

# **O-320-E2H, -E3H Series Illustrated Parts Catalog**

---

**December 2011**

**PC-203-8**

---

**LYCOMING** © 2011

652 Oliver Street  
Williamsport, PA 17701

## **O-320-E2H, -E3H Illustrated Parts Catalog**

Lycoming Part Number: PC-203-8

©2011 by Avco Corporation. All Rights Reserved.

Lycoming and "Powered by Lycoming" are trademarks or registered trademarks of Lycoming.

Lycoming Engines is a division of Avco Corporation

All brand and product names referenced in this publication are trademarks or registered trademarks of their respective companies.

### **For additional information:**

#### **Mailing address:**

Lycoming Engines  
652 Oliver Street  
Williamsport, PA 17701 U.S.A.

#### **Phone:**

Factory: 570-323-6181  
Sales Department: 570-327-7278  
Fax: 570-327-7101

Lycoming's regular business hours are Monday through Friday from 8:00 A.M. through 5:00 P.M. Eastern Time (-5 GMT)

Visit us on the **World Wide Web** at:

<http://www.lycoming.com>

\*\*\*\*\****NOTICE***\*\*\*\*\*

This parts catalog is the eighth of eight other forthcoming parts catalogs associated with O-320 engine model series as shown in the table below.

Parts Catalog Number	Engine Models
PC-203-1	O-320-A2B, -A3B
PC-203-2	O-320-A2C, -A2D
PC-203-3	O-320-E1A, -E2A
PC-203-4	O-320-E1F, -E2F
PC-203-5	O-320-E2B, -E2C
PC-203-6	O-320-E2D, -E3D
PC-203-7	O-320-E2G
PC-203-8	O-320-E2H, -E3H

**NOTE:** Service documents override parts information in this document.

# **RECORD OF REVISIONS**

This page intentionally left blank.

**LIST OF EFFECTIVE PAGES**

<b><u>Ch-Se-Su</u></b>	<b><u>Pages</u></b>	<b><u>Date</u></b>	<b><u>Ch-Se-Su</u></b>	<b><u>Pages</u></b>	<b><u>Date</u></b>
24-20.....	0-1.....	12/11	73-10 .....	40-41 .....	12/11
72-20.....	2-11.....	12/11	74-20 .....	42-43 .....	12/11
72-30.....	12-23.....	12/11	80-10 .....	44-45 .....	12/11
72-50.....	24-27.....	12/11	Service Kits.....	46-49 .....	12/11
72-60.....	28-39.....	12/11	Numerical Index...	50-53 .....	12/11

This page intentionally left blank.

**TABLE OF CONTENTS**

<u>Subject</u>	<u>Ch-Se-Su</u>	<u>Page</u>	<u>Date</u>
<b>Frontal</b>			
Record of Revisions .....		iii .....	12/11
List of Effective Pages.....		v .....	12/11
Table of Contents.....		vii .....	12/11
Introduction .....		ix.....	12/11
Abbreviations and Acronyms.....		xiii .....	12/11
Oversize and Undersize Part Listing .....		xv.....	12/11
<b>Electrical Power</b>	<b>24-00</b>		
<b>AC Generation</b> .....	24-20		
1. Alternator-Mounting-and-Attaching-Parts.....		0-1 .....	12/11
<b>Reciprocating Engine</b>	<b>72-00</b>		
<b>Power Section</b> .....	72-20		
1. Crankcase-Assembly.....		2-3 .....	12/11
2. Crankcase-Related-Parts .....		4-5 .....	12/11
3. Crankshaft-Assembly-and-Related-Parts.....		6-7 .....	12/11
4. Crankshaft-Idler-Gears,-Tachometer-Drive-and-Camshaft .....		8-9 .....	12/11
5. Crankcase-Attaching-Parts.....		10-11 .....	12/11
<b>Cylinder Section</b> .....	72-30		
1. Connecting-Rods,-Pistons-and-Ring-Assemblies .....		12-13 .....	12/11
2. Cylinder-Assembly.....		14-15 .....	12/11
3. Valve-Assembly-and-Related-Parts .....		16-17 .....	12/11
4. Cylinder-Related-Parts .....		18-19 .....	12/11
5. Cylinder-Head-Drain-Tubes and -Intercylinder-Cooling-Baffles.....		20-21 .....	12/11
6. Intake-Pipes-and-Attaching-Parts .....		22-23 .....	12/11
<b>Lubrication System</b> .....	72-50		
1. Oil-Level-Gage .....		24-25 .....	12/11
2. Oil-Sump-Assembly-and-Oil-Suction-Screen .....		26-27 .....	12/11
<b>Accessory Drives</b> .....	72-60		
1. Accessory-Housing-Assembly .....		28-29 .....	12/11
2. Oil-Pump-Assembly-and-Accessory-Housing-Attaching-Parts .....		30-31 .....	12/11
3. Fuel-Pump-Assembly-and-Attaching-Parts .....		32-33 .....	12/11
4. Propeller-Governor-Drive-Cover,-Vacuum-Pump-Drive-and-Cover .....		34-35 .....	12/11

<u>Subject</u>	<u>Ch-Se-Su</u>	<u>Page</u>	<u>Date</u>
<b>Accessory Drives (Cont.)</b> .....	72-60		
5. Oil-Cooler-Bypass-Valve,- Oil-Pressure-Screen-and-Breather-Fitting .....	36-37	12/11	
6. Oil-Filter-Assembly-and-Oil-Cooler-Bypass-Valve .....	38-39	12/11	
<b>Engine and Fuel Control</b> .....	<b>73-00</b>		
<b>Fuel Distribution</b> .....	73-10		
1. Carburetor-Assembly .....	40-41	12/11	
<b>Ignition Distribution System</b> .....	<b>74-00</b>		
<b>Distribution</b> .....	74-20		
1. Magnetos,-Magneto-Drives,-Harnesses-and-Spark-Plugs.....	42-43	12/11	
<b>Starting</b> .....	<b>80-00</b>		
<b>Cranking</b> .....	80-10		
1. Starter-Motor-and-Attaching-Parts .....	44-45	12/11	
<b>Back Section</b> .....			
<b>Service Kit Section</b> .....	46-49	12/11	
<b>Numerical Index</b> .....	50-53	12/11	

## **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-320-E2H, -E3H 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-320-E2H, -E3H Illustrated Parts Catalog.

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

<b><u>EXAMPLE:</u></b>	<b>74</b>	<b>—</b>	<b>20</b>	
Chapter Ignition			Section 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.

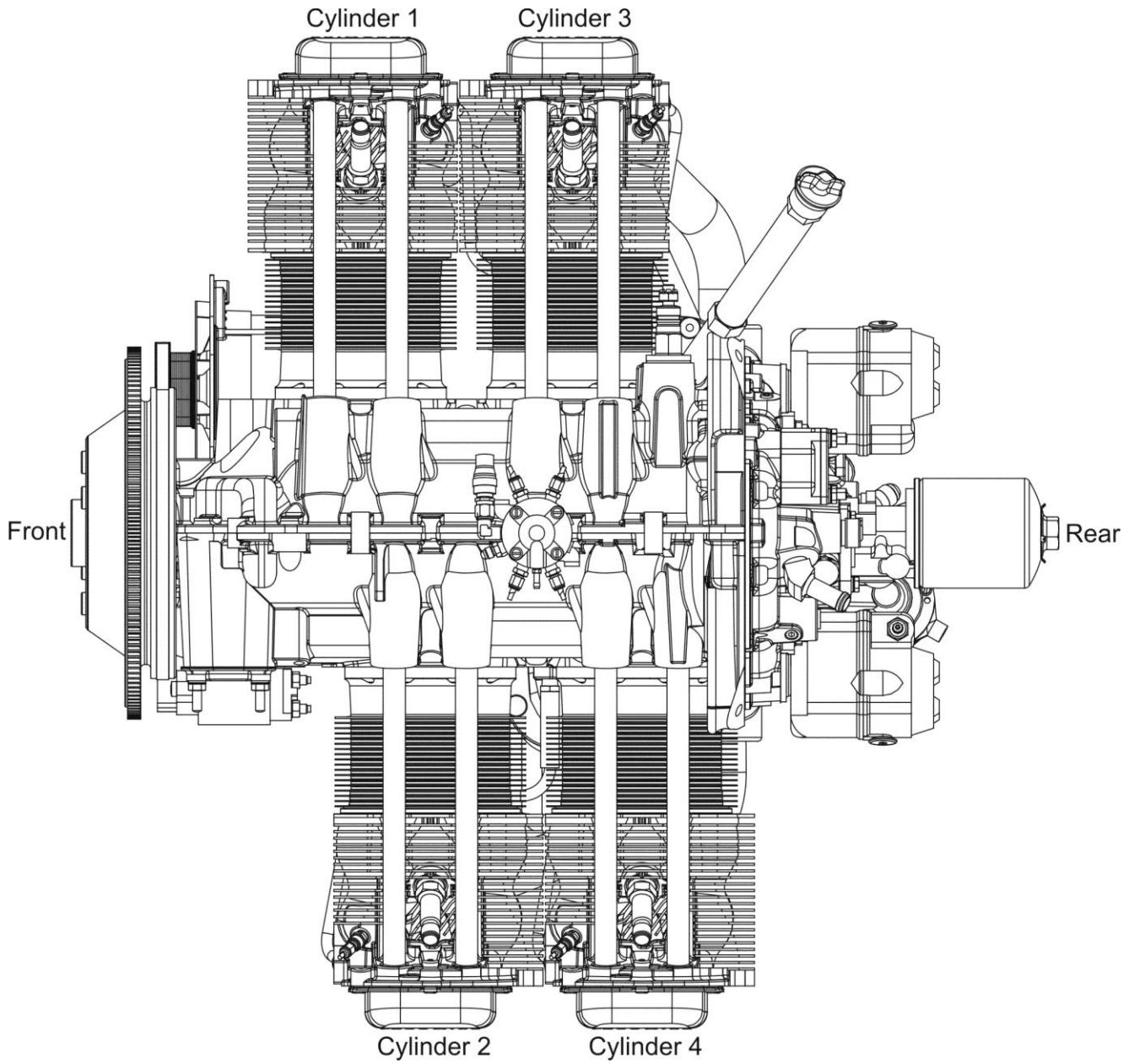
Any reference in this document to the suppliers/part manufacturer's product, by name, trademark, part number or other description is solely for the purpose of identification and does not indicate or infer that Lycoming accepts responsibility for quality control and/or airworthiness of parts, which do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

Call **(570) 323-6181**

8:00 A.M. – 5:00 P.M. EST (-5GMT)

Monday – Friday.

©2011 by Lycoming. "All Rights Reserved." All Lycoming publications are to be considered copyrighted and may not be reproduced without permission of the company.

**ABBREVIATIONS AND ACRONYMS**

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

This page intentionally left blank.

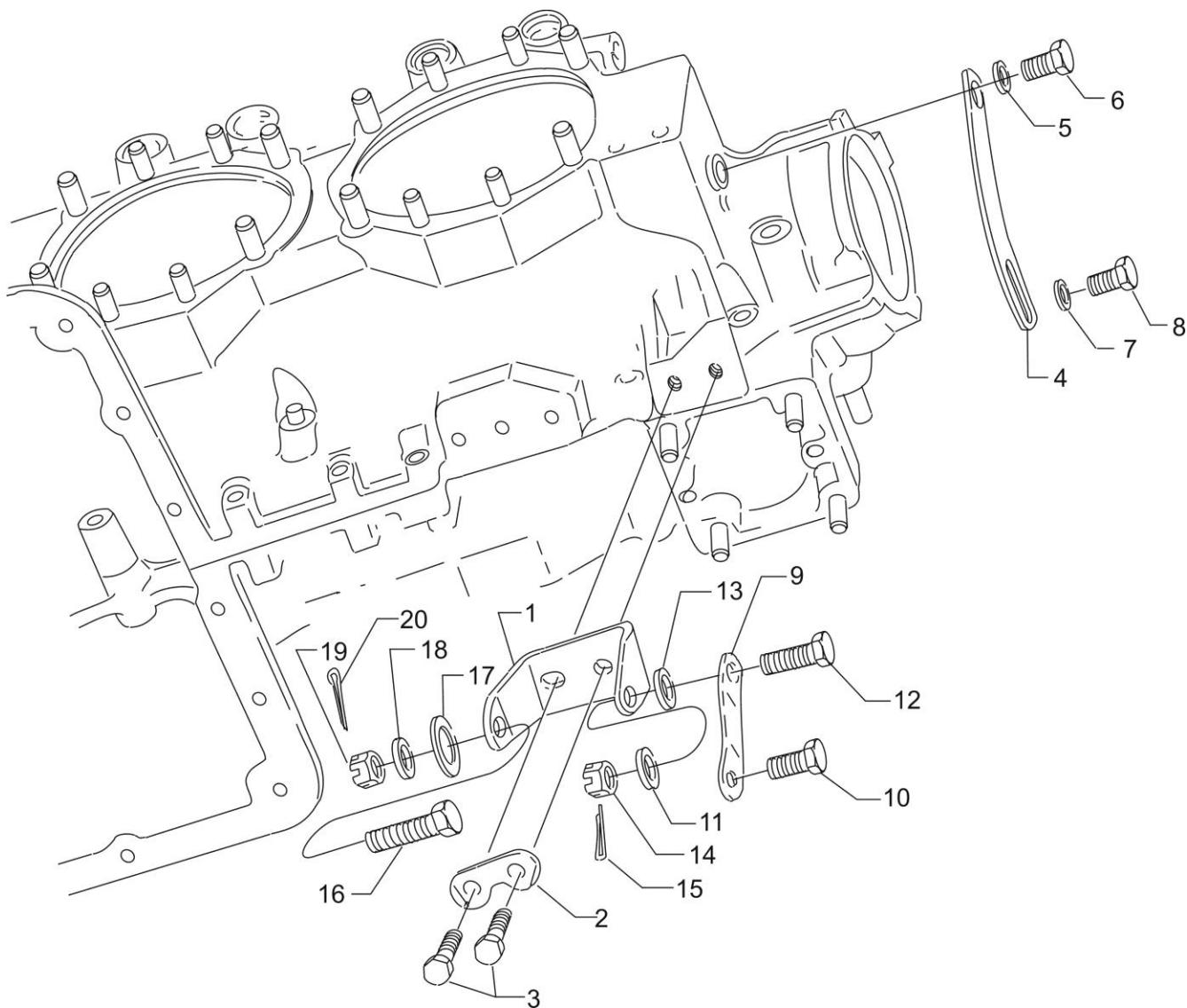
**OVERSIZE AND UNDERSIZE PARTS LISTING**

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	
18M26104	BEARING									X	X	X	
LW-13792	SEAL									X			
LW-18815-S	BUSHING		X	X	X	X							
LW-18817-S	BUSHING		X	X	X	X							
LW-18921-S	BUSHING			X	X	X							
LW-18922-S	BUSHING			X	X	X							
STD-1065	DOWEL	X	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 8 items no. 4 and 5 for valve guides

**NOTE**

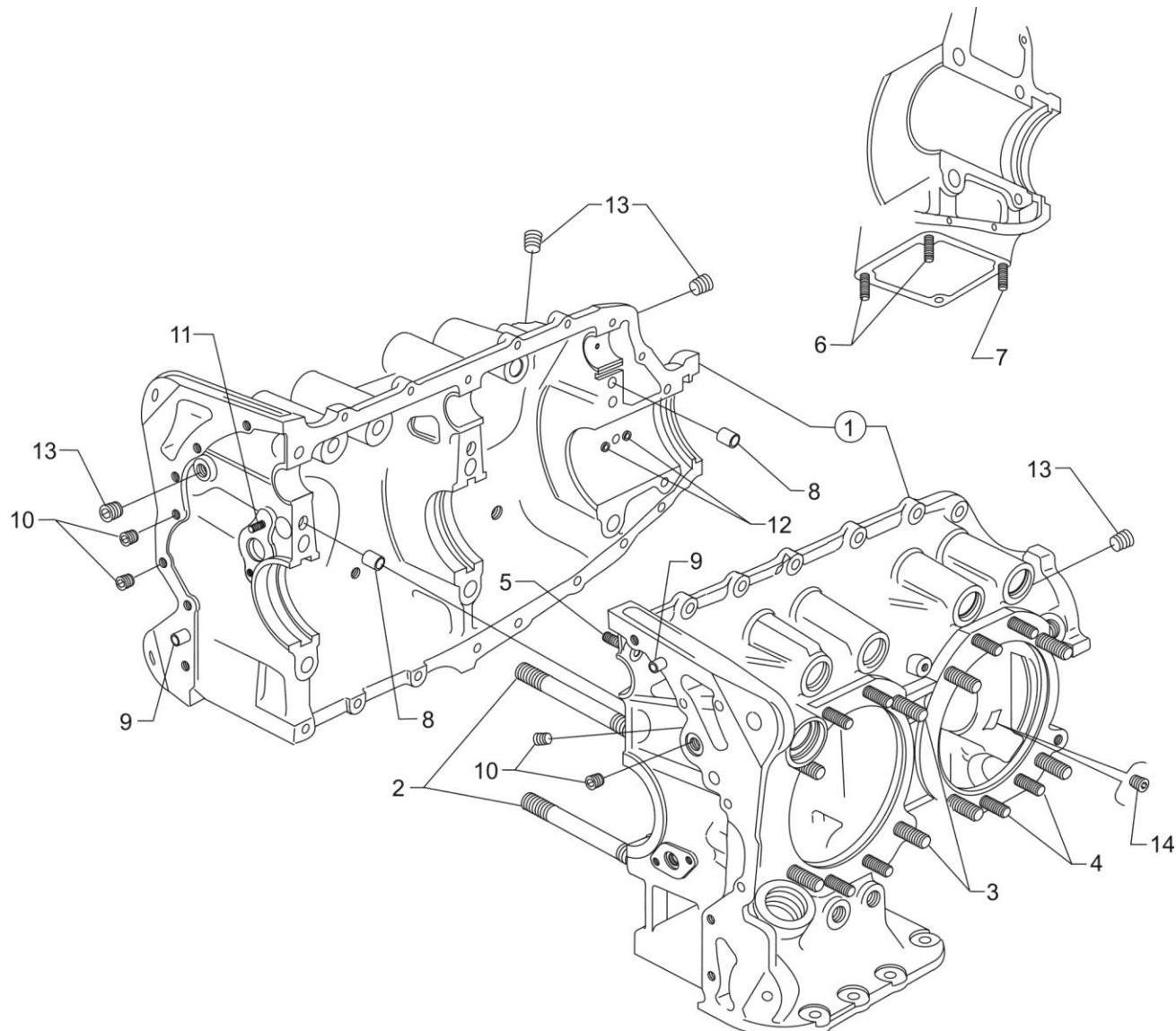
When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing P/N 18D26098 bearing in .003 in. undersize, order P/N 18D26098-M03. Undersize code letter is "M" while oversize code letter is "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	
				E2H	E3H
1		07A21443	BRACKET, Alternator	1	
		07A19474	BRACKET, Alternator		1
2		73383	LOCKPLATE, 5/16 bolt x 1.00	1	1
3		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2	2
4		LW-10729	LINK, Alternator, adjusting	1	
		75380	LINK, Alternator, adjusting		1
5		STD-35	WASHER, 5/16 plain	1	1
6		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	1	
		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled		1
7		STD-1727	WASHER, Plain, 11/32 I.D. x 3/4 O.D.		1
8		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled		1
9		76908	STRUT, Alternator support	1	
		07F23268	STRUT, Alternator support		1
10		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	1	
		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled		1
11		STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick		1
12		AN6-14	BOLT, 3/8-24 x 1-19/32 long, drilled		1
13		STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick		1
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 1-27/32 long, hex. head		1
17		76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick		5
18		STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick		1
19		STD-872	NUT, 3/8-24 slotted		1
20		STD-713	COTTER PIN, 3/32 diameter x 3/4 long		1

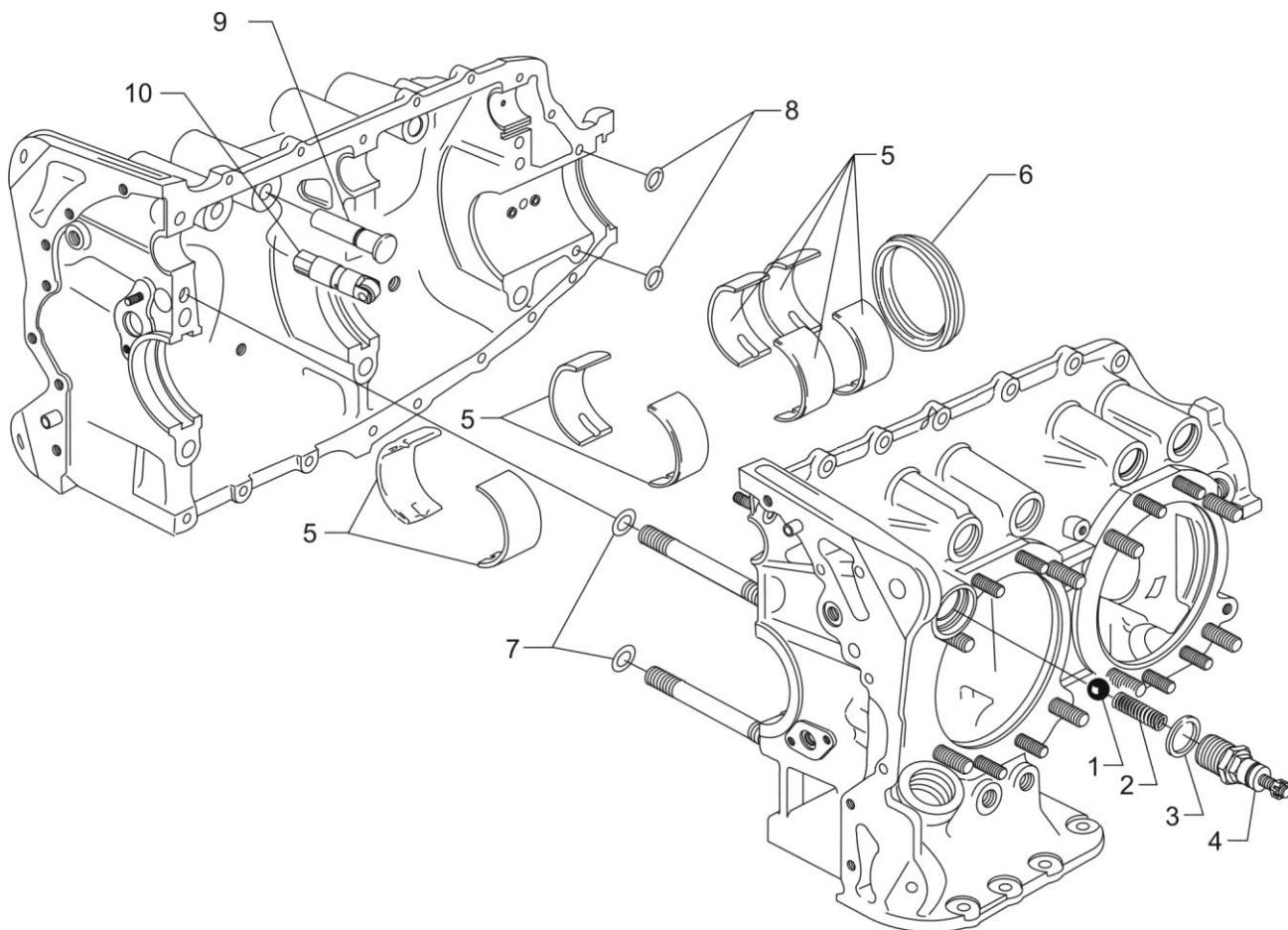


**Crankcase Assembly  
Figure 2**

**POWER SECTION****FIGURE 2 - CRANKCASE ASSEMBLY**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1	*	11B20061-1SB-S	CRANKCASE ASSEMBLY KIT	1	1
	P	11B20061-1SB	CRANKCASE ASSEMBLY	1	1
	*	11B20161-3SL-S	CRANKCASE ASSEMBLY KIT (Roller tappet engines)	1	1
	P	11B20161-3SL	CRANKCASE ASSEMBLY (Roller tappet engines)	1	1
2		75154	STUD, 1/2-13 x 10-1/32 long	2	2
3		50-15	STUD, 1/2-13 x 1-7/8 long	8	8
4		38-13	STUD, 3/8-16 x 1-5/8 long	16	16
5		38D-17	STUD, 3/8-16 x 2-1/8 long, drilled	1	1
6		LW-13793	STUD, 5/16-18 x 15/16 long, drilled	1	1
7		31C-12	STUD, 5/16-18 x 1-1/2 long	2	2
8		31C-13	STUD, 5/16-18 x 1-5/8 long	1	1
9		STD-557	DOWEL, 1/2 dia. x 19/32 long, hollow	2	2
10		STD-514	DOWEL, 5/16 dia. x 1/2 long	2	2
11		STD-1623	INSERT, 1/4-20 UNC x 3/8 long	2	2
12		1102	PLUG, 1/8-27 NPT, allen head	6	6
13		STD-1339	PLUG, 1/16-27 NPT, allen head	4	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.

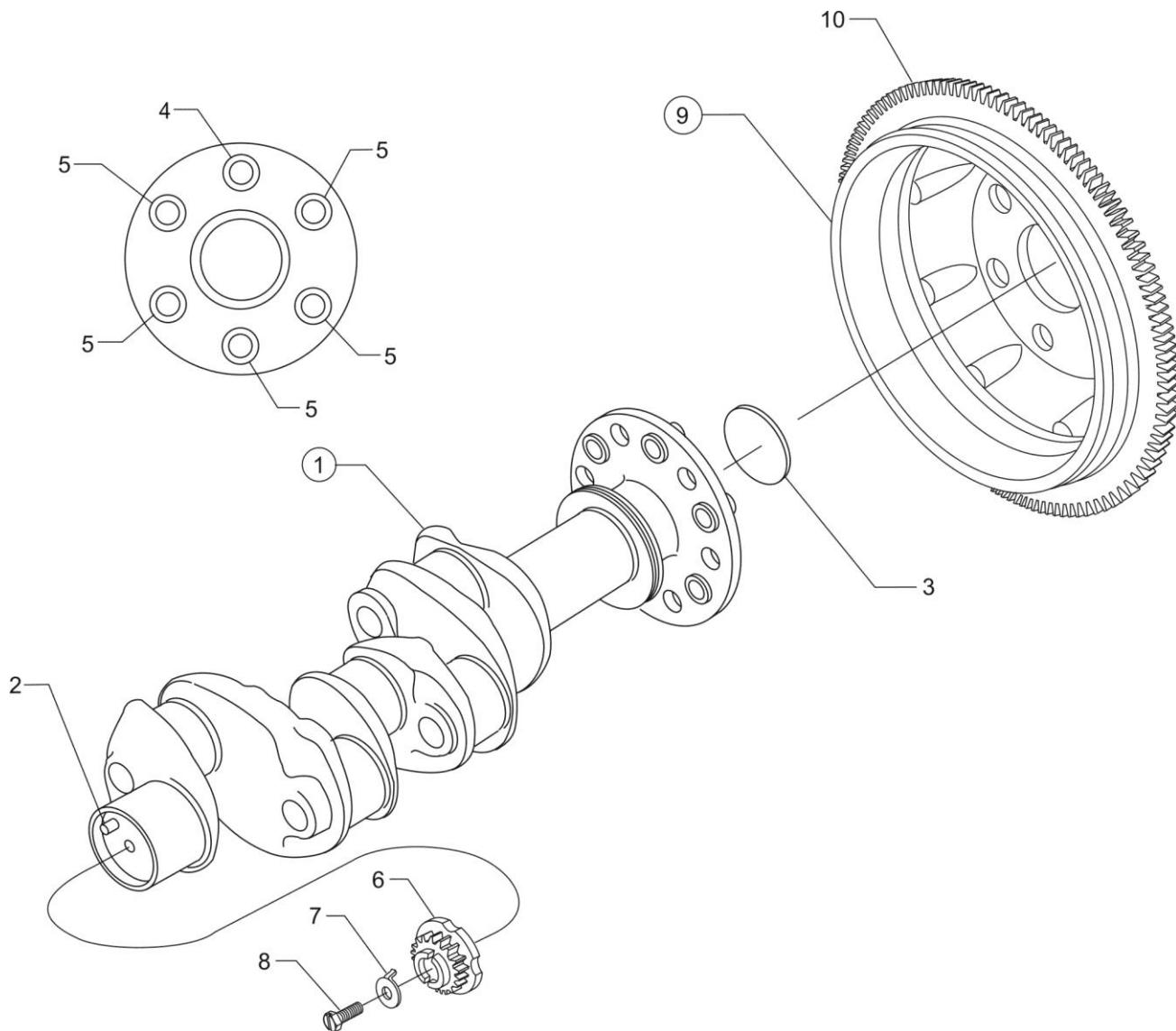


**Crankcase Related Parts**  
**Figure 3**

**POWER SECTION****FIGURE 3 - CRANKCASE RELATED PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		1028-B	BALL, 11/16 diameter	1	1
2	*	61084	SPRING, Oil pressure relief valve	1	1
	*	68668	SPRING, Oil pressure relief valve	1	1
	*	77467	SPRING, Oil pressure relief valve	1	1
	*	LW-11713	SPRING, Oil pressure relief valve	1	1
	*	LW-18085	SPRING, Oil pressure relief valve	1	1
3		06E19769-1.25	GASKET, 1-1/4 I.D., annular	1	1
4		77808	VALVE ASSEMBLY, Oil pressure relief	1	1
5		18D26098	BEARING, Crankshaft	8	8
6	**	LW-13792	SEAL, Crankshaft oil	1	1
7		72075	SEAL, Oil, 3/32 section x 15/32 I.D.	2	2
8		72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter	2	2
9		15B26064	BODY, Hydraulic tappet	8	8
10		LRT23381	BODY ASSEMBLY, Hydraulic tappet ( <b>Roller tappet engines</b> )	8	8

\* 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.  
 \*\* See latest revision of Lycoming Service Instruction No. 1324 for installation.



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

**POWER SECTION****FIGURE 4 - CRANKSHAFT ASSEMBLY AND RELATED PARTS**

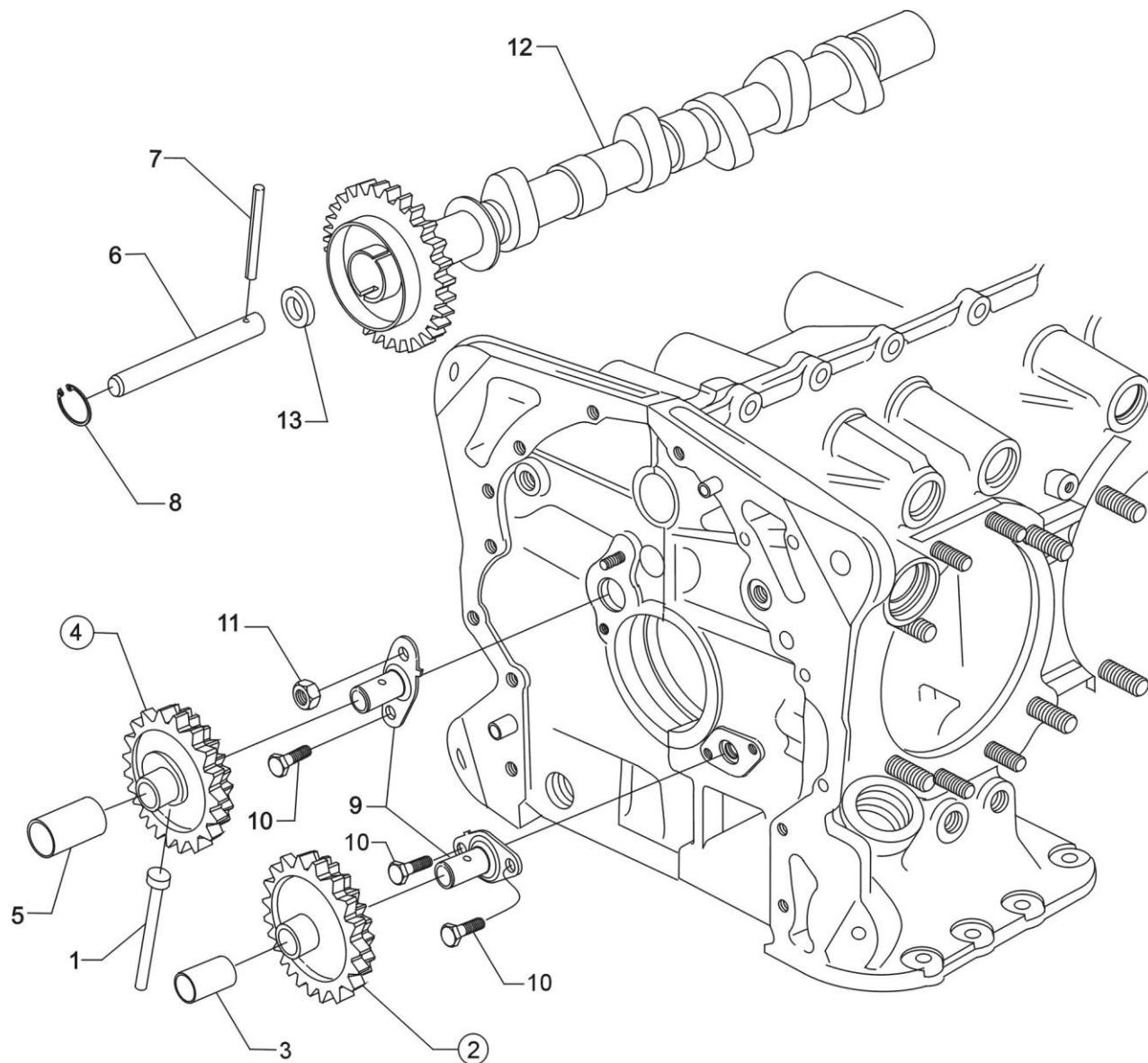
Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		13B47020	CRANKSHAFT ASSEMBLY	1	
		13B47024	CRANKSHAFT ASSEMBLY		1
2		STD-1065	DOWEL, Stepped, 5/16-14 diameter	1	1
3		STD-1211	PLUG, 2.00 diameter expansion	1	1
4		LW-18921-S	BUSHING, Propeller flange, long		1
		LW-18817-S	BUSHING, Propeller flange, long	1	
5		LW-18922-S	BUSHING, Propeller flange, short		5
		LW-18815-S	BUSHING, Propeller flange, short	5	
6	<b>SB*</b>	13S19646	GEAR, Crankshaft	1	1
7		LW-18639	LOCKPLATE, Crankshaft gear	1	1
8		STD-2246	BOLT, 5/16-24 x 1.00 long	1	1
9		76628	SUPPORT ASSEMBLY, Starter ring gear	1	
		76944	SUPPORT ASSEMBLY, Starter ring gear		1
10	**	72566	GEAR, Starter ring, 12/14 pitch	1	
	◆	60882	GEAR, Starter ring, 10/12 pitch		1

**SB** Referencing Service Bulletin

\* Refer to latest revision of Service Bulletin No. 475 for proper installation.

\*\* Use with 76628 Support Assembly.

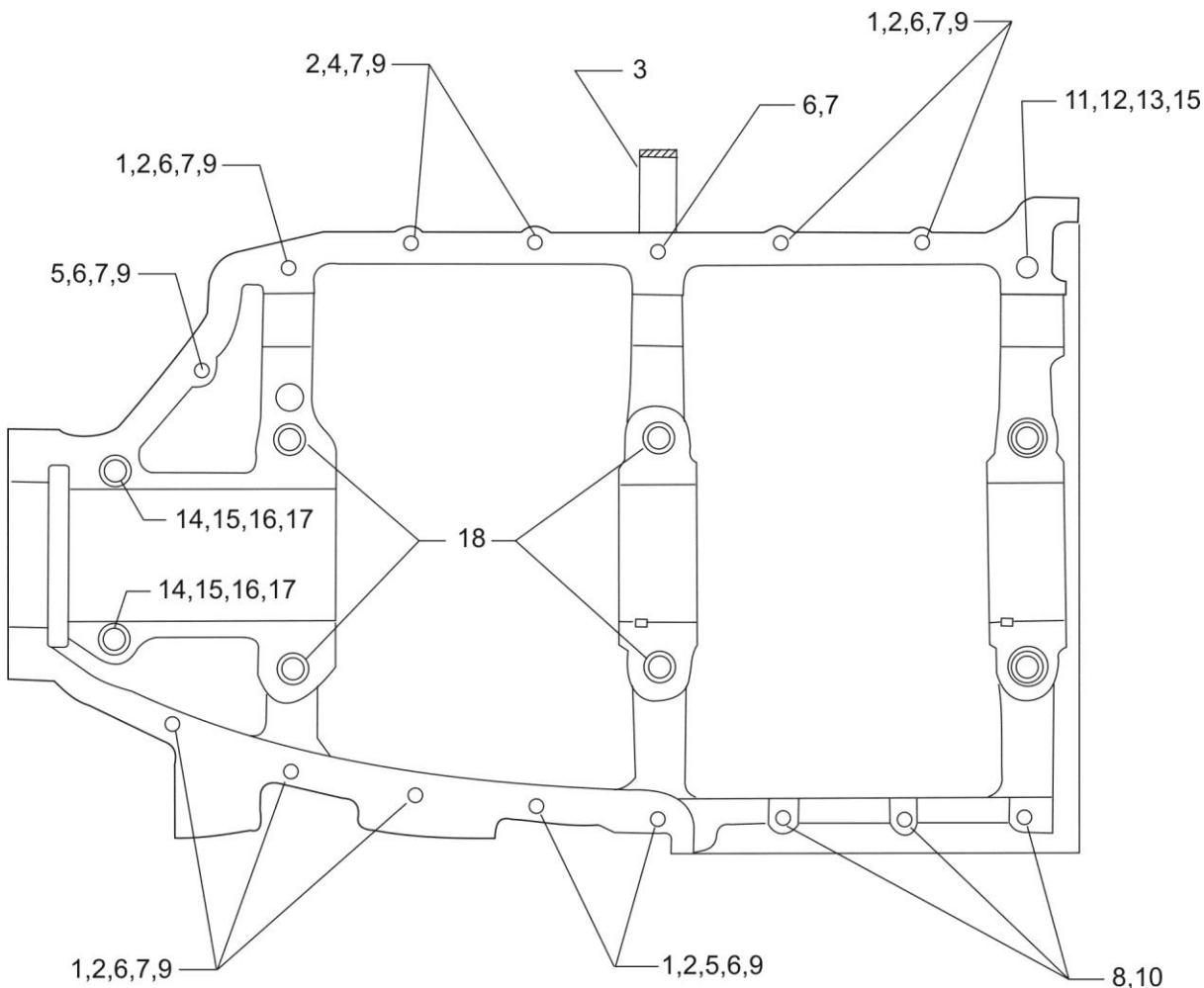
◆ Use with 76944 Support Assembly.



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

**POWER SECTION****FIGURE 5 - CRANKSHAFT IDLER GEARS, TACHOMETER DRIVE AND CAMSHAFT**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		61544	PLUNGER, Fuel pump, long	1	1
2		74996	GEAR ASSEMBLY, Crankshaft idler, plain	1	1
3		77309	BUSHING, Crankshaft idler gear	1	1
4		75072	GEAR ASSEMBLY, Crankshaft idler	1	1
5		77309	BUSHING, Crankshaft idler gear	1	1
6		76121	SHAFT ASSEMBLY, Tachometer	1	1
7		LW-18667	PIN, 3/16 diameter x 2-11/32 long	1	1
8		STD-2231	RING, Internal retaining (13/16)	1	1
9		LW-13796	SHAFT, Crankshaft idler gear	2	2
10		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	3	3
11		STD-2168	NUT, 5/16-18 NC-3 slotted shear	1	1
12		LW-18840	CAMSHAFT ASSEMBLY	1	1
		15M23452	CAMSHAFT ASSEMBLY ( <b>Roller tappet engines</b> )	1	1
13		76118	SPACER, Tachometer shaft, centering	1	1

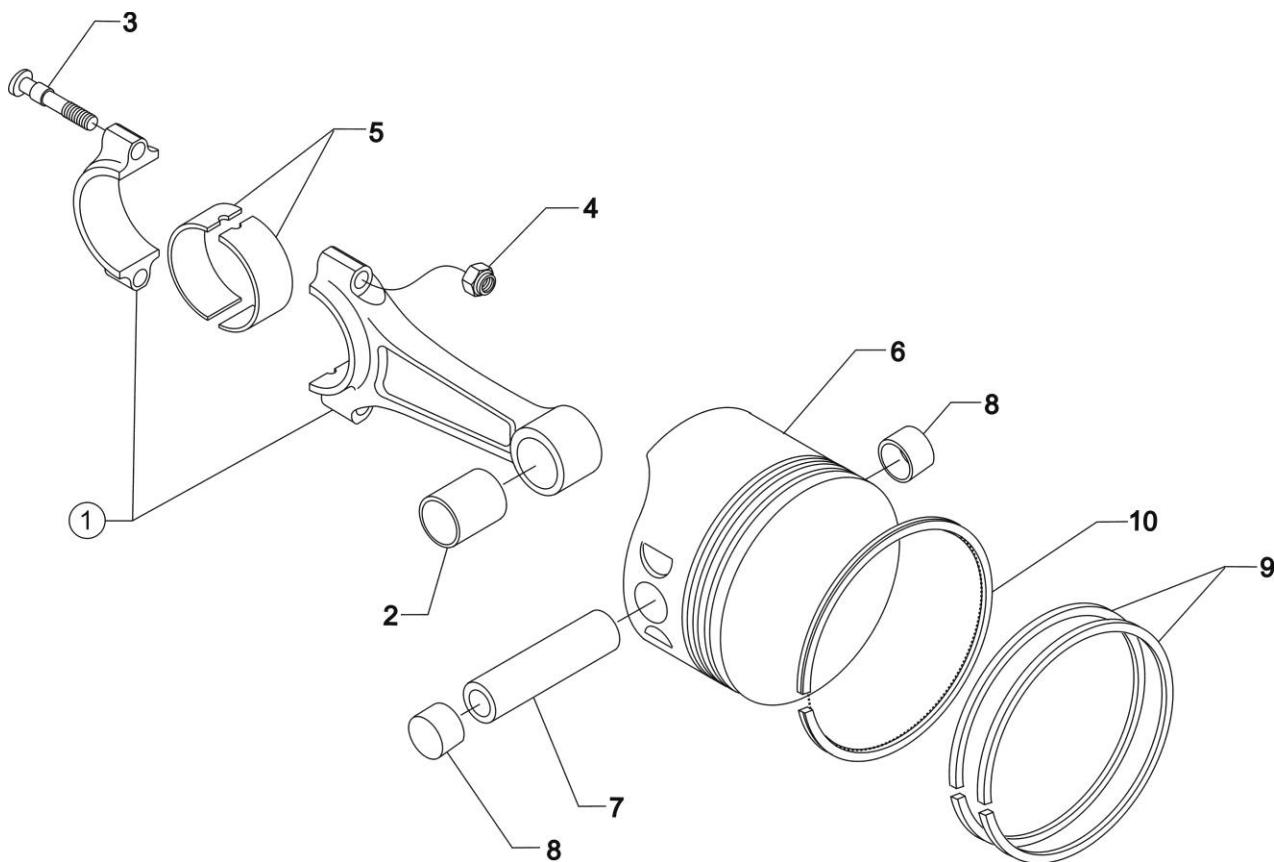


**Crankcase Attaching Parts**  
**Figure 6**

**POWER SECTION****FIGURE 6 - CRANKCASE ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	8	8
2		STD-8	WASHER, 1/4 plain	19	19
3		60803	STRAP, Lifting	1	1
4		LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	1	1
5		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	3	3
6		STD-160	WASHER, 1/4 lock, internal teeth	12	12
7		STD-1411	NUT, 1/4-20 plain	9	9
8		LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, drilled end	3	3
9		STD-8	WASHER, 1/4 plain	9	9
10		STD-2249	NUT, 1/4-20 slotted	3	3
11		STD-33	WASHER, 3/8 plain	3	3
12		AN960-616L	WASHER, 3/8 plain (thin)	1	1
13		STD-872	NUT, 3/8-24 slotted	1	1
14		AN6-34A	BOLT, 3/8-24 x 3-19/32 long, hex. head	2	2
15		STD-33	WASHER, 3/8 plain	2	6
16		STD-678	WASHER, 3/8 lock, internal teeth		2
17		STD-596	NUT, 3/8-24 plain		2
	*	LW-11866	SPACER, Nut compressor		2
18		76220	STUD, 1/2-20 x 10-11/16 long	4	4

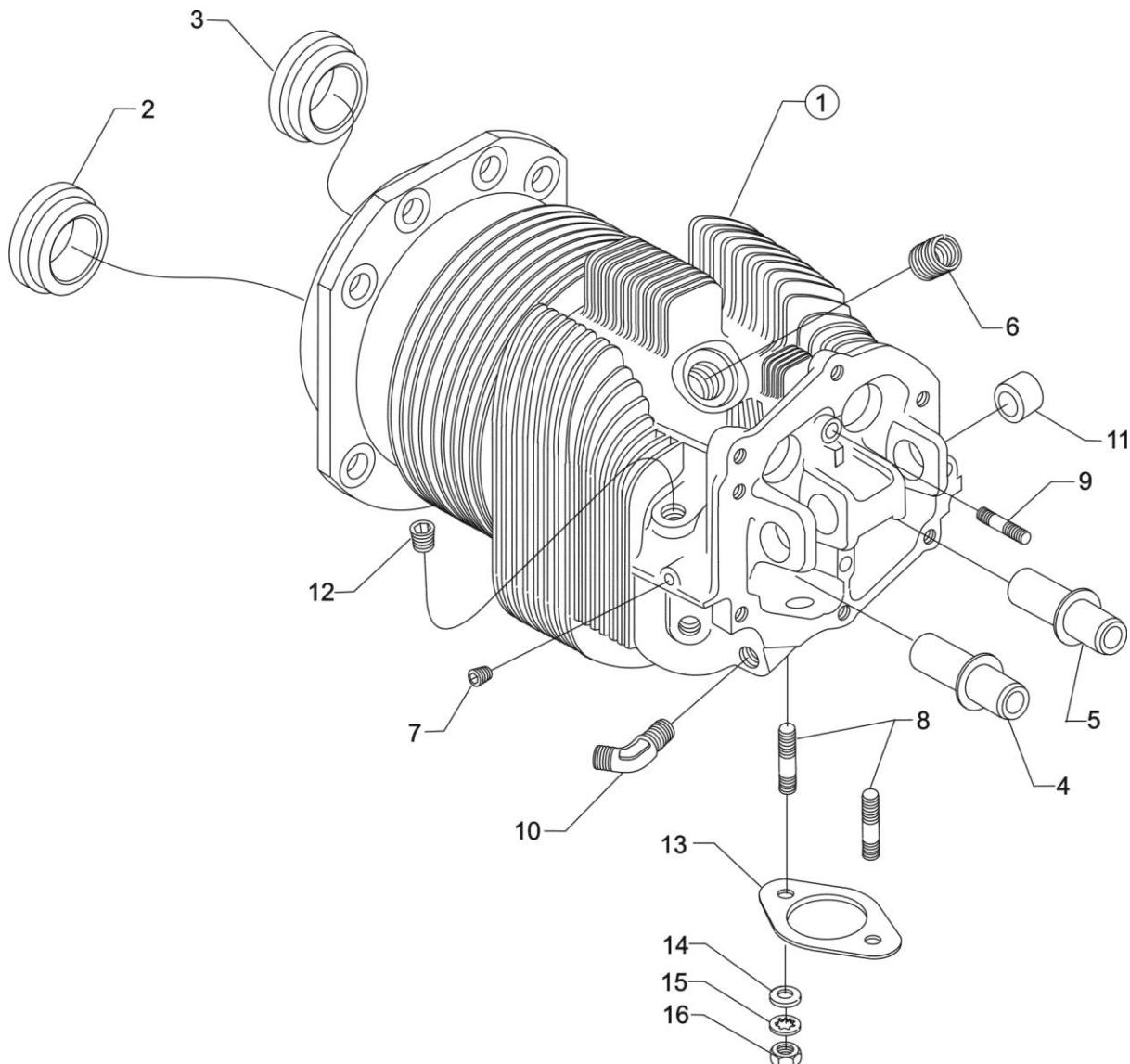
\* Used on installations for mounting of Freon compressor.



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

**CYLINDER SECTION****FIGURE 7 - CONNECTING RODS, PISTONS AND RING ASSEMBLIES**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		78030-S	CONNECTING ROD ASSEMBLY	4	4
2		LW-13923	BUSHING, Connecting rod, upper	4	4
3		78027	BOLT, Connecting rod	8	8
4		LW-12186	NUT, Connecting rod bolt	8	8
5		18M26104	BEARING, Connecting rod	8	8
6		14D23915	PISTON, 7.00:1 compression ratio	4	4
7		LW-14078	PIN, Piston	4	4
8		72198	PLUG, Piston pin	8	8
9		74241	RING, Piston compression	8	8
10		14H21950	RING, Piston, oil	4	4

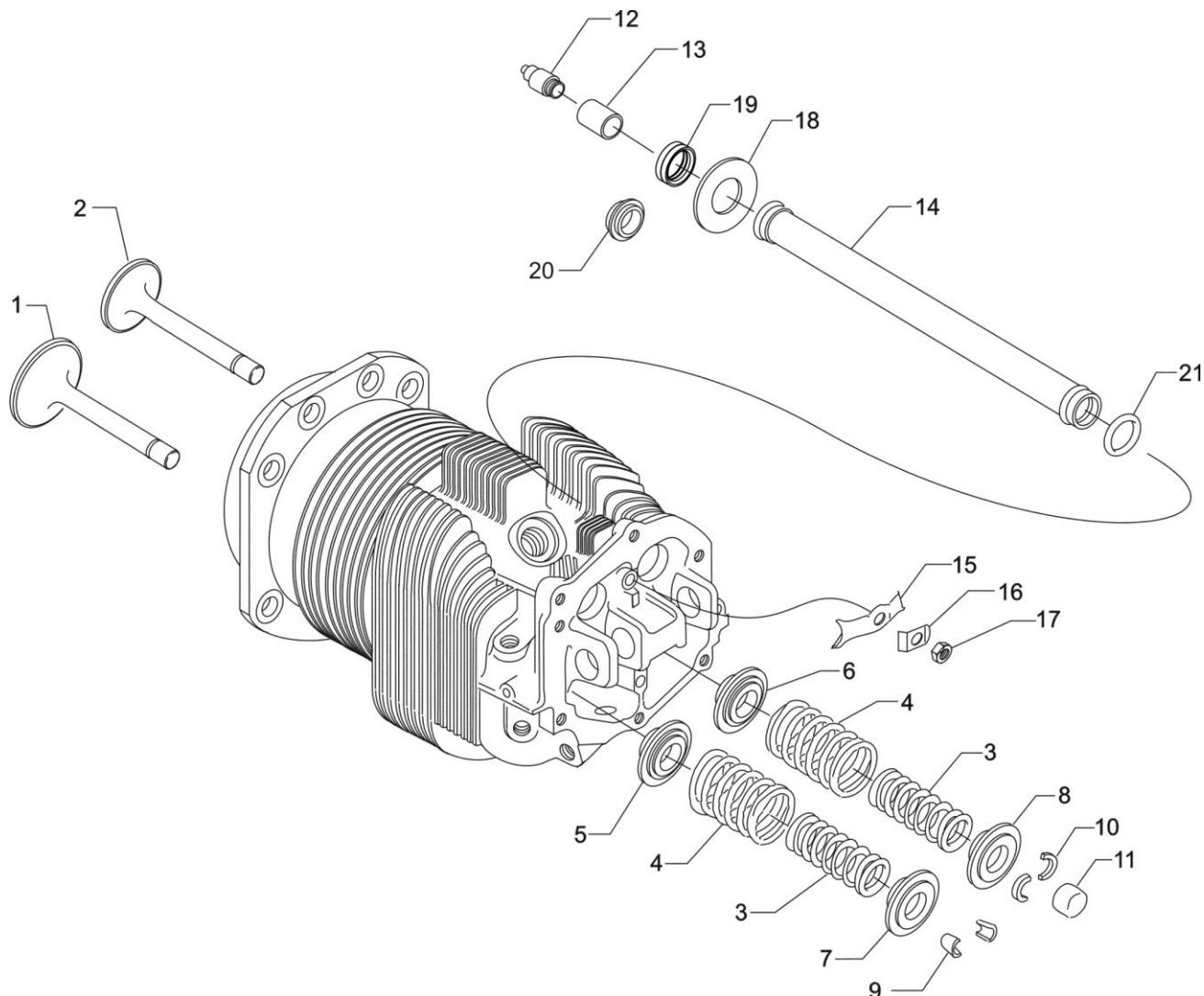


**Cylinder Assembly**  
**Figure 8**

**CYLINDER SECTION****FIGURE 8 - CYLINDER ASSEMBLY**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		LW-12416	CYLINDER ASSEMBLY, Nitrided	4	4
2		72057	SEAT, Intake valve	4	4
3		72058	SEAT, Exhaust valve	4	4
4	P*	76943	GUIDE, Valve, intake	4	4
5	P*	16R22126	GUIDE, Valve, exhaust	4	4
6	P◆	66796	INSERT, Spark plug, 18-1.5 MM	8	8
7		STD-1353	INSERT, No. 10-24 UNC x 3/8 long	4	4
8		31C-12	STUD, 5/16-18 x 1-1/2 long	8	8
9		25C-8	STUD, 1/4-20 x 1.00 long	4	4
10		MS20823-6D	ELBOW, 45°, 3/8 flared tube	4	4
11		66610	BUSHING, Rocker shaft	16	16
12		1102	PLUG, 1/8-27 NPT, allen head	4	4
13		77611	GASKET, Exhaust flange	4	4
14		STD-35	WASHER, 5/16 plain	8	8
15		STD-475	WASHER, 5/16 lock, internal teeth	8	8
16		STD-1410	NUT, 5/16-18 plain	8	8

**P** Lycoming proprietary part. Listed for reference purposes only, cannot be purchased.  
**\*** See latest revision of Service Instruction No. 1256 for service valve guides.  
**◆** See latest revision of Service Instruction No. 1043.

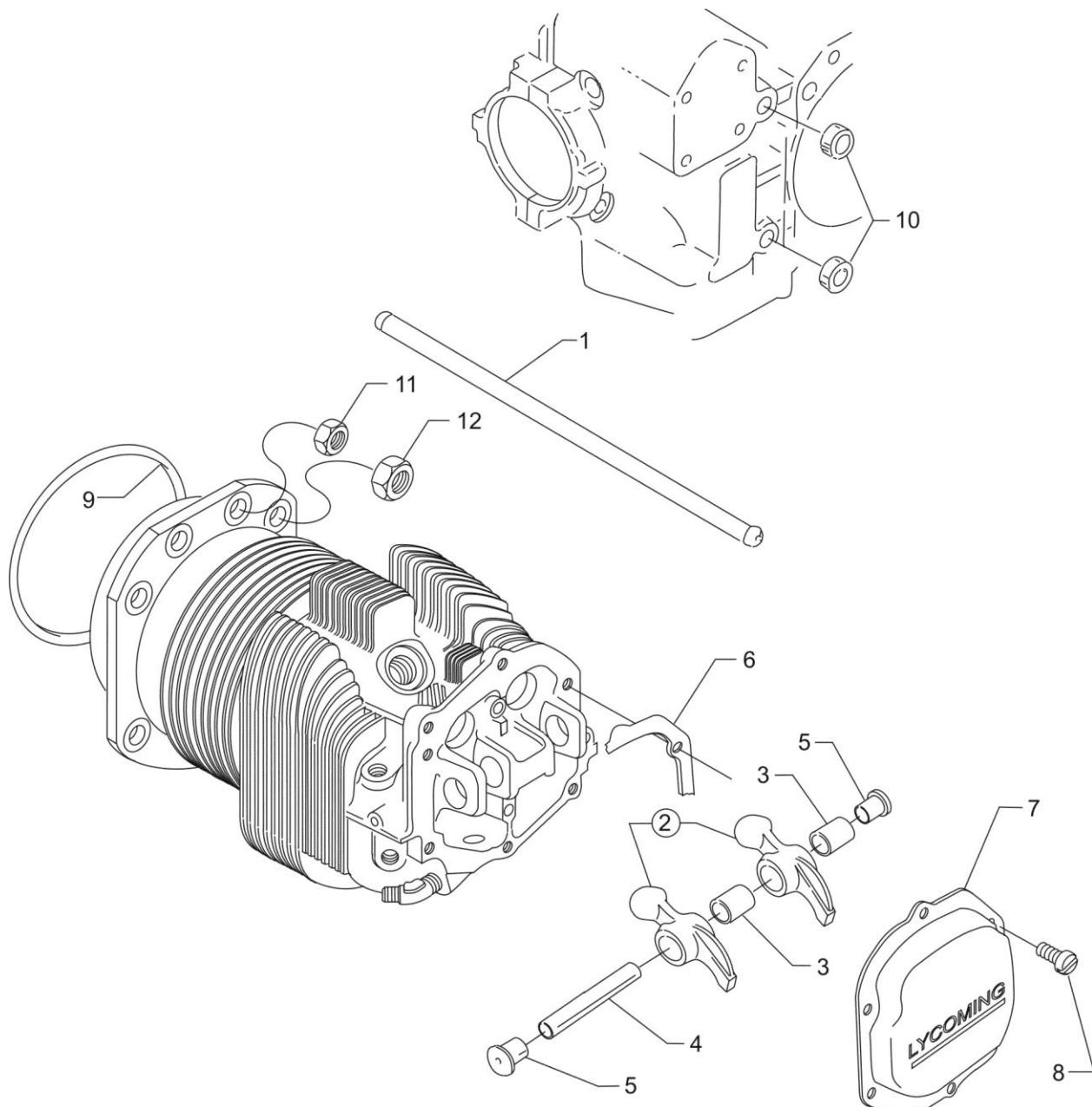


**Valve Assembly and Related Parts  
Figure 9**

**CYLINDER SECTION****FIGURE 9 – VALVE ASSEMBLY AND RELATED PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		17A23938	VALVE, Intake	4	4
2		17B23936	VALVE, Exhaust (rotator type)	4	4
3		LW-11795	SPRING, Valve, inner	8	8
4		LW-11800	SPRING, Valve, outer	8	8
5		65441	SEAT, Valve spring, lower intake	4	4
6		LW-13323	SEAT, Valve, spring, lower exhaust	4	4
7		LW-10077	SEAT, Valve spring, upper intake	4	4
8		LW-16475	SEAT, Valve spring, upper exhaust (rotator type)	4	4
9		60009	KEY, Valve, intake	8	8
10		17C21191	KEY, Valve, exhaust (rotator type)	8	8
11		17C19386	CAP, Valve stem, exhaust (rotator type)	4	4
12		15B26066	PLUNGER ASSEMBLY, Hydraulic lifter	8	8
13		15B21319	SOCKET, Hydraulic tappet	8	8
14		68987	SHROUD TUBE ASSEMBLY, Push rod	8	8
		15G23494	SHROUD TUBE ASSEMBLY, Push rod <b>(Roller tappet engines)</b>	8	8
15		LW-14995	SPRING, Shroud tube	4	4
16		LW-12272	LOCKPLATE, Shroud tube	4	4
17		STD-1411	NUT, 1/4-20 plain	4	4
18		01L23459	WASHER, 25/32 I.D. x 3/8 O.D. x 1/32 thick <b>(Roller tappet engines)</b>	8	8
19	*	LW-18661	SEAL, Shroud tube	8	8
20		06A23493	SEAL, Shroud tube <b>(Roller tappet engines)</b>	8	8
21	**	70310	SEAL, Shroud tube	8	8

\* This seal is used on flat tappet engines only.  
\*\* This seal is used on both flat tappet engines and roller tappet engines.



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

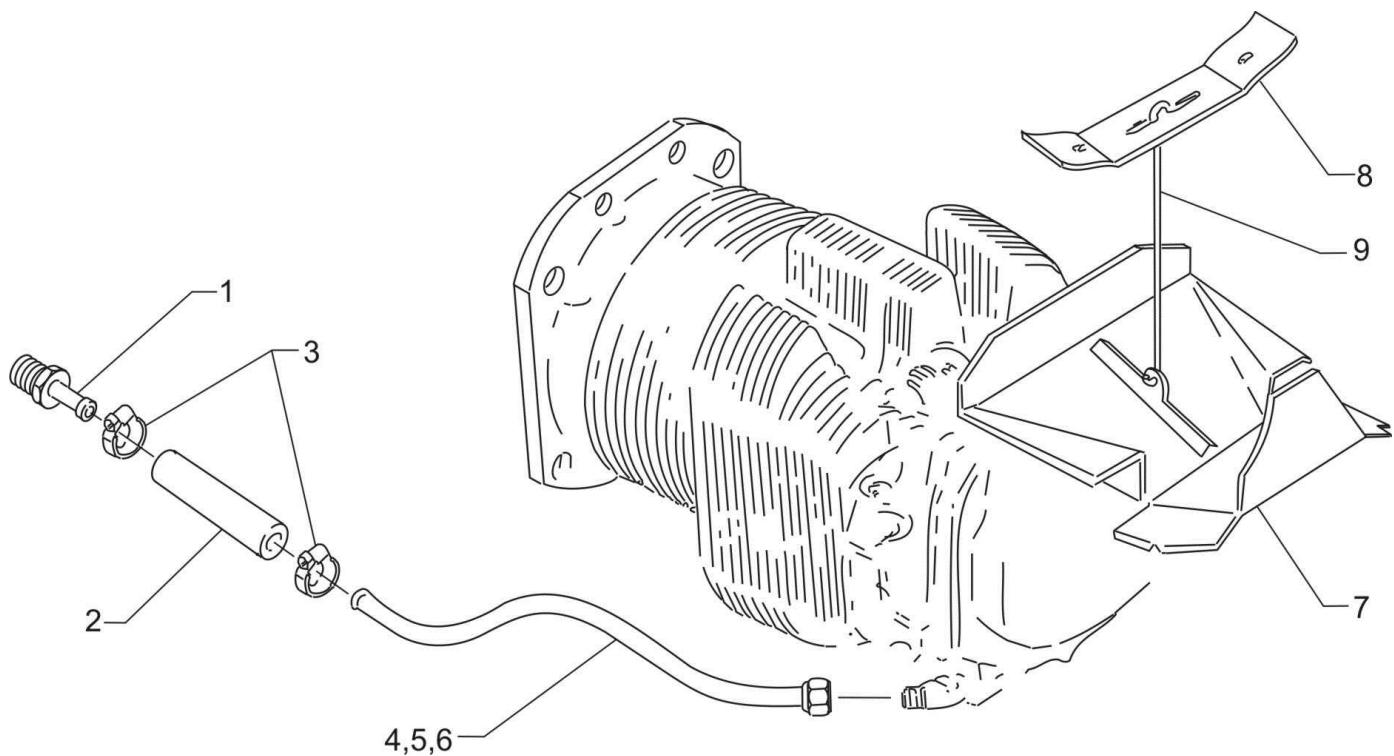
**CYLINDER SECTION****FIGURE 10 – CYLINDER RELATED PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1	<b>AR*♦</b>	15F19957-08	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	<b>AR*♦</b>	15F19957-09	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	<b>AR*♦</b>	15F19957-10	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	<b>AR†♦</b>	15F19957-11	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	<b>AR†♦</b>	15F19957-12	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	<b>AR‡♦</b>	15F19957-13	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	<b>AR‡♦</b>	15F19957-14	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	<b>AR‡♦</b>	15F19957-15	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
2	**	17F19357	ROCKER ASSEMBLY, Valve	8	8
3		74637	BUSHING, Valve rocker	8	8
4		LW-13790	SHAFT, Valve rocker	4	4
5		LW-12892	THRUST BUTTON, Rocker shaft	8	8
6		75906	GASKET, Rocker box cover	4	4
7		61247	COVER, Rocker box	4	4
8		STD-1925	SCREW, 1/4-20 x 5/8 long, pan. head	24	24
9		71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	4	4
10		74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2	2
11		383-B	NUT, 3/8-24 plain	16	16
12		STD-2090	NUT, 1/2-20 plain	18	18

**AR as required**

- \* These push rods are not to be used on flat tappet engines.
- † These push rods 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).

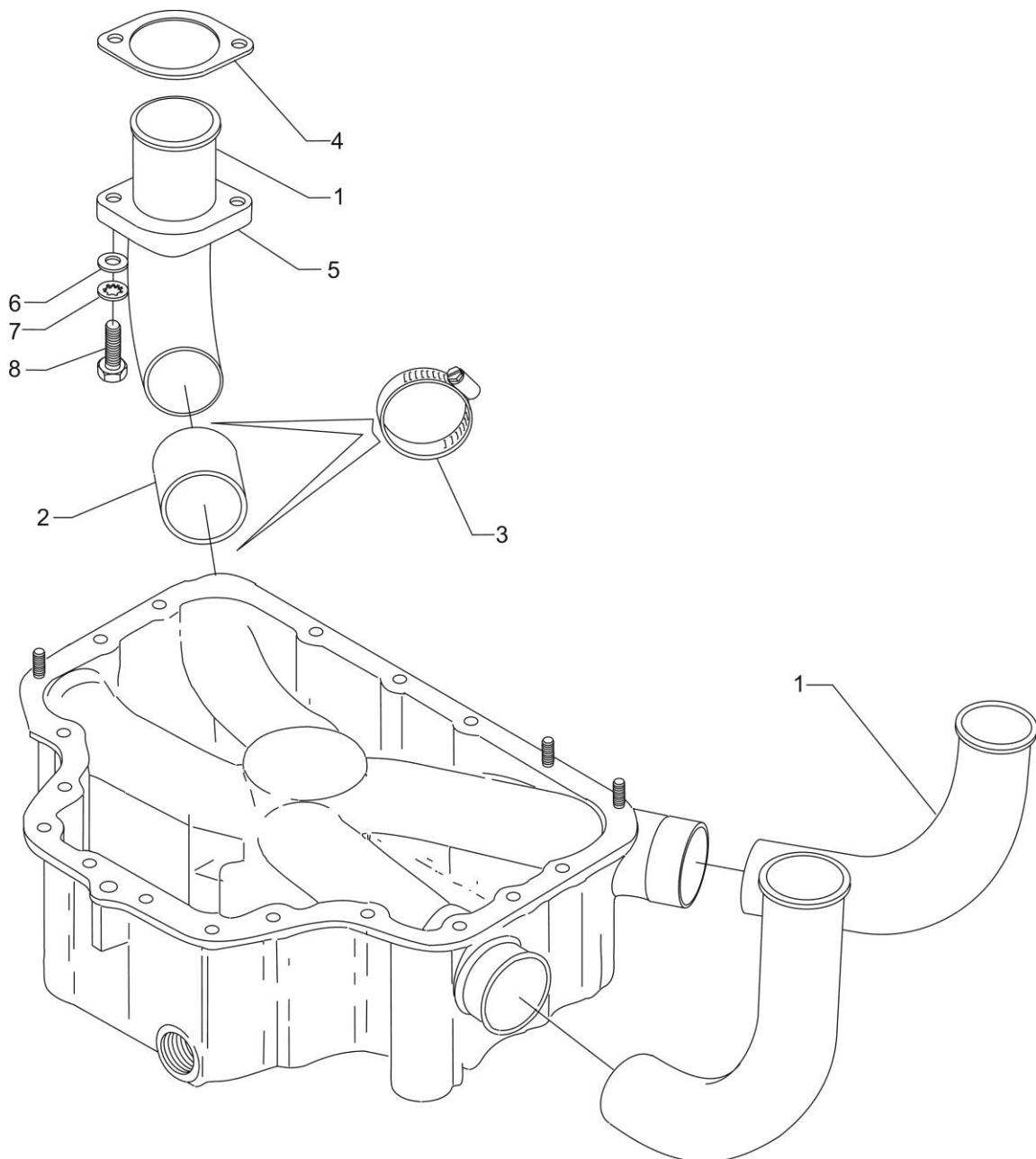
**NOTE:** Various push rod lengths are used to set valve clearances.



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

**CYLINDER SECTION****FIGURE 11 –CYLINDER HEAD DRAIN TUBES AND INTERCYLINDER COOLING BAFFLES**

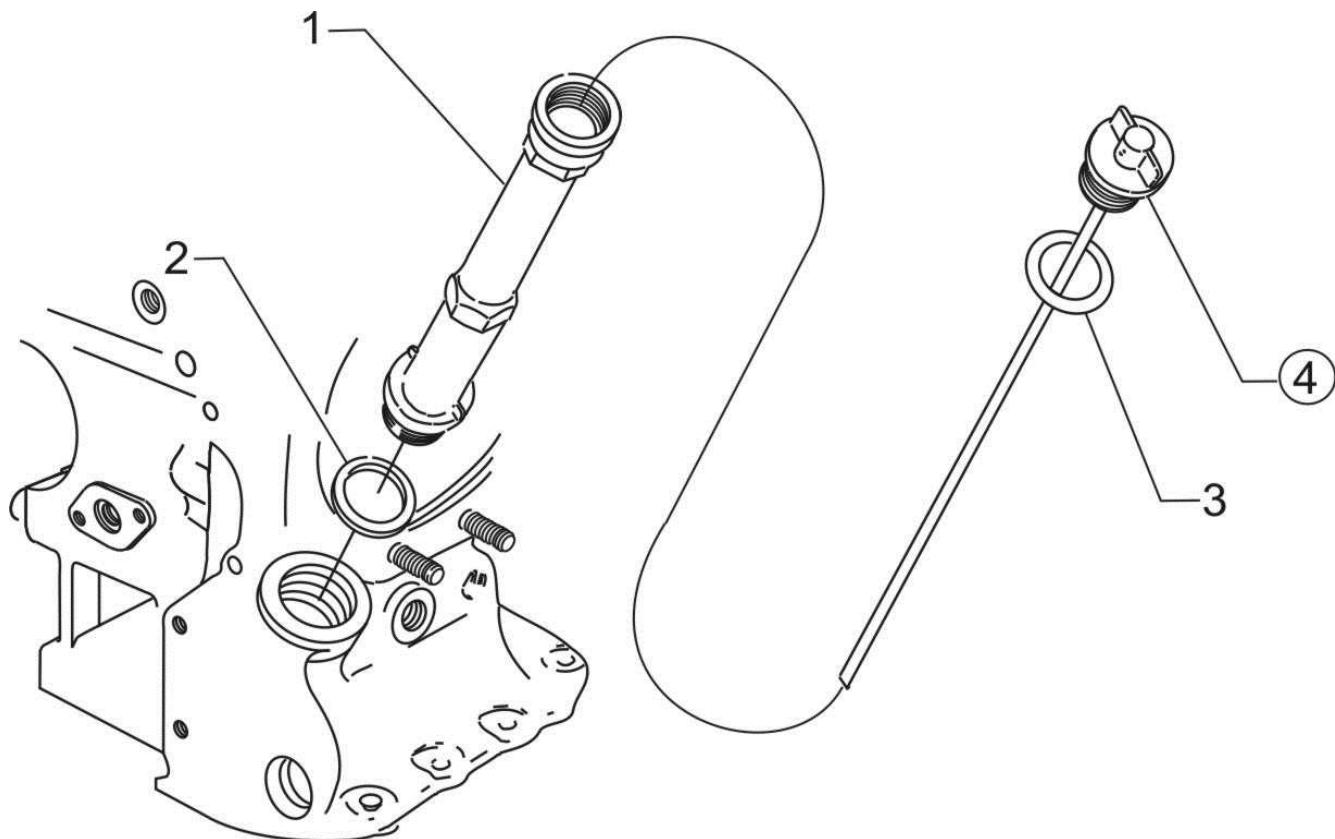
Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		STD-684	NIPPLE, Straight, 3/8 I.D. hose	4	4
2		STD-2180	HOSE, 3/8 I.D. x 1-7/8 long	4	4
3		LW-15592-5-05	CLAMP, Hose	8	8
4		68759	TUBE ASSEMBLY, Oil drain, cylinder no. 1	1	1
5		68760	TUBE ASSEMBLY, Oil drain, cylinder no. 2	1	1
6		68761	TUBE ASSEMBLY, Oil drain, cylinders no. 3 & 4	2	2
7		72569	BAFFLE ASSEMBLY, Intercylinder	2	2
8		71611	RETAINER, Intercylinder baffle	2	2
9		71610	HOOK, Intercylinder baffle retainer	2	2



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

**CYLINDER SECTION****FIGURE 12 – INTAKE PIPES AND ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		74084	PIPE, Intake	4	4
2		69603	HOSE, 1-3/4 I.D. x 2-3/16 O.D. x 1-3/4 long	4	4
3		LW-15592-8-28	CLAMP, Hose	8	8
4		71973	GASKET, 2 bolt flange, 1-13/16 I.D.	4	4
5		73346	FLANGE, Intake pipe, upper	4	4
6		STD-8	WASHER, 1/4 plain	8	8
7		STD-160	WASHER, 1/4 lock, internal teeth	8	8
8		LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	8	8

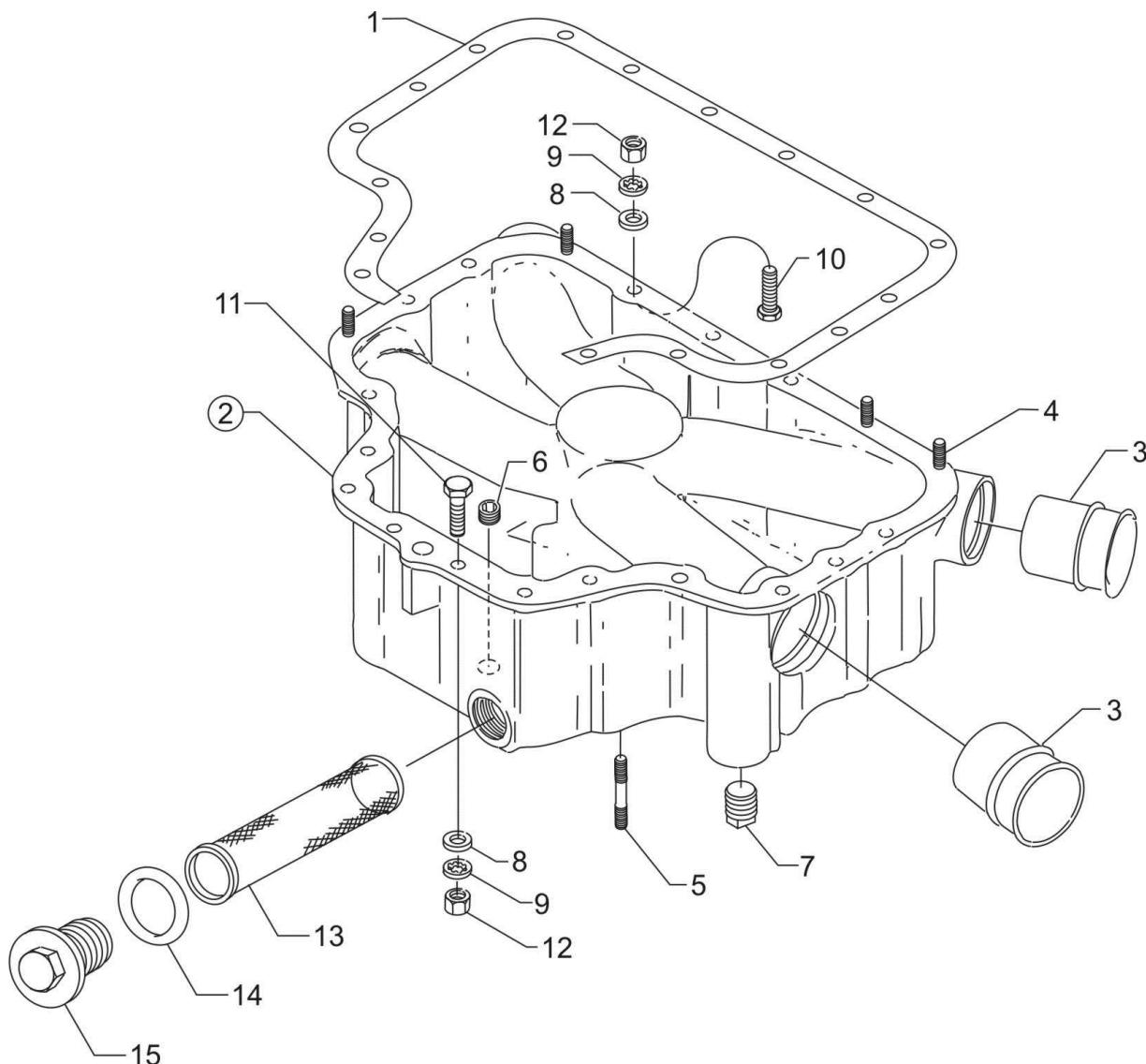


**Oil Level Gage**  
**Figure 13**

**LUBRICATION SYSTEM****FIGURE 13 – OIL LEVEL GAGE**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		56C23075	TUBE, Oil level gage, 15-1/8 long	1	
		75736	TUBE, Oil level gage, 11-9/16 long		1
2		72059	GASKET, Oil level gage	1	1
3	*	74065	RING, Oil level gage seal	1	
	**	74068	RING, Oil level gage plug		1
4		LW-14768	GAGE ASSEMBLY, Oil level	1	
		LW-16783-18	GAGE ASSEMBLY, Oil level		1

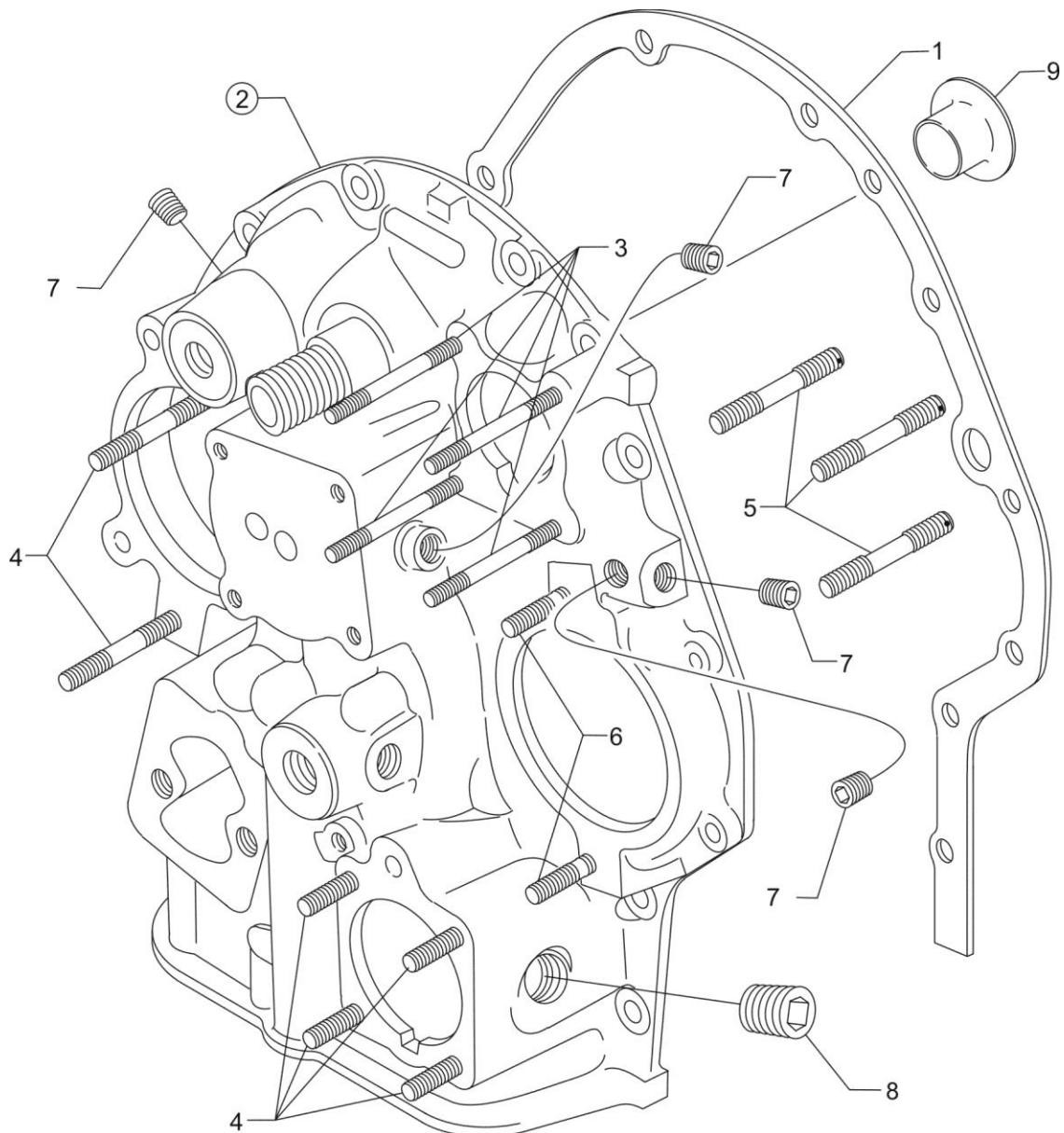
\* Use with LW-14768 Oil Level Gage Assembly.  
 \*\* Use with LW-16783-18 Oil Level Gage Assembly.



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

**LUBRICATION SYSTEM****FIGURE 14 – OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN**

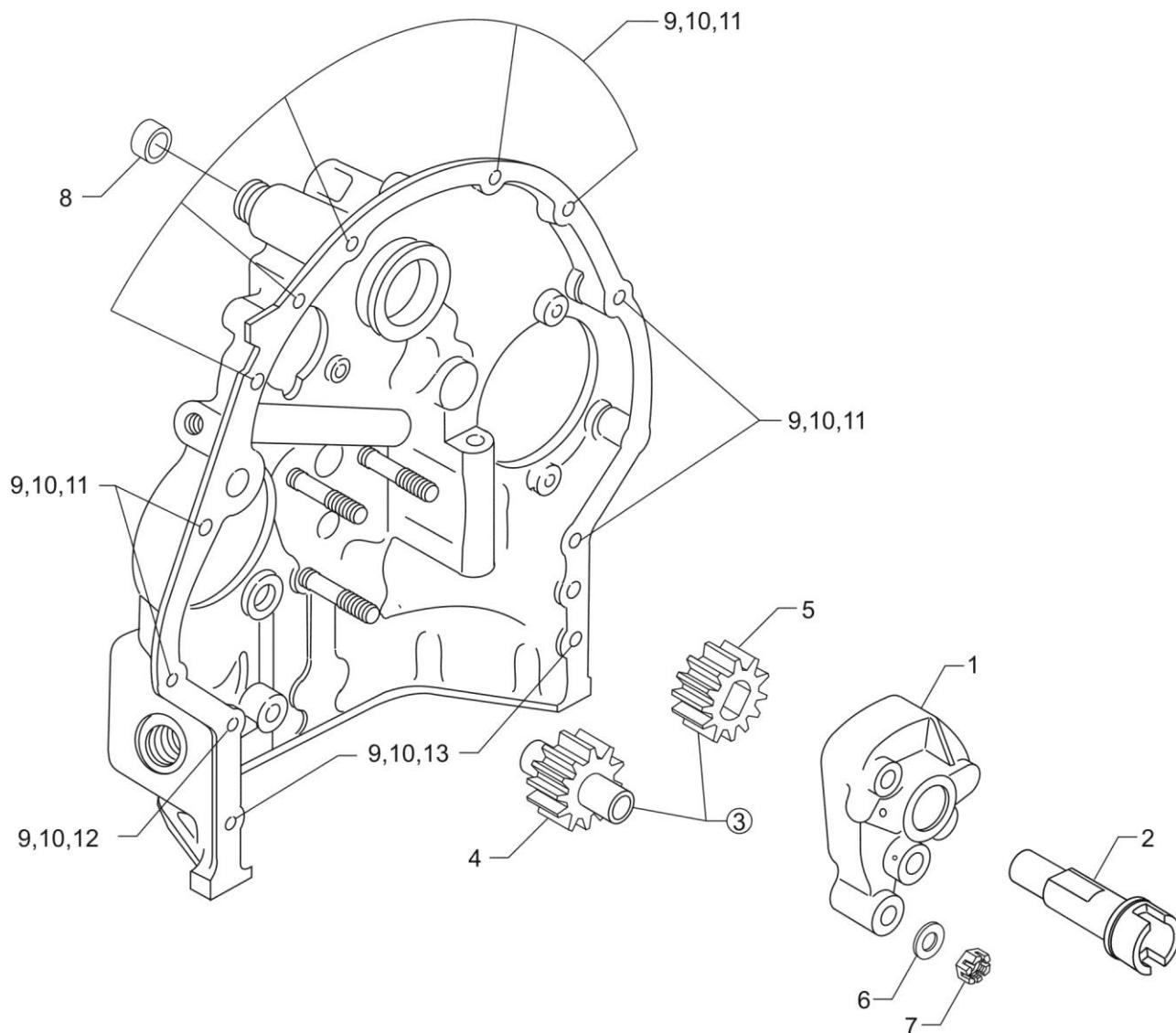
Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		LW-13353	GASKET, Oil sump	1	1
2		LW-10828	SUMP ASSEMBLY, Oil	1	1
3		78914	CONNECTION, Intake pipe	4	4
4		61400	STUD, 1/4-20 x 1-3/16 long	4	4
5		31C-15	STUD, 5/16-18 x 1-7/8 long	4	4
6		STD-91	PLUG, 1/2-14 NPT, allen head	1	1
7		STD-551	PLUG, 1/2-14 NPT, square head, drilled	2	2
8		STD-8	WASHER, 1/4 plain	28	28
9		STD-160	WASHER, 1/4 lock, internal teeth	20	20
10		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	14	14
11		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	2	2
12		STD-1411	NUT, 1/4-20 plain	12	12
13		70484	SCREEN, Oil suction	1	1
14		06E19769-1.00	GASKET, Annular, 1.00 I.D.	1	1
15		LW-12545	PLUG, 5/8 hex. head x 1.00-20 thread	1	1



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

**ACCESSORY DRIVES****FIGURE 15 – ACCESSORY HOUSING ASSEMBLY**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		73818	GASKET, Accessory housing	1	1
2		21A21533-04	HOUSING ASSEMBLY, Accessory	1	1
3		25C-22	STUD, 1/4-20 x 2-3/4 long	4	4
4		31C-12	STUD, 5/16-18 x 1-1/2 long	6	6
5		31CD-17	STUD, 5/16-18 x 2-1/8 long, drilled	3	3
6		31C-19	STUD, 5/16-18 x 2-3/8 long	2	2
7		1102	PLUG, 1/8-27 NPT, allen head	4	4
8		STD-784	PLUG, 3/8-18 NPT, allen head	1	1
9		76119	SHIELD, Accessory breather oil	1	1

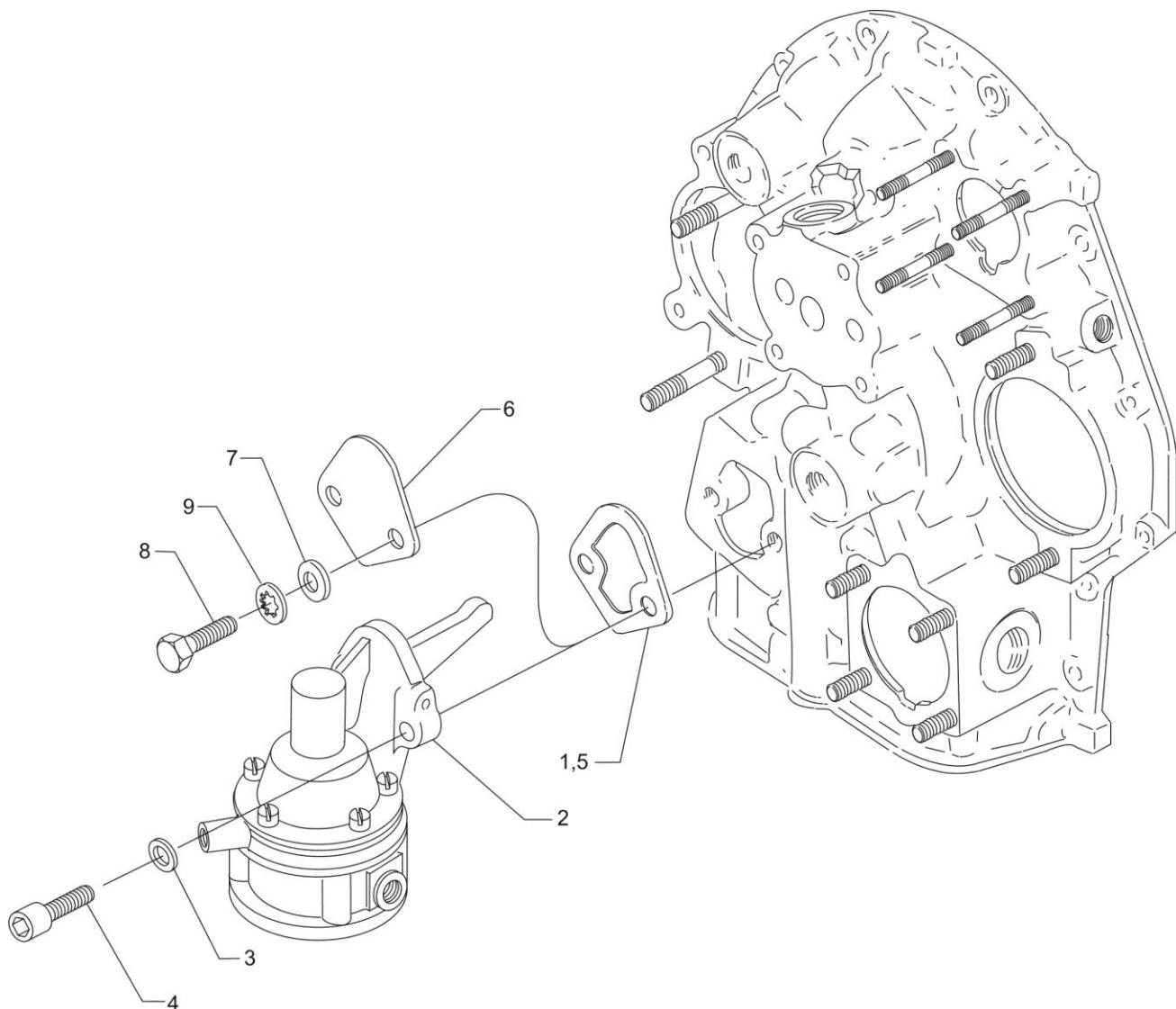


**Oil Pump Assembly and Accessory Housing Attaching Parts**  
**Figure 16**

**ACCESSORY DRIVES****FIGURE 16 – OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		78531	BODY ASSEMBLY, Oil pump	1	1
2		61174	SHAFT, Oil pump drive	1	1
3		05K19423-S	IMPELLER KIT	1	1
4	*	LW-18110	IMPELLER ASSEMBLY, Oil pump driven	1	1
5	*	LW-18109	IMPELLER, Oil pump driven	1	1
6		STD-35	WASHER, 5/16 plain	3	3
7		STD-1420	NUT, 5/16-18 slotted	3	3
8		LW-14260	SEAL, Oil, tachometer drive	1	1
9		STD-8	WASHER, 1/4 plain	12	12
10		STD-160	WASHER, 1/4 lock, internal teeth	12	12
11		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	9	9
12		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1	1
13		LW-25-1.44	BOLT, 1/4-20 x 1-7/16 long, hex. head	2	2

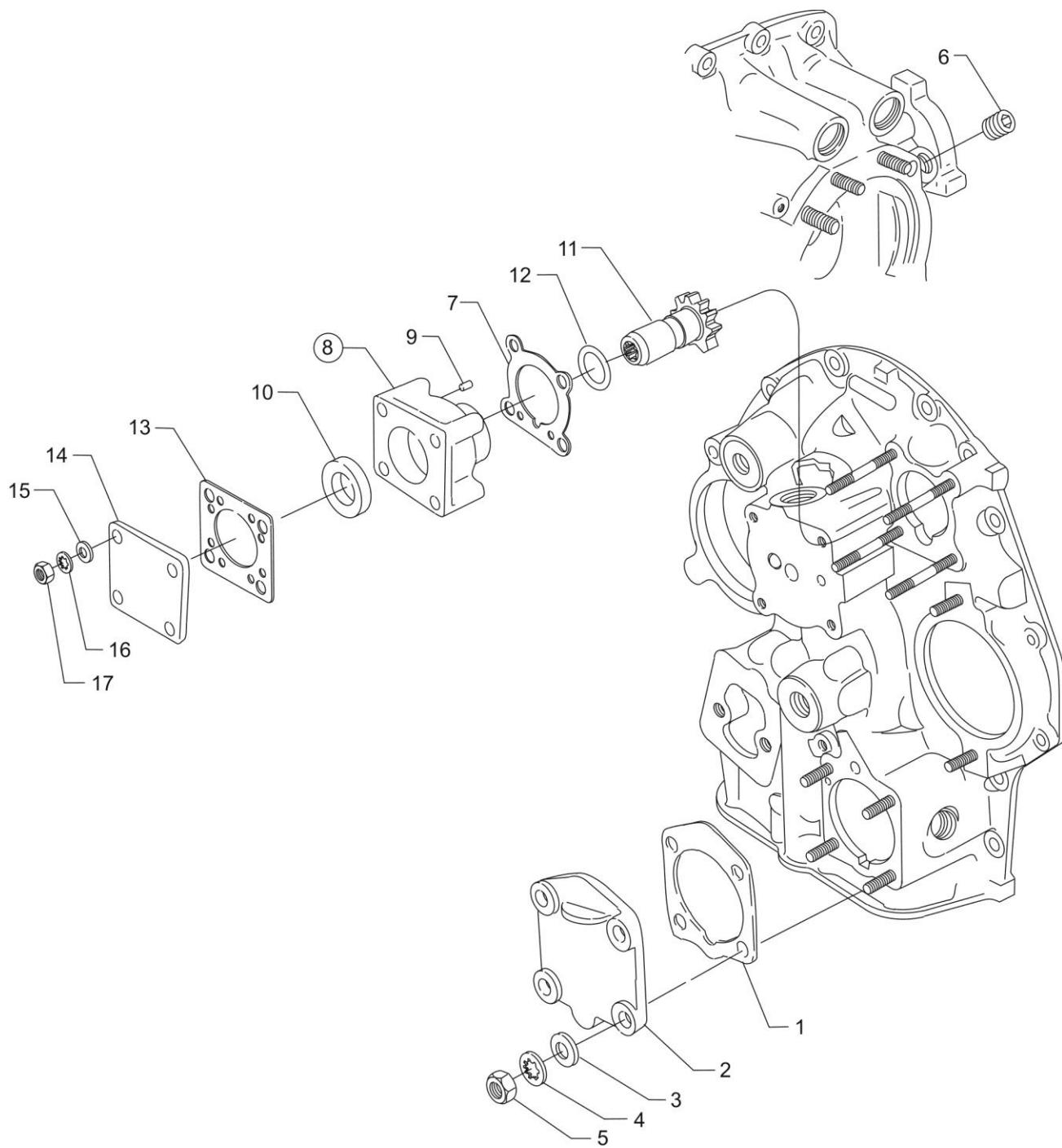
\* Sold in complete sets only (Kit P/N 05K19423-S).



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

**ACCESSORY DRIVES****FIGURE 17 – FUEL PUMP ASSEMBLY AND ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
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 3/4 long, hex. head	2	
9		STD-678	WASHER, 3/8 lock, internal teeth	2	

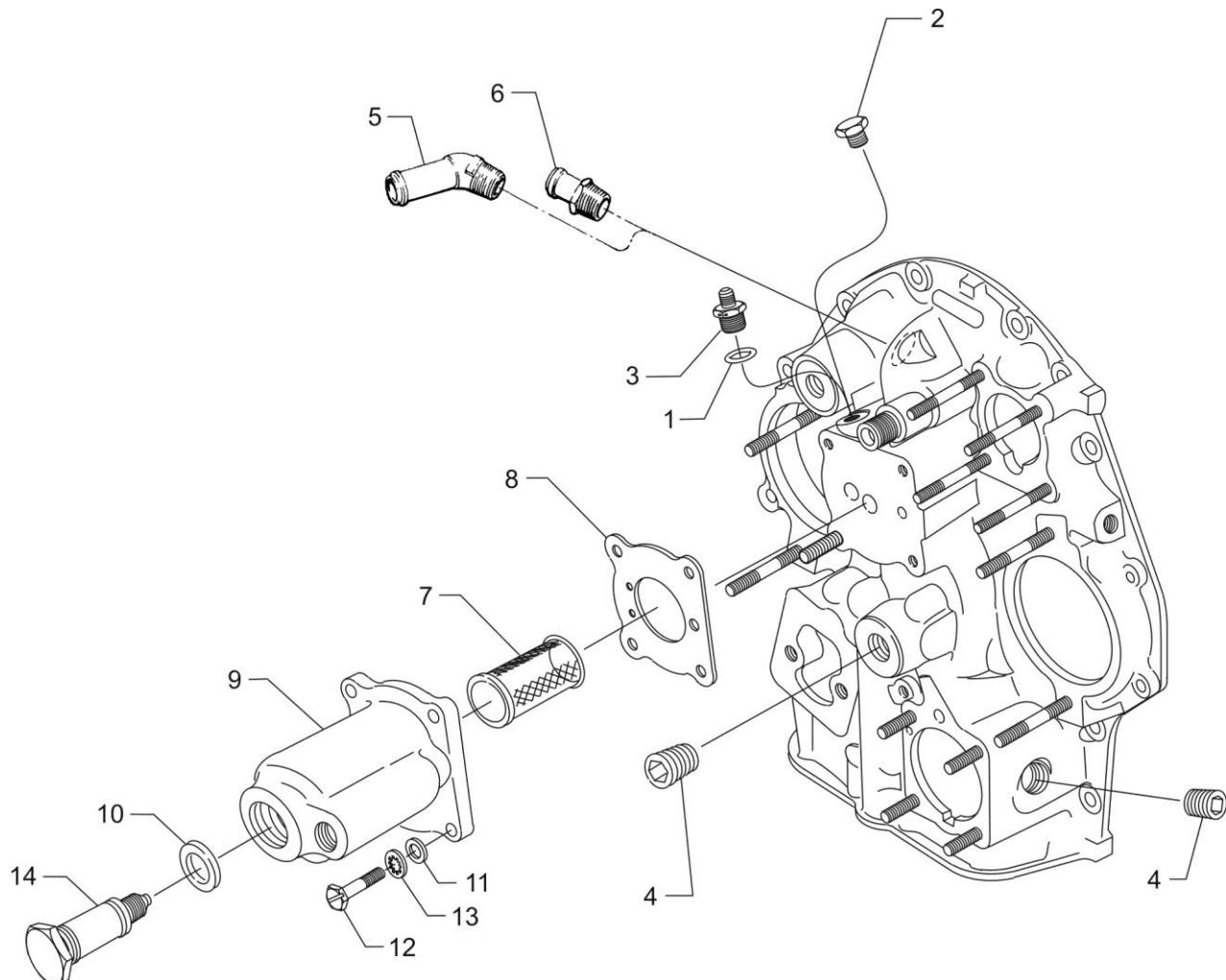


**Propeller Governor Drive Cover, Vacuum Pump Drive and Cover  
Figure 18**

**ACCESSORY DRIVES****FIGURE 18 – PROPELLER GOVERNOR DRIVE COVER, VACUUM PUMP DRIVE AND COVER**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		69551	GASKET, Accessory drive adapter	1	1
2		69106	COVER, Governor drive adapter pad	1	1
3		STD-35	WASHER, 5/16 plain	4	4
4		STD-475	WASHER, 5/16 lock, internal teeth	4	4
5		STD-1410	NUT, 5/16-18 plain	4	4
6	*	STD-783	PLUG, 1/4-18 NPT, allen head	1	1
7		61183	GASKET, Accessory adapter	1	1
8		61098	ADAPTER ASSEMBLY, Vacuum pump	1	1
9		STD-1774	PIN, 1/8 diameter x 1/4 long	1	1
10		06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide	1	1
11		72970	GEAR ASSEMBLY, Vacuum pump driven	1	1
12		71596	WASHER, Accessory drive gear	1	1
13		8313	GASKET, Vacuum pump	1	1
14		60430	COVER, Vacuum pump	1	1
15		STD-8	WASHER, 1/4 plain	4	4
16		STD-160	WASHER, 1/4 lock, internal teeth	4	4
17		STD-1411	NUT, 1/4-20 plain	4	4

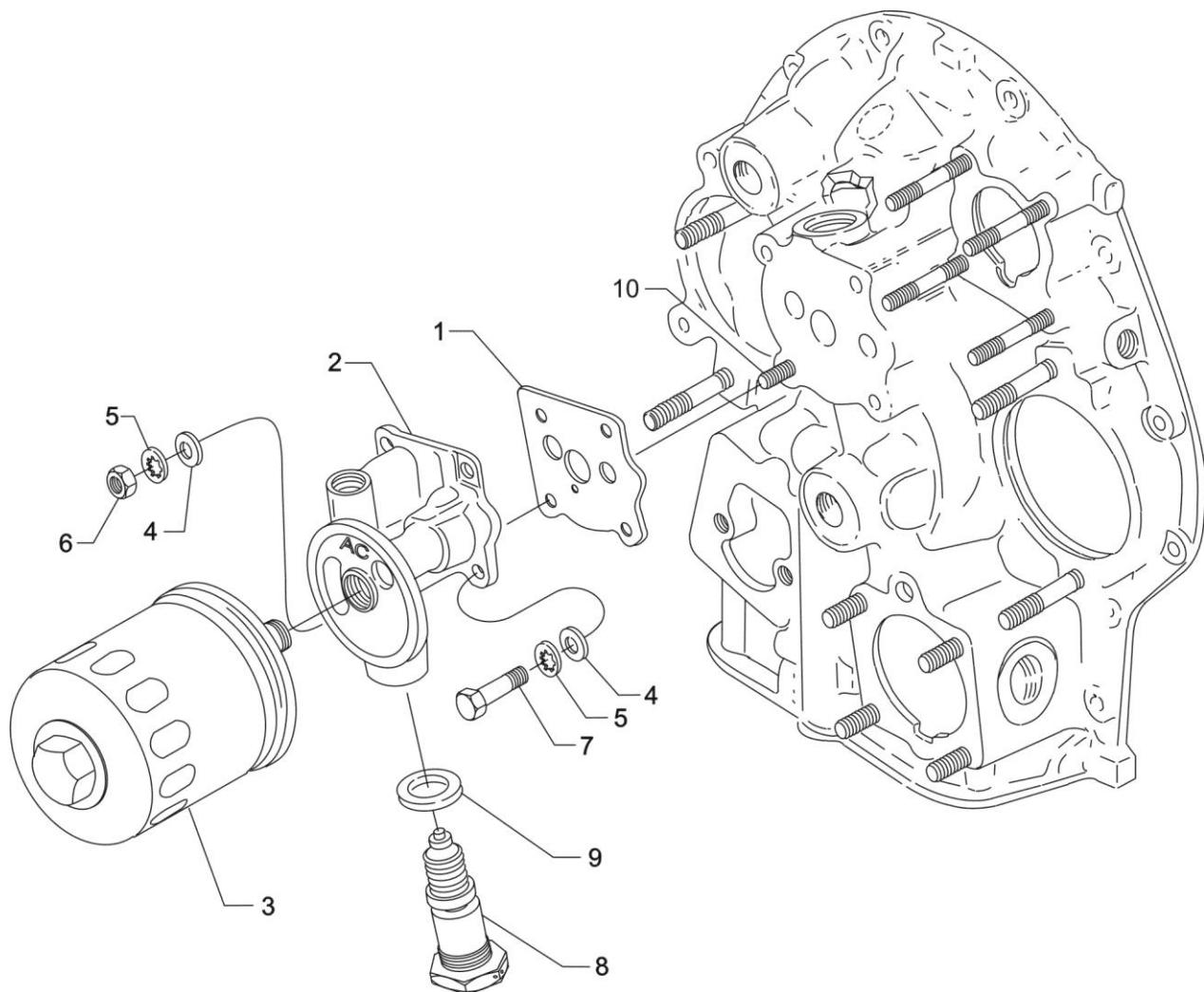
\* Assemble in crankcase, front.



**Oil Cooler Bypass Valve, Oil Pressure Screen and Breather Fitting  
Figure 19**

**ACCESSORY DRIVES****FIGURE 19 – OIL COOLER BYPASS VALVE, OIL PRESSURE SCREEN  
AND BREATHER FITTING**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		06E19769-0.63	GASKET, 5/8 I.D. annular	1	1
2		62417	PLUG, Oil cooler bypass		1
3		69675	CONNECTOR, Accessory housing oil cooler	1	
4		STD-784	PLUG, 3/8-18 NPT, allen head	2	2
5		AN844-10D	ELBOW, Pipe		1
6		71140	FITTING, Breather	1	
7		62817	SCREEN ASSEMBLY, Oil pressure	1	
8		61173	GASKET, Oil pressure housing	1	
9		69510	HOUSING, Oil pressure screen	1	
10		06E19769-0.63	GASKET, 5/8 I.D. annular	1	
11		STD-8	WASHER, 1/4 plain	4	
12		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	4	
13		STD-160	WASHER, 1/4 lock, internal teeth	4	
14		53E22144	VALVE ASSEMBLY, Temperature control oil cooler bypass	1	

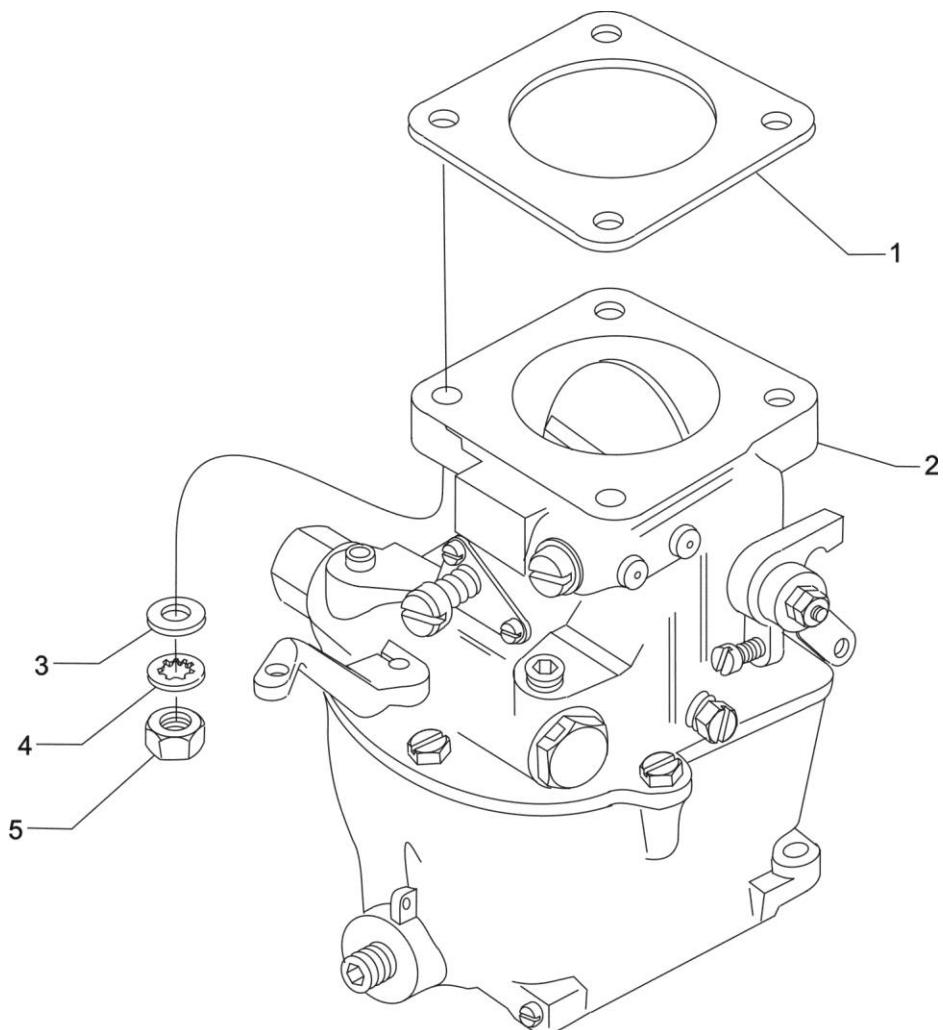


**Oil Filter Assembly and Oil Cooler Bypass Valve  
Figure 20**

**ACCESSORY DRIVES****FIGURE 20 – OIL FILTER ASSEMBLY AND OIL COOLER BYPASS VALVE**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		06B23862	GASKET, Oil filter adapter		1
2		77852	OIL FILTER BASE ASSEMBLY		1
3		LW-13215	OIL FILTER, Short		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		25C-10	STUD, 1/4-20 x 1-1/4 long		1

**NOTE:** Reference latest revision of SSP-885 for oil filters and replacement filters.

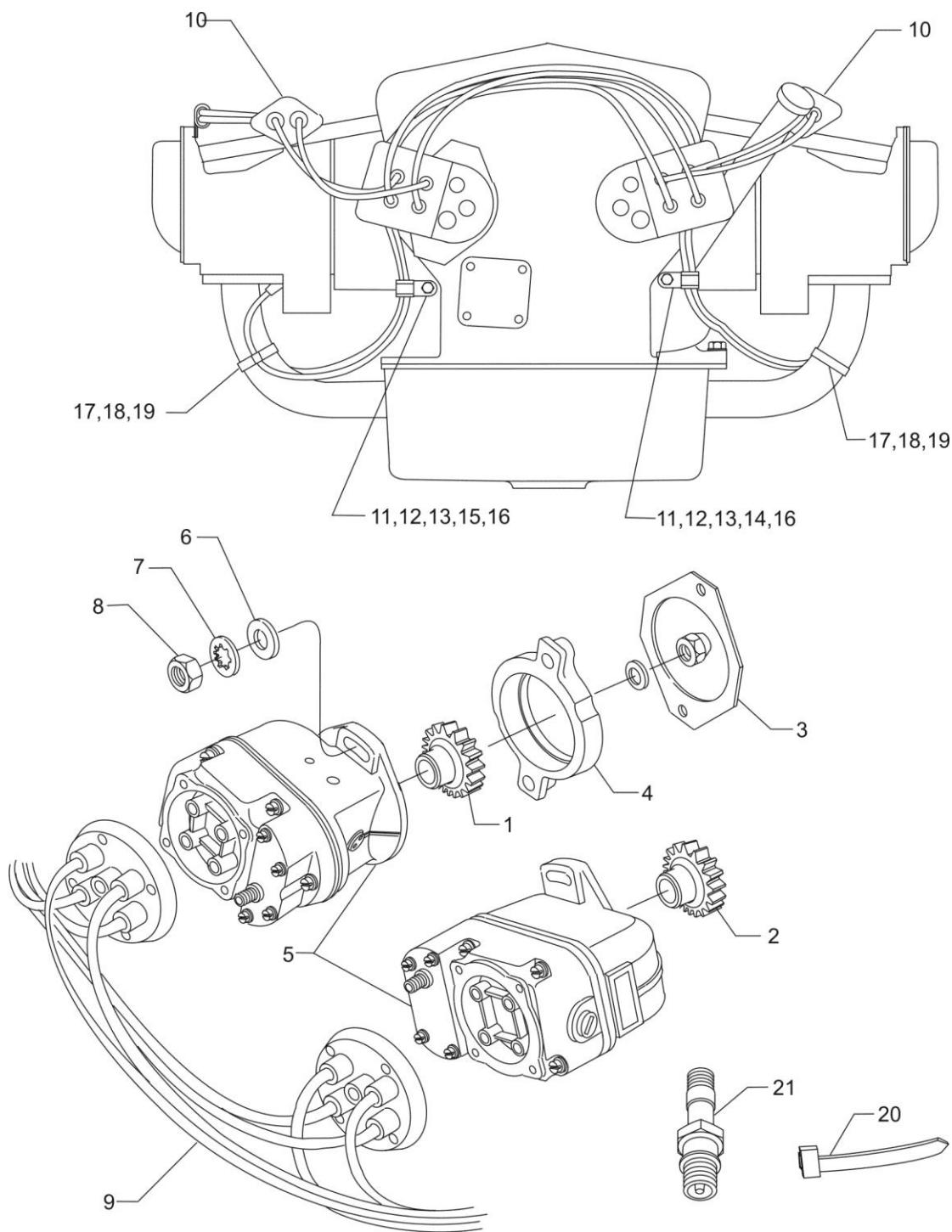


**Carburetor Assembly**  
**Figure 21**

**FUEL DISTRIBUTION****FIGURE 21 – CARBURETOR ASSEMBLY**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		66224	GASKET, Carburetor	1	1
2	V	61B26214	CARBURETOR, MA-4SPA V AV 10-5217	1	
		61B26213	CARBURETOR, MA-4SPA V AV 10-5009		1
3		STD-35	WASHER, 5/16 plain	4	4
4		STD-475	WASHER, 5/16 lock, internal teeth	4	4
5		STD-1410	NUT, 5/16-18 plain	4	4

**V** Vendor Prime Manufacturer part

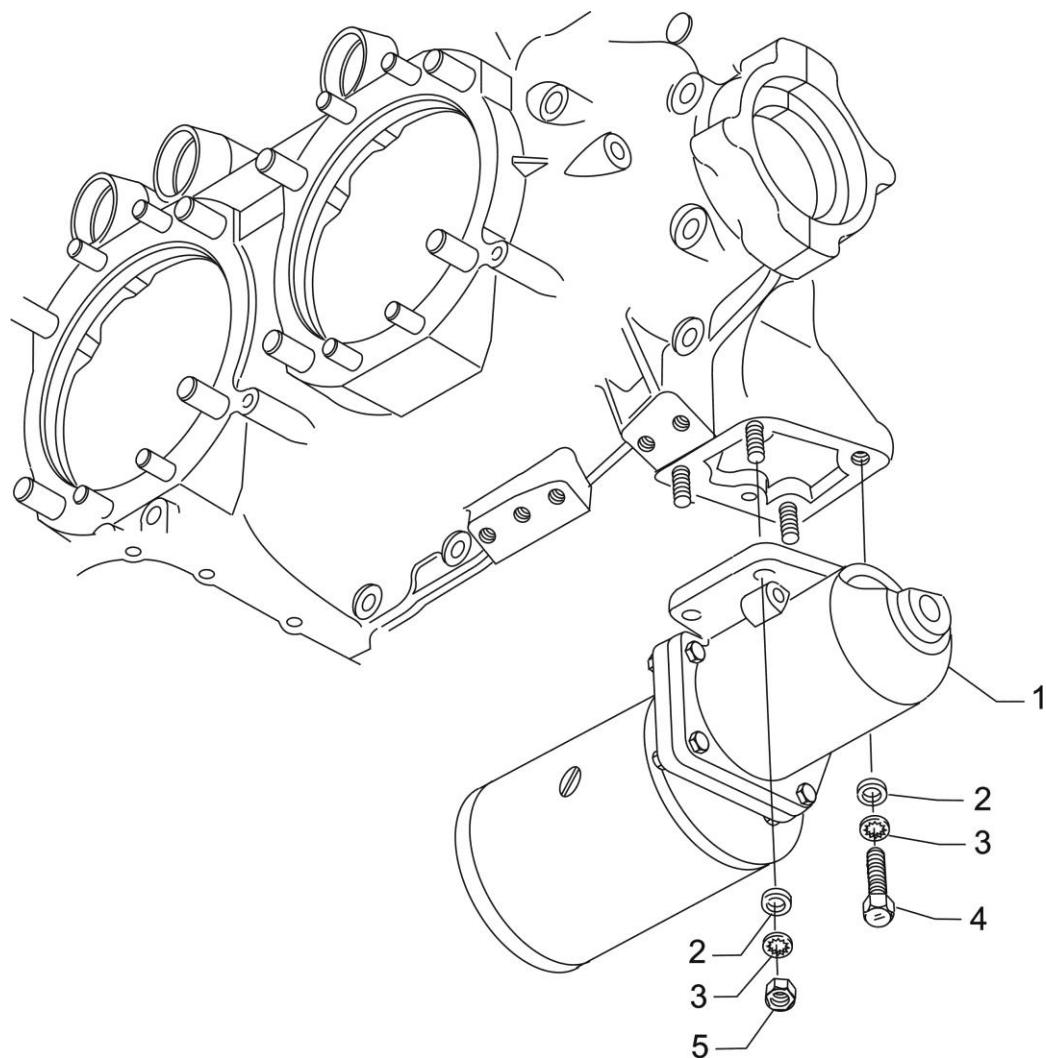


**Magnetics, Magneto Drives, Harnesses and Spark Plugs**  
**Figure 22**

**IGNITION DISTRIBUTION SYSTEM****FIGURE 22 -MAGNETOS, MAGNETO DRIVES, HARNESES AND SPARK PLUGS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1		61665	GEAR, Magneto, impulse	1	1
2		68C19622	GEAR, Magneto	1	1
3		62224	GASKET, Magneto adapter	3	3
4		LW-12706	ADAPTER, Magneto, impulse coupling	1	1
5	V	66B21778	MAGNETO, Impulse coupling V S4LC-204	1	1
	V	66A21765	MAGNETO, V S4LC-21	1	1
6		STD-1727	WASHER, Plain, 11/32 I.D. x 3/4 O.D.	4	4
7		STD-475	WASHER, 5/16 lock, internal teeth	4	4
8		STD-1410	NUT, 5/16-18 plain	4	4
9		LW-M-2403	HARNESS ASSEMBLY, Left magneto	1	1
		LW-M-2404	HARNESS ASSEMBLY, Right magneto	1	1
10		LW-M-2375	PLATE, Spark plug cable	2	2
11		LW-14060	CLIP, Two wire	2	2
12		STD-8	WASHER, 1/4 plain	2	2
13		STD-160	WASHER, 1/4 lock, internal teeth	1	1
14		STD-1916	SCREW, 1/4-20 x 1-1/8 long, fill. head	1	1
15		LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	1	1
16		STD-1411	NUT, 1/4-20 plain	2	2
17		LW-18959-150-25	CLAMP, 1-1/2 I.D.	4	4
18		STD-553	SCREW, No. 6-32 x 1/2 long, round head	4	4
19		MS21044N06	NUT, No. 6-32 self-locking	4	4
20		76734	ZIP STRAP	2	2
21	V*	1182-E7	SPARK PLUG, Champion V REM38E	8	8

**V** Vendor Prime Manufacturer part  
 \* Item 21 spark plugs are used in current production only. Additional spark plugs are available for this engine. See latest revision of Service Instruction No. 1042 for complete listing of all approved spark plugs.



**Starter Motor and Attaching Parts**  
**Figure 23**

**CRANKING SECTION****FIGURE 23 - STARTER MOTOR AND ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				E2H	E3H
1	V	31A26041	STARTER ASSEMBLY, 12V., Kelly V ERZ-8011	1	1
	V	31A26043	STARTER ASSEMBLY, 12V., Kelly V ERZ-8012		1
2		STD-35	WASHER, 5/16 plain	4	4
3		STD-475	WASHER, 5/16 lock, internal teeth	4	4
4		LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	1	1
5		STD-1410	NUT, 5/16-18 plain	3	3

**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.

**SERVICE KIT SECTION****SEAL AND GASKET SET**

PART NO.	PART NAME	Qty.
69371-1	KIT - SEAL AND GASKET SET	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	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	16
77611	GASKET, Exhaust flange	4
MS29512-06	"O" RING, 15/32 I.D. x 5/64 section	1
STD-1006	RING, Oil seal, 7/16 I.D. x 3/32 diameter	1
STD-2072	"O" RING, Static seal	1
STD-213	OIL SEAL, 3/4 I.D. x 1-3/8 O.D.	1
06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16	1
STD-548	OIL SEAL, 7/8 x 1-3/8 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
1691-C	GASKET, Fuel pump	1
60096	GASKET, Fuel pump	1
60592	GASKET, Carburetor	1
60820	GASKET, Oil suction tube flange	1
61173	GASKET, Oil pressure housing	1
61183	GASKET, Accessory adapter	1
61531	GASKET, Hydraulic valve	1
62224	GASKET, Magneto adapter	4
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
69720	GASKET, Dual accessory drive	1
69827	GASKET, Governor spacer	1

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

<b>69371-1</b>	<b>KIT – SEAL AND GASKET SET (CONT.)</b>	<b>1</b>
70310	SEAL, Shroud tube	8
70455	GASKET, 25/32 I.D. x 1-1/8 O.D. x 1/32	1
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
72053	GASKET, Governor	2
72059	GASKET, Oil level gage	1
72075	SEAL, Oil, 3/32 section x 29/64 I.D.	6
72078	LOCKPLATE, 5/16 bolt x 1-21/64 sp	2
72091	RING, Oil seal, 3/8 x 7/64 diameter	2
72312	RING, Oil seal, 1.00 x 1-5/16	1
72879	LOCKPLATE, 1/4 bolt x 1-3/4 sp	1
73383	LOCKPLATE, 5/16 bolt x 1.00	2
73817	LOCKPLATE, 1/4 bolt x 1-3/4 sp	2
73818	GASKET, Accessory housing	1
74065	RING, Oil level gage seal	1
74068	RING, Oil level gage plug	1
74524	RING, Oil level gage bushing	1
75906	GASKET, Rocker box cover	4
76510	GASKET, Oil cooler bypass	1
76940	SEAL, Crankshaft oil	1
8313	GASKET, Vacuum pump	2
06A23493	SEAL, Shroud tube	8

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

PART NO.	PART NAME	Qty.
<b>05K21237-A</b>	<b>KIT - CYLINDER, PISTON AND RING ASSEMBLY</b>	1
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
1102	PLUG, 1/8-27 NPT, allen head	2
75413	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
SSP-109	TAG, Use of piston pins	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

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

PART NO.	PART NAME	Qty.
<b>11B20061-1SB-S</b>	<b>KIT - CRANKCASE ASSEMBLY AND THRU-STUD</b>	<b>1</b>
11B20061-1SB	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	6
STD-1339	PLUG, 1/16-27 NPT, allen head	4
69796	DOWEL, Crankshaft bearing	2

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

PART NO.	PART NAME	Qty.
<b>11B20161-1SL-S</b>	<b>KIT - CRANKCASE ASSEMBLY AND THRU-STUD</b>	<b>1</b>
11B20161-1SL	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	6
STD-1339	PLUG, 1/16-27 NPT, allen head	4
69796	DOWEL, Crankshaft bearing	2

**NUMERICAL INDEX**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
AN6-14	Bolt	1	LW-13923	Bushing	13
AN6-16	Bolt	1	LW-14060	Clip	43
AN6-34A	Bolt	11	LW-14078	Pin	13
AN844-10D	Elbow	37	LW-14260	Seal	31
AN960-616L	Washer	11	LW-14768	Gage Assy.	25
LRT23381	Body Assy.	5	LW-14995	Spring	17
LW-M-2375	Plate	43	LW-15472	Fuel Pump	33
LW-M-2403	Harness Assy.	43	LW-15592-5-05	Clamp	21
LW-M-2404	Harness Assy.	43	LW-15592-8-28	Clamp	23
LW-25-0.94	Bolt	27	LW-16475	Seat	17
LW-25-0.94	Bolt	31	LW-16783-18	Gage Assy.	25
LW-25-1.00	Bolt	37	LW-18085	Spring	5
LW-25-1.00	Bolt	39	LW-18109	Impeller	31
LW-25-1.13	Bolt	11	LW-18110	Impeller Assy.	31
LW-25-1.13	Bolt	27	LW-18639	Lockplate	7
LW-25-1.13	Bolt	31	LW-18661	Seal	17
LW-25-1.25	Bolt	23	LW-18667	Pin	9
LW-25-1.25	Bolt	43	LW-18815-S	Bushing	7
LW-25-1.44	Bolt	31	LW-18817-S	Bushing	7
LW-25-1.50	Bolt	11	LW-18840	Camshaft Assy.	9
LW-25-1.75	Bolt	11	LW-18921-S	Bushing	7
LW-25S1.50	Bolt	11	LW-18922-S	Bushing	7
LW-31-0.94	Bolt	1	LW-18959-150-25	Clamp	43
LW-31-1.16	Bolt	45	MS20823-6D	Elbow	15
LW-31H0.75	Bolt	1	MS21044N06	Nut	43
LW-31H0.88	Bolt	1	STD-8	Washer	11
LW-31H0.88	Bolt	9	STD-8	Washer	15
LW-38-0.75	Bolt	33	STD-8	Washer	23
LW-10077	Seat	17	STD-8	Washer	27
LW-10729	Link	1	STD-8	Washer	31
LW-10828	Sump Assy.	27	STD-8	Washer	35
LW-11713	Spring	5	STD-8	Washer	37
LW-11795	Spring	17	STD-8	Washer	39
LW-11800	Spring	17	STD-8	Washer	43
LW-11866	Spacer	11	STD-33	Washer	11
LW-12186	Nut	13	STD-33	Washer	33
LW-12272	Lockplate	17	STD-35	Washer	1
LW-12416	Cylinder Assy.	15	STD-35	Washer	31
LW-12545	Plug	27	STD-35	Washer	35
LW-12706	Adapter	43	STD-35	Washer	41
LW-12892	Thrust Button	19	STD-35	Washer	45
LW-13215	Oil Filter	39	STD-91	Plug	27
LW-13323	Seat	17	STD-160	Washer	11
LW-13353	Gasket	27	STD-160	Washer	23
LW-13790	Shaft	19	STD-160	Washer	27
LW-13792	Seal	5	STD-160	Washer	31
LW-13793	Stud	3	STD-160	Washer	35
LW-13796	Shaft	9	STD-160	Washer	37

**NUMERICAL INDEX (CONT.)**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
STD-160	Washer	39	STD-2231	Ring	9
STD-160	Washer	43	STD-2246	Bolt	7
STD-475	Washer	15	STD-2249	Nut	11
STD-475	Washer	35	25C-8	Stud	15
STD-475	Washer	41	25C-10	Stud	39
STD-475	Washer	43	25C-22	Stud	29
STD-475	Washer	45	31C-12	Stud	3
STD-514	Dowel	3	31C-12	Stud	15
STD-551	Plug	27	31C-12	Stud	29
STD-553	Screw	43	31C-13	Stud	3
STD-557	Dowel	3	31C-15	Stud	27
STD-596	Nut	11	31C-19	Stud	29
STD-678	Washer	11	31CD-17	Stud	29
STD-678	Washer	33	38-13	Stud	3
STD-684	Nipple	21	38D-17	Stud	3
STD-690	Washer	1	50-15	Stud	3
STD-713	Cotter Pin	1	383-B	Nut	19
STD-783	Plug	35	1028-B	Ball	5
STD-784	Plug	29	1102	Plug	3
STD-784	Plug	37	1102	Plug	15
STD-872	Nut	1	1102	Plug	29
STD-872	Nut	11	1182-E7	Spark Plug	43
STD-1065	Dowel	7	8313	Gasket	35
STD-1211	Plug	7	60009	Key	17
STD-1339	Plug	3	60096	Gasket	33
STD-1353	Insert	15	60430	Cover	35
STD-1410	Nut	15	60803	Strap	11
STD-1410	Nut	35	60882	Gear	7
STD-1410	Nut	41	61084	Spring	5
STD-1410	Nut	43	61098	Adapter Assy.	35
STD-1410	Nut	45	61173	Gasket	37
STD-1411	Nut	11	61174	Shaft	31
STD-1411	Nut	17	61183	Gasket	35
STD-1411	Nut	27	61247	Cover	19
STD-1411	Nut	35	61400	Stud	27
STD-1411	Nut	39	61544	Plunger	9
STD-1411	Nut	43	61665	Gear	43
STD-1420	Nut	31	62224	Gasket	43
STD-1623	Insert	3	62417	Plug	37
STD-1727	Washer	1	62817	Screen Assy.	37
STD-1727	Washer	43	65441	Seat	17
STD-1774	Pin	35	66224	Gasket	41
STD-1882	Screw	33	66610	Bushing	15
STD-1916	Screw	43	66796	Insert	15
STD-1925	Screw	19	68668	Spring	5
STD-2090	Nut	19	68759	Tube Assy.	21
STD-2168	Nut	9	68760	Tube Assy.	21
STD-2180	Hose	21	68761	Tube Assy.	21

**NUMERICAL INDEX (CONT.)**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
68987	Shroud Tube Assy.	17	76944	Support Assy.	7
69106	Cover	35	77309	Bushing	9
69510	Housing	37	77467	Spring	5
69551	Gasket	35	77611	Gasket	15
69603	Hose	23	77808	Valve Assy.	5
69675	Connector	37	77852	Oil Filter Base Assy.	39
70310	Seal	17	78027	Bolt	13
70484	Screen	27	78030-S	Conn. Rod Assy.	13
71140	Fitting	37	78531	Body Assy.	31
71481	Ring	19	78914	Connection	27
71596	Washer	35	01L23459	Washer	17
71610	Hook	21	03D23350	Cover	33
71611	Retainer	21	05K19423-S	Impeller Kit	31
71973	Gasket	23	06A19956	Oil Seal	35
72057	Seat	15	06A23493	Seal	17
72058	Seat	15	06B23862	Gasket	39
72059	Gasket	25	06E19769-0.63	Gasket	37
72075	Seal	5	06E19769-1.00	Gasket	27
72091	Ring	5	06E19769-1.25	Gasket	5
72198	Plug	13	07A19474	Bracket	1
72566	Gear	7	07A21443	Bracket	1
72569	Baffle Assy.	21	07F23268	Strut	1
72970	Gear Assy.	35	11B20061-1SB	Crankcase Assy.	3
73346	Flange	23	11B20061-1SB-S	Crankcase Assy. Kit	3
73383	Lockplate	1	11B20161-3SL	Crankcase Assy.	3
73818	Gasket	29	11B20161-3SL-S	Crankcase Assy. Kit	3
74065	Ring	25	13B47020	Crankshaft Assy.	7
74068	Ring	25	13B47024	Crankshaft Assy.	7
74084	Pipe	23	13S19646	Gear	7
74241	Ring	13	14D23915	Piston	13
74637	Bushing	19	14H21950	Ring	13
74887	Spacer	19	15B21319	Socket	17
74996	Gear Assy.	9	15B26064	Body	5
75072	Gear Assy.	9	15B26066	Plunger Assy.	17
75154	Stud	3	15F19957-08	Rod Assy.	19
75380	Link	1	15F19957-09	Rod Assy.	19
75736	Tube	25	15F19957-10	Rod Assy.	19
75906	Gasket	19	15F19957-11	Rod Assy.	19
76118	Spacer	9	15F19957-12	Rod Assy.	19
76119	Shield	29	15F19957-13	Rod Assy.	19
76121	Shaft Assy.	9	15F19957-14	Rod Assy.	19
76220	Stud	11	15F19957-15	Rod Assy.	19
76510	Gasket	39	15G23494	Shroud Tube Assy.	17
76534	Shim	1	15M23452	Camshaft Assy.	9
76628	Support Assy.	7	16R22126	Guide	15
76734	Zip Strap	43	17A23938	Valve, Intake	17
76908	Strut	1	17B23936	Valve, Exhaust	17
76943	Guide	15	17C19386	Cap	17

**NUMERICAL INDEX (CONT.)**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
17C21191	Key	17	53E22144	Valve Assy.	39
17F19357	Rocker Assy.	19	56C23075	Tube	25
18D26098	Bearing	5	61B26213	Carburetor	41
18M26104	Bearing	13	61B26214	Carburetor	41
21A21533-04	Housing Assy.	29	66A21765	Magneto	43
31A26041	Starter Assy.	45	66B21778	Magneto	43
31A26043	Starter Assy.	45	68C19622	Gear	43
53E22144	Valve Assy.	37			