TYPE-CERTIFICATE DATA SHEET

No. IM.E.027

for
Lycoming IO-580 series engines

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

For Models:

IO-580-B1A
AEIO-580-B1A

Intentionally left blank

TABLE OF CONTENTS

I. General

1. Type/ Model

IO-580 Series/IO-580-B1A, 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. Date of Application

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

5. EASA Type Certification Date

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

II. Certification Basis

1. State of Design Authority Certification Basis

See FAA TCDS E00004NY

2. Reference Date for determining the applicable airworthiness requirements

15 November 1996 (same as FAA certification reference date)

3. EASA Certification Basis

3.1. Airworthiness Standards

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

CS-E initial issue (for AEIO-580-B1A)

3.2. Special Conditions (SC)

none

3.3. Equivalent Safety Findings

none

3.4. Deviations

none

3.5. Environmental Protection

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 dm^3 (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 fuel injection system RSA-10ED1 (for AEIO-580-B1A: RSA-10ED1 or FM-250) and a two magneto ignition system. For alternate injection systems see latest revision of Lycoming Service Instruction 1532, for approved ignition systems see latest revision of Lycoming Service Instruction 1443.

8. Fluids (Fuel, Oil, Coolant, Additives)

Fuel: See latest revision of Lycoming Service Instruction No. 1070

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) Continuous	static	Max. Overhang moment Nm (in. lbs)
Starter*	CCW	16.556:1		50.84 (450)	16.95 (150)
Alternator*	CW	3.20:1	6.78 (60)	13.56 (120)	19.77 (175)
Accessory 1**	CCW	1.3:1	7.91 (70)	50.84 (450)	2.82 (25)
Hydraulic Pump**	CW	1:385:1	11.30 (100)	90.39 (800)	4.52 (40)
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)
Fuel Pump	CCW	1:1	2.82 (25)	50.84 (450)	2.82 (25)

* These accessories are optional, see latest revision of Lycoming Service Instruction 1154 for the approved alternates.
** These drives are optional and accessory pads may be cast over.

IV. Operating 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. Speed Limits

Max. Overspeed (3 seconds, Momentary overspeed): 2970 rpm

3. Pressure Limits

3.1 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)

3.2 Oil Pressure

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. Operating and Service Instructions

Manuals

	IO-580-B1A	**AEIO-580-B1A**	
Operation and Installation Manual	60297-28	60297-32	

Instructions for Continued Airworthiness

	IO-580-B1A	**AEIO-580-B1A**	
Maintenance Manual	LMO-580-B	LMO-AEIO-580	
Overhaul Manual	LMO-580-B	LMO-AEIO-580	
Parts Catalogue	PC-IO-580-B1A	PC-AEIO-580-B1A	
Service Bulletins and Service Letters	As issued	As issued	

Note: See latest revision of Lycoming Service Letter No. L114 for document revisions and supersedures.

VI. Notes

Note 1: The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable "Maintenance Manual" document, chapter 5 "Airworthiness Limitations".

Note 2: The engine is eligible for pusher and tractor operation.

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

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

n/a

II. Type Certificate Holder Record

n/a

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	07 June 2006	Initial Issue	Initial issue 07 June 2006
Issue 02	06 May 2008	Model AEIO-580-B1A added	06 May 2008
Issue 03	07 May 2020	Editorial changes, references to SI1443, SI1532 added (Major Change Approval 10073166)	

-END-