European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

EASA.IM.A.003

Boeing 777

The Boeing Company

P.O. Box 3707 MC 02-UX
Seattle, WA 98124-2207
USA

For models:

777-200
777-200LR
777-300
777-300ER
777F

Issue 9.0: 20 July 2011

TABLE OF CONTENT

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)
(Address) Seattle Aircraft Certification Office,
1601 Lind Avenue S.W.
Renton, WA 98055-4056
United States of America

5. Type Certificate Holder: The Boeing Company
(Address) P.O. Box 3707
Seattle, WA 98124-2207
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.

Variant	Engine Type	JAA 120 Min Approval Date	JAA 180 Min Approval Date	Note
-200	PW 4077 / 4084	12.06.95	14.06.99	
	GE90-76B	22.10.96	27.05.97	
	Trent 875 / 877	15.04.97	27.05.97	
	Trent 884		27.05.97	Increased Gross Weight (IGW) possible version of the –200 Variant only. Refer to AFM for approved Weights Limitations of each S/N
	PW 4090		13.07.99	
	PW 4090-3		10.12.01	
	GE90-85B / -90B	06.02.97	22.08.97	
	GE90-94B		09.11.00	
	Trent 892 / 892B	18.04.97	19.02.98	
	Trent 895		01.02.00	
-200LR	GE90-110B1		02.02.06	
	GE90-115B		02.02.06	
-300	PW 4090		10.12.01	
	PW 4098		10.12.01	
	Trent 892		29.06.98	
-300ER	GE90-115B		16.03.04	
F	GE90-110B1		06.02.09	

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

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
NPA 25 BCD-236, Vibration, Buffet and Aero-Elastic Stability Requirements, dated November 22, 1990
NPA 25B-217, Reduced and De-rated Take Off Thrust Procedures, dated May 1992.
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
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-GEN02 PTC	Application of heat release and smoke density requirements to seat materials
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)

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

8. JAA Environmental Standards:

Noise. There is no JAR for Noise.
Aircraft (including APU) complies with FAR Part 36 and ICAO Annex 16, Vol. I, 3rd Edition, July 1993, Chapter 3.

Engine Emission. There is no JAR for Engine Emissions. For Applicable requirements, reference is made to National Requirements in CRI A-3-1 through A-3-18.

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 m^2	(4605 ft^2)

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

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: Allied Signal Model 331-500
Limitations: Refer to the APU TCDS / TSO.

6. Propellers: N/A

7. Fuel: Refer to applicable approved manuals

8. Oil: Refer to applicable approved manuals

9. Air Speeds: See Airplane Flight Manual

10. Maximum Operating Altitude:

13,140 m (43,100 ft) pressure altitude

11. All Weather Capability: Cat 3

12. Maximum Certified Weights:

	Pounds	Kilograms
MTW	547,000	248,115
MTOW	545,000	247,207
MLW	445,000	201,848
MZFW	420,000	190,508

12.1 -200 IGW Version Maximum Certified Weights:

	Pounds	Kilograms
MTW	658,000	298,463
MTOW	656,000	297,556
MLW	470,000	213,188
MZFW	442,000	200,487

13. Centre of Gravity: See Airplane Flight Manual

14. Datum: See Weights and Balance Manual

15. Mean Aerodynamic Cord. See Weights and Balance Manual

16. Levelling Means: See Airplane Flight Manual

17. Minimum Flight Crew: Two (2): Pilot and Co-pilot

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.

19. Exits:

Number	Type	Size mm (inches)
4 per side	A	1067x1829 (42x72)

20. Baggage/Cargo Compartment:

Location	Class	Volume (m^3)
Forward	C	70.4 - 80.5
Aft	C	47.0 - 62.6
Bulk	C	17.0

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

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

2. Mandatory Maintenance Instructions:

CMRs
777 MRB Report, 1 September 1994
(Boeing Document D626W010-CMR), and later revisions thereof (Rev. S, 19 August 1996 for IGW version).

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 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-301Fuel Tank Access Covers
JAR ACJ 25.963(g), Fuel Tanks (Acceptable Means of Compliance)

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 D-252	Lightning Protection Indirect Effects
CRI E-4	Engine Unbalance due to Fan Blade loss
CRI F-4	Cockpit Voice Recorder
CRI F-5	Flight Data Recorder

5.a EASA Special Conditions

CRI D-GEN02 PTC	Application of heat release and smoke density requirements to seat materials

6. 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))

Note: The following CRIs 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. JAA 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 Strut 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 J-2	APU Automatic Shutdown	(25.B.1305))

8. JAA Environmental Standards:

Noise. ICAO Annex 16 Volume I (Third Edition)
Fuel Venting & Emissions. ICAO Annex 16 Volume II (Second Edition)

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).

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 m^2	(4605 ft^2)

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

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: 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:

	Pounds	Kilograms
MTW	662,000	300,278
MTOW	660,000	299,370
MLW	524,000	237,682
MZFW	495,000	224,528

14. Centre of Gravity: See Airplane Flight Manual

15. Datum: See Weights and Balance Manual

16. Mean Aerodynamic Cord: 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 550. See interior layout drawing for the maximum passenger capacities approved for each aeroplane when delivered.

20. Exits:

Number	Type	Size mm (inches)
5 per side	A	1067x1829 (42x72)

21. Baggage/Cargo Compartment:

Location	Class	Volume (m^3)
Forward	C	94.0 – 107.4
Aft	C	70.5 - 89.5
Bulk	C	17.0

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

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

2. Mandatory Maintenance Instructions:

CMRs
777 MRB Report, 1 September 1994
(Boeing Document D626W010-CMR), and later revisions thereof.

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 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	JAR 25.981 et al
CRI G-LR-1	E-ETOPS	FAA SC, JAA IL-20
CRI K-LR-2	High Altitude Autoland	NPA AWO 2&5

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 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

5.a EASA Special Conditions

CRI D-GEN02 PTC	Application of heat release and smoke density requirements to seat materials

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))
D-LR-1	Doors	(NPA 25D-218 Rev 2 and 3)
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. JAA 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), ACJ 25.963(g), AC 25.963-1)
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))
CRI F-14	Flammability of Fibre Optic Cables	(25.1359)
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 (Third Edition)
Fuel Venting & Emissions: ICAO Annex 16 Volume II (Second Edition)

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 WD501and 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:

Length	73.8 m	(242 ft 4 in)
Span	64.8 m	(212 ft 7 in)
Height	18.5 m	(60 ft 8 in)
Wing Area	427.8 m^2	(4605 ft^2)

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: 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:

	Pounds	Kilograms
MTW	752,000	341,101
MTOW	750,000	340,194
MLW	554,000	251,290
MZFW	529,000	239,950

13.1 Optional Increased Weights:

	Pounds	Kilograms
MTW	777,000	352,441
MTOW	775,000	352,534

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 550. See interior layout drawing for the maximum passenger capacities approved for each aeroplane when delivered.

20. Exits:

Number	Type	Size mm (inches)
5 per side	A	1067x1829 (42x72)

21. Baggage/Cargo Compartment:

Location	Class	Volume (m^3)
Forward	C	94.0 – 107.4
Aft	C	70.5 - 89.5
Bulk	C	17.0

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

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
777 MRB Report, 1 September 1994
(Boeing Document D626W010-CMR), and later revisions thereof.

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.	

V 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: (Reference date for EASA validation)	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	JAR 25.981 et al
CRI G-LR-1	E-ETOPS	FAA SC, JAA IL-20
CRI K-LR-2	High Altitude Autoland	NPA AWO 2&5

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
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 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

5.a EASA Special Conditions

CRI D-GEN02 PTC	Application of heat release and smoke density requirements to seat materials

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	(INT/POL/25/13 Issue 1
	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. JAA 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-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	(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))
CRI F-14	Flammability of Fibre Optic Cables	(25.1359)
CRI J-2	APU Automatic Shutdown	(25.B.1305)

9. JAA Environmental Standards:

Noise: ICAO Annex 16 Volume I (Third Edition)
Fuel Venting & Emissions: ICAO Annex 16 Volume II (Second Edition)

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 WD001and 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 m^2	(4605 ft^2)

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: 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:

	Pounds	Kilograms
MTW	752,000	341,101
MTOW	750,000	340,194
MLW	492,000	223,167
MZFW	461,000	209,106

13.1 Optional Increased Weights:

	Pounds	Kilograms
MTW	768,800	348,721
MTOW	766,800	347,814

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:

Number	Type	Size mm (inches)
4 per side	A	1067x1829 (42x72)

21. Baggage/Cargo Compartment:

Location	Class	Volume (m^3)
Forward	C	70.4 – 80.5
Aft	C	47.0 – 62.6
Bulk	C	17.0

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

IV. Operating and Servicing Instructions

1. Flight Manual: Boeing Document D631W001.J01L

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

2. Mandatory Maintenance Instructions:

CMRs
777 MRB Report, 1 September 1994
(Boeing Document D626W010-CMR), and later revisions thereof.

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.	

V 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: (Reference date for EASA validation)	18 March 2005
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:

From Regulation/amdt	Title	To Amendment Level	System
25.1301 / CS25-0	Function and installation	JAR 25-15	ECS: CPCS, CACTCS, Air Distribution, Smoke Detection & Fire Protection Payloads: Crew Oxygen System Electrical Subsystems: Main Deck Cargo Lighting System, Main Deck Alerting System, Main Deck Cargo Door Lighting System Aero: Stability & Control
25.1309 / CS25-0	Equipment, systems, and installations	JAR 25-15	
25.1310 / CS25-0	Power source capacity and distribution	JAR 25-15	
25.1438 / CS25-0	Pressurization and Pneumatic Systems	JAR 25-15	ECS: CPCS, Pneumatics

EASA Special Conditions:

Special Conditions specific to the B777F

D-01(777F)	Fuselage Doors (Main Deck Cargo Door)	CS-25.783 (NPA25D-301 iss 1)
D-02(777F)	Courier Compartment	CS-25.857 (e)
D-03(777F)	Class E Cargo compartment, Fire Protection of Essential Systems	JAR 25.855
D-04(777F)	Fire resistance of Thermal Insulation Material	CS 25.853(a), CS 25.855(d), CS-25.856(a)
F-02(777F)	Access to Class E Compartments in Flight (FAA Exemption)	CS-25.857(e)

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:

A-9	Limit Engine Torque Loads for sudden Engine Stoppage	
C-3	Design Manoeuvre Requirements	25.331(c), 25.349(a), 25.351
C-25	Flight Test Loads Survey	25.301(b)
D-2	Elect. Flt Ctrl Unusual Features not addressed by existing JARs	
D-3	Control Signal Integrity (also partly Interpretative Material	
D-5	Protection from External High Intensity Radiated Fields	25.1309(a), 25.1431
D-302	Lightning Protection Indirect Effects	25.581, 25X899, 25.954, 25.1309
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)
K-LR-2	High Altitude Autoland	NPA AWO 2 & 5

Note1: CRI C-02 is note applicable due to Boeing Elect to Comply with CS25 amendement.

Special Conditions applicable to B777F, and remaining unchanged from the B777-300:

CRI D-302	Lightning Protection Indirect Effects	NPA AWO 2 & 5

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.

CS 25 requirement	Requirement Title	Amendment level	Change
.251(e)	Vibration and buffeting	CS25-0	Aero – Performance & Handling Characteristics
.777(a)(c)	Cockpit Controls	CS25-0	ECS-Cargo Conditioning
.831(b)	Ventilation	CS25-0	ECS EE & IFE Equip Cooling
.831(b)(c)	Ventilation	CS25-0	ECS-Cargo Conditioning ECS-EE & IFE Equip Cooling
.853(a)	Compartment Interiors	CS25-0	SATCOM Sys – Thales ARINC 781 & Chelton Antenna Potable / Waste Water & Vacuum Waste Systems
.863	Flammable fluid fire protection	CS25-0	Propulsion-Installations
.863(a)	Flammable fluid fire protection	CS25-0	Hyd. Isolation Valve Bonding Elec-Equip Install
.863(b)(3)	Flammable fluid fire protection	CS25-0	Hyd. Isolation Valve Bonding Elec-Equip Install
.869(a)(1)	Fire protection: systems	CS25-0	Potable / Waste Water & Vacuum Waste Systems Supernumerary Oxygen Sys ECS-EE & IFE Equip Cooling

CS 25 requirement	Requirement Title	Amendment level	Change
.869(a)(4)	Fire protection: systems	CS25-0	Upper Gust Suppression Pres. Transducer – Elec-Wiring/Equip Install Fuels - Elec-Wiring/Equip Install
.869(b)	Fire protection: systems	CS25-0	Potable / Waste Water & Vacuum Waste Systems
.899	Electrical bonding and protection against static electricity	CS25-0	Upper Gust Suppression Pres. Transducer – Flight Contols - Electronics
.899(a)(3)	Electrical bonding and protection against static electricity	CS25-0	Upper Gust Suppression Pres. Transducer – Avionics-EMC
.1301(a)	Function and Installations	CS25-0	Hyd. Isolation Valve Bonding Elec-Wiring/Equip Install Upper Gust Suppression Pres. Transducer – Elec-Wiring/Equip Install Upper Gust Suppression Pres. Transducer – Flight Contols - Electronics Fuels - Elec-Wiring/Equip Install
.1301(b)	Function and installation	CS25-0	Hyd. Isolation Valve Bonding Elec-Equip Install Upper Gust Suppression Pres. Transducer – Elec-Wiring/Equip Install Upper Gust Suppression Pres. Transducer – Flight Contols - Electronics Fuels - Elec-Wiring/Equip Install
.1301(c)	Function and installation	CS25-0	Hyd. Isolation Valve Bonding Elec-Equip Install Upper Gust Suppression Pres. Transducer – Elec-Wiring/Equip Install Fuels - Elec-Wiring/Equip Install

CS 25 requirement	Requirement Title	Amendment level	Change
.1309(a)	Equipment, systems and installations	CS25-0	Hyd. Isolation Valve Bonding Elec-Equip Install Upper Gust Suppression Pres. Transducer – Elec-Wiring/Equip Install Upper Gust Suppression Pres. Transducer – Flight Contols - Electronics Fuels - Elec-Wiring/Equip Install
.1309(a)(2)	Equipment, systems and installations	CS25-0	Potable / Waste Water & Vacuum Waste Systems
.1309(b)	Equipment, systems and installations	CS25-0	Upper Gust Suppression Pres. Transducer – Flight Contols - Electronics
.1316	System lightning protection	CS25-0	Upper Gust Suppression Pres. Transducer – Avionics-EMC
.1322	Warning, Caution and Advisory Lights	CS25-0	ECS-Cargo Conditioning ECS-EE IFE Equip Cooling
.1322(b), (d)	Warning, Caution and Advisory Lights	CS25-0	ECS-Cargo Conditioning
.1353(a)	Electrical Equipment and Installations	CS25-0	Fuels - Elec-Wiring/Equip Install
.1353(b)	Electrical equipment and installations	CS25-0	Fuels - Elec-Wiring/Equip Install
.1353(d)	Electrical equipment and installations	CS25-0	Potable / Waste Water & Vacuum Waste Systems Supernumerary Oxygen Sys
.1353(e)	Electrical equipment and installations	CS25-0	Potable / Waste Water & Vacuum Waste Systems Supernumerary Oxygen Sys
.1357(a)	Circuit protective devices	CS25-0	Fuels - Elec-Wiring/Equip Install
.1357(c)	Circuit protective devices	CS25-0	Fuels - Elec-Wiring/Equip Install
.1357(e)	Circuit protective devices	CS25-0	ECS-Cargo Conditioning Supernumerary Oxygen Sys ECS-EE & IFE Equip Cooling

CS 25 requirement	Requirement Title	Amendment level	Change
.1357(g)	Circuit protective devices	CS25-0	Potable / Waste Water & Vacuum Waste Systems
.1360(a)	Precautions against injury	CS25-0	ECS-Cargo Conditioning Potable / Waste Water & Vacuum Waste Systems Supernumerary Oxygen Sys ECS EE & IFE Equip Cooling – Electrical
.1431(a)	Electronic equipment	CS25-0	Flight Deck Audio. Personnel Address Sys – Cabin Systems. ARINC 629 Data Bus Sys Supernumerary Oxygen Sys ECS-EE & IFE Equip Cooling
.1431(b)	Electronic Equipment	CS25-0	Flight Deck Audio
.1431(c)	Electronic equipment	CS25-0	Personnel Address Sys-Cabin Systems ARINC 629 Data Bus Sys. Potable / Waste Water & Vacuum Waste Systems ECS-EE & IFE Equip Cooling Supernumerary Oxygen Sys
.1431(d)	Electronic equipment	CS25-0	Personnel Address Sys – Cabin Systems. Potable / Waste Water & Vacuum Waste Systems Supernumerary Oxygen Sys ECS-EE & IFE Equip Cooling
.1447(c)(2)(ii)	Equipment standards for oxygen dispensing units	CS25-0	Flight Deck Audio

CS 25 requirement	Requirement Title	Amendment level	Change
.1457(c)(5)	Cockpit Voice Recorders	CS25-0	Flight Deck Audio
.1555(a)	Control Markings	CS-25-0	ECS-Cargo Conditioning

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:

CS 25 requirement	Requirement Title	Amendment level	Change
.302	Interaction of systems and structures	CS25-1	Structures – Loads
.305(e)(f)	Strength and deformation	CS25-1	Structures – Loads
.341	Gust and turbulence loads	CS25-1	Structures – Loads
.343	Design fuel and oil loads	CS25-1	Structures – Loads, Flutter
.345	High lift devices	CS25-1	Structures – Loads
.371	Gyroscopic loads	CS25-1	Structures – Loads
.373	Speed control devices	CS25-1	Structures – Loads
.391	Control surface loads: general	CS25-1	Structures – Loads
.613(b)(f)	Material strength properties and Material Design Values	CS25-1	Structures – Fuselage, Wing, Empennage, Landing Gear, Nacelle & Strut, System Stress
.629	Aeroelastic stability requirements	CS25-1	Structures – Loads, Flutter
.981 (a)	Fuel Tank Ignition Prevention	CS25-1	Propulsion-Fuels

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:

B-LR-1	Use of 1 g Stall Speed	JAR 25.103 et al
B-LR-2	Accelerate/Stop Distance and Braking Performance (wet and contaminated runway)	JAR25, Ch 15 25.101,105,107,109,113,115,735,1533 and X1591
D-LR-1	Doors	NPA 25D-218 Rev 2 and 3
D-LR-9	Towbarless Towing	INT/POL/25/13 Issue 1
J-1	APU Instruments	NPA 25B-1305, May 1990

6. EASA/JAA Exemptions:

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

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

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

7. EASA Equivalent Safety Findings:

Equivalent Safety Findings particular to the B777F:

D-05(777F)	Smoke detection on lower lobe (class C) cargo compartment	CS.855(i), CS 25.857, CS 25.858(a)
D-05 (757-300)	Passenger Information Signs	JAR 25.791(a)

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

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

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

8. EASA Environmental Standards:

Noise: ICAO Annex 16 Volume I (Third Edition)
Fuel Venting & Emissions: ICAO Annex 16 Volume II (Second Edition)

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 m^2	(4605 ft^2)

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

6. Auxiliary Power Unit: 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:

	Pounds	Kilograms
MTW	768,800	348,721
MTOW	766,800	347,814
MLW	575,000	260,815
MZFW	547,000	248,115

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, 11persons 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:

Number	Type	Size mm (inches)
2 per side	I	1067x1829 (42x72)

21. Baggage/Cargo (usable) Compartment:

Location	Class	Volume (m^3)
Main deck	E	518
Lower Forward deck	C	102
Lower Aft deck	C	77
Lower Bulk	C	17

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

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
777 MRB Report, 1 September 1994
(Boeing Document D626W010-CMR), and later revisions thereof.

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 Notes

1. Supernumerary Area Configuration must be approved.

SECTION 7: CHANGE RECORD

TCDS Issue No	TCDS Date	TCDS Changes	TC Date
8.0	03/02/10	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"	06/02/09
9.0	20/07/11	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 & Optional / Increased Weights.	