U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E15EA	TCDS NUMBER 1E9 REVISION: 17 DATE: August 6, 2014 ERICKSON INCORPORATED MODELS: (Turbo Wasp) JT12A-6 JT12A-6A JT12A-8 J60-P-5B

Engines of models described herein conforming with this data sheet (which is a part of Type Certificate Number 1E9) 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 Erickson Incorporated, DBA Erickson Air-Crane
3100 Willow Springs Road
P.O. Box 3247
Central Point, Oregon 97502-0010

TYPE CERTIFICATE (TC) RECORD: Pratt & Whitney Division transferred TC 1E9 to Erickson Air-Crane on September 6, 2013.

Models: Turbo Wasp JT12A-6, JT12A-6A/J60-P-5B, JT12A-8

Type: Turbojet, nine-stage axial compressor, two-stage turbine and eight cannular combustion chambers

Ratings	JT12A-6	JT12A-6/J60-P-5B	JT12A-8
Maximum continuous static thrust at sea level, pounds	2400	2570	3000
Takeoff static thrust at sea level (5 minutes) pounds	3000	- -	3300
Components Fuel control	Holley R-167 or Hamilton Standrad JFC46 (-3 for Lockheed / -4 for North American)		Hamilton Standard JFC46 (-10 for Lockheed / -8 for North American)
Fuel Pump	Goodrich Corp. 50466A2		Goodrich Corp. 50466A2
Ignition	General Labratories Associates (GLA) Exciter Model 40367 with two spark ignitors, Champion FHE 151: or GLA Exciter Models 42145 and 42194 with two spark ignitors, Champion AA-338		
Fuel	See Note 11		
Oil (see Note 12)	Synthetic type conforming with Pratt & Whitney (PWA) Specification 521, as revised		
Principal Dimensions	Length includes nose drive cover and the aft turbine bearing housing case		
Length, maximum	78.3 inches	- -	- -
Length, minimum	22.1 inches	- -	- -
Weight, dry	Includes basic engine with all essential accessories but excluding starter, propelling nozzle, power source for ignition system and oil supply tank, fuel oil cooler and fuel heater		
	448 pounds	- -	468 pounds

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LEGEND: "- -" INDICATES "SAME AS PRECEDING MODEL"
"---" NOT APPLICABLE

	JT12A-6	JT12A-6A/J60-P-5B	JT12A-8
Center of Gravity (dry weight)			
Forward of rear flange of diffuser case	1.9 inches	- -	- -
Below engine center line	2.3 inches	- -	- -

Notes 1 through 15 below

Certification Basis CAR 13, effective June 15, 1956, as amended by 13-1, 13-2, and 13-3

	Type Certificate 1E9			
Model	Applied for	Issued	Cancelled	Reinstated
JT12A-6	12/29/59	07/28/60		
JT12A-6A	09/20/62	09/21/62		
JT12A-8	12/07/65	08/17/66		
J60-P-5B	11/29/66	12/07/66	11/06/87	02/22/90

NOTES

NOTE 1. For the JT12A-6, JT12A-6A, and the JT12A-8, the maximum permissible engine operation speed at takeoff and maximum continuous for the engine rotor is 16,700 rpm.

NOTE 2. MAXIMUM PERMISSIBLE TEMPERATURES

	JT12A-6	JT12A-6A/J60-P-5B	JT12A-8
Turbine outlet gas temperature			
Takeoff (5 minutes)	677°C/1250°F	- -	718°C/1325°F
Maximum continuous	577°C/1070°F	- -	655°C/1210°F
Maximum for acceleration (2 min)	677°C/1250°F	- -	718°C/1325°F
Starting	525°C/ 977°F	- -	525°C/ 977°F
Oil inlet	121°C/ 250°F	- -	121°C/ 250°F
External engine components	Limiting temperatures of specific components are as specified in the engine installation and operating manual.		

NOTE 3. FUEL AND OIL PRESSURE LIMITS

Fuel pressure	At inlet to engine system pump, 7.5 psi above absolute fuel vapor pressure or 1.5 psi below fuel tank pressure, whichever is higher, with a maximum of 50 psi above absolute ambient atmospheric pressure.
Oil pressure	At idle, 35 psi minimum; operating range, 40 to 50 psi.

NOTE 4. MAXIMUM PERMISSIBLE AIR BLEED EXTRACTION

	Percent of total engine air flow
Normal operation	
Idle to maximum continuous	4.0 percent
Maximum continuous through takeoff	3.0 percent
One engine out operation	
Idle to maximum continuous	4.4 percent
Maximum continuous through takeoff	3.7 percent

NOTE 5. Ratings are based on static test stand operation under the following onditions.
Compressor inlet air at 59°F and 29.92 in. Hg.
Jet nozzle and exhaust pipe:
For the JT12A-6/JT12A-6A/J60-P-5B, per PWA Drawing Number 403201
For the JT12A-8. Per PWA Drawing Number 566001
PWA bellmouth on air inlet
No aircraft accessory loads or air extraction
No anti-icing airflow
Turbine outlet gas temperature limit not exceeded

NOTE 6.

ACCESSORY DRIVE PROVISIONS					
DRIVE	Rotation	Speed Ratio to Turbine Shaft	Torque (in.-lb.)		Overhang (in.-lb.)
			Continuous	Static	
Tachometer	CCW (1)	.264:1	7	50	- - -
Optional Tachometer	CCW	.262:1	7	50	- - -
Starter-generator (2)	CC	.435:1	500	1260	500
Fluid power pump	CC	.263:1	600	2700	350

(1) CCW = Counterclockwise / CC = Clockwise

(2) Limits apply only to generator operation

Maximum Continuous starter torque – 1260 inch-pound

Engine starter drive shear section capable of withstanding a static torque up to 2520 inch-pound

NOTE 7.

ADDITIONAL EQUIPMENT	ADDED WEIGHT
Oil tank	14.0 pounds
Fuel-oil cooler	10.0 pounds
Fuel heater	14.0 pounds
Fuel control cross shaft	2.0 pounds for the JT12A-6 & JT12A-6A 2.5 pounds for the JT12A-8
Inlet bullet nose cone	3.0 pounds

NOTE 8. Power setting, power checks, and control of engine output in all operations are to be based on PWA engine charts referring to turbine discharge section gas pressures. Pressure probes arc included in the engine assembly for this reason.

NOTE 9. This engine meets FAA requirements for adequate turbine disc integrity and rotor blade containment and does not require external armoring.

NOTE 10. MAXIMUM CONTINUOUS STATIC THRUST AT SEA LEVEL

Model	Ambient Temperature	Thrust
JT12A-6	-3°F and below	3000 pounds
JT12A-6A	12°F and below	3000 pounds
J60-P-5B	12°F and below	3000 pounds
JT12A-8	23°F and below	3300 pounds

The engine installation and operating manual should he consulted for variation in thrust between standard day and the temperatures given above.

NOTE 11. FUELS: JP-1, JP-4, and JP-5 fuels conforming to PWA Specification No. 522 and later revisions may he used separately or mixed in any proportions without adversely affecting engine operation or power output. No fuel control adjustment is required when switching fuel types.

ANTI-ICING ADDITIVE: Phillips PFA-55MB anti-icing additive at the use concentration not in excess of 0.15 percent by volume is approved for use in fuels conforming to PWA Specification No. 522D.

ANTI-ICING ADDITIVE: Shell ASA-3 anti-static additive at a concentration that will provide not in excess of 300 conductivity units, which is approximately equivalent to 1 ppm, is approved for use in fuels conforming to PWA Specification No. 522E or later revision.

BIOCIDE ADDITIVIE: SOHIO Biobor JF biocide additive at a use concentration not in excess of 20 ppm elemental boron (270 ppm total additive) is approved for use in fuel conforming to PWA Specification No. 522.

NOTE 12. PWA Turbojet Engine Service Bulletin No. 238 lists approved brand oil.

NOTE 13. JTI2A-6 engines which have been modified in accordance with PWA Engineering Change No. 110181 (Aves Kit) should have the suffix letter “A” added to the engine serial number. All JT12A-6A are so

modified.

NOTE 14.

MODEL	GENERAL CHARACTERISTICS
JT12A-6	Basic model
JT12A-6A	Same as JT 12A-6 except for increased maximum continuous rating with improved engine parts.
JT12A-8	Same as JT12A-6A except for increased ratings with improved engine parts.
J60-P-5B	See Note 15 below.

NOTE 15. The J60-P-5B turbojet engine is identical to the JT12A-6A engine and is eligible for use in certificated aircraft. When the J60-P-5B is overhauled, it must undergo a parts conformity to ensure that it meets the JT12A-6A engine parts list. At that time, the JP60-P-5B engine data plate should be revised to reflect the JT12A-6A model designation.

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