AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

TYPE CERTIFICATE DATA SHEET Nº EM-2003T04

Type Certificate Holder:

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CANADA

EM-2003T04-01

Sheet 01

PRATT & WHITNEY

PW307A, PW308A, PW308C

May 2007

Engines of models described herein conforming with this data sheet, which is part of Type Certificate No. 2003T04, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Brazilian Aeronautical Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other instructions.

MODEL

PW307A, PW308A, PW308C.

TYPE

Twin spool turbofan with a low compressor consisting of a single-stage fan, a high compressor consisting of four axial stages and one centrifugal stage, annular combustor, two-stage high pressure turbine, and three-stage low pressure turbine.

RATINGS
(See Note 4)

kN (lbf)	PW307A	PW308A	PW308C
Maximum continuous	28.48 (6 405)	30.71 (6 904)	31.12 (6 998)
Normal takeoff (5 min)	28.48 (6 405)	30.71 (6 904)	31.12 (6 998)
Maximum takeoff (5 min; see Note 01)	#	#	31.14 (7 002)

Legend: "--" same as preceding model; "#" not applicable

ENGINE CONTROL SYSTEM Dual channel full authority digital engine control (FADEC).

FUEL TYPE Fuels conforming to the specifications listed in the applicable P&WC Maintenance Manual.

OIL LUBRICATION Oils conforming to the specifications listed in the applicable P&WC Maintenance Manual.

TEMPERATURE LIMITS (See Note 1) For fuel and oil temperature limits, see Notes 6 and 7.

PRESSURE LIMITS For fuel and oil pressures, see Notes 6 and 7.

		PW307A	PW308A	PW308C
PRINCIPAL DIMENSIONS	Length, cm (in.)	218.49 (86.00)	213.9 (84.2)	--
	Maximum radius, cm (in.)	129.90 (51.14)	--	--
WEIGHT (DRY)	Maximum (includes basic engine; no optional equipment) kg (lb).	551.1 (1 215)	617.8 (1362.0)	623.5 (1374.6)
CENTER OF GRAVITY (DRY WEIGHT)	Forward of mount plane, cm (in.)	-36.2 (-14.2)	-42.6 (-16.8)	-42.3 (-16.6)
	Below engine centerline, cm (in.)	5.6 (2.2)	5.4 (2.1)	5.9 (2.3)
	Right of engine centerline, cm (in.)	2.5 (1.0)	0.0 (0.0)	-0.8 (-0.3)

AIR BLEED Refer to section 2 of the applicable P&WC Installation Manual.

IMPORT REQUIREMENTS Each engine imported separately and/or spare parts must be accompanied by an Airworthiness Certificate for Export and/or an Airworthiness Approval Tag, respectively, issued by Transport Canada (or a third country authority, in case of used engine imported from such country) attesting that the particular engine and/or parts were submitted to the governmental quality control before delivery and are in conformity with the ANAC approved type design. The ANAC type design corresponds to the FAA approved type design, as stated in ANAC report V33-0850-00 dated 11 July 2003 or further revisions.

CERTIFICATION BASIS

RBHA 33 corresponding to FAR 33, including Amendments 33-1 through 33-20 effective on 26 March 1998.
RBHA 34 corresponding to FAR 34, including Amendments 34-1 through 34-3 effective on 03 Fevereiro 1999.
FAA Type Certificate No. E00065NE and No. E00071NE; ANAC Type Certificate No. 2003T04.

Model	Application	Issued TC
PW308C	17 April 2003	18 July 2003
PW308A	11 July 2003	18 July 2003
PW307A	26 March 2007	30 May 2007

NOTES:

NOTE 1 Engine interturbine temperature limits °C (°F)

	PW307A	PW308A	PW308C
Maximum continuous	920 (1 688)	825 (1 517)	860 (1 580)
Normal takeoff (5 min)	920 (1 688)	875 (1 607)	--
Maximum takeoff (5 min)	#	#	875 (1 607)
Starting (5 sec)	950 (1 742)	950 (1 742)	--

NOTE 2 Engine speed limits rpm

	PW307A	PW308A	PW308C
Maximum steady state low rotor	11 110	10 608	10 660
Maximum steady state high rotor	28 500	27 048	27 316
Minimum flight idle speed (corrected)	17 100	16 657	--

NOTE 3 Ambient temperature limits °C (°F)

	PW307A	PW308A	PW308C
Maximum continuous	33.4 (92.1)	28 (82.4)	32 (89.6)
Normal takeoff (5 min)	33.4 (92.1)	37 (98.6)	32 (89.6)
Maximum takeoff (5 min)	#	#	38 (100.4)

NOTE 4 The engine ratings are based on dry static sea level ICAO conditions, with no accessory loads or air bleed. The quoted ratings are obtainable on a test stand with the specified fuel and oil, and using the engine intake and exhaust specified in the applicable P&WC Installation Manual.

NOTE 5 Engine air bleed limits

Refer to Section 2 of the applicable P&WC Installation Manual.

NOTE 6 Engine oil temperature/pressure limits and capacity

Oil temperature and pressure: Refer to Section 2 of the applicable P&WC Installation Manual.
Oil capacity: Refer to Section 8 of the applicable P&WC Installation Manual.

NOTE 7 Engine fuel limits

Fuel pressure: Refer to Section 6 of the applicable P&WC Installation Manual.
Fuel temperature: Refer to Section 6 of the applicable P&WC Installation Manual.
Viscosity: Maximum for operation equals 12 centistokes.

NOTE 8 Accessory drives

Drive	Rotation (*)	Speed Ratio to Turbine Shaft	Torque N.m (lbf.in) Continuous	Torque N.m (lbf.in) Static	Maximum Overhang N.m (in.lbf)
PW307A					
High pressure rotor					
Starter	CW	0.426	184.6 (1 632)	372.9 (3 300)	73.5 (650)
DC generator	CW	0.594	19.4/13.9 (172/1632)	259.9 (2 300)	28.3 (250)
Hydraulic pump (Front)	CW	0.259	3.39/7.35 (30/65)	169.5 (1 500)	16.9 (150)
Hydraulic pump (Rear)	CW	0.263	3.39/7.35 (30/65)	169.5 (1 500)	16.9 (150)
Aircraft PMA	CW	0.698	0.52 (4.6)	0	0.9 (8)

NOTE 8 (Cont.)

Drive	Rotation (*)	Speed Ratio to Turbine Shaft	Torque N.m (lbf.in) Continuous	Static	Maximum Overhang N.m (in.lbf)
PW308A					
High pressure rotor					
Starter	CW	0.45	182.4 (1 614)	508.4 (4 500)	45.2 (400)
AC generator	CW	0.52	47/28.8 (416/255)	316.4 (2 800)	50.8 (450)
Hydraulic pump (R)	CW	0.27	16.6/11.6 (147/103)	203.4 (1 800)	10.2 (90)
PW308C					
High pressure rotor					
Starter	CW	0.45	190.9 (1 690)	508.4 (4 500)	45.2 (400)
DC generator	CCW	0.47	22.6 (200)	248.6 (2 200)	33.9 (300)
Hydraulic pump	CCW	0.36	14.1 (125)	113.0 (1 000)	10.2 (90)
Opt. DC generator	CCW	0.37	22.6 (200)	248.6 (2 200)	33.9 (300)
Opt. Hydraulic pump	CCW	0.37	14.1 (125)	248.6 (2 200)	33.9 (300)

*****Direction of shaft rotation facing accessory pad; CW = Clockwise; CCW = Counter-Clockwise.

Total accessory power limit is dependent on high rotor speed, operating altitude, and engine bleed flow. Maximum continuous hydraulic pump, AC generator, and DC generator torque are dependent on N2 rotor speed. Refer to the applicable Installation Manual and Installation Drawing.

NOTE 9

The PW307 and PW308 series engines are approved for multiple-engine installations only.

NOTE 10

The PW307 and PW308 series engines meet Transport Canada Civil Aviation and Brazilian equivalent requirements for operation in icing conditions. These engines also meet the requirements of Canadian Airworthiness Manual Chapter 533.27 and do not require external armouring.

NOTE 11

Life limits for critical rotating components are published in the Airworthiness Limitations section of each Maintenance Manual.

NOTE 12

The recommended engine operating time between overhauls and hot section inspections intervals are published in Chapter 5 of each Maintenance Manual.

NOTE 13 All models meet fuel-venting requirements of RBHA 34, which endorses the FAR Part 34. The PW307 and PW308 engine models also comply with FAR 34 Amendment 3 for exhaust emissions.

NOTE 14 The PW308C engine includes provision for automatic power increase to Maximum Take-off. For this engine, the limitations for normal takeoff are to ensure that the maximum takeoff limitations are not exceeded in the event of an automatic power increase to maximum takeoff thrust. Refer to Table 2-1 in the PW308C Installation Manual.

NOTE 15 The software contained in the electronic engine control system for the PW307 and PW308 series engines has been designed, developed, tested, and documented in accordance with the provisions of Critical Category Level A of RTCA/DO178B.

NOTE 16 The PW308C engine can be operated with certain detected FADEC faults in accordance with TLD policy. Aircraft considerations are contained in the Installation Manual, and time limits are contained in the Airworthiness Limitations section of the Maintenance Manual.

NOTE 17 The PW307 and PW308 series engines bill of material does not include a thrust reverser. Considerations for the installation of a thrust reverser are contained in the Installation Manual.

NOTE 18 HIRF and Lightning conformance and installation requirements are provided in the applicable P&WC Installation Manual.

NOTE 19 Prior to issue of Transport Canada-approved Overhaul Manual for the engine model, overhaul is not permitted. Overhauls are permitted for the PW308C engine in accordance with Transport Canada-approved Overhaul Manual, part number 30C3883; for the PW308A engine in accordance with Transport Canada-approved Overhaul Manual, part number 3043623; and, for the PW307A engine in accordance with Transport Canada-approved Overhaul Manual, part number 30P0423.

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