

型号认可证数据单
THE VALIDATION DATA SHEET

编号/No.: VTC105E

版次/Revision: 1

型号/Model:

PW118, PW118A, PW118B, PW127J, PW127M

批准人/Approved by:



职务/Title: Director General of CAAC-AAD

日期/Data: 2022 年 10 月 21 日

本数据单是型号认可证（编号：VTC105E）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: VTC105E), 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:

加拿大普惠公司/ Pratt & Whitney Canada Corp.

玛利-维克多汉大道 1000 号/1000 Marie-Victorin

加拿大魁北克省朗基尔市/ Longueuil, Quebec, Canada J4G 1A1

第1部分 概述

SECTION 1 GENERAL

1. 型号认可证数据单版次信息以及修订记录/ Revision and Change Record of the Validation of Type Certificate Data Sheet

数据单版次信息/Revision of the Data Sheet

	型号认可证数据单编号、版次和颁发日期 Validation of Type Certificate Data Sheet Number, Revision and issuance date	型号合格证数据单编号、版次和颁发日期 Type Certificate Data Sheet Number, Revision and issuance date
当前 Current	VTC105E, 第1版, 2022年10月21日 VTC105E, Issue: 1, 2022-10-21	PW127M 型别: TCCA TCDS E-19, 第 48 版, 2019 年 8 月 6 日 No. E-19, Issue: 48, August 6, 2019
历史 History	VTC105E, 第0版, 2022年6月6日 VTC105E, Issue: 0, 2022-06-06	PW127J 型别: TCCA TCDS E-19, 第 48 版, 2019 年 8 月 6 日 No. E-19, Issue: 48, August 6, 2019 PW118、PW118A、PW118B 型别: TCCA TCDS E-19, 第 39 版, 1999 年 1 月 4 日 No. E-19, Issue: 39, January 4, 1999

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

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 1/Rev 1	增加 PW127M 型别 Adding PW127M into the VTCDS	
版次 0/Rev 0	CAAC于2000年7月20日颁发PW127J发动机的型号认可证，未发布相应的VTCDS。 CAAC issued the VTC for the PW127J Engine on 20 July 2000 without CAAC VTCDS. 本次新增CAAC VTCDS，并在前述认可的基础上，依据申请增加了PW127J发动机AFU更改以及3号喷气燃料相关的信息。 According to the application, this new CAAC VTCDS revises the power rating and adds the information about the PW127J engine AFU design change and “No.3 Jet Fuel” based on the above approval.	

2. 认可当局/Validation Authority:
审定当局/Certifying Authority:中国民用航空局/CAAC
加拿大运输部民航局/TCCA

3. 型号合格证持有人/Type Certificate Holder:

加拿大普惠公司/Pratt & Whitney Canada Corp.
玛利-维克多汉大道 1000 号/1000 Marie-Victorin
加拿大魁北克省朗基尔市/ Longueuil, Quebec, Canada
J4G 1A1

4. 生产制造商/Manufacturer

加拿大普惠公司/Pratt & Whitney Canada Corp.
玛利-维克多汉大道 1000 号/1000 Marie-Victorin
加拿大魁北克省朗基尔市/ Longueuil, Quebec, Canada
J4G 1A1

5. 双发延程飞行/ETOPS:

不适用/N/A

6. CAAC 专用要求/Special Requirements:

满足中华人民共和国国家标准“3 号喷气燃料”(GB 6537) 的要求

Compliance with requirement of National Standard of the People's Republic of China "No.3 Jet Fuel" (GB 6537)

第2部分 数据单 (PW118, PW118A, PW118B)

SECTION 2 DATA SHEET (PW118, PW118A, PW118B)

1. 产品型别和批准日期/Model and Approval Date

产品型别 Model	申请日期 Application Data	批准日期 Approval Date	类别 category
PW118	1986年1月13日 January 13, 1986	1986年3月11日 March 11, 1986	发动机Engine
PW118A	1987年3月17日 March 17, 1987	1987年6月30日 June 30, 1987	发动机Engine
PW118B	1995年12月19日 December 19, 1995	1996年2月29日 February 29, 1996	发动机Engine

2. 认可审定基础和生产依据/ Certification Basis and Production Basis

型别 118, 118A, 118B /Model 118, 118A, 118B	
适航标准/Airworthiness standard	1965 年 2 月 1 日起生效的 FAR 33 部, 33-1 至 33-9 修正案, 以及 1983 年 9 月 20 日加拿大运输部发送加拿大 P&WC 信中的加拿大特殊要求。 FAR Part 33 effective February 1, 1965 and Amdts 33-1 to 33-9 inclusive, including Canadian Special Requirements as contained in Transport Canada Letter to Pratt and Whitney Canada dated September 20, 1983. 当 PW118, PW118A, PW118B 发动机的进气系统符合 P&WC 安装手册中关于雪和结冰颗粒惯性分离的说明时, 发动机满足 FAR33.68 在 FAR25 附录 C 定义的结冰条件下工作的要求。PW127J 符合 FAR33.27 的要求, 不需要外部保护设备。 The PW127J meets the requirements of FAR 33.68 for operation in icing conditions as defined in FAR 25 Appendix C when the intake system conforms with the P&WC Installation Manual Instructions for inertial separation of snow and icing particles. The engine also meets the requirements of FAR 33.27 and does not require external armoring.
专用条件/ Special Conditions	无/None
等效安全/ ELOS	无/None
豁免/ Exemption	无/None
环 保 要 求 /Environmental Standards including Noise	不适用/Not applicable
生产依据/Production Basis	无/None

3. 技术特性和使用限制/Technical Characteristics and Operational Limitations

型别 118, 118A, 118B/Model 118, 118A, 118B

型号设计定义/Type Design Definition
(见注释 7) / (See NOTES 7)

型号 Type: 三轴涡桨发动机/Three spool turbo prop.

型别 118/Model 118

额定值 (见注释 1) Ratings (See NOTES 1)	等效轴功率 Equiv. Shaft		轴功率 Shaft		喷气推力 Jet Thrust	
	H.P.	kW	H.P.	kW	Lbs	N
最大连续 Max. Continuous	1,892	1,411	1,800	1,342	230	1,023
正常起飞 Normal Take-off	1,892	1,411	1,800	1,342	230	1,023

限制值(见注释 4)

Limitations (See NOTES 4)

	最大涡轮 级间温度 Max. Inter-turbine Temp (ITT) °C (°F)	额定功率对应的 最高大气温度 Max. Air Temp. for Rated Power (max)	输出轴 转速 Output Shaft Speed (RPM) (max)	高压转速 H.P. Spool Speed (RPM) (max)	低压转速 L.P. Spool Speed (RPM) (max)	输出轴扭矩 Output Torque lb. ft. (Nm)
最大起飞 Max. Take-off	816 (1,500)	33 (91)	1,313	33,300	27,700	8,000 (10,846)
正常起飞 Normal Take-off						
最大连续 Max. Continuous	800 (1,472)	33 (91)	1,313	33,300	27,700	7,272 (9,860)
瞬态(20 秒) Transient (20 sec.)	850 (1,562)		1,430	33,966	28,531	9,270 (12,569)
起动(5 秒) Starting (5 sec.)	950 (1,742)					

型别 118A/Model 118A

额定值 (见注释 1) Ratings (See NOTES 1)	等效轴功率 Equiv. Shaft		轴功率 Shaft		喷气推力 Jet Thrust	
	H.P.	kW	H.P.	kW	Lbs	N
最大连续 Max. Continuous	1,893	1,412	1,800	1,342	231	1,028

正常起飞 Normal Take-off	1,893	1,412	1,800	1,342	231	1,028
限制值(见注释 4) Limitations (See NOTES 4)						
最大涡轮 级间温度 Max. Inter-turbine Temp (ITT) °C (°F)	额定功率对应的 最高大气温度 Max. Air Temp. for Rated Power (max)	输出轴 转速 Output Shaft Speed (RPM) (max)	高压转速 H.P. Spool Speed (RPM) (max)	低压转速 L.P. Spool Speed (RPM) (max)	输出轴扭矩 Output Torque lb. ft. (Nm)	
最大起飞 Max. Take-off 正常起飞 Normal Take-off	816 (1,500)	42 (108)	1,313	33,966	28,808	8,000 (10,846)
最大连续 Max. Continuous	800 (1,472)	42 (108)	1,313	33,966	28,808	7,272 (9,860)
瞬态(20 秒) Transient (20 sec.)	850 (1,562)		1,430	33,966	28,808	9,270 (12,569)
起动(5 秒) Starting (5 sec.)	950 (1,742)					

型别 118B/Model 118B

额定值 (见注释 1) Ratings (See NOTES 1)	等效轴功率 Equiv. Shaft H.P. kW		轴功率 Shaft H.P. kW		喷气推力 Jet Thrust Lbs N	
最大连续 Max. Continuous	1,892	1,412	1,800	1,342	230	1,023
正常起飞 Normal Take-off	1,892	1,412	1,800	1,342	230	1,023
限制值(见注释 4) Limitations (See NOTES 4)						
最大涡轮 级间温度 Max. Inter-turbine Temp (ITT) °C (°F)	额定功率对应的 最高大气温度 Max. Air Temp. for Rated Power (max)	输出轴 转速 Output Shaft Speed (RPM) (max)	高压转速 H.P. Spool Speed (RPM) (max)	低压转速 L.P. Spool Speed (RPM) (max)	输出轴扭矩 Output Torque lb. ft. (Nm)	
最大起飞 Max. Take-off	816 (1,500)	45 (113)	1,313	33,966	28,808	8,000 (10,846)

正常起飞

Normal Take-off

最大连续 Max.	800 (1,472)	42 (108)	1,313	33,966	28,808	7,272 (9,860)
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Continuous

瞬态(20 秒) Transient (20 sec.)	850 (1,562)		1,430	33,966	28,808	9,270 (12,569)
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(20 sec.)

起动(5 秒)

950 (1,742)

Starting

(5 sec.)

型别 118, 118A, 118B/Model 118, 118A, 118B

燃料牌号或规格 以及添加剂/ Fuel grade or Specification and Additive	燃油类型/Fuel Type: 燃油符合现行 P&WC 规范 CPW204 及以后修订版本。参见维修手册 (第 72-00-00-00 章)。Fuels conforming to the current P&WC specifications CPW 204 and later revisions. Refer to Maintenance Manual (chapter 72-00-00).
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滑油牌号或规格/ Oil grade or specification	滑油类型/Oil Type: 批准的滑油见维护手册 (第 72-00-00 章)。Maintenance Manual (chapter 72-00-00) defines approved oils.
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温度限制/ Temperature Limits	燃油泵进口温度/Fuel Temperature Pump Inlet: 参见安装手册 Refer to Installation Manual 滑油温度/Oil Temperature: 参见安装手册 Refer to Installation Manual.
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压力限制/ Pressure Limits	燃油压力/Fuel Pressure: 参见安装手册。Refer to Installation Manual 滑油压力/Oil Pressure: 参见安装手册。Refer to Installation Manual.
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引气/Air Bleed	最大外部(高压)-10%的入口气流, 最大 33 磅/分钟 (15 公斤/分钟。) Maximum External (HP) –10% of inlet airflow up to a maximum of 33 lb/min. (15 Kg/min.).
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最大外部(低压)- 8%的入口气流。
Maximum External (LP) –8% of inlet airflow.

起动时最大引气-引气流量相当于发动机引气口直径 0.5 厘米 (0.2 英寸) 孔的流量。

Maximum During Start – Bleed flow equivalent to that obtained from 0.5 cm (0.2 in.) diameter orifice at the engine bleed port.

附件传动特性 输出轴负载/ Output Shaft Loads: 参见安装手册。See Installation Manual
/Accessory Drive
Characteristics

设备/
Equipment 批准的零件清单包含燃油泵、燃油控制单元、点火系统（不含电源）、螺旋桨超
转调节器和燃油加热器等标准设备。所需设备还包括碎屑探测器，或加拿大交通
部批准的其他金属碎屑检测设备。更多信息参见安装手册。输出驱动规格、附件
驱动、主要尺寸、重量和重心位置参见安装手册和安装图。
Fuel pump, fuel control unit, ignition system without power source, propeller overspeed
governor and fuel heater are included as standard equipment as shown in the Approved
Parts List. Required equipment also includes a chip detector, or other metallic
debris-detecting device to be approved by Transport Canada. For additional
information refer to Installation Manual. For output drive specification, accessory
drives, principal dimensions, weight and C.G. location refer to Installation Manual, and
installation drawing.

滑油箱容量		英制加仑	美国加仑
Oil Tank	升/Litres	Imperial gallons	U.S. gallons
Capacity	可使用/Usable	3.8	1.0
	总量/Total	17.7	4.7

4. 批准的技术资料/Approved Technical Documents

- TC 批准的安装手册: PW118, PW118A, PW118B
TC Approved Installation Manual: PW118, PW118A, PW118B
- TC 批准的用于生产第一台发动机的部件清单如下:
TC Approved Parts List for the first production engine as follows:
PW118: 3104700,
PW118A, PW118B: 3041200.
- 在维修手册或适航限制手册的适航限制部分中定义了 TC 批准的限寿转子部件的使用寿命。
TC Approved service life values for life limited rotor components are defined in the airworthiness
limitation section of the maintenance manual or airworthiness limitations manual as applicable.
- 在发动机或维修手册的预定检查部分中定义了 TC 批准的大修之间的发动机运行时间。
TC Approved engine operating times between overhaul are defined in the scheduled inspection section
of the engine or maintenance manual as applicable.
- 维修手册: 3034622
Maintenance Manual: 3034622
- 大修手册: 3034623

Overhaul Manual: 3034623

7. 适航限制手册: 无

Airworthiness Limitations Manual: none

5. 注释/NOTE

注释 1/NOTE 1	对于所有机型, 发动机额定值是基于干海平面静态 ICAO 标准大气条件测得, 无外部附件负载, 无引气。所引用的额定值在试验台上使用指定燃油和滑油获得, 无进气道, 而是使用安装手册中定义的排气口和进气口。 For all engine models the engine rating is based on Dry Sea Level Static ICAO Standard atmospheric conditions. No external accessory loads and no airbleed. The quoted ratings are obtainable on a test stand with the specified fuel and oil, without intake ducting and using the exhaust port and intake defined in the Installation Manual. 名义上限制为 5 分钟持续时间的发动机起飞额定值, 可以在 OEI 工况下最多运行 10 分钟, 且不会对发动机适航性产生不利影响。预计此种工作状态很少发生 (因为在起飞时发动机故障不多见), 因此对这种工作状态未规定限制或特别检查。 For all engine models take-off rating that is nominally limited to 5 minutes duration may be used for up to 10 minutes for OEI operations without adverse effects upon engine airworthiness. Such operations are anticipated on an infrequent basis (as engine failure at take-off events are uncommon) and no limits or special inspections have been imposed.				
注释 2/NOTE 2	涡轮级间温度最大限制值的批准是基于实验, 实验时使压气机涡轮导向器出口温度达到以下表格温度。 Approvals for the maximum ITT limits are based upon tests conducted with maximum gas temperature at exit of the compressor turbine nozzle guide vanes according to the following table: <table> <tr> <td>PW118</td><td>2345degF</td></tr> <tr> <td>PW118A, PW118B</td><td>2356degF</td></tr> </table>	PW118	2345degF	PW118A, PW118B	2356degF
PW118	2345degF				
PW118A, PW118B	2356degF				
注释 3/NOTE 3	保留/Reserved.				
注释 4/NOTE 4	所有发动机型号均批准有螺旋桨超转“返航”能力, 以适应螺旋桨控制故障。 超转限制见发动机安装手册操作限制章节。 The all engine models has been approved with a propeller overspeed “get-home” capability to cater for propeller control malfunctions. The Engine Installation Manual operating limits defines this overspeed limit.				
注释 5/NOTE 5	保留/Reserved.				
注释 6/NOTE 6	保留/Reserved.				
注释 7/NOTE 7	型别特征/Engine Model Characteristics				

	根据加拿大运输部接受的手册，所有型号发动机分为两个单元体。涡轮机械组件和减速齿轮箱： All engine models may be maintained, as two modules when Transport Canada accepted manuals are available: the Turbomachine Module and the Reduction Gearbox as follow: <table><tr><td>发动机型别</td><td>涡轮机械组件件号</td><td>减速齿轮箱件号</td></tr><tr><td>Engine Model</td><td><u>Turbomachine</u></td><td><u>Reduction Gearbox</u></td></tr><tr><td></td><td>Module P/N 件号</td><td>Module P/N 件号</td></tr><tr><td>PW118</td><td>3104600</td><td>3104480</td></tr><tr><td>PW118A PW118B</td><td>3041100</td><td>3104480</td></tr></table>	发动机型别	涡轮机械组件件号	减速齿轮箱件号	Engine Model	<u>Turbomachine</u>	<u>Reduction Gearbox</u>		Module P/N 件号	Module P/N 件号	PW118	3104600	3104480	PW118A PW118B	3041100	3104480
发动机型别	涡轮机械组件件号	减速齿轮箱件号														
Engine Model	<u>Turbomachine</u>	<u>Reduction Gearbox</u>														
	Module P/N 件号	Module P/N 件号														
PW118	3104600	3104480														
PW118A PW118B	3041100	3104480														
注释 8/NOTE 8	PW118 电子控制单元软件是根据 1981 年 11 月发布的 RTCA/DO178 中关键类别的要求进行设计、开发、记录和测试的。 For PW118 model the software contained in the Electronic Control Unit has been developed, documented and tested in accordance with the provisions of the critical category, of RTCA/DO178 November 1981 PW118A, PW118B 电子控制单元软件是根据 1985 年 3 月发布的 RTCA/DO178A 中关键类别第 1 级的要求进行设计、开发、记录和测试的。 The software contained in the Electronic Control Unit for the PW118, PW118A, PW118B models has been designed, developed, documented and tested in accordance with the provisions of the Critical Category, Level 1, of RTCA/DO 178A, March 1985.															
注释 9/NOTE 9	保留/Reserved.															
注释 10/NOTE 10	保留/Reserved.															
注释 11/NOTE 11	保留/Reserved.															
注释 12/NOTE 12	根据 FAR 第 33.4 的规定，发动机不得在具有标准适航证的航空器上使用，除非其持续适航文件获得到局方接受。 In accordance with the provisions of FAR Part 33.4, the engine may not be operated in an aircraft with a Standard Certificate of Airworthiness until the Instructions for Continued Airworthiness are completed and accepted by the minister. 发动机电子控制系统符合 SAE AE4L 委员会报告中定义的雷电试验要求。特定功能和安装要求参见安装手册。 The Electronic Engine Control system conforms to the lightning test defined by the SAE AE4L committee report. For specific capabilities and installation requirements refer to the Installation Manual. 所有型号发动机可接受安装 6 叶片和 4 叶片螺旋桨。 All engine models are acceptable with both 6 blade and 4 blade propeller installations.															
注释 13/NOTE 13	保留/Reserved.															

注释 14/NOTE 14	保留/Reserved.
注释 15/NOTE 15	保留/Reserved.

第3部分 数据单 (PW127J)

SECTION 3 DATA SHEET (PW127J)

1. 产品型别和批准日期/Model and Approval Date

产品型别 Model	申请日期 Application Data	批准日期 Approval Date	类别 category
PW127J	1998年11月3日 November 3, 1998	1999年1月4日批准 Approved January 4, 1999	发动机Engine

2. 认可审定基础和生产依据/ Certification Basis and Production Basis

适航标准/Airworthiness standard	1965 年 2 月 1 日起生效的 FAR 33 部, 33-1 至 33-9 修正案, 以及 1983 年 9 月 20 日加拿大运输部发送加拿大 P&WC 信中的加拿大特殊要求。 FAR Part 33 effective February 1, 1965 and Amdts 33-1 to 33-9 inclusive, including Canadian Special Requirements as contained in Transport Canada Letter to Pratt and Whitney Canada dated September 20, 1983. 当 PW127J 的进气系统符合 P&WC 安装手册中关于雪和结冰颗粒惯性分离的说明时, 发动机满足 FAR33.68 在 FAR25 附录 C 定义的结冰条件下工作的要求。PW127J 符合 FAR33.27 的要求, 不需要外部保护设备。 The PW127J meets the requirements of FAR 33.68 for operation in icing conditions as defined in FAR 25 Appendix C when the intake system conforms with the P&WC Installation Manual Instructions for inertial separation of snow and icing particles. The engine also meets the requirements of FAR 33.27 and does not require external armouring.
专用条件/ Special Conditions	无/None
等效安全/ ELOS	无/None
豁免/ Exemption	无/None
环 保 要 求 /Environmental Standards including Noise	不适用/Not applicable
生产依据/Production Basis	无/None

3. 技术特性和使用限制/Technical Characteristics and Operational Limitations

型号设计定义/Type Design Definition 型号 Type: 三轴涡桨发动机/Three spool turbo prop.
(见注释 7) /(See NOTES 7)

额定值（见注释 1）		等效轴功率		轴功率		喷气推力	
Ratings (See NOTES 1)		Equiv. Shaft		Shaft		Jet Thrust	
		H.P.	kW	H.P.	kW	Lbs	N
	最大连续	2,880	2,148	2,750	2,051	325	1,446
	Max.Continuous						
	正常起飞	2,594	1,934	2,475	1,846	297	1,321
	Normal Take-off						
限制值（见注释 1&4）							
Limitations (See NOTES 1 & 4)							
	最大涡轮 级间温度	额定功率对应的 最高大气温度	输出轴 转速	高压转速	低压转速	输出轴扭矩	
	Max. Inter-turbine Temp (ITT)	Max. Air Temp. for Rated Power	Output Shaft Speed	H.P. Spool Speed	L.P. Spool Speed	Output Torque	
	°C (°F)	(max)	(max)	(max)	(max)	lb. ft. (Nm)	
最大起飞	800 (1,472)	35 (95)	1,212	34,819	28,991	12,800 (17,354)	
Max. Take-off							
正常起飞	765 (1,409)*	35 (95)	1,212	34,400	28,030	12,800 (17,354)	
Normal Take-off							
最大连续	800 (1,472)	35 (95)	1,212	34,819	28,991	12,800 (17,354)	
Max.							
Continuous							
瞬态(20 秒)	840 (1,544)			35,440	29,575	14,440 (19,578)	
Transient							
(20 sec.)							
瞬态(5 秒)			1,440				
Transient							
(5 sec.)							
起动(5 秒)	950 (1,742)						
Starting							
(5 sec.)							
*见注释 2							
* See NOTE 2							

燃料牌号或规格 以及添加剂/ Fuel grade or Specification and Additive	燃油类型/Fuel Type: 燃油符合现行 P&WC 规范 CPW204 及以后修订版本。参见维修手册 (第 72-00-00-00 章)。Fuels conforming to the current P&WC specifications CPW 204 and later revisions. Refer to Maintenance Manual (chapter 72-00-00).
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滑油牌号或规格/ Oil grade or specification	滑油类型/Oil Type: 批准的滑油见维护手册 (第 72-00-00 章)。Maintenance Manual (chapter 72-00-00) defines approved oils.
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温度限制/ Temperature Limits	燃油泵进口温度/Fuel Temperature Pump Inlet: 参见安装手册 Refer to Installation Manual 滑油温度/Oil Temperature: 参见安装手册 Refer to Installation Manual.
压力限制/ Pressure Limits	燃油压力/Fuel Pressure: 参见安装手册。Refer to Installation Manual 滑油压力/Oil Pressure: 参见安装手册。Refer to Installation Manual.
引气/Air Bleed	最大外部(高压)-10%的入口气流, 最大 33 磅/分钟 (15 公斤/分钟。) Maximum External (HP) –10% of inlet airflow up to a maximum of 33 lb/min. (15 Kg/min.). 。最大外部(低压)- 10%的入口气流。 Maximum External (LP) –10% of inlet airflow. 起动时最大引气-引气流量相当于发动机引气口直径 0.5 厘米 (0.2 英寸) 孔的流量。 Maximum During Start – Bleed flow equivalent to that obtained from 0.5 cm (0.2 in.) diameter orifice at the engine bleed port.
附件传动特性 /Accessory Drive Characteristics	输出轴负载/ Output Shaft Loads: 参见安装手册。See Installation Manual
设备/ Equipment	批准的零件清单包含燃油泵、燃油控制单元、点火系统 (不含电源)、螺旋桨超转调节器和燃油加热器等标准设备。所需设备还包括碎屑探测器, 或加拿大交通部批准的其他金属碎屑检测设备。更多信息参见安装手册。输出驱动规格、附件驱动、主要尺寸、重量和重心位置参见安装手册和安装图。 Fuel pump, fuel control unit, ignition system without power source, propeller overspeed governor and fuel heater are included as standard equipment as shown in the Approved Parts List. Required equipment also includes a chip detector, or other metallic debris-detecting device to be approved by Transport Canada. For additional information refer to Installation Manual. For output drive specification, accessory drives, principal dimensions, weight and C.G. location refer to Installation Manual, and installation drawing.

滑油箱容量		英制加仑	美国加仑
Oil Tank	升/Litres	Imperial gallons	U.S. gallons
Capacity	可使用/Usable	8	1.6
	总量/Total	19.3	4.57
			5.72

4. 批准的技术资料/Approved Technical Documents

1. TC 批准的安装手册: ER4633

TC Approved Installation Manual: ER4633

2. TC 批准的用于生产第一台发动机的部件清单如下: 3050700

TC Approved Parts List for the first production engine as follows: 3050700

3. 在维修手册或适航限制手册的适航限制部分中定义了 TC 批准的限寿转子部件的使用寿命。

TC Approved service life values for life limited rotor components are defined in the airworthiness limitation section of the maintenance manual or airworthiness limitations manual as applicable.

4. 在发动机或维修手册的预定检查部分中定义了 TC 批准大修之间的发动机运行时间。

TC Approved engine operating times between overhaul are defined in the scheduled inspection section of the engine or maintenance manual as applicable.

5. 维修手册: 3043392

Maintenance Manual: 3043392

6. 大修手册: 3043393

Overhaul Manual: 3043393

7. 适航限制手册: 无

Airworthiness Limitations Manual: none

8. TC 批准的发动机改装服务公告: 无

TC Approved Engine Conversion Service Bulletins: 无

5. 注释/NOTE

注释 1/NOTE 1	发动机额定值是基于干海平面静态 ICAO 标准大气条件测得, 无外部附件负载, 无引气。所引用的额定值在试验台上使用指定燃油和滑油获得, 无进气道, 而是使用安装手册中定义的排气口和进气口。 The engine rating is based on Dry Sea Level Static ICAO Standard atmospheric conditions. No external accessory loads and no airbleed. The quoted ratings are obtainable on a test stand with the specified fuel and oil, without intake ducting and using the exhaust port and intake defined in the Installation Manual. 名义上限制为 5 分钟持续时间的 PW127J 发动机起飞额定值, 可以在 OEI 工况下最多运行 10 分钟, 且不会对发动机适航性产生不利影响。预计此种工作状态很少发生 (因为在起飞时发动机故障不多见), 因此对这种工作状态未规定限制或特别检查。 For the PW127J engine model take-off rating that is nominally limited to 5 minutes duration may be used for up to 10 minutes for OEI operations without adverse effects upon engine airworthiness. Such operations are anticipated on an infrequent basis (as engine failure at take-off events are uncommon) and no limits or special inspections have been imposed. PW127J 具有正常起飞功率到最大起飞功率的自动功率提升功能。正常起飞所规定的限制是为了确保在自动功率增加到最大起飞功率时不超过最大起飞限制。
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	The PW127J model includes provision for automatic power increase from Normal Take-off Power to Maximum Take-off Power. The limitations stated for Normal Take-off are to ensure that the Maximum Take-off limitations are not exceeded in the event of an automatic power increase to Maximum Take-off Power.												
注释 2/NOTE 2	正常起飞涡轮级间温度和低压轴转速限制可能随环境温度的变化而变化。 Normal Take-off ITT and LP Spool Speed limitations may vary with the ambient temperature for the PW127J。 限制曲线参见发动机安装手册。 Refer to the engine installation manual for the curves defining these limits.												
注释 3/NOTE 3	保留/Reserved.												
注释 4/NOTE 4	PW127J 发动机型号批准有螺旋桨超转“返航”能力，以适应螺旋桨控制故障。 超转限制见发动机安装手册操作限制章节。 The PW127J engine model has been approved with a propeller overspeed “get-home” capability to cater for propeller control malfunctions. The Engine Installation Manual operating limits defines this overspeed limit.												
注释 5/NOTE 5	保留/Reserved.												
注释 6/NOTE 6	保留/Reserved.												
注释 7/NOTE 7	型别特征/Engine Model Characteristics 根据加拿大运输部接受的手册，发动机分为两个单元体。涡轮机械组件和减速齿轮箱： The PW127J engine model may be maintained as two modules when Transport Canada accepted manual is available. The Turbomachine Module and the Reduction Gearbox are as follows: <table><tr><td>发动机型别</td><td>涡轮机械组件件号</td><td>减速齿轮箱件号</td></tr><tr><td>Engine Model</td><td><u>Turbomachine</u></td><td><u>Reduction Gearbox</u></td></tr><tr><td></td><td><u>Module P/N</u></td><td><u>Module P/N</u></td></tr><tr><td>PW127J</td><td>3050600</td><td>3040580</td></tr></table>	发动机型别	涡轮机械组件件号	减速齿轮箱件号	Engine Model	<u>Turbomachine</u>	<u>Reduction Gearbox</u>		<u>Module P/N</u>	<u>Module P/N</u>	PW127J	3050600	3040580
发动机型别	涡轮机械组件件号	减速齿轮箱件号											
Engine Model	<u>Turbomachine</u>	<u>Reduction Gearbox</u>											
	<u>Module P/N</u>	<u>Module P/N</u>											
PW127J	3050600	3040580											
注释 8/NOTE 8	PW127J 电子控制单元软件是根据 1985 年 3 月发布的 RTCA/DO178A 中关键类别第 1 级的要求进行设计、开发、记录和测试的。 The software contained in the Electronic Control Unit for the PW127J model has been designed, developed, documented and tested in accordance with the provisions of the Critical Category, Level 1, of RTCA/DO 178A, March 1985. PW127J发动机配备了基于软件的自动顺桨单元[AFU]，硬件等级为DAL A，按照RTCA/DO-254进行了设计、开发和测试。软件等级为DAL A，按照RTCA/DO-178C、DO-331和DO-330进行了设计、开发和测试，加载软件(BL)软件除外。加载软件(BL) 基于DO-178B研发，为前期取证项目的软件，并按照FAAAC 20-115D要求复用。 For the PW127J engine model equipped with a software based Auto-Feather Unit [AFU], the hardware												

	has been designed, developed, and tested in accordance with RTCA/DO-254 for DAL A equipment, and the software has been designed, developed, and tested in accordance with RTCA/DO-178C, DO-331, and DO-330 for Level A software, except for the Boot Loader (BL) software which was developed to DO-178B on a previous certified program and is re-used in accordance with the guidance of FAA AC 20-115D.
注释 9/NOTE 9	保留/Reserved.
注释 10/NOTE 10	保留/Reserved.
注释 11/NOTE 11	保留/Reserved.
注释 12/NOTE 12	根据 FAR 第 33.4 的规定, 发动机不得在具有标准适航证的航空器上使用, 除非其持续适航文件获得到局方接受。 In accordance with the provisions of FAR Part 33.4, the engine may not be operated in an aircraft with a Standard Certificate of Airworthiness until the Instructions for Continued Airworthiness are completed and accepted by the minister. 发动机电子控制系统符合 SAE AE4L 委员会报告中定义的雷电试验要求。特定功能和安装要求参见安装手册。 The Electronic Engine Control system conforms to the lightning test defined by the SAE AE4L committee report. For specific capabilities and installation requirements refer to the Installation Manual. PW127J 发动机可接受安装 6 叶片和 4 叶片螺旋桨。 The PW127J engine model is acceptable with both 6 blade and 4 blade propeller installations.
注释 13/NOTE 13	保留/Reserved.
注释 14/NOTE 14	保留/Reserved.
注释 15/NOTE 15	保留/Reserved.

第4部分 数据单 (PW127M)

SECTION 4 DATA SHEET (PW127M)

1. 产品型别和批准日期/Model and Approval Date

产品型别 Model	申请日期 Application Data	批准日期 Approval Date	类别 category
PW127M	2007年3月9日 9 March, 2007	2007年12月7日批准 Approved December 7, 2007	发动机Engine

2. 认可审定基础和生产依据/ Certification Basis and Production Basis

适航标准/Airworthiness standard	1965 年 2 月 1 日起生效的 FAR 33 部, 33-1 至 33-9 修正案, 以及 1983 年 9 月 20 日加拿大运输部发送加拿大 P&WC 信中的加拿大特殊要求。 FAR Part 33 effective February 1, 1965 and Amdts 33-1 to 33-9 inclusive, including Canadian Special Requirements as contained in Transport Canada Letter to Pratt and Whitney Canada dated September 20, 1983. 当 PW127M 的进气系统符合 P&WC 安装手册中关于雪和结冰颗粒惯性分离的说明时, 发动机满足 FAR33.68 在 FAR25 附录 C 定义的结冰条件下工作的要求。PW127M 符合 FAR33.27 的要求, 不需要外部保护设备。 The PW127M meets the requirements of FAR 33.68 for operation in icing conditions as defined in FAR 25 Appendix C when the intake system conforms with the P&WC Installation Manual Instructions for inertial separation of snow and icing particles. The engine also meets the requirements of FAR 33.27 and does not require external armouring.
专用条件/ Special Conditions	无/None
等效安全/ ELOS	无/None
豁免/ Exemption	无/None
环 保 要 求 /Environmental Standards	无/None
附 加 技 术 条 件 /Additional Technical Conditions	CAAC 颁发 VTC 前, TCCA 发布的所有适用的适航指令 (ADs)。 All applicable airworthiness directives (ADs) issued by the TCCA prior to issuance of the CAAC VTC. 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)

	CCAR-34 部 涡轮发动机飞机燃油排泄和排气排出物规定 CCAR Part 34 “Fuel venting and exhaust emission requirements for turbine engine powered airplanes”
	CCAR-33R1 第 33.28 条 发动机电气和电子控制系统 33.28 of CCAR-33R1, Electrical and electronic control systems
生产依据/Production Basis	无/None

3. 技术特性和使用限制/Technical Characteristics and Operational Limitations

型号设计定义/Type Design Definition 型号 Type: 三轴涡桨发动机/Three spool turbo prop.

(见注释 7) /(See NOTES 7)

额定值 (见注释 1) Ratings (See NOTES 1)	等效轴功率 Equiv. Shaft		轴功率 Shaft		喷气推力 Jet Thrust	
	H.P.	kW	H.P.	kW	Lbs	N
最大起飞 Max. Take-off	2,880	2,148	2,750	2,051	325	1,446
正常起飞 Normal Take-off	2,593	1,934	2,475	1,846	297	1,321
最大连续 Max. Continuous	2,619	1,953	2,500	1,864	299	1,330
限制值 (见注释 1&4) Limitations (See NOTES 1 & 4)						
	最大涡轮 级间温度 Max. Inter-turbine Temp (ITT) °C (°F)	额定功率对应的 最高大气温度 Max. Air Temp. for Rated Power °C (°F)	输出轴 转速 Output Shaft Speed (RPM) (max)	高压转速 H.P. Spool Speed (RPM) (max)	低压转速 L.P. Spool Speed (RPM) (max)	输出轴扭矩 Output Torque lb. ft. (Nm)
最大起飞 Max. Take-off	800 (1,472)	39 (103)	1,212	34,360	28,870	12,800 (17,354)
正常起飞 Normal Take-off	765 (1,409)*	39 (103)	1,212	33,930	28,090	12,800 (17,354)
最大连续 Max. Continuous	800 (1,472)	48 (118)	1,212	34,360	28,870	12,800 (17,354)
瞬态(20 秒) Transient (20 sec.)	840 (1,544)		1,296	35,440	29,575	14,440 (19,578)
瞬态(5 秒) Transient (5 sec.)			1,440			

起动(5 秒) 950 (1,742)

Starting

(5 sec.)

*见注释 2

* See NOTE 2

燃料牌号或规格 以及添加剂/ Fuel grade or Specification and Additive	燃油类型/Fuel Type: 燃油符合现行 P&WC 规范 CPW204 及以后修订版本。参见维修手册 (第 72-00-00-00 章)。Fuels conforming to the current P&WC specifications CPW 204 and later revisions. Refer to Maintenance Manual (chapter 72-00-00).
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滑油牌号或规格/ Oil grade or specification	滑油类型/Oil Type: 批准的滑油见维护手册 (第 72-00-00 章)。Maintenance Manual (chapter 72-00-00) defines approved oils.
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温度限制/ Temperature Limits	燃油泵进口温度/Fuel Temperature Pump Inlet: 参见安装手册 Refer to Installation Manual 滑油温度/Oil Temperature: 参见安装手册 Refer to Installation Manual.
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压力限制/ Pressure Limits	燃油压力/Fuel Pressure: 参见安装手册。Refer to Installation Manual 滑油压力/Oil Pressure: 参见安装手册。Refer to Installation Manual.
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引气/Air Bleed	最大外部(高压)-10%的入口气流, 最大 33 磅/分钟 (15 公斤/分钟)。 Maximum External (HP) –10% of inlet airflow up to a maximum of 33 lb/min. (15 Kg/min.). 最大外部(低压)- 10%的入口气流。 Maximum External (LP) –10% of inlet airflow. 起动时最大引气-引气流量相当于发动机引气口直径 0.5 厘米 (0.2 英寸) 孔的流量。 Maximum During Start – Bleed flow equivalent to that obtained from 0.5 cm (0.2 in.) diameter orifice at the engine bleed port.
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附件传动特性 /Accessory Drive Characteristics	输出轴负载/ Output Shaft Loads: 参见安装手册。See Installation Manual
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设备/ Equipment	批准的零件清单包含燃油泵、燃油控制单元、点火系统 (不含电源)、螺旋桨超转调节器和燃油加热器等标准设备。所需设备还包括碎屑探测器, 或加拿大交通部批准的其他金属碎屑检测设备。更多信息参见安装手册。输出驱动规格、附件驱动、主要尺寸、重量和重心位置参见安装手册和安装图。 Fuel pump, fuel control unit, ignition system without power source, propeller overspeed governor and fuel heater are included as standard equipment as shown in the Approved Parts List. Required equipment also includes a chip detector, or other metallic
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debris-detecting device to be approved by Transport Canada. For additional information refer to Installation Manual. For output drive specification, accessory drives, principal dimensions, weight and C.G. location refer to Installation Manual, and installation drawing.

滑油箱容量		英制加仑	美国加仑
Oil Tank	升/Litres	Imperial gallons	U.S. gallons
Capacity	可使用/Usable	8.0	1.60
	总量/Total	19.3	4.57
			2.0
			5.72

4. 批准的技术资料/Approved Technical Documents

- TC 批准的安装手册: ER6830
TC Approved Installation Manual: ER6830
- TC 批准的用于生产第一台发动机的部件清单如下: 3073453
TC Approved Parts List for the first production engine as follows: 3073453
- 在维修手册或适航限制手册的适航限制部分中定义了 TC 批准的限寿转子部件的使用寿命。
TC Approved service life values for life limited rotor components are defined in the airworthiness limitation section of the maintenance manual or airworthiness limitations manual as applicable.
- 在发动机或维修手册的预定检查部分中定义了 TC 批准大修之间的发动机运行时间。
TC Approved engine operating times between overhaul are defined in the scheduled inspection section of the engine or maintenance manual as applicable.
- 维修手册: 3037332
Maintenance Manual: 3037332
- 大修手册: 3037333
Overhaul Manual: 3037333
- 适航限制手册: 无
Airworthiness Limitations Manual: none
- TC 批准的发动机改装服务公告: SB21859
TC Approved Engine Conversion Service Bulletins: SB21859

5. 注释/NOTE

注释 1/NOTE 1	发动机额定值是基于干海平面静态 ICAO 标准大气条件测得, 无外部附件负载, 无引气。所引用的额定值在试验台上使用指定燃油和滑油获得, 无进气道, 而是使用安装手册中定义的排气口和
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	进气口。 The engine rating is based on Dry Sea Level Static ICAO Standard atmospheric conditions. No external accessory loads and no airbleed. The quoted ratings are obtainable on a test stand with the specified fuel and oil, without intake ducting and using the exhaust port and intake defined in the Installation Manual. 名义上限制为 5 分钟持续时间的 PW127M 发动机起飞额定值，可以在 OEI 工况下最多运行 10 分钟，且不会对发动机适航性产生不利影响。预计此种工作状态很少发生（因为在起飞时发动机故障不多见），因此对这种工作状态未规定限制或特别检查。 For PW127M engine model take-off rating that is nominally limited to 5 minutes duration may be used for up to 10 minutes for OEI operations without adverse effects upon engine airworthiness. Such operations are anticipated on an infrequent basis (as engine failure at take-off events are uncommon) and no limits or special inspections have been imposed. PW127M 具有正常起飞功率到最大起飞功率的自动功率提升功能。正常起飞所规定的限制是为了确保在自动功率增加到最大起飞功率时不超过最大起飞限制。 PW127M includes provision for automatic power increase from Normal Take-off Power to Maximum Take-off Power. The limitations stated for Normal Take-off are to ensure that the Maximum Take-off limitations are not exceeded in the event of an automatic power increase to Maximum Take-off Power.
注释 2/NOTE 2	正常起飞涡轮级间温度和低压轴转速限制可能随环境温度的变化而变化。 Normal Take-off ITT and LP Spool Speed limitations may vary with the ambient temperature for PW127M. 限制曲线参见发动机安装手册。 Refer to the engine installation manual for the curves defining these limits.
注释 3/NOTE 3	保留/Reserved.
注释 4/NOTE 4	PW127M 发动机型号批准有螺旋桨超转“返航”能力，以适应螺旋桨控制故障。 超转限制见发动机安装手册操作限制章节。 The PW127M engine model has been approved with a propeller overspeed “get-home” capability to cater for propeller control malfunctions. The Engine Installation Manual operating limits defines this overspeed limit.
注释 5/NOTE 5	保留/Reserved.
注释 6/NOTE 6	保留/Reserved.
注释 7/NOTE 7	型别特征/Engine Model Characteristics 根据加拿大运输部接受的手册，发动机分为两个单元体。涡轮机械组件和减速齿轮箱： PW127M engine may be maintained as two modules when Transport Canada accepted manual is available. The Turbomachine Module and the Reduction Gearbox are as follows:

	发动机型别 涡轮机械组件件号 减速齿轮箱件号 Engine Model <u>Turbomachine</u> <u>Reduction Gearbox</u> <u>Module P/N</u> <u>Module P/N</u> PW127M 3047500 3039380
注释 8/NOTE 8	PW127M 软件是在 PW127F 软件基础上更改的。更改是根据 1992 年 12 月发布的 RTCA/DO178B 中 A 级的要求进行设计、开发、记录和测试的。 The PW127M software is modification of the PW127F software. The modifications have been designed, developed, documented and tested in accordance with the provisions of the Level A of RTCA/DO 178B, December 1992. PW127M 发动机配备了基于软件的自动顺桨单元[AFU], 硬件等级为DAL A, 按照RTCA/DO-254 进行了设计、开发和测试。软件等级为DAL A, 按照RTCA/DO-178C、DO-331和DO-330进行了设计、开发和测试, 加载软件(BL)软件除外。加载软件(BL) 基于DO-178B研发, 为前期取证项目的软件, 并按照FAA AC 20-115D要求复用。 For the PW127M engine model equipped with a software based Auto-Feather Unit [AFU], the hardware has been designed, developed, and tested in accordance with RTCA/DO-254 for DAL A equipment, and the software has been designed, developed, and tested in accordance with RTCA/DO-178C, DO-331, and DO-330 for Level A software, except for the Boot Loader (BL) software which was developed to DO-178B on a previous certified program and is re-used in accordance with the guidance of FAA AC 20-115D.
注释 9/NOTE 9	保留/Reserved.
注释 10/NOTE 10	保留/Reserved.
注释 11/NOTE 11	保留/Reserved.
注释 12/NOTE 12	根据 FAR 第 33.4 的规定, 发动机不得在具有标准适航证的航空器上使用, 除非其持续适航文件获得到局方接受。 In accordance with the provisions of FAR Part 33.4, the engine may not be operated in an aircraft with a Standard Certificate of Airworthiness until the Instructions for Continued Airworthiness are completed and accepted by the minister. 发动机电子控制系统符合 SAE AE4L 委员会报告中规定的雷电试验要求。具体功能和安装要求请参见安装手册。 The Electronic Engine Control system conforms to the lightning test defined by the SAE AE4L committee report. For specific capabilities and installation requirements refer to the Installation Manual. PW127M 发动机仅允许安装 6 片螺旋桨。 The PW127M engine is acceptable with 6 blade propeller installations only.
注释 13/NOTE 13	保留/Reserved.

注释 14/NOTE 14	保留/Reserved.
注释 15/NOTE 15	保留/Reserved.
注释 16/NOTE 16	保留/Reserved.

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