

# **Cylinder, Piston, Piston Ring And Gasket Set Application List**

**SFN-880-4**

**February 2010**

***LYCOMING***

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**652 Oliver Street  
Williamsport, PA. 17701 U.S.A.**

**570/323-6181**

## **Cylinder, Piston, Piston Ring and Gasket Set Application List**

Lycoming Part Number: SFN-880-4

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\*NOTE: MAKE SURE YOU ARE USING THE LATEST REVISION TO THE REFERENCED PUBLICATION.

## EXHAUST VALVES AND CORRESPONDING EXHAUST VALVE GUIDES

Exhaust Valve Part Number	Dia. Stem	Type	Cyl. Application	Guide – Exhaust Valve
66531 Serv. With °17B19712 66531	13/32 in. 13/32 in.	Solid Stem, °Chrome Plated Stem Solid Stem	Parallel Head Parallel Head	16R19730 (O-235) 66529 (O-290-D, -D2 Series)
**17B19712 Serv. With LW-19034	7/16 in.	Sodium Cooled, Nimonic, Chrome Plated Stem	Parallel Head	LW-11626 (O-235)
◆ LW-19034 Serv. With 17B23940 (LW-11634)	7/16 in.	Sodium Cooled, Nimonic, Chrome Plated Stem	Parallel Head	LW-11626 ±
71595 Serv. With 17B23936 (See Note for VO-360)	7/16 in.	Sodium Cooled	Parallel Head	72115
* 73111 Serv. With LW-16740	1/2 in.	Sodium Cooled, Nimonic, Chrome Plated Stem	Angle Head	75838
◇ LW-19001 Serv. with 17B23936 (76081, 74541, 75068)	1/2 in.	Sodium Cooled, Nimonic, Chrome Plated Stem	Parallel Head	74230
‡ LW-18498 Serv. With 17B23941 (76076, LW-11082)	1/2 in.	Sodium Cooled, Nimonic, Chrome Plated Stem	Angle Head	79046
■ LW-16740 Serv. With 17B23935 (74802, LW-18102, LW-11167)	1/2 in.	Sodium Cooled, Nimonic, Chrome Plated Stem	Angle Head	75838
☼ LW-18497 Serv. With 17B23944 (LW-15732)	1/2 in.	Sodium Cooled, Nimonic, Chrome Plated Stem	Angle Head	16R21705 (TIO-360-C1A6D, TO-360-C1A6D, -F1A6D) <b>OR</b> 16R21710 (TIO-540-V2AD, -W2A, LTIO-540-V2AD, -W2A)

### FOR HISTORY REFERENCE ONLY

\* Cylinder Assembly Part Number is Changed When Replacing 73111 Valve Requiring Bronze Guide with LW-16740 Requiring Ni-Resist Guide. Reference Supersedure Notice 254, 254A.

° Chrome Plated Stem.

\*\* LW-19034 Replaces 17B19712 Valve (Use LW-11626 Valve Guide With LW-19034 Valve). LW-19034

◆ 17B23940 Replaces LW-19034 and LW-19034 Replaced LW-11634 Valve (Valve Guide Remains Unchanged).

◇ 17B23936 Replaces LW-19001 and LW-19001 Replaced Applicable 74541, 75068 or 76081 Valves (Valve Guide Remains Unchanged).

‡ 17B23941 Replaces LW-18498 and LW-18498 Replaced 76076 or LW-11082 Valves (Valve Guide Remains Unchanged).

■ 17B23935 Replaces LW-16740 and LW-16740 Replaced 74802, LW-18102, LW-11167.

☼ 17B23944 Replaces LW-18497 and LW-18497 Replaced LW-15732 Valve (Valve Guide Remains Unchanged).

Note: VO, IVO-360 Series Engines Using 71595 Exhaust Valve Employ 72115 Valve Guide. Also, Reference the Latest Revision to Service Instruction No. 1136 Convert to 1/2 in. Valve.

Note: VO, IVO-360 Series Engines Using LW-19001 Exhaust Valve Employ LW-15680 Exhaust Valve Guide (Ni-Resist).

± Reference the Latest Revision to Service Instruction No. 1246 for Information Concerning LW-11634 or LW-19034 Exhaust Valve and LW-11626 Exhaust Valve Guide.

Reference the Latest Revision to Service Instruction No. 1256 for Information Concerning Flangeless Valve Guides.

## SEAL AND GASKET SET SECTION

<u>Seal and Gasket Set</u>	<u>Model Application</u>
61499-1	O-235-C, -E, -F, -G, -H, -J, -K, -L, -M, -N, -P
69371-1	O-290 Series
69371-1	O-320, IO-320 Conventional
LW-16850	O, IO, LIO, AEIO-320 Wide Deck
LW-12636	O-320-D2J Wide Deck
	AIO-320 Wide Deck
LW-14815	O-320-H Series
69371-1	O-340 Series
75439-1	O-360-A, -B, -C, -D
	HO-360-A1A, -B1A, -B1B
	IO, HIO-360-B Conventional
	O-360-A, -B,-C,-D,-F, -G, -J Wide Deck
	IO, HO-360-C1A, HIO-360-B
	IO-360-F1A, -L2A, -M1A
	LO-360-A1H6, -A1N6 Wide Deck
	AEIO-360-B, -H1A, -H1B Wide Deck
75441-1	IO, HIO-360 Conventional
	IO-360-A, -C, -D, -K
	HIO-360-A, -C; LIO, LHIO-360-C Wide Deck
	AEIO-360-A, -C Wide Deck
LW-12937	HIO-360-D1A
05K23418	HIO-360-G1A Wide Deck
LW-10964	AIO-360-A1A, -A1B, -B1B
LW-12945	O, LO-360 Wide Deck (Dual Magneto)
LW-12944	IO-360 Wide Deck (Dual Magneto)
LW-14845	HIO-360-E, -F Wide Deck (Dual Magneto)
	LHIO-360-F Wide Deck (Dual Magneto)
LW-14976	TO-360-C, -F Wide Deck (Dual Magneto)
78913-1	TIO-360-A Wide Deck
LW-14815	O, LO-360-E1A6D ('76 Series)
LW-16765	TO, LTO-360-E1A6D ('76 Series)

NOTE: N.L.A. Indicates "No Longer Available".

## SEAL AND GASKET SET SECTION (CONTINUED)

<u>Seal and Gasket Set</u>	<u>Model Application</u>
71187-1	VO-360-A1A, -A1B, -B1B IVO-360-A1A Conventional; IVO-360-A1A Wide Deck
05K26640	IO-390-A1A6,-A3A6
68378-1	O-435-A <b>N.L.A.</b>
69448-1	GO-435-C2, -C2B, -C2B1, -C2B2, -C2B26, -C2E
70378-1	GO-435-C2A, -C2A2 <b>N.L.A.</b>
74038-1	TVO-435-A, -B
71900-1	VO-435-A Series
76911-1	VO-435-B1A
77203-1	TVO-435-A, -B, -D, -G
LW-13494	TVO-435-F
69448-1	GO-480-B, -F6 Series; GO-480-C2, -G2 Series
69949-1	GO-480-D1A, -D1B; GO-480-C1B6, -G1B6, -G1E6
71197-1	GO-480-C1D6, -G1A6, -G1D6, -G1F6, -G1G6, -G1J6; IGO-480-A1B6
71181-1	GSO, IGSO-480 Series
71569-1	O-540-A, -B, -E, -F, -G, -H, -J and IO-540-C, -D, -J, -N, -R, -T, -V, -W, -AB1A5, -AF1A5 Conventional and Wide Deck (Parallel Valve Head)
73185-1	IO-540-A, -B, -E, -G, -H, -K, -L, -M, -P, -S Conventional and Wide Deck (Angle Valve Head)
LW-13378	O-540-B, -E, -G, -H Wide Deck (Dual Magneto)
LW-18072	IO-540-AA1A5 Wide Deck
05K22679	IO-540-AC1A5 Wide Deck
05K23341	IO-540-AE1A5 Wide Deck
LW-13367	IO-540-K, -L, -M, -U Wide Deck (Dual Magneto) AEIO-540-L1B5D Wide Deck (Dual Magneto)
LW-13377	IO-540-C, -N, -T, -V, -W and O-540-J, -L Wide Deck (Dual Magneto)
LW-14476	AEIO-540-D4A5, -D4B5, -D4D5 Wide Deck
77175-1	TIO-540-A Series Conventional; TIO-540-A2C Wide Deck
LW-10683	TIO-540-C1A, -E1A, -H1A Conventional; TIO-540-C1A, -C1AD Wide Deck

NOTE: N.L.A. Indicates "No Longer Available".

## SEAL AND GASKET SET SECTION (CONTINUED)

### Seal and Gasket Set

### Model Application

LW-12971	TIO-540-G1A Conventional
LW-15381	TIO, LTIO-540-R2AD Wide Deck (Dual Magneto)
LW-15903	TIO-540-S1AD Wide Deck
LW-12956	TIO, LTIO-540-F, -J, -N (Dual Magneto)
LW-18072	TIO, LTIO-540-U2A Wide Deck
LW-19180	TIO-540-K1AD, -AA1AD Wide Deck
LW-18656	TIO, LTIO-540-J2B Wide Deck
LW-18786	TIO, LTIO-540-V2AD Wide Deck
LW-19259	TIO, LTIO-540-W2A Wide Deck
05K19387	TIO-540-AB1AD, -AB1BD Wide Deck
05K21002	TIO-540-AE2A Wide Deck
05K21173	TIO-540-AF1A, -AF1B, -AG1A Wide Deck
05K22781	TIO-540-AJ1A Wide Deck
05K22599	TIO-540-AH1A Wide Deck
05K23204	TIO-540-AK1A
73203-1	IGO-540-A Series
73345-1	IGO-540-B Series
73203-1	IGSO-540-A, -B Series
71900-1	VO-540-A, -B, -C; IVO-540-A1A
74445-1	TIVO-540-A2A, -A2B
77816-1	TIO-541-E Series
LW-11365	TIGO-541-E
LW-15583	TIGO-541-D1B <b>N.L.A.</b>
05K23258	IO-580-B1A
75181-1	O-720-A, -B, -C, -D Series Conventional
LW-15423	IO-720-A1B, -B1B, -B1BD, -D1B, -D1C, -D1CD Wide Deck

NOTE: N.L.A. Indicates "No Longer Available".

## PISTON SUPERSEDURE AND INTERCHANGEABILITY DATA

- A. 75089 Piston interchangeable with 72967 or 74530 piston when proper oil regulating ring is used. (See Kits.)
- B. 75413 Piston interchangeable singly or in sets with 74059 piston with proper ring combination - (Change from full wedge to half wedge rings).
- C. LW-10207-S Piston interchangeable with 73264 piston in engine sets only.
- D. 75984 Piston interchangeable with 67266 piston in engine sets only.
- E. 75984 Piston interchangeable with 73628 piston in engine sets only.
- F. 75984 Piston interchangeable with 73620 piston in engine sets only.
- G. 75984 Piston interchangeable with 73932 piston in engine sets only.
- H. 75984 Piston interchangeable with 71553 piston in engine sets only.
- I. 73947-S Piston interchangeable with 71608 piston in engine sets only.
- J. 73947-S Piston interchangeable with 72249 piston singly or in engine sets when proper oil regulating ring is used. (See Kits.)
- K. LW-10207-S Piston interchangeable with 76258 piston in engine sets or in pairs installed in opposite cylinders. (Weight difference.)
- L. LW-10208-S Piston interchangeable with 73976-S piston in engine sets only.
- M. LW-10207-S Piston interchangeable with 73947-S piston in engine sets only.
- N. 75089 Piston interchangeable with 71594 piston in engine sets only. (Full wedge to half wedge rings.)
- P. LW-10545-S Piston interchangeable with 75961 piston singly or in engine sets.
- Q. LW-10545-S Piston interchangeable with 76966-S piston singly or in engine sets.
- R. LW-13358-S Piston interchangeable with LW-14610-S piston in engine sets only.
- S.\* LW-18729 Piston interchangeable with LW-13623, LW-13623-1 pistons in engine sets only.
- T.\*\* LW-18725 Piston interchangeable with LW-11621 piston in engine sets only.
- U.\*\*\* LW-10545-S Piston interchangeable with LW-19176-S piston in engine sets only.
- V. LW-19176-S Pistons are completely interchangeable with 14D21953-S piston.

NOTE: 75617, 78203-S (No longer listed) and LW-10207-S pistons are completely interchangeable.  
74242-S, 78672-S (No longer listed) and LW-10208-S pistons are completely interchangeable.

\* Reference Supersedure Notice No. 265 and the Latest Revision to Service Letter No. L213.

\*\* Reference Supersedure Notice No. 266.

\*\*\* Reference Supersedure Notice No. 294 Sup. A, also the Latest Revision to Service Instruction No. 1471



## CYLINDER AND KIT SUPERSEDURE AND INTERCHANGEABILITY DATA

The cylinder assemblies and kits which use 73111 STD 1/2 in. exhaust valve requiring bronze guides have been deleted from this publication. However, for customer convenience the following is a list of these parts with the corresponding cylinder assemblies and kits which use 17B23935 nimonic, chrome stem exhaust valve (requiring Ni-Resist guides).

<u>Cyl. With Bronze Guide to Receive 73111 Valve</u>	<u>Kit</u>	<u>Cyl. With Ni-Resist Guide to Receive 17B23935 Valve</u>	<u>Previous Kit</u>	<u>Use Kit</u>	<u>Model Application</u>
73881	77483	74558	*77487 N.L.A.	N.L.A.	VO-540
73881	74029	74558	*75036 N.L.A.	N.L.A.	VO-540
73881	77490	74558	*77493 N.L.A.	N.L.A.	VO-540
73948	77319	LW-19046		05K21224	360 Conv.
73948	75070	LW-19046	05K21225 N.L.A.	05K21224	360 Conv.
74974	77320	LW-19047		05K21281	360 W.D.
74974	75442	LW-19047	05K21280 N.L.A.	05K21281	360 W.D.
74974	LW-11747	LW-19047		05K21124	360 W.D.
75171	75232	75137	05K21227 N.L.A.	05K21228	VO-540
75171	77482	75137		05K21228	VO-540
75171	75229	75137	05K21222 N.L.A.	05K21223	VO-540
75171	77489	75137		05K21223	VO-540
75929	76209	LW-19037		05K21273	GO-480
76040	77809	75215		05K21272	GO-480
76040	77303	75215		05K21272	GO-480
76645	76492	LW-19036		05K21214	VO-435
76645	76492-A	LW-19036		05K21215-A	VO-435
76646	76959	LW-19035		05K21229	GO-435
-----	-----	74218		05K21213-A	VO, TVO-435
76662	76900	74218		05K21216	VO-435
76662	76900-A	74218		05K21217-A	VO-435

\* - See VO-540 series model CYLINDER, PISTON AND RING APPLICATION.

NOTE: N.L.A. Indicates "No Longer Available".

**CYLINDER AND KIT SUPERSEDURE AND INTERCHANGEABILITY DATA (CONTINUED)**

<b><u>Cyl. With Bronze Guide to Receive 73111 Valve</u></b>	<b><u>Kit</u></b>	<b><u>Cyl. With Ni-Resist Guide to Receive 17B23935 Valve</u></b>	<b><u>Previous Kit</u></b>	<b><u>Use Kit</u></b>	<b><u>Model Application</u></b>
LW-11865	LW-13614	LW-19038	05K21271 N.L.A.	N.L.A.	GO-480
LW-12987	LW-13115	LW-12993		05K21120	360, 540 W.D.
LW-12987	LW-13116	LW-12993	05K21282 N.L.A.	05K21120	360 W.D.
LW-12997	LW-14510	LW-19048		05K21263	540 Conv.
LW-12997	LW-15425	LW-19048		05K21263	720 Conv.
LW-13528	LW-13606	LW-13530	05K21113 N.L.A.	05K21112	360, 720 Conv.
LW-13528	LW-13607	LW-13530		05K21112	360, 720 Conv.
LW-13528	LW-13583	LW-13530		05K21112	540 Conv.
LW-13528	LW-13584	LW-13530	05K21113 N.L.A.	05K21112	540 Conv.
LW-13537	LW-13576	LW-13532		05K21110	540 Conv.
LW-13537	LW-13577	LW-13532	05K21111 N.L.A.	05K21110	540 Conv.
LW-13537	LW-13390	LW-13532		05K21110	720 Conv.
LW-15438	LW-15464	LW-12988		05K21118	720 W.D.

NOTE: Reference Change Notice No. 279 for Old Cyl. Kit/New Cyl. Kit Conversion Chart.  
 NOTE: N.L.A. Indicates "No Longer Available".

## CYLINDER PISTON AND RING APPLICATION

### O-235-C1, -C1B, -C1C, -C2A, -C2B, -C2C, -E2A, -H2C

	<u>PLAIN CYLINDER</u>	<u>PLAIN CYLINDER</u> (LOW COMPRESSION)	<u>NITRIDED STEEL</u>	<u>Service Rings for Chrome Cyl's</u>
Cylinder	16A19731* N.L.A.	LW-16704	16A23034	
Piston	73851	73851	73851	(6.75:1 Comp R)
Top Ring	68196 CH	68196 CH	68196 CH	LW-14233 PL
2 <sup>nd</sup> Ring	68196 CH	68196 CH	68196 CH	LW-14233 PL
Oil Reg.	LW-16867 CH	LW-16867 CH	LW-16867 CH	LW-18352 PL
Scraper	60072	60072	60072	60072 PL
Exhaust Valve	17B19712	LW-19034	17B23940	
Intake Valve	66429	LW-11901	17A23939	
Cylinder, Piston & Ring Kit Assy	N.L.A.	05K21232 ** N.L.A.	<b>05K23039</b> (S.I. 1504)	
Reference the Latest Revision to Service Instruction No. 1246 for Conversion to LW-11634 or LW-19034 Exhaust Valve.				(3/8 in. cyl. Base
*Reference the Latest Revision to Supersedure Notice No. 268 for Conversion to 17B19712 Exhaust Valve.				Thru Studs)
** Reference NOTE, Page 2.				(32 Ea. 383-B Nuts)
NOTE: N.L.A Indicates "No Longer Available".				

### O-235-F1B, -F2A, -F2B, -G1A, -G2A, -J2A

	<u>NITRIDED STEEL HALF WEDGE RINGS</u> (HIGH COMPRESSION)		<u>Service Rings for Chrome Cyl's</u>
Cylinder	LW-16703 N.L.A.	16A23033	
Piston	LW-18725*	LW-18725*	(9.7:1 Comp R)
Top Ring	78862 CH	78862 CH°	LW-14234 PL
2 <sup>nd</sup> Ring	78862 CH	78862 CH°	LW-14234 PL
Oil Reg.	78864 CH°	78864 CH°	LW-14235 PL
Exhaust Valve	LW-19034	17B23940	
Intake Valve	LW-11901	17A23939	
Cylinder, Piston & Ring Kit Assy	05K21233** N.L.A.	<b>05K23040</b> (S.I. 1504)	
NOTE: Use LW-11625 Piston Pin Plugs with LW-13445 Pins.			(3/8 in. and 7/16 in. Cyl.
* Reference Note Page 6, also Reference Supersedure Notice No. 266.			Base Thru Studs)
** Reference NOTE, Page 2.			(16 Ea. 383-B Nuts)
° Piston Ring Kit for Nitrided Cyl's is 05K22034 (1 Cyl.). See Page 60.			(16 Ea. STD-2106 Nuts)
NOTE: N.L.A. Indicates "No Longer Available".			

## O-235-K2A, -K2B, -K2C, -L2A, -L2C, -M1, -M2

	NITRIDED STEEL	NITRIDED STEEL		<u>Service Rings for Chrome Cyl's</u>
	<u>HALF WEDGE RINGS</u> (HIGH COMPRESSION)			
Cylinder	LW-16703 N.L.A.	16A23033		
Piston	LW-18729*	LW-18729*	(8.5:1 Comp R)	
Top Ring	78862 CH°	78862 CH°		LW-14234 PL
2 <sup>nd</sup> Ring	78862 CH°	78862 CH°		LW-14234 PL
Oil Reg.	78864 CH°	78864 CH°		LW-14235 PL
Exhaust Valve	LW-19034	17B23940		
Intake Valve	LW-11901	17A23939		
Cylinder, Piston & Ring Kit Assy	05K21114** N.L.A.	<b>05K23037**</b> (S.I. 1504)		
Conversion Kits:				(3/8 in. and 7/16 in. Cyl. Base Thru Studs)
LW-13933-S Kit – Conversion O-235-F2A to –K2A; -J2A to –L2A (20-21 Series Mags). N.L.A.				(16 Ea. 383-B Nuts)
LW-13934-S Kit – Conversion O-235-F2B to –K2B (1200 Series Mags). N.L.A.				(16 Ea. STD-2106 Nuts)
LW-13935-S Kit – Carburetor Conversion O-235-K2A, -K2B, -L2A. N.L.A.				
* Reference Note Page 6, Supersedure Notice No. 265, and the Latest Revision to Service Letter 213.				
** Reference NOTE, Page 2.				
° Piston Ring Kit for Nitrided Cyl's. is 05K22034 (1 Cyl.). See Page 60.				
NOTE: LW-18935 or LW-18935-85 is Service Cylinder to Convert O-235-L2C to O-235-N2C. N.L.A.				
NOTE: N.L.A. Indicates “No Longer Available”.				

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## O-235-N2A, -N2C, -P1, -P2A, -P2C, -P3C

	<u>NITRIDED CYL.</u> <u>HALF WEDGE RINGS</u> (HIGH COMPRESSION)			
Cylinder	LW-18290	16A23035		
Piston	LW-18729*	LW-18729*	(8.5:1 Comp R)	
Top Ring	78862 CH°	78862 CH°		
2 <sup>nd</sup> Ring	78862 CH°	78862 CH°		
Oil Reg.	78864 CH°	78864 CH°		
Exhaust Valve	LW-19034	17B23940		
Intake Valve	LW-11901	17A23939		
Cylinder, Piston & Ring Kit Assy	05K21123** N.L.A.	<b>05K23038</b> (S.I. 1504)		
* Reference Note Page 6. Reference Supersedure Notice No. 265 and the Latest Revision to Service Letter No. L213.				(3/8 in. and 7/16 in. Cyl. Base Thru Studs)
** Reference Note Page 2.				(16 Ea. 383-B Nuts)
° Piston Ring Kit for Nitrided Cyl's. is 05K22034 (1 Cyl.). See Page 60.				(16 Ea. STD-2106 Nuts)

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### O-290-D

#### **PLAIN CYLINDER** (LOW COMPRESSION)

Cylinder	71831 N.L.A.	
Piston	69958	(6.5:1 Comp R)
Top Ring	62916 CH	
2 <sup>nd</sup> Ring	62916 CH	
Oil Reg.	69401 CH	
Exhaust Valve	66531	
Intake Valve	66429	
Cylinder, Piston & Ring Kit Assy	NOTE	

Reference the Latest Revision to Service Instruction No. 1246 for Conversion to LW-11634 or LW-19034 Exhaust Valve  
NOTE: O-290-D2 Cylinder Assemblies No Longer Available

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### O-290-D2

#### **PLAIN CYLINDER** (HIGH COMPRESSION)

Cylinder	71837 N.L.A.	
Piston	69841	(7.5:1 Comp R)
Top Ring	62916 CH	
2 <sup>nd</sup> Ring	62916 CH	
Oil Reg.	69401 CH	
Exhaust Valve	66531	
Intake Valve	73938	
Cylinder, Piston & Ring Kit Assy	NOTE	

Reference the Latest Revision to Service Instruction No. 1246 for Conversion to LW-11634 or LW-19034 Exhaust Valve  
NOTE: O-290-D2 Cylinder Assemblies No Longer Available  
NOTE: Plain Steel Cylinder Assemblies Not Recommended for High Compression Engines.

**O-290-D2B, -D2C**

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston &  
Ring Kit Assy

**PLAIN  
CYLINDER**  
(LOW COMPRESSION)  
71837 N.L.A.  
70396 (7.0:1 Comp R)  
62916 CH  
62916 CH  
68338 CH  
73938  
NOTE  
N.L.A

Reference the Latest Revision to Service Instruction No. 1246 for Conversion to LW-11634 or LW-19034 Exhaust Valve  
NOTE: O-290-D2B, -D2C Cylinder Assemblies No Longer Available

## 320 "H"

### "76" Series

#### O-320-H2AD, -H3AD

	<b>NITRIDED CYL.</b>		<b>Service Rings</b>
	<b><u>HALF WEDGE RINGS</u></b>		<b><u>for Chrome Cyl's</u></b>
	(HIGH COMPRESSION)	(PARALLEL HEAD VALVES)	
Cylinder	LW-15318	LW-15318	
Piston	LW-15357	LW-15357	
Top Ring	74241 CH°	74241 CH°	74673 PL
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	74673 PL
Oil Reg.	14H21950 CH°	14H21950 CH°	73998 PL
Exhaust Valve	LW-19001	17B23936	
Intake Valve	LW-15314	17A23945	
Cylinder, Piston & Ring Kit Assy	<b>05K21119**</b>	<b>05K21119**</b>	
LW-14078 PIN-PISTON			

\*\* Reference NOTE, Page 2.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

## 320 WIDE DECK

**O-320-A1B, -A2A, -A2B, -A2C, -A2D, -A3A, -A3B, -E1A, -E1C, -E1F, -E1J, -E2A, -E2B, -E2C, -E2D, -E2E, -E2F, -E2G, -E3D, -E3H**

	<b>PLAIN CYL. <u>HALF WEDGE RINGS</u></b>	<b>NITRIDED CYL. <u>HALF WEDGE RINGS</u></b>		
	(LOW COMPRESSION) (PARALLEL HEAD VALVES (150 HP))			
Cylinder	LW-12417 N.L.A.	LW-12416	LW-12416	
Piston	75413	75413	75413	(7.0:1 Comp R)
Top Ring	74989 CH☼	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74989 CH☼	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH☼	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	LW-19001	17B23936	
Intake Valve	73938	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	NOTE: **	<b>05K21237-A</b>	<b>05K21237-A</b>	
		<b>NOTE</b>	<b>NOTE</b>	

Contains LW-18661 and 06A23493 Seal – Shroud Tube

☼ Piston Ring Kit for Plain Cyl's. is 05K22036 (1 Cyl. ). See Page 60.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: Kit includes piston pin P/N LW-14078; weight difference requires use in complete sets only.

NOTE: Plain Steel Cylinder no longer available.

NOTE: N.L.A. Indicates “No Longer Available”.

**O-320-B2B, -B2C, -B2D, -B2E, -B3B, -B3C, -D1A, -D1AD, -D1C, -D1D, -D1F, -D2A, -D2B, -D2C, -D2G, -D2J, -D3G; IO-320-B1A, -B1C, -B1D, -B1E, -B2A, -D1A, -D1AD, -D1B, -D1C; LIO-320-B1A; AIO-320-A1B, -B1B, -C1B; AEIO-320-D1B, -D2B**

	<b>NITRIDED CYL. <u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION) (PARALLEL HEAD VALVES (160 HP))		
Cylinder	LW-12416	LW-12416	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21100**</b>	<b>05K21100**</b>	
Contains LW-18661 and 06A23493 Seal – Shroud Tube			

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference Exhaust Valves and Corresponding Exhaust Valve Guides.



## WIDE DECK

### IO-320-E1A, -E1B, -E2A, -E2B; AEIO-320-E1A, -E1B, -E2A, -E2B

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston & Ring Kit Assy

Contains LW-18661 and 06A23493 Seal – Shroud Tube

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: Kit includes piston pin P/N LW-14078; weight difference requires use in complete sets only.

#### **NITRIDED CYL.**

#### **HALF WEDGE RINGS**

(LOW COMPRESSION) (PARALLEL HEAD VALVES)

LW-12416	LW-12416	
75413	75413	(7.0:1 Comp R)
74241 CH°	74241 CH°	
74241 CH°	74241 CH°	
14H21950 CH°	14H21950 CH°	
LW-19001	17B23936	
73938	17A23938	
<b>05K21237-A**</b>	<b>05K21237-A**</b>	
<b>NOTE</b>	<b>NOTE</b>	

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## WIDE DECK

### IO-320-C1A, -C1B; LIO-320-C1A

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston & Ring Kit Assy

\*Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

#### **NITRIDED CYL.**

#### **HALF WEDGE RINGS**

(HIGH COMPRESSION) (PARALLEL HEAD VALVES)

LW-12418*	LW-12418*	
75089	75089	(8.5:1 Comp R)
74241 CH°	74241 CH°	
74241 CH°	74241 CH°	
14H21950 CH°	14H21950 CH°	
LW-19001	17B23936	
73938	17A23938	
<b>05K21242**</b>	<b>05K21242**</b>	

## 320 CONVENTIONAL

**O-320-NO SUFFIX; O-320-A1A, -A1B, -A2A, -A2B, -A2C, -A3A, -A3B, -A3C, -E1A, -E2A**

	<b>PLAIN CYL</b>	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>	<b><u>HALF WEDGE RINGS</u></b>		
	(LOW COMPRESSION) (PARALLEL HEAD VALVES)			
Cylinder	LW-12409 N.L.A.	16B21508	16B21508	
Piston	75413	75413	75413	(7.0:1 Comp R)
Top Ring	74989 CH⊙	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74989 CH⊙	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH⊙	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	LW-19001	17B23936	
Intake Valve	73938	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>NOTE**</b>	<b>05K21423-A</b>	<b>05K21423-A</b>	
		<b>NOTE</b>	<b>NOTE</b>	

⊙ Piston Ring Kit for Plain Cyl's. is 05K22036 (1 Cyl.). See Page 60.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: Kit includes piston pin P/N LW-14078; weight difference requires use in complete sets only.

NOTE: Plain Steel Cylinder no longer available.

NOTE: N.L.A. Indicates "No Longer Available".

**IO-320-B1A; LIO-320-B1A**

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION) (PARALLEL HEAD VALVES)		
Cylinder	LW-12413	LW-12413	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21101**</b>	<b>05K21101**</b>	
	<b>NOTE</b>	<b>NOTE</b>	

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: Kit includes piston pin P/N LW-14078; weight difference requires use in complete sets only.

**O-320-B1A, -B1B, -B2A, -B2B, -B3B, -B3C, -D1A, -D2A, -D2B**

	<b>PLAIN CYL</b>		<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION)		(PARALLEL HEAD VALVES)		
Cylinder	LW-13393 N.L.A.	LW-13393 N.L.A.	LW-12413	LW-12413	
Piston	75089	71594	75089	75089	(7.0:1 Comp R)
Top Ring	74989 CH☼	68513 CH	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74989 CH☼	68513 CH	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH☼	69457 CH	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	LW-19001	LW-19001	17B23936	
Intake Valve	73938	73938	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	NOTE**	NOTE**	<b>05K21101**</b> <b>NOTE</b>	<b>05K21101**</b> <b>NOTE</b>	

☼ Piston Ring Kit for Plain Cyl's. is 05K22036 (1 Cyl.). See Page 60.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: Plain Steel Cylinder Assemblies Not Recommended for High Compression Engines.

NOTE: Plain Steel Cylinder Assemblies No Longer Available.

NOTE: N.L.A. Indicates "No Longer Available".

NOTE: Kit includes piston pin P/N LW-14078; weight difference requires use in complete sets only.

**O-340-A Series**

	<b>PLAIN CYL.</b>		<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION)		(PARALLEL HEAD VALVES)		
Cylinder		77603 N.L.A.		LW-12420 N.L.A.	
Piston		75089		75089	(8.5:1 Comp R)
Top Ring		74989 CH☼		74241 CH°	
2 <sup>nd</sup> Ring		74989 CH☼		74241 CH°	
Oil Reg.		14H21950 CH☼		14H21950 CH°	
Exhaust Valve		LW-19001		LW-19001	
Intake Valve		73938		73938	
Cylinder, Piston & Ring Kit Assy		<b>NOTE**</b>		<b>NOTE**</b>	

☼ Piston Ring Kit for Plain Cyl's. is 05K22036 (1 Cyl.). See Page 60.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: Plain Steel Cylinder Assemblies Not Recommended for High Compression Engines.

NOTE: O-340-A Series Cylinder Assemblies No Longer Available.

## 360 CONVENTIONAL

### O-360-A1A, -A1C, -A1D, -A2A, -A2E, -A3A, -C1A, -C1C, -C2A, -C2C, -C2D

	<b>PLAIN CYL.</b>		<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION)		(PARALLEL HEAD VALVES)		
Cylinder	LW-12424 N.L.A.	LW-12424 N.L.A.	LW-12425	LW-12425	
Piston	75089	71594	75089	75089	(8.5:1 Comp R)
Top Ring	74989 CH☼	68513 CH	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74989 CH☼	68513 CH	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH☼	69457 CH	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	LW-19001	LW-19001	17B23936	
Intake Valve	73938	73938	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	NOTE**	NOTE**	<b>05K21102**</b>	<b>05K21102**</b>	

☼ Piston Ring Kit for Plain Cyl's. is 05K22036 (1 Cyl.). See Page 60.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: Plain Steel Cylinder Assemblies Not Recommended for High Compression Engines.

NOTE: Plain Cylinder Assemblies No Longer Available.

NOTE: N.L.A. Indicates "No Longer Available".

### O-360-B2A, -D2A, -D2B

	<b>PLAIN CYL.</b>		<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		<b><u>HALF WEDGE RINGS</u></b>		
	(LOW COMPRESSION)		(PARALLEL HEAD VALVES)		
Cylinder	LW-12424 N.L.A.	LW-12424 N.L.A.	LW-12425	LW-12425	
Piston	75413	75413	75413	75413	(7.0:1 Comp R)
Top Ring	74989 CH☼	74989 CH☼	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74989 CH☼	74989 CH☼	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH☼	14H21950 CH☼	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	LW-19001	LW-19001	17B23936	
Intake Valve	73938	73938	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	NOTE**	NOTE**	<b>05K21103**</b>	<b>05K21103**</b>	

☼ Piston Ring Kit for Plain Cyl's. is 05K22036 (1 Cyl.). See Page 60.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: Plain Steel Cylinder Assemblies No Longer Available.

## HIO-360-A1A, -B1A, -B1B

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION)	(PARALLEL HEAD VALVES)	
Cylinder	LW-12425	LW-12425	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21102**</b>	<b>05K21102**</b>	

° Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

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## HIO-360-A1A

	<b>NITRIDED CYL.</b>	<b>NITRIDED CYL.</b>	
	<b><u>HALF WEDGE RINGS</u></b>	<b><u>HALF WEDGE RINGS</u></b>	
	(HIGH COMPRESSION)	(ANGLE HEAD VALVES)	
Cylinder	LW-19046	LW-19046	LW-19046
Piston	73264 N.L.A.	LW-10207-S	LW-10207-S (8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH	74241 CH
2 <sup>nd</sup> Ring	74241 CH°	74241 CH	74241 CH
3 <sup>rd</sup> Ring	74241 CH	-----	-----
Oil Reg.	69457 CH°	14H21950 CH°	14H21950 CH°
Exhaust Valve	LW-16740	LW-16740	17B23935
Intake Valve	LW-12949	LW-12949	17A23943
Cylinder, Piston & Ring Kit Assy	05K21225◇ N.L.A.	<b>05K21224‡</b>	<b>05K21224‡</b>

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Cylinder and Kit Supersedure and Interchangeability Data.

◇ Superseded Kits: Kit 05K21225 is Superseded by 05K21224 in Complete Engine Sets Only.

**IO-360-BIA, -B1B; HIO-360-B1A**

	<b><u>NITRIDED CYL.</u></b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION)		(PARALLEL HEAD VALVES)
Cylinder	LW-12425	LW-12425	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21102**</b>	<b>05K21102**</b>	

° Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

\*\* Reference NOTE, Page 2.

**IO-360-A1A**

	<b><u>NITRIDED CYL.</u></b>		<b><u>NITRIDED CYL.</u></b>		
	<b><u>HALF WEDGE RINGS</u></b>		<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION)		(ANGLE HEAD VALVES)		
Cylinder	LW-13530	LW-13530	LW-13530		
Piston	73264 N.L.A.	LW-10207-S	LW-10207-S		(8.7:1 Comp R)
Top Ring	74241 CH	74241 CH°	74241 CH		
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH		
3 <sup>rd</sup> Ring	74241 CH	-----	-----		
Oil Reg.	69457 CH	14H21950 CH°	14H21950 CH°		
Exhaust Valve	LW-16740	LW-16740	17B23935		
Intake Valve	LW-13622	LW-13622	17A23937		
Cylinder, Piston & Ring Kit Assy	05K21113◇ N.L.A.	<b>05K21112‡</b>	<b>05K21112‡</b>		

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

◇ Superseded Kits: Kit 05K21113 is Superseded by 05K21112 in Complete Engine Sets Only.

Reference the Latest Revision to Service Instructions No. 1262 and No. 1302 for Small Rotator Intake Valve Information.

NOTE: N.L.A. Indicates "No Longer Available".

## WIDE DECK

### 360 W.D.

#### O-360-B2C

	<u>NITRIDED CYL.</u> <u>HALF WEDGE RINGS</u>	<u>NITRIDED CYLS.</u> <u>HALF WEDGE RINGS</u>		
	(LOW COMPRESSION)	(PARALLEL HEAD VALVES)		
Cylinder	LW-12427	LW-12427	LW-12427	
Piston	75413	75413	75413	(7.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	LW-19001	17B23936	
Intake Valve	73938	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21915</b> ◇ N.L.A.	<b>05K21192</b>	<b>05K21192</b>	

° Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

\*\* Reference NOTE, Page 2.

◇ Superseded Kits: Kit 05K21915 is Superseded by 05K21192 in Complete Engine Sets Only.

NOTE: N.L.A. Indicates "No Longer Available".

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#### O-360-J2A

	<u>NITRIDED CYL.</u> <u>HALF WEDGE RINGS</u>		
	(HIGH COMPRESSION) (PARALLEL HEAD VALVES)		
Cylinder	LW-13870	LW-13870	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21745</b>	<b>05K21745</b>	

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

## WIDE DECK

**O-360-A1A, -A1AD, -A1D, -A1F, -A1F6, -A1F6D, -A1G, -A1G6, -A1G6D, -A1H, -A1H6, -A1J, -A1LD, -A1P, -A2A, -A2D, -A2F, -A2G, -A3A, -A3AD, -A4A, -A4AD, -A4D, -A4G, -A4J, -A4JD, -A4K, -A4M, -A4N, -A4P, -A5AD, -C1A, -C1C, -C1E, -C1F, -C1G, -C2A, -C2C, -C2E, -C4F, -C4P, -F1A6, -G1A6; LO-360-A1G6D, -A1H6; IO-360-B1B, -B1BD, -B1D, -B1E, -B1F, -B1G6, -B2E, -B2F, -B2F6, -B4A, -L2A, -M1A, -M1B; AEIO-360-B1B, -B1F, -B1G6, -B1H, -B2F, -H1A, -H1B; HIO-360-B1A, -G1A; HO-360-C1A.**

### NITRIDED CYL.

#### HALF WEDGE RINGS

(HIGH COMPRESSION) (PARALLEL HEAD VALVES)

Cylinder	LW-12427	LW-12427	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21104**</b>	<b>05K21104**</b>	

Contains LW-18661 and 06A23493 Seal – Shroud Tube.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

\*\* Reference NOTE, Page 2.

**IO-360-A1A, -A1B, -A1B6, -A1B6D, -A1C, -A1C6, -A1D, -A1D6, -A1D6D, -A1E6, -A2A, -A2B, -A2C, -A3B6, -A3B6D, -A3D6D, -C1A, -C1B, -C1C, -C1C6, -C1D6, -C1E6, -C1E6D, -C1G6, -D1A, J1A6D, -K2A; AIO-360-A1A, -A1B, -B1B; AEIO-360-A1A, -A1B, -A1B6, -A1D, -A1E, -A1E6, -A2B; LIO-360-C1E, -C1E6, -C1E6D**

### NITRIDED CYL.

#### HALF WEDGE RINGS

(HIGH COMPRESSION) (ANGLE HEAD VALVES)

### NITRIDED CYL.

#### HALF WEDGE RINGS

Cylinder	LW-12993	LW-12993	LW-12993	
Piston	73264 N.L.A.	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH°	
3 <sup>rd</sup> Ring	74241 CH	-----	-----	
Oil Reg.	69457 CH	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	LW-16740	17B23935	
Intake Valve	LW-13622	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	05K21282◇ N.L.A.	<b>05K21120‡</b>	<b>05K21120‡</b>	

Contains LW-18661 and 06A23493 Seal - Shroud Tube.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

◇ Superseded Kits: Kit 05K21282 is Superseded by 05K21120 in Complete Engine Sets Only.

‡ Reference Chart Pages 7, 8.

Reference the Latest Revision to Service Instructions No. 1262 and No. 1302 for Small Rotator Intake Valve Information

NOTE: N.L.A. Indicates "No Longer Available".



## WIDE DECK

### HIO-360-A1A, -A1B, -C1A, -C1B; LHIO-360-C1A

	<b>NITRIDED CYL. <u>HALF WEDGE RINGS</u></b>	<b>NITRIDED CYL. <u>HALF WEDGE RINGS</u></b>	
	(HIGH COMPRESSION)	(ANGLE HEAD VALVES)	
Cylinder	LW-19047	LW-19047	LW-19047
Piston	73264 N.L.A.	LW-10207-S	LW-10207-S (8.7:1 Comp R)
Top Ring	74241 CH	74241 CH°	74241 CH°
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH°
3 <sup>rd</sup> Ring	74241 CH	-----	-----
Oil Reg.	69457 CH	14H21950 CH°	14H21950 CH°
Exhaust Valve	LW-16740	LW-16740	17B23935
Intake Valve	LW-12949	LW-12949	17A23943
Cylinder, Piston & Ring Kit Assy	05K21280◊ N.L.A.	<b>05K21281‡</b>	<b>05K21281‡</b>

◦ Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

‡ Reference Chart Pages 7, 8.

◊ Superseded Kits: 05K21280 is Superseded by 05K21281 in Complete Engine Sets Only.

NOTE: Kits Employ Large Rotator Type Intake Valve.

NOTE: N.L.A. Indicates "No Longer Available".

### HIO-360-D1A

	<b>NITRIDED CYL. <u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION) (ANGLE HEAD VALVES)		
Cylinder	LW-19047	LW-19047	
Piston	LW-11487-S	LW-11487-S	(10.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	73117	17A23946	
Cylinder, Piston & Ring Kit Assy	<b>05K21124‡</b>	<b>05K21124‡</b>	

◦ Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

## WIDE DECK

### IO-360-A3B6D (For Turbocharging)

#### IO-360-C1F

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston &  
Ring Kit Assy

<b>NITRIDED CYL.</b>		
<b><u>HALF WEDGE RINGS</u></b>		
<b>(HIGH COMPRESSION) (ANGLE HEAD VALVES)</b>		
LW-12988*	LW-12988*	
LW-10207-S	LW-10207-S	(8.7:1 Comp R)
74241 CH°	74241 CH°	
74241 CH°	74241 CH°	
14H21950 CH°	14H21950 CH°	
LW-16740	17B23935	
LW-13622	17A23937	
05K21279	<b>05K21118</b>	
N.L.A.		

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

Reference the Latest Revision to Service Instructions No. 1262 and 1302 for Small Rotator Intake Valve Information.

#### IO-360- F1A

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston &  
Ring Kit Assy  
Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

<b>NITRIDED CYL.</b>		
<b><u>HALF WEDGE RINGS</u></b>		
<b>(HIGH COMPRESSION) (PARALLEL HEAD VALVES)</b>		
16A22130*	16A22130*	
75089	75089	(8.5:1 Comp R)
74241 CH°	74241 CH°	
74241 CH°	74241 CH°	
14H21950 CH°	14H21950 CH°	
LW-19001	17B23936	
73938	17A23938	
<b>05K22926**</b>	<b>05K22926**</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE Page 2.

## WIDE DECK

### IO-360-C1F (For Turbocharging)

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston &  
Ring Kit Assy

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
- ° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

**NITRIDED CYL.**  
**HALF WEDGE RINGS**  
(HIGH COMPRESSION) (ANGLE HEAD VALVES)  
77544\*  
LW-10207-S (8.7:1 Comp R)  
74241 CH°  
74241 CH°  
14H21950 CH°  
LW-16740  
LW-12949  
05K21278  
N.L.A.

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### TIO-360-A1B, -A3B6

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston &  
Ring Kit Assy  
Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
  - ° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.
- NOTE: Kit Employs Large Rotator Type Intake Valve.

**NITRIDED CYL.**  
**HALF WEDGE RINGS**  
(LOW COMPRESSION) (ANGLE HEAD VALVES)  
77544\*  
LW-10545-S (7.3:1 Comp R)  
74241 CH°  
74241 CH°  
14H21950 CH°  
LW-16740  
LW-12949  
05K21277  
N.L.A.

## WIDE DECK

### TO-360-C1A6D, -F1A6D; TIO-360-C1A6D

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	(LOW COMPRESSION) (ANGLE HEAD VALVES)		
Cylinder	LW-13964*	LW-13964*	
Piston	LW-10545-S	LW-10545-S	(7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-18497	17B23944	
Intake Valve	LW-13262	17A23942	
Cylinder, Piston & Ring Kit Assy	<b>05K21276</b>	<b>05K21276</b>	

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
  - ° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.
- NOTE: Kit Contains Small Rotator Type Intake Valve.

### HIO-360-E1AD, -E1BD, -F1AD

	<b>NITRIDED CYL.</b>	<b>NITRIDED CYLS.</b>	
	<b><u>HALF WEDGE RINGS</u></b>	<b><u>HALF WEDGE RINGS</u></b>	
	(HIGH COMPRESSION) (ANGLE HEAD VALVES)		
Cylinder	LW-12988*	LW-12988*	LW-12988*
Piston	LW-13358-S N.L.A.	LW-14610-S	LW-14610-S
Top Ring	74241 CH°	74241 CH°	74241 CH°
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	74241 CH°
Oil Reg.	14H21950 CH°	14H21950 CH°	14H21950 CH°
Exhaust Valve	LW-16740	LW-16740	17B23935
Intake Valve	LW-13622	LW-13622	17A23937
Cylinder, Piston & Ring Kit Assy	05K21275 N.L.A.	<b>05K21274</b>	<b>05K21274</b>

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

**TWO KITS NECESSARY** DUE TO PISTON WEIGHT DIFFERENCE. PISTONS INTERCHANGEABLE IN ENGINE SETS ONLY.

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
- ° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

## 360 “E” “76 Series”

### Q, LO-360 -E1A6D

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	(HIGH COMPRESSION) (PARALLEL HEAD VALVES)		
Cylinder	LW-15322	LW-15322	
Piston	LW-15357	LW-15357	(9.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	LW-15314	17A23945	
Cylinder, Piston & Ring Kit Assy	<b>05K21121**</b>	<b>05K21121**</b>	

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

### TO, LTO-360-E1A6D

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	(HIGH COMPRESSION) (PARALLEL HEAD VALVES)		
Cylinder	LW-16290*	LW-16290*	
Piston	LW-12733-S	LW-12733-S	(8.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	LW-15314	17A23945	
Cylinder, Piston & Ring Kit Assy	<b>05K21122**</b>	<b>05K21122**</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

## VO, IVO-360

### IVO-360 -A1A

	<b><u>NITRIDED CYL. HALF WEDGE RINGS</u></b> (HIGH COMPRESSION)	<b><u>NITRIDED CYL. HALF WEDGE RINGS</u></b> (PARALLEL HEAD VALVES)
Cylinder	7/16 in. Exhaust Valve 74498/LW-12432 N.L.A.	1/2 in. Exhaust Valve 16A21901
Piston	75089	75089 (8.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°
Oil Reg.	14H21950 CH°	14H21950 CH°
Exhaust Valve	71595 N.L.A.	LW-19001
Intake Valve	73938	73938
Cylinder, Piston & Ring Kit Assy	NOTE	05K21284 N.L.A.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Cylinder Assembly Employing 71595 (7/16 in. Exhaust Valve N.L.A.) Reference the Latest Revision to Service Instruction No. 1136 to Convert to 1/2 in. Exhaust Valve.

NOTE: N.L.A. Indicates "No Longer Available".

### VO-360-A1A, -A1B, -B1A

	<b><u>NITRIDED CYL. HALF WEDGE RINGS</u></b> (HIGH COMPRESSION)	<b><u>NITRIDED CYL. HALF WEDGE RINGS</u></b> (PARALLEL HEAD VALVES)
Cylinder	7/16 in. Exhaust Valve LW-12431 N.L.A.	1/2 in. Exhaust Valve 16A21901
Piston	75089	75089 (8.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°
Oil Reg.	14H21950 CH°	14H21950 CH°
Exhaust Valve	71595 N.L.A.	LW-19001
Intake Valve	73938	73938
Cylinder, Piston & Ring Kit Assy	NOTE	05K21284 N.L.A.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Cylinder Assembly Employing 71595 (7/16 in. Exhaust Valve N.L.A.) Reference the Latest Revision to Service Instruction No. 1136 to Convert to 1/2 in. Exhaust Valve.

NOTE: N.L.A. Indicates "No Longer Available".

## WIDE DECK

### IVO-360 -A1A

#### **NITRIDED CYL. HALF WEDGE RINGS**

(HIGH COMPRESSION) (PARALLEL HEAD VALVES)

Cylinder	LW-15682*	LW-15682*	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve (1/2 in. Dia. Stem) (Serv. Guide LW-15680) (Ni-Resist)	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K22294</b>	<b>05K22294</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

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## **IO-390**

### **WIDE DECK**

#### **IO-390 – SERIES, -A1A6, A3A6**

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION) (PARALLEL HEAD VALVES)		
Cylinder	16A26081	16A26081	
Piston	14E22396	14E22396	(8.5:1 Comp R)
Top Ring	14G22050 CH°	14G22050 CH°	
2 <sup>nd</sup> Ring	14G22050 CH°	14G22050 CH°	
Oil Reg.	14H23148 CH°	14H23148 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	73117	17A23946	
Cylinder, Piston & Ring Kit Assy	<b>05K26625</b>	<b>05K26625</b>	

° Piston Ring Kit for Nitrided Cyl's. is 05K26564 (1 Cyl.). See Page 60.



## O, GO-435

### O-435 -A

	<b>PLAIN CYL.</b>	
	<b>(LOW COMPRESSION) (PARALLEL HEAD VALVES)</b>	
Cylinder	71854 N.L.A.	
Piston	69958	(6.50:1 Comp R)
Top Ring	62916 CH	
2 <sup>nd</sup> Ring	62916 CH	
Oil Reg.	69401 CH	
Exhaust Valve	66531	
Intake Valve	66429	
Cylinder, Piston & Ring Kit Assy	N.L.A.	

O-435-A Plain Cylinder Assembly No Longer Available.

NOTE: N.L.A. Indicates "No Longer Available".

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### GO-435-C2 SERIES

	<b>NITRIDED CYL.</b>	
	<b><u>HALF WEDGE RINGS</u></b>	
	<b>(LOW COMPRESSION) (ANGLE HEAD VALVES)</b>	
Cylinder	LW-19035	LW-19035
Piston	75984-S	75984-S
Top Ring	73933CH	73933CH
2 <sup>nd</sup> Ring	73933 CH	73933 CH
Oil Reg.	73934 CH	73934 CH
Exhaust Valve	LW-16740	17B23935
Intake Valve	73129	17A23947
Cylinder, Piston & Ring Kit Assy	<b>05K21229‡</b>	<b>05K21229‡</b>

‡ Reference Chart Pages 7, 8.

## VO-435

### VO-435-A1B, -A1C, -A1D, -A1E, -A1F

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	(LOW COMPRESSION) (ANGLE HEAD VALVES)				
Cylinder	LW-19036	LW-19036	LW-19036	LW-19036	(7.30:1 Comp R)
Piston	75984-S	75984-S	75984-S	75984-S	
Top Ring	73933 CH	73933 CH	73933 CH	73933 CH	
2 <sup>nd</sup> Ring	73933 CH	73933 CH	73933 CH	73933 CH	
Oil Reg.	73934 CH	73934 CH	73934 CH	73934 CH	
Exhaust Valve	LW-16740	17B23935	LW-16740	17B23935	
Intake Valve	73129	17A23947	73129	17A23947	
Piston Pin	60403 Thin Wall	60403 Thin Wall	LW-13445	LW-13445	
Piston Pin Plug	72434	72434	77856	77856	
Cylinder, Piston & Ring Kit Assy	05K21214‡	<b>05K21214‡</b>	05K21215-A‡ NOTE	<b>05K21215-A‡</b> <b>NOTE</b>	

‡ Reference Chart Pages 7, 8.

NOTE: Kit includes piston pin P/N LW-13445; weight difference requires use in complete sets only.

### VO-435-A1D, -A1E, -A1F; TVO-435-A1A, -B1A, -B1B, -D1A, -D1B, -F1A, -G1A, -G1B

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	(LOW COMPRESSION) (ANGLE HEAD VALVES)				
Cylinder	74218*	74218*	74218*	74218*	(7.30:1 Comp R)
Piston	75984-S	75984-S	75984-S	75984-S	
Top Ring	73933 CH	73933 CH	73933 CH	73933 CH	
2 <sup>nd</sup> Ring	73933 CH	73933 CH	73933 CH	73933 CH	
Oil Reg.	73934 CH	73934 CH	73934 CH	73934 CH	
Exhaust Valve	LW-16740	17B23935	LW-16740	17B23935	
Intake Valve	73129	17A23947	73129	17A23947	
Piston Pin	60403 Thin Wall	60403 Thin Wall	LW-13445	LW-13445	
Piston Pin Plug	72434	72434	77856	77856	
Cylinder, Piston & Ring Kit Assy	05K21212	<b>05K21212</b>	05K21213-A <b>NOTE</b>	<b>05K21213-A</b> <b>NOTE</b>	

\* Cylinder Assembly requires Long reach spark Plugs.

NOTE: Kit includes piston pin P/N LW-13445; weight difference requires use in complete sets only.

**VO-435 A1F; TVO-435-A1A**

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	<b>(LOW COMPRESSION) (ANGLE HEAD VALVES)</b>				
Cylinder	LW-19036	LW-19036	LW-19036	LW-19036	(7.30:1 Comp R)
Piston	75984-S	75984-S	75984-S	75984-S	
Top Ring	73933 CH	73933 CH	73933 CH	73933 CH	
2 <sup>nd</sup> Ring	73933 CH	73933 CH	73933 CH	73933 CH	
Oil Reg.	73934 CH	73934 CH	73934 CH	73934 CH	
Exhaust Valve	LW-16740	17B23935	LW-16740	17B23935	
Intake Valve	73129	17A23947	73129	17A23947	
Piston Pin	60403 Thin Wall	60403 Thin Wall	LW-13445	LW-13445	
Piston Pin Plug	72434	72434	77856	77856	
Cylinder, Piston & Ring Kit Assy	05K21214‡	<b>05K21214‡</b>	05K21215-A‡ NOTE	<b>05K21215-A‡</b> NOTE	

‡ Reference Chart Pages 7, 8.

NOTE: Kit includes piston pin P/N LW-13445; weight difference requires use in complete sets only.

**VO-435- B1A**

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	<b>(HIGH COMPRESSION) (ANGLE HEAD VALVES)</b>				
Cylinder	74218*	74218*	74218*	74218*	(8.7:1 Comp R)
Piston	76172	76172	76172	76172	
Top Ring	73933 CH	73933 CH	73933 CH	73933 CH	
2 <sup>nd</sup> Ring	73933 CH	73933 CH	73933 CH	73933 CH	
Oil Reg.	73934 CH	73934 CH	73934 CH	73934 CH	
Exhaust Valve	LW-16740	17B23935	LW-16740	17B23935	
Intake Valve	73129	17A23947	73129	17A23947	
Piston Pin	60403 Thin Wall	60403 Thin Wall	LW-13445	LW-13445	
Piston Pin Plug	72434	72434	77856	77856	
Cylinder, Piston & Ring Kit Assy	05K21216‡	<b>05K21216‡</b>	05K21217-A‡ NOTE	<b>05K21217-A‡</b> NOTE	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

‡ Reference Chart Pages 7, 8.

NOTE: Kit includes piston pin P/N LW-13445; weight difference requires use in complete sets only.

## GO, IGO-480

### GO-480-B, -B1, B1A6, -B1B, -B1C, -B1D, -D1A, -D1B, -F6, -F1A6, -F2A6, -F4A6

	<u>PLAIN CYL.</u>	<u>NITRIDED CYL.</u>		
	<u>HALF WEDGE RINGS</u>	<u>HALF WEDGE RINGS</u>		
	(LOW COMPRESSION)	(ANGLE HEAD VALVES)		
Cylinder	16A21005	LW-19037	LW-19037	
Piston	69236	LW-10208-S	LW-10208-S	(7.30:1 Comp R)
Top Ring	68513 CH	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	68513 CH	74241 CH°	74241 CH°	
Oil Reg.	69457 CH°	14H21950 CH°	14H21950 CH°	
Scraper	69330 CH N.L.A.	-----	-----	
Exhaust Valve	LW-16740	LW-16740	17B23935	
Intake Valve	73129	73129	17A23947	
Cylinder, Piston & Ring Kit Assy	05K21283‡ N.L.A.	<b>05K21273‡</b>	<b>05K21273‡</b>	

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

NOTE: N.L.A. Indicates "No Longer Available".

### GO-480-C1B6, -C1D6, -C2 SERIES, -G1A6, -G1B6, -G1D6, -G1E6, -G1F6, -G1G6, -G2D6, -G1J6, -G2F6

	<u>NITRIDED CYL.</u>		
	<u>HALF WEDGE RINGS</u>		
	(HIGH COMPRESSION)		(ANGLE HEAD VALVES)
Cylinder	75215*	75215*	
Piston	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	73129	17A23947	
Cylinder, Piston & Ring Kit Assy	<b>05K21272‡</b>	<b>05K21272‡</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

NOTE: Due to the Use of 71265 and 71266 High Lift Valve Rocker Assemblies on GO-480-G1D6 Engines (For Helio) as Noted on the Following Page, Other "Applicable Kits" Which Use 67112 and 67113 Rocker Assemblies Should Be Used Only on New -G1D6 Engines with Serial Numbers Below 427-37 and on Rebuilt Engines Built Before 12-15-66.

## **GO-480-G1D6 (Helio)**

**NITRIDED CYL.  
HALF WEDGE RINGS**  
(HIGH COMPRESSION) (ANGLE HEAD VALVES)

Cylinder	75215*	75215*	
Piston	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	73129	17A23947	
Cylinder, Piston & Ring Kit Assy	<b>05K21272‡</b>	<b>05K21272‡</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

NOTE: This Kit is for Use With 71265 and 71266 High Lift Rocker Assemblies to be Used With 77124 Camshaft Assembly.

NOTE: Engine Effectivity – New Engines – Serial No. 425-37 and UP  
Rebuilt Engines – Built After 12-14-66.

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## **GO-480-A1B6 (Helio), GO-480-G1A6 (Helio) (For IGO-480 With Top Fuel Injection and GO-480 With Top Primers.)**

**NITRIDED CYL.  
HALF WEDGE RINGS**  
(HIGH COMPRESSION) (ANGLE HEAD VALVES)

Cylinder	LW-19038 * NOTE		
Piston	LW-10207-S		(8.7:1 Comp R)
Top Ring	74241 CH°		
2 <sup>nd</sup> Ring	74241 CH°		
Oil Reg.	14H21950 CH°		
Exhaust Valve	LW-16740		
Intake Valve	73129		
Cylinder, Piston & Ring Kit Assy	05K21271‡ N.L.A.		

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

NOTE: Tapped Hole for Injector Nozzle or Primer Nipple.

NOTE: N.L.A. Indicates "No Longer Available".

## GSO, IGSO-480

GSO-480-A1A, -A1A6, -A2A6, -A1C6, -B1A6, -B1B3, -B1B6, -B1C6, -B1E6, -B1J6, -B2D6; IGSO-480-A1A6, -A1B6, -A1C6, -A1E6, -A1F6

### NITRIDED CYL.

#### HALF WEDGE RINGS

(LOW COMPRESSION) (ANGLE HEAD VALVES)

Cylinder	75215*	75215*	
Piston	LW-10208-S	LW-10208-S	(7.30:1 Comp R)
Top Ring	74241 CH <sup>o</sup>	74241 CH <sup>o</sup>	
2 <sup>nd</sup> Ring	74241 CH <sup>o</sup>	74241 CH <sup>o</sup>	
Oil Reg.	14H21950 CH <sup>o</sup>	14H21950 CH <sup>o</sup>	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	73129	17A23947	
Cylinder, Piston & Ring Kit Assy	<b>05K21270</b>	<b>05K21270</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

<sup>o</sup> Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

## 540 CONVENTIONAL

### O-540-B1A5, -B1B5, -B2A5, -B2B5, -B2C5, -B4B5

	<u>PLAIN CYL.</u>	<u>NITRIDED CYL.</u>		
	<u>HALF WEDGE RINGS</u>	<u>HALF WEDGE RINGS</u>		
	(LOW COMPRESSION) (PARALLEL HEAD VALVES)			
Cylinder	LW-12424 N.L.A.	LW-12425	LW-12425	(7.0:1 Comp R)
Piston	75413	75413	75413	
Top Ring	74989 CH☼	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74989 CH☼	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH☼	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	LW-19001	17B23936	
Intake Valve	73938	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	05K21106** N.L.A.	<b>05K21103**</b>	<b>05K21103**</b>	

☼ Piston Ring Kit for Nitrided Cyl's. is 05K22036 (1 Cyl.). See Page 60.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: N.L.A. Indicates "No Longer Available".

### O-540-A1A, -A1A5, -A1B5, -A1C5, -A1D, -A1D5, -A2B, -A3D5, -A4A5, -A4B5, -A4D5, -F1A5, -F1B5

	<u>PLAIN CYL.</u>	<u>NITRIDED CYL.</u>		
	<u>HALF WEDGE RINGS</u>	<u>HALF WEDGE RINGS</u>		
	(HIGH COMPRESSION) (PARALLEL HEAD VALVES)			
Cylinder	LW-12424 N.L.A.	LW-12425	LW-12425	(8.5:1 Comp R)
Piston	75089	75089	75089	
Top Ring	74989 CH☼	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74989 CH☼	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH☼	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	LW-19001	17B23936	
Intake Valve	73938	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	05K21238** N.L.A.	<b>05K21102**</b>	<b>05K21102**</b>	

☼ Piston Ring Kit for Plain Cyl's. is 05K22036 (1 Cyl.). See Page 60.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: Plain Steel Cylinder Assemblies Not Recommended for High Compression Engines.

NOTE: N.L.A. Indicates "No Longer Available".

**O-540-E1A, -E4A5, -E4B5, -E4C5, -G1A5, -G2A5; IO-540-C1B5, -C1C5, -C2C, -C4B5 -C4C5, -D4A5, -D4B5, -N1A5**

**NITRIDED CYL.  
HALF WEDGE RINGS**  
(HIGH COMPRESSION) (PARALLEL HEAD VALVES)

Cylinder	LW-12425	LW-12425	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21102**</b>	<b>05K21102**</b>	

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

**IO-540-M1A5**

**IO-540-E1B5 (For Turbocharger)**

**NITRIDED CYL.  
HALF WEDGE RINGS**  
(HIGH COMPRESSION) (UP EXHAUST) (ANGLE HEAD VALVES)

Cylinder	LW-13533*	LW-13533*	
Piston	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21226</b>	<b>05K21226</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Intake Valve (Small Rotator Type). Reference the Latest Revision to Service Instruction No. 1302.



**IO-540-A1A5, -G1A5, -G1B5, -G1C5 –G1D5, -G1E5, -K1A5, -K1B5, -K1D5, -K1F5, -L1A5; HIO-540-A1A**

	<b>NITRIDED CYL.</b>		<b>NITRIDED CYL.</b>	
	<b><u>HALF WEDGE RINGS</u></b>		<b><u>HALF WEDGE RINGS</u></b>	
	(HIGH COMPRESSION)		(ANGLE HEAD VALVES)	
Cylinder	LW-13530	LW-13530	LW-13530	
Piston	73264 N.L.A.	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH°	
3 <sup>rd</sup> Ring	74241 CH	-----	-----	
Oil Reg.	69457 CH	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	LW-16740	17B23935	
Intake Valve	LW-13622	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	05K21113 ◊ N.L.A.	<b>05K21112‡</b>	<b>05K21112‡</b>	

◊ Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

◊ Superseded Kit: Kit 05K21113 is Superseded by 05K21112 in Complete Engine Sets Only.

NOTE: Intake Valve (Small Rotator Type). Reference the Latest Revision to Service Instruction No. 1302.

NOTE: N.L.A. Indicates "No Longer Available".

**IO-540-B1A5, -B1C5, -E1A5, -E1B5**

	<b>NITRIDED CYL.</b>		<b>NITRIDED CYL.</b>	
	<b><u>HALF WEDGE RINGS</u></b>		<b><u>HALF WEDGE RINGS</u></b>	
	(HIGH COMPRESSION)		(UP EXHAUST) (ANGLE HEAD VALVES)	
Cylinder	LW-13532	LW-13532	LW-13532	
Piston	73264 N.L.A.	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH°	
3 <sup>rd</sup> Ring	74241 CH	-----	-----	
Oil Reg.	69457	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	LW-16740	17B23935	
Intake Valve	LW-13622	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	05K21111 ◊ N.L.A.	<b>05K21110‡</b>	<b>05K21110‡</b>	

◊ Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

◊ Superseded Kit: Kit 05K21111 is Superseded by 05K21110 in Complete Engine Sets Only.

NOTE: Intake Valve (Small Rotator Type). Reference the Latest Revision to Service Instruction No. 1302.

NOTE: N.L.A. Indicates "No Longer Available".

**IO-540-G1A5, -G1B5, -G1C5, -G1D5, -G1E5, -G1F5, -K1B5, -K1C5, -K1E5, -P1A5, -S1A5**

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	<b>(HIGH COMPRESSION) (ANGLE HEAD VALVES)</b>		
Cylinder	LW-13534*	LW-13534*	
Piston	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21204</b>	<b>05K21204</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Intake Valve (Small Rotator Type). Reference the Latest Revision to Service Instruction No. 1302.

**IO-540-J4A5, -R1A5; TIO-540-G1A**

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	<b>(HIGH COMPRESSION) (ANGLE HEAD VALVES)</b>		
Cylinder	LW-12433*	LW-12433*	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21241**</b>	<b>05K21241**</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

## **TIO-540-A1A, -A1B, -A2A, -A2B, -A2C**

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	(LOW COMPRESSION) (UP EXHAUST)		(ANGLE HEAD VALVES)
Cylinder	LW-13447*	LW-13447*	
Piston	LW-10545-S	LW-10545-S	(7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21109</b>	<b>05K21109</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Intake Valve (Small Rotator Type). Reference the Latest Revision to Service Instruction No. 1302.

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## **TIO-540-C1A, -E1A, -H1A**

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	(LOW COMPRESSION) (PARALLEL HEAD VALVES)		
Cylinder	LW-12433*	LW-12433*	
Piston	75413	75413	(7.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21234**</b>	<b>05K21234**</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

**540 W.D.**  
**WIDE DECK**

**O-540-A4D5, -E4A5, -E4B5, -E4B5D, -E4C5, -G1A5, -G1A5D, -G2A5, -H1A5, -H1B5D, -H2A5, -H2B5D; IO-540-AF1A5, -C4B5, -C4B5D, -C4D5, -C4D5D, -D4A5, -D5B5, -D4C5, -N1A5, -N1A5D, -T4A5D, -T4B5, -T4B5D, -T4C5D, -V2A5, -V4A5D; AEIO-540-D4A5, -D4B5, -D4D5**

**NITRIDED CYL.**

**HALF WEDGE RINGS**

(HIGH COMPRESSION) (PARALLEL HEAD VALVES)

Cylinder	LW-12427	LW-12427	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21104**</b>	<b>05K21104**</b>	
Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube			

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

**IO-540-J4A5**

**NITRIDED CYL.**

**HALF WEDGE RINGS**

(HIGH COMPRESSION) (PARALLEL HEAD VALVES)

Cylinder	16A22130*	16A22130*	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K22926**</b>	<b>05K22926**</b>	
Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube			

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

## WIDE DECK

**IO-540-AE1A5, -K1A5, -K1A5D, -K1B5\*, -K1D5, -K1F5, -K1F5D, -K1G5, -K1G5D, -K1H5, -K1J5, -K1J5D, -K1K5, -K2A5, -L1A5D, -L1B5D, -L1C5; AEIO-540-L1B5\*, -L1B5D**

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	(HIGH COMPRESSION) (ANGLE HEAD VALVES)		
Cylinder	LW-12993	LW-12993	
Piston	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21120‡</b>	<b>05K21120‡</b>	
Contains LW-18661, 70310 and 06A23493 Seal - Shroud Tube			

\* IO-540-K1B5 & AEIO-540-L1B5 Also Built with Long Reach Spark Plugs. Reference Page 45.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

NOTE: Kits Employ Small Rotator Type Intake Valve.

## **O-540-B2B5, -B2C5, -B2C5D, -B4B5, -B4B5D**

	<b>PLAIN CYL. HALF WEDGE RINGS</b>	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	(LOW COMPRESSION) (PARALLEL HEAD VALVES)			
Cylinder	LW-12768 N.L.A.	LW-12427	LW-12427	
Piston	75413	75413	75413	(7.0:1 Comp R)
Top Ring	74989 CH☼	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74989 CH☼	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH☼	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	LW-19001	17B23936	
Intake Valve	73938	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	NONE	<b>05K21192**</b>	<b>05K21192**</b>	
Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube				

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

☼ Piston Ring Kit for Plain Cyl's. is 05K22036 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

NOTE: N.L.A. Indicates "No Longer Available".

## WIDE DECK

### O-540-L3C5D

<b><u>NITRIDED CYL.</u></b>		
<b><u>HALF WEDGE RINGS</u></b>		
(HIGH COMPRESSION) (PARALLEL HEAD VALVES)		
Cylinder	LW-15605*	LW-15605*
Piston	75089	75089
Top Ring	74241 CH°	74241 CH°
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°
Oil Reg.	14H21950 CH°	14H21950 CH°
Exhaust Valve	LW-19001	17B23936
Intake Valve	73938	17A23938
Cylinder, Piston & Ring Kit Assy	<b>05K21231**</b>	<b>05K21231**</b>

(8.5:1 Comp R)

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

\*Cylinder Assembly Requires Long Reach Spark Plugs.  
 ° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.  
 \*\* Reference NOTE, Page 2.

### IO-540-AC1A5

<b><u>NITRIDED CYL.</u></b>		
<b><u>HALF WEDGE RINGS</u></b>		
(HIGH COMPRESSION) (TOP EXHAUST) (ANGLE HEAD VALVES)		
Cylinder	16A22541*	16A22541*
Piston	LW-10207-S	LW-10207-S
Top Ring	74241 CH°	74241 CH°
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°
Oil Reg.	14H21950 CH°	14H21950 CH°
Exhaust Valve	LW-18497	17B23944
Intake Valve	LW-13262	17A23942
Cylinder, Piston & Ring Kit Assy	<b>05K22672</b>	<b>05K22672</b>

(8.7:1 Comp R)

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

\*Cylinder Assembly Requires Long Reach Spark Plugs.  
 ° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

### IO-540-M1A5, -M1A5D, -M1B5, -M1B5D, -M1C5, -U1A5D, -U1B5D

<b><u>NITRIDED CYL.</u></b>		
<b><u>HALF WEDGE RINGS</u></b>		
(HIGH COMPRESSION) (UP EXHAUST) (ANGLE HEAD VALVES)		
Cylinder	LW-19048*	LW-19048*
Piston	LW-10207-S	LW-10207-S
Top Ring	74241 CH°	74241 CH°
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°
Oil Reg.	14H21950 CH°	14H21950 CH°
Exhaust Valve	LW-16740	17B23935
Intake Valve	LW-13622	17A23937
Cylinder, Piston & Ring Kit Assy	<b>05K21263‡</b>	<b>05K21263‡</b>

(8.7:1 Comp R)

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

\* Cylinder Assembly Requires Long Reach Spark Plugs.  
 ° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.  
 ‡ Reference Chart Pages 7, 8.  
 NOTE: Intake Valve (Small Rotator Type). Reference the Latest Revision to Service Instruction No. 1302.

## WIDE DECK

**O-540-J1A5D, -J1C5D, -J2A5D, -J3A5, -J3A5D, -J3C5D;**  
**IO-540-AB1A5, -W1A5, -W1A5D, -W3A5D,**

**NITRIDED CYL.**  
**HALF WEDGE RINGS**

(HIGH COMPRESSION) (PARALLEL HEAD VALVES)

Cylinder	LW-13870	LW-13870	
Piston	LW-13396	LW-13396	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21117**</b>	<b>05K21117**</b>	

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

\*\* Reference NOTE, Page 2.

**O-540-F1B5**

**NITRIDED CYL.**  
**HALF WEDGE RINGS**

(HIGH COMPRESSION) (PARALLEL HEAD VALVES)

Cylinder	LW-13870	LW-13870	
Piston	75089	75089	(8.5:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K21745</b>	<b>05K21745</b>	

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

**IO-540-G1D5, -K1B5\*, -K1C5, -K1E5, -K1E5D, -S1A5**

**NITRIDED CYL.**  
**HALF WEDGE RINGS**

(HIGH COMPRESSION) (ANGLE HEAD VALVES)

Cylinder	LW-12988*	LW-12988*	
Piston	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21118</b>	<b>05K21118</b>	

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

\* Cylinder Assembly Requires Long Reach Spark Plugs. (IO-540-K1B5 Also Built with Short Reach Spark Plugs, Reference Page 43.)

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Kit Employs Small Rotator Type Intake Valve.

## WIDE DECK

### IO-540-AA1A5, -AA1B5, -TIO-540-U2A; LTIO-540-U2A

#### NITRIDED CYL. HALF WEDGE RINGS

(LOW COMPRESSION) (ANGLE HEAD VALVES)

Cylinder	LW-12988*	LW-12988*	
Piston	LW-10545-S	LW-10545-S	(7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21966</b>	<b>05K21966</b>	

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Kit Employs Small Rotator Type Intake Valve

### TIO-540-AE2A, -AH1A

#### NITRIDED CYL. HALF WEDGE RINGS

(LOW COMPRESSION) (ANGLE HEAD VALVES)

Cylinder	LW-12988*	LW-12988*	
Piston	LW-10545-S	LW-10545-S	(7.3:1 Comp R)
Top Ring	74241 CH♦	74241 CH♦	
2 <sup>nd</sup> Ring	74241 CH♦	74241 CH♦	
Oil Reg.	14H21990 CH♦	14H21990 CH♦	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21262</b>	<b>05K21262</b>	

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube

\* Cylinder Assembly Requires Long Reach Spark Plugs.

♦ Piston Ring Kit for Nitrided Cyl's. is 05K22037 (1 Cyl.). See Page 60.

NOTE: Kit Employs Small Rotator Type Intake Valve

### TIO, LTIO-540-V2AD

#### NITRIDED CYL. HALF WEDGE RINGS

(LOW COMPRESSION) (DOWN EXHAUST) (ANGLE HEAD VALVES)

Cylinder	16A19516*	16A19516*	
Piston	LW-10545-S	LW-10545-S	(7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-18497	17B23944	
(Serv. Guide 16R217101 (Ni-Resist) NOTE			
Intake Valve	LW-13262	17A23942	
(Serv. Guide 16P21709)			
Cylinder, Piston & Ring Kit Assy	<b>05K21260</b>	<b>05K21260</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Reference the Latest Revision to Service Bulletin No. 490.

### TIO-540-W2A

#### NITRIDED CYL. HALF WEDGE RINGS

(LOW COMPRESSION) (DOWN EXHAUST) (ANGLE HEAD VALVES)

Cylinder	16A19516*	16A19516*	
Piston	14D21953-S/ LW-19176‡	14D21953-S/ LW-19176-S‡ NLA	(7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-18497	17B23944	
(Serv. Guide 16R217101 (Ni-Resist) NOTE			
Intake Valve	LW-13262	17A23942	
(Serv. Guide 16P21709)			
Cylinder, Piston & Ring Kit Assy	<b>05K21261</b>	<b>05K21261</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ See NOTE "V", Page 6.

NOTE: Reference the Latest Revision to Service Bulletin No. 490.



## WIDE DECK

### TIO-540-K1AD, -AA1AD, -AB1AD, -AB1BD, -AF1A, -AG1A

<b>NITRIDED CYL.</b>			
<b><u>HALF WEDGE RINGS</u></b>			
(LOW COMPRESSION) (PARALLEL HEAD VALVES)			
Cylinder	16A22130*	16A22130*	
Piston	LW-12733	LW-12733-S	(8.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K22129**</b>	<b>05K22129**</b>	

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
- ° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.
- \*\* Reference NOTE, Page 2.

### TIO-540-AF1B (Oil Cooled Valve Guides)

<b>NITRIDED CYL.</b>			
<b><u>HALF WEDGE RINGS</u></b>			
(LOW COMPRESSION) (PARALLEL HEAD VALVES)			
Cylinder	16A22023*	16A22023*	
Piston	LW-12733	LW-12733-S	(8.0:1 Comp R)
Top Ring	74241 CH◆	74241 CH◆	
2 <sup>nd</sup> Ring	74241 CH◆	74241 CH◆	
Oil Reg.	14H21990 CH◆	14H21990 CH◆	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K22177**</b>	<b>05K22177**</b>	

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
- ◆ Piston Ring Kit for Nitrided Cyl's. is 05K22037 (1 Cyl.). See Page 60.
- \*\* Reference NOTE, Page 2.

NOTE: TIO-540-AF1A Becomes TIO-540-AF1B When Oil Cooled Valve Guides are Installed. Reference the Latest Revision to Service Instruction No. 1479.

### TIO-540-AK1A

<b>NITRIDED CYL.</b>			
<b><u>HALF WEDGE RINGS</u></b>			
(LOW COMPRESSION) (PARALLEL HEAD VALVES)			
Cylinder	16A22130	16A22130	
Piston	LW-12733	LW-12733-S	(8.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K23161*</b>	<b>05K23161*</b>	

Contains LW-18661, 70310 and 06A23493 Seal – Shroud Tube.

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
- ° Piston Ring Kit for Nitrided Cyl's. is (1 Cyl.). See Page 60.

## WIDE DECK

### TIO-540-C1A, -C1AD

#### NITRIDED CYL. HALF WEDGE RINGS

(LOW COMPRESSION) (PARALLEL HEAD VALVES)

Cylinder	16A22130	16A22130	
Piston	75413	75413	(7.0:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-19001	17B23936	
Intake Valve	73938	17A23938	
Cylinder, Piston & Ring Kit Assy	<b>05K22128**</b>	<b>05K22128**</b>	

\*\* Reference NOTE, Page 2.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

### TIO-540-AJ1A

#### NITRIDED CYL. HALF WEDGE RINGS

(LOW COMPRESSION) (TOP INTAKE) (ANGLE HEAD VALVES)

Cylinder	16A22541*	16A22541*	
Piston	LW-10545-S	LW-10545-S	(7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH‡	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-18497	17B23944	
Intake Valve	LW-13262	17A23942	
Cylinder, Piston & Ring Kit Assy	<b>05K22680</b>	<b>05K22680</b>	

Contains LW-18661, 70310 and 06A23493 (RT) Seal – Shroud Tube

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

### TIO-540-A2B, -A2C, -S1AD; TIO, LTIO-540-F2BD, -J2B, -J2BD, -N2BD, -R2AD

#### NITRIDED CYL. HALF WEDGE RINGS

(LOW COMPRESSION) (UP EXHAUST) (ANGLE HEAD VALVES)

Cylinder	LW-12966*	LW-12966*	
Piston	LW-10545-S	LW-10545-S	(7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21108</b>	<b>05K21108</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Intake Valve Change (Small Rotator Type). Reference the Latest Revision to Service Instructions No. 1262 and No. 1302.

### TIO, LTIO-540-F2BD, -J2B, -J2BD, -N2BD

#### NITRIDED CYL. HALF WEDGE RINGS

(LOW COMPRESSION) (UP EXHAUST) (ANGLE HEAD VALVES)

Cylinder	LW-12966*		
Piston	14D21953-S		(7.3:1 Comp R)
	LW-19176-S‡ N.L.A.		
Top Ring	74241 CH°		
2 <sup>nd</sup> Ring	74241 CH°		
Oil Reg.	14H21950 CH°		
Exhaust Valve	LW-16740		
Intake Valve	LW-13622		
Cylinder, Piston & Ring Kit Assy			

Reference NOTES “U”, “V”, & “W” on Page 6. Also the Latest Revision to Service Instruction No. 1471, Change Notice 294A.

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ See NOTE “V”, Page 6.

## IGO-540

### IGO-540-A1A, -A1C

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION) (ANGLE HEAD VALVES)		
Cylinder	76261* N.L.A.	76261 N.L.A.	
Piston	76258 (NOTE)	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	LW-16740	
Intake Valve	LW-12949	LW-12949	
Cylinder, Piston & Ring Kit Assy	NOTE	05K21265 N.L.A.	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Kits Employing 76258 Piston No Longer Available. Reference NOTE "K", Page 6.

NOTE: N.L.A. Indicates "No Longer Available."

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### IGO-540-B1A, -B1C

	<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION) (UP EXHAUST) (ANGLE HEAD VALVES)		
Cylinder	76187* N.L.A.	76187* N.L.A.	
Piston	76258 (NOTE)	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	LW-16740	
Intake Valve	LW-12949	LW-12949	
Cylinder, Piston & Ring Kit Assy	NOTE: N.L.A.	05K21267 N.L.A.**	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Kits Employing 76258 Piston No Longer Available. Reference NOTE "K", Page 6.

NOTE: Kits Employ Large Rotator Type Intake Valve.

NOTE: N.L.A. Indicates "No Longer Available".

## IGSO-540

### IGSO-540-A1A, -A1C, -A1D, -A1E, -A1H

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	<b>(LOW COMPRESSION) (ANGLE HEAD VALVES)</b>		
Cylinder	LW-12714*	LW-12714*	
Piston	LW-10208-S	LW-10208-S	(7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21264</b>	<b>05K21264</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Intake Valve Change (Small Rotator Valve). Reference the Latest Revision to Service Instructions No. 1262 and No. 1302.

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### IGSO-540-B1A, -B1C

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>		
	<b>LOW COMPRESSION) (UP EXHAUST) (ANGLE HEAD VALVES)</b>		
Cylinder	LW-13447*	LW-13447*	
Piston	LW-10208-S	LW-10208-S	(7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21269</b>	<b>05K21269</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: Intake Valve Change (Small Rotator Valve). Reference the Latest Revision to Service Instructions No. 1262 and No. 1302.

## VO, IVO, TVO, TIVO-540

### VO-540-A1A, -B1A, -B1B, -B1B3, -B1C, -B1D, -B1F, -B1G, -B2D; TVO-540-A1A

	<u>NITRIDED CYL. HALF WEDGE RINGS</u>	<u>NITRIDED CYL. HALF WEDGE RINGS</u>	<u>NITRIDED CYL. HALF WEDGE RINGS</u>	
	(LOW COMPRESSION) (ANGLE HEAD VALVES)			
Cylinder	75137*	75137*	75137*	74558
Piston	73976-S N.L.A.	LW-10208-S	LW-10208-S	73976-S N.L.A.
Top Ring	74241 CH	74241 CH°	74241 CH°	74241 CH
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH°	74241 CH
3 <sup>rd</sup> Ring	74241 CH	-----	-----	74241 CH
Oil Reg.	14H21950 CH	14H21950 CH°	14H21950 CH°	14H21950 CH
Scraper	69330 CH N.L.A.	-----	-----	69330 CH N.L.A.
Exhaust Valve	LW-16740	LW-16740	17B23935	LW-16740
Intake Valve	LW-12949	LW-12949	17A23943	LW-12949
Cylinder, Piston & Ring Kit Assy	05K21227 ◊‡ NOTE N.L.A.	<b>05K21228‡</b>	<b>05K21228‡</b>	75034 (NOTE) N.L.A.
				74558 LW-10208-S 74241 CH° 74241 CH° ----- 14H21950 CH° ----- LW-16740 LW-12949 77487 (NOTE) N.L.A.

(7.3:1 Comp R)

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

◊ Superseded Kits: Kits 05K21227 is Superseded by 05K21228 in Complete Engine Sets Only.

‡ Reference Chart Pages 7, 8.

NOTE: Kits Employ Large Rotator Type Intake Valve.

NOTE: Kits (05K21227, 75034) Employing 73976-S Piston Are No Longer Available.

NOTE: Kits (75034, 77487) Employing Short Reach Cylinders Are No Longer Available.

NOTE: N.L.A. Indicates "No Longer Available".

**VO-540-C1A, -C1B, -C1C3, -C2A, -C2C**

	<b><u>NITRIDED CYL. HALF WEDGE RINGS</u></b>		<b><u>NITRIDED CYL. HALF WEDGE RINGS</u></b>		<b><u>NITRIDED CYL. HALF WEDGE RINGS</u></b>		
	(LOW COMPRESSION) (ANGLE HEAD VALVES)						
Cylinder	75137*	75137*	75137*	74558	74558		
Piston	73947-S N.L.A.	LW-10207-S	LW-10207-S	73947-S N.L.A.	LW-10207-S		(8.7:1 Comp R)
Top Ring	74241 CH	74241 CH°	74241 CH°	74241 CH	74241 CH°		
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH°	74241 CH	74241 CH°		
3 <sup>rd</sup> Ring	74241 CH	-----	-----	74241 CH	-----		
Oil Reg.	14H21950 CH☼	14H21950 CH°	14H21950 CH°	14H21950 CH☼	14H21950 CH°		
Scraper	69330 CH N.L.A.	-----	-----	69330 CH N.L.A.	-----		
Exhaust Valve	LW-16740	LW-16740	17B23935	LW-16740	LW-16740		
Intake Valve	LW-12949	LW-12949	17A23943	LW-12949	LW-12949		
Cylinder, Piston & Ring Kit Assy	05K21222 ◊‡ NOTE N.L.A.	<b>05K21223‡</b>	<b>05K21223‡</b>	75036 (NOTE) N.L.A.	77493 (NOTE) N.L.A.		

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035. See Page 60.

◊ Superseded Kits: Kits 05K21222 is Superseded by 05K21223 in Complete Engine Sets Only.

‡ Reference Chart Pages 7, 8.

NOTE: Kits Employ Large Rotator Type Intake Valve.

NOTE: Kits (05K21222, 75036) Employing 73947-S Piston Are No Longer Available.

NOTE: Kits (75036, 77493) Employing Short Reach Cylinders Are No Longer Available.

NOTE: N.L.A. Indicates "No Longer Available".

## IVO-540-A1A

	<u>NITRIDED CYL.</u> <u>HALF WEDGE RINGS</u> (HIGH COMPRESSION)	<u>NITRIDED CYL.</u> <u>HALF WEDGE RINGS</u> (ANGLE HEAD VALVES)		
Cylinder	74236*	74236*	74236*	
Piston	73947-S N.L.A.	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH°	
3 <sup>rd</sup> Ring	74241 CH	-----	-----	
Oil Reg.	14H21950 CH	14H21950 CH°	14H21950 CH°	
Scraper	69330 CH N.L.A.	-----	-----	
Exhaust Valve	LW-16740	LW-16740	17B23935	
Intake Valve	LW-12949	LW-12949	17A23943	
Cylinder, Piston & Ring Kit Assy	05K21221 ◇ (NOTE)	<b>05K21220</b>	<b>05K21220</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

◇ Superseded Kits: Kit 05K21221 is Superseded by 05K21220 in Complete Engine Sets Only.

NOTE: Kits Employ Large Rotator Type Intake Valve.

NOTE: Kits (05K21221) Employing 73947-S Piston Are No Longer Available.

NOTE: N.L.A. Indicates "No Longer Available".

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## TIVO-540-A2A, -A2B

	<u>NITRIDED CYL.</u> <u>HALF WEDGE RINGS</u> (LOW COMPRESSION)	<u>NITRIDED CYL.</u> <u>HALF WEDGE RINGS</u> (ANGLE HEAD VALVES)		
Cylinder	74236*	74236*	74236*	
Piston	73976-S N.L.A.	LW-10208-S	LW-10208-S	(7.31 Comp R)
Top Ring	74241 CH	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH°	
3 <sup>rd</sup> Ring	74241 CH	-----	-----	
Oil Reg.	14H21950 CH	14H21950 CH°	14H21950 CH°	
Scraper	69330 N.L.A.	-----	-----	
Exhaust Valve	LW-16740	LW-16740	17B23935	
Intake Valve	LW-12949	LW-12949	17A23943	
Cylinder, Piston & Ring Kit Assy	05K21218 ◇(NOTE)	<b>05K21219</b>	<b>05K21219</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

◇ Superseded Kits: Kit 05K21218 is Superseded by 05K21219 in Complete Engine Sets Only.

NOTE: Kits Employ Large Rotator Type Intake Valve.

NOTE: Kits (05K21218) Employing 73976-S Piston Are No Longer Available.

NOTE: N.L.A. Indicates "No Longer Available".

## TIO-541

### TIO-541-A1A

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston &  
Ring Kit Assy

**NITRIDED CYL.  
HALF WEDGE RINGS**  
(LOW COMPRESSION) (ANGLE HEAD VALVES)

74781* N.L.A.	
LW-10545-S	(7.3:1 Comp R)
74241 CH°	
74241 CH°	
14H21950 CH°	
LW-16740 N.L.A.	
73117 N.L.A.	
NOTE N.L.A.	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE: 74781 Cylinder Assembly for TIO-541-A1A engines is no longer available.

NOTE: N.L.A. Indicates "No Longer Available".

### TIO-541-E1A4, -E1B5, -E1C4, -E1D4; TIGO-541-E1A

	<b>NITRIDED CYL. HALF WEDGE RINGS</b>	<b>NITRIDED CYL. HALF WEDGE RINGS</b>	
	(LOW COMPRESSION) (ANGLE HEAD VALVES)		
Cylinder	LW-13907*	LW-14116*	LW-14116*
Piston	LW-10545-S	LW-10545-S	LW-10545-S (7.3:1 Comp R)
Top Ring	74241 CH°	74241 CH°	74241 CH°
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	74241 CH°
Oil Reg.	14H21950 CH°	14H21950 CH°	14H21950 CH°
Exhaust Valve	LW-18498	LW-18498	17B23941
Intake Valve	LW-13262	LW-13262	17A23942
Cylinder, Piston &	LW-13987	<b>05K21116</b>	<b>05K21116</b>
Ring Kit Assy	(NOTE A,B) N.L.A.	<b>(NOTE B)</b>	<b>(NOTE B)</b>

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

NOTE A: 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 B: For information related to service of cylinder and valve changes, refer to the latest revision to Service Bulletin No. 334, Service Instructions No. 1262 and No. 1302 and Supersedure Notice 217.

NOTE: N.L.A. Indicates "No Longer Available".



## TIGO-541

### TIGO-541-D1B

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston &  
Ring Kit Assy

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
  - ° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.
- NOTE: N.L.A. Indicates "No Longer Available".

**NITRIDED CYL.**  
**HALF WEDGE RINGS**  
(LOW COMPRESSION) (ANGLE HEAD VALVES)  
LW-13121\* N.L.A.  
LW-10545-S (7.3:1 Comp R)  
74241 CH°  
74241 CH°  
14H21950 CH°  
LW-18498  
LW-13262  
05K21259  
(NOTE) N.L.A.

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## AEIO, IO-580 WIDE DECK

### AEIO-580-B1A; IO-580-B1A

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Seal –Shroud Tube  
Cylinder, Piston &  
Ring Kit Assy

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
- ° Piston Ring Kit for Nitrided Cyls is 05K26564 (1 cyl). See page 60.

**NITRIDED CYL.**  
**HALF WEDGE RINGS**  
(HIGH COMPRESSION) (ANGLE HEAD VALVES)  
16A22887\* 16A22887\*  
14E22396 14E22396 (8.9:1 Comp R)  
14G22050 CH° 14G22050 CH°  
14G22050 CH° 14G22050 CH°  
14H23148 CH° 14H23148 CH°  
LW-16740 17B23935  
LW-13622 17A23937  
06A23493 06A23493  
**05K23259 05K23259**

## 720 CONVENTIONAL

### IO-720-A1A, D1B

	<b>PLAIN CYL.</b>	<b>NITRIDED CYL.</b>	<b>NITRIDED CYL.</b>	
	<b><u>HALF WEDGE RINGS</u></b>	<b><u>HALF WEDGE RINGS</u></b>	<b><u>HALF WEDGE RINGS</u></b>	
	(HIGH COMPRESSION) (ANGLE HEAD VALVES)			
Cylinder	LW-13530	LW-13530	LW-13530	
Piston	73264 N.L.A.	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH	74241 CH°	74241 CH°	
3 <sup>rd</sup> Ring	74241 CH	-----	-----	
Oil Reg.	69457 CH	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	LW-16740	17B23935	
Intake Valve	LW-13622	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	05K21113 ◊‡	<b>05K21112‡</b>	<b>05K21112‡</b>	

Contains LW-18661, 70310 and 06A23493 Seal - Shroud Tube.

◦ Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

◊ Superseded Kits: Kit 05K21113 is Superseded by 05K21112 in Complete Engine Sets Only.

‡ Reference Chart Pages 7, 8.

NOTE: Kits Employ Small Rotator Type Intake Valve.

NOTE: Kits (05K21113) Employing 73264 Pistons Are No Longer Available.

NOTE: N.L.A. Indicates "No Longer Available".

### IO-720-A1B

	<b>NITRIDED CYL.</b>		<b>NITRIDED CYL.</b>		
	<b><u>HALF WEDGE RINGS</u></b>		<b><u>HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION) (ANGLE HEAD VALVES)				
Cylinder	LW-13530	LW-13530	LW-13534*	LW-13534*	
Piston	LW-10207-S	LW-10207-S	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21112‡</b>	<b>05K21112‡</b>	<b>05K21204</b>	<b>05K21204</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

◦ Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

NOTE: Kits Employ Small Rotator Type Intake Valve.

**IO-720-B1B, -C1B**

	<b><u>NITRIDED CYL. HALF WEDGE RINGS</u></b>		<b><u>NITRIDED CYL. HALF WEDGE RINGS</u></b>		
	(HIGH COMPRESSION)		(UP EXHAUST)		(ANGLE HEAD VALVES)
Cylinder	LW-13532	LW-13532	LW-13533*	LW-13533*	
Piston	LW-10207-S	LW-10207-S	LW-10207-S	LW-10207-S	(8.7:1 Comp R)
Top Ring	74241 CH°	74241 CH°	74241 CH°	74241 CH°	
2 <sup>nd</sup> Ring	74241 CH°	74241 CH°	74241 CH°	74241 CH°	
Oil Reg.	14H21950 CH°	14H21950 CH°	14H21950 CH°	14H21950 CH°	
Exhaust Valve	LW-16740	17B23935	LW-16740	17B23935	
Intake Valve	LW-13622	17A23937	LW-13622	17A23937	
Cylinder, Piston & Ring Kit Assy	<b>05K21110‡</b>	<b>05K21110‡</b>	<b>05K21226</b>	<b>05K21226</b>	

\* Cylinder Assembly Requires Long Reach Spark Plugs.

° Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.

‡ Reference Chart Pages 7, 8.

NOTE: Kits Employ Small Rotator Type Intake Valve.

## 720 WIDE DECK

### IO-720-A1B, -D1B, -D1C, -D1CD

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston &  
Ring Kit Assy

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
  - Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.
  - ‡ Reference Chart Pages 7, 8.
- NOTE: Kit Employs Small Rotator Type Intake Valve.

<b>NITRIDED CYL.</b>		
<b><u>HALF WEDGE RINGS</u></b>		
(HIGH COMPRESSION) (ANGLE HEAD VALVES)		
LW-12988*	LW-12988*	
LW-10207-S	LW-10207-S	(8.7:1 Comp R)
74241 CH°	74241 CH°	
74241 CH°	74241 CH°	
14H21950 CH°	14H21950 CH°	
LW-16740	17B23935	
LW-13622	17A23937	
<b>05K21118‡</b>	<b>05K21118‡</b>	

### IO-720-B1B, -B1BD

Cylinder  
Piston  
Top Ring  
2<sup>nd</sup> Ring  
Oil Reg.  
Exhaust Valve  
Intake Valve  
Cylinder, Piston &  
Ring Kit Assy

- \* Cylinder Assembly Requires Long Reach Spark Plugs.
  - Piston Ring Kit for Nitrided Cyl's. is 05K22035 (1 Cyl.). See Page 60.
  - ‡ Reference Chart Pages 7, 8.
- NOTE: Kit Employs Small Rotator Type Intake Valve.

<b>NITRIDED CYL.</b>		
<b><u>HALF WEDGE RINGS</u></b>		
(HIGH COMPRESSION) (UP EXHAUST) (ANGLE HEAD VALVES)		
LW-19048*	LW-19048*	
LW-10207-S	LW-10207-S	(8.7:1 Comp R)
74241 CH°	74241 CH°	
74241 CH°	74241 CH°	
14H21950 CH°	14H21950 CH°	
LW-16740	17B23935	
LW-13622	17A23937	
<b>05K21263‡</b>	<b>05K21263‡</b>	

## TOP OVERHAUL GASKET KITS

### ALL CYLINDERS

### SINGLE CYLINDERS

LW-12040	05K22948	Four Cylinder Parallel Valve Head Engines – O-235 Series
LW-12038	05K22946	Four Cylinder Parallel Valve Head Engines – O-290; O, IO, LIO-320; AIO, AEIO-320; O-340; O-360-A, -B, -C, -D, -F, -J; IO-360-B, -E, -F, -L; LO-360-A; AEIO-360-B, -H; HO-360-A, -B; HIO-360-B; VO, IVO-360
05K22949	05K22950	Four Cylinder Parallel Valve Head Engine – IO-360-M1A
LW-12039	05K22947	Four Cylinder Angle Valve Head Engines – IO-360-A, -C, -D, -J, -K; AIO-360-A, -B; AEIO-360-A; HIO-360-A, -C, -D, -E, -F; LIO-360-C; LHIO-360-C, -F; TO, LTO-360-A; TIO-360-A
LW-15838	05K22967	Four Cylinder Angle Valve Head Engines – TO, TIO-360-C1A6D, -F1A6D
LW-16916	05K22968	Four Cylinder “76” Series Engines – O-320-H; O, LO, TO, LTO-360-E
05K26565	05K26564	Kit – Gasket – Top overhaul IO-390 Series
LW-12032	05K22940	Six Cylinder Parallel Valve Head Engines – O-540-A, -B, -E, -F, -G, -H, -J, -L, -V; AEIO-540-D; IO-540-C, -D, -J, -N, -R, -T, -W, -V, -AB; TIO-540-C, -E, -G, -H, -K, -AA, -AB, -AF, -AG; LTIO-540-K
LW-12036	05K22944	Six Cylinder Parallel Valve Head Engine – O-435-A
LW-12033	05K22941	Six Cylinder Angle Valve Head Top Exhaust Engines – IO-540-B, -E, -M, -U; TIO-540-A, -S, -T; TIO, LTIO-540-F, -J, -N, -R; TIO-541-A; IGO, IGSO-540-B
LW-12034	05K22942	Six Cylinder Angle Valve Head Down Exhaust Engines – GO, VO, TVO-435; GO, GSO, IGSO-480; IO-540-A, -G, -K, -L, -P, -S, -AA; AEIO-540-L; TIO-540-W, -AE, -AH; TIO, LTIO-540-U, -V, -W; VO, IVO, TVO, TIVO-540; IGO, IGSO-540-A
LW-12035	05K22943	Six Cylinder Angle Valve Head Engines – IO-540-AC1A5; TIO-540-AJ1A; TIO, TIGO-541-D, -E
LW-12036	05K22944	Six Cylinder Parallel valve Head engine – O-435-A
LW-12037	05K22942	Eight Cylinder Angle Valve Head Down Exhaust Engines – IO-720-A, -D
LW-18758	05K22941	Eight Cylinder Angle Valve Head Top Exhaust Engines – IO-720-B, -C

## PISTON RING KITS FOR SINGLE CYLINDER

### 05K22034 Kit – Piston Ring (Does 1 Cylinder)

For Nitrided Cylinders Using the Following Pistons: LW-18725, LW-18729.

Contains:	<u>Part No.</u>	<u>Part Name</u>	<u>Qty.</u>
	78862	Ring – Piston Compression	2
	78864	Ring – Piston Oil Regulating	1

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### 05K22035 Kit – Piston Ring (Does 1 Cylinder)

For Nitrided Cylinders Using the Following Pistons: 75089, 75413, LW-10207, LW-10208, LW-10545, LW-11487, LW-12733, LW-13358, LW-13396, LW-14610, LW-15357, 75089, 75413, LW-10207-S, LW-10545-S, LW-12733-S, LW-14610-S, LW-15357.

Contains:	<u>Part No.</u>	<u>Part Name</u>	<u>Qty.</u>
	74241	Ring – Piston Compression	2
	14H21950	Ring – Piston Oil Regulating	1

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### 05K22036 Kit – Piston Ring (Does 1 Cylinder)

For Plain Steel Cylinders Using the Following Pistons: 75089, 75413, LW-12733-S, 75413.

Contains:	<u>Part No.</u>	<u>Part Name</u>	<u>Qty.</u>
	74989	Ring – Piston Compression	2
	14H21950	Ring – Piston Oil Regulating	1

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### 05K22037 Kit – Piston Ring (Does 1 Cylinder)

For Nitrided Cylinders on the TIO-540-AE2A, -AF1B, -AH1A Engines Only.

Contains:	<u>Part No.</u>	<u>Part Name</u>	<u>Qty.</u>
	74241	Ring – Piston Compression	2
	14H21990	Ring – Piston Oil Regulating	1

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### 05K26564 Kit – Piston Ring (Does 1 Cylinder)

For Nitrided Cylinders on the IO-390-A1A6, -A3A6; IO-580-B1A, AEIO-580-B1A,

Contains:	<u>Part No.</u>	<u>Part Name</u>	<u>Qty.</u>
	14G22050	Ring – Piston Compression	2
	14H23148	Ring – Piston Oil Regulating (Expander Type)	1