

O-360-A4M Series Illustrated Parts Catalog

November 2012

PC-306-A4M

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652 Oliver Street
Williamsport, PA 17701

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Lycoming Part Number: PC-306-A4M

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INTRODUCTION

 CAUTION: 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-360-A4M wide cylinder flange model engines.

How to Use this Catalog

This catalog is based on the Air Transport Association (ATA) Spec100 format. In order 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 100 format specifies the subject matter for each chapter-section. According to the ATA Standards, the following chapters apply to the O-360-A4M Illustrated Parts Catalog.

72 (Reciprocating Engine), 73 (Engine and Fuel Control), 74 (Ignition), and 76 (Engine Controls).

EXAMPLE: **74** — **20**
Chapter Section
Ignition **Distribution**

NOTE: See the IPC Table of Contents for the sub-systems listed 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 listed below the parts grouping or assembly they attach to. 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" represent "as required" for bulk items or non-illustrated select-from-range-parts. "RF" represents items listed for reference purposes only.

Cross Reference List of Manufacturer Parts to Standard Part Numbers**Vendor Accessories**

Parts coverage of Vendor Accessories used on Lycoming engines may be found in the appropriate Vendor's Parts Catalog. A list of vendor's addresses appears in the latest revision of Lycoming Service Letter No. L114.

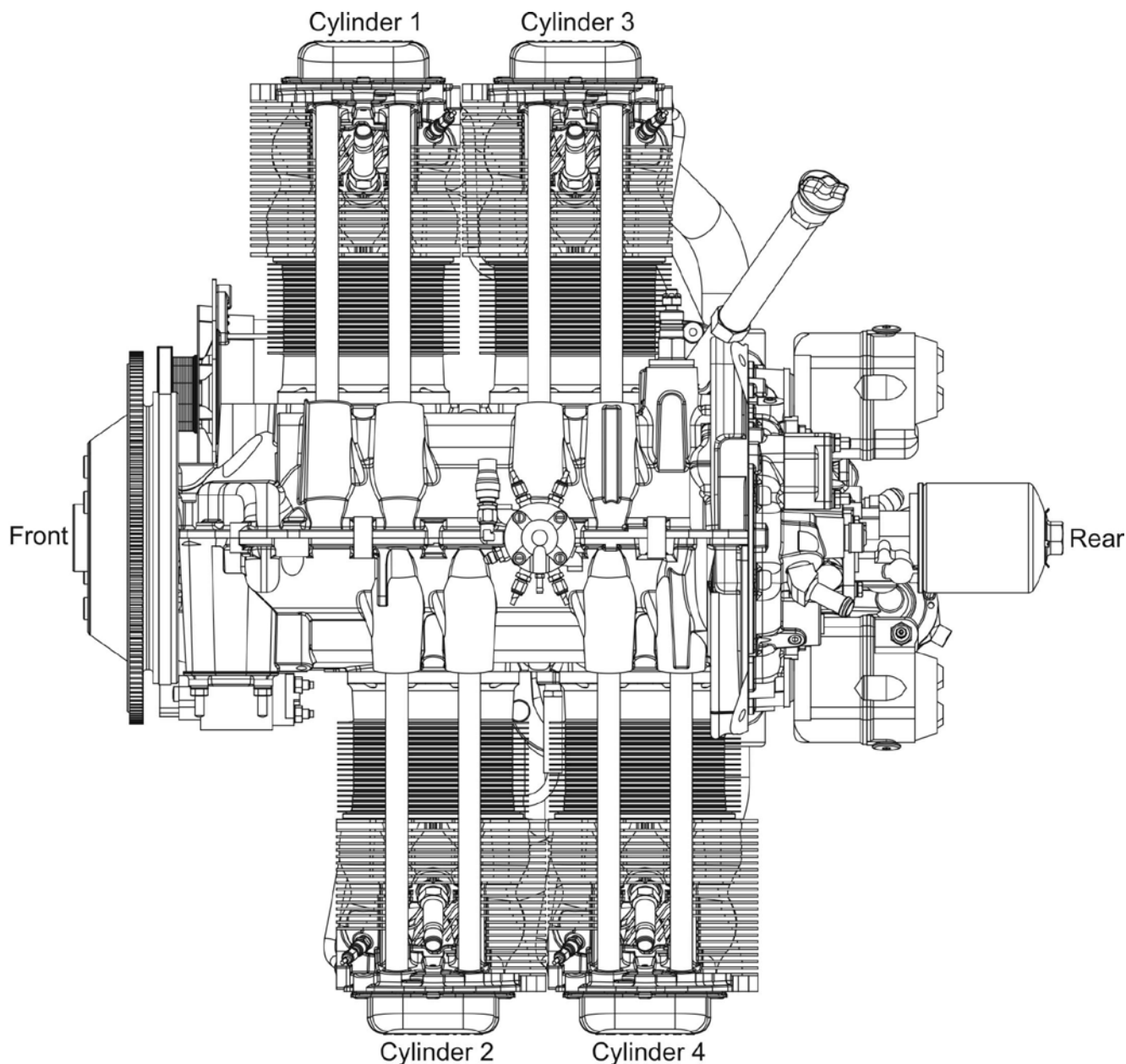
Any reference in this document to the suppliers/part manufacturer's product, by name, trademark, part number or other description is solely for the purpose of identification and does not indicate or infer that Lycoming accepts responsibility for quality control and/or airworthiness of parts, which do 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 engine is 1-3-2-4

**Top View of Engine**

How to Order Parts and Publications

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

Although the information contained in this parts catalog is up-to-date at time of publication, users are advised to procure current information through all Lycoming distributors or from the factory by subscription. Refer to the latest revision of Service Letter No. L114 for subscription information.

1. In order to expedite correct part shipments without delay:
 - a. Always specify the model and serial number of your engine.
 - b. Always specify the part number, nomenclature, and quantity required.

The SB and SI documents are available from Lycoming distributors, or the factory, or by subscription.

Full Revisions of the Illustrated Parts Catalog are available from Lycoming distributors or the factory.

Every effort has been made in preparing this manual to ensure its accuracy. However, any comments, suggestions, or corrections to this manual are welcome and must be directed in writing to:

Technical Publications Coordinator**Lycoming Engines****652 Oliver Street****Williamsport, PA 17701**

NOTE: The owner of the manual must give notification to the factory for a change of address.

Additionally, Lycoming has a Customer Service Hot Line for information and assistance to owners, operators, and maintenance personnel which are servicing Lycoming engines.

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Monday – Friday.

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ABBREVIATIONS AND ACRONYMS

A	
Adj.	Adjustable
C	
Cyl.	Cylinder
D	
Dia.	Diameter
F	
Fill.	Fillister
H	
Hex.	Hexagon
I	
I.D.	Inside Diameter
N	
No.	Number
O	
O.D.	Outside Diameter
S	
Scav.	Scavenge
T	
Temp.	Temperature
V	
Vac.	Vacuum

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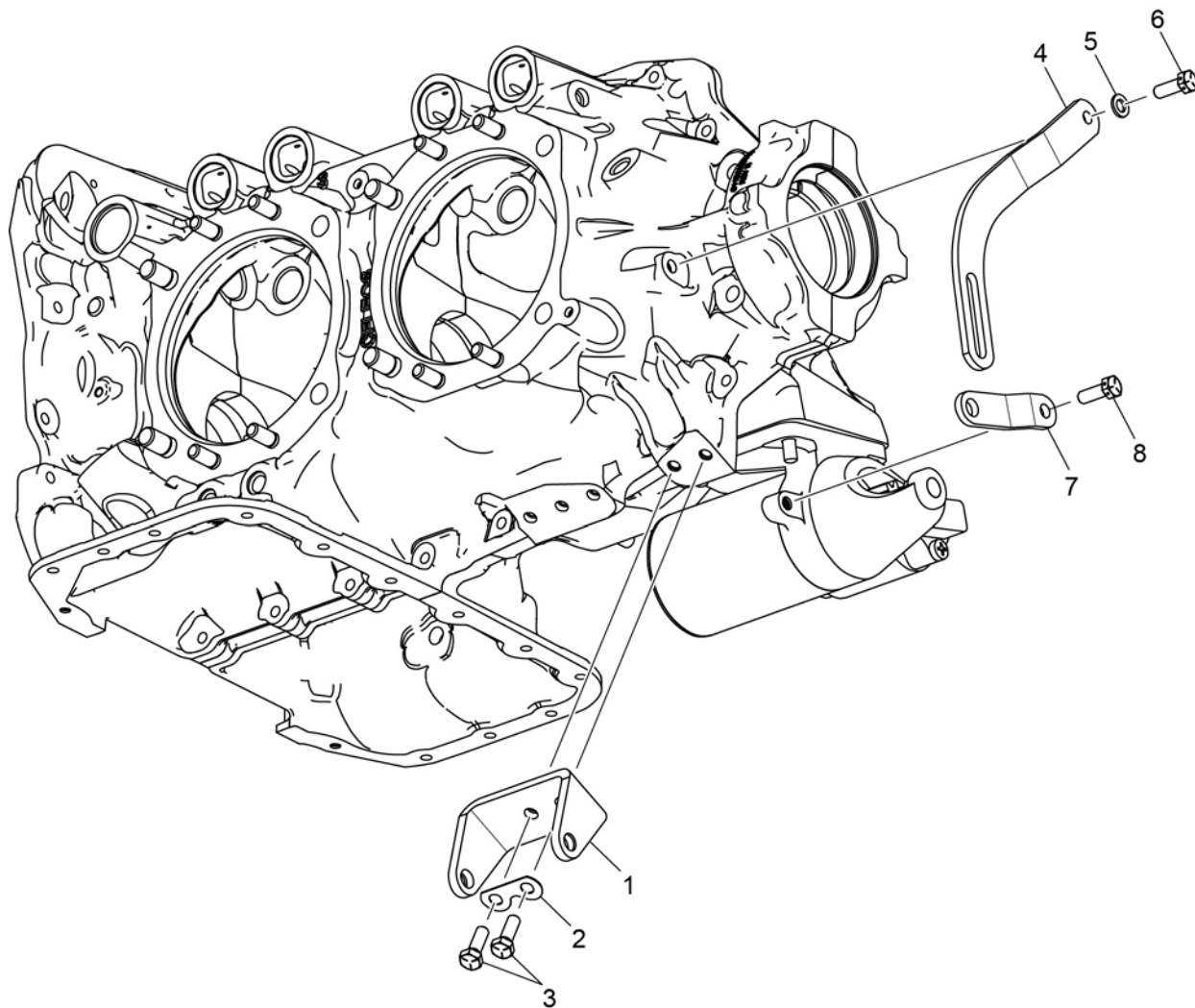
OVERSIZE AND UNDERSIZE PARTS LISTING

Part No.	Description	Oversize (in.)								Undersize (in.)		
		P02 .002	P05 .005	P10 .010	P15 .015	P20 .020	P30 .030	P40 .040	P50 .050	M03 .003	M06 .006	M10 .010
18D26098	BEARING									X	X	X
18A26093	BEARING									X	X	X
18M26105	BEARING									X	X	X
LW-13792	SEAL								X			
LW-18818-S	BUSHING		X	X	X	X						
LW-18819-S	BUSHING		X	X	X	X						
STD-1065	DOWEL		X	X	X							
74241	RING			X								
14H21950	RING			X		X						
72057	SEAT		X	X		X	X					
72058	SEAT		X	X		X	X					
61681*	GUIDE		X	X		X	X	X				
16R22291*	GUIDE		X	X		X	X	X				
66610	BUSHING		X	X								

* - Reference Figure 10 items no. 4 and 5 for valve guides.

NOTE

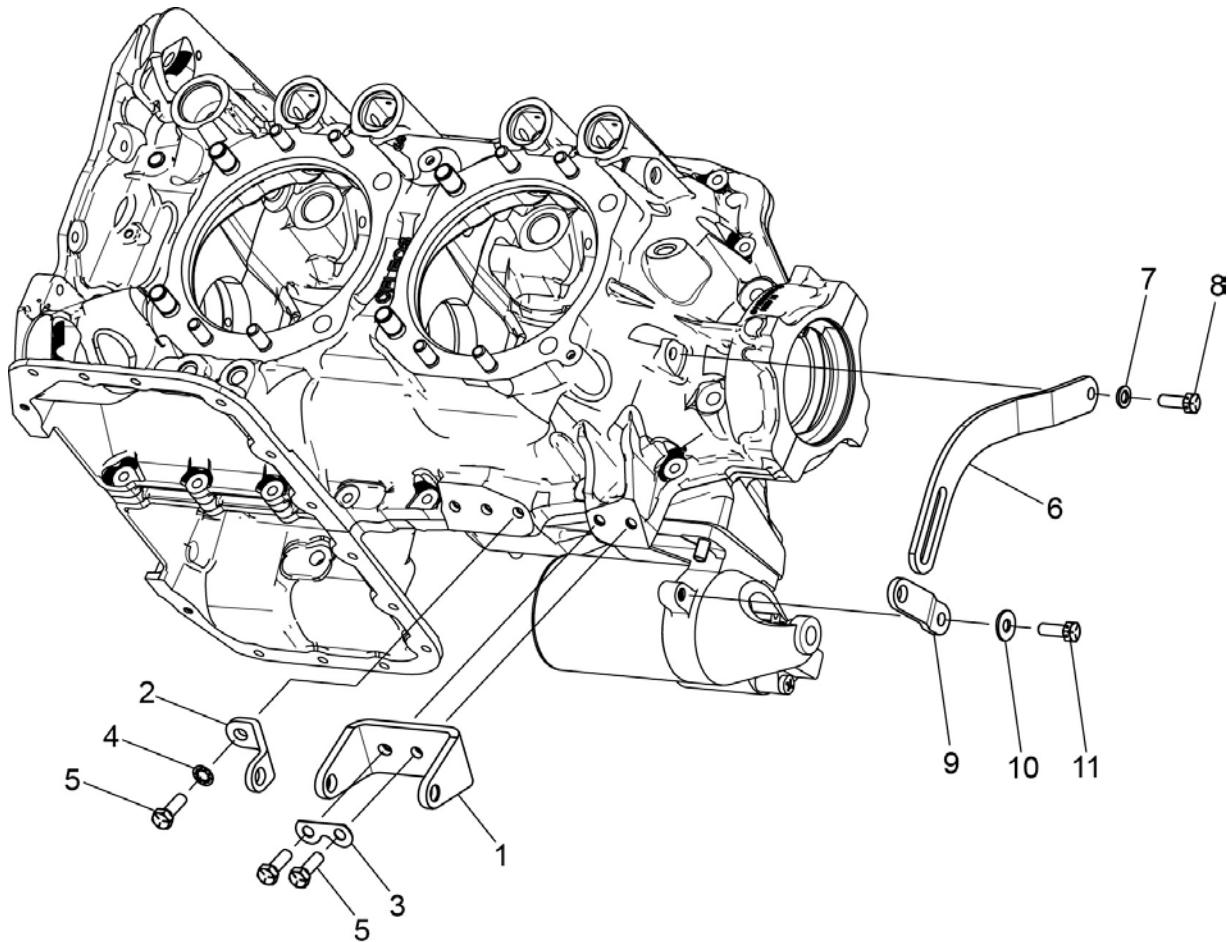
When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing P/N 18D26098 bearing in .003 in. undersize, order P/N 18D26098-M03. Undersize code letter is "M" while oversize code letter is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



Alternator Mounting and Attaching Parts
Figure 1

ELECTRICAL POWER**FIGURE 1 - ALTERNATOR MOUNTING AND ATTACHING PARTS**

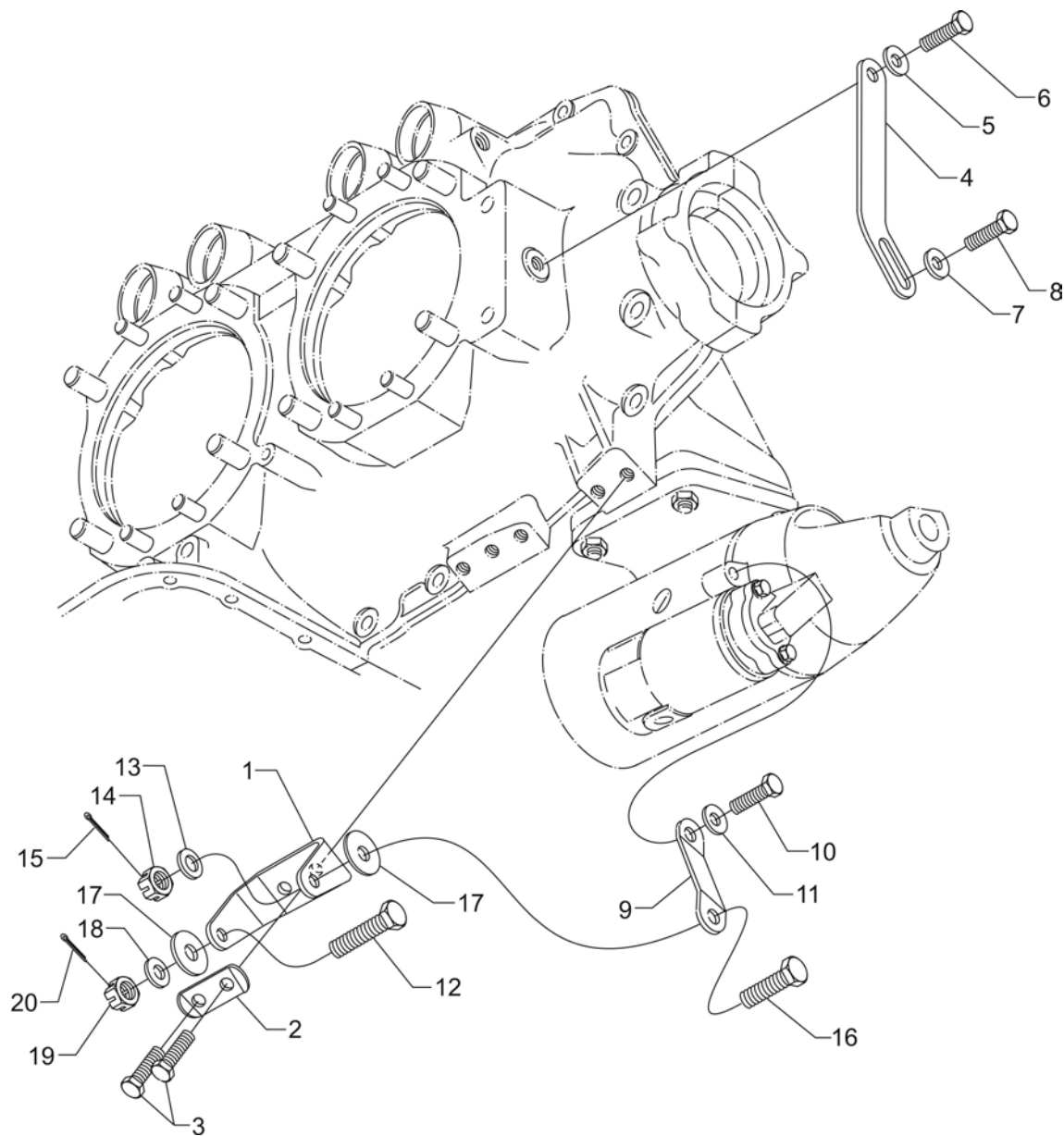
Figure Item	Code	Part Number	Description	Units per Assembly
1		07A21443	BRACKET, Alternator	1
2		73383	LOCKPLATE, 5/16 bolt x 1.00	1
3		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2
4		LW-10729	LINK, Alternator adjusting	1
5		STD-35	WASHER, 5/16 plain	1
6		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	1
7		76908	STRUT, Alternator support	1
8		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	1
<u>NOTE:</u> Alternator is not supplied for this configuration.				



Alternator Mounting and Attaching Parts
Figure 2

ELECTRICAL POWER**FIGURE 2 – ALTERNATOR MOUNTING AND ATTACHING PARTS**

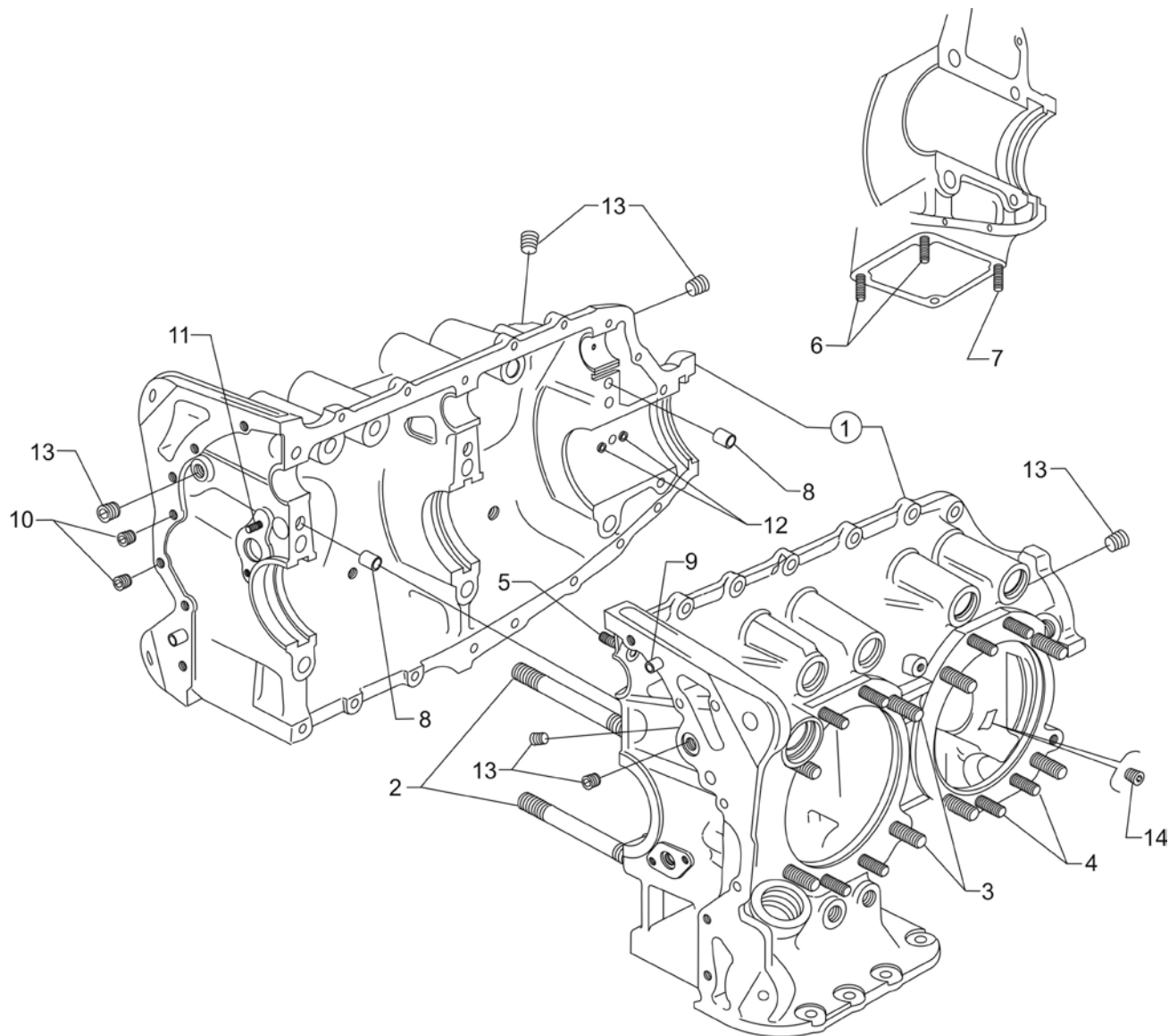
Figure Item	Code	Part Number	Description	Units per Assembly
1		07A21443	BRACKET, Alternator	1
2		LW-13365	BRACE, Alternator bracket	1
3		73383	LOCKPLATE, 5/16 bolt x 1.00	1
4		STD-475	WASHER, 5/16 lock, internal teeth	1
5		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	3
6		LW-10729	LINK, Alternator adjusting	1
7		STD-35	WASHER, 5/16 plain	1
8		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	1
9		76908	STRUT, Alternator support	1
10	*	STD-2197	WASHER, 5/16 I.D. x 13/16 O.D. x 1/16	1
11		LW-31H1.06	BOLT, 5/16-18 x 1-1/16 long, hex. head, drilled	1
* Shim 76908 strut with STD-2197 washer.				



Alternator Mounting and Attaching Parts
Figure 3

ELECTRICAL POWER**FIGURE 3 – ALTERNATOR MOUNTING AND ATTACHING PARTS**

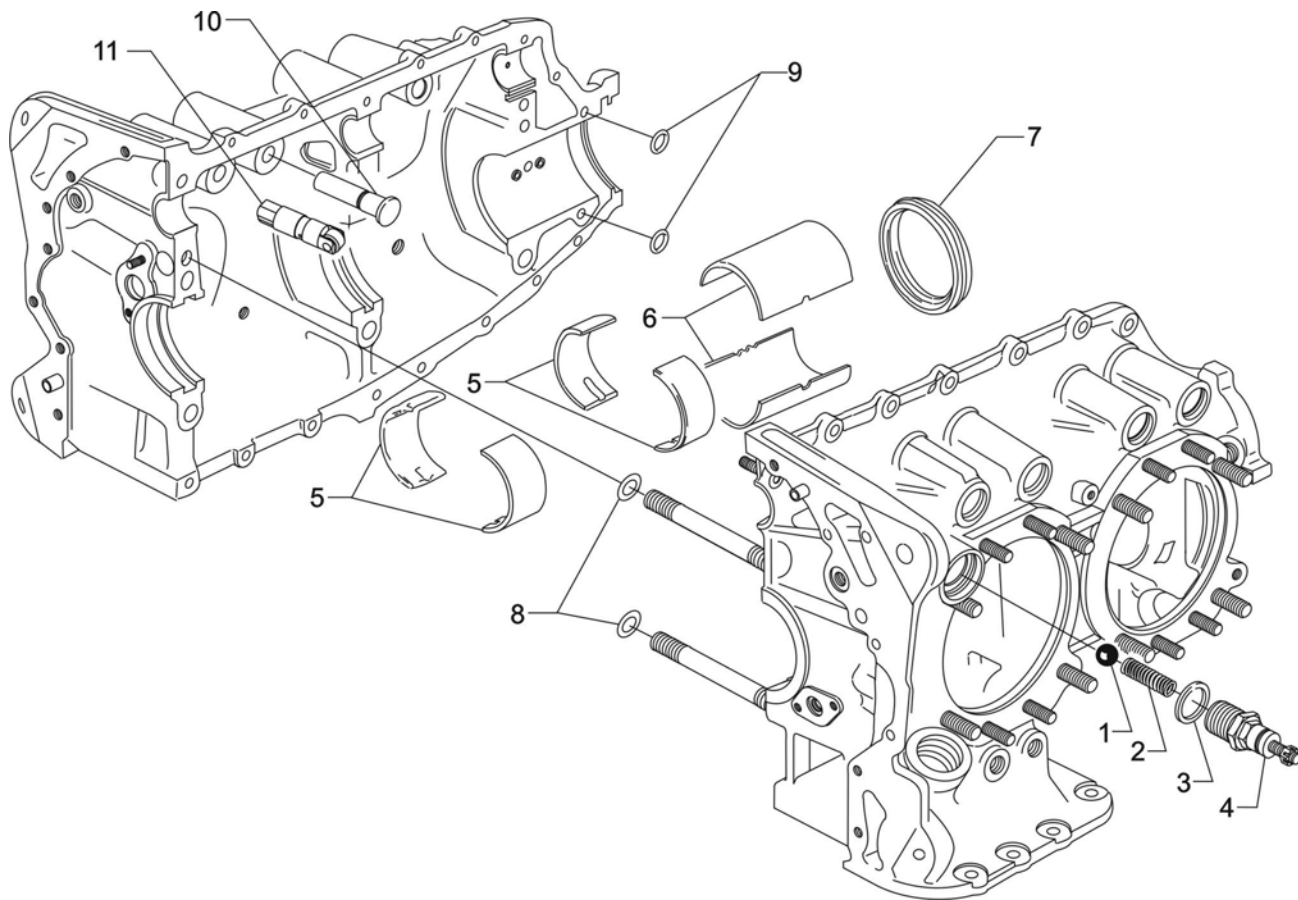
Figure Item	Code	Part Number	Description	Units per Assembly
1		07A19474	BRACKET, Alternator	1
2		73383	LOCKPLATE, 5/16 bolt x 1.00	1
3		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2
4		75380	LINK, Alternator adjusting	1
5		STD-35	WASHER, 5/16 plain	1
6		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
7		STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8	1
8		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
9		07F23268	STRUT, Alternator support	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		AN6-14	BOLT, 3/8-24 x 1-19/32 long, drilled	1
		AN6-17	BOLT, 3/8-24 x 1-15/16 long, hex. head	1
13		STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	3
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	1
17	AR	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick (max. 5)	AR
18		STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	3
19		STD-872	NUT, 3/8-24 slotted	1
20		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	1
AR as required				



**Crankcase Assembly
Figure 4**

POWER SECTION**FIGURE 4 – CRANKCASE ASSEMBLY**

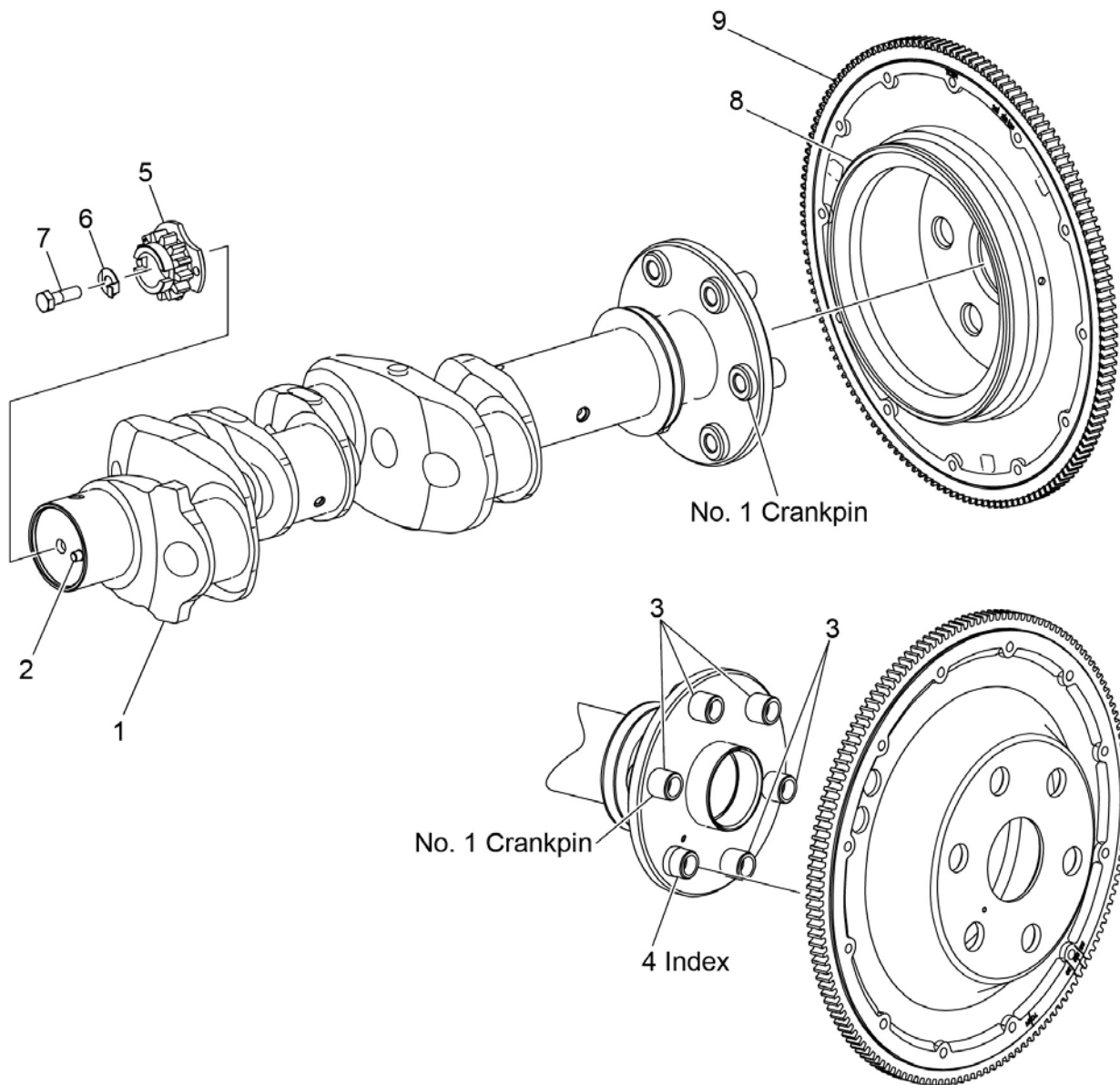
Figure Item	Code	Part Number	Description	Units per Assembly
1	*	11B20061-1SH-S	CRANKCASE ASSEMBLY KIT	1
	P	11B20061-1SH	CRANKCASE ASSEMBLY	1
	*	11B20161-1SH-S	CRANKCASE ASSEMBLY KIT (Roller tappet engines)	1
	P	11B20161-1SH	CRANKCASE ASSEMBLY (Roller tappet engines)	1
2		75154	STUD, 1/2-13 x 10-1/32 long	2
3		50-15	STUD, 1/2-13 x 1-7/8 long	8
4		38-13	STUD, 3/8-16 x 1-5/8 long	16
5		38D-17	STUD, 3/8-16 x 2-1/8 long, drilled	1
6		31C-12	STUD, 5/16-18 x 1-1/2 long	2
7		31C-13	STUD, 5/16-18 x 1-5/8 long	1
8		STD-557	DOWEL, 1/2 dia. x 11/16 long, hollow	2
9		STD-514	DOWEL, 5/16 dia. x 1/2 long	2
10		STD-1623	INSERT, 1/4-20 UNC x 3/8 long	2
11		LW-13793	STUD, 5/16-18 x 15/16 long, drilled	1
12		69796	DOWEL, Crankshaft bearing	2
13		1102	PLUG, 1/8-27 NPT, allen head	6
14		STD-1339	PLUG, 1/16-27 NPT, allen head	4
P Lycoming proprietary part. Listed for reference purposes only, cannot be purchased. * Refer to Service Kits Section for applicable Crankcase Assembly and Governor Thru-Stud Kit Part Numbers.				



Crankcase Related Parts
Figure 5

POWER SECTION**FIGURE 5 - CRANKCASE RELATED PARTS**

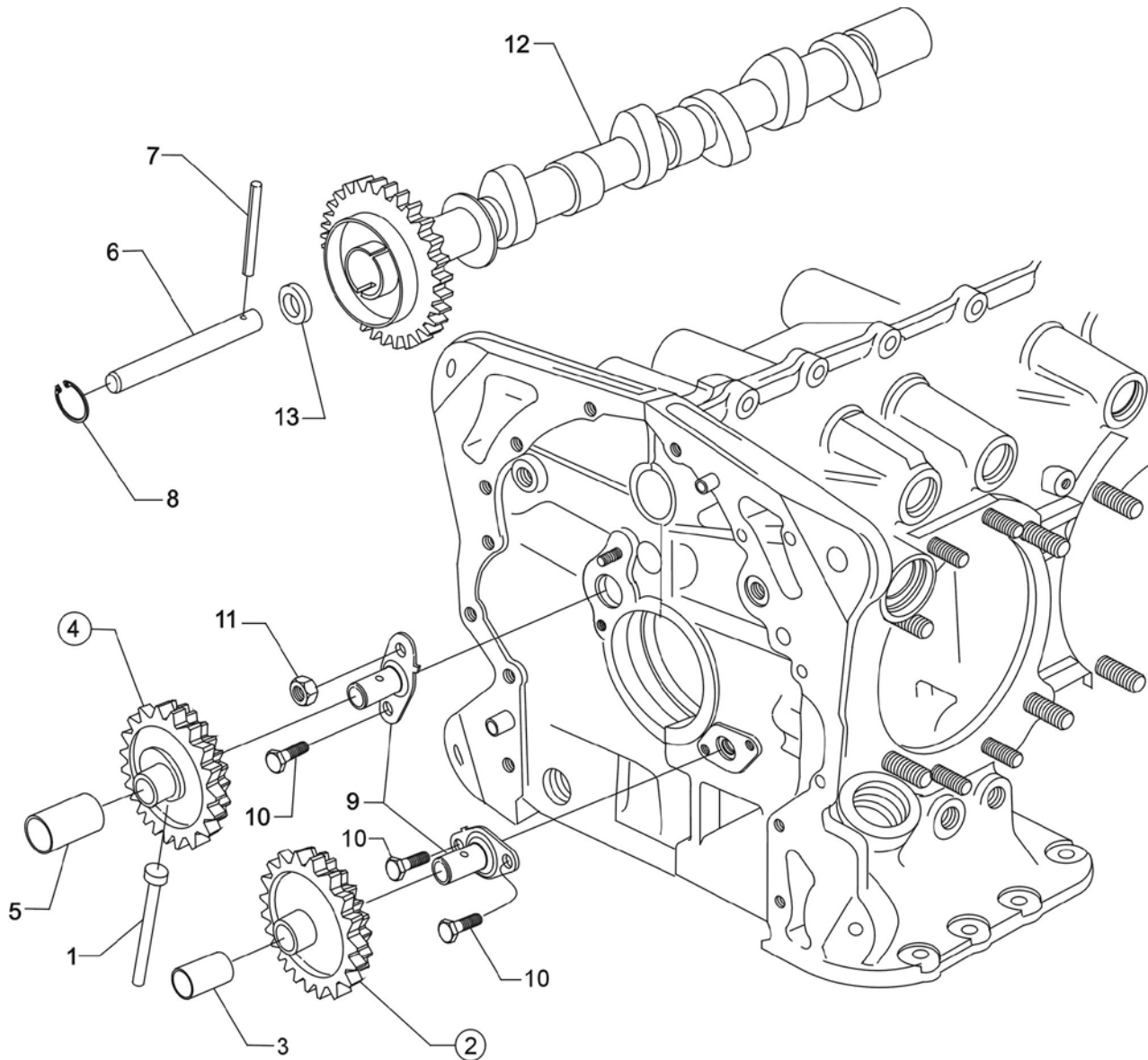
Figure Item	Code	Part Number	Description	Units per Assembly
1		1028-B	BALL, 11/16 diameter	1
2	*	61084	SPRING, Oil pressure relief valve	1
	*	68668	SPRING, Oil pressure relief valve	1
	*	77467	SPRING, Oil pressure relief valve	1
	*	LW-11713	SPRING, Oil pressure relief valve	1
	*	LW-18085	SPRING, Oil pressure relief valve	1
3		06E19769-1.25	GASKET, Annular, 1-1/4 I.D.	1
4		77808	VALVE ASSEMBLY, Oil pressure relief, adj.	1
5		18D26098	BEARING, Crankshaft	4
6		18A26093	BEARING, Crankshaft	2
7		LW-13792	SEAL, Crankshaft oil	1
8		72075	SEAL, Oil, 3/32 section x 7/16 I.D.	2
9		72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter	2
10		15B26262	BODY, Hydraulic tappet	8
11		LRT23381	BODY ASSEMBLY, Hydraulic tappet (Roller tappet engines)	8
* Select spring to give a minimum of three threads exposed on adjusting screw to allow field adjustment. Reference latest revision of Lycoming Table of Limits SSP-1776, Part I for spring identification.				



Crankshaft Assembly and Related Parts
Figure 6

POWER SECTION**FIGURE 6 - CRANKSHAFT ASSEMBLY AND RELATED PARTS**

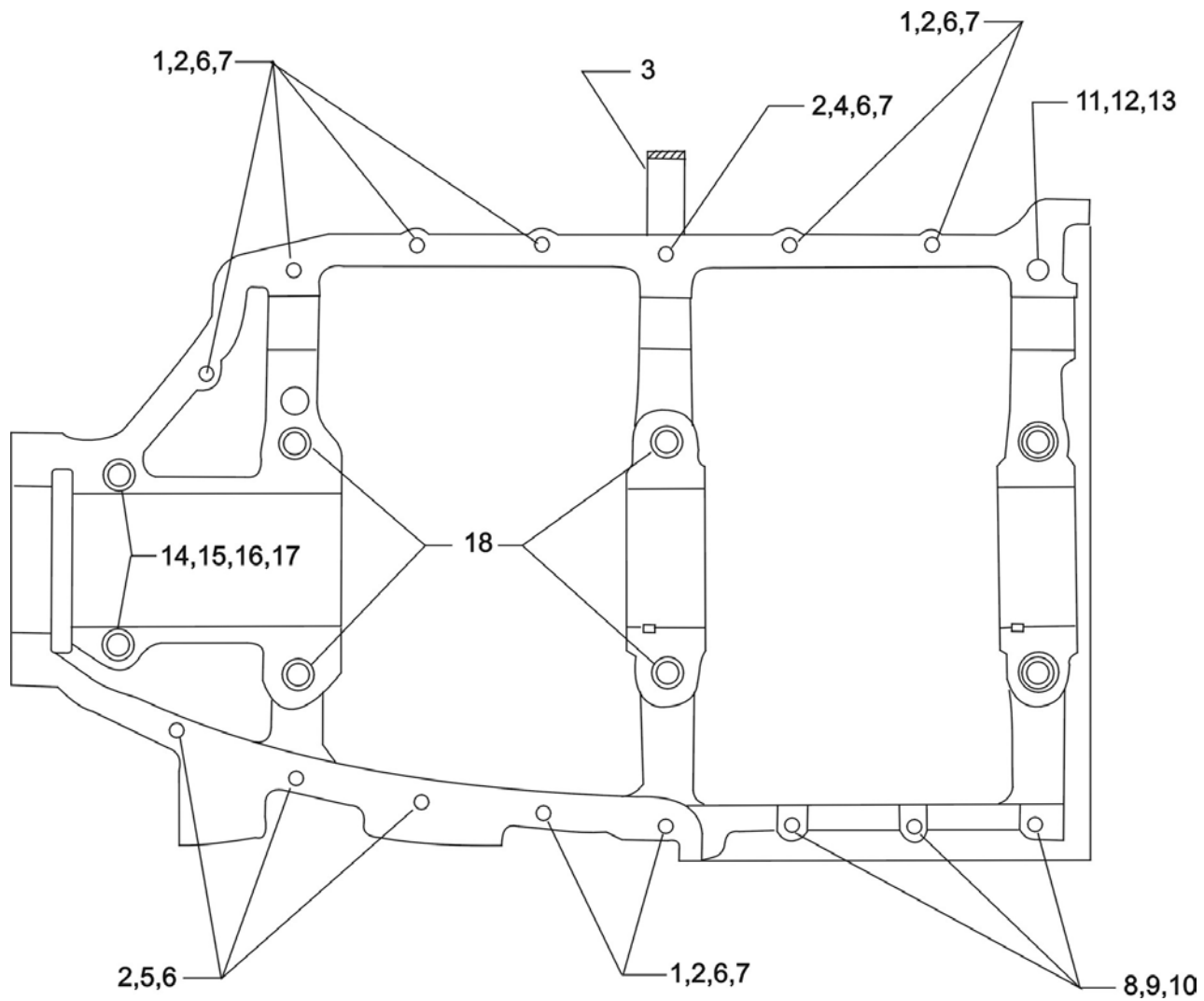
Figure Item	Code	Part Number	Description	Units per Assembly
1		13B47134	CRANKSHAFT ASSEMBLY	1
2		STD-1065	DOWEL, Stepped, 5/16 & 1/4 diameter	1
3		LW-18819-S	BUSHING, Propeller flange, long	5
4		LW-18818-S	BUSHING, Propeller flange, short	1
5	SB*	13S19646	GEAR, Crankshaft	1
6		LW-18639	LOCKPLATE, Crankshaft gear	1
7		STD-2246	BOLT, 5/16-24 x 1.00 long	1
8		LW-16064	SUPPORT ASSEMBLY, Starter ring gear	1
		LW-16471	SUPPORT ASSEMBLY, Starter ring gear	1
		31M21308	SUPPORT ASSEMBLY, Starter ring gear	1
9		72566	GEAR, Starter ring, 12/14 pitch	1
SB Referencing Service Bulletin * Refer to the latest revision of Lycoming Service Bulletin No. 475 for proper installation.				



**Crankshaft Idler Gears, Tachometer Drive and Camshaft
Figure 7**

POWER SECTION**FIGURE 7 - CRANKSHAFT IDLER GEARS, TACHOMETER DRIVE AND CAMSHAFT**

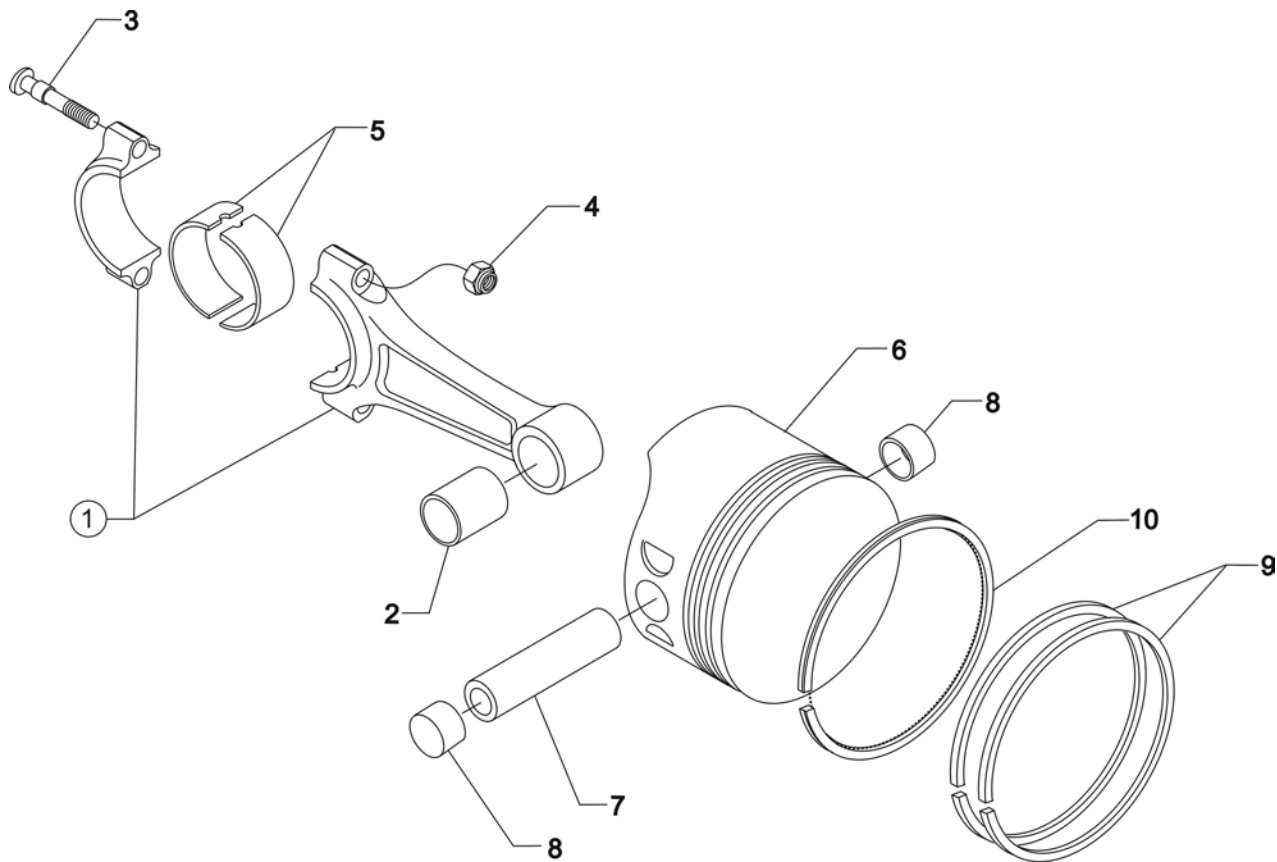
Figure Item	Code	Part Number	Description	Units per Assembly
1		61544	PLUNGER, Fuel pump, long	1
2		74996	GEAR ASSEMBLY, Crankshaft idler, plain	1
	*	74996	GEAR ASSEMBLY, Crankshaft idler, plain	2
3		77309	BUSHING, Crankshaft idler gear	1
4		75072	GEAR ASSEMBLY, Crankshaft idler	1
5		77309	BUSHING, Crankshaft idler gear	1
6		76121	SHAFT ASSEMBLY, Tachometer	1
7		LW-18667	PIN, 3/16 diameter x 2-11/32 long	1
8		STD-2231	RING, Internal retaining (13/16)	1
9		LW-13796	SHAFT, Crankshaft idler gear	2
10		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	3
11		STD-2168	NUT, 5/16-18 NC-3 slotted shear	1
12		LW-18840	CAMSHAFT ASSEMBLY	1
		15M23452	CAMSHAFT ASSEMBLY (Roller tappet engines)	1
13		76118	SPACER, Tachometer shaft centering	1
* Used on engines without diaphragm fuel pump.				



Crankcase Attaching Parts
Figure 8

POWER SECTION**FIGURE 8 - CRANKCASE ATTACHING PARTS**

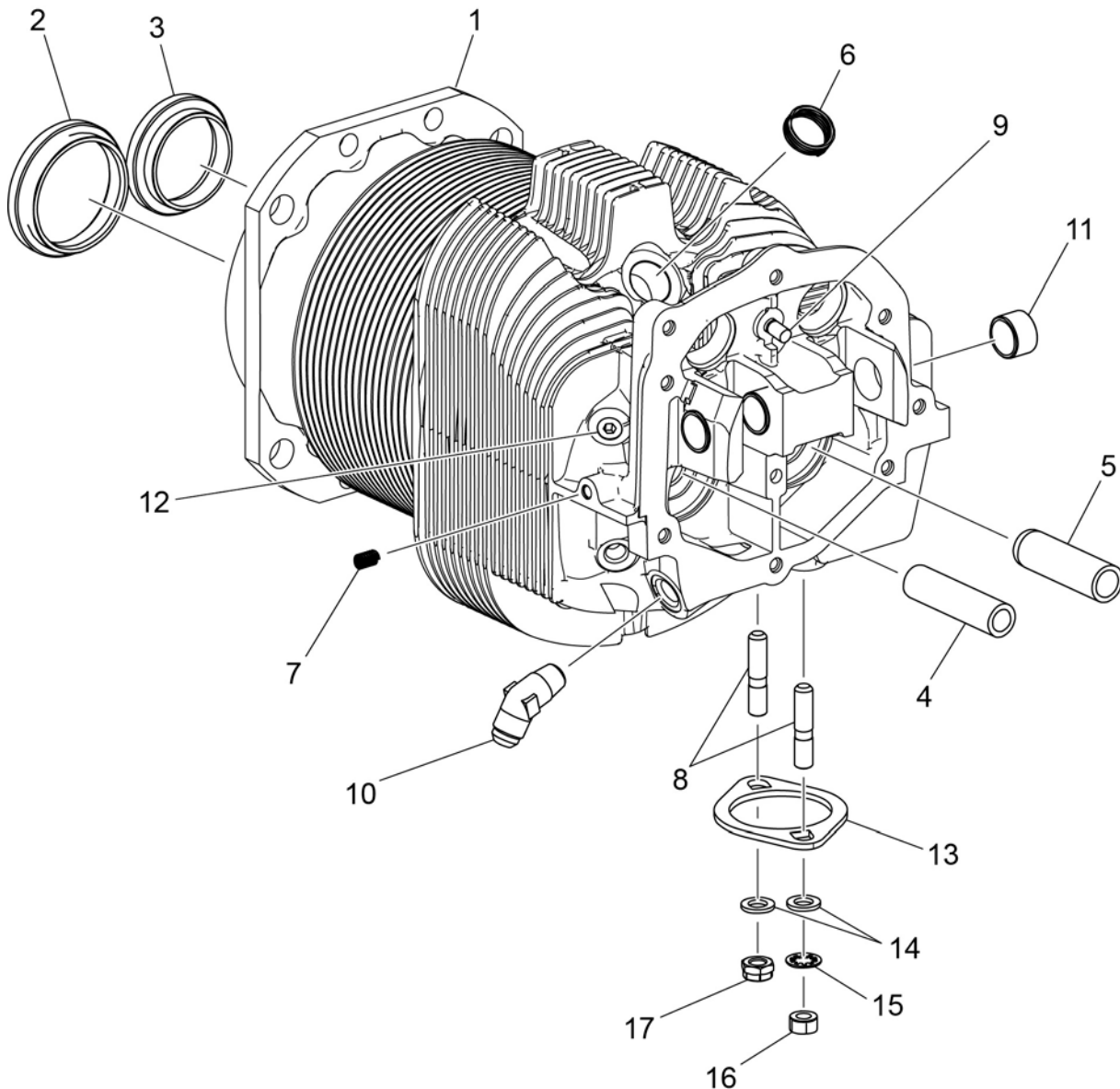
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	8
2		STD-8	WASHER, 1/4 plain	19
3		60803	STRAP, Lifting	1
4		LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	1
5		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	3
6		STD-160	WASHER, 1/4 lock, internal teeth	12
7		STD-1411	NUT, 1/4-20 plain	9
8		LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, drilled end	3
9	AR	STD-8	WASHER, 1/4 plain (max. 9)	AR
10		STD-2249	NUT, 1/4-20 slotted	3
11		STD-33	WASHER, 3/8 plain	3
12		AN960-616L	WASHER, 3/8 plain (thin)	1
13		STD-872	NUT, 3/8-24 slotted	1
14		AN6-34A	BOLT, 3/8-24 x 3-19/32 long, hex. head	2
15		STD-33	WASHER, 3/8 plain	4
	*	STD-33	WASHER, 3/8 plain	6
16		STD-678	WASHER, 3/8 lock, internal teeth	2
17		STD-596	NUT, 3/8-24 plain	2
	*	LW-11866	NUT, Spacer, compressor	2
18		76220	STUD, 1/2-20 x 10-11/16 long	4
AR as required * Used on installations to provide mounting of a compressor.				



Connecting Rods, Pistons and Ring Assemblies
Figure 9

CYLINDER SECTION**FIGURE 9 - CONNECTING RODS, PISTONS AND RING ASSEMBLIES**

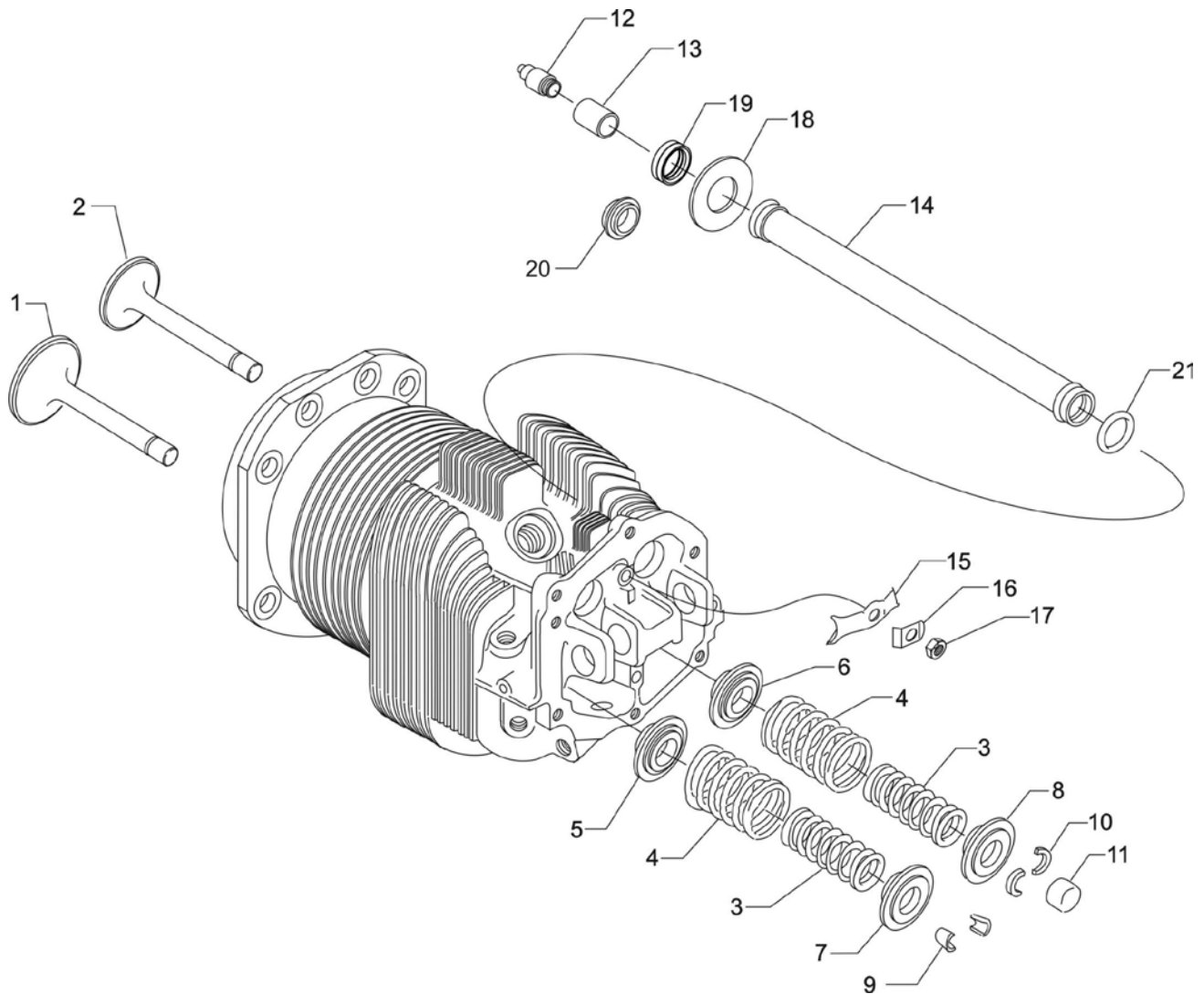
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-11750-S	CONNECTING ROD ASSEMBLY	4
2		LW-13923	BUSHING, Connecting rod, upper	4
3	*	75061	BOLT, Connecting rod	8
	P	14S23890	BOLT, Connecting rod	8
4		LW-12186	NUT, Connecting rod	8
5		18M26105	BEARING, Connecting rod	8
6		14D23912	PISTON, Compression ratio, 8.50:1	4
7		LW-14078	PIN, Piston	4
8		72198	PLUG, Piston pin	8
9		74241	RING, Piston compression	8
10		14H21950	RING, Piston, oil	4
P Lycoming proprietary part. Listed for reference purposes only, cannot be purchased. * Service use only.				



Cylinder Assembly
Figure 10

CYLINDER SECTION
FIGURE 10 - CYLINDER ASSEMBLY

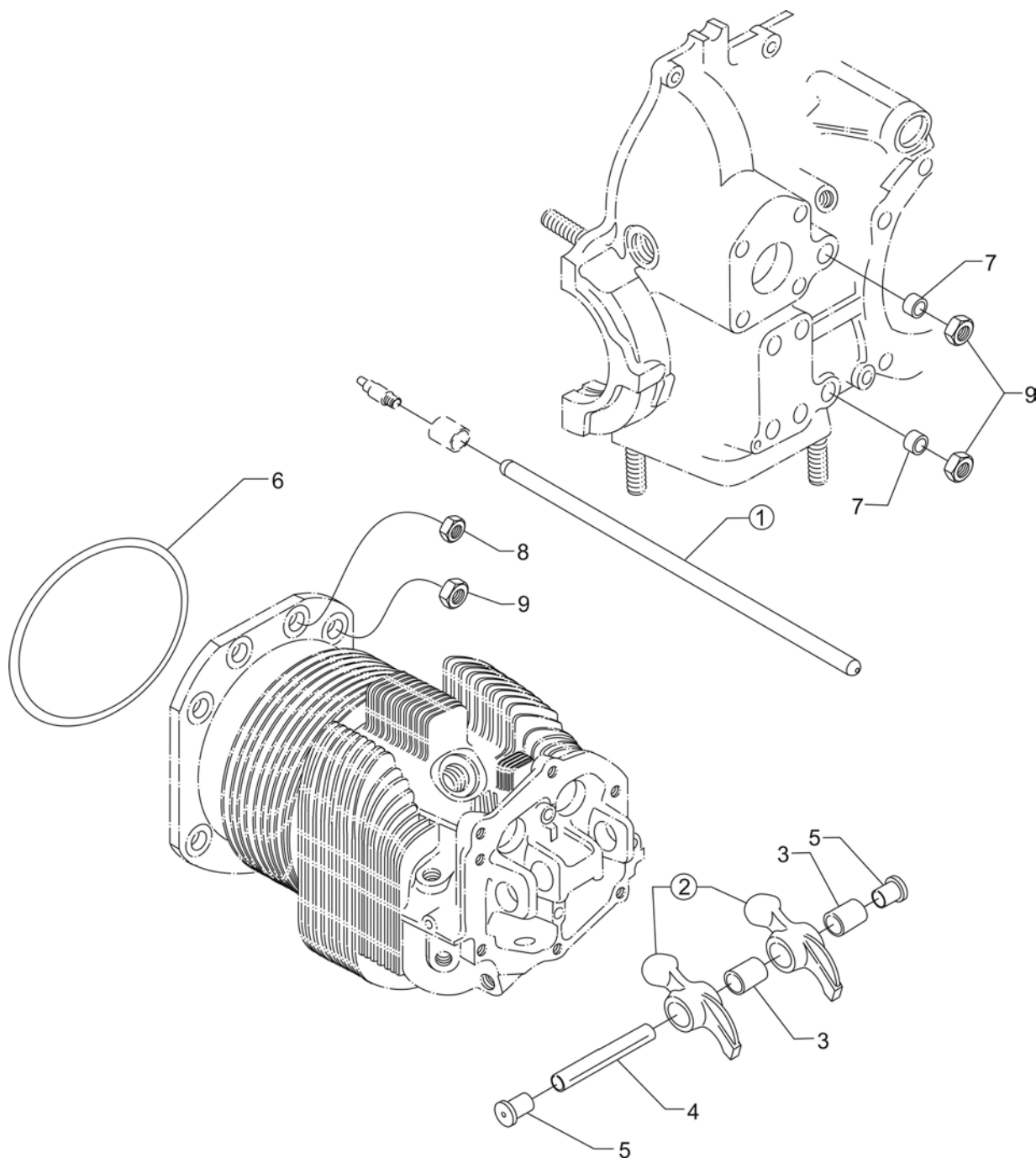
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-12427	CYLINDER ASSEMBLY, Nitrided	4
2		72057	SEAT, Intake valve	4
3		72058	SEAT, Exhaust valve	4
4	P*	76943	GUIDE, Valve, intake	4
5	P*	16R22126	GUIDE, Valve, exhaust	4
6	P	66796	INSERT, Spark plug, 1.5 mm	8
7		STD-1353	INSERT, No. 10-24 UNC x 3/8 long	4
8		31C-12	STUD, 5/16-18 x 1-1/2 long	8
9		25C-8	STUD, 1/4-20 x 1.00 long	4
10		MS20823-6D	ELBOW, 45°, 3/8 flared tube	4
11		66610	BUSHING, Rocker shaft	16
12	**	1102	PLUG, 1/8-27 NPT, allen head	8
13		77611	GASKET, Exhaust flange	4
14		STD-35	WASHER, 5/16 plain	8
15		STD-475	WASHER, 5/16 lock, internal teeth	8
16		STD-1410	NUT, 5/16-18 plain	8
17		STD-2233	LOCKNUT, 5/16-18, hex. head	8
P Lycoming proprietary part. Listed for reference purposes only, cannot be purchased. * Refer to the latest revision of Service Instruction No. 1256 for service valve guides. ** Used on installations without priming lines and fuel injectors.				



Valve Assembly and Related Parts
Figure 11

CYLINDER SECTION**FIGURE 11 – VALVE ASSEMBLY AND RELATED PARTS**

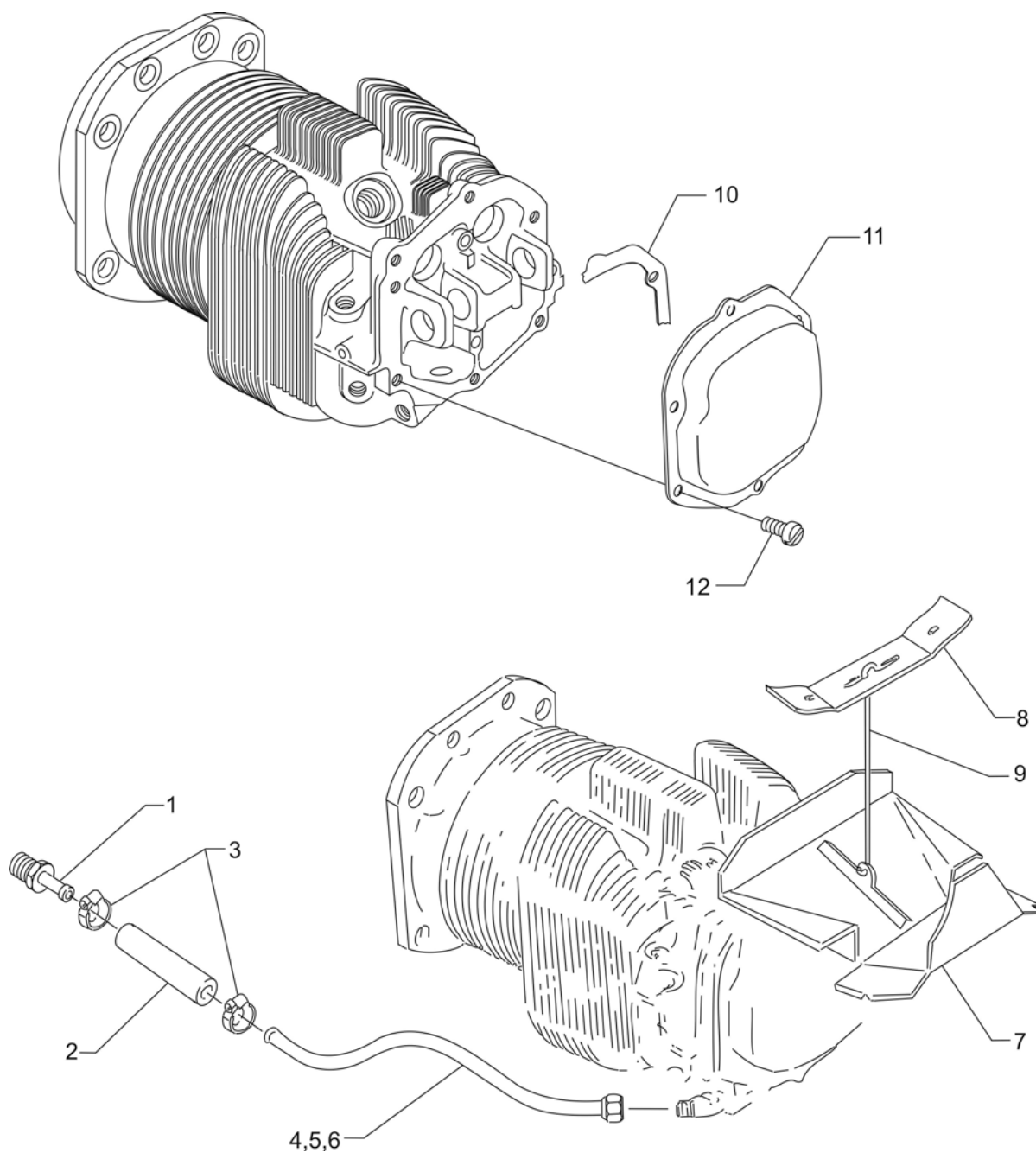
Figure Item	Code	Part Number	Description	Units per Assembly
1		17A23938	VALVE, Intake	4
2		17B23936	VALVE, Exhaust	4
3		LW-11795	SPRING, Valve, inner	8
4		LW-11800	SPRING, Valve, outer	8
5		65441	SEAT, Valve spring, lower intake	4
6		LW-13323	SEAT, Valve spring, lower exhaust	4
7		LW-10077	SEAT, Valve spring, upper intake	4
8		LW-16475	SEAT, Valve spring, upper exhaust (rotator type)	4
9		60009	KEY, Valve, intake	8
10		17C21191	KEY, Valve, exhaust (rotator type)	8
11		17C19386	CAP, Valve stem exhaust (rotator type)	4
12		15B26066	PLUNGER ASSEMBLY, Hydraulic lifter	8
13		15B21319	SOCKET, Hydraulic tappet	8
14		LW-11485	SHROUD TUBE ASSEMBLY, Push rod	8
		15G23461	SHROUD TUBE ASSEMBLY, Push rod (Roller tappet engines)	8
15		LW-14995	SPRING, Shroud tube	4
16		LW-12272	LOCKPLATE, Shroud tube	4
17		STD-1411	NUT, 1/4-20 plain	4
18		01L23459	WASHER, 25/32 I.D. x 3/8 O.D. x 1/32 thick (Roller tappet engines)	8
19	*	LW-18661	SEAL, Shroud tube	8
20		06A23493	SEAL, Shroud tube (Roller tappet engines)	8
21	**	70310	SEAL, Shroud tube	8
* This seal is used on flat tappet engines only. ** This seal is used on both flat tappet and roller tappet engines.				



Cylinder Related Parts
Figure 12

CYLINDER SECTION**FIGURE 12 – CYLINDER RELATED PARTS**

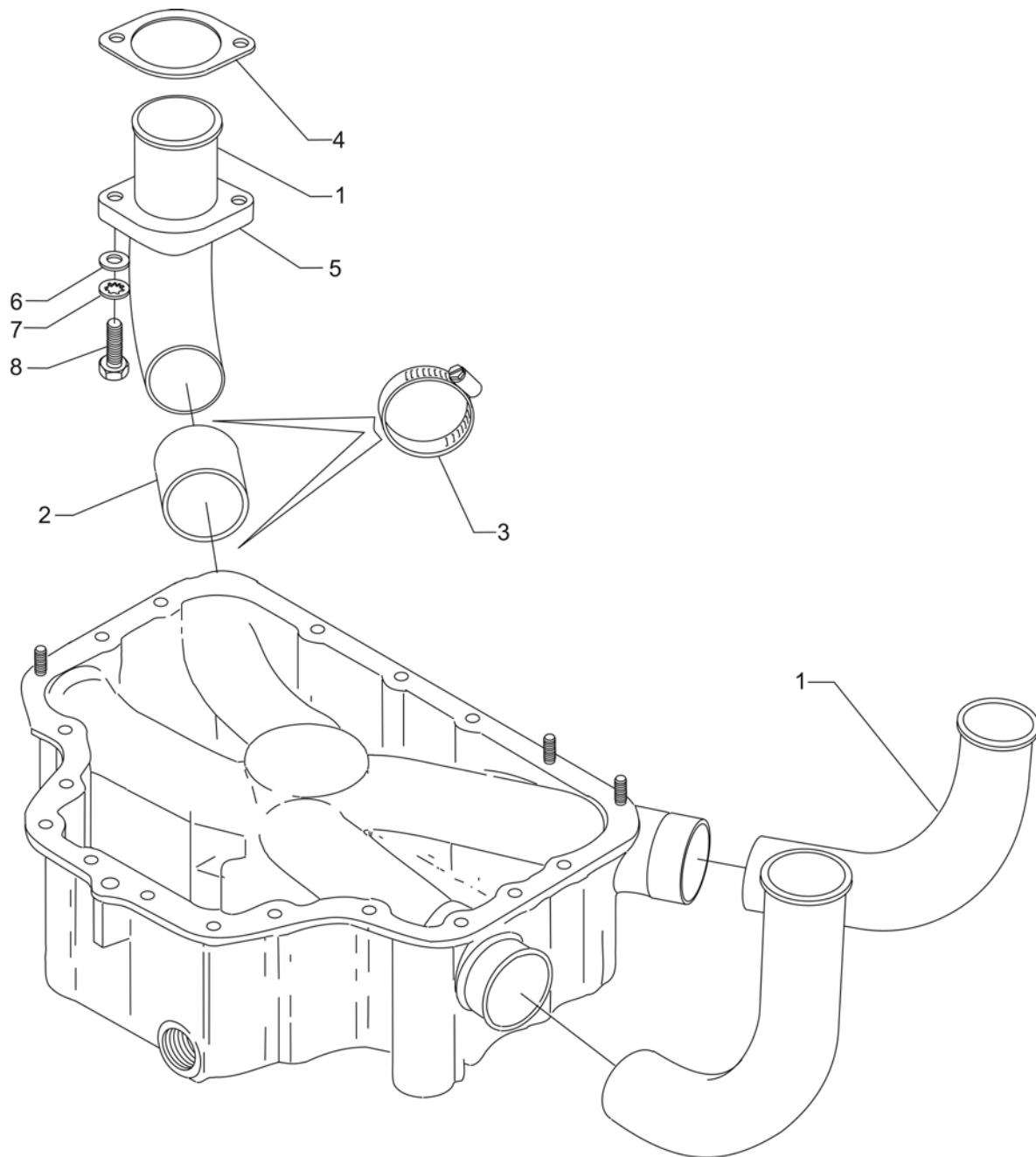
Figure Item	Code	Part Number	Description	Units per Assembly
1	AR*♦	15F19957-28	ROD ASSEMBLY, Push (A total of 8 required)	AR
	AR*♦	15F19957-29	ROD ASSEMBLY, Push (A total of 8 required)	AR
	AR*♦	15F19957-30	ROD ASSEMBLY, Push (A total of 8 required)	AR
	AR*♦	15F19957-31	ROD ASSEMBLY, Push (A total of 8 required)	AR
	AR*♦	15F19957-32	ROD ASSEMBLY, Push (A total of 8 required)	AR
	AR*♦	15F19957-33	ROD ASSEMBLY, Push (A total of 8 required)	AR
	AR†♦	15F19957-34	ROD ASSEMBLY, Push (A total of 8 required)	AR
	AR‡♦	15F19957-35	ROD ASSEMBLY, Push (A total of 8 required)	AR
	AR‡♦	15F19957-36	ROD ASSEMBLY, Push (A total of 8 required)	AR
	AR‡♦	15F19957-37	ROD ASSEMBLY, Push (A total of 8 required)	AR
2	**	17F19357	ROCKER ASSEMBLY, Valve	8
3		74637	BUSHING, Valve rocker	8
4		LW-13790	SHAFT, Valve rocker	4
5		LW-12892	THRUST BUTTON, Rocker shaft	8
6		71481	RING, Oil seal, 3/32 diameter x 4-27/32 long	4
7		74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
8		383-B	NUT, 3/8-24 plain	16
9		STD-2090	NUT, 1/2-20 plain	18
AR as required * These push rods are not to be used on flat tappet engines. † This push rod can be used on both flat tappet and roller tappet engines. ‡ These push rods are not to be used on roller tappet engines. ♦ See 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). NOTE: Various push rod lengths are used to set valve clearances.				



Cylinder Head Drain Tubes, Intercylinder Cooling Baffles and Rocker Box Covers
Figure 13

CYLINDER SECTION**FIGURE 13 –CYLINDER HEAD DRAIN TUBES, INTERCYLINDER COOLING BAFFLES
AND ROCKER BOX COVERS**

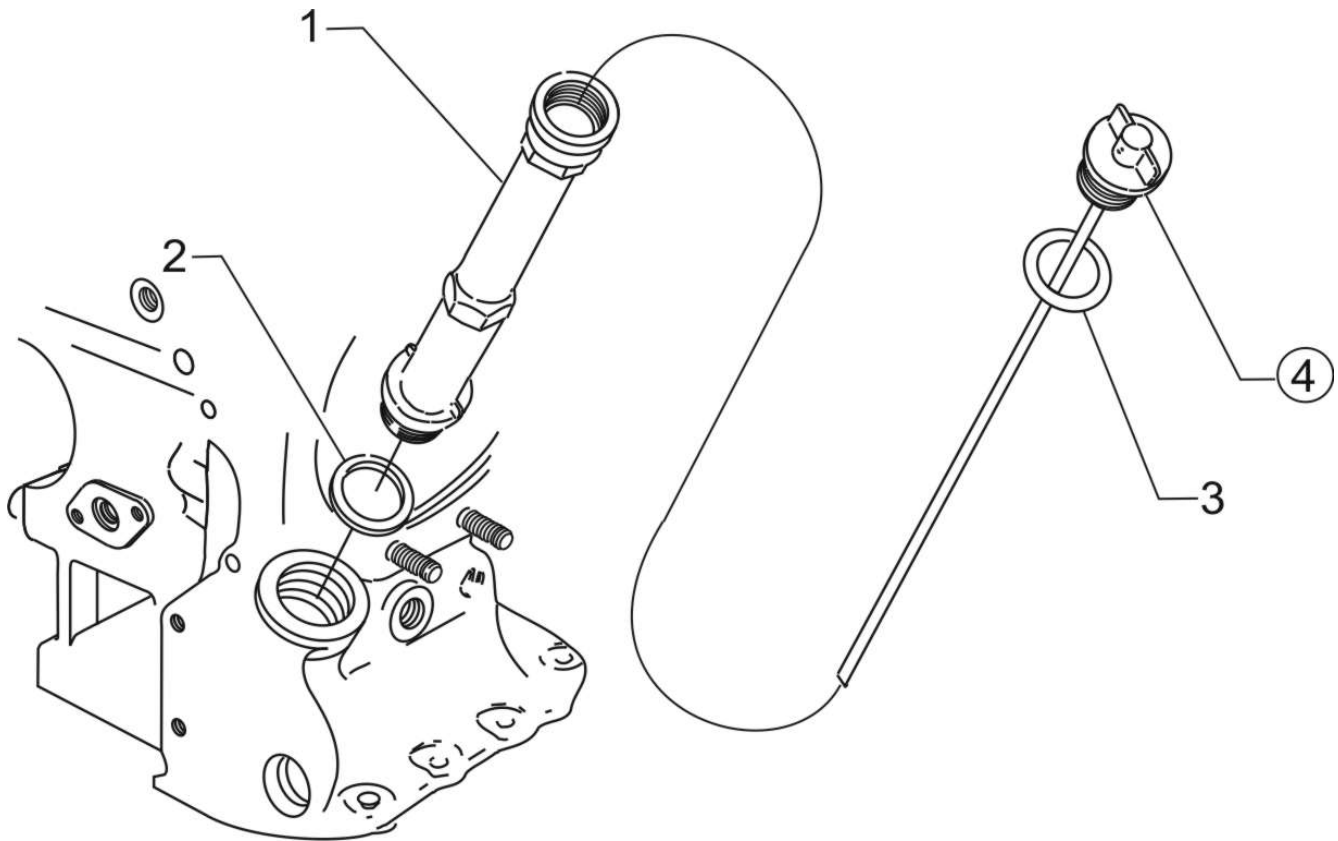
Figure Item	Code	Part Number	Description	Units per Assembly
1		STD-684	NIPPLE, Straight, 3/8 I.D. hose	4
2		STD-1821	HOSE, 3/8 I.D. x 2-1/2 long	4
3		LW-15592-5-05	CLAMP, Hose	8
4		68759	TUBE ASSEMBLY, Oil drain, cylinder no. 1	1
5		68760	TUBE ASSEMBLY, Oil drain, cylinder no. 2	1
6		68761	TUBE ASSEMBLY, Oil drain, cylinders no. 3 & 4	2
7		75339	BAFFLE ASSEMBLY, Intercylinder	2
8		71611	RETAINER, Intercylinder baffle	2
9		71610	HOOK, Intercylinder baffle retainer	2
10		75906	GASKET, Rocker box cover	4
11		61247	COVER, Rocker box	4
12		STD-1925	SCREW, 1/4-20 x 5/8 long, pan. head, self-locking	24



Intake Pipes and Attaching Parts
Figure 14

CYLINDER SECTION**FIGURE 14 – INTAKE PIPES AND ATTACHING PARTS**

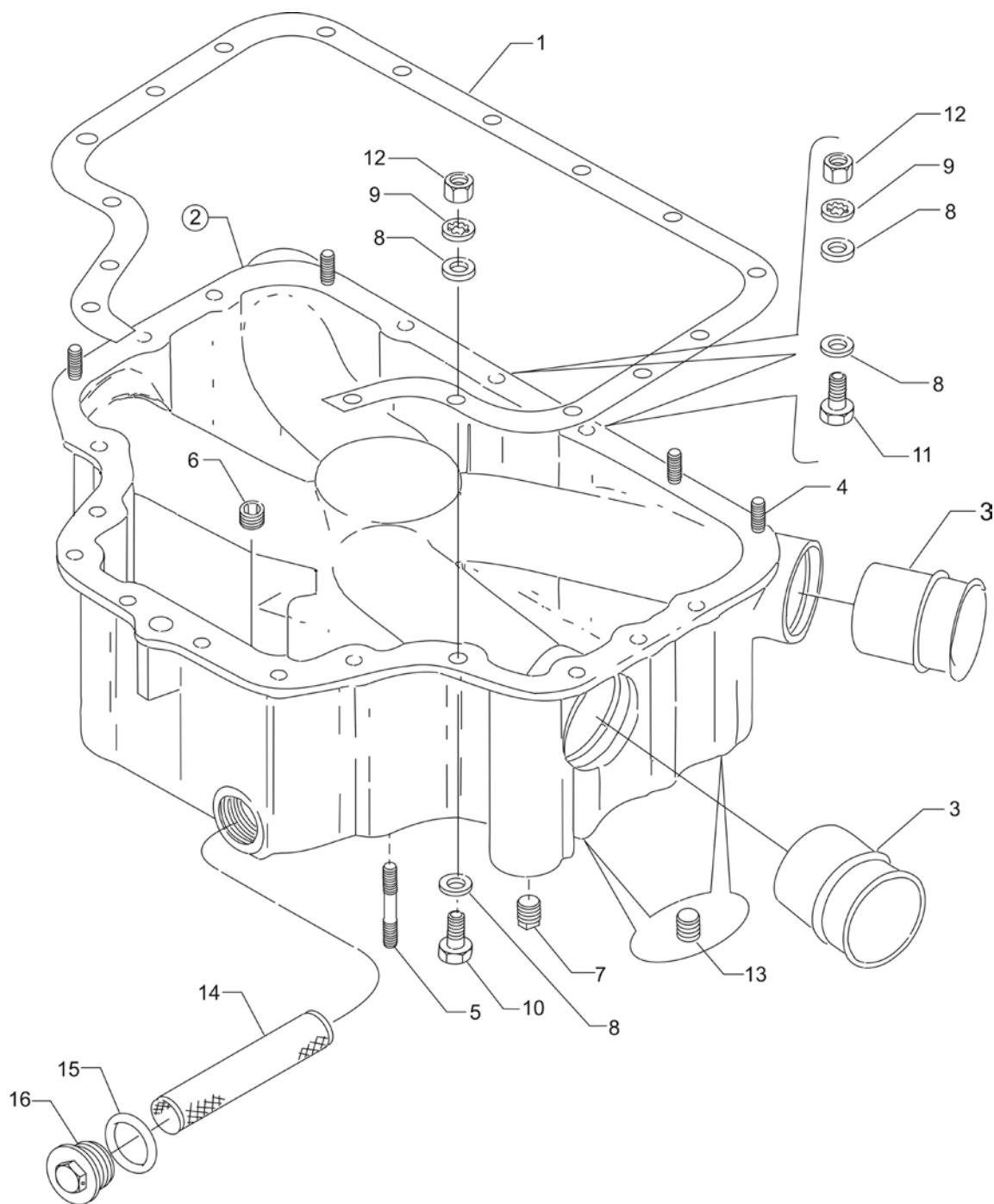
Figure Item	Code	Part Number	Description	Units per Assembly
1		70485	PIPE, Intake	4
2		69603	HOSE, 1-3/4 I.D. x 2-3/16 O.D. x 1-3/4	4
3		LW-15592-8-28	CLAMP, Hose	8
4		71973	GASKET, 2 bolt flange, 1-3/4 I.D.	4
5		73346	FLANGE, Intake pipe, upper	4
6		STD-8	WASHER, 1/4 plain	8
7		STD-160	WASHER, 1/4 lock,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



**Oil Level Gage
Figure 15**

LUBRICATION SYSTEM**FIGURE 15 – OIL LEVEL GAGE**

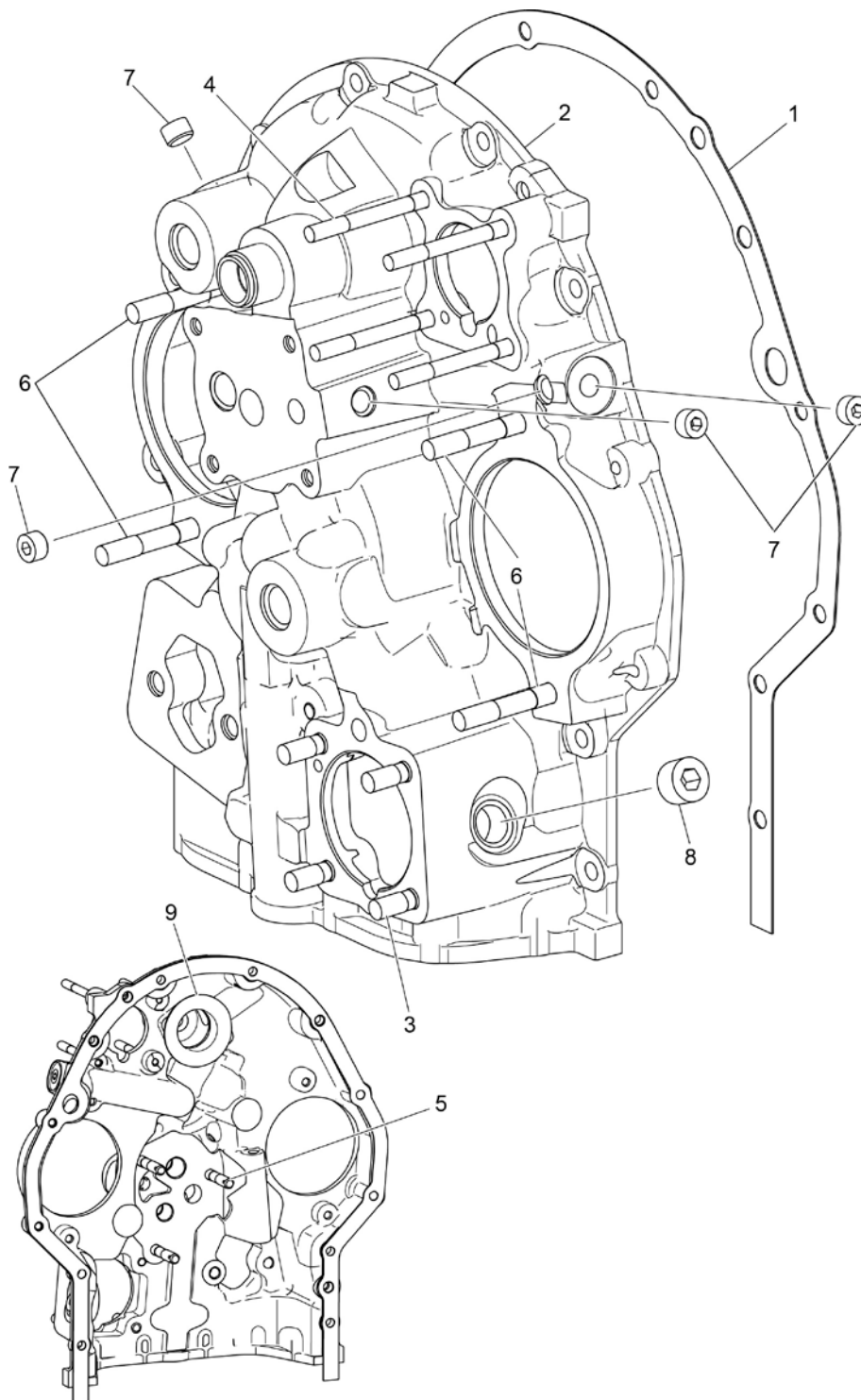
Figure Item	Code	Part Number	Description	Units per Assembly
1		75736	TUBE, Oil level gage (11-9/16 long)	1
		56C23075	TUBE, Oil level gage (15-1/8 long)	1
		LW-16580	TUBE, Oil level gage (12-13/16 long)	1
		75735	TUBE, Oil level gage (6-5/16 long)	1
2		72059	GASKET, Oil level gage	1
3	*	74068	RING, Oil level gage plug	1
	**	74065	RING, Oil level gage plug	1
4		LW-16783-18	GAGE ASSEMBLY, Oil level	1
		LW-14796	GAGE ASSEMBLY, Oil level	1
		LW-14768	GAGE ASSEMBLY, Oil level	1
		LW-14759	GAGE ASSEMBLY, Oil level	1
* Used with LW-16783-18, LW-14759 Oil Level Gage Assemblies. ** Used with LW-14796, LW-14768 Oil Level Gage Assemblies.				



Oil Sump Assembly and Oil Suction Screen
Figure 16

LUBRICATION SYSTEM**FIGURE 16 – OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN**

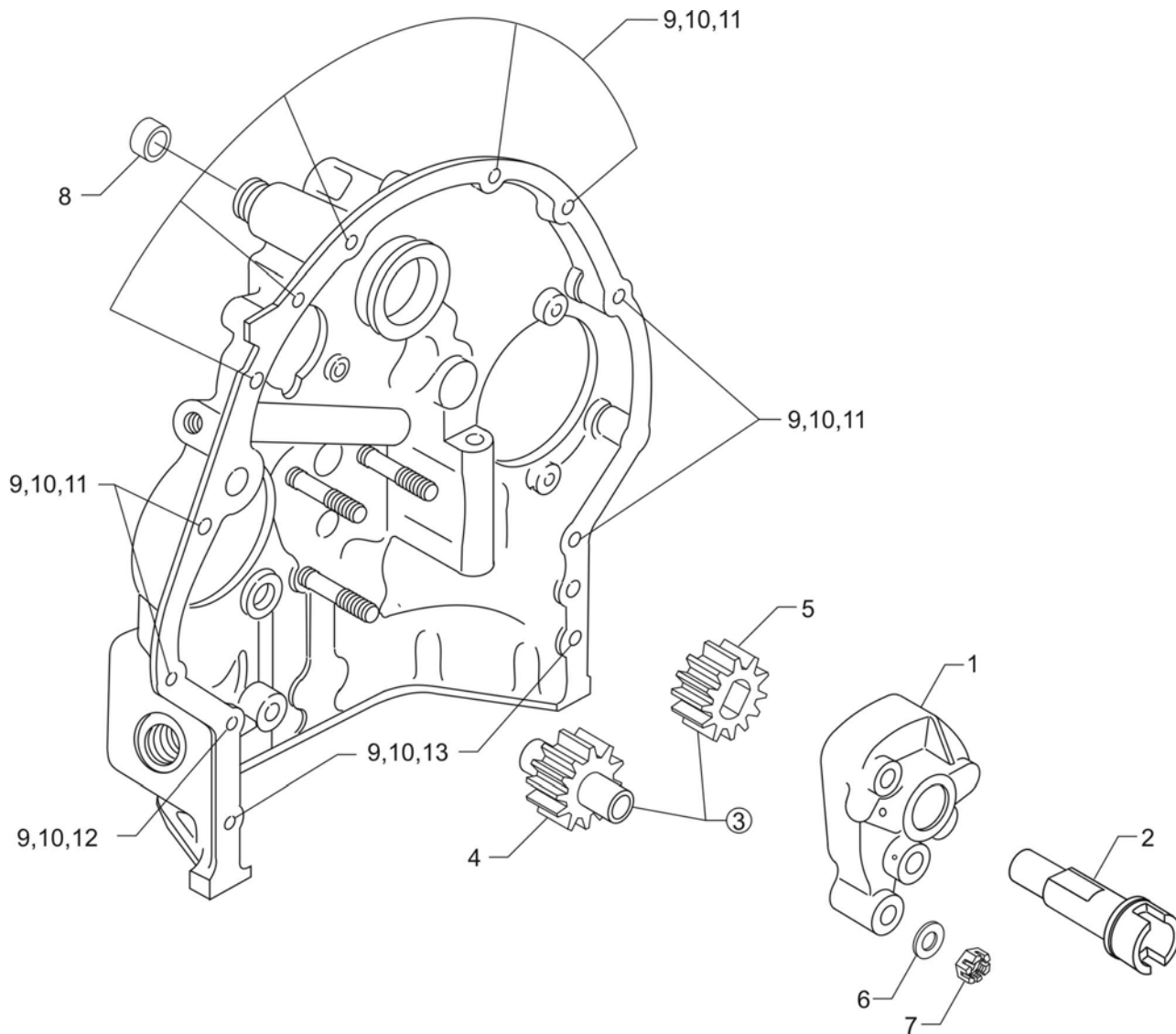
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-13353	GASKET, Oil sump	1
2		78915	SUMP ASSEMBLY, Oil	1
3		78914	CONNECTION, Intake pipe	4
4		61400	STUD, 1/4-20 x 1-3/16 long	4
5		31C-15	STUD, 5/16-18 x 1-7/8 long	4
6		STD-91	PLUG, 1/2-14 NPT, allen head	1
7		STD-551	PLUG, 1/2-14 NPT, square head	2
8		STD-8	WASHER, 1/4 plain	28
9		STD-160	WASHER, 1/4 lock, internal teeth	20
10		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	14
11		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	2
12		STD-1411	NUT, 1/4-20 plain	12
13		STD-2229	PLUG, 1/2 NPT, allen head	2
14		70484	SCREEN, Oil suction	1
15		06E19769-1.00	GASKET, Annular, 1.00 I.D.	1
16		LW-12545	PLUG, 5/8 hex. head x 1.00-20	1



Accessory Housing Assembly
Figure 17

ACCESSORY DRIVES**FIGURE 17 – ACCESSORY HOUSING ASSEMBLY**

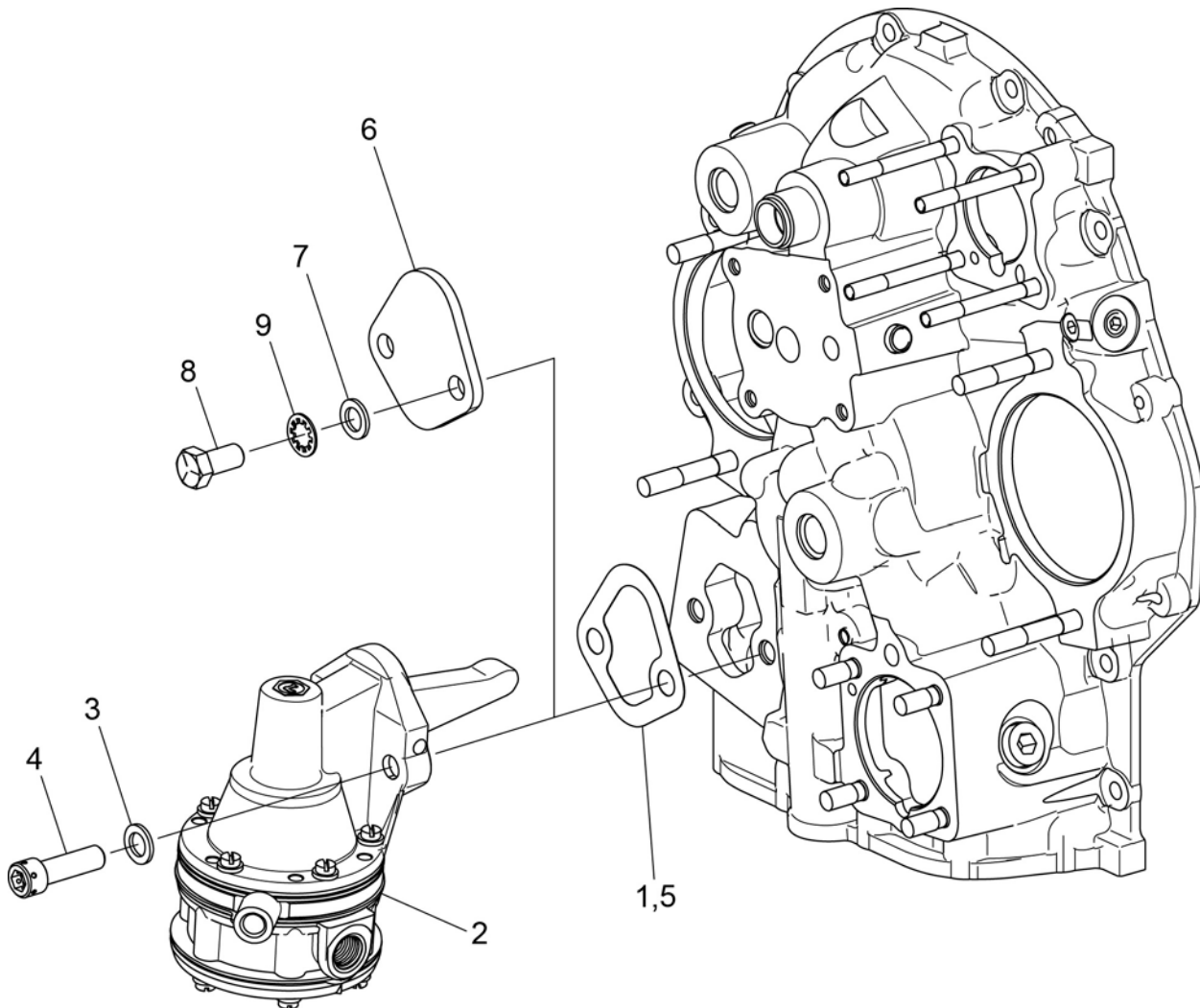
Figure Item	Code	Part Number	Description	Units per Assembly
1		73818	GASKET, Accessory housing	1
2		21A21533-04	HOUSING ASSEMBLY, Accessory	1
		21A21533-05	HOUSING ASSEMBLY, Accessory	1
3	*	31C-12	STUD, 5/16-18 x 1-1/2 long	4
		31C-12	STUD, 5/16-18 x 1-1/2 long	6
4		25C-22	STUD, 1/4-20 x 2-3/4 long	4
5		31CD-17	STUD, 5/16-18 x 2-1/8 long	3
6	*	31C-19	STUD, 5/16-18 x 2-1/8 long, drilled	4
		31C-19	STUD, 5/16-18 x 2-1/8 long, drilled	2
7		1102	PLUG, 1/8-27 NPT, allen head	4
8		STD-784	PLUG, 3/8-18 NPT, allen head	1
9		76119	SHIELD, Accessory breather oil	
* Only on P/N 21A21533-05 Accessory Housing.				



**Oil Pump Assembly and Accessory Housing Attaching Parts
Figure 18**

ACCESSORY DRIVES**FIGURE 18 – OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS**

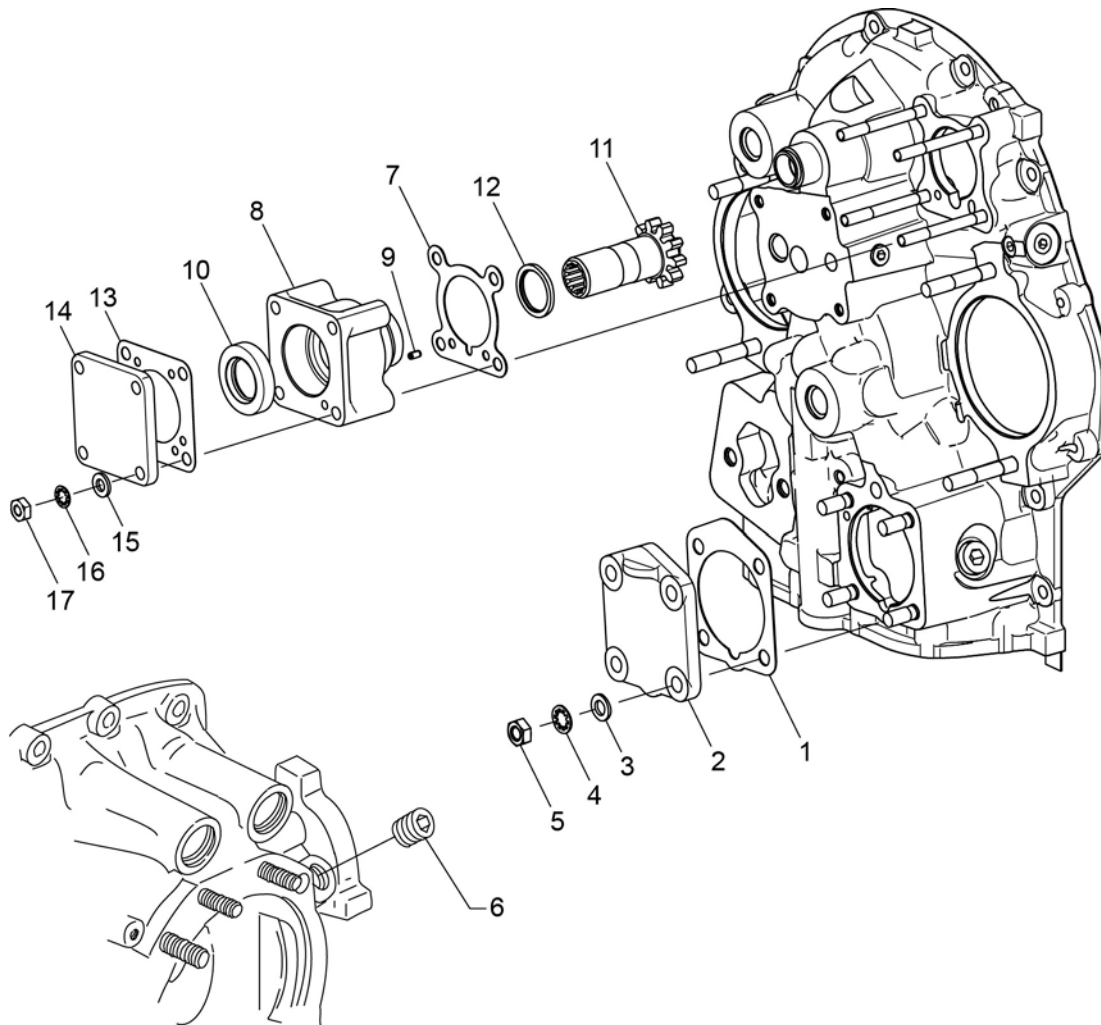
Figure Item	Code	Part Number	Description	Units per Assembly
1		78531	BODY ASSEMBLY, Oil pump	1
2		61174	SHAFT, Oil pump drive	1
3		05K19423-S	IMPELLER KIT	1
4	*	LW-18110	IMPELLER ASSEMBLY, Oil pump driven	1
5	*	LW-18109	IMPELLER, Oil pump driven	1
6		STD-35	WASHER, 5/16 plain	3
7		STD-1420	NUT, 5/16-18 slotted	3
8		LW-14260	SEAL, Oil, tachometer drive	1
9		STD-8	WASHER, 1/4 plain	12
10		STD-160	WASHER, 1/4 lock, internal teeth	12
11		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	9
12		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
13		LW-25-1.44	BOLT, 1/4-20 x 1-7/16 long, hex. head	2
* Sold in complete sets only (Kit P/N 05K19423-S).				



Fuel Pump Assembly, Cover and Attaching Parts
Figure 19

ACCESSORY DRIVES**FIGURE 19 – FUEL PUMP ASSEMBLY, COVER AND ATTACHING PARTS**

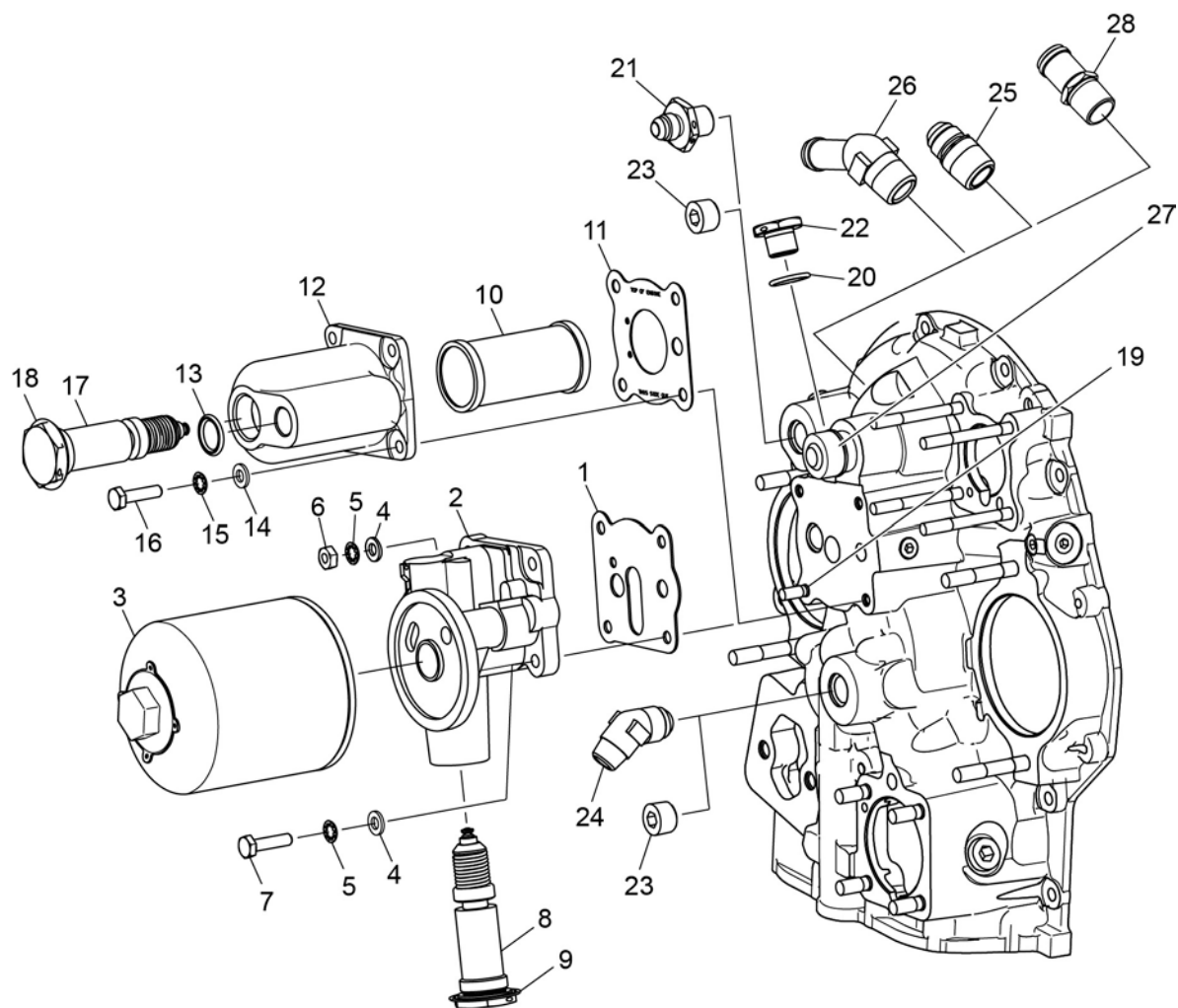
Figure Item	Code	Part Number	Description	Units per Assembly
1		60096	GASKET, Fuel pump	1
2		LW-15472	FUEL PUMP, Dual diaphragm, low pressure	1
3		STD-33	WASHER, 3/8 plain	2
4		STD-1882	SCREW, 3/8-16 x 1-9/32 long, socket head, drilled	2
5		60096	GASKET, Fuel pump	1
6		03D23350	COVER, Fuel pump	1
7		STD-33	WASHER, 3/8 plain	2
8		LW-38-0.75	BOLT, 3/8-16 x 3/8 long, hex. head	2
9		STD-678	WASHER, 3/8 lock, internal teeth	2



Propeller Governor Drive Cover and Vacuum Pump Drive and Cover
Figure 20

ACCESSORY DRIVES**FIGURE 20 – PROPELLER GOVERNOR DRIVE COVER AND VACUUM PUMP DRIVE
AND COVER**

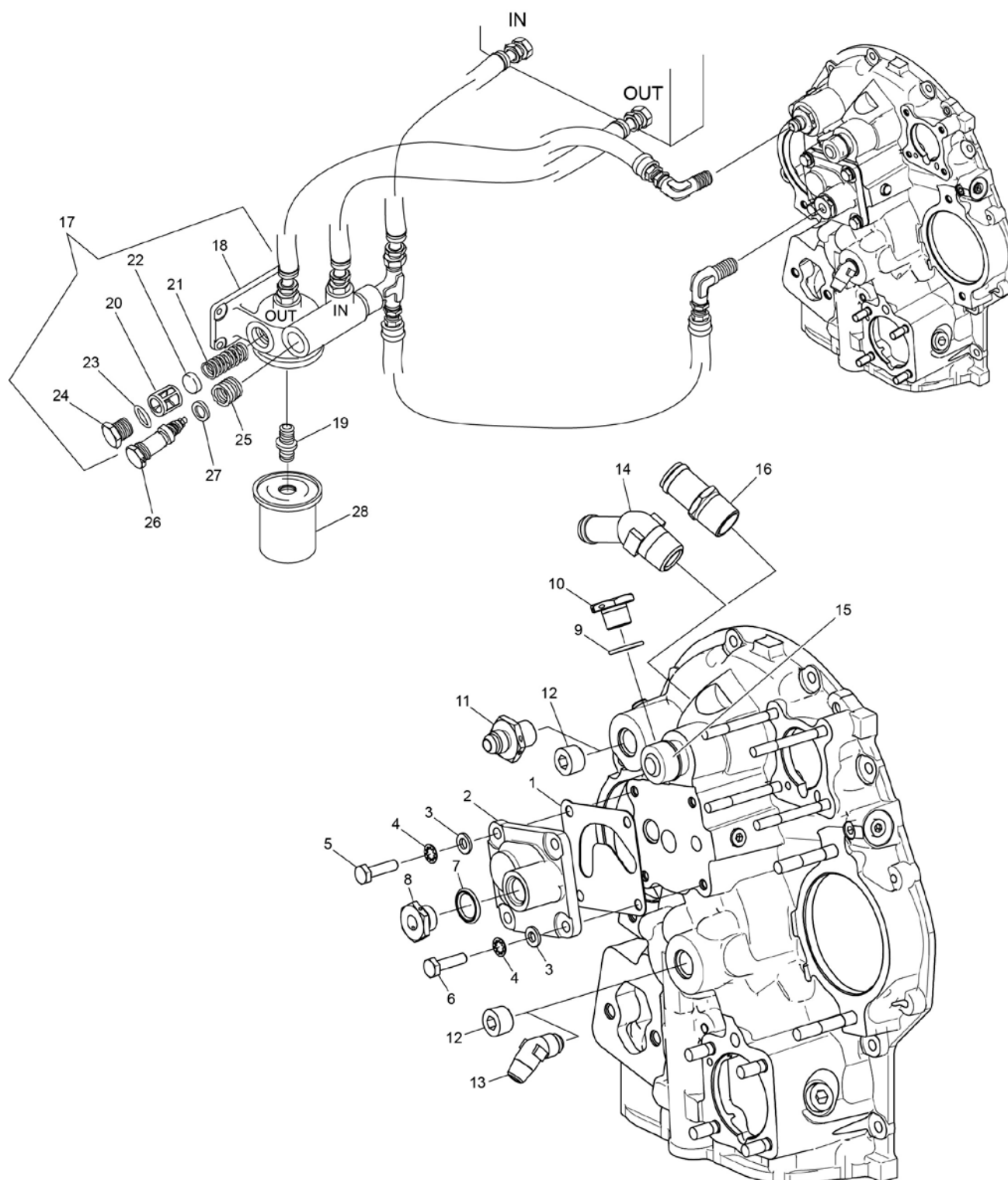
Figure Item	Code	Part Number	Description	Units per Assembly
1		69551	GASKET, Accessory adapter	1
2		69106	COVER, Governor drive adapter pad	1
3		STD-35	WASHER, 5/16 plain	4
4		STD-475	WASHER, 5/16 loc, internal teeth	4
5		STD-1410	NUT, 5/16-18 plain	4
6	*	STD-783	PLUG, 1/4-18 NPT, allen head	1
7		61183	GASKET, Accessory adapter	1
8		61098	ADAPTER ASSEMBLY, Vacuum pump	1
9		STD-1774	PIN, 1/8 diameter x 1/4 long	1
10		06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide	1
11		72970	GEAR ASSEMBLY, Vacuum pump driven	1
12		71596	WASHER, Accessory drive gear	1
13		8313	GASKET, Vacuum pump	1
14		60430	COVER, Vacuum pump	1
15		STD-8	WASHER, 1/4 plain	4
16		STD-160	WASHER, 1/4 lock, internal teeth	4
17		STD-1411	NUT, 1/4-20 plain	4
* Used when no propeller governor oil line is installed.				



**Oil Filter Assembly, Oil Pressure Screen, Oil Cooler Bypass Valve and Breather Fitting
Figure 21**

ACCESSORY DRIVES**FIGURE 21 – OIL FILTER ASSEMBLY, OIL PRESSURE SCREEN, OIL COOLER
BYPASS VALVE AND BREATHER FITTING**

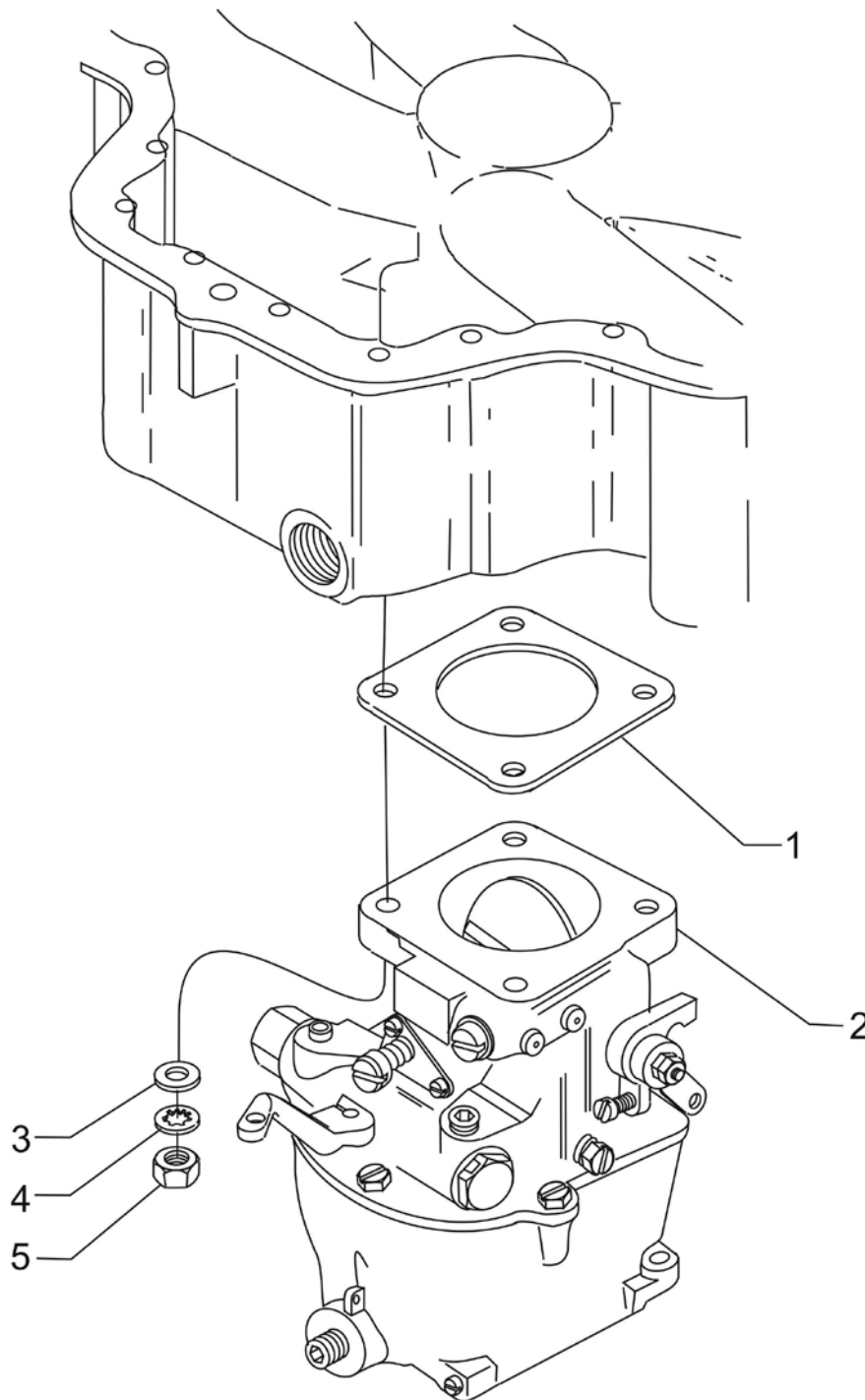
Figure Item	Code	Part Number	Description	Units per Assembly
1		06B23862	GASKET, Oil filter adapter	1
2		77852	OIL FILTER BASE ASSEMBLY	1
3	V	LW-13215	OIL FILTER, Short V CH48110-1	1
4		STD-8	WASHER, 1/4 plain	4
5		STD-160	WASHER, 1/4 lock, internal teeth	4
6		STD-1411	NUT, 1/4-20 plain	1
7		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	3
8		53E22144	VALVE ASSEMBLY, Temperature control oil cooler bypass	1
9		76510	GASKET, Valve assembly	1
10		62817	SCREEN ASSEMBLY, Oil pressure	1
11		61173	GASKET, Oil pressure housing	1
12		69510	HOUSING, Oil pressure screen	1
13		06E19769-0.63	GASKET, Annular, 5/8 I.D.	1
14		STD-8	WASHER, 1/4 plain	4
15		STD-160	WASHER, 1/4 lock, internal teeth	4
16		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	1
17		53E22144	VALVE ASSEMBLY, Temperature control oil cooler bypass	1
18		76510	GASKET, Valve assembly	1
19		25C-10	STUD, 1/4-20 x 1-1/4 long	1
20		06E19769-0.63	GASKET, Annular, 5/8 I.D.	1
21		69675	CONNECTOR, Accessory housing oil cooler	1
22		62417	PLUG, Oil cooler bypass	1
23		STD-784	PLUG, 3/8-18 NPT, allen head	2
24		MS20823-8	ELBOW, 3/8 NPT, 1/2 flared tube	1
25		AN816-8	NIPPLE, 3/8 NPT, 1/2 flared tube	1
26		AN844-10D	ELBOW, Pipe	1
27		62732	CAP, Tachometer drive	1
28		71140	FITTING, Breather	
V Vendor Prime Manufacturer Part				
NOTE: Refer to latest revision of Lycoming SSP-885 for oil filter kits and replacement filters.				



**Remote Oil Filter Cover, Oil Cooler Bypass Valve and Breather Fitting
Figure 22**

ACCESSORY DRIVES**FIGURE 22 - REMOTE OIL FILTER COVER, OIL COOLER BYPASS VALVE
AND BREATHER FITTING**

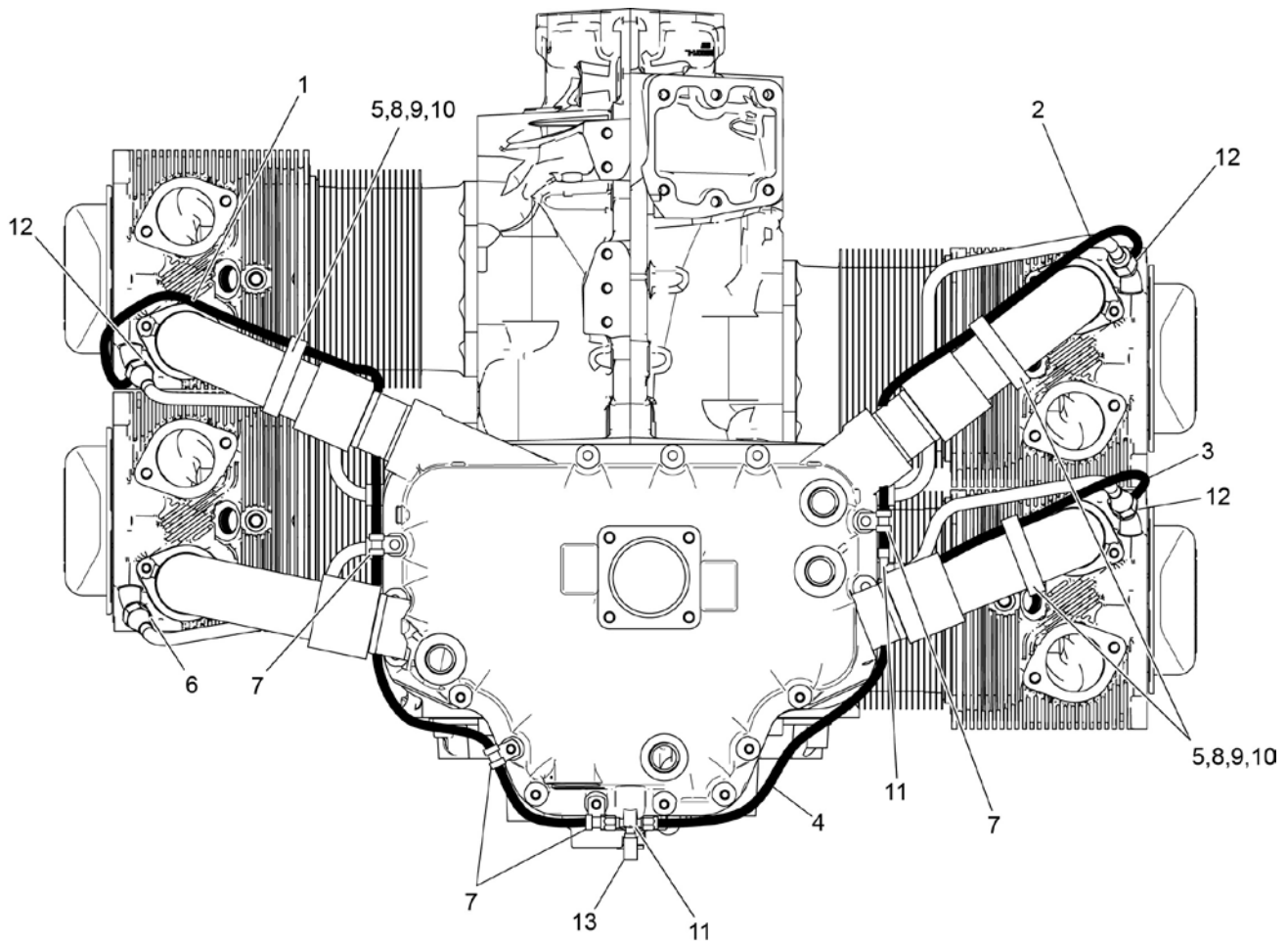
Figure Item	Code	Part Number	Description	Units per Assembly
1		06B21644	GASKET, Oil filter base cover	1
2		21M23736	COVER, Oil filter base	1
3		STD-8	WASHER, 1/4 plain	4
4		STD-160	WASHER, 1/4 lock, internal teeth	4
5		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	3
6		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	1
7		06E19769-0.63	GASKET, Annular, 5/8 I.D.	1
8		1540	PLUG, Thermometer well	1
9		06E19769-0.63	GASKET, Annular, 5/8 I.D.	1
10		62417	PLUG, Oil cooler bypass	1
11		69675	CONNECTOR, Accessory housing oil cooler	1
12		STD-784	PLUG, 3/8-18 NPT, allen head	1
		STD-784	PLUG, 3/8-18 NPT, allen head	2
13		MS20823-6	ELBOW, 3/8 NPT, 1/2 flared tube	1
14		AN844-10D	ELBOW, Pipe	1
15		62732	CAP, Tachometer drive	1
16		71140	FITTING, Breather	1
17		54J21208	ADAPTER ASSEMBLY, Oil filter remote	1
18		54J21207	ADAPTER, Oil filter remote	1
19		LW-16306	STUD, Oil filter	1
20		77607	SLEEVE, Oil relief valve	1
21		76542	SPRING, Oil relief valve	1
22		76539	SEAT, Oil relief valve	1
23		MS29512-12	SEAL, Oil	1
24		03C21076	PLUG, Oil relief valve	1
25		LW-10341	INSERT, 1.00-14 UNF x 3/8 long	1
26		53E22144	VALVE ASSEMBLY, Temperature control oil cooler bypass	1
27		76510	GASKET, Valve assembly	1
28	V	LW-13906	OIL FILTER, Short V CH48103-1	
V Vendor Prime Manufacturer part				



Carburetor Assembly
Figure 23

FUEL DISTRIBUTION**FIGURE 23 - CARBURETOR ASSEMBLY**

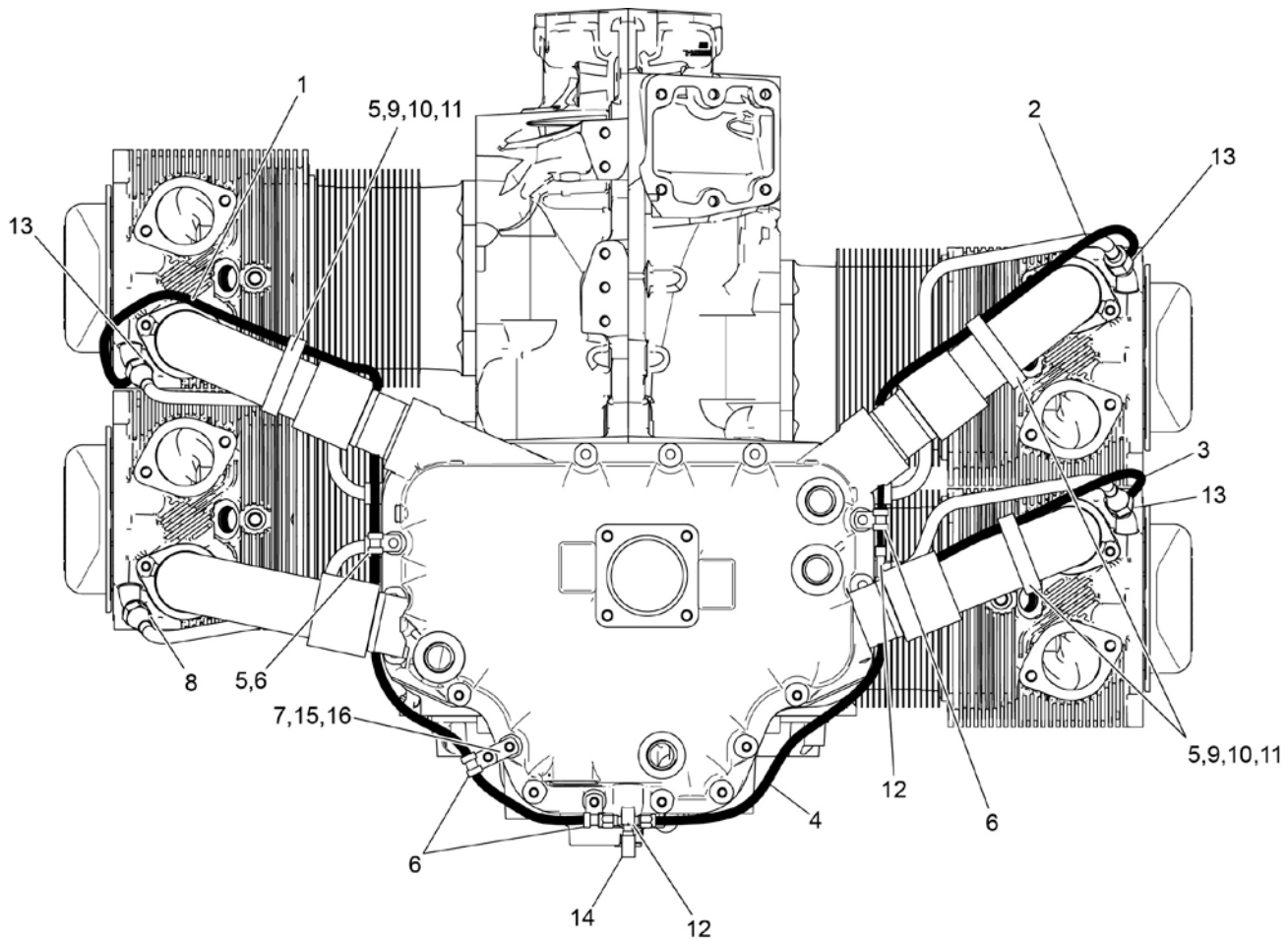
Figure Item	Code	Part Number	Description	Units per Assembly
1		66224	GASKET, Carburetor	1
2	V	61C26046	CARBURETOR, MA4-5, V AV 10-3878	1
	V	61C26047	CARBURETOR, MA4-5, V AV 10-4164-1	1
	V	61C26049-R	CARBURETOR, MA4-5, Rich limit V AV 10-5193	1
	V	61C26049-L	CARBURETOR, MA-4-5, Lean limit V AV 10-5193	1
	V	61C26051	CARBURETOR, MA4-5, V 10-6102	1
	V	61C26128	CARBURETOR, MA4-5, V AV 10-6108	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
V Vendor Prime Manufacturer part				



Priming Lines (Updraft)
Figure 24

FUEL DISTRIBUTION**FIGURE 24 - PRIMING LINES (UPDRAFT)**

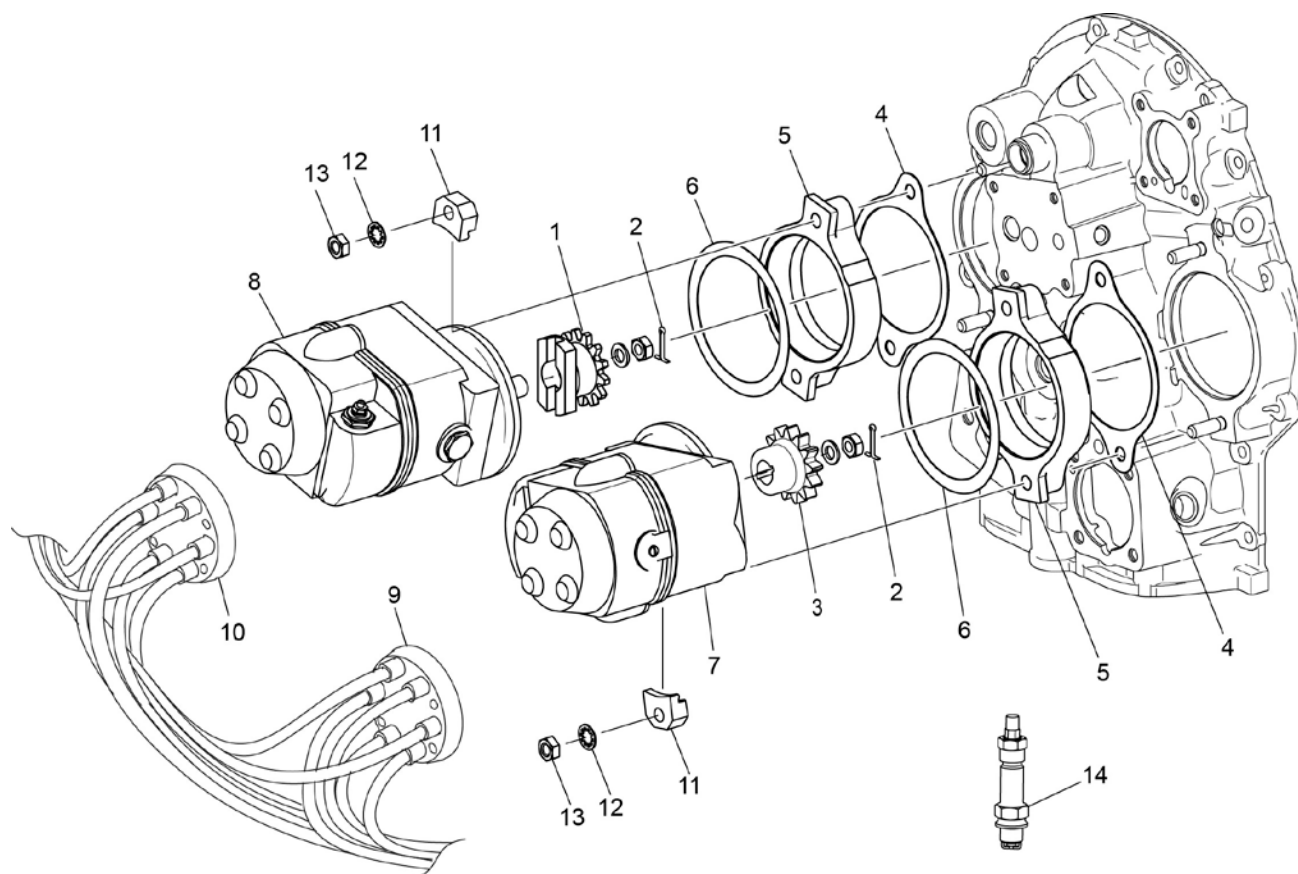
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-12098-0-290	TUBE ASSEMBLY, Primer, cylinder no. 1	1
2		LW-12098-0-180	TUBE ASSEMBLY, Primer, cylinder no. 2	1
3		LW-12098-0-130	TUBE ASSEMBLY, Primer, cylinder no. 4	1
4		LW-12098-0-100	TUBE ASSEMBLY, Primer, intermediate	1
5		LW-12598	SLEEVE, Priming	3
6	*	1102	PLUG, 1/8-27 NPT, allen head	1
7		LW-16266-25-13	CLAMP	4
8		LW-18959-175-25	CLAMP, 1/-3/4 I.D. with 1/4 diameter offset	3
9		STD-553	SCREW, No. 6-32 x 1/2 long, round head	3
10		MS21044N06	NUT, No. 6-32 self-locking	3
11		STD-853	TEE, Union, 1/8 tube	2
12		63D21408	NIPPLE ASSEMBLY, Primer	3
13		61597	CAP, Sealing, 5/16 diameter x 1.00 long	1
* Assemble in cylinder when no priming lines are installed.				



Priming Lines
Figure 25

FUEL DISTRIBUTION
FIGURE 25 - PRIMING LINES

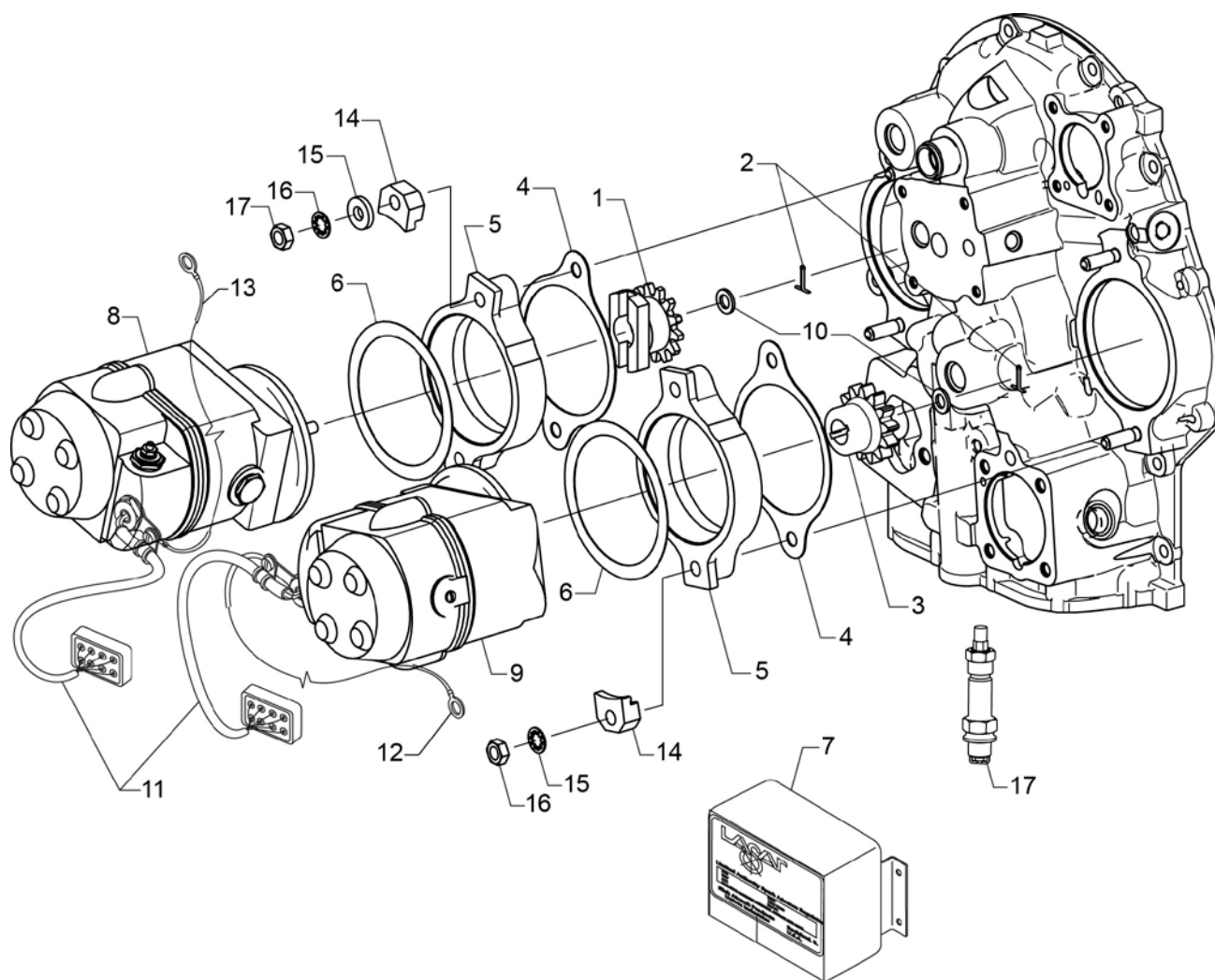
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-12098-0-320	TUBE ASSEMBLY, Primer, cylinder no. 1	1
2		LW-12098-0-170	TUBE ASSEMBLY, Primer, cylinder no. 2	1
3		LW-12098-0-130	TUBE ASSEMBLY, Primer, cylinder no. 4	1
4		LW-12098-0-100	TUBE ASSEMBLY, Primer, intermediate	1
5		LW-12598	SLEEVE, Priming line	4
6		LW-16266-25-13	CLAMP	4
7		LW-14432	BRACKET, Support clamp	1
8	*	1102	PLUG, 1/8-27 NPT, allen head	1
9		LW-18959-175-25	CLAMP, 1-3/4 I.D. with 1/4 diameter offset	3
10		STD-553	SCREW, No. 6-32 x 1/2 long, round head	3
11		MS21044N06	NUT, No. 6-32, self-locking	3
12		STD-853	TEE, Union, 1/8 tube	2
13		63D21408	NIPPLE ASSEMBLY, Primer	3
14		61597	CAP, Sealing, 5/16 diameter x 1.00 long	1
15		STD-670	LOCKNUT, No. 10-32	1
16		STD-692	SCREW, No. 10-32 x 1/2 long, round head	1
* Assemble in cylinder head when no priming lines are installed.				



Magnetos, Magneto Drives, Harnesses and Spark Plugs
Figure 26

IGNITION DISTRIBUTION SYSTEM**FIGURE 26 -MAGNETOS, MAGNETO DRIVES, HARNESSES AND SPARK PLUGS**

Figure Item	Code	Part Number	Description	Units per Assembly
1		61665	GEAR, Magneto, impulse coupling	1
	*	61665	GEAR, Magneto, impulse coupling	2
2		MS9245-44	COTTER PIN, 3/32 diameter x 5/8 long	2
3		68C19622	GEAR, Magneto	1
4		62224	GASKET, Magneto adapter	1
	*	62224	GASKET, Magneto adapter	2
5		LW-12706	ADAPTER, Magneto, impulse coupling	1
	*	LW-12706	ADAPTER, Magneto, impulse coupling	2
6		LW-12681	GASKET, Magneto	2
7	V	66GP-0SANN	MAGNETO, Plain, V 4370	1
8	V	66GC20SFNN	MAGNETO, Impulse, V 4371	1
	V	66GC25SFNN	MAGNETO, Impulse, V 4373	1
	V	66GC25SFNN	MAGNETO, Impulse, V 4373	2
9	V	67P20406	HARNESS ASSEMBLY, Right, Slick V M2992	1
	V**	67P20428	HARNESS ASSEMBLY, Right, Slick V M2990	1
10	V	67P20407	HARNESS ASSEMBLY, Left, Slick V M1795	1
	V**	67P20429	HARNESS ASSEMBLY, Left, Slick V M2989	1
11		66M21195	CLAMP, Magneto	4
12		STD-475	WASHER, 5/16 lock, internal teeth	4
13		STD-1410	NUT, 5/16-18 plain	4
14	V♦	1182-E7	SPARK PLUG, Champion V REM38E	8
	V	1182-B7	SPARK PLUG, Champion V REM37BY	8
	†	01P19762-1-43	BAG, Harness attaching	1
V Vendor Prime Manufacturer part * On engines with two impulse coupling magnetos. ** On engines with P/N 66GC25SFNN impulse coupling magnetos. ♦ Item No. 14 spark plugs are used in current production only. Additional spark plugs are available for this engine. See latest revision of Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs. † See page 54 for breakdown of individual parts contained in this magneto and harness attaching bag. These parts to be added by customer per engine line drawing included in bag.				



Magnetos (Lasar), Magneto Drives, Harnesses and Spark Plugs
Figure 27

IGNITION DISTRIBUTION SYSTEM**FIGURE 27 - MAGNETOS (LASAR), MAGNETO DRIVES, HARNESSSES
AND SPARK PLUGS**

Figure Item	Code	Part Number	Description	Units per Assembly
1		61665	GEAR, Magneto, impulse coupling	1
2		MS9245-44	COTTER PIN, 3/32 diameter x 5/8 long	2
3		68C19622	GEAR, Magneto	1
4		62224	GASKET, Magneto adapter	1
5		LW-12706	ADAPTER, Magneto, impulse coupling	1
6		LW-12681	GASKET, Magneto	2
7	V	66SLC-1001-04	CONT., Lasar, 12V./LC-1	1
8	V	66K22442	MAGNETO, Lasar, left, impulse V 4771	1
9	V	66K22445	MAGNETO, Lasar, right V 4770	1
10		STD-35	WASHER, 5/16 plain	2
11	V	67Y22441-43	HARNESS ASSEMBLY, Lasar ignition	1
12	V	67P20428	HARNESS ASSEMBLY, Right, V M2990	1
13	V	67P20429	HARNESS ASSEMBLY, Left, V M2989	1
14		66M21195	CLAMP, Magneto	4
15		STD-475	WASHER, 5/16 lock, internal teeth	4
16		STD-1410	NUT, 5/16-18 plain	4
17	V*	1182-E7	SPARK PLUG, Champion V REM38E	8
V Vendor Prime Manufacturer part * Item No. 17 spark plugs are used in current production only. Additional spark plugs are available for this engine. See latest revision of Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs.				

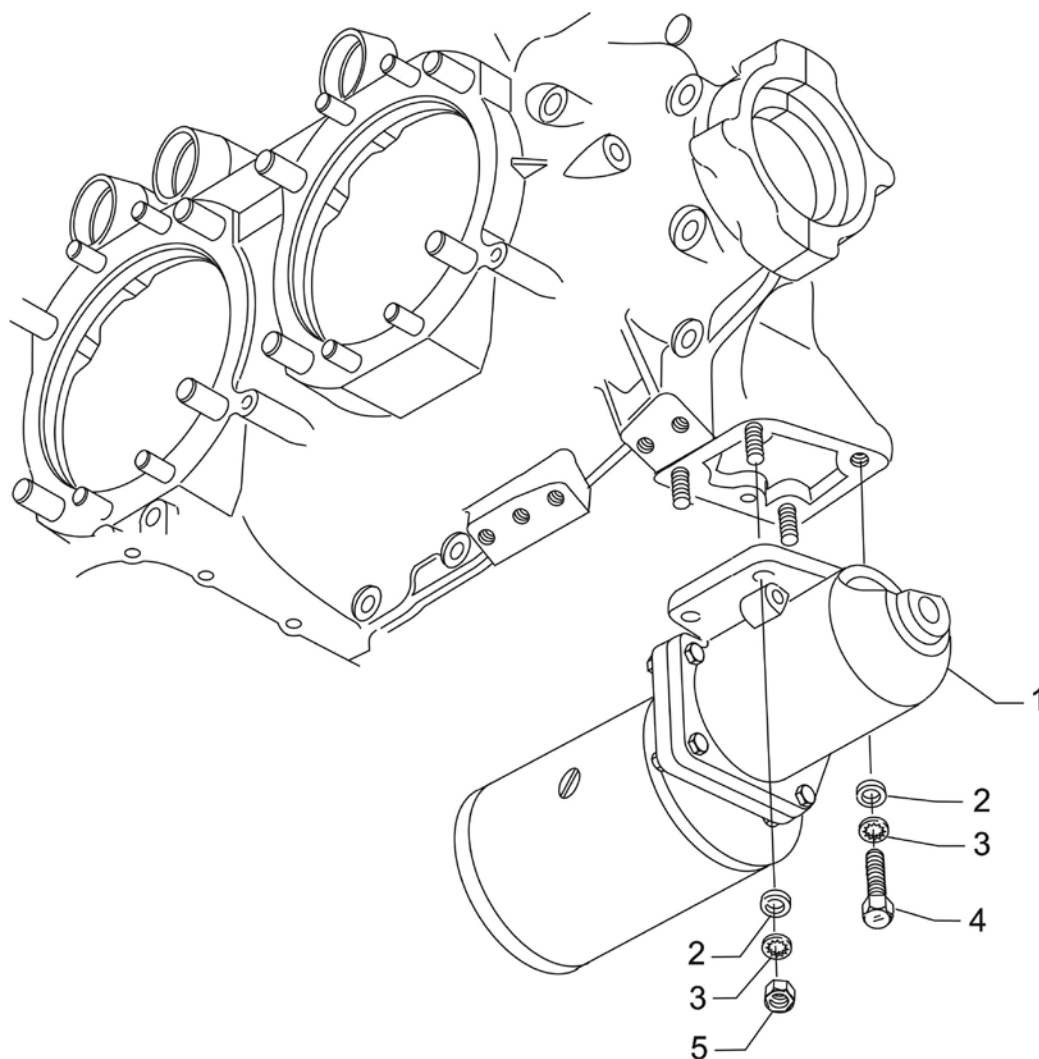
01P19762-1-43 – Bag, Magneto Harness Attaching

Part No.	Part Name	Qty.
LW-16266-25-25	CLIP, One wire	4
LW-14060	CLIP, Two wire	3
STD-8	WASHER, 1/4 plain	8
STD-1874	SCREW, 1/4 lock (rocker box)	6
76734	ZIP STRAP	8
LW-16266-25-50	CLIP, Four wire	1
STD-696	WASHER, 1/4 plain	4
STD-1916	SCREW, 1/4-20 x 1-1/8 long, fill. head	3
LW-M-2375	PLATE, Spark plug cable, two wire	2

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IGNITION DISTRIBUTION SYSTEM**FIGURE 28 - ALTERNATOR ASSEMBLY AND BELT**

Figure Item	Code	Part Number	Description	Units per Assembly
1		32B19549	ALTERNATOR ASSEMBLY, 12V-70Amp	1
		32C19553	ALTERNATOR ASSEMBLY, 24V-70Amp	1
		LW-14371	ALTERNATOR ASSEMBLY, 12V-60Amp	1
		LW-14367	ALTERNATOR ASSEMBLY, 24V-70Amp	1
		32C19568	ALTERNATOR ASSEMBLY, 24V-70Amp	1
2	V	LW-14318	ALTERNATOR, 12V-70Amp V ALX-8521LS	1
	V*	LW-14326	ALTERNATOR, 24V-70Amp V ALU-8521LS	1
	V	LW-14313	ALTERNATOR, 12V-60Amp V ALY-8520LS	1
	V**	LW-14329	ALTERNATOR, 24V-70Amp V ALU-6521LS	1
	V♦	32C21997	ALTERNATOR, 24V-75Amp V ALU-8532LS	1
	V†	LW-14328	ALTERNATOR, 24V-70Amp V ALU-8521LS	1
3		36B19484	PULLEY, Alternator	1
4		37A19773-396	BELT, Alternator drive, 3/8 wide	1
V Vendor Prime Manufacturer part * Part of P/N 32C19553 Alternator Assembly. ** Part of P/N LW-14367 Alternator Assembly. † Part of P/N 32C19568 Alternator Assembly. ♦ Pulley supplied by airframe manufacturer. NOTE: See latest revision of Lycoming Service Instruction No. 1154 for complete listing of FAA approved starters, generators, alternators, regulators and relays.				



Starter Motor and Attaching Parts
Figure 29

CRANKING SECTION**FIGURE 29 - STARTER MOTOR AND ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly
1	V	31A22100	STARTER, Sky-Tec, V 149-12PM	1
	V	31A22104	STARTER, Sky-Tec, V 149-12LS	1
	V	31A26041	STARTER ASSEMBLY, Kelly V ERZ-8011	1
	V	31B22105	STARTER, Sky-Tec V 149-24LS	1
	V	31B26040	STARTER ASSEMBLY, Kelly V ERB-8011	1
	V	31B26554	STARTER, Sky-Tec V 149NL/EC	1
2	*	STD-35	WASHER, 5/16 plain	4
3		STD-475	WASHER, 5/16 lock, internal teeth	4
4		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	1
	*	LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	1
5		STD-1410	NUT, 5/16-18 plain	3
V Vendor Prime Manufacturer part * Use with Kelly starters only. NOTE: See latest revision of Lycoming Service Instruction No. 1154 for complete listing of FAA approved starters, generators, alternators, regulators and relays.				

SERVICE KIT SECTION**SEAL AND GASKET SET**

PART NO.	PART NAME	Qty.
75439-1	KIT - SEAL AND GASKET SET	1
AN901-8A	GASKET, Metal tube connect seal	1
LW-10332	LOCKPLATE, Crankshaft gear	1
LW-12272	LOCKPLATE, Shroud tube	4
LW-12681	GASKET, Magneto	2
06B23862	GASKET, Oil filter adapter	1
LW-13353	GASKET, Oil sump	1
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Tachometer drive oil	1
LW-14995	SPRING, Shroud tube	4
LW-18639	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	8
STD-475	WASHER, 5/16 lock, internal teeth	4
STD-213	SEAL, Oil, 3/4 I.D. x 1-3/8 O.D.	1
06A19956	SEAL, Oil, 7/8 I.D. x 1-1/2 O.D.	1
06E19769-0.63	GASKET, Annular, 5/8 I.D.	2
06E19769-1.00	GASKET, Annular, 1.00 I.D.	1
06E19769-1.25	GASKET, Annular, 1-1/4 I.D.	1
1691-C	GASKET, Fuel pump	1
60096	GASKET, Fuel pump	1
61173	GASKET, Oil pressure housing	1
61183	GASKET, Accessory adapter	1
62224	GASKET, Magneto adapter	3
66224	GASKET, Carburetor	2
68315	GASKET, Accessory drive adapter	1
69164	GASKET, Fuel pump adapter	1
69345	SPACER	4
69551	GASKET, Accessory drive adapter	1
70310	SEAL, Shroud tube	8
70455	GASKET, 3/4 I.D. x 1-1/8 O.D.	1
71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	4
71973	GASKET, 2 bolt flange	4
72053	GASKET, Governor	2
72059	GASKET, Oil level gage	1
72075	SEAL, Oil, 3/32 section x 29/64 I.D.	6

SERVICE KIT SECTION (CONT.)**SEAL AND GASKET SET (CONT.)**

75439-1	KIT – SEAL AND GASKET SET (CONT.)	1
72078	LOCKPLATE, 5/16 bolt	2
72091	RING, Oil seal, 3/8 I.D. x 7/64 diameter	2
72220	GASKET, Oil level gage	1
72312	RING, Oil seal, 1.00 x 1-5/16	1
72829	LOCKPLATE, 1/4 bolt x 1-3/4	1
73383	LOCKPLATE, 5/16 bolt x 1.00	2
73817	LOCKPLATE, 1/4 bolt x 1-3/4	2
73818	GASKET, Accessory housing	1
74065	RING, Oil level gage seal	1
74068	RING, Oil level gage plug	1
75906	GASKET, Rocker box cover	4
76510	GASKET, Oil cooler bypass valve	1
76940	SEAL, Crankshaft	1
77154	GASKET, Carburetor	1
77611	GASKET, Exhaust flange	4
8313	GASKET, Vacuum pump	1
77569	RING, Seal, intake pipe	4
MS29512-04	"O" RING	1
06A23493	SEAL, Shroud tube	8

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

PART NO.	PART NAME	Qty.
05K21104	KIT - CYLINDER, PISTON AND RING ASSEMBLY	1
LW-12427	CYLINDER ASSEMBLY	1
17B23936	VALVE, Exhaust	1
17A23938	VALVE, Intake	1
LW-11800	SPRING, Valve, outer	2
LW-11795	SPRING, Valve, inner	2
LW-10077	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
60009	KEY, Valve, intake	2
17C21191	KEY, Valve, exhaust	2
17C19386	CAP, Valve stem, exhaust	1
MS20823-6D	ELBOW, 45°, 3/8 flared tube	1
1102	PLUG, 1/8-27 NPT, allen head	2
75089	PISTON	1
74241	RING, Piston, compression	2
14H21950	RING, Piston, oil regulating	1
LW-14078	PIN, Piston	1
71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	1
LW-18661	SEAL, Shroud tube	2
70310	SEAL, Shroud tube	2
75906	GASKET, Rocker box cover	1
72198	PLUG, Piston pin	2
77611	GASKET, Exhaust flange	1
71973	GASKET, 2 bolt flange	1
06A23493	SEAL, Shroud tube	2
LW-12272	LOCKPLATE, Shroud tube	1
SSP-299	TAG, Use of piston pin plugs	1

SERVICE KIT SECTION (CONT.)**CRANKCASE ASSEMBLY AND THRU-STUD KIT**

PART NO.	PART NAME	Qty.
11B20061-1SH-S	KIT - CRANKCASE ASSEMBLY AND THRU-STUD	1
11B20061-1SH	CRANKCASE ASSEMBLY	1
76220	THRU-STUD	4
74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
STD-2090	NUT, 1/4-20 plain	2
1102	PLUG, 1/8-27 NPT, allen head	5
STD-1339	PLUG, 1/16-27 NPT, allen head	5
SSP-272	TAG, Crankcase Assembly and Piston Cooling Nozzles	1
SSP-582	TAG, Crankcase Assembly and Thin Wall High Crush Bearings	1

CRANKCASE ASSEMBLY AND THRU-STUD KIT (ROLLER TAPPET ENGINES)

PART NO.	PART NAME	Qty.
11B20161-1SH-1	KIT - CRANKCASE ASSEMBLY AND THRU-STUD	1
11B20161-1SH	CRANKCASE ASSEMBLY (Roller tappet engines)	1
76220	THRU-STUD	4
74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
STD-2090	NUT, 1/4-20 plain	2
1102	PLUG, 1/8-27 NPT, allen head	5
STD-1339	PLUG, 1/16-27 NPT, allen head	5
SSP-272	TAG, Crankcase Assembly and Piston Cooling Nozzles	1

NUMERICAL INDEX

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
AN6-14	Bolt	5	LW-12098-0-180	Tube Assy.	47
AN6-16	Bolt	5	LW-12098-0-290	Tube Assy.	47
AN6-17	Bolt	5	LW-12098-0-320	Tube Assy.	49
AN6-34A	Bolt	15	LW-12186	Nut	17
AN816-08	Nipple	41	LW-12272	Lockplate	21
AN844-10D	Elbow	41	LW-12427	Cylinder Assy.	19
AN844-10D	Elbow	43	LW-12545	Plug	31
AN960-616L	Washer	15	LW-12598	Sleeve	47
LRT22381	Body Assy.	9	LW-12598	Sleeve	49
LW-25-0.94	Bolt	31	LW-12681	Gasket	51
LW-25-0.94	Bolt	35	LW-12681	Gasket	53
LW-25-0.94	Bolt	43	LW-12706	Adapter	51
LW-25-1.00	Bolt	41	LW-12706	Adapter	53
LW-25-1.00	Bolt	43	LW-12892	Thrust Button	23
LW-25-1.13	Bolt	15	LW-13215	Oil Filter	41
LW-25-1.13	Bolt	31	LW-13323	Seat	21
LW-25-1.13	Bolt	35	LW-13353	Gasket	31
LW-25-1.25	Bolt	27	LW-13365	Brace	3
LW-25-1.44	Bolt	35	LW-13790	Shaft	23
LW-25-1.50	Bolt	15	LW-13792	Seal	9
LW-25-1.75	Bolt	15	LW-13793	Stud	7
LW-25S1.50	Bolt	15	LW-13796	Shaft	13
LW-31-0.94	Bolt	1	LW-13906	Oil Filter	43
LW-31-0.94	Bolt	3	LW-13923	Bushing	17
LW-31-0.94	Bolt	5	LW-14078	Pin	17
LW-31-0.94	Bolt	59	LW-14260	Seal	35
LW-31-1.16	Bolt	59	LW-14313	Alternator	57
LW-31H0.75	Bolt	5	LW-14318	Alternator	57
LW-31H0.88	Bolt	1	LW-14326	Alternator	57
LW-31H0.88	Bolt	3	LW-14328	Alternator	57
LW-31H0.88	Bolt	13	LW-14329	Alternator	57
LW-31H1.06	Bolt	3	LW-14367	Alternator Assy.	57
LW-38-0.75	Bolt	37	LW-14371	Alternator Assy.	57
LW-10077	Seat	21	LW-14432	Bracket	49
LW-10341	Insert	43	LW-14759	Gage Assy.	29
LW-10729	Link	1	LW-14768	Gage Assy.	29
LW-10729	Link	3	LW-14796	Gage Assy.	29
LW-11485	Shroud Tube Assy.	21	LW-14995	Spring	21
LW-11713	Spring	9	LW-15472	Fuel Pump	37
LW-11750-S	Conn. Rod Assy.	17	LW-15592-5-05	Clamp	25
LW-11795	Spring	21	LW-15592-8-28	Clamp	27
LW-11800	Spring	21	LW-16064	Support Assy.	11
LW-11866	Nut	15	LW-16266-25-13	Clamp	47
LW-12098-0-100	Tube Assy.	47	LW-16266-25-13	Clamp	49
LW-12098-0-100	Tube Assy.	49	LW-16306	Stud	43
LW-12098-0-130	Tube Assy.	47	LW-16471	Support Assy.	11
LW-12098-0-130	Tube Assy.	49	LW-16475	Seat	21
LW-12098-0-170	Tube Assy.	49	LW-16580	Tube	29

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PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
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LW-18109	Impeller	35	STD-475	Washer	51
LW-18110	Impeller Assy.	35	STD-475	Washer	53
LW-18639	Lockplate	11	STD-475	Washer	59
LW-18661	Seal	21	STD-514	Dowel	7
LW-18667	Pin	13	STD-551	Plug	31
LW-18818-S	Bushing	11	STD-553	Screw	47
LW-18819-S	Bushing	11	STD-553	Screw	49
LW-18840	Camshaft Assy.	13	STD-557	Dowel	7
LW-18959-175-25	Clamp	47	STD-596	Nut	15
LW-18959-175-25	Clamp	49	STD-670	Locknut	49
MS20823-6	Elbow	43	STD-678	Washer	15
MS20823-6D	Elbow	19	STD-678	Washer	37
MS20823-8	Elbow	41	STD-684	Nipple	25
MS21044N06	Nut	47	STD-690	Washer	5
MS21044N06	Nut	49	STD-692	Screw	49
MS29512-12	Seal	43	STD-713	Cotter Pin	5
MS9245-44	Cotter Pin	51	STD-783	Plug	39
MS9245-44	Cotter Pin	53	STD-784	Plug	33
STD-8	Washer	15	STD-784	Plug	41
STD-8	Washer	27	STD-784	Plug	43
STD-8	Washer	31	STD-853	Tee	47
STD-8	Washer	35	STD-853	Tee	49
STD-8	Washer	39	STD-872	Nut	5
STD-8	Washer	41	STD-872	Nut	15
STD-8	Washer	43	STD-1065	Dowel	11
STD-33	Washer	15	STD-1339	Plug	7
STD-33	Washer	37	STD-1353	Insert	19
STD-35	Washer	1	STD-1410	Nut	19
STD-35	Washer	3	STD-1410	Nut	39
STD-35	Washer	5	STD-1410	Nut	45
STD-35	Washer	19	STD-1410	Nut	51
STD-35	Washer	35	STD-1410	Nut	53
STD-35	Washer	39	STD-1410	Nut	59
STD-35	Washer	45	STD-1411	Nut	15
STD-35	Washer	53	STD-1411	Nut	21
STD-35	Washer	59	STD-1411	Nut	31
STD-91	Plug	31	STD-1411	Nut	39
STD-160	Washer	15	STD-1411	Nut	41
STD-160	Washer	27	STD-1420	Nut	35
STD-160	Washer	31	STD-1623	Insert	7
STD-160	Washer	35	STD-1727	Washer	5
STD-160	Washer	39	STD-1774	Pin	39
STD-160	Washer	41	STD-1821	Hose	25
STD-160	Washer	43	STD-1882	Screw	37
STD-475	Washer	3	STD-1925	Screw	24
STD-475	Washer	19	STD-2090	Nut	23

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PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
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STD-2197	Washer	3	62224	Gasket	53
STD-2229	Plug	31	62417	Plug	41
STD-2231	Ring	13	62417	Plug	43
STD-2233	Locknut	19	62732	Cap	41
STD-2246	Bolt	11	62732	Cap	43
STD-2249	Nut	15	62817	Screen Assy.	41
25C-8	Stud	19	65441	Seat	21
25C-10	Stud	41	66224	Gasket	45
25C-22	Stud	33	66610	Bushing	19
31C-12	Stud	7	66796	Insert	19
31C-12	Stud	19	68668	Spring	9
31C-12	Stud	33	68759	Tube Assy.	25
31C-13	Stud	7	68760	Tube Assy.	25
31C-15	Stud	31	68761	Tube Assy.	25
31C-19	Stud	33	69106	Cover	39
31CD-17	Stud	33	69510	Housing	41
38-13	Stud	7	69551	Gasket	39
38D-17	Stud	7	69603	Hose	27
50-15	Stud	7	69675	Connector	41
383-B	Nut	23	69675	Connector	43
1028-B	Ball	9	69796	Dowel	7
1102	Plug	7	70310	Seal	21
1102	Plug	19	70484	Screen	31
1102	Plug	33	70485	Pipe	27
1102	Plug	47	71140	Fitting	41
1102	Plug	49	71140	Fitting	43
1182-B7	Spark Plug	51	71481	Ring	23
1182-E7	Spark Plug	51	71596	Washer	39
1182-E7	Spark Plug	53	71610	Hook	25
1540	Plug	43	71611	Retainer	25
8313	Gasket	39	71973	Gasket	27
60009	Key	21	72057	Seat	19
60096	Gasket	37	72058	Seat	19
60430	Cover	39	72059	Gasket	29
60803	Strap	15	72075	Seal	9
61084	Spring	9	72091	Ring	9
61098	Adapter Assy.	39	72198	Plug	17
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