European Union Aviation Safety Agency

EASA

TYPE-CERTIFICATE
DATA SHEET

No. EASA.IM.A.003

for
BOEING 777

Type Certificate Holder:
The Boeing Company

1901 Oakesdale Avenue SW
Seattle, WA 98057-2623
USA

For Models:
- 777-200
- 777-200LR
- 777-300
- 777-300ER
- 777F
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SECTION 1: GENERAL (ALL VARIANTS)

1. Data Sheet No: TCDS.IM.A.003

2. Airworthiness Category: Large Transport Airplanes, JAR 25

3. Performance Category: A

4. Certifying Authority: Federal Aviation Authority (USA)
   Seattle Aircraft Certification Office,
   1601 Lind Avenue S.W.
   Renton, WA 98055-4056
   United States of America

5. Type Certificate Holder: The Boeing Company
   1901 Oakesdale Avenue SW
   Seattle, WA 98057-2623
   United States of America

6. ETOPS:
   The Models 777-200, 777-200LR, 777-300ER and 777F Airplane-Engine combinations
   have been evaluated in accordance with AMC 20-6, Rev.2, Chapter 3, Section 7.2.2(ii),
   and found suitable for ETOPS operations when configured, maintained and operated in
   accordance with Boeing Document D044W054, which provides time-limited system
   capabilities of 222 minutes or greater. This finding does not constitute approval to
   conduct ETOPS operations.

   The following table provides details on the ETOPS approvals.

<table>
<thead>
<tr>
<th>Variant</th>
<th>Engine Type</th>
<th>JAA 120 Min Approval Date</th>
<th>JAA 180 Min Approval Date</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>-200</td>
<td>PW 4077 / 4084</td>
<td>12.06.95</td>
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<td></td>
<td>GE90-76B</td>
<td>22.10.96</td>
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<td>PW 4090</td>
<td>13.07.99</td>
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<td>PW 4090-3</td>
<td>10.12.01</td>
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</tr>
<tr>
<td></td>
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<td>06.02.97</td>
<td>22.08.97</td>
<td></td>
</tr>
<tr>
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<td>GE90-94B</td>
<td>09.11.00</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Trent 892 / 892B</td>
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<td>19.02.98</td>
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<td>-200LR</td>
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<td></td>
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<tr>
<td></td>
<td>GE90-115B</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note 1: The aircraft must conform to the appropriate Configuration Maintenance and Procedures requirements.

Note 2: EASA adopted FAA ADs 2022-06-10 and 2022-06-11 that require powerplant design changes not validated by EASA. Therefore, 777-200/777-300 with PW4000 aircraft-engine configurations cannot be operated if registered in EU member states.
SECTION 2: (-200 VARIANT)

I. General

1. Aircraft: Boeing 777-200

2. JAA Validation Application Date:
   (Reference date for EASA validation) 10 August 1990

3. EASA/JAA Validation Date:
   (JAA recommendation) 19 April 1995

II. Certification Basis

1. Reference Application Date for FAA Certification: 18 June 1990

2. Certification Date: 19 April 1995
   FAA Type Certification Data Sheet No. T00001SE

3. FAA Certification Basis:

   Part 25 of the Federal Aviation Regulations. Amendment 25-1 through 25-82, except for:
   FAR 25.571(e)(1) which remains at Amendment 25-71 level.
   Part 36, as amended at the time of certification.
   Part 34, as amended at the time of certification.

   For details of Exemptions, Special Conditions and Equivalent Safety Findings granted by FAA, refer to FAA TCDS T00001SE.

4. JAA Airworthiness Requirements:

   JAR 25 Change 13
   Orange Paper 90/1
   Orange Paper 91/1
   JAR AWO Change 1
   CRI J-1 APU instruments (NPA 25B-1305, May 1990)

5. Special Conditions:

   CRI A-9  Adopted FAA Special Conditions:
   - Limit Engine Torque Loads for Sudden Engine Stoppage
   CRI C-2  Interaction of Systems and Structures (ref. NPA 25C-199)
   CRI C-3  Design Manoeuvre Requirements
SECTION 2: (-200 VARIANT) - continued

CRI C-4  Design Dive Speed Definitions
CRI C-5  Stalling Speeds for Structural Design
CRI C-6  Loading Conditions for an Aircraft with a Folding Wing-tip
CRI C-23 Rapid Decompression
CRI C-25 Flight Test Loads Survey
CRI D-1  Landing Gear Warning
CRI D-2  Elect. Flight Control Unusual Features not addressed by existing JARs
CRI D-3  Control Signal Integrity
CRI D-5  Protection from External High Intensity Radiated Fields
CRI D-6  Lightning Protection Requirements
CRI D-7  Special Condition Folding Wing-tip - Elect. Systems Interfaces
CRI D-9  Braking Performance
CRI D-16 Towbarless Towing
CRI D-GEN01 PTC Fire Resistance of Thermal Insulation Material
CRI D-GEN02 PTC Application of heat release and smoke density requirements to seat materials. Affected Requirement CS 25.853(d) Appendix F
Part IV & V Part 21 §21A.16B
CRI D-GEN8 Installation of Oblique Seats
CRI D-GEN10 Installation of suite type seating
CRI F-GEN-11 Non-rechargeable Lithium Batteries Installations
CRI E-4  Engine Unbalance due to Fan Blade loss
CRI F-4  Cockpit Voice Recorder
CRI F-5  Flight Data Recorder
CRI F-15 Global Position (GPS) Installation Approval
CRI K-1  (Part 2) JAR-AWO, Ch. 1
CRI D-252 Lightning Protection Indirect Effects (IGW version)
CRI H-01 Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS
CRI E-08 Flammability Reduction System

6. Exemptions Granted:

CRI D-19 Front Row HIC (Time-limited Exemption
- expired 1 January 1997) (25.562(c)(5), 785(a))
CRI E-3  Trust Reverser Testing (25.934)
CRI E-6  Fire Resistance of Power Door Opening System Flex Hose Assembly (GE90) (25.1183(a))

Note: The following CRIs addressing partial exemptions relate to modified requirements.

CRI C-15 Jacking Loads (25.X 519)
CRI D-14 Hydraulic System Proof Pressure Testing (25.1435(b)(1))

7. Equivalent Safety Findings:

CRI D-10 Thrust Reversers (25.933(a))
CRI D-11 Hydraulics Components Strut Aft Fairing (25.1182(a))
CRI D-13 Airsystems, Proof and Burst Pressure Tests (25.1438)
CRI D-18 Position Lights (25.1889(b)(3))
CRI D-21 Stowage of Emergency Equipment (25.1411(a),(b)(1))
CRI D-22 Compliance to Towbarless Towing (25X745(d))
CRI E-1 Fan Cowl Flammable Fluid Zone (25.863(a))
CRI E-2 Turbine Overheat Detection (Rolls Royce Trent) (25.1203(d))
CRI F-6 Use of ADIRU acceleration data in place of
SECTION 2: (-200 VARIANT) - continued

data from CG  (25.1459(a)(2))
CRI F-7  External Position Light System  (25.1387(b)(c))
CRI F-8  Flight Controls DC Power System  (25.1351(b)(5))
CRI F-9  Oxygen Outlets in Galley Work Areas  (25.1447(c)(3))
CRI F-10  Slide/Raft Pressure vessels  (25.X1436)
CRI F-12  Airplane Overspeed Warning  (25.1303(c)(1))
CRI F-14  Flammability of Fibre Optic Cables  (25.1359)
CRI F-16  Purser Station Seat  (25.785(d) and (f))
CRI F-GEN9-1  Minimum Mass Flow of Supplemental Oxygen
“Component Qualification”  (25.1443(c))
CRI F-GEN9-3  Crew Determination of Quantity of Oxygen in
Passenger Oxygen System  (25.1441(c))
CRI G-GEN2 Engine and APU Fire Switch Handle Design  (25.1555(d)(1))
CRI J-2  APU Automatic Shutdown  (25.B.1305)

8. JAA Environmental Standards:

Noise: ICAO Annex 16, Volume I
Fuel Venting & Emissions: ICAO Annex 16, Volume II

III. Technical Characteristics and Operational Limitations

1. Type Design Definition:

Boeing Drawing No. 001W0001, Final Assembly-
777, Rev. AA, dated January 26, 1996 and later approved
changes. Refer to CRI A-6 for change procedure and
configuration control.

2. Description:

Two turbofan engines, medium to long range twin aisle
large transport passenger aeroplane.

3. Dimensions:

Length  63.7 m   (209 ft 1 in)
Span  60.9 m   (199 ft 11 in)
Height  18.4 m   (60 ft 6 in)
Wing Area  427.8 m²  (4605 ft²)

4. Engines:

Two (2) Pratt & Whitney PW4000 Turbofan Engines
Models installed: PW4077, 4084, 4090, or 4090-3
Joint Data Sheet No.: JAA/E/94-008
Limitations:  See Engine Data Sheet No.: JAA/E/94-008

EASA adopted FAA ADs 2022-06-10 and 2022-06-11 that require
powerplant design changes not validated by EASA. Therefore, 777-
200/777-300 with PW4000 aircraft-engine configurations cannot be
operated if registered in EU member states.

Two (2) General Electrical GE90 Turbofan Engines
Models installed: GE90-76B, -85B, -90B or -94B
Joint Data Sheet No.: JAA/E/95-11
Limitations:  See Engine Data Sheet No.: JAA/E/95-11

Two (2) Rolls-Royce RB211 Trent Turbofan Engines
Models installed: Trent 875, 877, 884, 892, 892B, or 895
Joint Data Sheet No.: JAA/E/95-009
Limitations: See Engine Joint Data Sheet No.: JAA/E/95-009

5. Auxiliary Power Unit:
   Honeywell (formerly Allied Signal) Model 331-500
SECTION 2: (-200 VARIANT) - continued

6. Propellers: N/A

7. Fuel: Refer to applicable approved manuals

8. Oil: Refer to applicable approved manuals


10. Maximum Operating Altitude: 13,140 m (43,100 ft) pressure altitude

11. All Weather Capability: Cat 3

12. Maximum Certified Weights:

<table>
<thead>
<tr>
<th></th>
<th>Pounds</th>
<th>Kilograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTW</td>
<td>547,000</td>
<td>248,115</td>
</tr>
<tr>
<td>MTOW</td>
<td>545,000</td>
<td>247,207</td>
</tr>
<tr>
<td>MLW</td>
<td>445,000</td>
<td>201,848</td>
</tr>
<tr>
<td>MZFW</td>
<td>420,000</td>
<td>190,508</td>
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</table>

a. 200 IGW Version Maximum Certified Weights:

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<th></th>
<th>Pounds</th>
<th>Kilograms</th>
</tr>
</thead>
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<td>298,463</td>
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<tr>
<td>MTOW</td>
<td>656,000</td>
<td>297,556</td>
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<tr>
<td>MLW</td>
<td>470,000</td>
<td>213,188</td>
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<tr>
<td>MZFW</td>
<td>442,000</td>
<td>200,487</td>
</tr>
</tbody>
</table>


18. Maximum Seating Capacity:

The maximum number of passengers approved for emergency evacuation is 440. See interior layout drawing for the maximum passenger capacities approved for each aeroplane when delivered.

Note: The enhanced cabin crew procedures must be employed by the Operator for the high density configuration.
SECTION 2: (-200 VARIANT) – continued

19. Exits:

<table>
<thead>
<tr>
<th>Number</th>
<th>Type</th>
<th>Size mm (inches)</th>
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<tbody>
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<td>A</td>
<td>1067x1829 (42x72)</td>
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</tbody>
</table>

20. Baggage/Cargo Compartment:

<table>
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<tr>
<th>Location</th>
<th>Class</th>
<th>Volume (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward</td>
<td>C</td>
<td>70.4 - 80.5</td>
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<tr>
<td>Aft</td>
<td>C</td>
<td>47.0 - 62.6</td>
</tr>
<tr>
<td>Bulk</td>
<td>C</td>
<td>17.0</td>
</tr>
</tbody>
</table>

21. Wheels and Tyres:

- Nose Assy (Qty 2)
  - Wheel and Tyre: 42 x 17.0R18
- Main Assy (Qty 12)
  - Wheel and Tyre: 50 x 20.0R22
- Speed Rating: 235 MPH

22. Fuel Tank Flammability Reduction System (FRS):

- Aircraft which have made their first flight after 31 December 2011 must be equipped with a fuel tank Flammability Reduction System (EASA SIB 2010-10)
- Flammability Reduction Systems have been installed on aircraft line numbers 772 and on or as modification per Service Bulletin 777-47-0002. Airworthiness Limitations for the FRS are contained in Section 9 of the applicable Maintenance Planning Document.
- This system shall remain installed and operative and can only be dispatched inoperative in accordance with the provisions of the MMEL

23. Minimum Cabin Crew:

In accordance with the following:

<table>
<thead>
<tr>
<th>Installed Passenger Seats</th>
<th>Minimum Cabin Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>401 to 440</td>
<td>9</td>
</tr>
<tr>
<td>400 or fewer</td>
<td>8</td>
</tr>
</tbody>
</table>

NOTE: The above minimum cabin crew numbers are those demonstrated by the type certificate holder for conventional cabin layouts. A lower number may be acceptable in the case of a cabin layout with compensating features agreed by the Agency. In such a case, the lower minimum cabin crew number must be documented in an EASA approved major design change or Supplemental Type Certificate (STC).
SECTION 2: (-200 VARIANT) - continued

IV. Operating and Service Instructions

1. Flight Manual:

Boeing Document D631W001.J00 (PW Installation),
Boeing Document D631W001.J01 (GE Installation) and
Boeing Document D631W001.J02 (RR Trent Installation)

Note 1: The AFM for a JAA customer will have a dedicated identification, replacing the denominator J01, J02, or J03.

Note 2: EASA adopted FAA ADs 2022-06-10 and 2022-06-11 that require powerplant design changes not validated by EASA. Therefore, 777-200/777-300 with PW4000 aircraft-engine cannot be operated if registered in EU member states.

2. Mandatory Maintenance Instructions:

CMRs, ALI’s, Life Limited Parts
Maintenance Planning Data Document Section 9
Boeing Document D622W001), and later revisions thereof

3. Service Letters and Service Bulletins:

As published by Boeing and approved by FAA.

4. Required Equipment:

These are identified as Import Requirements in CRI A-10.

The following requirements must be complied with if the optional equipment listed below is installed:

CRI C-6 Loading Conditions for an Aircraft with a Folding Wing-tip.
CRI D-20 Assist Space Deviation (25.813(b))
CRI D-251 Lower Lobe Crew Rest Compartment
CRI F-16 Purser Station Seat (25.785(d) and (f))
CRI F-17 Placards Pivoting Arm Video Units (25.561(d) et al)
CRI F-253 MMR Qualification and Installation (25.1301 et al)
CRI F-254 EGPWS Airworthiness Approval (25.1301 et al)
CRI F-255 EGPWS Alerting Design

V. OPERATIONAL SUITABILITY DATA (OSD)

The Operational Suitability Data elements listed below are approved by the European Union Aviation Safety Agency under the EASA Type Certificate [original TC number] as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List
a) Master Minimum Equipment List D630W003-ESEM approved at revision 3 dated July 24, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: JAR-MMEL / MEL Amendment 1, section 1 Subpart A & B.
b) Required for entry into service by EU operator
SECTION 2: (-200 VARIANT) – continued

2. Flight Crew Data
   a) The Flight Crew data D015Z033-01, Revision New, dated December 10, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: CS-FCD, initial Issue.
   b) Required for entry into service by EU operator.
   c) Pilot Type Rating: "B777/787".
      Note: These data cover the models B787-8, -9 and B777-200, -300 and -777F series aircraft. Differences are addressed in D015Z033-01.

3. Cabin Crew Data
   a) The Cabin Crew data (CCD reference D6-85797, Operational Suitability Data-Cabin Crew Data - Boeing 777/787) approved at revision A (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: CS-CCD, Initial Issue.
   b) Required for entry into service by EU operator.
   c) The aircraft models: B777-200; B777 -200LR; B777-300; B777-300ER are determined to be variants to the B777-200ER aircraft model.

VI. Notes

1. Cabin Interior and Seating Configurations must be approved.

2. An Increased Gross Weight version of the Model -200 was approved by JAA on 22 January 1997 (date of application 16 June 1995). Key differences relative to the original -200 are noted in the preceding sections.
SECTION 3  (- 300 VARIANT)

I. General

1. Aircraft: Boeing 777-300

2. JAA Validation Application Date:
   (Reference date for EASA validation) 15 September 1995

3. EASA/JAA Validation Date:
   (JAA recommendation) 4 May 1998

II. Certification Basis

1. Reference Application Date for FAA Certification: 15 September 1995

2. Certification Date: 4 May 1998
   FAA Type Certification Data Sheet No. T00001SE

3. FAA Certification Basis:
   Part 25 through Amendment 25-86 except for:
   FAR 25.201 which remains at Amendment 25-83 level,
   FAR 25.203 which remains at Amendment 25-83 level,
   FAR 25.571(e)(1) which remains at Amendment 25-71
   level (remains from 777-200 certification basis),
   FAR 25.335(d) which remains at Amendment 25-85 level,
   and
   FAR 25.853(d)(3) which remains at Amendment 25-82
   level.
   Part 36, as amended at the time of certification.
   Part 34, as amended at the time of certification.
   For details of Exemptions, Special Conditions and Equivalent
   Safety Findings granted by FAA, refer to FAA TCDS T00001SE.

4. EASA/JAA Airworthiness Requirements:
   JAR 25 Change 14, effective 27 May 1994, except JAR ACJ
   25.963(g), which remains at Change 13
   JAR AWO Change 1, effective 29 November 1985
   Orange Paper AWO 91/1, effective 28 November 1991

The following reversion from the defined certification basis has been accepted:

   CRI C-301 Fuel Tank Access Covers
   JAR ACJ 25.963(g), Fuel Tanks (Acceptable Means of Compliance)
SECTION 3: (-300 VARIANT) – continued

5. JAA Special Conditions:

Special Conditions particular to 777-300:

CRI D-301  Doors/Escape Slide Evacuation Capability  
CRI D-302  Lightning Protection Indirect Effects

Special Conditions applicable to 777-200 and remaining unchanged for 777-300:

(Novel Features)

CRI C-2  Interaction of Systems and Structure (ref. NPA 25C-199)  
CRI C-3  Design Manoeuvre Requirements  
CRI C-4  Design Dive Speed Definitions  
CRI C-5  Stalling Speeds for Structural Design  
CRI C-6  Loading Conditions for an Aircraft with a Folding Wing Tip  
CRI D-2  Elect. Flight Control Unusual Features not addressed by existing JARs  
CRI D-3  Control Signal Integrity (also partly Interpretative Material)  
CRI D-16  Towbarless Towing  
CRI D-251  Lower Lobe Crew Rest Compartment  
CRI F-15  Global Position (GPS) Installation Approval (ref. 25.1301, 25.1329)  
CRI F-253  Multi Mode Receivers (MMR)

(General Experience)

CRI C-25  Flight Test Loads Survey  
CRI D-5  Protection from External High Intensity Radiated Fields  
CRI D-6  Lightning Protection Requirements  
CRI D-9  Braking Performance  
CRI E-4  Engine Unbalance due to Fan Blade loss  
CRI F-4  Cockpit Voice Recorder  
CRI F-5  Flight Data Recorder

a. EASA Special Conditions

CRI D-GEN01 PTC  Fire Resistance of Thermal Insulation Material  
Affected requirement CS25.856 & Appendix F  
CRI D-GEN02 PTC  Application of heat release and smoke density requirements to seat materials. Affected Requirement CS 25.853(d) Appendix F Part IV & V Part 21 §21A.16B  
CRI D-GEN8  Installation of Oblique Seats  
CRI D-GEN10  Installation of suite type seating  
CRI F-GEN-11  Non-rechargeable Lithium Batteries Installations  
CRI H-01  Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS  
CRI E-08  Flammability Reduction Systems

6. JAA Exemptions:

The following Requests for Exemption have been granted:

CRI E-3  Thrust Reverser Testing  
CRI E-6  Fire resistance of PDOS flex hose  

(25.934)  
(25.1183(a))
SECTION 3: (-300 VARIANT) - continued

Note: The following CRIIs addressing partial exemptions relate to modified requirements.

CRI C-15  Jacking loads  (25X519)
CRI D-14  Hydraulic System Proof Pressure Testing  (25.1435(b)(1))

7. Equivalent Safety Findings:

Particular to the 777-300

CRI F-302  Off Wing Escape Slide / Bottle Loss  (25.801)

Applicable to both 777-200 and 777-300:

CRI D-10  Thrust Reversers  (25.933(a))
CRI D-11  Hydraulics Components Strat Aft Fairing  (25.1182(a))
CRI D-13  Airsystems, Proof and Burst pressure tests  (25.1438)
CRI D-18  Aircraft Position Lights  (25.1389(b))
CRI D-21  Stowage of Emergency Equipment  (25.1411(a),(b)(1))
CRI D-22  Compliance to Towbarless Towing  (25X745(d))
CRI E-1  Fan Cowl Flammable Fluid Zone  (25.1181(a)(6))
CRI E-2  Turbine Overheat Detection (RR800 Trent)  (25.1203(d))
CRI F-6  Use of ADIRU acceleration data in place of data for CG  (25.1459(a)(2))
CRI F-7  External Position Light System  (25.1387(b)(c))
CRI F-8  Flight Controls DC Power System  (25.1351(b)(5))
CRI F-9  Oxygen Outlets in Galley Work Areas  (25.1447(c)(3))
CRI F-10  Slide/Raft Inflation Gas Cylinders  (25X1436)
CRI F-12  Airplane Overspeed Warning  (25.1303(c)(1))
CRI F-14  Flammability of Fibre Optic Cables  (25.1359)
CRI F-16  Purser Station Seat  (25.785(d) and (f))
CRI F-GEN9-1  Minimum Mass Flow of Supplemental Oxygen “Component Qualification”  (25.1443(c))
CRI F-GEN9-3  Crew Determination of Quantity of Oxygen in Passenger Oxygen System  (25.1441(c))
CRI G-GEN2  Engine and APU Fire Switch Handle Design  (25.1555(d)(1))
CRI J-2  APU Automatic Shutdown  (25.B.1305)

8. JAA Environmental Standards:

Noise: ICAO Annex 16, Volume I
Fuel Venting & Emissions: ICAO Annex 16, Volume II

III. Technical Characteristics and Operational Limitations

1. Production Basis:

Production under Type Certificate

2. Design Standard:

Defined by Boeing Top Drawing No. 001W0001, Final Assembly-777, Rev BW, dated 18 March 1998, and later approved changes (See also JAA CRI A-6 Issue 1).
SECTION 3: (-300 VARIANT) - continued

3. Description: Two turbofan engines, medium to long range twin aisle large transport passenger aeroplane.

4. Dimensions:
   - Length 73.8 m (242 ft 4 in)
   - Span 60.9 m (199 ft 11 in)
   - Height 18.5 m (60 ft 8 in)
   - Wing Area 427.8 m² (4605 ft²)

5. Engines:
   - Two (2) Pratt & Whitney PW4000 Turbofan Engines
   - Models installed: PW4090 or 4098
   - Joint Data Sheet No.: JAA/E/94-008
   - Limitations: See Engine Data Sheet No. JAA/E/94-008

   EASA adopted FAA ADs 2022-06-10 and 2022-06-11 that require powerplant design changes not validated by EASA. Therefore, 777-200/777-300 with PW4000 aircraft-engine configurations cannot be operated if registered in EU member states.

   - Two (2) Rolls-Royce RB211 Trent Turbofan Engines
   - Models installed: Trent 892
   - Joint Data Sheet No.: JAA/E/95-009
   - Limitations: See Engine Joint Data Sheet No. JAA/E/95-009

6. Auxiliary Power Unit: Honeywell (formerly Allied Signal) Model 331-500
   - Limitations: Refer to the APU TCDS / TSO

7. Propellers: N/A

8. Fuel: Refer to applicable approved manuals

9. Oil: Refer to applicable approved manuals

10. Air Speeds: See Airplane Flight Manual

11. Maximum Operating Altitude: 13,140 m (43,100 ft) pressure altitude

12. All Weather Capability: Cat 3

13. Maximum Certified Weights:

<table>
<thead>
<tr>
<th></th>
<th>Pounds</th>
<th>Kilograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTW</td>
<td>662,000</td>
<td>300,278</td>
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<tr>
<td>MTOW</td>
<td>660,000</td>
<td>299,370</td>
</tr>
<tr>
<td>MLW</td>
<td>524,000</td>
<td>237,682</td>
</tr>
</tbody>
</table>

15. Datum: See Weights and Balance Manual

MZFW  495,000  224,528
SECTION 3: (-300 VARIANT) - continued

16. Mean Aerodynamic Cord: 7.08 m (278.5 in)


18. Minimum Flight Crew: Two (Pilot and Co-pilot) for all types of flight

19. Maximum Seating Capacity:

The maximum number of passengers approved for emergency evacuation is 550. See interior layout drawing for the maximum passenger capacities approved for each aeroplane when delivered.

20. Exits:

<table>
<thead>
<tr>
<th>Number</th>
<th>Type</th>
<th>Size mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 per side</td>
<td>A</td>
<td>1067x1829 (42x72)</td>
</tr>
</tbody>
</table>

21. Baggage/Cargo Compartment:

<table>
<thead>
<tr>
<th>Location</th>
<th>Class</th>
<th>Volume (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward</td>
<td>C</td>
<td>94.0 – 107.4</td>
</tr>
<tr>
<td>Aft</td>
<td>C</td>
<td>70.5 - 89.5</td>
</tr>
<tr>
<td>Bulk</td>
<td>C</td>
<td>17.0</td>
</tr>
</tbody>
</table>

22. Wheels and Tyres:

Nose Assy (Qty 2)
  Wheel and Tyre: 42 x 17.0R18

Main Assy (Qty 12)
  Wheel and Tyre: 50 x 20.0R22
  Speed Rating: 235 MPH

23. Fuel Tank Flammability Reduction System (FRS):

Aircraft which have made their first flight after 31 December 2011 must be equipped with a fuel tank Flammability Reduction System (EASA SIB 2010-10)

Flammability Reduction Systems have been installed on aircraft line numbers 772 and on or as modification per Service Bulletin 777-47-0002. Airworthiness Limitations for the FRS are contained in Section 9 of the applicable Maintenance Planning Document.

This system shall remain installed and operative and can only be dispatched inoperative in accordance with the provisions of the MMEL
SECTION 3: (-300 VARIANT) - continued

24. Minimum Cabin Crew:

In accordance with the following:

<table>
<thead>
<tr>
<th>Installed Passenger Seats</th>
<th>Minimum Cabin Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>501 to 550</td>
<td>11</td>
</tr>
<tr>
<td>500 or fewer</td>
<td>10</td>
</tr>
</tbody>
</table>

NOTE: The above minimum cabin crew numbers are those demonstrated by the type certificate holder for conventional cabin layouts. A lower number may be acceptable in the case of a cabin layout with compensating features agreed by the Agency. In such a case, the lower minimum cabin crew number must be documented in an EASA approved major design change or Supplemental Type Certificate (STC).

IV. Operating and Servicing Instructions

1. Flight Manual:
   Boeing Document D631W002.J00 (PW Installation),
   Boeing Document D631W002.J01 (GE Installation), and
   Boeing Document D631W002.J02 (RR Trent Installation)

   Note 1: The AFM for a JAA customer will have a dedicated identification, replacing the denominator J01, J02 or J03.

   Note 2: EASA adopted FAA ADs 2022-06-10 and 2022-06-11 that require powerplant design changes not validated by EASA. Therefore, 777-200/777-300 with PW4000 aircraft-engine configurations cannot be operated if registered in EU member states.

2. Mandatory Maintenance Instructions:
   CMRs, ALI's, Life Limited Parts
   Maintenance Planning Data Document Section 9 (Boeing Document D622W001), and later revisions thereof.

3. Service Letters and Service Bulletins:
   As published by Boeing and approved by FAA.

4. Required Equipment:
   These are identified as Import Requirements in CRI A-10.

   The following requirements must be complied with if the optional equipment listed below is installed:

   CRI C-6   Loading Conditions for an Aircraft with a Folding Wing-tip.
   CRI D-20  Assist Space Deviation (25.813(b))
   CRI D-251 Lower Lobe Crew Rest Compartment
   CRI F-16   Purser Station Seat (25.785(d) and (f))
   CRI F-17   Placards Pivoting Arm Video Units (25.561(d) et al)
   CRI F-253  MMR Qualification and Installation (25.1301 et al)
CRI F-254  EGPWS Airworthiness Approval  (25.1301 et al)
CRI F-255  EGPWS Alerting Design.
SECTION 3: (-300 VARIANT) - continued

V. OPERATIONAL SUITABILITY DATA (OSD)

The Operational Suitability Data elements listed below are approved by the European Union Aviation Safety Agency under the EASA Type Certificate [original TC number] as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List
   a) Master Minimum Equipment List D630W003-ESEM approved at revision 3 dated July 24, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: JAR-MMEL / MEL Amendment 1, section 1 Subpart A & B.
   b) Required for entry into service by EU operator.

2. Flight Crew Data
   a) The Flight Crew data D015Z033-01, Revision New, dated December 10, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: CS-FCD, initial Issue.
   b) Required for entry into service by EU operator.
   c) Pilot Type Rating: "B777/787".
   Note: These data cover the models B787-8, -9 and B777-200, -300 and -777F series aircraft. Differences are addressed in D015Z033-01.

3. Cabin Crew Data
   a) The Cabin Crew data (CCD reference D6-85797, Operational Suitability Data-Cabin Crew Data - Boeing 777/787) approved at revision A (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: CS-CCD, Initial Issue.
   b) Required for entry into service by EU operator.
   c) The aircraft models: B777-200; B777 -200LR; B777-300; B777-300ER are determined to be variants to the B777-200ER aircraft model.

VI. Notes

1. Cabin Interior and Seating Configuration must be approved.
SECTION 4: (-300ER VARIANT)

I. General

1. Aircraft:
   Boeing 777-300ER

2. JAA Validation Application Date:
   (Reference date for EASA validation) 13 December 1999

3. JAA Validation Date:
   (JAA recommendation) 16 March 2004

4. EASA TC Date:
   16 March 2004

II. Certification Basis

1. Reference Application Date for FAA Certification:
   13 December 1999

2. Certification Date:
   16 March 2004

   FAA Type Certification Data Sheet No. T00001SE

3. FAA Certification Basis:

   Part 25 through Amendment 25-98 except for:
   FAR 25.831(a) and (g) which remains at Amendment 25-86
   FAR 25.841(a), which remains at Amendment 25-86
   FAR 25.853(d)(3), which remains at Amendment 25-82
   FAR 25.772 and 795, at Amendment 25-106
   Part 36, as amended at the time of certification.
   Part 34, as amended at the time of certification.

   For details of Exemptions, Special Conditions and Equivalent Safety
   Findings granted by FAA, refer to FAA TCDS T00001SE.

4. JAA Airworthiness Requirements:

   JAR 25 Change 14, effective 27 May 1994
   Orange Paper 96/1, effective 19 April 1996
   JAR AWO Change 2, effective 1 August 1996, as defined in CRI A-LR-1.

5. JAA Special Conditions:

   CRI E-LR-4  Fuel Tank Safety
   CRI G-LR-1  E-ETOPS
   CRI K-LR-2  High Altitude Autoland
   JAR 25.981 et al
   FAA SC, JAA IL-20
   NPA AWO 2&5
SECTION 4: (-300ER VARIANT) – continued

Special Conditions applicable to the 777-300ER, and remaining unchanged from the 777-200:

(Novel Features)

CRI C-2 Interaction of Systems and Structure (ref. NPA 25C-199)
CRI C-3 Design Manoeuvre Requirements
CRI D-2 Elect. Flight Control Unusual Features not addressed by existing JARs
CRI D-3 Control Signal Integrity (also partly Interpretative Material)
CRI F-15 Global Position (GPS) Installation Approval (ref. 25.1301, 25.1329)
CRI G-2 Airplane Flight Manual

(General Experience)

CRI C-25 Flight Test Loads Survey
CRI D-5 Protection from External High Intensity Radiated Fields
CRI D-6 Lightning Protection Requirements
CRI F-4 Cockpit Voice Recorder
CRI F-5 Flight Data Recorder

Special Conditions applicable to 777-300ER, and remaining unchanged from the 777-300:

CRI D-301 Doors/Escape Slide Evacuation Capability
CRI D-302 Lightning Protection Indirect Effects

a. EASA Special Conditions

CRI D-GEN01 PTC Fire Resistance of Thermal Insulation Material
Affected requirement CS25.856 & Appendix F

CRI D-GEN02 PTC Application of heat release and smoke density requirements to seat materials. Affected Requirement CS 25.853(d) Appendix F Part IV & V Part 21 §21A.16B

CRI D-GEN8 Installation of Oblique Seats
CRI D-GEN10 Installation of suite type seating
CRI F-GEN-11 Non-rechargeable Lithium Batteries Installations
CRI H-01 Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS
CRI E-08 Flammability Reduction Systems

6. JAA “Elect to Comply” Airworthiness Standards:

For the B777-300ER, the following standards are applicable, partly based on the Elect to Comply Standards for the B 777-200/300:

B-LR-1 Use of 1g Stall Speed (25.103) et al
B-LR-2 Accelerate/Stop Distance and Braking Performance (wet and contaminated runway) (JAR 25, Ch 15, 25.101, 101, 105, 107, 109, 113, 115, 735, 1533 X1591)

C-LR-10 Vibration, Buffet and Aero-elastic Stability Requirements (NPA 25 BCD-236)
C-LR-12 Landing Gear Safe Lives – Fatigue Scatter Factors (25.571, ACJ 25.571(a))
C-LR-301 Doors (NPA 25D-218 Rev 2 and 3)
SECTION 4: (-300ER VARIANT) – continued

D-LR-9 Towbarless Towing (INT/POL/25/13 Rev 2 and 3)
Composite Aircraft Structure – Change of Materials (NPA 25D-256)
Loads Requirements (NPA 25C-260)
Shock Absorption Tests (NPA 25CD-279)
Discrete Gust Rule Changes (NPA 25C-282)

J-1 APU Instruments (NPA 25B-1305, May 1990)

7. JAA Exemptions:

The following Requests for Exemption have been granted:

CRI E-3 Thrust Reverser Testing (25.934)
CRI E-6 Fire resistance of PDOS flex hose (25.1183(a))

The following CRI addresses a partial exemption due to modified requirements.

CRI D-14 Hydraulic System Proof Pressure Testing (25.1435(b)(1))

8. Equivalent Safety Findings:

Equivalent Safety Findings particular to the B777-300ER:

CRI B-LR-3 Stalling (25.201, 203)
CRI C-LR-1 Design Dive Speed (25.335)
CRI C-LR-9 Material Strength Properties and Design Values (25.613)
CRI C-LR-11 Fuel Tank Access Covers (25.963(g), AC 25.963(g), AC 25.963-1)
CRI D-GEN7 Flammability Testing Hierarchy (25.853(a))
CRI D-LR-4 Position Lights (25.1389)
CRI D-LR-6 Door Sill Reflectance (25.811(f))
CRI D-LR-8 Ventilation (AC Packs Off) (25.831(a))
CRI F-LR-1 Dedicated Reset Switch Overspeed Warning (25.1303(c)(1), AMJ 25.1322)
CRI F-LR-3 Exterior Exit Markings (25.8111(f))
CRI F-LR-4 Slide Raft Pressure Vessels (25X1436)

Equivalent Safety Findings applicable to the 777-300ER and remaining unchanged from the 777-200:

CRI D-10 Thrust Reversers (25.933(a))
CRI D-11 Hydraulics Components Strut Aft Fairing (25.1182(a))
CRI D-13 Airsystems, Proof and Burst pressure tests (25.1438)
CRI D-21 Stowage of Emergency Equipment (25.1411(a),(b)(1))
CRI E-1 Fan Cowl Flammable Fluid Zone (25.1181(a)(6))
CRI E-7(ptc) Reinforced Cockpit Door (25.772, 25.795)
CRI F-6 Use of ADIRU acceleration data in place of data for CG (25.1459(a)(2))
CRI F-8 Flight Controls DC Power System (25.1351(b)(5))
CRI F-9 Oxygen Outlets in Galley Work Areas (25.1447(c)(3))
CRI F-12 Airplane Overspeed Warning (25.1303(c)(1))
SECTION 4: (300ER VARIANT) – continued

CRI F-14 Flammability of Fibre Optic Cables (25.1359)

CRI F-GEN9-1 Minimum Mass Flow of Supplemental Oxygen “Component Qualification” (25.1443(c))

CRI F-GEN9-3 Crew Determination of Quantity of Oxygen in Passenger Oxygen System (25.1441(c))

CRI G-GEN2 Engine and APU Fire Switch Handle Design (25.1555(d)(1))

CRI J-2 APU Automatic Shutdown (25.B.1305)

Equivalent Safety Findings applicable to the 777-300ER, and remaining unchanged from the 777-300:

CRI F-302 Off Wing Escape Slide / Bottle Loss (25.810(d))

9. JAA Environmental Standards:

- Noise: ICAO Annex 16, Volume I
- Fuel Venting & Emissions: ICAO Annex 16, Volume II

III. Technical Characteristics and Operational Limitations

1. Production Basis:

Production under Type Certificate

2. Design Standard:

The baseline Type Certified configuration is defined by ASCT (ID No. 2DmWP00000423), Revision A, for WD501 and ASCT (ID No. 2DmWP00000429), Revision A, for WD502 and ASCT (ID No. 2DmWP00000466), Revision A, for WD521.

3. Description:

Two turbofan engines, medium to long range twin aisle large transport passenger aeroplane.

4. Dimensions:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Length</td>
<td>73.8 m (242 ft 4 in)</td>
<td></td>
</tr>
<tr>
<td>Span</td>
<td>64.8 m (212 ft 7 in)</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>18.5 m (60 ft 8 in)</td>
<td></td>
</tr>
<tr>
<td>Wing Area</td>
<td>427.8 m² (4605 ft²)</td>
<td></td>
</tr>
</tbody>
</table>

5. Engines:

Two (2) General Electrical GE90 Turbofan Engines
Models installed: GE90-115B, EASA Type-Certificate No.: EASA.IM.E.002
Limitations: See Engine Data Sheet No. EASA.IM.E.002

6. Auxiliary Power Unit:

Honeywell (formerly Allied Signal) Model 331-500
Limitations: Refer to the APU TCDS / TSO

7. Propellers:

N/A

8. Fuel:

Refer to applicable approved manuals
SECTION 4: (-300ER VARIANT) - continued

9. Oil: Refer to applicable approved manuals

10. Air Speeds: See Airplane Flight Manual

11. Maximum Operating Altitude: 13,140 m (43,100 ft) pressure altitude

12. All Weather Capability: Cat 3

13. Maximum Certified Weights:

<table>
<thead>
<tr>
<th></th>
<th>Pounds</th>
<th>Kilograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTW</td>
<td>752,000</td>
<td>341,101</td>
</tr>
<tr>
<td>MTOW</td>
<td>750,000</td>
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<td>MLW</td>
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</tr>
<tr>
<td>MZFW</td>
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</table>

a. Optional Increased Weights:

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</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>MTOW</td>
<td>775,000</td>
<td>351,534</td>
</tr>
</tbody>
</table>


15. Datum: See Weights and Balance Manual

16. Mean Aerodynamic Cord (MAC):

7.08 (278.5 in)


18. Minimum Flight Crew: Two (Pilot and Co-pilot) for all types of flight

19. Maximum Seating Capacity:

The maximum number of passengers approved for emergency evacuation is 550. See interior layout drawing for the maximum passenger capacities approved for each aeroplane when delivered.

20. Exits:

<table>
<thead>
<tr>
<th>Number</th>
<th>Type</th>
<th>Size mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 per side</td>
<td>A</td>
<td>1067x1829 (42x72)</td>
</tr>
</tbody>
</table>

21. Baggage/Cargo Compartment:

<table>
<thead>
<tr>
<th>Location</th>
<th>Class</th>
<th>Volume (m³)</th>
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</thead>
<tbody>
<tr>
<td>Forward</td>
<td>C</td>
<td>94.0 – 107.4</td>
</tr>
<tr>
<td>Aft</td>
<td>C</td>
<td>70.5 - 89.5</td>
</tr>
<tr>
<td>Bulk</td>
<td>C</td>
<td>17.0</td>
</tr>
</tbody>
</table>
SECTION 4: (-300ER VARIANT) – continued

22. Wheels and Tyres:

Nose Assy (Qty 2)
  Wheel and Tyre: 43 x 17.5R17
Main Assy (Qty 12)
  Wheel and Tyre: 52 x 21.0R22
Speed Rating: 235 MPH

23. Fuel Tank Flammability Reduction System (FRS):

Aircraft which have made their first flight after 31 December 2011 must be equipped with a fuel tank Flammability Reduction System (EASA SIB 2010-10)

Flammability Reduction Systems have been installed on aircraft line numbers 772 and on or as modification per Service Bulletin 777-47-0002. Airworthiness Limitations for the FRS are contained in Section 9 of the applicable Maintenance Planning Document.

This system shall remain installed and operative and can only be dispatched inoperative in accordance with the provisions of the MMEL

24. Minimum Cabin Crew:

In accordance with the following:

<table>
<thead>
<tr>
<th>Installed Passenger Seats</th>
<th>Minimum Cabin Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>501 to 550</td>
<td>11</td>
</tr>
<tr>
<td>500 or fewer</td>
<td>10</td>
</tr>
</tbody>
</table>

NOTE: The above minimum cabin crew numbers are those demonstrated by the type certificate holder for conventional cabin layouts. A lower number may be acceptable in the case of a cabin layout with compensating features agreed by the Agency. In such a case, the lower minimum cabin crew number must be documented in an EASA approved major design change or Supplemental Type Certificate (STC).

IV. Operating and Servicing Instructions

1. Flight Manual:

   Boeing Document D631W002.J01
   (GE Installation)

   Note: The AFM for a JAA customer will have a dedicated identification, replacing the denominator J01

2. Mandatory Maintenance Instructions:

   CMRs, ALI’s, Life Limited Parts
   Maintenance Planning Data Document Section 9 (Boeing Document D622W001), and later revisions thereof.
SECTION 4: (-300ER VARIANT) - continued

3. Service Letters and Service Bulletins:

As published by Boeing and approved by FAA.

4. Required Equipment:

These are identified as Import Requirements in CRI A-LR-10.

The following requirements must be complied with if the optional equipment listed below is installed:

- CRI D-20 Assist Space Deviation (25.813(b))
- CRI F-16 Purser Station Seat (25.785(d) and (f))
- CRI F-17 Placards Pivoting Arm Video Units (25.561(d) et al)
- CRI F-253 MMR Qualification and Installation (25.1301 et al)
- CRI F-254 EGPWS Airworthiness Approval (25.1301 et al)
- CRI F-255 EGPWS Alerting Design.

V. OPERATIONAL SUITABILITY DATA (OSD)

The Operational Suitability Data elements listed below are approved by the European Union Aviation Safety Agency under the EASA Type Certificate [original TC number] as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List
   a) Master Minimum Equipment List D630W003-ESEM approved at revision 3 dated July 24, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: JAR-MMEL / MEL Amendment 1, section 1 Subpart A & B.
   b) Required for entry into service by EU operator

2. Flight Crew Data
   a) The Flight Crew data D015Z033-01, Revision New, dated December 10, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: CS-FCD, initial Issue.
   b) Required for entry into service by EU operator.
   c) Pilot Type Rating: “B777/787”.
   Note: These data cover the models B787-8, -9 and B777-200, -300 and -777F series aircraft. Differences are addressed in D015Z033-01.

3. Cabin Crew Data
   a) The Cabin Crew data (CCD reference D6-85797, Operational Suitability Data-Cabin Crew Data - Boeing 777/787) approved at revision A (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: CS-CCD, Initial Issue.
   b) Required for entry into service by EU operator.
   c) The aircraft models: B777-200; B777 -200LR; B777-300; B777-300ER are determined to be variants to the B777-200ER aircraft model.

VI. Notes

1. Cabin Interior and Seating Configuration must be approved.
SECTION 5: (-200LR VARIANT)

I. General

1. Aircraft: Boeing 777-200LR

2. JAA Validation Application Date: 13 December 1999

3. EASA Validation Date: 02 February 2006

4. EASA TC Date: 02 February 2006

II. Certification Basis

1. Reference Application Date for FAA Certification: 13 December 1999

2. Certification Date: 02 February 2006

   FAA Type Certification Data Sheet No. T00001SE

3. FAA Certification Basis:

   Part 25 through Amendment 25-100 except for:
   FAR 25.831(a) and (g) which remains at Amendment 25-86
   FAR 25.841(a), which remains at Amendment 25-86
   FAR 25.853(d)(3), which remains at Amendment 25-82
   Part 36, as amended at the time of certification.
   Part 34, as amended at the time of certification.

   For details of Exemptions, Special Conditions and Equivalent Safety
   Findings granted by FAA, refer to FAA TCDS T00001SE.

4. JAA Airworthiness Requirements:

   JAR 25 Change 15, effective 1 October 2000
   JAR AWO Change 2, effective 1 August 1996, as defined in CRI A-LR-1.

5. JAA Special Conditions:

   CRI E-LR-4 Fuel Tank Safety
   CRI G-LR-1 E-ETOPS
   CRI K-LR-2 High Altitude Autoland

   Special Conditions applicable to the 777-200LR/300ER, and remaining unchanged
   from the 777-200:

   (Novel Features)

   CRI C-2 Interaction of Systems and Structure (ref. NPA 25C-199)
   CRI C-3 Design Manoeuvre Requirements
   CRI D-2 Elect. Flight Control Unusual Features not addressed by existing JARs
SECTION 5: (-200LR VARIANT) - continued

CRI D-3  Control Signal Integrity (also partly Interpretative Material)
CRI F-15  Global Position (GPS) Installation Approval (ref. 25.1301, 25.1329)
CRI G-2  Airplane Flight Manual

(General Experience)

CRI C-25  Flight Test Loads Survey
CRI D-5  Protection from External High Intensity Radiated Fields
CRI D-6  Lightning Protection Requirements
CRI F-4  Cockpit Voice Recorder
CRI F-5  Flight Data Recorder

Special Conditions applicable to 777-200LR/300ER, and remaining unchanged from the 777-300:

CRI D-302  Lightning Protection Indirect Effects

a. EASA Special Conditions

CRI D-GEN01 PTC  Fire Resistance of Thermal Insulation Material
Affected requirement CS25.856 & Appendix F
CRI D-GEN02 PTC  Application of heat release and smoke density requirements to seat materials. Affected Requirement CS 25.853(d) Appendix F Part IV & V Part 21 §21A.16B
CRI D-GEN8  Installation of Oblique Seats
CRI D-GEN10  Installation of suite type seating
CRI F-GEN-11  Non-rechargeable Lithium Batteries Installations
CRI H-01  Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS
CRI E-08  Flammability Reduction Systems

6. JAA “Elect to Comply” Airworthiness Standards:

For the B777-200LR/300ER, the following standards are applicable, partly based on the Elect to Comply Standards for the B 777-200/300:

B-LR-1  Use of 1g Stall Speed (25.103) et al
B-LR-2  Accelerate/Stop Distance and Braking Performance (wet and contaminated runway) (JAR 25, Ch 15, 25.101,105, 107, 109,113,115, 735,1533 and X1591)
C-LR-10  Vibration, Buffet and Aero-elastic Stability Requirements (NPA 25 BCD-236)
C-LR-12  Landing Gear Safe Lives – Fatigue Scatter Factors (25.571, ACJ 25.571(a))
D-LR-1  Doors (NPA 25D-218 Rev 2 and 3)
D-LR-9  Towbarless Towing Issue 1 (INT/POL/25/13)
      Composite Aircraft Structure – Change of Materials Loads Requirements (NPA 25D-256)
      Shock Absorption Tests (NPA 25C-260)
      Discrete Gust Rule Changes (NPA 25CD-279)
      (NPA 25C-282)
J-1  APU Instruments (NPA 25B-1305, May 1990)
SECTION 5: (-200LR VARIANT) – continued

7. JAA Exemptions:

   The following Requests for Exemption have been granted:

   CRI E-3    Thrust Reverser Testing    (25.934)
   CRI E-6    Fire resistance of PDOS flex hose    (25.1183(a))

   The following CRI addresses a partial exemption due to modified requirements.

   CRI D-14    Hydraulic System Proof Pressure Testing    (25.1435(b)(1))

8. Equivalent Safety Findings:

   Equivalent Safety Findings particular to the B777-200LR/300ER:

   CRI B-LR-3    Stalling    (25.201, 203)
   CRI C-LR-1    Design Dive Speed    (25.335)
   CRI C-LR-9    Material Strength Properties and Design Values    (25.613)
   CRI C-LR-11    Fuel Tank Access Covers    (25.963(g), ACJ
                                                25.963(g), AC
                                                25.963-1)
   CRI D-GEN7    Flammability Testing Hierarchy    (25.853(a))
   CRI D-LR-4    Position Lights    (25.1389)
   CRI D-LR-6    Door Sill Reflectance    (25.811(f))
   CRI D-LR-8    Ventilation (AC Packs Off)    (25.831(a))
   CRI F-LR-1    Dedicated Reset Switch Overspeed Warning    (25.1303(c)(1),
                                                             AMJ 25.1322)
   CRI F-LR-3    Exterior Exit Markings    (25.8111(f))
   CRI F-LR-4    Slide Raft Pressure Vessels    (25X1436)

   Equivalent Safety Findings applicable to the 777-200LR/300ER and remaining unchanged from the 777-200:

   CRI D-10    Thrust Reversers    (25.933(a))
   CRI D-11    Hydraulics Components Strut Aft Fairing    (25.1182(a))
   CRI D-13    Airsystems, Proof and Burst pressure tests    (25.1438)
   CRI D-21    Stowage of Emergency Equipment    (25.1411(a),(b)(1))
   CRI E-1    Fan Cowl Flammable Fluid Zone    (25.1181(a)(6))
   CRI E-7(ptc)    Reinforced Cockpit Door    (25.772, 25.795)
   CRI F-6    Use of ADIRU acceleration data in place of data for CG
   CRI F-8    Flight Controls DC Power System    (25.1351(b)(5))
   CRI F-9    Oxygen Outlets in Galley Work Areas    (25.1447(c)(3))
   CRI F-12    Airplane Overspeed Warning    (25.1303(c)(1))
   CRI F-14    Flammability of Fibre Optic Cables    (25.1359)
   CRI F-GEN9-1    Minimum Mass Flow of Supplemental Oxygen
                   “Component Qualification”    (25.1443(c))
   CRI F-GEN9-3    Crew Determination of Quantity of Oxygen in Passenger Oxygen System    (25.1441(c))
   CRI G-GEN2    Engine and APU Fire Switch Handle Design    (25.1555(d)(1))
   CRI J-2    APU Automatic Shutdown    (25.B.1305)

9. JAA Environmental Standards:
SECTION 5: (787LR VARIANT) – continued

Noise: ICAO Annex 16, Volume I
Fuel Venting & Emissions: ICAO Annex 16, Volume II
III. Technical Characteristics and Operational Limitations

1. Production Basis:
   Production under Type Certificate

2. Design Standard:
   The baseline Type Certified configuration is defined by ASCT (ID No. 2DmWP000005112), Revision A, for WD001 and ASCT (ID No. 2DmWP00000528), Revision A, for WD002.

3. Description:
   Two turbofan engines, medium to long-range twin aisle large transport passenger aeroplane.

4. Dimensions:
   Length 63.7 m (209 ft 1 in)
   Span 64.8 m (212 ft 7 in)
   Height 18.5 m (60 ft 8 in)
   Wing Area 427.8 m² (4605 ft²)

5. Engines:
   Two (2) General Electrical GE90 Turbofan Engines
   Models installed: GE90-115B or GE90-110B1
   EASA Type-Certificate No.: EASA.IM.E.002
   Limitations: See Engine Data Sheet No. EASA.IM.E.002

6. Auxiliary Power Unit:
   Honeywell (formerly Allied Signal) Model 331-500
   Limitations: Refer to the APU TCDS / TSO

7. Propellers:
   N/A

8. Fuel:
   Refer to applicable approved manuals

9. Oil:
   Refer to applicable approved manuals

10. Air Speeds:
    See Airplane Flight Manual

11. Maximum Operating Altitude:
    13,140 m (43,100 ft) pressure altitude

12. All Weather Capability:
    Cat 3

13. Maximum Certified Weights:

<table>
<thead>
<tr>
<th></th>
<th>Pounds</th>
<th>Kilograms</th>
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<tbody>
<tr>
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SECTION 5: (–200LR VARIANT) – continued

a. Optional Increased Weights:

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<td>MTOW</td>
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14. Centre of Gravity:

See Airplane Flight Manual

15. Datum:

See Weights and Balance Manual

16. Mean Aerodynamic Cord (MAC):

7.08 m (278.5 in)

17. Levelling Means:

See Airplane Flight Manual

18. Minimum Flight Crew:

Two (Pilot and Co-pilot) for all types of flight

19. Maximum Seating Capacity:

The maximum number of passengers approved for emergency evacuation is 440. See interior layout drawing for the maximum passenger capacities approved for each aeroplane when delivered.

20. Exits:

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<th>Number</th>
<th>Type</th>
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<td>4 per side</td>
<td>A</td>
<td>1067x1829 (42x72)</td>
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21. Baggage/Cargo Compartment:

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<tr>
<td>Aft</td>
<td>C</td>
<td>47.0 – 62.6</td>
</tr>
<tr>
<td>Bulk</td>
<td>C</td>
<td>17.0</td>
</tr>
</tbody>
</table>

22. Wheels and Tyres:

Nose Assy (Qty 2)

Wheel and Tyre: 43 x 17.5R17

Main Assy (Qty 12)

Wheel and Tyre: 52 x 21.0R22

Speed Rating: 235 MPH

23. Fuel Tank Flammability Reduction System (FRS):

Aircraft which have made there first flight after 31 December 2011 must be equipped with a fuel tank Flammability Reduction System (EASA SIB 2010-10)
Flammability Reduction Systems have been installed on aircraft line numbers 772 and on or as modification per Service Bulletin 777-47-0002. Airworthiness Limitations for the FRS are contained in Section 9 of the applicable Maintenance Planning Document.

This system shall remain installed and operative and can only be dispatched inoperative in accordance with the provisions of the MMEL.

24. Minimum Cabin Crew:

In accordance with the following:

<table>
<thead>
<tr>
<th>Installed Passenger Seats</th>
<th>Minimum Cabin Crew</th>
</tr>
</thead>
<tbody>
<tr>
<td>401 to 440</td>
<td>9</td>
</tr>
<tr>
<td>400 or fewer</td>
<td>8</td>
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</table>

NOTE: The above minimum cabin crew numbers are those demonstrated by the type certificate holder for conventional cabin layouts. A lower number may be acceptable in the case of a cabin layout with compensating features agreed by the Agency. In such a case, the lower minimum cabin crew number must be documented in an EASA approved major design change or Supplemental Type Certificate (STC).

IV. Operating and Servicing Instructions


   *Note: The AFM for a JAA customer will have a dedicated identification, replacing the denominator J01*

2. Mandatory Maintenance Instructions:

   CMRs, ALI’s, Life Limited Parts
   Maintenance Planning Data Document Section 9 (Boeing Document D622W001), and later revisions thereof.

3. Service Letters and Service Bulletins:

   As published by Boeing and approved by FAA.

4. Required Equipment: These are identified as Import Requirements in CRI A-LR-10.

   The following requirements must be complied with if the optional equipment listed below is installed:

   - CRI D-20 Assist Space Deviation (25.813(b))
   - CRI F-16 Purser Station Seat (25.785(d) and (f))
   - CRI F-17 Placards Pivoting Arm Video Units (25.561(d) et al)
   - CRI F-253 MMR Qualification and Installation (25.1301 et al)
   - CRI F-254 EGPWS Airworthiness Approval (25.1301 et al)
   - CRI F-255 EGPWS Alerting Design.
SECTION 5: ( -200LR VARIANT) – continued

V. OPERATIONAL SUITABILITY DATA (OSD)

The Operational Suitability Data elements listed below are approved by the European Union Aviation Safety Agency under the EASA Type Certificate [original TC number] as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List
   a) Master Minimum Equipment List D630W003-ESEM approved at revision 3 dated July 24, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: JAR-MMEL / MEL Amendment 1, section 1 Subpart A & B.
   b) Required for entry into service by EU operator

2. Flight Crew Data
   a) The Flight Crew data D015Z033-01, Revision New, dated December 10, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: CS-FCD, initial Issue.
   b) Required for entry into service by EU operator.
   c) Pilot Type Rating: "B777/787".
      Note: These data cover the models B787-8, -9 and B777-200, -300 and -777F series aircraft. Differences are addressed in D015Z033-01.

3. Cabin Crew Data
   a) The Cabin Crew data (CCD reference D6-85797, Operational Suitability Data-Cabin Crew Data - Boeing 777/787) approved at revision A (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: CS-CCD, Initial Issue.
   b) Required for entry into service by EU operator.
   c) The aircraft models: B777-200; B777 -200LR; B777-300; B777-300ER are determined to be variants to the B777-200ER aircraft model.

VI. Notes

1. Cabin Interior and Seating Configuration must be approved.
SECTION 6: (-F Freighter VARIANT)

I. General

1. Aircraft: Boeing 777-F Freighter

2. EASA Validation Application Date: 18 March 2005
   (Reference date for EASA validation)

3. EASA Validation Date: 06 February 2009

4. EASA TC Date: 06 February 2009

II. Certification Basis

1. Reference Application Date for FAA Certification: 18 March 2005

2. Certification Date: 06 February 2006

   FAA Type Certification Data Sheet No. T00001SE

3. FAA Certification Basis:

   Part 25 through Amendment 25-117 except for:
   FAR 25.841(a), which remains at Amendment 25-86
   Part 36, as amended at the time of certification.
   Part 34, as amended at the time of certification.

   For details of Exemptions, Special Conditions and Equivalent Safety
   Findings granted by FAA, refer to FAA TCDS T00001SE.

4. EASA/JAA Airworthiness Requirements:

   For Significant Related Changes and/or affected features/functions:
   – CS25-0 (Initial Issue)
   – CS-AWO.

   For Secondary changes, Not affected areas and Unrelated changes
   and/or affected features/functions:
   – EASA’s 777-200LR TCDS
   – (JAR 25 Change 15
     JAR AWO, Ch 2.)

Reversions:
The following reversions as defined by the respective 777F CRIs, have been identified
and accepted as part of the EASA/JAA Validation of the Boeing 777F and are
requested by Boeing and agreed by EASA for the certification basis for the validation
of the Boeing 777F:
SECTION 6: (-F Freighter VARIANT) – continued

<table>
<thead>
<tr>
<th>From Regulation/ Amdt</th>
<th>Title</th>
<th>To Amendment Level</th>
<th>System</th>
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<tbody>
<tr>
<td>25.1310 / CS25-0</td>
<td>Power source capacity and distribution</td>
<td>JAR 25-15</td>
<td>Electrical Subsystems: Main Deck Cargo Lighting System, Main Deck Alerting System, Main Deck Cargo Door Lighting System</td>
</tr>
<tr>
<td></td>
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<td>Aero: Stability &amp; Control</td>
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</table>

EASA Special Conditions:

**Special Conditions specific to the B777F**

<table>
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<tr>
<th>D-01(777F)</th>
<th>Fuselage Doors (Main Deck Cargo Door)</th>
<th>CS-25.783 (NPA25D-301 iss 1)</th>
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<tbody>
<tr>
<td>D-02(777F)</td>
<td>Courier Compartment</td>
<td>CS-25.857 (e)</td>
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<tr>
<td>D-03(777F)</td>
<td>Class E Cargo compartment, Fire Protection of Essential Systems</td>
<td>JAR 25.855</td>
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<tr>
<td>D-04(777F)</td>
<td>Fire resistance of Thermal Insulation Material</td>
<td>CS 25.853(a), CS 25.855(d), CS-25.856(a)</td>
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<tr>
<td>F-02(777F)</td>
<td>Access to Class E Compartments in Flight (FAA Exemption)</td>
<td>CS-25.857(e)</td>
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<td>H-01</td>
<td>Enhanced Airworthiness Programme for Aeroplane Systems - ICA on EWIS</td>
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<tr>
<td>E-8</td>
<td>Flammability Reduction Systems</td>
<td></td>
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</table>

**Special Conditions applicable to the 777-200LR and effective for B777F:**

**Special Condition CRIs previously applicable to the 777-200LR effective for the 777F as follows:**

<table>
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<tr>
<th>A-9</th>
<th>Limit Engine Torque Loads for sudden Engine Stoppage</th>
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<tbody>
<tr>
<td>C-3</td>
<td>Design Manoeuvre Requirements</td>
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<td>C-25</td>
<td>Flight Test Loads Survey</td>
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<tr>
<td>D-2</td>
<td>Elect. Flt Ctrl Unusual Features not addressed by existing JARs</td>
</tr>
<tr>
<td>D-3</td>
<td>Control Signal Integrity (also partly Interpretative Material)</td>
</tr>
</tbody>
</table>
D-5 Protection from External High Intensity Radiated Fields 25.1309(a), 25.1431
G-LR-1 ETOPS
G-2 Airplane Flight Manual
E-LR-4 Fuel Tank Safety JAR 25.981 et al
F-4 Cockpit Voice Recorder
F-5 Flight Data Recorder
F-15 Global Position (GPS) Installation Approval (ref 25.1301, 25.1309)
F-GEN-11 Non-rechargeable Lithium Batteries Installations CS 25.601, 25.863, 25.1353(c)
K-LR-2 High Altitude Autoland NPA AWO 2 & 5

Note1: CRI C-02 is not applicable due to Boeing Elect to Comply with CS25 amendment.

5. EASA/JAA “Elect to Comply” Airworthiness Standards:

Elect to comply particular to B777F:
Boeing has elected to Comply with CS25 in place of JAR-25, for a number of Secondary Changes, and Unrelated Changes not-significant or Secondary/Concurrent Changes as shown in the immediate table below.

<table>
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<tr>
<th>CS 25 requirement</th>
<th>Requirement Title</th>
<th>Amendment level</th>
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<tr>
<td>.251(e)</td>
<td>Vibration and buffeting</td>
<td>CS25-0</td>
<td>Aero – Performance &amp; Handling Characteristics</td>
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<td>.777(a)(c)</td>
<td>Cockpit Controls</td>
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<td>ECS Cargo Conditioning</td>
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<tr>
<td>.831(b)</td>
<td>Ventilation</td>
<td>CS25-0</td>
<td>ECS EE &amp; IFE Equip Cooling</td>
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<td>.863</td>
<td>Flammable fluid fire protection</td>
<td>CS25-0</td>
<td>Propulsion-Installations</td>
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<tr>
<td>.1357(g)</td>
<td>Circuit protective devices</td>
<td>CS25-0</td>
<td>Potable / Waste Water &amp; Vacuum Waste Systems</td>
</tr>
<tr>
<td>.1360(a)</td>
<td>Precautions against injury</td>
<td>CS25-0</td>
<td>ECS-Cargo Conditioning</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Potable / Waste Water &amp; Vacuum Waste Systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Supernumerary Oxygen Sys</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ECS EE &amp; IFE Equip Cooling</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>– Electrical</td>
</tr>
<tr>
<td>.1431(a)</td>
<td>Electronic equipment</td>
<td>CS25-0</td>
<td>Flight Deck Audio.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Personnel Address Sys – Cabin Systems</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>ARINC 629 Data Bus Sys</td>
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<tr>
<td></td>
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<td></td>
<td>Supernumerary Oxygen Sys</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ECS-EE &amp; IFE Equip Cooling</td>
</tr>
<tr>
<td>.1431(b)</td>
<td>Electronic Equipment</td>
<td>CS25-0</td>
<td>Flight Deck Audio</td>
</tr>
<tr>
<td>.1431(c)</td>
<td>Electronic equipment</td>
<td>CS25-0</td>
<td>Personnel Address Sys – Cabin Systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ARINC 629 Data Bus Sys</td>
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<tr>
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<td></td>
<td>Potable / Waste Water &amp; Vacuum Waste Systems</td>
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<td></td>
<td>ECS-EE &amp; IFE Equip Cooling</td>
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<tr>
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<td></td>
<td>Supernumerary Oxygen Sys</td>
</tr>
<tr>
<td>.1431(d)</td>
<td>Electronic equipment</td>
<td>CS25-0</td>
<td>Personnel Address Sys – Cabin Systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ARINC 629 Data Bus Sys</td>
</tr>
<tr>
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<td>Potable / Waste Water &amp; Vacuum Waste Systems</td>
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<td></td>
<td></td>
<td>ECS-EE &amp; IFE Equip Cooling</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Supernumerary Oxygen Sys</td>
</tr>
<tr>
<td>.1447(c)(2)(ii)</td>
<td>Equipment standards for oxygen dispensing units</td>
<td>CS25-0</td>
<td>Flight Deck Audio</td>
</tr>
</tbody>
</table>
In addition, Boeing proposes to comply with CS 25 Amdt 1 for the following regulations for all changed and affected structure as shown in the following table:

<table>
<thead>
<tr>
<th>CS 25 requirement</th>
<th>Requirement Title</th>
<th>Amendment level</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>.1457(c)(5)</td>
<td>Cockpit Voice Recorders</td>
<td>CS25-0</td>
<td>Flight Deck Audio</td>
</tr>
<tr>
<td>.1555(a)</td>
<td>Control Markings</td>
<td>CS-25-0</td>
<td>ECS-Cargo Conditioning</td>
</tr>
</tbody>
</table>

Elect to comply applicable to B777-200LR remaining valid for B777F:

The following standards are applicable based on the Elect to Comply Standards for the B777-200LR:

<table>
<thead>
<tr>
<th>B-LR-1</th>
<th>Use of 1 g Stall Speed</th>
<th>JAR 25.103 et al</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-LR-2</td>
<td>Accelerate/Stop Distance and Braking Performance (wet and contaminated runway)</td>
<td>JAR25, Ch 15, 25.101, 105, 107, 109, 113, 115, 35, 1533 and X1591</td>
</tr>
<tr>
<td>D-LR-1</td>
<td>Doors</td>
<td>NPA 25D-218 Rev 2 and 3</td>
</tr>
<tr>
<td>D-LR-9</td>
<td>Towbarless Towing</td>
<td>INT/POL/25/13 Issue 1</td>
</tr>
<tr>
<td>J-1</td>
<td>APU Instruments</td>
<td>NPA 25B-1305, May 1990</td>
</tr>
</tbody>
</table>

6. EASA/JAA Exemptions:

The following Requests for Exemption have been granted on the B777-200LR and are also granted on the B777F:

<table>
<thead>
<tr>
<th>E-3</th>
<th>Thrust Reverser Testing</th>
<th>25.934</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-6</td>
<td>Fire resistance of PDOS flex hose</td>
<td>25.1183(a)</td>
</tr>
</tbody>
</table>
7. EASA Equivalent Safety Findings:

Equivalent Safety Findings particular to the B777F:

<table>
<thead>
<tr>
<th>D-05(777F)</th>
<th>Smoke detection on lower lobe (class C) cargo compartment</th>
<th>CS.855(i), CS 25.857, CS 25.858(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-05 (757-300)</td>
<td>Passenger Information Signs</td>
<td>JAR 25.791(a)</td>
</tr>
</tbody>
</table>

Equivalent Safety Findings applicable to the B777F and remaining unchanged from the B777-200LR/300ER:

<table>
<thead>
<tr>
<th>B-LR-3</th>
<th>Stalling</th>
<th>JAR 25.201, 203 (from A-LR-1, page 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-LR-1</td>
<td>Design Dive Speed</td>
<td>JAR 25.335(b)</td>
</tr>
<tr>
<td>C-LR-11</td>
<td>Fuel Tank Access Covers</td>
<td>JAR 25.963(g), ACJ 25.963(g), AC 25.963-1</td>
</tr>
<tr>
<td>D-10</td>
<td>Thrust Reversers</td>
<td>JAR 25.933(a)</td>
</tr>
<tr>
<td>D-11</td>
<td>Hydraulic Components in Strut Aft Fairing</td>
<td>JAR 25.1182(a)</td>
</tr>
<tr>
<td>D-13</td>
<td>Airsystems, Proof and Burst pressure tests</td>
<td>JAR 25.1438</td>
</tr>
<tr>
<td>D-LR-4</td>
<td>Position Lights</td>
<td>JAR 25.1389</td>
</tr>
<tr>
<td>D-LR-6</td>
<td>Door sill Reflectance</td>
<td>JAR 25.811(f)</td>
</tr>
<tr>
<td>E-1</td>
<td>Fan Cowl Flammable Fluid Zone</td>
<td>JAR 25.1181(a)(6)</td>
</tr>
<tr>
<td>F-6</td>
<td>Use of ADIRU acceleration data in place of data for CG</td>
<td>JAR 25.1459(a)(2)</td>
</tr>
<tr>
<td>F-8</td>
<td>ESF for Flight Controls DC Power Systems</td>
<td>JAR 25.1351(b)(5)</td>
</tr>
<tr>
<td>F-9</td>
<td>Oxygen outlets in galley work area</td>
<td>JAR 25.1447(c)(3)</td>
</tr>
<tr>
<td>F-10</td>
<td>Slide/Raft Inflation Gas Cylinders</td>
<td>JAR 25X1436</td>
</tr>
<tr>
<td>F-12</td>
<td>Overspeed Warning Aural</td>
<td>CS 25.1303 (c)(1)</td>
</tr>
<tr>
<td>F-LR-1</td>
<td>Dedicated Reset Switch Overspeed Warning</td>
<td>CS 25.1303(c)(1); AMJ 25.1322</td>
</tr>
<tr>
<td>F-LR-3</td>
<td>Exterior Exit Markings</td>
<td>JAR 25.811(f)</td>
</tr>
<tr>
<td>F-LR-4</td>
<td>Slide Raft Pressure Vessels</td>
<td>JAR 25X1436</td>
</tr>
<tr>
<td>G-GEN2</td>
<td>Engine and APU Fire Switch Handle Design</td>
<td>JAR 25.1555(d)(1)</td>
</tr>
<tr>
<td>J-2</td>
<td>APU Automatic Shutdown</td>
<td>JAR 25B.1305</td>
</tr>
</tbody>
</table>

Notes:
B777-200LR CRI C-LR-9 “Material Strength Properties and Design Values” is not required due to compliance with CS25-1 for 25.613(b),(f)

8. EASA Environmental Standards:

Noise: ICAO Annex 16, Volume I
Fuel Venting & Emissions: ICAO Annex 16, Volume II
SECTION 6: (-F Freighter VARIANT) – continued

III. Technical Characteristics and Operational Limitations

1. Production Basis:
   Production under Type Certificate

2. Design Standard:
   The Amended Type Certified configuration is defined by the “777F Master Drawing List,” Rev D as enclosed in Boeing Internal Letter B-H320-2009-00178, dated 2-Feb-2009

3. Description:
   Two turbofan engines, medium to long-range twin aisle large transport passenger aeroplane.

4. Dimensions:
   
   Length       63.7 m (209 ft 1 in)
   Span          64.8 m (212 ft 7 in)
   Height        18.5 m (60 ft 8 in)
   Wing Area     427.8 m² (4605 ft²)

5. Engines:
   Two (2) General Electrical GE90 Turbofan Engines
   Models installed: GE90-110B1, GE90-115B
   EASA Type-Certificate No.: EASA.IM.E.002
   Limitations: See Engine Data Sheet No. EASA.IM.E.002

6. Auxiliary Power Unit:
   Honeywell (formerly Allied Signal) Model 331-500
   Limitations: Refer to the APU TCDS / TSO

7. Propellers:
   N/A

8. Fuel:
   Refer to applicable approved manuals

9. Oil:
   Refer to applicable approved manuals

10. Air Speeds:
    See Airplane Flight Manual

11. Maximum Operating Altitude:
    13,140 m (43,100 ft) pressure altitude

12. All Weather Capability:
    Cat 3

SECTION 6: (-F Freighter VARIANT) – continued

13. Maximum Certified Weights:

<table>
<thead>
<tr>
<th></th>
<th>Pounds</th>
<th>Kilograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTW</td>
<td>768,800</td>
<td>348,721</td>
</tr>
<tr>
<td>MTOW</td>
<td>766,800</td>
<td>347,814</td>
</tr>
<tr>
<td>MLW</td>
<td>575,000</td>
<td>260,815</td>
</tr>
<tr>
<td>MZFW</td>
<td>547,000</td>
<td>248,115</td>
</tr>
</tbody>
</table>

14. Centre of Gravity:
    See Airplane Flight Manual
15. Datum:  
See Weights and Balance Manual

16. Mean Aerodynamic Cord (MAC):  
7.08 m (278.5 in)

17. Levelling Means:  
See Airplane Flight Manual

18. Minimum Flight Crew:  
Two (Pilot and Co-pilot) for all types of flight

19. Main Deck Occupancy:  
The total number of persons carried, including flight crew (2 on-duty flight crew and 2 off-duty flight crew), is limited to 15.

Under the Special Condition CRI D-02, 11 persons may occupy the area just aft of the flight deck provided a seating configuration is installed that is approved for occupancy during taxi, takeoff, flight and landing. In conjunction with an approved seating configuration and the provisions of the Special Condition CRI D-02, these persons may be authorized to occupy the main deck.

20. Exits:  

<table>
<thead>
<tr>
<th>Number Type</th>
<th>Number</th>
<th>Type</th>
<th>Size mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 per side</td>
<td>I</td>
<td>1067x1829 (42x72)</td>
<td></td>
</tr>
</tbody>
</table>

21. Baggage/Cargo (usable) Compartment:  

<table>
<thead>
<tr>
<th>Location</th>
<th>Class</th>
<th>Volume (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main deck</td>
<td>E</td>
<td>518</td>
</tr>
<tr>
<td>Lower Forward deck</td>
<td>C</td>
<td>102</td>
</tr>
<tr>
<td>Lower Aft deck</td>
<td>C</td>
<td>77</td>
</tr>
<tr>
<td>Lower Bulk</td>
<td>C</td>
<td>17</td>
</tr>
</tbody>
</table>
SECTION 6: (-F Freighter VARIANT) – continued

22. Wheels and Tyres:

Nose Assy (Qty 2)
  Wheel and Tyre: 43 x 17.5R17
Main Assy (Qty 12)
  Wheel and Tyre: 52 x 21.0R22
  Speed Rating: 235 MPH

23. Fuel Tank Flammability Reduction System (FRS):

Aircraft which have made there first flight after 31 December 2011 must be equipped with a fuel tank Flammability Reduction System (EASA SIB 2010-10)

Flammability Reduction Systems have been installed on aircraft line numbers 772 and on or as modification per Service Bulletin 777-47-0002. Airworthiness Limitations for the FRS are contained in Section 9 of the applicable Maintenance Planning Document.

This system shall remain installed and operative and can only be dispatched inoperative in accordance with the provisions of the MMEL

IV. Operating and Servicing Instructions

1. Flight Manual:
   Boeing Document D631W001
   
   Note: The AFM for an EASA customer will have a dedicated identification, replacing the denominator J01F

2. Mandatory Maintenance Instructions:
   CMRs, ALI's, Life Limited Parts
   Maintenance Planning Data Document Section 9 (Boeing Document D622W001), and later revisions thereof.

3. Service Letters and Service Bulletins:
   As published by Boeing and approved by FAA.

4. Required Equipment:
   The following requirements must be complied with if the optional equipment listed below is installed:
   
   CRI F-17 Placards Pivoting Arm Video Units (25.561(d) et al)
   CRI F-253 MMR Qualification and Installation (25.1301 et al)
   CRI F-254 EGPWS Airworthiness Approval (25.1301 et al)
   CRI F-255 EGPWS Alerting Design.

V. OPERATIONAL SUITABILITY DATA (OSD)

The Operational Suitability Data elements listed below are approved by the European Union Aviation Safety Agency under the EASA Type Certificate [original TC number] as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.
SECTION 6: (-F Freighter VARIANT) – continued

1. Master Minimum Equipment List
   a) Master Minimum Equipment List D630W003-ESEM approved at revision 3 dated July 24, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: JAR-MMEL / MEL Amendment 1, section 1 Subpart A & B.
   b) Required for entry into service by EU operator

2. Flight Crew Data
   a) The Flight Crew data D015Z033-01, Revision New, dated December 10, 2015 (or later approved revisions) as per the defined Operational Suitability Data Certification Basis: CS-FCD, initial Issue.
   b) Required for entry into service by EU operator.
   c) Pilot Type Rating: "B777/787".
      Note: These data cover the models B787-8, -9 and B777-200, -300 and -777F series aircraft. Differences are addressed in D015Z033-01.


VI. Notes
   1. Supernumerary Area Configuration must be approved.
## SECTION 7: CHANGE RECORD (STARTS WITH ISSUE 08)

<table>
<thead>
<tr>
<th>TCDS Issue No</th>
<th>TCDS Date</th>
<th>TCDS Changes</th>
<th>TC Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.0</td>
<td>03/02/10</td>
<td>Page 3: Addition of Roll Royce engine Trent 884 as Increase Gross Weight possible version as this was omitted in previous TCDS. Increase Gross Weight note modified to refer systematically to AFM for approved weight limitations of each S/N. Page 7: §12.1 Modification of the title. Was “-200 IGW version” updated to “-200 IGW version Maximum Certified Weights”</td>
<td>06/02/09</td>
</tr>
<tr>
<td>9.0</td>
<td>20/07/11</td>
<td>Section 1, Sub-section 6: Updated ETOPS approval information. Section 6, Sub-section 4: EASA/JAA Airworthiness Requirements, added Reversions table, copy-paste from CRI-A01 Section 9.2, plus added Pneumatics for 25.1438, as per CRI A-01 Note under Section 9.2. Multiple sections / pages: .Addition of Reversions from CRI A-01 as originally documented during EASA validation to provide view of the items for which a reversion exist”. .Added CRI D-GEO02 PTC. .Corrected Maximum Certified Weights &amp; Optional / Increased Weights.</td>
<td></td>
</tr>
<tr>
<td>10.0</td>
<td>10/07/12</td>
<td>-Added CRI H-01 “ICA on EWIS” on pages 5,10,16,22,28 -Updated “Table of Content” on page 2</td>
<td>N/A</td>
</tr>
<tr>
<td>11.0</td>
<td>1/10/12</td>
<td>-Added CRI E-08 “Flammability Reduction systems” ; pages 5, 11, 17, 23 and 27 - Added maintenance and operational information on installed Flammability Reduction Systems; pages 8, 14, 20, 26 and 38 -Corrected CRI D-252 and CRI D-302 entries for 777-300 and 777F; pages 11 and 30 -Optional Increased Weight correction; page 19 -Added Appendix to publish selected special conditions that are part of the applicable certification basis</td>
<td></td>
</tr>
<tr>
<td>12.0</td>
<td>05 Feb13</td>
<td>-Clarification / simplification of environmental requirements; pages 6,12,19,24,36 -Correction of Mandatory Maintenance Requirement references; pages 8,14,21,27,38 -Incorporation of GE90-115B engine model applicable to 777F; pages 3, 36 -Update of type certificate holder address; pages 1,3</td>
<td>N/A</td>
</tr>
<tr>
<td>13.0</td>
<td>15 Dec15</td>
<td>- Update of type certificate holder address; pages 1,3 - Added information on Minimum Cabin Crew; pages 8,16, 23,30 - Update of APU approval holder to Honeywell (formerly Allied Signal) Model 331-500; pages 6,14,21,28,40 - Added Special Condition D-GEN01 PTC, updated text for Special Condition D-GEN02 PTC; pages 5,12,19,26, - Added Special Condition F-GEN10; pages</td>
<td>N/A</td>
</tr>
<tr>
<td>Issue</td>
<td>Date</td>
<td>Changes</td>
<td></td>
</tr>
<tr>
<td>-------</td>
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</tr>
</tbody>
</table>
| 14.0  | 28 March 2018 |  - CRI F-GEN-11 replaces the CRI F-GEN10 PTC on Non-rechargeable Lithium Batteries Installations  
  - The OSD certification bases are defined directly in the TCDS (the references to the OSD CRIs are removed)  |
| 15.0  | 10 Dec. 2018 |  - Addition of generic ESF CRIs D-GEN7 and G-GEN2  |
| 16.0  | 30 Jul. 2020 |  - Addition of generic SC CRIs D-GEN8 and D-GEN10  |
| 17.0  | 10 Aug. 2022 |  - 777 with PW4000 aircraft-engine configurations removed from EASA TCDS  |
| 17.1  | 16 Aug. 2022 |  - Added clarifications regarding PW4000 configurations  |
| 18.0  | 29 Nov. 2023 |  - Added CRI D-6, special condition on "Lightning Protection Requirements" to the -300ER and -200LR models  |

-END OF TCDS IM.A.003-