

型号认可证数据单
THE VALIDATION DATA SHEET

编号/No: VTC0177E

版次/Revision: 3

型别/Type:

FJ44-1A

FJ44-2A

FJ44-3A-24

FJ44-1AP

FJ44-3A

FJ44-3AP

FJ44-4A-QPM

批准人/Approved By:



职务/Title: Director General

日期/Date: 2023-06-12

本数据单是型号认可证（编号 VTC0177E）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 a part of Validation Type Certificate (No: VTC0177E), prescribes conditions and limitations 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:

Williams International Co., L.L.C.,

Pontiac, Michigan;

48341 USA

第1部分 概述

SECTION 1 GENERAL

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	NO. VTC0177E, 版次3, 2023年6月12日颁发 No. VTC0177E; Revision 3: Date of Issue: 2023-06-12	No. E3GL, 版本: 24, 2020年8月21日颁发 No. E3GL, Revision 24, Date of Issue: 2020-8-21
历史 History	NO. VTC0177E, 版次2, 2023年3月16日颁发 No. VTC0177E; Revision 2: Date of Issue: 2023-03-16	No. E3GL, 版本: 24, 2020年8月21日颁发 No. E3GL, Revision 24, Date of Issue: 2020-8-21
	NO. VTC177E, 版次1, 2014年9月26日颁发 No. VTC177E; Revision 1: Date of Issue: 2014-09-26	No. E3GL, 版本: 19, 2013年5月20日颁发 No. E3GL, Revision 19, Date of Issue: 2013-5-20
	NO. VTC177E, 版次0, 2006年5月19日颁发 No. VTC177E; Revision 0: Date of Issue: 2006-5-19	No. E3GL, 版本: 9, 2005年9月9日颁发 No. E3GL, Revision 9, Date of Issue: 2005-9-9
	NO. VTC148E, 版次0, 2003年12月11日颁发 No. VTC148E; Revision 0: Date of Issue: 2003-12-11	No. E3GL, 版本: 4, 1997年7月7日颁发 No. E3GL, Revision 4, Date of Issue: 1997-7-7

注: 上表中出口国局方型号合格证数据单信息仅供参考

Note: Above TCDS information of Certification Authority is only for reference

认可数据单修订记录/Change Record of the VTCDs

版次/Revision	相对上一版的修订记录 Change Record	备注 Remark
版次 3/Rev 3	增加了 FJ44-4A-QPM 型号 Added Model FJ44-4A-QPM	
版次 2/Rev 2	1. 修改型号合格证持有人地址 Changed the address of Type Certificate Holder 2. 删除有效页清单 Removed the list of effective pages 3. 更新了 3 号喷气燃料标准 Updated No.3 jet fuel standard 4. FJ44-1AP 发动机型号增加 2 秒 瞬态最大涡轮间温度限制 FJ44-1AP engine addition of a 2-second ITT transient 5. FJ44-1AP, FJ44-3A, FJ44-3A-24 和 FJ44-3AP 燃油排	

	泄和排气排出物审定基础更新至 联邦法规汇编 14 集第 34 部 6 号 修正案 FAA certification basis for 14 CFR Part 34 was updated to Amendment 34-6 for the FJ44-1AP, FJ44-3A, FJ44-3A-24, and FJ44-3AP engines 6. 根据 FAA 型号合格证数据单 调整注释顺序 Rearranged notes in accordance with FAA's TCDS	
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2. 类别/Category: 发动机/Engine
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: Williams International Co., L.L.C.,
Pontiac, Michigan;
48341 USA
5. 双发延程飞行/ETOPS: N/A
6. CAAC专用要求/CAAC Special Requirements: 中华人民共和国国家标准“3号喷气燃料”（GB 6537）。
National Standard of the People's Republic of China
“No.3 Jet Fuel”（GB 6537）.

第2部分 数据单

SECTION 2 DATA SHEET

I. 型号/ MODEL	FJ44-1A	FJ44-1AP
发动机形式 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和全尺寸外涵。 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 and a full length bypass duct.	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.	59华氏度时1900 1,900 at 59° F	59华氏度时1950 1,950 at 59° F
起飞推力 (5分钟) (磅) Takeoff (5 minutes), lb.	72华氏度时 1900 1,900 at 72° F	72华氏度时1965 1,965 at 72° F
控制系统 CONTROL SYSTEM	机械液压燃油控制单元 Hydro-mechanical Fuel Control Unit	双通道全权限数字电子控制(FADEC)和燃油输送组件(FDU) Dual Channel Full Authority Digital Electronic Control (FADEC) and Fuel Delivery Unit (FDU).
燃油泵 FUEL PUMP	见注15中规定的发动机组件清单 See Engine Assembly Part No. identified in Note 15.	集成在FDU中 Integral with Fuel Delivery Unit (FDU).
主要尺寸 PRINCIPAL DIMENSIONS		
全长, 英寸 (厘米) Length Overall, inches (cm)	53.4 (135.9)	57.9 (147.1)
法兰盘间长度, 英寸 (厘米) Between flanges, inches (cm)	40.3 (102.4)	41.4 (105.2)
全高度, 英寸 (厘米)	29.6 (75.2)	31.1 (79.0)

Height (Overall) , inches (cm)		
前法兰盘外径, 英寸 (厘米) Forward flange outer diameter, inches (cm)	20.9 (53.1)	--
后法兰盘外径, 英寸 (厘米) Aft flange outer diameter, inches (cm)	21.7 (55.1)	--
	见注15中安装手册 See Installation Instructions identified in Note 15 for complete dimensional details.	
干重 (注5) DRY WEIGHT Note 5	最大460磅 460 lb. maximum.	最大468磅 468 lb. maximum.

II. 型号/ MODEL	FJ44-2A
发动机形式 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.	59华氏度时2300 2,300 at 59° F
起飞推力 (5分钟) (磅) Takeoff (5 minutes), lb.	72华氏度时 2300 2,300 at 72° F
控制系统 CONTROL SYSTEM	单通道电子控制单元(ECU)和液压机械计量组件(HMU) Single Channel Electronic Control Unit (ECU) and Hydromechanical Metering Unit (HMU).
燃油泵 FUEL PUMP	见注15中规定的发动机组件清单 See Engine Assembly Part No. identified in Note 15.
主要尺寸 PRINCIPAL DIMENSIONS	
全长, 英寸 (厘米) Length Overall, inches (cm)	59.8 (151.9)
法兰盘间长度, 英寸 (厘米) Between flanges, inches (cm)	47.3 (120.1)

全高度, 英寸 (厘米) Height (Overall) , inches (cm)	29.6 (75.2)
前法兰盘外径, 英寸 (厘米) Forward flange outer diameter, inches (cm)	21.8 (55.4)
后法兰盘外径, 英寸 (厘米) Aft flange outer diameter, inches (cm)	21.7 (55.1)
	见注15中安装手册 See Installation Instructions identified in Note 15 for complete dimensional details.
干重 (注5) DRY WEIGHT Note 5	最大530磅 530 lb. maximum.

III. 型号/MODEL	FJ44-3A	FJ44-3A-24	FJ44-3AP
发动机形式 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.	53华氏度时2820 2,820 at 53° F	59华氏度时2490 2,490 at 59° F	53华氏度时3052 3052 at 53° F
起飞推力 (5分钟) (磅) Takeoff (5 minutes), lb.	79华氏度时2820 2,820 at 79° F	72华氏度时2490 2,490 at 72° F	72华氏度时3052 3052 at 72° F
控制系统 CONTROL SYSTEM	双通道全权限数字电子控制(FADEC)系统 Dual Channel Full Authority Digital Electronic Control (FADEC) System.		
燃油泵 FUEL PUMP	集成在FDU中。 Integral with Fuel Control.		
主要尺寸 PRINCIPAL DIMENSIONS			
全长, 英寸 (厘米) Length Overall, inches (cm)	62.4 (158.5)	--	--
法兰盘间长度, 英寸 (厘米) Between flanges, inches (cm)	48.0 (121.9)	--	--
全高度, 英寸 (厘米)	31.1 (79.0)	--	31.6 (80.3)

Height (Overall), inches (cm)			
前法兰盘外径, 英寸 (厘米) Forward flange outer diameter, inches (cm)	23.0 (58.4)	--	--
后法兰盘外径, 英寸 (厘米) Aft flange outer diameter, inches (cm)	21.7 (55.1)	--	--
见注15中安装手册 See Installation Instructions identified in Note 15 for complete dimensional details.			
干重 (注5) DRY WEIGHT Note 5	最大535磅 535 lb. maximum.	--	最大516磅 516 maximum

IV. 型号/MODEL	FJ44-4A-QPM
发动机形式 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.	59华氏度时3433 3,433 at 59° F
起飞推力 (5分钟) (磅) Takeoff (5 minutes), lb.	最大值: : 73华氏度时3616 Maximum: 3,616 at 73° F 正常值: 73华氏度时3435 Normal: 3,435 at 73° F
控制系统 CONTROL SYSTEM	双通道全权限数字电子控制(FADEC) Dual Channel Full Authority Digital Electronic Control (FADEC) System.
燃油泵 FUEL PUMP	集成在FDU中。 Integral with Fuel Control.
主要尺寸 PRINCIPAL DIMENSIONS	
全长, 英寸 (厘米) Length Overall, inches (cm)	68.6 (174.3)
法兰盘间长度, 英寸 (厘米) Between flanges, inches (cm)	52.8 (134.1)

全高度, 英寸 (厘米) Height (Overall), inches (cm)	32.3 (82.0)
前法兰盘外径, 英寸 (厘米) Forward flange outer diameter, inches (cm)	26.4 (67.1)
后法兰盘外径, 英寸 (厘米) Aft flange outer diameter, inches (cm)	23.8 (60.5)
	见注15中安装手册 See Installation Instructions identified in Note 15 for complete dimensional details.
干重 (注5) DRY WEIGHT Note 5	最大670磅 670 maximum

所有型号/ALL MODELS

滑油 OIL 滑油规范 Oil Specification	人工合成, 满足MIL-L-23699标准, 见注15所列《使用指南》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 15 for approved oil brands.
滑油箱 Oil Reservoir	整体式。见注15所列《安装手册》中的滑油箱容积和数量。 Integral. See Installation Instructions identified in Note 15 for capacity and installed usable quantity.
燃油 FUEL 燃油规范 Fuel Specification	详见注15所列《使用指南》或《维护手册》 See Operating Instructions or Maintenance Manual identified in Note 15 for approved fuel specifications.
点火系统 IGNITION 点火线圈 Exciter 点火电嘴 Igniter Plug	见注15所列发动机部件编号 See Engine Assembly Part No. identified in Note 15. 见注15所列发动机部件编号 See Engine Assembly Part No. identified in Note 15.
重心位置 C.G. LOCATION	见注15所列《安装手册》 See Installation Instructions identified in Note 15 for center of gravity location.
生产基础 PRODUCTION BASIS	生产许可证334CE Production Certificate 334CE

审定基础/CERTIFICATION BASIS

FJ44-1A	(1)1965年2月1日生效的联邦法规汇编14集第33部的1至14号修正案 (2)发动机排放: 1990年9月10日生效的联邦法规汇编14集第34部 (1)14 CFR Part 33, effective February 1, 1965 including Amendments 33-1 through 33-14. (2)14 CFR Part 34, effective September 10, 1990.
FJ44-1AP	<u>72100-200:</u> (1)1965年2月1日生效的联邦法规汇编14集第33部的1至20修正案 (2)此型号符合2018年3月5日生效的联邦法规汇编14集第34部6号修正案。关于燃油排泄和排气排出物的审定基础详见注23。 (3)联邦法规汇编14集33.28(b)和33.68(见注8)相关的等效安全 (ELOS) No. 8040-ELOS-05-NE-01 (1)14 CFR Part 33, effective February 1, 1965 including Amendments 33-1 through 33-20 (2)This model complies with 14 CFR Part 34, Amendment 6, effective March 5, 2018. See Note 23 for detailed summary of the certification basis for fuel venting and exhaust emissions. (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 8) <u>72100-201:</u> (1) 1965年2月1日生效的联邦法规汇编14集第33部的1至20修正案, 和 • 联邦法规汇编14集第33.5 的第26修正案 • 联邦法规汇编14集第33.7的第30修正案 • 联邦法规汇编14集第33.17的第29修正案 • 联邦法规汇编14集第33.28的第26修正案 • 联邦法规汇编14集第33.29(a)到(g)的第26修正案 • 联邦法规汇编14集第33.75的第24修正案 (2) 此型号符合2018年3月5日生效的联邦法规汇编14集第34部6号修正案。关于燃油排泄和排气排出物的审定基础详见注23。 (1)14 CFR Part 33, effective February 1, 1965 including Amendments 33-1 through 33-20, and: • 14 CFR 33.5 at Amendment 26 • 14 CFR 33.7 at Amendment 30 • 14 CFR 33.17 at Amendment 29 • 14 CFR 33.28 at Amendment 26 • 14 CFR 33.29 (a) through (g) at Amendment 26 • 14 CFR 33.75 at Amendment 24 (2)This model complies with 14 CFR Part 34, Amendment 6, effective March 5, 2018. See Note 23 for detailed summary of the certification basis for fuel venting and exhaust emissions.
FJ44-2A	(1)1965年2月1日生效的联邦法规汇编14集第33部的1至15号修正案 (2)1990年9月10日生效的联邦法规汇编14集第34部的1至2号修正案 (1)14 CFR Part 33, effective February 1, 1965 including Amendments 33-1 through 33-15. (2)14 CFR Part 34, effective September 10, 1990 including Amendments 34-1 through 34-2.
FJ44-3A	(1)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 (2)此型号符合2018年3月5日生效的联邦法规汇编14集第34部6号修正案。关于燃油排泄和排气排出物的审定基础详见注23。

	(3)联邦法规汇编14集第33.28(b)和33.68(见注8)相关的等效安全(ELOS) (1) 14 CFR Part 33, effective February 1, 1965 including Amendments 33-1 through 33-20. (2) This model complies with 14 CFR Part 34, Amendment 6, effective March 5, 2018. See Note 23 for detailed summary of the certification basis for fuel venting and exhaust emissions. (3) Equivalent level of safety (ELOS) with respect to 14 CFR Part 33.28(b) and 33.68 (See Note 8)
FJ44-3A-24	(1) 1965年2月1日生效的联邦法规汇编14集第33部的1至20修正案 (2) 此型号符合2018年3月5日生效的联邦法规汇编14集第34部6号修正案。关于燃油排泄和排气排出物的审定基础详见注23。 (3) 联邦法规汇编14集第33.28(b)和33.68(见注8)相关的等效安全(ELOS) No.8040-ELOS-NE-02 (1) 14 CFR Part 33, effective February 1, 1965 including Amendments 33-1 through 33-20. (2) This model complies with 14 CFR Part 34, Amendment 6, effective March 5, 2018. See Note 23 for detailed summary of the certification basis for fuel venting and exhaust emissions. (3) Equivalent level of safety (ELOS) No. 8040-ELOS-NE-02 with respect to 14 CFR Part 33.28(b) and 33.68 (See Note 8)
FJ44-3AP	(1) 1965年2月1日生效的联邦法规汇编14集第33部的1至30修正案 (2) 此型号符合2018年3月5日生效的联邦法规汇编14集第34部6号修正案。关于燃油排泄和排气排出物的审定基础详见注23。 (1) 14 CFR Part 33, effective February 1, 1965 including Amendments 33-1 through 33-30 (2) This model complies with 14 CFR Part 34, Amendment 6, effective March 5, 2018. See Note 23 for detailed summary of the certification basis for fuel venting and exhaust emissions.
FJ44-4A-QPM	(1) 1965年2月1日生效的联邦法规汇编14集第33部的1至30修正案和32, 33修正案。 (2) 此型号符合2018年3月5日生效的联邦法规汇编14集第34部6号修正案。关于燃油排泄和排气排出物的审定基础详见注23。 (3) 联邦法规汇编14集33.83振动试验相关的等效安全(ELOS)见 No.8040-ELOS-09-NE03 (1) 14 CFR Part 33, effective February 1, 1965 including Amendments 33-1 through 33-30 and Amendments 33-32 and 33-33 (2) This model complies with 14 CFR Part 34, Amendment 6, effective March 5, 2018. See Note 23 for detailed summary of the certification basis for fuel venting and exhaust emissions. (3) An Equivalent Level Of Safety Finding has been made for the following regulation: 14 CFR § 33.83 Vibration Test (documented in ELOS Memo 8040-ELOS-09-NE03).

申请/APPLICATION

	申请日期 Application Date	发证日期 Type Certificate Date
FJ44-1A	1989年12月8日 8 December 1989	1992年3月26日 26 March 1992
FJ44-1AP	2004年1月28日 28 January 2004	2005年6月1日 1 June 2005
FJ44-2A	1994年10月13日 13 October 1994	1997年7月7日 7 July 1997
FJ44-3A	2002年2月6日 6 Feb 2002	2004年7月30日 30 July 2004

FJ44-3A-24	2004年11月11日 11 Nov 2004	2005年9月9日 9 Sep 2005
FJ44-3AP	2010年7月6日 6 July 2010	2011年5月12日 12 May 2011
FJ44-4A-QPM	2013年8月26日 August 26, 2013	2017年6月8日 8 June 2017

注释 1: 发动机额定值**NOTE 1. ENGINE RATINGS.**

发动机额定值在下列条件下建立:

Engine ratings are based on a calibrated test stand, under the conditions specified below:

- (1) 海平面大气/Sea level static standard day conditions
- (2) 无飞机引气或功率提取/No customer bleed or customer power extraction
- (3) 无进口总压损失, 使用注释 15 中所确定的《使用指南》中所定义的尾喷管/0% inlet total pressure loss, using an exhaust nozzle as specified in the Installation Instructions identified in Note 15.
- (4) Jet A 燃油/Jet A fuel
- (5) 湿度为 0%/0% humidity

在不同的大气温度下的额定推力也可见注 15 确定的《使用指南》中。

Variation of the rated thrust with ambient temperature is included in the Installation Instructions identified in Note 15.

注 15 中列举了不同发机构型的多种组件号。这些额外的零件号是发动机基本型的不同变化, 包括了集成推进系统的部件, 例如进气道、引气或排气系统。这些部件作为发动机型号定义的一部分被联邦法规汇编 14 集第 33 部批准。虽然其中一些改型的发动机推力可能比根据上述条件确定的推力有所降低, 但基线发动机型号在所有条件下的推力都与本 TCDS 中公布的额定推力一致。注 15 确定的《使用指南》中记录了每一种发动机组件号对应的推力值。

Note 15 lists multiple engine assembly part numbers for some engine models. These additional part numbers are for variants of the basic engine that include Integrated Propulsion System components such as inlets, bleed or exhaust systems. These components are part of the engine type design and are approved per 14 CFR Part 33. While some of these variants may have engine thrust reduced from that identified in accordance with the conditions identified above, the base engine model in all cases produces the rated thrust published in this TCDS. See the Installation Instructions identified in Note 15 for the thrust associated with each unique engine assembly part number.

注释 2: 温度限制**NOTE 2. TEMPERATURE LIMITS.**

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

*根据注 13 进行 10 分钟 OEI 运行

*10 minutes for OEI operations conducted in accordance with Note 13.

型号/MODEL	FJ44-1A	FJ44-1AP	FJ44-2A
起飞, °F (°C) Takeoff, °F (°C)	1,508 (820)*	1,571 (855)*	1,508 (820)
5分钟 5 minutes	1,530(832)持续10秒 1,530 (832) for 10 secs	1,598 (870)持续2秒 1,598 (870) for 2 secs	1,535(835)持续10秒 1,535 (835) for 10 secs
最大连续, °F (°C) Maximum Continuous, °F (°C)	1,465 (796)	1,535 (835)	1,481 (805)
启动, °F (°C) Starting, °F (°C)	见注15 《使用指南》 See Operating Instruction identified in Note 15.		

MODEL	FJ44-3A FJ44-3A-24	FJ44-3AP	FJ44-4A-QPM
起飞, °F (°C) Takeoff, °F (°C)	1,610 (877)*	1,601 (872)*	1,571 (855)*
5分钟 5 minutes	1,635(891)持续10秒 1,635 (891) for 10 secs	1,611(877)持续10秒 1,611 (877) for 10 secs	不允许瞬态 No transient permitted
最大连续, °F (°C) Maximum Continuous, °F (°C)	1,545 (840)	1,552 (844)	1,535 (835)
启动, °F (°C) Starting, °F (°C)	见注15 《使用指南》 See Operating Instruction identified in Note 15.		

滑油温度 测量滑油冷却器出口/OIL TEMPERATURE. Measured at oil cooler exit.

型号 /MODEL	FJ44-1A	FJ44-1AP	FJ44-2A	FJ44-3A FJ44-3A-24 FJ44-3AP	FJ44-4A-QPM
最大, °F (°C) Maximum, °F (°C)	250 (121)	275 (135)	--	--	--
		300(149) 在 80%N2下持 续5分钟 300 (149) for 5 mins when operating below 80% N2	--	--	--

最小, °F (°C) Minimum, ° F (°C)	-40(-40)启动和慢车 -40 (-40) Start and Idle 50(10)起飞 50 (10) Takeoff	--	--	--	--
--	---	----	----	----	----

发动机外部环境温度/ ENGINE EXTERNAL AMBIENT TEMPERATURE.

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 15 的《安装手册》

Certain external and/or airframe mounted engine components have temperature limitations other than those listed here. See Installation Instructions identified in Note 15.

型号/MODEL	FJ44-1A	FJ44-1AP	FJ44-2A	FJ44-3A FJ44-3A-24 FJ44-3AP	FJ44-4A-QPM
最大, °F (°C) Maximum, F (°C)	250 (121)	300 (149)	250 (121)	300 (149)	--
最大, °F (°C) Minimum, F (°C)	-65 (-54)	--	--	--	--
最小启动, °F (°C) Minimum Starting, °F (°C)	-40 (-40)	--	--	--	--

注释 3: 燃油和滑油压力限制**NOTE 3. FUEL INLET AND OIL 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15中确定的安装手册。

FUEL PRESSURE. Measured at fuel pump or fuel control inlet. See Installation Instructions identified in Note 15 for pressure limitations.

滑油压力 在滑油冷却器出口测量

OIL PRESSURE. Measured at oil cooler exit.

型号/MODEL	FJ44-1A	FJ44-1AP	FJ44-2A
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, 可在5分钟内持续为100 100 for 5 mins at or above high pressure rotor (N2) speed of 32,960 rpm	120 在高压转子转速(N2)等于或大于32960rpm的条件下, 可在5分钟内持续为130 130 for 5 mins at or above high pressure rotor (N2) speed of 32,960 rpm	90 在高压转子转速(N2)等于或大于32960rpm的条件下, 可在5分钟内持续为100 100 for 5 mins at or above high pressure rotor (N2) speed of 32,960 rpm
最小,psig Minimum, psig	在高压转子转速(N2)大于32960rpm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32960rpm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25 25 for 5 mins from idle to high pressure rotor (N2) speed of 32,960 rpm	-- -- 从慢车到高压转子转速(N2)为32960rpm的过程中, 可在5分钟内持续为23 23 for 5 mins from idle to high pressure rotor (N2) speed of 32,960 rpm	-- -- --

型号/ MODEL	FJ44-3A FJ44-3A-24	FJ44-3AP	FJ44-4A-QPM
最大, psig Maximum, psig	110 在高压转子转速(N2)等于或大于32960rpm的条件下, 可在5分钟内持续为120 120 for 5 mins at or above high pressure rotor (N2) speed of 32,960 rpm	120 在高压转子转速(N2)等于或大于32960的条件下, 可在5分钟内持续为130 130 for 5 mins at or above high pressure rotor (N2) speed of 32,960 rpm	-- 在高压转子转速(N2)等于或大于29960的条件下, 可在5分钟内持续为130 130 for 5 mins at or above high pressure rotor (N2) speed of 29,960 rpm
最小,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32960rpm的过程中, 可在5分钟内持续为23 23 for 5 mins from idle to high pressure rotor (N2) speed of 32,960 rpm	-- -- --	在高压转子转速(N2)大于29960 rpm 的条件下为40 40 above high pressure rotor speed (N2) of 29,960 rpm 从慢车到高压转子转速(N2)为29960 rpm的过程中为30 30 from idle to high pressure rotor speed (N2) of 29,960 rpm 从慢车到高压转子转速(N2)为29960rpm的过程中, 可在5分钟内持续为23 23 for 5 mins from idle to high pressure rotor (N2) speed of 29,960 rpm

注释 4: 附件传动及安装

NOTE 4. ACCESSORY DRIVE AND MOUNTING PROVISIONS.

下列信息适用于 FJ44-1A, FJ44-1AP, FJ44-2A, FJ44-3A, FJ44-3A-24 和 FJ44-3AP 等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 15 中确定的安装手册。

The following information applies to the engine accessory gearbox drives for FJ44-1A, FJ44-1AP, FJ44-2A, FJ44-3A, FJ44-3A-24 and FJ44-3AP models. See Installation Instructions identified in Note 15 for mounting pad dimensions and power extraction limits.

传动 Drive	安装规范 Pad Spec.	旋转面安 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 (磅) Max. Wt (lb.)	最大悬挂运 动 (英寸-磅) Max. Overhung Moment (in-lb.)
				连续 Continuous	过载** Overload **	静态 ⁺ Static +		
启动电机 Starter Generator	MS3326- 2(AS)	顺时针 Clockwise	0.2859	见注15中的 安装手册 See Installation Instructions identified in Note 15	见注15中的 安装手册 See Installation Instructions identified in Note 15	-660	38	210
高速附件 ++ High Speed Accessory ++	MS3325	顺时针 Clockwise	0.1906	58	85	100	5 15 (FJ44-3AP)	15 55 (FJ44-3AP)
低速附件 ++ Low Speed Accessory ++	AN20001 Type XI-1B	顺时针 Clockwise	0.1092	101	150	100	10	30
* 注19确定了100%高压转子转速(N2)/ 100% High Pressure Rotor Speed (N2) is identified in Note 19. ** 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15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 Engine Assembly Part No. identified in Note 15 to determine the pad configuration for the specific engine part number								

下列信息适用于 FJ44-4A-QPM 等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 15 中确定的安装手册。

The following information applies to the engine accessory gearbox drives for FJ44-4A-QPM models. See Installation Instructions identified in Note 15 for mounting pad dimensions and power extraction limits.

传动 Drive	安装规范 Pad Spec.	旋转面安装方向 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 (磅) Max. Wt	最大悬挂 运动 (英寸-磅) Max. Overhung
				连续 Continuous	过载** Overload **	静态 ⁺ Static		

						+	(lb.)	Moment (in-lb.)
启动电机 Starter Generator	MS3326- 2(AS)	顺时针 Clockwise	0.3146	见注15中的 安装手册 See Installation Instructions identified in Note 15	见注15中的 安装手册 See Installation Instructions identified in Note 15	-660	38	220
高速附件 High Speed Accessory	MS3326- 2(AS)	逆时针 Counter-Clockwise	0.3146	见注15中的 安装手册 See Installation Instructions identified in Note 15	见注15中的 安装手册 See Installation Instructions identified in Note 15	125	38	220
低速附件 Low Speed Accessory	AN20001 Type XI-B	顺时针 Clockwise	0.1506	135	195	135	10	50
* 注19确定了100%高压转子转速(N2)/ 100% High Pressure Rotor Speed (N2) is identified in Note 19. ** 在任何4小时工作时间内, 最多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								

注释 5: 发动机型号构型**NOTE 5. MODEL DESCRIPTION.**

型号 FJ 44-1A 是发动机基本型。

Model FJ44-1A is the engine basic model.

除采用新型风扇、低压涡轮和双通道 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, new LP turbines, and a Dual Channel Full Authority Digital Electronic Control (FADEC) System 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) System 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.

除了带有新的低压压气机转子和静子(3 级) 外, FJ44-3AP 其他部分与 FJ44-3A 构型相似。

Model FJ44-3AP engine is similar to the Model FJ44-3A, with a new IP Compressor rotor and corresponding stators (3 stages).

FJ44-4A-QPM 型发动机与 FJ44-4A 型发动机相似, 只是采用了新的 FADEC 系统

Model FJ44-4A-QPM engine is similar to the FJ44-4A except that a new FADEC system has been incorporated

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 15 确定的部件清单。发动机干重包括发动机基本构型的齿轮箱和相关机身安装设备。

For each engine model, there may be differences in the engine configuration, based upon specific airframe installation requirements. See Engine Assembly Part No. identified in Note 15 for specific engine configuration and complete dry weight details. Engine dry weight includes gearbox and airframe mounted equipment of the basic engine model.

注释 6: 集成推进系统

NOTE 6. INTEGRATED PROPULSION SYSTEM

注 15 中列举了不同发动机构型的多种组件号。这些额外的件号是发动机基本型的不同变化, 取决于具体的安装方式, 包括了在发动机构型定义内的集成推进系统组件, 例如进气道、引气或排气系统。

Note 15 lists multiple engine assembly part numbers for some engine models. These additional part numbers are for variants of the basic engine that include Integrated Propulsion System components such as inlets, bleed or exhaust systems which have been provided as part of the engine type design, based upon specific airframe installation requirements.

注释 7: 保留

NOTE 7. INTENTIONALLY LEFT BLANK

注释 8: 特殊防冰和除冰要求

NOTE 8. SPECIAL ANTI-ICING OR DE-ICING REQUIREMENTS

FJ44-1A 发动机满足 33.68 关于进气系统结冰的要求而不必使用主动防冰系统。

The FJ44-1A engine meets the 14 CFR Section 33.68 induction system icing requirements without use of an active anti-icing system.

FJ44-2A, FJ44-3AP 和 FJ44-4A-QPM 型发动机满足 33.68 关于进气系统结冰的要求, 并要求飞机提供电源以进行 TT2 传感器的防冰。飞机电源的要求在注 15 中安装说明有具体规定。

The FJ44-2A, FJ44-3AP and FJ44-4A-QPM engines meet the 14 CFR Section 33.68 induction system icing requirements and require an aircraft supplied source of power to anti-ice the TT2 sensor. Aircraft power requirements are provided in the Installation Instructions identified in Note 15.

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尚必须满足的飞机为 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 15 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 15.

注释 9: 发动机安装系统

NOTE 9. ENGINE MOUNT SYSTEM PROVISIONS.

发动机安装节尺寸和载荷限制见注 15 确定的安装手册。

See Installation Instructions identified in Note 15 for engine mount dimensions and load limits.

注释 10: 保留

NOTE 10. INTENTIONALLY LEFT BLANK

注释 11: 特殊安装要求

NOTE 11. SPECIAL INSTALLATION REQUIREMENTS

回油/ REQUIREMENTS 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 15 确定的安装手册。

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 15.

闪电防护/ LIGHTNING PROTECTION

对于需要飞机提供的, 涉及 FJ44-1AP, FJ44-3A, FJ44-3A-24, FJ44-3AP, FJ44-4A-QPM 发动机控制系统闪电防护的措施见注 15 确定的安装手册。

The specific aircraft requirements related to lightning protection of the FJ44-1AP, FJ44-3A, FJ44-3A-24, FJ44-3AP, and FJ44-4A-QPM engines control systems are identified in the Engine Installation Instructions listed in Note 15.

电磁干扰/ ELECTROMAGNETIC INTERFERENCE (EMI)

对于需要飞机提供的, 涉及 FJ44-1AP, FJ44-3A, FJ44-3A-24, FJ44-3AP, FJ44-4A-QPM 发动机控制系统 EMI 的措施见注 15 确定的安装手册。

The specific aircraft requirements related to EMI for the FJ44-1AP, FJ44-3A, FJ44-3A-24, FJ44-3AP, and FJ44-4A-QPM engines control systems are identified in the Engine Installation Instructions listed in Note 15.

限时派遣/ TIME LIMITED DISPATCH.

关于安装 FJ44-1AP、FJ44-3A、FJ44-3A-24、FJ44-3AP 或 FJ44-4A-QPM 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 15 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, FJ44-3A-24, FJ44-3AP or the FJ44-4A-QPM engine is allowed with certain engine control system faults present subject to the limitations identified in the Airworthiness Limitations Section (ALS) of the appropriate Maintenance Manual listed in Note 15.

注释 12: 保留**NOTE 12. INTENTIONALLY LEFT BLANK****注释 13: 特殊操作程序及限制****NOTE 13. PECIAL OPERATING PROCEDURES AND LIMITATIONS****发动机推力设定/ ENGINE POWERSETTING**

发动机推力根据低压转子转速(N1)设定, 见注 15 确定的使用指南。

Setting of engine thrust is based on low pressure rotor speed (N1). See Operating Instructions identified in Note 15.

一发失效 (OEI)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, 使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:

FJ44-1A	FJ44-3A-24	FJ44-4A-QPM
FJ44-1AP	FJ44-3AP	
FJ44-3A		

燃油添加剂/ FUEL ADDITIVES.

防冰添加剂 对于 FJ44-1A 和 FJ44-2A 防冰添加剂是必需的。FJ44-1AP、FJ44-3A、FJ44-3A-24、FJ44-3AP 和 FJ44-4A-QPM 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 15 确定的使用指南。

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, FJ44-3A, FJ44-3A-24, FJ44-3AP and FJ44-4A-QPM engines. See Operating Instructions identified in Note 15 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 15 确定的使用指南。

Anti-static. See Operating Instructions identified in Note 15 for the approved anti-static additives and allowable concentration levels.

消毒剂 批准使用的消毒剂和许用浓度见注 15 确定的使用指南。

Biocide. See Operating Instructions identified in Note 15 for the approved biocide additives and allowable concentration levels

燃油使用限制/ 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 15 确定的使用指南。

ASTM D910, Grade 100LL is approved for use on certain engine models. Refer to the Operating Instructions identified in Note 15 for limits on duration, fuel temperature and fuel pressure.

自动功率储备/ AUTOMATIC POWER RESERVE.

FJ44-4A-QPM 发动机具有起飞自动功率储备功能。自动功率储备 (Automatic Power Reserve, APR) 可以供选择并且在地面时自动接通。起飞过程中, 发动机控制系统交叉互检判断另一台发动机是否发生了不足以产生起飞推力的失效。一旦检测到这类情况, 则正常工作的发动机推力将自动从正常起飞(NTO)推力增加至预先设定好的相应的最大起飞(MTO)推力。飞行员可以在任何时候通过油门杆操作实现全最大起飞(MTO)推力。

FJ44-4A-QPM engine is equipped with an automatic power reserve function for takeoff operation. APR functionality is checked and automatically armed on the ground. During takeoff, the engine control of each engine monitors the opposite engine to determine if a failure to produce takeoff thrust has occurred. Upon determination of this condition, the engine thrust of the operating engine automatically increases from the normal takeoff (NTO) thrust to the corresponding, pre-determined maximum takeoff (MTO) thrust. Full MTO thrust is available to the pilot at any time by throttle selection.

FJ44-4A-QPM 的控制系统包含一套软件, 该软件在起飞前分析确定发动机性能能否在自动功率储备功能开启的状态下实现额定的最大起飞推力而不至超过发动机的使用限制。

The FJ44-4A-QPM engine control system also incorporates software that analytically determines prior to takeoff whether the engine performance will allow the specified MTO thrust to be achieved without exceeding the engine operating limits when the automatic power reserve function is activated.

注释 14: 保留

NOTE 14. INTENTIONALLY LEFT BLANK

注释 15: 适用的文件

NOTE 15. APPLICABLE DOCUMENTS.

型号	发动机组件号	安装说明	使用指南	航线维护手册	航线维护手册	发动机检查手册	发动机手册
Model	Engine Assembly Part	Installation Instructions	Operating Instructions	Line Maintenance Manual	Line Maintenance Manual	Engine Inspection Manual	Engine Manual

	Number				Elite		
FJ44-1A	45700-104	50772	50771	50773	110506	2012673	50774
FJ44-1AP	72100-200	75274	75274	73568	120645	2012674	73569
	72100-201	75274-201	75274-201	73568	120645		73569
FJ44-2A	56000	56208	56209	56210	110507	2012676	59870
	56000-103	56208	56209	56210	110507		59870
	56000-104	56208	56209	56210	110507		59870
FJ44-3A	67000-200	68583	68584	68585	120644	2012678	68659
	67000-202	68583-202	68584-202	68585-202	-		68659
FJ44-3A-24	75000-200	68583	68584	68585	120644	2012678	68659
FJ44-3AP	111000	111366	--	111339	-	2012679	111341
	111000-202	111366-202	--	111339-202	123809		111341
FJ44-4A-QPM	73200-201	110675-201	--	110990-201	-	2012681	110992

注释 16: 保留

NOTE 16. INTENTIONALLY LEFT BLANK

注释 17: 限寿件信息

NOTE 17. LIFE LIMITED PART INFORMATION

某些转子部件是限寿件, 寿命限制和相关飞行包线见注 15 确定的维护手册。

Certain rotor parts are life limited. These limits and the associated flight profile are listed in the Maintenance Manual identified in Note 15.

注释 18: 保留

NOTE 18. INTENTIONALLY LEFT BLANK

注释 19: 最大转速

NOTE 19. MAXIMUM SPEEDS.

转速限制/ SPEED LIMITATIONS.

型号/MODEL	FJ44-1A	FJ44-1AP	FJ44-2A
低 压 转 子 (N1), rpm(%)	18,000 (104.4)	18,055 (104.69)	18,150 (105.2)
Low Pressure Rotor (N1), rpm (%)	18,160(105.3) 持 续 20秒 18,160 (105.3) for 20 secs	不允许瞬时超转 No transient permitted	18,350(106.4) 持 续 30秒 18,350 (106.4) for 30 secs
高 压 转 子 (N2), rpm(%)	40,900 (99.3)	41,200 (100.0)	40,700 (98.8)
	不允许瞬时超转	--	不允许瞬时超转

High Pressure Rotor (N2), rpm (%)	No transient permitted		No transient permitted
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型号/ MODEL	FJ44-3A FJ44-3A-24	FJ44-3AP	FJ44-4A-QPM
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 secs	18,853 (104.74) 19,033(105.74)持续 30秒 19,033 (105.74) for 30 secs	17,139 (104.8) 17,303(105.8) 不超过2分钟
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 secs	41,550 (100.85) 41,850(101.58) 持续 30秒 41,850 (101.58) for 30 secs	37,773 (100.9) 38,045(101.6) 不超过 2 分钟 38,045 (101.6) for less than 2 mins

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

型号/MODEL	FJ44-1A/1AP	FJ44-2A	FJ44-3A FJ44-3A-24 FJ44-3AP	FJ44-4A-QPM
100% 低压转子(N1), rpm(%) 100 % Low Pressure Rotor (N1), rpm	17,245	17,245	18,000	16,360
100% 高压转子 (N2), rpm(%) 100% High Pressure Rotor (N2), rpm	41,200	41,200	41,200	37,450

注释 20: 保留

NOTE 20. INTENTIONALLY LEFT BLANK

注释 21: 引气

NOTE 21. 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。大量使用高压引气，如飞机防冰，要求减推力设置。见注 15 确定的使用指南。在一发不工作运行状态下的引气提取限制见注 15 确定的安装手册。

HIGH PRESSURE BLEED. Flow rates expressed as percent are based on engine core airflow rate. 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 15. See Installation Instructions

identified in Note 15 for bleed extraction limits during operation with One Engine Inoperative (OEI).

型号/ MODEL	FJ44-1A	FJ44-1AP	FJ44-2A
最大,双通道 Maximum, Both Ports	13.0%	40.8磅/分或12.0%, 取最小值 40.8 lb./min. or 12.0% whichever is less	45磅/分或12.0%, 取最小值 45 lb./min. or 12.0% whichever is less
最大, 单通道 Maximum, One Port	6.5%	40.8磅/分或6.0%, 取最小值 40.8 lb./min or 6.0%. whichever is less	45磅/分或6.0%, 取 最小值 45 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	--	--

型号 /MODEL	FJ44-3A	FJ44-3A-24	FJ44-3AP	FJ44-4A-QPM
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	--	59磅/分或 20.0%, 取最 小值 59 lb/min. or 20.0% whichever is less	不适用 NA
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	--	59磅/分或 10.0%, 取最 小值 59 lb/min. or 10.0% whichever is less	43.5磅/分 (不包括 入口防冰流量) 43.5./min (This does not include inlet anti-ice flow)
最小 (地慢及 以上) Minimum (ground idle and above)	0.020 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	0%	--
最大, 启动 Maximum,	0.222 平方英 寸, 等效流量	--	--	0.269 平方英寸, 等 效流量

Starting	0.222 square inch sharp edge orifice, equivalent flow			0.269 square inch sharp edge orifice, equivalent flow
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低压引气 对于型号 FJ44-2A, 低压引气是可选的。见注 15 中规定的具体发动机构型组件号。当释放到环境静压时, 引气被限制在只能从单通道提取。见注 15 中规定的使用指南以确定引气对发动机性能的影响。

IP COMPRESSOR BLEED. IP compressor bleed is optional for the engine models identified below. See Engine Assembly Part No. identified in Note 15 for specific engine configuration. Bleed flow is limited to the flow which can be extracted from the single bleed port when discharged to ambient static pressure. See Operating Instructions identified in Note 15 to determine effect of bleed on engine performance.

风扇引气 下列型号的发动机风扇是否引气是可选的。见注 15 中规定的具体发动机构型组件号。当释放到环境静压时, 引气被限制在只能从单通道提取。见注 15 中规定的使用指南以确定引气对发动机性能的影响。

FAN BLEED. Fan bleed is optional for the engine models identified below. See Engine Assembly Part No. identified in Note 15 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 15 to determine effect of bleed on engine performance.

FJ44-1AP FJ44-3A
FJ44-2A FJ44-3A-24
FJ44-3AP

注释 22: 转子完整性和叶片包容

NOTE 22. ROTOR 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。

All engine models meet the 14 CFR Part 33 requirements for rotor disk integrity and blade containment.

注释 23: 燃油排泄和排气排出物

NOTE 23. FUEL VENTING AND EXHAUST EMISSIONS

如下型号符合 2018 年 3 月 5 日生效的联邦法规汇编 14 集第 34 部 6 号修正案和 2012 年 7 月 18 日生效的联邦法规汇编 40 集第 87 部发布的排放标准:

The following emissions standards promulgated in 14 CFR Part 34, Amendment 6, effective March 5, 2018, and 40 CFR Part 87 effective July 18, 2012, have been complied with for:

FJ44-1AP FJ44-3A-24 FJ44-4A-QPM
FJ44-3A FJ44-3AP

燃油排泄标准: 联邦法规汇编 14 集第 34 部第 34.10(b)款和第 34.11 条以及联邦法规汇编 40 集第 87.10(b)款和 87.11 条。

Fuel Venting Emission Standards: 14 CFR §§ 34.10(b) and 34.11; in addition, 40 CFR §§ 87.10(b) and 87.11.

发烟指数(SN)排放标准: 联邦法规汇编 14 集第 34.23(a)(1)款以及联邦法规汇编 40 集第 87.23(c)(1)款。

Smoke Number (SN) Emission Standards: 14 CFR § 34.23(a)(1); in addition, 40 CFR § 87.23(c)(1).

在美国联邦航空局确认已符合本型号合格证数据单规定的审定要求之上, 发动机制造商声明已证明符合国际民航组织附件 16 第二卷第三版第三部分第二章, 2.2.2 节发烟指数, 并且符合第二部分第二章燃油排泄要求。

In addition to the FAA's finding of compliance based on the certification requirements defined in this TCDS, the engine manufacturer has declared that ICAO emissions standards identified in Annex 16, Volume II, Third Edition, Part III, Chapter 2, Section 2.2.2 for SN, and Part II Chapter 2 for fuel venting have also been demonstrated.

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