

型号认可证数据单
THE VALIDATION DATA SHEET

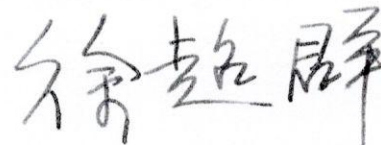
编号/No.: VTC0329E

版次/Revision: 1

型号/Type:

PW1133G-JM, PW1133GA-JM, PW1130G-JM,
PW1127G-JM, PW1127GA-JM, PW1127G1-JM,
PW1124G-JM, PW1124G1-JM, PW1122G-JM

批准人/Approved By:



职务/Title: Director General of CAAAC-AAD

日期/Date: 2017 年 6 月 22 日

本数据单是型号认可证（编号：VTC0329E）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: VTC0329E), 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:

International Aero Engines, LLC

400 Main Street

East Hartford, CT 06118

有效页清单/List of Effective Page

页数/Pages	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
版次/Revision	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
页数/Pages	17	18	19	20												
版次/Revision	1	1	1	1												

型号认可证数据单

THE VALIDATION DATA SHEET

编号/No.: VTC0329E

版次/Revision: 1

型号/Type:

PW1133G-JM, PW1133GA-JM, PW1130G-JM,
PW1127G-JM, PW1127GA-JM, PW1127G1-JM,
PW1124G-JM, PW1124G1-JM, PW1122G-JM

批准人/Approved By: Xu Chaoqun

职务/Title: Director General of CAAC-AAD

日期/Date: 2017 年 6 月 22 日

本数据单是型号认可证（编号：VTC0329E）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: VTC0329E), 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:

International Aero Engines, LLC

400 Main Street

East Hartford, CT 06118

有效页清单/List of Effective Page

页数/Pages	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
版次/Revision	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
页数/Pages	17	18	19	20												
版次/Revision	1	1	1	1												

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	VTC0329E, 版次1, 2017年6月22日 No. VTC0329E, Revision 1, Jun 22, 2017	FAA TCDS No. E00087EN, Revision 4, December 27, 2016
历史 History	VTC0329E, 版次0, 2016年9月23日 No. VTC0329E, Revision 0, Sep 23, 2016	FAA TCDS No. E00087EN, Revision 1, October 23, 2015

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:

International Aero Engines, LLC

400 Main Street

East Hartford, CT 06118

5. 双发延程飞行/ETOPS:

见注释11/See NOTE 11

6. CAAC专用要求/CAAC Special Requirements:

满足中国3号燃油 (GB6537-2006) 的要求

Compliance with requirement of P.R. China JET Fuel
No.3 (GB6537-2006)

第2部分 数据单

Section 2 DATA SHEET

类型/ TYPE	全权限数字式电子控制系统（FADEC）控制的高涵道比、轴流、双转子、涡轮风扇发动机。低压转子包括一级高涵道比风扇、三级低压压气机和三级低压涡轮。三级低压涡轮直接驱动三级低压压气机，并通过减速齿轮系统驱动高涵道比风扇。两级冷却高压涡轮驱动八级高压压气机。 High bypass ratio, axial-airflow, dual-spool, turbofan engine controlled by a Full Authority Digital Electronic Control (FADEC). The low pressure spool consists of a three-stage low pressure turbine that directly drives a three-stage low pressure compressor, and a single stage high bypass ratio fan through a fan drive gear speed reduction system. The high pressure compressor has eight axial stages driven by a two-stage cooled high pressure turbine.
---------------------------	---

型号/ MODELS:	PW1133G-JM PW1133GA-JM PW1130G-JM	PW1127G-JM, PW1127GA-JM, PW1127G1-JM	PW1124G-JM, PW1124G1-JM, PW1122G-JM
额定值（见注释 1）/RATINGS (See NOTE 1)			
海平面静推力（磅）/ SEA LEVEL STATIC THRUST (lb.)			
起飞（5 分钟）（见注释 2）/ Takeoff (5 minutes) (See NOTE 2)	33,110	27,075	24,240
最大连续/ Maximum Continuous	32,780	26,345	24,035
平台额定环境温度/ FLAT RATING AMBIENT			

TEMPERATURE			
起飞/ Takeoff	30°C / 86°F	47°C / 117°F	51°C / 123°F
最大连续/ Maximum Continuous	25°C / 77°F	25°C / 77°F	25°C / 77°F
发动机电子控制器件号 EEC PN	5324837	5324837	5324837
数据存储器件号（额定值插头）/ Data Storage Unit PN (Ratings Plug)	5322188 或 5325241 （PW1133G） 5322195 或 5325243 （PW1133GA） 5322189 或 5325245 （PW1130G）	5322191 或 5325246 （PW1127G） 5322196 或 5325242 （PW1127GA） 5322190 或 5325249 （PW1127G1）	5322193 或 5325248 （PW1124G） 5322192 或 5325247 （PW1124G1） 5322194 或 5325244 （PW1122G）
部件/构型/ COMPONENTS/CONFIGURATION	部件及发动机构型信息参考安装图 5320001/ For information regarding components and engine configuration, refer to: Installation Drawing 5320001		
主要尺寸（室温） PRINCIPAL DIMENSIONS (Room temperature)			
长度（安装边至安装边，英寸） Length (flange to flange, in.)	129.285 in +/- 0.051	-- --	-- --
长度（风扇进气锥至后安装边，英寸）/Length (fan spinner face to aft flange, in.)	133.898 in	-- --	-- --

名义直径（风扇机匣，英寸） Nominal diameter (fan case, in.)	87.566 in	-- --	-- --
最大径向投影（英寸）（余油管处） Maximum radial projection (in.) (at drain mast)	50.150 in	-- --	-- --
重心（英寸） CENTER OF GRAVITY (in.)			
发动机轴向站位，相对 A 安装边 Axial engine station, relative to A-flange:	63.510 in	-- --	-- --
纵向，相对于发动机中心线 Vertical, relative to engine centerline:	-1.420 in	-- --	-- --
横向，相对于发动机中心线 Lateral, relative to centerline:	0.820 in	-- --	-- --
重量*（干重） WEIGHT * (DRY)	6,300	6,300	-- --
发动机本体（磅）（见注释 6） Basic engine (lbs.) (See Note 6)			
燃油/FUEL	服务通告 PW1000G-1000-73-00-0002-00A-930A-D 定义了燃油要求并提供了 PW1100G-JM 系列涡扇发动机批准使用的燃油及燃油添加剂清单。 Service Bulletin PW1000G-1000-73-00-0002-00A-930A-D defines the		

	fuels requirements and provides a listing of approved fuels and fuel additives for use in the PW1100G-JM series turbofan engine.
滑油/LUBRICATING OILS	服务通告 PW1000G-1000-79-00-0002-00A-930A-D 提供了 PW1100G-JM 系列涡扇发动机批准使用的滑油清单。 Service Bulletin PW1000G-1000-79-00-0002-00A-930A-D provides a listing of approved turbine oils for use in the PW1100G-JM series turbofan engine.

审定基础/ CERTIFICATION BASIS	1965 年 2 月 1 日生效的 14 CFR 33 部第 1 至 32 修正案和以下等效安全： /																															
	14 CFR, Part 33, effective February 1, 1965, as amended by 33-1 through 33-32 with the following Equivalent level of safety findings:																															
	• 33.76，吸鸟，（c）（7）（i）条款等效安全 No. TC3289EN-E-P-8 Rev 1。 33.76, Bird Ingestion, par. (c)(7)(i) ELOS No. TC3289EN-E-P-8 Rev 1 • 33.77，外物吸入-冰，（c）条款等效安全 No. TC3289EN-E-P-5 Rev 1。 33.77, Foreign Object Ingestion-Ice, par. (c) ELOS No. TC3289EN-E-P-5 Rev 1 • 33.78，吸雨和吸雹，（a）（1）条款等效安全 No. TC3289EN-E-P-6 Rev 1。 33.78, Rain and Hail Ingestion par. (a)(1) ELOS No. TC3289EN-E-P-6 Rev 1																															
	2013 年 10 月 23 日生效的 14 CFR 34 部第 5A 修正案。燃油排泄及排出物的审定基础详见注释 23																															
	14 CFR, Part 34, Amendment 34-5A, effective October 23, 2013. See NOTE 23 for detailed summary of the certification basis for fuel venting and exhaust emissions.																															
型号合格证编号 E00087EN/ TYPE CERTIFICATE NUMBER E00087EN																																
<table><tr><td>型别</td><td>申请日期</td><td>发布/修订日期</td><td>删除</td></tr><tr><td>MODEL</td><td>APPLICATION</td><td>ISSUED/AMENDED</td><td>DELETED</td></tr><tr><td>PW1133G-JM</td><td>2011 年 12 月 15 日</td><td>2014 年 12 月 19 日</td><td></td></tr><tr><td>PW1133G-JM</td><td>December 15, 2011</td><td>December 19, 2014</td><td></td></tr><tr><td>PW1133GA-JM</td><td>2015 年 6 月 12 日</td><td>2015 年 12 月 23 日</td><td></td></tr><tr><td>PW1133GA-JM</td><td>June 12, 2015</td><td>October 23, 2015</td><td></td></tr><tr><td>PW1130G-JM</td><td>2011 年 12 月 15 日</td><td>2015 年 10 月 23 日</td><td></td></tr></table>					型别	申请日期	发布/修订日期	删除	MODEL	APPLICATION	ISSUED/AMENDED	DELETED	PW1133G-JM	2011 年 12 月 15 日	2014 年 12 月 19 日		PW1133G-JM	December 15, 2011	December 19, 2014		PW1133GA-JM	2015 年 6 月 12 日	2015 年 12 月 23 日		PW1133GA-JM	June 12, 2015	October 23, 2015		PW1130G-JM	2011 年 12 月 15 日	2015 年 10 月 23 日	
型别	申请日期	发布/修订日期	删除																													
MODEL	APPLICATION	ISSUED/AMENDED	DELETED																													
PW1133G-JM	2011 年 12 月 15 日	2014 年 12 月 19 日																														
PW1133G-JM	December 15, 2011	December 19, 2014																														
PW1133GA-JM	2015 年 6 月 12 日	2015 年 12 月 23 日																														
PW1133GA-JM	June 12, 2015	October 23, 2015																														
PW1130G-JM	2011 年 12 月 15 日	2015 年 10 月 23 日																														

	PW1130G-JM	December 15, 2011	October 23, 2015
	PW1127G-JM	2011 年 12 月 15 日	2015 年 10 月 23 日
	PW1127G-JM	December 15, 2011	October 23, 2015
	PW1127GA-JM	2015 年 6 月 12 日	2015 年 10 月 23 日
	PW1127GA-JM	June 12, 2015	October 23, 2015
	PW1127G1-JM	2011 年 12 月 15 日	2015 年 10 月 23 日
	PW1127G1-JM	December 15, 2011	October 23, 2015
	PW1124G-JM	2011 年 12 月 15 日	2015 年 10 月 23 日
	PW1124G-JM	December 15, 2011	October 23, 2015
	PW1124G1-JM	2011 年 12 月 15 日	2015 年 10 月 23 日
	PW1124G1-JM	December 15, 2011	October 23, 2015
	PW1122G-JM	2011 年 12 月 15 日	2015 年 10 月 23 日
	PW1122G-JM	December 15, 2011	October 23, 2015
生产基础 (所有型号) PRODUCTION BASIS (ALL MODELS)	生产许可证/Production Certificate No. 114		

注释/NOTES

注释 1/NOTE 1.

发动机额定值/ENGINE RATINGS

发动机额定值基于以下条件校准:

Engine ratings are based on calibrated test stand performance under the following conditions:

1. 静止海平面, 标准大气压 (14.696 psia), 至平台额定环境温度 (°F)。

Sea level static, standard pressure (14.696 psia), up to the flat rating ambient temperature °F

2. 无引气或功率提取。

No customer bleed or customer horsepower extraction

3.理想进气道，100%总压恢复。

Ideal inlet, 100% ram recovery

4.生产型飞机整流罩。

Production aircraft flight cowling

5.生产型仪表。

Production instrumentation

6.燃油低热值 18,400 BTU/lb。

Fuel lower heating value of 18,400 BTU/lb.

注释 2/NOTE 2.

温度/TEMPERATURES

最高允许的指示涡轮温度（ITT）如下：

Maximum permissible Indicated Turbine Temperatures (ITT) are as follows:

起飞（5 分钟）*/Takeoff (5 minutes)*	1,083 degC / 1,982 degF
--------------------------------	-------------------------

最大连续/Maximum Continuous	1,043 degC / 1,909 degF
-------------------------	-------------------------

*发动机单发停车特殊情况下，正常的 5 分钟起飞额定值可延长至 10 分钟。

The normal 5 minute takeoff rating may be extended to 10 minutes for engine out contingency.

指示涡轮温度（ITT）/Indicated Turbine Temperatures (ITT)

起动时/at start-up

1,083 degC / 1,982 degF

滑油出口温度/Oil outlet temperature:

连续运行：发动机主滑油温度的最大限制随发动机功率等级而变化。限制从慢车功率时的 152 摄氏度/305 华氏度，下降至巡航功率时的 146 摄氏度/295 华氏度，再下降至高功率时的 141 摄氏度/285 华氏度。详见安装和使用手册，PWA-9851。

Continuous operation: Engine main oil temperature maximum limit varies with engine power level. The limit decreases from 152 degC /305 degF at idle power; to 146 degC /295 degF at cruise power; to 141 deg C /285 deg F at high power. See Installation and Operating Manual, PWA-9851 for details.

起飞操作前，慢车最小滑油温度/Minimum oil temperature at idle, before takeoff power operation:

51.7 degC / 125 degF

燃油温度(所有型号)：见安装和使用手册，PWA-9851。

Fuel Temperatures (All Models): See Installation and Operating Manual, PWA-9851

部件温度(所有型号)：见安装和使用手册, PWA-9851

Component Temperatures (All Models): See Installation and Operating Manual, PWA-9851

注释 3/NOTE 3.

压力/PRESSURES

燃油压力限制：发动机运行中燃油泵进口燃油压力应保持不小于真实蒸汽压力加 5.0 psi，不大于汽/油比为零时绝对环境压力加 100 psi。停车后燃

油泵进口最大允许压力为 121 psig。

Fuel pressure limits: Fuel pressure at the engine fuel pump inlet during operation shall be maintained at not less than 5.0 psi above the true vapor pressure of the fuel but not greater than 100 psi above the absolute ambient pressure with a vapor/liquid ratio of zero. The maximum allowable pressure at the fuel pump inlet after shutdown is 121 psig.

滑油压力限制/Oil pressure limits:

最小值：慢车时 63 psig。慢车外，根据 N2 转速而变化。见安装和使用手册，PWA-9851。

Minimum: 63 psig at idle. Variable by N2 Speed off idle. See Installation and Operating Manual, PWA-9851.

最大值/Maximum: 270 psig

滑油供油压力作为主滑油压力进行测量。

Oil supply pressure is measured relative to main lube pressure.

负重力加速度操作时出现的临时滑油中断时间最大值为 10 秒。一旦负重力加速度消除，正常滑油压力将会迅速恢复。

Temporary interruption associated with negative “g” operation is limited to 10 seconds maximum. Normal oil pressure will be restored rapidly once the negative “g” effect has been eliminated.

注释 4/NOTE 4.

附件传动装置规定/ACCESSORY DRIVE PROVISIONS

附件传动装置/Accessory Drives						
驱动面板/ Drive Pad	转向/ Rotation	N2 转速比/ Speed Ratio	扭矩(磅英寸)/Torque (lb.-in.)			悬挂力矩(磅 英寸) /
			连续/	过载/	静态/	

		to N2	Continuous	Overload	Static	Overhung Moment (lb.-in)
液压泵/ Hydraulic Pump	逆/CCW	0.1768:1	1300	1800	4250	400
整体驱动发 电机/ Integrated Drive Generator (IDG)	逆/CCW	0.3932:1	1990*	4475*	9400	900
空气涡轮起 动机/ Air Turbine Starter	逆/CCW	0.407:1	---	10692	9084	280
逆=逆时针（面对驱动面板）/CCW = Counterclockwise (facing the drive pad) *在附件扭转振动不会导致破坏性的力出现的条件下，除非另行规定，发动机最大允许连续扭矩值是发动机在任意转速下产生的最大值。/ * Maximum allowable continuous torque values are at any engine speed unless otherwise specified provided no destructive forces resulting from accessory torsional vibration are present.						

注释 5/NOTE 5.

型号描述/MODEL DESCRIPTION:

PW1100G-JM 系列发动机由以下发动机型号组成：/

The PW1100G-JM engine series consist of the following engine models:

PW1133G-JM	基础型号，空客 A321-271n/Basic Model, Airbus A321-271n
PW1133GA-JM	替代爬升推力型号，空客 A321-271n /Alternate Climb Thrust Model, Airbus A321-271n
PW1130G-JM	减推力型号，空客 A321-272n/Reduced Thrust Model, Airbus A321-272n
PW1127G-JM	基础型号，空客 A320-271n/Basic Model, Airbus A320-271n
PW1127GA-JM	替代爬升推力型号，空客 A320-271n /Alternate Climb Thrust Model, Airbus A320-271n
PW1124G1-JM	替代爬升推力型号，空客 A320-272n /Alternate Climb Thrust Model, Airbus A320-272n
PW1127G1-JM	高温和高推力型号，空客 A319-173n /Hot and High Thrust Model, Airbus A319-173n
PW1124G-JM	基础型号，空客 A319-171n /Basic Model, Airbus A319-171n
PW1122G-JM	减推力型号，空客 A319-172n /Reduced Thrust Model, Airbus A319-172n

注释 6/NOTE 6.

发动机重量定义为装有 IAE, LLC 提供的发动机集成组件（EBU1）的发动机本体干重。EBU1 组件包括：低滑油压力电门、核心短舱温度传感器、GBX 通风管、发动机空气涡轮起动机、起动机附件和齿轮箱封严、起动机与起动机空气阀门间的管路、起动机空气阀、电子线束、燃油质量流量计、环境控制系统中间压力单向阀。

The engine weight is defined as the dry weight of the basic engine with IAE, LLC supplied engine build-up component (EBU1). EBU1 components include: Low Oil Pressure Switch; Core Nacelle Temperature Sensor; GBX Breather Tube; Engine Air Turbine Starter; starter attachment hardware and seals to gearbox; duct from starter to Starter Air Valve; Starter Air Valve; electrical harnesses; Mass Fuel Flow Meter; environmental control system Intermediate Pressure Check Valve.

注释 7/NOTE 7.

不适用/ Not applicable

注释 8/NOTE 8.

不适用/ Not applicable

注释 9/NOTE 9.

安装图 5320001 及安装和机动载荷图 5320003 规定了 PW1100G-JM 发动机安装系统要求。

PW1100G-JM Engine mount system provisions are specified in Installation Drawing 5320001 and Mount and Maneuver Load Drawing, 5320003.

注释 10/NOTE 10.

不适用/ Not applicable

注释 11/NOTE 11.

特殊安装要求/SPECIAL INSTALLATION REQUIREMENTS:

1) 安装和使用手册 PWA-9851 中定义了 PW1100G-JM 发动机设计和使用限制。

PW1100G-JM Engine design and operating limitations are defined in the Installation and Operating Manual, PWA-9851.

2) 保留/Reserved

3) PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM 发动机符合 §§ 33.4 (A33.3(c)), 33.71(c)(4)以及 33.201 要求, 因此可以用于批准 ETOPS 和

早期 ETOPS 运行的飞机上。延程时间为最大连续推力下 180 分钟以及保持飞机高度推力下 15 分钟。注意此发动机 ETOPS 适用性并不构成执行 ETOPS 飞行所必须的飞机级别或运行级别批准。

The PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, and PW1122G-JM engine models* have complied with the requirements of §§ 33.4 (A33.3(c)), 33.71(c)(4) and 33.201, and are therefore eligible for installation on Extended Operations (ETOPS) and Early ETOPS approved airplanes. The demonstrated diversion time is 180 minutes at MCT plus 15 minutes at hold power. Note that ETOPS eligibility does not constitute airplane or operational level approvals necessary to conduct ETOPS flights.

*注意适合 ETOPS 的发动机系列号必须符合服务通告 PW1100G-C-72-00-0056-00A-930A-D 要求。

Note for the individual engine serial number to be eligible for ETOPS it must comply with Service Bulletin PW1100G-C-72-00-0056-00A-930A-D.

4) 保留/Reserved

- 5) 飞行过程中，在结冰条件下最小的 N1 转速为 1801 转每分。在飞行中发动机电子控制器将防止转子速度低于该值。

The minimum N1 certified for in-flight operation in icing conditions is 1,801 rpm. The Electronic Engine Control will prevent rotor speeds below this value while in flight.

- 6) PW1100G-JM 发动机符合限时派遣要求。FADEC 系统故障分为以下四类：
A)不可派遣，B)短时派遣，C)长时派遣，D)经操作者判断可修正。在 PW1100G-JM 发动机适航限制手册中给出了短时及长时间间隔派遣的详细内容。

The PW1100G-JM engine is certified with Time Limited Dispatch. FADEC System

faults fall into 4 categories as follows: A) No Dispatch, B) Short Term Dispatch, C) Long Term Dispatch or D) Fix at Operators Discretion. Details on the short and long term dispatch intervals are provided in the PW1100G-JM Airworthiness Limitations Manual.

7) 保留/Reserved

8) 安装和使用手册 PWA-9851 中规定了 PW1100G-JM 发动机电磁防护要求和由包括电缆在内的发动机电子控制系统发出的电磁干扰。

The PW110G-JM electromagnetic compatibility (EMC) protection requirements and electromagnetic interference, (EMI) emitted by the electronic engine control system, including cables, are specified in the Installation and Operating Manual, PWA-9851.

9) 保留/Reserved

10) 在 PW1100G-JM 发动机安装和使用手册 PWA-9851 中规定了发动机可使用的 UTAS 航空结构反推单元。发动机反推不属于发动机型号设计部分，而是作为飞机构型的一部分进行审查。

For the PW1100G-JM, the UT Aerospace System-Aerostructures Thrust Reverser Unit as specified in the Installation and Operating Manual, PWA-9851, is acceptable for use on the engine. The thrust reverser is not part of the engine type design and is certified as part of the aircraft.

11) 保留/Reserved

注释 12/NOTE 12.

不适用/ Not applicable

注释 13/NOTE 13.

特殊操作程序/SPECIAL OPERATING PROCEDURES:

安装和使用手册 PWA-9851 说明了结冰条件下地面操作时的要求和限制。

Requirements and limitations for ground operation in icing conditions are specified in the Installation and Operating Manual, PWA-9851.

注释 14/NOTE 14. 不适用/ Not applicable

注释 15/NOTE 15. 适用的安装、维护及大修手册

APPLICABLE INSTALLATION, MAINTENANCE & OVERHAUL MANUALS

1) 安装和使用手册 PWA-9851/ Installation and Operating Manual, PWA-9851

2) 保留/Reserved

3) FAA 发动机审定办公室已接受以下发动机持续适航 (ICA's) 文件:

The following Engine Instructions for Continued Airworthiness (ICA's) have been accepted by the FAA Engine Certification Office:

a. PW1100G-JM 发动机维护手册, 编号 5316994,

PW1100G-JM Engine Maintenance Manual PN 5316994,

b. PW1100G-JM 发动机手册, 编号 5316992,

PW1100G-JM Engine Manual PN 5316992,

c. PW1100G-JM 清洗、检查和修理手册, 编号 5315653,

PW1100G-JM Clean, Inspect and Repair Manual PN5315653,

d. PW1100G-JM 系列故障诊断手册, 编号 5323704。/

PW1100G-JM Series Troubleshooting Manual PN 5323704.

4) 保留/Reserved

注释 16/NOTE 16. 不适用/ Not applicable

注释 17/NOTE 17. 限寿件信息/LIFE LIMITED PART INFORMATION

1) PW1100G-JM 适航限制手册, 编号 5316993, 规定了 PW1100G-JM 发动机关键部件的寿命限制和强制检查要求。

PW1100G-JM Life limits for critical components and mandatory inspection requirements are specified in the PW1100G-JM Airworthiness Limitation Manual PN 5316993 .

2) 保留/Reserved

注释 18/NOTE 18. 不适用/ Not applicable

注释 19/NOTE 19. 转子速度/ROTOR SPEEDS

最大允许低压转子转速 (N1): 10,047 转每分钟/rpm

Maximum permissible Low Pressure Rotor (N1):

最小低压转子转速/ Minimum Low Pressure Rotor (N1),

地面慢车/Ground Idle: 1,750 转每分钟/rpm

飞行慢车/Flight Idle: 1,801 转每分钟/rpm

(见注释 11 /See Note 11)

最大允许高压转子转速 (N2): 22,300 转每分钟/rpm

Maximum permissible High Pressure Rotor (N2):

最小高压转子转速/ Minimum High Pressure Rotor (N2)

地面慢车/Ground Idle: 12,400 转每分钟/rpm

飞行慢车/Flight Idle: 12,400 转每分钟/rpm

所有运行中的功率设置、功率检查、发动机推力输出控制均基于低压转子转速 (N1)。风扇转速, (NFAN) 与低压转子转速 (N1) 的齿轮传动比为: 1: 3.0625。

Power setting, power checks, and control of engine thrust output in all operations are

based on Low Rotor Speed (N1). Fan Speed, (NFAN) is directly proportional to Low Rotor Speed (N1) by a gear ratio of 1: 3.0625.

注释 20/NOTE 20. 不适用/ Not applicable

注释 21/NOTE 21. 最大允许引气提取/Maximum Permissible Bleed Air Extraction

客舱环境控制系统/机翼防冰发动机短舱防冰/

注释 22/NOTE 22. 不适用/ Not applicable

注释 23/NOTE 23. 排气排出物及燃油排泄/EXHAUST EMISSIONS AND FUEL VENTING

PW1133G-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, PW1122G-JM, PW1431G-JM 发动机符合于 2013 年 10 月 23 日生效的 14 CFR 34 部第 5A 修正案以及于 2012 年 10 月 31 日生效的 40 CFR 87 部所公布的如下排放标准:

The following emissions standards promulgated in 14 CFR Part 34, Amendment 5A, effective October 23, 2013, and 40 CFR Part 87, effective October 31, 2012, have been complied with for the PW1133G-JM, PW1133GA-JM, PW1130G-JM, PW1127G-JM, PW1127GA-JM, PW1127G1-JM, PW1124G-JM, PW1124G1-JM, PW1122G-JM, PW1431G-JM engine models:

燃油排泄标准: 14 CFR 34.10 (a) 和 34.11, 以及 40 CFR 87.10(a)和 87.11。

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

发烟指数 (SN) 排放标准: 14 CFR 34.21 (e) (2), 以及 40 CFR 87.23 (c) (1)

Smoke Number (SN) Emission Standards: 14 CFR 34.21 (e)(2); in addition, 40 CFR 87.23(c)(1).

一氧化碳 (CO) 排放标准: 14 CFR 34.21 (d) (1) (ii), 以及 40 CFR 87.23 (c) (1)。

Carbon Monoxide (CO) Emission Standards: 14 CFR 34.21(d)(1)(ii); in addition, 40 CFR 87.23(c)(1).

碳氢化合物 (HC) 排放标准: 14 CFR 34.21 (d) (1) (i), 以及 40 CFR 87.23 (c) (1)。

Hydrocarbons (HC) Emission Standards: 14 CFR 34.21(d)(1)(i); in addition, 40 CFR 87.23(c)(1).

氮氧化物 (NO_x) 排放标准: 14 CFR 34.23 (b) (1), 以及 40 CFR 87.23 (c) (3)。

Oxides of Nitrogen (NO_x) Emission Standards: 14 CFR 34.23(b)(1); in addition, 40 CFR 87.23(c)(3).

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、2.3.2 节一氧化碳和碳氢化合物、2.3.2.e.3 节氮氧化物 (也称为 CAEP/8) 的排放标准, 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 the ICAO emissions standards identified in Annex 16, Volume II, Third Edition, Part III, Chapter 2, Section 2.2.2 for SN, Section 2.3.2 for CO and HC, Section 2.3.2.e.3 for NO_x (also known as CAEP/8), and Part II Chapter 2 for fuel venting have also been demonstrated.

注释 24/NOTE 24.

如果发动机的轴剪切逻辑被关闭, 发动机的型号设计不再符合 14 CFR 33.27(b), (c) & (e) 或 14 CFR 33.28(f)(1), 发动机不再处于适航状态。中国民用航空局禁止安装在中国注册航空器上 PW1100G-JM 系列发动机的轴剪切逻辑被关闭。

In the case where the shaft shear logic of the engine is disabled, the engine's type design no longer complies with 14 CFR 33.27(b), (c) & (e)或 14 CFR 33.28(f)(1) and the engine is no longer in airworthiness. CAAC prohibits the shaft shear logic is disabled for the PW1100G-JM engine installed in aircrafts registered in China.

注释 25/NOTE 25.

此次数据单升级认可审查完成了 EEC（件号：5324837）所唯一对应软件版本的认可审查。

The validation of TCDS NUMBER E00087EN Revision 4 completed the validation of the EEC (P/N: 5324837) software.

—完—

—END—