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I - General

1. Type / Variants : Lycoming IO-580 / Lycoming IO-580-B1A
Lycoming AEIO-580-B1A

2. Type Certificate Holder :

Lycoming Engines
An Operating Division of AVCO Corporation
652 Oliver Street
Williamsport, Pennsylvania, 17701, USA

3. Manufacturer:

Lycoming Engines

4. EASA Certification/Validation Application Date:

IO-580-B1A	AEIO-580-B1A			
23 Dec. 2005	18. Dec. 2007			

5. Validation Reference Date: 15 November 1996 (same as FAA certification reference date)

6. EASA Certification Date:

IO-580-B1A	AEIO-580-B1A			
07 June 2006	06 May 2008			

II - Certification Basis

1. FAA Certification Basis: See FAA TCDS E00004NY

2. EASA Certification Basis:

2.1. Airworthiness Standards:

IO-580-B1A: JAR-E, Change 9, dated 21 October 1994 plus Orange Paper Amendment E/96/1 dated 8 August 1996

AEIO-580-B1A: CS-E initial issue

2.2 Special Conditions (SC):

none

2.3. Equivalent Safety Findings (ESF):

none

2.4. Deviations:

none

2.5. Environmental Standards:

none (not required for piston engines)

III - Technical Characteristics

1. Type Design Definition:

IO-580B1A: Engine Parts Catalogue IO-580-B1A No. PC-701-1 and Installation Drawing No. 04D63600 .
AEIO-580-B1A: Engine Parts Catalogue AEIO-580-B1A No. PC-701-2 and Installation Drawing No. 04D63608

2. Description:

The Lycoming IO-580 engine is a fuel injected, naturally aspirated, horizontally opposed, six cylinder, four stroke, spark ignited, aircooled, wet sump engine incorporating provisions for front and rear mounted accessories. The AEIO-580 incorporates modifications on the oil system to enable aerobatic operation.

Displacement: 9.554 dm³ (583 cu. in.)
Bore x stroke: 135.1 mm x 111.1 mm (5.319 in. x 4.375 in.)
Compression ratio: 8.9 : 1
Gear ratio: N/A

3. Equipment:

See latest revision of Lycoming Service Instruction No. 1042 and 1154

4. Dimensions:

	IO-580-B1A	AEIO-580-B1A
Overall Length	999 mm (39.34 in.)	948 mm (37.32 in.)
Overall Height	534 mm (21.04 in.)	625 mm (24.62 in.)
Width	870 mm (34.25 in.)	870 mm (34.25 in.)

5. Dry Weight:

IO-580-B1A	AEIO-580-B1A	
196.86 kg	202.30	
(434 lbs)	(446 lbs)	

(weight without starter and alternator)

6. Ratings:

Rating		IO-580-B1A	AEIO-580-B1A	
Power, kW (HP)	Take-off and Maximum Continuous, full throttle at sea level pressure altitude	235 (315) at 2700 rpm	235 (315) at 2700 rpm	

Note: The performance values specified above correspond to minimum values defined under the conditions of ICAO or ARDC standard atmosphere.

7. Control System

The Lycoming IO-580-B1A engine is equipped with a mechanical Precision Airmotive Corp. (PAC) fuel injection system PAC RSA-10ED1 (for AEIO-580-B1A: either PAC RSA-10ED1 or Lycoming FM-250) and a two magneto ignition system.

8. Fluids (Fuel/Oil/Additives):

Fuel: Aviation Gasoline, minimum grade 100 or 100LL

Oil: See latest revision of Lycoming Service Instruction No. 1014

9. Aircraft Accessory Drives:

Designation	Rotation direction	Speed ratio to crankshaft	Max. Torque Nm (in. lbs)		Max. Overhang moment Nm (in. lbs)
			Continuous	static	
Tachometer	CW	0.5:1	0.79 (7)	5.65 (50)	0.56 (5)
Prop. governor	CW	0.947:1	14.12 (125)	248.57 (2200)	2.82 (25)
Starter	CCW	24.727:1		50.84 (450)	16.95 (150)
Alternator	CCW	3.20:1	6.78 (60)	13.56 (120)	19.77 (175)
Fuel Pump	CCW	1:1	2.82 (25)	50.84 (450)	2.82 (25)
Accessory 1**	CCW	1.3:1	7.91 (70)	50.84 (450)	2.82 (25) NA (for AEIO)
Accessory 2**	CW	1:385:1	11.30 (100)	90.39 (800)	4.52 (40)
Accessory 1 (for AEIO)					

** For AEIO-580-B1A, aerobatic oil pickup is installed at Accessory 1 and Accessory 2 is re-identified.

IV - Operational Limitations

1. Temperature limits:

Cylinder head (well type thermocouple): 241 °C (465 °F)
Oil inlet: 113 °C (235 °F) (IO-580-B1A)
118 °C (245 °F) (AEIO-580-B1A)

2. Pressure Limits:

2.1 Fuel Pressure:

Inlet to fuel pump, minimum: -13.8 kPa (-2.0 psig)
maximum: 448.2 kPa (65.0 psig)

Inlet to fuel injector, minimum idle: 82.7 kPa (12.0 psig)
minimum: 200.0 kPa (29.0 psig)
maximum: 448.2 kPa (65.0 psig)

2.2 Oil Pressure Limits:

Minimum (idle): 172 kPa (25 psig)
Normal: 379...655 kPa (55...95 psig)
Maximum (starting, warm-up, taxi, take off) 793 kPa (115 psig)

V - Operational and Service Instructions

	IO-580-B1A	AEIO-580-B1A
Operation and Installation Manual	60297-28	60297-32
Maintenance and Overhaul Manual	LMO-580-B	LMO-AEIO-580
Service Bulletins and Service Letters	As issued	As issued

VI - Notes

Note 1: The engine is eligible for pusher and tractor operation.

Note 2: The AEIO-580-B1A engine installation is only allowed in aircraft for which a declaration has been provided that fire proof engine mounts according to CS-E 130(h) are not required.

Note 3: Compliance with FAA AD 2008-08-14 is required unless Precision Airmotive RSA-10 fuel injector gasket P/N 2577258 is installed.
