

Honeywell/ Allied Signal
 GARRETT 331-14GR
 TC E18NE

DEPARTMENT OF TRANSPORTATION
 FEDERAL AVIATION ADMINISTRATION

T00009LA
 Revision 2
 Marsh Aviation Company
 S-2F3AT
 November 18, 2002

TYPE CERTIFICATE DATA SHEET NO. T00009LA

This data sheet, which is a part of Type Certificate No. T00009LA, prescribes the conditions and limitations under which the product for which the Type Certificate was issued meets the Airworthiness Requirements of the Federal Aviation Regulations.

Type Certificate Holder: California Department of Forestry and Fire Protection
 1416 Ninth Street
 Sacramento, CA 95814

Type Certificate Ownership Record: Marsh Aviation transferred ownership of TC T00009LA to California Department of Forestry and Fire Protection on January 23, 2002

I - Model S-2F3AT (Restricted Category) Approved November 30, 2001

Engine 2, Honeywell/AlliedSignal/Garrett 331-14GR
 TC E18NE

Fuel Engine operation is approved with the following fuels:

- Garrett EMS53111 (Type A)
- Garrett EMS53112 (Type A1) (JP-8)
(British D. Eng. R.D. 2494 Issue 7)
- Garrett EMS53113 (Class A-JP4)
Class B-type (British D. Eng. R.D. 2486 Issue 8)
- Garrett EMS53116 (Type JP-5)
- Garrett EMS53122 (Grade 100 LL)

Anti-icing additive conforming to PFA-55MB or MIL-I-27686 must be used when operating in conditions where the fuel temperature is 40° F or less.

Shell ASA-3 anti-static additive, or equivalent, to bring fuel up to 300 conductivity units and no more than 1 ppm.

Sohio Biobor JF Biocide additive or equivalent not to exceed 270 ppm maximum (220 ppm of elemental boron), for pesticide purposes.

Aviation gasoline MIL-G-5572D, Grade 100/130 (low lead), not in excess of 50 gallons per 100 hours of operation (per engine), may be used for emergency operation. Total usage must be limited to 7000 gallons during any 3000 hour period. Aviation gasoline MIL-G-5572D, Grade 80/87 not in excess of 1000 gallons per 100 hours of operation, may be used for emergency operation. If 25% or more Avgas is used at any time, one quart of Aviation grade 120 mineral oil must be added to mixture per 100 gallons of Avgas. (Aviation grade oil to MIL-L-6082).

Page	1	2	3	4	5	6	7
Rev.	2	-	-	-	-		-

Fuel (cont'd)

If combinations of aviation gasoline are used, the following formula is required for establishing proportions of combinations during any 3000 hour period:

$$\frac{\text{Gals. 100/130 (low lead)}}{7000 \text{ Gals}} + \frac{\text{Gals. 80/87}}{30,000 \text{ Gals}} \leq 1$$

Fuel Type	Avgas, JP-4, Jet-B	JP-5/I, JetA/A-1	JP-8
Min. Temp for Starting	-50°C	-44°C	-42°C

Alcohol Water Injection fluid:

A mixture of 70% distilled water and 30% Methyl alcohol (methanol) complying to EMS53123 is approved for use in the Alcohol Water Injection (AWI) system.

Methyl alcohol (methanol) having a minimum purity of 99.8 weight percent and nonvolatile content of <0.001 weight percent shall be used.

Water shall conform to the following requirements; it shall be treated by a demineralization process or shall be distilled if necessary to ensure conformance to the following table:

	MIN	MAX
Total Solids, ppm		10
pH	6.0	8.0
Chlorides, ppm		1
Sulfates, ppm		1
Sulfates, ppm		1

Engine Limits

Engine Ratings and Operating Limits:

Takeoff and Maximum Continuous SHP	1650
Takeoff and Maximum Continuous SHP	4534 Ft - Lb (100%)
Takeoff and Maximum Continuous RPM	1552 (101%)
Ground Idle - Minimum RPM	992 (64%)

CONDITION	TORQUE	RPM % MIN/MAX	OIL PRESS MIN/MAX	EGT	OIL TEMP MIN/MAX
Takeoff	100%	100/101	45/70	100% (2)	55/110°C
Max. Cont.	100%	96/101	45/70	100% (2)	55/110°C
Ground Idle	---	64 (Min)	15/70	---	55/100°C
Starting	---	---	---	770°C	44/110°C
Transient	104% (Max) 30 Sec.	104% (Max) (1)	---	37 Above	---

- (1) Do not exceed 106% RPM at any time. Transient engine speed maximum limit is from 101% to 104% RPM. Engine speed for Overspeed Governor (OSG) check is limited to 30 seconds from 104% to 105% RPM and seconds from 105% to 106% RPM.