

中 国 民 用 航 空 总 局
GENERAL ADMINISTRATION OF CIVIL AVIATION OF CHINA

编号/No.: VTC177E
修订 / Rev: 0
型号 / Models:
FJ44-1AP FJ44-3A FJ44-3A-24
批准人 / Approved by:

日期 / Date: 2006-05-19

型号认可证数据单编号: VTC177E
Validation Type Certificate Data Sheet No. VTC177E

本数据单, 作为型号认可证(编号: VTC177E)的一部分, 规定了一些条件和限制, 在此条件和限制下, 获得本型号认可证的产品满足下述“认可审定基础”段落给出的适航要求。

This data sheet which is a part of Validation Type Certificate No. VTC177E prescribes conditions and limitations under which the product for which the Validation Type Certificate was issued meets the airworthiness requirements indicated in the paragraph “Validation Basis”.

型号合格证持有人: Williams 国际公司, L.L.C

TYPE CERTIFICATE HOLDER: Williams International Co., L.L.C., Walled Lake, Michigan 48390-0200 USA

型号/MODEL	FJ44-1AP
形式/ENGINE TYPE	两级涡轮驱动的由单级风扇和单级轴流式压气机组成的双轴涡轮风扇, 单级涡轮驱动单级离心式压气机, 并且采用环形燃烧室、全尺寸外涵和排气管混合器 Twin spool turbofan with a single-stage fan and single-stage axial compressor direct driven by a two-stage turbine, a single-stage centrifugal compressor driven by a single-stage turbine, an annular combustor a full length bypass duct and an exhaust mixer.
额定推力 (注 1) RATINGS Note 1. 最大连续, 磅/ Maximum Continuous, lb. 海平面起飞静态推力 (5 分钟), 磅/ Takeoff (5 minutes), lb.	 1,950 1,965
控制系统/ CONTROL SYSTEM 燃油控制/Fuel Control	 双通道全权数字电子控制 (FADEC) 和燃油输送组件。见注 18 所列部件清单/ Dual Channel Full Authority Digital Electronic Control (FADEC) coupled with Fuel Delivery Unit (FDU). See Parts List identified in Note 18.
燃油/FUEL	

燃油规范/Fuel Specifications 燃油添加剂/Fuel Additives 燃油泵/Fuel Pump Motive Flow	三号喷气燃油（GB6537-94，中国） 其余牌号见注 18 所列《操作指令》或《维护手册》中经批准的燃油规范/ No.3 Jet Fuel（GB6537-94,Chinese） The remaining see Operating Instructions or Maintenance Manual identified in Note 18 for approved fuel specifications. 见注 12/See Note 12. 整合在燃油输送组件中/ Integral with Fuel Delivery Unit (FDU). 见注 9/See Note 9.
滑油/OIL 滑油规范/Oil Specification 滑油箱/Oil Reservoir	人工合成，满足 MIL-L-23699 标准，见注 18 所列《操作指令》或《维护手册》中经批准的滑油牌号/ Synthetic conforming to MIL-L-23699. See Operating Instructions or Maintenance Manual identified in Note 18 for approved oil brands. 整体式。见注 18 所列《安装指令》中的滑油箱容积和数量/ Integral. See Installation Instructions identified in Note 18 for capacity and installed usable quantity.
点火系统/IGNITION 点火线圈/Exciter 点火电嘴/Igniter Plug	2 个。见注 18 所列部清单/ Quantity of two. See Parts List identified in Note 18. 2 个。见注 18 所列部清单/ Quantity of two. See Parts List identified in Note 18.
主要尺寸/PRINCIPAL DIMENSIONS 全长，英寸（厘米） Length Overall, inches (cm) 法兰盘间长度，英寸（厘米） Between flanges, inches (cm) 全高度，英寸（厘米） Height (Overall) , inches (cm) 前法兰盘外径，英寸（厘米） Forward flange outer diameter, inches (cm) 后法兰盘外径，英寸（厘米） Aft flange outer diameter, inches (cm)	57.9 (147.1) 41.4 (105.2) 31.1 (79.0) 20.9 (53.1) 22.7(55.1) 了解完整的详细尺寸，可见注 18 所列《安装指令》/ See Installation Instructions identified in Note 18 for complete dimensional details.
干重/DRY WEIGHT 完整发动机（包括注 8 中所列齿轮箱和机体上安装的设备） Total Engine (Includes gearbox and airframe mounted equipment identified in Note 8) 基本发动机（包括注 8 中所列齿轮箱上安装的设备） Basic engine (Includes gearbox mounted equipment identified in Note 8)	468 磅，最大 468 lb. maximum. 460 磅，最大 460 lb. maximum.
重心位置/C.G. LOCATION	了解重心位置可见注 18 所列《安装指令》/ See Installation Instructions identified in Note 18 for center of gravity location.
审定基础/ CERTIFICATION BASIS FAA 审定基础/	1965 年 2 月 1 日生效的联邦法规汇编 14 集第 33 部的 1 至 20 号修正案，1990

CERTIFICATION BASIS 规章和修正案/ Regulations and Amendments	年 9 月 10 日生效的联邦法规汇编 14 集第 34 部的 1 至 3 号修正案。 联邦法规汇编 14 集第 33 部中 33.28(b) 和 33.68 相关的等效安全水平(ELOS) No. 8040-ELOS-05-NE-01 (见注 13) / 14 CFR Part 33, effective February 1, 1965 including Amendments 33-1 through 33-20 14 CFR Part 34, effective September 10, 1990 including Amendments 34-1 through 34-3 Equivalent level of safety (ELOS) No. 8040-ELOS-05-NE-01 with respect to 14 CFR Part 33.28(b) and 33.68 (See Note 13)
申请时间/Application Date	2004 年 1 月 28 日/28 January 2004.
型号合格证颁发时间 Type Certificate Date	2005 年 6 月 1 日/1 June 2005.
CAAC 认可审定基础/ CAAC Validation Certification Basis	CAAC 接受 F A A 的审定基础为认可审定基础 CAAC accepts FAA certification basis as validation basis for this validation program
生产基础 PRODUCTION BASIS	生产许可证 334CE Production Certificate 334CE.

型号/MODEL	FJ44-3A	FJ44-3A-24
形式/ENGINE TYPE	两级涡轮驱动的由单级风扇和三级轴流式压气机组成的双轴涡轮风扇，单级涡轮驱动单级离心式压气机，并且采用环形燃烧室、全尺寸外涵和排气管混合器 Twin spool turbofan with a single-stage fan and three-stage axial compressor direct driven by a two-stage turbine, a single-stage centrifugal compressor driven by a single-stage turbine, an annular combustor, a full length bypass duct and an exhaust mixer.	
额定推力 (注 1) RATINGS Note 1.		
最大连续, 磅/ Maximum Continuous, lb.	2,820	2,490
海平面起飞静态推力 (5 分钟), 磅/ Takeoff (5 minutes), lb.	2,820	2,490
控制系统/ CONTROL SYSTEM		
燃油控制/Fuel Control	双通道全权数字电子控制 (FADEC) 和燃油输送组件。见注 18 所列部件清单/ Dual Channel Full Authority Digital Electronic Control (FADEC) coupled with Fuel Delivery Unit (FDU). See Parts List identified in Note 18.	
燃油/FUEL		
燃油规范/Fuel Specifications	三号喷气燃油 (GB6537-94, 中国) 其余牌号见注 18 所列《操作指令》或《维护手册》中经批准的燃油规范/ No.3 Jet Fuel (GB6537-94, Chinese) The remaining see Operating Instructions or Maintenance Manual identified in Note 18 for approved fuel specifications.	
燃油添加剂/Fuel Additives	见注 12/See Note 12.	
燃油泵/Fuel Pump	整合在燃油输送组件中/Integral with Fuel Delivery Unit (FDU).	
回油/Motive Flow	见注 9/See Note 9.	
滑油/OIL		

滑油规范/Oil Specification	人工合成，满足 MIL-L-23699 标准，见注 18 所列《操作指令》或《维护手册》中经批准的滑油牌号/Synthetic conforming to MIL-L-23699. See Operating Instructions or Maintenance Manual identified in Note 18 for approved oil brands.	
滑油箱/Oil Reservoir	整体式。见注 18 所列《安装指令》中的滑油箱容积和数量/Integral. See Installation Instructions identified in Note 18 for capacity and installed usable quantity.	
点火系统/IGNITION 点火线圈/Exciter 点火电嘴/Igniter Plug	2 个。见注 18 所列部清单/Quantity of two. See Parts List identified in Note 18. 2 个。见注 18 所列部清单/Quantity of two. See Parts List identified in Note 18.	
主要尺寸/PRINCIPAL DIMENSIONS 全长，英寸（厘米） Length Overall, inches (cm) 法兰盘间长度，英寸（厘米） Between flanges, inches (cm) 全高度，英寸（厘米） Height (Overall) , inches (cm) 前法兰盘外径，英寸（厘米） Forward flange outer diameter, inches (cm) 后法兰盘外径，英寸（厘米） Aft flange outer diameter, inches (cm)	62.4 (158.5) 48.0 (121.9) 31.1 (79.0) 23.0 (58.4) 21.7 (55.1)	-- -- -- --
了解完整的详细尺寸，可见注 18 所列《安装指令》/See Installation Instructions identified in Note 18 for complete dimensional details.		
干重/DRY WEIGHT 完整发动机（包括注 8 中所列齿轮箱和机体上安装的设备） Total Engine (Includes gearbox and airframe mounted equipment identified in Note 8) 基本发动机（包括注 8 中所列齿轮箱上安装的设备） Basic engine (Includes gearbox mounted equipment identified in Note 8)	535 磅，最大 535 lb. maximum. 528 磅，最大 528 lb. maximum.	-- --
重心位置/C.G. LOCATION	了解重心位置可见注 18 所列《安装指令》/ See Installation Instructions identified in Note 18 for center of gravity location.	
审定基础/CERTIFICATION BASIS FAA 审定基础/ CERTIFICATION BASIS	14CFR 第 33 部，1965 年 2 月 1 日生效，包括 33-1 到 33-20 修正案/14 CFR Part 33, effective February 1, 1965 including Amendments 33-1	--

规章和修正案/ Regulations and Amendments	through 33-20. 14CFR 第 34 部, 1990 年 9 月 10 日生效, 包括 34-1 到 34-3 修正案/14 CFR Part 34, effective September 10, 1990 including Amendments 34-1 through 34-3. 关于联邦法规汇编 14 集第 33 部中 33.28(b) 和 33.68 相关的等效安全水平 (见注释 13) / Equivalent level of safety (ELOS) with respect to 14 CFR Part 33.28(b) and 33.68 (See Note 13)	-- 关于联邦法规汇编 14 集第 33 部中 33.28(b) 和 33.68 相关的等效安全水平(ELOS) No.8040-ELOS-NE-02 (见注释 13) / Equivalent level of safety (ELOS) No. 8040-ELOS-NE-02 with respect to 14 CFR Part 33.28(b) and 33.68 (See Note 13)
申请时间 Application Date	2002 年 2 月 6 日/6 February 2002.	2004 年 11 月 11 日/11 November 2004
型号合格证颁发时间 Type Certificate Date	2004 年 7 月 30 日/30 July 2004.	2005 年 9 月 9 日/9 September 2005.
CAAC 认可审定基础/ CAAC Validation Certification Basis	CAAC 接受 F A A 的审定基础为认可审定基础 CAAC accepts FAA certification basis as validation basis for this validation program	--
生产基础 PRODUCTION BASIS	生产许可证 334CE/Production Certificate 334CE.	

注 1. 发动机额定值

NOTE 1. ENGINE RATINGS.

发动机额定值建立在如下条件, 且静态

Engine ratings are based on static un-installed thrust stand performance at the following conditions:

- 0%湿度/0% humidity
- 海平面环境压力 (29.92 英寸汞柱) /sea level ambient pressure (29.92 inches Hg)
- 无发动机齿轮箱附件负载/no aircraft gearbox accessory loads
- 无发动机引气/no aircraft air bleed
- 0%进气道总压损失/0% inlet total pressure loss
- 使用注释 18 中所确定的安装指令中所定义的尾喷管/using an exhaust nozzle as specified in the Installation Instructions identified in Note 18.
- 平台功率温度如下所示/the flat rate temperature as shown below

平台功率温度/FLAT RATE TEMPERATURES.

MODEL	FJ44-1AP
最大连续/ Maximum Continuous	59° F 及以下温度/ 59° F and below
起飞/Takeoff	72° F 及以下温度/ 72° F and below

MODEL	FJ44-3A	FJ44-3A-24
最大连续/ Maximum Continuous	53° F 及以下温度/ 53° F and below	59° F 及以下温度/ 59° F and below
起飞/Takeoff	79° F 及以下温度/ 79° F and below	72° F 及以下温度/ 72° F and below

一发不工作运行/ONE ENGINE INOPERATIVE (OEI) OPERATION.

对于下列型号发动机，在多发飞机起飞过程中一台发动机不工作时，适用额定起飞推力及相关限制，可持续运行 10 分钟/

For the following engine models, the rated takeoff thrust and its associated limitations may be used for up to 10 minutes in the event one engine on a multi-engine airplane becomes inoperative during takeoff:

- FJ44-1AP
- FJ44-3A
- FJ44-3A-24

注 2. 温度限制

NOTE 2. TEMPERATURE LIMITS.

最大涡轮间温度 (ITT) /MAXIMUM INTERTURBINE TEMPERATURE (ITT).

MODEL	FJ44-1AP
起飞，华氏度（摄氏度）/Takeoff, °F (°C)	1571 华氏度（855 摄氏度）持续 5 分钟/ 1,571 (855) for 5 minutes*
最大连续，华氏度（摄氏度）/ Maximum Continuous, °F (°C)	1,535 (835)
启动，华氏度（摄氏度）/Starting, °F (°C)	见注 18 中确定的操作指令/ See Operating Instruction identified in Note 18. 按照注 1 中的限制进行一发不工作运行 10 分钟/ *10 minutes for OEI operations conducted in accordance with Note 1.

MODEL	FJ44-3A	FJ44-3A-24
起飞，华氏度（摄氏度）/Takeoff, °F (°C)	1610 华氏度（877 摄氏度）持续 5 分钟/ 1,610 (877) for 5 minutes*	--
最大连续，华氏度（摄氏度）/ Maximum Continuous, °F (°C)	1635 华氏度（891 摄氏度）持续 5 分钟/ 1,635 (891) for 10 seconds	--
启动，华氏度（摄氏度）/Starting, °F (°C)	1,545 (840)	--
	见注 18 中确定的操作指令/ See Operating Instruction identified in Note 18. 按照注 1 中的限制进行一发不工作运行 10 分钟/ *10 minutes for OEI operations conducted in accordance with Note 1.	

滑油温度（滑油冷却器出口测量）/**OIL TEMPERATURE**. Measured at oil cooler exit.

MODEL	FJ44-1AP
最高温度，华氏度（摄氏度）/Maximum, °F (°C)	275 (135) 300 (149)持续 5 分钟/ 300 (149) for 5 minutes*
最低温度，华氏度（摄氏度）/Minimum, °F (°C)	-40 (-40)启动和慢车/ -40 (-40) Start and Idle 50 (10)起飞/50 (10) Takeoff
按照注 1 中的限制进行一发不工作运行 10 分钟/ *10 minutes for OEI operations conducted in accordance with Note 1.	

MODEL	FJ44-3A	FJ44-3A-24
最高温度，华氏度（摄氏度）/Maximum, °F (°C)	275 (135) 300 (149)持续 5 分钟/ 300 (149) for 5 minutes	-- --
最低温度，华氏度（摄氏度）/Minimum, °F (°C)	-40 (-40)启动和慢车/ -40 (-40) Start and Idle 50 (10)起飞/50 (10) Takeoff	-- --
按照注 1 中的限制进行一发不工作运行 10 分钟/ *10 minutes for OEI operations conducted in accordance with Note 1.		

发动机外部环境温度 某些外部和/或发动机安装节中的部件除下列限制外有温度限制。见注 18 中确定的安装指令/

ENGINE EXTERNAL AMBIENT TEMPERATURE. Certain external and/or airframe mounted engine components have temperature limitations other than those listed here. See Installation Instructions identified in Note 18.

MODEL	FJ44-1AP
最高温度，华氏度（摄氏度）/Maximum, °F (°C)	300 (149)
最低温度，华氏度（摄氏度）/Minimum, °F (°C)	-65 (-54) -40 (-40)
最低启动温度，华氏度（摄氏度）/ Minimum Starting, °F (°C)	

MODEL	FJ44-2A	FJ44-2C
最高温度，华氏度（摄氏度）/Maximum, °F (°C)	300 (149)	--
最低温度，华氏度（摄氏度）/Minimum, °F (°C)	-65 (-54)	--

最低启动温度，华氏度 (摄氏度) / Minimum Starting, °F (°C)	-40 (-40)	--
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注 3. 最大转速

NOTE 3. MAXIMUM SPEEDS.

转速限制/SPEED LIMITATIONS.

MODEL	FJ44-1AP
低压转子(N1), rpm (%) / Low Pressure Rotor (N1), rpm (%)	17,700 (102.6) 不允许瞬时超转/ No transient permitted
高压转子(N2), rpm (%) / High Pressure Rotor (N2), rpm (%)	-- 41,200 (100.0)

MODEL	FJ44-3A	FJ44-3A-24
低压转子(N1), rpm (%) / Low Pressure Rotor (N1), rpm (%)	18,500 (102.8) 18,700 (103.9)持续 20 秒 18,700 (103.9) for 20 seconds	-- --
高压转子(N2), rpm (%) / High Pressure Rotor (N2), rpm (%)	41,200 (100.0) 41,500 (100.7)持续 20 秒 /41,500 (100.7) for 20 seconds	-- --

100%轴转速/REFERENCE (100%) SHAFT SPEEDS.

MODEL	FJ44-1AP
低压转子(N1), rpm (%) / Low Pressure Rotor (N1), rpm (%)	17,245
高压转子(N2), rpm (%) / High Pressure Rotor (N2), rpm (%)	41,200

MODEL	FJ44-3A	FJ44-3A-24
低压转子(N1), rpm (%) / Low Pressure Rotor (N1), rpm (%)	18,000	--
高压转子(N2), rpm (%) / High Pressure Rotor (N2), rpm (%)	41,200	--

注 4 推力设定/NOTE 4. THRUST SETTING.

根据低压转子转速(N1)设定推力. 见注 18 中确定的操作指令/

Setting of engine thrust is based on low pressure rotor speed (N1). See Operating Instructions identified in Note 18.

注 5 压力限制/NOTE 5. PRESSURE LIMITS.

燃油压力.在燃油泵或燃油控制组件进口测量。压力限制见注 18 中确定的操作指令/

FUEL PRESSURE. Measured at fuel pump or fuel control inlet. See Installation Instructions identified in Note 18 for pressure limitations.

滑油压力.在滑油冷却器出口测量/**OIL PRESSURE.** Measured at oil cooler exit.

MODEL	FJ44-1AP
最大, psig/ Maximum, psig	120 在高压转子转速(N2)等于或大于 32960 rpm 的条件下, 最大压力可在 5 分钟内持续为 130/ 130 for 5 minutes at or above high pressure rotor (N2) speed of 32,960 rpm
最低, psig/Minimum, psig	在高压转子转速(N2)大于 32960 rpm 的条件下为 45/ above high pressure rotor speed (N2) of 32,960 rpm 从慢车到高压转子转速(N2)为 32960 rpm 的过程中为 35 / from idle to high pressure rotor speed (N2) of 32,960 rpm 从慢车到高压转子转速(N2)为 32960 rpm 的过程中, 可在 5 分钟内持续为 23/ for 5 minutes from idle to high pressure rotor (N2) speed of 32,960

MODEL	FJ44-3A	FJ44-3A-24
最大, psig/Maximum, psig	90 在高压转子转速(N2)等于或大于 32960 rpm 的条件下, 最大压力可在 5 分钟内持续为 100/ 100 for 5 minutes at or above high pressure rotor (N2) speed of 32,960 rpm	-- --
最低, psig/Minimum, psig	在高压转子转速(N2)大于 32960 rpm 的条件下为 45/ 45 above high pressure rotor speed (N2) of 32,960 rpm 从慢车到高压转子转速(N2)为 32960 rpm 的过程中为 35 / 35 from idle to high pressure rotor speed (N2)	-- --

	of 32,960 rpm 从慢车到高压转子转速 (N2) 为 32960 rpm 的过程中，可在 5 分钟内持续为 23/ 23 for 5 minutes from idle to high pressure rotor (N2) speed of 32,960	--
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注 6. 附件传动/NOTE 6. ACCESSORY DRIVES.

下列信息适用于所有型号发动机的发动机附件齿轮箱传动，安装垫尺寸和功率提取限制见注 18 中确定的操作指令/The following information applies to the engine accessory gearbox drives for all engine models. See Installation Instructions identified in Note 18 for mounting pad dimensions and power extraction limits.

传动/Drive	安装规范 /Pad Spec.	旋转方向 面向安装 方向 /Rotation Direction, Facing Pad	传动速率 N2*/Speed Ratio Driven/N2*	最大扭矩（英寸—磅）Max. Torque (in-lb.)			最大重量 /Max. Wt (lb.)	最大悬挂运动/Max. Overhung Moment (in-lb.)
				连续 /Continuous	过载/Overload **	静态/ Static ⁺		
启动机发电机/ Starter Generator	MS3326-2(AS)	顺时针 /Clockwise	0.2859	见注 18 中确定的操作指令/ See Installation Instructions identified in Note 18	见注 18 中确定的操作指令 See Installation Instructions identified in Note 18	-660	38	210
高速附件 ++/ High Speed Accessory ++	MS3325	顺时针 /Clockwise	0.1906	58	85	100	5	15
低速附件 ++/ Low Speed Accessory ++	AN20001 Type XI-1B	顺时针 /Clockwise	0.1092	101	150	100	10	30
* 注 3 确定了 100%高压转子转速(N2)/100% High Pressure Rotor Speed (N2) is identified in Note 3. ** 在 4 小时运行时间内，最大为 5 分钟/5 minutes maximum in any 4-hour operating period + 启动或最小开机力矩与传动力矩相反。/Start or breakaway torque is negative for torque into drive pad ++ 发动机安装有低速或高速附件传动垫。见注 18 确定的部件清单以确定具体件号所对应发动机的衬垫构型。/ Engine comes equipped with either a low speed or a high speed accessory drive pad. See Parts List identified in Note 18 to determine the pad configuration for the specific engine part number								

注 7. 发动机型号构型/NOTE 7. ENGINE MODEL CONFIGURATION.

FJ44-1A 型发动机 是基本型。/Model FJ44-1A is the engine basic model.

除采用新型风扇、低压涡轮和 FJ44-3A 型发动机中已使用的双通道 FADEC 外，FJ44-1AP 型发动机与 FJ44-1A 型发动机相似。

/Model FJ44-1AP engine is similar to Model FJ44-1A except that a new fan has been incorporated and the LP turbines and Dual Channel Full Authority Digital Electronic Control (FADEC) of the FJ44-3A Model have been incorporated.

除采用新型风扇，两级附加中压压气机，尾喷混合器和电子燃油控制组件（EFCU）外，FJ44-2A 型发动机与 FJ44-1A 型发动机相似。/

Model FJ44-2A engine is similar to Model FJ44-1A except that a new fan, two additional stages of IP compression, an exhaust mixer, and an electronic fuel control unit (EFCU) have been incorporated.

除采用整体式液压机械式燃油控制组件（IFCU）外，FJ44-2C 型发动机与 FJ44-2A 型发动机相似。/

Model FJ44-2C engine is similar to Model FJ44-2A except that an integrated hydromechanical fuel control (IFCU) has been incorporated.

除采用新型风扇，3 级中压压气机转子，新低压涡轮和双通道 FADEC 外，FJ44-3A 型发动机与 FJ44-2C 型发动机相似。/

Model FJ44-3A engine is similar to Model FJ44-2C except that a new fan, IP compressor rotor (3 stages), new LP turbines and a Dual Channel Full Authority Digital Electronic control (FADEC) have been incorporated.

除在 FADEC 中减推力设置而使发动机额定值降低外，FJ44-3A-24 型发动机与 FJ44-3A 型发动机相似。/

Model FJ44-3A-24 is identical to Model FJ44-3A except that the engine is de-rated by incorporating reduced thrust schedules in the FADEC.

对于各型号发动机，可能因为飞机机身安装的要求而在发动机构型方面有小的差异，具体的发动机构型见注 18 确定的部件清单。/

For each engine model number, there may be minor differences in the engine configuration based upon specific airframe installation requirements. See Parts List identified in Note 18 for specific engine configuration.

注 8. 标准设备/NOTE 8. STANDARD EQUIPMENT.

发动机干重包括下列标准设备，不包括启动机和发电机。/Engine dry weight includes the following standard equipment. Engine dry weight does not include starter or generator.

安装在发动机齿轮箱上的设备/ENGINE GEARBOX MOUNTED EQUIPMENT.

MODEL	FJ44-1AP
润滑油泵/ Lubrication Pump	标准设备/ Standard equipment
燃油控制组件/ Fuel Control	标准设备(FDU)/ Standard Equipment (FDU)
燃油泵/Fuel Pump	集成在 FDU 中/ Integral with FDU
永磁交流发电机 /Permanent Magnet Alternator (PMA)	集成在 FDU 中/ Integral with FDU

MODEL	FJ44-3A	FJ44-3A-24
润滑油泵/ Lubrication Pump	标准设备/ Standard equipment	--
燃油控制组件/ Fuel Control	标准设备(FDU)/ Standard Equipment (FDU)	--
燃油泵/Fuel Pump	集成在 FDU 中/ Integral with FDU	--
永磁交流发电机 /Permanent Magnet Alternator (PMA)	集成在 FDU 中/ Integral with FDU	--

安装在飞机机身上的设备 AIRFRAME MOUNTED EQUIPMENT.

MODEL	FJ44-1AP
TT2 传感器/ Sensor	-
TT2/PT2 传感器/ Sensor	标准设备/ Standard Equipment
ECU	-
FADEC	标准设备/ Standard Equipment

MODEL	FJ44-3A	FJ44-3A-24
TT2 传感器/Sensor	-	-
TT2/PT2 传感器/ Sensor	标准设备/ Standard Equipment	--
ECU	-	-
FADEC	标准设备/ Standard Equipment	--

注 9. 回油/NOTE 9. MOTIVE FLOW.

燃油控制组件回油池中的燃油可用引射泵或涡轮泵输送到飞机燃油系统中，见注 18 确定的安装指令。/

Fuel from the motive flow port on the fuel control unit may be extracted to drive jet or turbine pumps in the airplane fuel system. See Installation Instructions identified in Note 18.

注 10. 引气提取/NOTE 10. BLEED EXTRACTION.

高压引气 根据发动机核心空气流量确定的流量用百分比表示。在一发不工作运行状态下的引气提取限制见注 18 确定的安装手册。/ **HIGH PRESSURE BLEED.** Flow rates expressed as percent are based on engine core airflow rate. See Installation Instructions identified in Note 18 for bleed extraction limits during operation with One Engine Inoperative (OEI).

MODEL	FJ44-1AP
最大，双通道/ Maximum, Both Ports	37.5 磅/分或 12.0%，取 最小值/ 37.5 lb./min. or 12.0% whichever is less
最大，单通道/ Maximum, One Port	37.5 磅/分或 6.0%，取最 小值/ 37.5 lb./min or 6.0%. whichever is less
最小 Minimum	0%
最大，启动 Maximum, Starting	0.222 平方英寸，等效流 量。/0.222 square inch sharp edge orifice, equivalent flow

MODEL	FJ44-3A	FJ44-3A-24
最大, 双通道/ Maximum, Both Ports	50 磅/分或 20.0%, 取最小值/ 50 lb./min. or 20.0% whichever is less	- -
最大, 单通道/ Maximum, One Port	50 磅/分或 10.0%, 取最小值/ 50 lb./min. or 10.0% whichever is less	- -
最小 (不低于地面慢车) Minimum (ground idle and above)	0.220 平方英寸, 等效流量。/ 0.020 square inch sharp edge orifice, equivalent flow	0.053 平方英寸, 等效流量。/ 0.053 square inch sharp edge orifice, equivalent flow
最大, 启动 Maximum, Starting	0.222 平方英寸, 等效流量。/ 0.222 square inch sharp edge orifice, equivalent flow	- -

风扇引气 下列型号的发动机风扇是否引气是可选的, 具体的发动机构型见注 18 确定的部件清单。当释放到环境静压时, 引气可从一个通道提取。见注 18 确定的操作指令以确定引气对发动机性能的影响。下列发动机可风扇引气

/FAN BLEED. Fan bleed is optional for the engine models identified below. See Parts List identified in Note 18 for specific engine configuration. Bleed flow is limited to the flow which can be extracted from one bleed port when discharged to ambient static pressure. See Operating Instructions identified in Note 18 to determine effect of bleed on engine performance. Fan bleed is available on the following engine models:

- FJ44-1AP
- FJ44-3A
- FJ44-3A-24

注 11. 燃油使用限制 NOTE 11. LIMITED USE FUEL OPERATION.

允许使用 ASTM D910, Grade 100LL 燃油, 关于持续时间限制、燃油温度和压力限制见注 18 确定的操作指令。
/ASTM D910, Grade 100LL is approved for use on certain engine models. Refer to the Operating Instructions identified in Note 18 for limits on duration, fuel temperature and fuel pressure.

注 12. 燃油添加剂/NOTE 12. FUEL ADDITIVES.

防冰添加剂 FJ44-1AP, FJ44-3A 和 FJ44-3A-24 型发动机是否使用添加剂是可选的, 批准使用的防冰添加剂和许用浓度见注 18 确定的操作指令。/

Icing Inhibitor. The use of icing inhibitor is required for the FJ44-1A and FJ44-2A engines. The use of icing inhibitors is optional for the FJ44-1AP, FJ44-2C, FJ44-3A and FJ44-3A-24 engines. See Operating Instructions identified in Note 18 for the approved icing inhibitors and allowable concentration levels.

抗静电添加剂. 批准使用的抗静电添加剂和许用浓度见注 18 确定的操作指令。/

Anti-static. See Operating Instructions identified in Note 18 for the approved anti-static additives and allowable concentration levels.

杀虫剂. 批准使用的杀虫剂和许用浓度见注 18 确定的操作指令。/

Biocide. See Operating Instructions identified in Note 18 for the approved biocide additives and allowable concentration levels.

注 13. 飞机机身附加要求: 防冰, 除冰和电源要求/

NOTE 13. ADDITIONAL AIRFRAME CONSIDERATIONS: ANTI-ICING, DE-ICING AND POWER SUPPLY REQUIREMENTS.

FAA 已批准 FJ44-1AP, FJ44-3A 和 FJ44-3A-24 型发动机关于联邦法规汇编 14 集第 33 部中 33.28(b) 和 33.68 条即飞机为 TT2/PT2 传感器提供电源相关的等效安全水平(ELOS).该等效安全水平明确了飞机制造商必须满足的飞机为 TT2/PT2 传感器提供电源和大气数据的要求。关于 ELOS 对飞机的要求见注 8 确定的发动机安装手册。/ The FAA has approved a finding of equivalent level of safety (ELOS) for the FJ44-1AP, FJ44-3A and FJ44-3A-24 engines related to compliance of the engine with the requirements of 14 CFR Section 33.28(b) and 33.68 as related to the TT2/PT2 sensor power supplied by the aircraft. The ELOS identifies specific requirements for aircraft supplied power to the TT2/PT2 heater and/or air data requirements that must be met by the airframe manufacturer. The specific aircraft requirements related to this ELOS are identified in the Engine Installation Instructions listed in Note 18.

注 14. 高引气量的额定功率/

NOTE 14. POWER RATINGS FOR HIGH CUSTOMER BLEED AIR USAGE.

大量使用高压引气，如飞机防冰，要求减推力设置。见注 18 确定的操作指令。/

Use of significant amounts of high pressure bleed air, such as for aircraft anti-icing, requires reduced thrust settings. See Operating Instructions identified in Note 18.

注 15. 转子盘完整性和叶片包容/

NOTE 15. ROTOR DISK INTEGRITY AND BLADE CONTAINMENT.

所有发动机均满足联邦法规汇编 14 集第 33 部中关于转子盘完整性和叶片包容的要求。某些转子部件是寿命件，寿命限制和相关飞行包线见注 18 确定的维护手册。/

All engine models meet the 14 CFR Part 33 requirements for rotor disk integrity and blade containment. Certain rotor parts are life limited. These limits and the associated flight profile are listed in the Maintenance Manual identified in Note 18.

注 16. 限时派遣/

NOTE 16. TIME LIMITED DISPATCH.

关于安装 FJ44-1AP, FJ44-3A 或 FJ44-3A-24 型发动机的飞机允许在某些发动机控制组件故障条件下放行的限制在注 18 确定的维护手册第 5 章适航限制 (ALS) 章节。/

Dispatch of an aircraft employing the FJ44-1AP, FJ44-3A or FJ44-3A-24 engine is allowed with certain engine control system faults present subject to the limitations identified in Chapter 5 of the Airworthiness Limitations Section (ALS) of the appropriate Maintenance Manual listed in Note 18.

注 17. 发动机安装系统/NOTE 17.ENGINE MOUNT SYSTEM.

发动机安装节尺寸和载荷限制见注 18 确定的安装指令。/

See Installation Instructions identified in Note 18 for engine mount dimensions and load limits.

注 18. 适用的文件/NOTE 18. APPLICABLE DOCUMENTS.

MODEL	FJ44-1AP
部件清单/Parts List	72100-200
安装指令/ Installation Instructions	75274
操作指令/ Operating Instructions	75274
维护手册/ Maintenance Manual	73568
发动机手册/ Engine Manual	73569

MODEL	FJ44-3A	FJ44-3A-24
部件清单/Parts List	67000-200	75000-200
安装指令/ Installation Instructions	68583	--
操作指令/ Operating Instructions	68584	--
维护手册/ Maintenance Manual	68585	--
发动机手册/ Engine Manual	68659	--

-- 结束 --