

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E-286
Revision 21
Lycoming Engines

O-360-A1A, -A1AD, -A1C, -A1D, -A1F, -A1F6, -A1F6D, -A1G, -A1G6, -A1G6D, -A1H, -A1H6, -A1LD, -A1P, -A2A, -A2D, -A2E, -A2F, -A2G, -A2H, -A3A, -A3AD, -A3D, -A4A, -A4AD, -A4D, -A4G, -A4J, -A4K, -A4M, -A4N, -A4P, -A5AD, -B1A, -B1B, -B2A, -B2B, -B2C, -C1A, -C1C, -C1E, -C1F, -C1G, -C2A, -C2B, -C2C, -C2D, -C2E, -C4P, -C4F, -D1A, -D2A, -D2B, -E1AD, -E1A6D, -E2AD, -E1BD, -E2BD, -F1A6, -G1A6, -J2A

LO-360-A1G6D, -A1H6, -E1AD, -E1A6D, -E2AD, -E1BD, -E2BD

HO-360-A1A, -B1A, -B1B, -C1A

April 30, 2013

TYPE CERTIFICATE DATA SHEET NO. E-286

Engines of models described herein conforming with this data sheet (which is a part of Type Certificate No. 286) 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 Civil Air Regulations/Federal Aviation Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manual and other approved instructions.

Type Certificate Holder Lycoming Engines
An Operating Division of AVCO Corporation
Williamsport, Pennsylvania 17701

Type Certificate Holder Record Textron Lycoming/Subsidiary of Textron, Inc. transferred TC E-286 to Lycoming
Engines, An Operating Division of AVCO Corporation on December 17, 2003

Model	O-360	O-360	O-360-C2D
	-A1A, -A1AD, -A1C, -A1D, -A1F, -A1F6, -A1F6D, -A1G, -A1G6, -A1G6D, -A1H, -A1H6, -A1LD, -A1P, -A2A, -A2D, -A2E, -A2F, -A2G, -A2H, -A3A, -A3AD, -A3D, -A4A, -A4AD, -A4D, -A4G, -A4J, -A4K, -A4M, -A4N, -A4P, -A5AD, -C1A, -C1C, -C1E, -C1F, -C1G, -C2A, -C2B, -C2C, -C2E, -C4P, -C4F, -F1A6, -G1A6, LO-360 -A1G6D, -A1H6	-B1A, -B1B, -B2A, -B2B, -B2C, -D1A, -D2A, -D2B	
Type Rating 4HO-A Direct Drive Rated Max. continuous hp., rpm, full throttle at: Sea level press. alt.	# 180-2700	# 168-2700	# 180-2700

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Rated takeoff hp., rpm, full throttle, or in. Hg. at: Sea level press. alt. Rated press alt. (ft.)	180-2700 -	168-2700 -	180-2900-28.0 (5 min.) 180-2900-27.8-1000 (5 min.)
Fuel (Min. grade aviation gasoline)	100/100LL*	80/87*	100/100LL*
Carburetion	See Note 9.	#	#
Pump drive	See Note 3.	#	#
Oil, Lubrication (Lubrications should conform to the specifications as listed or to subsequent revisions thereof.)	Lycoming Spec. No. 301 and Service Instruction No. 1014		
Oil sump capacity, qt.	8	#	#
Usable oil, qt.	6	#	#
Ignition			
Dual magnetos	See Note 9.	#	#
Timing, °BTC	25	#	#
Spark plugs	See Note 4.	#	#
Compression			
Bore and stroke, in.	5.125 X 4.375	#	#
Displacement, cu. in.	361	#	#
Compression ratio	See Note 9.	#	#
Weight (dry), lb.	See Note 5.	#	#
C.G. location	See Note 8.	#	#
Propeller shaft, SAE No.	See Note 9.	#	#
Crankshaft dampers	See Note 12.	#	-
NOTES	1 through 12	1 through 12	#

Model	O-360-E1AD, -E1A6D, -E2AD, -E1BD, -E2BD LO-360-E1AD, -E1A6D, -E2AD, -E1BD, -E2BD	O-360-J2A	HO-360-A1A,
Type Rating 4HO-A Direct Drive	#	#	#
Rated Max. continuous hp., rpm, full throttle at: Sea level press. alt.	180-2700	145 - 2400 thru 2700 + 26.5" Hg MP @ 2400 24.6" Hg MP @ 2700	180-2900
Rated takeoff hp., rpm, full throttle, or in. Hg. at: Sea level press. alt. Rated press. alt. (ft.)	180-2700 - -	145 - 2400 thru 2700 + 26.5" Hg MP @ 2400 24.6" Hg MP @ 2700 - -	180-2900 - -
Fuel (Min. grade aviation gasoline)	100/100LL*	#	#
Carburetion	See Note 9.	#	#
Pump drive	See Note 3.	#	#
Oil, Lubrication (Lubrications should conform to the specifications as listed or to subsequent revisions thereof.)	Lycoming Spec. No. 301 and Service Instruction No. 1014		
Oil sump capacity, qt.	6	8	#
Usable oil, qt.	4	6	#
Ignition			
Dual magnetos	See Note 9.	#	#
Timing, °BTC	25	#	#
Spark plugs	See Note 4.	#	#
Compression			
Bore and stroke, in.	5.125 X 4.375	#	#
Displacement, cu. in.	361	#	#

Model (cont'd)	O-360-E1AD, -E1A6D, -E2AD, -E1BD, -E2BD LO-360-E1AD, -E1A6D, -E2AD, -E1BD, -E2BD	O-360-J2A	HO-360-A1A,
Compression ratio	See Note 9.	#	#
Weight (dry), lb.	See Note 5.	#	#
C.G. location	See Note 8.	#	#
Propeller shaft, SAE No.	See Note 9.	#	#
Crankshaft dampers	See Note 12.	#	-
NOTES	1 through 12	1 through 11	1 through 11

* See latest revision of Lycoming Service Instruction No. 1070 for alternate fuel grades.

Indicates "same as preceding model."

- Indicates "does not apply"

+ This engine is throttle limited

Model	HO-360-B1A, -B1B	HO-360-C1A
Type	4HO-A Direct Drive	#
Rating		#
Rated Max. continuous hp., rpm, full throttle at:		
Sea level press. alt.	180-2900	180-2700
Rated takeoff hp., rpm, full throttle, or in. Hg. at:		
Sea level press. alt.	180-2900	180-2700
Rated press. alt. (ft.)	-	-
Fuel		
(Min. grade aviation gasoline)	100/100LL*	#
Carburetion	See Note 9.	#
Pump drive	See Note 3	#
Oil, Lubrication	Lycoming Spec. No. 301 and Service Instruction No. 1014	
(Lubrications should conform to the specifications as listed or to subsequent revisions thereof.)		
Oil sump capacity, qt.	8	#
Usable oil, qt.	6	#
Ignition		
Dual magnetos	See Note 9.	#
Timing, °BTC	25	#
Spark plugs	See Note 4.	#
Compression		
Bore and stroke, in.	5.125 X 4.375	#
Displacement, cu. in.	361	#
Compression ratio	See Note 9.	#
Weight (dry), lb.	See Note 5.	#
C.G. location	See Note 8.	#
Propeller shaft, SAE No.	See Note 9.	#
Crankshaft dampers	-	-
NOTES	1 through 11	#

* See latest revision of Lycoming Service Instruction No. 1070 for alternate fuel grades.

Indicates "same as preceding model."

- Indicates "does not apply"

Certification basis:

Regulations & Amendments	Model	Date of Application	Date Type Certificate No. 286 Issued/Revised
CAR 13 effective March 5, 1952 as amended by 13-1 and 13-2	O-360-A1A	January 17, 1955	July 20, 1955
	O-360-B1A	July 13, 1955	January 17, 1956
CAR 13 effective June 15, 1956	O-360-A2A	December 31, 1956	February 25, 1957
	O-360-A1B	April 5, 1957	April 22, 1957 (cancelled 4/19/63)
as amended by 13-1	O-360-B2A	April 5, 1957	April 22, 1957
	O-360-C1A	January 31, 1958	February 24, 1958
as amended by 13-1 and 13-2	O-360-C2A	January 31, 1958	February 24, 1958
	O-360-C2B	July 9, 1958	August 13, 1958
as amended by 13-1, 13-2, and 13-3	O-360-D1A	January 19, 1960	February 12, 1960
	O-360-D2A	January 19, 1960	February 12, 1960
as amended by 13-1, 13-2, 13-3, and 13-4	O-360-A1D	March 29, 1960	April 27, 1960
	O-360-A2D	March 29, 1960	April 27, 1960
	O-360-C1C	March 29, 1960	April 27, 1960
	O-360-C2C	March 29, 1960	April 27, 1960
	O-360-A1C	July 14, 1960	August 29, 1960
	O-360-C2D	July 14, 1960	August 29, 1960
	O-360-D2B	October 11, 1960	October 26, 1960
	O-360-A2E	July 20, 1961	August 23, 1961
	O-360-A3A	June 12, 1962	July 3, 1962
	HO-360-B1A	September 27, 1962	October 2, 1962
	HO-360-A1A	October 30, 1962	December 6, 1962
	HO-360-B1B	March 15, 1963	March 20, 1963
	O-360-B1B	June 26, 1963	June 27, 1963
	O-360-B2B	June 26, 1963	June 27, 1963
	O-360-A3D	September 19, 1963	September 26, 1963
	O-360-A4A	March 1, 1966	March 9, 1966
	O-360-A1F	November 4, 1966	January 20, 1967
	O-360-A2F	November 4, 1966	January 20, 1967
	O-360-A1G	September 27, 1967	October 16, 1967
	O-360-A2G	September 27, 1967	October 16, 1967
	O-360-A1H	June 6, 1968	September 18, 1968
	O-360-A2H	June 6, 1968	September 18, 1968
	O-360-A1F6	April 1, 1969	June 23, 1969
	O-360-A4G	July 11, 1969	July 18, 1969
	O-360-A4J	September 18, 1969	October 8, 1969
	O-360-A1G6	July 21, 1970	July 31, 1970
	O-360-A1F6D	January 24, 1972	January 31, 1972
	O-360-A4AD	January 24, 1972	January 31, 1972
O-360-A5AD	April 8, 1972	April 22, 1972	
O-360-A1LD	January 5, 1973	January 11, 1973	
O-360-C2E	February 4, 1974	February 4, 1974	
O-360-A4K	March 8, 1974	March 18, 1974	
O-360-A4M	October 15, 1974	November 8, 1974	
O-360-A3AD	April 23, 1975	April 28, 1975	
O-360-A1AD	September 14, 1976	September 28, 1976	
O-360-A1G6D	December 20, 1976	December 27, 1976	
LO-360-A1G6D	December 20, 1976	December 27, 1976	
O-360-C1E	March 15, 1977	March 22, 1977	
O-360-E1AD	November 19, 1976	Oct 25, 1977 (cancelled 5/24/78)	
O-360-E2AD	November 19, 1976	Oct 25, 1977 (cancelled 5/24/78)	
O-360-E1BD	November 19, 1976	Oct 25, 1977 (cancelled 5/24/78)	
O-360-E2BD	November 19, 1976	Oct 25, 1977 (cancelled 5/24/78)	
LO-360-E1AD	October 26, 1977	Nov 2, 1977 (cancelled 5/24/78)	
LO-360-E2AD	October 26, 1977	Nov 2, 1977 (cancelled 5/24/78)	

Regulations & Amendments (cont'd) as amended by 13-1, 13-2, and 13-3	Model	Date of Application	Date Type Certificate No. 286 Issued/Revised
	LO-360-E1BD	October 26, 1977	Nov 2, 1977 (cancelled 5/24/78)
	LO-360-E2BD	October 26, 1977	Nov 2, 1977 (cancelled 5/24/78)
	O-360-E1A6D	April 24, 1978	May 5, 1978
	LO-360-E1A6D	April 24, 1978	May 5, 1978
	O-360-C1F	June 27, 1978	July 10, 1978
	O-360-F1A6	September 14, 1978	November 20, 1978
	O-360-A4D	May 18, 1981	May 29, 1981
	O-360-A4N	July 14, 1982	July 29, 1982
	O-360-G1A6	March 22, 1985	May 30, 1985
	O-360-C1G	January 16, 1986	February 10, 1986
	O-360-A1H6	November 16, 1988	December 27, 1988
	LO-360-A1H6	November 16, 1988	December 27, 1988
	O-360-B2C	September 30, 1992	October 21, 1992
	O-360-A4P	October 19, 1992	December 16, 1992
	O-360-C4P	October 19, 1992	December 16, 1992
	O-360-A1P	January 19, 1993	February 23, 1993
	O-360-C4F	February 18, 1993	March 10, 1993
	HO-360-C1A	March 10, 1995	April 11, 1995
	O-360-J2A	October 9, 1995	October 16, 1995

Production basis: Production Certificate No. 3

NOTE 1. Temperature limits: (Maximum permissible)

Cylinder head (well type thermocouple)	500°F
Cylinder base	325°F
Oil inlet	245°F

NOTE 2. Pressure limits:
Fuel - At inlet to carburetor, above carburetor inlet air pressure.

	<u>Minimum</u>	<u>Maximum</u>
Bendix PSH-5BD carburetor	9 p.s.i.	18 p.s.i.
LVC-5-4, LVC-5-5, or LHC-6-6 series carbs.	0.5 p.s.i.	8 p.s.i.
Oil - (Normal Operation)	55 p.s.i.	95 p.s.i.
(Idling)	25 p.s.i.	-
(Starting and Warmup)	-	115 p.s.i.

	<u>Minimum</u>		<u>Maximum</u>	
<u>O-360-A4N</u>	<u>Rear of Engine</u>	<u>Front of Engine</u>	<u>Rear of Engine</u>	<u>Front of Engine</u>
Oil - (Normal Operation)	55 p.s.i.	50 p.s.i.	95 p.s.i.	90 p.s.i.
(Idling)	25 p.s.i.	20 p.s.i.	-	-
(Starting and warmup)	-	-	115 p.s.i.	115 p.s.i.

	<u>Minimum</u>	<u>Maximum</u>
<u>O-360-G1A6</u>		
Oil (Normal Operation)	55 p.s.i.	95 p.s.i.
(Idling)	25 p.s.i.	-
(Starting and warmup)	-	115 p.s.i.

NOTE 3. The following accessory drive provisions are incorporated. See also Note 11.

Model O-360-										
Accessory	A1F6D A1AD A3AD A4AD A5AD	A4G A4J A4K C4F C4P	A Ser.	A1C	C1F A2G A1G A1G6	Rotating Facing Drive Pad	Speed Ratio to Crankshaft	Max. Torque (in.-lb.)		Max. Overhang Moment (in.-lb.)
								Cont.	Static	
Starter	-	-	-	*	-	CC	13.556:1	-	450	150
Starter	*	*	*	**	*	CC	16.556:1	-	450	150
Generator	-	-	**	*	-	C	1.910:1	60	120	175
Generator	-	-	**	**	-	C	2.500:1	60	120	175
Alternator	*	*	*	-	*	C	3.250:1	60	120	175
Vacuum pump	**	**	**	**	**	CC	1.300:1	70	450	25
Hydraulic pump	**	-	-	-	-	C	1.300:1	100	800	40
Hydraulic pump	**	-	-	-	-	C	1.300:1	180	2200	150
Fuel pump	-	-	-	*	-	CC	0.866:1	25	450	25
Fuel pump, plunger	**	**	**	-	**	-	0.500:1	-	-	10
Fuel pump	-	-	***	-	-	CC	1.000:1	25	450	25
Tachometer	*	*	*	*	*	C	0.500:1	7	50	5
Propeller governor	-	-	(**)	*	**	C	0.866:1	125	1200	40
Propeller governor	-	-	-	-	-	C	0.895:1	125	1200	40
Propeller governor	(**)	-	-	-	-	C	0.850:1	125	1200	40
Freon compressor	-	-	-	-	-	C	1.462:1	Limited by belt		

Optional dual drives mounting on vacuum pump drive pad.

Vacuum pump	-	**	**	**	**	CC	1.300:1	70	450	6
Hydraulic pump	-	**	**	**	**	CC	1.300:1	Total	Total	10
or										
Vacuum pump	-	-	(**)	**	**	CC	1.300:1	70	450	6
Propeller governor	-	-	(**)	**	**	CC	1.300:1	Total	Total	10

() except A4A, A4AD, A4D, A4M, A4N , A4P are not eligible.

*** A2E only

Model O-360-										
Accessory	A1G6D	A1LD	A1H6 A1H A2H	B1A B1B	B2A B2B B2C	Rotating Facing Drive Pad	Speed Ratio to Crankshaft	Max. Torque (in.-lb.)		Max. Overhang Moment (in.-lb.)
								Cont.	Static	
Starter	-	-	-	*	*	CC	13.556:1	-	450	150
Starter	*	*	*	**	**	CC	16.556:1	-	450	150
Generator	-	-	-	*	*	C	1.910:1	60	120	175
Generator	-	-	-	**	**	C	2.500:1	60	120	175
Alternator	*	*	*	-	-	C	3.250:1	60	120	175
Vacuum pump	**	**	**	**	**	CC	1.300:1	70	450	25
Hydraulic pump	-	**	-	-	-	C	1.300:1	100	800	40
Hydraulic pump	-	**	-	-	-	C	1.300:1	180	2200	150
Fuel pump	-	-	-	**	**	CC	0.866:1	25	450	25
Fuel pump, plunger	**	**	**	*	*	-	0.500:1	-	-	10
Fuel pump	-	-	-	-	-	CC	1.000:1	25	450	25
Tachometer	*	*	*	*	*	C	0.500:1	7	50	5
Propeller governor	-	-	-	*	-	C	0.866:1	125	1200	40
Propeller governor	-	*	(*)	-	-	C	0.895:1	125	1200	40
Propeller governor	*	-	-	-	-	C	0.850:1	125	1200	40
Freon compressor	-	-	[**]	-	-	C	1.462:1	Limited by belt		

[A1H6

only]

Optional dual drives mounting on vacuum pump drive pad.

Vacuum pump	**	-	-	**	**	CC	1.300:1	70	450	6
Hydraulic pump	**	-	-	**	**	CC	1.300:1	Total	Total	10
or										
Vacuum pump	**	-	-	**	-	CC	1.300:1	70	450	6
Propeller governor	**	-	-	**	-	CC	1.300:1	Total	Total	10

- Indicates "does not apply"

* Standard

C Clockwise

CC Counter-clockwise

** Optional

() Except A2H

Model O-360-										
Accessory	C1A C1C C1E	C2A C2C C2E J2A	C2B	C2D	D1A	Rotating Facing Drive Pad	Speed Ratio to Crankshaft	Max. Torque (in.-lb.)		Max. Overhang Moment (in.-lb.)
								Cont.	Static	
Starter	**	**	*	-	*	CC	13.556:1	-	450	150
Starter	*	*	-	*	-	CC	16.556:1	-	450	150
Generator	**	**	*	*	*	C	1.910:1	60	120	175
Generator	-	-	**	**	**	C	2.500:1	60	120	175
Alternator	*	*	-	-	-	C	3.250:1	60	120	175
Vacuum pump	**	**	**	**	**	CC	1.300:1	70	450	25
Hydraulic pump	-	-	-	-	-	C	1.300:1	100	800	40
Hydraulic pump	-	-	-	-	-	C	1.300:1	180	2200	150
Fuel pump	-	-	-	-	-	CC	0.866:1	25	450	25
Fuel pump, plunger	**	**	-	-	*	-	0.500:1	-	-	10
Fuel pump	-	-	*	*	-	CC	1.000:1	25	450	25
Tachometer	*	*	*	*	*	C	0.500:1	7	50	5
Propeller governor	**	-	-	-	*	C	0.866:1	125	1200	40
Propeller governor	-	-	-	-	-	C	0.895:1	125	1200	40
Propeller governor	-	-	-	-	-	C	0.850:1	125	1200	25
Freon compressor	-	-	-	-	-	C	1.462:1	Limited by belt		

Optional dual drives mounting on vacuum pump drive pad.

Vacuum pump	**	**	**	**	**	CC	1.313:1	70	450	6
Hydraulic pump	**	**	**	**	**	CC	1.313:1	Total	Total	10
or										
Vacuum pump	**	**	-	-	**	CC	1.300:1	70	450	6
Propeller governor	**	**	-	-	**	CC	1.300:1	Total	Total	10

Accessory	Model O-360-			LO-360-			Rotating Facing Drive Pad #	Speed Ratio to Crankshaft	Max. Torque (in.-lb.)		Max. Overhang Moment (in.-lb.)
	D2A D2B	E1A6D E1AD E1BD	E2AD E2BD	E1A6D E1AD E1BD	A1H6 E2AD E2BD	Cont.			Static		
Starter	*	-	-	-	-	CC	13.556:1	-	450	150	
Starter	-	*	*	*	*	CC	16.556:1	-	450	150	
Generator	*	-	-	-	-	C	1.910:1	60	120	175	
Generator	**	-	-	-	-	C	2.500:1	60	120	175	
Alternator	-	*	*	*	*	C	3.250:1	60	120	175	
Vacuum pump	**	-	-	-	-	CC	1.300:1	70	450	25	
Vacuum pump	-	**	**	**	**	C	1.300:1	70	450	25	
Hydraulic pump	-	-	-	-	-	C	1.300:1	100	800	40	
Hydraulic pump	-	-	-	-	-	C	1.300:1	180	2200	150	
Fuel pump	-	-	-	-	-	CC	0.866:1	25	450	25	
Fuel pump, plunger	*	**	**	**	**	-	0.500:1	-	-	10	
Fuel pump	-	-	-	-	-	CC	1.000:1	25	450	25	
Tachometer	*	*	*	*	*	C	0.500:1	7	50	5	
Propeller governor	-	-	-	-	-	C	0.866:1	125	1200	40	
Propeller governor	-	-	-	-	[*]	C	0.895:1	125	1200	40	
Propeller governor	-	-	-	-	-	C	0.850:1	125	1200	25	
Propeller governor	-	**	-	**	-	C	1.000:1	125	1200	40	
Freon compressor					[**]	C	1.462:1	Limited by belt			

[A1H6 only]

Optional dual drives mounting on vacuum pump drive pad.

Vacuum pump	**	-	-	**	**	CC	1.300:1	70	450	6
Hydraulic pump	**	-	-	**	**	CC	1.300:1	Total	Total	10
or										
Vacuum pump	**	-	-	**	-	CC	1.300:1	70	450	6
Propeller governor	**	-	-	**	-		1.300:1	Total	Total	10

- Indicates "does not apply"

* Standard

C Clockwise

CC Counter-clockwise

** Optional

LO models have opposite rotations

MODEL O-360								
Accessory	F1A6	G1A6	A1P C1G	Rotating Facing Drive Pad	Speed Ratio to Crankshaft	Max. Torque (in.-lb.)		Max. Overhang Moment (in.-lb.)
						Cont.	Static	
Starter	-	-	-	CC	13.556:1	-	450	150
Starter	*	*	*	CC	16.556:1	-	450	150
Generator	-	-	-	C	1.910:1	60	120	175
Generator	-	-	-	C	2.500:1	60	120	175
Alternator	*	*	*	C	3.250:1	60	120	175
Vacuum pump	**	**	**	CC	1.300:1	70	450	25
Hydraulic pump	**	**	**	C	1.300:1	100	800	40
Hydraulic pump	-	-	-	C	1.300:1	180	2200	150
Fuel pump	-	-	-	CC	0.866:1	25	450	25
Fuel pump, plunger	**	*	**	-	0.500:1	-	-	10
Fuel pump	-	-	-	CC	1.000:1	25	450	25
Tachometer	*	*	*	C	0.500:1	7	50	5
Propeller governor	-	-	-	C	0.866:1	125	1200	40
Propeller governor	**	*	**	C	0.895:1	125	1200	40
Propeller governor	-	-	-	C	0.850:1	125	1200	25
Propeller governor	-	-	-	C	1.000:1	125	1200	40
Freon compressor				C	1.462:1	Limited by belt.		

Optional dual drives mounting on vacuum pump drive pad.

Vacuum pump	-	-	-	CC	1.300:1	70	450	6
Hydraulic pump	**	-	-	CC	1.300:1	Total	Total	10
or								
Vacuum pump	-	-	-	CC	1.300:1	70	450	6
Propeller governor	-	-	-	CC	1.300:1	Total	Total	10

Model HO-360-								
Accessory	A1A	B1B	C1A	Rotating Facing Drive Pad	Speed Ratio to Crankshaft	Max. Torque (in.-lb.)		Max. Overhang Moment (in.-lb.)
						Cont.	Static	
Starter	-	-	-	CC	13.556:1	-	450	150
Starter	*	*	*	CC	16.556:1	-	450	150
Generator	*	*	-	C	1.910:1	60	120	175
Generator	**	**	-	C	2.500:1	60	120	175
Alternator	-	-	*	C	3.250:1	60	120	175
Vacuum pump	*	*	**	CC	1.300:1	70	450	25
Vacuum pump	-	-	-	C	1.300:1	70	450	25
Hydraulic pump	-	-	-	C	1.300:1	100	800	40
Hydraulic pump	-	-	-	C	1.300:1	180	2200	150
Fuel pump	**	-	-	CC	0.866:1	25	450	25
Fuel pump, plunger	**	-	*	-	0.500:1	-	-	10
Fuel pump	-	*	-	CC	1.000:1	25	450	25
Tachometer	*	*	*	C	0.500:1	7	50	5
Propeller governor	-	-	-	C	0.866:1	125	1200	40
Propeller governor	-	-	-	C	0.895:1	125	1200	40
Propeller governor	-	-	-	C	0.850:1	125	1200	25
Propeller governor	-	-	-	C	1.000:1	125	1200	40
Freon compressor				C	1.462:1	Limited by belt		

Optional dual drives mounting on vacuum pump drive pad.

Vacuum pump	**	**	**	CC	1.300:1	70	450	6
Hydraulic pump	**	**	**	CC	1.300:1	Total	Total	10
or								
Vacuum pump	-	-	-	-	-	-	-	-
Propeller governor	-	-	-	-	-	-	-	-

- Indicates "does not apply"
 * Standard

.C Clockwise
 CC Counter-clockwise

**Optional

NOTE 4. Spark plugs: See latest revision of Lycoming Service Instruction No. 1042 for approved equipment.

NOTE 5. The above models incorporate additional characteristics as follows:

<u>Models</u>	<u>Wt. (Dry) Lb.</u>	<u>Characteristics</u>
O-360-A1A	258	Basic Model. Four cylinder, horizontally opposed, air cooled, direct drive engine with provisions for supplying oil through propeller shaft for a single acting controllable pitch propeller.
O-360-A1AD	257	Similar to O-360-A1A except is equipped with Bendix D4LN-2021 magneto instead of incorporating two single magnetos.
O-360-A1C	261	Similar to O-360-A1A except has a rear mounted carburetor and 200 series magnetos.
O-360-A1D	256	Similar to O-360-A1A except has Bendix 200 series magnetos.
O-360-A1F	258	Similar to O-360-A1A except has Bendix 1200 impulse coupling, high altitude magnetos.
O-360-A1F6	265	Similar to O-360-A1F except has counter-weighted crankshaft.
O-360-A1F6D	264	Identical to O-360-A1F6 except is equipped with one Bendix D4LN-2021 impulse coupling dual magneto instead of incorporating two single magneto
O-360-A1G	262	Similar to O-360-A1F except has horizontal carburetor.
O-360-A1G6	269	Identical to O-360-A1G except has crankshaft equipped with counterweights. See Note 12.
O-360-A1G6D	266	Similar to O-360-A1G6 except is equipped with Bendix D4LN-2021 magneto instead of two single magnetos.
O-360-A1H	263	Similar to O-360-A1G except crankcase has propeller governor drive mounted on left front instead of on engine accessory housing.
O-360-A1H6	298	Similar to O-360-A1H except has crankshaft equipped with 6.3 and 8th order pendulum counterweights. Also, Slick magnetos incorporated.
O-360-A1LD	259	Identical to O-360-A1A except is equipped with one Bendix D4LN-2021 impulse coupling dual magneto instead of incorporating two single magnetos
O-360-A1P	292	Same as O-360-C1G except has dynafocal engine mounts
O-360-A2A	257	Similar to O-360-A1A except has no provisions for controllable pitch propeller
O-360-A2D	256	Similar to O-360-A1D except has no provisions for controllable pitch propeller
O-360-A2E	256	Similar to O-360-A2D but has AN type fuel pump drive.
O-360-A2F	258	Similar to 360-A1F except has no provisions for controllable pitch propeller.
O-360-A2G	262	Similar to O-360-A1G but has no provisions for controllable pitch propeller.
O-360-A2H	263	Similar to O-360-A1H except does not have propeller governor drive installed.
O-360-A3A	257	Similar to O-360-A2A except has 6 special length bushings in propeller flange.
O-360-A3AD	257	Identical to O-360-A3A except is equipped with Bendix D4LN-2021 magneto instead of Bendix S4LN-21 and S4LN-20 magnetos.
O-360-A3D	256	Similar to O-360-A2D except has special long propeller attaching bushings for use with Sensenich fixed pitch propellers.
O-360-A4A	265	Similar to O-360-A3A except has stiffer crankshaft.
O-360-A4AD	265	Identical to O-360-A4A except is equipped with Bendix D4LN-2021 impulse coupling dual magneto instead of incorporating two single magnetos.
O-360-A4D	297	Similar to O-360-A4A except has Bendix S4LN-200 retard breaker and S4LN-204 magnetos.
O-350-A4G	270	Similar to O-360-A2G except incorporates a stiffer crankshaft and solid main bearing journals.
O-360-A4J	269	Same as O-360-A4G except has different magnetos.
O-360-A4K	265	Identical to O-360-A4J except is equipped with Slick 4051 and 4050 magnetos instead of with Bendix S4LN-21 and S4LN-204 magnetos.
O-360-A4M	261	Identical to O-360-A4A except is equipped with Slick 4051 and 4050 magnetos instead of with Bendix S4LN-21 and S4LN-204 magnetos.
O-360-A4N	296	Similar to O-360-A4M except has unmachined propeller governor pad on left front of crankcase.
O-360-A4P	295	Similar to O-360-A4M except has short propeller flange bushings.

(cont'd)	<u>Models</u>	<u>Wt. (Dry) Lb.</u>	<u>Characteristics</u>
	O-360-A5AD	265	Identical to O-360-A4AD except is equipped with six standard length propeller flange bushings instead of six special length bushings.
	O-360-B1A	256	Similar to O-360-A1A except has lower compression ration and power rating.
	O-360-B1B	255	Similar to O-360-B1A except has Bendix 200 series magnetos.
	O-360-B2A	256	Similar to O-360-B1A except has no provisions for controllable pitch propeller.
	O-360-B2B	255	Similar to O-360-B1B except has no provisions for controllable pitch propeller.
	O-360-B2C	288	Similar to O-360-B2A except has heavier IO-360-A crankshaft and rods.
	O-360-C1A	257	Similar to O-360-A1A except has crankcase machined for conical rubber mount bushings in place of dynafocal mountings.
	O-360-C1C	256	Similar to O-360-C1A except has Bendix 200 series magnetos.
	O-360-C1E	254	Identical to O-360-C1A except is equipped with Slick 4051 and 4050 magnetos instead of Bendix S4LN-21 and S4LN-204 magnetos.
	O-360-C1F	288	Similar to O-360-A1G except has Slick 4050 and 4051 magnetos and rear type engine mounting instead of dynafocal type mount.
	O-360-C1G	292	Similar to O-360-C1A except propeller governor drive is located on the left front of the crankcase, location same as O-360-A1H.
	O-360-C2A	257	Similar to O-360-C1A except has no provision for controllable pitch propeller.
	O-360-C2B	261	Similar to 360-C2A except has rear mounted carburetor.
	O-360-C2C	256	Similar to O-360-C2A except has Bendix 200 series magnetos.
	O-360-C2D	260	Similar to O-360-C2B except has Bendix 200 series magnetos.
	O-360-C2E	254	Identical to O-360-C2A except is equipped with Slick 4051 and 4050 magnetos instead of Bendix S4LN-21 and S4LN-20 magnetos.
	O-360-C4F	275	Similar to O-360-C1F except has a solid crankshaft and no provision for a prop governor
	O-360-C4P	275	Similar to O-360-A4M except has short propeller flange bushings and conical engine mounts
	O-360-D1A	254	Similar to O-360-B1A and -B2A respectively except has crankcase machined for conical rubber mount bushings in place of dynafocal mountings.
	O-360-D2B	253	Similar to O-360-D2A except has Bendix 200 series magnetos.
	O-360-E1AD	262	This model differs from the basic model in that it incorporates a crankcase with an integral accessory section, front mounted fuel pump, external mounted oil pump, automatic valve tappets and rocker arms and dual magneto.
	O-360-E1A6D	269	Identical to O-360-E1AD except is equipped with one 6.3 order and one 8th order counterweight.
	O-360-E2AD	262	Similar to O-360-E1AD except has no provisions for controllable pitch propeller.
	O-360-E1BD	262	Similar to O-360-E1AD except has Bendix D4RN-2200 retard breaker magnetos instead of Bendix D4RN-2021 impulse coupling magneto.
	O-360-E2BD	262	Similar to O-360-E1BD except has no provisions for controllable pitch propeller.
	O-360-F1A6	301	Similar to O-360-A1G6 except has two Slick 4191 magnetos, propeller governor drive on crankcase left front and oil sump designed for retracted nose wheel clearance.
	O-360-G1A6	303	Similar to O-360-F1A6 except has a machined pad on the right front of the crankcase for installation equipment.
	O-360-J2A	289	Similar to the O-360-C1C except has O-320-B2C prop flange bushings, light weight cylinders and lower power rating.
	HO-360-A1A	257	Similar to O-360-A1D except has dynafocal mounts and different series carburetor.
	HO-360-B1A	260	Similar to O-360-C2D has a different cam shaft.
	HO-360-B1B	260	Similar to HO-360-B1A except has Bendix 200 series retard breaker magnetos.
	HO-360-C1A	288	Similar to O-360-C2D except uses LHC-6-6BPA carburetor in place of the PSH-5HD carburetor.
	LO-360-A1G6D	266	Similar to O-360-A1G6D except has counter-clockwise (reverse) rotation.
	LO-360-E1AD	262	Similar to O-360-E1AD except has counter-clockwise (reverse) rotation.

(cont'd)	<u>Models</u>	<u>Wt. (Dry) Lb.</u>	<u>Characteristics</u>
	LO-360-E1A6D	269	Similar to O-360-E1A6D has counter-clockwise (reverse) rotation.
	LO-360-E2AD	262	Similar to O-360-E2AD except has counter-clockwise (reverse) rotation.
	LO-360-E1BD	262	Similar to O-360-E1BD except has counter-clockwise (reverse) rotation.
	LO-360-E2BD	262	Similar to O-360-E2BD except has counter-clockwise (reverse) rotation.
	LO-360-A1H6	298	Similar to O-360-A1H except has counter-clockwise (reverse) rotation.

NOTE 6. These engines incorporate provisions for absorbing propeller thrust in both tractor and pusher type installations.

NOTE 7. These engines are approved for horizontal helicopter applications and operation.

NOTE 8. C.G. location (dry and without dual accessory drive).

<u>Model</u>	<u>From Front Face of Prop. Shaft Flange, In.</u>	<u>Off Propeller Shaft C.L., In.</u>
O-360-A series (except those listed below)	13.88	0.87 Below & 0.14 left
O-360-B series	13.88	0.87 Below & 0.14 left
HO-360-A1A	13.88	0.87 Below & 0.14 left
O-360-C series (except -C2B, -C2D, -C1F)	13.88	0.87 Below & 0.14 left
O-360-J2A	13.88	0.87 Below & 0.14 left
O-360-A1G, -A2G, -A1H, -A4G, -A4J, -C1F, -C4F, -A1H6, HO-360-C1A	14.04	0.76 Below & 0.14 left
O-360-A1AD, -A3AD, -A4AD, -A5AD, -A1F6D	13.77	0.82 Below & 0.30 left
O-360-A1C, -C2B, -C2D	14.42	1.27 Below & 0.03 right
HO-360-B1A, -B1B	14.42	1.27 Below & 0.03 right
O, LO-360-A1G6D	13.93	0.71 Below & 0.30 left
O-360-D1A, -D2A, -D2B	14.19	1.27 Below & 0.05 right
O, LO-360-E1AD, -E1BD, -E2BD, -E1A6D	13.90	0.95 Below
O-360-F1A6, -A4N, -G1A6	14.25	0.88 Below & 0.05 left

NOTE 9.

<u>Model</u>	<u>Ignition, Dual +</u>	<u>Propeller Shaft SAE No. AS-127</u>	<u>Compression Ratio</u>	<u>Carburetion ~</u>
O-360-A1A	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A1AD	TCM** D4LN-2021	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A1C	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	8.5:1	PSH-5BD
-A1D	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A1F	TCM** S4LN-1227; S4LN-1209 or S4LN-1227	Flange, Type 2 modified	8.5:1	MA-4-5
-A1F6	TCM** S4LN-1227; S4LN-1209 or S4LN-1227	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A1F6D	TCM** D4LN-2021	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A1G	TCM** S4LN-1227; S4LN-1209 or S4LN-1227	Flange, Type 2 modified	8.5:1	HA-6
-A1G6	TCM** S4LN-1227; S4LN-1209 or S4LN-1227	Flange; Type 2 modified	8.5:1	LHC-6-6BPA
-A1G6D	TCM** D4LN-2021	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-A1H	S4LN-21; S4LN-204 or S4LN-21	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-A1H6	Slick 4230; 4202	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-A1LD	TCM** D4LN-2021	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A1P	Slick 4373, 4370	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A2A	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A2D	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A2E	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	8.5:1	LVC-5-5BPA

+ For alternate magnetos see latest revision of Lycoming Service Instruction 1443

~ For alternate carburetors see latest revision of Lycoming Service Instruction 1523.

** Teledyne (TCM) formerly Bendix

NOTE 9. (cont'd)

Model	Ignition, Dual +	Propeller Shaft SAE No. AS-127	Compression Ratio	Carburetion ~
-A2F	TCM** S4LN-1227; S4LN-1209 or S4LN-1227	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A2G	TCM** S4LN-1227; S4LN-1209 or S4LN-1227	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-A2H	TCM** S4LN-21; S4LN-204 or S4LN-21	Flange, Type 2 modified	8.5:1	HA-6
-A3A	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A3AD	TCM** D4LN-2021	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A3D	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	8.5:1	MA-4-5
-A4A	TCM** S4LN-21; S4LN-204 or S4LN-21	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A4AD	TCM** D4LN-2021	Flange, Type 2 modified	8.5:1	MA-4-5
-A4D	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	8.5:1	MA-4-5
-A4C	TCM** S4LN-1227; S4LN-1209 or S4LN-1227	Flange, Type 2 modified	8.5:1	HA-6
-A4J	TCM** S4LN-21; S4LN-204 or S4LN-21	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-A4K	Slick 4051; 4050 or 4051	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-A5AD	TCM** D4LN-2021	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A4M	Slick 4051; 4050 or 4051	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A4P	Slick 4371; 4070	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-A4N	Slick 4251(2)	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-B1A	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	7.2:1	LVC-5-5BPA
-B1B, -B2B	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	7.2:1	MA-4-5
-B2A	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	7.2:1	MA-4-5
-B2B	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	7.2:1	LVC-5-5BPA
-B2C	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	7.2:1	LVC-5-5BPA
-C1A	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-C1C	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-C1E	Slick 4051; 4050 or 4051	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-C1F	Slick 4050; 4051	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-C1G	TCM** S4LN-21; S4LN-20	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-C2A	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-C2B	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange	8.5:1	PSH-5BD
-C2C	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-C2D	TCM** S4LN-200; S4LN-204	Flange	8.5:1	PSH-5BD
-C2E	Slick 4051; 4050 or 4051	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-C4F	Slick 4371; 4370	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-C4P	Slick 4373, 4370	Flange, Type 2 modified	8.5:1	LVC-5-5BPA
-D1A	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	7.2:1	MA-4-5
-D2A	TCM** S4LN-21; S4LN-20 or S4LN-21	Flange, Type 2 modified	7.2:1	LVC-5-5BPA
-D2B	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	7.2:1	LVC-5-5BPA

+ For alternate magnetos see latest revision of Lycoming Service Instruction 1443

~ For alternate carburetors see latest revision of Lycoming Service Instruction 1523.

** Teledyne (TCM) formerly Bendix

NOTE 9. (cont'd)

Model	Ignition, Dual +	Propeller Shaft SAE No. AS-127	Compression Ratio	Carburetion ~
-E1AD	TCM** D4RN-2021	Flange, Type 2 modified	9.0:1	HA-6
-E1A6D	TCM** D4RN-2021	Flange, Type 2 modified	9.0:1	LHC-6-6BPA
-E1BD	TCM** D4RN-2200	Flange, Type 2 modified	9.0:1	HA-6
-E2AD	TCM** D4RN-2021	Flange, Type 2 modified	9.0:1	HA-6
-E2BD	TCM** D4RN-2200	Flange, Type 2 modified	9.0:1	HA-6
-F1A6	Slick 4191(2)	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-G1A6	Slick 4251(2)	Flange, Type 2 modified	8.5:1	HA-6
-J2A	TCM** S4LN-200;S4LN-204	Flange, Type 2 modified	8.5:1	LVC-5-4PA or LVC-5-5BPA
HO-360-A1A	TCM** S4LN-200; S4LN-204	Flange, Type 2 modified	8.5:1	MA-4-54A
-B1A	TCM** S4LN-200; S4LN-204	Flange	8.5:1	PSH-5BD
-B1B	TCM** S4LN-200; S4LN-200	Flange	8.5:1	PSH-5BD
-C1A	Slick 4347; 4370	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
LO-360-A1G6D	TCM** D4RN-2021	Flange, Type 2 modified	8.5:1	LHC-6-6BPA
-E1AD	TCM** D4LN-2021	Flange, Type 2 modified	9.0:1	HA-6
-E1A6D	TCM** D4LN-2021	Flange, Type 2 modified	9.0:1	LHC-6-6BPA
-E2AD	TCM** D4LN-2021	Flange, Type 2 modified	9.0:1	HA-6
-E1BD	TCM** D4LN-2200	Flange, Type 2 modified	9.0:1	HA-6
-E2BD	TCM** D4LN-2200	Flange, Type 2 modified	9.0:1	HA-6
-A1H6	Slick 4230; 4202	Flange, Type 2 modified	8.5:1	LHC-6-6BPA

+ For alternate magnetos see latest revision of Lycoming Service Instruction 1443

~ For alternate carburetors see latest revision of Lycoming Service Instruction 1523.

** Teledyne (TCM) formerly Bendix

NOTE 10. The Model O-360-A1B engine was cancelled from Engine Type Certificate No. E-286 on April 19, 1963. Models O-360-E1AD, -E2AD, -E1BD, -E2BD and LO-360-E1AD, -E2AD, -E1BD, and -E2BD were cancelled from Engine Type No. E-286 on May 24, 1978. No production models were manufactured.

NOTE 11. Starters, generators, and alternators approved for use on these engines are listed in the latest revision of Lycoming Service Instruction No. 1154.

NOTE 12. Engines of this series incorporate no crankshaft dampers unless the digit "6" follows the model designation, i.e. -A1F "6". Engines so designated have one 6.3 and one 8th order pendulum type counter-weight.

....END....