

型号认可证数据单

THE VALIDATION DATA SHEET

编号/No: VTC0053A

版次/Revision: 11

型号/Type: 777

型别/Model:

777-200

777F

777-300ER

批准人/Approved By:

路遥

职务/Title: Deputy Director General

日期/Date: 2026年3月30日

本数据单是型号认可证（编号：VTC0053A）的组成部分，它规定了符合中国民用航空局的适航要求所颁发此型号认可证的产品状态和限制。

This data sheet, which is part of Validation of Type Certificate (No: VTC0053A), prescribes condition and limitation under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号认可证持有人/Validation of Type Certificate Holder:

The Boeing Company

737 Logan Ave N Renton, WA 98057-0000

目 录/Contents

第1部分 总则（所有型别） / SECTION 1: GENERAL (ALL MODELS)	3
第2部分/ SECTION 2: 777-200	6
I. 总则/General	6
II. 认可审定基础/Validation Certification Basis	6
III. 技术特征和运行限制/Technical Characteristics and Operational Limitations.	7
IV. 经批准的中文标记标牌/ The Approved Chinese Placards	12
V. 注释/Notes.....	12
第3部分/ SECTION 3: 777F	15
I. 总则/General	15
II. 认可审定基础/Validation Certification Basis	15
III. 技术特征和运行限制/Technical Characteristics and Operational Limitations	16
IV. 经批准的中文标记标牌/ The Approved Chinese Placards	21
V. 注释/Notes.....	22
第4部分/ SECTION 4: 777-300ER	24
I. 总则/General	24
II. 认可审定基础/Validation Certification Basis	24
III. 技术特征和运行限制/Technical Characteristics and Operational Limitations	25
IV. 经批准的中文标记标牌/ The Approved Chinese Placards	30
V. 注释/Notes.....	30
第5部分 管理信息/ SECTION 5: ADMINIISTRATIVE INFORMATION	33

第1部分 总则（所有型别）

SECTION 1 GENERAL (ALL MODELS)

1. CAAC认可数据单和型号合格证数据单/CAAC Validation Data Sheet and Type Certificate Data Sheet

	中国民用航空局认可数据单号、版次和颁发日期 CAAC Validation Data Sheet Number, Revision and issuance date	型号合格证数据单号、版次和颁发日期 Type Certificate Data Sheet Number, Revision and issuance date
当前/ Current	VTC0053A 11 2026/03/30	FAA T00001SE Revision 48 2025/9/5
历史/ History	VTC0053A 10 2025/11/25	FAA T00001SE Revision 48 2025/9/5
	VTC0053A 9 2025/09/16	FAA T00001SE Revision 47 2024/8/14
	VTC0053A 8 2024/06/07	FAA T00001SE Revision 46 2022/3/9
	VTC0053A 7 2024/04/18	FAA T00001SE Revision 46 2022/3/9
	VTC0053A 6 2016/10/17	FAA T00001SE Revision 34 2014/1/24
	VTC0053A 5 2015/05/29	FAA T00001SE Revision 34 2014/1/24
	VTC0053A 4 2014/06/16	FAA T00001SE Revision 34 2014/1/24
	VTC0053A 3 2013/08/20	FAA T00001SE Revision 33 2013/7/2
	VTC0053A 2 2011/06/21	FAA T00001SE Revision 25 2009/7/28
	VTC053A 1 2009/08/06	FAA T00001SE Revision 24 2009/4/24
	VTC053A 0 2009/03/27	FAA T00001SE Revision 23 2009/3/2
		FAA T00001SE Revision 2 1995/4/19

CAAC认可数据单修订记录 / CAAC VTCDS Change Record

CAAC 认可数据单 版次/ CAAC VTCDS Revision	修订记录/ Change Record	备注/ Remark
Rev. 11	在第3部分V章增加了注释17 Add Note17 to Section 3“777F”part V“Notes”	
Rev. 10	1.在第3部分777F和第4部分777-300ER的II章认可审定基础中均增加了等效安全PS21-0254-EE-1 Add ELOS PS21-0254-EE-1 into part II of Section 3 “777F” and Section 4 “777-300ER” 2.在第3部分777F和第4部分777-300ER的V章分别增加了注释16和注释14 Add Note 16 into Section 3 “777F” part V “Notes” and Note 14 into Section 4 “777-300ER” part V “Notes”	
Rev. 9	1.在第3部分V章增加了注释15 Add Note15 to Section 3 “777F” part V “Notes” 2.增加第5部分管理信息 Add the section 5 ADMINISTRATIVE INFORMATION	
Rev. 8	在第3部分V章增加了注释14 Add Note14 to Section 3 “777F” part V “Notes”	
Rev. 7	1. 认可审定基础中增加等效安全PS13-1000-C-5、豁免17634、等效安全TC6918SE-T-ES-20、等效安全AT00010BA-T-S-1、专用条件25-687-SC和CFR 26.21 Amdt 26-6. Add ELOS PS13-1000-C-5, Exemption No. 17634, ELOS TC6918SE-T-ES-20, ELOS AT00010BA-T-S-1, SC 25-687-SC, CFR 26.21 Amdt 26-6 in validation certification basis 2.更新附加技术条件和技术特征和运行限制中3号喷气燃料（GB 6537）内容	

	Update of No.3 Jet Fuel (GB6537) in Additional Technical Conditions and Technical Characteristics and Operational Limitations 3. 777F空速限制勘误 Correct error of Airspeed Limit of 777F 4.更新波音公司地址 Update of Boeing company address	
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2. 适航类别/Airworthiness Category: 运输类航空器/Transport Category Aircraft

3. 认可当局/Validation Authority: 中国民用航空局/CAAC
审定当局/Certifying Authority: 美国联邦航空局/FAA

4. 型号合格证持有人/Type Certificate Holder: The Boeing Company
737 Logan Avenue N
Renton, WA 98057-0000

5. 认可审定基础/Validation Certification Basis:

CAAC的认可审定基础由FAA的审定基础（见FAA型号合格证数据单：编号T00001SE）和CAAC的附加技术条件组成。

The CAAC validation basis consists of the FAA certification basis (refer to FAA Type Certificate Data Sheet No.T00001SE) and the CAAC additional technical conditions.

CCAR-26《运输类飞机的持续适航与安全改进》：适用条款已包括在审定基础中，对于CCAR-26的任何修订，本TC持有人必须证明对适用条款的符合性。

CCAR-26 – Continued Airworthiness and Safety Improvements for Transport Category Airplanes: applicable provisions of Part 26 have been included in the certification basis. For any future Part 26 amendments, the holder of this TC must demonstrate compliance with the applicable sections.

民航发[2012]30 号文《关于运输类飞机点火源防护追溯要求的通知》的要求已包括在审定基础中。

The requirements of Civil Aviation Order – Retrospective Requirements for Transport Category Airplane Ignition Sources Prevention (CAO No 2012-30) have been included in the certification basis.

6. ETOPS: 777-200、777F: 180分钟/180 minutes
777-300ER: 207分钟/207 minutes

7. 中国民用航空局附加技术条件/CAAC Additional Technical Conditions:

交付到中国的每一架777系列飞机须满足下述附加技术条件：

Each of 777 serial aircraft delivered to China shall meet the following Additional Technical Conditions:

(1) 符合所有适用的FAA颁布的适航指令；

All applicable airworthiness directives (ADs) issued by the FAA shall be complied with.

(2) 按CAAC适航指令CAD97-MULT-38的要求，安装快速存取记录器（QAR）；

Per CAAC Airworthiness Directive CAD97-MULT-38, the Quick Access Recorder (QAR) shall be installed.

(3) 根据CCAR121.301(d), 高度测量单位应至少采用米制；

Per CCAR 121.301(d), the altimeter measure unit shall be indicated in meter at least.

(4) 确定中华人民共和国国家标准“3号喷气燃料”（GB 6537）的使用条件；

Operational condition for National Standard of the People's Republic of China "No.3 Jet Fuel" (GB 6537) shall be defined.

(5) 标记要求/Placard Requirements:

(a) 根据CCAR21.29(5): 机上所有对旅客进行的提示、警告和通知的文字标记和标牌; 机上所有向旅客或机外营救人员指示应急出口和门的位置以及开启方法的文字标记和标牌; 旅客可能使用的机上所有应急设备的操作、使用说明应当至少有中文表述;

Per CCAR 21.29(5), all on-board placard and marking for awareness, warning, and note to the passenger, all on-board placard and marking for opening method and location indication of the emergency exit and door to passenger and outside rescuer; and all operational instructions for on-board emergency equipments possible operated by passengers shall be presented in Chinese at least.

(b) 中文字符的大小应当符合CCAR25.811(e)(4)(iii)和CCAR25.812的适用要求;

The dimension of the Chinese characters shall comply with the provision of the CCAR 25.811(e)(4)(iii) and CCAR 25.812 as applicable.

(c) 以上规定之外的中文标记标牌, 在飞机交付之前或交付时须由CAAC接受或批准。

Other placard and marking in Chinese, if any, shall be accepted or approved by the CAAC before or at the moment of the aircraft delivery.

(6) 确认符合“关于运输类飞机点火源防护追溯要求的通知(民航发[2012]30号)”。

Compliance to “Retrospective Requirements for Transport Category Airplane Ignition Sources Prevention (CAO No.2012-30)” shall be validated.

第2部分/SECTION 2: 777-200

I. 总则/General

1. 衍生型/Variant or Model:	777-200
2. 适航类别/Airworthiness Category:	运输类航空器/Transport category Aircraft
3. 型号合格证持有人/Type Certificate Holder:	The Boeing Company 737 Logan Avenue N Renton, WA 98057-0000
4. FAA批准日期/FAA Approved Date:	1995.04.19/19 Apr. 1995
5. CAAC批准日期/CAAC Approved Date:	1995.12.26/26 Dec. 1995

II. 认可审定基础/Validation Certification Basis

CAAC的认可审定基础由FAA的审定基础（除了以下列明的部分外。详见FAA型号合格证数据单：编号T00001SE第34版中的777-200型别部分的审定基础），以及5个FAA等效安全：PS13-1000-C-5、PS13-0901-ES-1、TS13-0005-S-1、AT00010BA-T-S-1、PS06-0496-F-18，1个FAA专用条件：25-687-SC，和CAAC的附加技术条件组成。

PS13-1000-C-5 座舱内饰

PS13-0901-ES-1机组确定在厕所旅客服务装置气瓶中的可用氧量

TS13-0005-S-1确定厕所氧气系统的最小氧气流量

AT00010BA-T-S-1 动力装置和辅助动力装置仪表

PS06-0496-F-18发动机和APU灭火手柄设计

25-687-SC 非充电式锂电池

例外部分：

14 CFR 25.1457(d)(5)(i)和25.1457(d)(5)(ii)；

根据PS13-0216-C-1针对14 CFR 25.562,25.785,25-295-SC的部分等效安全；

根据PS05-0177-P-2针对14 CFR 25.981的等效安全；

14 CFR part 34, 修正案 34-2 到 34-3 以及14 CFR part 36, 修正案 36-21 到 36-28

The CAAC validation basis consists of the FAA certification basis (refer to the certification basis of model 777-200 in FAA Type Certificate Data Sheet No. T00001SE, Revision 34, except part list below), plus the 5 FAA ELOS: PS13-1000-C-5, PS13-0901-ES-1, TS13-0005-S-1, AT00010BA-T-S-1, PS06-0496-F-18, 1 FAA Special Condition: 25-687-SC and the CAAC additional technical conditions.

PS13-1000-C-5 14 CFR 25.853(a) and (d) Compartment Interiors

PS13-0901-ES-1 14 CFR 25.1441(c) Crew Determination of the Quantity of Oxygen Available in the Lavatory Passenger Service Units Bottles

TS13-0005-S-1 14 CFR 25.1443(c) Determination of Minimum Oxygen Flow for the Lavatory Oxygen System

AT00010BA-T-S-1 14 CFR 25.1549(b) Powerplant and APU instruments

PS06-0496-F-18 14 CFR 25.1555(d)(1) Engine and Auxiliary Power Unit(APU) Fire Switch Handle Design

25-687-SC 14 CFR 25.863 and 25.1353 Non-Rechargeable Lithium Batteries

Part not included in CAAC validation basis:

sec. 25.1457(d)(5)(i), sec. 25.1457(d)(5)(ii);

ELOS for 25.562,25.785,25-295-SC according to PS13-0216-C-1;

ELOS for 25.981 according to PS05-0177-P-2;

14 CFR part 34, Amendment 34-2 through 34-3

14 CFR part 36, Amendment 36-21 through 36-28

III. 技术特征和运行限制/Technical Characteristics and Operational Limitations

发动机/Engines 2 台普惠 PW4090 型别的涡扇发动机。 / 2 Pratt and Whitney Turbofan Model: PW4090 (发动机认可型号合格证 VTC 075E / Engine Validation Type Certificate VTC 075E)
2 台通用 GE90-90B 型别的涡扇发动机/2 General Electric Turbofan Model: GE90-90B (发动机认可型号合格证 VTC0054E, 型号认可证数据单版次 4 / Engine Validation Type Certificate VTC0054E, The Validation Data Sheet Revision 4

燃油/Fuel 普惠发动机:
符合燃油如下规范的燃油是可接受的: ASTM D-1655 Jet-A 级和 Jet A-1 级, MIL-T-5624 JP-5 级, MIL-T-83133 JP-8 级, 中华人民共和国国家标准“3 号喷气燃料”(GB 6537)。根据其他规范生产的满足以上所列规范性能要求的燃油是可接受的。燃油及燃油添加剂必须符合普惠公司服务通告 2016 的经批准的最新版本。

Pratt and Whitney Engines:

Fuels conforming to ASTM D-1655 grades Jet-A and Jet A-1, MIL-T-5624 grade JP-5, MIL-T-83133 grade JP-8 and National Standard of the People's Republic of China "No.3 Jet Fuel" (GB 6537) 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.

通用发动机:

符合燃油如下规范的燃油是可接受的: ASTM D-1655 Jet-A 级和 Jet A-1 级, MIL-T-5624 JP-5 级, MIL-T-83133 JP-8 级, 中华人民共和国国家标准“3 号喷气燃料”(GB 6537)。根据其他规范生产的满足以上所列规范性能要求的燃油是可接受的。燃油及燃油添加剂必须符合通用公司航空涡轮燃油规范 D50TF2 的经批准的最新版本。

General Electric Engines:

Fuels conforming to ASTM D-1655 grades Jet-A and Jet A-1, MIL-T-5624 grade JP-5, MIL-T-83133 grade JP-8 and National Standard of the People's Republic of China "No.3 Jet Fuel" (GB 6537) 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 GE Aviation Turbine Fuels Specification D50TF2.

发动机额定值及使用限制/Engine Ratings & Operating Limits: 普惠发动机: 见 FAA 批准的飞行手册中发动机额定值和使用限制部分。如果 FAA 批准的飞行手册中的限制部分允许, 当单发停车时, 正常 5 分钟起飞时间限制可以延长到 10 分钟。 / Pratt & Whitney Engines: See the FAA approved Flight Manual for engine ratings and operating limits. The normal 5 minute take off 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.

	通用电气发动机：发动机的额定值见 FAA 批准的飞行手册；使用限制见 FAA 批准的飞行手册和注释 6。如果 FAA 批准的飞行手册中的限制部分允许，当单发停车时，正常 5 分钟起飞时间限制可以延长到 10 分钟。General Electric Engines: See the FAA approved Airplane Flight Manual for engine ratings. See the FAA approved Airplane 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.
空速限制/Airspeed Limits(IAS):	VMO/MMO = 330KIAS/.87M. 其他的空速限制，见适用的 FAA 批准的飞机飞行手册。 For other airspeed limits, see the appropriate FAA approved Airplane Flight Manual.
基准/Datum:	站位 0 位于机头前方 92.5 英寸处。 Sta 0.0, located 92.5 in forward of airplane nose(B.S. 92.5).
平均气动弦长/MAC:	278.51 英寸/inches
重心范围/CG Range:	见适用的 FAA 批准的飞机飞行手册。 See the appropriate FAA approved Airplane Flight Manual.
水平测量设施/Leveling Means:	在右侧机轮舱内有铅锤和测水平刻度盘。/ A plumb bob attachment and leveling provision scale are provided in the right hand body wheel well.
操纵面的运动/Control Surface Movements:	为保证飞机正常运行，必须用合适的飞行控制系统调整装备仔细控制各操纵面的运动。因此飞机必须按照以下 FAA 批准的资料进行安装调整。/ 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: 波音图纸号：/ Boeing Drawing Numbers: 251W1001 安装说明书/ Rigging Instructions 横向操纵/ Lateral Control 251W2001 安装说明书/ Rigging Instructions 升降舵操纵/ Elevator Control 251W3001 安装说明书/ Rigging Instructions 方向舵操纵/ Rudder Control 251W4001 安装说明书/ Rigging Instructions 安定面配平操纵系统/ Stabilizer Trim Control System 256W2001 系统安装/ System Rigging 前缘缝翼/ Leading Edge Slat 256W3001 安装说明书/ Rigging Instructions 襟翼驱动系统/Drive System Flap Actuation
最大重量/Maximum Weights:	见适用的 FAA 批准的飞机飞行手册。 See the appropriate FAA approved Airplane Flight Manual.
审定维修要求/Certification Maintenance Requirements:	CMRs 列在波音维护计划资料文件 D622W001-9 的第 9 章节（第 9 章节经 FAA 批准），或列在适用的发动机型号合格数据单中。这两份文件中更严厉的要求应当执行。/ 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.
服务信息/ Service Information:	波音文件 D634W201 “777-200 结构修理手册”是 FAA 批准的文件。服务通告和其他的服务信息当经过 FAA 批准时将具有起相同效应的声明。/ Boeing Document D634W201 “777-200 Structural Repair Manual” is FAA-approved. Service Bulletins and other service information when FAA-approved will carry a statement to that effect.

型别 产品序号 /Model Eligible serial numbers:	见 FAA 型号合格证数据单 T00001SE。 See the FAA TCDS T00001SE
最小机组/Minimum Crew:	2 名飞行员：正驾驶和副驾驶/Two (2): pilot and copilot
最大行李/货物 /Maximum Baggage/Cargo:	见适用的重量与平衡手册。 See appropriate Weight and Balance Manual.
最大乘客数 /Maximum Passengers:	440
燃油和滑油容量 /Fuel and Oil Capacity:	见适用的重量与平衡手册。 See appropriate Weight and Balance Manual.
最低所需燃油 /Minimum Required Fuel:	见适用的重量与平衡手册。 See appropriate Weight and Balance Manual.
FAA 审定基础/ FAA Certification Basis:	A. 14 CFR part 25 of the Federal Aviation Regulations: Amendment 25-1 through 25-82, except for: §25.571(e)(1) which remains at amendment 25-71 level. §25.1457 at amendment 25-124 applicable to Line Number 858 and on. §25.1459 at amendment 25-124 applicable to Line Number 858 and on. Optional Design Regulations: Ditching: §25.801, 25.1411(d), (e), (f), (g) and 25.1415 Ice Protection: §25.1419 14 CFR part 26: Based on 14 CFR §21.101(g) for changes made to TCs applicable provisions of 14 CFR part 26 are included in the certification basis. For any future 14 CFR part 26 amendments, the holder of this TC must demonstrate compliance with the applicable sections Compliance has been found for the following regulations at Amendment 26-0: §26.11 Compliance has been found for the following regulations at Amendment 26-1: §26.43, 26.45, 26.47, and 26.49 Compliance has been found for the following regulations at Amendment 26-3: §26.33 and §26.39 In addition to 14 CFR part 25 of FARs, the type certification basis for the Model 777-200 airplane includes compliance with the emissions standards of 14 CFR part 34, Amendment 34-1 through 34-3, and with the noise standards of 14 CFR part 36, Amendment 36-1 through 36-28. 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). 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 from 14 CFR §25.853(a), appendix F, paragraph (a)(1)(i), Testing on Large Interior Panels, granted through November 28, 2011. (Exemption No. 9791, November 28, 2008, Exemption No. 9791B, March 1, 2010, Exemption No. 9791C, February 4, 2011)
5. Partial Time Limited Exemption from 14 CFR 25.301, 25.303, 25.305, 25.307, 25.601, 25.603, 25.613, 25.901(b)(2), 25.901(c), 25.1103(d), 25.1191, and 25.1301(d), Thrust reverser inner wall damage and pneumatic duct failures on all Rolls Royce engine powered 777 series aircraft production line numbers 1 through 796, granted through October 27, 2015. (Exemption No. 9949, October 27, 2009)
6. Time-Limited Exemption from 14 CFR 25.1535 as specified in Appendix K, §K25.1.4(a)(3) as the regulation applies to low-fuel alerting for approval extended operations (ETOPS) beyond 180 minutes, granted through January 11, 2014 (Exemption No. 10193, January 11, 2011)

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, 25.785, Special Condition No. 25-295-SC - Dynamic Test Requirements for Single Occupant Side-Facing Seats on Boeing Model 777 (documented in ELOS Memo PS09-0445-CS-1)
- 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 25.562, 25.785, Special Condition No. 25-295-SC – for Single Occupant Side-Facing Seats. (documented in ELOS Memo PS13-0216-C-1)
- 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
- 14 CFR 25.811(f) - Door sill reflectance
- 14 CFR 25.813(e) – Doors between passenger compartments (documented in Transport Airplane Directorate ELOS Memo PS05-0272-C-1)
- 14 CFR 25.819 - Lower Lobe Attendant Rest (LLAR)
- 14 CFR 25.853(a) – Adhesives used in interior panel bent joint potting applications (documented in TAD ELOS Memo PS08-0670-C-1)
- 14 CFR 25.853(a) and (d) Compartment Interiors (Documented in TAD ELOS Memorandum PS13- 1000-C-5)
- 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 part 25.981, Amdt 25-125 - for the Fuel Tank Flammability Rule (FTFR). (documented in ELOS Memo PS05-0177-P-2)
- 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
- 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 25.1441(c) Crew Determination of the Quantity of Oxygen Available in the

Lavatory Passenger Service Units Bottles (documented in ELOS Memo PS13-0901-ES-1)
14 CFR 25.1443(c) Determination of Minimum Oxygen Flow for the Lavatory Oxygen System (documented in TAD ELOS Memo TS13-0005-S-1)
14 CFR 25.1459(a)(2) - for Flight Data Recorder Accelerometers.
14 CFR 25.1549(b) – Powerplant and Auxiliary Power Unit Instruments (Documented in TAD ELOS Memorandum AT00010BA-T-S-1)
14 CFR 25.1555(d)(1) Engine and Auxiliary Power Unit (APU) Fire Switch Handle Design (documented in ELOS Memo PS06-0496-F-18)
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, effective on December 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, effective on October 8 ,2003, addressed airplane type design approval for Extended Range Operation With Two-Engine Airplanes (ETOPS).

Special Conditions No. 25-141-SC, effective on December 7, 1998, Seats With Articulating Seat Backs

Special Conditions No. 25-187A-SC, effective on October 29, 2004, addressed seats with inflatable lapbelts.

Special Conditions No. 25-192-SC, effective on November 6, 2001, addressed Overhead Crew Rest Compartments.

Special Conditions No. 25.230-SC, effective on April 9, 2003, addressed Overhead Crew Rest Compartments

Special Conditions No. 25-260-SC, effective on April 14, 2004, addressed the Overhead Crew Rest Compartment Occupiable During Taxi, Take-off, and Landing

Special Conditions No. 25.295-SC, effective on August 9, 2005, Side-Facing Single-Occupant Seats equipped with inflatable lapbelts

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

Special Conditions No. 25-367-SC, effective on February 7, 2008, addressed Seats With Non-Traditional, Large, Non-Metallic Panels

Special Conditions No. 25-503-SC, effective on November 18, 2013, addressed Aircraft Electronic System Security Protection From Unauthorized Internal Access

Special Conditions No. 25-504-SC, effective on November 18, 2013, addressed Aircraft Electronic System Security Protection From Unauthorized External Access

Special Conditions No. 25-687-SC, effective to design changes applied for after May 31, 2017, addressed Non-Rechargeable Lithium Batteries. See the applicability section of these special conditions for more information on which design changes must meet them.

IV. 经批准的中文标记标牌/ The Approved Chinese Placards

以下资料中所包含的中文标记标牌的中文表述已由CAAC接受并由FAA批准:

The Chinese Placards involved in the following data have been accepted by CAAC and approved by FAA:

序号 Code	标题 Title	编号 Number	版本 (见注释13) Rev./See Note 13
1	777 Bilingual (Chinese) Placards and Markings	D6-36621-5	New

V. 注释/Notes

注释/NOTE 1: 每架飞机初始取适航证时和取证后的任何时候都必须有飞机当前的重量和平衡报告, 除非营运人有经 CAAC 批准的装载系统控制重量和平衡。/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 a CAAC approved loading system for weight and balance control.

注释/NOTE 2: 飞机必须按照经 FAA 批准的飞行手册使用。凡是经 FAA 批准的飞行手册或 CAAC 运营规章或 CAAC 认可审定基础所要求的标牌都必须在飞机上安装。/Airplane operation must be in accordance with the FAA Approved Airplane Flight Manual. All placards required by either FAA Approved Airplane Flight Manual, the CAAC applicable operating rules, or the CAAC Validated Certification Basis must be installed in the airplane.

注释/NOTE 3: 所要求的结构检查和安全寿命件的更换时间列在波音文件 D622W001-9 中的第 9 章 FAA 批准的适航限制部分。检查间隔是根据波音文件 D101W801-36 中的曲线得来的。/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.

注释/NOTE 4: 下列仅根据型号合格证生产的序列号飞机不得进入中国。/The airplane of following Serial Numbers produced under Type Certificate only shall not be permitted to enter China: 777-200: 26916-26919, 26921, 26925, 26929, 26930, 26932, 26936, 27105, 27106, 27116, 27265

注释/NOTE 5: 根据 FAA 专用条件 25-ANM-84 对 777-200 型别的飞机进行了评估, 发现当飞机按照波音文件 D044W054 “777 型别飞机 ETOPS 构型、维护和程序” 使用时, 适合 180 分钟的双发延程飞行。该结论不形成实施 ETOPS 运行的批准。/ The Models 777-200 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.

根据 2000 年 3 月 21 日 FAA ETOP 政策信函 EPL 20-1 中的型号设计要求对 777-200 型别飞机进行了评估, 当飞机按照波音文件 D044W054 配置时批准 207 分钟 ETOPS。根据 FAA 政策信函的授权, 正常 ETOPS 运行时间为 180 分钟, 而 207 分钟最大备降时间的使用限制在根据每次飞行情况作例外处理。该结论不构成实施 207 分钟 ETOPS 运营的标准。/The Models 777-200 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.

以下飞机和发动机的组合包括 777-200/GE90-85B/-90B, 777-200/GE90-94B, 777-200/PW4084D/PW4090/PW4090-3 针对 25 部 25.3(b)(2)和 25.1535 的要求进行了评估, 发现当飞机按照波音文件 D044W054 “777 型别飞机 ETOPS 构型、维护 and 程序” 使用时适合 180 分钟的双发延程飞行。该结论不形成实施 ETOPS 运行的批准。

The airplane/engine combinations 777-200/GE90-85B/-90B, 777-200/GE90-94B, 777-200/PW4084D/PW4090/PW4090-3 have been evaluated in accordance with the type design requirements of 14 CFR 25.3(b)(2) and 25.1535 and found suitable for greater than 180- minute ETOPS operations when operated and maintained in accordance with Boeing Document D044W054 "Model 777 Configuration, Maintenance, and Procedures." This finding does not constitute approval to conduct ETOPS operations.

注释/NOTE 6: 仅对 GE 发动机: 发动机处于静态运行后如果转速 N1 值超过 70%, 发动机必须至少慢车运行 10 分钟才能关车。该限制仅适用于静态运行; 在正常使用情况下, 发动机厂家的使用说明书中所包含的慢车冷却说明是可接受的。/For General Electric 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.

注释/NOTE 7: 777 型别的飞机已经被批准在“缩小垂直间隔”空域运行。关于 RVSM 方面的持续适航和运行批准根据 CAAC 咨询通告 AC 91-07“缩小垂直间隔(RVSM)空域的运行要求”/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 CCAC Advisory Circular (AC) 91-07, titled “Operational Requirement for Flight in Reduced Vertical Separation Minimum Airspace.”

注释/NOTE 8: FAA 认为任何不可控高推力失效情况及波音 777 维护计划文件中列出的相关失效情况的发生会妨碍飞机的安全运行, 因此应根据 CCAR121.707 要求报告。/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 CCAR 121.707.

注释/NOTE 9: 为符合 14 CFR 25.981 及联邦航空特殊规章 SFAR NO.88 号的要求而确定的关于燃油箱系统的强制性更换时间、检查间隔、相关的检查程序和所有关键设计构型控制限制均列在 FAA 批准的适航限制和审定维修要求章节---波音 777 维护计划数据文件 D622W001-9, 2006 年 2 月版本或 FAA 后续批准的版本。777-200 系列自生产线号为 569 起的飞机, 必须符合 2006 年 3 月版本或后续 FAA 批准的版本。FAA 正计划发布适航指令, 强制生产号低于 569 的 777-200 飞机必须符合 2006 年 3 月版本或后续 FAA 批准的版本。/

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.

注释/NOTE 10: 空/Empty

注释/NOTE 11: 空/Empty

注释/NOTE 12: 如果新飞机生产时（从线号 772 起）或对现役飞机的改装安装燃油箱惰性化系统，则对于降低可燃性系统（FRS）的审定基础采用 FAR 25-125 号修正案修订后的 FAR 25.981 条和等效安全条件。关于 FRS 的适航性限制内容在相应的维修计划文件第 9 章中。/Certification basis for FAR 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.

注释/NOTE 13: 包含后续经批准的版本。
Including the subsequent approved version(s).

第3部分/SECTION 3: 777F

I. 总则/General

1. 衍生型/Variant or Model:	777F
2. 适航类别/Airworthiness Category:	运输类航空器/Transport category Aircraft
3. 型号合格证持有人/Type Certificate Holder:	The Boeing Company 737 Logan Avenue N Renton, WA 98057-0000
4. FAA批准日期/FAA Approved Date:	2009.02.03/03 Feb. 2009
5. CAAC批准日期/CAAC Approved Date:	2009.03.27/27 Mar. 2009

II. 认可审定基础/Validation Certification Basis

CAAC的认可审定基础由FAA的审定基础（除了以下列明的部分外。详见FAA型号合格证数据单：编号T00001SE第34版中的777F型别部分的审定基础），以及5个FAA等效安全：PS15-0568-F-1、PS13-1000-C-5、AT00010BA-T-S-1、PS06-0496-F-18、PS21-0254-EE-1，1个FAA专用条件25-687-SC，14 CFR 26.21 at Amendment 26-6和CAAC的附加技术条件组成。

PS15-0568-F-1振动/抖振符合性标准：针对B777飞机的更改

PS13-1000-C-5 座舱内饰

AT00010BA-T-S-1 动力装置和辅助动力装置仪表

PS06-0496-F-18发动机和APU灭火手柄设计

25-687-SC 非充电式锂电池

14 CFR 26.21 at Amendment 26-6 有效性限制

PS21-0254-EE-1 关于早期ETOPS非飞机-发动机组合ETOPS型号设计批准审定基础的设计更改

例外部分：

14 CFR 25.1457(d)(5)(i)和25.1457(d)(5)(ii)；

根据PS05-0177-P-2针对14 CFR 25.981的等效安全；

The CAAC validation basis consists of the FAA certification basis (refer to the certification basis of model 777F in FAA Type Certificate Data Sheet No. T00001SE, Revision 34, except the part list below); plus the 5 FAA ELOS: PS15-0568-F-1、PS13-1000-C-5、AT00010BA-T-S-1、PS06-0496-F-18、PS21-0254-EE-1; 1 FAA Special Condition: 25-687-SC; 14 CFR 26.21 at Amendment 26-6; and the CAAC additional technical conditions.

PS15-0568-F-1 14 CFR 25.251(a) (b), Finding for Vibration /Buffeting Compliance Criteria, Vibration/Buffeting Compliance Criteria, Modifications to Boeing 777 Aircraft

PS13-1000-C-5 14 CFR 25.853(a) and (d) Compartment Interiors

AT00010BA-T-S-1 14 CFR 25.1549(b) Powerplant and Auxiliary Power Unit Instruments

PS06-0496-F-18 14 CFR 25.1555(d)(1) Engine and Auxiliary Power Unit(APU) Fire Switch Handle Design

25-687-SC 14 CFR 25.863 and 25.1353 Non-Rechargeable Lithium Batteries

14 CFR 26.21 at Amendment 26-6, Limit of Validity

PS21-0254-EE-1 Modification when Early ETOPS was not the Basis of the Airplane-Engine Combination's ETOPS Type Design Approval

Part not included in CAAC validation basis:

sec. 25.1457(d)(5)(i), sec. 25.1457(d)(5)(ii);

ELOS for 25.981 according to PS05-0177-P-2;

III. 技术特征和运行限制/Technical Characteristics and Operational Limitations

发动机/Engines:	2 台通用 GE90-110B1 型别的涡扇发动机/2 General Electric Turbofan Model:GE90-110B1 (发动机认可型号合格证 VTC0054E, 型号认可证数据单版次 4 / Engine Validation Type Certificate VTC0054E, The Validation Data Sheet Revision 4)
燃油/Fuel:	符合燃油如下规范的燃油是可接受的: ASTM D-1655 Jet-A 级和 Jet A-1 级, MIL-T-5624 JP-5 级, MIL-T-83133 JP-8 级, 中华人民共和国国家标准“3 号喷气燃料”(GB 6537)。根据其他规范生产的满足以上所列规范性能要求的燃油是可接受的。燃油及燃油添加剂必须符合通用公司航空涡轮燃油规范 D50TF2 的经批准的最新版本。 Fuels conforming to ASTM D-1655 grades Jet-A and Jet A-1, MIL-T-5624 grade JP-5, MIL-T-83133 grade JP-8 and National Standard of the People's Republic of China "No.3 Jet Fuel" (GB 6537) 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 GE Aviation Turbine Fuels Specification D50TF2.
发动机额定值及使用限制/Engine Ratings & Operating Limits:	发动机的额定值见 FAA 批准的飞行手册; 使用限制见 FAA 批准的飞行手册和注释 6。如果 FAA 批准的飞行手册中的限制部分允许, 当单发停车时, 正常 5 分钟起飞时间限制可以延长到 10 分钟。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.
空速限制/Airspeed Limits(IAS):	VMO/MMO = 330KEAS/.89M. 其他的空速限制, 见适用的 FAA 批准的飞机飞行手册。 For other airspeed limits, see the appropriate FAA approved Airplane Flight Manual.
基准/Datum:	站位 0 位于机头前方 92.5 英寸处。 Sta 0.0, located 92.5 in forward of airplane nose (B.S. 92.5).
平均气动弦长/MAC:	278.51 英寸/inches
重心范围/CG Range:	见适用的 FAA 批准的飞机飞行手册。 See the appropriate FAA approved Airplane Flight Manual.
水平测量设施/Leveling Means:	在右侧机轮舱内有铅锤和测水平刻度盘。/ A plumb bob attachment and leveling provision scale are provided in the right hand body wheel well.
操纵面的运动/Control Surface Movements:	为保证飞机正常运行, 必须用合适的飞行控制系统调整装置仔细控制各操纵面的运动。因此飞机必须按照以下 FAA 批准的资料进行安装调整。/ 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: 波音图纸号: / Boeing Drawing Numbers: 251W1001 安装说明书/ Rigging Instructions 横向操纵/ Lateral Control 251W2001 安装说明书/ Rigging Instructions 升降舵操纵/ Elevator Control 251W3001 安装说明书/ Rigging Instructions 方向舵操纵/ Rudder Control 251W4001 安装说明书/ Rigging Instructions 安定面配平操纵系统/ Stabilizer Trim Control System 256W2001 系统安装/ System Rigging 前缘缝翼/ Leading Edge Slat 256W3001 安装说明书/ Rigging Instructions 襟翼驱动系统/Drive System Flap Actuation
最大重量/Maximum Weights:	见适用的 FAA 批准的飞机飞行手册。 See the appropriate FAA approved Airplane Flight Manual.
审定维修要求/Certification Maintenance Requirements:	CMRs 列在波音维护计划资料文件 D622W001-9 的第 9 章节（第 9 章节经 FAA 批准），或列在适用的发动机型号合格数据单中。这两份文件中更严厉的要求应当执行。/ 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.
服务信息/ Service Information:	波音文件 D634W215 “777F 结构修理手册”是 FAA 批准的文件。服务通告和其他的服务信息当经过 FAA 批准时将具有起相同效应的声明。/ Boeing Document D634W215 “777F Structural Repair Manual” is FAA-approved. Service Bulletins and other service information when FAA-approved will carry a statement to that effect.
型别 产品序号/Model Eligible serial numbers:	见 FAA 型号合格证数据单 T00001SE。 See the FAA TCDS T00001SE
最小机组/Minimum Crew:	2 名飞行员：正驾驶和副驾驶/Two (2): pilot and copilot
最大乘客数/Maximum Passengers:	根据豁免 9779 及经 FAA 批准的飞机飞行手册规定的限制，777F 最大乘客数为 11 人。/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.
最大行李/货物/Maximum Baggage/Cargo:	见适用的重量与平衡手册。/See appropriate Weight and Balance Manual.
燃油和滑油容量/Fuel and Oil Capacity:	见适用的重量与平衡手册。/See appropriate Weight and Balance Manual.
最低所需燃油/Minimum Required Fuel:	见适用的重量与平衡手册。/See appropriate Weight and Balance Manual.
最大运行高度/Maximum Operating Altitude:	43,100 英尺/feet.

FAA 审定基础/
FAA Certification
Basis: A. 14 CFR part 25 of the Federal Aviation Regulations (FAR) as amended by
Amendments 25-1 through 25-117, with the exceptions listed below:

<u>SECTION NO.</u>	<u>TITLE</u>	<u>AT AMDT. 25-</u>
25.3(b)(2)	Special provisions for ETOPS type design approvals	120
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 Absorbent 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
25.1457	Cockpit Voice Recorder	124 (10)
25.1459	Flight Data Recorder	124 (10)
25.1516	Other Speed Limitations	105
25.1527	Ambient Air Temperatures and Operating Altitude	105
25.1535	ETOPS Approval	120
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

- (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.
- (10) Compliance to amendment 25-124 applicable to Line Number 858 and on.

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 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 25.785(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 Accommodation 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, Exemption 9779A, September 15, 2009)
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, 2011. (Exemption No. 9791, November 28, 2008, Exemption No. 9791B, March 1, 2010 , Exemption No. 9791C, February 4, 2011)
7. Time-Limited Exemption from 14 CFR 25.1535 as specified in Appendix K, §K25.1.4(a)(3) as the regulation applies to low-fuel alerting for approval for extended operations (ETOPS) beyond 180 minutes, granted through January 11, 2014 (Exemption No. 10193, January 11, 2011)

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 25.251(a) (b), PS15-0568-F-1-Finding for Vibration /Buffeting Compliance Criteria, Vibration/Buffeting Compliance Criteria, Modifications to Boeing 777 Aircraft

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

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 25.853(a) and (d) Compartment Interiors (Documented in TAD ELOS Memorandum PS13- 1000-C-5)

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 part 25.981, Amdt 25-125 - for the Fuel Tank Flammability Rule (FTFR). (documented in ELOS Memo PS05-0177-P-2)

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 25.1549(b) Powerplant and Auxiliary Power Unit Instruments (Documented in TAD ELOS Memorandum AT00010BA-T-S-1)

14 CFR 25.1555(d)(1) Engine and Auxiliary Power Unit(APU) Fire Switch Handle Design (documented in ELOS Memo PS06-0496-F-18)

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 Conditions with respect to the following subjects apply to the Model 777F:
Special Condition No. 25-ANM-78, effective on December 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, effective on October 8, 2003, addressed airplane type design approval for Extended Range Operation With Two-Engine Airplanes (ETOPS).

Special Condition No. 25-187A-SC, effective on October 29, 2004, addressed seats with inflatable lapbelts.

Special Conditions No. 25-503-SC, effective on November 18, 2013, addressed Aircraft Electronic System Security Protection From Unauthorized Internal Access

Special Conditions No. 25-504-SC, effective on November 18, 2013, addressed Aircraft Electronic System Security Protection From Unauthorized External Access

Special Conditions No. 25-687-SC, effective to design changes applied for after May 31, 2017, addressed Non-Rechargeable Lithium Batteries. See the applicability section of these special conditions for more information on which design changes must meet them.

14 CFR part 26:

Based on 14 CFR §21.101(g) for changes made to TCs applicable provisions of 14 CFR part 26 are included in the certification basis. For any future 14 CFR part 26 amendments, the holder of this TC must demonstrate compliance with the applicable sections

Compliance has been found for the following regulations at Amendment 26-0: 26.11

Compliance has been found for the following regulations at Amendment 26-1: §26.43, 26.45, 26.47, and 26.49

Compliance has been found for the following regulations at Amendment 26-3: §26.33 and §26.39

Compliance has been found for the following regulations at Amendment 26-6: §26.21

In addition to 14 CFR part 25 of FARs, the type certification basis for the Model 777F airplane includes compliance with the emissions standards of 14 CFR part 34, Amendment 34-1 through 34-3, and with the noise standards of 14 CFR 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.

IV. 经批准的中文标记标牌/ The Approved Chinese Placards

以下资料中所包含的中文标记标牌的中文表述已由CAAC接受并由FAA批准:

The Chinese Placards involved in the following data have been accepted by CAAC and approved by FAA:

序号 Code	标题 Title	编号 Number	版本 (见注释13) Rev./See Note 13
1	777 Bilingual (Chinese) Placards and Markings	D6-36621-5	New

V. 注释/Notes

- 注释/NOTE 1: 每架飞机初始取适航证时和取证后的任何时候都必须有飞机当前的重量和平衡报告, 除非营运人有经 CAAC 批准的装载系统控制重量和平衡。/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 a CAAC approved loading system for weight and balance control.
- 注释/NOTE 2: 飞机必须按照经 FAA 批准的飞行手册使用。凡是经 FAA 批准的飞行手册或 CAAC 运营规章或 CAAC 认可审定基础所要求的标牌都必须在飞机上安装。/Airplane operation must be in accordance with the FAA Approved Airplane Flight Manual. All placards required by either FAA Approved Airplane Flight Manual, the CAAC applicable operating rules, or the CAAC Validated Certification Basis must be installed in the airplane.
- 注释/NOTE 3: 所要求的结构检查和安全寿命件的更换时间列在波音文件 D622W001-9 中的第 9 章 FAA 批准的适航限制部分。检查间隔是根据波音文件 D101W801-36 中的曲线得来的。/
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.
- 注释/NOTE 4: 空/ Empty.
- 注释/NOTE 5: 根据 FAA 专用条件 25-ANM-84 号对 777F 型别的飞机进行了评估, 发现当飞机按照波音文件 D044W054 “777 型别飞机 ETOPS 构型、维护和程序” 使用时, 适合 180 分钟的双发延程飞行。该结论不构成实施 ETOPS 运营的批准。/ The Models 777F 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.
777F/GE90-110B1/-115B 针对 25 部 25.3(b)(2)和 25.1535 的要求进行了评估, 当飞机按照波音文件 D044W054 “777 型别飞机 ETOPS 构型、维护和程序” 使用时适合 180 分钟的双发延程飞行。该结论不形成实施 ETOPS 运行的批准。
777F/GE90-110B1/-115B have been evaluated in accordance with the type design requirements of 14 CFR 25.3(b)(2) and 25.1535 and found suitable for greater than 180- minute ETOPS operations when operated and maintained in accordance with Boeing Document D044W054 "Model 777 Configuration, Maintenance, and Procedures." This finding does not constitute approval to conduct ETOPS operations.
- 注释/NOTE 6: 仅对 GE 发动机: 发动机处于静态运行后如果转速 N1 值超过 70%, 发动机必须至少慢车运行 10 分钟才能关车。该限制仅适用于静止大气运转; 在正常使用情况下, 发动机厂家的使用说明书中所包含的慢车冷却说明是可接受的。/ For General Electric 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.

- 注释/NOTE 7: 777 型别飞机已经被批准在“缩小垂直间隔”空域运行。关于 RVSM 方面的持续适航和运行批准根据 CAAC 咨询通告 AC 91-07 “缩小垂直间隔 (RVSM) 空域的运行要求”/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 CCAC Advisory Circular (AC) 91-07, titled “Operational Requirement for Flight in Reduced Vertical Separation Minimum Airspace.”
- 注释/NOTE 8: FAA 认为任何不可控高推力失效情况及波音 777 维护计划文件中列出的相关失效情况的发生会妨碍飞机的安全运行, 因此应根据 CCAR121.707 要求报告。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 CCAR 121.707.
- 注释/NOTE 9: 777 的维护计划数据文件第九章满足联邦航空特殊规章 SFAR NO.88 号, 符合 14 CFR25.981/The Maintenance Planning Data Document, Section 9 for the 777F meets Special Federal Aviation Regulation No. 88 and compliance to 14 CFR 25.981.
- 注释/NOTE 10: 空/Empty
- 注释/NOTE 11: 空/Empty
- 注释/NOTE 12: 如果新飞机生产时 (从线号 772 起) 或对现役飞机的改装安装燃油箱惰化系统, 则对于降低可燃性系统 (FRS) 的审定基础采用 FAR 25-125 号修正案修订后的 FAR 25.981 条和等效安全条件。关于 FRS 的适航性限制内容在相应的维修计划文件第 9 章中。/Certification basis for FAR 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.
- 注释/NOTE 13: 包含后续经批准的版本。
Including the subsequent approved version(s).
- 注释/NOTE 14: 批准 777F 飞机 25 小时舱音记录器水下定位信标非充电锂电池设计更改/Approve 777F design change in the 25 HR CVR ULB NRLB.
- 注释/NOTE 15: 认可了波音 777F 飞机 Techtest 公司便携式应急定位发射机的设计更改。/ The design change of Boeing 777F Techtest Portable Emergency Locator Transmitter (P-ELT) has been validated.
- 注释/NOTE 16: 认可了波音 777F 飞机发动机高压涡轮级间封严设计更改。/ The design change of Boeing 777F Interstage Seal Redesign has been validated.
- 注释/NOTE 17: 认可了波音 777F 飞机全球航空遇险与安全系统遇险跟踪型应急定位发射机 (制造商为 ACR 公司) 的设计更改。/ The design change of Boeing 777F Global Aeronautical Distress and Safety System Autonomous Distress Tracking - ACR Emergency Locator Transmitter with Distress Tracking (ELT-DT) has been validated.

第4部分/SECTION 4: 777-300ER

I. 总则/General

1. 衍生型/Variant or Model:	777-300ER
2. 适航类别/Airworthiness Category:	运输类航空器/Transport category Aircraft
3. 型号合格证持有人/Type Certificate Holder:	The Boeing Company 737 Logan Avenue N Renton, WA 98057-0000
4. FAA批准日期/FAA Approved Date:	2004.03.16/ 16 Mar. 2004
5. CAAC批准日期/CAAC Approved Date:	2011.06.21/ 21 Jun. 2011

II. 认可审定基础/Validation Certification Basis

CAAC的认可审定基础由FAA的审定基础（除了以下列明的部分外。详见FAA型号合格证数据单：编号T00001SE第34版中的777-300ER型别部分的审定基础），以及1个FAA豁免：Exemption No. 17634，8个FAA等效安全：PS15-0568-F-1、PS13-1000-C-5、PS13-0901-ES-1、TS13-0005-S-1、TC6918SE-T-ES-20、AT00010BA-T-S-1、PS06-0496-F-18、PS21-0254-EE-1，1个FAA专用条件：25-687-SC和CAAC的附加技术条件组成。

Exemption No. 17634 客舱舱室间舱门安装

PS15-0568-F-1振动/抖振符合性标准：针对B777飞机的更改

PS13-1000-C-5 座舱内饰

PS13-0901-ES-1机组确定在厕所旅客服务装置气瓶中的可用氧量

TS13-0005-S-1确定厕所氧气系统的最小氧气流量

TC6918SE-T-ES-20 手持式脉冲氧气系统

AT00010BA-T-S-1 动力装置和辅助动力装置仪表

PS06-0496-F-18发动机和APU灭火手柄设计

25-687-SC 非充电式锂电池

PS21-0254-EE-1 关于早期ETOPS非飞机-发动机组合ETOPS型号设计批准审定基础的设计更改

例外部分：

14 CFR 25.1457(d)(5)(i)和25.1457(d)(5)(ii)；

根据PS13-0216-C-1针对14 CFR 25.562,25.785,25-295-SC的部分等效安全；

根据PS05-0177-P-2针对14 CFR 25.981的等效安全；

The CAAC validation basis consists of the FAA certification basis (refer to the certification basis of model 777-300ER in FAA Type Certificate Data Sheet No. T00001SE, Revision 34, except the part listed below), plus 1 FAA Exemption No.17634, 8 FAA ELOS: PS15-0568-F-1、PS13-1000-C-5、PS13-0901-ES-1、TS13-0005-S-1、TC6918SE-T-ES-20、AT00010BA-T-S-1、PS06-0496-F-18、PS21-0254-EE-1, 1 FAA Special Condition 25-687-SC and the CAAC additional technical conditions.

Partial Exemption from 14 CFR 25.813(e), Installation of Doors between Passenger Compartments (Exemption No. 17634, November 3, 2017)

PS15-0568-F-1 14 CFR 25.251(a) (b), Finding for Vibration /Buffeting Compliance Criteria, Vibration/Buffering

Compliance Criteria, Modifications to Boeing 777 Aircraft

PS13-1000-C-5 14 CFR 25.853(a) and (d) Compartment Interiors

PS13-0901-ES-1 14 CFR 25.1441(c) Crew Determination of the Quantity of Oxygen Available in the Lavatory Passenger Service Units Bottles

TS13-0005-S-1 14 CFR 25.1443(c) Determination of Minimum Oxygen Flow for the Lavatory Oxygen System

TC6918SE-T-ES-20 14 CFR 25.1443(d) Portable Pulse Oxygen System

AT00010BA-T-S-1 14 CFR 25.1549(b) Powerplant and APU instruments

PS06-0496-F-18 14 CFR 25.1555(d)(1) Engine and Auxiliary Power Unit(APU) Fire Switch Handle Design

25-687-SC 14 CFR 25.863 and 25.1353 Non-Rechargeable Lithium Batteries

PS21-0254-EE-1 Modification when Early ETOPS was not the Basis of the Airplane-Engine Combination's ETOPS Type Design Approval

Part not included in CAAC validation basis:

sec. 25.1457(d)(5)(i), sec. 25.1457(d)(5)(ii);

ELOS for 25.562,25.785,25-295-SC according to PS13-0216-C-1;

ELOS for 25.981 according to PS05-0177-P-2;

III. 技术特征和运行限制/Technical Characteristics and Operational Limitations

发动机/Engines 2 台 GE90-115B 型 GE 涡扇发动机/
2 General Electric Turbofan Model: GE90-115B
(发动机认可型号合格证 VTC0054E, 型号认可证数据单版次 4 / Engine Validation Type Certificate VTC0054E, The Validation Data Sheet Revision 4)

燃油/Fuel 符合燃油如下规范的燃油是可接受的: ASTM D-1655 Jet-A 级和 Jet A-1 级, MIL-T-5624 JP-5 级, MIL-T-83133 JP-8 级, 中华人民共和国国家标准“3 号喷气燃料”(GB 6537)。根据其他规范生产的满足以上所列规范性能要求的燃油是可接受的。燃油及燃油添加剂必须符合通用公司航空涡轮燃油规范 D50TF2 的经批准的最新版本。
Fuels conforming to ASTM D-1655 grades Jet-A and Jet A-1, MIL-T-5624 grade JP-5, MIL-T-83133 grade JP-8 and National Standard of the People's Republic of China "No.3 Jet Fuel" (GB 6537) 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 GE Aviation Turbine Fuels Specification D50TF2.

发动机额定值及使用限制:
Engine Ratings & Operating Limits: GE 发动机:
见 FAA 批准的飞行手册中发动机额定值和注 6 “发动机使用限制”。如果 FAA 批准的飞行手册中的限制章节允许, 当单发停车时, 正常 5 分钟起飞时间限制可以扩展至 10 分钟。
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

空速限制: VMO/MMO = 330KEAS/.89M.

Airspeed Limits:	对于其它空速限制, 见 FAA 批准的飞机飞行手册适用部分。 For other airspeed limits, see the appropriate FAA approved Airplane Flight Manual.
重心范围: CG Range:	见 FAA 批准的飞机飞行手册适用部分。 See the appropriate FAA approved Airplane Flight Manual.
最大重量: Maximum Weights:	见 FAA 批准的飞机飞行手册适用部分。 See the appropriate FAA approved Airplane Flight Manual.
型别 产品序号: Model Eligible serial numbers:	见 FAA 型号合格证数据单 T00001SE See FAA TCDS T00001SE

相关数据

PERTINENT DATA

最小机组: Minimum Crew:	2 个, 正驾驶和副驾驶。在每一个位于机翼的紧急出口 3 号门处要求有 1 个乘务员。 Two (2): pilot and copilot. One flight attendant is required at each door no. 3 overwing exit.
最大旅客数: Maximum Passengers:	550 人。对于旅客数超过 500 人, 在 3 号门出口处要求有 11 个乘务员。 550. For passenger capacity above 500, an 11th flight attendant is required at door 3 exit.
最大行李/货物: Maximum Baggage/Cargo:	见适用的重量与平衡手册 See appropriate Weight and Balance Manual.
燃油和滑油容量: Fuel and Oil Capacities:	见适用的重量与平衡手册 See appropriate Weight and Balance Manual.
最低所需燃油: Minimum Required Fuel:	见 FAA 批准的飞机飞行手册的适用部分 See appropriate FAA approved Airplane Flight Manual.
最大运行高度: Maximum Operating Altitude:	43100 英尺 43,100 feet
FAA 的审定基础: FAA 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(注: 实际上 777-300ER 审定基础 25.831 只在 25-41 修正案水平) 25.841(a), which remains at amendment 25-86 (注: 实际上 777-300ER 审定基础 25.841 只在 25-38 修正案水平), and 25.853(d)(3), which remains at amendment 25-82 (注: 实际上 777-300ER 审定基础 25.853 只在 25-72 修正案水平). 25.1457 at amendment 25-124 applicable to Line Number 858 and on. 25.1459 at amendment 25-124 applicable to Line Number 858 and on. 25.1517 is not part of the TC 25.1535 at amendment 25-120

14 CFR part 26:

Based on 14 CFR §21.101(g) for changes made to TCs applicable provisions of 14 CFR part 26 are included in the certification basis. For any future 14 CFR part 26 amendments, the holder of this TC must demonstrate compliance with the applicable sections

Compliance has been found for the following regulations at Amendment 26-0: §26.11

Compliance has been found for the following regulations at Amendment 26-1: §26.43, 26.45, 26.47, and 26.49

Compliance has been found for the following regulations at Amendment 26-3: §26.33 and §26.39

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 from 14 CFR §25.853(a), appendix F, paragraph (a)(1)(i), Testing on Large Interior Panels, granted through November 28, 2011. (Exemption No. 9791, November 28, 2008, Exemption No. 9791B, March 1, 2010, Exemption No. 9791C, February 4, 2011)
5. Business Class Seat installation on Boeing model 777-300ER aircraft from 14 CFR 853(d) and Special Condition 25-367-SC, condition 1, granted October 25, 2010 (Exemption No. 10156, October 25, 2010)
6. Time-Limited Exemption from 14 CFR 25.1535 as specified in Appendix K, §K25.1.4(a)(3) as the regulation applies to low-fuel alerting for approval for extended operations (ETOPS) beyond 180 minutes, granted through January 11, 2014 (Exemption No. 10193, January 11, 2011)
7. Partial Exemption from 14 CFR 25.813(e), Installation of Doors between Passenger Compartments (Exemption No. 17634, November 3, 2017)

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 25.251(a) (b), PS15-0568-F-1-Finding for Vibration /Buffeting Compliance Criteria, Vibration/Buffeting Compliance Criteria, Modifications to Boeing 777 Aircraft

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

14 CFR 25.562, 25.785, Special Condition No. 25-295-SC - Dynamic Test Requirements for Single Occupant Side-Facing Seats on Boeing Model 777 (documented in ELOS Memo PS09-0445-CS-1)

14 CFR 25.562, 25.785, Special Condition No. 25-295-SC – for Single Occupant

Side-Facing Seats. (documented in ELOS Memo PS13-0216-C-1)
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 25.853(a) – Adhesives used in interior panel bent joint potting applications (documented in TAD ELOS Memo PS08-0670-C-1)
14 CFR 25.853(a) and (d) Compartment Interiors (Documented in TAD ELOS Memorandum PS13- 1000-C-5)
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 part 25.981, Amdt 25-125 - for the Fuel Tank Flammability Rule (FTFR). (documented in ELOS Memo PS05-0177-P-2)
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(documented in TAD ELOS Memo AT3908SE-T-25)
14 CFR 25.1395 - Red & Green Position Lights (documented in TAD ELOS Memo AT3908SE-T-25)
14 CFR 25.1441(c) Crew Determination of the Quantity of Oxygen Available in the Lavatory Passenger Service Units Bottles (documented in ELOS Memo PS13-0901-ES-1)
14 CFR 25.1443(c) Determination of Minimum Oxygen Flow for the Lavatory Oxygen System (documented in TAD ELOS Memo TS13-0005-S-1)
14 CFR 25.1443(d) Portable Pulse Oxygen System (documented in ELOS Memo TC6918SE-T-ES-20)
14 CFR 25.1459(a)(2) - for Flight Data Recorder Accelerometers.
14 CFR 25.1549(b) Powerplant and Auxiliary Power Unit Instruments (Documented in TAD ELOS Memorandum AT00010BA-T-S-1)
14 CFR 25.1555(d)(1) Engine and Auxiliary Power Unit(APU) Fire Switch Handle Design (documented in ELOS Memo PS06-0496-F-18)
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
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. 25-07-12-SC, effective on June 1, 2007, Lithium Ion Battery installation

Special Conditions No. 25-141-SC, effective on December 7, 1998, Seats With Articulating Seat Backs

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. 25.295-SC, effective on August 9, 2005, Side-Facing Single-Occupant Seats equipped with inflatable lapbelts

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

Special Conditions No. 25-367-SC, effective on February 7, 2008, addressed Seats With Non-Traditional, Large, Non-Metallic Panels

Special Conditions No. 25-503-SC, effective on November 18, 2013, addressed Aircraft Electronic System Security Protection From Unauthorized Internal Access

Special Conditions No. 25-504-SC, effective on November 18, 2013, addressed Aircraft Electronic System Security Protection From Unauthorized External Access

Special Conditions No. 25-687-SC, effective to design changes applied for after May 31, 2017, addressed Non-Rechargeable Lithium Batteries. See the applicability section of these special conditions for more information on which design changes must meet them.

审定维修要求
CMR:
Certification
Maintenance
Requirements
(CMRs):

CMR 项目列在波音维修计划数据文件 D622W001-9 FAA 批准的第 9 章和适用的发动机数据单 TCDS。这两个文件中的限制要求都具有强制性。

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.

生产证书:
Production Basis:

生产证书 700, 见注释 11。
Production Certificate 700. See Note 11

水平测量设施:
Leveling Means:

在机身右侧机轮舱内有 1 个铅垂摆和水平刻度尺。
A plumb bob attachment and leveling provision scale are provided in the right hand body wheel well.

基准:
Datum:

站位 0 位于飞机机头 (B.S. 92.5) 前方 92.5 英寸处
Sta 0.0, located 92.5 in forward of airplane nose (B.S. 92.5).

平均气动弦长 278.51 英寸
Mean Aerodynamic Chord: 278.51 inches

操纵面的运动
Control Surface
Movements:

为保证飞机正常运行，各操纵面的运动必须用合适的飞行控制系统控制运动，所以飞机必须按照以下的 FAA 批准的资料操纵。
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:

波音图纸号:

Boeing Drawing Numbers:

251W1001 操纵说明书	横向操纵
251W1001 Rigging Instructions	Lateral Control
251W2001 操纵说明书	升降舵操纵
251W2001 Rigging Instructions	Elevator Control
251W3001 操纵说明书	方向舵操纵
251W3001 Rigging Instructions	Rudder Control
251W4001 操纵说明书	安定面配平操纵系统
251W4001 Rigging Instructions	Stabilizer Trim Control System
256W2001 系统操纵	前缘缝翼
256W2001 Systems Rigging	Leading Edge Slat
256W3001 操纵说明书	襟翼驱动系统
256W3001 Rigging Instructions	Drive System Flap Actuation

要求的设备:
Required
Equipment:

根据 FAR 规章适用的基本要求的设备必须安装在飞机上。
The basic required equipment as prescribed in the applicable Federal Aviation Regulations must be installed in the aircraft.

服务信息:
Service Information:

波音文件 D634W201 《777-200 结构修理手册》、D634W210 《777-300 结构修理手册》和 D634W215 《777F 结构修理手册》已被 FAA 批准。
Boeing Documents D634W201 "777-200 Structural Repair Manual", D634W210 "777-300 Structural Repair Manual", and D634W215 "777F Structural Repair Manual" are FAA-approved.
服务通告和其他的服务信息当经过 FAA 批准时将具有起相同效应的声明。
Service Bulletins and other service information when FAA-approved will carry a statement to that effect

IV. 经批准的中文标记标牌/ The Approved Chinese Placards

以下资料中所包含的中文标记标牌的中文表述已由CAAC接受并由FAA批准:

The Chinese Placards involved in the following data have been accepted by CAAC and approved by FAA:

序号 Code	标题 Title	编号 Number	版本 (见注释13) Rev./See Note 13
1	777 Bilingual (Chinese) Placards and Markings	D6-36621-5	New

V. 注释/Notes

注释/NOTE 1:

每架飞机初始取适航证时和取证后的任何时候都必须有飞机当前的重量和平衡报告，除非营运人有经 CAAC 批准的装载系统控制重量和平衡。/ 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 a CAAC approved loading system for weight and balance control.

注释/NOTE 2: 飞机必须按照经 FAA 批准的飞行手册使用。凡是经 FAA 批准的飞行手册或 CAAC 运营规章或 CAAC 认可审定基础所要求的标牌都必须在飞机上安装。
/Airplane operation must be in accordance with the FAA Approved Airplane Flight Manual. All placards required by either FAA Approved Airplane Flight Manual, the CAAC applicable operating rules, or the CAAC Validated Certification Basis must be installed in the airplane.

注释/NOTE 3: 所要求的结构检查和安全寿命件的更换时间列在波音文件 D622W001-9 中的第 9 章 FAA 批准的适航限制部分。检查间隔是根据波音文件 D101W801-36 中的曲线得来的。/ 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.

注释/NOTE 4: 空/Empty.

注释/NOTE 5: 在 FAA ETOPS 政策信函 EPL 20-1 (2000 年 3 月 21 日) 中, 机型 777-300ER 已经按照型号设计要求进行了评估并批准了 207 分钟 ETOPS, 当飞机构型符合波音文件 D044W054 时。除了标准的 180 分钟 ETOPS 营运, 经 FAA 政策信函批准的, 207 分钟最大派遣时间限制在 flight-by-flight 特殊情况下。这个结论不构成实施 207 分钟 ETOPS 营运的批准。

The Models 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.

777-300ER/GE90-115B 针对 25 部 25.3(b)(2)和 25.1535 的要求进行了评估, 当飞机按照波音文件 D044W054 “777 型别飞机 ETOPS 构型、维护和程序” 使用时适合 180 分钟的双发延程飞行。该结论不形成实施 ETOPS 运行的批准。

777-300ER/GE90-115B, have been evaluated in accordance with the type design requirements of 14 CFR 25.3(b)(2) and 25.1535 and found suitable for greater than 180- minute ETOPS operations when operated and maintained in accordance with Boeing Document D044W054 "Model 777 Configuration, Maintenance, and Procedures." This finding does not constitute approval to conduct ETOPS operations.

注释/NOTE 6: 仅对 GE 发动机: 发动机处于静态运行后如果转速 N1 值超过 70%, 发动机必须至少慢车运行 10 分钟才能关车。该限制仅适用于静止大气运转; 在正常使用情况下, 发动机厂家的使用说明书中所包含的慢车冷却说明是可接受的。/ For General Electric 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.

注释/NOTE 7: 777 型别飞机已经被批准在“缩小垂直间隔”空域运行。关于 RVSM 方面的持续适航和运行批准必须根据 CAAC 咨询通告 AC 91-07 “缩小垂直间隔 (RVSM) 空域的运行要求”/ 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 CCAC Advisory Circular (AC) 91-07, titled “Operational Requirement for Flight in Reduced Vertical Separation Minimum Airspace.”

注释/NOTE 8: FAA 认为任何不可控高推力失效情况及波音 777 维护计划文件中列出的相关失效情况的发生会妨碍飞机的安全运行, 因此应根据 CCAR121.707 要求 报告。
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 CCAR 121.707.

注释/NOTE 9: 对于燃油箱系统的强制更换时间、检查间隔、相关的检查程序和所有的临界设计构型控制限制由第 88 号特殊联邦航空规章 (SFAR) 的程序规定, 并且要求符合波音 777 维修计划数据文件 D622W001-9 (2006 年 2 月修订版或以后经 FAA 批准的版本) 经 FAA 批准的第 9 章 “适航限制和审查维修要求”。所有机型 777-200, -300, -300ER, and -200LR 和序号的、生产序号为 569 及以上的飞机, 必须符合 2006 年 2 月修订版或以后经 FAA 批准的版本。对于所有机型 777-200, -300, -300ER, and -200LR 和序号的、生产序号小于 569 的飞机, FAA 颁发了适航指令 2008-11-13 强制要求符合 2006 年 2 月修订版或以后经 FAA 批准的版本。

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.

注释/NOTE 10: 空/Empty

注释/NOTE 11: 生产证书号 700 修订增加了 777F 型飞机。
A production certificate number 700 was amended to include the 777F and issued.

注释/NOTE 12: 如果新飞机生产时 (从线号 772 起) 或对现役飞机的改装安装燃油箱惰性化系统, 则对于降低可燃性系统 (FRS) 的审定基础采用 FAR 25-125 号修正案修订后的 FAR 25.981 条和等效安全条件。关于 FRS 的适航性限制内容在相应的维修计划文件第 9 章中。/Certification basis for FAR 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.

注释/NOTE 13: 包含后续经批准的版本。
Including the subsequent approved version(s).

注释/NOTE 14: 认可了波音 777-300ER 飞机发动机高压涡轮级间封严设计更改。/ The design change of Boeing 777-300ER Interstage Seal Redesign has been validated.

第5部分 管理信息**SECTION 5 ADMINIISTRATIVE INFORMATION**

1. 型号认可证持有人记录/Validation of Type Certificate Holder Record

序号/No.	时间/Time	持证人名称/Name of Validation of Type Certificate Holder
1	2009年3月27日之后/ After 27 March 2009	美国波音公司/ The Boeing Company

- 完 -
—END—