

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

T00001SE
Revision 25
BOEING
777-200 Series
777-300 Series
777-300ER Series
777-200LR Series
777F Series
<b>July 28, 2009</b>

**TYPE CERTIFICATE DATA SHEET NO. 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 (Transport Category) 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	15	16
Rev. No.	25	25	24	23	23	24	25	25	25	25	25	23	23	24	23	25

**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, 36516-36518
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, 30859-30862
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.
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: 14 CFR 25.801, 25.1411(d), (e), (f), (g) and 25.1415  
Ice Protection: 14 CFR 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 14 CFR 25.562(b)(2).  
(Exemption No. 5436, April 1, 1992).
2. Partial Exemption from 14 CFR 25.1435(b)(1), Hydraulic Proof Pressure Test.  
(Exemptions No. 5758, Oct. 1, 1993 and No. 5758A, Oct. 29, 1993).
3. Partial Exemption from 14 CFR 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
4. Partial Time-Limited Exemption Exemption from 14 CFR 25.853(a), appendix F, paragraph (a)(1)(i), Testing on Large Interior Panels, granted through November 28, 2010. (Exemption No. 9791, November 28, 2008)

Equivalent Safety Findings exist with respect to the following regulations:

- 14 CFR 25.125(a)(2) and 25.149 - Landing Minimum Control Speed.  
14 CFR 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.  
14 CFR 25.562(b)(2) - Emergency Landing Dynamic Conditions  
14 CFR 25.785(f)(3) - for Flexible Interior Items Track Mounted 1.33 Fitting Factor.  
14 CFR 25.791(a) and FAR 25.853(d) – “No Smoking” Limitation in the passenger compartment  
14 CFR 25.803(c) - for Inoperative Floor Proximity Light System during the Full Scale Evacuation Demonstration.  
14 CFR 25.811 - Exterior Exit Markings  
FAR 25.811(f) - Door sill reflectance  
14 CFR 25.813(e) – Doors between passenger compartments  
14 CFR 25.819 - Lower Lobe Attendant Rest (LLAR)  
14 CFR 25.869(a)(4) - for Fiber Optic Cables used in the Model 777.  
14 CFR 25.933(a)(1)(ii) - Inflight Thrust Reverser Deployment Demonstration.  
14 CFR 25.981, Amdt 25.125 - Fuel tank ignition prevention (see Note 12)  
14 CFR 25.1182(a) and 25.1183(a) - for Fire Resistant Requirement for Hydraulic Components Located in the Strut Aft Fairing.  
14 CFR 25.1183(a) - Fire Resistance of Power Door Opening System on Engine Compartments (GE Engines)  
14 CFR 25.1303(c)(1) - Overspeed Aural Warning.  
14 CFR 25.1305(c)(7) - Warning Means for Engine Oil Filter Indication Contamination. (PW engines only)  
14 CFR 25.1351(b)(5) - Flight Controls DC Power

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

14 CFR 25.1387(b) & (c) - for Forward Position Lights.  
 14 CFR 25.1389(b)(3) – Red and Green Position Lights - Aft Lamps Only  
 14 CFR 25.1459(a)(2) - for Flight Data Recorder Accelerometers.  
 14 CFR 25. (several sections) Use of 1g Speed Instead of Minimum Speed in the Stall as a Basis for Compliance. (All 14 CFR 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 Amendment 25-80 which resulted in issuance of 14 CFR 25.1316, "System Lightning Protection").

Special Conditions No. 25-ANM-84A, issued October 8, 2003, 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.

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 (Transport Category) 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.

**II. 777-300 (cont'd):**

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.

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

Certification Basis: A. Part 25 of the Federal Aviation Regulations:  
Amendment 25-1 through 25-86, except for 14 CFR 25.201 which remains at Amendment 25-83, 14 CFR 25.203 which remains at Amendment 25.83, 14 CFR 25.571(e)(1), which remains at Amendment 25-71 (remains from 777-200 certification basis), 14 CFR 25.335(d) which remains at Amendment 25-85, and 14 CFR 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: 14 CFR 25.801, 25.1411(d), (e), (f), (g) and 25.1415

Ice Protection: 14 CFR 25.1419

Exemptions from 14 CFR Part 25:

1. Floor Warpage for Flight Deck Seats Exemption from 14 CFR 25.562(b)(2). (Exemption No. 5436, April 1, 1992 and No. 5436A, January 3, 1997).
2. Partial Exemption from 14 CFR 25.1435(b)(1), Hydraulic Proof Pressure Test. (Exemptions No. 6504, September 3, 1996).
3. Partial Exemption from 14 CFR 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.

**II. 777-300 (cont'd):**

4. Partial Time-Limited Exemption Exemption from 14 CFR 25.853(a), appendix F, paragraph (a)(1)(i), Testing on Large Interior Panels, granted through November 28, 2010. (Exemption No. 9791, November 28, 2008)

Equivalent Safety Findings exist with respect to the following regulations:

- 14 CFR 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.  
 14 CFR 25.785(f)(3) - for Flexible Interior Items Track Mounted 1.33 Fitting Factor.  
 14 CFR 25.791(a) and 14 CFR 25.853(d) – “No Smoking” Limitation in the passenger compartment  
 14 CFR 25.803(c) – Inoperative Floor Proximity Light System during Full Scale Evacuation Demonstration  
 14 CFR 25.810 - Off-wing Escape System/Bottle Loss During Landing Gear Collapse  
 14 CFR 25.811(f) - Door Sill Reflectance  
 14 CFR 25.811(f) - Exterior Exit Marking  
 14 CFR 25.813(e) – Doors between passenger compartments  
 14 CFR 25.869(a)(4) - for Fiber Optic Cables used in the Model 777.  
 14 CFR 25.933(a)(1)(ii) - Inflight Thrust Reverser Deployment Demonstration.  
 14 CFR 25.981, Amdt 25.125 - Fuel tank ignition prevention (see Note 12)  
 14 CFR 25.1182(a) and 25.1183(a) - for Fire Resistant Requirement for Hydraulic Components Located in the Strut Aft Fairing.  
 14 CFR 25.1303(c)(1) - Overspeed Aural Warning.  
 14 CFR 25.1305 and 25.1501(b) - APU Instrumentation and Monitoring Requirements.  
 14 CFR 25.1305(c) (7) - Warning Means for Engine Oil Filter Indication Contamination.  
 14 CFR 25.1351(b)(5) - for Flight Controls DC Power.  
 14 CFR 25.1387(b) & (c) - for Forward Position Lights.  
 14 CFR 25.1389(b)(3) - for Red and Green Position Lights, Aft Lamps Only.  
 14 CFR 25.1459(a)(2) - for Flight Data Recorder Accelerometers.  
 14 CFR 25. (several sections) Use of 1g Speed Instead of Minimum Speed in the Stall as a Basis for Compliance. (All 14 CFR 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 Amendment 25-80 which resulted in issuance of 25.1316, "System Lightning Protection").

Special Conditions No. 25-ANM-84A, issued October 8, 2003, 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 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 (Transport Category) 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.
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.

<u>Model</u>	<u>Eligible Serial Numbers</u>
777-306ER	35671, 36145, 37582
777-312ER	34568-34585
777-328ER	32711, 32723-32727, 32846-32854, 32960-32964, 32968, 35297, 35542, 35543, 35676, 35677, 35678, 37432
777-333ER	35240-35242, 35248-35251, 35254-35256, 35298, 35784
777-337ER	36308-36313
777-340ER	33778-33780
777-346ER	32430-32437, 36126, 36127
777-367ER	34432, 35299-35301, 36154-36158, 36832, 36833
777-381ER	27038, 27041, 27940, 28281, 32649-32651, 33416, 34892-34894, 34895
777-35EER	32639-32641, 32643, 32645, 33750-33756
777-35RER	35157-35166
777-36NER	32785, 32787-32795, 33863-33865, 37703-37707
777-31HER	32706, 32709, 32710, 32713-32715, 32728 -32730, 33501, 34481-34484, 35574, 35575, 35579-35581, 35583, 35584, 35588, 35592
777-32WER	37664-37667
777-3DZER	36009-36011, 36095, 36103, 36104
777-3FXER	34597-34601
777-3ZGER	35302, 37938, 37939
777-3B5ER	37643
777-3Q8ER	35782, 35783

**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

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

## Certification Basis:

## A. Part 25 of the Federal Aviation Regulations:

Amendment 25-1 through 25-98, except for 25.831(a) and (g) which remains at amendment 25-86, 25.841(a), which remains at amendment 25-86, and 25.853(d)(3), which remains at amendment 25-82. 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: 14 CFR 25.801, 25.1411(d), (e), (f), (g) and 25.1415

Ice Protection: 14 CFR 25.1419

## Exemptions from 14 CFR Part 25:

1. Floor Warpage for Flight Deck Seats Exemption from 14 CFR 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 14 CFR 25.1435(b)(1), Hydraulic Proof Pressure Test. (Exemption No. 7478, March 28, 2001).
3. Partial Exemption from 14 CFR 25.901(c), Thrust Control Malfunction Accommodation and Single Failures of Thrust Levers (Exemption No. 7955, January 17, 2003).
4. Partial Time-Limited Exemption Exemption from 14 CFR 25.853(a), appendix F, paragraph (a)(1)(i), Testing on Large Interior Panels, granted through November 28, 2010 (Exemption No. 9791, November 28, 2008)

## Equivalent Safety Findings exist with respect to the following regulations:

14 CFR 25.201(d) – Stall Demonstration

14 CFR 25.203(d) – Stall Characteristics

14 CFR 25.335(b) – Dive Speed Definition with Dive Speed Protection

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

14 CFR 25.613 – Material Design Review

14 CFR 25.723(a) – Shock Absorption

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

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

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

14 CFR 25.811 - Exterior Exit Marking

14 CFR 25.811(f) - Door Sill Reflectance

14 CFR 25.813(e) – Doors between passenger compartments

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

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

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

14 CFR 25.934 – Thrust Reverser Installation for Engine Endurance Testing

14 CFR 25.981, Amdt 25.125 - Fuel tank ignition prevention (see Note 12)

14 CFR 25.1182(a) and 25.1183(a) - for Fire Resistant Requirement for Hydraulic Components Located in the Strut Aft Fairing.

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

14 CFR 25.1303(c)(1) - Overspeed Aural Warning.

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

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

14 CFR 25.1389(b)(3) – Red & Green Position Lights

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

14 CFR 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
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

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

## 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 Amendment 25-80 which resulted in issuance of 25.1316, "System Lightning Protection").

Special Conditions No. 25-ANM-84A, issued October 8, 2003, 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.

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

Engines: 2 General Electric Turbofan Model: GE90-110B1  
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.

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.

<u>Model</u>	<u>Eligible Serial Numbers</u>
777-2DZLR	36012, 36013
777-21HLR	35572, 35573, 35576-35578, 35582, 35586, 35587, 35589, 35590
777-232LR	29739-29742, 30440, 32222, 39091, 39254
777-233LR	35239, 35243-35247
777-237LR	36300-36305
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.

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

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

Certification Basis: A. Part 25 of the Federal Aviation Regulations: Amendment 25-1 through 25-100, except for 14 CFR 25.831(a) and (g) which remains at amendment 25-86, 14 CFR 25.841(a), which remains at Amendment 25-86, and 14 CFR 25.853(d)(3), which remains at Amendment 25-82 level. 14 CFR 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.

B. This Amendemended Type Certification was obtained under the delegation option authorization provisions of 14 CFR part 21

**Optional Design Regulations:**

Ditching: 14 CFR 25.801, 25.1411(d), (e), (f), (g) and 25.1415

Ice Protection: 14 CFR 25.1419

Exemptions from 14 CFR Part 25:

1. Floor Warpage for Flight Deck Seats Exemption from 14 CFR 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 14 CFR 25.1435(b)(1), Hydraulic Proof Pressure Test. (Partial Exemption from FAR 25.1435(b)(1), the static pressure test requirement (Exemption No 7478, March 28, 2001)
3. Partial Exemption from 14 CFR 25.901(c), Thrust Control Malfunction Accomodation and Single Failures of Thrust Levers (Exemption No. 7955, January 17, 2003).
4. Partial Time-Limited Exemption Exemption from 14 CFR 25.853(a), appendix F, paragraph (a)(1)(i), Testing on Large Interior Panels, granted through November 28, 2010. (Exemption No. 9791, November 28, 2008)

Equivalent Safety Findings exist with respect to the following regulations:

14 CFR 25.201(d) – Stall Demonstration

14 CFR 25.203(d) – Stall Characteristics

14 CFR 25.335(b) – Dive Speed Definition with Dive Speed Protection

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

14 CFR 25.613 – Material Design Review

14 CFR 25.723(a) – Shock Absorption

14 CFR 25.791(a) and 25.853(d) – “No Smoking” Limitation in the Passenger Compartment

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

14 CFR 25.811 - Exterior Exit Marking

14 CFR 25.811(f) - Door Sill Reflectance

14 CFR 25.813(e) – Doors between passenger compartments

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

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

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

14 CFR 25.934 – Thrust Reverser Installation for Engine Endurance Testing

14 CFR 25.981, Amdt 25.125 - Fuel tank ignition prevention (see Note 12)

14 CFR 25.1182(a) and 25.1183(a) - for Fire Resistant Requirement for Hydraulic Components Located in the Strut Aft Fairing.

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

14 CFR 25.1303(c)(1) - Overspeed Aural Warning.

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

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

14 CFR 25.1389(b)(3) – Red & Green Position Lights, Aft Lamps Only.

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

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

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

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 Amendment 25-80 which resulted in issuance of 25.1316, "System Lightning Protection").

Special Conditions No. 25-ANM-84A, issued October 8, 2003, 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 Conditions No. 25.336-SC, published in the Federal Register on November 15, 2006 addressed overhead cross aisle stowage compartments.

**V-Model 777F Series (Transport Category) Approved February 3, 2009**

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.

**Model**

777F28  
777F1B  
777F1H  
777F6N  
777FZN

**Eligible Serial Numbers**

32965-32967  
37309, 37310  
35606, 35607  
37708, 37710  
36001, 36002

**PERTINENT DATA**

Minimum Crew:

Two (2): pilot and copilot.

Maximum Passengers:

For 777F total persons capacity is limited to: Maximum of eleven (11) persons per Exemption 9779 and limitations outlined in the FAA approved Airplane Flight Manual.

**V. 777F (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

Certification Basis: A. Part 25 of the Federal Aviation Regulations (FAR) as amended by Amendments 25-1 through 25-100, with the exceptions listed below:

<u>SECTION NO.</u>	<u>TITLE</u>	<u>AT AMDT. 25-</u>
25.103	Performance – stalling speed	108
25.107	Takeoff speeds	108
25.111	Takeoff path	115
25.119	Landing Climb: All engines operating	108
25.121	Climb: One Engine Inoperative	108
25.125	Landing	108
25.143	Controllability and Maneuverability General	108
25.149	Minimum control speed	108
25.201	Stall demonstration	108
25.207	Stall warning	108
25.233	Directional stability and control	108
25.237	Wind velocities	108
25.473	Ground load conditions and assumptions	103
25.613	Material strength properties and design values	112 (1)
25.723	Shock Absorbtion Test	103
25.731	Wheels	72 (2)
25.735	Brakes	92 (3)
25.773	Pilot Compartment View	108 (4)
25.783	Doors	114 (5)
25.807	Passenger Emergency Exits	114 (6)
25.812	Emergency Lighting	116 (7)
25.813	Emergency Exit Access	116
25.820	Lavatory Doors	114
25.841(a)	Pressurized Cabins	86
25.853	Compartment Interiors	116
25.855	Cargo or Baggage Compartments	116
25.856	Thermal/Acoustic insulation materials	111
25.869	Fire Protection: Systems	113
25.981(a)(b)	Fuel Tank temperature	102
25.1001(f)	Fuel jettisoning system	108
25.1141	Powerplant Controls: General	115
25.1305	Powerplant Instruments	115
25.1323	Airspeed Indicating System	109
25.1325	Static Pressure Systems	108
25.1353	Electrical Equipment & Installation	113 (8)
25.1411	Safety Equipment: General	116
25.1431	Electronic Equipment	113 (9)
25.1439	Protective Breathing Equipment	115
25.1447	Oxygen Dispensing Units	116
25.1516	Other Speed Limitations	105
25.1527	Ambient Air Temperatures and Operating Altitude	105
25.1583	Operating Limitations	105
25.1585	Operating Procedures	105
25.1587	Performance Information	108

(1) Comply with Amendment 25-112 except that Not Significant changes comply with 25.613(c) at Amdt 25-72: existing doors, wing, keel/wheelwell, fairings, empennage, landing gear, propulsion structure, lower lobe cargo structure, flight controls, high lift

V. 777F (cont'd)

- (2) Main and nose wheels from both suppliers (Messier-Bugatti and Goodrich) are unchanged. (Goodrich nose wheel is unchanged, but the TSO load rating for the wheel has been increased compared to the 777-200LR due to increased loads on the 777F). 14 CFR 25.731(a), (b), (c) amendment 72 for wheels, tires, brakes, and landing gear systems.
- (3) Complies with Amendment 25-92 due to Not Significant changes to brake control cable (rerouting of cable runs 3” inboard due to installation of the new aluminum floor beams) and unchanged main wheel brakes and reassessed for landing brake kinetic energy for increased landing weights, Landing gear systems and Hydraulic controls – mechanical.
- (4) Complies with Amendment 25-108 except for the window heat control unit which remains at amendment level 25-72.
- (5) Complies at Amendment 25-114 for the new Main Deck Cargo Door only. All other pressurized doors remain at amendment 25-88.
- (6) Complies with Amendment 25-114 for weights only. Escape systems are not effected by this change and comply with 25-94
- (7) Complies with amendment 116 except for: 25.812(g) is not applicable to 777F. Physical lighting of the emergency escape means complies with 25.812(h) at amendment 25-88.
- (8) Complies with Amendment 25-113 except for Avionics – SATCOM complies with Amendment 25-42 for 25.1353(a) due to Not Significant changes to the system
- (9) Complies with Amendment 25-113 except for Avionics – SATCOM complies with Amendment 25-0 for 25.1431(a), (c) due to Not Significant changes to the system. Avionics- CVR and FDR comply with Amendment 25-0 for 25.1431(c). Cabin Systems – PAS complies with Amendment 25-0 for 25.1431

Following Optional Design Regulations have been complied with:

- Ditching: 14 CFR 25.801, 25.1411(d), (e), (f) and 25.1415  
Ice Protection: 14 CFR 25.1419

Exemptions from FAR Part 25:

1. Floor Warpage for Flight Deck Seats Exemption from 14 CFR 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 14 CFR 25.785(j), Seat Back Hand hold (Exemption No. 9779, October 31, 2008)
3. Partial Exemption from 14 CFR 25.857(e), Class E Cargo Compartments (Exemption No. 9779, October 31, 2008)
4. Partial Exemption from 14 CFR 25.901(c), Thrust Control Malfunction Accomodation and Single Failures of Thrust Levers (Exemption No. 7955, January 17, 2003)
5. Partial Exemption from 14 CFR 25.1447(c)(1), Equipment standards for oxygen dispensing units (Exemption No. 9779, October 31, 2008)
6. Partial Time-Limited Exemption from 14 CFR 25.853(a), appendix F, paragraph (a)(1)(i), Testing on Large Interior Panels, granted through November 28, 2010. (Exemption No. 9791, November 28, 2008)

The following regulations have been complied by Equivalent Level of Safety:

- 14 CFR 25.201(d), Amdt 25-84 – Stall Demonstration  
14 CFR 25.203(a), Amdt 25-84 – Stall Characteristics  
14 CFR 25.335(b), Amdt 25-91 – Dive Speed Definition with Dive Speed Protection  
14 CFR 25.341, Amdt 25-86 – Design Gust Criteria  
14 CFR 25.343, Amdt 25-86 – Design Gust Criteria  
14 CFR 25.345, Amdt 25-91 – Design Gust Criteria  
14 CFR 25.371, Amdt 25-91 – Design Gust Criteria  
14 CFR 25.373, Amdt 25-86 – Design Gust Criteria  
14 CFR 25.391, Amdt 25-86 – Design Gust Criteria  
14 CFR 25.571(b), Amdt 25-96 – Freedom from Wide Spread Structural Fatigue Damage  
14 CFR 25.791(a), Amdt 25-72 – “No Smoking” Limitation in the Passenger  
Compartment  
14 CFR 25.809(b)(2), Amdt 25-72 – Escape Slide Inflation Times  
14 CFR 25.810(a)(1), Amdt 25-88 - Escape Slide Inflation Times  
14 CFR 25.811, Amdt 25-79 - Exterior Exit Marking  
14 CFR 25.811(f), Amdt 25-88 - Door Sill Reflectance

**V. 777F (cont'd)**

14 CFR 25.831(g), Amdt 25-89 – Ventilation  
 14 CFR 25.853(d), Amdt 25-83 - “No Smoking” Limitation in the Passenger  
 Compartment  
 14 CFR 25.855, Amdt 25-116 - Inadvertent Smoke Detection in Lower Lobe Cargo Compartments  
 14 CFR 25.857, Amdt 25-93 - Inadvertent Smoke Detection in Lower Lobe Cargo Compartments  
 14 CFR 25.858(a), Amdt 25-93 – Inadvertent Smoke Detection in Lower Lobe Cargo  
 Compartments  
 14 CFR 25.933(a)(1)(ii), Amdt 25-72 - Inflight Thrust Reverser Deployment Demonstration.  
 14 CFR 25.934, Amdt 25-23 – Thrust Reverser Installation for Engine Endurance Testing  
 14 CFR 25.981, Amdt 25.125 - Fuel tank ignition prevention (see Note 12)  
 14 CFR 25.1182(a), Amdt 25-11 - for Fire Resistant Requirement for Hydraulic  
 Components Located in the Strut Aft Fairing  
 14 CFR 25.1183(a), Amdt 25-57 – Fire Resistance of Power Door Opening system on Engine  
 Compartments (GE Engines)  
 14 CFR 25.1303(c)(1), Amdt 25-90 - Overspeed Aural Warning.  
 14 CFR 25.1305, Amdt 25-72 - APU Instrumentation and Monitoring Requirements.  
 14 CFR 25.1351(b)(5), Amdt 25-72 - for Flight Controls DC Power.  
 14 CFR 25.1389(b)(3), Amdt 25-0 – Red & Green Position Lights, Aft Lamps Only.  
 14 CFR 25.1435(a),(b)(1), Amdt 25-104 - Hydraulic Systems  
 14 CFR 25.1459(a)(2), Amdt 25-65 - for Flight Data Recorder Accelerometers  
 14 CFR 25.1501(b), Amdt 25-42 - APU Instrumentation and Monitoring Requirements  
 14 CFR 25. (several sections), Amdt 25-75 Use of 1g Speed Instead of Minimum Speed in the Stall  
 as a Basis for Compliance.

Special Condition 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 (HIRF) 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 compliance with 14 CFR part 25 Amendment 25-80 which resulted in issuance of 25.1316, “System Lightning Protection”).

Special Condition No. 25-ANM-84A, issued October 8, 2003, addressed airplane type design  
 approval for Extended Range Operation With Two-Engine Airplanes (ETOPS).

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

Based on 14 CFR 21.17 (a) and 21.101(g) for changes to TC’s, applicable provisions of 14 CFR  
 part 26 are included in the certification basis. For any future part 26 amendments, the holder of  
 this type certificate must demonstrate compliance with the applicable sections.

In addition to Part 25 of FARs, the type certification basis for the Model 777F airplane includes  
 compliance with the emissions standards of part 34, Amendment 34-1 through 34-3, and with the  
 noise standards of part 36, Amendment 36-1 through 36-28.

B. This type certificate was obtained under the delegation option authorization provisions of 14  
 CFR part 21.

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

Certification Maintenance  
 Requirements  
 (CMRs):

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

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

- Production Basis: Production Certificate 700. See Note 4 and Note 11
- 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).
- Mean Aerodynamic Chord: 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    |
- Required Equipment: The basic required equipment as prescribed in the applicable Federal Aviation Regulations must be installed in the aircraft.
- Service Information: Boeing Documents D634W201 "777-200 Structural Repair Manual", D634W210 "777-300 Structural Repair Manual", and D634W215 "777F Structural Repair Manual" are 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 Number Airplanes 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

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

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, 777-300ER, and 777F 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."

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 limitations 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 has issued airworthiness directive 2008-11-13 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. The Maintenance Planning Data Document, Section 9 for the 777F meets Special Federal Aviation Regulation No. 88 and compliance to 14 CFR 25.981.

Note 10. For Model 777-200LR an optional single auxiliary body fuel tank cell may be installed for use with this airplane. This auxiliary tank adds another 1,875 USG of airplane fuel capacity. The certification basis for this auxiliary body fuel tank includes 14 CFR Section 25.981 Amendment 25-102.

Note 11. A production certificate number 700 was amended to include the 777F and issued. Boeing is authorized to issue airworthiness certificates under the delegation option authorization provisions of 14 CFR part 21.

Note 12. Certification basis for 25.981 at amendment 25-125, and Equivalent Safety Finding for the Flammability Reduction System (FRS), is applied if fuel tank inerting is installed in new airplane production (starting with line # 772) or as a modification on existing aircraft. Airworthiness Limitations for the FRS are contained in Section 9 of the applicable Maintenance Planning Document.

.....END.....