

# O-320-D2J Illustrated Parts Catalog

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October 21, 2016

**PC-O-320-D2J (Supersedes part of PC-203-9)**

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652 Oliver Street  
Williamsport, PA 17701

## **O-320-D2J Illustrated Parts Catalog**

Lycoming Part Number: PC-O-320-D2J (Supersedes part of PC-203-9)

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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 contains a complete list of spare parts for the Lycoming O-320-D2J Certified Series wide cylinder flange model engines.

### **How to Use this Catalog**

This catalog is based on the Air Transport Association (ATA) Spec100 format.

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 designates chapters by the numeric code. In the example below, Chapter 74 is for Ignition with a subsection 20 for Distribution.

**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.

## Roller Tappets

As a product improvement, Lycoming is installing roller tappets on its aircraft engines. Wide deck engines with roller tappets are identified with an “E” suffix after the serial number dash number (Example – L-\*\*\*\*\*-48E.) On rebuilt and Lycoming overhauled wide deck engines with roller tappets, the letter “A” suffix is replaced with the letter “E” suffix on the engine serial number.

The new parts include roller tappet body assembly, crankcase, camshaft, shorter push rods, shroud tubes and shroud tube seal. The engines use the same hydraulic units and the dry tappet clearance does not change. Refer to Reference 618 in the Table of Limits (SSP-1776) for dry tappet clearance values.

At this time, roller tappets are not installed in narrow deck engines.

ROLLER TAPPET PARTS ARE NOT INTERCHANGEABLE WITH CURRENT FLAT FACED TAPPETS.

If it is necessary to remove the roller tappet bodies prior to overhaul, they **must be reinstalled in the same location in the crankcase**. The roller tappets are indexed with flats in the new crankcase. It is possible to assemble the roller tappet bodies in two different orientations 180 degrees apart. Either orientation is acceptable while reinstalling. Lubricate all tappet bores, cam lobes and roller tappets with engine oil mixture only. (Refer to the latest revision of Service Instruction No. 1059.) Install the shroud tube seal in the crankcase, then install the shroud tube.

THE ROLLER TAPPETS ARE NOT FIELD REPAIRABLE AND NO DISASSEMBLY IS ALLOWED. THEREFORE, MAGNAFLUX OR ZYGLO INSPECTIONS ARE NOT ALLOWED. A VISUAL INSPECTION FOR INTEGRITY AND FREE ROTATION OF THE ROLLER ACTION IS ACCEPTABLE TO RETURN AN IN-USE ROLLER TAPPET TO SERVICE; HOWEVER, IT IS MANDATORY TO REPLACE ROLLER TAPPETS AT OVERHAUL.

## 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.

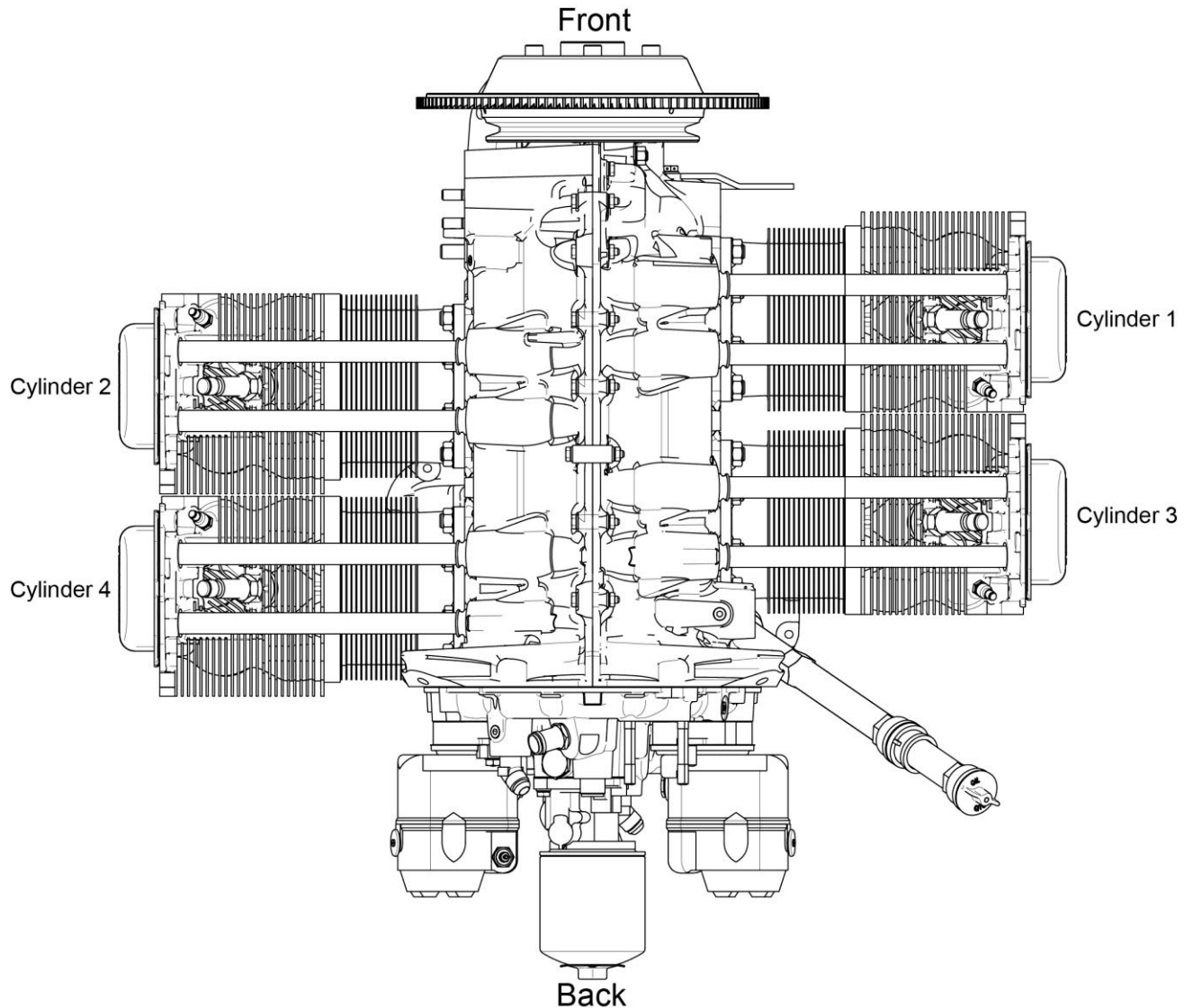
## Environmental Compliance

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. For 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 Lycoming Engines 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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**Abbreviations and Acronyms**

<b>A</b>	
Adj.	Adjustable
amp.	Ampere
Assy	Assembly
<b>F</b>	
Fill.	Fillister
FT	Flat Tappet
<b>H</b>	
Hex.	Hexagon
<b>I</b>	
I.D.	Inside Diameter
<b>M</b>	
mm	Millimeter
<b>N</b>	
No.	Number
NPT	National Pipe Taper (thread)
<b>O</b>	
O.D.	Outside Diameter
<b>P</b>	
P/N	Part Number
psi	Pounds per square inch
<b>R</b>	
RT	Roller Tappet

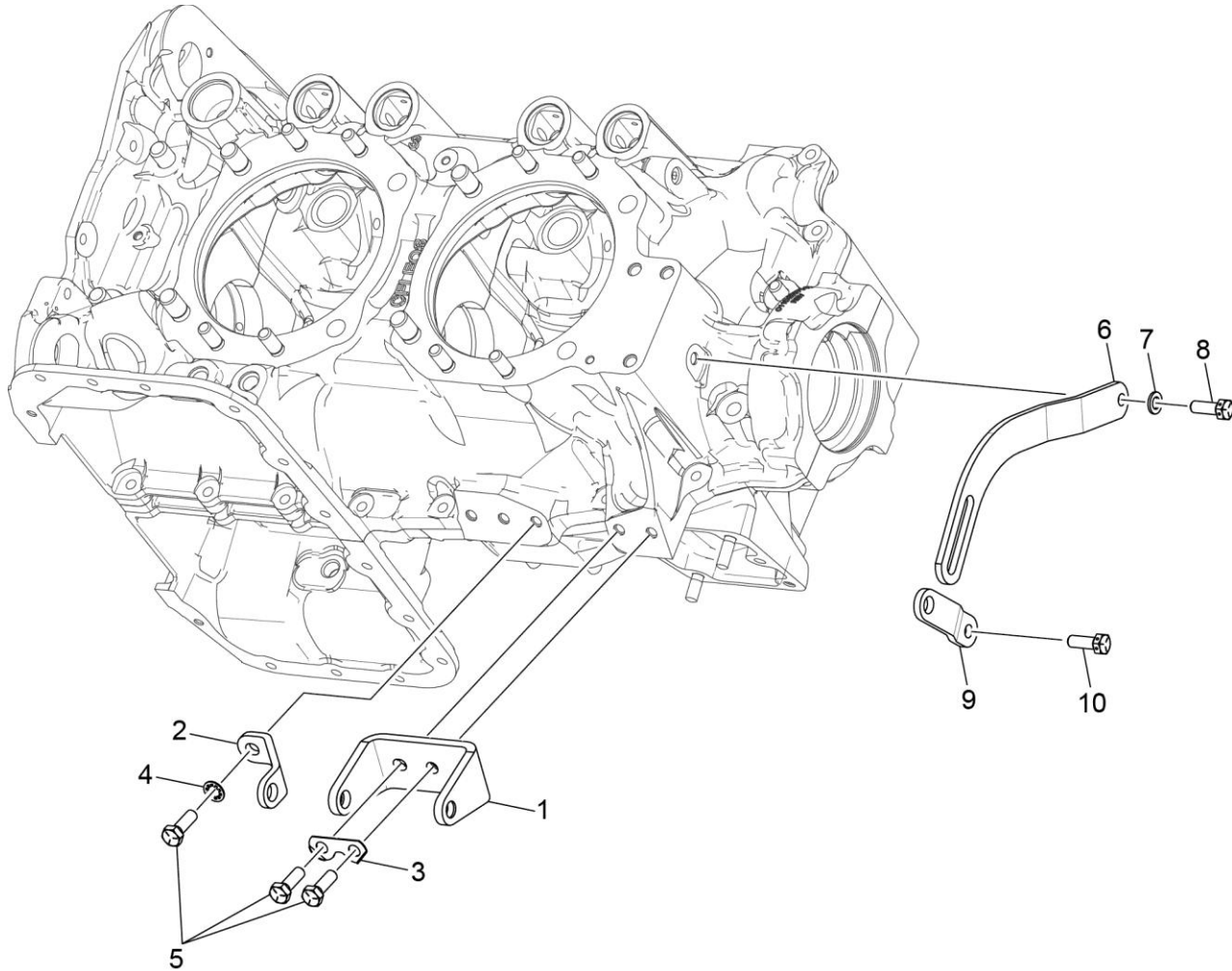
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**Oversize and Undersize Parts Listing**

PART NO.	DESCRIPTION	OVERSIZE (IN.)					UNDERSIZE (IN.)	
		P05 .005	P10 .010	P20 .020	P30 .030	P50 .050	M03 .003	M06 .006
18D26098	BEARING, Crankshaft						X	X
18A26093	BEARING, Crankshaft						X	X
18M26104	BEARING, Connecting Rod						X	X
LW-18817-S	BUSHING, Prop Flange	X						
LW-18815-S	BUSHING, Prop Flange	X						
66610	BUSHING, Rocker Shaft		X					
STD-1065	DOWEL, Crankshaft		X					
61681	GUIDE, Intake Valve				X			
16R22291	GUIDE, Exhaust Valve				X			
66796	INSERT, Spark Plug		X					
72057	SEAT, Intake Valve			X				
72058	SEAT, Exhaust Valve			X				
LW-13792	SEAL, Crankshaft Oil					X		
69796	DOWEL	X						

## NOTE

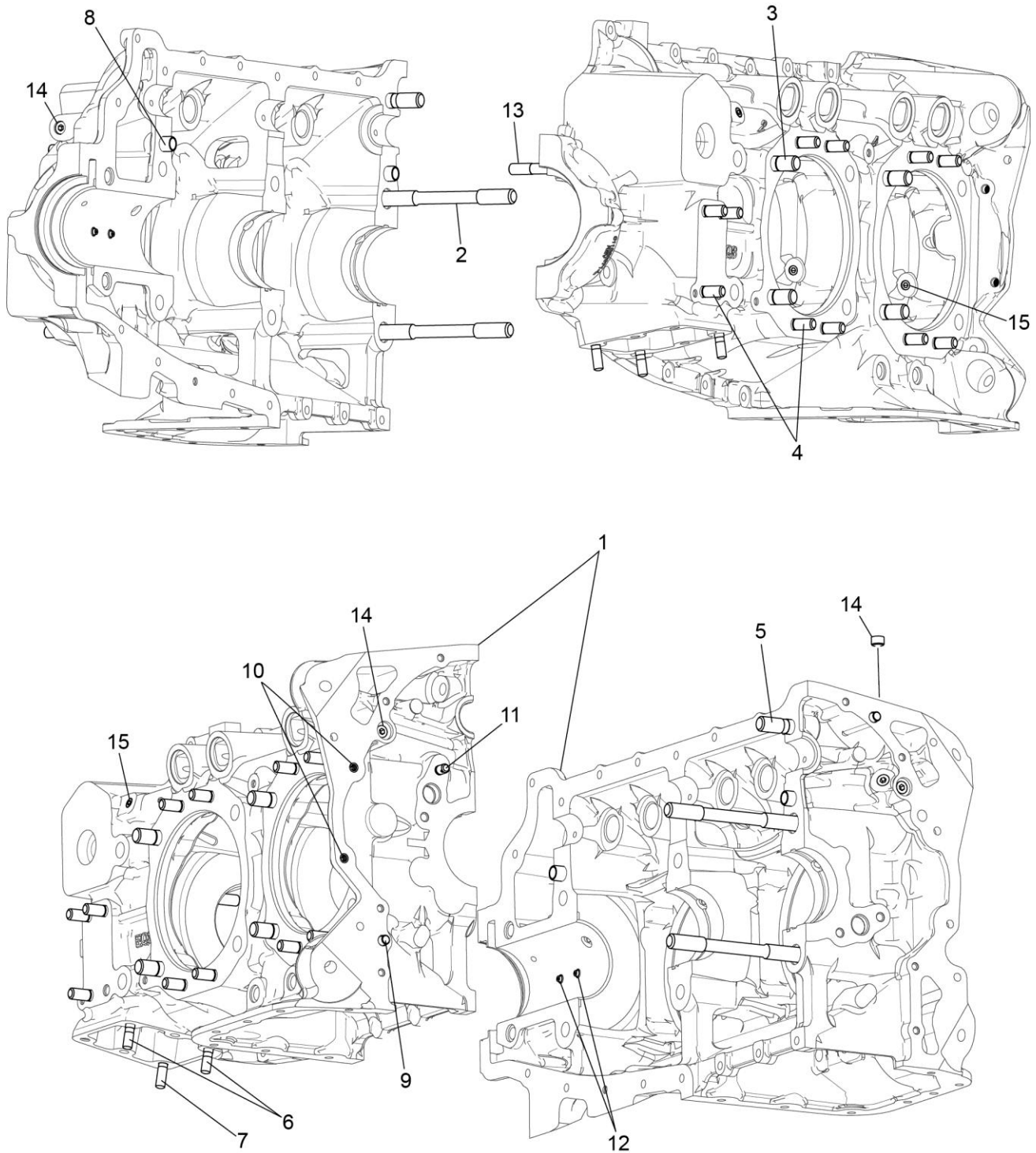
When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing P/N 18D26098 in .003 in. undersize, order P/N 18D26098-M03. Undersize code letter is "M" while oversize code letter is "P". These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



**Figure 1**  
**Alternator Mounting and Attaching Parts**

**AC GENERATION****Figure 1 – Alternator Mounting and Attaching Parts**

<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		07A21443	BRACKET, Alternator	1
2		LW-13365	BRACE, Alternator	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		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	1

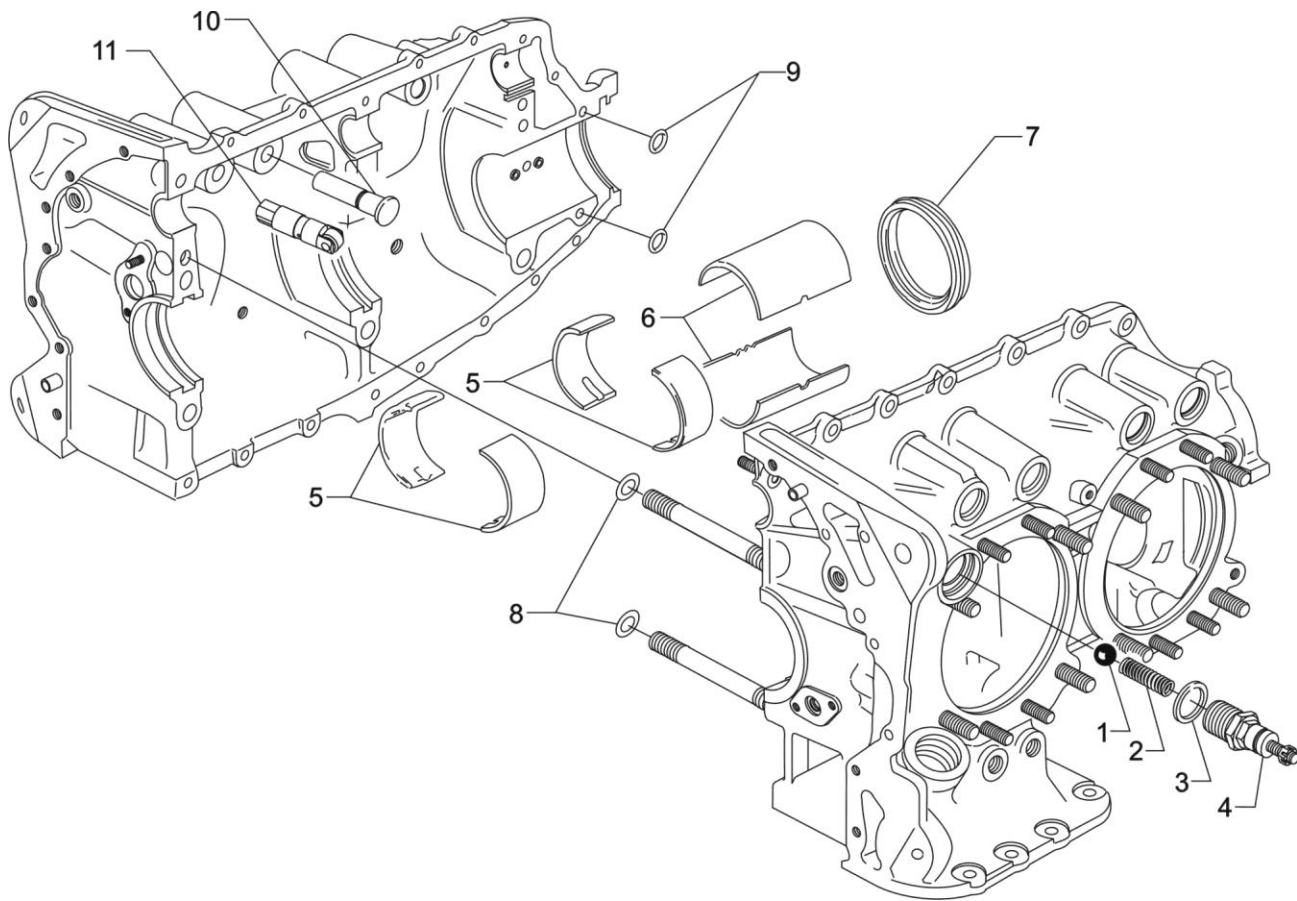


**Figure 2**  
**Crankcase Assembly**



**POWER SECTION****Figure 2 - Crankcase Assembly**

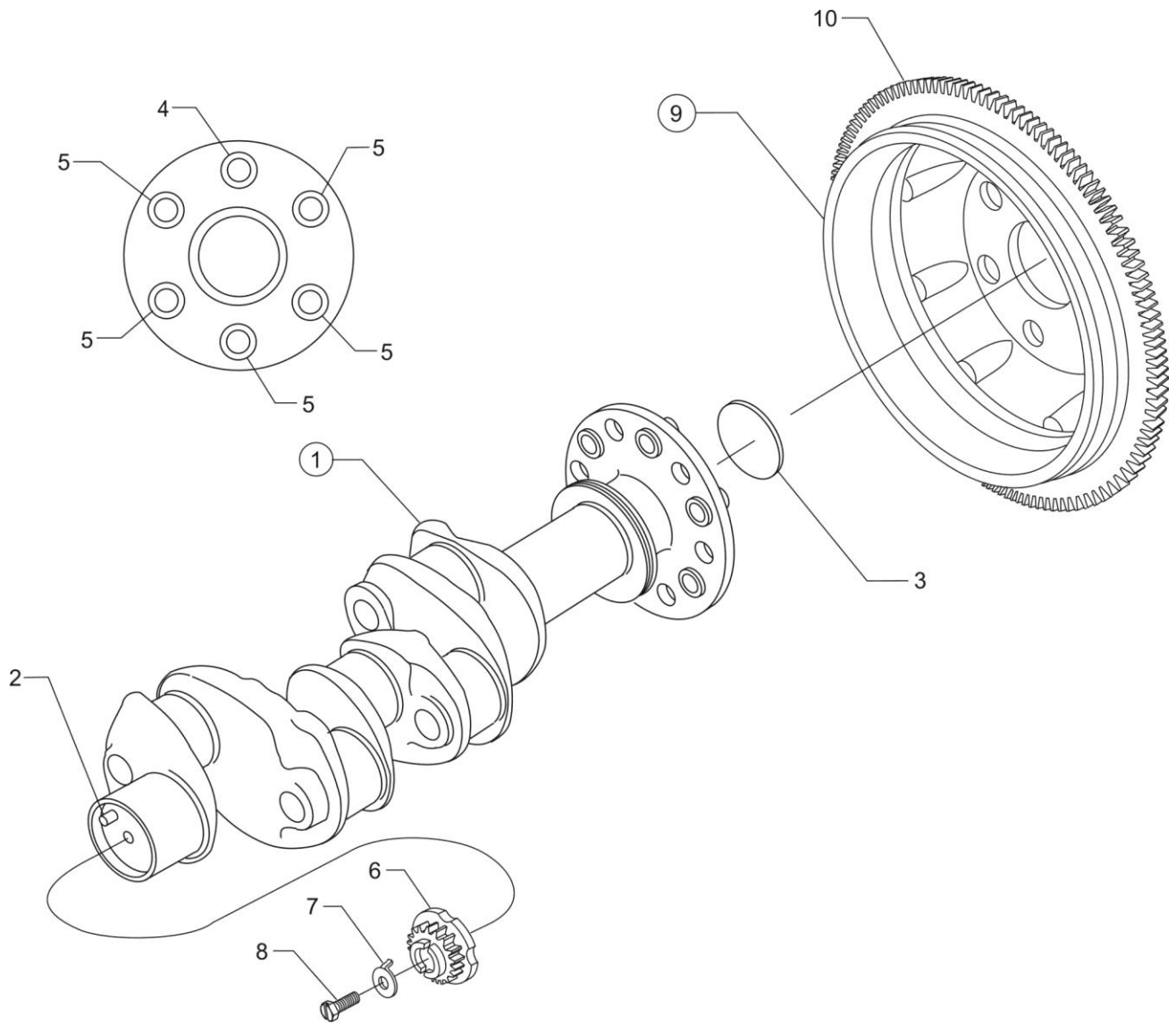
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-18402-2	CRANKCASE ASSEMBLY	1
		LW-18402-5	CRANKCASE ASSEMBLY (RT)	1
2		75154	STUD, 1/2-13 x 10-1/32 long	2
3		50-15	STUD, 1/2-13 x 1-7/8 long	8
4		38-13	STUD, 3/8-16 x 1-5/8 long	19
5		38D-17	STUD, 3/8-16 x 2-1/8 long, drilled	1
6		31C-12	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 diameter x 11/16 long, hollow	2
9		STD-514	DOWEL, 5/16 diameter x 1/2 long	2
10		STD-1623	INSERT, 1/4-20 Heli-coil 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		38-22	STUD, 3/8-16 x 2-3/4 long	1
14		1102	PLUG, 1/8-27 NPT, allen head	5
15		STD-1339	PLUG, 1/16-27 NPT, allen head	5



**Figure 3**  
**Crankcase Related Parts**

**POWER SECTION****Figure 3 - Crankcase Related Parts**

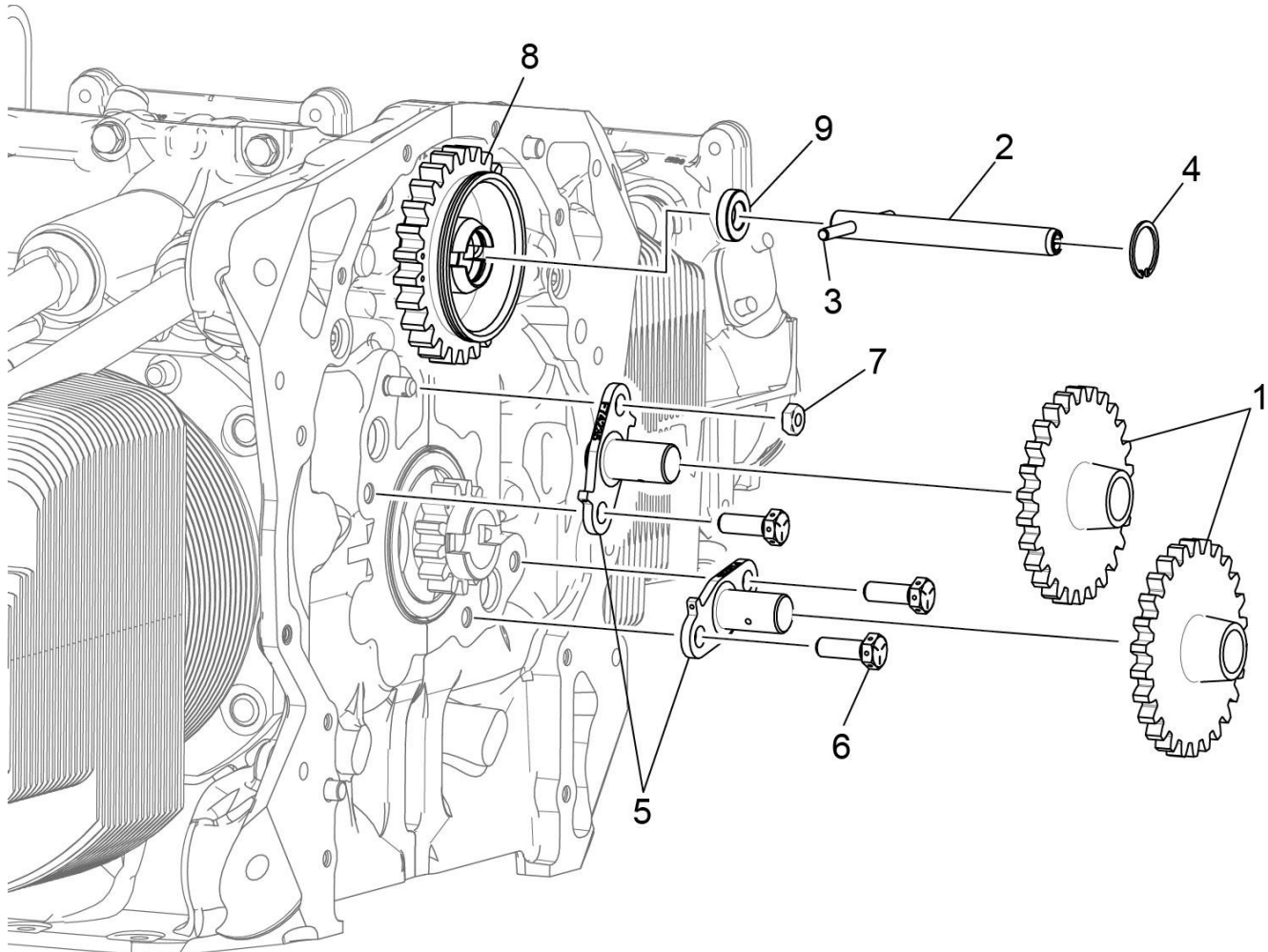
Figure Item	Code	Part Number	Description	Units per Assembly
1		1028-B	BALL, 11/16 diameter	1
2	*	61084	SPRING, Oil pressure relief valve	1
	*	68668	SPRING, Oil pressure relief valve	1
	*	LW-11713	SPRING, Oil pressure relief valve	1
	*	LW-18085	SPRING, Oil pressure relief valve	1
	*	77467	SPRING, Oil pressure relief valve	1
3		06E19769-1.25	GASKET, 1-1/4 I.D., annular	1
4		77808	VALVE ASSEMBLY, Oil pressure relief	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 15/32 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 <b>(RT)</b>	8
<p>* 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.</p> <p>** See latest revision of Lycoming Service Instruction No. 1324 for installation.</p> <p>*** Refer to the latest revision of Service Instruction No. SI 1011 for tappet details and crankcase requirements.</p>				



**Figure 4**  
**Crankshaft Assembly and Related Parts**

**POWER SECTION****Figure 4 - Crankshaft Assembly and Related Parts**

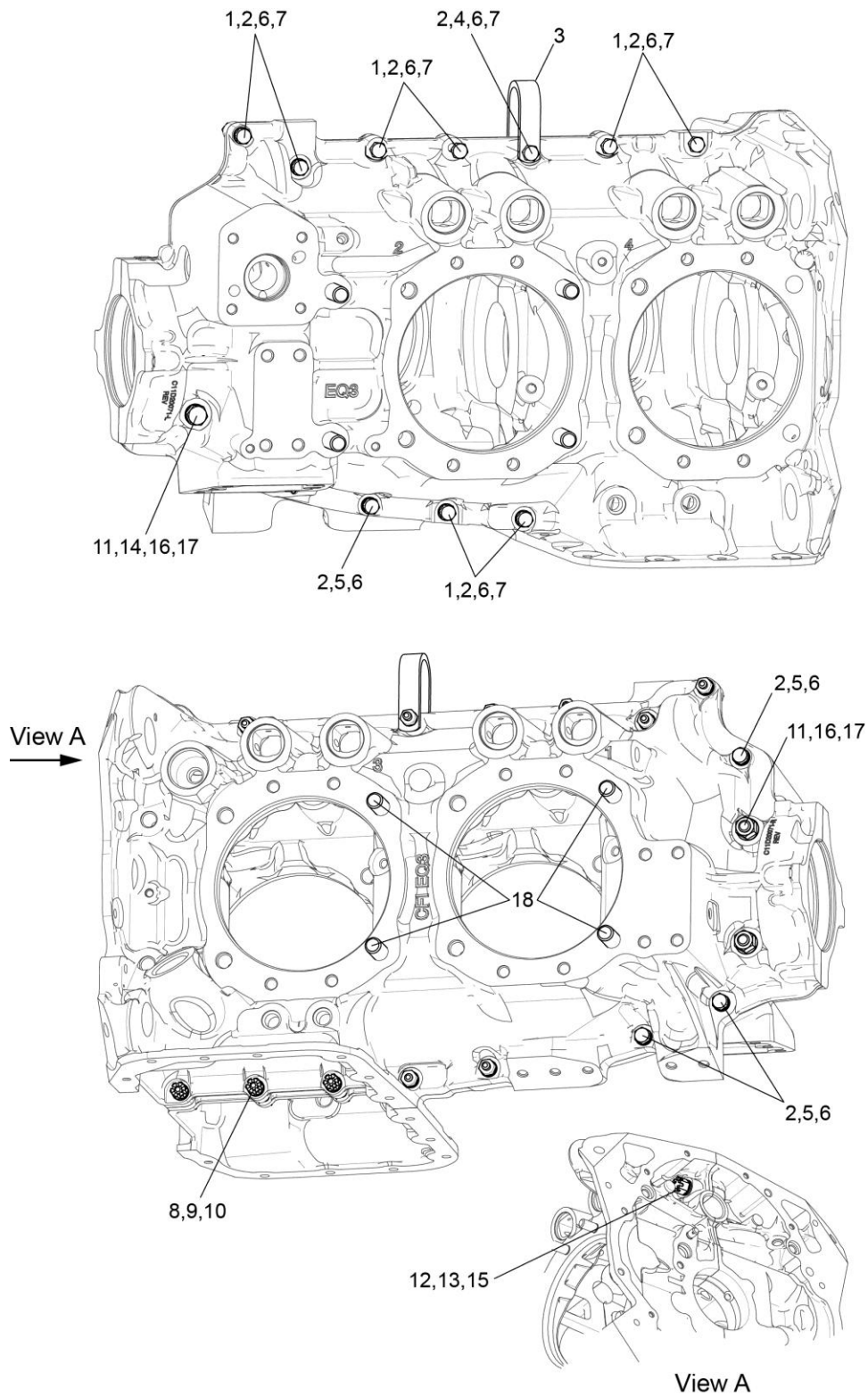
<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		13B47020	CRANKSHAFT ASSEMBLY	1
2		STD-1065	DOWEL, Stepped, 5/16-1/4 diameter	1
3		STD-1211	PLUG, 2.00 diameter, expansion	1
4		LW-18817-S	BUSHING, Propeller flange, long	1
5		LW-18815-S	BUSHING, Propeller flange, short	5
6		13S19646	GEAR, Crankshaft	1
7		LW-18639	LOCKPLATE, Crankshaft gear	1
8		STD-2246	BOLT, 5/16-24 x 1.00 long	1
9		76628	SUPPORT ASSEMBLY, Starter ring gear	1
10		72566	GEAR, Starter ring, 12/14 pitch	1



**Figure 5**  
**Crankshaft Idler Gears, Tachometer Drive and Camshaft**

**POWER SECTION****Figure 5 - Crankshaft Idler Gears, Tachometer Drive and Camshaft**

<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		74996	GEAR ASSEMBLY, Crankshaft idler, plain	2
2		76121	SHAFT ASSEMBLY, Tachometer	1
3		LW-18667	PIN, 3/16 diameter x 2-11/32 long	1
4		STD-2231	RING, Internal retaining (13/16)	1
5		LW-13796	SHAFT, Crankshaft idler gear	2
6		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	3
7		STD-2168	NUT, 5/16-18 NC-3 slotted shear	1
8		LW-18840	CAMSHAFT ASSEMBLY <b>(FT)</b>	1
		15M23452	CAMSHAFT ASSEMBLY <b>(RT)</b>	1
9		76118	SPACER, Tachometer shaft centering	1

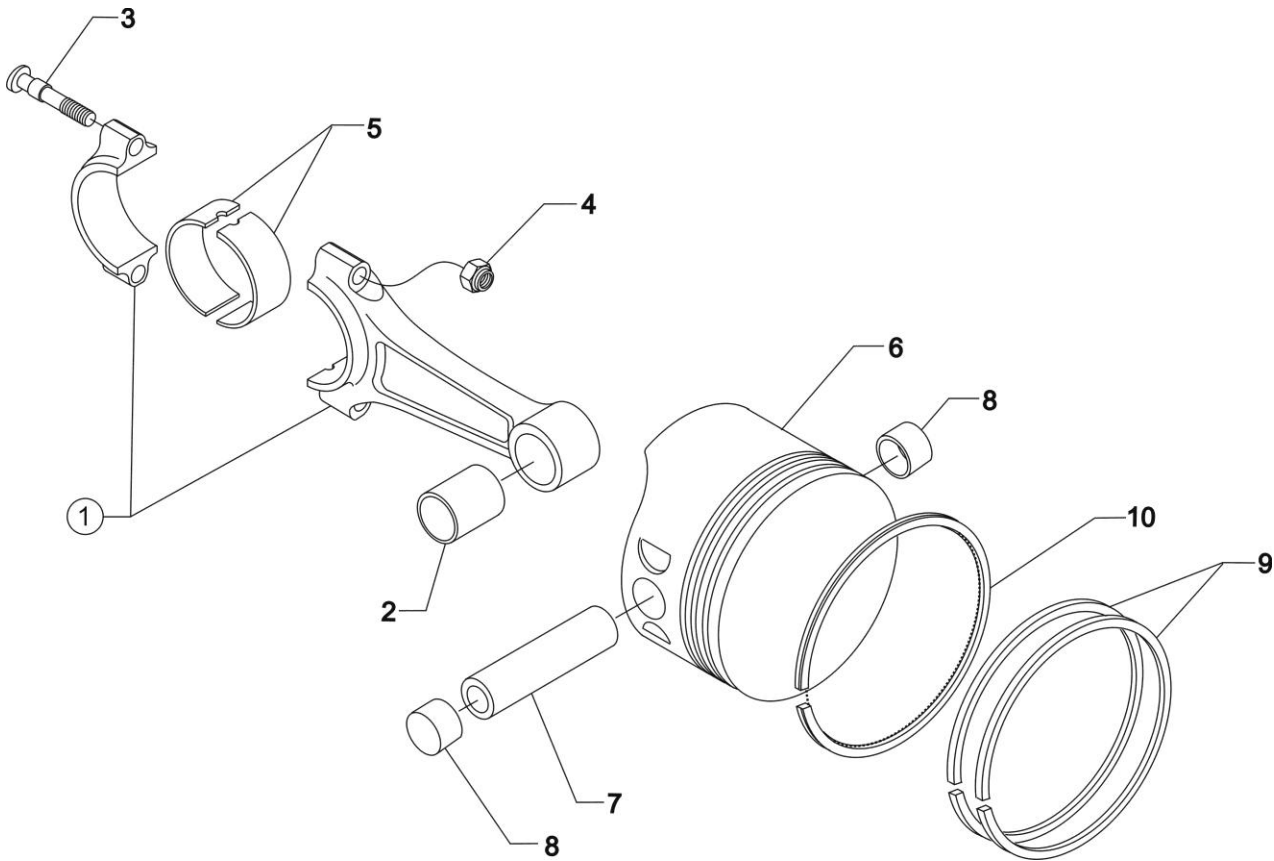


**Figure 6**  
**Crankcase Attaching Parts**



**POWER SECTION****Figure 6 - Crankcase Attaching Parts**

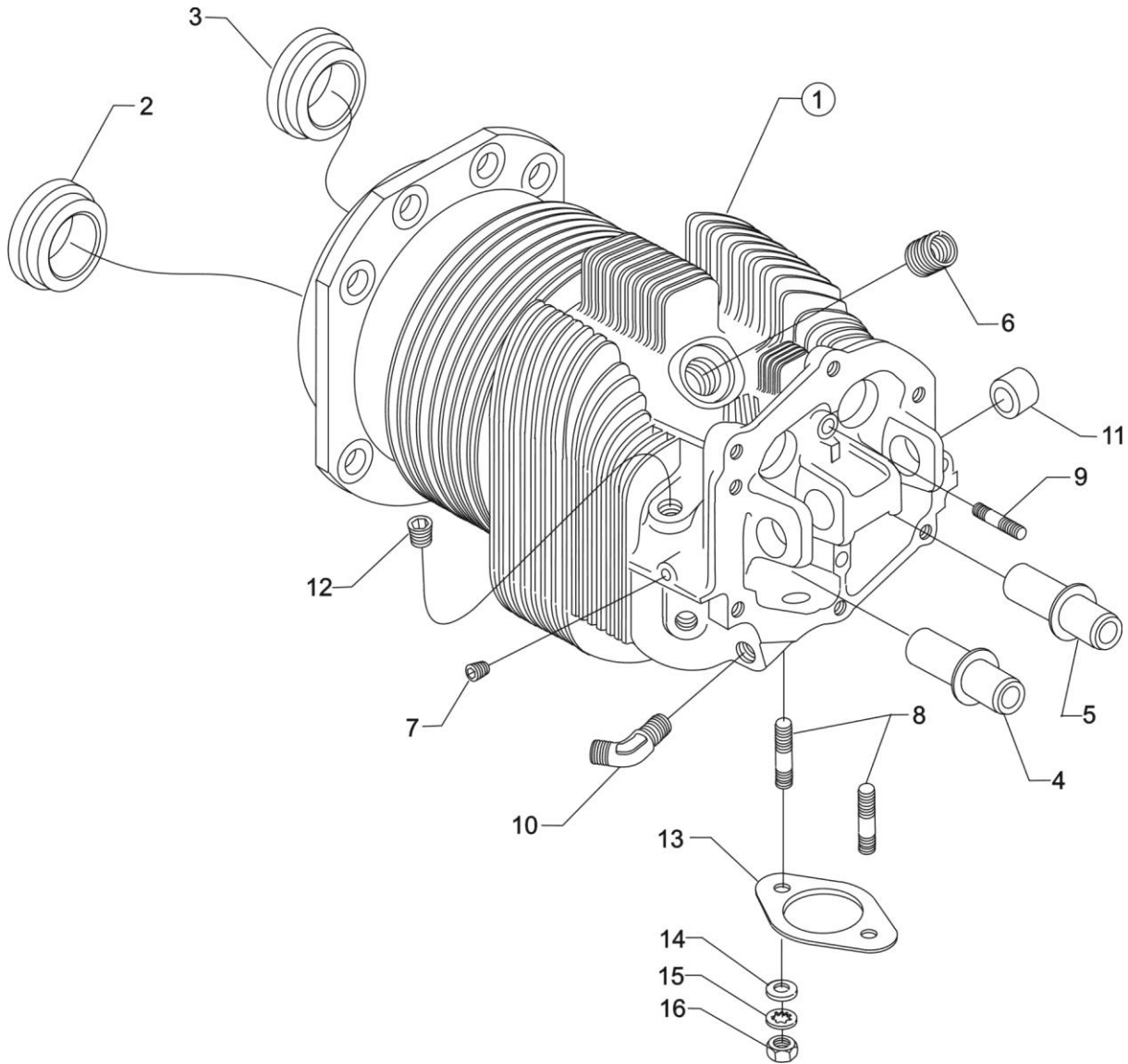
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	8
2		STD-8	WASHER, 1/4 plain	20
3		60803	STRAP, Lifting	1
4		LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	1
5		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	4
6		STD-160	WASHER, 1/4 lock, internal teeth	13
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		STD-8	WASHER, 1/4 plain	9
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	1
15		STD-33	WASHER, 3/8 plain	2
16		STD-678	WASHER, 3/8 lock, internal teeth	2
17		STD-596	NUT, 3/8-24 plain	2
18		76220	STUD, 1/2-20 x 10-11/16 long	4



**Figure 7**  
**Connecting Rods, Pistons and Ring Assemblies**

**CYLINDER SECTION****Figure 7 - Connecting Rods, Pistons and Ring Assemblies**

<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		78030-S	CONNECTING ROD ASSEMBLY	4
2		LW-13923	BUSHING, Connecting rod, upper	4
3		78027	BOLT, Connecting rod	8
4		LW-12186	NUT, Connecting rod	8
5		18M26104	BEARING, Connecting rod	8
6		14D23912	PISTON, 8.50:1 compression ratio	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
** Refer to the latest revision of Lycoming Service Instruction No. 1267 .				

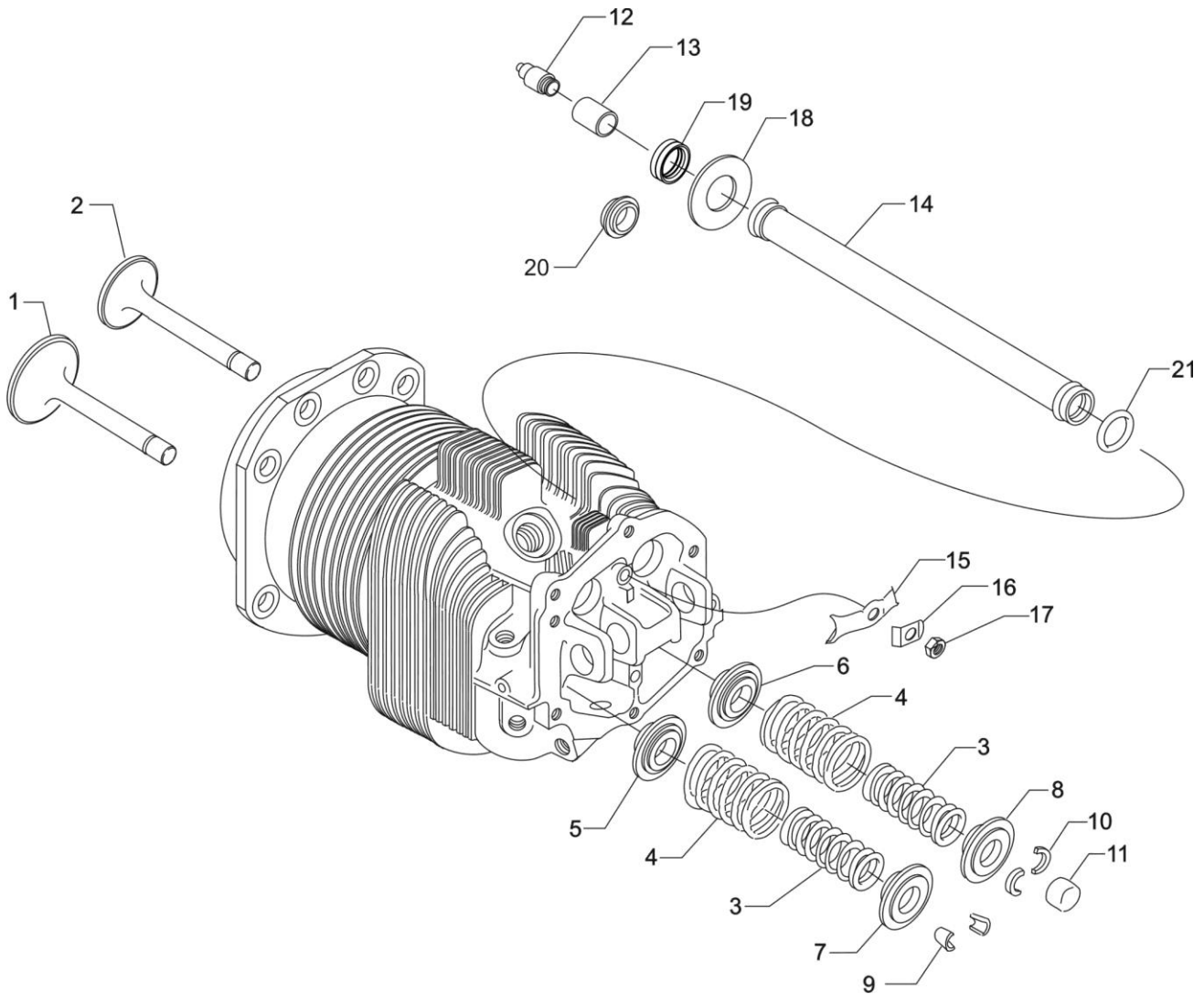


**Figure 8**  
**Cylinder Assembly**

**CYLINDER SECTION****Figure 8 - Cylinder Assembly**

Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-12416	CYLINDER ASSEMBLY, Nitrided	4
2		72057	SEAT, Intake valve	4
3		72058	SEAT, Exhaust valve	4
4	<b>P*</b>	76943	GUIDE, Valve, intake	4
5	<b>P*</b>	16R22126	GUIDE, Valve, exhaust	4
6	<b>P</b>	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	<b>**</b>	1102	PLUG, 1/8-27 NPT, allen head	4
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

**P** Lycoming proprietary part. Listed for reference purposes only, cannot be purchased.  
**\*** Refer to latest revision of Service Instruction No. 1256 for service valve guides.  
**\*\*** Used on installations without injector or priming lines.

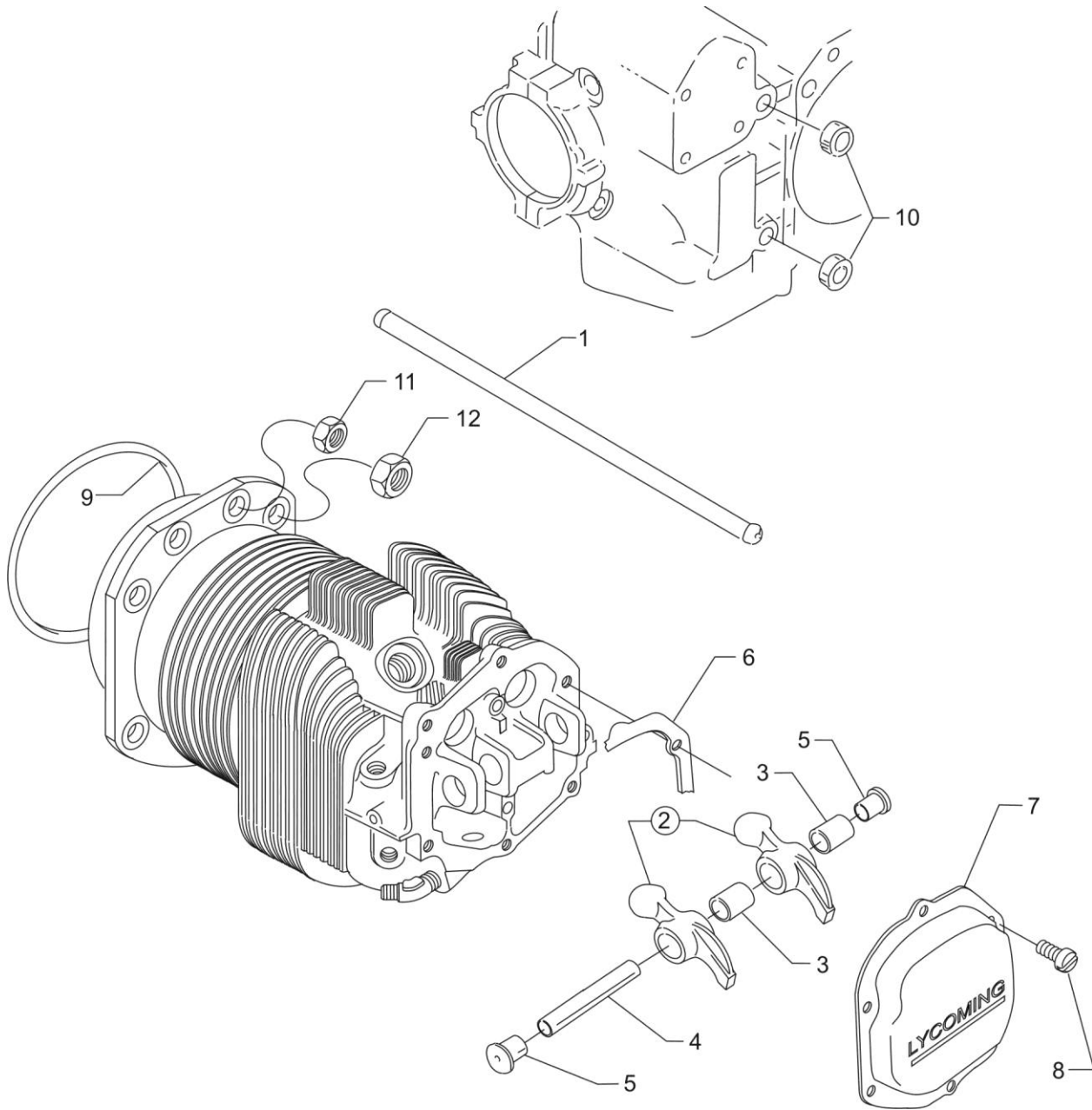


**Figure 9**  
**Valve Assembly and Related Parts**

**CYLINDER SECTION****Figure 9 – 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		68987	SHROUD TUBE ASSEMBLY, Push rod	8
		15G23494	SHROUD TUBE ASSEMBLY, Push rod <b>(RT)</b>	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 <b>(RT)</b>	8
19	*	LW-18661	SEAL, Shroud tube	8
20		06A23493	SEAL, Shroud tube <b>(RT)</b>	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.

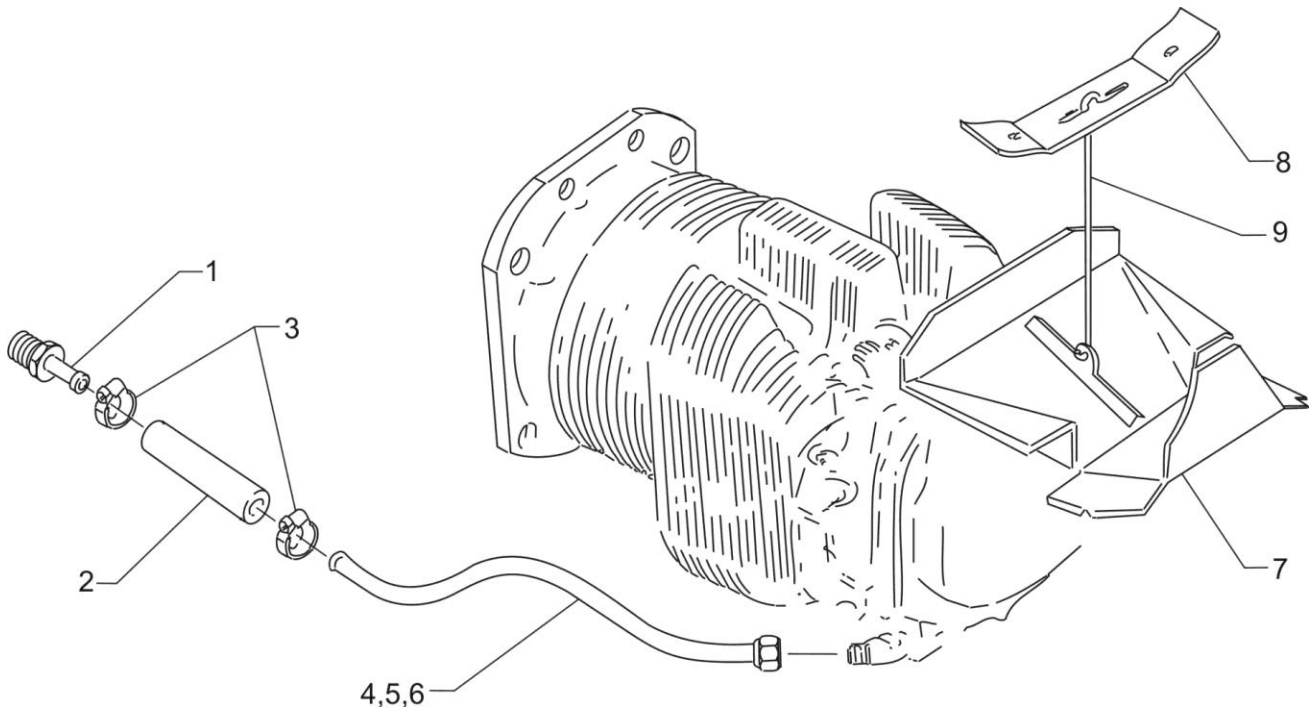


**Figure 10**  
**Cylinder Related Parts**



**CYLINDER SECTION****Figure 10 – Cylinder Related Parts**

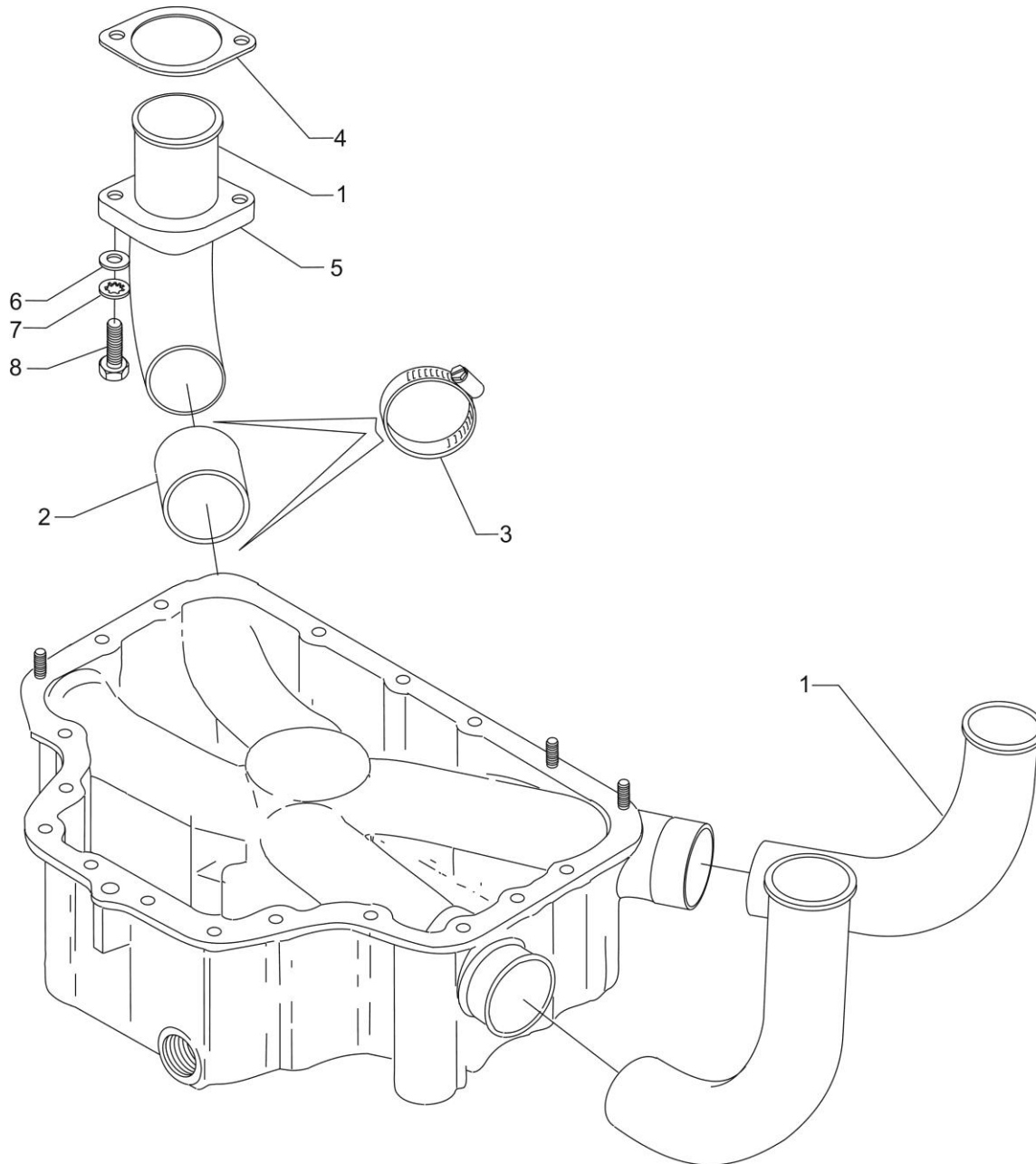
Figure Item	Code	Part Number	Description	Units per Assembly
1	◆	15F19957-08	ROD ASSEMBLY, Push (RT)	AR
	◆	15F19957-09	ROD ASSEMBLY, Push (RT)	AR
	◆	15F19957-10	ROD ASSEMBLY, Push (RT)	AR
1	◆	15F19957-11	ROD ASSEMBLY, Push (RT & FT)	AR
	◆	15F19957-12	ROD ASSEMBLY, Push (RT & FT)	AR
	◆	15F19957-13	ROD ASSEMBLY, Push (FT)	AR
	◆	15F19957-14	ROD ASSEMBLY, Push (FT)	AR
	◆	15F19957-15	ROD ASSEMBLY, Push (FT)	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		75906	GASKET, Rocker box cover	4
7		61247	COVER, Rocker box	4
8		STD-1925	SCREW, 1/4-20 x 5/8 long, pan. head	24
9		71481	RING, Oil seal, 3/32 dia. x 4-27/32 I.D.	4
10		74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
11		383-B	NUT, 3/8-24 plain	16
12		STD-2090	NUT, 1/2-20 plain	18
<p><b>AR</b> as required</p> <p>◆ See latest revision of Service Instruction No. 1060 for complete push rod application.</p> <p>** Due to the size of the area where the part number is stamped, the last five digits may be all that is shown (19357).</p>				



**Figure 11**  
**Cylinder Head Drain Tubes and Intercylinder Cooling Baffles**

**CYLINDER SECTION****Figure 11 –Cylinder Head Drain Tubes and Intercylinder Cooling Baffles**

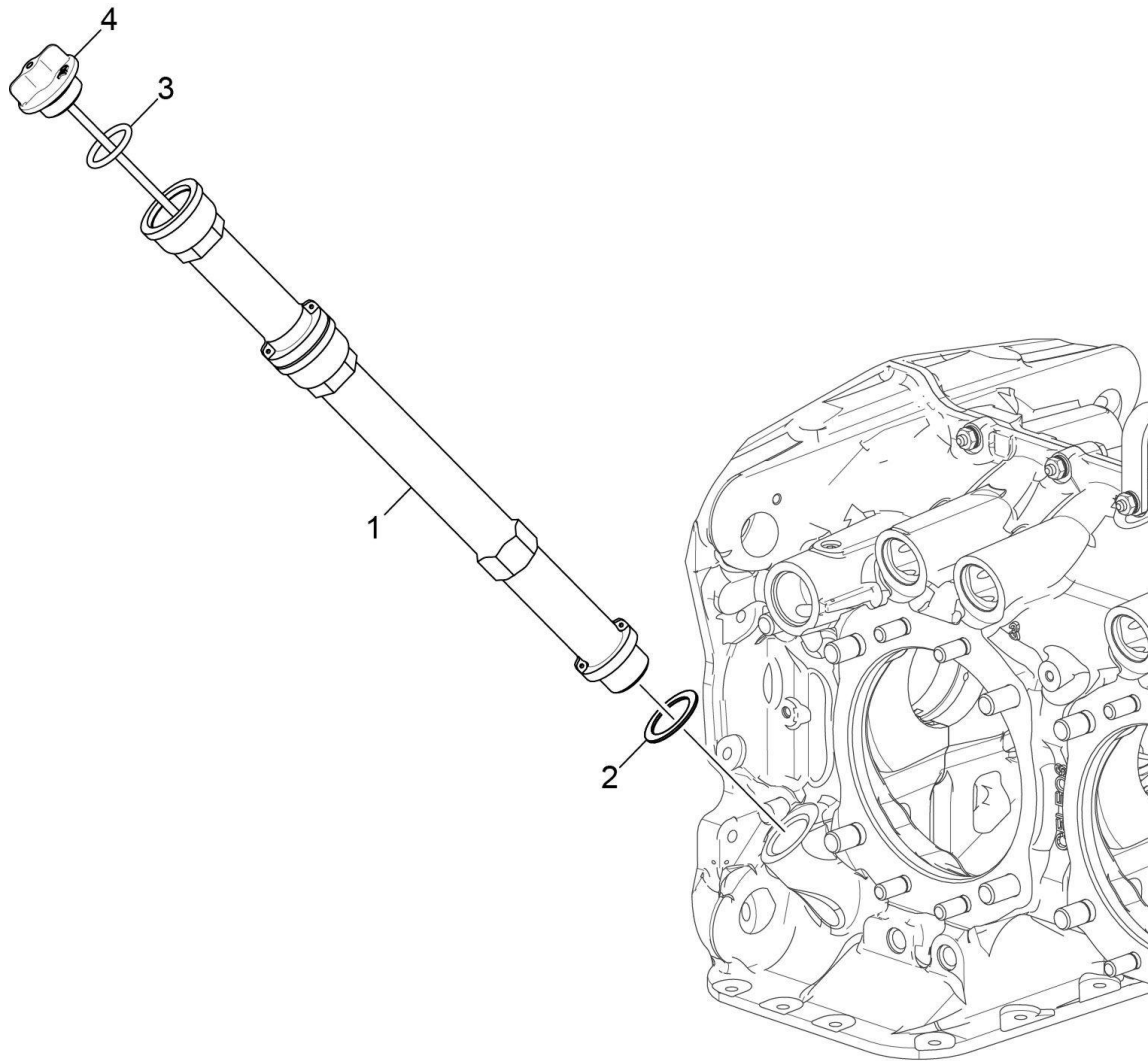
<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		STD-684	NIPPLE, Straight, 3/8 I.D. hose	4
2		STD-2180	HOSE, 3/8 I.D. x 1-7/8 long	4
3		LW-15592-5-05	CLAMP, Hose	8
4		68759	TUBE ASSEMBLY, Oil drain, cylinder no. 1	1
5		68760	TUBE ASSEMBLY, Oil drain, cylinder no. 2	1
6		68761	TUBE ASSEMBLY, Oil drain, cylinders no. 3 & 4	2
7		72569	BAFFLE ASSEMBLY, Intercylinder	2
8		71611	RETAINER, Intercylinder baffle	2
9		71610	HOOK, Intercylinder baffle retainer	2



**Figure 12**  
**Intake Pipes and Attaching Parts**

**CYLINDER SECTION****Figure 12 – Intake Pipes and Attaching Parts**

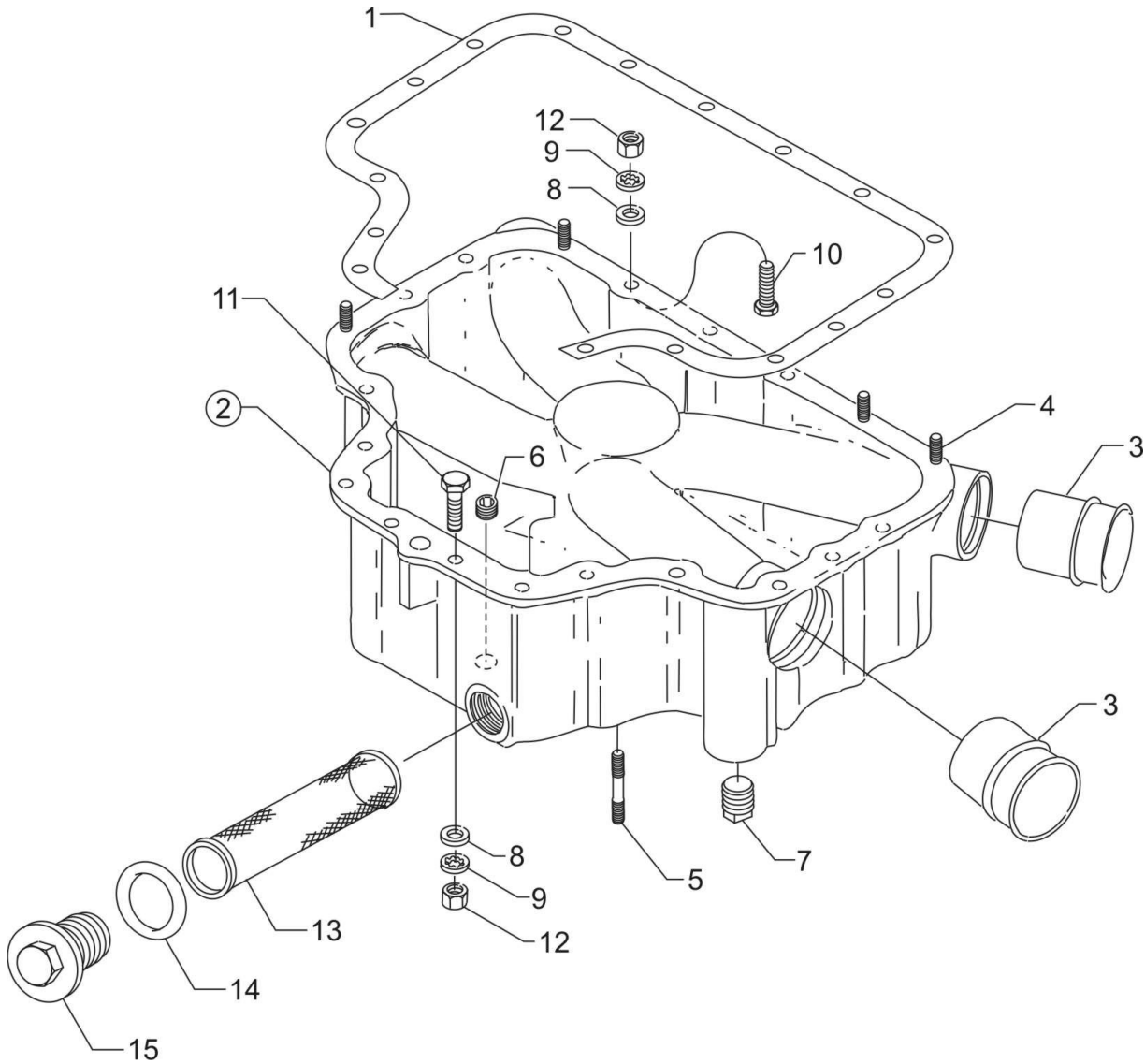
<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		74084	PIPE, Intake	4
2		69603	HOSE, 1-3/4 I.D. x 2-3/16 O.D. x 1-3/4 long	4
3		LW-15592-8-28	CLAMP, Hose	8
4		71973	GASKET, 2 bolt flange, 1-13/16 I.D.	4
5		73346	FLANGE, Intake pipe, upper	4
6		STD-8	WASHER, 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



**Figure 13**  
**Oil Level Gage**

**LUBRICATION SYSTEM**  
**Figure 13 – Oil Level Gage**

<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		56C23075	TUBE, Oil level gage, 10-9/16 long	1
2		72059	GASKET, Oil level gage	1
3		74065	RING, Oil level gage seal	1
4		LW-14798	GAGE ASSEMBLY, Oil level	1

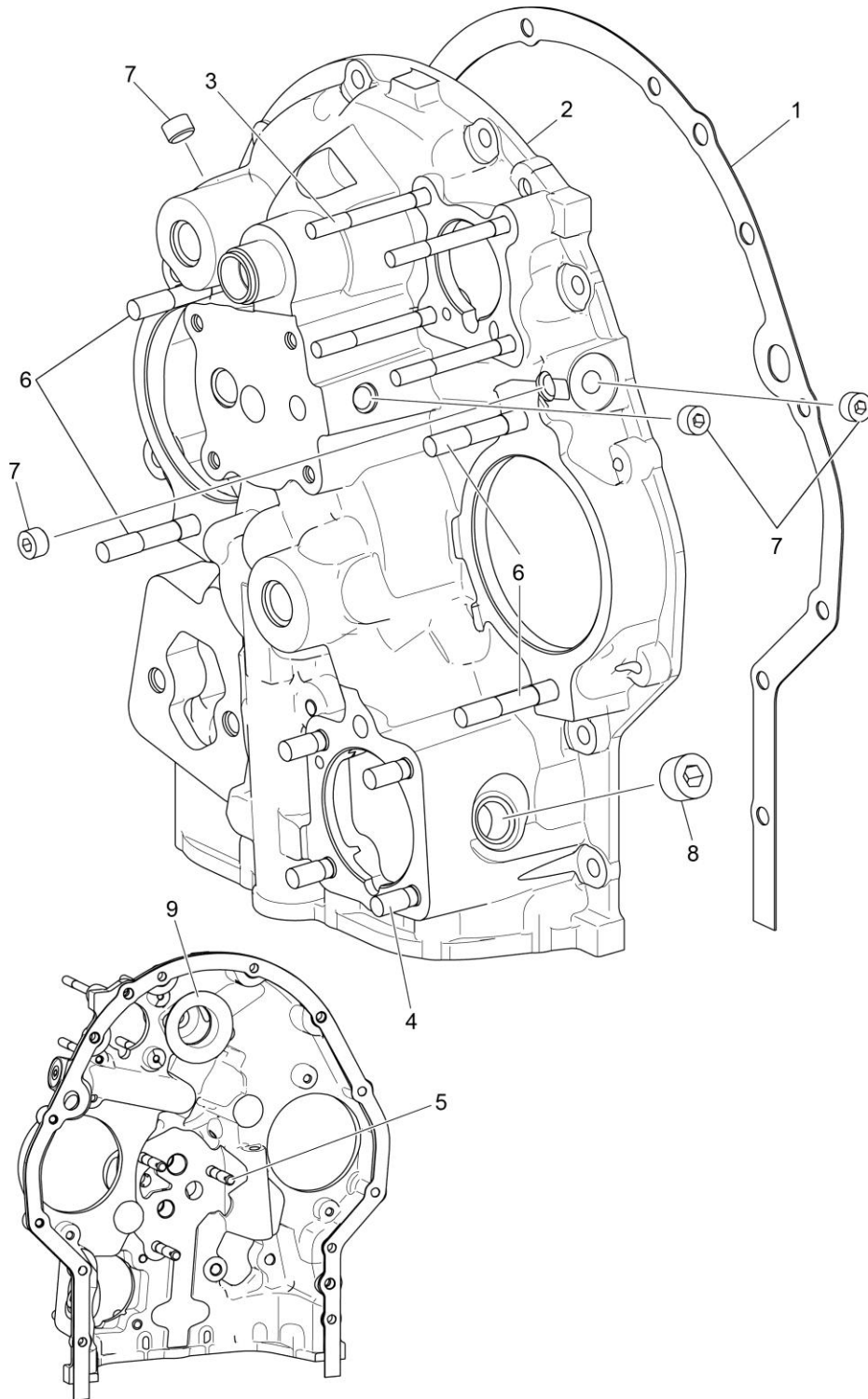


**Figure 14**  
**Oil Sump Assembly and Oil Suction Screen**



**LUBRICATION SYSTEM****Figure 14 – Oil Sump Assembly and Oil Suction Screen**

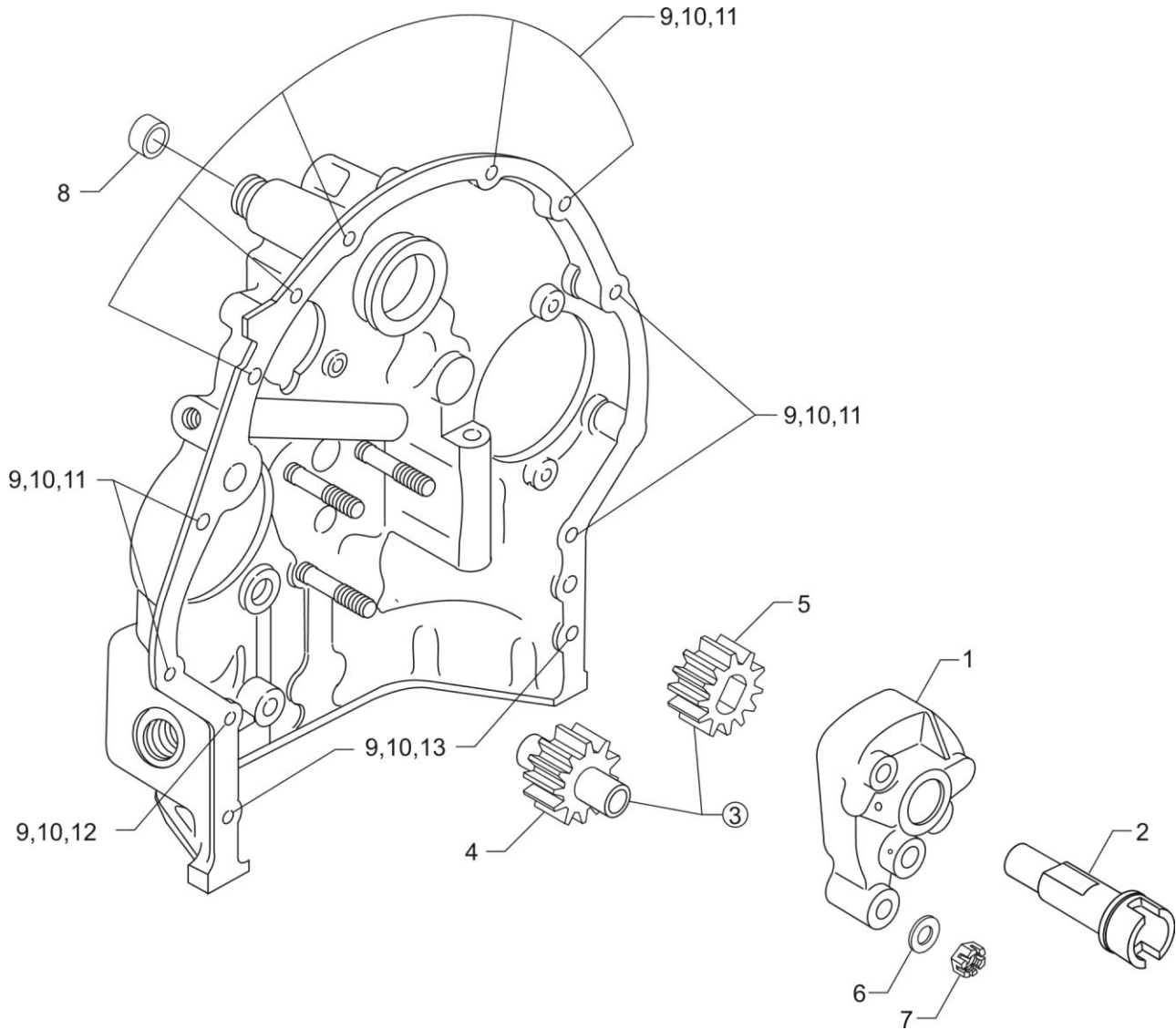
<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		LW-13353	GASKET, Oil sump	1
2		LW-10828	SUMP ASSEMBLY, Oil	1
3		78914	CONNECTION, Intake pipe	4
4		61400	STUD, 1/4-20 x 1-3/16 long	4
5		31C-15	STUD, 5/16-18 x 1-7/8 long	4
6		STD-91	PLUG, 1/2-14 NPT, allen head	1
7		STD-551	PLUG, 1/2-14 NPT, square head, drilled	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		70484	SCREEN, Oil suction screen	1
14		06E19769-1.00	GASKET, Annular, 1.00 I.D.	1
15		LW-12545	PLUG, 5/8 hex. head x 1.00-20 thread	1



**Figure 15**  
**Accessory Housing Assembly**

**ACCESSORY DRIVES****Figure 15 – Accessory Housing Assembly**

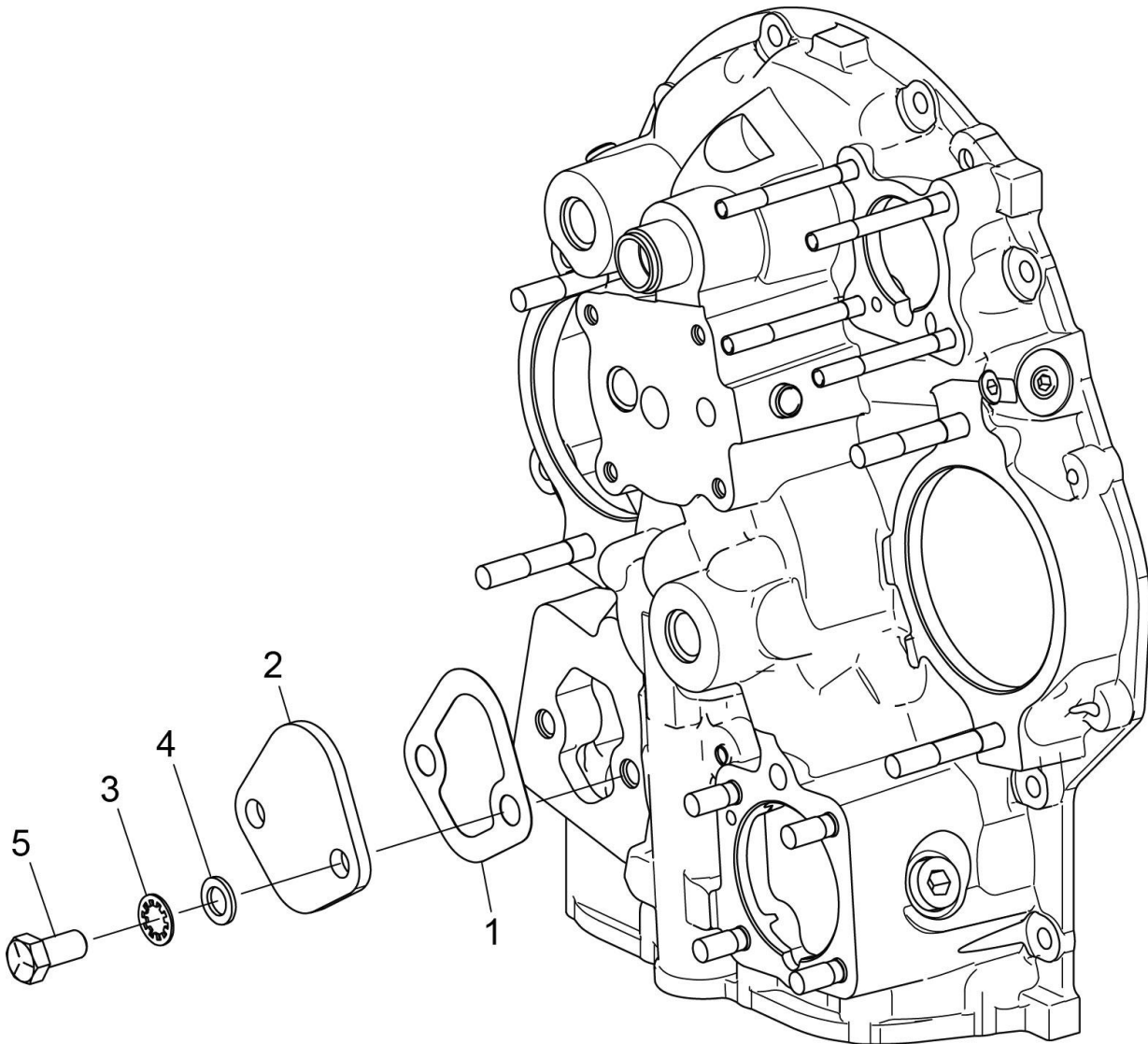
<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		73818	GASKET, Accessory housing	1
2		21A21533-05	HOUSING ASSEMBLY, Accessory	1
3		25C-22	STUD, 1/4-20 x 2-3/4 long	4
4		31C-12	STUD, 5/16-18 x 1-1/2 long	4
5		31CD-17	STUD, 5/16-18 x 2-1/8 long, drilled	3
6		31C-19	STUD, 5/16-18 x 2-3/8 long	4
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	1



**Figure 16**  
**Oil Pump Assembly and Accessory Housing Attaching Parts**

**ACCESSORY DRIVES****Figure 16 – Oil Pump Assembly and Accessory Housing Attaching Parts**

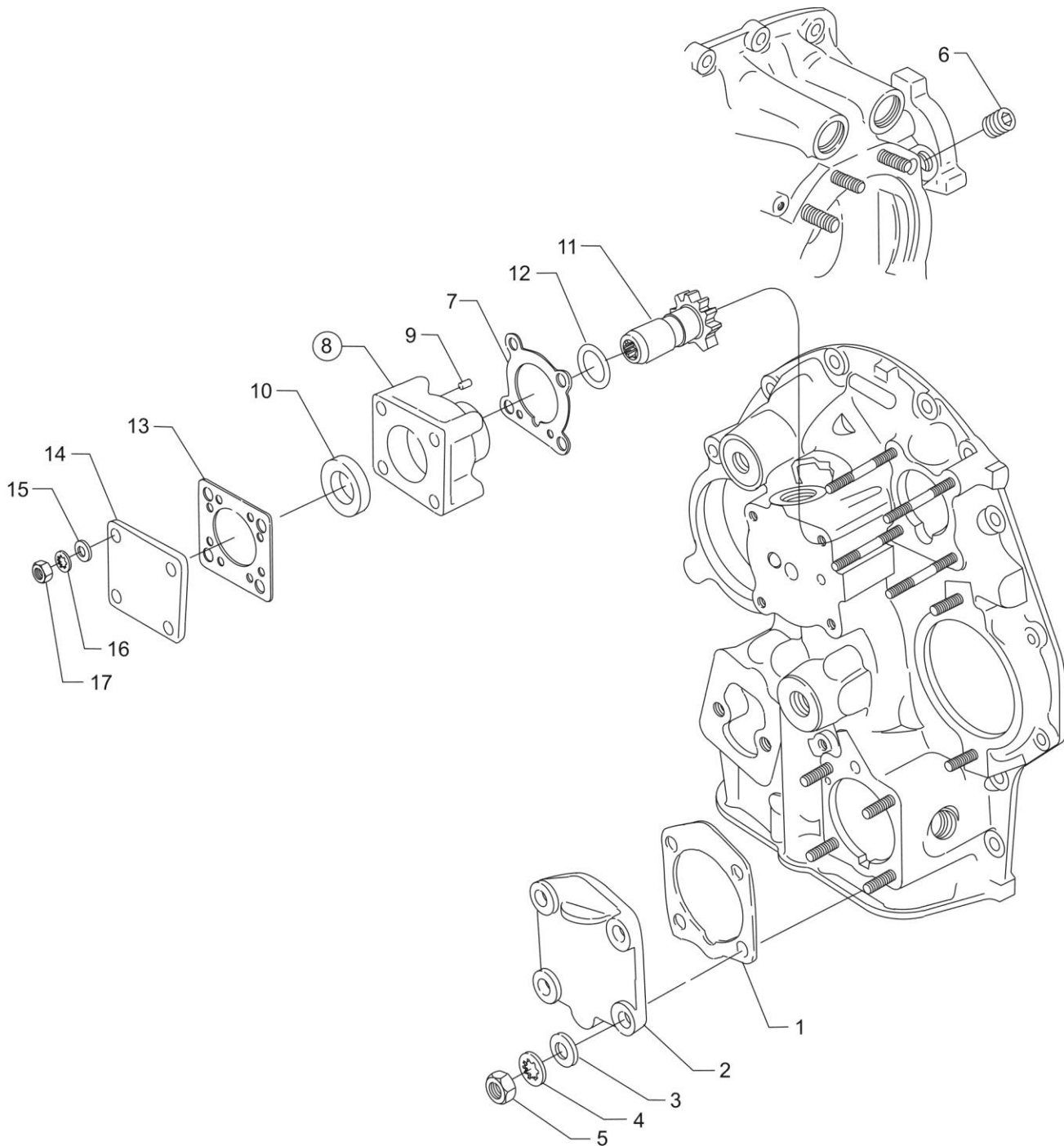
Figure Item	Code	Part Number	Description	Units per Assembly
1		78531	BODY ASSEMBLY, Oil pump	1
2		61174	SHAFT, Oil pump drive	1
3		05K19423-S	IMPELLER KIT	1
4	<b>P *</b>	LW-18110	IMPELLER ASSEMBLY, Oil pump driven	1
5	<b>P *</b>	LW-18109	IMPELLER, Oil pump driving	1
6		STD-35	WASHER, 5/16 plain	3
7		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
<p><b>P</b> Lycoming proprietary part. Listed for reference purpose only, cannot be purchased.  <b>*</b> To ensure impellers are replaced together, oil pump impellers available in kit form only.</p>				



**Figure 17**  
**Fuel Pump Cover and Attaching Parts**

**ACCESSORY DRIVES****Figure 17 – Fuel Pump Cover and Attaching Parts**

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

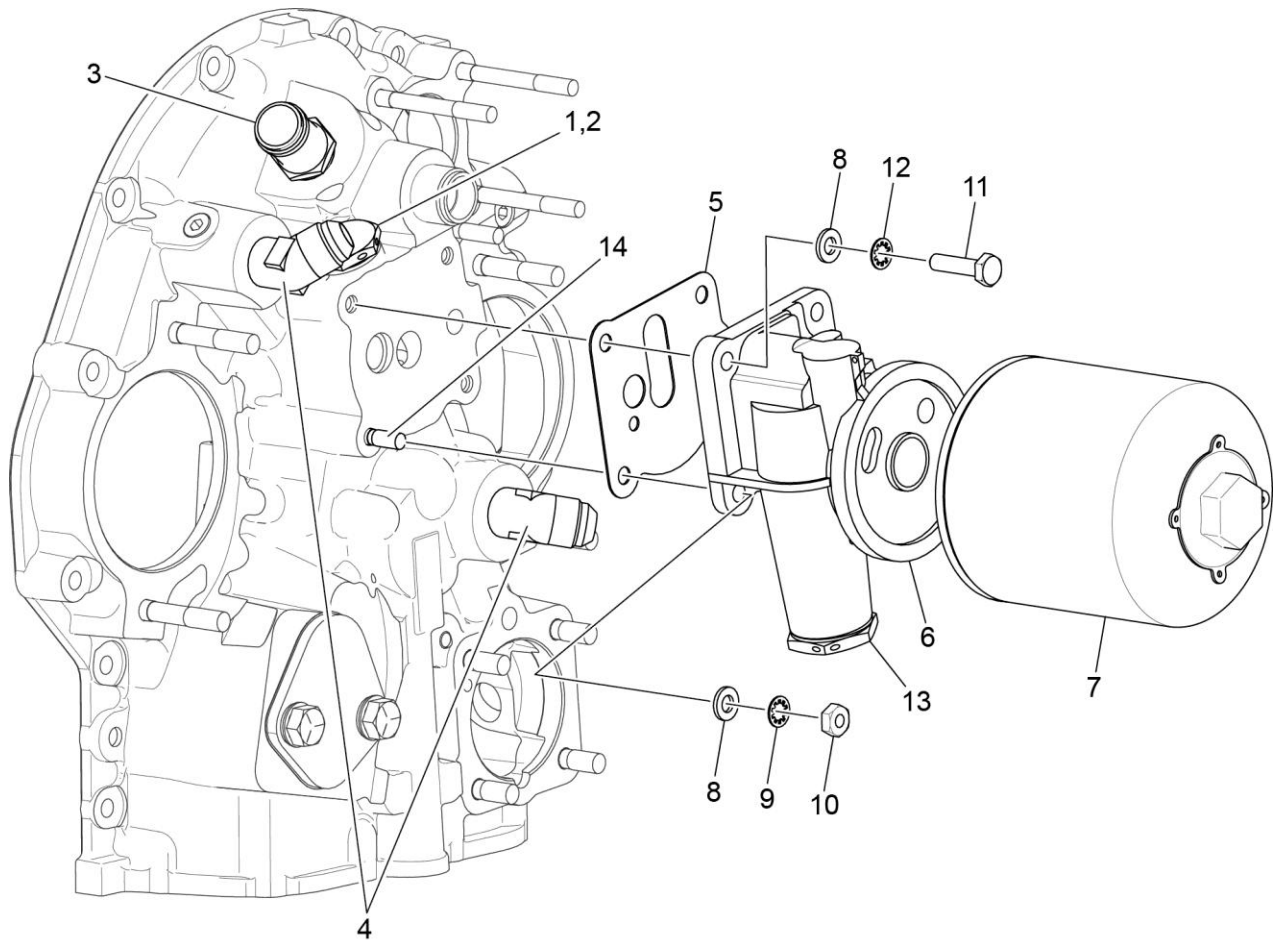


**Figure 18**  
**Propeller Governor Drive Cover, Vacuum Pump Drive and Cover**



**ACCESSORY DRIVES****Figure 18 – Propeller Governor Drive Cover, Vacuum Pump Drive and Cover**

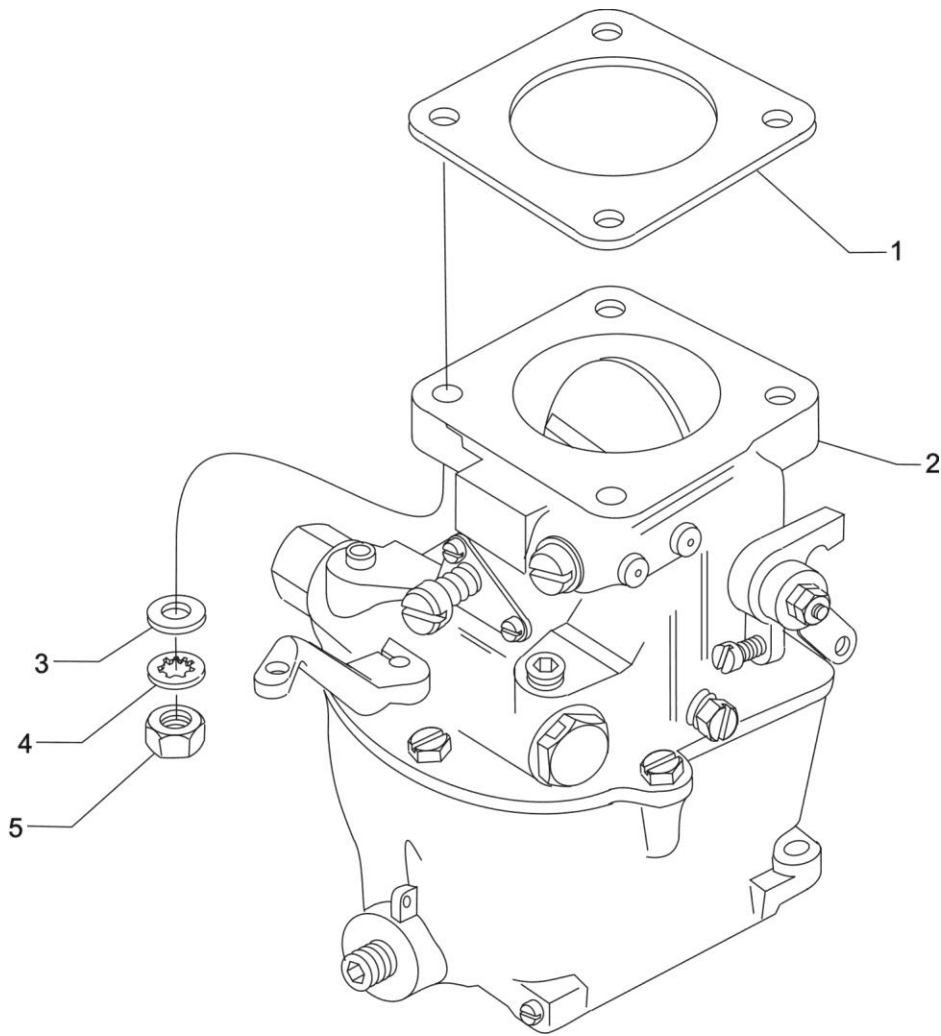
Figure Item	Code	Part Number	Description	Units per Assembly
1		69551	GASKET, Accessory drive adapter	1
2		69106	COVER, Governor drive adapter pad	1
3		STD-35	WASHER, 5/16 plain	4
4		STD-475	WASHER, 5/16 lock, internal teeth	4
5		STD-1410	NUT, 5/16-18 plain	4
6	*	STD-783	PLUG, 1/4-18 NPT, allen head	1
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
* Assemble in crankcase, front.				



**Figure 19**  
**Oil Filter Assembly, Oil Cooler and Breather Fittings**

**ACCESSORY DRIVES****Figure 19 – Oil Filter Assembly, Oil Cooler and Breather Fittings**

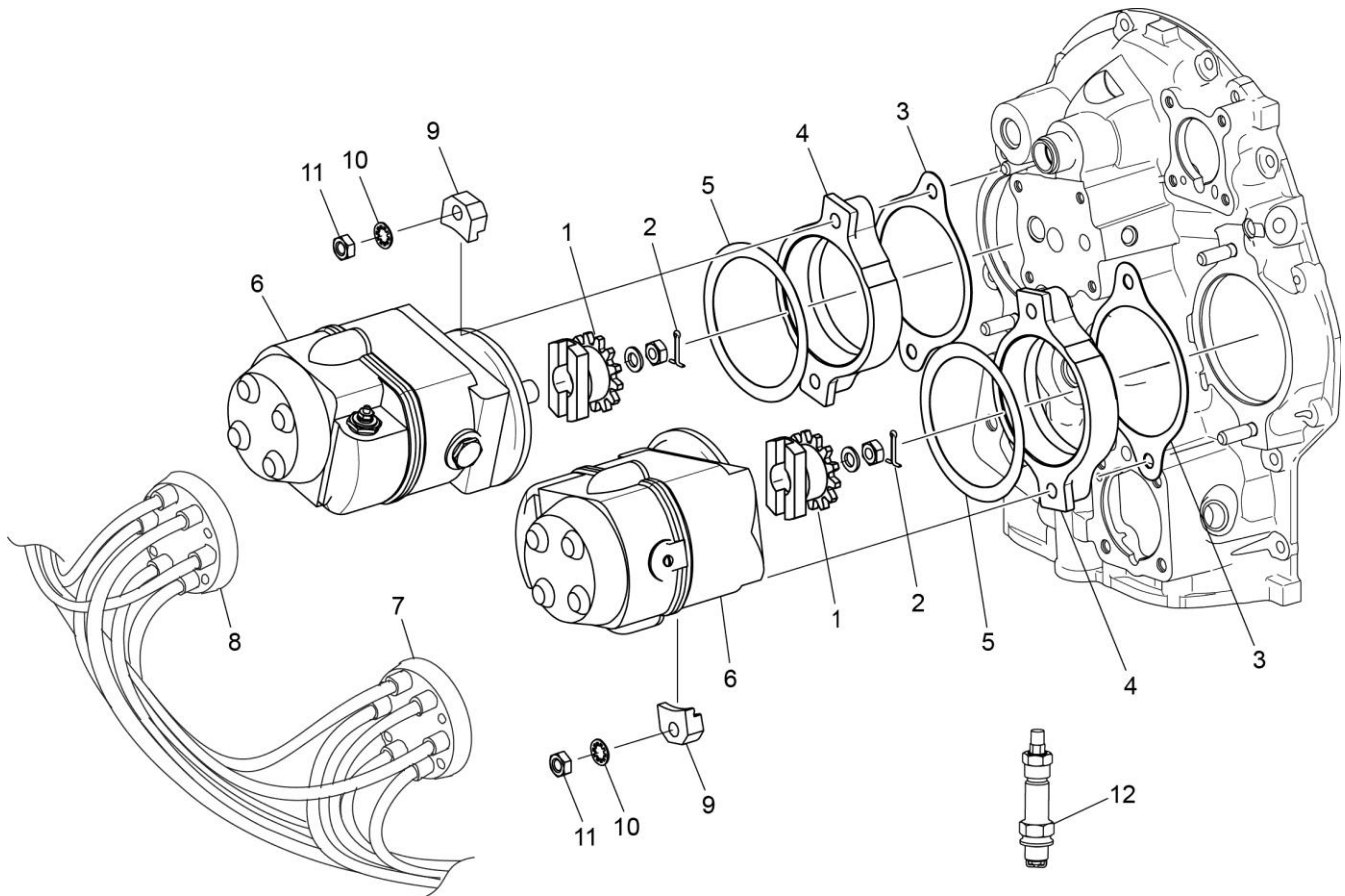
Figure Item	Code	Part Number	Description	Units per Assembly
1		06E19769-0.63	GASKET, Annular, 5/8 I.D.	1
2		62417	PLUG, Oil cooler bypass	1
3		71140	FITTING, Breather	1
4		MS20823-8	ELBOW, 1/2 flared tube – 3/8 NP	2
5		06B23862	GASKET, Oil filter adapter	1
6		77852	OIL FILTER BASE ASSEMBLY	1
7		LW-13216	OIL FILTER, Long CH48111-1	1
8		STD-8	WASHER, 1/4 plain	4
9		STD-160	WASHER, 1/4 lock, internal teeth	1
10		STD-1411	NUT, 1/4-20 plain	1
11		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	3
12		STD-160	WASHER, 1/4 lock, internal teeth	3
13		53E22144	VALVE ASSEMBLY, Temperature control, oil cooler bypass	1
14		25C-10	STUD, 1/4-20 x 1-1/4 long	1



**Figure 20**  
**Carburetor Assembly**

**FUEL DISTRIBUTION****Figure 20 – Carburetor Assembly**

<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		66224	GASKET, Carburetor	1
2	<b>V</b>	61B26214	CARBURETOR, LVC-5-4PA, <b>V</b> AV 10-5217	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
<b>V</b> Vendor Prime Manufacturer part.				



**Figure 21**  
**Magnetos, Magneto Drives, Harnesses and Spark Plugs**

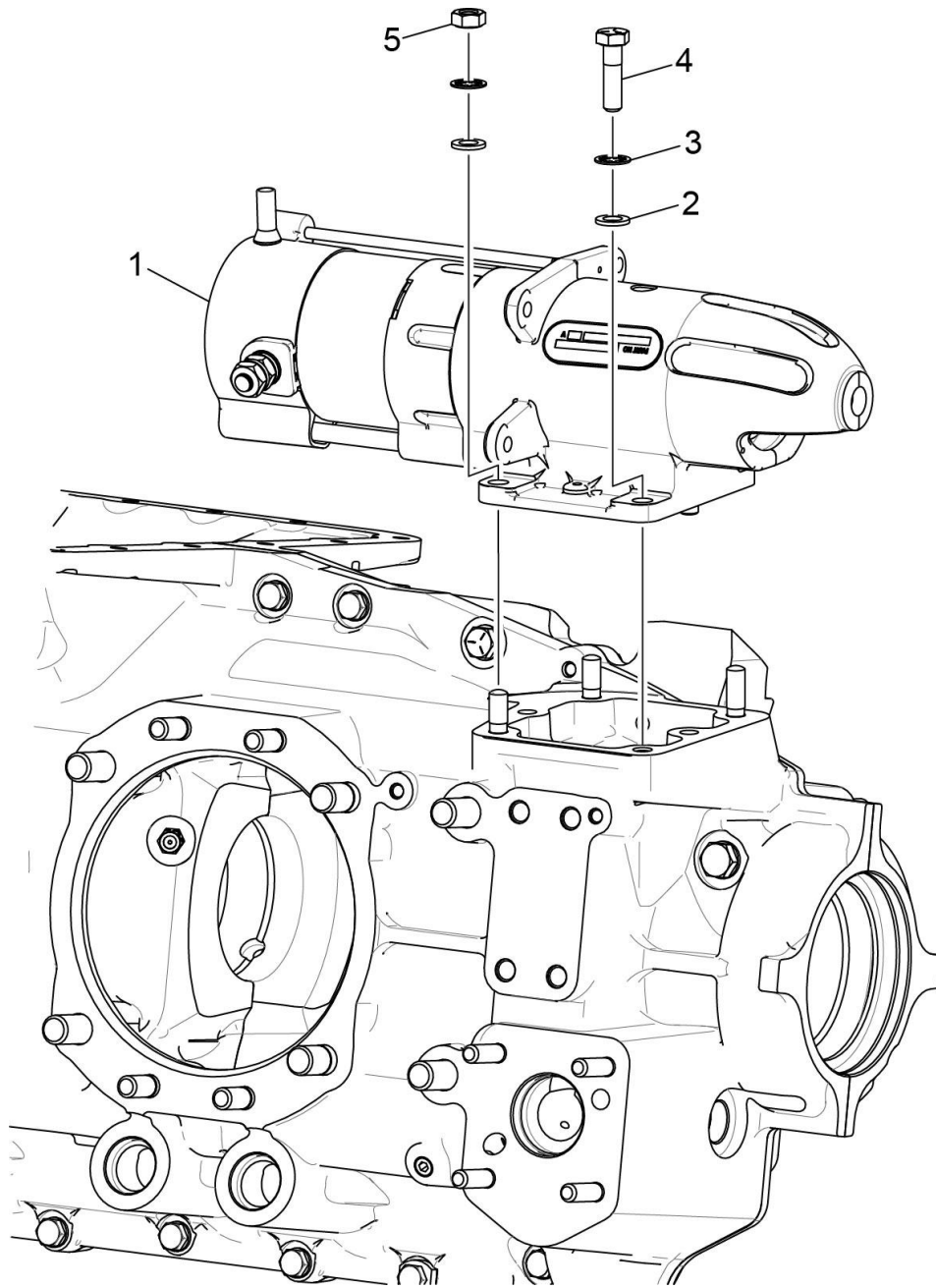
**DISTRIBUTION****Figure 21 -Magnetos, Magneto Drives, Harnesses and Spark Plugs**

Figure Item	Code	Part Number	Description	Units per Assembly
1		61665	GEAR, Magneto, impulse coupling	2
2		MS-9245-44	COTTER PIN, 3/32 diameter x 5/8 long	2
3		62224	GASKET, Magneto adapter	2
4		LW-12706	ADAPTER, Magneto, impulse coupling	2
5		LW-12681	GASKET, Magneto	2
6	<b>V</b>	66GC20SFNN	MAGNETO, Impulse, Slick <b>V</b> 4371	2
7	<b>V</b>	67P20408	HARNESS ASSEMBLY, Right, Slick <b>V</b> M2512	1
8	<b>V</b>	67P20409	HARNESS ASSEMBLY, Left, Slick <b>V</b> M2513	1
9		66M21195	CLAMP, Magneto	4
10		STD-475	WASHER, 5/16 lock, internal teeth	4
11		STD-1410	NUT, 5/16-18 plain	4
12	<b>V *</b>	1182-E7	SPARK PLUG, Champion <b>V</b> REM38E	8
	<b>**</b>	01P19762-1-43	BAG, Harness attaching	1

**V** Vendor Prime Manufacturer part  
**\*** Item No. 12 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 below for breakdown of individual parts contained in the magneto and harness attaching bag. These parts are to be added by customer per engine line drawing included in each bag.

**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	SET OF 2 PLATES, spark plug cable- 2 wire	2



**Figure 22**  
**Starter Motor and Attaching Parts**



**CRANKING****Figure 22 - Starter Motor and Attaching Parts**

Figure Item	Code	Part Number	Description	Units per Assembly
1	V	31B23592	STARTER-12-24V-12/14P ( V 149NL Sky-Tech)	1
	V	31B26040	STARTER ASSEMBLY - Kelly (V ERB-8011) – 24 volt-12/14 Pitch	1
	V	31A26041	STARTER ASSEMBLY - Kelly (V ERZ-8011) – 12 volt -12/14 pitch	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
<b>V</b> Vendor Prime Manufacturer part <b>*</b> Use with Kelly starters only.				

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**Service Kit Section****Seal and Gasket Set**

<b>PART NO.</b>	<b>PART NAME</b>	<b>Qty.</b>
<b>LW-16850</b>	<b>KIT - SEAL AND GASKET SET</b>	<b>1</b>
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	CRANKSHAFT, Oil seal	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
77611	GASKET, Exhaust flange	4
06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16	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.	2
61183	GASKET, Accessory adapter	1
62224	GASKET, Magneto adapter	2
66224	GASKET, Carburetor	2
70310	SEAL, Shroud tube	8
71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	4
71973	GASKET, 2 bolt flange, 1-13/16 I.D.	4
72059	GASKET, Oil level gage	1
72075	SEAL, Oil, 3/32 section x 29/64 I.D.	6
72091	RING, Oil seal, 3/8 x 7/64 diameter	2
73383	LOCKPLATE, 5/16 bolt x 1.00	2
73818	GASKET, Accessory housing	1
75906	GASKET, Rocker box cover	4
8313	GASKET, Vacuum pump	2
06A23493	SEAL, Shroud tube	8
SSP-115	STICKER	1

**Service Kit Section (Cont.)**  
**Cylinder, Piston and Ring Assembly**

<b>PART NO.</b>	<b>PART NAME</b>	<b>Qty.</b>
<b>05K21100</b>	<b>KIT - CYLINDER, PISTON AND RING ASSEMBLY</b>	<b>1</b>
LW-12416	CYLINDER ASSEMBLY	1
17A23938	VALVE, Intake	1
17B23936	VALVE, Exhaust	1
65441	SEAT, Valve spring, lower intake	1
LW-13323	SEAT, Valve spring, lower	1
LW-11800	SPRING, Valve, outer	2
LW-11795	SPRING, Valve inner	2
LW-10077	SEAT, Valve spring, upper	1
LW-16475	SEAT, Valve spring, upper exhaust	1
60009	KEY, Valve, intake	2
17C21191	KEY, Valve, exhaust	2
MS20823-6D	ELBOW, 45°, 3/8 flared tube	1
17C19386	CAP, Valve stem, exhaust (rotator)	1
SSP-109	TAG, Use of piston pins	1
1102	PLUG, 1/8-27 NPT, allen head	2
SSP-115	STICKER	1
14D23912	PISTON	1
74241	RING, Piston, compression	2
14H21950	RING, Piston, oil	1
LW-14078	PIN, Piston	1
72198	PLUG, Piston pin	2
71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	1
70310	SEAL, Shroud tube	2
LW-18661	SEAL, Shroud tube	2
75906	GASKET, Rocker box cover	1
77611	GASKET, Exhaust flange	1
71973	GASKET, 2 bolt flange	1
LW-12272	LOCKPLATE, Shroud tube	1
SSP-299	TAG, Use of piston pin plugs	1
06A23493	SEAL, Shroud tube	2
71195	CONTAINER	1

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06A23493	SEAL	45
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06B23862	GASKET	45
06E19769-0.63	GASKET	37
06E19769-0.63	GASKET	45
06E19769-1.00	GASKET	27
06E19769-1.00	GASKET	45
06E19769-1.25	GASKET	5
06E19769-1.25	GASKET	45
07A21443	BRACKET	1
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1102	PLUG	15
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