

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

T00001SE
Revision 22
BOEING
777-200 Series
777-300 Series
777-300ER Series
777-200LR Series
July 10, 2008

TYPE CERTIFICATE DATA SHEET T00001SE

This data sheet, which is part of Type Certificate No. T00001SE, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: The Boeing Company
 PO Box 3707
 Seattle, WA 98124-2207

I - Model 777-200 Series (Approved April 19, 1995)

Engines: 2 Pratt and Whitney Turbofan Model: PW4074, PW4074D, PW4077, PW4077D, PW4090, PW4084D, and PW4090-3
 (Engine Type Certificate No. E46NE)
 2 General Electric Turbofan Model: GE90-76B, GE90-85B, GE90-90B, GE90-94B
 (Engine Type Certificate No. E00049EN)
 2 Rolls-Royce Turbofan Model: RB211-Trent 875-17, RB211-Trent, 877-17, RB211-Trent 884-17, RB211-Trent 892-17, or RB211 Trent 892B-17, RB211 Trent 895-17
 (Engine Type Certificate E00050EN)
 Authorization for engine intermix is contained in the appropriate FAA approved Airplane Flight Manual.

Fuel: Pratt and Whitney Engines:
 Fuels conforming to:
 ASTM D-1655 grades Jet-A and Jet A-1,
 MIL-T-5624 grade JP-5, and
 MIL-T-83133 grade JP-8 are acceptable.
 Fuels produced to other specifications and having properties meeting the requirements of the above specifications are acceptable. The fuel and any fuel additives must conform to the latest approved version of P&W Service Bulletin 2016.

 General Electric Engines:
 Fuels conforming to:
 ASTM D-1655 grades Jet-A and Jet A-1,
 MIL-T-5624 grade JP-5, and
 MIL-T-83133 grade JP-8, and
 Fuels produced to other specifications and having properties meeting the requirements of the above specifications are acceptable. The fuel and any fuel additives must conform to the latest approved version of GE Aviation Turbine Fuels Specification D50TF2.

 Rolls-Royce Engines:
 Fuels conforming to:
 ASTM D-1655 grades Jet-A and Jet A-1,
 MIL-T-5624 grade JP-5, and
 MIL-T-83133 grade JP-8, and
 Fuels produced to other specifications and having properties meeting the requirements of the above specifications are acceptable. The fuel and any fuel additives must conform to the relevant Engine Operating Instructions.

Page No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Rev. No.	22	21	21	22	21	15	20	21	21	22	21	20	20	21

I. Model 777-200 (cont'd):**Engine Ratings &
Operating Limits:****Pratt & Whitney Engines:**

See the FAA approved Flight Manual for engine ratings and operating limits. The normal 5 minute takeoff time limit may be extended to 10 minutes for engine out contingency if permitted by the Limitations Section of the FAA approved Airplane Flight Manual.

General Electric Engines:

See the FAA approved Airplane Flight Manual for engine ratings. See the FAA approved Airplane Flight Manual and Note 6 for engine operating limits. The normal 5 minute takeoff time limit may be extended to 10 minutes for engine out contingency if permitted by the Limitations Section of the FAA approved Airplane Flight Manual.

Rolls-Royce Engines:

See the FAA approved Airplane Flight Manual for engine ratings. See the FAA approved Airplane Flight Manual and Note 6 for engine operating limits. The normal 5 minute takeoff time limit may be extended to 10 minutes for engine out contingency if permitted by the Limitations Section of the FAA approved Airplane Flight Manual.

Airspeed Limits:

VMO/MMO = 330KIAS/.87M.

For other airspeed limits, see the appropriate FAA approved Airplane Flight Manual.

CG Range:

See the appropriate FAA approved Airplane Flight Manual.

Maximum Weights:

See the appropriate FAA approved Airplane Flight Manual.

Model**Eligible Serial Numbers**

777-206	28691, 29397-29399, 32704, 32705, 32720, 32721, 33711-33714, 34711, 34712, 35295
777-212	28507-28514, 28518-28527, 28529-28533, 28998, 28999, 30866-30875, 32316, 32318, 32320, 32321, 32334-32336, 33368-33373
777-219	29401, 29403, 29404, 32712, 34376-34379
777-222	26916-26919, 26921, 26924-26948, 26950, 26951, 26953, 26954, 28713, 28714, 30212-30226, 30549-30557
777-223	29578-29588, 29955, 29956, 30003-30005, 30010-30012, 30250-30264, 30797-30798, 31477-31479, 32636-32638, 32879, 32880, 33539, 33540
777-224	27577-27581, 28678, 28679, 29476-29480, 29859-29862, 31679, 31680, 31687, 35547
777-228	27609, 28675, 28682-28684, 29002-29011, 30456-30457, 30614-30615, 32305, 32306, 32308-32311, 32698
777-232	29734-29738, 29743, 29951, 29952
777-236	27105-27109, 27483-27493, 28425, 28840, 28841, 29319-29323, 29962-29967, 30302-30317
777-240	33775-33777, 35296
777-243	32781-32784, 32855-32860
777-246	27364-27366, 27651-27653, 27656, 27657, 32889-32896, 33394-33396
777-258	30831-30833, 33169, 36083, 36084
777-266	28423, 28424, 32629, 32630
777-267	27263-27266, 27116
777-268	28344-28366
777-269	28743, 28744
777-281	27027-27037, 27938, 28276-28279, 29029, 32646, 32647, 33406, 33407, 33414, 33415
777-289	27636-27642
777-21B	27357-27360, 27524, 27525, 27604-27606, 32703
777-21H	27247-27253, 29324, 29325
777-24Q	29271
777-26K	33502-33505
777-28E	28681, 28685, 28686, 29171, 29174, 29175, 30859-30861
777-2AN	29953, 29956
777-2B5	27945-27947, 27949, 27951, 28372, 28444, 28445, 33727, 34206-34214
777-2D7	27726-27733, 34586-34591
777-2H6	28408-28422, 29065, 29066
777-2J6	29153-29157, 29744-29748
777-2M2	34565-34567

I. Model 777-200 (cont'd):

777-2Q8 27607, 27608, 28676, 28688, 28689, 28692, 29402, 29908, 32701, 32716-32719
 777-2U8 33681-33683, 36124
 777-2Z9 28698, 28699, 29313, 35960

PERTINENT DATA

Minimum Crew: Two (2): pilot and copilot

Maximum Passengers: 440

Maximum Baggage/Cargo: See appropriate Weight and Balance Manual.

Fuel and Oil Capacities: See appropriate Weight and Balance Manual.

Leveling Means: A plumb bob attachment and leveling provision scale are provided in the right hand body wheel well.

Datum: Sta 0.0, located 92.5 in forward of airplane nose (B.S. 92.5).

MAC: 278.51 inches

Control Surface Movements:

To insure proper operation of the airplane, the movement of the various control surfaces must be carefully controlled by proper rigging of the flight control systems. The airplane must, therefore, be rigged according to the following FAA-approved data:

Boeing Drawing Numbers:

251W1001	Rigging Instructions	Lateral Control
251W2001	Rigging Instructions	Elevator Control
251W3001	Rigging Instructions	Rudder Control
251W4001	Rigging Instructions	Stabilizer Trim Control System
256W2001	Systems Rigging	Leading Edge Slat
256W3001	Rigging Instructions	Drive System Flap Actuation

Certification Basis: A. 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.

Optional Design Regulations:

Ditching: FAR 25.801, 25.1411(d), (e), (f), (g) and 25.1415
 Ice Protection: FAR 25.1419

Part 34 of the Federal Aviation Regulations:

Amendment 34-1, and any later amendments in existence, at the time of Certification.

Part 36 of the Federal Aviation Regulations:

Amendment 36-1 through 36-20, and any later amendments in existence, at the time of Certification.

Exemptions from FAR 25:

1. Floor Warpage for Flight Deck Seats Exemption from FAR 25.562(b)(2). (Exemption No. 5436, April 1, 1992).
2. Partial Exemption from FAR 25.1435(b)(1), Hydraulic Proof Pressure Test. (Exemptions No. 5758, Oct. 1, 1993 and No. 5758A, Oct. 29, 1993).
3. Partial Exemption from FAR 25.901(c), No single powerplant or auxiliary power unit failure will jeopardize the safe operation of the airplane. (Exemption No. 7955, January 17, 2003) See Note 8

Equivalent Safety Findings exist with respect to the following regulations:

FAR 25.125(a)(2) and 25.149 - Landing Minimum Control Speed.

FARs 25.331(d), 25.333, 25.335(d), 25.341, 25.345, 25.349(b), 25.351(b), 25.371, 25.373, 25.391, and 25.427 - Design Gust Criteria.

FAR 25.562(b)(2) - Emergency Landing Dynamic Conditions

I. Model 777-200 (cont'd):

FAR 25.785(f)(3) - for Flexible Interior Items Track Mounted 1.33 Fitting Factor.
 FAR 25.791(a) and FAR 25.853(d) – “No Smoking” Limitation in the passenger compartment
 FAR 25.803(c) - for Inoperative Floor Proximity Light System during the Full Scale Evacuation Demonstration.
 FAR 25.811 - Exterior Exit Markings
 FAR 25.811(f) - Door sill reflectance
 FAR 25.813(e) – Doors between passenger compartments
 FAR 25.819 - Lower Lobe Attendant Rest (LLAR)
 FAR 25.869(a)(4) - for Fiber Optic Cables used in the Model 777.
 FAR 25.933(a)(1)(ii) - Inflight Thrust Reverser Deployment Demonstration.
 FAR's 25.1182(a) and 25.1183(a) - for Fire Resistant Requirement for Hydraulic Components Located in the Strut Aft Fairing.
 FAR 25.1183(a) - Fire Resistance of Power Door Opening System on Engine Compartments (GE Engines)
 FAR 25.1303(c)(1) - Overspeed Aural Warning.
 FAR 25.1305(c)(7) - Warning Means for Engine Oil Filter Indication Contamination. (PW engines only)
 FAR 25.1351(b)(5) - Flight Controls DC Power
 FAR 25.1387(b) & (c) - for Forward Position Lights.
 FAR 25.1389(b)(3) – Red and Green Position Lights - Aft Lamps Only
 FAR 25.1459(a)(2) - for Flight Data Recorder Accelerometers.
 FAR 25. (several sections) Use of 1g Speed Instead of Minimum Speed in the Stall as a Basis for Compliance. (All FAR 25 Sections, except structural, dealing with stall speeds/related factors for turbojet airplanes).

Special Conditions with respect to the following subjects apply to the Model 777-200:
 Special Conditions No. 25-ANM-78, published in the Federal Register November 10, 1993, addressed the following issues:

1. Operation without Normal Electrical Power
2. Integrated Command Signal Integrity
3. Protection from Lightning and High-Intensity Radiated Fields Protection
4. Effect of Flight Control Systems on Structure
5. Design Maneuver Requirements
6. Limit Engine Torque Loads for Sudden Engine Stoppage
7. Flight Characteristics Compliance via Handling Qualities Rating Method
8. Electronic Flight Control System - Control Surface Awareness

Note: (Special Conditions on lightning are no longer part of the Type Certificate as a result of Boeing's voluntary compliance with FAR Amendment 25-80 which resulted in issuance of § 25.1316, "System Lightning Protection").

Special Conditions No. 25-ANM-84, published in the Federal Register on June 1, 1994, Addressed airplane type design approval for Extended Range Operation With Two-Engine Airplanes (ETOPS).

Special Conditions No. 25-192-SC, published in the Federal Register November 6, 2001, addressed Overhead Crew Rest Compartments.

B. Joint Aviation Authorities (JAA) Certification Basis:

JAR 25 Change 13, Orange Papers 90/1 and 91/1, AWO Change 1, and Applicable NPAs, Special Conditions, Equivalent Safety Findings and Exemptions: For details refer to JAA Data Sheet JAA/25/95-013, Issue 1 and later issues.

Special Conditions No. 25-187A-SC, published in the Federal Register on October 29, 2004, Addressed seats with inflatable lapbelts.

Special Conditions No. 25-336-SC, published in the Federal Register on November 15, 2006, addressed overhead cross aisle stowage compartments.

II - Model 777-300 Series (Approved May 4, 1998)

Engines:	2 Rolls-Royce Turbofan Model: RB211-Trent 884-17, RB211-Trent 884B-17, or RB211-Trent 892-17 (Engine Type Certificate E00050EN) 2 Pratt & Whitney Turbofan Model: PW4090, PW4098 (Engine Type Certificate E46NE)
Fuel:	Rolls-Royce Engines: Fuel conforming to: ASTM D-1655 grades Jet-A and Jet A-1, MIL-T-5624 grade JP-5, and MIL-T-83133 grade JP-8, and Fuels produced to other specifications and having properties meeting the requirements of the above specifications are acceptable. The fuel and any fuel additives must conform to the relevant Engine Operating Instructions. Pratt & Whitney Engines: ASTM D-1655 grades Jet-A and Jet A-1, MIL-T-5624 grade JP-5, and MIL-T-83133 grade JP-8 are acceptable. Fuels produced to other specifications and having properties meeting the requirements of the above specifications are acceptable. The fuel and any fuel additives must conform to the latest approved version of P&W Service Bulletin 2016.
Engine Ratings & Operating Limits:	Rolls-Royce Engines: See the FAA approved Airplane Flight Manual for engine ratings. See the FAA approved Airplane Flight Manual and Note 6 for engine operating limits. The normal 5 minute takeoff time limit may be extended to 10 minutes for engine out contingency if permitted by the Limitations Section of the FAA approved Airplane Flight Manual. Pratt & Whitney Engines: See the FAA approved Flight Manual for engine ratings and operating limits. The normal 5 minute takeoff time limit may be extended to 10 minutes for engine out contingency if permitted by the Limitations Section of the FAA approved Airplane Flight Manual.
Airspeed Limits:	VMO/MMO = 330KIAS/.89M. For other airspeed limits, see the appropriate FAA approved Airplane Flight Manual.
CG Range:	See the appropriate FAA approved Airplane Flight Manual.
Maximum Weights:	See the appropriate FAA approved Airplane Flight Manual.
<u>Model</u>	<u>Eligible Serial Numbers</u>
777-312	28515-29517, 28528, 28531, 28534, 30868, 32317, 32327, 33374-33376
777-346	27654, 27655, 28393-28397
777-367	27504-27510, 33702-33704, 34243, 34244
777-381	27039, 27040, 27939, 28272-28275
777-3B5	27948, 27950, 27952, 28371
777-3D7	29150, 29151, 29211-29214
777-31H	28680, 28687, 29062-29064, 29067, 29395-29397, 32699, 32700, 32702

PERTINENT DATA

Minimum Crew:	Two (2): pilot and copilot. One flight attendant is required at each door no. 3 overwing exit.
Maximum Passengers:	550. For passenger capacity above 500, an 11th flight attendant is required at door 3 exit.

II. 777-300 (cont'd):

Maximum Baggage/Cargo: See appropriate Weight and Balance Manual.

Fuel and Oil Capacities: See appropriate Weight and Balance Manual.

Minimum Required Fuel: See appropriate FAA approved Airplane Flight Manual.

Maximum Operating Altitude: 43,100 feet

Leveling Means: A plumb bob attachment and leveling provision scale are provided in the right hand body wheel well.

Datum: Sta 0.0, located 92.5 in forward of airplane nose (B.S. 92.5).

MAC: 278.51 inches

Control Surface Movements: To insure proper operation of the airplane, the movement of the various control surfaces must be carefully controlled by proper rigging of the flight control systems. The airplane must, therefore, be rigged according to the following FAA-approved data:

Boeing Drawing Numbers:

251W1001	Rigging Instructions	Lateral Control
251W2001	Rigging Instructions	Elevator Control
251W3001	Rigging Instructions	Rudder Control
251W4001	Rigging Instructions	Stabilizer Trim Control System
256W2001	Systems Rigging	Leading Edge Slat
256W3001	Rigging Instructions	Drive System Flap Actuation

Certification Basis: A. Part 25 of the Federal Aviation Regulations: Amendment 25-1 through 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 34 of the Federal Aviation Regulations: Amendment 34-1, and any later amendments in existence, at the time of Certification.

Part 36 of the Federal Aviation Regulations: Amendment 36-1 through 36-20, and any later amendments in existence, at the time of Certification.

Optional Design Regulations:

Ditching: FAR 25.801, 25.1411(d), (e), (f), (g) and 25.1415

Ice Protection: FAR 25.1419

Exemptions from FAR 25:

1. Floor Warpage for Flight Deck Seats Exemption from FAR 25.562(b)(2). (Exemption No. 5436, April 1, 1992 and No. 5436A, January 3, 1997).
2. Partial Exemption from FAR 25.1435(b)(1), Hydraulic Proof Pressure Test. (Exemptions No. 6504, September 3, 1996).
3. Partial Exemption from FAR 25.901(c), No single powerplant or auxiliary power unit failure will jeopardize the safe operation of the airplane. (Exemption No. 7955, January 17, 2003) See Note 8.

Equivalent Safety Findings exist with respect to the following regulations:
 FARs 25.331(d), 25.333, 25.341, 25.345, 25.349(b), 25.351(b), 25.371, 25.373, 25.391, and 25.427 - Design Gust Criteria.
 FAR 25.785(f)(3) - for Flexible Interior Items Track Mounted 1.33 Fitting Factor.
 FAR 25.791(a) and FAR 25.853(d) – “No Smoking” Limitation in the passenger compartment
 FAR 25.803(c) – Inoperative Floor Proximity Light System during Full Scale Evacuation Demonstration

II. 777-300 (cont'd):

FAR 25.810 - Off-wing Escape System/Bottle Loss During Landing Gear Collapse
 FAR 25.811(f) - Door Sill Reflectance
 FAR 25.811(f) - Exterior Exit Marking
 FAR 25.813(e) – Doors between passenger compartments
 FAR 25.869(a)(4) - for Fiber Optic Cables used in the Model 777.
 FAR 25.933(a)(1)(ii) - Inflight Thrust Reverser Deployment Demonstration.
 FARs 25.1182(a) and 25.1183(a) - for Fire Resistant Requirement for Hydraulic Components Located in the Strut Aft Fairing.
 FAR 25.1303(c)(1) - Overspeed Aural Warning.
 FAR 25.1305 and 25.1501(b) - APU Instrumentation and Monitoring Requirements.
 FAR 25.1305(c) (7) - Warning Means for Engine Oil Filter Indication Contamination.
 FAR 25.1351(b)(5) - for Flight Controls DC Power.
 FAR 25.1387(b) & (c) - for Forward Position Lights.
 FAR 25.1389(b)(3) - for Red and Green Position Lights, Aft Lamps Only.
 FAR 25.1459(a)(2) - for Flight Data Recorder Accelerometers.
 FAR 25. (several sections) Use of 1g Speed Instead of Minimum Speed in the Stall as a Basis for Compliance. (All FAR 25 Sections, except structural, dealing with stall speeds/related factors for turbojet airplanes).

Special Conditions with respect to the following subjects apply to the Model 777-300:
 Special Conditions No. 25-ANM-78, published in the Federal Register November 10, 1993, addressed the following issues:

1. Operation without Normal Electrical Power
2. Integrated Command Signal Integrity
3. Protection from Lightning and High-Intensity Radiated Fields Protection
4. Effect of Flight Control Systems on Structure
5. Design Maneuver Requirements
6. Limit Engine Torque Loads for Sudden Engine Stoppage
7. Flight Characteristics Compliance via Handling Qualities Rating Method
8. Electronic Flight Control System - Control Surface Awareness

Note: (Special Conditions on lightning are no longer part of the Type Certificate as a result of Boeing's voluntary compliance with FAR Amendment 25-80 which resulted in issuance of 25.1316, "System Lightning Protection").

Special Conditions No. 25-ANM-84, published in the Federal Register on June 1, 1994, Addressed airplane type design approval for Extended Range Operation With Two-Engine Airplanes (ETOPS).

B. Joint Aviation Authorities (JAA) Certification Basis:

JAR 25 Change 14, AWO Change 2, and Applicable NPAs, Special Conditions, Equivalent Safety Findings and Exemptions. For details refer to JAA Data Sheet JAA/25/95, Issue 14 and later issues

Special Conditions No. 25-187A-SC, published in the Federal Register on October 29, 2004, addressed seats with inflatable lapbelts.

Special Conditions No. 25-336-SC, published in the Federal Register on November 15, 2006, Addressed overhead cross aisle stowage compartments.

III - Model 777-300ER Series (Approved March 16, 2004)

Engines: 2 General Electric Turbofan Model: GE90-115B
 (Engine Type Certificate No. E00049EN)

Fuel: General Electric Engines:
 Fuels conforming to:
 ASTM D-1655 grades Jet-A and Jet A-1,
 MIL-T-5624 grade JP-5, and
 MIL-T-83133 grade JP-8, and
 Fuels produced to other specifications and having properties meeting the requirements of the above specifications are acceptable. The fuel and any fuel additives must conform to the latest approved version of GE Aviation Turbine Fuels Specification D50TF2.

III. 777-300ER (cont'd):**Engine Ratings &
Operating Limits:****General Electric Engines:**

See the FAA approved Airplane Flight Manual for engine ratings. See the FAA approved Airplane Flight Manual and Note 6 for engine operating limits. The normal 5 minute takeoff time limit may be extended to 10 minutes for engine out contingency if permitted by the Limitations Section of the FAA approved Airplane Flight Manual

Airspeed Limits:

VMO/MMO = 330KEAS/.89M.

For other airspeed limits, see the appropriate FAA approved Airplane Flight Manual.

CG Range:

See the appropriate FAA approved Airplane Flight Manual.

Maximum Weights:

See the appropriate FAA approved Airplane Flight Manual.

Model**Eligible Serial Numbers**

777-306ER	35671, 36145
777-312ER	34568-34584
777-328ER	32711, 32723-32727, 32846-32854, 32960-32964, 35297, 35542, 35676, 35677, 35678
777-333ER	35242, 35248-35251, 35254-35256, 35298
777-337ER	36308-36311
777-340ER	33778-33780
777-346ER	32430-32436, 36126
777-367ER	34432, 35299-35301, 36154-36156, 36832
777-381ER	27038, 27041, 28281, 32649-32651, 33416, 34892-34894, 34895
777-35EER	32639-32641, 32643, 32645, 33750-33754
777-35RER	35157-35166
777-36NER	32785, 32787-32795, 33863-33865
777-31HER	32706, 32709, 32710, 32713-32715, 32728 -32730, 33501, 34481-34484, 35574, 35575, 35579, 35581
777-3DZER	36009, 36103
777-3FXER	34597-34601

PERTINENT DATA

Minimum Crew: Two (2): pilot and copilot. One flight attendant is required at each door no. 3 overwing exit.

Maximum Passengers: 550. For passenger capacity above 500, an 11th flight attendant is required at door 3 exit.

Maximum Baggage/Cargo: See appropriate Weight and Balance Manual.

Fuel and Oil Capacities: See appropriate Weight and Balance Manual.

Minimum Required Fuel: See appropriate FAA approved Airplane Flight Manual.

Maximum Operating Altitude: 43,100 feet

Leveling Means: A plumb bob attachment and leveling provision scale are provided in the right hand body wheel well.

Datum: Sta 0.0, located 92.5 in forward of airplane nose (B.S. 92.5).

MAC: 278.51 inches

**Control Surface
Movements:**

To insure proper operation of the airplane, the movement of the various control surfaces must be carefully controlled by proper rigging of the flight control systems. The airplane must, therefore, be rigged according to the following FAA-approved data:

III. 777-300ER (cont'd):

Boeing Drawing Numbers:

251W1001	Rigging Instructions	Lateral Control
251W2001	Rigging Instructions	Elevator Control
251W3001	Rigging Instructions	Rudder Control
251W4001	Rigging Instructions	Stabilizer Trim Control System
256W2001	Systems Rigging	Leading Edge Slat
256W3001	Rigging Instructions	Drive System Flap Actuation

Certification Basis:

A. Part 25 of the Federal Aviation Regulations:
Amendment 25-1 through 25-98, except for FAR 25.831(a) and (g) which remains at Amendment 25-86 level, FAR 25.841(a), which remains at Amendment 25-86 level, and FAR 25.853(d)(3), which remains at Amendment 25-82 level. FAR 25.1517 is not part of the TC.

Part 34 of the Federal Aviation Regulations:

Amendment 34-1 through 34-3.

Part 36 of the Federal Aviation Regulations:

Amendment 36-1 through 36-24.

Optional Design Regulations:

Ditching: FAR 25.801, 25.1411(d), (e), (f), (g) and 25.1415

Ice Protection: FAR 25.1419

Exemptions from FAR 25:

1. Floor Warpage for Flight Deck Seats Exemption from FAR 25.562(b)(2).
(Exemption No. 5436, April 1, 1992 and No. 5436A, January 3, 1997).
2. Partial Exemption from FAR 25.1435(b)(1), Hydraulic Proof Pressure Test.
(Exemption No. 7478, March 28, 2001).
3. Partial Exemption from FAR 25.901(c), Thrust Control Malfunction Accommodation and Single Failures of Thrust Levers (Exemption No. 7955, January 17, 2003).

Equivalent Safety Findings exist with respect to the following regulations:

FAR 25.201(d) – Stall Demonstration

FAR 25.203(d) – Stall Characteristics

FAR 25.335(b) – Dive Speed Definition with Dive Speed Protection

FAR 25.571(b) – Freedom from Wide Spread Structural Fatigue Damage

FAR 25.613 – Material Design Review

FAR 25.723(a) – Shock Absorption

FAR 25.791(a) and FAR 25.853(d) – “No Smoking” Limitation in the passenger
Compartment

FAR 25.809(b)(2) and 25.810(a)(1) – Escape Slide Inflation Times

FAR 25.810 - Off-wing Escape System/Bottle Loss During Landing Gear Collapse

FAR 25.811 - Exterior Exit Marking

FAR 25.811(f) - Door Sill Reflectance

FAR 25.813(e) – Doors between passenger compartments

FAR 25.831(a) – Airplane Operation with Air Conditioning Packs Off During Takeoff

FAR 25.869(a)(4) - for Fiber Optic Cables used in the Model 777.

FAR 25.933(a)(1)(ii) - Inflight Thrust Reverser Deployment Demonstration.

FAR 25.934 – Thrust Reverser Installation for Engine Endurance Testing

FARs 25.1182(a) and 25.1183(a) - for Fire Resistant Requirement for Hydraulic

Components Located in the Strut Aft Fairing.

FAR 25.1183(a) – Fire Resistance of Power Door Opening system on Engine Compartments (GE
Engines)

FAR 25.1303(c)(1) - Overspeed Aural Warning.

FAR 25.1305 and 25.1501(b) - APU Instrumentation and Monitoring Requirements.

FAR 25.1351(b)(5) - for Flight Controls DC Power.

FAR 25.1389(b)(3) – Red & Green Position Lights

FAR 25.1459(a)(2) - for Flight Data Recorder Accelerometers.

FAR 25. (several sections) Use of 1g Speed Instead of Minimum Speed in the Stall as
a Basis for Compliance.

Special Conditions with respect to the following subjects apply to the Model 777-300ER:
Special Conditions No. 25-ANM-78, published in the Federal Register November 10, 1993,
addressed the following issues:

1. Operation without Normal Electrical Power
2. Integrated Command Signal Integrity

III. 777-300ER (cont'd):

3. Protection from Lightning and High-Intensity Radiated Fields Protection
4. Effect of Flight Control Systems on Structure
5. Design Maneuver Requirements
6. Limit Engine Torque Loads for Sudden Engine Stoppage
7. Flight Characteristics Compliance via Handling Qualities Rating Method
8. Electronic Flight Control System - Control Surface Awareness

Note: (Special Conditions on lightning are no longer part of the Type Certificate as a result of Boeing's voluntary compliance with FAR Amendment 25-80 which resulted in issuance of 25.1316, "System Lightning Protection").

Special Conditions No. 25-ANM-84, published in the Federal Register on June 1, 1994, Addressed airplane type design approval for Extended Range Operation With Two-Engine Airplanes (ETOPS).

Special Conditions No. 25-187A-SC, published in the Federal Register on October 29, 2004, addressed seats with inflatable lapbelts.

Special Condition No. 25-230-SC, published in the Federal Register on April 9, 2003, addressed Overhead Crew Rest Compartments

Special Condition No. 25-260-SC, published in the Federal Register on April 14, 2004, addressed Overhead Crew Rest Compartment Occupiable During Taxi, Takeoff, and Landing.

Special Conditions No. 25.336-SC, published in the Federal Register on November 15, 2006, addressed overhead cross aisle stowage compartments.

B. European Aviation Safety Agency (EASA) Certification Basis:

JAR 25 Change 14 plus Orange Paper 96/1, JAR AWO Change 2, and Applicable NPAs, Special Conditions, Equivalent Safety Findings and Exemptions. For details refer to EASA Data Sheet IM.A.003 Issue 1 and later issues.

Special Conditions No. 25-187A-SC, published in the Federal Register on October 29, 2004, addressed seats with inflatable lapbelts.

Special Conditions No. 25.336-SC, published in the Federal Register on November 15, 2006, addressed overhead cross aisle stowage compartments.

IV - Model 777-200LR Series (Approved February 2, 2006)

Engines: 2 General Electric Turbofan Model: GE90-110B1
(Engine Type Certificate No. E00049EN)

Fuel: General Electric Engines:
Fuels conforming to:
ASTM D-1655 grades Jet-A and Jet A-1,
MIL-T-5624 grade JP-5, and
MIL-T-83133 grade JP-8, and
Fuels produced to other specifications and having properties meeting the requirements of the above specifications are acceptable. The fuel and any fuel additives must conform to the latest approved version of GE Aviation Turbine Fuels Specification D50TF2.

Engine Ratings &
Operating Limits:

General Electric Engines:

See the FAA approved Airplane Flight Manual for engine ratings. See the FAA approved Airplane Flight Manual and Note 6 for engine operating limits. The normal 5 minute takeoff time limit may be extended to 10 minutes for engine out contingency if permitted by the Limitations Section of the FAA approved Airplane Flight Manual.

Airspeed Limits: VMO/MMO = 330KEAS/.89M.
For other airspeed limits, see the appropriate FAA approved Airplane Flight Manual.

CG Range: See the appropriate FAA approved Airplane Flight Manual.

Maximum Weights: See the appropriate FAA approved Airplane Flight Manual.

IV - Model 777-200LR (cont'd)

<u>Model</u>	<u>Eligible Serial Numbers</u>
777-21HLR	35572, 35573, 35576, 35577
777-232LR	29740, 29741
777-233LR	35239, 35243-35247
777-237LR	36300-36304
777-240LR	33781, 33782

PERTINENT DATA

Minimum Crew:	Two (2): pilot and copilot.
Maximum Passengers:	440
Maximum Baggage/Cargo:	See appropriate Weight and Balance Manual.
Fuel and Oil Capacities:	See appropriate Weight and Balance Manual.
Minimum Required Fuel:	See appropriate FAA approved Airplane Flight Manual.
Maximum Operating Altitude:	43,100 feet
Leveling Means:	A plumb bob attachment and leveling provision scale are provided in the right hand body wheel well.
Datum:	Sta 0.0, located 92.5 in. forward of airplane nose (B.S. 92.5).
MAC:	278.51 inches
Control Surface Movements:	To insure proper operation of the airplane, the movement of the various control surfaces must be carefully controlled by proper rigging of the flight control systems. The airplane must, therefore, be rigged according to the following FAA-approved data: Boeing Drawing Numbers: 251W1001 Rigging Instructions Lateral Control 251W2001 Rigging Instructions Elevator Control 251W3001 Rigging Instructions Rudder Control 251W4001 Rigging Instructions Stabilizer Trim Control System 256W2001 Systems Rigging Leading Edge Slat 256W3001 Rigging Instructions Drive System Flap Actuation
Certification Basis:	A. Part 25 of the Federal Aviation Regulations: Amendment 25-1 through 25-100, except for FAR 25.831(a) and (g) which remains at Amendment 25-86 level, FAR 25.841(a), which remains at Amendment 25-86 level, and FAR 25.853(d)(3), which remains at Amendment 25-82 level. FAR 25.1517 is not part of the TC. Part 34 of the Federal Aviation Regulations: Amendment 34-1 through 34-3. Part 36 of the Federal Aviation Regulations: Amendment 36-1 through 36-24. <u>Optional Design Regulations:</u> Ditching: FAR 25.801, 25.1411(d), (e), (f), (g) and 25.1415 Ice Protection: FAR 25.1419 Exemptions from FAR Part 25: 1. Floor Warpage for Flight Deck Seats Exemption from FAR 25.562(b)(2). (Exemption No. 5436, April 1, 1992 and No. 5436A, January 3, 1997 and No. 5436B, November 15, 2000). 2. Partial Exemption from FAR 25.1435(b)(1), Hydraulic Proof Pressure Test.

IV. 777-200LR (cont'd):

3. Partial Exemption from FAR 25.901(c), Thrust Control Malfunction Accommodation and Single Failures of Thrust Levers (Exemption No. 7955, January 17, 2003). Equivalent Safety Findings exist with respect to the following regulations:

FAR 25.201(d) – Stall Demonstration
 FAR 25.203(d) – Stall Characteristics
 FAR 25.335(b) – Dive Speed Definition with Dive Speed Protection
 FAR 25.571(b) – Freedom from Wide Spread Structural Fatigue Damage
 FAR 25.613 – Material Design Review
 FAR 25.723(a) – Shock Absorption
 FAR 25.791(a) and FAR 25.853(d) – “No Smoking” Limitation in the Passenger Compartment
 FAR 25.809(b)(2) and 25.810(a)(1) – Escape Slide Inflation Times
 FAR 25.811 - Exterior Exit Marking
 FAR 25.811(f) - Door Sill Reflectance
 FAR 25.813(e) – Doors between passenger compartments
 FAR 25.831(a) – Airplane Operation with Air Conditioning Packs Off During Takeoff
 FAR 25.869(a)(4) - for Fiber Optic Cables used in the Model 777.
 FAR 25.933(a)(1)(ii) - Inflight Thrust Reverser Deployment Demonstration.
 FAR 25.934 – Thrust Reverser Installation for Engine Endurance Testing
 FARs 25.1182(a) and 25.1183(a) - for Fire Resistant Requirement for Hydraulic Components Located in the Strut Aft Fairing.
 FAR 25.1183(a) – Fire Resistance of Power Door Opening system on Engine Compartments (GE Engines)
 FAR 25.1303(c)(1) - Overspeed Aural Warning.
 FAR 25.1305 and 25.1501(b) - APU Instrumentation and Monitoring Requirements.
 FAR 25.1351(b)(5) - for Flight Controls DC Power.
 FAR 25.1389(b)(3) – Red & Green Position Lights, Aft Lamps Only.
 FAR 25.1459(a)(2) - for Flight Data Recorder Accelerometers.
 FAR 25. (several sections) Use of 1g Speed Instead of Minimum Speed in the Stall as a Basis for Compliance.

Special Conditions with respect to the following subjects apply to the Model 777-200LR: Special Conditions No. 25-ANM-78, published in the Federal Register November 10, 1993, addressed the following subjects:

1. Operation without Normal Electrical Power
2. Integrated Command Signal Integrity
3. Protection from Lightning and High-Intensity Radiated Fields Protection
4. Effect of Flight Control Systems on Structure
5. Design Maneuver Requirements
6. Limit Engine Torque Loads for Sudden Engine Stoppage
7. Flight Characteristics Compliance via Handling Qualities Rating Method
8. Electronic Flight Control System - Control Surface Awareness

Note: (Special Conditions on lightning are no longer part of the Type Certificate as a result of Boeing’s voluntary compliance with FAR Amendment 25-80 which resulted in issuance of 25.1316, “System Lightning Protection”).

Special Conditions No. 25-ANM-84, published in the Federal Register on June 1, 1994, Addressed airplane type design approval for Extended Range Operation With Two-Engine Airplanes (ETOPS).

B. European Aviation Safety Agency (EASA) Certification Basis:

JAR 25 Change 15, JAR AWO Change 2.

Special Conditions, Equivalent Safety Findings and Exemptions. For details refer to EASA Data Sheet IM.A.003, Issue 5, and later issues.

Special Conditions No. 25-187A-SC, published in the Federal Register on October 29, 2004, addressed seats with inflatable lapbelts.

Special Conditions No. 25.336-SC, published in the Federal Register on November 15, 2006, addressed overhead cross aisle stowage compartments.

THE FOLLOWING INFORMATION AND NOTES APPLY TO ALL MODELS UNLESS OTHERWISE NOTED:

Certification Maintenance Requirements

(CMRs): The CMRs are listed in either the FAA approved Section 9 of Boeing Maintenance Planning Data Document D622W001-9 or the applicable engine Type Certificate Data Sheet. The more restrictive requirement from these two documents shall be in force.

Production Basis: Production Certificate 700. See Note 4.

Required Equipment: The basic required equipment as prescribed in the applicable Federal Aviation Regulations must be installed in the aircraft.

Service Information: Boeing Document D634W201 "Structural Repair Manual" is FAA-approved. Service Bulletins and other service information when FAA-approved will carry a statement to that effect.

Note 1. A current Weight & Balance Report must be in each aircraft at the time of original airworthiness certification and at all times thereafter except in the case of an operator having an FAA approved loading system for weight and balance control.

Note 2. Airplane operation must be in accordance with the FAA Approved Airplane Flight Manual. All placards required by either FAA Approved Airplane Flight Manual, the applicable operating rules, or the Certification Basis must be installed in the airplane.

Note 3. Required structural inspections and the retirement times for safe-life parts are listed in the FAA Approved Airworthiness Limitations Section (Section 9) of Boeing Document D622W001-9. The inspection intervals for those inspections are based upon the curves contained in Boeing Document D101W801-36.

Note 4. The following Serial Numbers were produced under Type Certificate only:
777-200: 26916-26919, 26921, 26925, 26929, 26930, 26932, 26936, 27105, 27106, 27116, 27265
777-300: 27507, 27506, 28275, 27505, 27950, 28273, 27504, 28272

Note 5. The Models 777-200 and 777-300 have been evaluated in accordance with FAA Special Conditions Number 25-ANM-84, and found suitable for 180-minute Extended Range Operations with Two-Engine Airplanes (ETOPS) operations when operated and maintained in accordance with Boeing Document D044W054 "Model 777 ETOPS Configuration, Maintenance, and Procedures." This finding does not constitute approval to conduct ETOPS operations.

The Models 777-200LR and 777-300ER have been evaluated in accordance with FAA Special Conditions Number 25-ANM-84A, and found suitable for 180-minute Extended Range Operations with Two-Engine Airplanes (ETOPS) operations when operated and maintained in accordance with Boeing Document D044W054 "Model 777 ETOPS Configuration, Maintenance, and Procedures." This finding does not constitute approval to conduct ETOPS operations.

The Models 777-200, 777-200LR and 777-300ER have been evaluated in accordance with the type design requirements contained in FAA ETOPS Policy Letter EPL 20-1, dated March 21, 2000, and approved for 207-minute ETOPS when configured in accordance with Boeing Document D044W054. The use of 207-minute maximum diversion time is limited to a flight-by-flight exception basis from normal 180-minute ETOPS operations, as authorized in the FAA policy letter. This finding does not constitute approval to conduct 207-minute ETOPS operations.

Note 6. For General Electric and Rolls-Royce engines only: The engines must be operated at idle for at least 10 minutes prior to shutdown after static operation at N1 settings greater than 70%. This limitation applies to static operation only; under normal operation conditions, the idle cooling instructions contained in the engine manufacturers operating instructions are acceptable.

Note 7. The Model 777 has been approved to operate in "Reduced Vertical Separation Minimum" (RVSM) airspace. Continued airworthiness and operational approval aspects of RVSM must be constructed according to Advisory Circular (AC) 91-RVSM, titled "Approval of Aircraft and Operators for Flight in Airspace Above Flight Level (FL) 290 Where a 1,000 Foot Vertical Separation Minimum is Applied."

THE FOLLOWING INFORMATION AND NOTES APPLY TO ALL MODELS UNLESS OTHERWISE NOTED: (cont'd)

- Note 8. The FAA has determined that the occurrence of any uncontrollable high thrust failure condition, or any of the associated causal failures listed within the Boeing 777 Maintenance Planning Document, “may endanger the safe operation of an airplane” and hence are reportable under FAR 121.703, 125.409, and 135.415.
- Note 9: Mandatory replacement times, inspection intervals, related inspection procedures and all critical design configuration control limitation for the fuel tank system determined during the Special Federal Aviation Regulation No. 88 program and for compliance with 14 CFR 25.981 are listed in the FAA-approved Airworthiness Limitations and Certification Maintenance Requirement, Section 9, of Boeing 777 Maintenance Planning Data Document D622W001-9, Revision February 2006 or later FAA-approved revision. All Model 777-200, -300, -300ER, and -200LR series airplanes, production line number 569 and on, must comply with Revision March 2006, or a later FAA-approved revision. The FAA is planning to issue an airworthiness directive mandating compliance with Revision March 2006, or a later FAA-approved revision, applicable to all Model 777-200, -300, -300ER, and -200LR series airplanes with production numbers lower than 569.
- Note 10. For Model 777-200LR, optional auxiliary body fuel tank cells could be installed for use with this airplane. Up to three tanks could be installed and each auxiliary tank adds another 1,875 USG of airplane fuel capacity. The certification basis for auxiliary body fuel tanks includes 14 CFR Section 25.981 Amendment 25-102.

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