hold.	• Captain shall be notified of having loaded checked baggage containing a live animal into the aircraft's holds by Weight & Balance staff in writing, in the form of a NOTOC document, • Station Manager or supervisor, handling agent - unloading staff at the destination airport shall be notified by: ⇒ LDM message (Load Message), ⇒ BTM Message (Baggage Transfer Message).

6.4.4.1 Selection of a hold for carriage of live animals, as recommended in LOT Polish Airlines

<table>
<tr><th>A/C TYPE</th><th>DESIGNATED HOLDS</th><th>RECOM-MENDED HOLDS</th><th colspan="4">AIR TEMPERATURE INSIDE THE SPECIFIC HOLDS DURING THE FLIGHT</th><th>NOTE</th></tr>
<tr><td rowspan="4">B737</td><td rowspan="4">All holds</td><td rowspan="4">1 or 2</td><td colspan="2">1 or 2</td><td colspan="2">from 0°C to +13°C</td><td rowspan="4">Holds are not air-conditioned during aircraft parking and during taxiing to the runway</td></tr>
<tr><td colspan="2">standard</td><td colspan="2">+5°C</td></tr>
<tr><td colspan="2">3 or 4</td><td colspan="2">from -4°C to +11°C</td></tr>
<tr><td colspan="2">standard</td><td colspan="2">+2°C</td></tr>
<tr><td rowspan="2">B787</td><td rowspan="2">Designated 1, 2 or 5. 3 and 4 are not allowed</td><td rowspan="2">1 or 2</td><td>1,2</td><td>fan off
fan on</td><td colspan="2">none
from 4°C to +27°C</td><td>Equipped with a heating and ventilation system</td></tr>
<tr><td colspan="3">5</td><td colspan="2">+21°C</td><td>Hold does not have its own heating and ventilation system. Air flows from the cabin</td></tr>
<tr><td rowspan="4">ERJ 170-100/200
ERJ 190-200</td><td rowspan="4">1 and 2</td><td rowspan="4">1 and 2</td><td colspan="4">ON GROUND TEMPERATURE LIMITATION
OUTSIDE AIR TEMPERATURE DURING LOADING (OAT)</td><td rowspan="4">Forward cargo compartment is equipped with ventilation system, but no dedicated temperature control is available for it.
The air flowing from passenger cabin heats the FWD cargo compartment, providing proper conditions for live animal carriage</td></tr>
<tr><td colspan="2">LOAD</td><td>MIN. TEMP</td><td>MAX. TEMP</td></tr>
<tr><td colspan="2">0 to Half Load</td><td>-7°C</td><td>35°C</td></tr>
<tr><td colspan="2">Half Load to Full Load</td><td>-7°C</td><td>30°C</td></tr>
<tr><td>DHC-8-400</td><td colspan="2">AFT compartment (no. 6)</td><td colspan="5">AVIH is acceptable for DH4 a/c
Package/cage according to IATA LAR</td></tr>
</table>

CAUTION

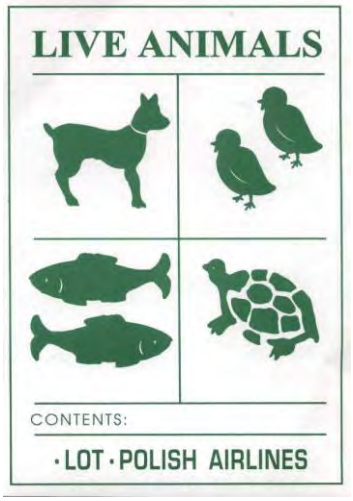
Due to lack of Fwd Cargo Compartment Ventilation live animals carriage is **PROHIBITED** in ERJ190-100AR/200AR (registrations SP-LNG, SP-LNH, SP-LNI, SP-LNK, SP-LNL, SP-LNM, SP-LNN, SP-LME, SP-LMF)

6.4.5 Labelling

A container (cage or bag) with a live animal carried inside as unchecked baggage shall be marked by:

• PETC	• „CABIN BAGGAGE" tag, • LIVE ANIMALS label
• AVIH	• single-leg or multi-leg tag. • LIVE ANIMALS label • THIS WAY UP Every live animal container must bear at least one (1) live animals sticker, with package orientation "This Way Up" on all four (4) sides whenever possible. The labels shall be affixed to the container in such way as not to obscure ventilation openings.

LIVE ANIMALS label.



LIVE ANIMALS label	
• dimensions	• minimum label size: 10 cm x15 cm • minimum lettering size: 2,5 cm
• description	• In the „Contents" field, write (in English) the type of animal carried inside the container • There should be at least one (1) „LIVE ANIMALS" label affixed to the container.
• colour	• on a light-colored background a bright green „LIVE ANIMALS" text and a symbolic picture of animals

„THIS WAY UP".



THIS WAY UP label	
• dimensions	• minimum label size: 10 cm x15 cm
• description	• A „THIS WAY UP" label shall be placed on all four walls of the container whenever possible • It indicates the appropriate position of the container (cage) and means that the container (cage) requires special handling.
• colour	• on a light-coloured background a bright red or black arrows pointing upwards

6.4.6 Responsibility

Responsible person	Remarks
1. The passenger is responsible for:	• Providing appropriate information regarding the animal while booking the flight; • All information given by LOT Polish Airlines is to the best of their knowledge correct. For detailed information and to obtain current requirements, passengers are to be referred to the local consulate of health authorities. All restrictions, rules and regulations pertaining to or governing import/export of live animals are exclusively a matter of and within the sole responsibility of the passenger. This also applies to veterinary certificates, vaccinations etc. • Providing a container (cage or bag) for carriage of the animal, in compliance with the requirements of LOT Polish Airlines regarding the container's weight, dimensions and construction; • Presenting during check-in all the documents required for carriage of a live animal on a specific route – in compliance with the regulations – (certificates, veterinary certificates, import license); • Ensuring that the animal's health and physical condition make it possible to safely carry the animal on the planned route (which includes feeding and watering the animal prior to carriage). • Any costs arising in consequence of the transportation by LOT Polish Airlines (vaccination, quarantine, veterinary inspections, authority, clearance putting to death and/or destruction) regardless whether LOT Polish Airlines has authorized or tolerated the transport, are wholly and solely at the expense of the keeper or owner of the animal.
2. LOT Polish Airlines is responsible for:	All conditions of liability regarding baggage which are in force in LOT Polish Airlines apply also to carriage of live animals in passenger baggage • Providing the passenger who intends to carry a live animal in his/her baggage with correct information – in compliance with regulations and procedures – regarding the whole carriage process. • Verifying whether the container supplied by the passenger (cage or bag) conforms to the LOT Polish Airlines requirements regarding its weight, dimensions and construction. • Checking whether the passenger has all the documents required – in compliance with the regulations – for carriage of an animal on a specific route. • Correct carriage of an animal – in compliance with the existing procedure.

3. LOT Polish Airlines bears no responsibility for:	• Death of an animal or damage to its health or for any losses resulting from inappropriate preparation of the animal for carriage, in particular in the event when the animal's health, physical condition or the container supplied by the passenger haven't ensured safe carriage on the planned route. • Death of an animal which occurred for natural reasons. • Any injury self-inflicted by the animal. • Death of an animal or damage to its health caused by the inability of the animal to become adjusted to the alien environment during carriage. • Any injury to the passenger caused by the animal carried by him/her. • The regular observance of all import and/or entry permits, veterinary instructions, nor for the consequences resulting of any violation against such regulations or instructions. • Providing or preparation of attestation, certificates for import, neither at the station of origin, nor at the destination. • Any damage which the animal might suffer during or in consequence of the air transpiration.

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6.5 Dangerous Goods as Baggage

	Remarks
1. General rules (GRH 1.6.7; GRH 1.6.8; GRH 3.1.1; GRH 3.1.2)	• Dangerous goods shall not be carried in or as passengers or crew checked or cabin baggage, except as otherwise provided in Table 2.3.A. Information about dangerous goods including visual examples shall be displayed at any location where passengers are processed, including ticketing areas, check-in areas (also self check-in devices), boarding areas and baggage drop areas. • All other hazardous articles not listed shall never be transported as baggage. For details refer to current IATA Dangerous Goods Regulations. • When dangerous goods not permitted for carriage on board the aircraft are discovered on the person of or in the passenger baggage (also in cargo, mail or crew baggage), a report is made to the appropriate authority of the state of occurrence. The first report shall be dispatched within 72 hours of the event. It may be sent by any means, including e-mail, telephone or fax. This report shall include the details that are known at time. If necessary, a subsequent report shall be made as soon as possible giving all the details that were not known at time the first report was sent. If a report has been made verbally, written confirmation shall be sent as soon as possible. DGOR (see GHM Chapter 7.4.4.1). **NOTE:** Passengers who **purchase air-tickets** and/or check-in remotely (on-line, at kiosks, etc) are provided with information about dangerous goods and prohibited items to be transported aboard an aircraft. In case of off-airport check-in this information is presented in a manner that does not allow completion of this process until the passenger or a person acting on behalf of the passenger, has acknowledged that he/she understands the restrictions. • In case of interline agreement with code share and/or alliance partners confirmation from the other operator should be obtained. • According to IATA recomendation, small lithium battery-powered vehicles are not allowed as checked or hand baggage with LOT Polish Airlines! Some examples of these small lithium battery-powered vehicles are: *airwheel, solowheel, hoverboard, mini-segway, balance wheel.*

TABLE 2.3.A
Provisions for Dangerous Goods Carried by Passengers or Crew
(Subsection 2.3)

Dangerous goods must not be carried in or as passengers or crew, checked or carry-on baggage, except as otherwise provided below. Dangerous goods permitted in carry-on baggage are also permitted "on one's person", except where otherwise specified.

	The pilot-in-command must be informed of the location	Permitted in or as carry-on baggage	Permitted in or as checked baggage	The approval of the operator is required
Alcoholic beverages, when in retail packagings, containing more than 24% but not more than 70% alcohol by volume, in receptacles not exceeding 5 L, with a total net quantity per person of 5 L.	NO	YES	YES	NO
Note: *Alcoholic beverages containing 24% or less alcohol by volume are not subject to any restrictions.*				
Ammunition, securely packaged (in Div. 1.4S, UN 0012 or UN 0014 only), in quantities not exceeding 5 kg gross weight per person for that person's own use. Allowances for more than one person must not be combined into one or more packages.	YES	YES	NO	NO
Avalanche rescue backpack, one (1) per person, containing cartridges of compressed gas in Div. 2.2. May also be equipped with a pyrotechnic trigger mechanism containing no more than 200 mg net of Div. 1.4S. The backpack must be packed in such a manner that it cannot be accidentally activated. The airbags within the backpacks must be fitted with pressure relief valves.	YES	YES	YES	NO
Baggage with installed lithium batteries non-removable batteries exceeding–0.3 g lithium metal or 2.7 Wh.	FORBIDDEN			
Baggage with installed lithium batteries: – non-removable batteries. Batteries must contain no more than 0.3 g lithium metal or for lithium ion must not exceed 2.7 Wh; – removable batteries. Batteries must be removed if baggage is to be checked in. Removed batteries must be carried in the cabin.	NO	YES	YES	NO
Batteries, spare/loose, including lithium batteries, non-spillable batteries, nickel-metal hydride batteries and dry batteries (see 2.3.5.8) for portable electronic devices must be carried in carry-on baggage only. Articles which have the primary purpose as a power source, e.g. power banks are considered as spare batteries. These batteries must be individually protected to prevent short circuits. Lithium metal batteries: the lithium metal content must not exceed 2 g (see 2.3.5.8.4). Lithium ion batteries: the Watt-hour rating must not exceed 100 Wh (see 2.3.5.8.4). Each person is limited to a maximum of 20 spare batteries. *The operator may approve the carriage of more than 20 batteries. Non-spillable batteries: must be 12 V or less and 100 Wh or less. Each person is limited to a maximum of 2 spare batteries (see 2.3.5.8.5).	NO*	NO	YES	NO
Camping stoves and fuel containers that have contained a flammable liquid fuel, with empty fuel tank and/or fuel container (see 2.3.2.5 for details).	YES	YES	NO	NO
Chemical Agent Monitoring Equipment, when carried by staff members of the Organization for the Prohibition of Chemical Weapons on official travel (see 2.3.4.4).	YES	YES	YES	NO
Disabling devices such as mace, pepper spray, etc. containing an irritant or incapacitating substance are forbidden on the person, in checked and carry-on baggage.	FORBIDDEN			
Dry ice (carbon dioxide, solid), in quantities not exceeding 2.5 kg per person when used to pack perishables not subject to these Regulations in checked or carry-on baggage, provided the baggage (package) permits the release of carbon dioxide gas. Checked baggage must be marked "dry ice" or "carbon dioxide, solid" and with the net weight of dry ice or an indication that there is 2.5 kg or less dry ice.	YES	YES	YES	NO
e-cigarettes (including e-cigars, e-pipes, other personal vaporizers) containing batteries must be individually protected to prevent accidental activation (see 2.3.5.8.2).	NO	NO	YES	NO
Electro shock weapons (e.g. Tasers) containing dangerous goods such as explosives, compressed gases, lithium batteries, etc. are forbidden in carry-on baggage or checked baggage or on the person.	FORBIDDEN			
Fuel cells containing fuel, powering portable electronic devices (e.g. cameras, cellular phones, laptop computers and camcorders), see 2.3.5.9 for details.	NO	NO	YES	NO
Fuel cell cartridges, spare for portable electronic devices, see 2.3.5.9 for details.	NO	YES	YES	NO
Gas cartridges, small, non-flammable containing carbon dioxide or other suitable gas in Division 2.2. Up to two (2) small cartridges fitted into a **self-inflating personal safety device**, intended to be worn by a person, such as a life jacket or vest. Not more than two (2) devices per passenger and up to two (2) spare small cartridges per device, not more than four (4) cartridges up to 50 mL water capacity for other devices (see 2.3.4.2).	YES	YES	YES	NO
Gas cylinders, non-flammable, non-toxic worn for the **operation of mechanical limbs**. Also, spare cylinders of a similar size if required to ensure an adequate supply for the duration of the journey.	NO	YES	YES	NO
Hair styling equipment containing a hydrocarbon gas cartridge, up to one (1) per passenger or crew-member, provided that the safety cover is securely fitted over the heating element. This hair styling equipment must not be used on board the aircraft. Spare gas cartridges for such hair styling equipment are not permitted in checked or carry-on baggage.	NO	YES	YES	NO

TABLE 2.3.A
Provisions for Dangerous Goods Carried by Passengers or Crew
(Subsection 2.3) *(continued)*

	The pilot-in-command must be informed of the location	Permitted in or as carry-on baggage	Permitted in or as checked baggage	The approval of the operator is required
Insulated packagings containing refrigerated liquid nitrogen (dry shipper), fully absorbed in a porous material containing only non-dangerous goods.	NO	YES	YES	NO
Internal combustion or fuel cell engines, must meet A70 (see 2.3.5.12 for details).	NO	YES	NO	NO
Lithium Batteries: Portable electronic devices (PED) containing lithium metal or lithium ion cells or batteries, including medical devices such as portable oxygen concentrators (POC) and consumer electronics such as cameras, mobile phones, laptops and tablets (see 2.3.5.8). For lithium metal batteries the lithium metal content must not exceed 2 g and for lithium ion batteries the Watt-hour rating must not exceed 100 Wh. Devices in checked baggage must be completely switched off and must be protected from damage. Each person is limited to a maximum of 15 PED. *The operator may approve the carriage of more than 15 PED.	NO*	YES	YES	NO
Lithium batteries, spare/loose, including power banks, see **Batteries, spare/loose**				
Lithium battery-powered electronic devices. Lithium ion batteries for portable (including medical) electronic devices, a Wh rating exceeding 100 Wh but not exceeding 160 Wh. For portable medical electronic devices only, lithium metal batteries with a lithium metal content exceeding 2 g but not exceeding 8 g. Devices in checked baggage must be completely switched off and must be protected from damage.	YES	YES	YES	NO
Lithium batteries, spare/loose with a Watt-hour rating exceeding 100 Wh but not exceeding 160 Wh for consumer electronic devices and PMED or with a lithium metal content exceeding 2 g but not exceeding 8 g for PMED only. Maximum of two spare batteries in carry-on baggage only. These batteries must be individually protected to prevent short circuits.	YES	NO	YES	NO
Matches, safety (one small packet) or a small cigarette lighter that does not contain unabsorbed liquid fuel, other than liquefied gas, intended for use by an individual when carried on the person. Lighter fuel and lighter refills are not permitted on one's person or in checked or carry-on baggage. ***Note:*** *"Strike anywhere" matches, "Blue flame" or "Cigar" lighters or lighters powered by a lithium battery without a safety cap or means of protection against unintentional activation are forbidden (see 2.3.5.8.4(e)).*	NO	ON ONE'S PERSON		NO
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with **non-spillable wet batteries, nickel-metal hydride batteries or dry batteries**, (see 2.3.2.2).	YES	YES	NO	YES
Mobility Aids: Battery-powered wheelchairs or other similar mobility devices with **spillable batteries or with lithium ion batteries** (see 2.3.2.3 and 2.3.2.4 for details).	YES	YES	NO	YES
△ **Mobility Aids:** Battery-powered wheelchairs or other similar mobility devices with **lithium ion batteries** where the design of the mobility aid does not provide adequate protection for the battery(ies) (see 2.3.2.4.3 for details).	YES	NO	YES	YES
Non-radioactive medicinal or toiletry articles (including aerosols) such as hair sprays, perfumes, colognes and medicines containing alcohol; and **Non-flammable, non-toxic (Division 2.2) aerosols**, with no subsidiary hazard, for sporting or home use (see 2.3.5.1). The total net quantity of non-radioactive medicinal or toiletry articles and non-flammable, non-toxic (Division 2.2) aerosols must not exceed 2 kg or 2 L and the net quantity of each single article must not exceed 0.5 kg or 0.5 L. Release valves on aerosols must be protected by a cap or other suitable means to prevent inadvertent release of the contents.	NO	YES	YES	NO
Oxygen or air, gaseous, cylinders required for **medical use**. The cylinder must not exceed 5 kg gross weight. ***Note:*** *Liquid oxygen systems are forbidden for transport.*	YES	YES	YES	YES
Permeation devices, must meet A41 (see 2.3.5.13 for details).	NO	YES	NO	NO
Radioisotopic cardiac pacemakers or other devices, including those powered by lithium batteries, implanted into a person or fitted externally.	NO	ON ONE'S PERSON		NO
Security-type equipment (see 2.3.2.6 for details).	YES	YES	NO	NO
Security-type attaché cases, cash boxes, cash bags, etc. incorporating dangerous goods, such as lithium batteries and/or pyrotechnic material, except as provided in 2.3.2.6 are totally forbidden. See entry in 4.2–List of Dangerous Goods.	FORBIDDEN			
Specimens, non-infectious packed with small quantities of flammable liquid, must meet A180 (see 2.3.5.11 for details).	NO	YES	YES	NO
Thermometer, medical or clinical, which contains mercury, one (1) per person for personal use, when in its protective case.	NO	YES	NO	NO
Thermometer or barometer, mercury filled carried by a representative of a government weather bureau or similar official agency (see 2.3.3.1 for details).	YES	NO	YES	YES

Note:
The provisions of Subsection 2.3 and Table 2.3.A may be limited by State or operator variations. Passengers should check with their airline for the current provisions.

6.5.1 Recognition of dangerous goods and hidden hazards

1. General rules (GRH 1.6.7)	• Great care shall be taken to ensure that no dangerous goods, other than those describe in table IATA DGR 2.3A, are carried on board the aircraft as baggage (it is very difficult to identify all dangerous goods). • Confirmation should be sought from a passenger about the contents of any item where there are suspicions that may contain dangerous goods. • A special care should be taken in case of cabin baggage which cannot be accommodated in the passenger cabin. In such case passengers shall be alerted that certain items of DGR are specifically prohibited in hold baggage (e.g. spare lithium batteries) and must be removed. • Typical examples of items may contain or indicate the presence of dangerous goods.
2. Aerosol cans	• Changing cabin pressure and temperature may result in leaks if the can is not properly sealed. • There have also been incidents where cans have exploded as a result of becoming overheated.
3. Aircraft spare parts/Aircraft equipment	• May contain items meeting any of criteria for dangerous goods. • For example, explosives, cylinders of compressed gas (such oxygen, carbon dioxide or fire extinguishers), paint, adhesives, aerosols, fuel equipment, first aid kits.
4. Automobile parts (car, motor, motorcycle)	May contain wet batteries, shocks/struts with nitrogen, air bag inflators/air bag modules, paint, batteries
5. Camping/expeditionary equipment	• Beware of metal bottles, which contain flammable compressed gas and items containing flammable liquid. • Example, kerosene, butane, corrosives.
6. Chemicals	• Most chemicals are dangerous goods and only qualified cargo staff can advice if it is acceptable as cargo. • Dangerous chemicals must never be accepted as baggage.
7. COMAT (Company Materials)	Such as aircraft parts, may contain dangerous goods as an integral part, example chemical oxygen generators in a passenger service unit, compressed gas, magnetized material
8. Diagnostic specimens	May contain infectious substances
9. Diving equipment	• May include air cylinders (such as scuba tanks, vest bottles etc.) which usually contain compressed air or a special gas mixture. • Emptied cylinders (pressure gauge reads zero) are acceptable. • Diving lamps may contain rechargeable lead acid batteries and high intensity diving lamps which can generate extremely high heat when operated in air. • In order to be carried safely, the bulb or battery must be disconnected.
10. Dry cell battery	Though not regulated, they must be packed so that short circuits cannot occur.

11. Electrically powered apparatus (wheelchairs, mobility aids, lawn mowers, golf carts, etc.)	May contain wet cell batteries (see point 6.4.2. below)
12. Frozen food	May be packed in Dry Ice, which can adversely affect live animals and humans
13. Gas cigarette lighters	• Lighter containing liquefied gas under pressure may be hazardous when operated under the reduced atmospheric pressures experienced in an aircraft cabin during the flight. • The popular plastic disposable lighters are not fitted with a means of protecting the gas release valve against inadvertent operation. • Such operation of a disposable lighter in baggage could release the entire contents into an aircraft baggage compartment. • These lighters contain sufficient gas to cause a powerful explosion
14. Household cleaners	• Cleaners can contain chlorides, ammonias and strong oxidizers. • Some detergents and stain removes contain ammonia, which is very corrosive, reacts with Oxidizing materials and produces toxic fumes.
15. Household goods	May contain dangerous goods such as paint, aerosols, flammable liquids, household cleaners
16. Lighter fluid	Cigarette lighters containing unabsorbed liquid fuel may leak under the condition of air transport, producing explosive vapour in the cabin and aircraft baggage compartments.
17. Matches: book, cards or safety (strike on box)	• Must not be in checked baggage, but is permitted on the passenger's person. • Book matches can easily have the protective flap dislodged when moved about in baggage.
18. Paint	• Most paints are considered flammable liquids and can be accepted only as cargo. • Enamels, lacquers, stains shellac, varnish, polish, fillers and thinners also fall into this description. • The reduced pressure in an aircraft hold could the container to pop open and the contents to spill.
19. Pharmaceuticals	May contain items meeting any of criteria for dangerous goods, particularly radioactive material, flammable liquids, flammable solids, oxidizers, organic peroxides, toxic or corrosive substances.
20. Photographic equipment	• May contain chemicals which are corrosive and will attack most types metal alloys and materials used in aircraft. • They can also cause severe burns when contact with skin.
21. Samples for testing	May contain items meeting any of criteria for dangerous goods, particularly infectious substances, flammable liquids, flammable solids, oxidizers, organic peroxides, toxic or corrosive substances
22. Tool boxes	May contain explosives (power rivets), compressed gases, aerosols flammable adhesives or paints, corrosive liquids (acids or caustic cleaning compounds), etc.
23. Vaccines	May be packed in Dry Ice **For more details see IATA DGR 2.2**

6.5.2 Carriage of wheelchairs or mobility aids with spillable batteries (GRH 3.1.3)

Process	Remarks
Acceptation	Approval of the operator is required. Allowable as checked baggage only. It is recommended that passenger make advance arrangements with each operator.
Handling	• Mobility aid with installed batteries must be secured, by use of straps, tie-downs or other restraint devices. Electrical cabling and controls must be protected from damage including by the movement of Baggage, mail or cargo. • The battery terminals are protected from short circuits, e.g. by being enclosed within a battery container. • The battery is fitted, where feasible, with spill- resistant vent caps; • The battery is either: ✓ securely attached to the wheelchair or mobility aid and the electrical circuits are isolated; or ✓ removed by the user (owner) from the mobility aid following the manufacturer's instructions when mobility aid cannot be maintained in an upright position. • Mobility aid must be loaded, stowed, secured and unloaded always in an upright position. If mobility aid cannot be loaded, stowed, secured and unloaded always in an upright position or mobility aid does not adequately protect the battery; the spillable battery must be removed and the wheelchair or mobility aid may be carried as checked baggage without restriction. • Removed battery must be carried in strong, rigid packaging as follows: ✓ packaging must be leak-tight, impervious to battery fluid and be protected against upset by securing to pallets or securing them in cargo compartments using appropriate means of securement (other than by bracing with freight or baggage) such as by use of restraining straps, brackets or holders, ✓ batteries must be protected against short circuits, secured upright in these packaging and surrounded by compatible absorbent material sufficient to absorb their total liquid contents and, ✓ these packaging must be marked: ✓ „BATTERY, WET, WITH WHEELCHAIR" or „BATTERY WET, WITH MOBILITY AID" and be labelled with the „Corrosive" label and with the „Package Orientation" label.
Information to the pilot-in-command	The pilot-in-command must be informed of the location of mobility aid with and installed battery or the location of a packed battery.

Messages	Messages shall be sent to the destination or transfer station to ensure the availability of the wheelchair to the passenger as soon as possible. The messages shall indicate the loading and the type of wheelchair position (LDM) and the passenger's name and seat number (PSM).
	For more details see IATA DGR 2.3.2.3

6.5.3 Carriage of wheelchairs or mobility aids with non-spillable wet batteries (GRH 3.1.3)

Process	Remarks
Acceptation	Approval of the operator is required. Allowable as checked baggage only. Passenger may carry a maximum of one spare battery. Passenger must confirm in written that battery is a non-spillable wet battery (non-spillable batteries are capable of withstanding the vibration and pressure differential tests without leakage of battery fluid) or batteries which comply with Special Provision A123 or A199. It is recommended that passenger make advance arrangements with each operator.
Handling	• Mobility aid must be prepared for transport to prevent: ✓ unintentional activation; and ✓ non-spillable batteries are not permitted to contain and free or unabsorbed liquid. • Mobility aid with installed batteries must be secured, by use of straps, tie-downs or other restraint devices. Electrical cabling and controls must be protected from damage including by the movement of Baggage, mail or cargo. • The battery terminals are protected from short circuits, e.g. by being enclosed within a battery container. • The battery is either: ✓ securely attached to the wheelchair or mobility aid and the electrical circuits are isolated; or ✓ removed by the user(owner), if the mobility aids specifically designed to allow it to be. • Batteries removed from the wheelchair or spare batteries must be carried in a strong, rigid packagings which must be carried in cargo compartment.
Information to the pilot-in-command	The pilot-in-command must be informed of the location of mobility aids with installed batteries and location of removed batteries and/or spare batteries.
Messages	Messages shall be sent to the destination or transfer station to ensure the availability of the wheelchair to the passenger as soon as possible. The messages shall indicate the loading and the type of wheelchair position (LDM) and the passenger's name and seat number (PSM).
	For more details see IATA DGR 2.3.2.2

6.5.4 Carriage of wheelchairs or mobility aids with lithium batteries (GRH 3.1.3)

Process	Remarks
Acceptation	Approval of the operator is required. Allowable as carry-on baggage only. Batteries must meet the requirements of the 'UN Manual of Tests and Criteria', Part III, Section 38.3. Proof must be provided when booking or checking in at the airport, e.g. by a certificate from the manufacturer, or a personal written confirmation. It is recommended that passenger make advance arrangements with operator.
Handling	• Mobility aid with installed batteries must be secured, by use of straps, tie-downs or other restraint devices. Electrical cabling and controls must be protected from damage including by the movement of baggage, mail or cargo. • The battery terminals are protected from short circuits, e.g. by being enclosed within a battery container. • The battery is either: ✓ securely attached to the wheelchair or mobility aid and the electrical circuits are isolated; or ✓ removed by the user (owner) if the mobility aid is specifically designed to allow it to be, following the manufacturer's instructions. • The battery removed from the mobility aid must not exceed 300Wh, or for mobility aids fitted with two batteries, each battery must not exceed 160 Wh • Where the battery is not removed and remain installed in the mobility aid there is no limit to the Watt-hour (Wh) rating for the installed battery(ies). • A passenger may carry a maximum of one spare battery not exceeding 300 Wh or two spare batteries each not exceeding 160 Wh. • Any batteries removed from mobility aids and any spare batteries must be carried in the passenger cabin. • The removed batteries must be protected from damage.
Information to the pilot-in-command	The pilot-in-command must be informed of the location of mobility aid with installed battery or the location of removed and/or spare batteries.
Messages	Messages shall be sent to the destination or transfer station to ensure the availability of the wheelchair to the passenger as soon as possible. The messages shall indicate the loading and the type of wheelchair position (LDM) and the passenger's name and seat number (PSM).
	For more details see IATA DGR 2.3.2.4

6.5.5 Limitation

1. The number of wheelchairs carried as checked baggage aboard any aircraft and the hold or holds in which the wheelchair(s) are carried are specified by:

• In Warsaw	Weight & Balance staff of the handling agent
• At other airports	The LOT Polish Airlines Station Manager;
• At airports where there's no Ground Handling Services office	• A representative providing SUPERVISING services or, • an authorized employee of the handling agent.

6.5.6 Carriage of dry ice (carbon dioxide, solid) (GRH 1.6.4 iii.)

- Dry ice (carbon dioxide, solid), in quantities not exceeding 2.5 kg per person when used to pack perishables not subject to these Regulations in checked or carry-on baggage, provided the baggage (package) permits the release of carbon dioxide gas. Checked baggage must be marked “dry ice” or “carbon dioxide, solid” and with the net weight of dry ice or an indication that there is 2.5 kg or less dry ice.
- Each item of checked baggage containing dry ice must be marked DRY ICE or CARBON DIOXIDE, SOLID and with the net weight of dry ice or an indication that there is 2,5kg or less dry ice. If the LOT DRY ICE label must be used



DRY ICE TAG	
• dimensions	• 3,5 x 26 cm
• description	• Stripe
• color	• On the dark –colored background, white stars and signs.

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6.6 Carriage of weapons and ammunitions in passenger baggage (GRH 3.7.5)

Categories	Remarks
1. General rule	• Weapon, arm, ammunition and explosives shall not be carried by passenger or in the baggage. Exemptions from that rule are allowed only in conditions described below and subject to the conditions and limitations applicable to weapon transportation required by the Operator and applicable regulations of States involved during such a transport. Transport of military weapon and ammunition is allowed only upon consent of involved States authorities • The pilot-in-command must always be informed about any weapon and ammunition transported
2. Weapons of war and munitions of war	• Transport of weapon of war and munition of war is allowed only upon consent of involved States authorities (at origin, transit, over flight and destination of consignment and the State of the operator). • Where weapons and ammunitions of war are also dangerous goods by definition (e.g. torpedoes, bombs, etc.) transport of dangerous goods also applies **Note:** An antique weapon, which at one time may have been a weapon of war or munitions of war, such as a musket, may now be regarded as a sporting weapon.
3. Cabin baggage	**Carrying weapons and ammunition in the passenger cabin is forbidden.** with the exception of The Republic of Poland law enforcement representatives of: • Military Counter-espionage Service, • Military Intelligence Services, • Military Police, • Internal Security Agency, • Internal Security Agency, • Intelligence Agency, • Central Anti-Corruption Bureau (CBA), • Police, • Border Guard (Immigration), • Customs and Tax Services, • State Security Service. wihle carrying out their service duties. **Procedure:** • In case weapons are carried on board by authorised person(s), all armed persons on board shall know on each other presence • the pilot-in-command shall be informed about the presence of the armed persons on board including person(s) seat number prior to their boarding, • armed persons shall be informed that the firearm belonging to the person must be unloaded and secured while on board
4. Checked baggage	Game and sporting weapon, and ammunition including hunting knives, bows and other similar articles, weapon of war and ammunition of war can be carried as checked baggage in holds without the passengers' access, • the weapons in hold must be carried as unloaded.

Passenger intending to carry weapons and/or ammunition must report it at the check in irrelevant of the fact if the passenger checked in himself beforehand. Game and sporting weapon, and ammunition can be carried as checked baggage in holds without the passengers' access,

- the weapons in hold must be carried as unloaded.
- Passenger intending to carry weapons and/or ammunition must report it at the check in irrelevant of the fact if the passenger checked in himself beforehand. Weapon and ammunition is checked-in to the final destination in the same way as hold baggage of the passenger
- Weapon and ammunition is transported in the aircraft hold to which passenger has no access
- It is acceptable to transport ammunition classified in accordance with DGR as subclass 1.4S, UN0012 or UN0014 in the hold baggage in the amount not exceeding 5 kilograms gross weight per passenger

Person that declares carriage of a weapon shall present a licence issued by a competent national authority authorizing the right to carry a weapon

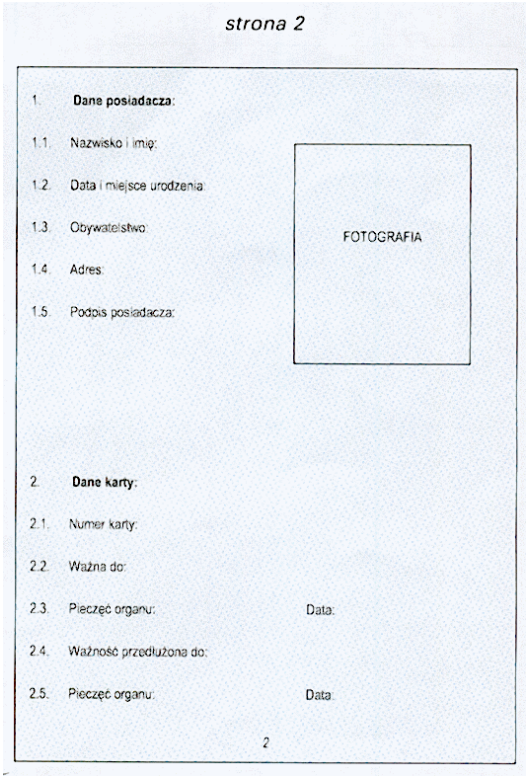
- for persons travelling between the European Union airports a European Firearms Pass is required (example of the document below)
- for person travelling outside the European Union an additional permission to carry the weapon abroad issued by a competent authority is required

Procedure:

a) holder of a weapon, under supervision of authorised security staff, unloads the weapon in a location designated for that purposes at the airport;
b) authorized security staff verifies if the ammunition is originally packed and stored in a way that prevents hitting the bullet's primer;
c) transportation of the weapon to an aircraft is done under supervision of local security staff if required by rules applicable at the given airport;
d) weapon and ammunition, appropriately marked is placed in the hold as hold baggage (see point 6.2.2.)
e) short weapon, ammunition and cartridges is placed in the hold baggage which is transported to an aircraft under supervision of and escorted by the security staff if required by rules applicable at the given airport
f) Process of collecting the weapon at the destination airport is performed in line with local airport requirements. The handling agent informs the pilot-in-command and appropriate destination and transfer airports handling services about the firearm/weapon or ammunition transported in registered baggage with the amount and the hold number, in cases of transit transportation the transit services shall also be notified. It is acceptable to transport weapon and ammunition as "RUSH" baggage provided the above mentioned rules are observed and it is allowed by States involved legal requirements.

NOTE: A firearm, which is not a weapon of war or munitions of war, should be treated as a sporting weapon for the purposes of its carriage on an aircraft.

5. European Firearms Pass  	• The European Firearms Pass is a document which is issued on request by authorities of a Member State to a person lawfully entering into possession of and using a firearm. It shall be valid for a maximum period of five years. The period of validity may be extended. Where only firearms classified in category D appear on the pass, the maximum period of validity thereof shall be ten years. • The documents contains the following information: a) Details of the holder: ⇒ Surname and first name, ⇒ Date and place of birth, ⇒ Nationality, ⇒ Address, ⇒ Holder's signature b) Details of the pass ⇒ Pass number ⇒ Valid until ⇒ Authority stamp, ⇒ Validity extended until, ⇒ Authority stamp, c) Firearms particulars, d) Date on authorizations of firearms, e) Authorizations of Member States visited f) The statements: The right to travel to another Member State with the one or more of firearms in categories B, C or D mentioned in this pass shall be subject to one or more prior corresponding authorizations from the Member State visited. This or these authorizations may be recorded on the pass. The prior authorization referred to above is not a principle necessary in order to travel with a firearm in categories C or D with a view to engaging in hunting or with a firearms in categories B, C or D for the purpose of taking part in target shooting, on condition that traveler is in possession of the firearms pass can establish the reason for the journey. Where a Member State has informed the other Member States, in accordance with Article 8 (3) Directive 91/477/EEC, that


strona 2

1. **Dane posiadacza:**

1.1. Nazwisko i imię:

1.2. Data i miejsce urodzenia:

1.3. Obywatelstwo:

1.4. Adres:

1.5. Podpis posiadacza:

FOTOGRAFIA

2. **Dane karty:**

2.1. Numer karty:

2.2. Ważna do:

2.3. Pieczęć organu: Data:

2.4. Ważność przedłużona do:

2.5. Pieczęć organu: Data:

2

the possession of certain firearms in categories B, C or D is prohibited or subject to authorization, one of the following statements shall be added:

⇒ A journey to with the firearm shall be prohibited

⇒ A journey to with the firearm shall be subject authorization

- Categories:

Category A – Prohibited firearms:

1. Explosive military missiles and launchers.
2. Automatic firearms.
3. Firearms disguised as other objects.
4. Ammunition with penetrating, explosive or incendiary projectiles, and the projectiles for such ammunition.
5. Pistol and revolver ammunition with expanding projectiles and projectiles for such ammunition, except in the case of weapons for hunting or for target shooting, for person entitled to use them

Category B Firearms subject to authorization

1. Semi-automatic or repeating short firearms.
2. Single-shot short firearms with centre-fire percussion.
3. Single-shot short firearms with rim fire percussion whose overall length is less 28 cm.
4. Semi-automatic long firearms magazine and chamber can together hold more than three rounds
5. Semi-automatic long firearms whose magazine and chamber cannot together hold more than three rounds, where the loading device is removable or where it is not certain that the weapon cannot be converted, with ordinary tools, into a weapon whose magazine and chamber can together hold more than three rounds.
6. Repeating and semi-automatic long firearms with smooth-bore barrels not exceeding 60 cm length.
7. Semi-automatic firearms for civilian use which resemble weapons with automatic mechanisms.

Category C – Firearms subject to declaration

1. Repeating long firearms other than those listed in Category B, point 6

	2. Long firearms with single-shot rifled barrels. 3. Semi-automatic long firearms other than in Category B, points 4 to 7. 4. Single-shot short firearms with rim fire percussion whose overall length is not less than 28 cm. Category D – Other Firearms Single-shot long firearms with smooth-bore barrels.

6.6.1 Handling procedures (international and domestic flights) (GRH 3.7.5)

Categories	Remarks
1. Outbound flights from Poland	• A passenger declares carriage of weapons both to check-in staff and to a customs officer (customs clearance does not apply in case of domestic flights); • The member of check-in staff notifies the Boarder Guard Station and the ramp handling staff in charge of aircraft loading; • A Boarder Guard officer checks the weapon and unloads it, if necessary; • Weapon is transported by a Boarder Guard to the baggage sorting facility and remains under supervision of a designated member of the handling agent's staff; • Weapons are transported to the aircraft and loaded into an appropriate hold under supervision of the Boarder Guard officer; • A member of handling supervision staff sends a load message to notify the pilot-in-command and the handling staff at the destination airport of the location of any weapons on board, providing information on the number of pieces and the number of the baggage hold into which the weapons have been loaded. The message must contain IATA code "WEAP". • Upon arrival at the destination airport, the passenger collects their weapon at the point designated by the local airport authorities.
2. Outbound flights from an airport outside of Poland	• A passenger declares carriage of weapons at the check-in counter; • The member of check-in staff notifies the LOT Polish Airlines representative about carriage of weapons by a passenger; • The LOT Polish Airlines representative is responsible for: ⇒ checking the documents required for carriage of weapons, held by the passenger; ⇒ ensuring that the weapon is unloaded; ⇒ supervision over loading the weapon onto the airplane; • notifying the handling staff at the destination airport, in a movement message or load message, that there are weapons on board, providing information on the number of pieces and the number of the baggage hold into which the weapons have been loaded. The message must contain IATA code "WEAP".
3. Firearms deposit declaration	• If there is no possibility to ensure that the weapon has been unloaded by authorized and duly qualified personnel, declaration of surrender shall be completed by passenger. • Violation of any statement of the declaration found after acceptance of the firearm by the air carrier may result in refusal to carry firearms, repatriation costs being recovered from the owner and bearing relevant criminal liability. • Declaration of surrender of firearms shall be stored for 3 months

DEKLARACJA PRZEKAZANIA BRONI

Firearms Deposit Declaration

Imię i nazwisko pasażera Name and surname of passenger		
Nr lotu(ów) Flight(s)no.	Data Date	Trasa Route
Nr miejsc(a) Seat(s)no.	Nr rezerwacji PNR no.	Nr wywieszki bagażowej Bag tag no.
Nr dokumentu tożsamości Personal ID or Passport No.	Nr legitymacji posiadacza broni Firearm pass/license no.	Datawystawienia legitymacji posiadacza broni Date of issue of firearm pass/license no.
Rodzaj i nr przewożonej broni Description and serial no of firearm		
Rodziaj ilość przewożonej amunicji Description and quantity of ammunition		
Opis opakowania Description of packaging		

Niniejszym potwierdzam co następuje:

- Posiadam wszystkie wymagane zgody na przewóz broni i amunicji wymagane przez kraj rozpoczęcia podróży, kraje transferowe oraz kraj docelowy
- Rozumiem, że ze względów bezpieczeństwa nie wolno mi posiadać broni i amunicji w kabinie pasażerskiej samolotu
- Przyjmuję do wiadomości, że przewożona przeze mnie broń i amunicja będzie transportowana w bagażniku samolotu
- Potwierdzam, że przewożona przeze mnie broń jest rozładowana oraz zabezpieczona zgodnie z wymaganiami przepisów dotyczących transportu broni
- Potwierdzam, że nie posiadam więcej niż dozwolone 5 kg amunicji
- Potwierdzam, że amunicja została zapakowana bezpiecznie i w sposób zgodny z wymaganiami
- Potwierdzam, że wszystkie zamieszczone dane są prawidłowe i prawdziwe i rozumiem, że broń nie może być przewożona, jeśli podane zostały nieprawdziwe informacje.

Hereby I confirm as follows:

- I confirm to be in possession of all authorizations required from the states of origin, transfer and destination
- I understand that for safety and security reasons I am prohibited from taking the firearms and ammunition into passenger cabin of an aircraft
- I understand that the firearms will be placed in the hold of the aircraft
- I confirm that firearm(s) is/are not loaded and is/are 'made safe' in accordance with relevant provisions of regulations on safe firearms transport
- I confirmthat I am not carrying more that the permitted amount of 5 kg of ammunition
- I confirm that the ammunition is packed in an safe and approved manner
- I certify that all mentioned details are correct and accurate and understand that the firearms may not be carried if false information is provided to the airline

Podpis pasażera / Signature of passenger	Data / Date

Naruszenie powyższej deklaracji stwierdzone po akceptacji broni przez przewoźnika lotniczego może skutkować odmową przewozu broni i amunicji, obciążeniem jej właściciela dodatkowymi kosztami poniesionymi przez przewoźnika oraz pociągnięciem do odpowiedzialności karnej

Any violation of the above found after acceptance of the firearm by the air carrier may result in the air carrier refusal to carry firearms, repatriation costs being recovered from the owner and bearing relevant criminal liability

Podpis osoby przyjmującej deklarację / Signature of agent receiving the declaration	Data / Date

6.6.2 Labelling

A baggage with weapon or ammunition carried inside as checked baggage shall be marked by:

Firearm Unloaded tag	
• dimensions	• 6x12 cm
• description	• reversible, • hanging.
• colour	• on a red-coloured background a black signs





6.7 Carriage of a bicycle as checked baggage

	General rules
1. Scope	• The following items are considered as on bicycle: ⇒ regular bicycle (without motor) or, ⇒ tandem (double seater) or, ⇒ special children's trolley for use with a bicycle.
2. Packing	• A bicycle accepted as checked baggage must have its handlebars fixed sideways or removed. • The pedals have to be removed or fixed so that they point inside, • It is advised that the tyres should be partially deflated so as to avoid possible problems related to atmospheric pressure changes during the flight. • It is recommended that passengers should have their bicycle packed for the flight in an appropriate bag or cardboard packaging.
3. Labelling	• Each bicycle carried in this way shall be marked by an appropriately filled "Limited Release" tag. • An appropriate entry shall be made in the passenger ticket in the "Endorsements/Restrictions" field.
4. Acceptance	• Bicycle must be pre-notified at the time of reservation. • SSR code BIKE.

6.7.1 Limitation

1. The number of bicycles carried as checked baggage aboard any airplane and the hold or holds in which the bicycle(s) be carried are specified:

• in Warsaw	• Weight & Balance staff of the handling agent
• at other airports	• the PLL LOT S.A. Station Manager;
• at airports where there's no Ground Handling Services office	• a representative providing SUPERVISING services or; • an authorized employee of the handling agent.

INTENTIONALLY LEFT BLANK

6.8 Crew baggage

	General rules
1.	Each crewmember shall mark his/her personal luggage with a crew baggage identification tag.
2.	Uniforms of deadheading crews are considered hand luggage.
3.	All crewmembers shall provide their personal luggage to the ground handling agent for loading into appropriate designated cargo compartment applicable to each aircraft type.
4.	Each crewmember shall comply with the directions for baggage handling given by the handling agent at every station.
5.	• The maximum weight and size limitations for crew baggage shall be the same as those for passengers. • Tennis, golf or other sporting articles shall be stowed into the appropriate cargo compartments along with those of passengers.
6.	• When baggage of crewmembers has been lost, damaged or delayed, the crewmember concerned shall report this to the station representative at the station where the loss occurred. • The crewmember shall provide all pertinent information required. • A Property Irregularity report (PIR) shall be used.
7.	• Due to governmental restrictions, safety and customs regulations crewmembers are prohibited from checking baggage of accompanying passengers together with the crew baggage. • Crew baggage shall not contain any articles of accompanying passengers' luggage. • This is considered a violation of customs and any company regulations.

6.8.1 Labelling



Crew baggage identification tag	
• dimensions	• 7,5x16,5 or 8x13 cm
• description	• reversible, • hanging.
• colour	• on a red-coloured background a white signs

INTENTIONALLY LEFT BLANK

6.9 Stand-by baggage

	General rules
1. Definition	Standby baggage is baggage of non-revenue passengers and staff, travelling as a passenger on seat available basis.
2. Handling	• The normal baggage check-in procedure must be followed. • The free baggage allowance shown on the ticket applies. • Baggage shall not be pooled, because of the possibility of refusal or offload of standby passengers. • Baggage reconciliation also applies to baggage belonging to Standby passenger.
3. Labelling	• It is very important that STANDBY tag be used when passenger has no O.K. – booking especially when the flight is not non-stop. • It is essential that the baggage is labelled with STANDBY tag making identification easy. • They shall be loaded last making expeditious offloading possible, should the passenger have to disembark (when aircraft is full with O.K.) – passengers or another stand-by passenger has seniority/priority. • The original is attached to the baggage and duplicate to the passenger's ticket.

6.9.1 Labelling



Standby baggage identification tag	
• dimensions	• 6,5 x 9,5 cm
• descriptions	• reversible, • hanging.
• colour	• on a red-coloured background a white signs

INTENTIONALLY LEFT BLANK

6.10 Fragile baggage / Limited Release Tag

LOT Polish Airlines indemnifies itself from or against damage costs to baggage items bearing Limited Release Tags.

	General rules
1. Definition	Limited release baggage is a baggage for which the carrier assumes a limited liability, because of the condition in which the baggage is accepted. Limited release tags shall be available at the time of boarding to ensure last minute offload cabin bags are tagged.
2. Limited Release portion on the reversed side of a regular baggage tag has to be used	When passenger baggage is: ⇒ checked late ⇒ not properly packed (e.g. surfboards), ⇒ bicycles when not in a strong outer package, ⇒ buggies, ⇒ already broken or damaged when checking-in, ⇒ contains perishable or fragile goods (e.g. TV set).
3. Limited Release Tags have to be used	⇒ when oversized or heavy hand-luggage collected at boarding ⇒ in case of no baggage printer (e.g. at the gate) instead of system baggage tag. ⇒ when offloaded due to limited space for baggage on board The Limited Release Tag shall be correctly filled and registered into the system.
4. Other tags:	When using a limited release tag no other tags are necessary.
5. Information in the passenger ticket	The use of a limited release tag has to be marked in passengers' ticket with special note.
6. FRAGILE bag tag	FRAGILE bag tag is **NOT USED** in LOT Polish Airlines anymore. Do not tag any passengers bags with FRAGILE.

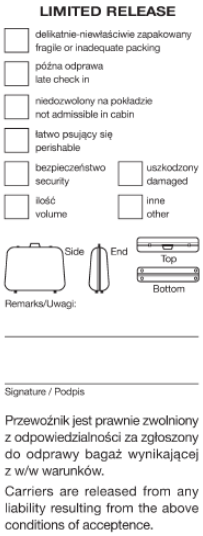


DO NOT USE this tag with bags

6.10.1 Labelling



LIMITED RELEASE TAG	
• dimensions	• 5 X 40,5 cm
• description	• stripe, • hanging (string)
• colour	• on the light-coloured background black sings



6.10.2 Handling limited release baggage procedure

Step	Action
1.	• Use the limited release portion of regular baggage tag, or • Use a special limited release tag and complete the routing and register it to the system
2.	Mark the reason for use.
3.	If used for damaged baggage, mark location of the damage and describe it.
4.	Affix the limited release baggage claim tag to the passenger ticket.
5.	Inform the passenger of the meaning of and reason for the use of a limited release tag.

6.11 Delivery at aircraft baggage

1. Definition	Delivery at aircraft baggage is cabin baggage: • loaded in hold at the time of boarding and, • return to the passenger when disembarking, i.e. at the aircraft stairs or at the loading bridge. **NOTE:** ⇒ It is not considered as checked baggage, although carried in hold. ⇒ If used for carry-on baggage, the weight is part of the carry-on baggage allowance.
2. Applicability	The delivery at aircraft procedure is applicable for: • Fully collapsible baby strollers/pushchairs and car-type seats (for INF occupying an individual seat - car-type seat must be taken on board; for CHD - car-type seat may be taken on board) - for DAA handling procedure see point 6.11.3, • Wheelchairs which are not needed during the flight and are difficult to store in the cabin (for handling procedure see point 6.11.3 below), • Regular carry-on baggage on small aircraft with limited stowage space in the cabin. • The cabin baggage, treated as Delivery at Aircraft baggage, must be registered – the list of DAA must be delivered to the cabin crew to identify the baggage in case of offloading the passenger from the flight **NOTE:** • The delivery at aircraft procedures must not used for: - expensive items (e.g. laptop computer, large video cameras, etc), - valuable items, - important documents, - dangerous and prohibited items. *Anytime when checking passenger baggage with DAA tag ask passenger as follow:* **Agent:** Do you have any prohibited and dangerous items; for example spare batteries, powerbanks, electronic cigarettes in your baggage? **Passenger:** YES **Agent:** It shall be removed, taken on board and protected to prevent short circuits or overheating! • **Procedure shall be performed for flights operating only on DH4 or CRJ and always if total number of passengers exceed 50 for both types.**

6.11.1 Labelling



DELIVERY AT AIRCRAFT tag	
• **Give the receipt to the passenger!**	
• description	• reversible, • hanging
• colour	• white, dark blue.

6.11.2 Handling procedure

Procedure	Action

1. Check-in	• Advice the passenger about loading the carry-on baggage in hold.
	• Fill out the special "delivery at aircraft" tag and attach it to the bag.
	• Give the receipt to the passenger.
	• Add the comment into field "SI" of LDM (number of DAA pieces, number of the hold).
	  • Ramp Agent shall report number of DAA pieces to CLC Hub
	  • CLC Hub decides about DAA load location
	  • Use 6 kgs per DAA piece for weight and balance
	  • DAA shall be added to deadload as a commodity LH
	  • Include number of DAA pieces and cargo hold number in LDM SI
	• Ask passenger to report to:
	  ⇒ the gate staff for loading and,
	  ⇒ the cabin crew for unloading upon disembarkation.

2. Boarding	• Check for any items which quality for delivery at aircraft before and during boarding. • Complete the steps of procedure at check-in above, attach and fill out DAA tag. • Advise ramp staff and/or load control of items to be loaded. • Ask the passenger to leave the items at the aircraft entrance (loading bridge or aircraft stairs). • If there are missing DAA tags during boarding, it shall be attached to bags at the aircraft entrance
3. Upon arrival	• Cabin crew requests the ground staff to unload the items/baggage. • During passengers disembarking the handling agent pick-up the receipt portion from the passengers and pass the items/baggage to them.

6.11.3 Handling procedure for baby strollers/pushchairs, car-type seats and wheelchairs

1. General	The baby stroller/pushchair, car-type seat and a passenger's own wheelchair shall be labeled by both, the **Delivery at Aircraft** (DAA) and the printed **Routing Tag**
2. Check-in and gate	• Before applying the DAA procedure, agent clarifies with the passenger, if he/she really wants the DAA procedure. **NOTE**: Accepting a baby stroller does not automatically mean that DAA must be used. Passenger can check the item to the final destination with no need to pick up it at a transfer station. • Where he/she needs DAA item – at a transfer station or at his/her final destination. • Before attaching the filled DAA tag and the routing tag the agent shall check if the DAA may be offered to the chosen destinations (e.g. this procedure does not apply to LHR station) • In case of occurring passenger with the unchecked/unlabeled stroller or own wheelchair at the gate, the agent shall fill Limited Released Tag (see chapter 6.10) and attach it together with the DAA to the item. The Limited Released Tag number shall be registered into the system. • Passenger shall be given copies of DAA and the routing tag(s) and should be clearly explained at which station his/her item will be delivered and that the delivery to the arrival gate may take some time.

6.12 Priority baggage *(Star Alliance B1.5)*

	General rules
1. Definition	• Priority baggage is baggage, which must be offloaded first and given priority to deliver in the baggage claim area. • This standard helps to ensure successful baggage transfer in light of competitive minimum connection times, customer satisfaction and minimizing LOT's baggage mishandling costs.
2. Categories of priority baggage	• Business class passenger, • Premium class passengers, • Star Gold, • VIP's, • Special assistance passengers.
3. Categories of HON priority baggage	• First class passenger • HON Circle member
4. Procedure *(Star Alliance A2.3)*	• Clearly identify baggage by using tear proof automated baggage tags or in the case that manual baggage tags are applied, by entering details into relevant system for proper baggage transfer message (BTM) transmission. • Automated bag tags must be tear-proof and in accordance with IATA Resolution 740, carry barcodes in readable print quality. Only three letter destination code must be printed on the automated bag tag. • Attach baggage tags and, if applicable, special purpose labels to the baggage. Priority baggage tag shall be inserted between the adhesive stripes of the regular bag tag at a right angle (In the way priority wording and Star Alliance logo is clearly visible.) • You must be aware that in some other airlines the word "PRIORITY" or "PRIO" may be printed or displayed on baggage tag instead of Star Alliance priority flag tag attached. • Segregate transfer baggage from terminating baggage. • Star Alliance transfer baggage must be loaded adjacent to hold doors for quick offload. • Communicate the loading through LDM and CPM messages (in accordance with IATA) to down-line stations. • Expedite the transfer of baggage between flights. • Star Alliance transfer baggage must receive priority attention during unloading and handover process to onward Star Alliance flights. If downline station requires customs clearance, priority is to be given to Star Alliance priority transfer baggage. • Support continuous transfer baggage improvement by actively participating in local expert groups instituted at agreed Transfer Baggage Monitoring (TBM) stations.

6.12.1 Labelling



Priority tag	
• dimensions	• 4 x 15 cm,
• description	• hanging,
• colour	• orange



Priority HON tag	
• dimensions	• 5 x 18.5 cm,
• description	• hanging,
• colour	• dark blue and orange.

Priority baggage tag shall be inserted between the adhesive stripes of the regular bag tag at a right angle (In the way priority wording and Star Alliance logo is clearly visible.)



6.12.2 Baggage of Unaccompanied Minors (UM)

Baggage of unaccompanied minors (UM) shall be additionally labelled with the UM tag.

Type	To be used for:
Label to identify baggage of UM/special assistance passenger	• marking baggage which must be offloaded first and given priority to deliver in the passenger claim area, in order to reduce the waiting time for special assistance staff and the passengers involved, • easily identifying baggage to staff assisting, • for any checked baggage (including special equipment) belonging to a passenger needing special assistance.



6.13 Baggage of transfer passenger

Check-in system	Remarks
1. ITCI system:	If baggage has been checked in the ITCI system (to the destination airport): ⇒ multi-leg route destination tag, and, ⇒ SHORT TRANSFER WAW tag - if the time assigned for transfer at the Warsaw Airport is less than 2 hours; ⇒ passenger priority tag – if applicable;
2. In other cases:	If baggage has been checked in outside the ITCI system (i.e. to the transfer airport): ⇒ single-leg route destination tag, ⇒ passenger priority tag – if applicable.
3. Segregation of Transfer Baggage	⇒ Baggage must be segregated between local and transfer baggage, ⇒ If possible, Star Alliance transfer baggage is separated and given priority compared to other transfer baggage, ⇒ Star Alliance transfer baggage must be loaded in ULD so it can be off-loaded first, ⇒ Special priority must be given to transfer baggage so it will be processed first at transfer station, ⇒ If first point of transfer is a station where customs clearance will take place, priority is to be given to Star Alliance priority baggage.

6.13.1 Labelling



SHORT TRANSFER WAW tag	
• dimensions	• 6,5 x 9,5 cm,
• description	• reversible, • hanging.
• colour	• on the red coloured background white and dark blue signs.

Please order this tags via Printavia system.

6.13.2 LDM message *(Star Alliance A2.3)*

Baggage information and location of BS (Baggage Short) shall be included in LDM SI element by ramp agents!

Bulk aircrafts:
LDM
=TEXT
LO3884/04.SPEQD.Y78.2/2
-WAW.56/18/0/1.0.T618.5/6.6/213.7/399.PAX/74.PAD/0.EIC/5/6
.DAA/6/14
SI DLW 18757 DLI 62.96 MACDL 32.31
LOAD IN CPTS 0/0 5/6 6/213 7/399
BT SHORT/7/20PCS
CHECKED BAGGAGE PIECES WAW 6/T/5/Y/4 7/T/25
C 5/0
BY 6/4/49
BT 6/5/80
BT 7/25/399

ULD aircrafts:
-11P/N
-12P/N
-15L/N-15R/N
-21L/PNA30249LO/WAW/354/M-21R/N
-22P/PMC1023LO/WAW/1228/M
-23P/PMC40003LO/WAW/4000/C.RFL
-31L/AKE46027LO/WAW/813/BY0-31R/AKE40135LO/WAW/758/BT0
-32L/AKE46054LO/WAW/819/BT0-32R/AKE20511FF/WAW/799/BT0
-33L/AKE21436FF/WAW/840/BT0-33R/AKE20267FF/WAW/717/BT0
-34L/AKE40010LO/WAW/412/BT1-34R/AKE20406FF/WAW/125/BC/492/BY/75
/LD.CRB/75
-41P/N
-42P/N
-5/WAW/245/BT/300/E/120/LX.EIC/240.EXP.CSU/60
SI BS/33L/33R.BS/KRK/LO3901/34L.BC/BP/CRB/34R.EIC/5.EXP/5/6PCS

6.14 Baggage pooling

	Remarks
1. Definition	• Pooling of baggage means accepting checked baggage, checked in jointly by two or more passengers. • The passengers whose baggage is to be pooled must meet certain conditions, which make it possible to add up their individual free baggage allowance limits and divide baggage equally between them. • Pooling of baggage is performed either with the view to avoid excess baggage charge which otherwise would be paid by any of the passengers involved, or in order to reduce the cost of excess baggage.
2. Conditions that apply to pooling of baggage	• Baggage eligible for pooling is checked baggage presented for check-in: ⇒ at the same time and place by two or more passengers, ⇒ who travel together, ⇒ on the same flight, ⇒ to the same destination or stopover airport, ⇒ none of the baggage exceeds 32kg weight limit.
3. Free baggage allowance for pooled baggage	• Free baggage allowance for pooled baggage equals the sum of free baggage allowance limits to which each of the passengers is individually entitled (including piece and weight)
4. For example:	• Two (2) passengers with baggage allowance 1 PC/23 kg each: - 1st passenger: 1 PC/10 kg - 2nd passenger: 1 PC/30 kg - pooling is **allowed** wiht limit 2 PC and 46 kg • Passenger travels LOT Economy Class (Y) and holds Star Alliance GOLD card which allows additional 1 PC: - Passenger has 1 PC/30 kg - pooling is **allowed** wiht limit 2 PC and 46 kg • Two (2) passengers with baggage allowance 1 PC/23 kg each: - 1st passenger: 1 PC/20 kg - 2nd passenger: 1 PC/30 kg - pooling is **NOT allowed**, exceeds limit of 46 kg • Two (2) passengers with bagage allowance 1 PC/23 kg each: - 1st passenger: 2 PC/20 kg - 2nd passenger: 1 PC/10 kg - pooling is **NOT allowed**, exceeds limit of 2 PC • Two (2) passengers with baggage allowance 1 PC/23 kg each: - 1st passenger: 1 PC/10 kg - 2nd passenger: 1 PC/35 kg - pooling is **NOT allowed,** none of the baggage can exceed 32kg weight limit.

4. Check-in:	• ALTEA WAVE reason: - **bagpool** with sequence number of pool partner (for example **bagpool158**) • Link pooled Passenger • Only LOT flights, If continue with other carrier do NOT pool!

6.15 Irregularities *(Star Alliance A2.5)*

6.15.1 General rules

	Remarks
1. Policy	Baggage irregularities cause inconvenience to passenger. Thus, in such cases the best possible assistance must be given.
2. Baggage Tracing and Claim Services	• Mishandled baggage report file has to be created in system max. 1 hour after actual aircraft arrival, • Details of all unclaimed on hand bags have to be entered into the tracing system max. 1 hour after being identified
3. Handling baggage irregularities procedure	• Listen to the passenger, giving him your full attention. • Answer any questions. • Perform the action without any delay. • Follow up closely on the problem. • Inform the passenger of the status. • Do not discuss irregularities in the presence of other persons.
4. Liability	The LOT Polish Airlines are not liable for loss, damage or delay in the delivery of: ⇒ fragile or perishable articles, ⇒ money, ⇒ jewellery, precious metals, silverware, ⇒ business documents, ⇒ passports and other identification documents, ⇒ cameras and laptop computers, ⇒ negotiable papers, securities or other valuables, ⇒ medicines, ⇒ samples, house- and car keys which are included in the passenger's checked baggage, with or without the knowledge of carrier involved.
5. Tracing system	Worldtracer: ⇒ a worldwide computerised system for tracing actions and management (based in Atlanta, Georgia, USA, operated by SITA – address ATLWMXS).

6.15.2 Found baggage
6.15.2.1 General rules

	Remarks
1. Definition	Found baggage (also referred as On Hand Baggage "OHD") is: ⇒ baggage without an airline baggage tag, ⇒ baggage which is located at a station other than the one shown on the baggage tag, ⇒ baggage left unclaimed (tagged or untagged), ⇒ baggage refused for payload restrictions.
2. Handling procedure • Enter found and unclaimed checked bags into WorldTracer™ as Onhand (OHD) within 1 hour after being identified. Dispatch recovered baggage to the customer as follows: ⇒ Priority Baggage: As soon as possible after receipt of the bag at baggage services. ⇒ Other: Within six hours of receipt at baggage services • If the baggage has no name or baggage tag, information about the contents must be filed into the system. • Found baggage that remains unclaimed, but has name and address, must be immediately forwarded to the airport nearest to the passenger's address: ⇒ without any charge, ⇒ by the fastest possible means, ⇒ using the services of any carrier. • Unclaimed baggage has to be forwarded to the central storage facility after five days	

6.15.2.2 Acceptance of expedite baggage

1. General rules	All expedite baggage (rush baggage) must be electronically screened and/or physically researched.
2. Forwarding procedure	• Forward the baggage to the final destination. • Check the quickest routing, taking into account special procedures, security checks and customs clearance en route. • Issue an expedite tag (rush tag). • Send a forwarding advice to: ⇒ baggage tracing office at destination, all carriers involved at transfer station, ATLWMXS (Worldtracer System). • If the baggage is damaged, mark it on expedite tag and the forwarding advice. a) Advice the load control department of the number of pieces and weight. **NOTE:** a) Whenever possible, the forwarding advice should reach the destination before the passenger's arrival, in order to avoid unnecessary tracing activities b) If the airline the passenger arrived with is not represented at the final destination, the carrier on whose flight the baggage arrived will deliver the baggage at the expense of the responsible carrier

6.15.2.3 Labelling

Expedite baggage / RUSH tag.

	Remarks
1. These tags are very important for identification reasons should a security check have to be made.	The RUSH tag shall be used for unaccompanied baggage.
2. The use of the RUSH tag is necessary for:	A piece of baggage registered as "lost" has been found and shall be forwarded as expeditiously as possible to the waiting passenger





RUSH/EXPEDITE BAGGAGE tag	
• dimensions	• 5 x 40,5 cm,
• description	• Stripe,
• colour	• On the light-coloured background, black singes the red stripes on both sides.



RUSH/MISSED CONNEX BAGGAGE	
• dimensions	• 4 x 12 cm,
• description	• Hanging or sticker,
• colour	• On the light-coloured background, black singes the red stripes on both sides.
• remarks	• Mini rush tag – to be used on the original baggage tag, covering the original flight number. • May be used if only one flight is involved.

Expedite baggage / RUSH tag for EU countries



Reversed side



RUSH/EXPEDITE BAGGAGE tag for EU countries
• 5 x 40,5 cm,
• Stripe,
• On the light-coloured background, black singes the green stripes on both sides.

6.15.3 Missing baggage
6.15.3.1 General rules

	Remarks
1. Definition	Missing baggage (also referred as Advise if holding "AHL") is checked baggage not available to the passenger when he presents the baggage identification tag at the point of stopover or destination.
2. Policy	Missing baggage must be immediately traced. Tracing activities until final settlement shall be done by the last carrier that brought the passenger to the point of stopover or destination (i.e. the final point of air transportation) – whether the mishandled baggage has been found or not before the passenger continues the journey.
3. Handling procedure **Reference to:** *"Baggage claims procedures for Lost and Found offices handling LOT Polish Airlines"* *Procedure is* available at LOT Baggage Claims Department and in point 6.15.4.4 of GHM	**Provide pro-active notification to customers in case of known mishandled baggage situations.** a) Apologise the passenger. b) Check the passenger's ticket and legitimacy of the claim, by checking: ⇒ baggage entries in the ticket, whether excess baggage was paid, number of baggage identification tags, destination on identification tags, whether a limited release tag was used and if so, the reason for the use. c) Explain what actions will be taken to trace and recover the missing baggage. c) Perform a complete local search (of e.g. the aircraft, other terminal, cargo area, etc.). d) If local search is negative: ⇒ establish a Property Irregularity Report (PIR), ⇒ make an AHL input into the tracing system. e) Offer the passenger some first necessities: ⇒ toilet kits/or overnight kits must be offered if the need is obvious, i.e. to non-residents whose baggage cannot be delivered the same day, put the information about issuance of Overnight Kit to DAH in specific format : KT 01X (X is exchanged into the M-male or F-female). ⇒ issuance must be recorded on a stock control sheet, ⇒ toilet/overnight kits may not be used as give-aways, but they may be used for other operational irregularities, f) Inform passenger about the next steps. g) Keep the passenger informed of the results of these actions. h) Be able to and support filing of reports on behalf of another member carrier. (LOT HDQ in WAW) **NOTE**: Non-resident passenger shall be informed about possibility of purchasing first necessities and receiving the cash refund after presenting the bill. In this case passenger shall attach to the claim copy of: PIR, boarding pass and baggage tags.
4. Postal address	The address of Baggage Claims Department : Dział Reklamacji i Odszkodowań Bagażowych ul. Komitetu Obrony Robotników 43,

	02-146 Warszawa e-mail: odszkodowania.bagazowe@lot.pl or baggage.indemnity@lot.pl Fax: +48 22 606-62-91 In case of no information about the missing baggage after 5 days passenger shall send filled claim /BIF/ under the address Central Baggage Tracing Office Warsaw Chopin Airport 02-146 Warsaw or via e-mail: baggage.search@lot.pl or poszukiwanie.bagazu@lot.pl tel: +48 22 846 17 07 or +48 22 650 12 50 fax: +48 22 650 25 54
5. First necessities – cash advance	• A cash advance may be granted by the station responsible (Station Manager or Supervisor). • It is recommended to only give cash advance minimum 24 hours after the PIR was issued. • Advances may only be given to non-residents. • Advances should not exceed the maximum amount to be paid in case of permanent loss. • Currency and amount must be entered into the PIR file. • Maximum amounts or equivalent in local currency : ⇒ USD 100 – Y class passengers, ⇒ USD 200 – C class passengers, FTL M&M and Star Silver ⇒ USD 300 – F class passengers, Senator M&M and Star Gold. If the passenger pays the first necessities himself, the station responsible (Station Manager or Supervisor) may refund him upon presentation of the bill, provided the amount of refund is not higher than the cash advance limits.

6.15.3.2 Delivery of mishandled baggage procedure

	Priority baggage must be delivered immideiatly after arrival!
1.	Mishandled baggage must be delivered to the passenger by quickest available means.
2.	• If applicable, baggage must be cleared through customs. • If customs clearance is denied, the passenger must be requested to pick up the baggage
3.	The passenger must be informed of locally available possibilities, including delivery by: ⇒ train, ⇒ bus, ⇒ express mail, ⇒ taxi, ⇒ courier, ⇒ hotel courtesy bus, ⇒ pick-up by the passenger with a refund.
4.	If the airline passenger arrived with is not responsible at the final destination, then the carrier whose flight baggage arrived will deliver the baggage expense of the responsible carrier.

6.15.4 Damaged baggage

6.15.4.1 General rules

Step	Remarks
1.	In case of damage to baggage, the complaint must be made: ⇒ verbally immediately after discovery of the damage upon arrival, ⇒ in writing within 7 days of the damage upon arrival.
2.	The damaged bag must be available for inspection.
3.	If a specific type of damage gives reason to suspect pilferage, request the passenger to check the contents of the baggage on the spot.

6.15.4.2 Damaged baggage report procedure

Step	Actions
1.	Check if a limited release tag was issued for damage at station of departure.
2.	Collect the identification tag and attach it to the PIR.
3.	Inspect the damaged bag in the presence of the passenger.
4.	Fill out the PIR clearly: ⇒ specifying whether the baggage is damaged or pilfered or both, ⇒ describing the damage, ⇒ indicating if the passenger has a private insurance.
5.	Sign the PIR and have the passenger sign it, too.
6.	File a PIR in Worldtracer.

6.15.4.3 Compensation procedure

	Handling
1. Repair of baggage	Ask the passenger to have the baggage repair at: ⇒ a repair shop with whom the airline has contract or, ⇒ a repair shop at the passenger's choice, offering to pay the bill.
2. Compensation on the spot	If repair is not possible or would exceed the value of the baggage, offer the passenger: ⇒ replacement baggage of similar value and quality, ⇒ a cash refund.
3. Minor damage	• Refund the passenger on the spot, taking into account the local cost level and, • Have the passenger sign the original of damage report (PIR) to confirm receipt of the full settlement.
4. More complicated cases (e.g. if other carriers are involved, in case of major damage to contents, damage to baggage with limited release)	Damaged baggage claims are settled by Passenger Baggage Claim Department.

6.15.4.4 Baggage claims procedures for Lost&Found offices handling LOT Polish Airlines

Baggage claims procedures for Lost&Found offices handling LOT Polish Airlines

*Procedure effective since **MAR 2021***

1. Main requirements

- Presence in the baggage reclaim area for baggage services (i.e. staff, office).
- PRIORITY baggage must be delivered on belt before regular bags !
- Every passengers' claims discovered immediately after baggage pick-up and reported at the airport to Handling Agent have to be registered in WT system and confirmed by PIR protocol.
- Passenger must be proactively notified (i.e. announcement).
- Delivery of recovered baggage: PRIORITY baggage as soon as possible, other baggage within six hours of receipt of the bag at Lost&Found office.
- At the request of the customer, bag claims should be taken at the connect point.
- Issue a forwarding message (FWD, FAH, FOH, FLZ) for every RUSH bag.

2. Delayed bag(s)

Mandatory elements for AHL files are:
BW – total weight and number of pieces of checked baggage
DW – number and weight of bag or bags being delivered together with passenger
NW – total weight and number of missing baggage, element used after the missing baggage has been received in L&F office
PA – permanent address
PN/CP – phone number /cellphone number
PS – passenger status
FL – frequent flyer card number (if exists)
EA – email address (if exists)
TA – temporary address (if exists)
DV – date validity of TA (if TA exists)
AM – automated messages (should be set to S)
In order to let passenger to receive automated messages always remember to put correct phone number in CP element with WorldTracer standard (eg. 0048 123456789 or 48 123456789)

- When closing AHL report please use **BDO** transaction. If BDO transaction can't be used for some reason, please use **UC** lines in order to put the comments on. Make sure FS and RL elements are correct
- If passenger collects delayed baggage and wants to claim damage or pilferage always use **CFD** transaction.

- If CFD can't be done (eg. AHL file created in another airport and baggage was FAH to your station) please create new DPR, copy content of AHL to DPR and update **RT** and **FD** elements with "RUSH" flight as the last one.

All these elements are extremely important for further consideration of the complaint !

In case of delay in baggage carriage reported by passenger, immediately after arrival, Handling Agent is obliged to:

- Create AHL report to conduct baggage search in WorldTracer and issue PIR to passenger.
- Passenger should also obtain STAR ALLIANCE envelope and LOT leaflet.
- If there is no FWD message found in WorldTracer it's also necessary to give passenger BIF.
- Give passenger contact for Lost&Found office (eg. phone number, email address) in order to provide possibility to check file status during L&F office hours. Local L&F office is responsible for active tracing for first 5 days.
- Offer Overnight Kit (ONK) to passenger, if after arrival to the place outside living area they are devoid of all checked baggage and create information about ONK delivery in DAH in format: KT 01.
- Passenger devoid of all the baggage, outside of living area is allowed to buy reasonable first necessity articles (toiletries, clothing) accordingly to PLL LOT procedures and apply for refund, by connecting copies of: PIR, confirmation of reservation and baggage tags. Claim must be documented by appropriate invoices or bills attached to it. Please inform passenger about required written form of claim submitted by on-line form or email or post but not later than 21 days from the date of delivery the baggage to the passenger. All necessary information is available on www.lot.com .
- In case of lack of information about the luggage after 5 days, passenger should send filled in Baggage Inventory Form (BIF) to the address specified on the form (baggage.search@lot.pl).
- In case of delay the claim can also be reported on behalf of any other Star Alliance member. The claim can be reported not only at the destination point but also at transfer.

3. Baggage damage

All mandatory elements for AHL are also valid for DPR !
Additional mandatory elements for all DPR files are:
BI – brand information (if there's one)
CA – amount of claim for damage
BD – date of purchase / estimated value
FF – weight of checked-in and picked-up baggage (respectively for each piece) and also any agents' remarks

ATTENTION!

LOT Polish Airlines S.A. bears no liability for any damage to the aesthetic qualities of the baggage which arises from its normal use, namely scratches, abrasions or denting; neither does the airline bear liability for damage arising from overloading and over-packing, burst seams or broken zipper teeth. In addition, the airline bears no liability for damage arising as a result of actions carried out in accordance with the regulations and requirements of state authorities, including security, and/or passengers failure to comply with the mentioned above laws and requirements.

In such case, reported immediately after arrival, Handling Agent is obliged to:

- Inform passenger that LOT takes no liability for these kind of damages and such information can be found on www.lot.com website
- Create DPR report in WorldTracer system and issue PIR to passenger
- Input to BD element (except other mandatory elements for the element) clear information saying that the file is a courtesy only (eg. BOUGHT 2018 / PRICE 150 USD / COURTESY REPORT)
- Give LOT leaflet to passenger

In case of more serious damage reported by passenger, immediately after its' pick up at the airport, Handling Agent is required to:

- Create DPR report in WorldTracer system and issue PIR to passenger.
- Hand over to the passenger LOT Claim Form.
- Passenger should also obtain STAR ALLIANCE envelope.
- Passenger is given a contact to cooperating repair service (eg. DOLFI1920).
- The information must be put into DPR file (eg. "pax directed to DOLFI").
- If repair can't be done on the spot (eg. short stay, no cooperating repair service available) please give passenger LOT leaflet and inform passenger about required written form of claim, contained full set of documents: LOT Claim Form (damage description), copies of: PIR, confirmation of reservation, bag tag(s) and necessity of sending them to LOT Polish Airlines (on-line form, email or post).

4. Pilferage/contents damage (with/without parallel baggage damage)

All mandatory elements for AHL and DPR are also valid for Pilferage !
Additional mandatory elements for pilferage DPR files are:
LP – lost property
CD – contents damaged
BW – baggage weight taken from bag tag
DW – current weight of baggage

In case of pilferage/contents damage reported by passenger, immediately after its' pick up at the airport, Handling Agent is required to:

- Create DPR report in WorldTracer system and issue PIR to passenger.
- Hand over to the passenger LOT Claim Form.
- Passenger should obtain STAR ALLIANCE envelope and LOT leaflet.
- Inform passenger about required written form of claim, contained full set of documents: LOT Claim Form (list of missing or damaged items and their value), copies of PIR, confirmation of reservation, bag tag(s) and necessity of sending them to LOT Polish Airlines (email, post or on-line form).

5. Later date reporting (after leaving claim area)

In case of any claims (AHL/DPR) reported by the passenger at a later date, please give passenger LOT leaflet and inform about:

- required written form of claim, contained full set of documents: description of incident, , copies of: confirmation of reservation, bag tag(s)
- necessity of sending them to LOT Polish Airlines (on-line form, email, post) no later than 7 days from the date of travel.

It's not allowed to create DPR report based on passengers' emails or phone calls. In that kind of situation it is necessary to give passenger LOT contacts or LOT leaflet and inform him/her to contact PLL LOT directly.

6. Found baggage and properties

- In case when unclaimed baggage have its' baggage tag, Handling Agent basing on the tag's number enters it to WT as QOH. After 24 hours if in any other airport DAH will not be created, Handling Agent should create DOH in WT.
- In case when baggage doesn't have its' tag Handling Agent creates DOH in WT basing on baggage color, type, etc. latest in 1 hour after delivering baggage to the depot.
- Handling Agent is obliged to enter all items found on board of LOT aircrafts into Found Property Register (DFP). All unclaimed items should be sent to HDQLO after 1 month from the date of register (using FLZ transaction).
- According to the IATA rules Handling Agent is obliged to deliver to HDQLO (Central Baggage Tracing) after 5 days (using FLZ transaction) all baggage, which owner wasn't found as well as other items basing on acceptance protocol.

7. Other notes

- Rules of carrier responsibility and report of the claims are governed by international aviation regulations and General Conditions of Carriage available on www.lot.com

- LOT contacts for passengers regarding: damage/pilferage, cost refund:

  On-line form available on (prefered way of contact)

  http://www.lot.com/gb/en/luggage-complaint

  LOT Baggage Claims Section
  43, Komitetu Obrony Robotników Str.
  02-146 Warsaw
  Poland
  e-mail: baggage.indemnity@lot.pl

- LOT contacts for passengers regarding: delayed bag (after 5 days), lost properties on board:

  LOT Central Baggage Tracing
  1, Zwirki i Wigury Str.
  00-906 Warsaw
  Poland
  e-mail: baggage.search@lot.pl

- On-line form available on:

  http://www.lot.com/gb/en/luggage-complaint

8. Attachments

- LOT Claim Form
- LOT leaflet
- LOT BIF

LOT Claim Form

REKLAMACJA BAGAŻOWA
BAGGAGE CLAIM

Imię / *Name* _____

Nazwisko / *Surname* _____

Adres / *Address* _____

_____

E-mail / *E-mail* _____

Nr telefonu / *Phone No.* _____

Data podróży / *Date of trip* _____ **Numer rejsu** / *Flight No.* _____

Numer rezerwacji / *Booking ref.* _____

Numer biletu / *Ticket No.* _____

Trasa / *Routing* _____

Dane bagażu rejestrowanego / *Registered baggage details*

Rodzaj bagażu rejestrowanego *Type of registered baggage*	**Marka** *Brand*	**Waga** *Weight*	**Data zakupu** *Date of purchase*	**Cena zakupu** *Price upon purchase*	**Wartość roszczenia** *Amount claimed*

Opis sprawy / *Case description*

_____

_____

_____

_____

_____

Załączniki / *Attachments*

1) _____

2) _____

PASAŻER / *PASSENGER*

Data / *Date* _____

Podpis / *Signature* _____

LOT leaflet

LOT Polish Airlines
43, Komitetu Obrony Robotników St.
02-146 Warsaw, Poland

+ 48 22 606 78 72

lot_info@lot.pl

Szanowni Pasażerowie,

Uprzejmie informujemy, że w przypadku opóźnienia w dostarczeniu bagażu trwającego powyżej 5 dni , prosimy o kontakt z:

PLL LOT S.A.
Centralne Biuro Poszukiwania Bagażu
Ul. Żwirki i Wigury 1
00-906 Warszawa, Polska
e-mail: poszukiwanie.bagazu@lot.pl
fax: +48 22 650 25 54 / tel: +48 22 650 12 50

Wszystkie roszczenia z tytułu nieregularności w przewozie bagażu , uszkodzenia lub braków w bagażu rejestrowanym należy kierować w formie pisemnej do PLL LOT w terminach przewidzianych prawem.
Aby złożyć formalną reklamację należy wypełnić specjalny formularz on-line: http://www.lot.com/pl/pl/reklamacje-bagazowe .
Jednocześnie informujemy ,że wszystkie procedury i przepisy PLL LOT dotyczące nieregularności bagażowych są dostępne na stronie www.lot.com

PLL LOT S.A.
Sekcja Reklamacji Bagażowych
Ul. Komitetu Obrony Robotników 43
02-146 Warszawa, Polska
e-mail: odszkodowania.bagazowe@lot.pl

Dear Passengers ,

We kindly inform, that in case your missing luggage is not located within 5 days, please contact:

PLL LOT S.A.
Central Baggage Tracing Office
1, Zwirki i Wigury Str.
00-906 Warsaw, Poland
e-mail: baggage.search@lot.pl
fax: +48 22 650 25 54 / ph: +48 22 650 12 50

Claims pertaining to any irregularity of baggage transportation , damage or pilferage of registered baggage are to be submitted in writing to LOT Polish Airlines within the set deadlines.
To lodge a formal complaint the special on-line form should be completed: http://www.lot.com/pl/en/luggage-complaint .
We also inform that all PLL LOT regulations regarding baggage irregularities are available on www.lot.com website.

PLL LOT S.A
Baggage Claims Section
43, Komitetu Obrony Robotników Str.
02-146 Warsaw, Poland
e-mail: baggage.indemnity@lot.pl

lot.com

LOT BIF

POLSKIE LINIE LOTNICZE LOT A STAR ALLIANCE MEMBER

PLL LOT S.A.
Central Baggage Tracing Office
Międzynarodowy Port Lotniczy
Warszawa – Okęcie
ul. Żwirki i Wigury 1
00-906 Warszawa
fax: +48 22 650-25-54
e-mail: baggage.search@lot.pl

KWESTIONARIUSZ BAGAŻOWY/ BAGGAGE INVENTORY FORM

Jeżeli bagaż nie zostanie odnaleziony w ciągu 5 dni od daty sporządzenia reklamacji, prosimy o wypełnienie formularza, dołączenie biletu lotniczego, karty wstępu na pokład, wywieszki bagażowej i przesłanie do Polskich Linii Lotniczych LOT.

If your luggage has not been found within 5 days from the date your report was issued, will you please fill in the inventory form, attach all documents such as: passenger ticket, boarding pass, baggage tag and send to Polish Airlines LOT.

Numer reklamacji/Reference no……

Dane pasażera/Passenger information

Nazwisko/Family name ..... Imię/First name…. .....
Adres/Address .....
Kod pocztowy(Miasto)/Zip code (City)..... Kraj/Country …….....
Telefon domowy/Home phone .....Telefon służbowy/Business phone…….....

Informacja o rejsie /Flight information

Linia lotnicza/rejs Airline/Flight no	Data Date	Trasa z From	Do To

Informacja o bagażu/Baggage information

Dane którymi oznakowany jest bagaż (imię, nazwisko, adres)
Full name and address on baggage ……..

Nr wywieszki reklamowanego bagażu/Tag nb of the bag claimed……..

Typ/Type……..Kolor/Coulor……Materiał/Material……..Marka/Brand…….

Inne oznakowania/Other remarks……

Data zakupu/ Purchase date…….Cena/Currency…….Wycena/Price…….

Liczba bagaży nadanych ……Liczba bagaży odebranych……..
Number of bags checked-in…… Number of bags received……

Bagaż odprawiony został w porcie/Baggage checked-in at……do portu/to (what airport)……

Ostatni raz widziany był w/Baggage last seen at……

Czy bagaż był ubezpieczony? ☐ tak ☐ nie, *jeżeli tak*,proszę podać nazwę, adres, tel.towarzystwa ubezpieczeniowego…….

Is your baggage insured? ☐ yes ☐ no, *if yes*, please supply full details / name, address, phone number/ of your insurance company……

Wykaz zawartości bagażu/Description of contents of baggage

Lista zawartości List of contents	Kolor Coulor	Marka Brand	Data zakupu Date of purchase	Cena zakupu Purchase price	Wysokość roszczenia Amount claimed

.

Oświadczam, że powyższe informacje są kompletne i prawidłowe.
Wyrażam zgodę na przetwarzanie moich danych osobowych przez Polskie Linie Lotnicze LOT S.A z siedzibą w Warszawie, ul. 17 Stycznia 43, do celów rozpatrzenia reklamacji i ewentualnego otrzymania odszkodowania. Upoważniam PLL LOT S.A. do udostępnienia moich danych innym przewoźnikom i instytucjom zaangażowanym w rozpatrywanie reklamacji lub odszkodowania, zarówno w kraju jak i za granicą. Oświadczam że zostałem(am)poinformowany(a) o prawie wglądu do swoich danych oraz do ich poprawiania.

I declare that the foregoing is complete and correct.
I herby give my consent to LOT Polish Airlines to process my personal data for the purpose of satisfying the claim and possible compensation. Furthermore, I give my power of attorney to LOT Polish Airlines to transfer my personal data to other carriers and organizations that deal with claims and damages in Poland and abroad. I declare to have been advised on the rights that govern insight into one's personal data and their updating.

Data/Date……. Podpis pasażera/ Passenger's signature…….

6.16 Carriage of human ashes as baggage

Process	Remarks
1. General rules	• Carriage of human ashes is accepted as unchecked baggage carried in the cabin under passenger care. • All requirements must be checked
2. Requirements	• Intention of carrying an urn should be stated during reservation (remarks should be enter into the system) • The passenger must be in possession of all required documents • Only funeral urns can be accepted • Urn shall be properly sealed and stamped • The dimension and weight of the urn shall not exceed the limit for unchecked baggage
3. Check-in	• Passenger must informed check-in staff about urn in the baggage • All the rules that apply to the baggage check-in are also relevant for the check-in of passenger travelling with a human ashes as baggage • The check-in agent must checked if all requirements are fulfilled • The check-in agent shall inform passengers that the urn has to be cleared by him after arrival (customs and health authorities)
4. Security	• The urn must be X-Rayed before boarding

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Chapter 7 – Cargo & Mail Handling

7.1 General rules 3/72
7.2 Training and qualifications 5/72
7.3 Acceptance & Handling 9/72
7.3.1 General Cargo 9/72
7.3.2 Special Cargo 12/72
7.4 Dangerous goods 13/72
7.4.1 General rules 13/72
7.4.2 Acceptance of Dangerous goods 20/72
7.4.2.1 Shipper's Declaration for Dangerous Goods form 28/72
7.4.2.2 NOTOC 30/72
7.4.2.3. Segregation of packages 30/72
7.4.2.4 Minimum Separation Distances for Radioactive Material (RRY) 32/72
7.4.3 Handling of Dangerous goods 33/72
7.4.3.1 Handling of Lithium metal/ion batteries 35/72
7.4.3.2 Automobile Inspection Form - chapter deleted 37/72
7.4.4 Incidents with Dangerous Goods 39/72
7.4.4.1 Dangerous Goods Occurrence Report 41/72
7.4.4.2 Dangerous Goods Emergency Response Chart (ground incidents) 43/72
7.5 Human remains 45/72
7.6 Live animals (AVI) 47/72
7.6.1 Shipper's Certification for Live Animals 49/72
7.6.2 Labelling 51/72
7.7 Pharmaceutical cargo (PIL) 53/72
7.8 Perishable cargo (PER) 57/72
7.9 Diplomatic Mail (DIP) 59/72
7.10 Valuable Cargo (VAL) 61/72
7.11 Other Special Cargo 63/72
7.12 Carriage of weapons and ammunition 65/72
7.13 Air Mail 67/72
7.14 Company material 69/72
7.15 Company mail 71/72

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7.1 General rules

	Remarks
1. Responsibility (GRH 1.6.3)	• The handling company shall ensure: ⇒ qualified and trained personnel who perform all handling duties ⇒ training programmes similar to that of LOT Polish Airlines • If dangerous goods are accepted for transportation, personnel shall receive training in accordance with the current ICAO/IATA DGR requirements. • Cargo agencies acting on behalf of LOT Cargo are also responsible for training required by the local regulatory authority. • Current IATA DGR manual shall be available at each location where operations involving the loading of DG as cargo are conducted.
2. Subcontracted services	• According to LOT Cargo policy, subcontractors are assessed on the basis of the quality of services they provide. • After the assessment process, a contract is concluded. LOT Cargo requires a contract be signed with all subcontractors. • Subcontractors shall operate in compliance with the regulations and policies set forth in LOT Ground Handling either by observing the regulations of the Manual or by establishing their own rules which are in accordance with the Manual. • LOT have an audit planning process and sufficient resources to ensure audits of cargo operations are scheduled at intervals to meet regulatory and management system requirements and completed within a specified time period.
3. The subcontractor acceptance and monitoring process	Subcontracting is based on two main processes: • Agreement phase The aim of this phase is to prepare and make an agreement which will confirm that the scope and quality of service performed by subcontractors are in accordance with Lot Cargo requirements. The evaluation check sheets are commonly used to verify subcontractors. • Monitoring phase Handling activity provided by the Handling Company has to be under process of permanent monitoring to ensure cargo requirements that affect the safety and/or security of aircraft operations are being fulfilled. All data related to irregularities that have an impact for safety and/or security must be reported to the Carrier in accordance Carrier's Ground Handling Manual – in particular: SPI: occurrence /1000 actions

Factor	Acceptable level	Target
DGR incidents	0,1	0,0
Minor remarks to DGR	0,5	0,3
Non DG shipments damages	1	0,5
ULD damages	0,1	0,0
improper BUP	0,1	0,0

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7.2 Training and qualifications

	Remarks
1. Responsibilities	• LOT Cargo managers or other nominated supervisors at the stations shall ensure personnel performing operational cargo functions have the formal qualifications and complete recurrent training in due time. • The nominated persons shall also assure that the sufficiently trained and qualified personnel can perform functions within the scope of cargo operations, including accepting, storage and loading.
2. Training programme requirements	• Training programmes shall be approved by the competent regulatory authorities. • LOT Cargo training programmes are published annually. • The latest regulatory amendments shall always be introduced to training programmes. • Training programmes are developed due to the changes in business regulatory requirements. • LOT Cargo provides training for its own personnel and for LOT operational personnel.
3. Initial training	Cargo operational personnel should be trained to perform the following functions: • accept general and special cargo • issue Air Waybills • load and unload warehouse and airplane • operate ground support equipment • plan cargo load • instruct how to perform the aforementioned functions.
	• Initial training is required from all personnel who perform functions within the scope of cargo operations to become qualified prior to being assigned to perform such duties Minimum syllabus of this training shall address: a) presentation of the organisation, interest groups, cargo services and products b) introduction to the relevant manuals such as QM, GHM, IATA Tact Rules, IATA TCR, AHM, DGR, LAR c) procedures, practices and safety-related matters relevant to the operational functions (equipment used for carriage, aircraft types and their limitations, palletising, handling of shipments on warehouse and airplane, air transport of live animals and other special loads) d) acceptance of general cargo and special cargo e) training in human factor principles and safety training on associated operational hazard f) final test or evaluation by written, oral or practical means, as applicable, to demonstrate adequate knowledge to perform duties. • After successful completion of the initial training, cargo managers or other nominated supervisors shall ensure personnel who perform operational cargo functions receive adequate familiarisation training.
4. Dangerous Goods training (GRH 2.2.1; GRH 3.4.2)	• All persons assigned to handle and/or accept dangerous goods shall complete applicable Dangerous Goods Training and receive recurrent training not less than every two years. If recurrent training is completed within the final

	3 months of validity of previous training, the period of validity extends from the month on which the recurrent training was completed until 24 months from the expiry month of that previous training. This principle applies to personnel who perform or instruct how to perform any of the following functions: ⇒ accept cargo for transport ⇒ accept dangerous goods for transport ⇒ handle, load and unload cargo, including dangerous goods, in warehouse or ramp area ⇒ plan and manifest load. • Personnel shall receive training according to the requirements commensurate with their responsibilities. Such training shall comprise: ⇒ general familiarisation – training on the general DGR provisions ⇒ function specific training – in-depth study on DGR requirements relevant to the assigned responsibilities ⇒ safety training – training on hazards concerning dangerous goods, safe handling and emergency response procedures. • A test, conducted after the training, confirms the successful completion of the training and constitutes a basis to issue a certificate. • Training is also mandatory for shippers (and persons acting on their behalf), freight forwarding personnel, passenger handling staff, flight and other crew members as well as security personnel who deal with passenger screening, luggage and cargo. For full details of training requirements see IATA DGR 1.5. The training shall include: ⇒ General philosophy; ⇒ Limitations; ⇒ General requirements for shippers; ⇒ Classification; ⇒ List of dangerous goods; ⇒ General packing requirements; ⇒ Packing instructions; ⇒ Labeling and marking; ⇒ Shipper's declaration and other relevant documentation; ⇒ Acceptance procedures; ⇒ Recognition of undeclared dangerous goods; ⇒ Storage and loading procedures; ⇒ Flight crew notification; ⇒ Provisions for passengers and/or crew; ⇒ Emergency procedures.
5. Live Animals training	• The person in charge of acceptance of Live Animals must be trained in accordance with current regulations. • Each training is valid for 36 months of previous training to ensure knowledge is current Reference : IATA Live Animal Regulations - current edition

6. Recurrent training, In-depth training, Re-qualification training	• Recurrent training shall be provided not less than once every three years and always when major changes in procedures or equipment will occur or have occurred. Recurrent training syllabus and training methods can vary depending on the need. • Training can be given during separate training sessions, as on-the-job training or as self-study. • The syllabus of the training shall always address, as a minimum, safety-related matters relevant to the functions performed by personnel. • All persons assigned to handle and/or accept dangerous goods and/or general cargo and company material (COMAT) shall complete applicable Dangerous Goods Training and receive recurrent training not less than every two years. This principle applies to personnel who perform or instruct how to perform any of the following functions: ⇒ accept cargo for transport ⇒ accept dangerous goods for transport ⇒ handle, load and unload dangerous goods in warehouse or ramp area ⇒ plan and manifest load. • Re-qualification training shall be applicable to personnel that become unqualified for any reason, prior to being reassigned to perform operational duties. • Training shall include final test or evaluation by written, oral or practical means, as applicable, to demonstrate adequate knowledge to perform duties
7. Safety training	• Safety training (included in the Initial and Recurrent Training) shall address: ⇒ Safety Management Awareness ⇒ Human Factors ⇒ Rules and Regulations ⇒ Accidents and Incidents ⇒ Personal Protection ⇒ Workplace Hazards ⇒ Equipment Operations ⇒ Housekeeping ⇒ Emergency Situations.
8. Other training	• Other relevant trainings concerning, weight and balance, loading etc. are provided to LOT employee by external training centres. The syllabus of trainings shall comply with ICAO/IATA requirements. • Training in the scope of security - accordingly to performed duties.
9. Training records (GRH 2.1.4)	• Training records retained both in a hardcopy and as electronic data placed in the secured server shall always be ready to be presented at the request of the Operator or persons acting on its behalf. On-the-job training shall be duly documented. • Training records shall be retained for the employee's employment period and 36 months after its termination

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7.3 Acceptance & Handling

7.3.1 General Cargo

	Remarks
1. General	• LOT accepts shipments either by its approved agent or directly from shippers. In case of interline cargo shipments shall be in compliance with IATA interline cargo requirements. • A shipment is deemed to be received when an Air Waybill is issued. An Air Waybill constitutes a Contract of Carriage. • Prior to issuing an Air Waybill, the shipper shall check if all special requirements are met (i.e. customs regulations, commercial invoices, permits, certificates, embargoes). • All cargo shall be weighed. Cargo weighing facilities shall be periodically calibrated; verification shall be recorded and retained in accordance with local regulations. • All cargo shipments shall be booked; special cargo shipments must never be accepted without confirmed bookings up to final destination points. • All cargo shall be stored under adequate supervision and in a place where it will not be subjected to extreme weather conditions and it will not become damaged during the storage period • General cargo should be handled with due care in order to avoid damaging of shipments or causing hazards to health or safety of employees handling cargo. • Damage to cargo shall be reported to LOT Polish Airlines immediately after it has been discovered during the handling process. • Flight preparation and unit build-up shall be done in accordance with the provisions contained in GHM in order to avoid cargo damaging and to guarantee the safety of the transport equipment such as aircraft or road feeder. • Safety requirements dictate that all products acquired from external suppliers must comply with technical specifications prior to being utilised in the conduct of cargo operations. Provisions of this chapter are also applicable to special cargo unless chapter 7.3.2 Acceptance and Handling of Special Cargo provides otherwise.
2. Preliminary requirements	While accepting shipments the following points shall be considered: • Air Waybill (see TACT Rules Chapter 6) • weight and volume capacities (see GHM Chapter 3 Aircraft Hold Dimensions and Floor Load Limitations) • heavy and overlapping cargo (see GHM Chapter 7) • booking (see GHM Chapter 7) • cargo rating (see TACT Rules section 3) • other shipping documents (see TACT Rules sub-section 2.2) • government and airline requirements (see TACT Rules sections 7

	and 8) • packing, marking and labelling requirements (see TACT Rules section 2) • weight check (scales must be duly certified) • dangerous goods (see GHM Chapter 7.4) • other special cargo (see GHM Chapter 7) • compartment temperatures (see GHM Chapter 3.15).
3. Shipments not acceptable	The following shipments are not acceptable for carriage by air: • shipments, the contents of which could injure personnel or damage aircraft or other load • shipments, which are not properly marked, labelled or packed and consequently may pose risk to persons or cause harm to property • shipments, the weight of which is unknown or insufficiently guaranteed. Other shipments are acceptable only under specific conditions. These are covered in detail in GHM Chapter 7.
4. Export, transit and import regulations	The shipper shall comply with government export, transit and import formalities and check if all special requirements are met (i.e. customs regulations, commercial invoices, licences, permits, certificates, embargoes and other documents required under national laws).
5. Delivery to consignee	The consignee shall be notified of the arrival of a shipment as soon as practicable.
6. Cargo and mail security measures	See GHM Chapter 8
7. Cargo reservation	All cargo shipments shall be booked. Yet, cargo booking is not a legal guarantee that space will be available.
8. Packaging and marking requirements	The way of packaging shall be suited to the contents of a load and shall protect goods from any accidental damage which could be caused in the usual process of handling and transport.
9. Transfer cargo	Normal transit time for the appropriate station should be checked
10. Cargo documentation	The most significant documents are: • AWB – Air Way Bill is issued by a carrier or its authorized agent in compliance with IATA regulations; • Cargo Manifest is a list of all consignments carried on board of an aircraft issued by a handling agent • Shipper's Declaration – detailed information in part 7.4.2 • Shipper's Certification for Live Animals – detailed information in part 7.6
11. Document Bags/ Envelope	Cargo and airmail documents shall be carried in special bags or envelope with flight number. The bags or envelope should be placed in the front luggage compartment or handed to the crew.
12. Electronic Air Waybill	• General Cargo Shipments (GCR) or Dangerous Goods, which according to IATA DGR can be transported without Shipper's Declaration and/or Checklist under e-Freight principles, may be accepted on LO flights.

12. Electronic Air Waybill *(conitnue)*	• All e-Freight shipments are identified by two codes (EAW or EAP) which must appear in the FWB sent by the freight Forwarder to the Airline as a Special Handling Code. - EAW - the shipment is accepted without paper documentation. E-Freight consignment with no accompanying documents. - EAP – e-freight consignment with accompanying documents. The shipment is accepted with an envelope containing additional documentation (not part of e-Freight). The Envelope is sent along with the shipment. • After receiving the shipment from Forwarder, Handling Agent sends FSU – RCS and FOH messages to the Carrier. • If all of the shipments on a given flight are e-Freight shipments, there is no need to send a paper Cargo Manifest. The Cargo Manifest is replaced by the FFM message sent from the computer system to all concern. • After the flight departure FFM, FWB (and FHL if needed) messages for all e-Freight shipments must be sent to the all concern at airport of destination.

7.3.2 Special Cargo

1. General	• All general principles of acceptance and handling mentioned in Chapter 7.3.1 shall be applied to special cargo as well. This chapter provides for the restrictions and special instructions that shall be observed together with general principles. • The current edition of appropriate IATA Regulations or the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions) including addenda as appropriate shall be readily available for personnel accountable for the guidance of reservation, cargo acceptance and handling as well as for other cargo personnel. • Special cargo shipments shall be booked for the whole routing in LOT Champ Cargo system, which ensures adequate supervision, control of operations and maintenance activities. If there is no access to the system, a request message for the reservation shall be sent to QIFFRLO or WAWFRLO or via email to cargobooking@lot.pl. • Cargo terminals should be equipped with specifically configured facilities appropriate for storage of dangerous goods, radioactive material and other special cargo such as HUM, AVI, PER, PIL, VAL, and fragile goods. If the cargo terminal does not have specially configured facilities, pickup must be arranged upon arrival after confirmation with consignee. • Prior to departure, a pre-advice message regarding AVI, VAL, HUM, PER, PIL shall be sent to the appropriate stations. The message shall contain the following information: ⇒ the remark IMP- message code ⇒ flight number and date ⇒ Air Waybill number ⇒ the number of pieces and weight in kilos per shipment ⇒ other optional information. The written confirmation of receiving the message should be sent to the originator • Special labels as shown in TACT Rules section 2.3.4.B Standard Labels and Tags for Special Consignments shall be used for perishables, dangerous goods, live animals and fragile items. • For service of special cargo and shipments of special importance or urgency all personnel concerned has to be fully aware of the nature and handling requirements of all such shipments. • A copy of the current edition of the applicable regulations and IATA Dangerous Goods Regulations shall be available at each location where Cargo operations are conducted.

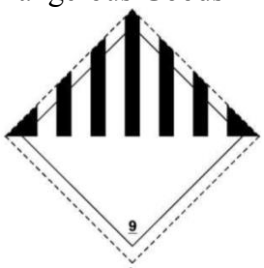
7.4 Dangerous goods
7.4.1 General rules

	Remarks
1. Definition	• Dangerous goods are defined as those which meet the criteria of one or more of nine UN hazard classes and, where applicable, assigned to one of three packing groups. • The nine classes relate to the type of hazard. • Some hazard classes are subdivided into hazard divisions due to hazard variations within these classes. • **The order in which the classes are shown does not imply a degree of danger.**
2. Class 1 Explosives 	• This class is divided into 6 divisions: 1.1 – 1.6. • For handling and stowage purposes explosives are assigned to one of 13 compatibility groups: ⇒ from group A for a substance which has a mass explosion hazard to group S which contains the hazard within the package. • Most explosives listed in IATA DGR - List of Dangerous Goods, such as division 1.1, 1.2, 1.3, 1.4F, 1.5 and 1.6 are normally forbidden for transport by air. • Only explosives of division 1.4 (with a few exceptions in division 1.3) are permitted to be carried by air as they present no significant hazard. Explosives of Class 1.4 in compatibility group S are so packed or designed that any effect from accidental functioning is confined within the package: • Examples: ⇒ safety fuses, ⇒ ammunition for hand weapons, for signals, fireworks • Hazard label for **Explosives 1.4S** • Cargo IMP code **RXS**
3. Class 2 Gases 	• Gases are assigned to one of three divisions: 2.1, 2.2, 2.3. • The transport conditions of a gas is described according to its physical state as : ⇒ compressed gases, ⇒ liquefied gases, ⇒ gases in solutions, ⇒ refrigerated liquefied gases. **Division 2.1 Flammable gas**: • any compressed gas which, when mixed with air in certain proportion, forms a flammable mixture: ⇒ Acetylen, ⇒ Butane, ⇒ Hydrogen, ⇒ Lighters. • Hazard label for **Flammable Gas**

 	• Cargo IMP code **RFG** **Division 2.2 Non–flammable, Non–toxic Gas**: • any non-flammable, non-toxic compressed gas : ⇒ Neon, ⇒ Carbon dioxide, ⇒ Fire Extinguisher, ⇒ Liquefied Nitrogen or Helium. Hazard label for **Non-flammable, non-toxic gas.** Cargo IMP code **RNG RCL.** **Division 2.3 Toxic Gas**: • Gases known to be toxic or corrosive to humans and known to pose a health risk • Most toxic gases are forbidden for carriage by air; • Some like tear gas devices or aerosols of low toxicity are permitted. • Hazard label for **Toxic Gas.** • Cargo IMP code **RPG.**
4. Class 3 Flammable Liquids 	• liquids, • mixtures of liquids or solutions with highly flammable components. • Examples: ⇒ Paint, ⇒ Alcohols, ⇒ Petrol, ⇒ Varnishes. • Flammable liquids are assigned to one of three packing groups according to the flash point and the boiling point of the liquid. • Hazard label for **Flammable Liquids.** • Cargo IMP code **RFL.**
5. Class 4 Flammable Solids; Substances Liable to Spontaneous combustion; Substances Which in Contact with Water, Emit Flammable Gases. 	• Class 4 is divided into three divisions: 4.1, 4.2, 4.3 **Division 4.1** Flammable Solids; Self-reactive and Related Substances; Desensitized, Explosives: • any solid material, which is readily combustible, or may cause or contribute to fire through friction (some are self-reactive). • Examples: ⇒ Celluloid, ⇒ Matches, ⇒ Sulphur. • Hazard label for Flammable Solids, • Cargo IMP code RFS Note: Self-reactive substances require protection from direct sunlight and must be stored away from all sources of heat.

	**Division 4.2** Substances liable to Spontaneous Combustion. • Substances liable to spontaneous heating or to heating up in contact with the oxygen in the air and than liable to catch fire. • Examples: ⇒ white or yellow Phosphorus. • Hazard label for **Substances Spontaneously Combustible** • Cargo IMP code **RSC** **Division 4.3** Substances Dangerous When Wet • emit flammable gases in contact with water. • Substances liable to become spontaneously flammable by interaction with water or give off flammable gases. • Examples: ⇒ Calcium carbide, ⇒ Sodium. • Hazard label for Substances **Dangerous When Wet** • Cargo IMP code **RFW**
6. Class 5 Oxidizing Substances and Organic Peroxides  	• This class is divided into two divisions: 5.1 and 5.2 **Division 5.1** **Oxidizing Substances:** • substances that yields oxygen readily to stimulate the combustion and fire of other material. • Examples: ⇒ bleaches, ⇒ fertilizers, ⇒ calcium chlorate, ⇒ oxygen generators (chemical). • Hazard label for **Oxidizing Substances.** • Cargo IMP code **ROX.** **Division 5.2** **Organic Peroxides**: • liquid or solid organic material that can be readily ignited by external flame and than burns with an accelerating rate; • some react dangerously with others. • Examples: ⇒ Acetyl acetone peroxide (listed in Appendix C.2 IATA DGR) • Cargo IMP code **ROP.** Note: Organic peroxides require protection from direct sunlight and must be stored away from all sources of heat.

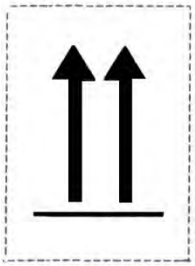
7. Class 6 Toxic and Infectious Substances   	• This class is divided into two divisions: 6.1, 6.2 **Division 6.1** **Toxic Substances:** • liquids or solids liable to cause death, injury or to harm human health if inhaled, swallowed or absorbed through the skin. • Examples: ⇒ Arsenic, ⇒ Cyanide, ⇒ Pesticides. • Hazard label for **Toxic Substances.** • Cargo IMP code **RPB.** **Division 6.2** Infectious Substances: • substances known or expected to contain pathogens. Pathogens are defined as micro-organisms and other agents which can cause disease in humans or animals. • Examples: ⇒ Virus, ⇒ Bacteria, ⇒ Rickettsiae, ⇒ Parasites ⇒ Fungi ⇒ Prions, • Hazard label for **Infectious Substances** • Cargo IMP code **RIS**
8. Class 7 Radioactive Material   	• Articles or substances which spontaneously and continuously emit certain types of radiation which can be harmful to health, and can affect other materials , such as undeveloped photographic film, but can not be detected by any of the human senses. • Category of radioactive material depends on Transport Index and maximum radiation level. • Examples: ⇒ Cobalt 56, ⇒ Iodine 132 - radionuclides or isotopes for medical or industrial purposes. • **TI = 0 ;** maximum radiation level ≤ 5μ Sv/h • Hazard Label for **Category I-White** • Cargo IMP code **RRW** • **0 < TI ≤ 1**; maximum radiation level > 5 ≤ 500 μ Sv/h • Hazard label for **Category II-Yellow** • Cargo IMP code **RRY**

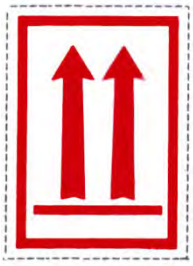
	• **1 < TI ≤ 10** ; maximum radiation level > 500 ≤ 2000 µ Sv/h • Hazard label for **Category III-Yellow** • Cargo IMP code **RRY**
9. Class 8 Corrosives 	• Substances which by chemical action, can cause severe damage when in contact with living tissue or, in the case of leakage will materially damage or destroy other goods or the means of transport. • Examples: ⇒ Battery acid, ⇒ Mercury, ⇒ Rubidium hydroxide. • Hazard label for **Corrosive Material** • Cargo IMP code **RCM**
10. Class 9 Miscellaneous Dangerous Goods  	• Articles or substances which presents a danger during air transportation that is not covered by other classes. Included in this class are: ⇒ aviation regulated liquids or solids, ⇒ Magnetized material, ⇒ Carbon dioxide (solid), ⇒ Vehicles, ⇒ Engines, ⇒ Garlic Oil, ⇒ Life Rafts. • Hazard label for **Miscellaneous Dangerous Goods** Cargo IMP code **RMD** • Carbon dioxide, solid (Dry Ice) - Cargo IMP code **ICE** • Lithium Battery Cargo IMP Code RLI or RLM as applicable **For packages containing lithium batteries prepared in accordance with Section IA or IB of PI 965 and Section IA or IB of PI 968 and Section I of PI 966, PI 967, PI 969 and PI 970 the lithium battery Class 9 label must be used.**
11. Handling labels 	• **Magnetized material label.** ⇒ These labels give information relating to handling and stowage of dangerous goods. ⇒ Cargo IMP code **MAG**



- **Cargo Aircraft Only** label
- Cargo IMP code **CAO**

- **For items not acceptable for transport on a passenger aircraft!**





- **Package Orientation labels (This way up)**



- **Cryogenic Liquid label.**
  - Cargo IMP code **RCL.**

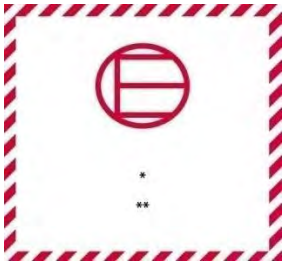
Note:
to be used in addition to the Division 2.2 label on packages containing Cryogenic liquid (Applicable to all items covered by Packing Instruction 202).



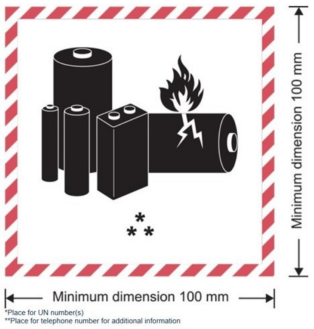
- **Keep Away From Heat label**
  For self-reactive substances in Division 4.1 and Division 5.2



- **Radioactive Material- Excepted Package label**
  Cargo IMP Code **RRE**



- **Dangerous goods in Excepted Quantity package mark**
  Cargo IMP Code **REQ**



- **Lithium Battery Mark**

Packages containing lithium batteries prepared in accordance with Section II of Packing Instructions 965 to 970 and Section IB of Packing Instructions 965 and 968 must be marked as shown on the left.
Note:
The mark illustrated in Figure 7.1.C of the 61st IATA DGR Edition with minimum dimensions of 120 mm x 110 mm may continue to be used.



- **Environmentally Hazardous Substance mark**
  Place for UN 3077 and UN 3082



Limited Quantities mark for packages of dangerous goods shipped under the Limited Quantity provisions

Reference: IATA Dangerous Goods Regulation.

7.4.2 Acceptance of Dangerous goods

	Remarks
1. Rules	• Dangerous Goods as defined and listed in the IATA DGR are shipments, which due to their chemical and/or physical characteristics may be hazardous to passengers, crew, the aircraft or other cargo on board. Therefore, they may only be accepted when in accordance with the DGR- or not accepted at all. It is prohibited to carry dangerous goods which are not pointed or mentioned as a prohibited according to IATA DGR • PLL LOT S.A. do not carry High Consequence Dangerous Goods (those which have the potential for misuse in a terrorist event and which may, as a result, produce serious consequences such as mass casualties, mass destruction or, particularly for Class 7, mass socio-economic disruption). See point 14 and 15 • Packages, markings, labeling and documentation must be checked carefully and decision of acceptance or refusal must not be made until the checking procedure is finished and applicable check lists have been completed in full. When making decision safety is the primary concern and if there's any doubt of that, shipment must not be accepted. • Cargo Acceptance staff should seek confirmation from shippers about the contents of any item of cargo where there are suspicions that it may contain dangerous goods, with the aim of preventing undeclared dangerous goods from being loaded on an aircraft as general cargo. Many ordinary looking items may contain dangerous goods and a list of some general descriptions which, experience has shown, are often applied to such items is found in Subsection 2.2. of IATA DGR • The person in charge of acceptance of Dangerous Goods must be trained in accordance with current regulations. • Each training is valid for 24 months of previous training to ensure knowledge is current Reference: Annex 18 ICAO; IATA Dangerous Goods Regulations- current edition
2. Shipper's Declaration for Dangerous Goods	• Dangerous Goods must be accompanied by a Shipper's Declaration (DGD) issued in duplicate. • Distribution The forms must be distributed as follows: ⇒ One signed copy must be retained by the accepting operator. ⇒ The other signed copy must be forwarded with the shipment to its destination. ⇒ One of the two signed copies may be a carbon copy. • Language, ⇒ The declaration form must be completed in English. The English version may be accompanied by an accurate translation in another language. • Forms Reference : IATA DGR See forms below

3. Dangerous Goods Acceptance check- list for Non-Radioactive , Radioactive and Dry Ice	• When accepting a shipment containing Dangerous Goods, acceptance check-list must be issued in duplicate. • After the completion, the box "Comments" shall be filled in and the check list signed. The original of the check-list must be attached to the AWB. • Whenever a shipment is rejected a duplicate copy of this completed form shall be handed over to the shipper. • All acceptance check-list forms are updated once a year according to the IATA DGR current edition. • After the flight, a copy of check-list shall be retained for a minimum period of three months. Reference: IATA DGR
4. Lithium Batteries Checklist	• When accepting a shipment containing Lithium Batteries (UN3481/ UN3091) Section II, acceptance check-list must be issued in duplicate. • After the completion, the box "Comments" shall be filled in and the check list signed. The original of the check-list must be attached to the AWB. • Whenever a shipment is rejected a duplicate copy of this completed form shall be handed over to the shipper. • LOT Lithium Batteries check-list forms are updated once a year according to the IATA DGR current edition. Check –list form on the next page. To print use Lithium Batteries Checklist published in Appendix. • After the flight, a copy of check-list shall be retained for a minimum period of three months.

ver 2022 – 1.1

Dangerous Goods Acceptance Check Sheet for

Lithium Batteries (ELI/ELM)

Subject to Section II of Packing Instruction 966, 967, 969, 970

AWB No:	Orgin:	Destination:	UN number : UN3481 ☐ UN3091 ☐	IMP CODE: ELI ☐ ELM ☐

	YES	NO	N/A
The Air Waybill			
1. Lithium ion batteries in compliance with Section II of PI 966 or PI 967 or Lithium metal batteries in compliance with Section II of PI 969 or PI 970 shown ?	☐	☐	
2. Number of package ELI/ELM ?	☐	☐	☐
Package			
3. Strong rigid outer packaging is undamaged and conforms to Packing Instruction and chapter 5.0.2 IATA DGR (General Packing Requirements) ?	☐	☐	
4. Same number of packages as shown on AWB ?	☐	☐	
Label			
5. Completed lithium battery label affixed ? (IATA DGR Figure 7.1.C)	☐	☐	
6. Irrelevant markings and labels removed ?	☐	☐	☐
For Overpacks			
7. Lithium battery label (Figure 7.1.C), as required, clearly visible or reproduced on the outside of the overpack?	☐	☐	☐
8. The word "Overpack" marked ?	☐	☐	☐
General			
9. State and operator variations complied with ? Variations involved :	☐	☐	☐

See exceptions (4cells/2batteries rule) in PI967/970

Comments:

This shipment is: Acceptable ☐ Not acceptable ☐

Checked by:

Signature Time Date

Name Station

Note : If any box is answered "No" do not accept the shipment and give duplicate copy of this form to the shipper or agent.

ver 2022 – 1.1

5. Air Waybill (AWB)	⇒ Dangerous Goods must be indicated in the" Handling Information" box and "Nature and Quantity of goods" box according to IATA DGR Reference: IATA DGR ⇒ For ELI/ELM shipment prepared according Packing Instruction 965-970 in Section II number of packaging contained ELI/ELM must be shown on AWB
6. Notification of Dangerous Goods to the Captain (NOTOC) (GRH 3.3.7; GRH 3.3.8)	• The pilot- in- command must be advised of the dangerous goods on board (their location and quantity) beforehand. • NOTOC shall be issued and handed over to the flight crew as early as practicable prior to departure of the flight concerned. • Information on the NOTOC must include: ⇒ Air Waybill number ⇒ Proper shipping name and/or UN/ID number, and where required, technical name ⇒ Classification, and for Class 1, division and compatibility group ⇒ Packing group, if applicable ⇒ Subsidiary risks, if applicable ⇒ For non-radioactive material, number of packages, loading location and, as applicable, net quantity or gross weight of each package except: 1. for UN 1845: carbon dioxide, solid (dry ice), UN number, proper shipping name, classification, total quantity in each aircraft hold and offload airport 2. for UN 3480 (Lithium ion batteries) and UN 3090 (Lithium metal batteries), UN number, proper shipping name, class, total quantity at each loading location, and whether the package must be carried on a cargo-only aircraft are required. UN 3480 (Lithium ion batteries) and UN 3090 (lithium metal batteries) carried under a State exemption shall meet all requirements specified in iv) and v). ⇒ for radioactive material the number of packages, overpacks, or freight containers, their category, their transport index, if applicable, and their exact loading location ⇒ Any restriction for transport on cargo aircraft only ⇒ Offload airport ⇒ If applicable, dangerous goods transported under a state exemption ⇒ ULD identification number, If applicable ⇒ An indication that aircraft loading personnel observed no evidence of damage to or leakage from packages, or leakage from ULDs, loaded onto the aircraft. • Issuing and Handling ⇒ Prior to departure of the aircraft the operator or handling agent shall provide the pilot-in-command with accurate and legible written or printed information concerning loaded dangerous goods. ⇒ The pilot-in-command shall indicate on the copy, that he received the information.

	⇒ The above information shall also include confirmation that packages loaded on the aircraft bear no evidence of leaking or being damaged. ⇒ A copy of NOTOC shall be retained on the ground and be readily accessible to the airports of last departure and next scheduled arrival until the flight has arrived at the destination airport. ⇒ After the flight, at least one copy of the document shall be retained for a minimum period of three months, or for all of period required by the states concerned. • The NOTOC with the same information must be provided to the Operational Supervison Duty Manager (immediately after the aircraft starts taxing) by sending email on: dispatch@lot.pl and ops.dm@lot.pl • The dangerous goods listed in Table 9.5.A (IATA DGR) need not appear on the NOTOC.
7. Dangerous Goods in Excepted Quantities	• Very small quantities of some dangerous goods to be transported may be exempted from: ⇒ marking, ⇒ labeling and, ⇒ documentation requirements - Shipper's Declaration is not required. **NOTE**: Single packaging are not permitted for Excepted Quantities shipments
8. Handling and Loading of Dangerous Goods *Reference: IATA DGR* (GRH 3.4.3)	• In order to avoid accidental damage of dangerous goods while loading special attention shall be paid to the handling of packages during their preparation for transport, a type of aircraft and the required loading method. • Package or shipment must be inspected prior being loaded into an aircraft and declared free of any visible damage or leaking. • Transportation of DG to and from an aircraft must be performed in a manner that prevents damages to packages and containters with use of dedicated equipements such as baggage trolleys. • Loading process shall be supervised by qualified person to maintain correct loading proces (separation,segragation, securing the load). • Incompatible dangerous goods shall be segregated during acceptance, handling and loading. • Packaging and markings requirements for certain classes shall be observed. • All packages must be secured on the aircraft in such a way that they will be prevented from any movement or falling in flight. • Securing of the load can be achieved either by: Filling the compartment or net section volumetrically (filled up to 3/4 of their heights), or lashing.
9. Compatibility of Dangerous Goods (GRH 3.4.3)	• Segregation see table below. • Loading of Packages Containing Liquid Dangerous Goods ⇒ Packages bearing the package orientation label "This Way Up" shall be loaded, stowed and handled during the whole transport in accordance with such a label. ⇒ Single packaging with end closures, containing liquid dangerous goods _shall be loaded and stowed aboard an aircraft with such closures upwards, notwithstanding such packaging may also have side closures.

	• Securing of Dangerous Goods ⇒ Operators shall ensure that immediately prior to loading onto an aircraft or into a ULD a package or an overpack has been inspected and declared free of any visible damage or leaking. ⇒ Prior to loading onto an aircraft, every ULD shall be inspected and the operator shall declare that there is no evidence of leakage from or damage to any dangerous goods contained therein. ⇒ Any damaged or leaking package shall be removed from the aircraft and safe disposal shall be arranged without any delay. • Replacement of Labels ⇒ When an operator discovers that labels have been lost, detached or illegible, he shall replace them in accordance with the information provided on the "Shipper's Declaration for Dangerous Goods". ⇒ This requirement does not apply to labels which are missing or illegible at time of acceptance.
10. Identification of ULDs containing Dangerous Goods (GRH 3.4.8)	Each unit load device containing dangerous goods, which require a hazard label, must display an identification tag on its exterior indicating that dangerous goods are contained within the unit load device. The identification tag must: a) have a border of prominent red hatchings on both sides and be visible at all times; b) have minimum dimensions of 148 mm × 210 mm; and c) be legibly marked with the primary and subsidiary hazard class(es) or division(s) numbers of such dangerous goods. The identification tag must be removed from the unit load device immediately after the dangerous goods have been unloaded. When placed inside a protective tag holder, the information on the identification tag must be legible and visible. If the unit load device contains packages bearing the "Cargo Aircraft Only" label, the identification tag must indicate that the unit load device can only be loaded on a cargo aircraft.
11. Acceptance of Freight Containers and Unit Load Devices	Operator must not accept from a shipper a unit load device or a freight container containing dangerous goods other than; a) a freight container for radioactive material b) ID 8000, Consumer commodities when prepared according to Packing Instruction Y963; c) UN 1845, Carbon dioxide, solid (dry ice) provided that the unit load device does not contain dangerous goods other than UN 3373, Biological substance, Category B or ID 8000, Consumer commodity or goods not subject to these Regulations; d) UN 2807, Magnetized material; e) UN 3373, Biological substance, Category B prepared according to Packing Instruction 650; f) UN 3245, Genetically modified organisms, Genetically modified microorganisms prepared according to Packing Instruction 959; g) Lithium ion or lithium metal cells and batteries meeting the provisions of Section II of Packing Instructions 966, 967, 969, 970;

	h) UN 3164, Articles, pressurized, hydraulic or Articles, pressurized, pneumatic prepared according to Packing Instruction 208 (a) i) Dangerous goods in excepted quantity prepared according to Subsection 2.6.8 IATA DGR ; j) Radioactive material, excepted packages, prepared according to Subsection 10.5.8 IATA DGR. With regard to freight containers containing radioactive material, the operator must ensure that all four sides of the container are correctly labelled. When an operator accepts a unit load device containing consumer commodities or dry ice as permitted by (b) or (c), the operator must attach an identification tag to the unit load device as required by identification of ULD containing DG
12.Actual information about DGR at warehouse	• The dangerous goods information notices (based on actual IATA DGR) shall be displayed at cargo acceptance locations in a visible place.
13. Use of English	• For markings and transport document related to the shipments of dangerous goods English is to be used in addition to the language required by the state of origin.
14. Supply of labels	• A complete supply of dangerous goods handling and hazards labels should be maintain at each airport where operations are conducted.
15. Embargo	• LOT embargos for dangerous goods are establish and withdrawn by www.lot.com/cargo
16. Retention of documents	Shipper's Declaration, Dangerous Goods Acceptance Check-list and NOTOC are retained for a minimum period of three months or, if required by the state of flight departure, a longer period of time .after the flight on which the dangerous goods were transported. • When a dangerous goods consignment does not pass the acceptance check due to errors or omissions by the shipper than checklist showing rejecting this consignment should be retained for a minimum period of three months after the completion of the acceptance checklist.

17. Indicative List of High Consequences Dangerous Goods

Class 1	Division 1.1
Class 1	Division 1.2
Class 1	Division 1.3 compatibility group C
Class 1	Division 1.4, UN 0104, UN 0237, UN 0255, UN 0267, UN 0289, UN 0361, UN 0365, UN 0366, UN 0440, UN 0441, UN 0455, UN 0456, UN 0500, UN 0512, UN 0513
Class 1	Division 1.5
Class 1	Division 1.6

Class 2	Division 2.3 toxic gases (excluding aerosols)
Class 3	desensitized explosives
Class 4	Division 4.1 desensitized explosives
Class 6	Division 6.1 substances of Packing Group I; except when transported under the excepted quantity provisions (see 2.6)
Class 6	Division 6.2 infectious substances of Category A (UN 2814 and UN 2900) and medical waste of Category A (UN 3549)

18. Transport Security Thresholds for Specific radionuclides

For dangerous goods of Class 7, high consequences radioactive material is that with an activity equal to or greater than a transport security threshold of 3000 A2 per single packing except for the following radionuclides where the transport security threshold is given below.

Element	Radionuclide	Transport Security Threshold
Americium	Am-241	0,6
Gold	Au-198	2
Cadmium	Cd-109	200
Californium	Cf-252	0,2
Curium	Cm-244	0,5
Cobalt	Co-57	7
Cobalt	Co-60	0,3
Caesium	Cs-137	1
Iron	Fe-55	8000
Gadolinium	Gd-153	10
Germanium	Ge-68	7
Iridium	Ir-192	0,8
Nickel	Ni-63	600
Palladium	Pd-103	900
Promethium	Pm-147	400
Polonium	Po-210	0,6
Plutonium	Pu-238	0,6
Plutonium	Pu-239	0,6
Radium	Ra-226	0,4
Ruthenium	Ru-106	3
Selenium	Se-75	2
Strontium	Sr-90	10
Thallium	TI-204	200
Thulium	Tm-170	200
Ytterbium	Yb-169	3

7.4.2.1 Shipper's Declaration for Dangerous Goods form

According to IATA DGR 60th Edition, two forms are allowed.
Below form may to be used until 31 December 2024.

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

Shipper	Air Waybill No. Page of Pages Shipper's Reference Number *(optional)*
Consignee	*For optional use for Company logo name and address*
Two completed and signed copies of this Declaration must be handed to the operator.	**WARNING** Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.
TRANSPORT DETAILS This shipment is within the limitations prescribed for: *(delete non-applicable)* PASSENGER AND CARGO AIRCRAFT / CARGO AIRCRAFT ONLY Airport of Departure: Airport of Destination:	Shipment type: *(delete non-applicable)* NON-RADIOACTIVE / RADIOACTIVE

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification						
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Pack-ing Group	Quantity and type of packing	Packing Inst.	Authorization

Additional Handling Information

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. I declare that all of the applicable air transport requirements have been met.	Name/Title of Signatory Place and Date Signature *(see warning above)*

After 31 December 2024 only following form will be allowed.

SHIPPER'S DECLARATION FOR DANGEROUS GOODS IATA

Shipper	Air Waybill No. Page of Pages Shipper's Reference No. (optional)
Consignee	LOT CARGO
Two completed and signed copies of this Declaration must be handed to the operator.	**WARNING** **Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.**
TRANSPORT DETAILS This shipment is within the limitations prescribed for: (delete non-applicable) PASSENGER AND CARGO AIRCRAFT / CARGO AIRCRAFT ONLY Airport of Departure (optional): Airport of Destination (optional):	Shipment type: *(delete non-applicable)* NON-RADIOACTIVE / RADIOACTIVE

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification						
UN or ID No.	Proper Shipping Name	Class or Division (subsidiary hazard)	Packing Group	Quantity and Type of Packing	Packing Inst.	Authorization

Additional Handling Information

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. I declare that all of the applicable air transport requirements have been met.

Name of Signatory

Date

Signature
(See warning above)

7.4.2.2 NOTOC

SPECIAL LOAD - NOTIFICATION TO CAPTAIN

Station of Loading	Flight Number	Date	Aircraft Registration	Prepared by

DANGEROUS GOODS

Station of Unloading	Air Waybill Number	Proper Shipping Name	Class or Division For Class 1 compat. grp.	UN or ID Number	Sub Risk	Number of Packages	Net quantity or Transp. Ind. per package	Radio-active Mat. Categ.	Packing Group	Code	CAO (X)	Loaded	
												ULD ID	POSITION

*There is no evidence that any damaged or leaking packages containing dangerous goods have been loaded on aircraft.

OTHER SPECIAL LOAD

Stat. of Unload	Air Waybill Number	Contents and Description	Number of Packages	Quantity	Supplementary Information	Code	ULD ID	POSITION

Loading Supervisor's Signature	Captain's Signature	Other Information

7.4.2.3. Segregation of packages

Table 4.4.1.1 (based on Table 9.3.A IATA DGR)

Hazard Label	1 excl. 1.4S	2.1	2.2,2.3	3	4.1	4.2	4.3	5.1	5.2	8	9. see 9.3.2.1.3
1 excluding 1.4 S	see 9.3.2.2.5	x	x	x	x	x	x	x	x	x	x
2.1	x	-	-	-	-	-	-	-	-	-	x
2.2,2.3	x	-	-	-	-	-	-	-	-	-	-
3	x	-	-	-	-	-	-	x	-	-	x
4.1	x	-	-	-	-	-	-	-	-	-	x
4.2	x	-	-	-	-	-	-	x	-	-	-
4.3	x	-	-	-	-	-	-	-	-	x	-
5.1	x	-	-	x	-	x	-	-	-	-	x
5.2	x	-	-	-	-	-	-	-	-	-	-
8	x	-	-	-	-	-	x	-	-	-	-
9. see 9.3.2.1.3	x	x	-	x	x	-	-	x	-	-	-

	Remarks to the Table 4.4.1.1
x	segregation is required
-	segregation is not required
Reference: IATA DGR	

Table 4.4.1.2 Segregation of special loads

CLASS	CODE	RXS	RCL	RFL	RSC	RFW	ROX	ROP	RPB
1.4S	RXS	Nota 2							
2	RCL								
3	RFL						◄►		
4.2	RSC						◄►		
4.3	RFW								
5.1	ROX			◄►	◄►				
5.2	ROP								
8	RCM					◄►			
9	ICE								
	HEG		◄►						
	AVI		◄►						

CLASS	CODE	RIS	RRY	RCM	ICE	FIL	HUM	EAT	HEG	AVI
1.4S	RXS									
2	RCL								◄►	◄►
3	RFL									
4.2	RSC									
4.3	RFW			◄►						
5.1	ROX									
5.2	ROP									
7	RRY					◄–►			◄–►	◄–►
8	RCM									
9	ICE								◄►	◄►
	FIL		◄–►							
	HUM							◄►		◄►
	EAT						◄►			◄►
	HEG		◄–►		◄►					
	AVI		◄–►		◄►		◄►			◄►[1]

Code Explanation:

RXS	Explosives 1.4S	RCM	Corrosives
RCL	Cryogenic Liquid	ICE	Dry Ice
RFL	Flammable Liquid	FIL	Undeveloped Films
RSC	Spontaneously Combustible	HUM	Human Remains
RFW	Dangerous when Wet	EAT	Foodstuffs
ROX/ROP	Oxidizer/Organic Peroxides	HEG	Hatching Eggs
RPB/RIS	Toxic/Infectious Substances	AVI	Live Animals
RRY	Radioactive Materials Categories II – Yellow and III - Yellow;		

Symbols – Meaning:

◄► packages to be physically separated , either by other cargo, or by separate tie-down

◄–► minimum separation distances as per IATA DGR 9.3.13 : 0,5 m or more for live animals and RRY II and III for journeys of 24 hours or less ; for photographic films and plates and category RRY II and III - required distances as per Table 10.9.E IATA DGR

◄►[1] animals which are natural enemies may be loaded in the same hold providing they are not in sight of one another; laboratory animals must be loaded apart from other animals

7.4.2.4 Minimum Separation Distances for Radioactive Material (RRY)

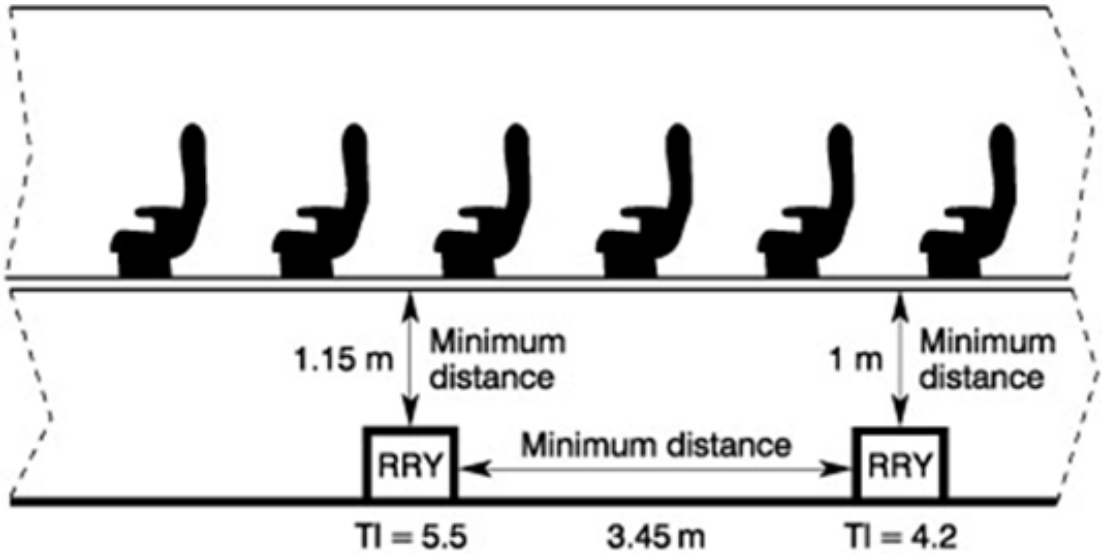
Table 4.4.1.3 (based on IATA DGR 10.9.C) Separation of Radioactive Material

Total sum of TI	Minimum distance	
	metres	foot, inches
0.1 to 1.0	0.30	1’0”
1.1 to 2.0	0.50	1’8”
2.1 to 3.0	0.70	2’4”
3.1 to 4.0	0.85	2’10”
4.1 to 5.0	1.00	3’4”
5.1 to 6.0	1.15	3’10”
6.1 to 7.0	1.30	4’4”
7.1 to 8.0	1.45	4’9”
8.1 to 9.0	1.55	5’1”
9.1 to 10.0	1.65	5’5”
10.1 to 11.0	1.75	5’9”
11.1 to 12.0	1.85	6’1”
12.1 to 13.0	1.95	6’5”

Total sum of TI	Minimum distance	
	metres	foot, inches
13.1 to 14.0	2.05	6’9”
14.1 to 15.0	2.15	7’1”
15.1 to 16.0	2.25	7’5”
16.1 to 17.0	2.35	7’9”
17.1 to 18.0	2.45	8’1”
18.1 to 20.0	2.60	8’6”
20.1 to 25.0	2.90	9’6”
25.1 to 30.0	3.20	10’6”
30.1 to 35.0	3.50	11’6”
35.1 to 40.0	3.75	12’4”
40.1 to 45.0	4.00	13’1”
45.1 to 50.0	4.25	13’11”

	Remarks to the Table 4.4.1.3
1	If more than one package, overpack or freight container is placed in the aircraft, the minimum separation distance for each individual package, overpack or freight container must be determined in accordance with the above Table , on the basis of the sum of the transport indices of the individual packages, overpacks or freight containers
2	if the packages, overpacks or freight containers are separated into groups, minimum distance from each group to the nearest inside surface of the partitions or floors of the deck occupied by personnel is the distance applicable to the sum of the transport indices within the individual groups, provided that each group is separated from each other by at least three times the distance applicable to the one that has the larger sum of transport indices.

Figure 4.4.1 Separation of Radioactive Material – Transport Index (TI), example



The minimum distance that should be kept between two shipments having TI = 5.5 and TI = 4.2 is equal 3.45m, that is three times the distance applicable to that package that has the larger value of transport index (3 x 1.15m = 3.45).

Table 4.4.1.4 Separation of Radioactive Material—Undeveloped Photographic Films and Plates (based on Table 10.9.E IATA DGR)

Total Sum of TI	Duration of carriage											
	2 hours or less		2-4 hours		4-8 hours		8-12 hours		12-24 hours		24-48	
	meters	ft.in.	meters	ft.in.	meters	ft.in.	meters	ft.in.	meters	ft.in.	meters	ft.in.
1	0.4	1′4″	0.6	2′0″	0.9	3′0″	1.1	3′8″	1.5	5′0″	2.2	7′2″
2	0.6	2′0″	0.8	2′8″	1.2	4′0″	1.5	5′0″	2.2	7′2″	3.1	10′2″
3	0.7	2′4″	1.0	3′4″	1.5	5′0″	1.8	5′10″	2.6	8′6″	3.8	12′6″
4	0.8	2′8″	1.2	4′0″	1.7	5′8″	2.2	7′2″	3.1	10′2″	4.4	14′6″
5	0.8	2′8″	1.3	4′4″	1.9	6′2″	2.4	7′10″	3.4	11′2″	4.8	15′10″
10	1.4	4′8″	2.0	6′6″	2.8	9′2″	3.5	11′6″	4.9	16′0″	6.9	22′8″
20	2.0	6′6″	2.8	9′2″	4.0	13′2″	4.9	16′0″	6.9	22′8″	10.0	32′10″
30	2.4	7′10″	3.5	11′6″	4.9	16′0″	6.0	19′8″	8.6	28′2″	12.0	39′4″
40	2.9	9′6″	4.0	13′2″	5.7	18′8″	6.9	22′8″	10.0	32′10″	14.0	45′10″
50	3.2	10′6″	4.5	14′10″	6.3	20′8″	7.9	25′10″	11.0	36′0″	16.0	52′6″

Note: The above table is calculated so that the radiation dose received by the films does not exceed 0.1 mSv (10 mrem).

7.4.3 Handling of Dangerous goods

<table>
<tr><th></th><th>Remarks</th></tr>
<tr><td>1. Handling of Dry Ice (ICE) (GRH 1.6.4 iii.)</td><td>⇒ Carbon dioxide, solid (dry ice) shipped by itself or used as a refrigerant for other goods, may be carried provided that the operator has made suitable arrangements dependent on the aircraft type, the aircraft ventilation rates, the method of packing and stowing, whether or not animals will be carried on the same flight and other factors.
• The operator must ensure that ground staff are informed that Carbon dioxide, solid (dry ice) is being loaded or is on board the aircraft. Operator place information on loading dry ice on NOTOC, NOTOC shall be sent on email address: dispatch@lot.pl and ops.dm@lot.pl
Note:
For ERJ 170-100/200 and ERJ 190-200 dry ice can be transported in the forward cargo compartment. The aft cargo compartment doesn't have adequate ventilation to transport this kind of material.
• Maximum quantities of Dry Ice on aircraft type assuming dry ice sublimation rate 1% weight/hour; limit per compartment is the same as per aircraft type.
<table>
<tr><td>B787</td><td>1000 kg</td><td>ERJ 190-100 (E90)</td><td>300 kg</td></tr>
<tr><td>B737-800</td><td>470 kg</td><td>ERJ 190-200 (E95)</td><td>300 kg</td></tr>
<tr><td>ERJ 190-200AR (E9A)</td><td>0 kg</td><td>ERJ 170-100/200</td><td>100 kg</td></tr>
<tr><td></td><td></td><td>DHC-8-400</td><td>100 kg</td></tr>
</table>
Note: for ERJ 170-100/200 and ERJ 190-200 dry ice can be transported in the forward cargo compartment. The aft cargo compartment doesn't have adequate ventilation to transport this kind of material.
Embraer ERJ 190-100AR/200AR (registrations SP-LNG, SP-LNH, SP-LNI, SP-LNK, SP-LNL, SP-LNM, SP-LNN, SP-LME, SP-LMF) dry ice is not accepted.</td></tr>
<tr><td>2. Handling of Vehicles (RMD)</td><td>• Battery powered vehicles and equipment; wheelchair, electric and engines, internal combustion are listed in IATA DGR.
• The operator must use also an Automobile Inspection Form. Reference: IATA DGR.</td></tr>
<tr><td>3. Handling of Polymeric Beads (RSB)</td><td>• A total of not more than 100 kg net weight of expandable polymeric beads (or granules) or plastic moulding materials may be carried in any inaccessible compartment on any aircraft.</td></tr>
<tr><td>4. Handling of Self-Reactive Substances (RFS) and Organic Peroxide (ROP)</td><td>• Packages or ULD containing packages of Self- Reactive substances of Division 4.1 and/or organic peroxides of division 5.2 must be protected from direct sunlight and kept away from sources of heat in a well ventilated area during the course of loading.</td></tr>
<tr><td>5. Blood or blood components</td><td>• Blood or blood components which have been collected for the purposes of transfusion or for the preparation of blood products to be used for transfusion or transplantation and any tissues or organs intended for use in transplantation as well as samples drawn in connection with such purposes are not subject to the IATA DGR. Because they are not dangerous materials and for humanitarian reasons they may be carried on board in cockpit and passenger cabin.</td></tr>
</table>

<table>
<tr><td>6. Handling of Dangerous Goods and Animals (AVI)</td><td>

Live animals shall not be loaded in close proximity of cryogenic liquids or Carbon dioxide, solid (dry ice).
As the vapors emitted by Carbon dioxide, solid (dry ice) are heavier than air, they concentrate on the lower level of the hold. Therefore, live animals shall be stowed above packages containing Carbon dioxide, solid (dry ice).
Category II- Yellow and III-Yellow packages, overpacks and freight containers must be separated from live animals by a distance of 0.5 meter or more for journeys of 24 hours or less and by a distance of 1 meter or more for journeys of more than 24 hours.

</td></tr>
<tr><td>7. Handling of Radioactive Material Category II and III (RRY) (GRH 1.6.4 iv.)</td><td>

In order to maintain the principle of keeping exposure to radiation as low as reasonably achievable, packages of radioactive materials should be stored as far away from passengers and crew as possible.
Only packages located in aircraft in accordance with the minimum separation distances and rules shown in Table 4.4.1.3 herein (IATA DGR Table 10.9.C) are permitted.
The maximum TI per passenger aircraft must not exceed 50, and maximum quantity per aircraft type shall not exceed:
<table>
<tr><td>B787</td><td>37 TI</td></tr>
<tr><td>B737-800</td><td>17 TI</td></tr>
<tr><td>ERJ 190-100/200</td><td>10 TI</td></tr>
<tr><td>ERJ 170-100/200</td><td>8 TI</td></tr>
<tr><td>DHC-8-400</td><td>6 TI</td></tr>
</table>

Category II- Yellow and III Yellow packages and overpacks must not be carried in compartments occupied by passengers, except those exclusively reserved for couriers specially authorized to accompany such packages or overpacks.
Where a consignment of radioactive material is undeliverable the ground service employee who finds such an event shall immediately notify the head of the organizational unit in which he is employed, the Radiological Protection Inspector (RPI) of this organizational unit and RPI at PLL LOT. For own safety and safety of others, anyone including the employee who stated that the shipment was not delivered, may directly notify the CEZAR Radiation Emergency Center of the National Atomic Energy Agency (https://www.gov.pl/web/paa/zglaszanie-zdarzen-radiacyjnych) for the purpose of obtain instructions on how to proceed. After assessing the radiation situation, it is the duty of the RPI to notify CEZAR. Then as soon as possible, the consignment must be placed in a safe place by a qualified person.

</td></tr>
<tr><td>8. Minimum Separation Distances for Radioactive Material (RRY) from Undeveloped Photographic Films or Plates (FIL)</td><td>

Radioactive material must be sufficiently segregated from undeveloped photographic film and plates.
The basis for determining segregation distances for this purpose must be that the radiation exposure of undeveloped photographic film and plates due to the transport of radioactive material be limited to 0,1 mSv per consignment of such film.

</td></tr>
</table>

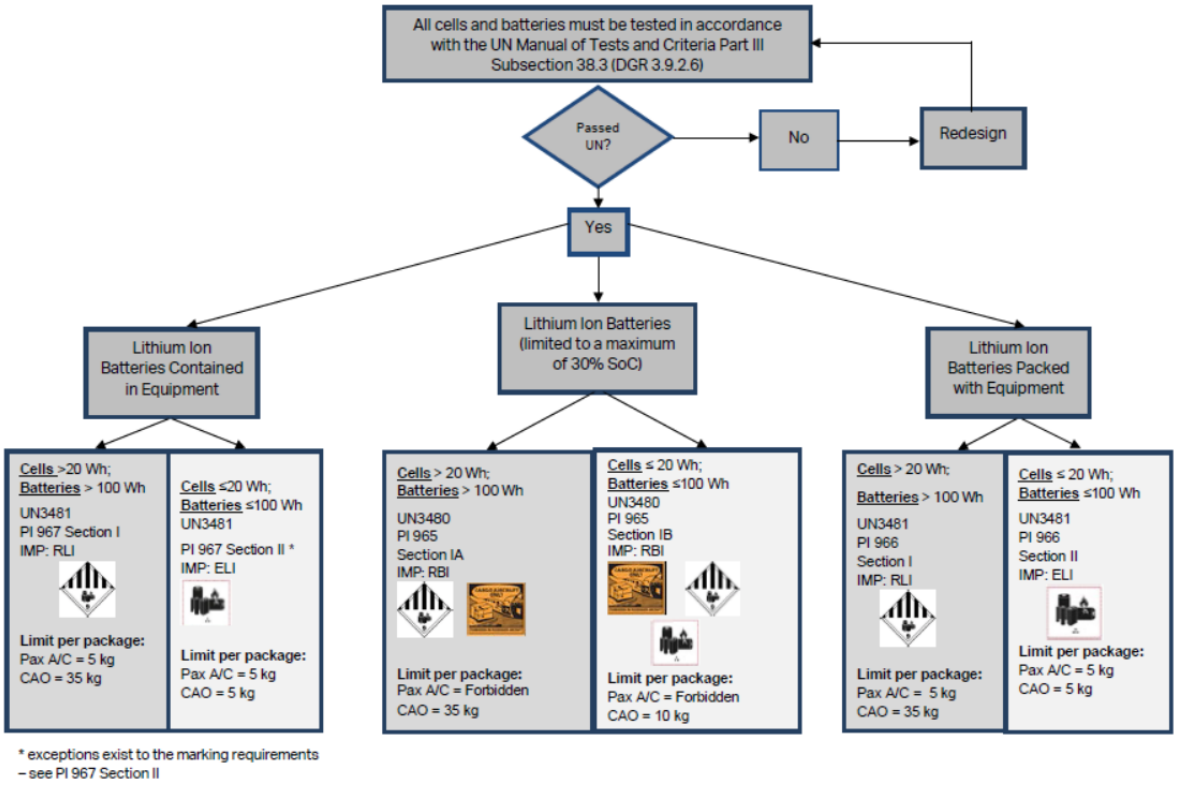
9. Loading of Magnetized Materials	• Magnetized materials must not be loaded in such a position that they will have a significant effect on aircraft navigational system as they generate a magnetic field. • Multiple packages may produce a cumulative effect. **Compartments for magnetized materials:** • **DH4:** aft cargo compartments • **E70, E70, E95:** aft cargo compartments, a max load of 118 kg • **B737:** aft cargo compartments • **B787:** aft cargo compartments
10. Loading of DGR to/from United States applying Variation USG-13(d)	• According to American regulation published in 49 CFR, a compartment means a space formed by solid walls or bulkheads with a solid flooring and ceiling. • During the flight phase the aircraft B787-8/9 has got two inaccessible compartments meeting these requirements.
11. Loading of Dangerous Goods to the cockpit crew and the passenger cabin	• Dangerous goods except allowed for carriage as checked and carry-on baggage must not to be loaded to the cockpit crew (flight deck) and the passenger cabin. (GRH 3.4.10; GRH 3.4.11)
12. Loading of Cargo Aircraft Only shipments (GRH 3.4.8)	• Shipments labeled "Cargo Aircraft Only" must not be loaded onto an aircraft for a passenger flight.
	Reference: IATA DGR

7.4.3.1 Handling of Lithium metal/ion batteries

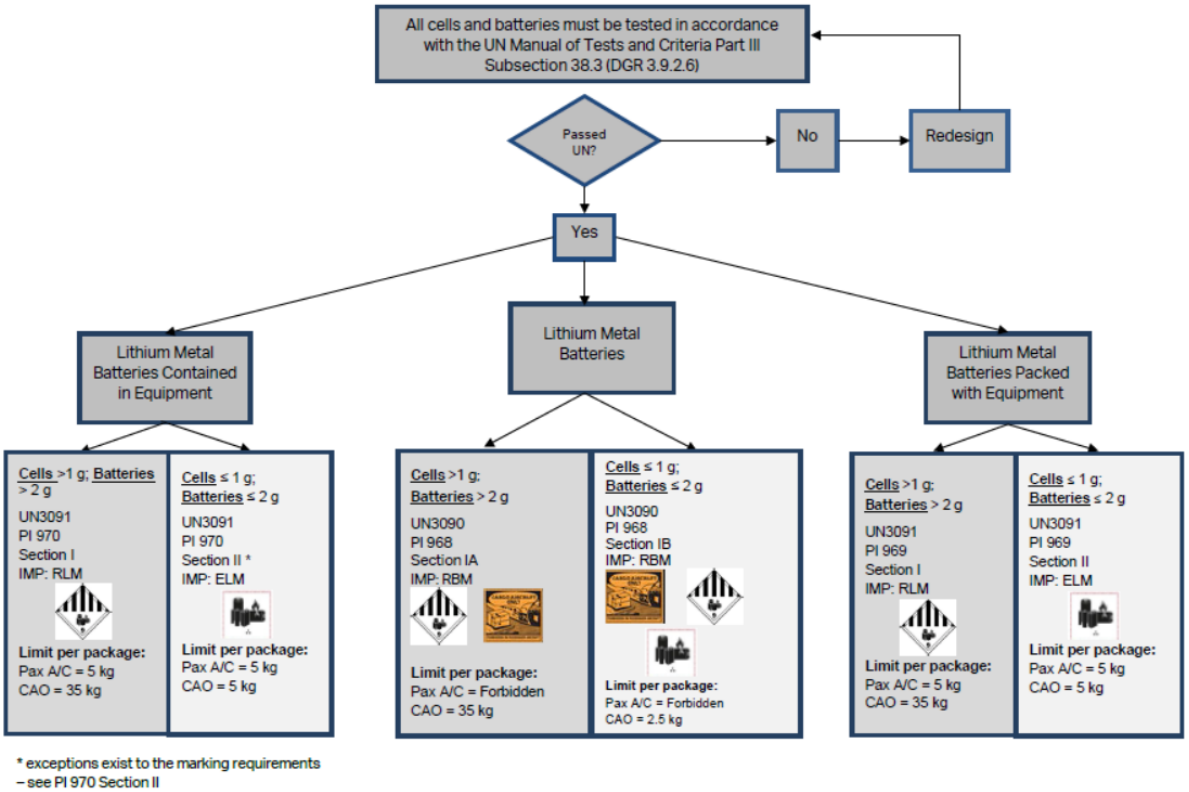
1. Handling of Lithium metal/ion batteries	• Shipments containing batteries UN3480 and UN3090 must not be loaded onto an aircraft for a LO passanger flight. • Shipments containing batteries UN3481 and UN3091 must be stored on DG area in warehouse.

Classification Flowchart Lithium Ion / Metal Batteries should be located in the acceptance area and DG area. Flowchart below:

Classification Flowchart – Lithium Ion Batteries



Classification Flowchart – Lithium Metal Batteries



7.4.3.2 Automobile Inspection Form - chapter deleted

7.4.4 Incidents with Dangerous Goods (GRH 3.6.3; GRH 3.6.5)

	Remarks
1. Rules	• Dangerous goods that are not shipped in accordance with the applicable regulations may cause serious damage affecting safety. • All irregularities caused by dangerous goods require immediate action according to carrier's regulations and local emergency procedures. • The Station Manager or the person representing the interests of LOT Polish Airlines at the airport is responsible for periodical checking if emergency telephone contacts and list of persons are still valid. • Only qualified personnel at the place of the incident **decide** which action is necessary.
2. Dangerous Goods Occurrence Report (GRH 3.1.2; GRH 3.4.6)	• The operator shall report to the appropriate authority of the State in which accidents or incidents occurred and to the appropriate authorities of the State of the Operator: ⇒ dangerous goods accident or incident ⇒ any miss-declared or undeclared dangerous goods that are discovered in cargo to the appropriate authority of the State in which accidents or incidents occurred, ⇒ when dangerous goods are discovered to have been carried when not loaded, segregated, separated and/or secured in accordance with provisions of the DGR, ⇒ when dangerous goods are discovered to have been carried as cargo without giving information to the appropriate persons in the load control system • The operator shall also report any miss-declared or undeclared dangerous goods that are discovered in cargo to the appropriate authority of the State in which accidents or incidents occurred. • An occurrence which involves a chemical substance not declared as dangerous goods but having results and symptoms similar to a dangerous goods incident, shall be regarded as a dangerous goods incident. • In order to report dangerous goods /accidents "Dangerous Goods Occurrence Report" (DGOR) shall be used. • Proper way of reporting is described in GHM chapter 4.7.4 point no. 7. • After unloading at the destination airport ramp, the handling agent shall pass the copy of the document to the local Aviation Authority. Reference: IATA DGR,
3. Damage or Leakage of Package containing Dangerous Goods (GRH 3.4.4; GRH 3.4.5)	• Incorrect handling of damaged dangerous goods shipments may endanger personnel and property. • Packages or overpacks containing dangerous goods shall be inspected for signs of damage or leakage prior to loading and upon unloading. Damaged or leaking packages shall be prevented from being loaded into an aircraft. • When package or shipment appears to be damaged or leaking if already loaded, the package or shipment must be removed from an aircraft.

	• If there is evidence of damage or leakage , the position where the dangerous goods were stowed shall be inspected for damage or contamination. Evaluation must be conducted to identify and prevent from transport any baggage, cargo or other items that may have become contaminated. In the case of leakage or damage, the operator shall ensure that the remainder of the consignment is undamaged and that no other package has been contaminated. • In the case of radioactive contamination, arrangements are made to take the aircraft out of service for evaluation by appropriately qualified personnel. Reference: IATA DGR • Hazardous contamination must be removed from the aircraft without delay. • If it is evident that a package is damaged or leaking, or if it is suspected that the package may have leaked or been damaged, access to the package should be restricted. • Local safety and emrgency proceudres should then be followed. • When necessary, additional steps for the protection of persons, property and the enviroment in accordance with the provisions established by the relevant competent authority (e.g. occupational health and safety authority, enviromental agency etc.) should be taken to overcome and minimize the conseuquences of such leakage or damage. Reference to: IATA DGR
4. Emergency Procedures for Incidents/Accidents with Dangerous Goods	• In the case of consignments requiring a Shipper's Declaration for Dangerous Goods, the operator shall ensure that appropriate emergency information is perpetually available to be used in the case of incidents and accidents involving dangerous goods. • The information shall be delivered to the pilot-in-command in the form of: ⇒ ICAO Doc. 9481 – The Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods or ⇒ other document, which provides similar information. Emergency Procedures First aid actions: a) Keep people away b) Stay away oneself c) Avoid inhaling fumes or vapours d) Guard against fire e) Get professional help from Fire Brigade or other emergency services

7.4.4.1 Dangerous Goods Occurrence Report

To print use DGOR form published in Appendix

POLISH AIRLINES
A STAR ALLIANCE MEMBER

DANGEROUS GOODS OCCURRENCE REPORT

DGOR no.

See the Notes on the next page of this form. Those boxes where the heading is in italics need only be completed if applicable.

Mark type of occurrence: Accident: ☐ Incident: ☐ Other Occurrence: ☐

1. Operator:	2. Date of occurrence:	3. Local time of occurrence:	
4. *Flight date:*	5. *Flight no.:*	6. *Departure date:*	
7. *Destination airport:*	8. *Aircraft type:*	9. *Aircraft destination:*	
10. Location of occurrence:	11. Origin of the goods:		
12. Description of the occurrence, including details of injury, damage etc. (if necessary continue on the next page)			
13. Proper shipping name (including technical name):		14. UN/ID no. (when known):	
15. *Class/division (when known):*	16. *Subsidiary risk(s):*	17. *Packing group:*	18. *Category (class 7 only):*
19. *Type of packing:*	20. *Packaging specification marking:*		
21. *No. of packages:*	22. *Quantity (or transport index, if applicable):*		
23. *Reference no. of Air Waybill:*			
24. *Reference no. of courier pouch, baggage tag, or passenger ticket:*			
25. *Name and address of shipper, agent, passenger etc.:*			
26. Other relevant information (including suspected cause, any action taken):			
27. Name and title of person making report:	28. Telephone no.:		
29. Company/dept. Code, E-mail or Info Mail code:	30. *Reports ref.:*		
31. Address:	32. Date Signature:		

A STAR ALLIANCE MEMBER

Description of the occurrence (continuation of 12):

Notes:

7.4.4.2 Dangerous Goods Emergency Response Chart (ground incidents) (GRH 1.6.4 i.)

Hazard Class Division and Compatibility Group	Dangerous Goods Class	Hazard Description	Immediate Action Minimise leakage and contact with other cargo
1.3C **1.3G**	Explosives (Acceptable on Cargo Aircraft only)	Fire and minor blast hazard and/or minor propulsive hazard	Notify Fire Department Guard Against fire
1.4B **1.4C** **1.4D** **1.4E** **1.4G**		Fire, But no other Significant hazard	
1.4S	Explosives (safety)	Small fire hazard	
2.1 **2.2** **2.2**	Flammable Gas Non-Flammable Gas Cryogenic Liquid	Ignites when leaking High pressure cylinder bursting Sub cooling	Notify Fire Department Evacuate goods Ventilate area Keep away Minimum 25 m
2.3	Toxic Gas (acceptable on Cargo Aircraft only)	High pressure cylinder and toxic inhalation	
3	Flammable Liquid	Ignites when leaking	Notify Fire Department Do not use water under any circumstances
4.1 **4.2** **4.3**	Flammable Solid Spontaneously Combustible Dangerous when wet	Combustible, contributes to fire Ignites in contact with air Ignites in contact with water	
5.1 **5.2**	Oxidizer Organic Peroxide	Ignites combustibles on contact Reacts violently with other substances	Notify Fire Department Do not use water
6.1 **6.2**	Poison Infectious Substance	Harmful if swallowed, inhaled or in contact with skin Causes disease in Humans and Animals	Isolate area Obtain qualified assistance Do not touch
7 Cat I 7 Cat II/III	Radioactive – White Radioactive – Yellow	Radiation hazards and h Harmful to health	Keep away Minimum 25 m
8	Corrosive	Hazardous to skin and metal	Notify Fire Department Avoid contact with skin
9	Polymeric Beads Magnetized Material Dry Ice Miscellaneous Dangerous Goods	Evolves small quantities of flammable gas Affects navigation system Causes sub cooling/suffocation Hazards not covered by other classes	Avoid contact with skin No immediate action required

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7.5 Human remains

	Remarks
1. General	• While handling human remains, authorised personnel shall be fully aware of the nature of shipment and specific handling requirements – the coffin shall be loaded /unloaded with care and respect. • Transportation of human remains by means of Road Feeder Services is generally not allowed.
2. Acceptance	• Human remains may be carried only when beforehand a reservation for the whole route has been confirmed. • When cargo reservation has been made, pre-advice telex shall be sent to the station of destination. The telex shall contain: the remark HUM, flight number and date, Air Waybill number, the number of pieces and weight in kilos per shipment, other optional information. • All laws and local requirements shall be observed and requisite documentation (death certificate) shall accompany the shipment. • The Air Waybill and cargo manifest shall contain special handling code "HUM". • Human remains shall be placed in a hermetically soldered inner coffin which then shall be packed in a wooden coffin and may be covered up with a canvas or tarpaulin so that the nature of the contents is not apparent. • Cremated remains shall be packed in funeral urns. • Human (HUM) remains (coffins) are allowed on DH4 aircraft.
3. Loading	• Non-cremated human remains in coffins may be carried provided that their weight and dimensions do not exceed aircraft limitations. • Coffins shall be tied down in accordance with general regulations on loading and securing cargo. • The coffin shall be kept in a horizontal position during handling and stowing. • For B737 aircraft type human remains and other perishable special loads should be loaded in the compartment 3 and 4, however it is allowed to load these shipments in the compartment 1 and 2 when the weight and balance calculations require this • Cremated urns containers must be packed in a neutral outer pack, protecting them from damage, including breakage and/spillage.
4. Segregation	• Human remains must not be loaded in close proximity to: ⇒ foodstuffs (EAT), ⇒ fruits and vegetables (PEP), ⇒ fish and seafood (PES), ⇒ meat and meat products (PEM), ⇒ live animals (AVI) –must not be stowed in the same compartment.

4. Segregation - *continue*	• Coffins must be separated from live human organs, food or live animals, as they may have negative effects on their welfare. Also, ethical and cultural reasons justify such segregation. They must not be accepted with other consolidated cargo (which are Not Human Remains). They must be built up in sealed containers, protected from damage, and tied-down, ensuring restraint during flight.
5. Notification to Captain	The pilot-in-command shall be informed in writing (NOTOC) of human remains loaded on board.

7.6 Live animals (AVI) (GRH 3.4.16)

	Remarks
1. General	• The acceptance and handling of perishable cargo shipments shall be in accordance with requirements IATA Live Animals Regulations and CITES restrictions. See also GHM 6.4. • National regulations and embargoes imposed by respective countries shall also be observed.
2. Acceptance	• Prior to the acceptance of AVI shipment, all participating carriers shall confirm space for transportation. • In order to arrange proper shipments handling, pre-advice telex shall be sent to the appropriate stations. The message shall contain: the remark AVI, type of animal, flight number and date, Air Waybill number, the number of pieces and weight in kilos per shipment, other optional information. • In-flight conditions and possible climatic effects should be considered. The shipper shall obtain all requisite documents, comply with all applicable regulations and provide proper container in conformity with IATA LAR. • Shipper's Certification for Live Animals shall fill according to current edition of IATA LAR • Shipper's Certification for Live Animals (as attached in ch. 7.6.1) shall accompany the shipment. The use Shipper's Certification for Live Animals of the IATA LAR current edition form is also permitted • Containers shall be properly labelled. Whenever possible, each container should be provided with at least one "Live Animals" label (as attached) and four "This way up" labels. • If live animals are accepted for carriage, a Check List must be utilised. One copy of the filled Check List shall accompany one live animal shipment. • Acceptance check-list form are updated once a year according to the IATA LAR current edition. • The person in charge of acceptance of Live Animals must be trained in accordance with current regulations. • After the flight, a copy of check-list shall be retained for a minimum period of 3 months. • Each training is valid for 36 months of previous training to ensure knowledge is current Reference : IATA Live Animal Regulations - current edition
3. Handling and loading	• Special precautions shall be taken to ensure proper transportation conditions. See GHM 3.15. • Animal shipments shall be handled only by competent personnel. • Unauthorised personnel shall be banned from approaching or disturbing animals. • Animals shall be provided with adequate ventilation and also be protected from excessive sunlight and noise. • Animals shall be loaded as close to departure time as possible. • The shipper and the consignee shall be notified of extended delays or rerouting.

	• Animal containers must not be loaded on top of or under another load. • Animal container shall be handled and stowed in the vertical or horizontal position. • Live animals must **not** be stowed: **in the same compartment with**: ⇒ non-cremated human remains (HUM), ⇒ dry ice, whenever possible (ICE), **in close proximity to:** ⇒ foodstuffs (EAT), ⇒ cryogenic liquids (RCL), ⇒ the distance of minimum 0,5 metre from RRY (Radioactive Material-Yellow), • Animals, which are natural enemies, e.g. cats and dogs, shall not be loaded in close proximity to one another (not in sight of one another). • Male and female animals should be stowed as far away as possible.
4. Notification to Captain	The captain shall be advised in writing (NOTOC, the box "OTHER SPECIAL LOAD") of the number of live animals on board, the species and location. The captain shall also be informed of the required action to be taken e.g. controlling temperature and ventilation.
5. Health and Hygiene	• When containers are unloaded, the appropriate aircraft hold shall be inspected and cleaned to detect any leakage or spillage. • If feasible, veterinary treatment should be arranged for the injured animal or other animals which became ill during transportation.

7.6.1 Shipper's Certification for Live Animals

SHIPPER`S CERTIFICATION FOR LIVE ANIMALS

To be completed in duplicate

This is to certifiy that *(check appropriate box)*:

- ❑ In addition to having completed all advance arrangements, this consignment is properly described, packed, and is in proper condition for carriage by air according to the current edition of the IATA Live Animals Regulations and *all applicable carrier and governmental regulations.* The animal(s) of this consignment is(are) in good health and condition.
- ❑ Animals taken from the wild for shipment have been appropriately acclimatized.
- ❑ This consignment includes species as described in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Applicable permits/ certificates are attached to the air waybill.
- ❑ This consignment includes species as described in other applicable legislation.
- ❑ In the case of reptiles and amphibians, the animals contained in this shipment are healthy and they have been examined prior to shipment and are free of any apparent injury and readily recognizable diseases. They are also free of external parasitic infestation, including mites, ticks and leaches, that can readily be seen under normal lighting conditions.

The shipper accepts that carrier will not be liable for any loss, damage or expenses arising from death due to natural causes, or death or injury of any animal caused by the conduct or acts of the live animal itself or of other animals, such as biting, kicking, goring or smothering, nor for that caused or contributed to by the conditions, nature or propensities of the animals. In no event will carrier be liable for death or injury to an animal attendant caused or contributed to by the condition, conduct or acts of animals.

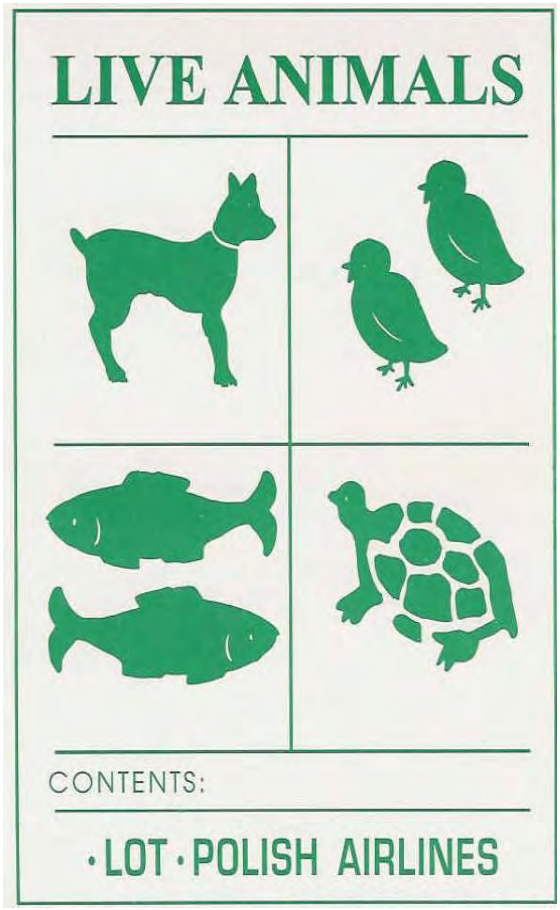
Number of Package(s)	Specific Container Requirement Number (see IATA Live Animals Regulations)	Species(description and names-scientific and common) and Quantity of Animals
Name and address of shipper..... ..... Signature of shipper..... Date..... Year/month/day (see reverse side for special conditions)		Shippers failure to comply in all respects with the applicable IATA Live Animals Regulations and any other international and/or national government regulations, may be in breach of applicable law and subject to legal penalties.
Air Waybill No.	Airport of Depertuare	Airport of Destination

SHIPPER`S RESPONSIBILITIES

Instructions for the shippers are given in Chapters 1, 7, 9, 10 and 11 of the IATA Live Animals Regulations. Before any packages containing live animals is tendered for transport by air, the shipper must ensure that:

- the animals being tendered for transportation are not prohibited by governments;
- all the required export, import, and/or transit health certificates, licenses or permits, etc. are accompanying the shipment;
- the animal shipments are properly classified, described, packed, marked and labelled;
- the IATA Shipper"s Certification for Live Animals has been propely completed in duplicate;
- pregnant animals must not be tendered for transportation without official veterinary certificate certifying that the animals are fit to travel and that there is no risk of birth occurring during the entire journey;
  (***Note:****Pregnant monkeys, nursing females with suckling young and unweaned animals are not accepted for air transport.)*
- no animals are to be tendered for transportation having given birth in the last 48 hours before the start of the journey;
- the animals have been properly prepared for transportation (see specific container requirements for further information);
- the animals is not tranquilised without veterinary approval and supervision;
- the consignee has been advised of the flight details in order to arrange immediate collection on arrival;
- a 24-hour phone number that the air carrier can obtain instruction from the shipper or his agent in the event of an emergency, and such information is written on the Air Waybill.

7.6.2 Labelling



	Rules
1.	It is mandatory to attach at least one "Live Animals" label to each animal container (if not imprinted)
2.	"This way up " labels must be placed on all four sides of the container whenever possible.

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7.7 Pharmaceutical (PIL)

	Remarks
1. General	Cargo and Mail Bureau of PLL LOT S.A. regulates the safe transport of cargo declared as pharmaceutical products (special handling code - PIL). • Goods declared as PIL - pharmaceutical products for medical use requiring transport and/or storage at controlled temperature **must meet** the requirements of IATA Temperature Control Regulations. • Each person involved in the process of handling of pharmaceutical shipments must have adequate training in this field. • Pharmaceutical consignments containing substances classified as dangerous goods according to IATA DGR, it is necessary to meet all the requirements described in the above regulations and national / international regulations • PLL LOT SA accepts for carriage pharmaceutical shipments transported in passive, active and hybrid systems. • The following temperature ranges can be accepted: ➢ Refrigerated (COL) products handled between +2°C to +8°C (passive, active, hybrid) ➢ Controlled room temperature (CRT) products handled between +15°C to +25°C (passive, active, hybrid) ➢ Frozen (FRO) - these products must be stored at temperatures below 0°C. (passive, active) • If during the process of verification or acceptance of the goods appear relevant: questions, doubts or problems - it is recommended to contact LOT HQ Cargo in Poland, at pharmaops@lot.pl.
2. Documents	1. Airwaybill: Air Waybill must be issued in accordance with IATA TCR requirements (7.1): • The „*Shipper's Name and Address*" and „*Consignee's Name and Address*" boxes must show the full name and address, not abbreviated versions. • The 24 hours emergency contact number is mandatory • The "*Nature and Quantity of Goods*" box must show a description, such as "Pharmaceuticals" or "Pharmaceuticals" with optional more detailed information. • Single temperature range in Handling Information box • When dry ice or other dangerous goods is shipped with pharmaceutical products, the AWB must contain the entries required by IATA DGR. • All mandatory information about PIL shipments must be entered directly to the LOT Cargo System (CargoSpot) manually or send via FWB message • Electronic data must be a full representation of the paper Air Waybill, including all special handling information.

	2. NOTOC: ➢ Pharmaceutical shipments (PIL) must be shown on the NOTOC, required temperature range must be specified. ➢ NOTOC must be provided in a **written form** to comply with international air safety law – IATA Airport Handling Manual (AHM 381 and 382) which specifies the document format to be used. ➢ This document must be prepared by GHA responsible for ground handling operations and must be delivered to the crew before flight. 3. CHECK LIST: During the acceptance process, an "*Acceptance checklist for time and temperature sensitive healthcare shipments*" (Appendix 8 must be prepared for all pharmaceutical shipments (special handling code – PIL) • Ground Handling Agent at the airport of origin is responsible for preparation of the checklist. • If the answer to any of the questions is "NO" - it is necessary to contact the shipper/forwarder or LOT GSA or local LOT CARGO office (if available), to clarify the discrepancies • If errors can't be fixed, shipment cannot be accepted. • If in section "B" of the Acceptance Checklist, the answer "NO" appears, the shipment can be accepted for transport, but the current temperature of the shipment must be recorded in section E (comments) • Estimated maximum time for integrity check of the shipment and issuing the checklist should not exceed 10 minutes
3. Acceptance, Storage and Delivery	• Estimated maximum time for unloading the truck delivering PIL shipments to the GHA should not exceed 30 minutes • Each pharmaceutical shipment must be checked with "*Acceptance checklist for time and temperature sensitive healthcare shipments*". • Filled checklist must be attached to the Master Air Waybill after the inspection. • Estimated maximum time for security control of PIL shipments (if needed) should not exceed 10 minutes • Pharmaceutical shipments must be stored in an appropriate temperature zones according to declared temperature ranges on AWB • If the shipment is not correctly labeled – it is necessary to store the goods according to AWB instructions. • Shipments send in a passive system must be handled and transferred to the temperature controlled zones as soon as possible, estimated maximum time for that process should not exceed 15 minutes. • Shipments in an active system (ACT) must be secured in the field of electricity or charging batteries or dry ice refiling. Prior to acceptance of an active container, the checklist from Appendix 9 must be filled.

	• Prior the ULDs buildup, it is prescribed to remove the PIL shipment from the temperature controlled zone as late as possible, estimated maximum time for that process should not exceed 5 minutes • The time needed for building ULDs with pharmaceuticals on the warehouse should be limited to the minimum before sending pallets to the ramp, estimated maximum time for that process should not exceed 30 minutes for a buildup, 15 minutes for transferring ULDs to the ramp • Pharmaceutical shipments must not be loaded in the immediate vicinity of shipments with other temperature requirements, or shipments that may be potential sources of heat or cold (e.g., shipment containing DRY ICE) • The temperature-controlled storage zone must be properly marked to reflect the storage temperature range • Pharmaceutical shipments must be separated from non-pharmaceutical goods during storage. The separation should be physical or with adequate distance. • Pharmaceutical shipments being simultaneously dangerous goods in an dedicated temperature range, must be stored according to both IATA TCR and IATA DGR. • In case of temperature excursion incident at the warehouse, ramp or near the aircraft, it is necessary to prepare the CAPA (Corrective and Preventive) report containing all necessary and important descriptions of the case • Estimated maximum time for unloading ULDs containing PIL from the aircraft should not exceed 15 minutes, 30 minutes for breakdown • Prior the delivery of the shipment, it is prescribed to remove the PIL shipment from the temperature controlled zone as late as possible, estimated maximum time for that process should not exceed 5 minutes for transferring the shipment and 10 minutes for a delivery itself • In case of transit shipments, the estimated maximum time of loading/unloading RFS vehicles should not exceed 30 minutes
4. Aircraft loading and unloading	• All pharmaceutical shipments must be loaded and unloaded to/from aircraft as soon as possible. Estimated maximum time for that process should not exceed 30 minutes for wide body planes and 20 minutes for narrow body planes. • It is mandatory to protect the consignment from the high or low temperature, wind and rain. • It is prohibited to leave PIL cargo or ULD with PIL shipments in the immediate vicinity of heat or cold sources. • If it is possible, it is recommended to reduce the handling operation time to a minimum

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7.8 Perishable cargo (PER) (GRH 3.4.17)

	Remarks
1. General and acceptance	• Due to its nature, perishable cargo very often requires special packaging and handling procedures. • Perishable cargo means goods that deteriorate over a given period of time or if exposed to adverse temperature, humidity or other environmental conditions. • The acceptance and handling of perishable cargo shipments shall be in accordance with requirements of the IATA Perishable Cargo Regulations (PCR) and other applicable regulations • Perishable cargo shall only be accepted for carriage when it is certain beyond all reasonable doubt that it will reach its destination in good condition. • The shipper shall provide written instructions as to the maximum acceptable duration of transportation and of any special handling requires. These instructions shall be shown on the air waybill and the packages. • Foodstuffs, plant materials, hatching eggs and medical supplies are typical examples of perishable goods carried regularly as air cargo.
2. Foodstuffs (EAT)	• Foodstuffs shall not be loaded with toxic or infectious substances in the same compartment, unless they are loaded in separate ULDs not adjacent to one another. Foodstuffs shall not be loaded in close proximity to live animals or non-cremated human remains.
3. Hatching Eggs (HEG)	• Hatching eggs shall not be stowed in close proximity to carbon dioxide, solid (dry ice, ICE) and cryogenic liquids (RCL). Hatching eggs shall be separated from radioactive materials of Categories II and III.
4. Vaccines, Medical Supplies and Live Organs (LHO)	• Vaccines and medical supplies are normally shipped in packaging designed to protect and preserve the contents. Shipments should be treated as urgent cargo. • Short life radioactive isotopes, living human organs/blood (LHO) and life saving drugs shall be handled with extreme urgency. • Living human organs/blood (LHO) may be loaded in the same hold as radioactive materials of Categories II and III (Yellow label - RRY), provided that LHO is separated by the same distance as persons in accordance with the IATA DGR. Living human organs/blood (LHO) should be adequately separated from human remains in coffins (HUM). • If the shipment is packed in or with dry ice or if blood or organs are shipped as diagnostic specimens, they are regulated by the IATA DGR.
5. Flowers/Plants (PEF)	• Flowers shall be stowed in such a way that they have no direct contact with the compartment floor or walls. • Flowers should not be sowed in the same hold or ULD as fresh fruit and vegetables due to ethylene gas produced by vegetables which may destroy flowers.

6. Meat and Seafood/Fish Shipments (PEM/PES)	• Meat shall be packed in waterproof material and handled as wet cargo. • The strictest hygiene conditions shall be maintained during all stages of meat handling. • Fish shall be completely placed in watertight containers and handled as wet cargo. • Any wet ice used shall be sealed in its own watertight container • The temperature ranges for meat to be maintained are: ⇒ Fresh meat- between 0ºC and 5ºC, frozen meat below 12ºC (this requires use of refrigerated/ temperature controlled container) • The temperature ranges for sea food: ⇒ Fresh fish shall not exceed 5ºC, frozen fish shall not exceed 12ºC (this will require use of refrigerated/ temperature controlled container).
7. Fresh Fruit and Vegetables (PEP)	• When fresh fruit and vegetables are loaded in quantities which require stacking of ULDs, adequate precautions should be taken to ensure that airspace between the packages is possible. • The airspace is particularly important for fresh fruit and vegetables having high moisture content. • Due to the minimum packing requirements, proper precautions should be followed while loading fresh fruit and vegetables with general cargo.

7.9 Diplomatic Mail (DIP)

	Remarks
1. General	Diplomatic material may be carried as diplomatic cargo. Normal cargo documentation and handling procedures shall apply. Approval from LOT Cargo is required. Any employee who signs a receipt for a bag is fully responsible for the shipment.
2. Acceptance and documentation	A regular Air Waybill should be additionally provided with the note "Diplomatic cargo" or "Diplomatic mail".
3. Packing and labelling	Diplomatic cargo and mail is usually shipped in locked pouches or bags. In order to label bags properly and remove old tags adequate precautions should be observed.
4. Handling and loading	When diplomatic shipment arrives at the cargo terminal for acceptance, delivery or transfer, it shall be immediately checked against the Air Waybill and placed in an area secured against unauthorized entry. In the event a diplomatic shipment cannot be stored in the security area due to its size or other reasons, special arrangements shall be made for its security. Upon consignor's request, VUN handling can be applied accordingly.

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7.10 Valuable Cargo (VAL)

	Remarks
1. General	• Valuable cargo shall be handled as a separate type of cargo in accordance with the local regulations and security measures. • During the whole process of transportation of valuable cargo, high standard of security shall be maintained. • Any cargo agent, contracted supervisor or LOT Station Manager shall establish and control local procedures for safe handling and storage of valuable cargo. The security measures to be adopted within warehouses, during aircraft loading and unloading, customs clearance and ground transportation depend entirely on local regulations and conditions and should be arranged accordingly.
2. Acceptance, Storage and Delivery	• Advance arrangements shall be made prior to acceptance. • Pre-advice messages shall be sent to respective services at the destination point in order to receive confirmation of security arrangements relating to storage and delivery to the consignee. • Valuable cargo shall be stored in a locked high security area. Every visit to the high security storage area shall be registered (a limited number of persons may enter the storage area). • The arrival of valuable cargo during regular business hours will accelerate customs clearance and delivery. • Storage time should be as short as possible. • Information concerning value, contents, routing and storage shall be kept confidential and be available only to the authorised personnel directly. • The Air Waybill shall include a note "VAL" in the "Nature and Quantity" box. • Valuable cargo that arrives at the cargo terminal shall be immediately checked against the Air Waybill, condition of packaging and unique seal number mentioned on the VAL Shipment list and placed in the secured area. • Shipments record shall be stored by the carrier and should include: ⇒ AWB number; ⇒ number of pieces, seal numbers, date, time and name of the person who stores the shipment; ⇒ date, time and name of the person who removes the shipment from the security area. • The record must be countersigned by an authorised person. • Valuable cargo shipments shall be released by the carrier only during usual business hours unless special arrangements have been made with the carrier. • A receipt from the receiver shall always be requested and the identification of the receiver shall always be verified when a VAL consignment is delivered.
3. Stowage devices and loading preparation	• Any valuable cargo item shall be stowed into specially designed pouches whenever the dimensions of the item allow it. • A label with the airport of unloading and AWB number shall be attached to each poach.

	• The pouch should be made of bright orange canvas which can be locked or sealed.
4. Information	• The station management shall be informed in advance whenever valuable cargo is to be loaded. • The loading station shall give notice to the unloading station about transit regarding any valuable shipments. • The captain shall be advised in writing (NOTOC) of all valuable cargo shipments loaded.
5. Aircraft loading/ unloading.	• The person in charge of the ramp handling shall check the seals affixed to valuable cargo pouches before they are loaded in the cargo compartment. • Detailed procedures for the safeguarding of valuable cargo during unloading and delivery to the cargo terminal should be agreed locally between ramp handling and cargo handling. • The seals of valuable cargo pouches shall be checked prior to unloading by the authorised ramp handling personnel and any irregularity shall be noted. • In the event any item of valuable cargo shows signs of being tampered with or missing, it should be immediately considered as being stolen or pilfered and immediate action shall be taken pursuant to the agreed procedures.

7.11 Other Special Cargo

	Remarks
1. Wet Freight (WET)	• Wet cargo means any shipment which contains liquids or may produce liquids or lose large amounts of moisture. • The following types of cargo are to be considered as wet cargo: ⇒ Shipments of liquids in watertight containers; ⇒ Shipments of wet materials not packed in watertight containers e.g. fish packed in wet ice, fresh meat, casings (fresh animal guts), wet hides, skins, etc. ⇒ Goods that may produce liquid e.g. live animals.
2. Heavy Items (HEA) Outsized cargo (BIG and/or OHG) (GRH 3.4.15)	• The maximum permissible weight for each heavy item (HEA) depends on aircraft type, airport facilities (equipment and manpower) and scheduled ground times. • Prior the acceptance of HEA, big and/or OHG advance arrangements should be made to ensure that: ⇒ aircraft limitations are not exceeded ⇒ suitable ground handling equipment and manpower are available ⇒ handling can be performed within the scheduled ground times. GHM 3.13 and 3.14
3. Vulnerable cargo (VUN)	• Goods of no declared value which require security handling (such as unused airline documents, MCO, tickets, or other shipments particularly vulnerable to theft or pilferage) are defined as vulnerable cargo (see TACT Rules sub-section 1.5). • Security measures during loading/unloading and storage may be required by the carrier.
4. Fragile goods	• Fragile goods require special care in handling and a “FRAGILE” label should be affixed on all sides.

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7.12 Carriage of weapons and ammunition

	Rules
1. General rules	• Transportation of arms and ammunition as cargo is allowed solely on condition that the rules of country of dispatch, the destination country and transit countries approve of this. • Information on the above is contained in the IATA Dangerous Goods Regulations or ICAO Technical Instructions for The Safe Transport of Dangerous Goods by Air (Technical Instructions) including addenda and The Air Cargo Tariff Rules. • Ammunition can be accepted for transportation as cargo if the sender categorically abides by the requirements of IATA Dangerous Goods Regulations or ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions) as to the quantity, type of packing, adequate marking and description (Proper Shipping Name). • All cargo shipments containing arms and the ammunition must have confirmed reservations on the entire transportation route. The transit and destination airports must be informed by the handling agent on the type and quantity of transported arms and ammunition, its sender and addressee, and the date of transportation. • All shipments of this type must have import (export) permissions, and transit ones , if such are required • Such shipments, apart from transportation documents must be accompanied by the original or copy of the bill • Cargo shipments of arms and ammunition must have ensured security to the moment of it being taken over by the carrier. Following the carrier's takeover it must remain under special surveillance in accordance with the procedure implemented at given airport.. • Military and Dual Use shipment can be accepted only on point to point route. For example : military weapon can be accepted only on WAWJFK or LRHWAW. Military and Dual Use shipment are prohibited for transport with transit point – LHRWAW + WAWJFK • All military and dual use shipments must be pre-alerted to GHA before departure.

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7.13 Air Mail

	Remarks
1. General	• International airmail delivery is governed by the regulations introduced by the Universal Postal Union (UPU). The regulations are published in Universal Postal Convention. • The postal authorities have monopoly on delivering letters over respective territories and only post offices are authorised to deliver mail for air transportation. **Note:** Company mail, as important means of communication within the company is subject to special, strict regulations and procedures implemented by the airline.
2. Air mail documents	• The following documents are used to accept airmail for air transportation and account an airmail shipment: **CN 38 Delivery Bill** for air mail. **CN 41 Delivery Bill** for SAL shipments – surface air lifted. **CN 47 Delivery Bill** is used when empty airmail bags are returned to the post office of origin. Empty bags are carried free of charge if space is available, the service is performed by the same airline which delivered the mail and bags are labelled with a green tag (CN 35). • All above documents are issued by the dispatching post office.
3. Mail handling	• The amount of mail which is accepted for air transportation may be limited. • Prior to signing CN38/ 41, the airline or authority responsible for ground services shall examine all mailbags, packages, envelopes so as to check if: ⇒ shipment is in good condition, ⇒ shipment is accurately sealed and labelled with **CN 35 label** ⇒ mail is agreement with accompanying documents, ⇒ two copies of documents are inserted into an **CN45 envelope** and accompany the shipment – arrangements for additional copies should be made with the administration of origin. • Upon arrival, the incoming mail shall be checked against the respective documents and delivered without delay to the post office. • A postal administration desiring direct transhipment of its airmail between two different airlines at an airport in another administration's country shall provide the representative of the first airline with all relevant information.

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7.14 Company material

	Remarks
1.	Service cargo can only be used for company supplies such as spare parts, advertising material, documents, airline manuals, timetables, office material, catering supplies
2.	Service cargo is transported by LO services and in compliance with internal carrier's regulations.
3.	For all service cargo shipments a regular AWB shall be additionally provided with the note "Service cargo".
4.	Outgoing service cargo shipments in WAW shall be referred to LOT department responsible for presenting service shipments to customs clearance.
5.	For incoming service cargo shipments, ABWs shall be addressed to LOT Main Store department, with the indication of the department and person in charge as the final consignee.
6.	Service shipments subject to IATA DGR (e.g. paint, varnishes, fire extinguishers etc.) require usual procedure as for dangerous goods shipments - Shipper's Declaration is required. **Each person involved in DG transport shall be adequately trained.**
7.	All shipments shall always be accompanied with pro-forma invoices and other documents required for particular shipments and in accordance with local regulations.
8.	For interline shipments beyond the network of LO, necessary arrangements with participating airlines shall be and proper approvals shall be attached to the AWB.

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7.15 Company mail

1. Company mail is important means of communication between the company headquarter and handling agents, supervisors, representatives (Station Manager), general sales agents, international aviation organizations.
2. Offices dispatching company mail are held responsible for sending only acceptable articles.
3. Packages/envelopes are properly addressed, the weight of each package is acceptable pursuant to LO internal regulations.
4. Company mail can only be sent in co-mail sacks (sealed) with proper tag as below. If seal was removed for customs, security or border inspection, office dispatching company mail must be informed.



5. To facilitate handling, the weight limit of 7 kg per one co-mail sack should not be exceeded.
6. Co-mail sacks shall be provided with special tags with the point of destination.
7. All shipments shall be registered – two copies of register/ receipt form shall accompany each shipment
8. All shpiments shall be recored (record includes: full name of sender, organisational unit, content)
9. Offices dispatching company mail are held responsible for sending only acceptable articles and packages/ envelopes which are properly addressed. The weight of each package is acceptable pursuant to LO internal regulations.
10. All company mail shipments are subject to customs clearance
11. Station managers of the respective stations are responsible for obeying these rules while sending company mail.
12. Collected company mail shall be checked (content) and confirmed to office dispatching in time of 48 hours.
13. Company mail includes:
- office correspondence;
- airline revenue documents;
- flight documents;
- sales account statements;
- airline tickets;
- cargo documents;
- letters;
- instruction, manuals and similar publication;
- stationery material, forms, timetables; company advertising material, airline magazines.

14. Company mail excludes:
- any kind of dangerous goods (DGR);
- excessive weight (e.g. aircraft parts) is subject to special arrangements;
- items intended for private use;
- items that are subject to customs duties,
- computers and electronic devices,
- fraigle items.

15. Preparation of company mail

a) Comail out of company:
- Weight is set down by LOT;
- Package shall be addressed, weighed and put in proper sack;
- Sack is registered and sealed (each copy for: airport of departure, airport of arrival, cabin crew);
- Email confirmation shall be sent.

b) Comail to company from outstation:
- Weight is set down by sender
- Package shall be addressed, weighed and put in proper sack
- Sack is registered (each copy for: airport of departure, airport of arrival, cabin crew)
- Email confirmation shall be sent.

c) Company mail from WAW to the United States of America (JFK and ORD) – Customs and Border Protection
- Company mail shall be loaded in bulk hold (hold no. 5),
- Handling staff shall be informed about the company mail,
- When it arrives, the company mail is checked by customs service,
- Handling agent x-rays the company mail and delivers it to LOT Polish Airlines bureau. Exception: in Chicago company mail is x-rayed by cargo agent and delivered to LOT Polish Airlines office.

d) Company mail from the United States of America (JFK and ORD) to WAW - Customs and Border Protection
- Company mail is x-rayed by Transportation Security Administration and delivered on board,
- Email confirmation to Station Manager shall be sent after arrival to Warsaw Airport.

16. Company mail included in LDM message

Comail shall be included in LDM message as below.

Part of LDM message as example with comail details marked red:

LO537/13.SPEQF.C3P8Y64.2/3
-BUD.31/21/1/1.0.T686.6/267.7/413.0/6.PAX/3/3/47.PAD/0/0/0
.COM/0/6.EXP/6/2.DAA/6/1
SI DLW 19045 DLI 63.56 MACDL 32.53
LOAD IN CPTS 0/6 5/0 6/267 7/413
EXP/6/41/2PCS.PRAM/6/1PCE
CHECKED BAGGAGE PIECES BUD 6/C/4/P/7/Y/1 7/Y/25

Chapter 8 – Security

8.1 The Security Standards of LOT Polish Airlines 3/42
8.2 Recruitment and training 5/42
8.3 Definitions 7/42
8.4 Security procedures 9/42
8.4.1 Aircraft Security Search 9/42
8.4.2 Aircraft protection 11/42
8.4.3 Sealing procedure 13/42
8.4.3.1 Security seals used by LOT Polish Airlines and Sealing Reports 15/42
8.4.4 Passenger and baggage procedures 26/42
8.4.4.1 Passengers and baggage reconciliation procedures 26/42
8.4.4.2 Passengers and baggage (checked and cabin) screening 29/42
8.4.4.3 Screening of crew members and their baggage (checked and cabin) 31/42
8.4.4.4 Security procedures concerning passengers and their baggage checked-in outside the airport 31/42
8.4.5 Security procedures for cargo and mail 32/42
8.4.6 In-flight supplies check 38/42
8.4.7 Handling mail and carrier's materials 39/42
8.4.8 Passengers who violate rules of carrying 39/42
8.4.8.1 REFUSAL PASSENGER CARRIAGE - ON-GROUND DISTURBANCE INCIDENT REPORT / FLIGHT DISTURBANCE INCIDENT REPORT - see next page 40/42

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8.1. The Security Standards of LOT Polish Airlines

1. General	• The Security Program against acts of unlawful interference is a basic document containing principles and standards of ensuring appropriate level of security in accordance with all applicable domestic and foreign regulations. • Security procedures applicable for ground handling agent are contained in the Ground Handling Manual • In situations of increased threat level at the request of LOT Polish Airlines additional security measures to those described in the Ground Handling Manual may be introduced. Such a request will be provided to the agent by LOT Polish Airlines representative responsible for a given airport. • LOT Polish Airlines and handling agents' staff involved in activities concerning flight operations' preparation and performance are obliged to be familiar with security standards required by the air carrier in the scope appropriate to performed functions and implement those rules. • LOT Polish Airlines staff and all personnel performing duties for or on behalf of LOT Polish Airlines covering performance of security functions or requiring unescorted access to the security restricted area must be subject to initial and recurrent background checks in line with applicable national regulations and be trained in order to obtain necessary knowledge and skills in the scope of aviation security. • LOT Polish Airlines encourages reporting of any security breaches and security threats in order to increase overall level of security. In the event of any situation, which may indicate a real or potential security threat to the aircraft, flight or passengers, the following persons have to be notified immediately: ➢ local security staff. ➢ a representative of LOT Polish Airlines. ➢ an authorized employee of the agent providing, on behalf of LOT Polish Airlines, management and supervision over services supplied by handling agents (if a representative of LOT Polish Airlines is not available) • LOT Polish Airlines accepts additional security measures of other states. LOT Polish Airlines representative responsible for a given airport must be informed immediately in case such additional measures are introduced or requested and pass this information, if applicable, to the agent. • For flights to/from the United States LOT Polish Airlines follows U.S. authorities regulations of the Model Security Program For Foreign Air Carriers and applicable Emergency Amendments.

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8.2. Recruitment and training

1. General	Staff who have access to security restricted areas of an airport or is assigned to perform security controls must be subject to initial and recurrent background checks conducted in accordance with legal framework that establishes general criteria, including the right to appeal a negative decision about a person's suitability to enter a security restricted area without escort.	
2. Training requirements	All personnel involved in performance of security functions and controls must receive training sufficient to obtain necessary skills and knowledge and where necessary be certified to perform their functions prior assignment to those functions. Training covering security duties related to performed functions shall recur at least every 5 years. In case of re-qualification for personnel become unqualified for any reason, they shall be subject to relevant security training for specific group according to point 8.2.3. GHM, prior their reassignment to perform their operational duties.	
3. THE SCOPE OF TRAINING	In the European Union countries, training programs in scope of aviation security shall follow standards listed in Commission Implementing Regulation (EU) 2015/1998 as minimum and be adequate for performed tasks and be in line with national requirements. In the non-EU countries, involved personnel shall receive proper security training in relevant scope to ensure that tasks and duties related to passengers, baggage, cargo and mail, supplies and aircraft security are performed in line with international standards and recommendations, with respect to ICAO AN17 and national requirements.	
	Reference to Commission Implementing Regulation (EU) 2015/1998 of 5 November 2015 laying down detailed measures for the implementation of the common basic standards on aviation security	**GROUP TO TRAIN**
Security awareness	11.2.6.	Persons other than passengers requiring unescorted access to security restricted areas (airport badge holders)
Aircraft access control	11.2.3.7.	Persons implementing aircraft protection (handling agent personnel)
Passenger and baggage reconciliation	11.2.3.8.	Persons implementing baggage reconciliation (handling agent personnel)
Access to secured cargo and mail	11.2.3.9.	Persons implementing security controls for cargo and mail other than screening (cargo agent personnel)
Access to secured in-flight supplies	11.2.3.10.	Persons implementing security controls for air carrier mail and materials, in-flight supplies and airport supplies other than screening (handling agent & catering personnel)
Supervision over implementation of security procedures	11.2.4.	Persons directly supervising persons implementing security controls (supervisors)
Aircraft security search	11.2.3.6.	Persons implementing aircraft security searches
4. Retention of documentation	All subcontractors must store record of security trainings of staff for a period of at least 5 years.	

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8.3. Definitions

1. Aviation security	the combination of measures and human and material resources intended to safeguard civil aviation against acts of unlawful interference that jeopardize the security of civil aviation
2. Aircraft security log	Set of security related documents and forms placed in the aircraft cockpit
3. Aircraft security search (GRH 3.7.2)	an inspection of the interior and accessible exterior of the aircraft in order to detect prohibited articles and unlawful interferences that jeopardize the security of the aircraft
4. Aircraft security check (GRH 3.7.2)	an inspection of those parts of the interior of the aircraft to which passengers may have had access, together with an inspection of the hold of the aircraft in order to detect prohibited articles and unlawful interferences with the aircraft;
5. Prohibited articles	means weapons, explosives or other dangerous devices, articles or substances that may be used to commit an act of unlawful interference that jeopardizes the security of civil aviation;
6. Access control	the application of means by which the entry of unauthorized persons or unauthorized vehicles, or both, may be prevented;
7. Account consignor	a consignor who originates cargo or mail for its own account and whose procedures meet common security rules and standards sufficient to allow carriage of that cargo on all-cargo aircraft or mail on all-mail aircraft only;
8. Critical part of security restricted area	designated by the airport operator, part of the security restricted area that is covered by the access control and screening executed to all persons entering this part which includes at least: a) any part of the airport to which departing passengers, including their cabin baggage, after screening have access, b) any part of the airport through which, hold baggage after screening may be transported or in which it may be held, if the baggage have not been physically secured;
9. Security restricted area	that area of airside where, in addition to access being restricted, other aviation security standards are applied;
10. Known supplier of in-flight supplies	in the European Union, a supplier implementing security rules sufficient to allow delivery of in-flight supplies to an air carrier or a regulated supplier, but not directly to an aircraft;
11. Known consignor	a consignor who originates cargo or mail for its own account and whose procedures meet common security rules and standards sufficient to allow carriage of cargo or mail on any aircraft;

12. Landside	area of an airport including buildings at the airport to which access is not restricted;
13. Passenger violating rules of transport (unruly passenger)	the person who, from the moment aircraft doors are closed before the take-off until doors are open after landing through the behavior: a) threatens the public order or safety of other persons and property on board an aircraft or; b) impedes the crew member execution of duties or decreases the ability to execute duties on board an aircraft; c) damages the aircraft, its interior, equipment or parts thereof or d) violets rules related to the safety of flight operations.

8.4. Security procedures

8.4.1. Aircraft Security Search (GRH 3.7.2)

	Remarks
1. General rules	• „Aircraft Security Search" shall be completed, anytime there is a reason to believe that unauthorized persons had an access to the aircraft. • „Aircraft Security Search" shall be performed anytime when it is required by the air carrier, national regulations or the Appropriate Authority decision at the airport where the aircraft departs. • All security searches of the aircraft are performed following disembarkation of all employees providing services (catering, cleaning, duty free goods deliveries and others) whose activities are not connected with security functions, and the integrity is maintained until and during passenger embarkation and prior to departure. • In case any item that may be suspected of being use to commit an act of unlawful interference is found (during aircraft security search) it is recommended to remain cautious (do not touch, do not move) and pass on the information to the supervisor or the pilot-in-command who forwards this information to the ground coordination services or directly to the security services at an airport. • In case the flight is endangered or upon request of the air carrier specialized security personnel performs „Aircraft Security Search" • Areas searched may be secured with tamper-evident seals in order to maintain integrity of the search. In such cases, if a seal has not been tampered with from the moment it has been placed on the aircraft the area secured with such a seal need not to be searched again. • If any unauthorized person has had access to the area subjected to search such an area has to be searched again in order to ensure that no prohibited item that could endanger the flight has been placed in it. • A comprehensive inspection of the interior of the aircraft, including the passenger cabin area, seats, overhead luggage lockers, toilets, galleys and other technical areas such as the flight deck. The focus is on areas that are readily accessible without the use of common tools. To facilitate the search, panels that can be sealed are sealed, to show their integrity has not been compromised.

2. Responsibility and performance	• A pilot in command is a responsible for ensuring that aircraft security search was performed if it is required. • Aircraft security search is performed by the crew in cooperation with: ➢ handling agent – responsible for searching of hold or ➢ by other entity authorized to perform tasks related to the aircraft security search.
3. Scope of the aircraft security search	• In case the handling agent searches specific area(s) of the aircraft the scope required by the air carrier will be communicated directly to the agent representative by the LOT representative responsible for a given airport. In case the handling agent conducts the aircraft hold search or the search of any other area completion of this task must be reported to the cockpit crew.
4. Documents	• The pilot in command confirms completion of aircraft security search after at least an oral confirmation received from persons responsible for searching of relevant areas. • Confirmation is recorded in the Aircraft Technical Report (LDP-60) of the Aircraft Technical Log in the part described as ASS. • Local regulations may additionally require fulfilling additional document. • Record of a search is stored on the ground at the departure point for at least 24 hours after the aircraft departure.

8.4.2. Aircraft protection (GRH 3.7.1)

	Remarks
1. General Rule	• All staff and vehicles having unescorted access to the airport security restricted area, to the aircraft or to its vicinity must be authorized to be present in those areas in accordance with local airport regulations Authorization for persons means holding of a valid identification card. • The identification card must be placed in a visible place on the front of the outer garment at all times whilst a person is present in an airport security restricted area. • Access to the aircraft must be controlled at all times to prevent access of unauthorized persons to its cabin or hold and introduction of prohibited articles • Following persons only have access to aircraft: - authorized airline representatives (including LOT Station Manager and supervising personnel) - air crew members - employees carrying out handling activities, - maintenance personnel and other activities related to the aircraft operation - security personnel and law enforcement officers (police, border guard, customs, contracted security agency, , etc.) other persons may only access aircraft if accompanied and continuously monitored by the above • Without any delay handling agent staff must report to the crew and airport security service cases of unauthorized access to the aircraft located at the parking position. • In case of an overnight stay, the aircraft doors and the doors of cargo compartments shall be locked (if technically possible) or closed and sealed (not obligatory for EU airports if the aircraft is parked in the critical part of the airport security restricted area). The aircraft may also be sealed on the commander´s request. Sealing is done by the crew or contracted partner/handling agent, as stated in the appropriate agreement. Ground service equipment (GPU, stairs, ladders, boarding bridges) must be removed from the aircraft and placed in a sufficient distance from the aircraft. • If possible the aircraft shall be parked away from the perimeter fence or any other easily penetrable barriers and in a well illuminated area. • It is forbidden to leave the aircraft without ensuring physical protection or securing its doors in accordance with GHM 8.4.2.2

2. Performance	➢ The access control is executed by the physical presence on board or in the vicinity of the aircraft. Personnel who is responsible for executing access control is obliged to check the authorization of person(s) trying to gain access to the aircraft. Access control might be executed also by application of technical protection measures, e.g. by closing aircraft and hold doors and removing access aids (stairs, jet-ways); ensuring that no unauthorized person will enter the aircraft cabin or hold ➢ Securing the aircraft in case it is left for the stopover is performed by the handling organization with whom LOT has signed an appropriate contract covering ➢ handling services, or ➢ maintenance servicing. ➢ Additional access control measures apply to aircraft during turnaround whenever needed in accordance with local requirements (e.g. US or Indian airports) or with risk assessment conducted by LOT Security Department. This will be communicated to the handling agent directly by the LOT Polish representative responsible for the given airport. ➢ Access control to an aircraft left for the stopover that is not protected by the physical presence of the person(s) on board or in the vicinity of the aircraft shall be executed and controlled in the following manner: ➢ external doors are closed **and** jet-ways and/or stairs are placed in a sufficient distance (jet-ways/stairs need not to be kept away if the aircraft is parked in the critical part of the security restricted area) **or**; ➢ external doors and other required areas are closed and sealed **or** ➢ external doors are closed **and** sealed **and** jet-ways and/or stairs are removed from aircraft – only if required by local regulations or requested by the LOT representative. ➢ Are searched prior to parking to ensure no persons are on board;
3. Area of responsibility	• While at crews' disposal entrance to the aircraft cabin is protected by the crew • During the period of standard ground handling or maintenance activities the oversight and access control to the aircraft is the responsibility of the entity performing its duties at the aircraft. • Once ground handling activities are completed the flight coordinator or other ground service staff member ensures that the aircraft is left with door closed.
4. Documents	• If the aircraft is subject to sealing a relevant record - Aircraft Sealing Report shall be maintained.

8.4.3. Sealing procedure

	Remarks
1. Procedure description	• Locations of security seals (sealing points) are provided in the Aircraft Sealing Report. **Note:** **Location of security seal attachment is a marked point on the aircraft exterior or interior.** • Prior to attaching the security seal, the sealing point must be prepared so as to ensure the seal becomes permanently attached to the surface. • If an area subject to sealing has a seal already attached and it is intact a new seals does not have to be placed. Number of existing seals must be recorded in the appropriate field of the Aircraft Sealing Report. • If seals were attached seals numbers are recorded (in Aircraft Sealing Report) and a record is stored by the organization responsible for sealing or by the LOT representative at the departure airport for a period of at least 3 days from the day of the departure of the aircraft. • While opening the aircraft seals shall be checked for signs of tampering and their number shall be checked with a record of seals used for an aircraft sealing. • Forms to be used for sealing purposes are contained in this part of the GHM. Additional forms are placed on board aircraft in the "Aircraft Security Log". Seals used for aircraft protection shall be tamper-evident, individually numbered and protected against unauthorized access wherever they are stored.
2. Broken, Defectives seals	• If during the de-sealing a lack of seal or broken seal is detected or the number of a seal(s) does not correspondent to the sealing report person who performs check of seals informs directly or through a supervisor: ➢ airport security services, ➢ Station Manager or the agent supervisor, ➢ the aircraft pilot-in-command, Station Manager or agent supervisor pass this information to the Duty Manager at the WAW Operation Center. • An aircraft may be allowed to perform a flight after a search is conducted by the crew or security personnel authorized by airport procedures in above-mentioned situation and after receiving the confirmation that a search has revealed no threat to the aircraft.

3. Seal distribution	• Station Manager or contracted agent sends a written request of security seals at least one week before delivery to the: handling.materials@lot.pl, The unit verifies and authorizes the order of the person to obtain seals and sends requested quantity to warehouse. • Ordered security seals are sent by Co-mail. • The stock of seals shall be delivered to the unit performing aircraft sealing.
4. Seal storage	• Security seals shall be protected against unauthorized access at any point they are stored, while its use shall be recorded in the inventory. • If security seals have been lost or stolen, the person who keeps the inventory of seals will immediately notify the Station Manager or the Supervising Agent who will take measures aimed at preventing unlawful use of seals, i.e.: ➢ withdraw the stock from inventory, ➢ make a record of the lost seal numbers, ➢ reports to the Regional Manager of such an incident.
5. Exceptions	• It is allowed to use other seals of the Agent who performs aircraft security sealing during overnight parking if they conform with the conditions specified in the point 8.5.3.1.

8.4.3.1 Security seals used by LOT Polish Airlines and Sealing Reports

Security seals used to seal aircraft during parking

Example



Untampered seal specimen

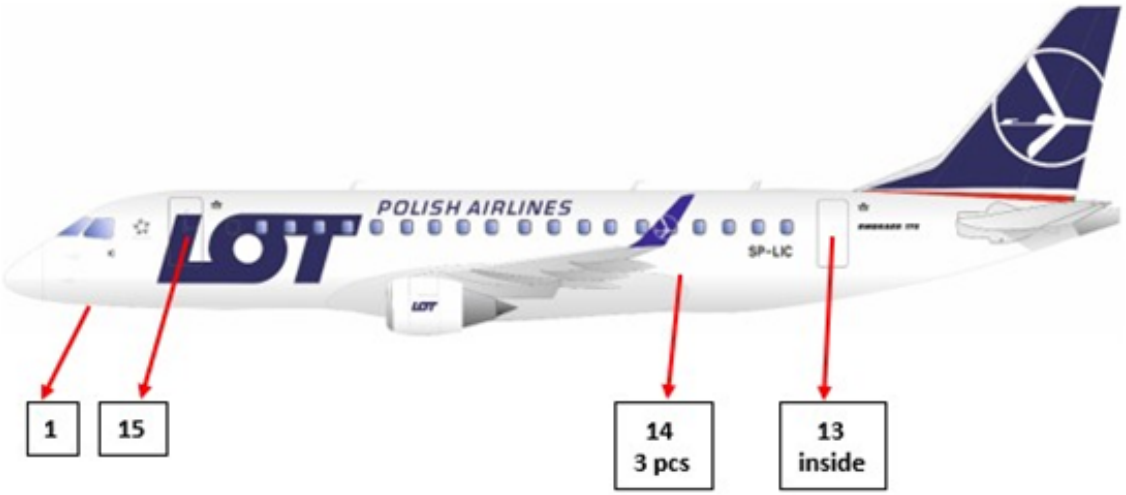


Specimen of seal with traces of tampering

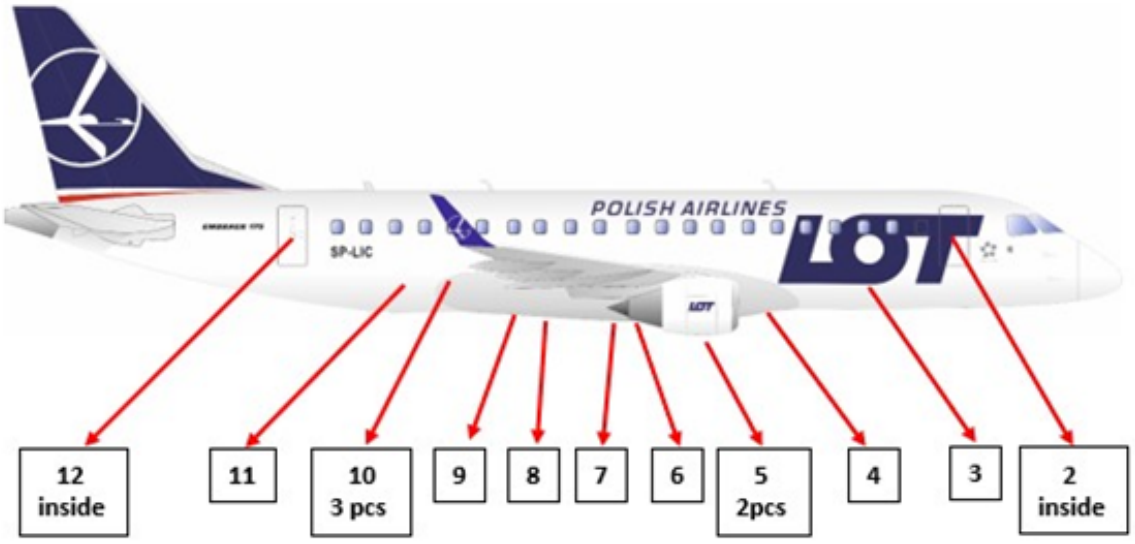
SEALING REPORT

Samolot / Aircraft ERJ 170-100/200

Strona lewa / Left side



Strona prawa / Right side



SEALING REPORT

Samolot / Aircraft
ERJ170 – 100/200

Znaki rejestracyjne Registration	Data/Godz. Date/Time	Port Lotniczy Airport	Stanowisko Parking Stand	Podpis Signature

Strefa Zone N°	Drzwi Doors	Plomba założona/ Installation of security seal		Plomba zdjęta/ Removal of security seal		
		Numer N°	Podpis Signature	Sprawdzenie Check	Data/Godz. Date/Time	Podpis Signature
1	Przedni luk elektroniczny/ Forward Electronic Compt.					
2	Drzwi serwisowe-przednie/ *Plombować wewnątrz* Forward Service Door / *Seal inside*					
3	Drzwi bagażnika-przednie/ Forward Cargo Door					
4	Luk serwisowy Air Conditioning / HP Connection					
5	Luk serwisowy – 2 szt. Water Drain Valve Access – 2 pcs.					
6	Luk serwisowy Engine Fire Extinguishing Bottles Access					
7	Luk serwisowy Middle Avionics Compt.					
8	Luk serwisowy System II Hydraulic access					
9	Luk serwisowy System I Hydraulic access					
10	Środkowe luki techniczne - 3 szt. Middle Technical Compt. /Right side/-3 pcs					
11	Drzwi bagażnika-tylne/ AFT Cargo Door					
12	Drzwi serwisowe-tylne/ *Plombować wewnątrz* AFT Service Door / *Seal inside*					
13	Drzwi wejściowe-tylne/ *Plombować wewnątrz* AFT Entry Door / *Seal inside*					
14	Środkowe luki techniczne - 3 szt. Middle Technical Compt. /Left side/-3 pcs					
15	Drzwi wejściowe-przednie/ Forward Entry Door					

Uwagi/Remarks:_____

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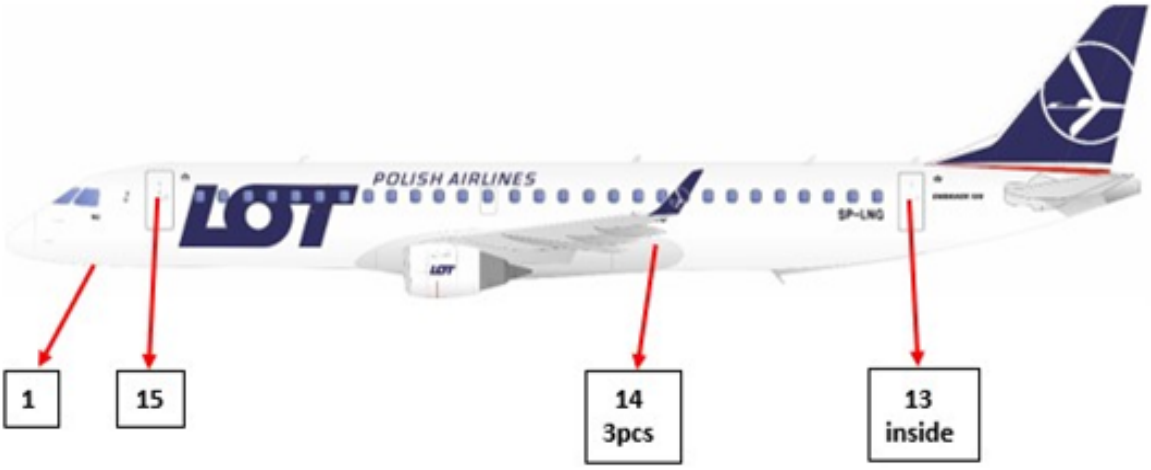
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Data/Date:..... Podpis/Signature:.....

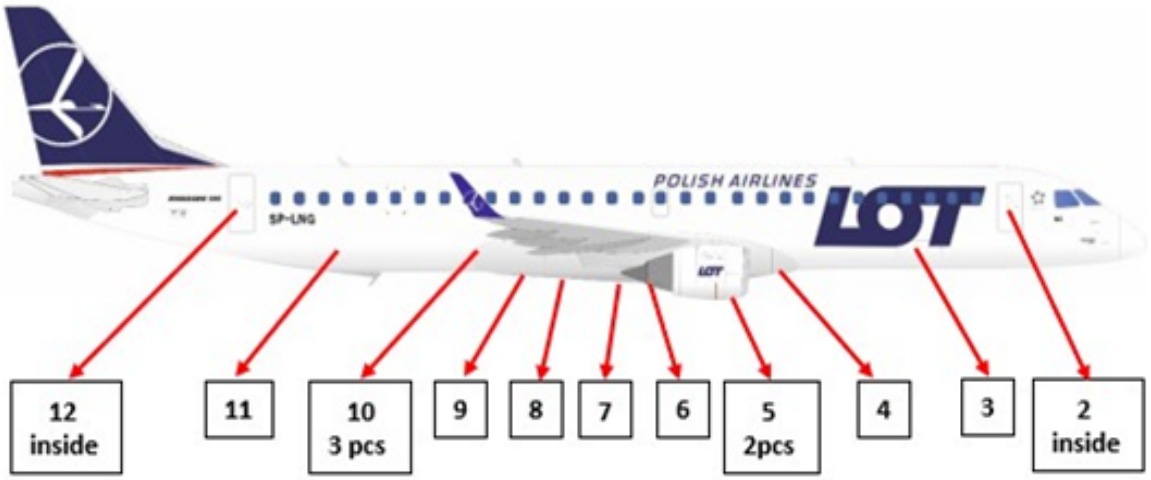
SEALING REPORT

Samolot / Aircraft ERJ 190-100/200

Strona lewa / Left side



Strona prawa / Right side



SEALING REPORT

Samolot / Aircraft
ERJ190 –100/200

Znaki rejestracyjne Registration	Data/Godz. Date/Time	Port Lotniczy Airport	Stanowisko Parking Stand	Podpis Signature

Strefa Zone N°	Drzwi Doors	Plomba założona/ Installation of security seal		Plomba zdjęta/ Removal of security seal		
		Numer N°	Podpis Signature	Sprawdzenie Check	Data/Godz Date/Time	Podpis Signature
1	Przedni luk elektroniczny/ Forward Electronic Compt.					
2	Drzwi serwisowe-przednie/ *Plombować wewnątrz* Forward Service Door / *Seal inside*					
3	Drzwi bagażnika-przednie/ Forward Cargo Door					
4	Luk serwisowy Air Conditioning / HP Connection					
5	Luk serwisowy – 2 szt. Water Drain Valve Access – 2 pcs.					
6	Luk serwisowy Engine Fire Extinguishing Bottles Access					
7	Luk serwisowy Middle Avionics Compt.					
8	Luk serwisowy System II Hydraulic access					
9	Luk serwisowy System I Hydraulic access					
10	Środkowe luki techniczne - 3 szt. Middle Technical Compt. /Right side/-3 pcs					
11	Drzwi bagażnika-tylne/ AFT Cargo Door					
12	Drzwi serwisowe-tylne/ *Plombować wewnątrz* AFT Service Door / *Seal inside*					
13	Drzwi wejściowe-tylne/ *Plombować wewnątrz* AFT Entry Door / *Seal inside*					
14	Środkowe luki techniczne - 3 szt. Middle Technical Compt. /Left side/-3 pcs					
15	Drzwi wejściowe-przednie/ Forward Entry Door					

Uwagi/Remarks:_____

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_____

Data/Date:..... Podpis/Signature:.....

SEALING REPORT

Samolot / Aircraft Boeing 737-700/800/MAX

Strona lewa / Left side



Strona prawa / Right side



SEALING REPORT

Samolot/Aircraft Boeing 737-700/800/MAX

Znaki rejestracyjne Registration	Data/Godz. Date/Time	Port Lotniczy Airport	Stanowisko Parking Stand	Podpis Signature

Strefa Zone N°	Drzwi Doors	Plomba założona/ Installation of security seal		Plomba zdjęta/ Removal of security seal		
		Numer N°	Podpis Signature	Sprawdzenie Check	Data/Godz. Date/Time	Podpis Signature
1	Nosowy luk techniczny/ Nose Compartment Door					
2	Przedni luk elektroniczny/ Forward Electronic Compt.					
3	Drzwi bagażnika-przednie/ Forward Cargo Door					
4	Panel klimatyzacji /prawa/ A/C Pack Bay /right side/					
5	Drzwi bagażnika-tylne/ AFT Cargo Door					
6	Panel klimatyzacji /lewa/ A/C Pack Bay /left side/					
7	Drzwi serwisowe-przednie/ *Plombować od wewnątrz* Forward Service Door/ *Seal from the inside*					
8	Drzwi serwisowe-tylne/ *Plombować od wewnątrz* AFT Service Door/*Seal from the inside*					
9	Drzwi wejściowe-tylne/ *Plombować od wewnątrz* AFT Entry Door/*Seal from the inside*					
10	Drzwi wejściowe-przednie/ Forward Entry Door					

Uwagi/Remarks:_____

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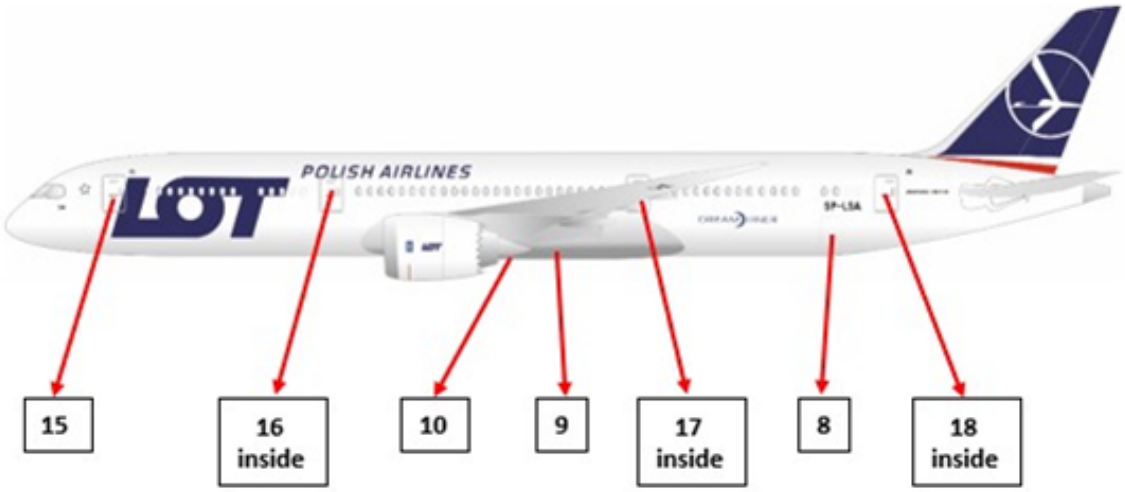
Data/Date:.....

Podpis/Signature:.....

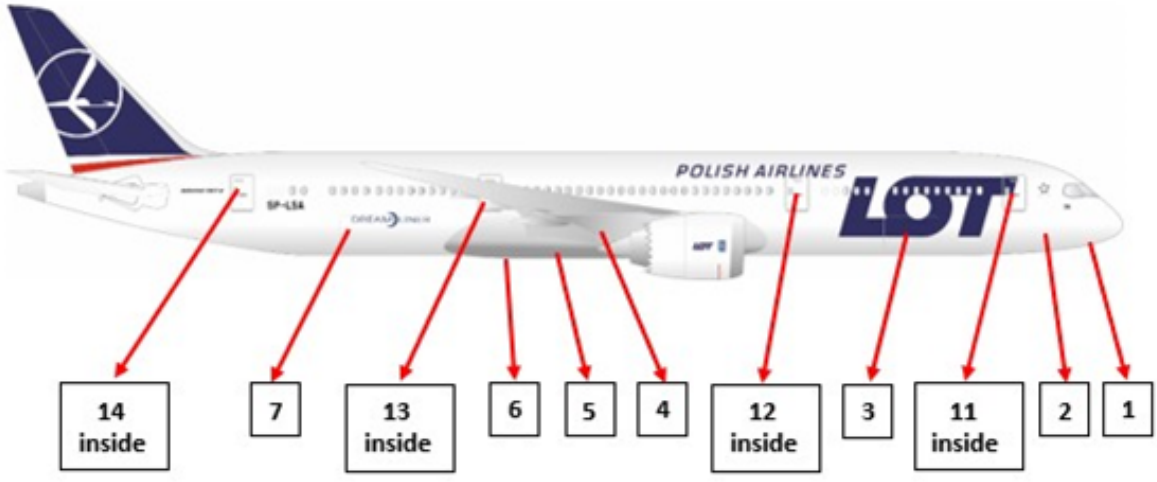
SEALING REPORT

Samolot / Aircraft Boeing 787-8/9

Strona lewa / Left side



Strona prawa / Right side



SEALING REPORT

Samolot/Aircraft B787-8/9

Znaki rejestracyjne Registration	Data/Godz. Date/Time	Port Lotniczy Airport	Stanowisko Parking Stand	Podpis Signature

Strefa Zone N°	Drzwi Doors	Plomba założona/ Installation of security seal		Plomba zdjęta/ Removal of security seal		
		Numer N°	Podpis Signature	Sprawdzenie Check	Data/Godz. Date/Time	Podpis Signature
1	Luk techniczny przedni / Forward Access Door					
2	Luk serwisowy przedni / Forward EE Access Door					
3	Bagażnik przedni / Forward Cargo Door					
4	Center fuel tank sump drain door /right/					
5	Otwieranie osłon podwozia /prawe/ MLG door release handle /right/					
6	Luk serwisowy tylny / Aft EE Access Door					
7	Bagażnik tylny/ AFT Cargo Door					
8	Bagażnik tylny-lewa strona/ AFT Cargo Door-Left Side					
9	Otwieranie osłon podwozia /lewe/ MLG door release handle /left/					
10	Center fuel tank sump drain door /left/					
11	Drzwi wejściowe 1R/ *Plombować od wewnątrz* Forward Entry Door 1R /*Seal from the inside*					
12	Drzwi wejściowe 2R/ *Plombować od wewnątrz* Entry Door 2R / *Seal from the inside*					
13	Drzwi wejściowe 3R/ *Plombować od wewnątrz* Entry Door 3R / *Seal from the inside*					
14	Drzwi wejściowe-tylne 4R / *Plombować od wewnątrz* AFT Entry Door 4R / *Seal from the inside*					
15	Drzwi wejściowe 1L/ Forward Entry Door 1L					
16	Drzwi wejściowe 2L/ *Plombować od wewnątrz* Entry Door 2L / *Seal from the inside*					
17	Drzwi wejściowe 3L/ *Plombować od wewnątrz* Entry Door 3L /*Seal from the inside*					
18	Drzwi wejściowe-tylne 4L / *Plombować od wewnątrz* AFT Entry Door 4L / *Seal from the inside*					

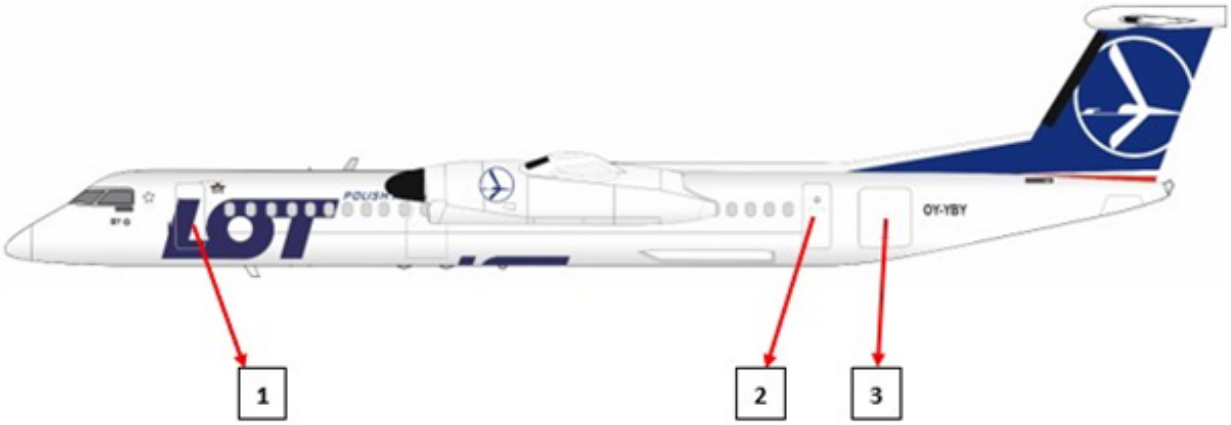
Uwagi/Remarks:_____

Data/Date:..... Podpis/Signature:.....

SEALING REPORT

Samolot / Aircraft DHC-8-400

Strona lewa / Left side



Strona prawa / Right side



SEALING REPORT

Samolot / Aircraft DHC-8-400

Znaki rejestracyjne Registration	Data/Godz. Date/Time	Port Lotniczy Airport	Stanowisko Parking Stand	Podpis Signature

Strefa Zone N°	Drzwi Doors	Plomba założona/ Security seal installed		Plomba zdjęta/ Removal of security seal		
		Numer Number	Podpis Signature	Sprawdzenie Check	Data/Godz. Date/Time	Podpis Signature
1	Drzwi wejściowe-przednie/ FWD Entry Door					
2	Drzwi wejściwe tylne/ AFT Entry door					
3	Drzwi bagażnika tylnego/ AFT Cargo Door					
4	Drzwi serwisowe-tylne/ AFT Service Door					
5	Wyjście awaryjne – prawe/ Emergency exit - right /Right side/					
6	Drzwi bagażnika- przedniego/ FWD Cargo Door					

Uwagi/Remarks:

Podpis/Signature:…….
Data/Date:…….

8.4.4. Passenger and baggage procedures

8.4.4.1. Passengers and baggage reconciliation procedures

	Remarks
1. General rules	• Persons allowed to be transported on board are genuine passengers only. • Each piece of hold baggage must be identified as a baggage assigned to a passenger of transported as a unaccompanied baggage (expedite/rush) • It is forbidden to transport baggage of no-show or withdrawn passenger unless appropriate security controls for unaccompanied hold baggage are applied. • Identification of hold baggage is performed: ➢ on request of the aircraft commander, ➢ on request of the air carrier or authorities responsible for transport security, ➢ if there is reasonable doubt whether all pieces of hold and cabin baggage belonging to the passenger who have not board or was withdrawn the aircraft at transfer/transit airport were off-loaded.
2. Procedures to be performed by handling agent (GRH 3.7.7)	• Passengers must be checked for validity of required travel documents at the check-in. • Passengers must be issued with the boarding card or its equivalent in order to be granted access to the security restricted area of the airport. • At the boarding gate passenger boarding card or its equivalent must be checked to confirm its validity and assignment of a passenger for the flight. • Passenger's identification card or passport shall be checked at the gate if: ➢ it is required by national regulations at the departure airport ➢ in case of doubts on authenticity of a boarding card or the identity of boarding card holder ➢ during boarding of flights to United States of America and Canada ➢ requested by the LOT representative responsible for a given airport • An oversight over passengers must be ensured from gate to entering the aircraft. • Agent must ensure that the number of checked-in passengers matches the number of passengers admitted on board with no-show or passenger withdrawal situations taken into account. • Each hold baggage piece must be attached a bag tag that containing: ➢ passenger's name or equivalent identification allowing to assign each bag to a passenger, ➢ flight number, ➢ bag tag number, ➢ flight destination, • The number of bags checked-in must be correspondent to a number of bags loaded for transport to the aircraft holds (with consideration of the delivery-at-aircraft bags) • The oversight over hold baggage after screening until loading it into the hold must be ensured to prevent unauthorized access to passengers' baggage • "Delivery at aircraft" baggage must be clearly identifiable with a passenger

	to whom it belongs. Each piece of such baggage shall hold a tag with passenger name, flight number and destination • In case a passenger did not board a flight or was withdrawn from a flight and his/her baggage was checked-in such baggage must not be allowed to be transported. It must be off-loaded. • If there is any doubt involving the off-loading of the baggage of the no-show/withdrawn passenger, the entire baggage on board the aircraft must be off-loaded, then by means of identification of the baggage by all passengers the baggage of the no-show/withdrawn passenger will be identified. • In case of the electronic departure control system failure procedure of passenger and baggage check-in and boarding must ensure meeting of general rules concerning reconciliation. • Materials used for passengers and baggage processing must be stored under supervision or locked. Misprinted materials are invalidated or destroyed. • Each agent shall use its individual login number for the purposes of using automatic departure control system. After finishing of check-in and/or boarding users shall log-off. • Unaccompanied hold baggage shall be attached with a bag tag allowing for clear identification of such baggage as unaccompanied and subject to additional screening before its transport on board an aircraft. • Special check-in procedures might apply to certain categories of passengers or passengers travelling to certain destinations (for example to the United States of America). This will be communicated to the handling agent directly by the LOT Polish representative responsible for a given airport.
3. Baggage identification activities:	• Off-load hold baggage from the aircraft holds and line it up in a manner enabling all passengers identification, • Request passengers to identify their baggage before reboarding the aircraft, • Verify (to be done by the handling agent) the number contained on the bag tag attached to the hold baggage piece with bag tag attached to the boarding card of the passenger, • Load the baggage onto the aircraft hold according to the loadsheet. **Note:** Any baggage remaining following identification must be handed over immediately to appropriate security services.
4. Transfer and transit baggage (GRH 3.7.3)	• During an aircraft transit stopover, the hold baggage of passenger may remain in the hold only in the case of the baggage being assigned to a passenger who continues flight. • Passengers disembarking at transit stop must have their boarding card stubs verified or be otherwise confirmed in order to ensure that their flight finishes at transit stop. • Prior to aircraft departure it must be checked whether all transit passengers who continue their flight have returned on board. • Should any passenger fail to board the flight or was withdrawn from the flight his/her baggage must be off-loaded. • In case of a transfer hold baggage it may be directly loaded into the hold for a subsequent flight if it was confirmed to the next leg in the departure

	control system • Screening at transfer airport is applicable for the hold baggage if it is required by the local regulations at transfer airport.

8.4.4.2. Passengers and baggage (checked and cabin) screening

	Remarks
1. Aim and scope of screening passengers cabin and hold baggage.	• The condition of admitting passengers on board is screening of all persons and personal belongings, as well as all pieces of cabin and hold baggage. • Screening of passengers and their baggage is aimed at preventing weapon and other prohibited items being carried on board, that could be used for the act of unlawful interference jeopardizing the security of the flight, passengers and crew, and that of the aircraft. • All passengers, their personal belongings and all pieces of hold baggage must be screened otherwise they cannot be boarded/loaded onto the aircraft. • Passenger who refuses to be screened or/and does not consent for cabin baggage screening must not be allowed on board an aircraft. Such a person shall be handed over to local security personnel or local law enforcement. • In accordance with the stipulations of the Vienna convention on diplomatic relations, of April 18, 1961 (Official Journal No.37 of 1965), diplomats and diplomatic couriers together with their cabin and hold baggage undergo security screening in line with the procedures binding at the airport of departure.
2. The scope of passengers and baggage screening covers: (GRH 3.7.10; GRH 3.7.11)	• Checking whether the passenger has on his body or in his baggage and personal belongings any items prohibited for carriage. • Ensuring conditions in which passengers and their cabin baggage, that have been already screened, will not be accessible by other passengers who have not been screened to the standard accepted at the airport of departure. • Screening of transfer hold baggage unless national regulations at transfer airport allow such a transfer hold baggage not to be screened prior to loading it into the hold for subsequent flight. • Specific rules allowing to transfer hold baggage without it being subject to screening may be communicated to the handling agent directly by the LOT Polish representative responsible for a given airport.
3. Screening procedures	• Airport authorities or other authorities assigned with responsibility according to national regulations are responsible for organizing a security screening system for passengers cabin and hold baggage prior to aircraft boarding. • At airports located in the European Union rules for screening shall be in line requirements set forth in European Union regulations. At other locations rules for screening shall be in line with National Civil Aviation Security Program. • Security screening of passengers and their cabin baggage prior to aircraft boarding is performed by local security services. • In case of detected mixing of screened passengers with unscreened passengers all departing passengers must be rescreened. • If any unscreened passenger or any passengers who mixed with unscreened passenger and was not rescreened has had access to the aircraft, the crew shall be informed on the necessity to perform aircraft security search. • Hold baggage transported as an unaccompanied baggage must be screened with use of additional measures in comparison to accompanied hold baggage.

	• Special screening procedures might apply to certain categories of passengers/baggage or passengers/baggage travelling to certain destinations (for example to the United States of America). This will be communicated to the handling agent directly by the LOT Polish representative responsible for a given airport
4. Screening of diplomats and the diplomatic mail	• Members of official delegations, enumerated on confirmed lists of invited guests, who are paying visits at the invitation of the President of the Republic of Poland, the Prime Minister of the Polish Republic, the Parliament, Senate and Members of the Council of Ministers – do not undergo screening • Diplomatic mail clearly marked with the designators of given state will not be subject to screening, on condition that it is sealed, and the person in possession of the diplomatic mail presents identification and authorization for transportation of diplomatic mail. • Should there be any suspicion that the contents of the consignment constituting diplomatic mail pose a hazard to the aircraft security its transportation will be denied.
5. Exemptions of screening	• In accordance with national Polish regulations following official representatives of the Republic of Poland may be exempted from security screening prior to boarding LOT Polish Airlines aircraft: ➢ President of the Republic of Poland, Marshal of the Senate, Marshal of the Sejm, the Prime Minister of the Polish Republic, vice Marshal of the Senate and Sejm, the Members of the Council of Ministers as well as all those persons who are protected by the state security services – do not undergo screening ➢ officers of organizational units subordinate to or supervised by the Prime Minister, minister competent for internal affairs and soldiers of the Military Police during activities related to ensuring protection of the persons mentioned above. • Without prejudice to above-mentioned rules national regulations locally binding in the country of departure may allow exemption from security screening other officials
6. Protection of hold baggage (GRH 3.7.7; GRH 3.7.9)	• Screened hold baggage must be stored in an area to which only screened persons have access or be under supervision ensuring its protection against unauthorized access. • Hold baggage stored in the critical part of the security restricted area of the airport in the European Union is considered to be protected • A passenger may have access granted to his/her screened hold baggage only under supervision of handling agent and security service responsible for screening otherwise hold baggage and a passenger must be rescreened. • Expedite/rush baggage must be protected from unauthorized access. • All facilities used for unaccompanied baggage storage shall be equipped with a lock or protected in a way ensuring protection against unauthorized access. • If it is permitted by local national authorities to screen hold baggage outside an airport or in the public area of the airport such a baggage after being screened is immediately physically secured in a way that ensures no unauthorized person will have an access to it and no items would be introduced into it.

8.4.4.3 Screening of crew members and their baggage (checked and cabin)

	Remarks
1. General rules:	• In order to be granted access to the security restricted area of an airport crew member holds the crew identification card containing following information: ➢ the name and photograph of the holder; and ➢ the name of the air carrier; and ➢ the word "CREW" in English; and ➢ the expiry date • Airline crews prior to entering the security restricted area of an airport undergo standard screening. • Cabin baggage and any belongings carried by these persons are screened. • Crews' hold baggage undergoes security screening in line with general principles. • The crew identification cards are issued according to following templates: 1) For cockpit crew:   2) For cabin crew:  
2.Special cases concerning carriage of certain Dangerous Goods	• As a general rule, dangerous goods must not be carried by the air-crew or passengers in checked or carry-on baggage, with the exception of items listed in the Table 2.3.A IATA DGR (see 6.5.).

8.4.4.4 Security procedures concerning passengers and their baggage checked-in outside the airport

	Remarks
1. General Rule	LOT Polish Airlines allows off-airport check-in of a hold baggage unless it is forbidden pursuant to local regulations.
2. Procedure: (GRH 3.7.7)	• The hold baggage checked in at locations off an airport has to be marked in the same manner as the baggage checked at the airport. • Authorized staff transports hold baggage to an airport in a way that ensures protection against access of unauthorized persons. • Off-airport checked in hold baggage is subjected to screening at the screening point at an airport. • If it is permitted by local national authorities to screen hold baggage outside an airport or in the public area of the airport such a baggage after being screened is immediately physically secured in a way that ensures no unauthorized person will have an access to it and no items would be introduced into it.

8.4.5. Security procedures for cargo and mail (GRH 3.7.4)

	Remarks
1. General rules	• Cargo and mail may be transported by air only if appropriate security controls were applied. • At airports in the European Union (including Switzerland, Norway and Iceland) security controls for cargo and mail are described in applicable European Union aviation security regulations. • For the cargo transported from airports on the territory of United States of America (USA) or to USA security procedures described in the Foreign Air Carrier Model Security Program and relevant Emergency Amendments apply. • At other airports cargo and mail must be transported and handled in line with ICAO Annex 17 standards, National Civil Aviation Security Program and air carrier instructions. • Cargo can be transported by air only following acceptance by personnel authorized by the carrier. • Cargo and mail must be screened or accepted as secured cargo from the regulated agent or known consignor. • After accepting cargo for transportation it must be protected against the unauthorized access that could result in changing the content of a consignment until loaded on board an aircraft.

2. Procedures to be applied under cargo regulated agent regime – for EU airports	• Prior to being loaded on board an aircraft all cargo and mail shall be subjected to appropriate security controls. • Air carrier does not accept cargo or mail for carriage unless it has applied such controls itself or application of such controls was confirmed and accounted for by a regulated agent, a known consignor or an account consignor. • All cargo and mail at acceptance shall be verified as cargo originating from a regulated agent, known consignor, account consignor or unknown cargo • All cargo must be checked visually at the time of acceptance for damages, exposed wires, leaks or any other signs that may indicate such cargo could pose a threat during air transportation, • At the time of acceptance a photo identification card of person delivering cargo must be checked to establish his/her identity. • If cargo is delivered by truck it must be checked that the trucker/haulier is authorized to deliver cargo on behalf of a regulated agent. • For cargo received by a regulated agent as secure cargo from a regulated agent or a known consignor status of deliverer must be verified in a EU Database on Supply Chain Security of Regulated Agent and Known Consignors. • Cargo received from an account consignor may only be accepted as secure cargo if the account consignor was approved by the regulated agent. • Cargo accepted from an account consignor is allowed for transportation only on all-cargo aircraft otherwise it must be screened. • Cargo received from any other source than a regulated agent, known consignor or account consignor must be 100% screened before loaded onto the aircraft. • Cargo consignments need not be screened if security controls were applied by another regulated agent or a known consignor and these consignments were protected from unauthorized access from the moment when security controls have beed applied. • Cargo consignments need not be screened if security controls were applied by an account consignor and after they were applied shipment was protected against unathorized access and it is not intended to be carried on board of a passenger aircraft. • Regardless of a deliverer/haulier if cargo shows signs of tampering it must be screened prior to loading to the aircraft. Should tampering be significant cargo shipment must be screened in accordance with high risk cargo and mail procedures described in the High risk cargo and mail section • Cargo screening means checking of consignments for the presence of explosive or incendiary devices or other items or devices that could jeopardize safety of the aircraft • Cargo screening takes place by use of following methods: ➢ Hand search ➢ X-ray equipment ➢ Explosive Detection System ➢ Explosive Detection Dogs ➢ Explosive Trace Detection Equipment

	➢ Metal detector ➢ Visual check ➢ Other methods on condition they are approved by the Appropriate Authority • Method of screening used shall be most effective taking into consideration the nature of cargo and shall ensure sufficient level of probability of detecting prohibited articles in cargo and mail. • Security controls applied shall result in assigning cargo with a security status. • After application of security measures consignment shall be accompanied by the documentation (separate or on an airway bill, electronic or hardcopy) indicating information on security status: ➢ unique alphanumeric identifier of the regulated agent that issued a security status and additionally site specific name and address of this agent ➢ regarding inbound cargo only from Third countries (excluding Argentine Republic, Canada, Commonwealth of Australia, Federative Republic of Brazil, Guernsey, Hong Kong – Special Administrative Region of PRC, Isle of Man, Japan, Jersey, New Zealand, People's Republic of China, Republic of Chile, Republic of Korea, Republic of Singapore, Republic of South Africa, State of Israel, Taiwan, United States of America, Faroe Islands, Greenland, French Polynesia, New Caledonia, Saint-Barthélemy, Saint-Pierre-et-Miquelon, Wallis And Futuna, Montenegro and Serbia) – unique alphanumeric identifier for LOT Polish Airlines ACC3 station or RA3 designated for specific location ➢ the air waybill number ➢ description on the content of consignment ➢ indication SPX for cargo secure for air transportation ➢ indication SCO for cargo secure for transportation with all-cargo aircraft only ➢ indication SHR for cargo secured in line with high-risk cargo requirements ➢ indication KC if cargo was received from a known consignor ➢ indication AC if cargo was received from an account consignor ➢ method(s) of screening applied ➢ reason for exemption from screening (if applicable) ➢ name (or equivalent identifier) of person issuing a security status ➢ date and time the security status was issued ➢ site specific name and address and/or unique identification number of the regulated agent that accepted the security status issued to a consignment by another regulated agent • Exemptions from screening are allowed only for specific types of cargo allowed by national regulations on condition they originate from reliable source and are accompanied by documentation confirming consignment status.

	• After screening cargo shall be protected from unauthorized interference and access to the cargo shall be limited to persons directly involved in handling and protecting of cargo. • Cargo accepted to be transported by air is protected against access of unauthorized persons throughout its transportation to the aircraft. • Storage of cargo in the critical part of the security restricted area of an airport in the European Union is considered to ensure sufficient level of protection • All doors of cargo warehouses located at place other than in the critical part of the security restricted area of an airport must be locked or be under constant surveillance in order to prevent access to these premises by unauthorized persons. • Rules described for cargo transportation apply also to mail transportation on board passenger aircraft. • Staff with access to cargo subjected to appropriate security controls shall be subject to background check
3. Cargo exempted from screening	• At locations in the EU: ➢ time-sensitive live-saving materials and bio-medical materials if they originate from a reliable source and are attached with the appropriate documentation ➢ nuclear materials if they originate from a reliable source and are attached with the appropriate documentation ➢ shipments of less than 6 mm thickness and 250 g weight ➢ transfer and transit shipments with the exemption of cargo transported to the US ➢ diplomatic mail or bags – if allowed by the national appropriate authority • Reliable source means organizations in case of which a regulated agent confirmed its address, type of conducted activity, contact data of person responsible for a shipment, tax identification number. • At other locations exemptions from screening are described by local regulations.
4. Transfer and transit shipments to US	• Is always subject to screening at the last point of departure airport and unless otherwise requested by the air carrier **NOTE:** Screening at the last point of departure is not required for transfer and transit cargo arriving from airports located in EU, Switzerland, China, Norway, Iceland, Israel, UK, South Korea and Japan if: a) shipments are controlled according to the requirements (see point below) b) Security Declaration (on the AWB or as separate document – see point below) is attached as a must. Shipments originating from Somalia, Syria, Yemen and Egypt must not be loaded onto aircraft hold at the last point of departure in flights to US.
5. Specific procedures for cargo loaded at other locations than EU, US, Canada, Switzerland, China, Norway, Iceland,	• Prior to be loaded on board an aircraft, all cargo and mail shall be subject to appropriate security controls. • Air carrier does not accept cargo or mail for carriage unless it has applied such controls itself or application of such controls was confirmed and accounted for by the regulated agent or cargo

Israel, UK, South Korea and Japan airports	• At the time of acceptance a photo identification card of person delivering cargo must be checked to establish his/her identity. • All cargo must be checked visually at the time of acceptance for damaged, exposed wires, leakages or any other signs that may indicate such cargo could pose a threat during air transportation, • Cargo must be screened prior to loading to the aircraft if appropriate security controls were not applied by the regulated agent. • Cargo screening takes place by use of: ➢ X-ray equipment ➢ Hand search ➢ Explosive Detection Dogs ➢ Trace Detection Equipment ➢ Metal detector ➢ Other methods on condition they are approved by the Appropriate Authority • Cargo screening means checking of consignments for the presence of explosive or incendiary devices or other items or devices that could jeopardize safety of the aircraft • Cargo screening takes place by use of physical or technical measures that are most effective taking into consideration the nature of cargo and shall ensure sufficient level of probability of detecting prohibited articles in cargo and mail. • After screening cargo shall be protected from unauthorized interference and access to the cargo shall be limited to persons directly involved in handling and protecting of cargo. • Staff performing security controls shall have completed aviation security training relevant to performed functions. • After being screened cargo or mail shipment shall be attached with a Security Declaration on the AWB or as a separate document. This declaration must include: ➢ Name of the regulated agent or warehouse agent ➢ AWB number ➢ Security status of the shipment (SPX, SCO or SHR where SPX means cargo screened and secure for transport on the passenger aircraft, SCO – means cargo exempted from screening as received from an account consignor and transported on all-cargo aircraft only, SHR – means cargo screened to the high-risk cargo requirements) ➢ Reason for assigning a security status: KC – if not screened due to reception form a known consignor; indication what screening methods were applied; indication that a shipment was exempted from screening due to one of the reasons contained in the Declaration ➢ identification (name or equivalent identification) of the person filling in the Declaration, date and time • Once copy of the Declaration is sent with the cargo documentation and the other one remains in the airport where cargo was loaded and is stored for at least 24 hours after the aircraft departs.

<table>
<tr><td></td><td>
Security Declaration
<table>
<tr><td colspan="4">LOT Polish Airlines Security Declaration (Unique Alphanumeric Identifier of LOT Polish Airlines ACC3 station - if applicable)</td></tr>
<tr><td colspan="3">Agent Name and Unique Alphanumeric Identifier of EU Regulated Agent or RA3)</td><td>……</td></tr>
<tr><td colspan="2">SPX ☐</td><td>SCO ☐</td><td>SHR ☐</td></tr>
<tr><td colspan="3">Screening method

☐ X-RAY/EDS equipment

☐ MAN/ Hand search, visual check

☐ EDD/ Explosive detection dogs

☐ ETD/ Trace detection

☐ MD/ Metal detector</td><td>☐Received from Reg. Agent/Known Consignor

☐ Exempted from screening (ICAO rules):

☐ (life saving items)
☐ (medical items)
☐ (nuclear mat.)
☐ (life animals)
☐ (VAL)
☐ (diplomatic mail)
☐ (human remains)</td></tr>
<tr><td>Date:</td><td>Time:</td><td>Name:</td><td>Signature:</td></tr>
</table>
</td></tr>
<tr><td>6. Procedures for high-risk cargo and mail</td><td>
• High risk cargo and mail are consignments for which the air carrier ordered the cargo agent to ensure additional screening as described below.
• For the screening of high risk cargo and mail following methods must apply:

a) explosive detection system of EU Standard 2, or
➢ x-ray in combination with a hand search, and/or

b) combination of:
➢ explosive trace detectors (with samples taken from both – inside and outside of the shipment);
➢ explosive detection dogs

with hand search, x-ray screening or explosive detection system.
• For cargo and mail of a weight between 250 - 500 g a dual view x-ray or conventional x-ray where a shipment is screened at two different angles.
• Information on categories of cargo subject to treatment as high-risk cargo and mail is provided to the cargo agent by authorized LOT representative (Ground Regional Manager or Security Manager) and is immediately applicable
</td></tr>
</table>

8.4.6. In-flight supplies check

	Remarks
1. General rule	In-flight supplies are subjected to screening or other security controls and must be protected thereafter until being loaded onto the aircraft.
2. Procedure for in-flight supplies	• at EU airports in-flight supplies shall be screened before introduced into the security restricted area of an airport unless: ➢ the required security controls have been applied to the supplies by an air carrier that delivers these to its own aircraft and the supplies have been protected from unauthorized interference from the time that those controls were applied until delivery at the aircraft; or ➢ the required security controls have been applied to the supplies by a regulated supplier and the supplies have been protected from unauthorized interference from the time that those controls were applied until arrival at the security restricted area or, where applicable, until delivery to the air carrier or another regulated supplier; or ➢ the required security controls have been applied to the supplies by a known supplier and the supplies have been protected from unauthorized interference from the time that those controls were applied until delivery to the air carrier or regulated supplier. • at EU airports any in-flight supply received from a regulated supplier or a known supplier that shows signs of being tampered with, or where there is reason to believe that it has not been protected from unauthorized interference from the time that controls were applied, shall be screened. • at EU airports when screening in-flight supplies, the means or method employed shall take into consideration the nature of the supplies and shall be of a standard sufficient to reasonably ensure that no prohibited articles are concealed in the supplies. • at EU airports a regulated supplier of in-flight supplies shall: ➢ appoint a person responsible for security in the company; and ➢ ensure that persons with access to in-flight supplies receive security awareness training before being given access to these supplies; and ➢ prevent unauthorized access to its premises and in-flight supplies; and ➢ reasonably ensure that no prohibited articles are concealed in in-flight supplies; and ➢ apply tamper-evident seals to, or physically protect, all vehicles and/or containers that transport in-flight supplies. This does not apply during airside transportation. • Staff performing security controls shall have completed aviation security training relevant to performed functions, • Knife control policy shall be established, • at NON-EU airports in-flight supplies shall be subjected to security controls in line with local requirements. In-flight supplies shall be as a minimum checked for the presence of prohibited items by visual inspection of catering carts, supply trolleys including side panels, doors, undercarriages, and dry ice compartments as well as by randomly pulling

	minimum of 50% if all trays and/or drawers from each catering cart and conducting a visual inspection for signs of tampering and items that do not belong or by screening all catering carts and supply trolleys with use of X-ray machine. Immediately after conducting the inspection or screening of catering carts, supply trolleys and rest of catering supplies, each cart must be sealed with tamper-evident seals prior to loading the cart into the transport vehicle. Seals shall be individually numbered, registered and kept in secure conditions. Only entitled staff (security trained) have had access to the supplies and seals. Prior to loading catering carts, supply trolleys, sealed items and catering supplies into the transport vehicle, vehicle's interior section must be visually inspected. After loading, access doors of the transport vehicle must be sealed, while seals must be cross-checked prior to opening the doors at the aircraft stand.

8.4.7. Handling mail and carrier's materials

	Remarks
1. General rule	• Transportation of air carrier mail and materials onto the aircraft, following security control procedure, is carried out under air carrier's supervision. • Prior to carrying them, LOT's mail and materials if loaded into the hold, must be screened to the same standard as hold baggage or subjected to security controls applicable for cargo, courier and express parcels. • Prior to carrying them in the aircraft cabin, LOT's mail and materials must be screened to the same standard as required for cabin baggage.

8.4.8. Passengers who violate rules of carrying (GRH 3.1.5 i.; GRH 3.1.6)

1. Rules to follow while tackling conflicts before rollway from the gate/pushback	• Passengers who are violating public order or misbehave prior to being boarded shall not be allowed to board the aircraft by the ground personnel. • A passenger must be turned away when: ➢ looks tipsy, intoxicated, drowsy from drugs, or may otherwise be a threat to the safety of the flight; and/or ➢ behaves indecently or causes disturbance; and/or ➢ presents behavior that is dangerous to oneself or other passengers' and crew members'.
2. Person authorized refusal passenger carriage	• Pilot-in-command, Station Manager or authorized agent representative at the appropriate airport; Person taking the decision to refuse boarding of a passenger must fill in and sign REFUSAL PASSENGER CARRIAGE - ON-GROUND DISTURBANCE INCIDENT REPORT / FLIGHT DISTURBANCE INCIDENT REPORT It is allowed to use handling agent's form, provided that the report contains the required information, the same as in the LOT REFUSAL PASSENGER CARRIAGE form (p.8.4.8.1). Nevertheless, it is recommended to use the LOT form.

3. Procedure	• The situation of refusal passenger carriage requires that steps must be taken which fall under the rules of turning a passenger and his baggage from the flight. • In a situation where the rejected passenger keeps on misbehaving indecently in public or disturbs public order, such fact shall be reported to the local enforcement for further intervention.
4. Circulation of the report	CIRCULATION OF REFUSAL PASSENGER CARRIAGE – ON-GROUND DISTURBANCE INCIDENT REPORT / FLIGHT DISTURBANCE INCIDENT REPORT a) If the refusal passenger carriage decision has been taken by Ground Handling personnel, LOT Polish Airlines Station Manager or supervisor keeps the original of the Report, and within 24hrs, pass Report scan or photo via e-mail address: lot.security@lot.pl. Copy of the Report might be also passed directly to Crew of the flight. b) If the refusal passenger carriage decision/State Security Service call decision has been taken by Pilot-in-Command, Captain is obliged to pass Report to Operational Center, from where it is received by designated employee of aviation security unit. Report is registered and passed to the unit responsible for legal matters, which undertakes the decision on further legal action towards a passenger. c) Copy of the Report might be passed to State Security Services which intervened upon request.
5. Examples of passenger misbehaviour	• tobacco smoking apart from designated areas; • alcohol abusing; • mouth assail (row, insult) a passenger or a crew member; • taking a wrong seat (vide boarding card) and refusal to give the seat; • indecent behavior or making passes to passengers or crew members; • other forms of behavior that disturb passengers and flight personnel or have impact on flight safety

8.4.8.1 REFUSAL PASSENGER CARRIAGE - ON-GROUND DISTURBANCE INCIDENT REPORT / FLIGHT DISTURBANCE INCIDENT REPORT - see next page

POLSKIE LINIE LOTNICZE LOT A STAR ALLIANCE MEMBER

ODMOWA PRZEWOZU PASAŻERA – RAPORT ZE ZDARZENIA / RAPORT ZE ZDARZENIA NA POKŁADZIE SAMOLOTU W CZASIE LOTU *

REFUSAL PASSENGER CARRIAGE - ON-GROUND DISTURBANCE INCIDENT REPORT / FLIGHT DISTURBANCE INCIDENT REPORT *

Wypełnia Dowódca Statku Powietrznego/członek Personelu Pokładowego lub osoba podejmująca decyzję odmowy przewozu pasażera w 1egz.
Has to be filled in by the Captain/Cabin Crew Member or person responsible for refusal carriage in 1 copy

** niewłaściwe skreślić / delete not applicable*

Data / Date	Nr rejsu / Flight No.	Lotnisko/Trasa / Airport/Route	Nr PNR/miejsca / PNR/seat No.

Imię i nazwisko pasażera, rodzaj i numer dokumentu tożsamości oraz narodowość /

Passenger's full name and Travel Document details and nationality

_____

Nr PESEL (jeśli n/d - data i miejsce ur.), adres (jeżeli znany) / PESEL number (if n/a - birth date and place), address (if known)

_____

Imię i nazwisko Dowódcy Statku Powietrznego lub osoby podejmującej decyzję o odmowie przewozu /

Full name of Captain or person responsible for passenger boarding refusal from the flight

_____

Stanowisko służbowe i jednostka organizacyjna / Position and organizational unit _____

Krótki opis przebiegu zdarzeń (w tym podjęte środki). Jeśli jest to konieczne proszę dołączyć ciąg dalszy opisu na kolejnej stronie /

Incident brief description (including measures taken). Use additional page if required.

_____

_____

_____

_____

_____

_____

_____

Świadkowie zdarzenia: pracownicy/pasażerowie (imię i nazwisko, nr miejsca, adres, nr tel. i dok. tożsamości) – jeśli to możliwe /

Witnesses: employees/passengers (Full name, seat No., address, phone numer, Travel Document details) – if possible

_____

_____

_____

_____

Interwencja służb lotniskowych lub państwowych / Airport or State Services intervention

☐ **NIE / NO** ☐ **TAK / YES** - proszę doprecyzować nazwę służby – jeśli dotyczy / please indicate name of the service if applicable _____

Podpis Dowódcy Statku Powietrznego lub osoby podejmującej decyzję o odmowie /

Captain's signature or signature of person responsible for barring the passenger from the flight

_____

POLSKIE LINIE LOTNICZE

A STAR ALLIANCE MEMBER

ODMOWA PRZEWOZU PASAŻERA – RAPORT ZE ZDARZENIA / RAPORT ZE ZDARZENIA NA POKŁADZIE SAMOLOTU W CZASIE LOTU *

REFUSAL PASSENGER CARRIAGE - ON-GROUND DISTURBANCE INCIDENT REPORT / FLIGHT DISTURBANCE INCIDENT REPORT *

INSTRUKCJA UŻYTKOWANIA

1. Refusal passenger carriage – on-ground disturbance incident Report / Flight disturbance Report might be use in following situations:
   a) when passenger is not allowed to be board because of his/her behavior which may endanger the flight;
   b) when it is necessary to apply means of coercion and/or to call the Airport/State Security Services to de-board unruly passenger
2. The decision might be taken by:
   a) Pilot-in-Command;
   b) Station Manager/LOT's Airport Service Manager at the airport or designated person in cooperation with Pilot-in-Command;
   c) Authorized handling agent at the Airport where LOT's representative is not present, in cooperation with Pilot-in-Command.
3. Carriage refusal of passenger who's behavior may endanger the flight is an obligation of ground handling personnel. It is obligatory when passenger:
   a) causes the threat towards own health/life or towards health/life of people around;
   b) disturbs public order;
   c) gives cause for depravation/offence in public place;
   d) creates the suspicion of being under influence of alcohol, drugs or other substances;
   e) creates the suspicion that may endanger the flight or health/life of crew members and/or passengers (e.g. because of the aggressive behavior)
4. In the description of occurrence, it is necessary to include following elements:
   a) occurrence characteristic (verbal aggression, physical aggression, sexual harassment, moral offence, depravation in public place, public order disturb, insubordination to flight attendant commands or Pilot-in-Command order, etc.);
   b) occurrence circumstances (occurrence between passenger and crew member, between passengers, with use of weapon of dangerous item, property damage, safety threat, health/life threat);
   c) cause of occurrence (if known; e.g.: alcohol/drugs/other substances, cabin baggage, use of cell phone or other electronic devices against commands of crew, disregard of smoking ban, disregard of sign "fasten your seat belts", etc.).
5. If, despite the warnings, passenger does not subordinate to crew member commands, Pilot-in-Command makes decision to apply available means of coercion to eliminate negative behavior (threat) and to call the Airport/State Services to de-board unruly passenger (regardless of the situation occur before take-off or during a flight and regardless of the necessity of changing the flight plan (landing at the nearest possible Airport) or not).
6. **Person who makes decision of carriage refusal/Pilot-in-Command fulfill the report with capital letters.**
   a) If the decision was made by ground handling personnel, the original of report should be kept, and within 24hrs, send a copy/scan to: lot.security@lot.pl.
   b) Copy of the report may be given to Service which intervent (if applicable) upon request.
   c) If the decision was made by Pilot-in-Command, PIC is obliged to deliver the Report do Operation Center (from where will be pick up by aviation security unit employee, then registered and passed to legal unit.

Chapter 9 – Emergency

9.1 Emergency response procedure 3/6
9.1.1 Handling agent responsibility in case of emergency 4/6

9.2 Emergency contacts 5/6

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9.1 Emergency response procedure (GRH 3.6.1; GRH 3.6.2)

1. General rules	• If emergency situation occurring during ground operations, evacuation of an aircraft could be necessary. • It is a duty of the local handling agent to have filled an up-to –date Station Emergency Response Plan or at least Notification List appropriate for the location concerning the emergency situations. • The safety of passengers and staff shall be the highest priority • Decision and method of evacuation depends on: ➢ local circumstances ➢ discretion of captain ➢ discretion of designated authority
2. Responsibilities	Each service provider involved shall ensure that personnel are made aware of their specific responsibilities in the event of emergency situation: ➢ instructions shall be given, ➢ procedures must clearly define responsibility for directing passengers and staff to safe assembly area as appropriate to the type of emergency and conditions at the time ➢ special training in case of emergency as a must
3. Types of emergency:	• Fuel spill **Procedure:** Activate Emergency fuel shut-off Notify the Commander or designated authority, Emergency services and Airport Authority Evacuate all persons, if required Contain spill by use of initial spill response kit Secure the area More details: see Chapter 4, point 4.13.4 • Aircraft fire **Procedure:** Notify the Commander or designated authority, Emergency services and Airport Authority If directed – evacuate passengers and staff Attempt to extinguisher the fire Secure the area • Dangerous Goods Incidents **Procedure:** Notify the Commander or designated authority, Emergency services and Airport Authority Evacuate all persons if required Secure the area, isolate the consignment and identify source. More details: see Chapter 7 point 7.4.4 • Security incident Assess threat and follow the appropriate procedures Evacuate all persons if required Aircraft/equipment to be positioned as directed

4. Safety precautions to be considered during emergency:	• Items must not be used: ➢ electrical devices, ➢ PEDs (portable electronic devices) ➢ camera's including flushes • All vehicle movement shall be prohibited • Area shall be secured and complied with the services directions • Potential ignition sources shall be controlled

9.1.1 Handling agent responsibility in case of emergency

Step	Action
1.	Alarm and mobilise all agent staff.
2.	Work under LOT Station Manager control.
3.	Support Station Manager in all duties contained in Station Emergency Response Plan LOT Polish Airlines.
4.	Secure all flight documents.
5.	Support Station manager in 'Official Passengers List Process'.
6.	If needed represent Station Manager in: • Airport Emergency Centre, • Family Care Centre, • Uninjured Passenger Centre, • Site of Accident, • Hospitals;
7.	Organise and supervise transportation for: • returning passengers, • families, • LOT staff.
8.	Organise and supervise refreshments for: • uninjured passengers, • persons awaiting passengers, • families and all LOT Staff
9.	Organise hotel accommodation for: • passengers, • families, • staff
10.	Organise communication between Station and Accident Site
11.	Organise lounges for: • passengers, • persons awaiting passengers, • families

9.2. Emergency contact list

Case	Contacts
1. In case of emergency handling agent shall immediately contact:	a) LOT Polish Airlines – Operation Centre Warsaw , Poland, SITA: WAWOOLO e-mail: ops.dm@lot.pl tel. +48 22 6067774 ; +48 22 6066612 fax. +48 22 8461185 b) LOT Polish Airlines local Station Manager
2. In case regarding Emergency Response Planning, handling agent should contact:	a) Emergency Response Planning Department, e-mail: kryzys@lot.pl tel. +48 22 6069501 fax. +48 22 6066603

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Chapter 10 – Communication

10.1 Communication Channels 3/21
10.1.1 Priority of Communication Channels 3/21
10.1.2 Contact list in LOT Polish Airlines 4/21
10.2 Messages 5/21
10.2.1 Movement Message (MVT) 5/21
10.2.1.1 Movement message elements 5/21
10.2.1.2 Distribution of Movement Messages 7/21
10.2.2 Load message (LDM) 7/21
10.2.2.1 Load message elements 8/21
10.3 SITA Message Distribution 9/21
10.4 Delay Codes 13/21
10.4.1 Subcodes main rules 13/21
10.4.2 List of delay codes and subcodes used by LOT Polish Airlines 14/21

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10.1 Communication Channels

The following are communication channels within the LOT Polish Airlines:

1. Telephone	• For urgent messages and where time does not permit the use of telex, use telephone connections, also if no other communication is specified.
2. Telex: SITA (Société Internationale de Télécommunications Aéronautiques)	• Whenever a SITA Telex connection is available, this shall always be used as the recognised general communication channel. • The SITA-system was founded for telecommunication between airline companies and/or airline handling companies as well as tour operators, etc. The network at the disposal of SITA members is composed of circuits leased from administrators or private operating agencies. The SITA-system is the most economical and timesaving communication system. To operate the SITA-system make sure that you are familiar with all formats and procedures required and that you adhere strictly to them at all times. • The Station Managers are responsible for establishing the SITA addresses to which messages shall be sent at their individual airports and forwarding the obtained information to the LOT Polish Airlines Operation Centre at Warsaw. • All messages shall be sent to the next destination(s) and always to the appropriate headquarters Department in Warsaw. A detailed list of SITA addresses of all stations is contained in Part 10 -Communication of this manual.
3. Telex AFTN	• If no SITA is available, the AFTN may be used (only for communication with Operation Centre Warsaw. AFTN address-EPWALOTO).
4. Telefax	• When sending material per Telex would be very time consuming, material may be faxed.
5. Company Utility Channel VHF and HF	• This communication channel is to be used for company communication between aircraft and ground station.
6. Internet and e-mail	• This communication channel is to be used for company communication between departments and stations abroad.

10.1.1 Priority of Communication Channels

	General rules:
1.	All communication, regardless of the channel, shall be limited to business use in a professional fashion and be as brief as possible.
2.	Generally, the following is the order of use when safety or operational necessity does not override the cost considerations from least to most expensive.

10.1.2 Contact list in LOT Polish Airlines

Operational Contacts

	Phone	Mobile phone	Fax	SITA	AFTN	e-mail
Operations Control Center *24/7*						
Shift manager	(+48 22) 606 66 12	(+48) 536 36 3123	(+48 22) 846 11 85	WAWOOLO		ops.dm@lot.pl
Coordinator	(+48 22) 606 66 95			WAWOOLO		ops.control@lot.pl
	(+48 22) 606 77 74					
Flight planning *24/7*						
Flight planning	(+48 22) 606 66 88			WAWOALO	EPWALOTO	dispatch@lot.pl
Flow control position / ATC slots	(+48 22) 606 66 85			WAWOOLO	EPWALOTO	ops.flow@lot.pl
Maintenance Control Center *24/7*						
Shift eng	(+48 22) 606 66 18	(+48) 536 36 3102		WAWTCLO		mcc@lot.pl
Crew Control *24/7*						
Crew Coordination 24/7	(+48 22) 606 67 77					cc@lot.pl
PAX Control 24/7						
Shift coord	(+48 22) 606 77 12 (+48 22) 606 77 49		(+48 22) 846 11 85	WAWXZLO		ops.pax@lot.pl
Short term schedule optimization 12/7						
	(+48 22) 606 77 47			WAWOSLO		ops.schedule@lot.pl
Ground Operations						
Duty Manager	(+48 22) 606 63 01 (+48 22) 606 63 02	(+48) 536 368 186				onn@lot.pl

10.2 Messages
10.2.1 Movement Message (MVT)

	General rules	
1.	The rules concerning the format and contents of movement messages in force in LOT Polish Airlines comply with the standards specified in the IATA Airport Handling Manual (current edition):	
	Type	Source
	• MVT messages	AHM780
	• DIV messages	AHM781
	• RQM messages	AHM783
2.	Departure and arrival messages are to be dispatched immediately after departure or arrival of an aircraft.	
3.	Delay messages are to be dispatched as the soon as delay is known.	
4.	The continuity of movement-related information shall be maintained, based on the type of message and information specified in the previous movement message. This means that corrected or updated information (ATD, ATA, etc.) shall be provided at the latest at the time specified as the next information time (NI) or estimated time of arrival or departure (ETD, ETA), adjusted by the taxing time.	
5.	Should it be necessary to send a MVT FR message, one has to send a DIV message to the departure airport, followed then by a MVT AA message (arrival) to the same airport.	

10.2.1.1 Movement message elements.

	Remarks
1.	The Estimated Time of Arrival (ETA) shall be calculated on the basis of the flight time as per the computer flight plan sent by the LOT Polish Airlines Operation Centre or as per information obtained from the cockpit crew,
2.	Correct flight ID – flight number/day. For flights for which the scheduled time of arrival falls on the subsequent day, the flight date is the commencement date
3.	Aircraft identification must not be separated by any spaces or hyphens
4.	A MVT message for a flight which is delayed for **over 2 minutes** must specify the delay code and delay time.
5.	The off-block time is defined as the time the aircraft commences to move with its own or external power.
6.	The off-block time must not be understood as a door close. If, due to any causes, the aircraft doesn't move from its parking position after the handling service has been finished, this has to be stated in MVT message as a relevant delay code. Door close time can be stated in SI section.
7.	If the aircraft doesn't move from its parking position after the handling service has been finished and if the delay code has not been caused by the agent or the agent has not to been informed about the reason of the delay (e.g. confirmation or change flight plan by the crew; lack of contact with the crew after the service has been finished etc.) Delay Code 99 shall be used and clarification shall be stated in SI section.
8.	In case it is necessary to move the aircraft to another parking position (e.g. due to ATC restrictions), the time stated in MVT message shall be the off-block time from the first

	position. In such case the information about abnormal time of taxi must be stated in SI section.
9.	Every instance of moving the aircraft with external power from its parking position shall be stated in SI section (e.g. PUSH-BACK)
10.	Every significant discrepancies between off-block time given in MVT message by the handling agent and those given in ACARS message by the crew will clarify and re-confirm by the LOT Operation Centre Department in WAW.
11.	DIV messages must list the appropriate code for the reason why the flight has been diverted, according to IATA AHM011 and delay code classification table in force in LOT Polish Airlines.
12.	All times provided in operations-related and movement messages shall be given using Coordinated Universal Time (UTC).
13.	Delay code classification
14.	Reasons for delays shall be classified using the classification of delay codes in compliance with IATA guidelines and a current list of delay classification codes for carriage operations, in force in LOT Polish Airlines.
15.	• MVT messages must provide detailed information about the reasons for which the delay has occurred (maximum four reasons) and their duration. • One shall avoid a situation when different delay reasons are grouped under one classification code (except for Code 99 – other reasons for the delay described in the SI section of the MVT message).
16.	It is prohibited to use Code 99 (other reasons for the delay described in the SI section of the MVT message) if the description of the event leads to a conclusion that the reason for delay may be classified using another classification code (in accordance with the current Delay Classification Codes table in force in LOT Polish Airlines).
17.	It is prohibited to use Code 99 (other reasons for the delay described in the SI section of the MVT message) if the description of the event leads to a conclusion that the reason for delay may be classified using another classification code (in accordance with the current Delay Classification Codes table in force in LOT Polish Airlines).
18.	If Code 93 is used (delayed arrival of the aircraft from the previous leg / flight), the amount of delay time shall be calculated on the basis of the Minimum Ground Stop Time (MGST) applicable to a given operation
19.	• If a movement message has been rejected (bounced back) in the Operations Supervision Computer System one has to find out why the message was rejected by the system, correct the message and send it again. • The procedure shall be repeated until the message is accepted by the system (until no message bounces back).
20.	If while rejecting the original MVT message the system recognises the flight identification (carrier's code, four-digit flight number and flight date), correctly the ”COR” identification code shall precede the correction message.
21.	Should it be impossible to send the movement message via the SITA network, the message shall be sent by fax to the +48 22 846 11 85 phone number, or it shall be communicated by phone after having contacted the following numbers: +48 22 606-77-41.

10.2.1.2 Distribution of Movement Messages

	Remarks
1. Units responsible for movement messages	• At Warsaw-Chopin Airport: ⇒ The Flight Information Control and Analysis Centre, • At other airports: ⇒ the handling agent directly supervised by the LOT Polish Airlines Station Manager or, ⇒ if there's no Polish Airlines office at the airport - a designated representative of the agent providing SUPERVISING services or, ⇒ if there's neither a Polish Airlines office nor a handling agent providing SUPERVISING services at the airport in question a person designated by the handling service provider.
2. The recipients of movement messages	• At Warsaw-Chopin Airport: ⇒ Operations Supervision Computer System in the Network, ⇒ Operations Supervision Department of LOT Polish Airlines, ⇒ All units/services whose addresses are listed in the complete list of movement message recipients for Warsaw – Okęcie Airport. • At other airports ⇒ All units/services whose addresses are listed in the complete list of movement message recipients for domestic airports.

10.2.2 Load message (LDM)

	Remarks
1. Source	• The load message is based on IATA AHM 583 (current edition).
2. Dispatch	• A LDM message is to be dispatched for every flight operated by LO aircraft and/or LO flight number. • LDM for code-share flights is to be dispatched as bilaterally agreed. • LDM is to be dispatched not later than 5 minutes after departure of the flight. • Be sure to include any last minute changes in the final passenger and load figure before dispatching the LDM. • For ULD aircraft, a CPM must be sent in addition to the LDM.
3. Distribution	• Standard distribution: ⇒ LDM is to be sent to: a) the station of next intended landing, b) companies and function designators as specified in IDS and/or other airline internal publication. • Additional distribution: ⇒ In case of diversion: a) the station of original destination must immediately forward the LDM (and other handling messages) to the diversion airport
4. Message description	• LDM is built up as follows: ⇒ addresses and communication references, ⇒ standard message identifier and flight record, ⇒ load information and remarks per destination, • supplementary information, • unless otherwise required, all dates and times to be expressed in UTC

10.2.2.1 Load message elements

Standard LDM consist of following elements:

Elements	Description
1. Address and communication references	• Priority indicator. • Teletype address(es) for load message. • Originator, recharge, date/time group and operator's initials.
2. Standard message identifier and flight record	• Standard message identifier: LDM (must be on separate line). • Flight number and date (must be identical with the one shown on the load sheet and in the LDM). • Aircraft registration. • Aircraft version number. • Number of crew including working crew members occupying passenger seat.
3. Load information and remarks per destination	• Destination. Airport of disembarkation of passengers and/or unloading of deadload (the 3 letter IATA airport of city codes must be used). • Number of passenger per weight category (the figures for adults, children and infants must be separated each by an oblique). • NIL must be shown if there is no traffic load for a destination. • Total weight of deadload. • Total load per compartment and/or ULD position (this element is to be repeated for each compartment/ULD position containing load). • Total number of seats occupied by passengers per class. • Total number of seats occupied by PADs per class. **Note:** Any required load sheet remark (special load) must be shown for each destination following the PAX FCY distribution.
4. Supplementary information	• Any other information pertaining to the whole flight may be shown at the end of LDM (SI indicator).
	For more details see AHM 583

10.3 SITA Message Distribution

(MVT, DIV, LDM, PSM, PTM, TPM, BTM, SOM, FTL, CPM, SCM, RQM)

Message Category	Addresses
1. MVT Movement	• Always to be sent only to: **See: SITA Message Distribution table** **NOTE:** All MVT message sending to the Operation Control Computer System will be forwarded automatically to the other addresses stored in the system.
2. DIV Diversion message	• Always to be sent only to: **See: SITA Message Distribution table** **NOTE:** **a)** As for MVT, **DIV** message shall be sent to the Operation Control Computer System and will be forwarded automatically to the other addresses stored in the system. **b)** **DIV** to be despatched by the airport first receiving notification of the diversion immediately after the information becomes available.
3. LDM Load message	**See: SITA Message Distribution table** **NOTE**: • For short range flights the **LDM** must be transmitted immediately after loading is finished and the aircraft is ready to depart. Latest the **LDM** shall be transmitted at airborne time. • SI element must include information concerning amount and localisation in compartment of Priority Baggage, wheelchairs, baby strollers/car-type seats and transfer baggage. • In case of no Priority Baggage at all on a flight the mark “nil” must be given as in example: SI Priority NIL
4. PSM Passenger Service Message	• Always to be sent to the passenger service department at the port of destination . • Regarding Warsaw shall be send to the following addresses: **See: SITA Message Distribution table**

	NOTE: For all passengers carried on a flight, which require assistance or special handling, the PSM shall be dispatched as soon as possible after completion of the check-in of passengers.
5. PTM Passenger Transfer Message	• always to be sent to destinations departments and to: **See: SITA Message Distribution table** **NOTE**: For all flights with one or more passengers with an interline connection or an onward LOT Polish Airlines connection, the **PTM** shall be dispatched immediately after completion of check-in of passengers and their baggage.
6. TPM Teletype Passenger Manifest	• always to be sent to destinations departments and to: **See: SITA Message Distribution table**
7. BTM Baggage transfer manifest	• always to be sent to destinations departments and to: **See: SITA Message Distribution table**
8. SOM Seat Occupied Message	• To be sent if check-in system at first transit destination is different. • **SOM** to be sent to the passenger service department and LOT Polish Airlines representative of the **next station** (applicable for schedule and non-schedule flights). **NOTE**: For all LOT multi-sector flights the SOM shall be dispatched immediately after flight departure. The SOM must include all occupied seats: ⇒ seats occupied by passengers from the previous station (according to the previous SOM) and, ⇒ seats occupied by joining passengers.
9. FTL Frequent travel list	• always to be sent to: ⇒ **FRARJLO.** **NOTE** : The **FTL** shall be dispatched in case the check-in system is unable to automatically transmit information regarding Frequent Flyer passenger. FTL must contain. Name of passenger, FF card number, flight number, date of travel, class of travel, destination.
10. CPM Container/Pallet Distribution	• always to be sent to the next destinations load control departments and to: **See: SITA Message Distribution table**

Message	**See: SITA Message Distribution table** **NOTE**: The **CPM** shall be dispatched for each containerised aircraft movement. Deviated from the recommended IATA standard, the CPM must also include the ULD identification numbers.
11. SCM Stock control message	• Every station holding an ULD stock must transmit the actual ULD stock at the station weekly (preferably Sundays/Mondays) to: **CHAFPLO** **CHACSLO** **e-mail:** uldcare@lot.pl regarding baggage containers, half-pallets and pallets. • Stock reporting is mandatory for all B787 schedule and charter stations. *Example:* SCM HKG.23DEC/1230 .AKE.40289BA/40846BA/41873BA/72772AA.T4 .RKN.03281BA/04883BA/08022BA/07984BA.T4 .AAP.03349SR.T1 .UAK.07826BA/08287BA/10748BA/60709TE.T4 .PAG.77821BA/70811BA/02422SK.T3 SI NETS BA TWO/SK ONE
12. RQM Request Message	• For all missing messages the **RQM** shall be sent to the department from which the report is expected.
13. STAR Alliance transit passenger message	• The Station Manager or handling agent at the port of departure is responsible for informing the individual STAR Alliance carriers about the passenger. • The following information is needed: ⇒ connecting flight numbers, ⇒ number of passengers, ⇒ their class destination ⇒ the number of through-checked baggage.
14. PFS Passenger Final Seles message	• always to be sent to: ⇒ **FRARMLO**
15. K9 Message	• A common SITA address at all stations where information regarding messages for customer or intra-airline information may be sent for action by a Customer Service staff member. This may include information regarding customers with new connections due to delays. For example : WAWK9LO, FRAK9LH, JFKK9UA

SITA Message Distribution	all flights	add for flights to WAW	add for flights to BUD	for charter flights	Remarks
BTM		WAWKTXH	BUDOPXH		ltc@lot.pl
		WAWVRXH			
		WAWXTLO			
CPM	WAWKKXH	WAWVRXH	BUDOPXH		
	WAWOMLO				
	CHAFPLO				
DIV	WAWOMLO				
	WAWOWLO				
FTL	FRARJLO				
LDM	WAWOMLO	WAWFHLO	BUDOPXH	WAWHCLO	
		WAWPBXH	BUDOP7X		
		WAWVRXH			
MVT	WAWOMLO				
	WAWOOLO				
PSM	WAWAPLO	WAWVRXH	BUDOP7X		
	WAWKKXH	WAWKTXH	BUDOPXH		
	WAWXZLO	WAWPMXH	BUDOZXH		
PTM	WAWKTXH	WAWVRXH	BUDOP7X		
	WAWAPLO				
	WAWXZLO				
	WAWOMLO				
SCM	CHAFPLO				uldcare@lot.pl
	CHACSLO				
TPM	WAWAPLO	WAWKTXH	BUDOP7X		
		WAWVRXH			

10.4 Delay Codes

	Remark
1. Definition	• A delay is defined as being off blocks more than 2 minutes after schedule departure time.
2. Purpose	• Delay codes are used to express the reason for delay or other handling irregularities in aircraft movement messages. • Delay codes are also to be used on station and/or ramp reports. • Delay codes must be applied impartially, as a means to identify corrective action. • In case of doubt of interpretation, the SI part of the movement message may be used for supplementary explanation.
3. Source	• These delay codes are generally based on the IATA delay code system, but additional more accurate delay codes have been established by LOT Polish Airlines.

10.4.1 Subcodes main rules.

	Rules
1	Four main delay codes may be applied. The main codes shall be given in the order from the longest delay to the least serious.
2	One subcode ought to be applied to each main code
3	In extraordinary circumstances, when there is a need to indicate more than 4 main delay codes (serious delays) it is acceptable to use DL 99 as the fourth code and describing the remaining 3 codes in the SI part of the MVT message.
4	If the cause of delay is not described as a subcode in a given main code, the subcode ought to be omitted and only the main code applied.
5	If there are two causes of delay (subcodes) in one main code determining two different sources of the delay code 99 ought to be applied and the subcodes described in the SI part of the MVT message
6	If there are two causes of delay (subcodes) in one main code pointing to the same source of delay, one subcode describing the more serious cause ought to be stated and the delay shall be wholly attributed to that cause.

10.4.2 List of delay codes and subcodes used by LOT Polish Airlines

NUM CODE	SUB CODE	DESCRIPTION EN	SUB 93
5		**PASSENGER HANDLING DISRUPTION / NOT CAUSED BY THE AIRLINE - WAW HUB ONLY**	**K**
9		**SCHEDULED GROUND TIME LESS THAN DECLARED MINIMUM GROUND TIME**	**Z**
11		**LATE CHECK-IN. ACCEPTANCE AFTER DEADLINE**	**X**
11	A	LATE PAX ACCEPTANCE (BY LO OCC ACCEPTANCE)	X
11	B	LATE PAX ACCEPTANCE (BY STATION MANAGER ACCEPTANCE)	X
12		**LATE CHECK-IN. CONGESTION IN CHECK-IN AREA**	**C**
12	A	LATE CHECK-IN (BY STATION MANAGER DECISION)	X
12	B	LATE CHECK-IN (BY HANDLING AGENT)	F
12	C	TERMINAL INFRASTRUCTURE- LACK OF CHECK-IN DESKS	C
13		**CHECK-IN ERROR. PASSENGER AND BAGGAGE**	**F**
13	B	HANDLING AGENT ERROR	F
13	C	OTHER ERRORS - NOT BY HANDLING AGENTS (WEB CHECK-IN, MOBILE CHECK-IN, SELF CHECK-IN)	K
14		**OVERSALES. BOOKING ERRORS**	**Z**
14	A	RESERVATION ERROR	Z
14	B	OVERBOOKING	Z
14	C	OPERATIONAL OVERBOOKING	X
15		**BOARDING. DISCREPANCIES AND PAGING, MISSING CHECKED-IN PASSENGER**	**F**
15	A	GATE CHANGE	C
15	B	SLOW BOARDING	F
15	C	PAX HEADCOUNT DISCREPANCY ON BOARD AT A/C	F
15	D	DOCUMENTS SEARCH / CHECK / ISSUES AFER CHECK-IN (TICKET, VISA, PASSPORT, QR CODE, TEST)	K
15	E	HANDBAG / OVERSIZE HANDBAG	K
16		**COMMERCIAL PUBLICITY/PASSENGER CONVENIENCE, VIP. PRESS, GROUND MEALS, ETC.**	**K**
16	A	VIP HANDLING	K
16	B	PAX WITH REDUCED MOBILITY HANDLING	K
16	C	PAX INAD/DEPO HANDLING	K
16	D	MISSING PERSONAL ITEMS (TERMINAL AREA)	K
16	E	DENIED BOARDING - PAX DECISION	K
16	F	LATE PAX COMMING TO GATE	K
16	F	*LATE PAX COMING TO GATE*	K
16	G	DOCTOR CONSULTANCY (FOR PAX)	K
16	H	SEAT ASSIGNEMENT CHANGE	K
16	J	PASSENGER UNDER INFLUENCE OF ALCOHOL OR DRUGS	F
16	K	LONG DEBOARDING OF PREVIOUS FLIGHT	K
17		**CATERING ORDER. LATE OR INCORRECT GIVEN TO SUPPLIER**	**Z**
17	A	LATE OR ERROR ORDER	Z
17	B	CREW MEAL LATE OR ERROR ORDER	X
18		**BAGGAGE PROCESSING. SORTING, ETC.**	**F**
18	A	WRONG BAGGAGE LOADED - DIFFERENT THAN IN FLT DOCUMENTS	F
18	B	UNTYPICAL BAGGAGE (E.G.SPORTING EQUIPMENT)	F
18	C	LATE BAGGAGE DELIVERY - OTHER AGENT	F
19		**PRM HANDLING**	**N**
19	A	LACK OF STAFF	N
21		**DOCUMENTATION. ERRORS, ETC.**	**T**
21	A	AIRLINE	T
21	B	CARGO HANDLING AGENT	F

22		**LATE POSITIONING**	**T**
22	A	AIRLINE	T
22	B	HANDLING AGENT	F
23		**LATE ACCEPTANCE**	**T**
24		**INADEQUATE PACKING**	**F**
24	A	AIRLINE	T
24	B	CARGO HANDLING AGENT	F
25		**OVERSALES. BOOKING ERROR**	**T**
26		**LATE PREPARATION IN WAREHOUSE**	**T**
26	A	AIRLINE	T
26	B	CARGO HANDLING AGENT	F
27		**DOCUMENTATION, PACKING, ETC. (MAIL ONLY)**	**T**
28		**LATE POSITIONING (MAIL ONLY)**	**T**
29		**LATE ACCEPTANCE (MAIL ONLY)**	**T**
31		**AIRCRAFT DOCUMENTATION LATE/INACCURATE. WEIGHT AND BALANCE, PAX MANIFEST, ETC.**	**F**
31	A	LATE DELIVERING LOADSHEET OR ERROR IN DOCUMENTS	F
31	B	LATE DELIVERING LOADSHEET OR ERROR IN DOCUMENTS - CLC	G
31	C	LATE LOAD CONFIRMATION - RAMP CLEARING	F
31	D	PASSENGER RESEATING DUE TO W&B REASON	G
32		**LOADING/UNLOADING. BULKY, SPECIAL LOAD, CABIN LOAD, LACK OF LOADING STAFF**	**F**
32	A	EXTENDED LOADING / OFFLOADING	F
32	C	FLIGHT COORDINATOR ERRORS OR LACK OF	F
33		**LOADING EQUIPMENT. LACK OF OR BREAKDOWN, LACK OF STAFF**	**F**
34		**SERVICING EQUIPMENT. LACK OF OR BREAKDOWN, LACK OF STAFF**	**F**
34	A	LACK OR BREAKDOWN OF SERVISING EQUIPMENT / LACK OF STAFF (HANDLING AGENT)	F
34	B	LACK OR BREAKDOWN OF SERVISING EQUIPMENT / LACK OF STAFF (NOT HANDLING AGENT)	N
35		**AIRCRAFT CLEANING**	**F**
35	A	EXTENDED CLEANING	F
35	B	ADDITIONAL CLEANING ORDER (NOT INCLUDED IN HANDLING AGREEMENT) / SPECIAL PROCEDURES	K
35	C	BAGGAGE COMPARTMENT CLEANING	H
35	D	COCPIT WINDOW CLEANING	G
36		**FUELLING/DEFUELLING. FUEL SUPPLIER**	**R**
36	A	*LATE FUEL TRUCK / BREAKDOWN OF FUEL TRUCK / FUELLING ERRORS*	R
37		**CATERING. LATE DELIVERY OR LOADING**	**U**
37	A	LATE OR ERROR	U
38		**ULD. LACK OF OR SERVICEABILITY**	**T**
39		**TECHNICAL EQUIPMENT. LACK OF OR BREAKDOWN, LACK OF STAFF**	**A**
39	A	LACK OR BREAKDOWN OF EQUIPMENT / LACK OF ASSISTANCE (HANDLING AGENT)	F
39	B	TECHNICAL LOG BOOK - LACK OR INCOMPLETE	A
39	C	LATE TAXI DUE TO AIR STARTER UNIT USING - APU INOP	A
39	D	LACK OF TECHNICAL STAFF	A
41		**AIRCRAFT DEFECTS**	**A**
41	A	AIRCRAFT TECHNICAL DEFECT	A
41	B	AIRCRAFT TECHNICAL DEFECT - IFE	A

42		**SCHEDULED MAINTENANCE. LATE RELEASE**	**A**
42	A	LATE POSITIONING (TECHNICAL PROBLEM) FROM BASE TO CHECK AIRPORT	A
42	B	TECHNICAL STAFF REQUIRED AFTER NIGHT STOP OUTSIDE TECHNICAL BASE	A
42	C	INCORRECT AIRCRAFT ROTATION PLANNING	A
42	D	LATE DOCUMENTATION	A
42	E	AIRCRAFT - LATE RELEASE FOR HANDLONG	A
43		**NON SCHEDULED MAINTENANCE. ADDITIONAL WORKS BEYOND NORMAL MAINTENANCE SCHEDULE**	**A**
43	A	TECHNICAL CHECK	A
44		**SPARES AND EQUIPMENT. LACK OF OR BREAKDOWN**	**A**
44	A	LATE DELIVERY OF SPARE PARTS FROM STORE	A
44	B	LACK OF /BREAKDOWN OF MAINTENANCE EQUIPMENT	A
44	C	AIRCRAFT EQUIPMENT- DELIVERY	A
45		**AOG SPARES. TO BE CARRIED TO ANOTHER STATION**	**A**
45	A	LATE DELIVERY OF SPARE PARTS	A
45	B	LATE TECHNICAL STAFF	A
45	C	LATE DOCUMENTATION	A
46		**AIRCRAFT CHANGE. FOR TECHNICAL REASONS**	**A**
46	A	DEFECT ON ORIGINAL A/C	A
46	B	DEFECT ON ORIGINAL A/C - ANOTHER AIRLINE	Z
46	C	PERFORMACE REASONS	A
47		**STANDBY AIRCRAFT. LACK OF PLANNED STANDBY AIRCRAFT FOR TECHNICAL REASONS**	**A**
48		**SCHEDULED CABIN CONFIGURATION/VERSION ADJUSTMENTS**	**Z**
48	A	*MEDICAL EQUIPMENT INSTALLATION / ADJUSTMENT (STRETCHER, OXYGEN)*	Z
48	B	LACK OF CERTIFIED TECHNICAL STAFF	A
51		**DAMAGE DURING FLIGHT OPERATIONS. LIGHTNING/TURBULENCE, COLLISIONS DURING TAXIING**	**H**
51	A	LIGHTNING OR SIMILAR CAUSED BY WEATHER	E
51	B	BIRD STRIKE OR SIMILAR	H
51	C	OVERWEIGHT / HARD LANDING OR SIMILAR CAUSED BY CREW	G
51	D	F.O.D. DAMAGE	C
51	E	AIRCRAFT EQUIPMENT DAMAGE CAUSED BY PAX DURING FLIGHT	K
52		**DAMAGE DURING GROUND OPERATIONS. COLLISIONS, LOADING DAMAGE, ETC.**	**F**
52	A	*COLLISION DURING TOWING (IT DOES NOT REFER TO TAXIING)*	N
52	B	*EXTREME WEATHER CONDITION*	E
52	D	HANDLING AGENT EQUIPMENT	F
52	E	AIRPORT EQUIPMENT	C
52	F	FUELLING EQUIPMENT	R
52	G	OTHER TECHNICAL EQUIPMENT	A
52	H	CATERING EUIPMENT	U
52	J	ACCIDENTAL TRAP USING OR SIMILAR CAUSED BY CREW	G
52	N	AIRCRAFT EQUIPMENT DAMAGE CAUSED BY PAX DURING BOARDING	K
52	P	UNKNOWN REASONS	H
55		**DEPARTURE CONTROL**	**J**
55	A	LOT SYSTEMS	J
55	B	SUPPLIER SYSTEMS	J
55	C	AIRPORT SYSTEMS	C
55	D	HANDLING AGENT SYSTEMS	F
56		**CARGO PREPARATION/DOCUMENTATION**	**J**
56	A	LOT SYSTEMS	J
56	B	SUPPLIER SYSTEMS	J
56	C	AIRPORT SYSTEMS	C
56	D	HANDLING AGENT SYSTEMS	F

57		**FLIGHT PLANS**	**J**
57	A	LOT SYSTEMS	J
57	B	SUPPLIER SYSTEMS	J
57	C	AIRPORT SYSTEMS	C
58		**OTHER COMPUTER SYSTEMS**	**J**
58	A	LOT SYSTEMS	J
58	B	SUPPLIER SYSTEMS	J
58	C	AIRPORT SYSTEMS	C
58	D	HANDLING AGENT SYSTEMS	F
61		**FLIGHT PLAN. LATE COMPLETION OR CHANGE OF, FLIGHT DOCUMENTATION**	**X**
61	A	LATE OR INCORRECT DISPATCH DOCUMENTATION	X
61	B	LATE FLIGHT PLAN CHANGE CAUSED BY LATE PAYLOAD CHANGE	Z
61	C	LATE FLIGHT PLAN CHANGE CAUSED BY WEATHER CONDITIONS	E
61	D	LATE FLIGHT PLAN CHANGE CAUSED BY ATC PROBLEMS	B
61	E	LACK OR INCOMPLETE NAVIGATION DOCUMENTATION	X
61	F	NAVIGATION DATA BASE IMPLEMENTATION	A
61	G	LATE DELIVERY FPL BY HANDLING AGENT	F
62		**OPERATIONAL REQUIREMENTS. FUEL, LOAD ALTERATION**	**X**
62	A	LATE DEFUELING / LATE ADDITIONAL FUELING	X
62	B	LATE LOADNIG / LATE FUELING CAUSED BY AWAITING FOR FINAL WEIGHTS	X
63		**LATE CREW BOARDING OR DEPARTURE PROCEDURES. OTHER THAN CONNECTION AND STANDBY**	**G**
63	A	COCKPIT CREW LATE BOARDING	G
63	B	LATE CREW TRANSPORT TO THE AIRPORT	G
63	C	SECURITY PROCEDURES (COCKPIT CREW)	N
64		**FLIGHT DECK CREW SHORTAGE. SICKNESS, AWAITING STANDBY, VALID VISA, ETC.**	**G**
64	A	SICKNESS / INJURY	G
64	B	AWAITING FOR STAND-BY CREW	X
64	C	WORKING HOURS LIMITATIONS	G
64	D	TRAVEL DOCUMENTS	G
64	E	CREW SCHEDULING ERROR	G
64	F	CREW CHANGING DUE TO OPERATIONAL REASON (E.G. III CAT. FLIGHT)	G
64	G	POSITIONING OR DEADHEAD CREW	G
65		**FLIGHT DECK CREW SPECIAL REQUEST. NOT WITHIN OPERATIONAL REQUIREMENTS**	**G**
65	A	HOLDING / DELAYING PAX BOARDING BY CREW	G
65	B	MEL ACCEPTANCE REJECTED BY CREW	G
65	C	ADDITIONAL TECHNICAL CHECK ON CREW REQUEST	G
65	D	FUEL ADJUSTMENT ON CREW REQUEST	G
65	E	TECHNICAL PROBLEM ADVICED BY CREW BUT NOT CONFIRMED BY TECHNICAL STAFF	G
65	F	TRAINING PROCEDURES	G
66		**LATE CABIN CREW BOARDING/DEPARTURE PROCEDURES. OTHER THAN CONNECTION AND STANDBY**	**G**
66	A	CABIN CREW LATE BOARDING	G
66	C	SECURITY PROCEDURES (CABIN CREW)	N
67		**CABIN CREW SHORTAGE. SICKNESS, AWAITING STANDBY, VALID VISA, ETC.**	**G**
67	A	SICKNESS / INJURY	G
67	B	AWAITING STAND BY CREW	X
67	C	WORKING HOURS LIMITATIONS	G
67	D	TRAVEL DOCUMENTS	G
67	E	CREW SCHEDULING ERROR	X
67	G	POSITIONING OR DEADHEAD CREW	G
68		**CABIN CREW ERROR OR SPECIAL REQUEST. NOT WITHIN OPERATIONAL REQUIREMENTS**	**G**
68	A	INCORRECT HEAD COUNT ON BOARD	G
68	B	LATE / ADDITIONAL REQUEST	G
68	C	TOILET/SEAT DEFECT REPORTED BEFORE BOARDING	G

69		**CAPTAIN REQUEST FOR SECURITY CHECK. EXTRAORDINARY**	**G**
71		**DEPARTURE STATION WEATHER**	**E**
71	A	CONDITIONS BELOW OPERATING LIMITS	E
71	B	CONDITIONS BELOW SPECIFIC AIRCRAFT LIMITS	E
71	C	CONDITIONS BELOW FLIGHT DECK CREW LIMITS	E
72		**DESTINATION STATION WEATHER**	**E**
72	A	CONDITIONS BELOW OPERATING LIMITS	E
72	B	CONDITIONS BELOW SPECIFIC AIRCRAFT LIMITS	E
72	C	CONDITIONS BELOW FLIGHT DECK CREW LIMITS	E
73		**ENROUTE OR ALTERNATE WEATHER**	**E**
73	A	CONDITIONS BELOW OPERATING LIMITS	E
73	B	CONDITIONS BELOW SPECIFIC AIRCRAFT LIMITS	E
73	C	CONDITIONS BELOW FLIGHT DECK CREW LIMITS	E
73	D	CONDITIONS BELOW LIMITATION ON ENROUTE AIRPORTS	E
75		**DE-ICING OF AIRCRAFT. REMOVAL OF ICE AND/OR SNOW, FROST PREVENTION**	**E**
75	A	LATE DE-ICING	F
75	B	AWAITING FOR DEICING	C
75	C	DE-ICING ON PARKING STAND	E
76		**REMOVAL OF SNOW, ICE, WATER AND SAND FROM AIRPORT**	**E**
76	A	AIRPORT WORK STOPPAGE DUE TO HEAVY WEATHER CONDITIONS	E
76	B	LACK OF POSITIONS DUE TO WEATHER CONDITIONS	E
77		**GROUND HANDLING IMPAIRED BY ADVERSE WEATHER CONDITIONS**	**E**
77	A	INTERRUPTION OF FUELLING OR SERVICING	E
77	B	APRON CONDITIONS	E
77	C	FROST - GROUND HANDLING IMPAIRED BY FROST	E
77	D	FAN BLADE DE-ICING / REMOVAL OF SNOW	E
81		**ATFM DUE TO ATX EN-ROUTE DEMAND/CAPACITY. STANDARD DEMAND/CAPACITY PROBLEMS**	**B**
81	A	SLOT MISSED DUE TO TECH DEFECTS/LACK OF A/C CAUSED BY TECHNICAL REASON	A
81	C	SLOT MISSED DUE TO AIRPORT LIMITATION	C
81	D	SLOT MISSED DUE EMERGENCY PROCEDURE RESTRICTION	D
81	E	SLOT MISSED DUE TO WEATHER	E
81	F	SLOT MISSED DUE TO HANDLING	F
81	G	SLOT MISSED DUE TO CREW	G
81	H	SLOT MISSED DUE TO A/C DAMAGE	H
81	J	SLOT MISSED DUE TO COMPUTER SYSTEM FAILURE	J
81	K	SLOT MISSED DUE TO SLOW PAX SERVICE	K
81	N	SLOT MISSED DUE TO THE CONSEQUENCE OF DELAY DUE TO SECURITY CHECK	N
81	R	SLOT MISSED DUE TO FUELLING	R
81	T	SLOT MISSED DUE TO MAIL AND CARGO	T
81	U	SLOT MISSED DUE TO CATERING	U
81	W	SLOT MISSED DUE TO STRIKE OR OUTSIDE AIRPORT RESTRICTION	W
81	X	SLOT MISSED DUE TO FLIGHT DISPATCH DECISION CONSEQUENCE	X
81	Z	SLOT MISSED DUE TO COMMERCIAL REASON	Z
82		**ATFM DUE TO ATC STAFF/EQUIPMENT EN-ROUTE. REDUCED CAPACITY.**	**B**
83		**ATFM DUE TO RESTRICTION AT DESTINATION AIRPORT. AIRPORT AND/OR RUNWAY CLOSED**	**B**
84		**ATFM DUE TO WEATHER AT DESTINATION**	**B**
85		**MANDATORY SECURITY**	**N**
85	A	LATE/EXTENDED SECURITY CHECK	C
85	B	BAGGAGE RECONCILIATION	N
85	C	BOMB WARNING	N
85	D	AIRCRAFT SECURITY SEARCH PERFORMED BY CREW	G
85	E	PAX WITHDRAWAL BY BORDER GUARD OR CUSTOM (UPON CLOSE OUT)	N
85	F	LATE SECURITY CHECK (TRANSFER PAX)	C
85	G	EXTERNAL SERVICES AIRCRAFT INSPECTION	N
85	H	LACK OF STAFF	N
85	J	ADDITIONAL, REQUIRED SECURITY CHECK (SELECTEE)	N

86		**IMMIGRATION, CUSTOMS, HEALTH**	**N**
86	A	PAX INAD / DEPO HANDLING	N
86	B	AIRCRAFT DECONTAMINATION	N
86	C	LACK OF STAFF	N
86	D	ADDITIONAL HEALTH PROCEDURES	W
87		**AIRPORT FACILITIES. PARKING, STANDS, RAMP CONGESTION, ETC.**	**C**
87	A	LACK OF PARKING STANDS	C
87	B	LACK OF BUS GATES	C
87	C	RAMP CONGESTION	C
87	D	IMMIGRATION / CUSTOMS INFRASTRUCTURE - CONGESTIONS	C
87	E	GATE LIMITATION / NO GATE AVAILABLE	C
87	F	LACK OF BUS STANDING POSITIONS	C
87	G	ELECTRICAL SYSTEM FAILURE	C
87	H	BAGGAGE SORTING AREA FACILITY LIMITATION	C
87	J	JET BRIDGE INOPERATIVE	C
87	K	BAGGAGE BELT FAILURE	C
87	L	AIRPORT INFORMATION SYSTEM FAILURE	C
87	M	NO TOWING CLEARANCE DUE TO INFRASTRUCTURE	C
88		**RESTRICTIONS AT AIRPORT OF DESTINATION. AIRPORT AND/OR RUNWAY CLOSED**	**N**
88	A	RESTRICTIONS DUE TO CURFEW	N
88	B	STRIKE	W
88	C	POLITICAL UNREST	W
88	D	AIRPORT OR RUNWAY CLOSURE	N
89		**RESTRICTIONS AT AIRPORT OF DEPARTURE WITH OR WITHOUT AFTM RESTRICTIONS**	**N**
89	A	RESTRICTIONS DUE TO CURFEW	N
89	B	STRIKE	W
89	C	POLITICAL UNREST	W
89	D	AFTM REGULATIONS	B
89	E	AIRPORT OR RUNWAY CLOSURE	N
89	F	EMERGENCY PROCEDURE RESTRICTION	N
89	G	WAITING FOR PERMISSION TO START ENGINES OR FOR PUSH BACK	B
89	H	LACK OF FOLLOW ME, JET WAY OPERATOR	N
89	J	TAXING BEGINING LATE FROM REMOTE STAND	N
89	K	ACDM SYSTEM DISCREPANCY	N
91		**LOAD CONNECTION. AWAITING LOAD FROM ANOTHER FLIGHT**	**X**
91	A	TECH DEFECTS/LACK OF A/C CAUSED BY TECHNICAL REASON	A
91	B	ATC RESTRICTION	B
91	C	AIRPORT LIMITATION	C
91	D	EMERGENCY PROCEDURE RESTRICTION	X
91	E	WEATHER	E
91	F	HANDLING	F
91	G	CREW	G
91	H	A/C DAMAGE	H
91	J	COMPUTER SYSTEM FAILURE	J
91	K	SLOW PAX SERVICE	K
91	L	LATE ARRIVAL DUE ENROUTE DELAY (FLIGHT TIME LONGER THAN SCHEDULED DUE TO WEATHER CONDITION)	L
91	M	LATE ARRIVAL DUE TO LONG TAXI / ENROUTE ATC RESTRICTIONS	M
91	N	SECURITY CHECK AND AIRPORT PROCESS	N
91	R	FUELLING	R
91	T	MAIL AND CARGO	T
91	U	CATERING	U
91	W	STRIKE OR OUTSIDE AIRPORT RESTRICTION	W
91	X	OPERATIONAL CONTROL DECISION CONSEQUENCE	X
91	Z	COMMERCIAL REASONS	Z

92		**THROUGH CHECK-IN ERROR. PASSENGER AND BAGGAGE**	**F**
92	A	NO THROUGH CHECK IN / INCORRECT TRANSIT / TRANSFER PAX AND BAGGAGE FIGURES	F
92	B	ERROR IN DOCUMENTATON LIKE MVT, PTM TELEXES	F
92	C	BAGGAGE NOT SEGREGATED AT PREVIOUS STATION	F
93		**AIRCRAFT ROTATION. LATE ARRIVAL OF AIRCRAFT FROM ANOTHER FLIGHT/PREVIOUS SECTOR**	**F**
93	A	TECH DEFECTS / LACK OF A/C CAUSED BY TECHNICAL REASON	A
93	B	ATC RESTRICTION	B
93	C	AIRPORT LIMITATION	C
93	D	EMERGENCY PROCEDURE RESTRICTION	X
93	E	WEATHER	E
93	F	HANDLING	F
93	G	CREW	G
93	H	A/C UNSERVICABLE DUE TO INFLIGHT/GROUND DAMAGE (REASONS BEYOND)	H
93	J	COMPUTER SYSTEM FAILURE	J
93	K	SLOW PAX HANDLING	K
93	L	LATE ARRIVAL DUE ENROUTE DELAY (FLIGHT TIME LONGER THAN SCHEDULED DUE TO WEATHER CONDITION)	L
93	M	LATE ARRIVAL DUE TO LONG TAXI / ENROUTE ATC RESTRICTIONS	M
93	N	SECURITY CHECK AND AIRPORT PROCESS	N
93	R	FUELLING	R
93	T	MAIL AND CARGO	T
93	U	CATERING	U
93	W	STRIKE OR OUTSIDE AIRPORT RESTRICTION	W
93	X	OPERATIONAL CONTROL DECISION	X
93	Z	COMMERCIAL REASONS	Z
94		**CABIN CREW ROTATION. AWAITING CABIN CREW FROM ANOTHER FLIGHT**	**G**
94	A	TECH DEFECTS/LACK OF A/C CAUSED BY TECHNICAL REASON	A
94	B	ATC RESTRICTION	B
94	C	AIRPORT LIMITATION	C
94	D	EMERGENCY PROCEDURE RESTRICTION	X
94	E	WEATHER	E
94	F	HANDLING	F
94	G	CREW	G
94	H	A/C UNSERVICABLE DUE TO INFLIGHT/GROUND DAMAGE (REASONS BEYOND)	H
94	J	COMPUTER SYSTEM FAILURE	J
94	K	SLOW PAX HANDLING	K
94	L	LATE ARRIVAL DUE ENROUTE DELAY (FLIGHT TIME LONGER THAN SCHEDULED DUE TO WEATHER CONDITION)	L
94	M	LATE ARRIVAL DUE TO LONG TAXI / ENROUTE ATC RESTRICTIONS	M
94	N	SECURITY CHECK AND AIRPORT PROCESS	N
94	R	FUELLING	R
94	S	POSITIONING OR DEADHEAD CREW	G
94	T	MAIL AND CARGO	T
94	U	CATERING	U
94	W	STRIKE OR OUTSIDE AIRPORT RESTRICTION	W
94	X	OPERATIONAL CONTROL DECISION	X
94	Z	COMMERCIAL REASONS	Z
95		**CREW ROTATION. AWAITING CREW FROM ANOTHER FLIGHT (FLIGHT DECK OR ENTIRE CREW)**	**G**
95	A	TECH DEFECTS/LACK OF A/C CAUSED BY TECHNICAL REASON	A
95	B	ATC RESTRICTION	B
95	C	AIRPORT LIMITATION	C
95	D	EMERGENCY PROCEDURE RESTRICTION	X
95	E	WEATHER	E
95	F	HANDLING	F
95	G	CREW	G
95	H	A/C UNSERVICABLE DUE TO INFLIGHT/GROUND DAMAGE (REASONS BEYOND)	H
95	J	COMPUTER SYSTEM FAILURE	J
95	K	SLOW PAX HANDLING	K
95	L	LATE ARRIVAL DUE ENROUTE DELAY (FLIGHT TIME LONGER THAN SCHEDULED DUE TO WEATHER CONDITION)	L
95	M	LATE ARRIVAL DUE TO LONG TAXI / ENROUTE ATC RESTRICTIONS	M
95	N	SECURITY CHECK AND AIRPORT PROCESS	N
95	R	FUELLING	R
95	S	POSITIONING OR DEADHEAD CREW	G
95	T	MAIL AND CARGO	T
95	U	CATERING	U
95	W	STRIKE OR OUTSIDE AIRPORT RESTRICTION	W
95	X	OPERATIONAL CONTROL DECISION	X
95	Z	COMMERCIAL REASONS	Z

96		**OPERATIONS CONTROL. AIRCRAFT CHANGE FOR REASONS OTHER THAN TECHNICAL**	**X**
96	A	TECH DEFECTS/LACK OF A/C CAUSED BY TECHNICAL REASON	**A**
96	B	ATC RESTRICTIONS	**B**
96	C	AIRPORT LIMITATION	**C**
96	D	EMERGENCY PROCEDURE RESTRICTION	**X**
96	E	WEATHER	**E**
96	F	HANDLING	**F**
96	G	CREW	**G**
96	H	A/C UNSERVICABLE DUE TO INFLIGHT/GROUND DAMAGE (REASONS BEYOND)	**H**
96	J	COMPUTER SYSTEM FAILURE	**J**
96	K	SLOW PAX HANDLING	**K**
96	N	SECURITY CHECK AND AIRPORT PROCESS	**N**
96	R	FUELLING	**R**
96	T	MAIL AND CARGO	**T**
96	U	CATERING	**U**
96	X	OPERATIONAL REASONS	**X**
96	Z	COMMERCIAL REASONS	**Z**
97		**INDUSTRIAL ACTION WITHIN OWN AIRLINE**	**W**
97	A	WHOLE COMPANY	**W**
98		**INDUSTRIAL ACTION OUTSIDE OWN AIRLINE. EXCLUDING A.T.S.**	**W**
98	A	STRIKE	**W**
98	B	AFTM LIMITATIONS	**B**
99		**NOT ELSEWHERE SPECIFIED**	**F**
99	A	LACK OF INFORMATION FROM HANDLING AGENT	**F**

INTENTIONALLY LEFT BLANK

App. 1

POLISH AIRLINES LOT
A STAR ALLIANCE MEMBER

DANGEROUS GOODS OCCURRENCE REPORT

DGOR no.

See the Notes on the next page of this form. Those boxes where the heading is in italics need only be completed if applicable.

Mark type of occurrence: Accident: ☐ Incident: ☐ Other Occurrence: ☐

1. Operator:	2. Date of occurrence:	3. Local time of occurrence:	
4. *Flight date:*	5. *Flight no.:*	6. *Departure date*:	
7. *Destination airport:*	8. *Aircraft type:*	9. *Aircraft destination:*	
10. Location of occurrence:	11. Origin of the goods:		
12. Description of the occurrence, including details of injury, damage etc. (if necessary continue on the next page)			
13. Proper shipping name (including technical name):		14. UN/ID no. (when known):	
15. *Class/division (when known):*	16. *Subsidiary risk(s):*	17. *Packing* group:	18. *Category (class 7 only):*
19. *Type of packing:*	20. *Packaging specification marking:*		
21. *No. of packages:*	22. *Quantity (or transport index, if applicable):*		
23. *Reference no. of Air Waybill:*			
24. *Reference no. of courier pouch, baggage tag, or passenger ticket:*			
25. *Name and address of shipper, agent, passenger etc.:*			
26. Other relevant information (including suspected cause, any action taken):			
27. Name and title of person making report:	28. Telephone no.:		
29. Company/dept. Code, E-mail or Info Mail code:	30. *Reports ref.:*		
31. Address:	32. Date Signature:		

Description of the occurrence (continuation of 12):

Notes:

App. 2

POLSKIE LINIE LOTNICZE LOT	**RAPORT O USZKODZENIU SAMOLOTU** **AIRCRAFT DAMAGE REPORT**	**FHWOS 6**
Zmiana nr 11 *Modifiaction no. 11* **Data wydania: Październik 2020** *Date of issue: October 2020*		**Strona: 1/10** Page: 1/10

1. Data zdarzenia: *Date of incident*	**2. Czas zdarzenia** **(czas lokalny)** *Time od incident* *(local mean time)*	**3. Miejsce zdarzenia** *Place of incident*
4. Numer rejsu *Flight no.*	**5. Z / Do** *From / To*	**6. Typ samolotu** *Type of aircraft*

7. Znaki rejestracyjne *Registration mark*	**8. Użytkownik** *Operator*
9. Rodzaj / Stan nawierzchni (beton, asfalt, czysta, sucha, morka, zalodzona, zaolejona, inne) Kind of surface / Condition of surface – (concrete, asphalt, clean, dry, wet, freezing, greased, other)	
10. Stan pogody *Weather conditions*	**11. Środowisko** (oślepiające światło-słońce, złe oświetlenie, cień, półmrok, słaba widoczność linii, inne) *Environment – (glaring sunlight, poor light, shade, dusk, night, low visibility of lines, other)*

12. Opis uszkodzenia

Description of damage

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13. Opis zdarzenia i prawdopodobna przyczyna

Description of the incident and probable cause

Należy załączyć, w miarę możliwości zdjęcia (str. 4) oraz obowiązkowo szkice sytuacyjne str. (5-10)

If possible enclose photos (page 4) and obligatory situational sketch (page 5-10)

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14. Nazwiska i stanowiska służbowe osób, w których dyspozycji znajdował się samolot w czasie zdarzenia

Names and positions of the persons responsible for the aircraft at the time of incident

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15. Udział pojazdów i osób

Participating vehicles and persons:

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Rodzaj pojazdu: *Type of vehicle:*	**Marka:** *Mark:*	**Nr rejestracyjne:** *Registration No.:*	**Dzierżawiący, właściciel:** *Leasholder, owner:*
Kierowca (osoba obsługująca): *Driver (person in chargé of service):* **Imię i nazwisko:** *Name and surname:*			
Zawód i pracodawca: *Occupation, employer:* ..... . **Miejsce pracy, tel:** *Place of work, phone no:* ..... **Uprawnienia do używania pojazdu (urządzenia):** *Permits to operate the vehicle (equipment):* ..... **Wydane przez:** **dnia:** *Issued by:* ..... *date:*			

Wyjaśnienie osoby (osób), która spowodowała zdarzenie lub miała z nim związek, podpis:

Statement of the person (s) who caused or where involved in the incident, signature:

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16. Podjęte działanie (np. opis napraw, wymiana części) decyzje o wewnętrznym sposobie załatwienia, wnioski.
Action taken (description of repairs, part replacement) decisions regarding the method of settiling the matter internally, conclusions.

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17. Uwagi / konsekwencje np. opóźnienia, przebukowania, przeładowania
Remarks / consequences e.g. delays, rebooking, reloading.

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18. Raport sporządziła osoba */ Report drawn up by:*
Nazwisko, stanowisko:
Surname, position: .....
Raport sporządzono dnia:
Report drawn up on (date): .....

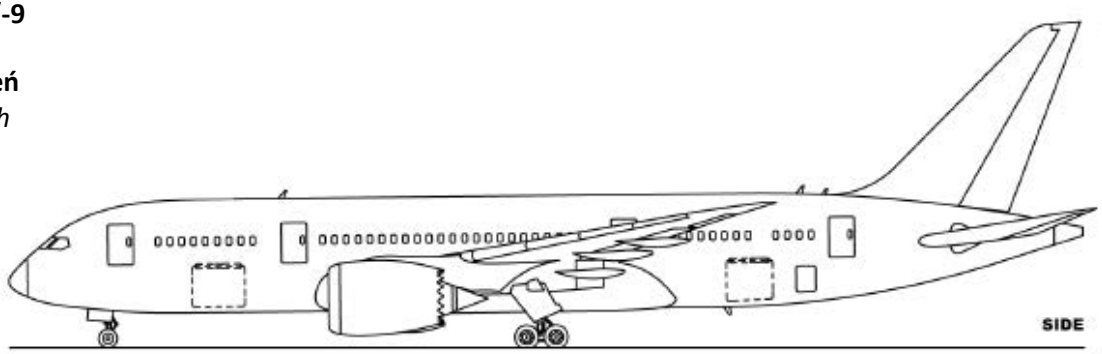
19. Akceptacja danych zawartych w raporcie przez przedstawiciela organizacji, której pracownik uczestniczył w zdarzeniu lub przedstawiciela miejscowych władz lotniska.
Acceptation of facts stated in the report by a representative of local airport authorities or a representative of the handling agent / the supervisor of the employee who took part in the incident:

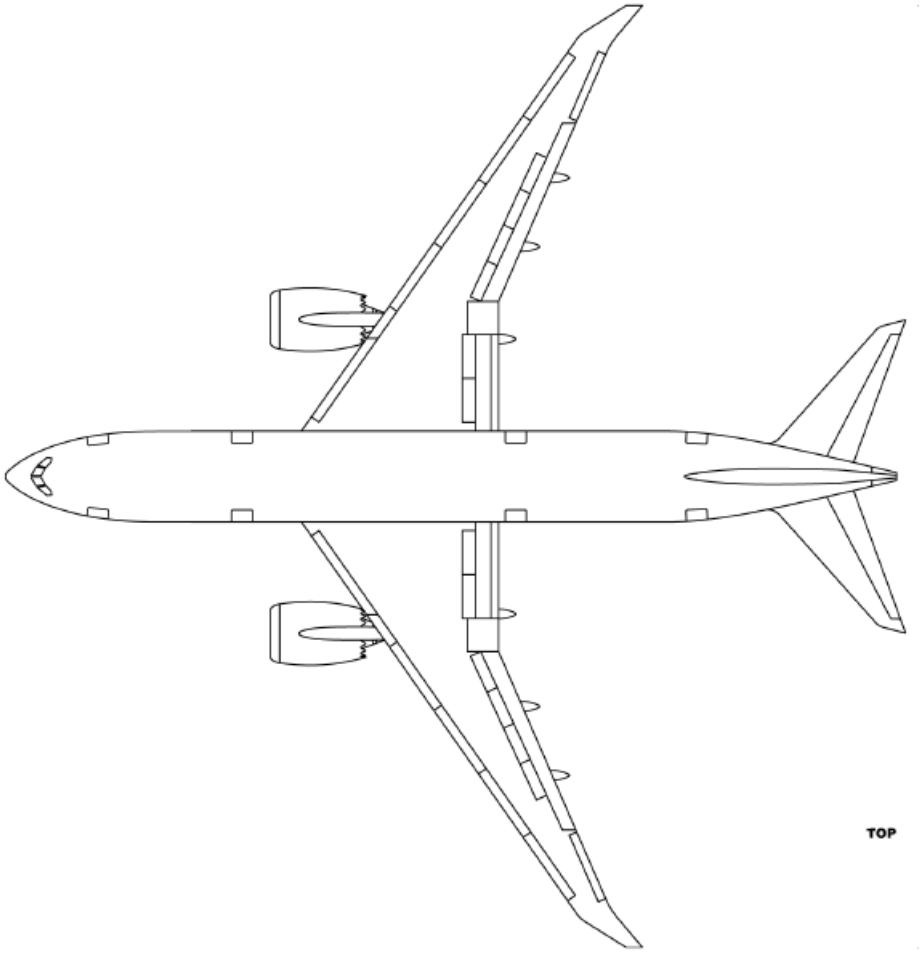
Nazwisko, stanowisko:
Surname, position: .....
Podpis, data, stempel:
Signature, date, stamp: .....
Raport otrzymują:
Report is sent to: .....

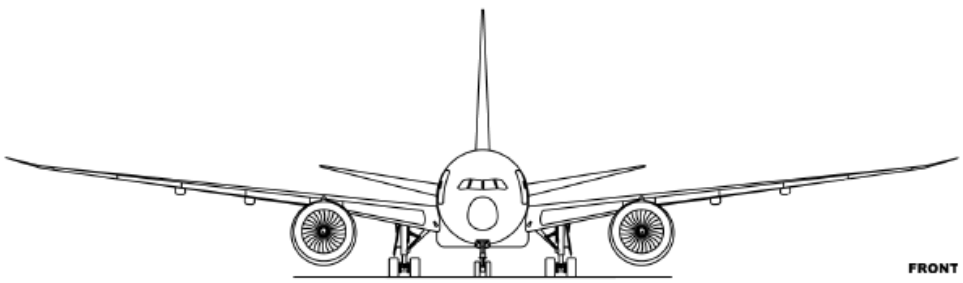
20. Zdjęcia lub inne załączniki
Photos or others appendices

Boeing 787-8/-9

Szkic uszkodzeń
Damage sketch

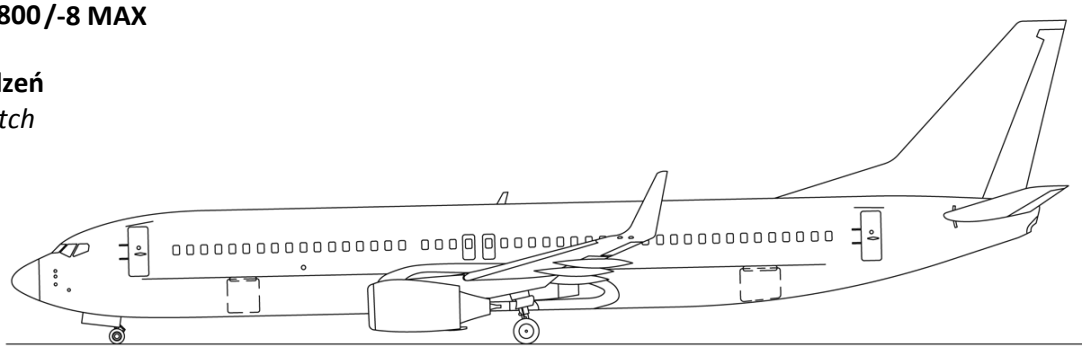


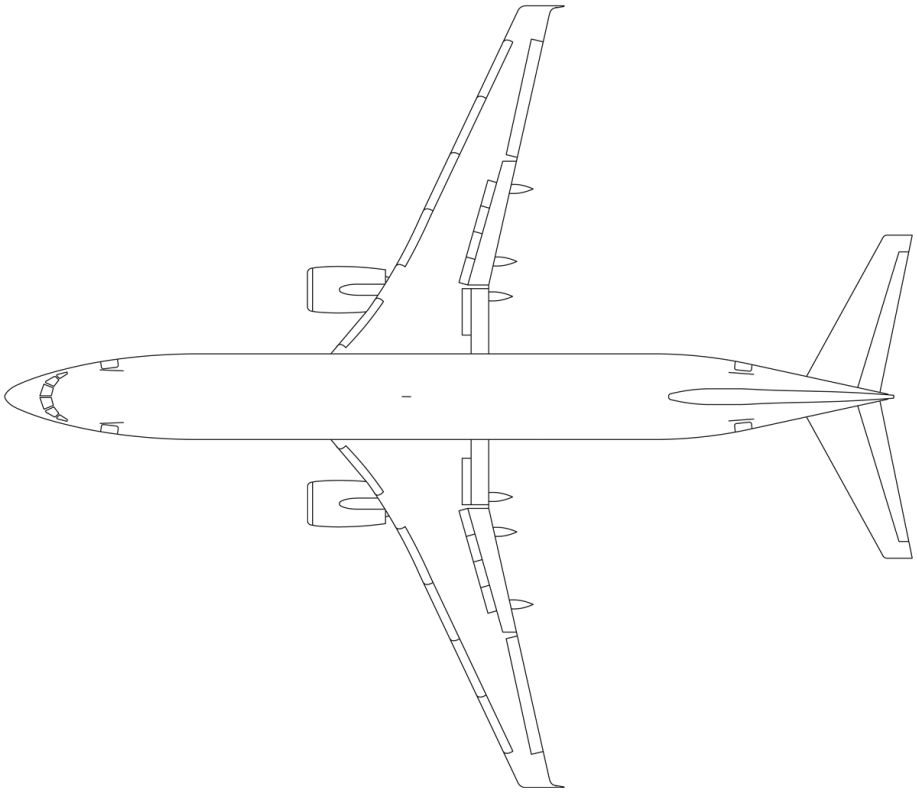


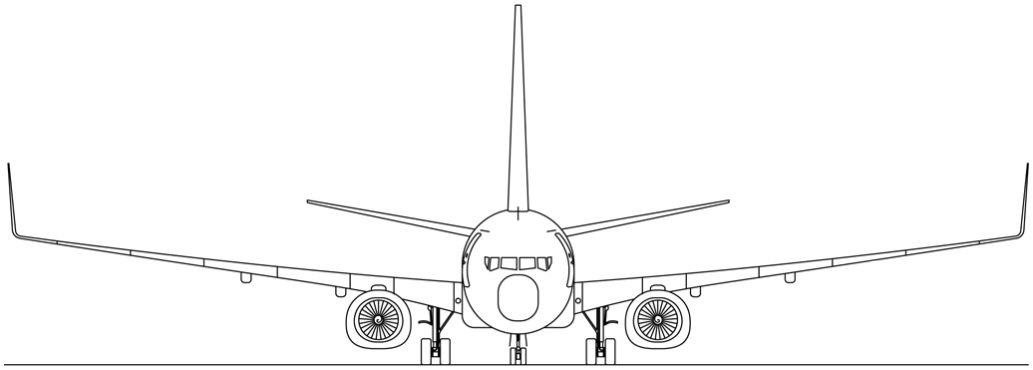


Boeing 737-800/-8 MAX

Szkic uszkodzeń
Damage sketch

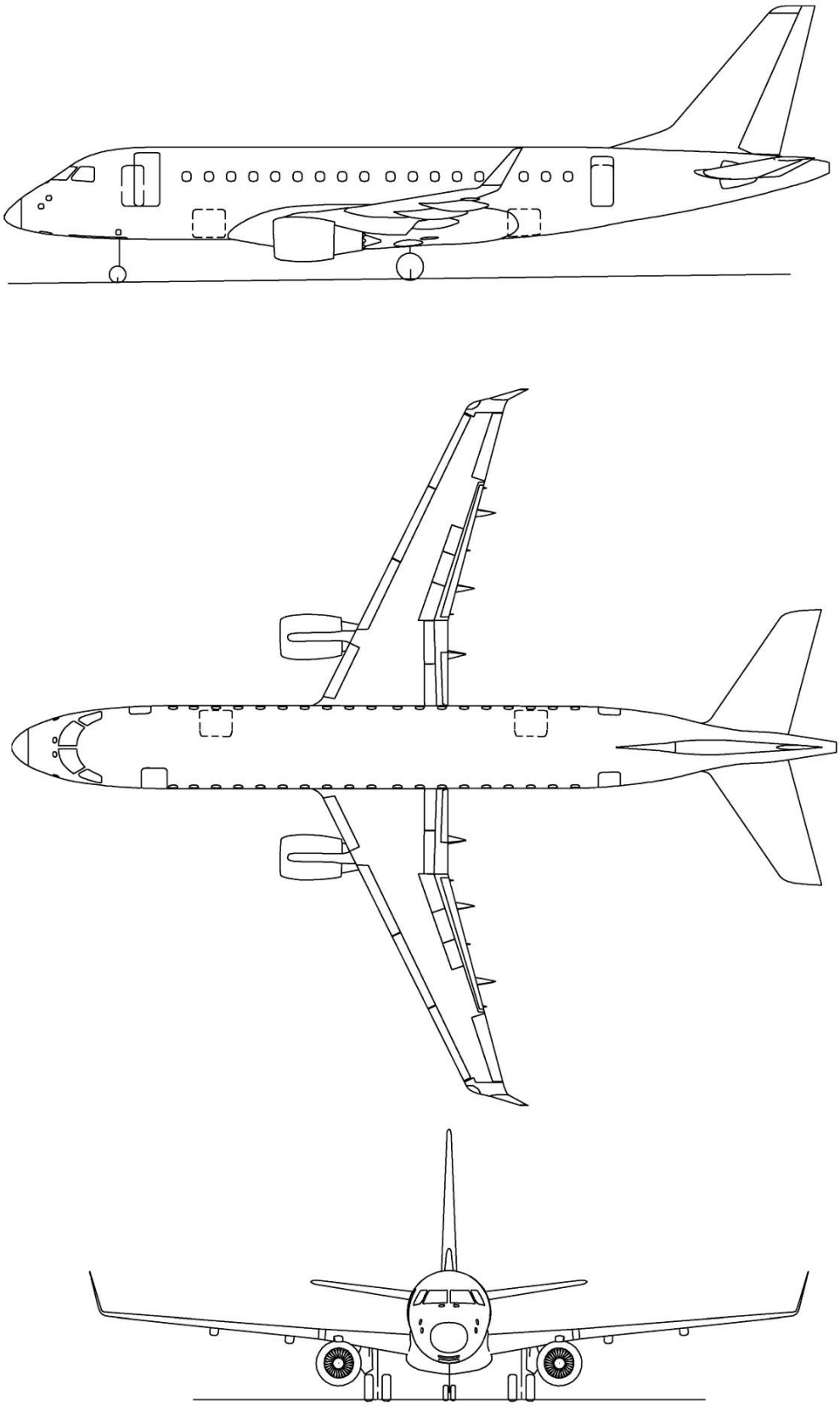






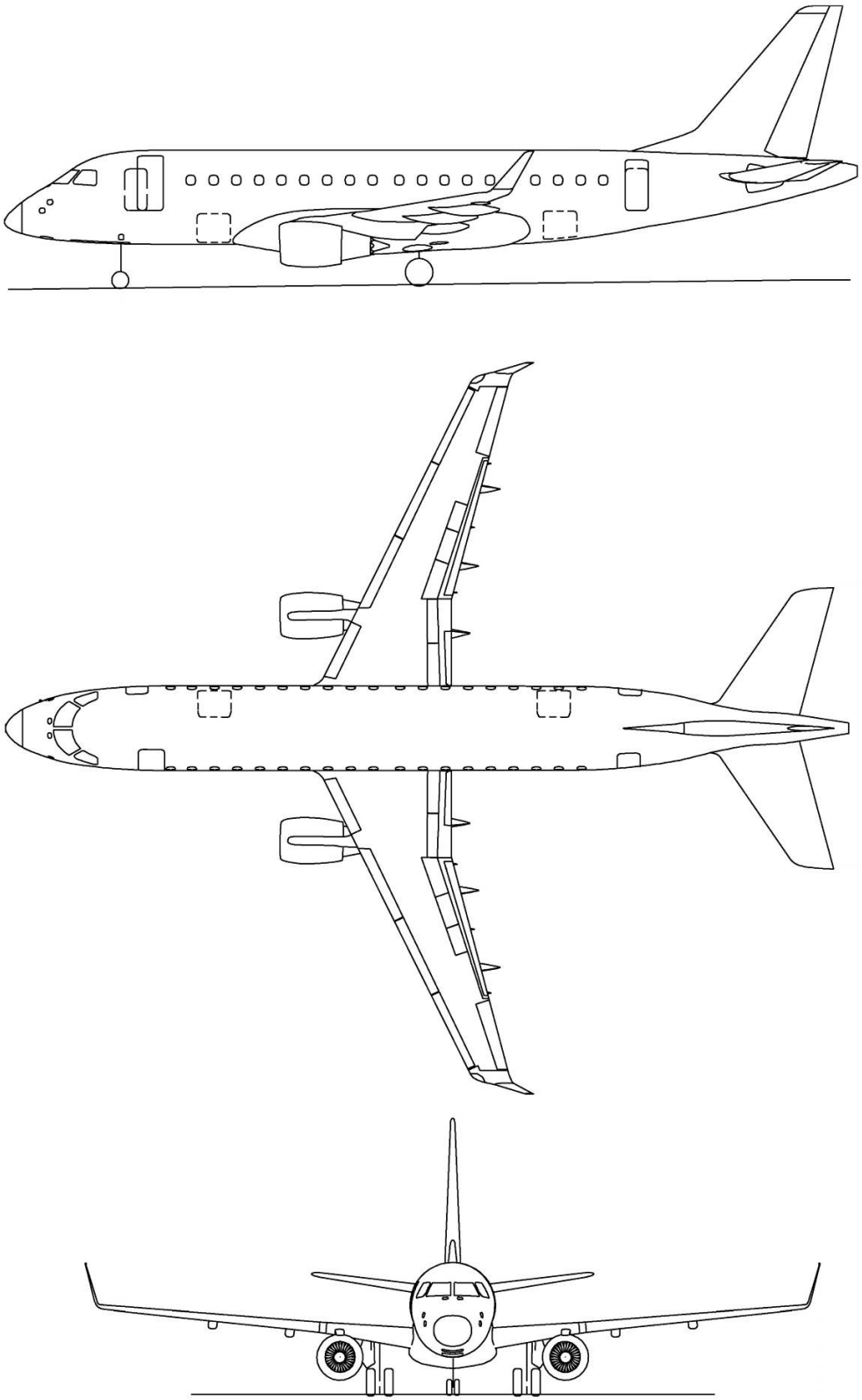
Embraer 170-100

Szkic uszkodzeń
Damage sketch



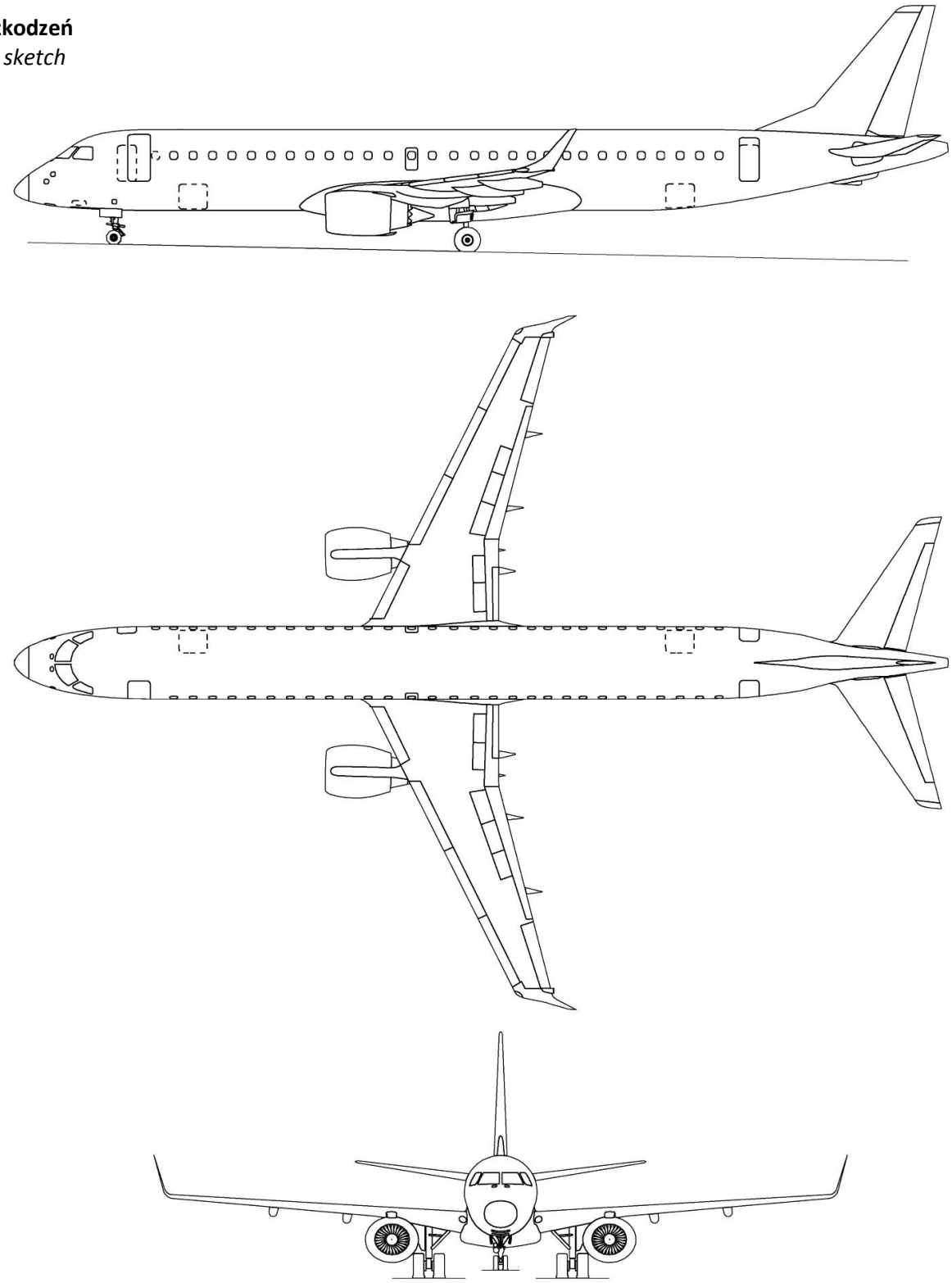
Embraer 170-200

Szkic uszkodzeń
Damage sketch



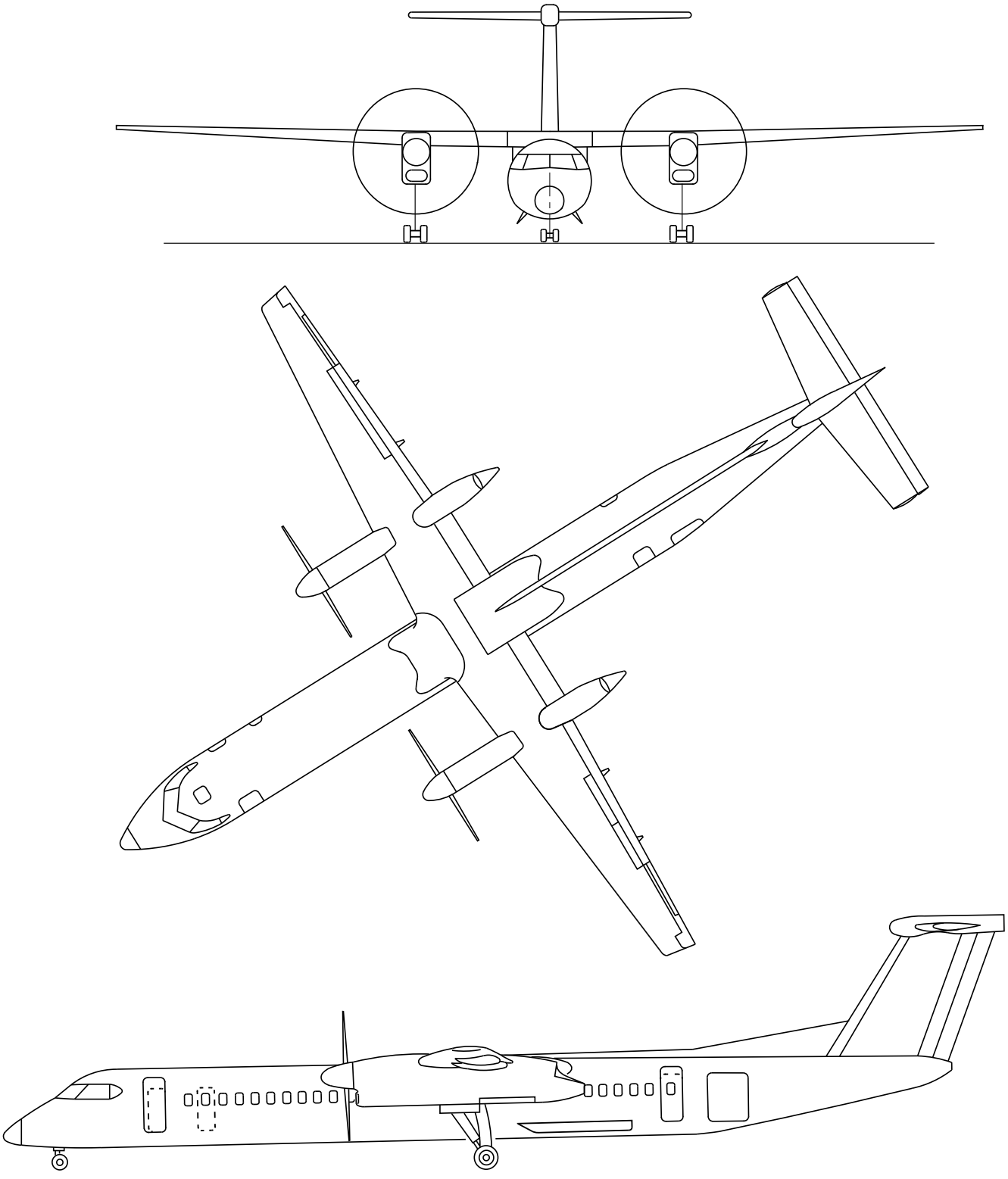
Embraer 190-100/200

Szkic uszkodzeń
Damage sketch



Bombardier Dash 8 Q400

Szkic uszkodzeń
Damage sketch



App. 3

POLISH AIRLINES

WALK AROUND INSPECTION FORM

„Conduct an arrival and departure walk around to inspect for damage on the following parts of the aircraft" – **GHM 4.4.2**

Version: **7** Valid from: NOVEMBER 2020

Airport

Registration

ARRIVAL

Date: *Flight Number:*

Checked area	*Use **X** to mark answer*	**NO**	**YES**	Additional information
Visible tire damage		*NO*	*YES*	
Visible damage around passengers doors		*NO*	*YES*	
Visible damage around cargo doors		*NO*	*YES*	
Visible damage on fuselage		*NO*	*YES*	
Visible damage on engines or engine cowls		*NO*	*YES*	
Visible leaks (fuel, oil, hydraulic, water etc.)		*NO*	*YES*	
Cargo compartment nets are missing		*NO*	*YES*	
Visible cargo compartment damage		*NO*	*YES*	
All cargo compartment are empty when unloaded		*NO*	*YES*	
All ULDs checked and serviceable		*NO*	*YES*	*Responsible agent signature*

Inspection performed on **arrival** by handling agent *(name and signature)*

Pilot in command hereby declares the walk around inspection has been performed by Agent upon **arrival** of the flight in subject and:

damage has been detected		*NO*	*YES*
If YES, reported to me before GSE *(Ground Support Equipment)* **positioning**	*N/A*	*NO*	*YES*

Crew may refuse to sign If walkaround was NOT performed correctly!

Pilot in command - signature and company ID no.

DEPARTURE

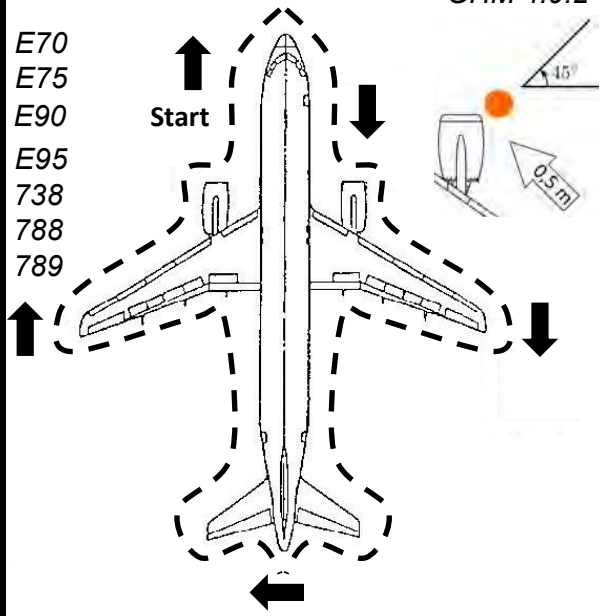
Date: *Flight Number:*

Checked area	*Use **X** to mark answer*	**NO**	**YES**	Additional information
Passenger doors are closed and secured		*NO*	*YES*	
Cargo doors are closed and secured		*NO*	*YES*	
Service panels are closed and secured		*NO*	*YES*	
Visible damage on the fuselage, door areas		*NO*	*YES*	
Visible leaks (fuel, oil, hydraulic, water, etc.)		*NO*	*YES*	
All ULDs checked and serviceable		*NO*	*YES*	*Responsible agent signature*

Inspection performed before **departure** by handling agent *(name and signature)*

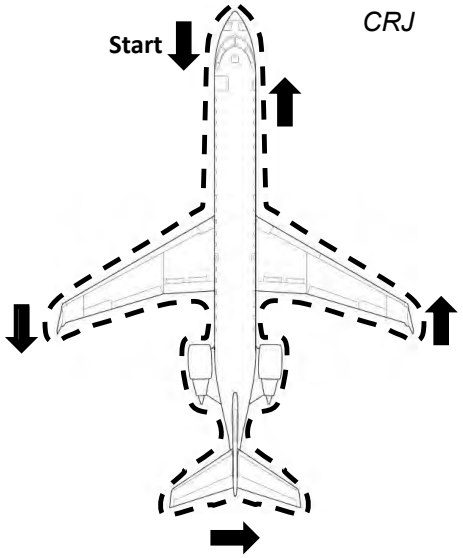
Report result of performed inspection to Pilot via headphones on departure: *"No damage found"*

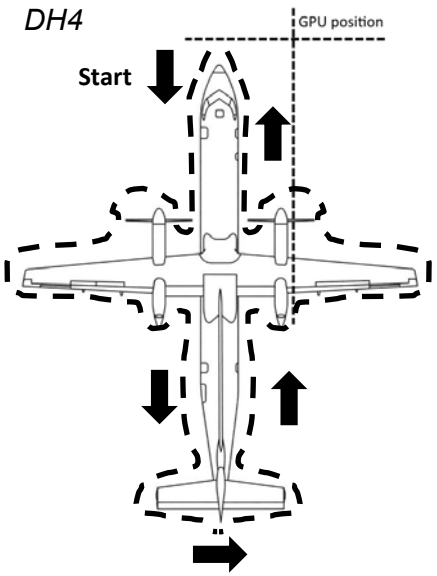
GHM 4.9.2



GHM 4.9.1







If there is no damage this form has to be collect and stored with flight documentation

If any damage is found, report it immediately to supervisor/Pilot in Command/Station Manager/LOT OCC *(copy of this form with pictures shall be sent to ground.safety@lot.pl, ops.dm@lot.pl),* ***and do not approach the aircraft with any GSE in the area where the damage has been found without Captain's authorization.***

App. 4

Polskie Linie Lotnicze LOT S.A.
ul. KOR 43
02-146 Warszawa
kontakt@lot.pl

Answer ALL questions. Mark the respective boxes with cross (X) on YES or NO. Please use BLOCK LETTERS on grey fields.

Information Sheet for Passengers Requiring Special Assistance

Attachment A (Handling advice for Airline Staff)

IATA Resolution 700 Attachment A

1

Passenger's full name | Title | Age | Gender

2

Passenger Name Record (PNR)

3

Flight No. | from | to | Date | Class

Flight No. | from | to | Date | Class

4

Diagnosis or other reason for assistance required (e.g.: woman over 32 week of pregnancy; infant up to 7 days of age; passenger requiring additional oxygen etc.)

5

Stretcher needed onboard? ☐ NO ☐ YES

Note: A special service charge applies. Not all types of aircraft can be adapt to stretcher.

6

Escort for the journey required ☐ NO ☐ YES Medical qualification ☐ none ☐ nurse ☐ physician

Full name PNR if different

7

Wheelchair needed ☐ NO ☐ YES

☐ WCHR - passenger with walking disability (able to walk up/down stairs)
☐ WCHS - passenger with severe walking disability (unable to walk up/down stairs)
☐ WCHC - passenger who is unable to walk (completely immobile)

Passenger-owned wheelchair: ☐ NO ☐ YES
with non spillable batteries WCBD ☐ NO ☐ YES
with spillable cell batteries WCBW ☐ NO ☐ YES
with lithium-ion batteries WCLB ☐ NO ☐ YES
a manually powered wheelchair WCMP ☐ NO ☐ YES
on-board WCOB (on B787 only) ☐ NO ☐ YES
fully collapsible MEQT ☐ NO ☐ YES

Please provide technical specifications of wheelchair

size (L/W/H cm): _____ **weight** (kg): _____ **other:** _____

In case of battery powered wheelchair, please provide

number of batteries: ____ **battery parameters** in watt-hours (Wh) or,: _____

in volt (V) and ampere-hour (Ah): _____

Note:

1) MEQT - fully collapsible passenger-owned wheelchair possible to accommodate on board B787 on routes to/from USA.
2) In case of battery powered wheelchairs, electrical cabling must be protected and isolated by the owner against accidental short circuits.

8

Ambulance needed ☐ NO ☐ YES

Specify ambulance company contact

Note: Designated Ambulance to be organized by passenger, insurance or assistance.

9

Oxygen needed during flight? ☐ NO ☐ YES
If YES, specify: ☐ 2 LPM ☐ 4 LPM
Other:

Passenger's own Portable Oxygen Concentrator (POC) ☐ NO ☐ YES

Brand and model of POC: _____

Technical specifications of POC

size (L/W/H cm): _____ **weight** (kg): _____ **other:** _____

number of batteries: ____ **battery parameters** in watt-hours (Wh) or,: _____

in volt (V) and ampere-hour (Ah): _____

10

Other ground arrangements needed ☐ NO ☐ YES

If YES, specify:
Departure airport
Transit airport
Arrival airport

11

Special inflight arrangements ☐ NO ☐ YES

If YES, specify type of arrangements
(special meal, extra seat, leg rest, special seating etc.)

Specify equipment (e.g. respirator, incubator, oxygen etc.)
and its technical specification (size, weight, battery parameters etc.)

Specify arranging company and at whose expense

12

Date of last medical examination (Conducted not later than two weeks prior to date of planned departure)

Polskie Linie Lotnicze LOT S.A.
ul. KOR 43
02-146 Warszawa
kontakt@lot.pl

Answer ALL questions. Mark the respective boxes with cross (X) on YES or NO. Please use BLOCK LETTERS on grey fields.

Information Sheet for Passengers Requiring Medical Clearance

Attachment B Part One (to be completed or obtained from the attending physician)

IATA Resolution 700 Attachment B

This form is intended to provide **CONFIDENTAL** information to assess the health of the passenger to travel as indicated. If the passenger is acceptable, this information will permit issuance of the necessary directives designed to provide for the passenger's need and comfort. The incapacitated passenger's ATTENDING PHYSICIAN is requested to answer all questions.

13 **Patient's name** | Date of birth | Sex | Height | Weight

14 **Attending physician** e-mail

Address Telephone, indicate country and area code

15 **Diagnosis** (including date of onset of current illness, episodes or accident and treatment, specify if contagious)

Nature and date of any recent and/or relevant surgery

16 **Current symptoms and severity**

17 Will a 25% to 30% reduction in the ambient partial pressure of oxygen (relative hypoxia) affect the passenger's medical condition? (Cabin pressure to be the equivalent of a fast trip to a mountain elevation of 2400 meters (8000 feet) above sea level)
YES ☐ NO ☐ Not sure ☐

18 **Additional clinical information**

a.	Anemia	YES ☐	NO ☐	If YES, give recent result in grams of hemoglobin
b.	Psychiatric and seizure disorder	YES ☐	NO ☐	If YES, see Part Two
c.	Cardiac condition	YES ☐	NO ☐	If YES, see Part Two
d.	Bladder control problem	YES ☐	NO ☐	If YES, give mode of control
e.	Bowel control problem	YES ☐	NO ☐	
f.	Respiratory condition	YES ☐	NO ☐	If YES, see Part Two
g.	Does the patient use oxygen at home?	YES ☐	NO ☐	If YES, specify how much

19 **Escort**

a.	Is the patient fit to travel unaccompanied?		YES ☐ NO ☐
b.	If NO, would meet-and-assist (provided by the airline to embark and disembark) be sufficient?		YES ☐ NO ☐
c.	If NO, will the patient have a private escort to take care of his/her needs onboard?		YES ☐ NO ☐
d.	If YES, who should escort the passenger?	Doctor ☐	Nurse ☐ Other ☐
e.	If other, is the escort fully capable to attend to all the above needs?		YES ☐ NO ☐

20 **Mobility**
a. Able to walk without assistance YES ☐ NO ☐ b. Wheelchair required for boarding ☐ to aircraft ☐ to seat

21 **Sitting position**
a. The patient can use an aircraft seat with the seatback in the upright position when so required YES ☐ NO ☐

22 **Medication list**

23 **Other medical information**

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kontakt@lot.pl

Answer ALL questions. Mark the respective boxes with cross (X) on YES or NO. Please use BLOCK LETTERS on grey fields.

Information Sheet for Passengers Requiring Medical Clearance

Attachment B Part Two (to be completed or obtained from the attending physician)

IATA Resolution 700 Attachment B

24 Cardiac condition

a. Angina YES ☐ NO ☐ When was last episode?
- Is the condition stable? YES ☐ NO ☐
- Functional class of the patient? YES ☐ NO ☐

☐ No symptoms ☐ Angina with important efforts ☐ Angina with light efforts ☐ Angina at rest

Can the patient walk 100 meters at a normal pace or climb 10 - 12 stairs without symptoms? ☐ YES ☐ NO

b. Myocardial infraction YES ☐ NO ☐ Date
- Complications? YES ☐ NO ☐ If YES, give details
- Stress EKG done? YES ☐ NO ☐ If YES, what was the result? Metz
- If angioplasty bypass,
- can the patient walk 100 meters at normal place or climb 10 - 12 stairs without symptoms? YES ☐ NO ☐

c. Cardiac failure YES ☐ NO ☐ When was the last episode?
- Functional class of the patient?

☐ No symptoms ☐ Shortness of breath with important efforts ☐ Shortness of breath with light efforts ☐ Shortness of breath at rest

d. Syncope YES ☐ NO ☐ If YES, state results

e. Investigations? YES ☐ NO ☐

25 Chronic pulmonary condition YES ☐ NO ☐

a. Has the patient had recent arterial blood gases? YES ☐ NO ☐

b. Blood gases were taken on: ☐ Room air ☐ Oxygen Liters per minute (LPM)

If yes, what were the results? pCO2(kPa/mm Hg) pO2(kPa/mm Hg)
% Saturation Date of test

c. Does the patient retain CO_2? YES ☐ NO ☐

d. Has his/her condition deteriorated recently? YES ☐ NO ☐

e. Can the patient walk 100 meters at a normal pace or climb 10 - 12 stairs without symptoms? YES ☐ NO ☐

f. Has the patient ever taken a commercial aircraft in the same health conditions? YES ☐ NO ☐

If YES, when?
Did the patient have any problems?

26 Psychiatric Conditions

a. Is there a possibility that the patient will become agitated during flight? YES ☐ NO ☐

b. Has He/she taken a commercial aircraft before? YES ☐ NO ☐

If YES, date of travel? Did the patient travel ☐ alone ☐ escorted?

27 Seizure YES ☐ NO ☐

a. What type of seizures?

b. Frequency of the seizures?

c. When was last seizures?

d. Are the seizures controlled by medication? YES ☐ NO ☐

28 Prognosis for trip **GOOD** ☐ **POOR** ☐

Physician signature Date

Note: Cabin attendants are not authorized to give special assistance (e.g. lifting) to particular passengers, to the detriment of their service to other passengers. Additionally, they are trained only in **first aid** and are not permitted to administrate any injection, or to give medication.
Important: Fees, if any, relevant to the provision of above information and for carrier-provided special equipment are to be paid by the passenger concerned.

App. 5

Table 6.1—Safety Training Specifications		
This table supplements the guidance associated with GRH 2.1.2 and defines typical functional groups and safety training curricula for personnel that perform duties or have responsibilities in ground handling operations.		
Functional Groups		
In determining the applicability of airside safety training subject areas, ground handling personnel are typically grouped according to operational function as follows. See Note 1.		
Function 1:	Personnel whose duties require access to airside areas.	
Function 2:	Personnel whose duties require operation of basic GSE (e.g. tractors, belt loaders).	
Function 3:	Personnel whose duties require: (1) operation of specialized equipment (e.g. aircraft movement units, container/pallet loaders, de-icing vehicles, catering vehicles), (2) exercise of control during aircraft movement operations, or (3) performance of lead responsibility over other personnel.	
Function 4:	Personnel in first level management, to include supervisors having responsibility for: (1) directing staff and/or equipment resources, or (2) controlling an operational activity.	
Function 5:	Personnel in station management having responsibility for resource issues, health and safety, incident management, and budgetary control.	
Function 6:	Personnel with duties in ticketing, check-in and boarding activities.	
Note 1: Functional definitions may vary as determined by local requirements or considerations.		
Training Subject Areas		
Safety training *should* address the following subject areas as appropriate to assigned operational function(s).		
1.1.1 Safety Philosophy		
(a)	Company safety policy and program	All Functions
(b)	Employer/employee responsibilities	All Functions
1.1.2 Safety Regulations		
(a)	International aviation regulations	All Functions
(b)	State aviation regulations	All Functions
(c)	Airport airside regulations	All Functions
(d)	Safe working and operating practices	All Functions
1.1.3 Hazards. See Note 2		
(a)	Vehicle movements	All Functions
(b)	Pedestrian movements	All Functions
(c)	Aircraft movements	All Functions
(d)	Jet engines	All Functions
(e)	Propeller-driven aircraft	All Functions
(f)	Aircraft antennae and other protrusions	All Functions
(g)	GSE	Functions 2-5
(h)	Aircraft fueling and fuel spills	All Functions
(i)	Adverse and seasonal weather conditions	All Functions
(j)	Night operations	All Functions
(k)	Working at height	All Functions
(l)	Slips, trips and falls	All Functions
(m)	Noise	All Functions
(n)	Manual handling	All Functions
(o)	Confined Spaces	Functions 2-5
(p)	Office Equipment	All Functions

Table 6.1—Safety Training Specifications		
(q)	Display Screen Equipment (DSE)	All Functions
(r)	Violence (physical & verbal attack and public disorder)	All Functions
(s)	Lone working	All Functions
Note 2: Subject areas (a) through (s) would be applicable to personnel as appropriate to specific function and types of operations conducted.		
1.1.4 Human Factors		
(a)	Motivation and attitude	All Functions
(b)	Human behavior	Functions 4, 5
(c)	Communication skills	All Functions
(d)	Stress	All Functions
(e)	Ergonomics	All Functions
(f)	Effects of psychoactive substances (drugs and alcohol)	All Functions
(g)	Fatigue	All Functions
(h)	Time pressure	All Functions
(i)	Peer management pressure	All Functions
(j)	Situational awareness	All Functions
(k)	Teamwork	All Functions
1.1.5 Airside Markings and Signage		Functions 1 to 5
1.1.6 Emergency Situations. See Note 3		
(a)	Reporting	All Functions
(b)	Injuries	All Functions
(c)	Security threats	All Functions
(d)	Spillage	Functions 1 to 5
(e)	Alarms and emergency stops	All Functions
(f)	Fuel shut-offs	Functions 1 to 5
(g)	Ground-to-flight deck emergency hand signals	Functions 1 to 5
(h)	Fire	All Functions
(i)	Severe weather	All Functions
(j)	Aircraft stand emergency procedures	All Functions
Note 3: Subject areas (a) through (j) would be applicable to personnel as appropriate to specific function and types of operations conducted.		
1.1.7 FOD prevention		Functions 1 to 5
1.1.8 Personal protection. See Note 4		
(a)	Personal protective equipment	All Functions
(b)	Occupational health and safety	All Functions
(c)	Musculoskeletal injury prevention	All Functions
(d)	Weather exposure	Functions 1 to 5
Note 4: Subject areas (a) through (d) would be applicable to personnel as appropriate to specific function and types of operations conducted.		
1.1.9 Accidents, Incidents, Near Misses. See Note 5		
(a)	Personnel injuries	All Functions
(b)	Damage to aircraft, GSE, facilities	Functions 1 to 5
(c)	Reporting	All Functions
(d)	Investigation	Functions 4, 5

Table 6.1—Safety Training Specifications		
(e)	Prevention	All Functions
(f)	Cost of accidents, incidents	All Functions
(g)	Risk assessment	Functions 4, 5
Note 5: Subject areas (a) through (g) would be applicable to personnel as appropriate to specific function and types of operations conducted.		
1.1.10 Airside Safety Supervision		
(a)	Creating an open reporting culture	Functions 4, 5
(b)	Performance monitoring	Functions 4, 5
(c)	Coordination of airside activities	Functions 4, 5
(d)	Workload management	Functions 4, 5
(e)	Decision making	Functions 4, 5
(f)	Planning	Functions 4, 5

Table 6.2—Airside Driver Training Specifications

This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define a typical curriculum for airside driver training.

Airside driver training for ground handling personnel typically addresses the following subject areas:

1.2.1 General

(a) Role and responsibilities of vehicle Operators
(b) Vehicle equipment standards
(c) Hazards of airside driving
(d) Reduced visibility procedures
(e) Accident and incident reporting procedures

1.2.2 Ramps (aprons), stands and airside roads

(a) Familiarization with ramp layout, operational stands, vehicle corridors, airside roads, aircraft taxi lanes
(b) Airport rules, regulations and/or procedures pertaining to airside vehicle operations
(c) Procedures for crossing aircraft movement areas
(d) Pedestrian crosswalk rules

1.2.3 Maneuvering area [Note 1]

(a) Identification of obstacle free areas, limited access areas
(b) Airport regulations and requirements
(c) Air Traffic Control
(d) Airport layout
(e) Maneuvering area driving
(f) Radio communication requirements and procedures
(g) Aircraft familiarization

Note 1: Applicable to vehicle operators that require operational access to maneuvering areas.

Table 6.3—Load Control Functional Training Specifications

This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define a typical curriculum for load control functional training.

Training for personnel with duties and/or responsibilities in operational load control functions typically addresses the following operational subject areas, as applicable to assigned function(s):

(i) General weight and balance proficiency and awareness:
- (a) terminology, definitions of terms, operational codes, abbreviations;
- (b) aircraft balance principles, consequences of improper aircraft loading.

(ii) Aircraft structural load limitations:
- (a) linear (running load) limitation, area limitation (spreader floors);
- (b) limitation per compartment/section/ULD position;
- (c) monocoque (combined) limitation, cumulative limitation;
- (d) missing restraints limitation.

(iii) Unit load devices (ULDs):
- (a) IATA identification codes;
- (b) gross weight limitations, hold restraint requirements;
- (c) container/pallets build-up and tie-down limitations/rules;
- (d) tagging.

(iv) Bulk hold loading:
- (a) load spreading rules;
- (b) load restraint rules: nets, tie-down, volume restraint.

(v) Load Sheet:
- (a) computation, issuance, checking (electronic and manual modes);
- (b) last minute change procedures.

(vi) Balance tables/charts:
- (a) computation, issuance, checking (all conventional methods).

(vii) Balance tables/charts:
- (a) designation and numbering of aircraft holds;
- (b) issuance and checking (electronic and manual modes).

(viii) Loading messages:
- (a) reading and sending standard loading messages.

Table 6.4—Passenger Handling Functional Training Specifications

This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define a typical curriculum for passenger handling functional training.

Training for personnel with duties and/or responsibilities in operational passenger handling functions typically addresses the following subject areas, as applicable operational function(s):

(i) Passenger check-in policies and procedures;
(ii) Baggage check-in policies and procedures;
(iii) Manual check-in procedures;
(iv) Cabin seating considerations, to include exit row, special category passengers;
(v) Passenger boarding policies and procedures;
(vi) Cabin access door operation, if applicable;
(vii) Boarding bridge operation, if applicable;
(viii) Dangerous goods regulations, considerations and procedures;
(ix) Security regulations, considerations and procedures;
(x) Load control consequences, coordination and procedures;
(xi) Handling and boarding of weapons and authorized persons carrying weapons;
(xii) Passengers requiring special handling;
(xiii) Communication procedures (customer airlines, load control, authorities, others);
(xiv) Data protection and security;
(xv) Document protection and security;
(xvi) Abnormal and emergency procedures (fire, dangerous goods, security, other);
(xvii) Health and safety;
(xviii) Emergency response procedures.

Table 6.5—Baggage Handling Functional Training Specifications
This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define a typical curriculum for baggage handling functional training. Training for personnel with duties and/or responsibilities in operational baggage handling functions typically addresses the following subject areas, as applicable operational function(s): (i) Baggage handling procedures (identification, sorting, loading in ULDs); (ii) Manual baggage handling procedures; (iii) ULDs (designation codes, inspecting, loading, tagging, removal from service); (iv) Dangerous goods (regulations, considerations, procedures); (v) Security (regulations, considerations, procedures); (vi) Load control (consequences, coordination, procedures); (vii) Communication procedures (customer airlines, load control, authorities, others); (viii) Data protection and security; (ix) Document protection and security; (x) Abnormal and emergency procedures (fire, dangerous goods, security, other); (xi) Health and safety; (xii) Emergency response procedures.

Table 6.6—Aircraft Handling and Loading Functional Training Specifications
This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define a typical curriculum for aircraft handling and loading functional training. Training for personnel with aircraft handling duties and/or responsibilities typically addresses the following subject areas, as appropriate to assigned operational function(s): (i) Irregularity/incident/accident reporting procedures; (ii) Manual handling of load; (iii) Safety during aircraft fueling; (iv) Principles of aircraft loading; (v) Handling of loads that require special attention; (vi) Loading incompatibilities; (vii) Handling of ULDs; (viii) Operation of aircraft loading systems/securing of ULDs; (ix) Identification/consequences of malfunctions of in-plane loading systems; (x) Consequences of load damage and spillage; (xi) Positioning and operation of loading and servicing equipment; (xii) Load notification to pilot-in-command; (xiii) Passenger embarkation/disembarkation procedures; (xiv) Standards of aircraft cleaning, lavatory and potable water servicing; (xv) Aircraft movement operations.

Table 6.7—Passenger Boarding Bridge Training Specifications
This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define a typical curriculum for passenger boarding bridge training. Training for personnel with duties that include passenger boarding bridge operations typically addresses the following subject areas: (i) Standard operating procedures; (ii) Bridge control system, including emergency switches, cut-offs and buttons; (iii) Out-of-limits procedures (for returning bridge to normal working limits); (iv) Back-off procedures and application; (v) Manual wind-off procedures; (vi) Accident and incident response procedures; (vii) Accident and incident reporting procedures (airport, provider); (viii) Fire procedures (bridge or aircraft).

Table 6.8—Aircraft Loading Supervisor Training Specifications

This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define a typical curriculum for aircraft loading supervisors.

Training for personnel assigned to supervise aircraft loading operations typically addresses the following subject areas:

(i) General weight and balance proficiency and awareness:
- (a) Terminology, operational codes, abbreviations;
- (b) Aircraft balance principles, consequences of improper aircraft loading.

(ii) Aircraft structural load limitations:
- (a) Basic knowledge of containerized holds resistance (relationship between missing or damaged restraints and ULD gross weight limitations);
- (b) Area limitation (spreader floors);
- (c) Limitation per compartment/section/ULD position;
- (d) Monocoque (combined) limitation;
- (e) Cumulative limitation;
- (f) Missing restraints limitation.

(iii) Unit load devices (ULDs):
- (a) Tie-down limitations and rules;
- (b) Rejection criteria for damaged ULD and tie-down accessories;
- (c) Tagging.

(iv) Bulk hold loading:
- (a) Physical loading rules concerning baggage, cargo and mail;
- (b) Tie-down and spreader floor procedures;
- (c) Utilization of nets.

(v) Loading Instructions/Report (LIR):
- (a) Designation and numbering of aircraft holds;
- (b) Utilization of the LIR document.

(vi) Loading messages:
- (a) Reading standard loading messages for off-loading of holds.

(vii) Dangerous goods:
- (a) Cargo IMP codes;
- (b) ULD and parcels labelling and marking;
- (c) Loading compatibilities;
- (d) Onboard accessibility;
- (e) Rejection criteria;
- (f) Emergency procedures.

(viii) Other special loads (e.g. perishables, EAT AVI WET OBX, LHO):
- (a) Cargo IMP codes;
- (b) Marking and labelling;
- (c) Loading compatibilities.

(ix) Positioning and operations of loading equipment:
- (a) Areas of aircraft susceptible to damage by ground support equipment;
- (b) Recording and reporting of damage to aircraft caused by ground support equipment.

Table 6.8—Aircraft Loading Supervisor Training Specifications
(x) Operation of aircraft loading systems: (a) Opening and closing of aircraft hold doors; (b) In-plane loading systems; (c) ULD automated and hand-operated restraints; (d) Operator's hold configurations and layouts.

Table 6.9—Aircraft Ground Movement Functional Training Specifications

This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define a typical curriculum for aircraft ground movement functional training.

Training for personnel with assigned duties and/or responsibilities in aircraft ground movement operations typically addresses the following subject areas, as applicable to assigned operational function(s):

(i) Aircraft ground movement operations:
  (a) Scope of operations;
  (b) Principles, responsibilities;
  (c) Practices, procedures;
  (d) Hazards, risk assessment;
  (e) Safety precautions.

(ii) Operation of equipment:
  (a) Nose gear towbar tractor(s);
  (b) Nose gear towbarless tractor(s);
  (c) Main gear tractor(s), if applicable;
  (d) Towbars.

(iii) Equipment-aircraft connect and disconnect procedures.

(iv) Aircraft ground movement standard verbal communications (ground-flight deck):
  (a) Nose gear controlled pushback and towing operations;
  (b) Main gear controlled pushback operations, if applicable;
  (c) Powerback operations, if applicable.

(v) Aircraft ground movement standard hand signals (ground-flight deck, ground-ground):
  (a) Nose gear controlled pushback, towing operations;
  (b) Main gear controlled pushback operations, if applicable;
  (c) Powerback operations, if applicable;
  (d) Power-in and power-out operations, as applicable.

(vi) Aircraft marshalling:
  (a) Scope of operations, principles, responsibilities;
  (b) Practices, procedures;
  (c) Standard hand signals;
  (d) Use of aircraft parking guidance system(s).

(vii) Aircraft ground movement assistance:
  (a) Scope of activities, principles, responsibilities;
  (b) Practices, procedures;
  (c) Standard hand signals.

Table 6.10—Fueling Operations Functional Training Specifications

This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define a typical curriculum for fueling operations functional training.

Training for personnel with assigned duties and/or responsibilities in fueling operations typically addresses the following subject areas, as applicable to assigned operational function(s):

(i) Safe operation of equipment:
- (a) Equipment specific operational procedures;
- (b) Product & equipment identification;
- (c) Water detection;
- (d) Hoses controls;
- (e) Bonding and grounding;
- (f) Interlock functions and warning lights;
- (g) Gauges indicators (fuel pressure, flow rate, fuel meter);
- (h) Lift platform operations (if applicable);
- (i) Fuel ladders operations (if applicable);
- (j) Fuel sampling and quality controls (dispenser and fuel trucks);
- (k) Records.

(ii) Emergency Procedures:
- (a) Fuel emergency shutoff;
- (b) Deadman operations and lanyards;
- (c) Firefighting;
- (d) Aircraft emergency evacuation.

(iii) Fuel spillage avoidance response.

(iv) Aircraft fueling and defueling procedures:
- (a) Special weather conditions (Electrical storms and lightning);
- (b) Fueling with APU, GPU or air conditioning unit in operation;
- (c) Fueling with one aircraft engine running;
- (d) Fueling while passenger embarking/disembarking.

(v) Aircraft specific training:
- (a) Fuel panel operations;
- (b) Communications.

Table 6.11—De/Anti-Icing Operations Functional Training Specifications

This table supplements GRH 2.2.4 (recommended practice) and provides specifications that define operational functions and typical curricula for de/anti-icing functional training.

Training for personnel with assigned duties and/or responsibilities in de/anti-Icing operations typically addresses the following subject areas, as applicable to assigned operational function(s):

Functions:

- L10 Deicing vehicle driver
- L20 Deicing operator
- L30 Supervision of deicing/anti-icing
- L30B Pre-/post deicing/anti-icing inspector

Subjects		Functions			
		L10	**L20**	**L30**	**L30B**
(i)	Common standards, regulations and recommendations	X	X	X	X
(ii)	Basic knowledge of aircraft performance		X	X	X
(iii)	Effects of frost, ice, snow, slush and fluids on aircraft performance		X	X	X
(iv)	Meteorological considerations on ice formation		X	X	X
(v)	Basic characteristics of aircraft deicing/anti-icing fluids, including causes and consequences of fluid degradation and residues		X	X	
(vi)	General techniques for removing deposits of frost, ice, slush and snow from aircraft surfaces and for anti-icing		X	X	
(vii)	Deicing/anti-icing procedures in general and specific measures to be performed on different aircraft types and deicing using hot air	X	X	X	X
(viii)	Aircraft in general and common critical areas	X	X	X	X
(ix)	Types of checks required		X	X	X
(x)	Deicing/anti-icing equipment and facilities operating procedures including actual operation	X	X		
(xi)	Fluid application and limitations of holdover time tables		X	X	
(xii)	Deicing/anti-icing codes and communication procedures	X	X	X	X
(xiii)	Conditions which can lead to the formation of ice on the aircraft		X	X	X
(xiv)	Local rules and restrictions	X	X	X	X
(xv)	Airport operational procedures and ATC	X	X	X	X
(xvi)	Company and customer procedures	X	X	X	X
(xvii)	Deicing coordination procedures			X	

Note: The above training syllabus specifications are derived from SAE AS 6286 as applicable to four functions that are directly involved in aircraft de-/anti-icing operations. To avoid duplication, syllabus specifications that are included in other tables in this section have been omitted from this table.

App. 6

Dangerous Goods Acceptance Check Sheet for

Lithium Batteries (ELI/ELM)

Subject to Section II of Packing Instruction 966, 967, 969, 970

AWB No:	Orgin:	Destination:	UN number : UN3481 ☐ UN3091 ☐	IMP CODE: ELI ☐ ELM ☐

	YES	NO	N/A
The Air Waybill			
1. Lithium ion batteries in compliance with Section II of PI 966 or PI 967 or Lithium metal batteries in compliance with Section II of PI 969 or PI 970 shown ?	☐	☐	
2. Number of package ELI/ELM ?	☐	☐	☐
Package			
3. Strong rigid outer packaging is undamaged and conforms to Packing Instruction and chapter 5.0.2 IATA DGR (General Packing Requirements) ?	☐	☐	
4. Same number of packages as shown on AWB ?	☐	☐	
Label			
5. Completed lithium battery label affixed ? (IATA DGR Figure 7.1.C)	☐	☐	
6. Irrelevant markings and labels removed ?	☐	☐	☐
For Overpacks			
7. Lithium battery label (Figure 7.1.C), as required, clearly visible or reproduced on the outside of the overpack?	☐	☐	☐
8. The word “Overpack” marked ?	☐	☐	☐
General			
9. State and operator variations complied with ? Variations involved :	☐	☐	☐

See exceptions (4cells/2batteries rule) in PI967/970

Comments:

This shipment is: Acceptable ☐ Not acceptable ☐

Checked by:

Signature Time Date

Name Station

Note : If any box is answered “No” do not accept the shipment and give duplicate copy of this form to the shipper or agent.

App. 7

ULD'S ACCEPTANCE EXPORT/IMPORT CHECKLIST

ULD NUMBER: ……	**Point of prepare check by GHA** **EXPORT SECTION**		
	IMPORT SECTION		
	ULD is servicable	**ULD is un-servicable**	**REMARKS**
ULD checked as per GHM LOT and ODLN attached to ULD			
NUMBER OF STRAPS USED FOR ULD			

Prepared by, DATE:

……..

Station, NAME (BOLD),SIGNATURE AND DATE

App. 8

Acceptance Checklist for Time & Temperature Sensitive Healthcare Shipments

2023

Air Waybill No:..... **Origin:**..... **Destination**:.....

SOP No (where applicable):.....

Notes:
1. Answer "not applicable" only where an N/A box is provided.
2. If any questions is answered "NO", the appropriate internal escalation procedure should be followed.

A. Air Waybill

	YES	NO	N/A
1. Have advanced booking been made with the carrier?.....	☐	☐	
2. Single temperature range indicated.....	☐	☐	
3. 24h hours emergency contact number(s).....	☐	☐	

B: Temperature Checks

1. Shipment delivered on temperature-controlled truck set at the correct temperature within as per the Air Waybill.....	☐	☐	
2. Temperature of consignment in declared temperature range.....	☐	☐	

C. Shipment / Labeling

1. IATA Time & Temperature Sensitive Label affixed or pre-printed on the shipment.....	☐	☐	
2. Temperature range in Celsius on the label matching the temperature range stated on the Air Waybill.....	☐	☐	

D. Active Temperature Controlled Container (ACT)

1. ACT container check sheet completed & placed in container pouch.....	☐	☐	☐
2. Container(s) have no visable damages.....	☐	☐	☐

E: Comments / Remarks

.....

.....

.....

Checked by:

Name:..... **Place:**.....

Date / Time:..... **Signature:**.....

App. 9

CARGO AND MAIL BUREAU
LOT POLISH AIRLINES S.A.

PLL LOT S.A. ACCEPTANCE CHECKLIST FOR ACTIVE CONTAINERS

ACT Type:……. No:……..

Seal No (if applicable):……..... Date:……..

		YES	NO	N/A
1.	ACT container checks sheet completed & placed in container pouch.			
2.	Are there any damages?			
3.	Is the seal with the container?			
4.	Is the container inside clean and there are no irritating odors?			
5.	Is the current date on the display of the container?			

6.	**Comments / Remarks**

Checked by:
Name:…….. Place:……

Date/Time:…… Signature:……

* Optional – customer sign/approval: ……
** If the answer is NO please contact to LOT Cargo Team personally or via e-mail:pharmaops@lot.pl