

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

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| E8EA Revision 4 AlliedSignal T5307A September 15,1997 |
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TYPE CERTIFICATE DATA SHEET NO. E8EA

Engines of models described herein conforming with this data sheet (which is a part of Type Certificate No. E8EA) and other approved data on file with the Federal Aviation Administration meet the minimum standard 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: AlliedSignal Inc.
111 South 34th Street
Phoenix, AZ 85034

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| Model | T5307A |
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Type Axial - centrifugal flow, free turbine turboprop. Five stage axial and single stage centrifugal compressor. External annular vaporizing combustion chamber. Single stage gas producer turbine. Single stage power turbine.

Ratings

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| At nominal output shaft speed of 1710 rpm | |
| Maximum continuous at sea level, hp. | 1000 |
| Takeoff (5 min.) at sea level, hp. | 1100 |
| Fuel control | Chandler Evans Model TA-2F with integral dual element pump |
| Fuel (see Note 10) | MIL-J-5624, Grades JP-4 or JP-5 or equivalent |
| Oil | Synthetic type conforming to MIL-L-7808 |
| Principal dimensions | |
| Length, in. | 58.62 |
| Nominal diameter, in. | 23.70 |
| Maximum radius, in. | 13.31 |
| Weight (dry), lb. | 560 |
| (includes essential engine accessories but excludes starter, two tachometer generators, oil tank and oil cooler) | |
| C.G. location (dry weight) | |
| Aft of front mount pad centerline in. | 11.50 |
| Below engine horizontal centerline in. | .71 |
| Ignition system (28 volts D.C.) | Scintilla type TGLN 1112 with spark splitter coil and two shunted surface gap igniter plugs |
| Igniter plugs | AC 5610719 |

NOTES

1,2,3,4,5,6,7,8,9,10

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| Certification basis | CAR 13, effective June 15, 1956, as amended by 13-1, 13-2, and 13-3. Type Certificate No. E8EA issued July 17, 1964. Date of application for type certificate: September 26, 1963 |
| Production basis | Production Certificate No. 110 (Stratford, Connecticut) Production Certificate No. 505 (Charleston, South Carolina) |

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| NOTE 1. | Maximum permissible gas producer speeds are: | 25,200 rpm - takeoff 24,700 rpm - maximum continuous |
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NOTE 2. Maximum permissible temperatures:
Maximum permissible exhaust gas temperature varies with ambient temperature as shown in the Lycoming manual of FAA approved data. The exhaust gas temperature is measured by three thermocouples located in the exhaust diffuser of the engine.

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| Oil outlet temperature | 300°F. |
| Ignition unit surface temperature | 238°F. |
| Fuel control ambient temperature | 240°F. |
| Igniter solenoid valve surface temperatures | 250°F. |
| Air bleed control ambient temperature | 260°F. |

NOTE 3. Fuel and oil pressure limits:
Fuel: 0-50 p.s.i.g.

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| Oil: | Minimum - | 10 p.s.i. ground idle |
| | | 60 p.s.i. takeoff and maximum continuous |
| | Maximum - | 80 p.s.i. |

NOTE 4. Accessory drive provisions:

| Drive | AND Type | No. Required | Gear Ratio | Maximum Torque (in.-lb.) | | Rotation* |
|--------------------------|----------------------|--------------|------------|--------------------------|--------|-----------|
| | | | | Cont. | Static | |
| Gas producer tachometer | 20005 XV-B modified | 1 | .1670 | 7 | 50 | C |
| Starter-generator | 20002 XII-D modified | 1 | .2833 | 220 | 1296 | C |
| Power takeoff | 20002 XII-D modified | 1 | .5397 | 150 | 680 | C |
| Power turbine tachometer | 20005 XV-B | 1 | .1997 | 7 | 50 | C |

*C - Clockwise; CC - Counterclockwise

The customer accessory horsepower extraction limits are presented in graphical form in the AlliedSignal manual of FAA approved data.

NOTE 5. 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 AlliedSignal drawing 1-000-029-03.

NOTE 6. Maximum permissible air bleed extraction is 3.0% at standard sea level static conditions at 92% maximum continuous power and below.

NOTE 7. The nominal power turbine operating speed is 21,190 rpm. Maximum power turbine speed is 21,300 rpm at all conditions including takeoff.

NOTE 8. Power turbine output shaft torque limits:
Takeoff 3580 ft. lb.
Maximum continuous 3280 ft. lb.

NOTE 9. These engines meet FAA requirements for operation in icing conditions, for adequate turbine disc integrity and rotor blade containment and do not require airframe mounted armoring. They have not, however, been tested to evaluate the effects of ingestion of birds. The bird ingestion characteristics of the airframe air inlet and engine combination are to be evaluated prior to the approval of the engine installation in an airplane.

NOTE 10. The T5307A engine may use JP-4 or JP-5 kerosene type fuels separately or mixed in any proportion. No fuel control adjustment is required when switching fuel types. Phillips PFA-55MB anti-icing additive at a concentration not in excess of 0.15% by volume is approved for use in fuels for these engines.

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