

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

TCDS NUMBER E5NE REVISION: 13
ALLIEDSIGNAL INC.
MODELS:
LTS 101-600A-2                      LTS 101-650C-3
LTS 101-600A-3                      LTS 101-650C-3A
LTS 101-650B-1                      LTS 101-750B-1
LTS 101-650B-1A                    LTS 101-750B-2
LTS 101-650C-2                      LTS 101-750C-1
September 15, 1997

TYPE CERTIFICATE DATA SHEET E5NE

Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E5NE) 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:      AlliedSignal Inc.  
111 South 34th Street  
Phoenix, AZ 85034

I. MODELS:	LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
<b>TYPE</b>		Axial - centrifugal flow, free turbine, turboshaft. Single stage axial and single stage centrifugal compressor. Reverse flow annular combustor. Single stage gas generator turbine. Single stage power turbine.					
<b>RATINGS (See NOTE 1)</b>							
Maximum Continuous at sea level, hp.		590	--	550(1)	550	592	598
Takeoff (5 minutes) at sea level, hp.		615	--	550(2)	600	628	630
30 minute helicopter Rating at sea level hp.		---	---	592(3)	600	650	--
2 1/2 minute helicopter Rating at sea level hp.		---	---	592(4)	650	675	--

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<p><b>LEGEND:</b> "--" INDICATES "SAME AS PRECEDING MODEL"</p> <p>"---" INDICATES "DOES NOT APPLY"</p> <p><b>NOTICE:</b> ALL PAGES ARE REFORMATTED. SIGNIFICANT CHANGES ARE BLACK-LINED IN THE LEFT BORDER.</p>
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I. MODELS: LTS 101	-750B-1	-750B-2	-750C-1			
<b>TYPE</b>	Axial - centrifugal flow, free turbine, turboshaft. Single stage axial and single stage centrifugal compressor. Reverse flow annular combustor. Single stage gas generator turbine. Single stage power turbine.					
<b>RATINGS (See NOTE 1)</b>						
Maximum Continuous at sea level, hp.	550(5)	658	653			
Takeoff (5 minutes) at sea level, hp.	550(6)	690	684			
30 minute helicopter Rating at sea level hp.	694(7)	708	702			
2 1/2 minute helicopter Rating at sea level hp.	727(8)	742	735			

- (1) Available to ambient temperature of 72°F (22°C)
- (2) Available to ambient temperature of 84°F (29°C)
- (3) Available to ambient temperature of 78°F (25°C)
- (4) Available to ambient temperature of 91°F (33°C)

- (5) Available to ambient temperature of 91°F (33°C).
- (6) Available to ambient temperature of 106°F (41°C)
- (7) For engines in compliance with SB LTS101B-72-00-0161, NOTE 1 applies. 592 Hp available to ambient temperature of 100°F (40°C) for LTS101-750B1 engines not in compliance with AlliedSignal SB No. LTS101B-72-00-0161.
- (8) For engines in compliance with SB LTS101B-72-00-0161, NOTE 1, applies. 592 Hp available to ambient temperature of 115°F (48°C) for LTS101-750B1 engines not in compliance with Allied-Signal SB No. LTS101B-72-00-0161.

I. MODELS: LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
<b>REDUCTION GEAR RATIO</b> (Output Shaft Speed to Power Turbine Speed)	0.1612	--	0.1654	0.1612	0.2632	--
<b>CONTROL SYSTEM</b> Gas Producer Fuel Control	Bendix DP-S1	--	--	--	--	--
<b>POWER TURBINE</b> Governor	Bendix AL-AB1	--	--	--	--	--
<b>POWER TURBINE</b> Overspeed Trip (See NOTE 24)	Bendix AL-AK2	--	Bendix AL-AK1, AL-AK2	--	Power Turbine Governor --	--
<b>FUEL (See NOTE 2)</b>	ASTM D1655 Jet A, A1, & B, MIL-T-5624 Grades JP-4, JP-5, and JP-8 or equivalent	--	--	--	--	--
<b>OIL (See NOTE 3)</b>	MIL-L-7808 MIL-L-23699	--	--	--	--	--
<b>PRINCIPAL DIMENSIONS</b> Length, in. nominal	30.93	31.56	31.05	30.93	31.21	31.21(-3) 31.31(-3A)
Height, in. nominal	23.64	24.80	25.36	--	19.45	--
Width, in. nominal	19.37	--	18.52	--	22.60	--
<b>WEIGHT (Dry), lb.</b> Maximum (includes essential engine accessories but excludes starter-generator)	253	265	268	253	240.3	240.3(-3) 243(-3A)

I. MODELS:	LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
C.G. LOCATION (dry weight)							
Aft of engine centerline of lower mount pads, in.	5.610	--	5.671	5.820	8.11	8.11(-3) 7.906(-3A)	
Below engine centerline, in.	1.880	--	1.812	1.720	.641	.641(-3) .598(-3A)	
Left of engine centerline looking aft, in.	.150	--	.072	.080	.240	.240(-3) .314(-3A)	
IGNITION EXCITER UNIT (28 Volts D.C.)	Bendix Corp. P/N 10-371440-1, or Simmonds Precision P/N 42416, with separate spark plug leads to two shunt surface gap ignitor plugs.	--	--	--	--	--	
IGNITOR PLUGS	AC spark plugs P/N 5611304, or Unison, Ind. P/N 10-360840-1, or S.G.L. P/N 0270310, or Champion P/N FHE211-2, CH34016, and CH34016-1	--	--	--	--	--	

I. MODELS:	LTS 101	-750B-1	-750B-2	-750C-1			
REDUCTION GEAR RATIO (Output Shaft Speed to Power Turbine Speed)	0.1654	--	.2632				
CONTROL SYSTEM Gas Producer Fuel Control	Bendix DP-S1/DP-S4	DP-S1	--				
POWER TURBINE Governor	Bendix AL-AB1	--	--				
POWER TURBINE Overspeed Trip (See NOTE 24)	Bendix AL-AK2	--	Power Turbine Governor				
FUEL (See NOTE 2)	ASTM D1655 Jet A, A1, & B, MIL-T-5624 Grades JP-4, JP-5, and JP-8 or equivalent	--	--				
OIL (See NOTE 3)	MIL-L-7808 MIL-L-23699	--	--				
PRINCIPAL DIMENSIONS Length, in. nominal	31.05	32.36	31.31				
Height, in. nominal	25.35	24.68	20.15				
Width, in. nominal	18.52	19.86	22.60				
WEIGHT (Dry), lb. Maximum (includes essential engine accessories but excludes starter-generator)	295	271	244				

I. MODELS:	LTS 101	-750B-1	-750B-2	-750C-1			
C.G. LOCATION (dry weight)							
Aft of engine centerline of lower mount pads, in.		5.542	3.545	7.767			
Below engine centerline, in.		1.861	1.567	0.559			
Left of engine centerline looking aft, in.		-.071	.075	0.303			
IGNITION EXCITER UNIT (28 Volts D.C.)		Bendix Corp. P/N 10-371440-1, or Simmonds Precision P/N 42416, with separate spark plug leads to two shunt surface gap ignitor plugs.	--	--			
IGNITOR PLUGS		AC spark plug P/N 5611304, or Unison, Ind. P/N 10-360840-1, or S.G.L. P/N 0270310, or Champion P/N FHE211-2, CH34016, CH34016-1	--	--			

CERTIFICATION BASIS

FAR 33 effective February 1, 1965, as amended by 33-1, 33-2, 33-3, 33-4, and 33-5.

MODEL	APPLICATION DATE	TYPE CERTIFICATE ISSUED / AMENDED
LTS 101-600A	APR 11, 1974	OCT 24, 1975
LTS 101-600B	SEPT 18, 1974	OCT 24, 1975
LTS 101-650A	APR 11, 1974	OCT 24, 1975
LTS 101-650C	APR 05, 1974	OCT 24, 1975
LTS 101-600A-1	OCT 15, 197	OCT 24, 1975
LTS 101-600B-3	OCT 15, 1975	OCT 24, 1975
LTS 101-650A-1	OCT 15, 1975	OCT 24, 1975
LTS 101-600A-2	JUL 21, 1977	NOV 30, 1977
LTS 101-600A-1	CANCELED	NOV 30, 1977
LTS 101-600B-3	CANCELED	NOV 30, 1977
LTS 101-650A-1	CANCELED	NOV 30, 1977
LTS 101-650A-2	OCT 25, 1976	FEB 24, 1978
LTS 101-650C-2	OCT 25, 1976	FEB 24, 1978
LTS 101-650A	CANCELED	MAR 22, 1978
LTS 101-650B-1A	FEB 08, 1979	FEB 15, 1979
LTS 101-650C	CANCELED	MAR 01, 1979
LTS 101-650C-3	MAY 08, 1980	JUN 10, 1980
LTS 101-750A-1	DEC 03, 1980	APR 24, 1981
LTS 101-650B-1	JAN 22, 1981	JUNE 03, 1981
LTS 101-750C-1	JAN 22, 1981	AUG 07, 1981
LTS 101-650C-3A	SEPT 08, 1983	JUL 13, 1984
LTS 101-600A-3	MAR 19, 1984	JUL 13, 1984
LTS 101-750A-3	JAN 04, 1983	SEPT 21, 1984
LTS 101-750B-2	FEB 14, 1985	NOV 08, 1985
LTS 101-750B-1	MAR 31, 1983	JUN 17, 1986
LTS 101-600A	CANCELED	APR 20, 1987
LTS 101-600B	CANCELED	APR 20, 1987
LTS 101-650A-2	CANCELED	APR 20, 1987
LTS 101-750A-1	CANCELED	FEB 17, 1988
LTS 101-750A-3	CANCELED	FEB 17, 1988

## PRODUCTION BASIS

Production Certificate No. 413 issued to AlliedSignal Inc. Engine Group, 111 South 34 Street, Phoenix, Arizona 85034, 87 Beeco Road, Greer, South Carolina 29650, and 480 South Bunlomb Road, Greer, South Carolina 29152. Certificates apply to all models.  
Each serial numbered engine data plate will signify the address and production certification basis of production.

<b>NOTES</b>
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NOTE 1. Engine ratings are based on calibrated stand performance under the following conditions:

Static sea level standard conditions at 59°F and 29.92 in. Hg.  
No airbled, no duct losses, no external power extraction.  
Exhaust configuration as specified in the applicable engine Installation Instructions.

NOTE 2. Engines will operate satisfactorily with fuel contaminated to the levels specified in the applicable engine Installation Instructions provided the fuel is introduced to the engine in accordance with the installation requirements.

NOTE 3. Mixing of these oils is prohibited.

NOTE 4. Maximum permissible gas generator operating speeds (r.p.m.):

LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
Transient	50,548	--	--	--	--	--
2-1/2 Minute Helicopter Rating	---	---	50,548	50,169	50,548	--
30 Minute Helicopter Rating	---	---	50,169	49,255	50,169	--
Takeoff	49,638	--	--	49,255	49,638	--
Maximum Continuous	49,159	--	--	48,394	49,159	--
5 Minute Part Power	---	---	49,159	---	49,159	--

LTS 101	-750B-1	-750B-2	-750C-1			
Transient	50,787	--	--			
2-1/2 Minute Helicopter Rating	50,787	--	--			
30 Minute Helicopter Rating	50,169	50,165	--			
Takeoff	49,830	--	--			
Maximum Continuous	49,255	--	--			
5 Minute Part Power	49,255	--	--			

NOTE 5. Maximum permissible power turbine output shaft torque (ft.-lb.):

LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
Transient	594	--	649	--	419	--
2-1/2 Minute Helicopter Rating	---	---	594	--	383	--
30 Minute Helicopter Rating	---	---	594	541	369	--
Takeoff	541	--	519	541	357	--
Maximum Continuous	519	--	--	--	335	--
5 Minute Part Power	---	---	165	---	335	--
No Load (Autorotation)	0	--	--	--	--	--

LTS 101	-750B-1	-750B-2	-750C-1			
Transient	725	--	480			
2-1/2 Minute Helicopter Rating	643	--	417			
30 Minute Helicopter Rating	614	--	397			
Takeoff	597	--	387			
Maximum Continuous	567	--	367			
5 Minute Part Power	165*	--	343			
No Load (Autorotation)	0	--	--			

\*Approved for continuous operation at out put shaft speed up to 6,180 r.p.m. and output shaft torque up to 377 ft.-lb.

NOTE 6. Maximum permissible output shaft speeds (r.p.m.):

LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
Transient	6,300	--	6,365	6,300	9,784	--
2-1/2 Minute Helicopter Rating	---	---	6,120	6,085	9,545	--
30 Minute Helicopter Rating	---	---	6,120	6,085	9,545	--
Takeoff	6,085	--	6,120	6,085	9,545	--
Maximum Continuous	6,085	--	6,120	6,085	9,545	--
5 Minute Part Power	---	---	6,365	---	9,930	--
No Load (Autorotation)	6,300	--	6,365	6,300	9,930	--

LTS 101	-750B-1	-750B-2	-750C-1			
Transient	6,580*	--	9,930			
2-1/2 Minute Helicopter Rating	6,140	--	9,545			
30 Minute Helicopter Rating	6,140	--	9,545			
Takeoff	6,140	--	9,545			
Maximum Continuous	6,140	--	9,545			
5 Minute Part Power	6,460**	--	9,930			
No Load (Autorotation)	6,460	--	9,930			

\*Time limit 12 seconds above 6,460 r.p.m.

\*\*Approved for continuous operation at output shaft speed up to 6,180 r.p.m. and output shaft torque up to 377 ft.-lb.

NOTE 7. Maximum permissible temperatures:

Measured gas temperature °F (°C) as measured by thermocouples mounted in the combustor housing:

LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
Starting	1650* (899)	--	--	--	--	--
Transient	1550* (843)	--	--	--	--	--
2-1/2 Minute Helicopter Rating	---	---	1530 (832)	1485 (807)	1530 (832)	--
30 Minute Helicopter Rating	---	---	1464 (796)	1420 (771)	1464 (796)	--
Takeoff	1440*** (782)	1380*** (749)	1440*** (782)	1420*** (771)	1440 (782)	--
Maximum Continuous	1405 (763)	1355 (735)	1405 (763)	1360 (738)	1405 (763)	--
5 Minute Part Power	---	---	1405 (763)	---	1405 (763)	--

LTS 101	-750B-1	-750B-2	-750C-1			
Starting	1650** (899)	--	--			
Transient	1557** (847)	--	--			
2-1/2 Minute Helicopter Rating	1537 (836)	1512 (822)	--			
30 Minute Helicopter Rating	1472 (800)	1471 (799)	--			
Takeoff	1447*** (786)	1447 (786)	--			
Maximum Continuous	1409 (765)	1409 (765)	--			
5 Minute Part Power	1405 (763)	--	--			

\*Time limit 12 seconds above 1530°F (836).

\*\*Time limit 12 seconds above 1537°F (836) (-750B-1), and 12 seconds above 1512°F (822) (-750B-2, and -750C-1).

\*\*\*For the LTS 101-600A-2 and -600A-3 engine models, the transient measured exhaust gas temperature must not exceed the takeoff measured exhaust gas temperature for more than 22 seconds. For the LTS 101-650B-1, -650B-1A, and -750B-1 engine models, the transient measured exhaust gas temperature must not exceed the takeoff measured exhaust gas temperature for more than 22 seconds and never exceed 1499°F (815) at any time during normal takeoff operation.

The transient limits are not to be used for increased power operation during normal takeoff.

Zone	LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
Temperature (°F):							
Gas Generator Speed Control		250	--	--	--	--	--
Ignition Exciter Box		250	--	--	--	--	--
Inlet Flow Actuator		410	--	--	--	--	--
Thermocouple Harness		---	---	---	---	---	---
Electrical Harness		---	---	---	---	---	---
Power Turbine Governor		280	--	--	--	--	--
Thermocouple Junction Block		450	--	--	--	--	--
Anti-Icing Valve		450	--	--	--	--	--
Torque Limiter		---	250	---	---	---	---
Fuel Manifold		---	---	---	---	350	--
Power Turbine Overspeed Trip (Bendix AL-AK1, AL-AK2)		250	--	--	---	---	---
Fuel Metering Unit		---	---	---	---	---	---
EFCS Alternator		---	---	---	---	---	---
Electronic Control Computer		---	---	---	---	---	---
MGT Transient Compensator		---	---	---	---	---	---

LTS 101	-750B-1	-750B-2	-750C-1			
Gas Generator Speed Control	250	--	--			
Ignition Exciter Box	250	--	--			
Inlet Flow Actuator	410	--	--			
Thermocouple Harness	---	---	---			
Electrical Harness	---	---	---			
Power Turbine Governor	280	--	--			
Thermocouple Junction Block	450	--	--			
Anti-Icing Valve	450	--	--			
Torque Limiter	---	---	---			
Fuel Manifold	---	---	---			
Power Turbine Overspeed Trip (Bendix AL-AK1, AL-AK2)	250	--	---			

LTS 101	-750B-1	-750B-2	-750C-1			
Fuel Metering Unit	---	---	---			
EFCS Alternator	---	---	---			
Electronic Control Computer	---	---	---			
MGT Transient Compensator	---	160	--			

## NOTE 8.

Fuel pressure limits and oil pressure and temperature limits:

Fuel pressure limits for the LTS 101-600A-2 and -600A-3 engine models are 15 p.s.i.a. minimum and 45 p.s.i.a. maximum. For all other engine models, the fuel system provides suction lift capability without any external assistance. See the applicable engine Installation Instructions for further details.

Oil pressure and temperature (as measured by engine oil temperature bulb located at oil filter discharge) limits:

	Engine Models	Specified Range	Condition
Oil pressure during operation	LTS 101-650B-1A	80-100 psig	Maximum continuous power
	LTS 101-600A-2, -650B-1, -650C-2/C-3/C-3A, 750B-1, -750C-1	80-100 psig	Max. continuous and above with oil temperature greater than 150°F (65°C)
	LTS 101-600A-3, -750B-2	90-100 psig	
Minimum oil pressure	LTS 101-600A-2 and -650B-1A	20 psig	Flight idle and below
	LTS 101-600A-3, -650C-2/C-3/C-3A, 750B-2, -750C-1	20 psig	Flight idle, oil inlet temperature greater than 50°F (10°C)
	LTS 101-650B-1 and -750B-1	40 psig	Flight idle, oil inlet temperature greater than 50°F (10°C)
	LTS 101-600A-3, -650B-1, -650C-2/C-3/C-3A, -750B-1/B-2, -750C-1	50 psig	Flight idle, oil inlet temperature at or below 50°F (10°C)
Maximum transient oil pressure (cold oil)	LTS 101-600A-2 and -650B-1A	200 psig	Starting at ambient temperature less than -20°F (-29°C) for a duration not to exceed 2.5 minutes
	LTS 101-600A-3, -650B-1, -650C-2/C-3/C-3A, -750B-1/B-2, -750C-1	<u>350 psig (spikes)</u> 120 psig	During oil warm up from 50°F (10°C) to 150°F (65°C)
Maximum oil inlet temperature	LTS 101-650C-2/C-3/C-3A, -750C-1	220°F (105°C)	Ambient temperature less than 100°F (38°C)
	LTS 101-600A-2, -600A-3, -650B-1,* -650B-1A, -750B-1/B-2	210°F (99°C)	Ambient temperature less than 100°F (38°C)
	LTS 101-600A-2, -600A-3, -650B-1,* -650B-1A, -650C-2/C-3/C-3A**, -750B-1/B-2, -750C-1**	230°F (110°C)	Ambient temperature at or above 100°F (38°C)
<p>* 50°F (10°C) minimum oil temperature for operation above ground idle.  150°F (65°C) minimum oil temperature during sustained steady state power.  ** Oil temperature limit also applies for one engine inoperative (OEI) conditions.</p>			

NOTE 9.

Accessory drive provisions:

Description	LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
Starter Generator Pad Type		AND20001 Modified(3)	--	--	--	AND20001 Modified(7)	--
Rotation (viewing pad)		CW	--	--	--	--	--
Gear Ratio(1)		.2512	--	--	--	--	--
Maximum Torque (in-lb)							
Starting		500	--	--	--	--	--
Transient		150(5)	--	--	--	--	--
Maximum continuous		46(6)	71(6)	--	--	--	--
Accessory Pad Type		AND20002 Modified(3)	---	AND20002 Modified(3)	--	--	--
Rotation (viewing pad)		CW	---	CW	--	--	--
Gear Ratio(2)		.3265	---	.3265	--	.3406	--
Maximum Torque (in-lb)							
Starting		---	---	---	---	---	---
Maximum continuous		75	---	75	--	--	--

Description	LTS 101	-600A-2	-600A-3	-650B-1	-650B-1A	-650C-2	-650C-3 -650C-3A
Spare Pad Type		AND20000 Modified(3)(4)	--	---	AND20000 Modified(3)(4)	---	---
Rotation (viewing pad)		CCW	--	---	CCW	---	---
Gear Ratio(2)		.5375	--	---	.5375	---	---
Maximum Torque (in-lb)							
Starting		---	---	---	---	---	---
Maximum continuous		20	--	---	11	---	---

Description	LTS 101	-750B-1	-750B-2	-750C-1			
Starter Generator Pad Type		AND20001 Modified(7)	AND20001 Modified(3)	AND20001 Modified(7)			
Rotation (viewing pad)		CW	--	--			
Gear Ratio(1)		.2512	--	--			
Maximum Torque (in-lb)							
Starting		500	--	--			
Transient		150(5)	--	--			
Maximum continuous		71(6)	--	--			
Accessory Pad Type		---	---	AND20002 Modified(3)			
Rotation (viewing pad)		---	---	CW			
Gear Ratio(2)		---	---	.3406			
Maximum Torque (in-lb)							
Starting		---	---	---			
Maximum continuous		---	---	75			
Spare Pad Type		---	---	---			
Rotation (viewing pad)		---	---	---			
Gear Ratio(2)		---	---	---			
Maximum Torque (in-lb)							
Starting		---	---	---			
Maximum continuous		---	---	---			

- (1) With respect to gas generator.
- (2) With respect to power turbine.
- (3) Limit pad speed and maximum loads modified. See the applicable engine Installation Instructions for further details.
- (4) Pad pilot diameter modified to 1.622 in. Pad spline pitch diameter modified to .4583 in.
- (5) To be used in generating mode only, with a time limit of 30 seconds.
- (6) If the starter generator rating is more than 150 amps., the continuous electric load must be limited to 150 amps when the gas generator is less than 43,100 r.p.m.
- (7) See Figure 6.7 of the applicable engine Installation Instructions for pad definition.

CW - Clockwise, CCW - Counterclockwise

NOTE 10

The LTS 101-600A-2 engine model meets the FAA requirements for operation in icing conditions provided that the induction system design conforms to AlliedSignal Kit Number 4-201-080-01, and a minimum of 37,080 r.p.m. gas producer speed is maintained.

The LTS 101-600A-3 and -750C-1 engine models meet the FAA requirements for operation in icing conditions provided that a minimum of 38,294 r.p.m. gas producer speed is maintained.

The LTS 101-650/c-2, -650C-3, and -650C-3A engine models meet the FAA requirements for operation in icing conditions provided that a minimum of 37,080 r.p.m. gas producer speed is maintained.

The LTS 101-650B-1A engine model meets the FAA requirements for operation in icing conditions provided that the induction system design conforms to Figure 6.8 of AlliedSignal Installation Instructions 101.14.50, and a minimum bypass flow of 29% at an inlet referred flow rate of 4.8 lb./sec. is maintained.

The LTS 101-650/B-1 engine model meets the FAA requirements for operation in icing conditions provided that the induction system design conforms to Figure 18 or Figure 19 of AlliedSignal Installation Instructions 101.14.36, and a minimum bypass flow of 29% at an inlet referred flow rate of 4.8 lb/sec. is maintained when using the induction system design of Figure 18.

The LTS 101-750B-1 engine model meets the FAA requirements for operation in icing conditions provided that the induction system design conforms to Figure 19 of AlliedSignal Installation Instructions 83.101.11.

The LTS 101-750B-2 engine model meets the FAA requirements of FAR 33.68, Amendment 10, for operation in icing conditions provided that the induction system design conforms to Figure 19 or Figure 19A of AlliedSignal Installation Instructions 101.14.29, and a minimum bypass flow of 29% at an inlet referred flow rate of 5.2 lb./sec. is maintained when equipped with the induction system design as depicted by Figure 19 of the Installation Instructions.

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 approval of the engine installation.

NOTE 12.

The engine inlet air particle separator scavenge blower assembly meets the FAA requirements of FAR 29.1461 for high energy rotor containment.

NOTE 13.

Maximum permissible air bleed extraction is 5% of inlet airflow at the designed customer bleed port at standard sea level static conditions.

NOTE 14.

Certain engine parts are life limited. These limits are listed in FAA approved, AlliedSignal Service Bulletin Number LTS 101-71-00-0002, revision 13, dated September 10, 1993.

NOTE 15.

Engine starting torque and speed requirements are shown as in the applicable engine Installation Instructions.

NOTE 16.

Approved type fuels and fuel additives are specified in the applicable engine Installation Instructions.

- NOTE 17. 100% output shaft speed for the LTS 101-650C-2, -650C-3A, and -750C-1 is 9545 r.p.m.; for the LTS 101-650B-1, -650B-1A, -750B-1, and -750B-2 is 6000 r.p.m.; and for all other models is 5966 r.p.m.
- NOTE 18. 100% power turbine shaft speed for the LTS 101-650B-1, -750B-1, and -750B-2 is 36,281 r.p.m.; and for the LTS 101-650B-1A is 37,211 r.p.m.
- NOTE 19. 100% gas generator speed equals 47,870 r.p.m. for all engine models.
- NOTE 20. The installation for all engine models must incorporate a control system stability accumulator(s) in accordance with the applicable engine Installation Instructions. The LTS 101-600A-3, -750B-1, and -750B-2 engine models incorporate provision for a control system stability accumulator(s).
- NOTE 21. Engine maintenance program requirements are defined in FAA approved, AlliedSignal Service Bulletin Number LTS 101-71-00-0001, Revision 4, dated September 29, 1989.
- NOTE 22. Overhaul of engine models LTS 101-650C-3A, -750B-2, and -750C-1 is not authorized until FAA approved, Overhaul Manuals are available; otherwise, these engines may be overhauled, only by the manufacturer, to new engine tolerances.
- NOTE 23. The LTS 101-650B-1, -650B-1A, -650C-2, -650C-3, -650C-3A, -750B-1, -750B-2, and -750C-1 engine models are equipped with a suction feed fuel system meeting the FAA requirements of FAR 33.67, Amendment 6. All other engine models require an aircraft boost pump to deliver fuel to the engine (see NOTE 8).
- NOTE 24. The power turbine overspeed trip is mounted on the accessory pad marked "Alternator" for all engine models, except the LTS 101-650B-1A, -650C-2, -650C-3, -650C-3A, and the -750C1 engine models where overspeed protection is provided by the power turbine governor.
- NOTE 25. This Type Certificate, E5NE, was originally issued to Avco Lycoming Engine Group, Stratford Division, Stratford, Connecticut. The Type Certificate was endorsed for transfer on July 20, 1982, and was reissued to Avco Lycoming Engine Group, Williamsport Division, Williamsport, Pennsylvania on August 16, 1982. The Type Certificate was again endorsed for transfer on January 29, 1987, and was reissued to Avco Lycoming Textron, Stratford Division, Stratford, Connecticut, on February 27, 1987. The Type Certificate was endorsed for a change in the holder's name on October 21, 1987, and was reissued to Textron Lycoming, Stratford Division, on October 28, 1987. The Type Certificate was endorsed for a change in the holder's name on January 27, 1995, and was reissued to AlliedSignal Inc. on January 31, 1995.
- NOTE 26. Installation of the LTS 101-650B-1, -750B-1, and -750B-2 engine models must include a full flow scavenge oil strainer and chip detector to meet the FAA requirements of FAR 33.7, Amendment 6.

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