

I. 型号 510 (正常类)**Model 510,(Normal Category)**

发动机 2 台加拿大普惠 PW615F-A 涡轮风扇发动机, 发动机型号合格证号 00073EN, 2006 年 9 月 8 日合格审定。

Engines Two Pratt & Whitney Canada PW 615F-A turbofans
Engine TC #E00073EN-Certified September 8,2006

燃油 Jet A, Jet A-1, JP-8

Fuel Jet A, Jet A-1, JP-8

发动机限制静态推力线, 海平面

起飞 1,460 磅

Engine Limits Static thrust standard day, sea level

Takeoff 1,460lb

发动机最大允许转速 (起飞和最大连续)

N1 (风扇) 100% (100%=21,830 转/分)

N2 (燃气发生器) 100% (100%=44,040 转/分)

Max. permissible engine rotor operating speeds (Takeoff and Maximum Continuous):

N1 (fan) 100% (100%=21,830rpm)

N2 (Gas Gen.) 100% (100%=44,040rpm)

最大允许涡轮燃气温度

起飞 830 华氏度

最大连续 830 华氏度

瞬时 (启动 5 秒) 862 华氏度

瞬时 (运行 20 秒) 862 华氏度

Max. permissible interturbine gas temperatures:

Takeoff 830 Degrees C

Max. continuous 830 Degrees C

Transient (starting 5 sec.) 862 Degrees C

Transient (operation 20sec) 862 Degrees C

空速限制

Airspeed limitations

最大运行速度

海平面—27,120 英尺 250 节 (指示空速)

高于 27,120 英尺最大运行速度 0.63 马赫

Vmo (maximum operating)

Sea level to 27,120 ft. 250KIAS

Vmo above 27,120ft. 0.63 Mach

最大襟翼展态速度

15 度（起飞和进近） 185 节（指示空速）

30 度（着陆） 150 节（指示空速）

Vfe (maximum flap extended)

15 degrees (takeoff & approach) 185KIAS

30 degrees(landing) 150KIAS

最小控制空速（空中）

0 度（起飞） 92 节（指示空速）

15 度（起飞和进近） 81 节（指示空速）

Vmca (minimum control airspeed) Air

0 degrees (takeoff) 92KIAS

15degrees (takeoff & approach) 81KIAS

最小控制速度（地面） 73 节（指示空速）**Vmcg(minimum control speed) Ground 73 KIAS****起落架操作**

放开 250 节（指示空速）

收回 185 节（指示空速）

起落架打开速度 250 节（指示空速）

Vlo (landing gear operating)

Extend 250KIAS

Retract 185KIAS

Vle (landing gear extended) 250KIAS**刹车速度 使用或不使用襟翼的任何速度****Vsb (speedbrake extended) Any speed with or without flaps****最大自动驾驶速度 250 节（指示空速）或 0.63 马赫****Maximum autopilot operating speed 250KIAS or 0.63 Mach****最大轮胎地面速度 160 节****Maximum tire ground speed 160 knots****重心范围设计、重心限制****C.G. Range Design C.G. Limits:**

前限制：在 8730 磅时，基准之后的 287.04 英寸处 (21.32%平均气动弦)；在 6927 磅时，基准之后的 285.59 英寸处 (19.00%平均气动弦)；在上述两者重量之间的重量时，线性变化；不大于 6927 磅时，基准之后的 285.59 英寸处 (19.00%平均气动弦)。

Forward Limits: Linear variation from 287.04 in. aft of datum (21.32%MAC) at 8730 lb. to

285.59 in. aft of datum(19.00% MAC) at 6927 lb.; 285.59 in. aft of datum(19.00% MAC) at 6927 lb. or less.

后限制: 不大于 8730 磅时, 基准之后的 292.46 英寸处(30.00%平均气动弦)。

Aft Limits: 292.46 in. aft of datum (30%MAC) at 8730 lb. or less

起落架收回力矩(-1302.87) 英寸-磅。

Landing Gear retracting moment(-1302.87) in-lb.

平均气动弦 62.51 英寸(平均气动弦前缘为基准之后的+273.71 英寸)

MAC 62.51 in. (L.E. of MAC at +273.71 in.aft of datum)

最大重量:

起飞 8,645 磅

着陆 8,000 磅

0 燃油 6,750 磅

停机坪 8,730 磅

Maximum weight

Takeoff 8,645 lb

Landing 8,000 lb

Zero fuel 6,750 lb

Ramp 8,730 lb

所有飞行最少飞行机组数量(见注释 5: 驾驶舱设备/布局限制):

1 名飞行员(左座)加上 FAA 批准的飞机飞行手册中限制部分运行设备清单种类(KOEL)里规定的附加设备。

或

1 名飞行员和 1 名副驾驶。

Minimum crew for all flights (see note 5 for cockpit equipment/arrangement restrictions):

One pilot (in the left pilot seat) plus additional equipment as specified in the Kinds of Operations Equipment List (KOEL) contained in the Limitations Section of the FAA Approved Airplane Flight Manual

OR

One pilot and one copilot

座位数量: 最多 6 个(2 名机组和 4 名乘客)

No. of seats Maximum six (two crew plus four passenger seats)

最大行李重量 前货舱 320 磅 (基准之后+120.10 英寸处)

尾锥总共 300 磅(基准之后+356.33 英寸处)

Maximum Baggage

Nose compartment 320 lb.(+120.10 in. aft of datum)

Tailcone total 300 lb.(+356.33 in.aft of datum)

燃油容量（可用）：总共可用燃油 2568 磅。2 个大翼油箱，每个均可用 1284 磅（不可用的见注释 1）；在基准之后的+292.09 英寸处。

Fuel Capacity (usable) Total usable fuel 2,568 lb. Two wing tanks with 1284 lbs. usable each;(see NOTE 1 for unusable) +292.09 in. aft of datum

滑油容量（总共）：每台发动机上安有油箱：每台发动机共 5.12 夸脱（4.85 升）；在基准之后的+363.11 英寸处。（见注释 1）

Oil capacity (total) Tank mounted on each engine: 5.12 quarts(4.85 liters) total each engine; +363.11 in. aft of datum. (see NOTE 1)

最大飞行高度 41000 英尺

Maximum operating Altitude 41,000 ft.

操纵面位移

升降舵	向上 25+0/-1 度	向下 15+1/-1 度
升降舵调整片	向上 4.5+1/-1 度	向下 20+1/-1 度
方向舵	向右 35+1/-1 度	向左 35+1/-1 度
方向舵调整片	向右 20+2/-1 度	向左 20+2/-1 度
副翼	中立位（后缘偏上）2+0.5/-0.5 度	
	向上（从中立位）23+1/-1 度	
	向下（从中立位）18.5+1/-1 度	
副翼调整片	向上 21+2/-1 度	向下 21+2/-1 度
襟翼	向上 0 度（按照 AMM 使用襟翼流线型固定设备）	
	起飞/进近 15+1/-1 度	
	着陆 30+1/-1 度	
刹车	高于 0 到 59.5+1/-1 度 低于 0 到 62.5+1/-1 度	

Control Surface Movements

Elevator	Up 25+0/-1 degrees	Down 15+1/-1degrees
Elevator Trim Tab	Up 4.5+1/-1 degrees	Down 20+1/-1 degrees
Rudder	Right 35+1/-1 degrees	Left 35+1/-1 degrees
Rudder Trim Tab	Right 20+2/-1 degrees	Left 20+2/-1 degrees
Aileron Neutral Pos (TE up)	2+0.5/-0.5 degrees	
Up(from neutral)	23+1/-1 degrees	
Down(from neutral)	18.5+1/-1 degrees	
Aileron Trim Tab	Up 21+2/-1 degrees	Down 21+2/-1 degrees
Wing Flap	Up 0 degrees(Utilizing the Flap Streamline Fixture per AMM)	
TO/APP	15+1/-1 degrees	
Land	30+1/-1 degrees	
Speedbrakes	Upper 0 to 59.5+1/-1 degrees Lower 0 to 62.5+1/-1 degrees	

传动装置说明见《飞机维护手册》

See Airplane Maintenance Manual (AMM) for rigging instructions.

系列号 510-0001 和以上

Serial Number Eligible 510-0001 and up

基准 顶点之前 143.7 英寸（前千斤顶位置）

Datum 143.7 in. forward of the jig point(nose jack pad location).

调水平措施 纵向— 机上 FS 196.00 机组座椅滑轨

横向— 机上 FS 196.00 机组座椅滑轨

Leveling Means

Longitudinal- In board crew seat rails at FS 196.00.

Lateral- In board crew seat rails at FS 196.00.

510 型飞机审定基础

- (1) 1965 年 2 月 1 日生效的 CFR14 中 23 部, 23-1 到 23-54 修正案。
- (2) 1969 年 12 月 1 日生效的 CFR14 中 36 部, 36-1 到 36-26 修正案。
- (3) 1990 年 9 月 10 日生效的 CFR14 中 34 部, 34-1 到 34-3 修正案。
- (4) 符合 1972 年的噪声控制法案。
- (5) 专用条件如下:
 - (a) 23-193-SC, 涡轮风扇发动机和发动机位置
 - (b) 23-158-SC,HIRF 系统保护
 - (c) 23-181-SC,飞行性能, 飞行特点及运行限制; 项目 1—24
 - (d) 23-192-SC, FADEC 系统
- (6) 等效安全水平如下:
 - (a) ACE-05-8: 14 CFR§ 23.1305(C)(5), 和 §23.1549,N2 和 FF 的数字指示
 - (b) ACE-05-9: 14 CFR§ 23.1555(d)(1), Cessna 510 可用燃油数量标志
 - (c) ACE-05-10: 14 CFR§ 23.807(E), Cessna 510 紧急水上迫降
 - (d) ACE-05-11: 14 CFR§ 23.841(b)(6), 高海拔高度起降运行客舱增压
 - (e) ACE-05-12: 14 CFR§ 23.1435(a)(2), 液压指示系统
 - (f) ACE-05-23: 14 CFR§ 23.1447(e), Cessna 510 乘客氧气使用设备
 - (g) ACE-05-28: 14 CFR§ 23.841(a), 客舱增压系统
 - (h) ACE-06-03: 14 CFR§ 23.1545(b)(4),空速指示仪
 - (i) ACE-07-03: 14 CFR§ 23.84(a) & § 23.1301(d),客舱压力控制系统
- (7) 按照 CFR§ 23.1416 &23.1619 表明符合防冰系统要求
- (8) Cessna 510 飞机 (Project # TC3801-WI-A) ACE-05-24 关于 14 CFR 23.1141 (e) 符合性说明满足 14 CFR 23.1141 (e)要求。影响到 14 CFR 23.1141(e)的更改应与 Wichita 飞机审定办公室协调。

Certification Basis – Model 510:

- (1) Part 23 of Title 14 of the Code of Federal Regulations effective February 1, 1965, as amended by Amendments 23-1 through 23-54;

- (2) Part 36 of Title 14 of the Code of Federal Regulations effective December 1, 1969, as amended by Amendments 36-1 through 36-26;
- (3) Part 34 of Title 14 of the Code of Federal Regulations effective September 10, 1990, as amended by Amendments 34-1 through 34-3;
- (4) Compliance with the Noise Control Act of 1972;
- (5) Special conditions as follows:
 - (a) 23-193-SC, Turbofan Engines and Engines Location
 - (b) 23-158-SC, Protection of System for High Intensity Radiated Fields (HIRF)
 - (c) 23-181-SC, Flight Performance, Flight Characteristics, and Operating Limitations; Items 1 through 24
 - (d) 23-192-SC, Full Authority Digital Engine Control (FADEC) System
- (6) equivalent level of safety as follows:
 - (a) ACE-05-8: 14 CFR§ 23.1305(C)(5), and §23.1549, digital indication of N2 and FF.
 - (b) ACE-05-9: 14 CFR§ 23.1555(d)(1), usable fuel quantity marking on the Cessna Model 510
 - (c) ACE-05-10: 14 CFR§ 23.807(E), Emergency Exit Water Barrier on the Cessna 510 Mustang
 - (d) ACE-05-11: 14 CFR§ 23.841(b)(6), Cabin Pressurization for High Altitude takeoff and Landing Operations
 - (e) ACE-05-12: 14 CFR§ 23.1435(a)(2), Hydraulic Pressure Indication
 - (f) ACE-05-23: 14 CFR§ 23.1447(e), Passenger Oxygen Dispensing Units for Cessna Model 510
 - (g) ACE-05-28: 14 CFR§ 23.841(a), Cabin Pressurization
 - (h) ACE-06-03: 14 CFR§ 23.1545(b)(4), Airspeed indicator
 - (i) ACE-07-03: 14 CFR§ 23.84(a) & § 23.1301(d), Cabin Pressure Control System
- (7) Compliance with ice protection has been demonstrated in accordance with CFR§ 23.1416 & 23.1619.
- (8) Compliance with 14 CFR 23.1141 (e) is in accordance with ACE-05-24, Guidance on compliance with 14 CFR 23.1141 (e) for the Cessna Model 510 aircraft (Project # TC3801-WI-A). Changes affecting 14 CFR 23.1141(e), should be coordinated with the Wichita Aircraft Certification Office.

2003 年 12 月 31 日申请型号合格审定。2006 年 9 月 8 日按照 14CFR21 委任单位代表程序将型号合格证书 A00014WI 颁发给制造厂。Cessna 飞机生产图纸 7000000-1 对 510 型飞机进行了详细说明。

Application for type certificate dated December 31, 2003. Type Certificate A00014WI issued September 8, 2006, obtained by the manufacturer using Delegation Option Authorization Procedures of Part 21 of Title 14 of the Code of Federal Regulations. The Model 510 is defined by Cessna Airplane Assembly Drawing Number 7000000-1.

CAAC 认可审定基础 CAAC 接受 FAA 的审定基础为认可审定基础

CAAC Validation Basis CAAC accept FAA's certification basis as validation basis

CAAC 特殊要求:

CAAC Special Requirements:

交付到中国的每一航空器须满足下述特殊要求:

Each aircraft delivered to China shall meet the following special requirements:

(1) 必须满足中国民用航空总局的运行要求 (例如标记标牌的中文要求)。

The operational requirements of CAAC must be met (e.g. Chinese language requirements for markings and placards).

(2) 燃油符合“中国国标 3 号燃油—GB6537-94”的规范。

Fuel conforming to Specification “PRC National Standard No.3 Jet Fuel – GB6537-94”

510 型飞机生产基础

2006 年 11 月 22 日颁发生产许可第 4 号, 委任单位代表 No.DOA-230594-CE 按照 14CFR21 委任单位代表程序经授权颁发适航证。

Production Basis – Model 510:

Production Certificate No.4 issued November 22,2006, and Delegation Option Authorization No.DOA-230594-CE authorized to issued Airworthiness Certificates under Delegation Option Authorization Procedures of Part 21 of Title 14 of the Code of Federal Regulations.

适航规章规定的必要设备 (见审定基础) 必须安装在飞机上供适航审定。

The Basis required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.

注释 1 初始审定时要给每架飞机的 FAA 批准《飞机飞行手册》中提供最新重量和平衡信息, 包括审定空重和配载说明的设备清单。

审定空重和相应重心位置必须包括: 不可用燃油 53.40 磅, 在 +290.56 英寸处

满滑油 20.2 1 磅, 在 +363.11 英寸处

液压液体 10.23 磅, 在 +192.45 英寸处

NOTE 1. Current weight and balance information, including list of equipment included in certificated empty weight, and loading instructions are provided for each airplane in the FAA Approved Airplane Flight Manual (AFM) at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include :

Unusable fuel 53.40 lbs at +290.56 in.

Full oil 20.2 lb. at +363.11 in.

Hydraulic Fluid 10.23 lb. at +192.45 in.

注释 2 飞机必须按照 FAA 批准编号为 510FM-00 的《飞机飞行手册》运行。所要求的标牌和标识列在编号为 510MM00 的《维修手册》第 11 章。

NOTE 2. Airplane must be operated according to the FAA Approved Airplane Flight Manual

(AFM), part number 510FM-00. Required placards and markings are listed in Chapter Eleven (11) of Maintenance Manual, part number 510MM00.

注释 3 有关检查、强制退役信息和其它持续适航要求参见《维修手册》第 4 章“适航限制”

NOTE 3. See Maintenance Manual, Chapter Four (4), “Airworthiness Limitations” for inspections, mandatory retirement life information, and other requirements for continued airworthiness.

注释 4 按照 TSCO127 要求替换所有座椅（机组和乘客），还要必须表明符合 14 CFR §§ 23.2, 23.561, 23.562, and 23.785 中列出的装机要求。

所有座椅泡沫坐垫的构造（机组和乘客）不可以改变。任何泡沫构造或硬度的偏离必须表明符合 14 CFR 23.562 段的测试。

NOTE 4 All replacement seats (crew and passenger), may comply with TSOC127, must also be demonstrated to comply with installation requirements into the aircraft listed in 14 CFR §§ 23.2, 23.561, 23.562, and 23.785.

The foam cushion buildup of all seats (crew and passenger) may not be altered. Any deviations in the foam construction or stiffness must be demonstrated by test to comply with the 14 CFR 23.562 paragraph.

注释 5 对最少 1 名飞行员运行批准是基于 FAA 审定试验过程中对驾驶舱设备安装和布局的评估。

除批准的 MMEL 允许，如未事先经飞机审定办公室批准，不得对驾驶舱内安装的设备或布局进行重大改动（EFIS，自动驾驶，电子设备等）。

NOTE 5 Approval for operation with a minimum crew of one pilot is based upon the cockpit equipment installation and arrangement evaluated during FAA certification testing. No significant changes may be made to the installed cockpit equipment or arrangement (EFIS, autopilot, avionics, etc.), except as permitted by the approved MMEL, without prior approval from the responsible Aircraft Certification Office.

注释 6 S/N 510-001 及以上：作为标准设备，所有飞机配有两套 Garmin G 1000 RVSM，用于大气数据计算机和正、副驾驶重要飞行显示设备。

每个营运人必须直接从 FAA 获得 RVSM 运行批准。

NOTE 6 S/N 510-001 and On: All airplanes are equipped with Garmin G 1000 dual RVSM capable Air Data Computers and pilot's and copilot's Primary Flight Displays as standard equipment.

Each operator must obtain RVSM operating approval directly from the FAA.

注释 7 按照 2006 年 8 月 15 日发动机和螺旋桨委员会小飞机委员会标准办公室 FAA 政策备忘录

“按照 14CFR23 部和 14CFR33 部对安装 PW615F-A 发动机的 Cessna510 型飞机起飞期间单发失效（OEI）10 分钟额定起飞推力批准的项目特殊政策”，批准 510 型飞机 PW615F-A 涡轮风扇发动机具备单发失效 10 分钟推力能力。

NOTE 7 The Model 510 is approved for One Engine Inoperative 10 minutes thrust capability with the Pratt &Whitney Canada PW615-A turboprop engine, per FAA Policy Memo “Project

Specific Policy on Approval for 10-Minute Rated Takeoff Thrust during Takeoff with One-Engine Inoperative (OEI) under 14 CFR Part 23 and 14CFR Part 33 for Cessna Model 510 Airplane with PW 615F-A Engines”, dated August 15,2006, from Standard Office, Small Airplane Directorate and Standards Office, Engine and Propeller Directorate.

注释 8 系统安全评估程序已确定强制维修措施，该措施必须在特定间隔下完成以补偿潜在的失效。措施清单在报告 RL-510-176 中，未经实施适航审定的 ACO 同意不得更改。此文件已影响到《维修手册》第 4 章“适航限制”部分中某些维修措施。未经实施适航审定的 ACO 同意，那些特殊项目不得更改。

NOTE 8 The System Safety Assessment process has identified mandatory maintenance actions, which must be performed at specific intervals to compensate for latent failures. List of those actions is contained in report RL-510-176, and cannot be changed without participation from the certifying ACO. This document has influenced certain maintenance actions documented in Airworthiness Limitations section (Chapter 4) of the maintenance manual. Those particular items cannot be changed without participation from the certifying ACO.