O-540-F1B5 Illustrated Parts Catalog

June 2025

PC-O-540-F1B5 (Supersedes parts catalog PC-515-2)



O-540-F1B5 Illustrated Parts Catalog

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Record of Revisions

NOTICE: Service Documents with a later release date than this parts catalog override parts information in this document.

Rev No.	Revision Changes	Issue Date
New	Initial Release of PC-O-540-F1B5 — Supersedes parts catalog PC-515-2, dated October 2009	June 2025



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Introduction

<u>CAUTION</u>: DO NOT USE THIS CATALOG AS AN ASSEMBLY OR INSTALLATION

DOCUMENT. THIS CATALOG MUST ONLY BE USED TO IDENTIFY PARTS IN

CONJUNCTION WITH THE APPLICABLE OVERHAUL MANUAL.

Purpose of this Catalog

This Illustrated Parts Catalog (IPC) contains a complete list of spare parts for the Lycoming O-540-F1B5 engine model.

How to Use this Catalog

This catalog is based on the Air Transport Association (ATA) Spec 100 format. To clarify illustrations, Lycoming has taken discretion to classify non-system related assemblies and components in the same chapters, because they are physically connected.

This catalog is frequently updated by Service Bulletins (SB) and Service Instructions (SI). The updated information will be incorporated into subsequent full revisions of this catalog.

The ATA two-element numbering system provides consistency throughout various manuals. The bottom of each page (beyond the frontal section) contains a two-element number (##-##). In the two-element numbering, the first two digits represent a chapter, and the next two digits subdivide the material into a more specific section.

The ATA format specifies the subject matter for each chapter-section. According to the ATA Standards, the following chapters apply to the O-540-F1B5 Illustrated Parts Catalog:

24 (Electrical Power), 72 (Reciprocating Engine), 73 (Engine and Fuel Control), 74 (Ignition), and 80 (Starting).

<u>EXAMPLE</u>: 74 — 20

Chapter Section Ignition Distribution

NOTICE: Refer to the IPC Table of Contents for the subsystems identified in each section.

Numerical Index

The Numerical Index is a single list of part numbers, names and their locations within the IPC. It is useful for locating parts when you only know the number or name of the part.

Description column

Indentation of a part name represents a lower level of assembly. Attaching parts have the same indentation level and are below their associated parts grouping or assembly. This column is often referred to as the "Nomenclature" on other ATA Spec manuals.

Units per Assembly Column

Where more than one assembly exists, this column contains the quantity of a specific part required in the build sequence of only one next higher assembly. The letters "AR" are for "as required" applicable to bulk items or non-illustrated select-from-range-parts. The letters "RF" identify items for reference.



Vendor Accessories

Parts coverage of Vendor Accessories used on Lycoming engines are in the applicable Vendor's Parts Catalog. A list of vendors' addresses is included in the latest revision of Lycoming Service Letter No. L114.

Any reference in this document to the supplier's/part manufacturer's product by name, trademark, part number, or other description is solely for the purpose of identification and does not indicate or infer that Lycoming accepts responsibility for quality control and/or airworthiness of parts, which do not pass through the Lycoming quality control system.

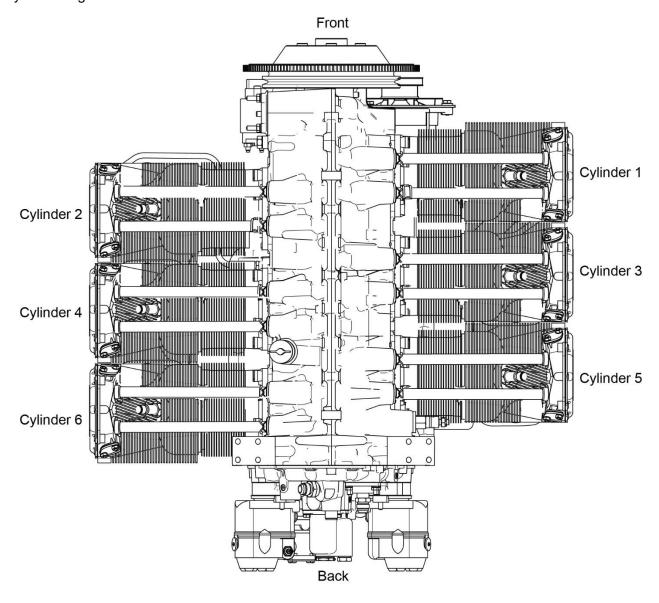
Environmental Compliance

Lycoming is concerned with preserving the environment. Lycoming strongly urges engine owners and repair/overhaul personnel to observe and comply with all federal, state, and local environmental regulations when solvents, paint, fuel, oil, chemicals, or other consumables are used in operating, maintaining, or overhauling an engine component. Please share our concern for and commitment to a clean earth, clean water, and especially clean air for succeeding generations of flyers.



Perspective of References

In this manual, all references to locations of various components will be designated as if viewing the engine from the rear (or anti-propeller) end. The front of the engine is considered to be the propeller end and the oil sump is considered to be on the bottom of the engine. Cylinders are numbered from front to rear with the odd-numbered cylinders on the right-hand side. The firing order for this six-cylinder engine is 1-4-5-2-3-6.



Top View of Engine



How to Order Parts

To order parts from this parts catalog, contact an Authorized Lycoming Distributor with the part number(s), nomenclature, and quantity along with the model and serial number of your engine. Authorized Lycoming Distributors will have up-to-date part number supersedure, pricing, and availability information on parts listed in this parts catalog.

An Oversize and Undersize Parts List is included in the front section of this catalog to aid in ordering parts as necessary during maintenance or overhaul.

To supply any comments, suggestions, or corrections to this parts catalog, go online to the Lycoming.com website on the internet.

NOTE:

Lycoming recommends that owners of this manual sign up for email notification on the Technical Publications page of our website https://www.lycoming.com/contact/knowledge-base/publications. By submitting your email address, you will receive notification whenever Lycoming publishes a new or revised technical publication, including any revisions to this parts catalog.

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Abbreviations and Acronyms

	Α
AR	As Required
Assy.	Assembly
ATA	Air Transport Association
	С
Cyl.	Cylinder
	D
dr.	Drilled
	Н
Hex.	Hexagon
TICA.	l I I I I I I I I I I I I I I I I I I I
I.D.	Inside Diameter
in.	Inch
	M
mm	Millimeter
	N N
No.	Number
NPT	National Pipe Taper (thread)
	0
O.D.	Outside Diameter
	P
P/N	Part Number
psi	Pounds per square inch
	Q
Qty.	Quantity
	R
RF	Reference
	S
SB	Service Bulletin
SI	Service Instruction
SSP	Special Service Publication
LINIT	U Linitia d National Fina
UNF	Unified National Fine



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Oversize And Undersize Parts Listing

		OVERSIZE (IN.)						UNDERSIZE (IN.)				
PART NO.	DESCRIPTION	P02 .002	P05 .005	P10 .010	P15 .015	P20 .020	P30 .030	P40 .040	P50 .050	M03	M06 .006	M10 .010
76943	GUIDE	.002	See latest revision of Service Instruction No.						.010			
66610	BUSHING		Х	х								
66796	INSERT			Х								
69796	DOWEL		Х									
71903-A	BUSHING			See late	est revi	sion of	Service	Instru	ction No	o. 1143.		
72057	SEAT		Х	Х		Х	Х					
72058	SEAT			Х		Х	Х					
72155-S	BUSHING		Х	Х	Х	Х						
73810	BUSHING			See late	est revi	sion of	Service	Instru	ction No	o. 1142.		
16R22126	GUIDE			See lat	est revi	sion of	Service	e Instru	ction N	o. 1256		
75656-S	BUSHING		Х	Х	Х	Х						
75657-S	BUSHING		Х	Х		Х						
LW-13792	SEAL		See latest revision of Service Instruction No.					o. 1324.				
18D23135	BEARING				Х					Х	Х	Х
STD-1065	DOWEL	Х	Х	Х	Х							
18A26093	BEARING				Х					Х	Х	Х

In addition to the above, studs are available in P03, P07 & P12.

NOTICE:

When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing P/N 18D26098 bearing in .003 in. undersize, order P/N 18D26098-M03. Undersize code letter is "M" while oversize code letter is "P". These letters are then followed by the number designating the size in thousandths of an inch.



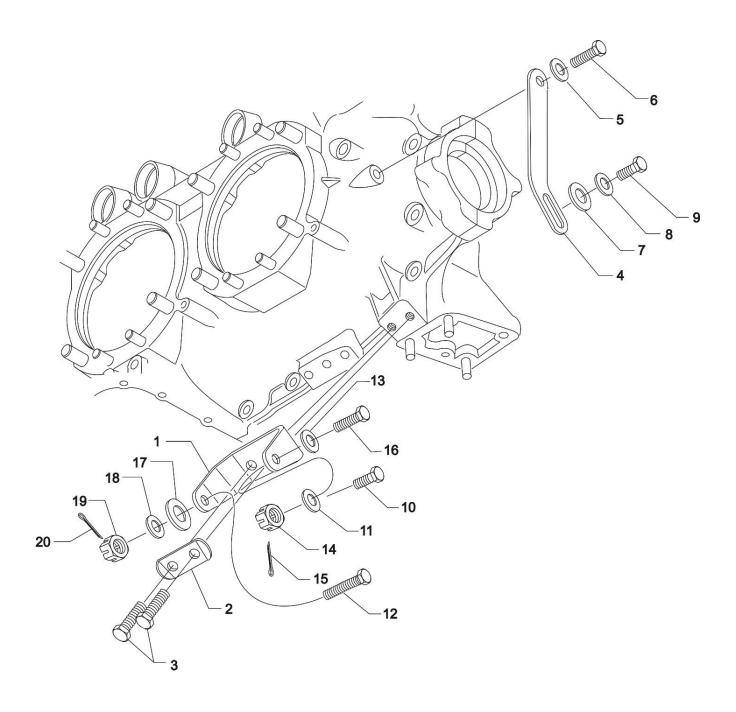


Figure 1
Alternator Attaching Parts



DC GENERATION FIGURE 1 - ALTERNATOR ATTACHING PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		07A19474	BRACKET, Alternator	1
2		73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	1
3		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2
4		75380	LINK, Alternator adjusting	1
5		STD-35	WASHER, 5/16 plain	1
6		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
7		STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick	1
8		STD-33	WASHER, 3/8 plain	3
9		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
10		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
11		STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	1
12		AN6-17	BOLT, 3/8-24 x 1-61/64 long, hex. head	1
13		STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	AR
14		STD-872	NUT, 3/8-24 slotted	1
15		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	1
16		AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. head, drilled end	1
17		76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick	AR
18		STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	AR
19		STD-872	NUT, 3/8-24 slotted	1
20		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	1



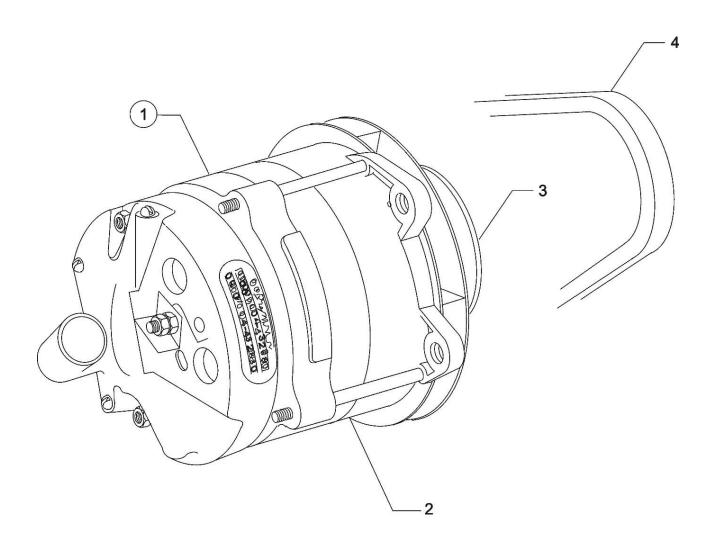


Figure 2
Alternator Assembly and Belt



DC GENERATION

FIGURE 2 - ALTERNATOR ASSEMBLY AND BELT

Figure Item	Code	Part Number	Description	Units per Assembly
1		32B19549	ALTERNATOR ASSEMBLY, 12 volt, 70 amp.	1
2	V	LW-14318	ALTERNATOR (ALX-8421-LS)	1
3		36B19484	PULLEY, Alternator	1
4		37A19773-376	BELT, Alternator drive, 3/8 wide	1

V Vendor Prime Manufacturer part

NOTE: See latest revision of Lycoming Service Instruction No. 1154 for complete listing of FAA approved starters, generators, alternators, regulators and relays.



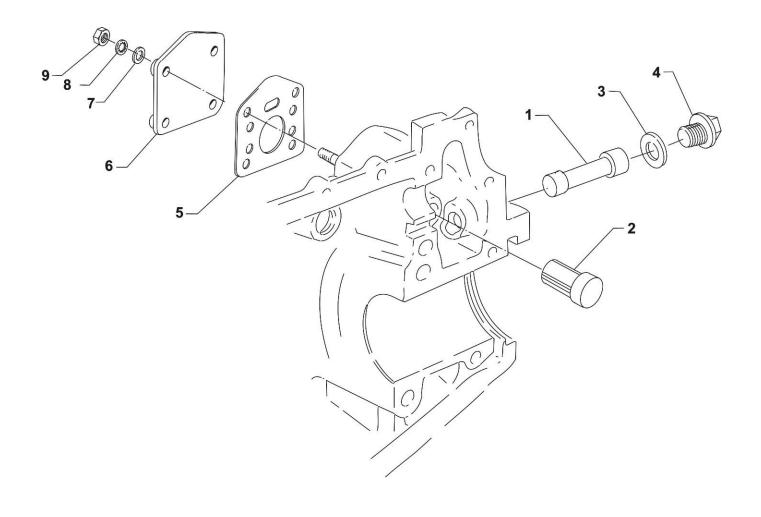


Figure 3
Propeller Governor Plugs and Cover



FRONT SECTION

FIGURE 3 – PROPELLER GOVERNOR PLUGS AND COVER

Figure Item	Code	Part Number	Description	Units per Assembly
1		78589	PLUG, Propeller governor idler shaft	1
2		03C21721	PLUG, Propeller governor drive gear	1
3		70455	GASKET, 25/32 I.D. x 1-1/8 O.D. x 1/32 thick	1
4		LW-13896	PLUG, 3/4-16 hex. head	1
5		72053	GASKET, Governor	1
6		72378	COVER, Governor drive	1
7		STD-35	WASHER, 5/16 plain	4
8		STD-475	WASHER, 5/16 lock, internal teeth	4
9		STD-1410	NUT, 5/16-18 plain	4



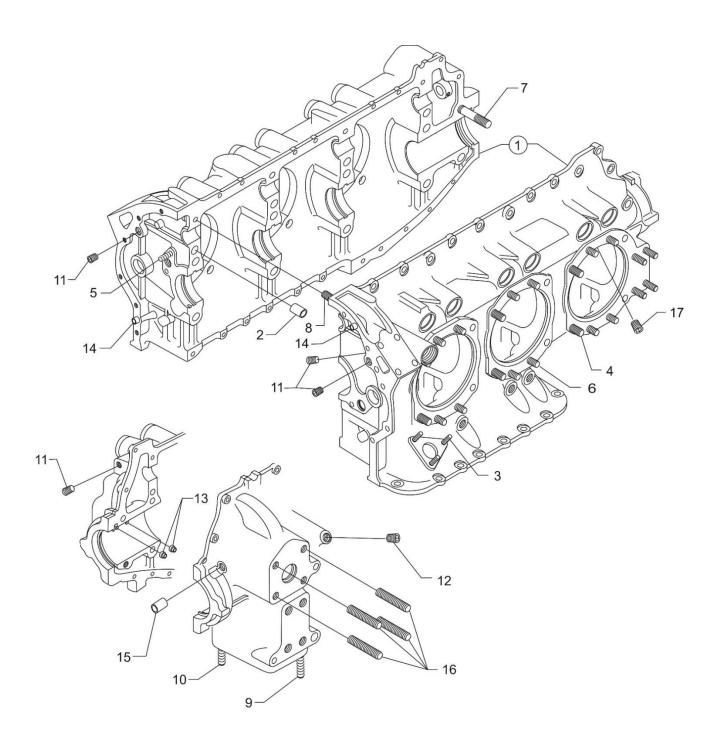


Figure 4
Crankcase Assembly



FIGURE 4 - CRANKCASE ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1	*	11E24004-S1	CRANKCASE ASSEMBLY (Flat tappet engines)	1
	*	11E24104-S1	CRANKCASE ASSEMBLY (Roller tappet engines)	1
2		STD-557	DOWEL, 1/2 diameter x 11/16 long, hollow	2
3		10-8	STUD, No. 10-32 x 1.00 long	3
4		50-15	STUD, 1/2-13 x 1-7/8 long	12
5		01A23354	STUD, 5/16-18 x 1.00 long, drilled	1
6		38-13	STUD, 3/8-16 x 1-5/8 long	24
7		38-22	STUD, 3/8-16 x 2-3/4 long	1
8		38D-17	STUD, 3/8-16 x 2-1/8 long, drilled	1
9		31C-12	STUD, 5/16-18 x 1-1/2 long	2
10		31C-13	STUD, 5/16-18 x 1-5/8 long	1
11		1102	PLUG, 1/8-17 NPT, Allen head	4
12		STD-1339	PLUG, 1/16-27 NPT, Allen head	1
13		69796	DOWEL, Crankshaft bearing	2
14		STD-514	DOWEL, 5/16 diameter x 1/2 long	2
15		72158	BUSHING, Governor drive idler shaft	1
16		31C-14	STUD, 5/16-18 x 1-3/4 long	4
17	**	STD-1339	PLUG, 1/16-27 NPT, Allen head	6

^{* -} This part is not available as a service item. Refer to Service Kits, Section 7 for applicable Crankcase Assembly and Governor Stud Kit Part Number.

^{** -} Assemble in crankcase piston squirt holes.



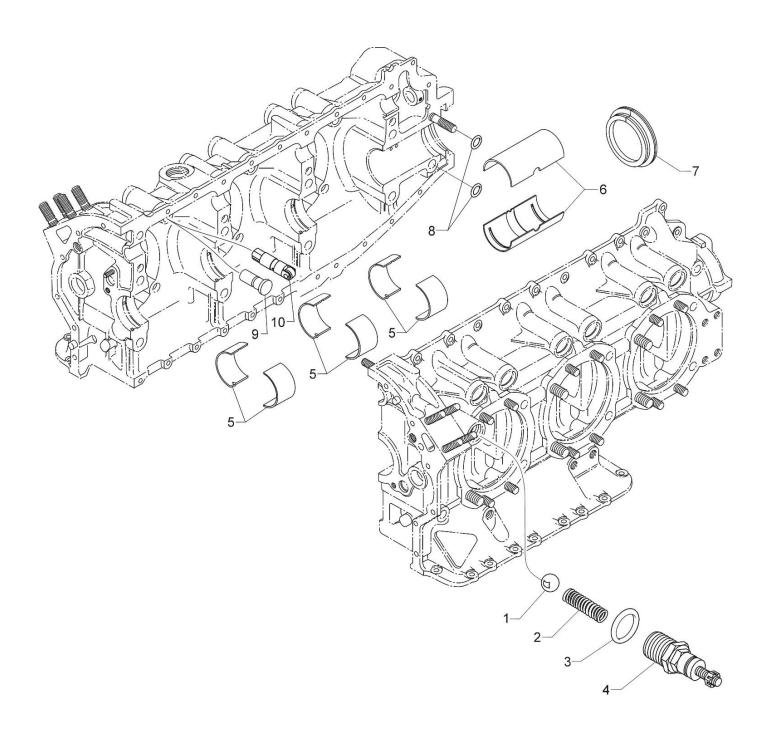


Figure 5
Crankcase Related Parts



FIGURE 5 - CRANKCASE RELATED PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		1028-B	BALL, 11/16 diameter	1
2	*	68668	SPRING, Oil pressure relief valve	1
	*	61084	SPRING, Oil pressure relief valve	1
	*	77467	SPRING, Oil pressure relief valve	1
	*	LW-11713	SPRING, Oil pressure relief valve	1
	*	LW-18085	SPRING, Oil pressure relief valve	1
3		06E19769-1.25	GASKET, 1-1/4 I.D. x 1-1/2 O.D. x 3/32 annular	1
4		77808	VALVE ASSEMBLY, Oil pressure relief, adjustable	1
5		18D23135	BEARING, Crankshaft	6
6		18A26093	BEARING, Crankshaft, front	2
7	**	LW-13792	SEAL, Crankshaft oil, solid	1
8		72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter	2
9		15B26588	BODY, Hydraulic tappet	12
10		LRT23381	BODY ASSEMBLY, Hydraulic tappet roller (Roller tappet engines)	12

^{*} Select spring to give a minimum of three threads exposed on adjusting screw to allow field adjustment. Reference latest revision of SSP-1776, Part I for spring identification.

^{**} Refer to the latest revision of Service Instruction No. 1324 for installation.



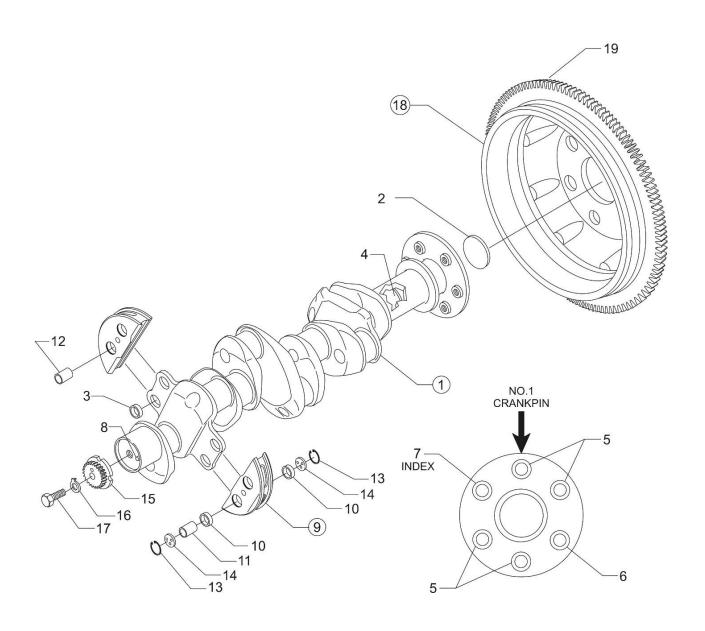


Figure 6
Crankshaft Assembly and Related Parts



FIGURE 6 - CRANKSHAFT ASSEMBLY AND RELATED PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		13E27622	CRANKSHAFT ASSEMBLY	1
		13E47622	CRANKSHAFT ASSEMBLY	1
2		STD-1211	PLUG, 2.00 diameter expansion	1
3		73810	BUSHING, Crankshaft dynamic counterweight	4
4		71640	PLUG, 1-3/8 diameter	1
5		75656-S	BUSHING, Propeller flange, long	4
6		72155-S	BUSHING, Propeller flange, short	1
7		75657-S	BUSHING, Propeller flange, indexing	1
8		STD-1065	DOWEL, Stepped, 5/16 x 1/4 diameter x 35/64 long	1
9	*	14U22539	COUNTERWEIGHT ASSEMBLY	2
10		71903-A	BUSHING, Dynamic counterweight	8
11	*	14W22647	ROLLER, Dynamic counterweight, 4.81 order	2
12	*	70416	ROLLER, Dynamic counterweight, 6.3 order	2
13		LW-14820	RING, Internal retaining	8
14		71907	WASHER, Dynamic counterweight	8
15	SB**	13S19647	GEAR, Crankshaft	1
16		LW-18638	LOCKPLATE, Crankshaft gear	1
17		STD-2247	BOLT, 5/16-24 x 1-3/4 long, hex. head	1
18		31M21951	SUPPORT ASSEMBLY, Starter ring gear, 12/14 pitch	1
		31M22972	SUPPORT ASSEMBLY, Starter ring gear	1
19		72566	GEAR, Starter ring	1

SB Referencing Service Bulletin

- * Refer to the latest revision of Service Instruction No. 1012 for proper counterweight and roller location.
- ** Refer to the latest revision of Service Bulletin No. 475 for proper installation.

NOTE: Refer to Service Kit Section for Crankshaft and Counterweight Assembly kit.



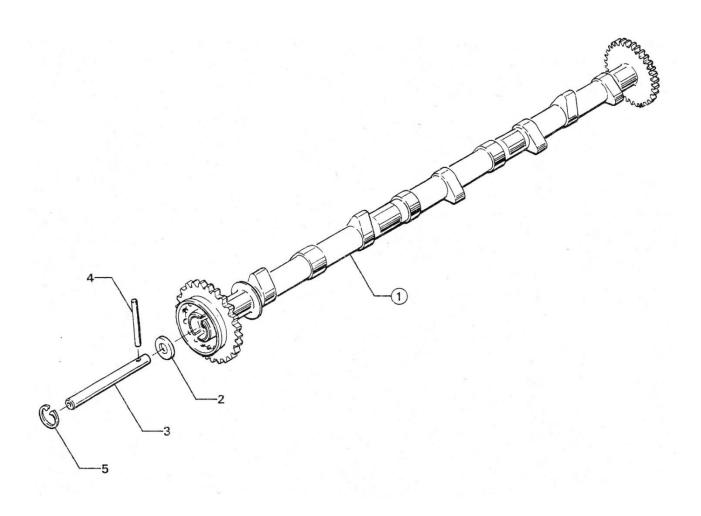


Figure 7
Camshaft and Related Parts



FIGURE 7 - CAMSHAFT AND RELATED PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-19340	CAMSHAFT ASSEMBLY (Flat tappet engines)	1
		15N23374	CAMSHAFT ASSEMBLY, Roller lifter (Roller tappet engines)	1
2		76118	SPACER, Tachometer shaft centering	1
3		76155	SHAFT ASSEMBLY, Tachometer	1
4		LW-18667	PIN, 3/16 diameter x 2-21/64 long	1
5		STD-2231	RING, Internal retaining	1



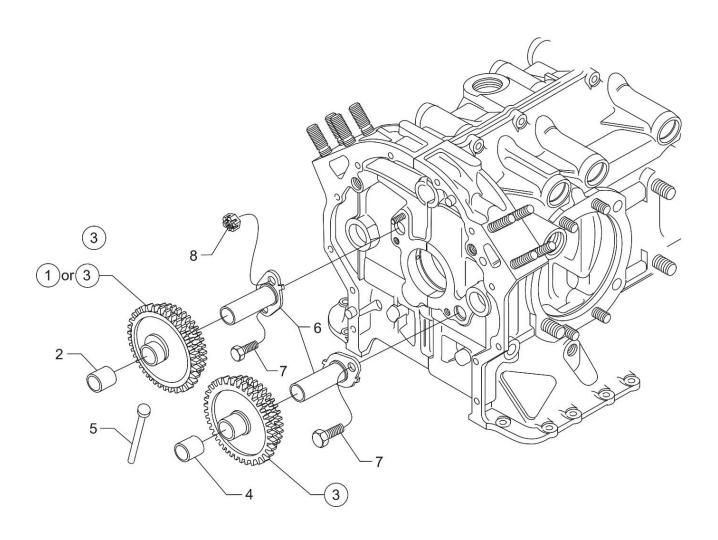


Figure 8
Crankshaft Idler Gears



FIGURE 8 – CRANKSHAFT IDLER GEARS

Figure Item	Code	Part Number	Description	Units per Assembly
1		71652	GEAR ASSEMBLY, Crankshaft idler	1
2		67530	BUSHING, Crankshaft idler gear	1
3		71668	GEAR ASSEMBLY, Crankshaft idler, plain	3
4		67530	BUSHING, Crankshaft idler gear	1
5		23D26777	PLUNGER, Fuel pump, long	1
6		LW-13795	SHAFT, Crankshaft idler gear	2
7		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	3
8		STD-2168	NUT, 5/16-18 NC-3 slotted shear	1



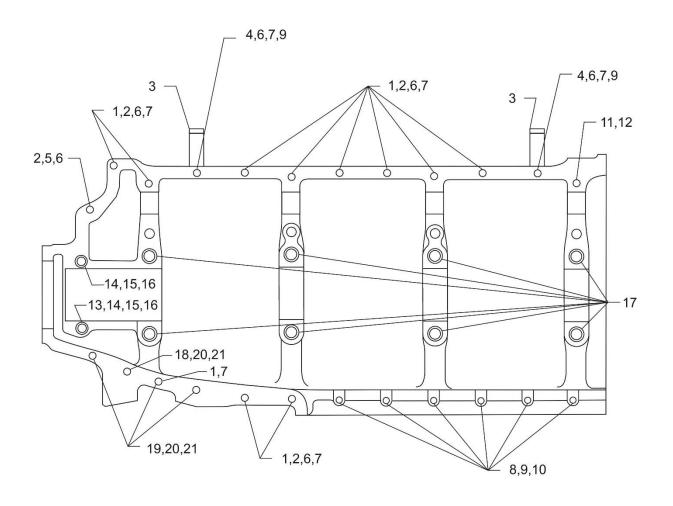


Figure 9
Crankcase Attaching Parts



FIGURE 9 - CRANKCASE ATTACHING PARTS

Figure Item	Code	Part Number	Description	Units per Assembly	
1		LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	11	
2		STD-8	WASHER, 1/4 plain	24	
3		60803	STRAP, Lifting	2	
4		LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	2	
5		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1	
6		STD-160	WASHER, 1/4 lock, internal teeth	13	
7		STD-1411	NUT, 1/4-20 plain	12	
8		LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head, drilled	6	
9	AR	STD-8	WASHER, 1/4 plain	AR	
10		STD-2249	NUT, 1/4-20 slotted shear	6	
11		STD-33	WASHER, 3/8 plain	1	
12		STD-872	NUT, 3/8-24 slotted	1	
13		AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. head	1	
14		STD-33	WASHER, 3/8 plain	3	
15		STD-678	WASHER, 3/8 lock, internal teeth	2	
16		STD-596	NUT, 3/8-24 plain	2	
17		76220	STUD, 1/2-20 x 10-45/64 long	8	
18		LW-31-2.75	BOLT, 5/16-18 x 2-3/4 long, hex. head	1	
19		LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	3	
20		STD-35	WASHER, 5/16 plain	4	
21		STD-475	WASHER, 5/16 lock, internal teeth	4	
AR as required					



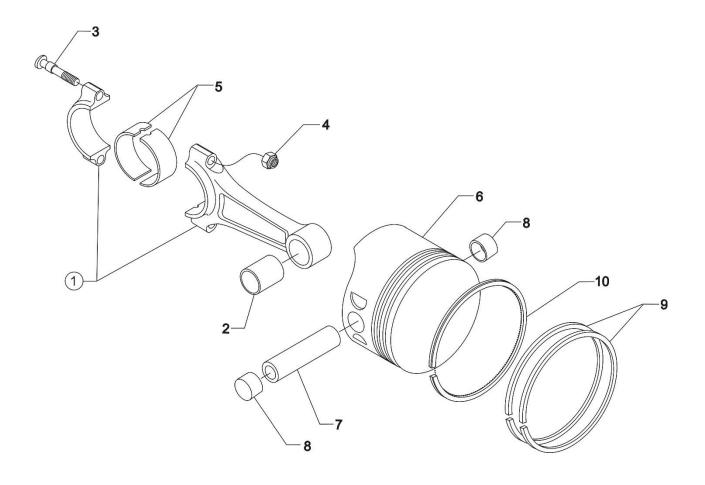


Figure 10 Connecting Rods, Pistons and Ring Assemblies



CYLINDER SECTION

FIGURE 10 - CONNECTING RODS, PISTONS AND RING ASSEMBLIES

Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-11750	CONNECTING ROD ASSEMBLY	6
2		01K28983	BUSHING, Connecting rod, upper	6
3	Р	14S23890	BOLT, Connecting rod	12
	*	75061	BOLT, Connecting rod	12
4		LW-12186	NUT, Connecting rod bolt	12
5		18M26105	BEARING, Connecting rod	12
6		14D23912	PISTON, Compression ratio 8.50:1	6
7	**	LW-14078	PIN, Piston	6
8		72198	PLUG, Piston pin	12
9		74241	RING, Piston, top compression	12
10		14H29884	RING, Piston, oil regulating (expander type)	6

P Lycoming proprietary part. Listed for reference purpose only, cannot be purchased.

^{*} Service use only.

^{**} Refer to the latest revision of Service Instruction No. 1267.



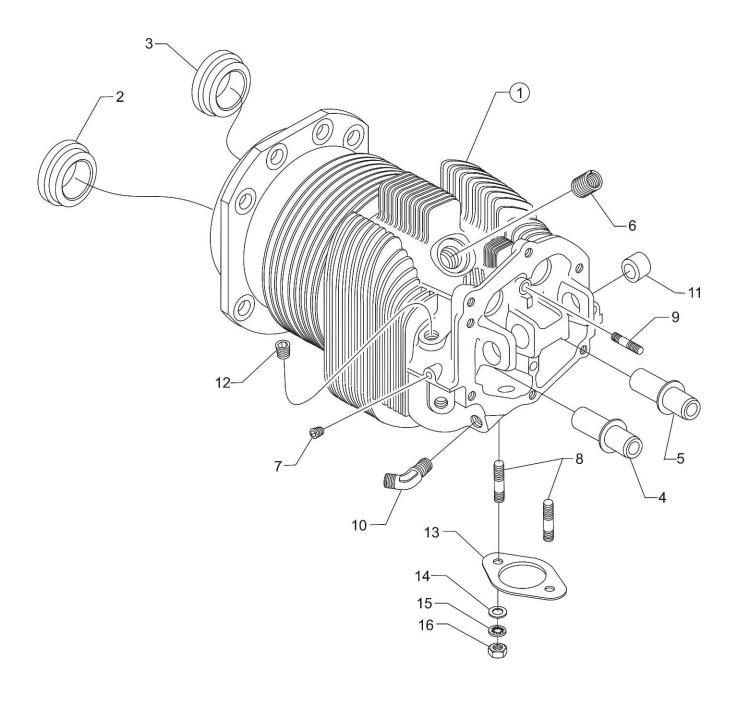


Figure 11
Cylinder Assembly



CYLINDER SECTION FIGURE 11 - CYLINDER ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1		16A30080-03	CYLINDER ASSEMBLY	6
2		72057	SEAT, Intake valve	6
3		72058	SEAT, Exhaust valve	6
4	*	76943	GUIDE, Intake valve, flanged	6
5	*	16R22126	GUIDE, Exhaust valve, flanged	6
6		66796	INSERT, Spark plug, 18-1.5 MM	12
7		STD-1353	INSERT, No. 10-24 Heli-coil, taper pipe thread	6
8		31C-12	STUD, 5/16-18 x 1-1/2 long	12
9		25C-8	STUD, 1/4-20 x 1.00 long	6
10		MS20823-6D	ELBOW, 3/8 flared tube, 45°	6
11		66610	BUSHING, Rocker shaft	24
12	**	1102	PLUG, 1/8-27 NPT, Allen head	6
13		77611	GASKET, Exhaust flange	6
14		STD-35	WASHER, 5/16 plain	12
15		STD-475	WASHER, 5/16 lock, internal teeth	12
16		STD-1410	NUT, 5/16-18 plain	12

^{*} Refer to the latest revision of Service Instruction No. 1256 for service valve guides.

^{**} Assemble in cylinder head.



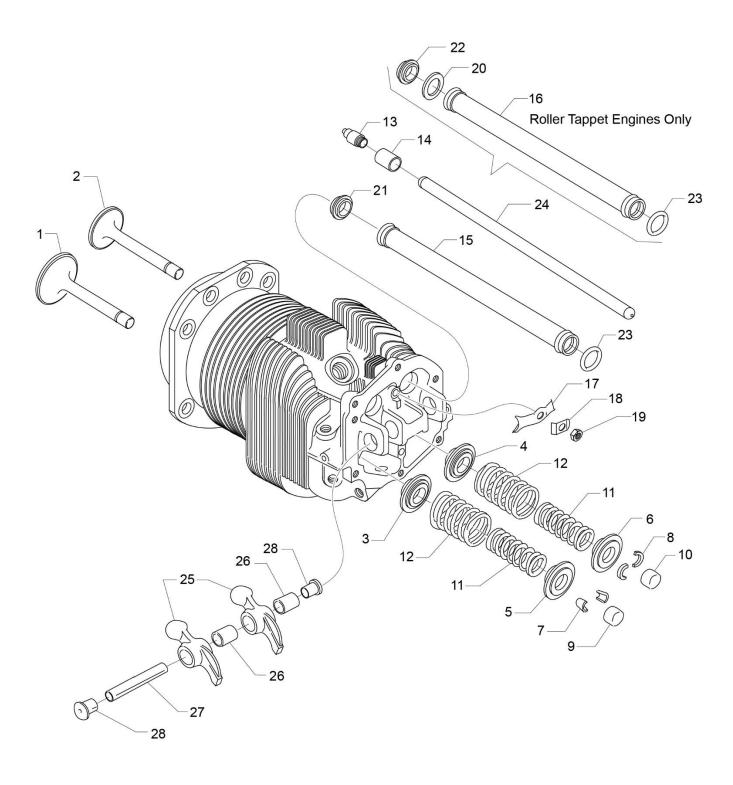


Figure 12 Valve Assembly and Cylinder Related Parts



CYLINDER SECTION

FIGURE 12 - VALVE ASSEMBLY AND CYLINDER RELATED PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		17A29467	VALVE, Intake, Rotator type	6
2		17B23936	VALVE, Exhaust	6
3		65441	SEAT, Valve spring, lower intake	6
4		LW-13323	SEAT, Valve spring, lower exhaust	6
5		69532	SEAT, Valve spring, upper intake	6
6		LW-16475	SEAT, Valve spring, upper exhaust	6
7		72050	KEY, Valve, intake	12
8		17C21191	KEY, Valve, exhaust	12
9		62388	CAP, Valve stem	6
10		17C19386	CAP, Valve stem, exhaust	6
11		17D29055	SPRING, Valve, auxiliary	12
12		17D29060	SPRING, Valve, outer	12
13		15B26066	PLUNGER ASSEMBLY, Hydraulic tappet	12
14		15B21319	SOCKET, Push rod, hydraulic tappet	12
15		LW-11485	SHROUD TUBE ASSEMBLY	12
16	•	15G23461	SHROUD TUBE ASSEMBLY	12
17		LW-14995	SPRING, Shroud tube	6
18		LW-12272	LOCKPLATE, Shroud tube	6
19		STD-1411	NUT, 1/4-20 plain	6
20	*	01L23459	WASHER, 25/32 I.D. x 1-3/8 O.D. x 1/32 thick	12
21		LW-18661	SEAL, Shroud tube	12
22	•	06A23493	SEAL, Shroud tube	12
23		70310	SEAL, Shroud tube	12

(Continued on next page)



FIGURE 12 - VALVE ASSEMBLY AND RELATED PARTS (Cont.)

Figure Item	Code	Part Number	Description	Units per Assembly
24	*•	15F28835-28	ROD ASSEMBLY, Push (A total of 12 required)	AR
	*•	15F28835-29	ROD ASSEMBLY, Push (A total of 12 required)	AR
	*•	15F28835-30	ROD ASSEMBLY, Push (A total of 12 required)	AR
	*•	15F28835-31	ROD ASSEMBLY, Push (A total of 12 required)	AR
	*•	15F28835-32	ROD ASSEMBLY, Push (A total of 12 required)	AR
	*•	15F28835-33	ROD ASSEMBLY, Push (A total of 12 required)	AR
	*†	15F28835-34	ROD ASSEMBLY, Push (A total of 12 required)	AR
	*	15F28835-35	ROD ASSEMBLY, Push (A total of 12 required)	AR
	*	15F28835-36	ROD ASSEMBLY, Push (A total of 12 required)	AR
	*	15F28835-37	ROD ASSEMBLY, Push (A total of 12 required)	AR
25	**	17F19357	ROCKER ASSEMBLY, Valve	12
26		74637	BUSHING, Valve rocker	12
27		LW-13790	SHAFT, Valve rocker	6
28		LW-12892	THRUST BUTTON, Rocker shaft	12

^{* -} Refer to the latest revision of Service Instruction No. 1060 for complete push rod application.

^{** -} Due to the size of the area where the part number is stamped, the last five digits may be all that is shown (19357).

^{♦ -} These parts are used on roller tappet engines only.

^{† -} This push rod can be used on both roller tappet engines and flat tappet engines.
■ - This seal needs to be installed on both roller tappet engines and flat tappet engines.



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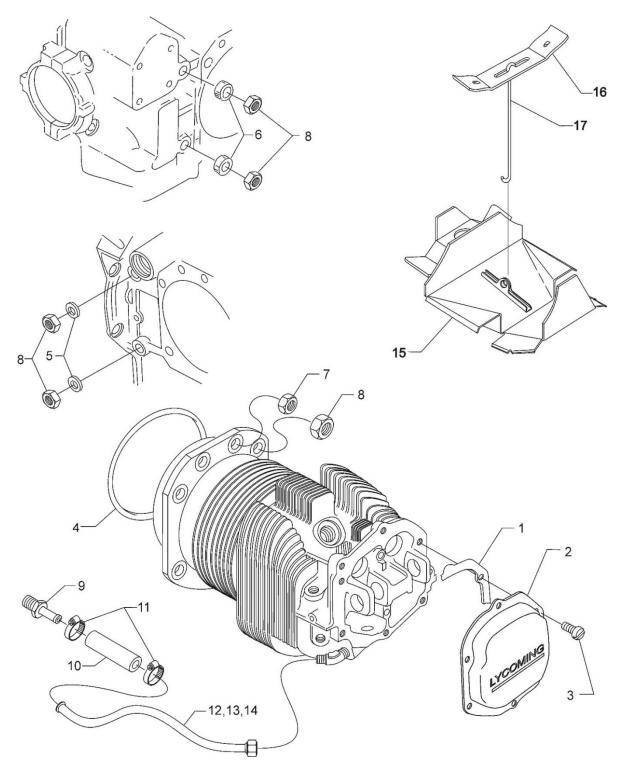


Figure 13
Cylinder Head Drain Tubes,
Inter-Cylinder Cooling Bafles and Related Parts



CYLINDER SECTON

FIGURE 13 - CYLINDER HEAD DRAIN TUBES, INTER-CYLINDER COOLING BAFFLES AND RELATED PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		06B26669	GASKET, Rocker box cover (Silicone)	6
2		61247	COVER, Rocker box	6
3		STD-1925	SCREW, 1/4-20 x 5/8 long, pan. head	36
4		71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	6
5		77906	SPACER, 33/64 I.D. x 7/8 O.D. x 1/8 thick	2
6		74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
7		383-B	NUT, 3/8-24 plain	24
8		STD-2090	NUT, 1/2-20 plain	28
9		STD-684	NIPPLE, Straight, 3/8 I.D. hose	6
10		STD-1821	HOSE, 3/8 I.D. x 2-1/2 long	6
11		LW-15592-5-05	CLAMP, Hose	12
12		68759	TUBE ASSEMBLY, Cylinder head oil drain, cylinder no. 1	1
13		68760	TUBE ASSEMBLY, Cylinder head oil drain, cylinder no. 2	1
14		68761	TUBE ASSEMBLY, Cylinder head oil drain, cylinders no. 3, 4, 5, 6	4
15		LW-15839	BAFFLE ASSEMBLY, Inter-cylinder	4
16		71611	RETAINER, Inter-cylinder baffle	4
17		71629	HOOK, Inter-cylinder baffle	4



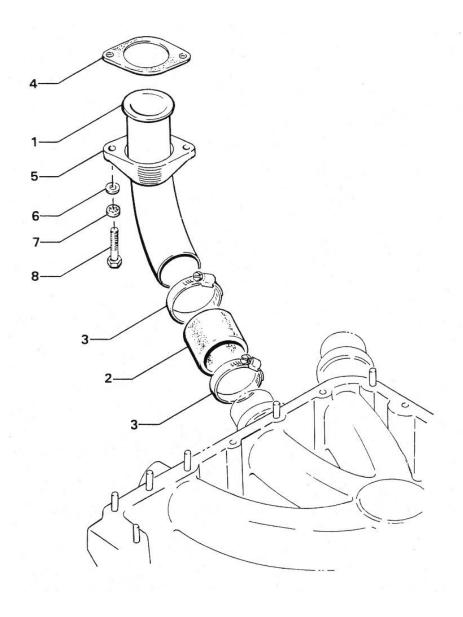


Figure 14
Intake Pipes and Attaching Parts



CYLINDER SECTION

FIGURE 14 – INTAKE PIPES AND ATTACHING PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		70485	PIPE, Intake	6
2		69603	HOSE, 1-3/4 I.D. x 2-3/16 O.D. x 1-3/4 long	6
3		LW-15592-8-28	CLAMP, Hose	12
4		71973	GASKET, 2 bolt flange, 1-7/8 I.D.	6
5		73346	FLANGE, Intake pipe, upper	6
6		STD-8	WASHER, 1/4 pl.ain	12
7		STD-160	WASHER, 1/4 lock, internal teeth	12
8		LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	12



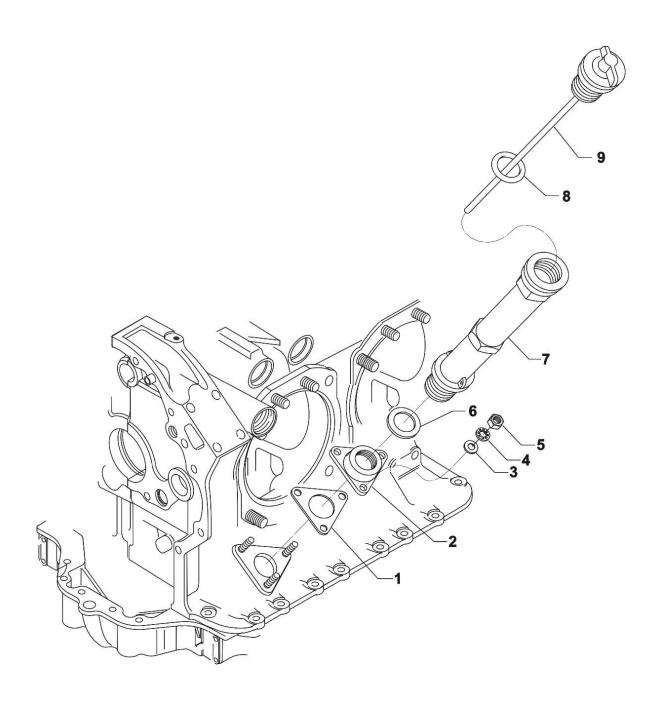


Figure 15
Oil Level Gage Assembly



LUBRICATION SYSTEM

FIGURE 15 – OIL LEVEL GAGE ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-18481	GASKET, Oil filler adapter	1
2		LW-18482	ADAPTER, Oil filler tube	1
3		STD-28	WASHER, No. 10 plain	3
4		STD-251	WASHER, No. 10 internal lock	3
5		STD-63	NUT, No. 10-32 plain	3
6		72059	GASKET, Oil level gage	1
7		LW-15970	TUBE, Oil level gage, short	1
8		74068	O-RING, Oil level gage	1
9		LW-16783-17	GAGE ASSEMBLY, Oil level	1



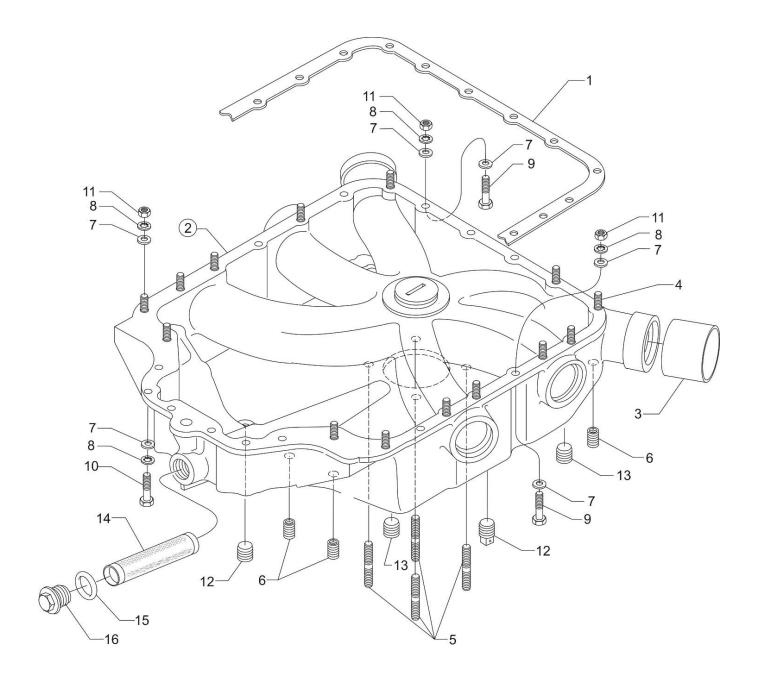


Figure 16
Oil Sump Assembly and Oil Suction Screen



LUBRICATION SYSTEM

FIGURE 16 - OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN

Figure Item	Code	Part Number	Description	Units per Assembly
1		06B21326	GASKET, Oil sump	1
2		56A21246	SUMP ASSEMBLY, Oil	1
3		71699	CONNECTION, Intake pipe	6
4		25C-11	STUD, 1/4-20 x 1-3/8 long	14
5		31C-15	STUD, 5/16-18 x 1-7/8 long	4
6		STD-1173	INSERT, 1/4-20 Heli-coil x 1/2 long	4
7		STD-8	WASHER, 1/4 plain	34
8		STD-160	WASHER, 1/4 lock, internal teeth	27
9		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	7
10		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	6
11		STD-1411	NUT, 1/4-20 plain	21
12		STD-551	PLUG, 1/2-14 NPT, square head, drilled	2
13		STD-2229	PLUG, 1/2-14 NPT, Allen head	2
14		70484	SCREEN, Oil suction	1
15		06E19769-1.00	GASKET, 1.00 I.D. x 1-1/4 O.D. x 3/32 thick	1
16		LW-12545	PLUG, 1.00-20 thread x 5/8 hex. head	1



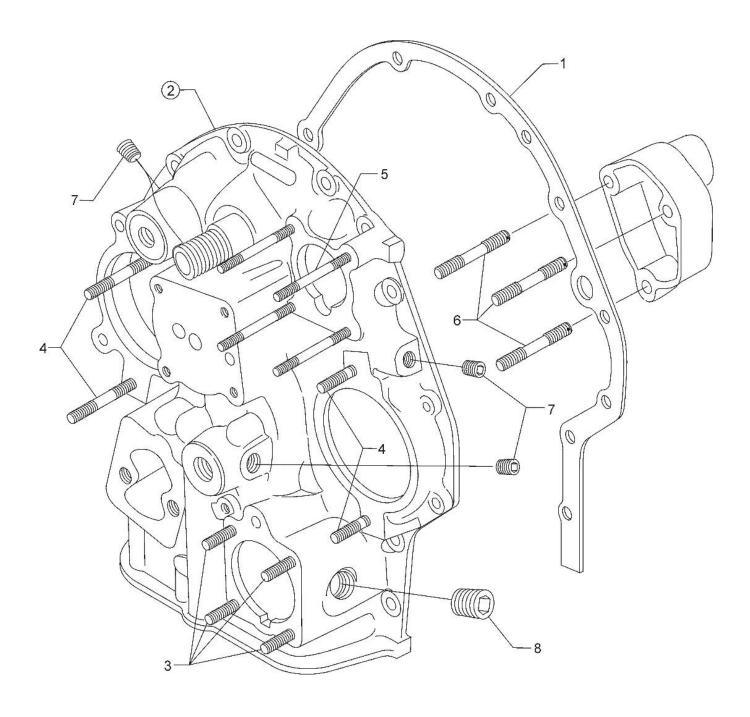


Figure 17
Accessory Housing Assembly



FIGURE 17 – ACCESSORY HOUSING ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1		73818	GASKET, Accessory housing	1
2		21C21539-03	HOUSING ASSEMBLY, Accessory	1
3		31C-12	STUD, 5/16-18 x 1-1/2 long	4
4		31C-21	STUD, 5/16-18 x 2-5/8 long	4
5		25C-12	STUD, 1/4-20 x 1-1/2 long	4
6		31CD-17	STUD, 5/16-18 x 2-1/8 long, drilled	3
7		1102	PLUG, 1/8-27 NPT, Allen head	4
8		STD-784	PLUG, 3/8-18 NPT, Allen head	1



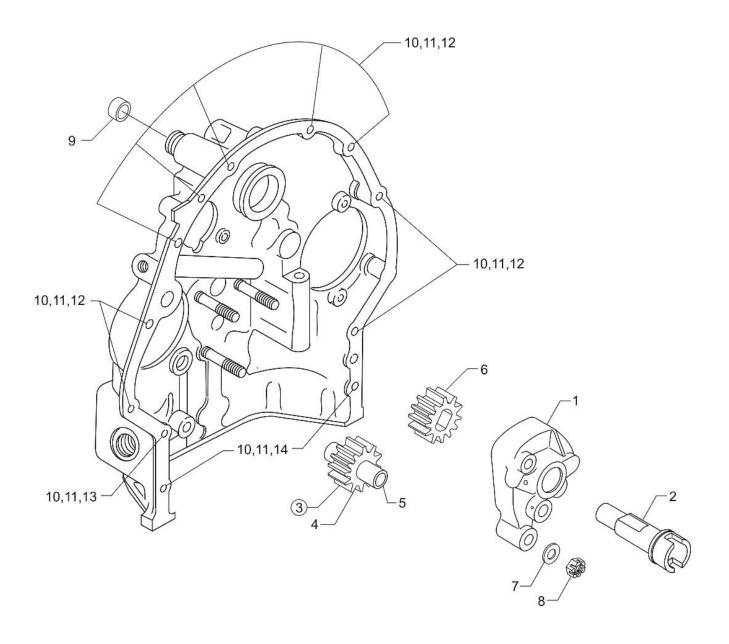


Figure 18
Oil Pump Assembly and Accessory Housing Attaching Parts



FIGURE 18 - OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		78531	BODY ASSEMBLY, Oil pump	1
2		74641	SHAFT, Oil pump drive	1
3	*	LW-18110	IMPELLER ASSEMBLY, Oil pump driven	1
4		LW-18108	IMPELLER, Oil pump, driven	1
5		78530	SHAFT, Oil pump drive	1
6	*	LW-18109	IMPELLER, Oil pump, driven	1
7		STD-35	WASHER, 5/16 plain	3
8		STD-1420	NUT, 5/16-18 slotted	3
9		LW-14260	SEAL, Tachometer shaft, oil	1
10		STD-8	WASHER, 1/4 plain	12
11		STD-160	WASHER, 1/4 lock, internal teeth	12
12		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	9
13		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
14		LW-25-1.44	BOLT, 1/4-20 x 1-7/16 long, hex. head	2
* (Sold in co	mplete sets only (Ki	t P/N 05K19423-S).	·



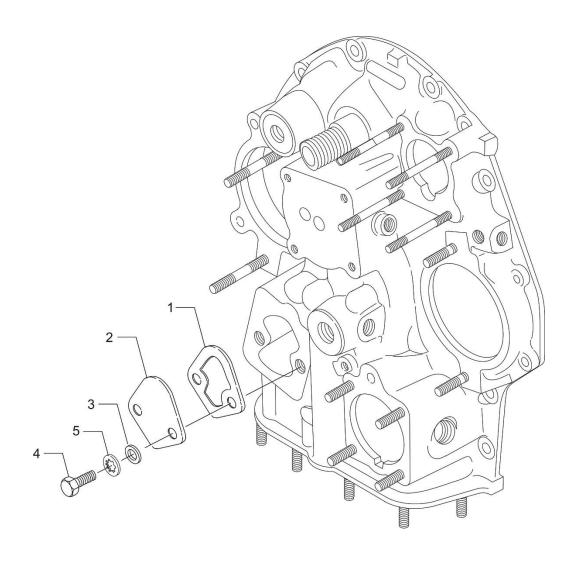


Figure 19 Fuel Pump Cover



FIGURE 19 - FUEL PUMP COVER

Figure Item	Code	Part Number	Description	Units per Assembly
1		60096	GASKET, Fuel pump	1
2		03D23350	COVER, Fuel pump	1
3		STD-33	WASHER, 3/8 plain	2
4		LW-38-0.75	BOLT, 3/8-16 x 3/4 long, hex. head	2
5		STD-678	WASHER, 3/8 lock, internal teeth	2



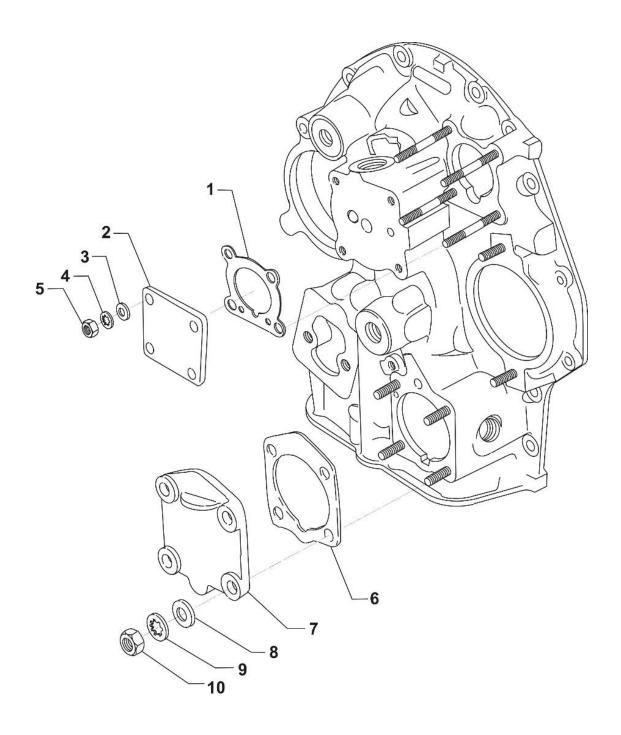


Figure 20 Vacuum and Hydraulic Pump Covers



FIGURE 20 - VACUUM AND HYDRAULIC PUMP COVERS

Figure Item	Code	Part Number	Description	Units per Assembly
1		61183	GASKET, Accessory adapter	1
2		60430	COVER, Vacuum pump	1
3		STD-8	WASHER, 1/4 plain	4
4		STD-160	WASHER, 1/4 lock, internal teeth	4
5		STD-1411	NUT, 1/4-20 plain	4
6		69551	GASKET, Accessory drive adapter	1
7		69106	COVER, Governor drive adapter pad	1
8		STD-35	WASHER, 5/16 plain	4
9		STD-475	WASHER, 5/16 lock, internal teeth	4
10		STD-1410	NUT, 5/16-18 plain	4



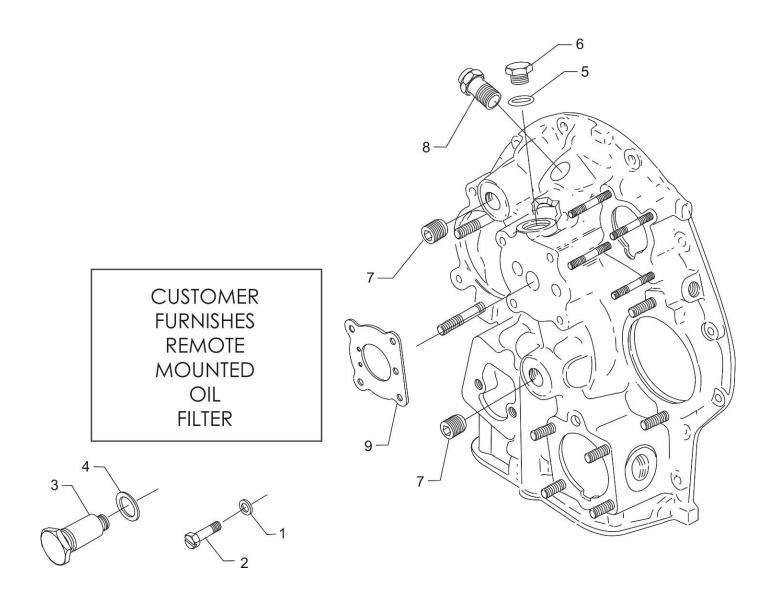


Figure 21
Oil Cooler Bypass Valve and Breather Fitting



FIGURE 21 – OIL COOLER BYPASS VALVE AND BREATHER FITTING

Figure Item	Code	Part Number	Description	Units per Assembly		
1		STD-8	WASHER, 1/4 plain	4		
2		STD-1856	SCREW, 1/4-20 x 1.00 long, hex. head	4		
3	*	53E22144	VALVE ASSEMBLY, Temperature control oil cooler bypass	1		
4	*	76510	GASKET, Valve assembly	1		
5		06E19769-0.63	GASKET, 5/8 I.D. annular	1		
6		62417	PLUG, Oil cooler bypass	1		
7		STD-784	PLUG, 3/8-18 NPT, Allen head	2		
8		72996	FITTING, Breather	1		
9		61173	GASKET, Oil pressure housing	1		
* - Ship lo	* - Ship loose with engine.					



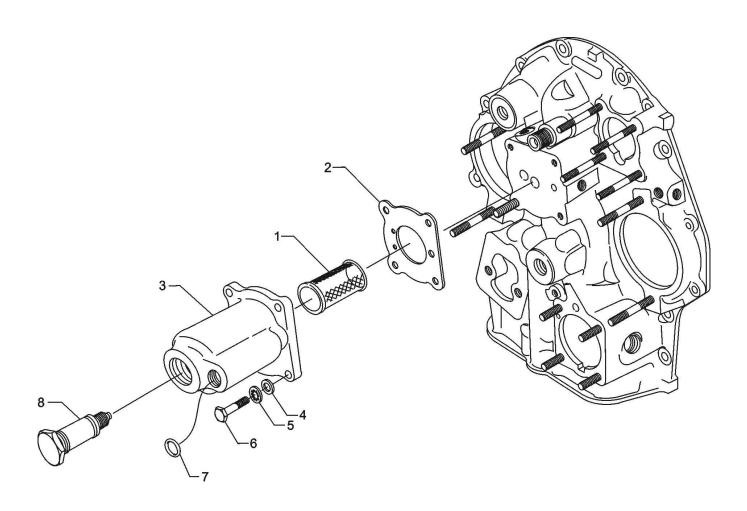


Figure 22
Oil Pressure Screen Assembly and Oil Cooler Bypass Valve



FIGURE 22 - OIL PRESSURE SCREEN AND OIL COOLER BYPASS VALVE

Figure Item	Code	Part Number	Description	Units per Assembly
1		62817	SCREEN ASSEMBLY, Oil pressure	1
2		61173	GASKET, Oil pressure housing	1
3		69510	HOUSING, Thermostatic valve and oil pressure screen	1
4		STD-8	WASHER, 1/4 plain	4
5		STD-160	WASHER, 1/4 lock, internal teeth	4
6		LW-25-1.00	BOLT, 1/4-20 x 1.00 long	4
7		06E19769-0.63	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular	1
8		53E22144	VALVE ASSEMBLY, Temperature control oil cooler bypass	1



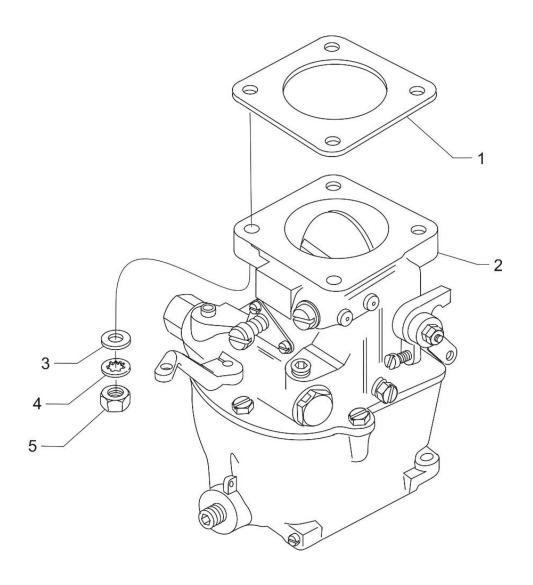


Figure 23
Carburetor and Related Parts



FUEL DISTRIBUTION

FIGURE 23 – CARBURETOR AND RELATED PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		66224	GASKET, Carburetor	1
2		61C22451	CARBURETOR, MA-4-5 (10-6035-11)	1
		61C26050	CARBURETOR, MA-4-5 (AV 10-6035-11)	1
3		STD-35	WASHER, 5/16 plain	4
4		STD-475	WASHER, 5/16 lock, internal teeth	4
5		STD-1410	NUT, 5/16-18 plain	4



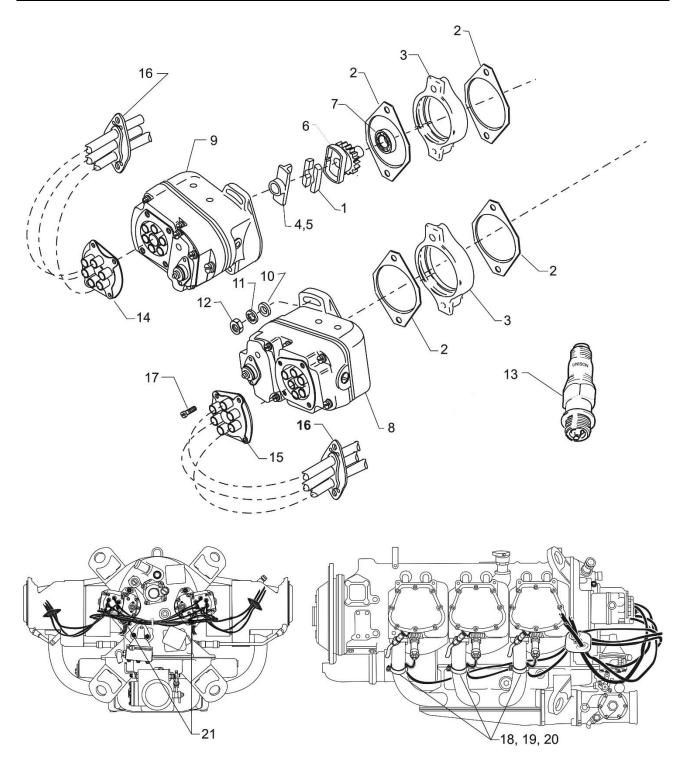


Figure 24
Magnetos, Magneto Drives, Harnesses and Spark Plugs



IGNITION DISTRIBUTION SYSTEM

FIGURE 24 - MAGNETOS, MAGNETO DRIVES, HARNESSES AND SPARK PLUGS

Figure Item	Code	Part Number	Description	Units per Assembly
1		68H22624	CUSHION, Magneto drive	4
2		62224	GASKET, Magneto adapter and magneto	4
3		LW-12707	ADAPTER, Magneto	2
4		73000	COUPLING, Magneto drive	1
5		73013	COUPLING, Magneto drive	1
6		LW-19096	GEAR RETAINER ASSEMBLY	2
7		67542	BEARING, Ball	2
8		66B21783	MAGNETO (S6LSC-204)	1
	*	66B31683	MAGNETO (ES-600646-201)	1
9		66B21774	MAGNETO (S6LSC-200)	1
	*	66B31674	MAGNETO (ES-600616-3)	1
10		STD-1727	WASHER, 3/4 O.D. x 21/64 I.D. x 1/8 thick	4
11		STD-475	WASHER, 5/16 lock, internal teeth	4
12		STD-1410	NUT, 5/16-18 plain	4
13	**	1182-E7	SPARK PLUG, Champion (REM38E)	12
	**	1182-S4	SPARK PLUG, Unison (UREM38E)	12
14		LW-M-2463	HARNESS ASSEMBLY, Left magneto	1
15		LW-M-2464	HARNESS ASSEMBLY, Right magneto	1
16		LW-M-2376	PLATE, Spark plug cable	2
17		72351	SCREW, No. 10-32 self-locking	8
18		LW-18959-175-25	CLAMP, 1-3/4 I.D.	6
19		STD-553	SCREW, No. 6-32 x 1/2 long	6
20		MS21044N06	NUT, No. 6-32 self-locking	6
21		76734	ZIP STRAP	10

^{*} Refer to the latest revision of Service Instruction No. 1443 for a listing of approved alternate ignition systems.

Refer to the latest revision of Service Instruction No. 1042 for complete listing of all approved spark plugs.



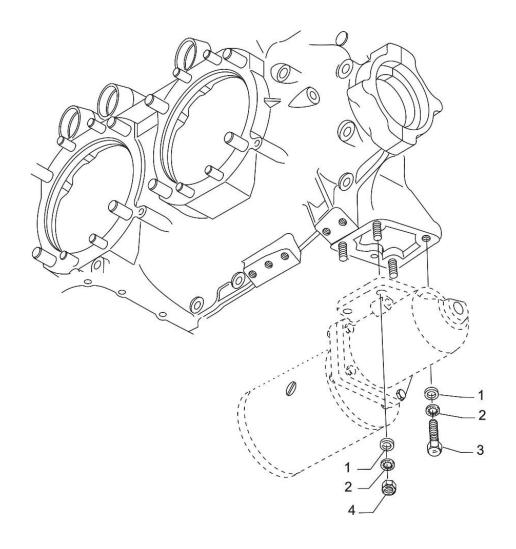


Figure 25 Starter Attaching Parts



CRANKING

FIGURE 25 - STARTER ATTACHING PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		STD-35	WASHER, 5/16 plain	4
2		STD-475	WASHER, 5/16 lock, internal teeth	4
3		LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	1
4		STD-1410	NUT, 5/16-18 plain	3



SERVICE KIT SECTION SEAL AND GASKET SET

PART NO.	PART NAME	Qty.
71569-1	KIT - SEAL AND GASKET SET	1
LW-12272	LOCKPLATE, Shroud tube	6
LW-12681	GASKET, Magneto	2
06B23862	GASKET, Oil filter adapter	1
06B21326	GASKET, Oil sump	1
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Tachometer drive oil	1
LW-14995	SPRING, Shroud tube	6
LW-15628	SEAL, Crankshaft	1
LW-18638	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	12
01L23459	WASHER, 25/32 I.D. x 1-3/8 O.D. x 1/32 thick	12
06A23493	SEAL, Shroud tube	12
STD-2231	RING, Internal retaining	1
06E19769-1.00	GASKET, Oil suction screen	1
STD-213	SEAL, Oil	1
06E19769-0.63	GASKET, Annular	2
06E19769-1.25	GASKET, Annular	1
06A19956	SEAL, Oil	2
1691-C	GASKET, Fuel pump	1
8313	GASKET, Vacuum pump	2
60096	GASKET, Fuel pump	1
61173	GASKET, Oil pressure housing	1
61183	GASKET, Accessory housing	1
62224	GASKET, Magneto adapter	4
77611	GASKET, Exhaust flange	6
66224	GASKET, Carburetor	1
68315	GASKET, Accessory drive adapter	1
69164	GASKET, Fuel pump adapter	1
69345	SPACER	6
69551	GASKET, Accessory drive adapter	1
70310	SEAL, Shroud tube	12
70455	GASKET	1
70457	GASKET	1
71481	RING, Oil seal	6



SEAL AND GASKET SET (CONT.)

PART NO.	PART NAME	Qty.
71667	LOCKPLATE, Fuel pump idler gear	1
71973	GASKET, 2 bolt flange	6
72053	GASKET, Governor	1
72059	GASKET, Oil filler extension	1
72075	RING, Oil seal	8
72078	LOCKPLATE, Cam gear	2
72091	RING, Oil seal	2
72210	GASKET	1
72312	RING, Oil seal	1
73383	LOCKPLATE, Generator bracket	2
73818	GASKET, Accessory housing	1
74065	"O" RING, Oil level gage	1
74068	"O" RING	1
74305	SEAL	1
06B26669	GASKET, Rocker box cover (Silicone)	6
76510	GASKET	1
76940	SEAL, Crankshaft oil	1



SERVICE KIT SECTION (CONT.) CYLINDER, PISTON AND RING ASSEMBLY

PART NO.	PART NAME	Qty.
05K21745	KIT - CYLINDER, PISTON AND RING ASSEMBLY	1
16A30080-03	CYLINDER AND HEAD ASSSEMBLY	1
17B23936	VALVE, Exhaust	1
17A29467	VALVE, Intake	1
17D29060	SPRING, Valve, outer	2
17D29055	SPRING, Valve, inner	2
69532	SEAT, Valve spring, upper, intake	1
LW-16475	SEAT, Valve spring, upper, exhaust	1
65441	SEAT, Valve spring, lower, intake	1
LW-13323	SEAT, Valve spring, lower, exhaust	1
72050	KEY, Valve, intake	2
71C21191	KEY, Valve, exhaust	2
17C19386	CAP, Valve stem, exhaust	1
MS20823-6D	ELBOW, 45°, 3/8 flared tube	1
14D23912	PISTON	1
74241	RING, Piston, compression	2
14H29884	RING, Piston, oil regulating	1
LW-14078	PIN, Piston	1
60828	PLUG, Piston pin	2
72198	PLUG, Piston pin	2
71481	RING, Cylinder base seal	1
LW-18661	SEAL, Shroud tube	2
70310	SEAL, Shroud tube	2
06A23493	SEAL, Shroud tube	2
06B26669	GASKET, Rocker box cover (Silicone)	1
77611	GASKET, Exhaust flange	1
71973	GASKET, 2 bolt flange	1
LW-12272	LOCKPLATE, Shroud tube	1
1102	PLUG, 1/8-27 NPT, Allen head	2
62388	CAP, Valve stem	2
SSP-115	STICKER	1
SSP-299	TAG (Use of Piston Pin Plugs)	1



NUMERICAL INDEX

PART NO.	PART NAME	PAGE NO.
01A23354	STUD	7
01K28983	BUSHING	19
01L23459	WASHER	23
03C21721	PLUG	5
03D23350	COVER	39
06A23493	SEAL	23
06B21326	GASKET	33
06B26669	GASKET	27
06E19769-0.63	GASKET	43
06E19769-0.63	GASKET	45
06E19769-1.00	GASKET	33
06E19769-1.25	GASKET	9
07A19474	BRACKET	1
1028-B	BALL	9
10-8	STUD	7
1102	PLUG	7
1102	PLUG	21
1102	PLUG	35
1182-E7	SPARK PLUG	49
1182-S4	SPARK PLUG	49
11E24004-S1	CRANKCASE	7
11E24104-S1	CRANKCASE	7
13E27622	CRANKSHAFT	11
13E47622	CRANKSHAFT	11
13S19647	GEAR	11
14D23912	PISTON	19
14H29884	RING	19
14S23890	BOLT	19
14U22539	COUNTERWEIGHT	11
14W22647	ROLLER	11
15B21319	SOCKET	23
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