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SERVICE INSTRUCTION

DATE: July 8, 2002

Service Instruction No. 1037M
(Supersedes Service Instruction No. 1037L)
Engineering Aspects are
FAA Approved

SUBJECT: Approved Piston, Rings and Cylinders for Use on Lycoming Aircraft Engines

MODELS AFFECTED: All Lycoming opposed series aircraft engines.

TIME OF COMPLIANCE: When installing new rings, pistons, valves and cylinders.

This list shows the piston, ring, cylinder and valve combinations that are currently available for use in Lycoming engines. It will be noted that ring combinations vary with cylinder barrel materials. These various differences must be observed when making piston ring replacement.

CAUTION

CHROME PLATED RINGS (DESIGNATED BY "c") ARE USED IN PLAIN OR NITRIDED STEEL CYLINDER BARRELS, BUT NEVER IN CHROME PLATED BARRELS. SERIOUS ENGINE DAMAGE WILL OCCUR IF CHROME PLATED PISTON RINGS ARE USED IN CHROME PLATED CYLINDER BARRELS.

Engine models listed as having serial number suffix "A" are built with crankcases designed for wide cylinder base mounting flanges, and consequently must be assembled with cylinders so specified.

NOTE

Chrome plated cylinder assemblies and kits containing chrome plated cylinders are no longer available from Lycoming. However, compatible piston and ring combinations used with chrome cylinders are still available and listed herein.

Alphabetical symbols used in the list to describe the components are defined as follows:

- C* - Chrome plated steel cylinder barrel
- FW - Full-Wedge compression ring
- HW - Half-Wedge compression ring
- N - Nitride hardened steel cylinder barrel
- P - Plain steel cylinder barrel
- S - Suffix to piston part number to indicate service application
- a - 3/16 inch "wide" oil regulating ring
- b - 5/32 inch "narrow" oil regulating ring
- c - Chrome plated piston ring
- d - Cold forged piston
- e - Requires long reach spark plugs
- f - 1/2 inch diameter Inconel sodium cooled exhaust valve
- g - 1/2 inch diameter sodium cooled exhaust valve
- h - 7/16 inch diameter sodium cooled exhaust valve
- j - 1/2 inch diameter chrome plated sodium cooled stem exhaust valve
- k - Solid stem exhaust valve
- m - 1/2 inch diameter Nimonic sodium cooled exhaust valve (TIO/TIGO-541)
- p - Plain steel piston ring
- r - Angle valve cylinder head (cylinders not marked "r" have parallel valves)

NOTE

* - If choked chrome cylinder assemblies are used in any of the engine applications listed, the compression ring gap must be increased to .045/.055 inch which is the same for nitrided cylinder assemblies. Refer to SSP-1776, Table of Limits.

ENGINE MODEL	CYL. BARR EL TYPE	PIST ON RING TYPE	PISTON	TOP COMP. RING	2 ND COMP. RING	3 RD COM P. RING	OIL REG. RING	OIL SCRA PER RING	CYL. ASSY. NO.	EXHAUS T VALVE	INTAK E VALVE	CYL. PISTON AND RING ASSY.KIT
O-235-C1, -C1B, -C1C, -C2A, -C2C, -E2A, -H2C (low compression)	P	FW	73851	68196c	68196c		LW-16867c	60072p	16A1973 1	17B1971 2k	66429	N/A
	P	FW	73851	68196c	68196c			60072p			LW-11901	05K21232
	P	FW	73851	68196c	68196c		LW-16867c	60072p	LW-16704	LW-19034h		05K23039
	C	FW		LW-14233p	LW-14233p		LW-16867c	60072p	16A2303 4	LW-19034h	LW-11901	N/A
O-235-F1B, -F2A, -F2B, -G1A, -G2A, -J2A (high compression)	N	HW	LW-18725	78862c	78862c		78864c		LW-16703	LW-19034h	LW-11901	05K21233
	N	HW		78862c	78862c		78864c					05K23040
	C	HW	LW-18725	LW-14234p	LW-14234p		LW-14235p		16A2303 3	LW-19034h	LW-11901	N/A
O-235-K2A, -K2B, -K2C, -L2A, -L2C, -M1, -M2 (high compression)	N	HW	LW-18729	78862c	78862c		78864c		LW-16703	LW-19034h	LW-11901	05K21114
	N	HW		78862c	78862c		78864c					05K23037
	C		LW-18729	LW-14234p	LW-14234p		LW-14235p		16A2303 3	LW-19034h	LW-11901	N/A
O-235-N2A, -N2C, -P1, -P2A, -P2C, -P3C (high compression)	N	HW	LW-18729	78862c	78862c		78864c		LW-18290	LW-19034h	LW-11901	05K21123
	N	HW	LW-18729	78862c	78862c		78864c		16A2303 5	LW-19034h	LW-11901	05K23038
O-290-D (low compression) Cylinder Assy's. No Longer Available	P	FW	69958	62916c	62916c		69401ca		N/A	17B1971 2k	66429	N/A
	C	FW	69958	LW-13883p	LW-13883p		68338pa		N/A	17B1971 2k	66429	N/A
O-290-D2 (high compression) Cylinder Assy's. No Longer Available	P	FW	69841	62916c	62916c		69401ca		N/A	17B1971 2k	73938	N/A
	C	FW	69841	LW-13883p	LW-13883p		68338pa		N/A	17B1971 2k	73938	N/A
O-290-D2B, -D2C (low compression) Cylinder Assy's. No Longer Available	P	FW	70396	62916c	62916c		68338pa		N/A	17B1971 2k	73938	N/A
	C	FW	70396	LW-13883p	LW-13883p		68338pa		N/A	17B1971 2k	73938	N/A
O-320-A, -E (low compression) (S/N Suffix "A")	N	HW	75413	74241c	74241c		14H21950 cb		LW-12416	LW-19001j	73938	05K21237 -A
	P	HW	75413	74989c	74989c		14H21950 cb		N/A	LW-19001j	73938	N/A
	C	HW	75413	74673p	74673p		73998pb		N/A	LW-19001j	73938	N/A
O-320-B, -D IO-320-B1A, -B1C, -B1D, -B1E, -B2A, -D1A, -D1AD, -D1B, -D1C LIO-320-B1A AIO-320-A1B, -B1B, -C1B AEIO-320-D1B, -D2B (high compression) (S/N Suffix "A")	N	HW	75089	74241c	74241c		14H21950 cb		LW-12416	LW-19001j	73938	05K21100
	C	HW	75089	74673p	74673p		73998pb		N/A	LW-19001j	73938	N/A
O-320-E2A, E2C IO-320-E1A, -D1B, -E2A, -E2B AEIO-320-E1A, -E1B, -E2A, -E2B (low compression) (S/N Suffix "A")	N	HW	75413	74241c	74241c		14H21950 cb		LW-12416	LW-19001j	73938	05K21237 -A
O-320-H2AD, -H3AD (76 Series)	N	HW	LW-15357	74241c	74241c		14H21950 cb		LW-15318	LW-19001j	LW-15314	05K21119
	C	HW		74673p	74673p		73998pb		N/A			N/A
IO-320-C1A, -C1B, -C1F	N	HW	75089	74241c	74241c		14H21950 cb		LW-12418e	LW-19001j	73938	05K21242

LIO-320-C1A (high compression) (S/N Suffix "A")												
O-320-A, -E (low compression)	N	HW	75413	74241c	74241c		14H21950 cb		16B2150 8	LW- 19001j	73938	05K21423 -A
	P	HW	75413	74989c	74989c		14H21950 cb		N/A	LW- 19001j	73938	N/A
	C	HW	75413	74673p	74673p		73998pb		N/A	LW- 19001j	73938	N/A
IO-320-B1A LIO-320-B1A (high compression)	N	HW	75089	74241c	74241c		14H21950 cb		LW- 12413	LW- 19001j	73938	05K21101

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ENGINE MODEL	CYL. BARR EL TYPE	PIST ON RING TYPE	PISTON	TOP COMP. RING	2 ND COMP. RING	3 RD COM P. RING	OIL REG. RING	OIL SCRA PER RING	CYL. ASSY. NO.	EXHAUS T VALVE	INTAK E VALVE	CYL. PISTON AND RING ASSY. KIT
O-320-B, -D1A, -D2A, -D2B (high compression)	P	HW	75089	74989c	74989c		14H21950 cb		N/A	LW- 19001j	73938	N/A
	P	FW	71594	68513c	68513c		69457ca		N/A	LW- 19001j	73938	N/A
	N	HW	75089	74241c	74241c		14H21950 cb		LW- 12413	LW- 19001j	73938	05K21101
	C	FW	71594	LW- 14253p	LW- 14253p		72454pa		N/A	LW- 19001j	73938	N/A
	C	HW	75089	74673p	74673p		74998pb		N/A	LW- 19001j	73938	N/A
O-340-A (high compression)	P	HW	75089	74989c	74989c		14H21950 cb		N/A	LW- 19001j	73938	N/A
	N	HW	75089	74241c	74241c		14H21950 cb		N/A	LW- 19001j	73938	N/A
	C	FW	71594	LW- 14253p	LW- 14253p		72454pa		N/A	LW- 19001j	73938	N/A
	C	HW	75089	74673p	74673p		73998pb		N/A	LW- 19001j	73938	N/A
O-360-A, -C (high compression)	N	HW	75089	74241c	74241c		14H21950 cb		LW- 12425	LW- 19001j	73938	05K21102
	P	HW	75089	74989c	74989c		14H21950 cb		N/A	LW- 19001j	73938	N/A
	P	FW	71594	68513c	68513c		69457ca		N/A	LW- 19001j	73938	N/A
	C	HW	75089	74673p	74673p		73998pb		N/A	LW- 19001j	73938	N/A
	C	FW	71594	LW- 14523p	LW- 14523p		72454pa		N/A	LW- 19001j	73938	N/A
O-360-B, -D (low compression)	N	HW	75413	74241c	74241c		14H21950 cb		LW- 12425	LW- 19001j	73938	05K21103
	P	HW	75413	74989c	74989c		14H21950 cb		N/A	LW- 19001j	73938	N/A
	C	HW	75413	74673p	74673p		73998pb		N/A	LW- 19001j	73938	N/A
HO-360-A1A, -B1A, - B1B (high compression)	N	HW	75089	74241c	74241c		14H21950 cb		LW- 12425	LW- 19001j	73938	05K21102
	C	HW	75089	74673p	74673p		73998pb		N/A	LW- 19001j	73938	N/A
HIO-360-A1A (high compression)	N	HW	LW- 10207Sd	74241c	74241c		14H21950 cb		LW- 19046r	LW- 16740j	LW- 12949	05K21224
	N	HW	N/A	74241c	74241c	7424 1c	69457ca		LW- 19046r	LW- 16740j	LW- 12949	N/A
IO-360-A1A (high compression)	N	HW	LW- 10207Sd	74241c	74241c		14H21950 cb		LW- 13530r	LW- 16740j	LW- 13622	05K21112
	N	HW		74241c	74241c	7424						N/A

			N/A			1c	69457ca		LW-13530r	LW-16740j	LW-13622	
IO-360-B1A, -B1B HIO-360-B1A (high compression)	N	HW	75089	74241c	74241c		14H21950 cb		LW-12425	LW-19001j	73938	05K21102
O-360-B2C (low compression) (S/N Suffix "A")	N	HW	75413	74241c	74241c		14H21950 cb		LW-12427	LW-19001j	73938	05K21192
O-360-J2A (high compression) (S/N Suffix "A")	N	HW	75089	74241c	74241c		14H21950 cb		LW-13870	LW-19001j	73938	05K21745
O-360-A, -C, -F1A6, -G1A6 IO-360-B, -L2A, -M1A HO-360-C1A HIO-360-B1A LO-360-A1G6D, -A1H6 AEIO-360-B, -H1A, -H1B (high compression) (S/N Suffix "A")	N C	HW HW	75089 75089	74241c 74673p	74241c 74673p		14H21950 cb 73998pb		LW-12427 N/A	LW-19001j LW-19001j	73938 73938	05K21104 N/A
IO-360-A, -C, -D1A, -J1A6D, -K2A AIO-360-A1A, -A1B, -B1B AEIO-360-A1A, -A1B, -A1B6, -A1D, -A1E, -A1E6, -A2B LIO-360-C1E, -C1E6, -C1E6D (high compression) (S/N Suffix "A")	N N C C	HW HW HW HW	LW-10207Sd N/A N/A LW-10207Sd	74241c 74241c 74673p 74673p	74241c 74241c 74673p 74673p	7424 1c 7467 3p	14H21950 cb 69457ca 72454pa 73998pb		LW-12993r LW-12993r N/A N/A	LW16740j LW-16740j LW-16740j LW-16740j	LW-13622 LW-13622 LW-13622 LW-13622	05K21120 N/A N/A N/A
HIO-360-A1A, -A1B, -C1A, -C1B LHIO-360-C1A (high compression) (S/N Suffix "A")	N N C C	HW HW HW HW	LW-10207Sd N/A N/A LW-10207Sd	74241c 74241c 74673p 74673p	74241c 74241c 74673p 74673p	7424 1c 7467 3p	14H21950 cb 69457ca 72454pa 73998pb		LW-19047r LW-19047r N/A N/A	LW-16740j LW-16740j LW-16740j LW-16740j	LW-12949 LW-12949 LW-12949 LW-12949	05K21281 N/A N/A N/A
HIO-360-D1A (high compression) (S/N Suffix "A")	N	HW	LW-11487Sd	74241c	74241c		14H21950 cb		LW-19047r	LW-16740j	73117	05K21124

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ENGINE MODEL	CYL. BARR EL TYPE	PIST ON RING TYPE	PISTON	TOP COMP. RING	2 ND COMP. RING	3 RD COM P. RING	OIL REG. RING	OIL SCRA PER RING	CYL. ASSY. NO.	EXHAUS T VALVE	INTAK E VALVE	CYL. PISTON AND RING ASSY. KIT
HIO-360-E1AD, -E1BD, -F1AD (high compression) (S/N Suffix "A")	N N	HW HW	LW-13358S LW-14610S	74241c 74241c	74241c 74241c		14H21950 cb 14H21950 cb		LW-12988er LW-12988er	LW-16740j LW-16740j	LW-13622 LW-13622	05K21275 05K21274
TO-360-C1A6D, -F1A6D TIO-360-C1A6D (low compression) (S/N Suffix "A")	N	HW	LW-10545Sd	74241c	74241c		14H21950 cb		LW-13964r	LW-18497j	LW-13262	05K21276
TIO-360-A1B, -A3B6 (low compression) (S/N Suffix "A")	N	HW	LW-10545Sd	74241c	74241c		14H21950 cb		77544er	LW-16740j	LW-12949	05K21277
IO-360-C1F (for turbocharging)	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		77544er	LW-16740j	LW-12949	05K21278
IO-360-A3B6D (for turbocharging), -C1F	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-12988er	LW-16740j	LW-13622	05K21279
O-360-E1A6D LO-360-E1A6D (76 Series)	N	HW	LW-15357	74241c	74241c		14H21950 cb		LW-15322	LW-19001j	LW-15314	05K21121
TO-360-E1A6D LTO-360-E1A6D (76 Series)	N	HW	LW-12733	74241c	74241c		14H21950 cb		LW-16290e	LW-19001j	LW-15314	05K21122
IVO-360-A1A (high compression)	N	HW	75089	74241c	74241c		14H21950 cb		74498 or LW-12432	N/A	73938	N/A

VO-360-A1A, -A1B, -B1A (high compression)	N	HW	75089	74241c	74241c		14H21950 cb		N/A	N/A	73938	N/A
	C	FW	71594	LW- 12453p	LW- 12453p		72454pb		N/A	N/A	73938	N/A
	C	HW	75089				73998pb		N/A	N/A	73938	N/A
				74673p	74673p							
IVO-360-A1A (high compression) (S/N Suffix "A")	N	HW	75089	74241c	74241c		14H21950 cb		LW- 15682e	LW- 19001j	73938	05K22294
O-435-A (low compression)	P	FW	69958	62916c	62916c		69401ca		71854	66531k	66429	N/A
GO-435-C2 (high compression)	N	HW	75984	73933c	73933c		73934cb		LW- 19035r	LW- 16740j	73129	05K21229
	C	HW	75984	74984p	74984p		75985pb		N/A	LW- 16740j	73129	N/A
	P	FW	67266	62916c	62916c		69401ca	69322c	77604r	LW- 16740j	73129	N/A
	C	FW	67266	LW- 13883p	LW- 13883p		68338pa	61824p	N/A	LW- 16740j	73129	N/A
VO-435-A1B, -A1C, -A1D, -A1E, -A1F (low compression)	N	HW	75984	73933c	73933c		73934cb		LW- 19036r	LW- 16740j	73129	05K21214
	N	HW	75984	73933c	73933c		73934cb		LW- 19036r	LW- 16740j	73129	05K21215 -A
	C	HW	75984	74984p	74984p		75985pb		N/A	LW- 16740j	73129	N/A
VO-435-A1D, -A1E, -A1F, TVO-435-A1A, -B1A, -B1B, -D1A, -D1B, -F1A, -G1A, -G1B (low compression)	N	HW	75984	73933c	73933c		73934cb		74218er	LW- 16740j	73129	05K21212
	N	HW	75984	73933c	73933c		73934cb		74218er	LW- 16740j	73129	05K21213 -A
	C	HW	75984	74984p	74984p		75985pb		N/A	LW- 16740j	73129	N/A
VO-435-A1F TVO-435-A1A (low compression)	N	HW	75984	73933c	73933c		73934cb		LW- 19036r	LW- 16740j	73129	05K21214
	N	HW	75984	73933c	73933c		73934cb		LW- 19036r	LW- 16740j	73129	05K21215 -A
VO-435-B1A (high compression)	N	HW	76172	73933c	73933c		73934cb		74218er	LW- 16740j	73129	05K21216
	N	HW	76172	73933c	73933c		73934cb		74218er	LW- 16740j	73129	05K21217 -A
GO-480-B, -D, -F (low compression)	N	HW	LW- 10208Sd	74241c	74241c		14H21950 cb		LW- 19037r	LW- 16740J	73129	05K21273
	P	FW		68513c	68513c			69330c			73129	05K21283
	C	FW	69236				69457ca		16A2100 5r	LW- 16740j	73129	N/A
	C	HW	69236	LW- 14253p	LW- 14253p		72454pb	69235p	N/A	LW- 16740j	73129	N/A
	C	HW	73976Sd	74673p	74673p	7467 3p	73998pb	69235p	N/A	LW- 16740j	73129	N/A
	C	HW	LW- 10208Sd	74673p	74673p		73998pb		N/A	LW- 16740j	73129	N/A
GO-480-C1B6, -C1D6, -C2 Series GO-480-G1A6, -G1B6, -G1D6, -G2D6, -G1E6, -G1F6, -G2F6, -G1G6, -G1J6 (high compression)	N	HW	LW- 10207Sd	74241c	74241c		14H21950 cb		75215er	LW- 16740j	73129	05K21272
	C	HW		74673p	74673p	7467 3p		69235p	N/A	LW- 16740j	73129	N/A
	C	HW		74673p	74673p		73998pb		N/A	LW- 16740j	73129	N/A
			LW- 10207Sd				73998pb			LW- 16740j		
GO-480-G1D6 (Helio) (high compression)	N	HW	LW- 10207Sd	74241c	74241c		14H21950 cb		75215er	LW- 16740j	73129	05K21272 *

ENGINE MODEL	CYL. BARR EL TYPE	PIST ON RING TYPE	PISTON	TOP COMP. RING	2 ND COMP. RING	3 RD COM P. RING	OIL REG. RING	OIL SCRA PER RING	CYL. ASSY. NO.	EXHAUS T VALVE	INTAK E VALVE	CYL. PISTON AND RING ASSY. KIT
IGO-480-A1B6 (Helio) GO-480-G1A6 (Helio)	N	HW	LW- 10207Sd	74241c	74241c		14H21950 cb		LW- 19038er	LW- 16740j	73129	05K21271

(high compression)												
GSO-480-A, -B	N	HW	LW-10208Sd	74241c	74241c		14H21950cb		75215er	LW-16740j	73129	05K21270
IGSO-480-A (low compression)	C	FW	71545	LW-14253p	LW-14253p		72454pb	69235p	N/A	LW-16740j	73129	N/A
	C	HW	72578	74673p	74673p	74673p	72454pb	69235p	N/A	LW-16740j	73129	N/A
	C	HW	73976Sd	74673p	74673p		73998pb	69235p	N/A	LW-16740j	73129	N/A
	C	HW	LW-10208Sd	74673p	74673p	74673p	73998pb		N/A	LW-16740j		N/A
										LW-16740j		
O-540-A, -F (high compression)	N	HW	75089	74241c	74241c		14H21950cb		LW-12425	LW-19001j	73938	05K21102
	P	HW	75089	74989c	74989c		14H21950cb		N/A	LW-19001j	73938	N/A
	C	FW	71594	LW-14253p	LW-14253p		72454pb		N/A	LW-19001j	73938	N/A
O-540-A IO-540-C (high compression)	C	HW	75089	74673p	74673p		73998pb		N/A	LW-19001j	73938	N/A
O-540-B (low compression)	N	HW	75413	74241c	74241c		14H21950cb		LW-12425	LW-19001j	73938	05K21103
	P	HW	75413	74989c	74989c		14H21950cb		N/A	LW-19001j	73938	N/A
	C	HW	75413	74673p	74673p		73998pb		N/A	LW-19001j	73938	N/A
O-540-E1A, -E4A5, -E4B5, -E4C5, -G1A5, -G2A5 IO-540-C, -D4A5, -D4B5, -N1A5 (high compression)	N	HW	75089	74241c	74241c		14H21950cb		LW-12425	LW-19001j	73938	05K21102
IO-540-M1A5 IO-540-E1B5 (for turbocharger) (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950cb		LW-13533er	LW-16740j	LW-13622	05K21226
IO-540-A, -G, -K, -L HIO-540-A1A (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950cb		LW-13530r	LW-16740j	LW-13622	05K21112
	N	HW	N/A	74241c	74241c	74241c	69457ca		LW-13530r	LW-16740j	LW-13622	N/A
	C	HW	N/A	74673p	74673p	74673p	72454pb		N/A	LW-16740j	LW-13622	N/A
	C	HW	LW-10207Sd	74673p	74673p	74673p	73998pb		N/A	LW-16740j	LW-13622	N/A
IO-540-B, -E (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950cb		LW-13532r	LW-16740j	LW-13622	05K21110
	N	HW	N/A	74241c	74241c	74241c	69457ca		LW-13532r	LW-16740j	LW-13622	N/A
	C	HW	LW-10207Sd	74673p	74673p		73998pb		N/A	LW-16740j	LW-13622	N/A
	C	HW	N/A	74673p	74673p	74673p	72454pb		N/A	LW-16740j	LW-13622	N/A
IO-540-G, -K, -P, -S (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950cb		LW-13534er	LW-16740j	LW-13622	05K21204
	C	HW	LW-10207Sd	74673p	74673p		73998pb		N/A	LW-16740j	LW-13622	N/A
IO-540-J4A5, -R1A5 TIO-540-G1A (high compression)	N	HW	75089	74241c	74241c		14H21950cb		LW-12433e	LW-19001j	73938	05K21241
TIO-540-A1A, -A1B, -A2A, -A2B, -A2C (low compression)	N	HW	LW-10545Sd	74241c	74241c		14H21950cb		LW-13447er	LW-16740j	LW-13622	05K21109
	C	HW	LW-10545Sd	74673p	74673p		73998pb		N/A	LW-16740j	LW-13622	N/A
TIO-540-C1A, -E1A, -H1A (low compression)	N	HW	75413	74241c	74241c		14H21950cb		LW-12433e	LW-19001j	73938	05K21234
O-540-A4D5, -E, -G, -H IO-540-C, -D, -N, -T, -V AEIO-540-D4A5, -D4B5	N	HW	75089	74241c	74241c		14H21950cb		LW-12427	LW-19001j	73938	05K21104

(high compression) (S/N Suffix "A")												
O-540-B (low compression) (S/N Suffix "A")	N P	HW HW	75413 75413	74241c 74989c	74241c 74989c		14H21950 cb 14H21950 cb		LW- 12427 N/A	LW- 19001j LW- 19001j	73938 73938	05K21192 N/A
O-540-L3C5D (high compression) (S/N Suffix "A")	N	HW	75089	74241c	74241c		14H21950 cb		LW- 15605e	LW- 19001j	73938	05K21231
O-540-J1A5D, - J1C5D, - -J2A5D, -J3A5, - J3A5D, - -J3C5D IO-540-AB1A5, - W1A5, - -W1A5D, -W3A5D (high compression) (S/N Suffix "A")	N	HW	LW- 13396	74241c	74241c		14H21950 cb		LW- 13870	LW- 19001j	73938	05K21117

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ENGINE MODEL	CYL. BARR EL TYPE	PIST ON RING TYPE	PISTON	TOP COMP. RING	2 ND COMP. RING	3 RD COM P. RING	OIL REG. RING	OIL SCRA PER RING	CYL. ASSY. NO.	EXHAUS T VALVE	INTAK E VALVE	CYL. PISTON AND RING ASSY. KIT
O-540-F1B5 (high compression) (S/N Suffix "A")	N	HW	75089	74241c	74241c		14H21950 cb		LW- 13870	LW- 19001j	73938	05K21745
IO-540-K1A5, - K1A5D, - -K1B5, -K1D5, -K1F5, - -K1F5D, -K1G5, - K1G5D, - -K1H5, -K1J5, - K1J5D, - -K1K5, -K2A5, - L1A5D, - -L1B5D, -L1C5 AEIO-540-L1B5, - L1B5D, - -L1D5 (high compression) (S/N Suffix "A")	N	HW	LW- 10207Sd	74241c	74241c		14H21950 cb		LW- 12993r	LW- 16740j	LW- 13622	05K21120
IO-540-M1A5, - M1A5D, - -M1B5, -M1B5D, - M1C5, - -U1A5D, -U1B5D (high compression) (S/N Suffix "A")	N	HW	LW- 10207Sd	74241c	74241c		14H21950 cb		LW- 19048er	LW- 16740j	LW- 13622	05K21263
IO-540-G1D5, -K1B5, - -K1C5, -K1E5, - K1E5D, - -S1A5 AEIO-540-L1B5, - L1B5D, - -L1D5 (high compression) (S/N Suffix "A")	N	HW	LW- 10207Sd	74241c	74241c		14H21950 cb		LW- 12988er	LW- 16740j	LW- 13622	05K21118
IO-540-AA1A5, - AA1B5, - -U2A LTIO-540-U2A (low compression) (S/N Suffix "A")	N	HW	LW- 10545Sd	74241c	74241c		14H21950 cb		LW- 12988er	LW- 16740j	LW- 13622	05K21966
TIO-540-AE2A, - AH1A	N	HW	LW- 10545Sd	74241c	74241c		14H21990 cb		LW- 12988er	LW- 16740j	LW- 13622	05K21262
TIO-540-AK1A	N	HW	LW- 12733	74241c	74241c		14H21950 cb		16A2213 0e	LW- 19001	73938	05K23161
IO-540-AC1A5 (high compression) (S/N Suffix "A")	N	HW	LW- 10207Sd	74241c	74241c		14H21950 cb		16A2254 1e	LW- 18497j	LW- 13262	05K22672
TIO-540-C1A, -C1AD (low compression) (S/N Suffix "A")	N	HW	75413	74241c	74241c		14H21950 cb		16A2213 0e	LW- 19001j	73938	05K22128
TIO-540-A2C, -F2BD, - J2B, - -J2BD, -N2BD, - R2AD, - -S1AD LTIO-540-F2BD, - J2B, - -J2BD, -N2BD, - R2AD	N C	HW HW	LW- 10545Sd LW- 10545Sd	74241c 74673p	74241c 74673p		14H21950 cb 73998pb		LW- 12966er N/A	LW- 16740j LW- 16740j	LW- 13622 LW- 13622	05K21108 N/A

(low compression) (S/N Suffix "A")												
TIO-540-V2AD LTIO-540-V2AD (low compression) (S/N Suffix "A")	N	HW	LW-10545Sd	74241c	74241c		14H21950 cb		16A1951 6er	LW-18497j	LW-13262	05K21260
TIO-540-W2A (low compression) (S/N Suffix "A")	N	HW	LW-19176Sd	74241c	74241c		14H21950 cb		16A1951 6er	LW-18497j	LW-13262	05K21261
TIO-540-K1AD, - AA1AD, -AB1AD, -AB1BD, - AF1A, -AG1A (low compression) (S/N Suffix "A")	N	HW	LW-12733	74241c	74241c		14H21950 cb		16A2213 0er	LW-19001j	73938	05K22129
TIO-540-AF1B (Oil Cooled Valve Guides) (low compression) (S/N Suffix "A")	N	HW	LW-12733	74241c	74241c		14H21950 cb		16A2202 3er	LW-19001j	73938	05K22177
TIO-540-AJ1A (low compression) (S/N Suffix "A")	N	HW	LW-10545Sd	74241c	74241c		14H21950 cb		16A2254 1e	LW-18497j	LW-13262	05K22680
TIO-541-A1A (low compression)	N	HW	LW-10545Sd	74241c	74241c		14H21950 cb		N/A	LW-16740j	73117	N/A
TIO-541-E1A4, - E1B4, -E1C4, -E1D4 TIGO-541-E1A (low compression)	N	HW	LW-10545Sd	74241c	74241c		14H21950 cb		LW-14116er	LW-18498j	LW-13262	05K21116
	N	HW	LW-10545Sd	74241c	74241c		14H21950 cb		LW-13097er Kit**	LW-18498j	LW-13262	LW-13987
TIGO-541-D1B (low compression)	N	HW	LW-10545Sd	74241c	74241c		14H21950 cb		LW-13121er	LW-18498j	LW-13262	05K21259

ENGINE MODEL	CYL. BARR EL TYPE	PIST ON RING TYPE	PISTON	TOP COMP. RING	2 ND COMP. RING	3 RD COM P. RING	OIL REG. RING	OIL SCRA PER RING	CYL. ASSY. NO.	EXHAUS T VALVE	INTAK E VALVE	CYL. PISTON AND RING ASSY. KIT
IGO-540-A1A, -A1C (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		76261er	LW-16740j	LW-12949	05K21265
	N	HW	N/A	74241c	74241c		14H21950 cb		76261er	LW-16740j	LW-12949	N/A
	C	HW	73947Sd	74673p	74673p	7467 3p	73998pb	79235p	N/A	LW-16740j	LW-12949	N/A
	C	HW	LW-10207Sd	74673p	74673p		73998pb		N/A	LW-16740j	LW-12949	N/A
IGO-540-B1A, -B1C (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		76187er	LW-16740j	LW-12949	05K21267
	N	HW	N/A	74241c	74241c		14H21950 cb		76187er	LW-16740j	LW-12949	N/A
	C	HW	73947Sd	74673p	74673p	7467 3p	73998pb	69235p	N/A	LW-16740j	LW-12949	N/A
	C	HW	LW-10207Sd	74673p	74673p		73998pb		N/A	LW-16740j	LW-12949	N/A
IGSO-540-A1A, - A1C, -A1D, -A1E, -A1H (low compression)	N	HW	LW-10208Sd	74241c	74241c		14H21950 cb		LW-12714er	LW-16740j	LW-13622	05K21264
	C	HW	LW-10208Sd	74673p	74673p		73998pb		N/A	LW-16740j	LW-13622	N/A
	C	HW	73976Sd	74673p	74673p	7467 3p	73998pb	69235p	N/A	LW-16740j	LW-13622	NA
IGSO-540-B1A, -B1C (low compression)	N	HW	LW-10208Sd	74241c	74241c		14H21950 cb		LW-13447er	LW-16740j	LW-13622	05K21269
	C	HW	LW-10208Sd	74673p	74673p		73998pb		N/A	LW-16740j	LW-13622	N/A
	C	HW	73976Sd	74673p	74673p	7467 3p	73998pb	69235p	N/A	LW-16740j	LW-13622	N/A
	C	HW	72578	74673p	74673p	7467 3p	72454pb	69235p	N/A	LW-16740j	LW-13622	N/A

										LW-16740j	LW-13622	
VO-540-A, -B TVO-540-A1A (high compression)	N	HW	N/A	74241c	74241c	74241c	14H21950 cb	69330c	75137er	LW-16740j	LW-12949	05K21227
	N	HW	LW-10208Sd	74241c	74241c				75137er			05K21228
	C	HW	N/A	74673p	74673p		14H21950 cb	69235p	N/A	LW-16740j	LW-12949	N/A
	C	HW	LW-10208Sd	74673p	74673p	74673p	73998pb		N/A	LW-16740j	LW-12949	N/A
VO-540-C (high compression)	N	HW	N/A	74241c	74241c	74241c	14H21950 cb	69330c	75137er	LW-16740j	LW-12949	05K21222
	N	HW	LW-10207Sd	74241c	74241c				75137er			05K21223
	C	HW	N/A	74673p	74673p		14H21950 cb	69235p	N/A	LW-16740j	LW-12949	N/A
	C	HW	LW-10207Sd	74673p	74673p	74673p	73998pb		N/A	LW-16740j	LW-12949	N/A
IVO-540-A1A (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		74236er	LW-16740j	LW-12949	05K21220
	N	HW	N/A	74241c	74241c	74241c	14H21950 cb	69330c	74236er	LW-16740j	LW-12949	05K21221
TIVO-540-A2A, -A2B (low compression)	N	HW	N/A	74241c	74241c	74241c	14H21950 cb	69330c	74236er	LW-16740j	LW-12949	05K21218
	N	HW	LW-10208Sd	74241c	74241c		14H21950 cb		74236er	LW-16740j	LW-12949	05K21219
IO-720-A1A, -D1B (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-13530r	LW-16740j	LW-13622	05K21112
	N	HW	N/A	74241c	74241c	74241c	69457ca		LW-13530r	LW-16740j	LW-13622	N/A
IO-720-A1B (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-13530r	LW-16740j	LW-13622	05K21112
	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-13534er	LW-16740j	LW-13622	05K21204
IO-720-B1B, -C1B (high compression)	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-13532r	LW-16740j	LW-13622	05K21110
	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-13533er	LW-16740j	LW-13622	05K21226
	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-13537r	LW-16740j	LW-13622	LW-19149
IO-720-A1B, -D1B, -D1C, -D1CD (high compression) (S/N Suffix "A")	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-12988er	LW-16740j	LW-13622	05K21118
	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-15438er	LW-16740j	LW-13622	LW-15465
IO-720-B1B, -B1BD (high compression) (S/N Suffix "A")	N	HW	LW-10207Sd	74241c	74241c		14H21950 cb		LW-19048er	LS-16740j	LW-13622	05K21263

NOTE: VO, TVO-435 – Kits with P/N having a suffix “A” employ heavy piston pin LW-13445 (1) and plugs 77856 (2). Interchangeable engine sets only. O-320, IO-320 (low compression) – Kits having a suffix “A” employ heavy piston pin LW-13445. Plugs unchanged. Interchangeable engine sets only.

* - 05K21272 Kit is for use with 71265 and 71266 high lift rocker assemblies to be used with 77134 camshaft assembly. New engines serial numbers 425-37 and up. Remanufactured engines – Built after 12-14-166.

** - LW-13907 Kit (Detail of LW-13987 Kit) contains LW-14116 cylinder assembly with compatible shroud tubes required when servicing superseded cylinder assemblies and their shroud tubes.

NOTE: Revision “M” to Service Instruction No. 1037 adds new engine models and revises part numbers.