

型号认可证数据单

TYPE VALIDATION CERTIFICATE DATA SHEET

编号/No: VTC0068E

版次/Revision: 0

型号/Type:

PW300 系列发动机

PW306A PW305

PW306B PW305A

PW306C PW305B

批准人/Approved By:

徐青松

日期/Date: 2009-12-17

本数据单是型号认可证(编号: VTC0068E)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: VTC0068E), 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:

Pratt & Whitney Canada Corp.

1000 Marie-Victorin

Longueuil, Quebec Canada J4G 1A1

有效页清单/List of effective pages :

页数/ Pages	1	2	3	4	5	6	7	8	9	10	11				
版次/Revision	0	0	0	0	0	0	0	0	0	0	0				

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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	编号:VTC0068E; 版次: 0; 颁发日期: 2009年12月17日; No.VTC0068E; Revision 0; Date of Issue : 2009-12-17	编号: E-22; 版次: 11; 颁发日期: 2006年9月26日 No.E-22, Revision 11, Date of Issue: September 26, 2006
历史 History	无	无

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: 加拿大运输部/Transport Canada

4. 型号合格证持有人/ Type Certificate Holder: Pratt & Whitney Canada Corp.
Address: 1000 Marie-Victorin, Longueuil, Quebec Canada J4G 1A1

5. 制造商/Manufacturer: Pratt & Whitney Canada Corp.

6. ETOPS: 不适用 /NA

7. CAAC专用要求/CAAC Special Requirements: 满足国标GB6 537-2006燃油牌号的要求/Compliance with requirement of
GB6537-2006

第2部分/Section 2

A. 审定基础/Certification Basis

1. 适航标准/ Airworthiness Standards:

- a) 1987年1月1日版生效的加拿大适航手册533章第1次更改（相当于美国14 FAR 33部第11修正案，1986年3月25日生效）；
Canadian Airworthiness Manual, Chapter 533 change 1, dated 1 January, 1987. This is equivalent to FAR Part 33, Amendment 11, dated 25 March 1986.
- b) 附加适航要求533.101 “电子发动机控制系统”
Additional Airworthiness Requirements 533.101 “Electronic Engine Control Systems”.
- c) PW306系列发动机满足JAR-E第7次更改，其要求构成了上述条款之外的审定基础。
The PW306 series engines have been shown to meet the requirements of JAR-E. Change 7, to the extent that they differ from or are additional to the above and form part of the basis of certification.
- d) PW306系列发动机除了满足加拿大适航手册533.77外，还满足CSR 533.76吞鸟条款，CSR 533.77吞冰条款和CSR 533.78吞水和冰雹条款。
The PW306 series engines in addition to complying with 533.77 of the Canadian Airworthiness Manual also comply with CSR 533.76 for Bird Ingestion, CSR 533.77 for Ice Ingestion, and CSR 533.78 for Water and Hail Ingestion.
- e) 对于发动机燃气排放，符合加拿大适航手册516 B分章第5次更改。
For engine gaseous emissions: Canadian Airworthiness Manual 516 subchapter B at change 516-05.

2. 专用条件/ Special Conditions (SC): 无/ none

3. 等效安全项目/ Equivalent Safety Findings (ESF): 无/n one

4. 偏离/Deviations: 无/none

5. 环境标准/Environmental Standards: 无/none

6. 生产基础/Production Basis: 生产许可证4-58/ Production Certificate 4-58.

B. 技术特性/Technical Characteristics

PW305型发动机

型号PW305/MODEL PW305				1990年8月30日批准/Approved August 30, 1990		
类型/Type	双转子涡轮风扇发动机/Twin spool front fan, jet propulsion gas turbine					
额定值（见注1&5） Ratings (See Note 1&5)		推力/Jet Thrust daNlb		环境限制/Ambient Limit ℃°F		测量的涡轮间 温度/Measured Interturbine Temperature(℃)
	最大起飞 /Maximum Take-off	2324	5225	22	71.6	785
	名义起飞 /Normal Take-off	2324	5225	15	59	760

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	最大连续/ Maximum Continuous	2112	4750	19.4	66.9	785
	启动/Starting					680
发动机转速 /Engine Speed	最大转速/ Maximum RPM	N ₁ 10820 (102%) N ₂ 27469 (102%)				

PW305A型发动机

型号PW305A/MODEL PW305A			1992年11月23日批准/Approved November 23, 1992			
类型/Type	双转子涡轮风扇发动机/Twin spool front fan, jet propulsion gas turbine					
额定值（见注 1&5） Ratings (See Note 1&5)		推力/Jet Thrust daNlb		环境限制/Ambient Limit ℃°F		测量的涡轮间 温度/Measured Interturbine Temperature(℃)
	最大起飞 /Maximum Take-off	2081	4679	33.9	93	785
	名义起飞 /Normal Take-off	2081	4679	26.6	79.8	760
	最大连续/ Maximum Continuous	2081	4679	20.8	69.4	785
	启动/Starting					950
发动机转速 /Engine Speed	最大转速/ Maximum RPM	N ₁ 10820 (102%) N ₂ 27469 (102%)				
	最小飞行慢车 转速/Minimum Flight Idle RPM	N ₂ 17500 (65%)				

PW305B型发动机

型号PW305B/MODEL PW305B				1993年1月8日批准/Approved January 8, 1993		
类型/Type	双转子涡轮风扇发动机/Twin spool front fan, jet propulsion gas turbine					
额定值（见注 1&5） Ratings (See Note 1&5)		推力/Jet Thrust daNlb		环境限制/Ambient Limit ℃°F		测量的涡轮间 温度/Measured Interturbine Temperature(℃)
	最大起飞 /Maximum Take-off	2342	5266	23.5	74.3	785
	名义起飞 /Normal Take-off	2315	5204	15	59	760

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	最大连续/ Maximum Continuous	1994	4483	27.5	81.5	785
	启动/Starting					680
发动机转速 /Engine Speed	最大转速/ Maximum RPM	N ₁ 10820 (102%) N ₂ 27469 (102%)				
	最小飞行慢车 转速/Minimum Flight Idle RPM	N ₂ 17500 (65%)				

PW306A型发动机

型号PW306A/MODEL PW306A				1995年11月22日批准/Approved November 22, 1995		
类型/Type	双转子涡轮风扇发动机/Twin spool front fan, jet propulsion gas turbine					
额定值（见注 1&5） Ratings (See Note 1&5)		推力/Jet Thrust daNlb		环境限制/Ambient Limit ℃°F		测量的涡轮间 温度/Measured Interturbine Temperature(℃)
	最大起飞 /Maximum Take-off	2687	6040	31.7	89	920
	名义起飞 /Normal Take-off	2687	6040	26.7	80	890
	最大连续/ Maximum Continuous	2687	6040	26.7	80	920
	启动/Starting					950
发动机转速 /Engine Speed	最大转速/ Maximum RPM	N ₁ 11138 (105%) N ₂ 28277 (105%)				
	最小飞行慢车 转速/Minimum Flight Idle RPM	N ₂ 17500 (65%)				

PW306B型发动机

型号PW306B/MODEL PW306B				1998年12月21日批准/Approved December 2, 1998		
类型/Type	双转子涡轮风扇发动机/Twin spool front fan, jet propulsion gas turbine					
额定值（见注 1&9） Ratings (See Note 1&9)		推力/Jet Thrust daNlb		环境限制/Ambient Limit ℃°F		测量的涡轮间 温度/Measured Interturbine Temperature(℃)
	起飞/ Take-off	2691	6050	35	95	920
	最大连续/	2691	6050	35	95	920

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	Maximum Continuous					
	启动/Starting					950
发动机转速 /Engine Speed	最大转速/ Maximum RPM	N ₁ 11138 (105%) N ₂ 28277 (105%)				
	最小飞行慢车 转速/Minimum Flight Idle RPM	N ₂ 17500 (65%)				

PW306C型发动机

型号PW306C/MODEL PW306C				2002年6月21日批准/Approved June 21, 2002		
类型/Type	双转子涡轮风扇发动机/Twin spool front fan, jet propulsion gas turbine					
额定值（见注1） Ratings (See Note 1)		推力/Jet Thrust daNlb		环境限制/Ambient Limit ℃°F		测量的涡轮间 温度/Measured Interturbine Temperature(℃)
	起飞/ Take-off	2567	5770	33	91.4	920
	最大连续/ Maximum Continuous	2567	5770	33	91.4	920
	启动/Starting					950
发动机转速 /Engine Speed	最大转速/ Maximum RPM	N ₁ 11138 (105%) N ₂ 28277 (105%)				
	最小飞行慢车 转速/Minimum Flight Idle RPM	N ₂ 17500 (65%)				

与各发动机相关数据 (另有说明除外) /Data pertinent to all models except as indicated

引气/Air Bleed 参见安装手册/Refer to Installation Manual.

燃油压力/Fuel Pressure 参见安装手册/Refer to Installation Manual.

燃油温度/Fuel Temperature 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.

滑油温度/Oil Temperature 参见安装手册/Refer to Installation Manual.

燃油牌号/Fuel Type PW306A发动机/ Model PW306A

参见维修手册30B1412/ Refer to Maintenance Manual 30B1412

PW306B发动机/ Model PW306B

参见源数据手册30B2972或维修手册30B4132/ Refer to source data manual 30B2972 or
Maintenance Manual 30B4132

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	PW306C发动机/ Model PW306C		
	参见维修手册30B4422/ Refer to Maintenance Manual 30B4422		
	上述发动机满足国标GB6537-2006燃油牌号的要求。		
滑油牌号/Oil Type	PW306A发动机/ Model PW306A		
	参见维修手册30B1412/ Refer to Maintenance Manual 30B1412		
	PW306B发动机/ Model PW306B		
	参见源数据手册30B2972或维修手册30B4132/ Refer to source data manual 30B2972 or Maintenance Manual 30B4132		
	PW306C发动机/ Model PW306C		
	参见维修手册30B4422/ Refer to Maintenance Manual 30B4422		
滑油量/Oil Capacity	升/Litres	英加仑/Imp.gallons	美加仑/U.S. gallons
	PW306A, PW306B and PW306C发动机:		
	总共/Total:	8.0	1.76
			2.11
	可用/Useable:	5.0	1.10
			1.32
设备/Equipment (见注6/See Note 6)	燃油泵，生态油箱，燃油滤，电子燃油迫近旁通指示器，制系统（双通道全权限数字电子控制），燃油流量计。所要求的设备还包括碎片探测器，或者其它的被加拿大运输部批准的金属碎片探测装置。额外的信息参见安装手册。至于输出驱动说明书，附件传动，名义尺寸，重量，惯性和重心等信息，也参见安装手册。 Fuel pump, ecology tank, fuel filter and electrical fuel impending bypass indicator, control system-dual channel FEDEC with dedicated power source, and provision for fuel flowmeter, are standard equipment as shown in the Engine Assembly 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 the Installation Manual. For output drive specification, accessory drives, principle dimensions, weights, inertias and center of gravity locations, refer to the Installation Manual.		
审定基础/ Basis of Certification (见注3, 4, 6, 7和10/ See Notes 3, 4, 6, 7 and 19)	a) 1987年1月1日版生效的加拿大适航手册533章第1次更改（相当于美国14 FAR 33部第11修正案，1986年3月25日生效）/ Canadian Airworthiness Manual, Chapter 533 change 1, dated 1 January, 1987. This is equivalent to FAR Part 33, Amendment 11, dated 25 March 1986. b) 附加适航要求533.101 “电子发动机控制系统” / Additional Airworthiness Requirements		

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533.101 “Electronic Engine Control Systems”.

c) PW306系列发动机满足JAR-E第7次更改，其要求构成了上述条款之外的审定基础/
The PW306 series engines have been shown to meet the requirements of JAR-E. Change 7, to the extent that they differ from or are additional to the above and form part of the basis of certification.

d) PW306系列发动机除了满足加拿大适航手册533.77外，还满足CSR 533.76吞鸟条款，CSR 533.77吞冰条款和CSR 533.78吞水和冰雹条款/ The PW306 series engines in addition to complying with 533.77 of the Canadian Airworthiness Manual also comply with CSR 533.76 for Bird Ingestion, CSR 533.77 for Ice Ingestion, and CSR 533.78 for Water and Hail Ingestion.

e) 对于发动机燃气排放，符合加拿大适航手册516 B分章第5次更改/ For engine gaseous emissions: Canadian Airworthiness Manual 516 subchapter B at change 516-05.

型号合格证的申请日期/Application date for Type Certificate:

PW306A 1994年2月14日/14 February 1994

PW306B 1997年3月14日/14 March 1997

PW306C 2000年8月29日/29 August 2000

批准的出版物

a) 加拿大运输部批准的PW306A安装手册/ Transport Canada approved PW306A Installation Manual.

Approved

Publications

加拿大运输部批准的PW306B安装手册/ Transport Canada approved PW306B Installation Manual.

加拿大运输部批准的PW306C安装手册/ Transport Canada approved PW306C Installation Manual.

b) 加拿大运输部批准的零部件表单/ Transport Canada approved Parts List No:

31B5180 for PW306A

30B3100 for PW306B

30B4258 for PW306C

c) 加拿大运输部批准的维修手册/ Transport Canada approved Maintenance Manual

P/N 30B1412 for PW306A

P/N 30B4132 for PW306B

P/N 30B4422 for PW306C

关于PW306B的维修源数据P/N 30B2972只对航空器制造商公布，且合成为航空器维修手册，现在被PW306B维修手册取代/ Maintenance Source Data P/N 30B2972 for the PW306B was issued only to aircraft manufacture to be incorporated into the aircraft maintenance manual, and is now superseded by PW306B Maintenance Manual.

d) 加拿大运输部批准的大修手册/ Transport Canada approved Overhaul Manual

P/N 30B1413 for PW306A

P/N 30B2973 for PW306B

P/N 30B4423 for PW306C

e) 加拿大运输部批准的有限寿命转子零件的服务寿命值定义在每部维修手册的适航限制部分（见注11）/ Transport Canada approved service life values for life limited rotor components are defined in the airworthiness limitations section of each Maintenance Manual (See Note 11).

f) 加拿大运输部批准的大修和热端部件检查之间的发动机工作时间间隔定义在维修手册的第5章/ Transport Canada approved engine operating times between overhaul (TBO) and Hot Section Inspection intervals are defined in Chapter 5 of the Maintenance Manual.

g) 加拿大运输部批准的全权限数字电子控制界面控制文件/ Transport Canada Approved FEDEC Interface Control Document:

ER 4307 for PW306A

ER 4607 for PW306B

ER 5286 for PW306C

h) 加拿大运输部批准的发动机变化服务公告/ Transport Canada Approved Engine Conversion Service Bulletins:

无/ NA

注1/Note 1

发动机等级分类基于干海平面静态 ICAO标准的大气环境，不存在外部附加载荷和引气。等级分类可以通过指定的滑油和燃油条件下试验得到，同时试验中进气和排气管道在安装在手册中也有明确规定。

The engine ratings are based on dry sea level static ICAO standard atmospheric conditions, with no external accessory loads and no airbleed. The quoted ratings are obtainable on a test stand with the specified fuel and oil, and using the exhaust duct and intake bellmouth specified

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in the Installation Manual.

注2/Note 2

保留/ Reserved

注3/Note 3

PW306系列发动机仅批准为多发安装/ The PW306 series engine models are approved for multiple engine installations only.

注4/Note 4

PW306系列发动机满足加拿大运输部和美国联邦航空局对于结冰条件下的运行规定。这些发动机也满足适航手册533.27的规定，因此不需要外部防护罩。

The PW306 series engine meet Transport Canada and FAA requirements for operation in icing conditions. These models also meet requirements of Airworthiness Manual 533.27 and therefore do not require external armouring.

注5/Note 5

PW306A发动机包含自动功率提升功能。对于名义起飞的限制旨在保证自动功率提升至最大起飞功率情况下不会超过最大起飞限制。参见安装手册表2-1/The PW306A include provision for automatic power increase. 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. Refer to Installation Manual, Table 2-1.

注6/Note 6

PW306A, PW306B, PW306C发动机/ Models PW306A, PW306B, and PW306C

高强度辐射场和闪电防护、安装要求在安装手册中被提供。

HIRF and Lightning conformance and installation requirements refer to the Installation Manual.

注7/Note 7

PW306A, PW306B, PW306C发动机/ Models PW306A, PW306B, and PW306C

电子发动机控制软件的设计、研发、测试和说明符合关键类别RTCA/DO178B中A级的条款要求。

The software contained in the Electronic Engine Control has been designed, developed, tested and documented in accordance with the provisions of the Critical Category, Level A of RTCA/DO178B.

- 注8/Note 8 发动机材料单中并不包含推力换向器。关于推力换向器的安装要求见安装手册。
The engine bill of material does not include a thrust reverser. Considerations for the installation of a thrust reverser are contained in the Installation manual.
- 注9/Note 9 PW306B和PW306C发动机可以在TLD原则下出现特定全权限数字电子控制错误时进行操作。关于航空器的考虑包含在安装手册中，且时间限制包含在维修手册的适航限制部分（见注11）/ The PW306B and PW306C engines can be operated with certain detected FADEC faults in accordance with TLD policy. Aircraft considerations are contained in the Installation Manual, and the time limits are contained in the Airworthiness Limitations Section of the Maintenance Manual (See Note 11).
- 注10/Note 10 在制造每台发动机时，均考虑了加拿大适航手册AWM 516 B分章第5次修改的排放要求（各种术语已被修订）。所有发动机均满足FAR 34 第3修正案的要求/ For engine gaseous emissions at the time of manufacture of each engine, AWM 516 subchapter B at change 516-05 prescribes the limits. (Previous nomenclature have been revised). All engines are also shown to comply with FAR 34 at Amendment 34-3 irrespective of effectivity date.
- 注11/Note 11 PW306B发动机有限寿命零件和有限时间签派限制最初包含在适航限制手册P/N 30B2978中。这些被批准的限制现在包含在维修手册P/N 30B4132的适航限制章节/ The PW306B life limited parts and time limited dispatch limits were originally contained in P/N 30B2978 Airworthiness Limitations Manual. These approved limits are now contained in the Airworthiness Limitation Section of the Maintenance Manual P/N 30B4132.

结束

END