

U. S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E00064EN	TCDS NUMBER E00064EN Revision 2 DATE: Nov. 24, 2006 PRATT & WHITNEY MODELS: PW6000 Series: PW6122A PW6124A
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Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E00064EN) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER: Pratt & Whitney Division
 United Technologies Corporation
 East Hartford, CT 06108

TYPE	Axial-airflow, dual-spool, turbofan engine, single stage fan, four-stage low-pressure compressor, six-stage high-pressure compressor, annular combustor, single-stage high-pressure turbine, three-stage low-pressure turbine.
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MODELS:	PW6122A	PW6124A
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RATINGS (See NOTE 5)	PW6122A	PW6124A
SEA LEVEL STATIC THRUST (lb.)		
Maximum Continuous	20,300	20,900
Takeoff, (5 minutes)	22,100	23,800
(See NOTE 1)		

COMPONENTS/CONFIGURATION	For information regarding components and engine configuration, refer to the approved parts list:	PW6122A	P/N 5400000-04
		PW6124A:	P/N 5400000-03

PRINCIPAL DIMENSIONS (Room temperature)	PW6122A	PW6124A
Length (in.; flange to flange)	108.208 ± 0.037	--
Nominal diameter (in.; fan case)	62.400	--
Maximum radial projection (in.) (at drain mast)	45.419	--
CENTER OF GRAVITY (in.)		
Axial engine station	113.160 ± 1.00	--
Vertical: Relative to engine center		
Line	-2.85 ± -0.50	--
Lateral: Relative to centerline	0.81 ± -0.50	--

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Page No.	1	2	3	4	<u>5</u>
Rev. No.	2	2	2	2	2

LEGEND: "--" INDICATES "SAME AS PRECEDING MODEL"
 "-.-" NOT APPLICABLE
 NOTE: SIGNIFICANT CHANGES ARE BLACK-LINED IN THE LEFT MARGIN.

MODELS: (cont...)	PW6122A	PW6124A
WEIGHT * (DRY) Basic engine (lbs) (shall not exceed dry weight) *Weight of basic engine includes P&W supplied engine build-up (EBU) components. The following customer supplied equipment are not part of the basic engine weight: integrated drive generator (IDG); hydraulic pump, filter and pressure switch; one high pressure valve; pressure regulating valve; intermediate pressure check valve; nacelle inlet cowl /P2T2 probe mount; fan cowls and associated hardware; thrust reverser assembly including activation system, attachment hardware and associated electrical harnesses; common nozzle assembly including aft pylon fairing and attachment hardware; forward engine mount, rear engine mount, and attachment hardware. The EBU includes: IDG cooling system components; inlet anti-icing valve and ducts; environmental control system bleed air ducts; electrical harnesses; starter, starter air valve, and ducting; mass fuel flow meter; fire detection system.	5400	--
FUEL (see NOTE 10)		
OIL (See NOTE 11)		

CERTIFICATION BASIS	1. 14CFR, Part 33, effective February 1, 1965, as amended by 33-1 through 33-20 with the following Equivalent level of safety findings: <ul style="list-style-type: none"> • 33.27, Rotor Integrity, par..(c) ELOS No. 8040-ELOS-04NE-04 • 33.77, Foreign Object Ingestion-Ice, par. (c) ELOS No. 8040-8-1-002 • 33.87, Endurance Test, par. (a)(3) and (b)(1), ELOS No. 8040-ELOS-04-NE-03 2. 14 CFR, Part 34, effective September 10, 1990, as amended by 34-1 through 34-3.																			
	TYPE CERTIFICATE NUMBER E00064EN <table border="1"> <thead> <tr> <th><u>MODEL</u></th> <th><u>APPLICATION</u></th> <th><u>ISSUED/AMENDED</u></th> <th><u>DELETED</u></th> </tr> </thead> <tbody> <tr> <td>PW6122-1D</td> <td>01/18/1999</td> <td>01/11/2002*</td> <td>12/22/04</td> </tr> <tr> <td>PW6122A</td> <td>06/30/2003</td> <td>11/10/2004</td> <td></td> </tr> <tr> <td>PW6124</td> <td>01/18/1999</td> <td>01/11/2002*</td> <td>12/22/04</td> </tr> <tr> <td>PW6124A</td> <td>06/30/2003</td> <td>11/10/2004</td> <td></td> </tr> </tbody> </table> <p>*Engine models PW6122-1D and PW6124, basic model, were deleted from the Type Certificate E00064EN on December 22, 2005 at the request of the Type Certificate holder.</p>	<u>MODEL</u>	<u>APPLICATION</u>	<u>ISSUED/AMENDED</u>	<u>DELETED</u>	PW6122-1D	01/18/1999	01/11/2002*	12/22/04	PW6122A	06/30/2003	11/10/2004		PW6124	01/18/1999	01/11/2002*	12/22/04	PW6124A	06/30/2003	11/10/2004
<u>MODEL</u>	<u>APPLICATION</u>	<u>ISSUED/AMENDED</u>	<u>DELETED</u>																	
PW6122-1D	01/18/1999	01/11/2002*	12/22/04																	
PW6122A	06/30/2003	11/10/2004																		
PW6124	01/18/1999	01/11/2002*	12/22/04																	
PW6124A	06/30/2003	11/10/2004																		
PRODUCTION BASIS (ALL MODELS)	NA																			

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NOTES

NOTE 1:	The 5 minute takeoff time limit may be extended to 10 minutes for one engine(s) inoperative or shutdown of a multiengine aircraft.
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NOTE 2. TEMPERATURES	PW6122A	PW6124A
Maximum permissible Turbine Exhaust Gas Temperatures * are as follows: - Take-off (5 minutes) ** - Maximum Continuous - Transient *** * Measured by four thermocouple probes located at the low pressure turbine exhaust case ** See NOTE 1. *** See NOTE 15	760 C / 1400° F 727° C / 1340° F	-- --
Turbine Exhaust Gas Temperatures at start-up: Ground Flight	760 C / 1400° F 760 C / 1400° F	-- --
Oil outlet temperature: - Continuous operation - Transient operation (limited to 20 minutes)	163° C / 325° F 177° C / 350° F	-- --
Fuel Temperature	See "Installation and Operating Manual ", PWA 7707	

NOTE 3. ROTOR SPEEDS	PW6122A	PW6124A
-Maximum permissible Low Pressure Rotor (N1) (rpm)	6350	--
-Maximum permissible Low Pressure Rotor (N1) (rpm) Maximum Continuous *	6125	--
-Minimum Low Pressure Rotor (N1) (rpm)		--
Ground Idle	1,325	--
Flight Idle	1,700	--
-Maximum permissible High Pressure Rotor (N2) (rpm),		--
Steady state – max	18,850	--
Transient (20 seconds) – max	N/A	--
-Maximum permissible High Pressure Rotor (N2) (rpm) Maximum Continuous *	18150	--
-Minimum High Pressure Rotor (N2) (rpm)		--
Ground Idle	11,000	
Flight Idle	11,000	
* Controlling the engine to the Maximum Continuous Exhaust Gas Temperature will ensure that Maximum Continuous max permissible rotor speed will not be exceeded		

NOTE 4: The thrust values are defined as Ideal at ICAO Standard Atmosphere conditions and assume an Ideal inlet (100% recovery) and Ideal exhaust system (no internal pressure or external scrubbing losses, Cv=1.0), no fan or compressor bleed or leakage, and no load on accessory drives. Takeoff thrust is flat rated to 86 degrees Fahrenheit. Maximum Continuous thrust is flat rated to 77 degrees Fahrenheit.

For both the PW6122A and PW6124A : The uninstalled thrust values are based on static test stand operation under the following conditions: the engine inlet is a Pratt & Whitney Production hardwall bellmouth (P/N XR-588946-2) with 0.998 inlet recovery, Production Exhaust System (P/Ns AP6151-1; left hand nacelle door, AP6151-2; right hand nacelle door and AP6155; common nozzle assembly) with no compressor air bleed, no accessory power extraction. The Ideal and Installed thrust levels are derived using engine performance simulation CCD0850-03.0.

For the PW6122A: Installed values for Take-off and Maximum Continuous thrust are 21,330 pounds and 19,570 pounds, respectively at Sea Level Static, ICAO Standard Atmospheric Conditions.

For the PW6124A : Installed values for Take-off and Maximum Continuous thrust are 22,980 pounds and 20,260 pounds, respectively at Sea Level Static, ICAO Standard Atmospheric Conditions.

NOTE 5, PRESSURES	
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 70 psi above absolute ambient pressure, with a vapor/liquid ratio of zero. The maximum allowable pressure at the fuel pump inlet after shutdown is 225 psig.
Oil pressure limits	Maximum Oil Pressure
	Minimum Oil Pressure (psig)
	No Limit
	25
	3. There are no oil pressure limits below ground idle.
	4. Temporary interruption associated with negative "g" operation is limited to 30 seconds maximum. Normal oil pressure will be restored rapidly once the negative "g" effect has been eliminated.

NOTE 6:		ACCESSORY DRIVE				
Drive Pad	Rotation	Speed Ratio to N2	Torque (lb.-in.)			Overhung Moment (lb.-in.)
			Continuous	Overload	Static	
Starter	CCW	.545 : 1	*	*	*	550
IDGS	CCW	.453 : 1	**	**	11,000	800
Hydraulic Fluid Power Pump (R)	CCW	.210 : 1	1,300	1,936***	6,500	400
CCW = Counterclockwise (facing the drive pad) IDGS = Integrated Drive Generator * Strength of starter drive shall be adequate for starter delivering maximum torque of 5880 lbs.-in. at zero rpm and 6924 lb.-in. at 4800 rpm maximum impact torque. The engine starter drive shear section is designed to shear at a static torque value of 11,280 - 12,972 in.-lbs. ** Maximum allowable continuous torque values are equivalent to 175 horsepower at any engine speed at or above sea level ground idle.						
The following overload conditions can be accommodated:						
		Horsepower	Duration Time		Recurring Time	
		225	5 minutes		1/1000 hours	
		225	5 seconds		1/hour	
		450	5 seconds		1/1000 hours	
*** Maximum allowable to 5 minutes duration recurring at 4 hour intervals minimum.						

NOTE 7:	The minimum N1 certified for operation in icing conditions is 1700 rpm.
NOTE 8:	This engine is certified with Time Limited Dispatch. FADEC system faults fall into 4 categories as follows: 1) No Dispatch. 2) Short Term Dispatch. 3) Long Term Dispatch. 4) Unlimited Dispatch. Details on the Short and Long Term Dispatch intervals are provided in the Installation and Operating Manual, Section 5.12 and in Chapter 5 of the PW6000 Series Engine Manual. Lightning protection requirements and electromagnetic interference emitted by the electronic engine control system, including cables, are specified in the Installation and Operating manual, Section 5.12.

NOTE 9:	<p>Maximum Permissible Air Bleeds*:</p> <p style="text-align: center;">PW6122A and PW6124A 5.0 pounds/second</p> <p>* Switching from High Pressure Compressor 8th and 11th stage bleed is controlled automatically based upon flight condition (see Installation and Operating Manual PWA-7707).</p>
NOTE 10:	<p>FUEL</p> <p>Fuels and fuel additives conforming to the latest applicable issue of FAA-approved Pratt & Whitney Turbojet Engine Service Bulletin No. 2016 may be used separately or mixed in any proportions without adversely affecting the engine operation or power output.</p>
NOTE 11:	<p>LUBRICATING OILS</p> <p>Oils conforming to Pratt & Whitney Engine Service Bulletin No. 238 (latest revision) are approved for use in the PW6000 Series Engine.</p>
NOTE 12:	<p>The maximum permissible engine inlet distortion is specified in the Installation and Operating Manual:</p> <ul style="list-style-type: none"> • Report PWA-7707, Section 5.4 PW6122A and PW6124A
NOTE 13:	<p>Certain engine parts are life limited. Limits are listed in the Pratt & Whitney PW6000 series engine Turbofan Engine Manual:</p> <ul style="list-style-type: none"> • Part Number 5407764, time limit section for models PW6122A and PW6124A
NOTE 14:	<p>The PW6122A and PW6124A engines models meet the smoke and gaseous emission requirements of Part 34.</p>
NOTE 15:	<p>Limits regarding transient rotor shaft overspeed, transient turbine exhaust gas over temperature and the number of overtemperature occurrences are specified in the Engine Maintenance Manual (Part Number 5407763).</p>
NOTE 16:	<p>Overhaul of the PW6122A and PW6124A engine and its components is only authorized via approved Manuals or Type Certificate holder approved procedures.</p>
NOTE 17:	<p>The following Engine Manuals are approved for PW6000 series engines :</p> <ul style="list-style-type: none"> - Installation and Operating Manual, PWA 7707 - Engine Manual (EM), P/N 5407764 - Clean, Inspect, Manual (CI), P/N 5407765 - Engine Maintenance Manual (MM), P/N 5407763

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