TYPE-CERTIFICATE DATA SHEET

No. EASA.IM.E.032

for
IO-360 Series Engines

Type Certificate Holder
Lycoming Engines
An Operating Division of AVCO Corporation

652 Oliver Street
Williamsport, Pennsylvania, 17701, USA

Models

IO-360-A1A
IO-360-A1B
IO-360-A1B6
IO-360-A1B6D
IO-360-A1C
IO-360-A1D
IO-360-A1D6
IO-360-A1D6D
IO-360-A2A
IO-360-A2B
IO-360-A2C
IO-360-A3B6
IO-360-A3B6D
IO-360-A3D6D
IO-360-B1A
IO-360-B1B
IO-360-B1C
IO-360-B1D
IO-360-B1E
IO-360-B1F
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IO-360-B1G6
IO-360-B2E
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AEIO-360-B1D
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AEIO-360-B2F6
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HIO-360-E1BD
HIO-360-F1AD
HIO-360-G1A
LHIO-360-C1A
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LHIO-360-F1AD

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IO-360-A1B6	IO-360-C1C6	AEIO-360-A1D	LHIO-360-C1A
IO-360-A1B6D	IO-360-C1D6	AEIO-360-A1E	LHIO-360-C1B
IO-360-A1C	IO-360-C1E6	AEIO-360-A2A	LHIO-360-F1AD
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IO-360-A1D6	IO-360-C1F	AEIO-360-A2C	
IO-360-A1D6D	IO-360-C1G6	AEIO-360-B1B	
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IO-360-A3B6	IO-360-J1AD	AEIO-360-B1G6	
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IO-360-A3D6D	IO-360-K2A	AEIO-360-B2F6	
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IO-360-B1B	IO-360-M1A	AEIO-360-B4A	
IO-360-B1C	IO-360-M1B	AEIO-360-H1A	
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IO-360-B1F	AIO-360-A1A	HIO-360-A1B	
IO-360-B1F6	AIO-360-A1B	HIO-360-B1A	
IO-360-B1G6	AIO-360-A2A	HIO-360-B1B	
IO-360-B2E	AIO-360-A2B	HIO-360-C1A	
IO-360-B2F	AIO-360-B1B	HIO-360-C1B	
IO-360-B2F6	AEIO-360-A1A	HIO-360-D1A	
IO-360-B4A	AEIO-360-A1B	HIO-360-E1AD	
IO-360-C1A	AEIO-360-A1B6	HIO-360-E1BD	

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 Application Date:

Not known (for all models, except LIO-360-M1A)

22 January 2009 (LIO-360-M1A)

5. EASA Certification Reference Date: (same as FAA certification reference date)

29 March 1960 (for all models, except LIO-360-M1A)
13 December 2000 (LIO-360-M1A)
For the other models application had been made to individual European National Aviation Authorities (NAA) before 28 September 2003.

6. EASA Certification Date:

27 September 2012 (LIO-360-M1A)

EASA Type-Certification for the above mentioned engine models, except LIO-360-M1A, is granted, in accordance with Article 2 paragraph 3(a)(i) of EU Commission Regulation EC 1702/2003, based on NAA approvals prior to 28 September 2003 in several EU Member States.
EASA TC and TCDS EASA.IM.E.032 replaces all TC and TCDS previously issued in the EASA countries for the above mentioned engine models.

II. Certification Basis

1. FAA Certification Basis: **See FAA TCDS 1E10**

2. EASA Certification Basis:

2.1. Airworthiness Standards:

All models, except LIO-360-M1A:	CAR 13 effective June 15, 1956, as amended by 13-1, 13-2, 13-3
LIO-360-M1A:	JAR-E, Change 10, dated 15 August 1999

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:

The Engine Type Designs are defined in the following Parts Catalogs:

PC-106:	IO-360-A1A, -B1A, -B1B; HIO-360-A1A, -B1A
PC-306-12, -12A:	IO-360-L2A
PC-306-13:	IO-360-B1G6
PC-306-14, -14A, 14B:	(L)IO-360-M1A
PC-306-15:	IO-360-C1G6
PC-306-16:	IO-360-M1B
PC-406-1, -1A, -1B, -1C, SSP-291, SSP-295:	IO-360-A1A, -A1B, -A1B6, -A1B6D, -A1C, -A1D, -A1D6, A2A, -A2B, -A3B6, -A3B6D, -B1B, -B1D, -B1E, -B1F, -B2F, -AEIO-360-A1A, -A1B6, -A1C, -A1D, -A2A, -A2B, B1D, B2F, -B2F6, -B4A -B2F6, -B4A; AIO-360-A1A, -A1B, -B1B
PC-406-2, -2A, -2B, -2C:	IO-360-C1A, -C1B, -C1C, -C1C6, -C1D6, -C1E6, -C1F, J1A6D; LIO-360-C1E6; HIO-360-A1A, -B1A, -C1A, -C1B, D1A, -E1AD, -E1BD, -F1AD; AEIO-360-A1E, -B1G6, -H1A
PC-406-4:	AEIO-360-B1B, -B1F, -B1H
PC-406-5:	AEIO-360-H1B
PC-406-6:	HIO-360-G1A

Models shown below had limited production and no Parts Catalogs are avalible (see section V on page 17 for details):

IO-360-A1D6D, IO-360-A2C, IO-360-A3D6D, IO-360-B1C, IO-360-B1F6, IO-360-B2E, IO-360-C1E6D, IO-360-D1A, IO-360-E1A, IO-360-F1A, IO-360-J1AD, IO-360-K2A, AIO-360-A2A, AIO-360-A2B, AEIO-360-A1E6, AEIO-360-A2C, AEIO-360-B1F6, HIO-360-A1B, HIO-360-B1B, LHIO-360-C1A, LHIO-360-C1B, LHIO-360-F1AD

2. Description:

The Lycoming IO-360 engine is a fuel injected, naturally aspirated, horizontally opposed, four cylinder, four stroke, spark ignited, aircooled, wet sump engine (except AIO series: dry sump) incorporating provisions for front and rear mounted accessories.
Displacement: 5.916 dm^3 (361 cu. in.)
Bore x stroke: 130.2 mm x 111.1 mm (5.125 in. x 4.375 in.)
Compression ratio:

8.7 : 1	(IO-360-A1A, -A1B, -A1B6, -A1B6D, -A1C, -A1D, -A1D6, -A1D6D, -A2A, A2B, -A2C, -A3B6,-A3B6D, -A3D6D, -C1A, -C1B, -C1C, -C1C6, -C1D6,C1E6, -C1E6D, -C1F, -C1G6, -D1A, -J1AD, -J1A6D, -K2A, LIO-360-C1E6,AIO-360-A1A, -A2A, -A1B, -A2B, -B1B, AEIO-360-A1A, -A1B, -A1B6, -A1C, A1E, -A1E6, -A1D, -A2A, -A2B, -A2C, HIO-360-A1A, -A1B, -C1A, -C1B, LHIO-360-C1A, -C1B)
8.5 : 1	(IO-360-B1A, -B1B, -B1C, -B1D, -B1E, -B1F, -B1F6, -B2E, -B2F, -B2F6, B1G6, -B4A, -E1A, -F1A, -L2A, -M1A, -M1B, LIO-360-M1A, AEIO-360-B1B, B1D, -B1F, -B2F, -B4A, -B1F6, -B2F6, -B1G6, -H1A, -H1B, -B1H, HIO-360-B1A, -B1B)
10.0 : 1	(HIO-360-D1A)
8.0 : 1	(HIO-360-E1AD, -E1BD, -F1AD, -G1A, LHIO-360-F1AD)
Gear ratio:	N/A

3. Equipment:

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

4. Dimensions:

Model	Overall Length		Overall Height		Width	
	inch	mm	inch	mm	inch	mm
IO-360-A1A	29.81	757	19.35	491	34.25	870
IO-360-A1B	30.70	780	19.35	491	34.25	870
IO-360-A1B6	30.70	780	19.35	491	34.25	870
IO-360-A1B6D	31.33	796	19.35	491	34.25	870
IO-360-A1C	29.30	744	19.35	491	34.25	870
IO-360-A1D	29.81	757	19.35	491	34.25	870
IO-360-A1D6	30.70	780	19.35	491	34.25	870
IO-360-A1D6D	31.33	796	19.35	491	34.25	870
IO-360-A3D6D	31.33	796	19.35	491	34.25	870
IO-360-A2A	29.81	757	19.35	491	34.25	870
IO-360-A2B	30.70	780	19.35	491	34.25	870
IO-360-A2C	29.30	744	19.35	491	34.25	870
IO-360-A3B6	30.70	780	19.35	491	34.25	870
IO-360-A3B6D	31.33	796	19.35	491	34.25	870
IO-360-B1A	32.81	833	22.47	571	33.37	848
IO-360-B1B	29.81	757	24.84	631	33.37	848
IO-360-B1C	30.68	779	20.70	526	33.37	848
IO-360-B1D	29.81	757	24.84	631	33.37	848
IO-360-B1E	32.09	815	20.70	526	33.37	848
IO-360-B1F	30.70	780	24.84	631	33.37	848
IO-360-B1F6	30.70	780	24.84	631	33.37	848
IO-360-B1G6	32.09	815	20.70	526	33.37	848
IO-360-B2E	32.09	815	20.70	526	33.37	848
IO-360-B2F	30.70	780	24.84	631	33.37	848
IO-360-B2F6	30.70	780	24.84	631	33.37	848
IO-360-B4A	29.81	757	24.84	631	33.37	848
IO-360-C1A	31.14	791	19.48	495	34.25	870
IO-360-C1B	31.14	791	19.48	495	34.25	870
IO-360-C1C	33.65	855	19.48	495	34.25	870
IO-360-C1C6	33.65	855	19.48	495	34.25	870
IO-360-C1D6	31.14	791	19.48	495	34.25	870
IO-360-C1E6	33.65	855	19.48	495	34.25	870
IO-360-C1E6D	33.65	855	19.48	495	34.25	870
IO-360-C1F	33.65	855	19.48	495	34.25	870
IO-360-C1G6	31.14	791	19.48	495	34.25	870
IO-360-D1A	31.14	791	19.48	495	34.25	870
IO-360-E1A	32.09	815	20.70	526	33.37	848
IO-360-F1A	32.09	815	20.70	526	33.37	848
IO-360-J1AD	31.33	796	19.35	491	34.25	870
IO-360-J1A6D	31.33	796	19.35	491	34.25	870
IO-360-K2A	29.81	757	24.84	631	33.37	848
IO-360-L2A	29.81	757	24.84	631	33.37	848
IO-360-M1A	32.75	832	20.26	515	33.38	848
IO-360-M1B	32.75	832	20.26	515	33.38	848

Model	Overall Length		Overall Height		Width	
	inch	mm	inch	mm	inch	mm
HIO-360-A1A	33.65	855	19.48	495	35.25	895
HIO-360-A1B	33.65	855	19.48	495	34.25	870
HIO-360-B1A	32.09	815	19.38	492	33.37	848
HIO-360-B1B	30.68	779	19.38	492	33.37	848
HIO-360-C1A	33.65	855	19.48	495	34.25	870
HIO-360-C1B	33.65	855	19.48	495	34.25	870
HIO-360-D1A	35.23	895	19.48	495	35.62	905
HIO-360-E1AD	31.36	797	19.97	507	34.25	870
HIO-360-E1BD	31.36	797	19.97	507	34.25	870
HIO-360-F1AD	31.36	797	19.97	507	34.25	870
HIO-360-G1A	31.81	808	19.68	500	33.37	848
AIO-360-A1A	30.08	764	20.76	527	34.25	870
AIO-360-A2A	30.08	764	20.76	527	34.25	870
AIO-360-A1B	30.08	764	20.76	527	34.25	870
AIO-360-A2B	30.08	764	20.76	527	34.25	870
AIO-360-B1B	30.08	764	20.76	527	34.25	870
LIO-360-C1E6	33.65	855	19.48	495	34.25	870
LIO-360-M1A	33.27	845	20.60	523	33.35	847
LHIO-360-C1A	33.65	855	19.48	495	34.25	870
LHIO-360-C1B	33.65	855	19.48	495	34.25	870
AEIO-360-A1A	29.81	757	19.35	491	34.25	870
AEIO-360-A2A	29.81	757	19.35	491	34.25	870
AEIO-360-A1B	30.70	780	19.35	491	34.25	870
AEIO-360-A2B	30.70	780	19.35	491	34.25	870
AEIO-360-A1C	29.30	744	19.35	491	34.25	870
AEIO-360-A2C	29.30	744	19.35	491	34.25	870
AEIO-360-A1B6	30.70	780	19.35	491	34.25	870
AEIO-360-A1D	29.81	757	19.35	491	34.25	870
AEIO-360-B1B	29.81	757	24.84	631	33.37	848
AEIO-360-B1D	29.81	757	24.84	631	33.37	848
AEIO-360-B1F	30.70	780	24.84	631	33.37	848
AEIO-360 B2F	30.70	780	24.84	631	33.37	848
AEIO-360-B4A	29.56	751	24.84	631	33.37	848
AEIO-360-B1F6	30.70	780	24.84	631	33.37	848
AEIO-360-B2F6	30.70	780	24.84	631	33.37	848
AEIO-360-B1G6	29.05	738	24.84	631	33.37	848
AEIO-360-B1H	29.05	738	24.84	631	33.37	848
AEIO-360-H1A	29.05	738	24.84	631	33.37	848
AEIO-360-H1B	29.05	738	24.84	631	33.37	848
AEIO-360-A1E6	29.81	757	19.35	491	34.25	870
AEIO-360-A1E	29.81	757	19.35	491	34.25	870
LHIO-360-F1AD	31.36	797	19.97	507	34.25	870

5. Dry Weight:

Model	Weight [kg]	Weight [lbs]
IO-360-A1A	133	293
IO-360-A1B	134	295
IO-360-A1B6	137	302
IO-360-A1B6D	136	299
IO-360-A1C	133	294
IO-360-A1D	133	294
IO-360-A1D6	138	304
IO-360-A1D6D, -A3D6D	137	301
IO-360-A2A	133	293
IO-360-A2B	134	295
IO-360-A2C	133	294
IO-360-A3B6	137	302
IO-360-A3B6D	136	299
IO-360-B1A	121	267
IO-360-B1B	122	268
IO-360-B1C	118	261
IO-360-B1D	121	266
IO-360-B1E	120	265
IO-360-B1F	122	270
IO-360-B1F6	126	277
IO-360-B1G6	129	284
IO-360-B2E	120	265
IO-360-B2F	122	270
IO-360-B2F6	126	277
IO-360-B4A	125	276
IO-360-C1A	131	288
IO-360-C1B	131	289
IO-360-C1C	132	291
IO-360-C1C6	135	298
IO-360-C1D6	135	297
IO-360-C1E6	139	306
IO-360-C1E6D	137	303
IO-360-C1F	133	293
IO-360-C1G6	147	324
IO-360-D1A	133	293
IO-360-E1A	120	265
IO-360-F1A	123	272
IO-360-J1AD	138	305
IO-360-J1A6D	142	312
IO-360-K2A	133	293
IO-360-L2A	122	268
IO-360-M1A	127	279
IO-360-M1B	127	279
HIO-360-A1A	128	283
HIO-360-A1B	127	281
HIO-360-B1A	118	261
HIO-360-B1B	118	261
HIO-360-C1A	132	291
HIO-360-C1B	132	292
HIO-360-D1A	132	290
HIO-360-E1AD	132	290
HIO-360-E1BD	132	290
HIO-360-F1AD	133	293
HIO-360-G1A	119	262
AIO-360-A1A	136	300

AIO-360-A2A	136	300
AIO-360-A1B	137	301
AIO-360-A2B	137	301
AIO-360-B1B	137	301
LIO-360-C1E6	139	306
LIO-360-M1A	127	279
LHIO-360-C1A	132	290
LHIO-360-C1B	132	291
AEIO-360-A1A	135	298
AEIO-360-A2A	135	298
AEIO-360-A1B	136	300
AEIO-360-A2B	136	300
AEIO-360-A1C	136	299
AEIO-360-A2C	136	299
AEIO-360-A1B6	139	307
AEIO-360-A1D	136	299
AEIO-360-B1B	124	273
AEIO-360-B1D	123	271
AEIO-360-B1F	125	275
AEIO-360 B2F	125	275
AEIO-360-B4A	127	281
AEIO-360-B1F6	128	282
AEIO-360-B2F6	128	282
AEIO-360-B1G6	126	277
AEIO-360-B1H	124	273
AEIO-360-H1A	122	270
AEIO-360-H1B	124	273
AEIO-360-A1E6	139	307
AEIO-360-A1E	137	301
LHIO-360-F1AD	133	293

6. Ratings:

Model	Take-off fullthrottle at sea level pressure altitude	Max. Continous	Alternate Rating
IO-360-A1A	149 kW (200 HP) at 2700 rpm	149 kW (200 HP) at 2700 rpm	
IO-360-A1B			
IO-360-A1B6			
IO-360-A1B6D			
IO-360-A1C			
IO-360-A1D			
IO-360-A1D6			
IO-360-A1D6D			
IO-360-A3D6D			
IO-360-A2A			
IO-360-A2B			
IO-360-A2C			
IO-360-A3B6			
IO-360-A3B6D			
IO-360-B1A	134 kW (180 HP) at 2700 rpm	134 kW (180 HP) at 2700 rpm	
IO-360-B1B			
IO-360-B1C	132 kW (177 HP) at 2700 rpm	132 kW (177 HP) at 2700 rpm	

IO-360-B1D	134 kW (180 HP) at 2700 rpm	134 kW (180 HP) at 2700 rpm	
IO-360-B1E			
IO-360-B1F			
IO-360-B1F6			
IO-360-B1G6			
IO-360-B2E			
IO-360-B2F			
IO-360-B2F6			
IO-360-B4A			
IO-360-C1A	149 kW (200 HP) at 2700 rpm	149 kW (200 HP) at 2700 rpm	
IO-360-C1B			
IO-360-C1C			
IO-360-C1C6			
IO-360-C1D6			
IO-360-C1E6			
IO-360-C1E6D			
IO-360-C1F			
IO-360-C1G6			
IO-360-D1A			
IO-360-E1A	134 kW (180 HP) at 2700 rpm	134 kW (180 HP) at 2700 rpm	
IO-360-F1A			
IO-360-J1AD	149 kW (200 HP) at 2700 rpm	149 kW (200 HP) at 2700 rpm	
IO-360-J1A6D			
IO-360-K2A			
IO-360-L2A	119 kW (160 HP) at 2400 rpm	119 kW (160 HP) at 2400 rpm	134 kW (180 HP) at 2700 rpm
IO-360-M1A	134 kW (180 HP) at 2700 rpm	134 kW (180 HP) at 2700 rpm	119 kW (160 HP) at 2400 rpm
IO-360-M1B			
HIO-360-A1A	134 kW (180 HP) at 2900 rpm	134 kW (180 HP) at 2900 rpm	
HIO-360-A1B			
HIO-360-B1A			
HIO-360-B1B			
HIO-360-C1A	153 kW (205 HP) at 2900 rpm	153 kW (205 HP) at 2900 rpm	
HIO-360-C1B			
HIO-360-D1A	142 kW (190 HP) at 3200 rpm	142 kW (190 HP) at 3200 rpm	
HIO-360-E1AD	142 kW (190 HP) at 2900 rpm	142 kW (190 HP) at 2900 rpm	
HIO-360-E1BD			
HIO-360-F1AD	142 kW (190 HP) at 3050 rpm	142 kW (190 HP) at 3050 rpm	
HIO-360-G1A	134 kW (180 HP) at 2700 rpm	134 kW (180 HP) at 2700 rpm	
AIO-360-A1A	149 kW (200 HP) at 2700 rpm	149 kW (200 HP) at 2700 rpm	
AIO-360-A2A			
AIO-360-A1B			
AIO-360-A2B			
AIO-360-B1B			
LIO-360-C1E6			
LIO-360-M1A	134 kW (180 HP) at 2700 rpm	134 kW (180 HP) at 2700 rpm	
LHIO-360-C1A	153 kW (205 HP) at 2900 rpm	153 kW (205 HP) at 2900 rpm	
LHIO-360-C1B			

AEIO-360-A1A	149 kW (200 HP) at 2700 rpm	149 kW (200 HP) at 2700 rpm	
AEIO-360-A2A			
AEIO-360-A1B			
AEIO-360-A2B			
AEIO-360-A1C			
AEIO-360-A2C			
AEIO-360-A1B6			
AEIO-360-A1D			
AEIO-360-B1B	134 kW (180 HP) at 2700 rpm	134 kW (180 HP) at 2700 rpm	
AEIO-360-B1D			
AEIO-360-B1F			
AEIO-360 B2F			
AEIO-360-B4A			
AEIO-360-B1F6			
AEIO-360-B2F6			
AEIO-360-B1G6			
AEIO-360-B1H			
AEIO-360-H1A			
AEIO-360-H1B			
AEIO-360-A1E6	149 kW (200 HP) at 2700 rpm	149 kW (200 HP) at 2700 rpm	
AEIO-360-A1E			
LHIO-360-F1AD	142 kW (190 HP) at 3050 rpm	142 kW (190 HP) at 3050 rpm	

Note: The performance values specified are defined under the conditions of ICAO and ARDC standard atmosphere. For the tolerance on these values, see the latest revision of the Lycoming Detail Engine Specification for each model.

7. Control System:

The engines are equipped with a mechanical RSA-5 fuel injection system, except IO-360-B1A (Simmonds-530 fuel injector) and HIO-360-D1A (RSA-7). For approved fuel injectors, see the latest revision of Lycoming Service Instruction 1532, for approved ignition systems see latest revision of Lycoming Service Instruction 1443.

8. Fluids

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

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

9. Aircraft Accessory Drives

IO-360-Series																			
Accessory	B1C B1D	L2A	K2A A1A A1B A1C A2A A2B A2C	A1B6 A1D B1F6 C1D6 C1G6 M1B	A3B6D A1B6D	A1D6 B1G6 M1A	B1A	B4A B2F	B2F6	B1B B1E B1F C1A C1B D1A E1A	Rotation Facing Drive Pad	Speed Ratio to Crankshaft	Maximum Torque Continuous in-lb	Maximum Torque Continuous Nm	Maximum Torque Static in-lb	Maximum Torque Static Nm	Maximum Overhang Moment in-lb	Maximum Overhang Moment Nm
Starter•	*	*	*	*	*	*	**	*	*	*	CC	16.556:1	—		450	50.84	150	16.95
Starter•	**	—	—	—	—	—	*	—	—	—	CC	13.556:1	—		450	50.84	150	16.95
Generator•	*	—	**	—	—	—	*	*	—	*	C	1.910:1	60	6.78	120	13.56	175	19.77
Generator•	**	—	*	—	—	—	**	**	—	**	C	2.500:1	60	6.78	120	13.56	175	19.77
Alternator•	**	+	*	*	*	*	—	**	*	**	C	3.200:1	60	6.78	120	13.56	175	19.77
Vacuum Pump×	*	*	*	*	*	*	*	*	*	*	CC	1.300:1	70	7.91	450	50.84	25	2.82
Tachometer×	*	*	*	*	*	*	*	*	*	*	C	0.500:1	7	0.79	—		5	0.56
Fuel Pump	—	*	*	*	*	*	—	—	*	*	Plunger	0.500:1	—		—		10	1.13
Fuel Pump	*	—	—	—	—	—	—	—	—	—	CC	1.000:1	25	2.82	450	50.84	25	2.82
Fuel Pump	—	—	—	—	—	—	—	—	—	—	CC	1.000:1	125	14.12	450	50.84	25	2.82
Prop. Governor	*	—	*	*	—	—	*	—	—	*	C	0.866:1	125	14.12	1200	135.58	40	4.52
Prop. Governor	—	—	—	—	—	*	—	—	—	—	C	0.895:1	125	14.12	1200	135.58	40	4.52
Prop. Governor	—	—	—	—	*	—	—	—	—	—	C	0.850:1	125	14.12	1200	135.58	25	2.82
Hydraulic Pump×	—	—	—	—	*	*	—	—	—	—	C	1.300:1	100	11.30	800	90.39	40	4.52
Hydraulic Pump×	—	—	—	—	**	—	—	—	—	—	C	1.300:1	180	20.34	2200	248.57	150	16.95
Optional Dual Drive Mounting on Vacuum Pump Drive Pad																		
(Vacuum Pump)	**	**	**	**	—	—	**	**	**	**	CC	1.300:1	70	7.91	450	50.84	6	0.68
(Hydraulic Pump)	**	**	**	**	—	—	**	**	**	**	CC	1.300:1	Total		Total		10	1.13
or																		
(Vacuum Pump)	**	—	**	**	—	—	**	**	—	**	CC	1.300:1	70	7.91	450	50.84	6	0.68
(Prop. Governor)	**	—	**	**	—	—	**	**	—	**	CC	1.300:1	Total		Total		10	1.13

• These accessories are optional, see latest revision of SI 1154 for approved alternates.

× These drives are optional and accessory pads may be cast over.

+ -L2A engines supplied with a 248.4 mm (9.78") diameter Multi groove pulley driven at engine speed

"C" – Clockwise. "CC" – Counter-Clockwise. * Typical. ** Alternate

Total – refers to total torque of dual drives

9. Aircraft Accessory Drives (cont'd)

	IO-360 Series				AIO-360 Series	HIO-360 Series				LIO-360 Series			Maximum Torque				Maximum Overhang Moment	
													Continuous		Static			
Accessory	C1F F1A	C1C6 C1C	C1E C1E6	B2F B2E	A1A A1B A2A A2B B1B	E1AD E1BD E1BD E1AD	B1A	B1B	D1A G1A	C1E6 M1A	Rotation *** Facing Drive Pad	Speed Ratio to Crankshaft	in-lb	Nm	in-lb	Nm	in-lb	Nm
Starter•	*	*	*	*	*	*	*	*	*	*	CC	16.556:1	—		450	50.84	150	16.95
Starter•	—	—	—	—	—	—	—	—	—	—	CC	13.556:1	—		450	50.84	150	16.95
Generator•	—	—	—	*	**	—	**	**	—	—	C	2.500:1	60	6.78	120	13.56	175	19.77
Alternator•	*	*	*	**	*	*	—	—	*	*	C	3.200:1	60	6.78	120	13.56	175	19.77
Vacuum Pump×	*	*	*	*	*	—	*	*	*	*	CC	1.300:1	70	7.91	450	50.84	25	2.82
Tachometer×	*	*	*	*	*	*	*	*	*	*	C	0.500:1	7	0.79	50	5.65	5	0.56
Fuel Pump	—	*	*	*	—	—	*	—	*	*	Plunger	0.500:1	—		—		10	1.13
Fuel Pump	—	—	—	—	—	*	—	*	—	—	CC	1.000:1	25	2.82	450	50.84	25	2.82
Fuel Pump	*	—	—	—	—	—	—	—	—	—	CC	1.000:1	125	14.12	450	50.84	25	2.82
Prop. Governor	*	*	—	—	*	—	—	—	—	—	C	0.866:1	125	14.12	1200	135.58	40	4.52
Prop. Governor	—	—	*	—	—	—	—	—	—	*	C	0.895:1	125	14.12	1200	135.58	40	4.52
Prop. Governor	—	—	—	—	—	—	—	—	—	—	C	0.850:1	125	14.12	1200	135.58	25	2.82
Hydraulic Pump×	—	—	*	—	—	—	—	—	—	*	C	1.300:1	100	11.30	800	90.39	40	4.52
Hydraulic Pump×	—	—	**	—	—	—	—	—	—	—	C	1.300:1	180	20.34	2200	248.57	150	16.95
Optional Dual Drive Mounting on Vacuum Pump Drive Pad																		
(Vacuum Pump)	**	**	—	**	**	—	**	**	**	—	CC	1.300:1	70	7.91	450	50.84	6	0.68
(Hydraulic Pump)	**	**	—	**	**	—	**	**	**	—	CC	1.300:1	Total		Total		10	1.13
or																		
(Vacuum Pump)	—	**	—	—	—	—	—	—	—	—	CC	1.300:1	70	7.91	450	50.84	6	0.68
(Prop. Governor)	—	**	—	—	—	—	—	—	—	—	CC	1.300:1	Total		Total		10	1.13

• These accessories are optional, see latest revision of SI 1154 for approved alternates.

× These drives are optional and accessory pads may be cast over.

"C" – Clockwise, "CC" – Counter-Clockwise

* Typical; ** Alternatel, *** Except LIO Series, LIO Models have reverse rotation than that shown

Total – refers to total torque of dual drives

	AEIO-360 Series					HIO/ LHIO-360 Series								
Accessory	A1A A2A A1B A2B A1C A2C A1B6 A1D	A1E A1E6 H1B B1H	B1B B1F B2F B1F6 B2F6 B1G6 H1A	B1D	B4A	C1A C1B	Rotation*** Facing Drive Pad	Speed Ratio to Crankshaft	Maximum Torque Continuous in-lb	Maximum Torque Continuous Nm	Maximum Torque Static in-lb	Maximum Torque Static Nm	Maximum Overhang Moment in-lb	Maximum Overhang Moment Nm
Starter•	*	*	*	*	*	*	CC	16.556:1	—		450	50.84	150	16.95
Starter•	—	—	—	—	—	—	CC	13.556:1	—		450	50.84	150	16.95
Generator•	—	—	—	—	—	**	C	1.910:1	60	6.78	120	13.56	175	19.77
Generator•	—	—	—	—	—	**	C	2.500:1	60	6.78	120	13.56	175	19.77
Alternator•	*	*	*	*	*	*	C	3.250:1	60	6.78	120	13.56	175	19.77
Vacuum Pump×	*	*	*	*	*	*	CC	1.300:1	70	7.91	450	50.84	25	2.82
Tachometer×	*	*	*	*	*	*	C	0.550:1	7	0.79	50	5.65	5	0.56
Fuel Pump	*		*	—	*	*	Plunger	0.500:1	—		—		10	1.13
Fuel Pump	—	—	—	*	—	—	CC	1.000:1	25	2.82	450	50.84	25	2.82
Fuel Pump	—	—	—	—	—	—	CC	1.000:1	125	14.12	450	50.84	25	2.82
Prop. Governor	*	—	*	*	—	—	C	0.866:1	125	14.12	1200	135.58	40	4.52
Prop. Governor	—	*	—	—	—	—	C	0.895:1	125	14.12	1200	135.58	40	4.52
Prop. Governor	—	—	—	—	—	—	C	0.850:1	125	14.12	1200	135.58	25	2.82
Hydraulic Pump×	—	*	—	—	—	—	C	1.300:1	100	11.30	800	90.39	40	4.52
Hydraulic Pump×	—	—	—	—	—	—	C	1.300:1	180	20.34	2200	248.57	150	16.95
		Optional Dual Drive Mounting on Vacuum Pump Drive Pad												
(Vacuum Pump)	**	—	**	**	**	**	CC	1.300:1	70	7.91	450	50.84	6	0.68
(Hydraulic Pump)	**	—	**	**	**	**	CC	1.300:1	Total		Total		10	1.13
or														
(Vacuum Pump)	**	—	**	**	**	**	CC	1.200:1	70	7.91	450	50.84	6	0.98
(Prop. Governor)	**	—	**	**	**	**	CC	1.300:1	Total		Total		10	1.13

• These accessories are optional, see latest revision of SI 1154 for approved alternates.

× These drives are optional and accessory pads may be cast over.

"C" – Clockwise, "CC" – Counter-Clockwise

* Typical; ** Alternate, *** Except LIO Series, LIO Models have reverse rotation than that shown

Total – refers to total torque of dual drives

9. Aircraft Accessory Drives (cont'd)

	IO-360 Series											
Accessory	J1AD	J1A6D	A1D6D	A3D6D	Rotation Facing Drive Pad	Speed Ratio to Crankshaft	Maximum Torque Continuous in-lb	Maximum Torque Continuous Nm	Maximum Torque Static in-lb	Maximum Torque Static Nm	Maximum Overhang Moment in-lb	Maximum Overhang Moment Nm
Starter•	*	*	*	*	CC	16.556:1	—		450	50.84	150	16.95
Starter•	—	—	—	—	CC	13.556:1	—		450	50.84	150	16.95
Generator•	—	—	—	—	C	1.910:1	60	6.78	120	13.56	175	19.77
Generator•	—	—	—	—	C	2.500:1	60	6.78	120	13.56	175	19.77
Alternator•	*	*	*	*	C	3.250:1	60	6.78	120	13.56	175	19.77
Vacuum Pump×	*	*	*	*	CC	1.300:1	70	7.91	450	50.84	25	2.82
Tachometer×	*	*	*	*	C	0.500:1	7	0.79	50	5.65	5	0.56
Fuel Pump	*	*	*	*	Plunger	0.500:1	—		—		10	1.13
Fuel Pump	—	—	—	—	CC	1.000:1	25	2.82	450	50.84	25	2.82
Fuel Pump	—	—	—	—	CC	1.000:1	125	14.12	450	50.84	25	2.82
Prop. Governor	—	—	—	—	C	0.866:1	125	14.12	1200	135.58	40	4.52
Prop. Governor	—	—	**	**	C	0.895:1	125	14.12	1200	135.58	40	4.52
Prop. Governor	**	**	**	**	C	0.850:1	125	14.12	1200	135.58	25	2.82
Hydraulic Pump×	—	—	—	—	C	1.300:1	100	11.30	800	90.39	40	4.52
Hydraulic Pump×	—	—	—	—	C	1.300:1	180	20.34	2200	248.57	150	16.95
Optional Dual Drive Mounting on Vacuum Pump Drive Pad												
(Vacuum Pump)	**	**	**	**	CC	1.300:1	70	7.91	450	50.84	6	0.68
(Hydraulic Pump)	**	**	**	**	CC	1.300:1	Total		Total		10	1.13
or												
(Vacuum Pump)	**	**	**	**	CC	1.300:1	70	7.91	450	50.84	6	0.68
(Prop. Governor)	**	**	**	**	CC	1.300:1	Total		Total		10	1.13

• These accessories are optional, see latest revision of SI 1154 for approved alternates.

× These drives are optional and accessory pads may be cast over.

"C" – Clockwise, "CC" – Counter-Clockwise

* Typical; ** Alternate

Total – refers to total torque of dual drives

IV. Operating Limitations:

Temperature Limits:

Cylinder head (well type thermocouple):	260 °C (500 °F)
Cylinder base *):	163 °C (325 °F)
Oil inlet:	118 °C (245 °F) (all except HIO-360-D1A)
	127 °C (260 °F) (HIO-360-D1A)

***) except the following models which incorporate internal piston cooling oil jets:**

IO-360-A1A	IO-360-C1B	AIO-360-A1A	HIO-360-C1A
IO-360-A1B	IO-360-C1C	AIO-360-A1B	HIO-360-C1B
IO-360-A1B6	IO-360-C1C6	AIO-360-A2A	HIO-360-D1A
IO-360-A1B6D	IO-360-C1D6	AIO-360-A2B	HIO-360-E1AD
IO-360-A1C	IO-360-C1E6	AIO-360-B1B	HIO-360-E1BD
IO-360-A1D	IO-360-C1E6D	AEIO-360-A1A	HIO-360-F1AD
IO-360-A1D6	IO-360-C1F	AEIO-360-A1B	LHIO-360-C1A
IO-360-A1D6D	IO-360-C1G6	AEIO-360-A1B6	LHIO-360-C1B
IO-360-A2A	IO-360-D1A	AEIO-360-A1E6	LHIO-360-F1AD
IO-360-A2B	IO-360-F1A	AEIO-360-A1C	
IO-360-A2C	IO-360-J1AD	AEIO-360-A1D	
IO-360-A3B6	IO-360-J1A6D	AEIO-360-A1E	
IO-360-A3B6D	IO-360-K2A	AEIO-360-A2A	
IO-360-A3D6D	LIO-360-C1E6	AEIO-360-A2B	
IO-360-C1A	LIO-360-M1A	AEIO-360-A2C	

2. Pressure Limits:

2.1 Fuel Pressure:

Inlet to fuel pump, minimum:	-13.8 kPa (-2.0 psig) (all except IO-360-B1A, -B1C)
maximum:	241.3 kPa (35.0 psig) (all except IO-360-B1A, B1C, -C1F, -F1A, HIO-360-E1AD, -E1BD, -F1AD, LHIO-360-F1AD)
maximum with injector idle cutoff:	379.2 kPa (55.0 psig) (all except IO-360-B, -D, -E, -L, -M, LIO-360-M1A, AEIO-360-B, -H, (L)HIO-360 (all models))
Inlet to fuel injector, minimum idle:	82.7 kPa (12.0 psig) (IO-360-C1F, -F1A, HIO-360-E1AD, -E1BD, -F1AD, LHIO-360-F1AD)
minimum:	-13.8 kPa (-2.0 psig) (IO-360-B1A)
	96.5 kPa (14.0 psig) (IO-360-B1C, -C1F, -F1A)
	186.2 kPa (27.0 psig) (HIO-360-E1AD, -E1BD, -F1AD, LHIO-360-F1AD)
maximum:	13.8 kPa (2.0 psig) (IO-360-B1A)
	310.3 kPa (45.0 psig) (IO-360-B1C, -C1F, -F1A)

379.2 kPa (55.0 psig) (HIO-360-E1AD, -E1BD, -F1AD, LHIO-360-F1AD)

Boost Pump Outlet Limits to Injector:

minimum:	96.5 kPa (14.0 psig) (maximum fuel flow)
maximum:	241.3 kPa (35.0 psig) (zero fuel flow, series boosts) 310.3 kPa (45.0 psig) (zero fuel flow, parallel boosts)

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. Operating and Service Instructions:

	Instructions for Continued Airworthiness (ICA)	Manuals		Instructions for Continued Airworthiness (ICA)	
Model	**Parts Catalog**	**Installation Manual**	**Operator's Manual**	**Maintenance Manual**	**Overhaul Manual**
IO-360-A1A	106 (Std) 406-1 (Wide)				
IO-360-A1B	406-1				
IO-360-A1B6	406-1				
IO-360-A1B6D	406-1				
IO-360-A1C	406-1				
IO-360-A1D	406-1				
IO-360-A1D6	406-1				
IO-360-A1D6D	*				
IO-360-A3D6D	*				
IO-360-A2A	406-1				
IO-360-A2B	406-1				
IO-360-A2C	*				
IO-360-A3B6	406-1 + SSP-295				
IO-360-A3B6D	406-1				
IO-360-B1A	106				
IO-360-B1B	106 (std) 406-1 (Wide)				
IO-360-B1C	*				
IO-360-B1D	406-1				
IO-360-B1E	406-1				
IO-360-B1F	406-1				
IO-360-B1F6	*				
IO-360-B1G6	306-13				
IO-360-B2E	*	60297-12		60294-7	
IO-360-B2F	406-1				
IO-360-B2F6	406-1				
IO-360-B4A	406-1				
IO-360-C1A	406-2				
IO-360-C1B	406-2				
IO-360-C1C	406-2				
IO-360-C1C6	406-2				
IO-360-C1D6	406-2				
IO-360-C1E6	406-2				
IO-360-C1E6D	*				
IO-360-C1F	406-2				
IO-360-C1G6	306-15				
IO-360-D1A	*				
IO-360-E1A	*				
IO-360-F1A	*				
IO-360-J1AD	*				
IO-360-J1A6D	406-2				
IO-360-K2A	*				
IO-360-L2A	306-12				
IO-360-M1A	306-14	60297-36		LMO-(L)IO-360-M1A	
IO-360-M1B	306-16				
HIO-360-A1A	106 (std) 406-2 (wide)				
HIO-360-A1B	406-2				
HIO-360-B1A	106				
HIO-360-B1B	*				

	Instructions for Continued Airworthiness (ICA)	Manuals		Instructions for Continued Airworthiness (ICA)	
Model	**Parts Catalog**	**Installation Manual**	**Operator's Manual**	**Maintenance Manual**	**Overhaul Manual**
HIO-360-C1A	406-2	60297-12		60294-7	
HIO-360-C1B	406-2				
HIO-360-D1A	406-2				
HIO-360-E1AD	406-2				
HIO-360-E1BD	406-2				
HIO-360-F1AD	406-2				
HIO-360-G1A	406-6				
* No Parts Catalog – Limited number of engines produced.					
AIO-360-A1A	406-1	60297-12		60294-7	
AIO-360-A2A	*				
AIO-360-A1B	406-1+SSP291				
AIO-360-A2B	0*				
AIO-360-B1B	406-1				
LIO-360-C1E6	406-2				
LIO-360-M1A	306-14	60297-36		LMO-(L)IO-360-M1A	
LHIO-360-C1A	*	60297-12		60294-7	
LHIO-360-C1B	*				
LHIO-360-F1AD	*				
AEIO-360-A1A	406-1 + SSP291	60297-21			
AEIO-360-A2A	406-1 + SSP291				
AEIO-360-A1B	406-1 + SSP291				
AEIO-360-A2B	406-1 + SSP291				
AEIO-360-A1C	406-1 + SSP291				
AEIO-360-A2C	*				
AEIO-360-A1B6	406-1 + SSP291				
AEIO-360-A1D	406-1 + SSP291				
AEIO-360-B1B	406-4				
AEIO-360-B1D	406-1 + SSP291				
AEIO-360-B1F	406-4				
AEIO-360 B2F	406-1 + SSP291				
AEIO-360-B4A	406-1 + SSP291				
AEIO-360-B1F6	*				
AEIO-360-B2F6	406-1 + SSP291				
AEIO-360-B1G6	406-2				
AEIO-360-B1H	406-4				
AEIO-360-H1A	406-2				
AEIO-360-H1B	406-5				
AEIO-360-A1E6	*				
AEIO-360-A1E	406-2				
* No Parts Catalog – Limited number of engines produced.					

VI. Notes

1. The engines incorporate provisions for absorbing propeller thrust in both tractor and pusher installations.

2. The engines are approved for horizontal helicopter application and operation.

3. IO-360-A1A, -A1B, -A1B6, -A1B6D, -A1C, -A1D, -A1D6, -A1D6D, -A2A, -A2B, -A2C, -A3B6,-A3B6D, -A3D6D, -B1C, -C1A, -C1B, -C1C, -C1C6, -C1D6, -C1E6, -C1E6D, -C1F, -C1G6, -D1A, -J1AD, -J1A6D, -K2A, LIO-360-C1E6, AIO-360-A1A, -A2A, -A1B, -B1B, AEIO-360-A1A, -A1B, -A1B6, -A1C, -A1E, -A1E6, -A1D, -A2A, -A2B, -A2C, HIO-360-A1A,-A1B, -D1A:
Engine models of this series incorporate no crankshaft dampers unless the third section of the model designation exhibits a numerical digit in its fourth position, i.e. IO-360-A1B6. The digit "6" in the fourth position indicates the incorporation of one 6.3 order and one 8th order counterweights.

4. Engine models IO-360-C1F and F1A are eligible for turbocharging and under these conditions the following additional limits apply: Intake air manifold pressure max. 98 kPa (29 in. Hg.) absolute, exhaust back pressure max.108 kPa (32 in. Hg.) absolute at inlet to turbosupercharger. Air inlet temperature to injector 116°C (240°F) max.

5. Engine models HIO-360-E1AD and LHIO-360-E1BD are eligible for turbosupercharging. When equipped with the Enstrom Helicopter Corporation turbocharger Kit Number SK-28-121000 or equivalent, these engines are capable of delivering 153 kW (205 hp) at 2000 rpm at a manifold pressure of 123.6 kPa (36.5 in. Hg.) absolute. Performance data are presented on Lycoming Curve No. 13309 and 13309-A. The exhaust pressure is limited to 140.5 kPa (41.5 in Hg.) absolute when equipped with a turbocharger.

6. Engine models HIO-360-F1AD and LHIO-360-F1AD are eligible for turbosupercharging. When equipped with modified Enstrom turbocharger Kit No. SK-28-121000, this engine is capable of delivering 168 kW (225 hp) at 3050 rpm at a manifold pressure of 134 kPa (39 in. Hg.) to a critical altitude of 3656 m (12,000 feet) (Reference Lycoming Curve No. 13360). The exhaust back pressure is limited to 145.6 kPa (43.0 in. Hg.) absolute when equipped with a turbocharger.

7. All models equipped with one impulse coupling magneto may use two impulse coupling magnetos as optional equipment.

8. Maximum flight attitudes for the IO-360 Series are 30° nose up or down. For the AEIO-360-B and H series, the maximum flight attitudes are 30° nose up and 25° down. Maximum flight attitudes for AEIO-360-A series are 30° nose up and 8° nose down. A 20° nose down attitudes is allowed for the AEIO-360-A series when the oil strainer is fitted with an 89 mm (3½ inch) extension in accordance with AVCO Lycoming Service Bulletin No. 403.

Issue	Date	Changes	TC issue
Issue 01	27 September 2012	Initial Issue	Initial Issue, 27 September 2012
Issue 02	19 December 2016	Alternative fuel system supplier, accessory drives	
Issue 03	24 August 2022	References to SI1443, SI1532 added (Major Change Approval 10079972)	
