

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

	E17EA REVISION: 11 HONEYWELL MODELS: T5313B T5317A T5317A-1 T5317B T5317BCV October 6, 2006
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TYPE CERTIFICATE SHEET E17EA

Engines of models described herein conforming with this data sheet (which is part of Type Certificate No. E17EA) 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 : Honeywell International Inc.
 111 South 34th Street
 Phoenix, AZ 85034

TYPE CERTIFICATE HOLDER RECORD: Textron Lycoming name change
 to AlliedSignal January 31, 1995

AlliedSignal name change to
 Honeywell International Inc.
 December 14, 1999

I. MODELS	T5313B	T5317A	T5317A-1	T5317B	T5317BCV
TYPE	Axial – centrifugal flow, free turbine turboshaft. Five stage axial and single stage centrifugal compressor. External annular atomizing combustion chamber. Two stage gas producer turbine. Two stage power turbine.				
RATINGS					
Maximum continuous at sea level hp.	1250	1350	1350	1350	1350
Optimum output shaft r.p.m. (at maximum continuous power)	6040	6210	6230	6229	6229
Takeoff (5 min.) at sea level hp.	1400	1500	1500	1500	1500
Optimum output shaft r.p.m. (at takeoff power)	6300	6450	6462	6461	6461
FUEL CONTROL	Goodrich Pump & Engine Control Systems (GPECS) Model TA-2S or TA-7 with Integral dual element pump	GPECS Model TA-7 with integral dual element pump	--	--	GPECS Model TA-7 or TA-7CV with integral dual element pump
FUEL (See NOTE 12)	--	--	--	--	--
OIL	MIL-PRF-7808 or MIL-PRF-23699	--	--	--	--

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LEGEND: "- -" INDICATES "SAME AS PRECEDING MODEL" "---" INDICATES "DOES NOT APPLY"
NOTICE: SIGNIFICANT CHANGES ARE BLACK-LINED IN THE LEFT BORDER.

I. MODELS (Continued)	T5313B	T5317A	T5317A-1	T5317B	T5317BCV
PRINCIPAL DIMENSIONS					
Length, in. nominal	47.602	--	--	--	--
Maximum diameter, in.	24.50	--	--	--	--
Weight (DRY), lb. (includes essential engine accessories but excludes starter, two tachometer generators, oil tank and oil cooler)	544	545	541	547	--
C.G. LOCATION (DRY WEIGHT)					
Aft of front mount pad centerline, in.	14.38	--	--	--	--
Below engine horizontal centerline, in.	.76	--	--	--	--
IGNITION SYSTEM (28 VOLTS D.C.)					
	Bendix Type TGLN2125 or GLA Type 42416 with spark splitter coil and two shunted surface gap igniter plugs	--	--	--	--
IGNITER PLUGS					
	AC5611304	--	--	--	--

CERTIFICATION BASIS

Model	Date of Application	Type Certificate No. E17EA	Certification Basis
T5313A	07/01/64	04/22/68 Issued	CAR 13, 06/15/56, Amendment 13-1 thru 13-3
T5313B	10/01/69	12/24/69 Amended	CAR 13, 06/15/56, Amendment 13-1 thru 13-3
T5317A	11/29/71	04/11/73 Amended	CAR 13, 06/15/56, Amendment 13-1 thru 13-3
T5313A		08/01/85 Cancelled	
T5317A-1	06/24/92	07/21/93 Amended	14 CFR part 33, Amendment 5
T5317B	03/12/92	03/21/94 Amended	14 CFR part 33, Amendment 5
T5317BCV	5/20/03	10/06/06 Amended	14 CFR part 33, Amendment 5

PRODUCTION BASIS Production Certificate No. 413NM reissued to Honeywell International Inc. on January 25, 2000.

NOTES

NOTE 1. Maximum power turbine speed is 21,300 r.p.m. at all conditions including takeoff.

NOTE 2. Power Turbine output shaft torque limits:

	<u>T5313B</u>	<u>T5317A</u>	<u>T5317A-1</u>	<u>T5317B</u>	<u>T5317BCV</u>
Takeoff	1175 ft. lb.	1250 ft. lb.	--	--	--
Maximum continuous	1110 ft. lb.	1160 ft. lb.	--	--	--

NOTE 3. Maximum permissible gas producer speeds are:

	<u>T5313B</u>	<u>T5317A</u>	<u>T5317A-1</u>	<u>T5317B</u>	<u>T5317BCV</u>
Takeoff	25,650 r.p.m.	26,400 r.p.m.	--	--	--
Maximum continuous	24,900 r.p.m.	25,400 r.p.m.	--	--	--

NOTE 4. Maximum permissible temperatures:

For models T5313B, T5317A, and T5317A-1, maximum permissible exhaust gas temperature varies with ambient temperature as shown in the following FAA Approved documents: Model T5313B Installation Instructions 94-1519.14.5; Model T5317A FAA Approved Data Book, 94-1519.14.15; Model T5317A-1 Installation Instructions 21-12573.

For Models T5317B and T5317BCV maximum permissible measured gas temperature is 1585°F for the takeoff power condition and 1508°F for the maximum continuous power condition. The gas temperature is measured by twelve thermocouples located between the gas producer turbine and power turbine stages.

	<u>T5313B</u>	<u>T5317A</u>	<u>T5317A-1</u>	<u>T5317B</u>	<u>T5317BCV</u>
Oil inlet temp.	200°F	--	--	--	--
Oil outlet temp.	300°F	--	275°F	--	--
Ignition unit surface temp.	250°F	--	--	--	--
Fuel control ambient temp.	250°F	--	--	--	--
Igniter solenoid valve surface temp.	300°F	--	--	--	--
Air bleed control ambient temp.	300°F	--	--	--	--
Thermocouple harness airframe interface connector	350°F	--	--	--	--

NOTE 5: Fuel and oil pressure limits:

	<u>T5313B</u>	<u>T5317A</u>	<u>T5317A-1</u>	<u>T5317B</u>	<u>T5317BCV</u>
Fuel:	0 to 50 p.s.i.g	--	--	--	--
Oil: Ground idle	10 p.s.i. min.	--	--	--	--
Operating range	20 to 100 p.s.i.	--	--	--	--
Takeoff & max. continuous	80 to 100 p.s.i.	--	--	--	--

NOTE 6. Accessory drive provisions:

Drive	AND Type	Number Required	Gear Ratio	Maximum Torque (in.-lb.)			Rotation
				Continuous	Short Time (1)	Static	
Gas producer tachometer	20005 XV-B Modified	1	.1670	7	--	50	C
Starter-Generator	20002 XII-D Modified	1	.2833	250	320(3)	1600(2)	C
Power takeoff	20002 XII-D Modified	1	.5397	150	225	800(4)	C
Power turbine tachometer	20005 XV-B Modified	1	.1993	7	--	50	C

C – Clockwise

- (1) Maximum permissible torque 5-minute periods, recurring at not less than 4-hour intervals.
- (2) Maximum permissible torque during starts is 1296 in.-lb.
- (3) Generator torque in excess of 320 in.-lb. is permissible up to a maximum of 625 in.-lb. for a period of not more than 15 seconds.
- (4) 680 in.-lb. on power takeoff pad when starter is installed.

The customer accessory horsepower extraction limits are presented in the following FAA approved documents: Model T5313B Installation Instructions 94-1519.14.5; Model T5317A FAA Approved Data Book 94-1519.14.15; Model T5317A-1 Installation Instructions 21-12573; Model T5317B Installation Instructions 21-12062; Model T5317BCV Installation Instructions 21-12440.

The customer accessory horsepower extraction limits are presented in the Honeywell International Inc. Manual of FAA Approved Data.

NOTE 7. Engine ratings are based on calibrated stand performance under the following conditions:

Static sea level standard conditions of 59°F and 29.92 in. Hg.

No inlet duct losses, no loading of the accessory drives and minimum permissible bleed air flow.

Exhaust configuration as defined by Honeywell International Inc. drawing 1-000-031-01.

NOTE 8. The maximum permissible air bleed extraction limits are in the following FAA approved documents: Model T5313B Installation Instructions 94-1519.14.5 - Figure 8.1; Model T5317A FAA Approved Data Book 94-1519.14.15 - Figure 6.1; Model T5317A-1 Installation Instructions 21-12573 - Figure 1-5; Model T5317B Installation Instructions 21-12062 - Figure 1-4; Model T5317BCV Installation Instructions 21-12440 - Figure 1-4.

NOTE 9. These engines meet the FAA requirements for operation in icing conditions provided a minimum gas producer speed is maintained in accordance with the following FAA approved documents: Model T5313B Installation Instructions 94-1519.14.5 - Figure 8.5; Model T5317A FAA Approved Data Book 94-1519.14.15 - Figure 6.5; Model T5317A-1 Installation Instructions 21-12573 - Figure 1-7; Model T5317B Installation Instructions 21-12062 - Figure 1-6; Model T5317BCV Installation Instructions 21-12440 Figure 1-6.

NOTE 10. These engines meet FAA requirements for adequate turbine disc integrity and rotor blade containment and do not require airframe mounted armoring. An airframe provided switch is required to test the overspeed governor prior to flight. Models T5313B and T5317A-1 do not require an electronic power turbine overspeed system. Models T5317A, T5317B, and T5317BCV do not require an electronic power turbine overspeed system when installed in aircraft with main rotor transmissions limited to 1,400 shp maximum.

NOTE 11. These engines have not been tested to evaluate the effects of bird and ice ball ingestion. The bird and ice ball ingestion characteristics of the airframe air inlet and engine combination are to be evaluated prior to the approval of the engine installation.

NOTE 12. MIL-DTL-5624, Grades JP-4 and JP-5. MIL-DTL-83133, Grade JP-8. ASTM D1655 Jet A, Jet A-1 and Jet B. Refer to Honeywell International Inc. Maintenance Manual 330.2 for equivalent fuels and additives.

NOTE 13. Airworthiness Directive Number 74-22-07, Amendment 39-1997, effective October 31, 1974, required all T5313A engines be converted to T5313B engines within 100 hours.

NOTE 14. Certain engine parts are life limited as listed in FAA approved Honeywell International Inc. Service Bulletin No. T5313B/17-0020. Time Between Overhaul and Time Between Inspection criteria are contained in the following Service Bulletins: T5313B/17-0001 Engine - General - Establishing a Time Between Overhaul (TBO) and Time Between Inspections (TBI) and SB T5313B/17-0024 Engine-Fuel Regulator and Overspeed Governor - Overhaul Schedule.

NOTE 15. Model T5317A is similar to Model T5313B except for the incorporation of improved combustor and turbine parts and improved cooling of the gas producer nozzles and rotors. Model T5317A-1 is similar to model T5317A except for incorporation of a unique power turbine governor and bleed band actuator. Model T5317B is similar to Model T5317A except for use of an interturbine (MGT) gas temperature measurement system.

NOTE 16. Model T5317BCV is identical to Model T5317B except that Model T5317BCV may contain certain parts that have accumulated prior time in service provided those parts conform to the data contained in Honeywell's T5317BCV Hardware Conformity Process Manual, Document Number 360.5, and are marked with a "CV" suffix on the part number. "CV" part numbers may only be used on Model T5317BCV. The T5317BCV is produced at Honeywell Greer, South Carolina under Production Certificate 413NM.

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