

O-320-A2B, -A3B Series Illustrated Parts Catalog

August 2011

PC-203-1

LYCOMING © 2011

652 Oliver Street
Williamsport, PA 17701

O-320-A2B, -A3B Illustrated Parts Catalog

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*******NOTICE*******

This parts catalog is the first 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

Rev No.	Issue Date	Initials	Insertion Date

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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-320-A2B, -A3B 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-A2B, -A3B 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 are in the appropriate Vendor's Parts Catalog. A list of vendor's addresses appears in the latest revision of Lycoming Service Letter No. L114.

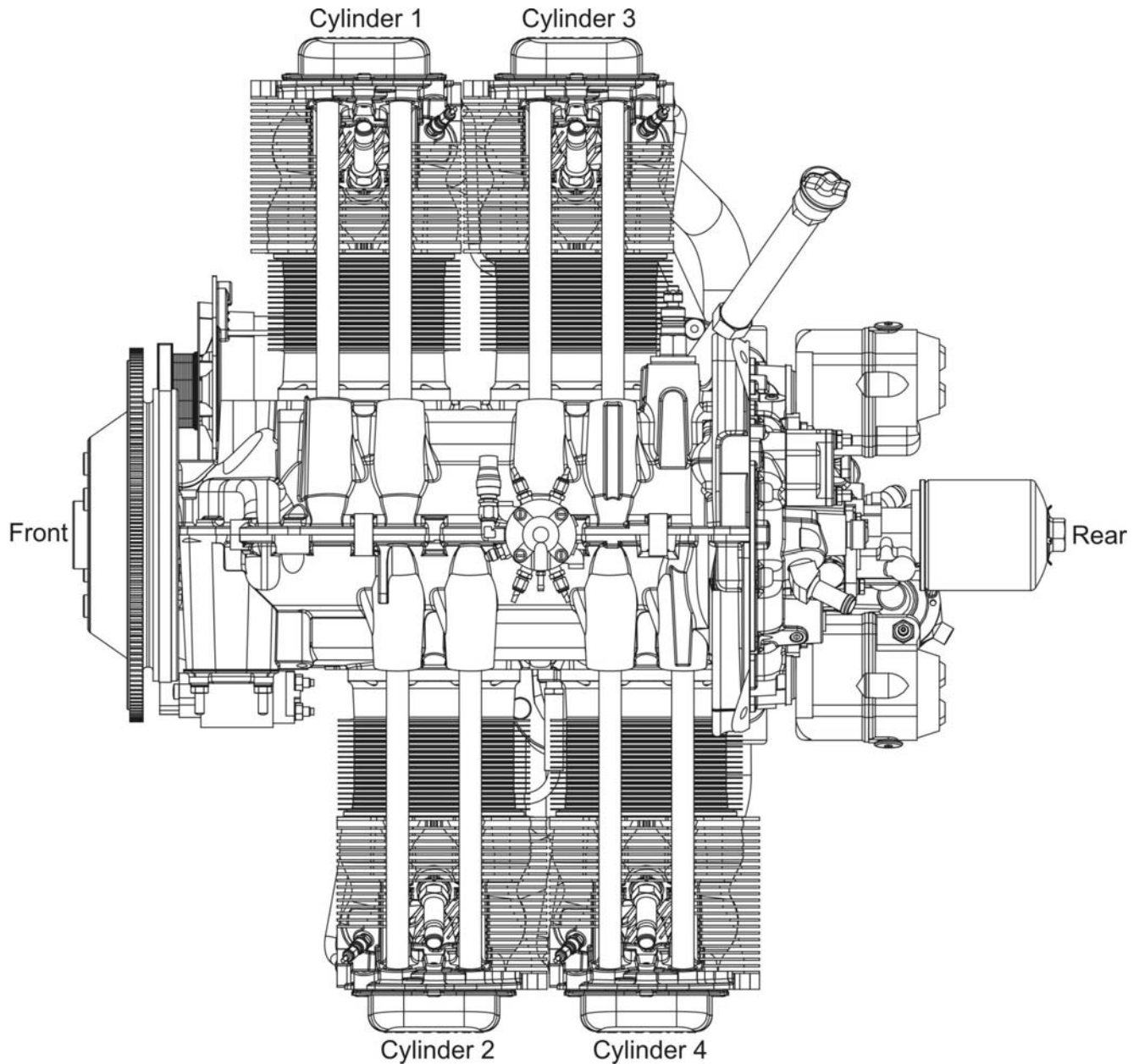
Any reference in this document to the suppliers/part manufacturer's product, by name, trademark, part number or other description is solely for the purpose of identification and does not indicate or infer that Lycoming accepts responsibility for quality control and/or airworthiness of parts, which do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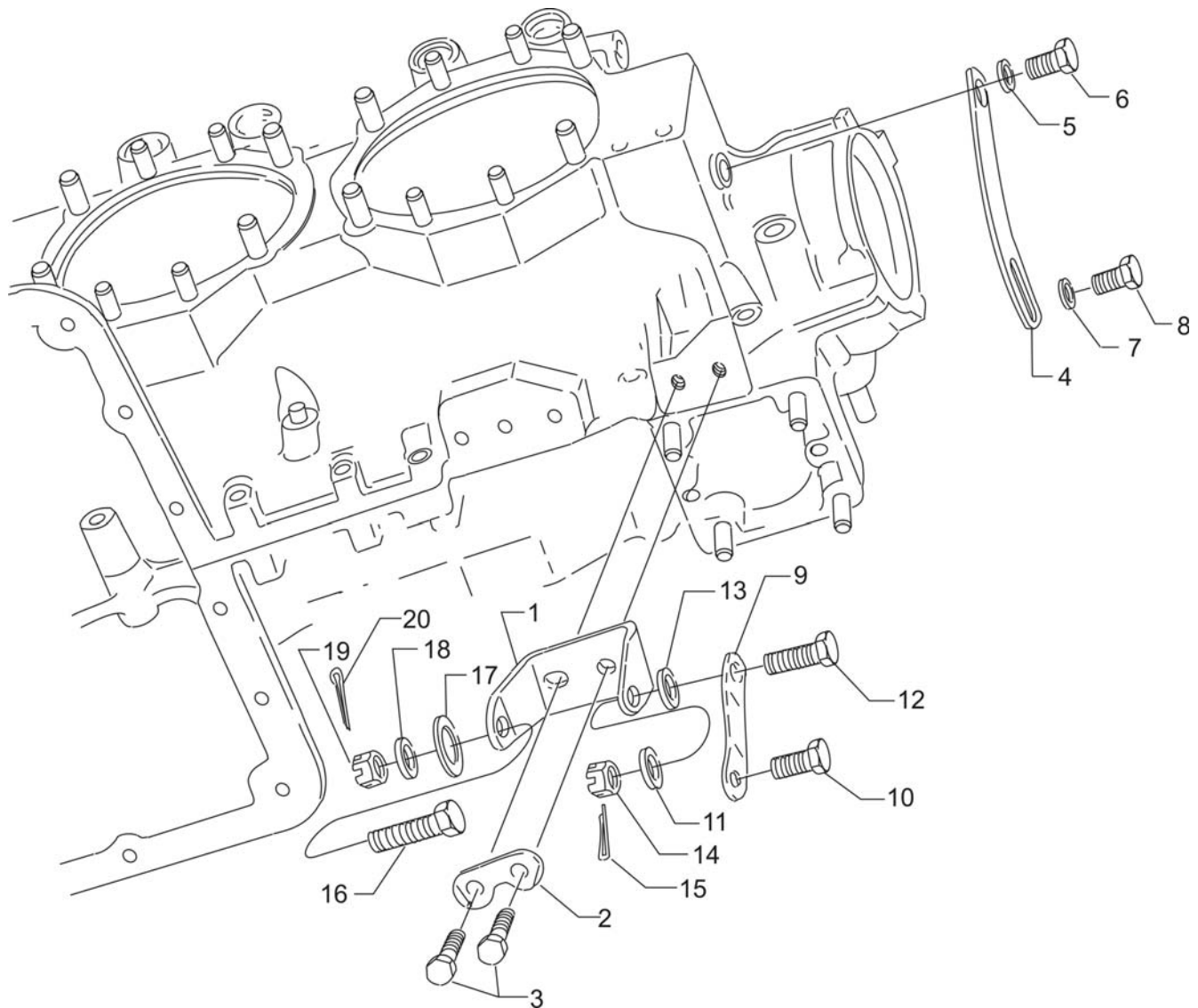
OVERSIZE AND UNDERSIZE PARTS LISTING

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
18M26104	BEARING									X	X	X
LW-13792	SEAL								X			
LW-18815-S	BUSHING		X	X	X	X						
LW-18816-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								
72057	SEAT					X	X					
72058	SEAT		X	X		X	X					
76943	GUIDE		X									
16R22126	GUIDE		X*									
66610	BUSHING		X	X								

* - Also available in P03 (.003 in.) oversize.

NOTE

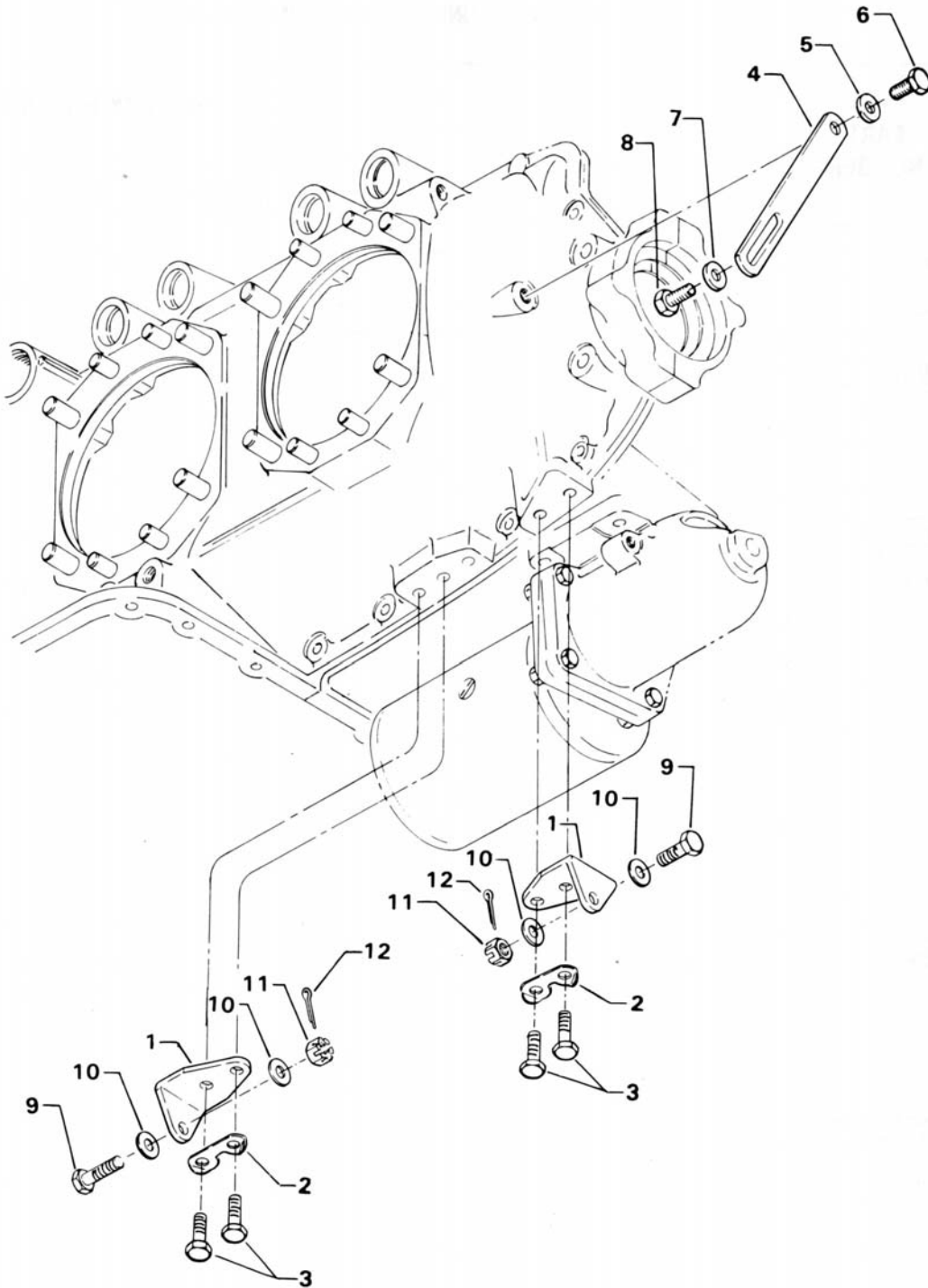
When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing P/N 18D26098 bearing in .003 in. undersize, order P/N 18D26098-M03. Undersize code letter is "M" while oversize code letter is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



Alternator Mounting and Attaching Parts (12V., 40, 50,60 Amp. Only)
Figure 1

ELECTRICAL POWER**FIGURE 1 – ALTERNATOR MOUNTING AND ATTACHING PARTS****(12V., 40, 50, 60 AMP. ONLY)**

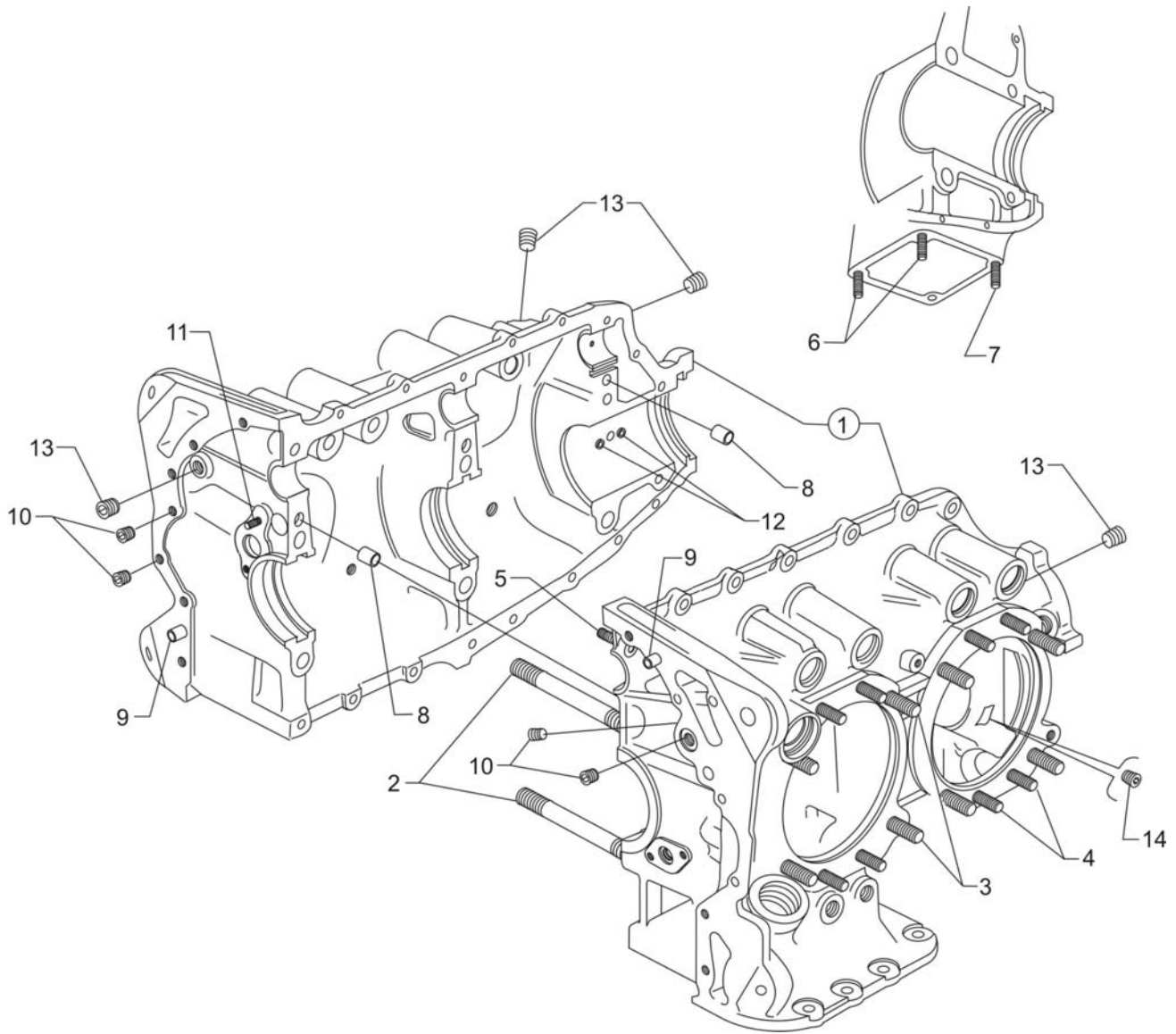
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		07A19474	BRACKET, Alternator	1	
2		73383	LOCKPLATE, 5/16 bolt x 1.00	1	
3		LW-31-0.94	BOLT, 5/16 x 15/16 long, hex. head	2	
4		75380	LINK, Alternator adjusting	1	
5		STD-35	WASHER, 5/16 plain	1	
6		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1	
7		STD-1727	WASHER, Plain, 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		07F23268	STRUT, Alternator support, 3/16 thick	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 3/8 I.D. x 1/16 thick	1	
12		AN6-14	BOLT, 3/8-24 x 1-37/64 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	



**Generator Mounting and Attaching Parts (Special Bolts)
Figure 2**

ELECTRICAL POWER**FIGURE 2 – GENERATOR MOUNTING AND ATTACHING PARTS****(SPECIAL BOLTS)**

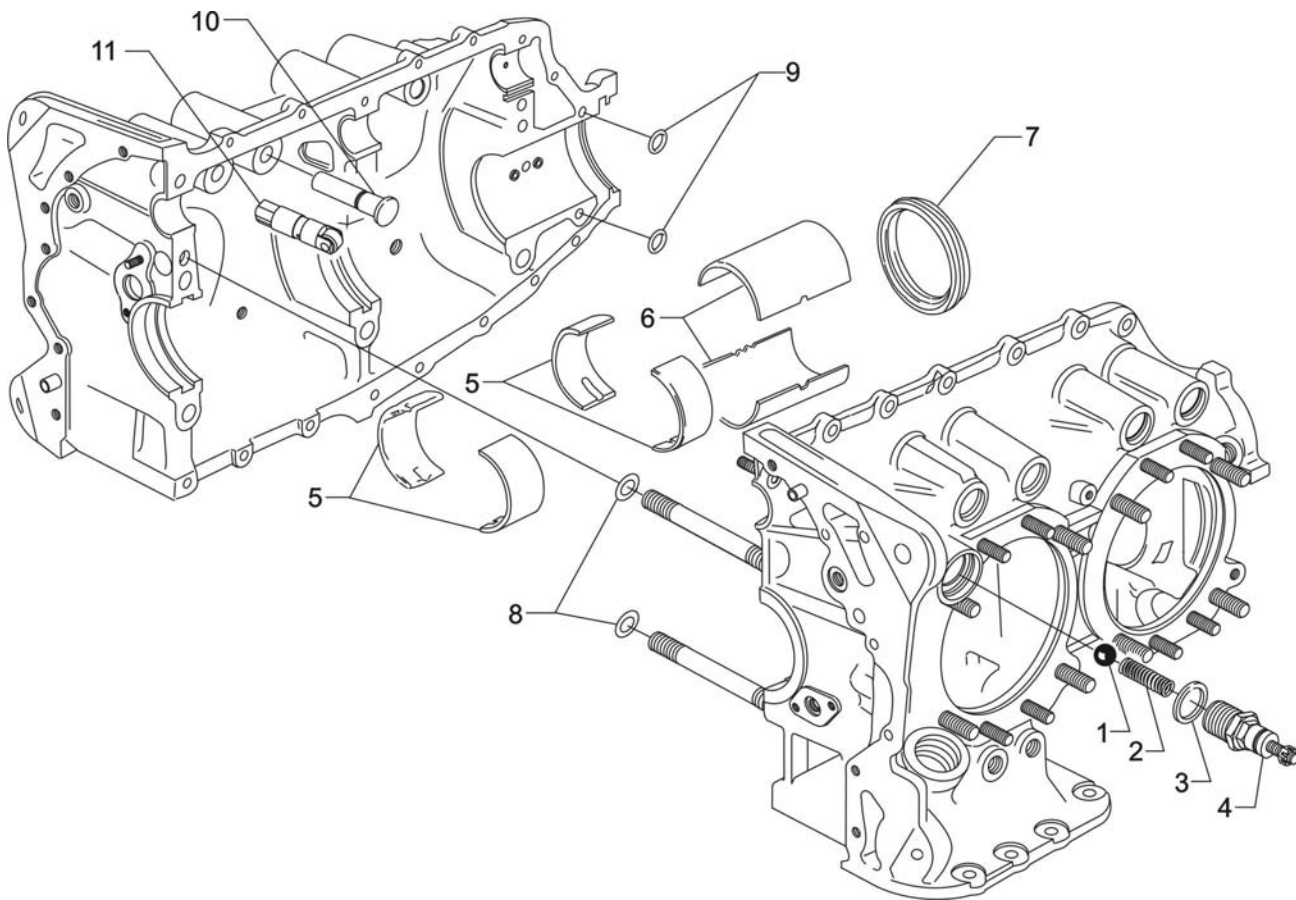
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		70419	BRACKET, Generator	2	
2		73383	LOCKPLATE, 5/16 bolt x 1.00	2	
3		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	4	
4		76028	LINK, Generator adjusting	1	
5		STD-35	WASHER, 5/16 plain	1	
6		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head	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	1	
9	*	LW-31S1.91	BOLT, 5/16-18 x 1-29/32 long, drilled	1	
	*	LW-31S2.29	BOLT, 5/16-18 x 2-9/32 long, drilled	1	
10	AR	STD-35	WASHER, 5/16 plain	AR	
11		STD-1420	NUT, 5/16-18 slotted	2	
12		STD-68	PIN, 1/16 diameter x 1/2 long	2	
<p>AR as required * Special bolts for Piper installations.</p>					



**Crankcase Assembly
Figure 3**

POWER SECTION**FIGURE 3 - CRANKCASE ASSEMBLY**

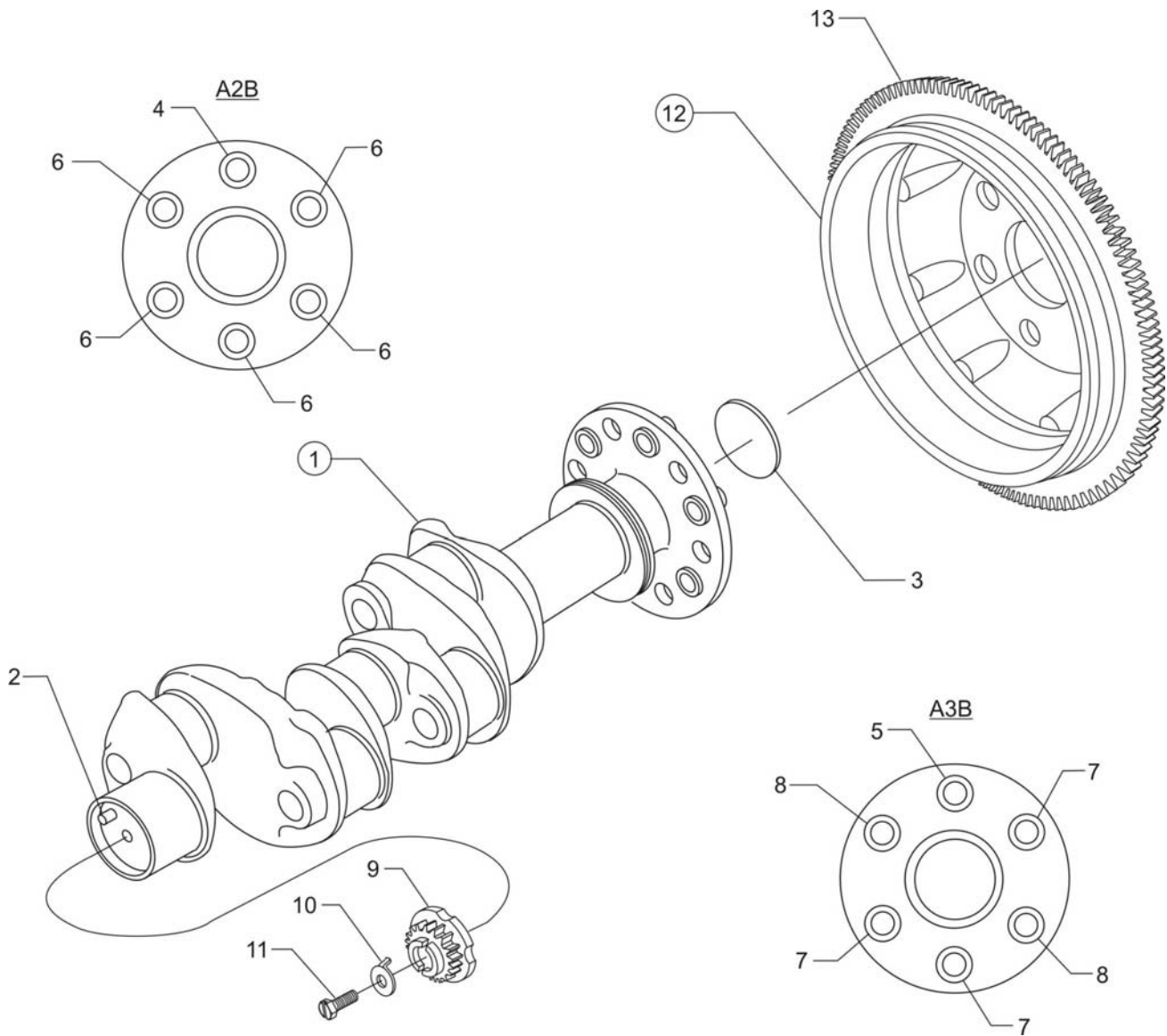
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1	*	11B20061-3SL-S	CRANKCASE ASSEMBLY KIT	1	
	P	11B20061-3SL	CRANKCASE ASSEMBLY	1	
	*	11B20161-3SL-S	CRANKCASE ASSEMBLY KIT (Roller tappet engines)	1	1
	P	11B20161-3SL	CRANKCASE ASSEMBLY (Roller tappet engines)	1	1
2		75154	STUD, 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		31C-12	STUD, 5/16-18 x 1-1/2 long	2	2
7		31C-13	STUD, 5/16-18 x 1-5/8 long	1	1
8		STD-557	DOWEL, 1/2 dia. x 11/16 long, hollow	2	2
9		STD-514	DOWEL, 5/16 dia. x 1/2 long	2	2
10		72706	INSERT, 1/4-20 UNC x 3/8 long	4	4
11		LW-13793	STUD, 5/16-18 x 15/16 long, drilled	1	1
12		69796	DOWEL, Crankshaft bearing	2	2
13		1102	PLUG, 1/8-27 NPT, allen head	6	6
14		STD-1339	PLUG, 1/16-27 NPT, allen head	4	4
<p>P Lycoming proprietary part. Listed for reference purposes only, cannot be purchased.</p> <p>* Refer to Service Kits Section for applicable Crankcase Assembly and Governor Thru-Stud Kit Part Numbers.</p>					



**Crankcase Related Parts
Figure 4**

POWER SECTION**FIGURE 4 - CRANKCASE RELATED PARTS**

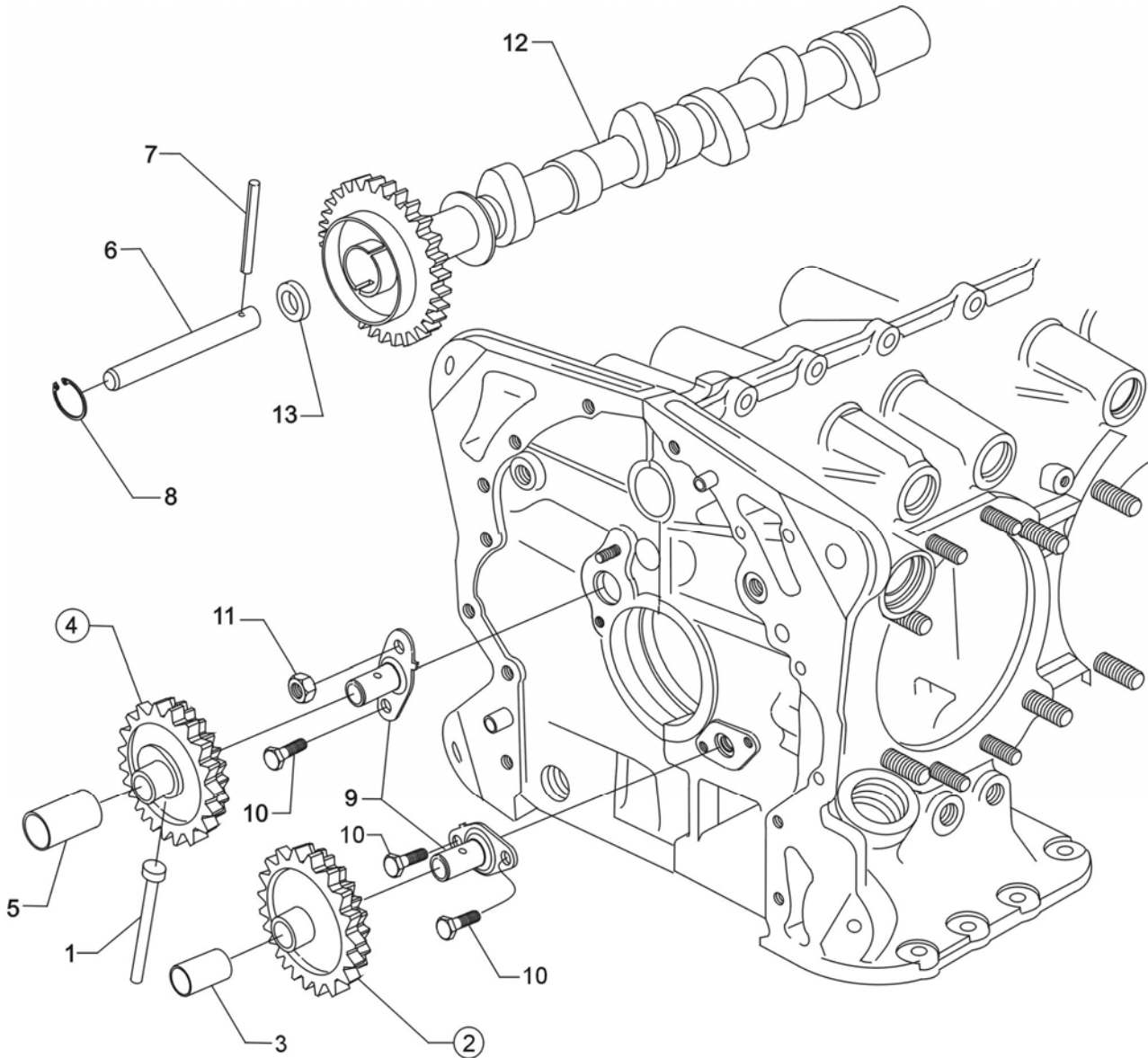
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		1028-B	BALL, 11/16 diameter	1	1
2	*	61084	SPRING, Oil pressure relief valve	1	1
	*	68668	SPRING, Oil pressure relief valve	1	1
	*	77467	SPRING, Oil pressure relief valve	1	1
	*	LW-11713	SPRING, Oil pressure relief valve	1	1
	*	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	4	4
6		18A26093	BEARING, Crankshaft	2	2
7	**	LW-13792	SEAL, Crankshaft oil	1	1
8		72075	SEAL, Oil, 3/32 section x 15/32 I.D.	2	2
9		72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter	2	2
10		15B26064	BODY, Hydraulic tappet	8	8
11		LRT23381	BODY ASSEMBLY, Hydraulic tappet (Roller tappet engines)	8	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>					



**Crankshaft Assembly and Related Parts
Figure 5**

POWER SECTION**FIGURE 5 - CRANKSHAFT ASSEMBLY AND RELATED PARTS**

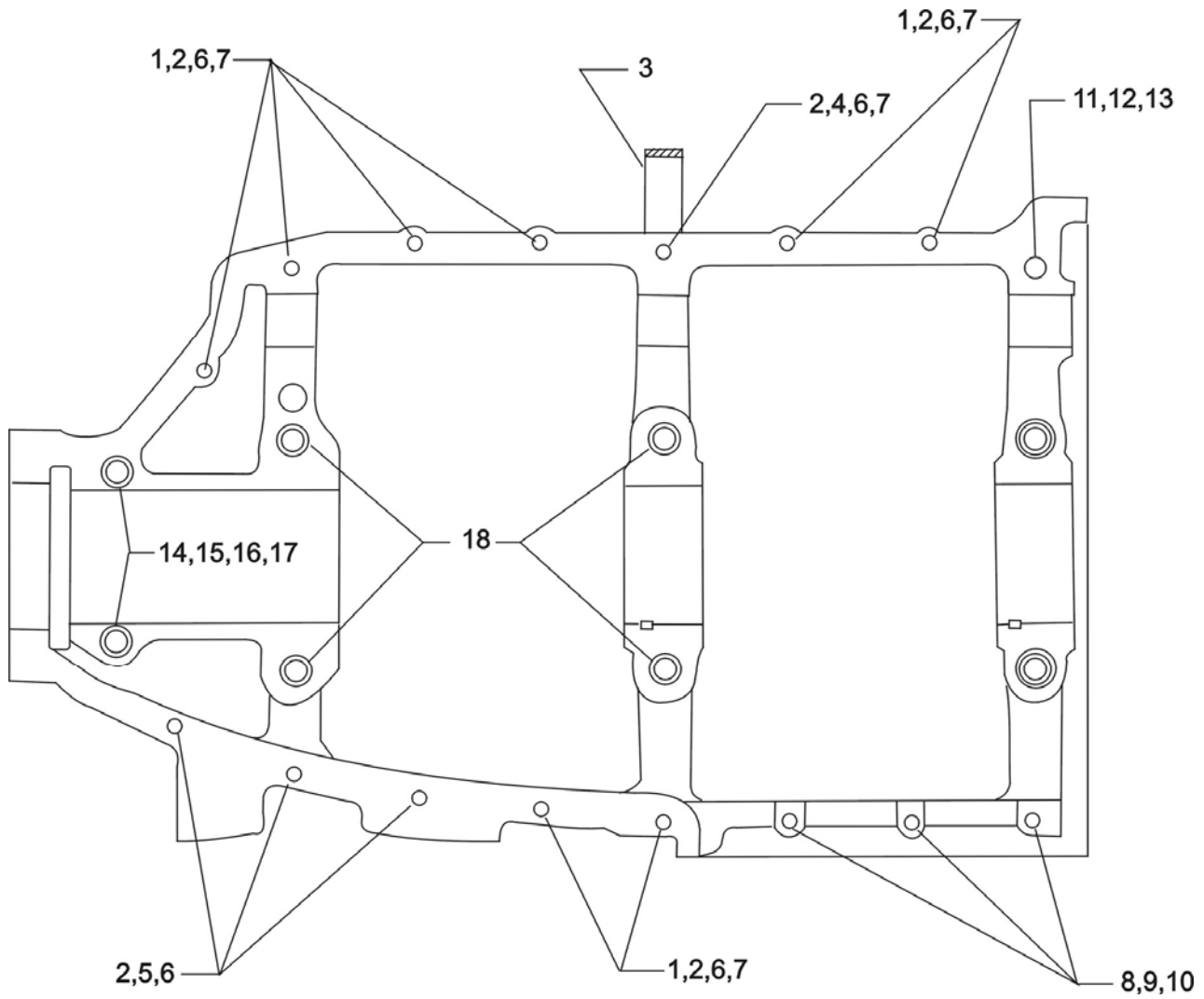
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1	*	13B47024	CRANKSHAFT ASSEMBLY	1	
	**	13B47022	CRANKSHAFT ASSEMBLY		1
2		STD-1065	DOWEL, Stepped, 5/16-1/4 diameter	1	1
3		STD-1211	PLUG, 2.00 diameter, expansion	1	1
4		LW-18921-S	BUSHING, Propeller flange, long	1	
5		LW-18817-S	BUSHING, Propeller flange, long		1
6		LW-18922-S	BUSHING, Propeller flange, short	5	
7		LW-18815-S	BUSHING, Propeller flange, short		3
8		LW-18816-S	BUSHING, Propeller flange, short		2
9	SB ♦	13S19646	GEAR, Crankshaft	1	1
10		LW-18639	LOCKPLATE, Crankshaft gear	1	1
11		STD-2246	BOLT, 5/16-24 x 1.00 long	1	1
12		76944	SUPPORT ASSEMBLY, Starter ring gear	1	
		68867	SUPPORT ASSEMBLY, Starter ring gear	1	
		76628	SUPPORT ASSEMBLY, Starter ring gear	1	
		74414	SUPPORT ASSEMBLY, Starter ring gear		1
13		60882	GEAR, Starter ring, 10/12 pitch	1	
	†	72566	GEAR, Starter ring, 12/14 pitch	1	1
<p>SB Referencing Service Bulletin</p> <p>* Crankshaft Kit No. 05K22927 is available for O-320-A2B model engines.</p> <p>** Crankshaft Kit No. 05K23732 is available for O-320-A3B model engines..</p> <p>♦ Refer to latest revision of Service Bulletin No. 475 for proper installation.</p> <p>† Use with 76628 and 74414 Support Assemblies.</p>					



**Crankshaft Idler Gears, Tachometer Drive and Camshaft
Figure 6**

POWER SECTION**FIGURE 6 - CRANKSHAFT IDLER GEARS, TACHOMETER DRIVE AND CAMSHAFT**

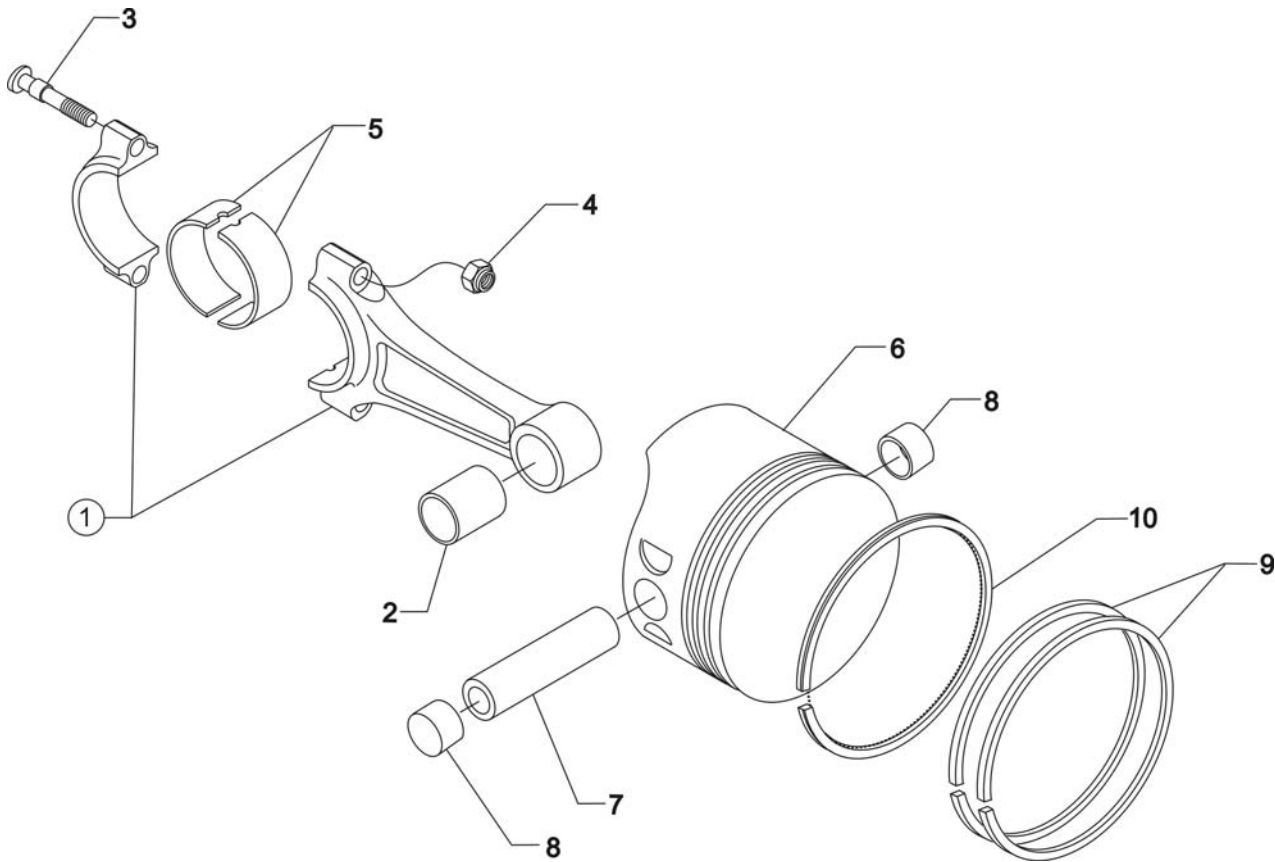
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		61544	PLUNGER, Fuel pump, long	1	1
2		74996	GEAR ASSEMBLY, Crankshaft idler, plain	1	1
	*	74996	GEAR ASSEMBLY, Crankshaft idler, plain	2	
3		77309	BUSHING, Crankshaft idler gear	1	
4		75072	GEAR ASSEMBLY, Crankshaft idler	1	1
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 (Roller tappet engines)	1	1
13		76118	SPACER, Tachometer shaft, centering	1	1
* On engines without a fuel pump.					



**Crankcase Attaching Parts
Figure 7**

POWER SECTION**FIGURE 7 - CRANKCASE ATTACHING PARTS**

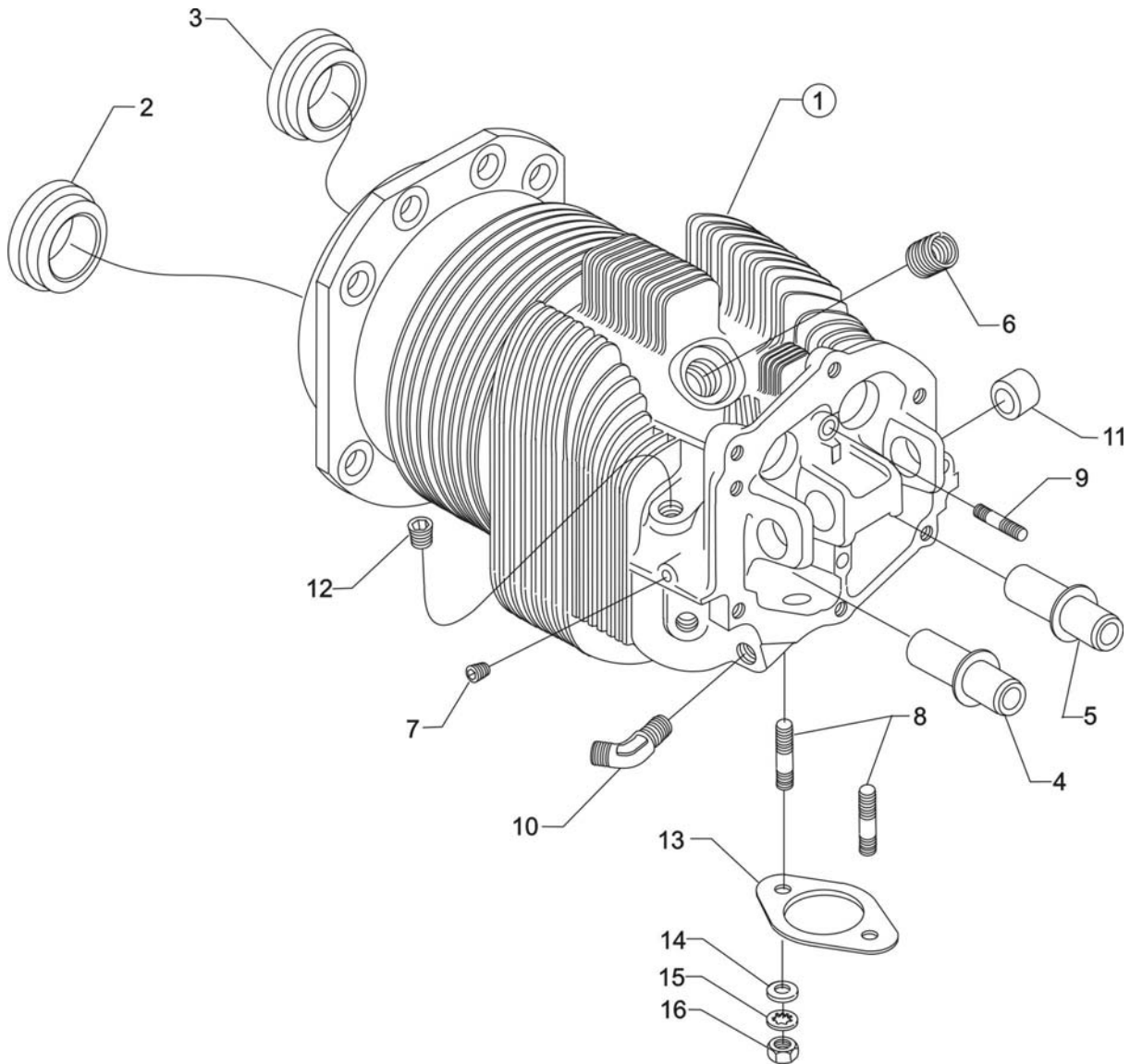
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	8	8
2		STD-8	WASHER, 1/4 plain	19	19
3		60803	STRAP, Lifting	1	1
4		LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	1	1
5		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	3	3
6		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	2
16		STD-678	WASHER, 3/8 lock, internal teeth	2	2
17		STD-596	NUT, 3/8-24 plain	2	2
18		76220	STUD, 1/2-20 x 10-11/16 long	4	4



**Connecting Rods, Pistons and Ring Assemblies
Figure 8**

CYLINDER SECTION**FIGURE 8 - CONNECTING RODS, PISTONS AND RING ASSEMBLIES**

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
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		75413	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

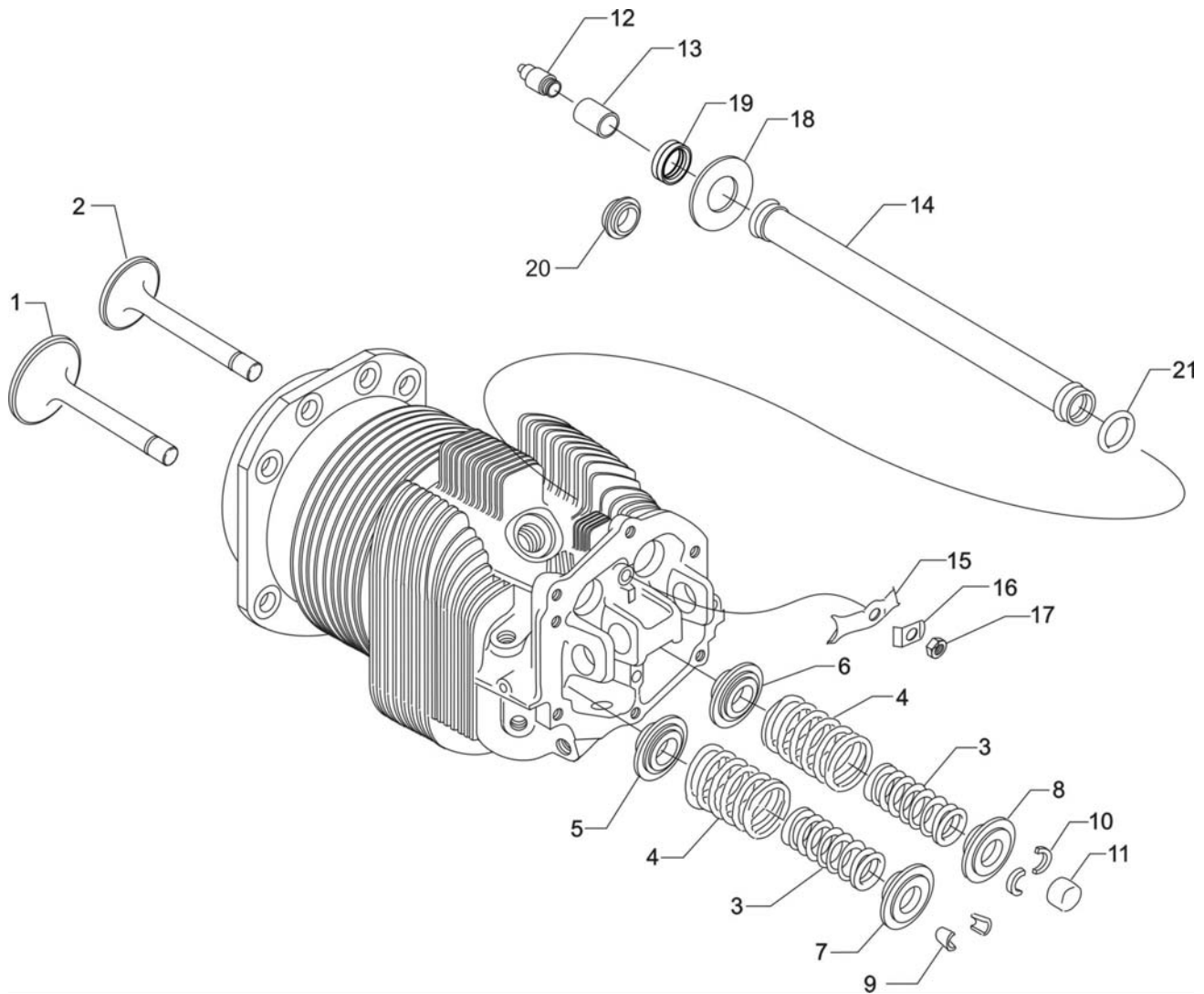


**Cylinder Assembly
Figure 9**

CYLINDER SECTION
FIGURE 9 - CYLINDER ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
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

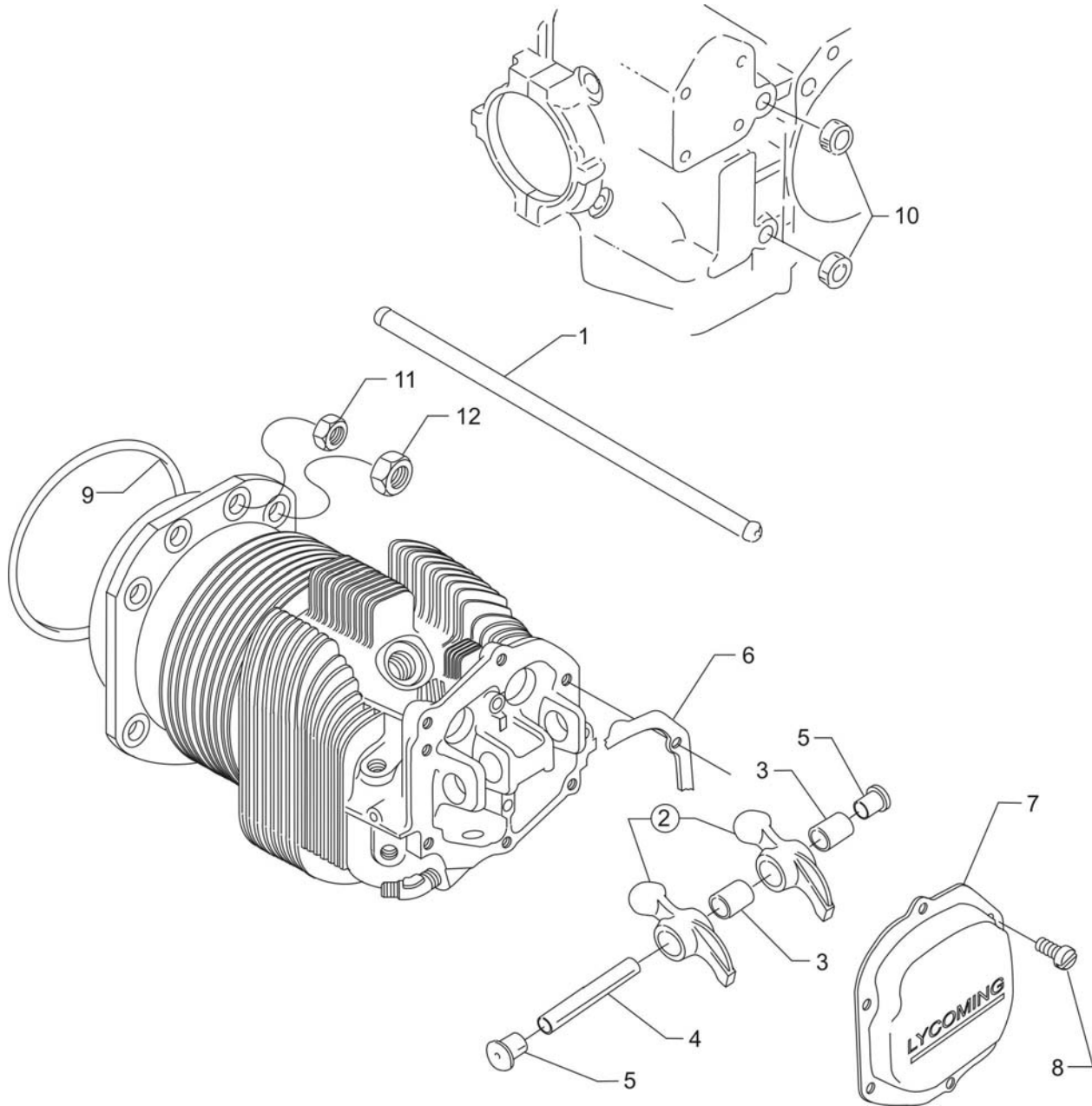
P Lycoming proprietary part. Listed for reference purposes only, cannot be purchased.
***** See latest revision of Service Instruction No. 1256 for service valve guides.



**Valve Assembly and Related Parts
Figure 10**

CYLINDER SECTION**FIGURE 10 – VALVE ASSEMBLY AND RELATED PARTS**

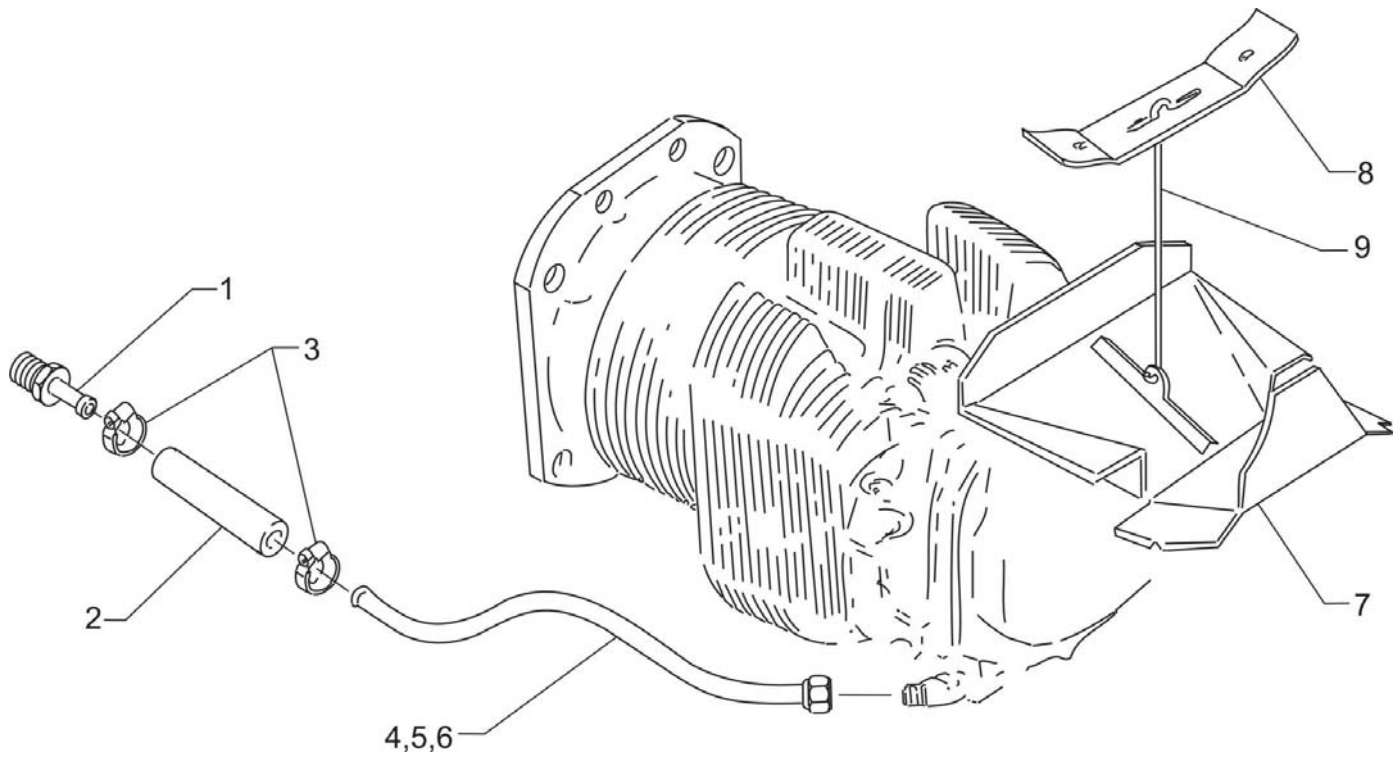
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		17A23938	VALVE, Intake	4	4
2		17B23936	VALVE, Exhaust (rotator type)	4	4
3		LW-11795	SPRING, Valve, inner	8	8
4		LW-11800	SPRING, Valve, outer	8	8
5		65441	SEAT, Valve spring, lower intake	4	4
6		LW-13323	SEAT, Valve spring, 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 (Roller tappet engines)	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 (Roller tappet engines)	8	8
19	*	LW-18661	SEAL, Shroud tube	8	8
20		06A23493	SEAL, Shroud tube (Roller tappet engines)	8	8
21	**	70310	SEAL, Shroud tube	8	8
<p>* This seal is used on flat tappet engines only.</p> <p>** This seal is used on both flat tappet and roller tappet engines..</p>					



**Cylinder Related Parts
Figure 11**

CYLINDER SECTION**FIGURE 11 – CYLINDER RELATED PARTS**

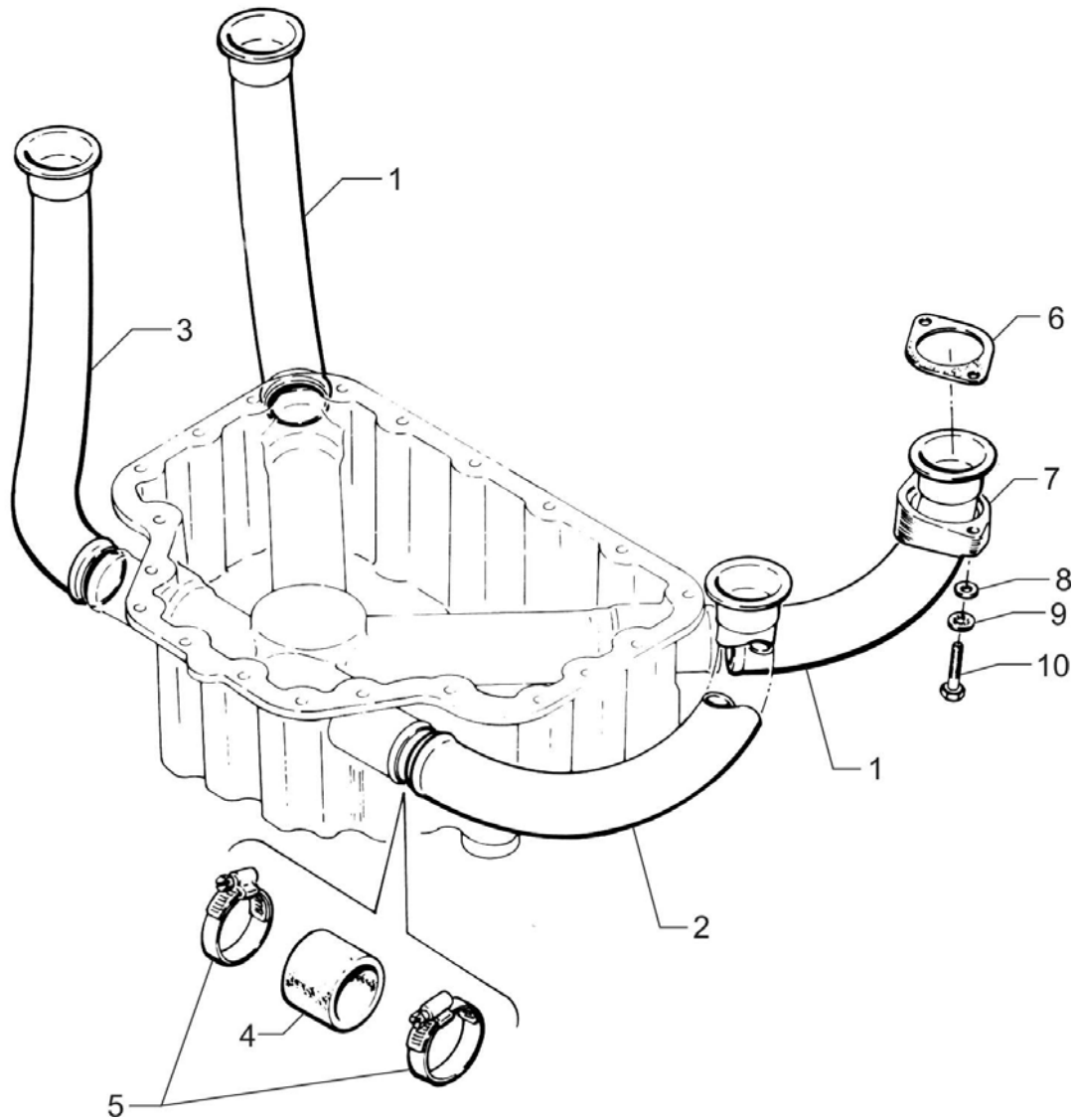
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1	AR*♦	15F19957-08	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	AR*♦	15F19957-09	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	AR*♦	15F19957-10	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	AR†♦	15F19957-11	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	AR†♦	15F19957-12	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	AR‡♦	15F19957-13	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	AR‡♦	15F19957-14	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR
	AR‡♦	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 dia. 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
<p>AR as required</p> <p>* These push rods are not to be used on flat tappet engines.</p> <p>† These push rods can be used on both flat tappet and roller tappet engines.</p> <p>‡ These push rods are not to be used on roller tappet engines.</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> <p>NOTE: Various push rod lengths are used to set valve clearances.</p>					



**Cylinder Head Drain Tubes and Intercylinder Cooling Baffles
Figure 12**

CYLINDER SECTION**FIGURE 12 –CYLINDER HEAD DRAIN TUBES AND INTERCYLINDER COOLING BAFFLES**

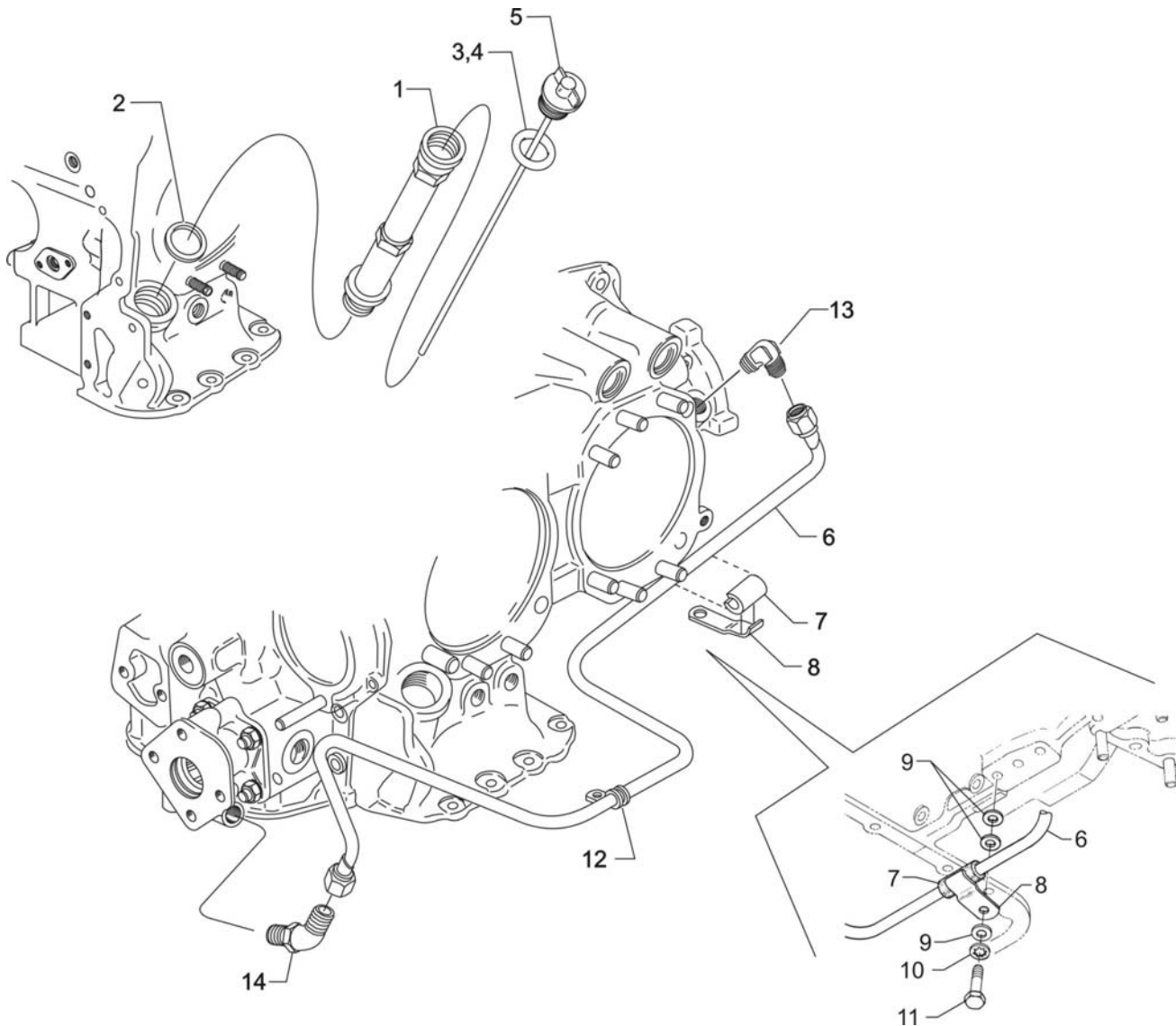
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		STD-684	NIPPLE, Straight, 3/8 I.D. hose	4	4
2		STD-2180	HOSE, 3/8 I.D. x 1-7/8 long	4	4
3		LW-15592-5-05	CLAMP, Hose	8	8
4		68759	TUBE ASSEMBLY, Oil drain, cylinder no. 1	1	1
5		68760	TUBE ASSEMBLY, Oil drain, cylinder no. 2	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 13**

CYLINDER SECTION**FIGURE 13 – INTAKE PIPES AND ATTACHING PARTS**

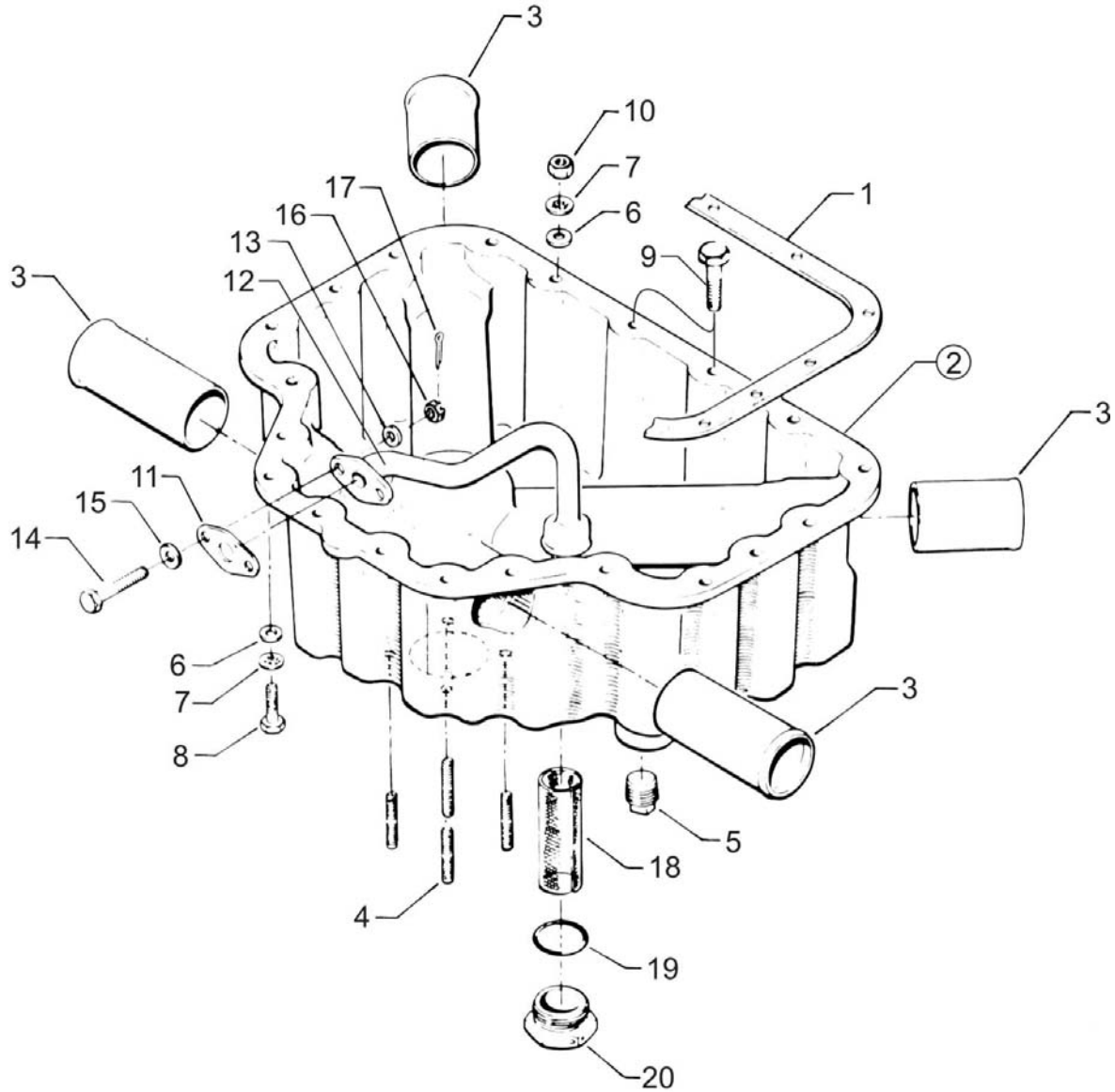
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		LW-16728	PIPE, Intake, cylinders no. 1 & 2	2	2
2		LW-16730	PIPE, Intake, cylinder no. 3	1	1
3		LW-16729	PIPE, Intake, cylinder no. 4	1	1
4		STD-1196	HOSE, 1-1/2 I.D. x 1-15/16 O.D. x 1-13/16 long	4	4
5		LW-15592-8-28	CLAMP, Hose	8	8
6		71973	GASKET, 2 bolt flange, 1-13/16 I.D.	4	4
7		74360	FLANGE, Intake pipe, upper	4	4
8		STD-8	WASHER, 1/4 plain	8	8
9		STD-160	WASHER, 1/4 lock, internal teeth	8	8
10		LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	8	8



**Oil Level Gage and Propeller Governor Oil Line
Figure 14**

LUBRICATION SYSTEM**FIGURE 14 – OIL LEVEL GAGE AND PROPELLER GOVERNOR OIL LINE**

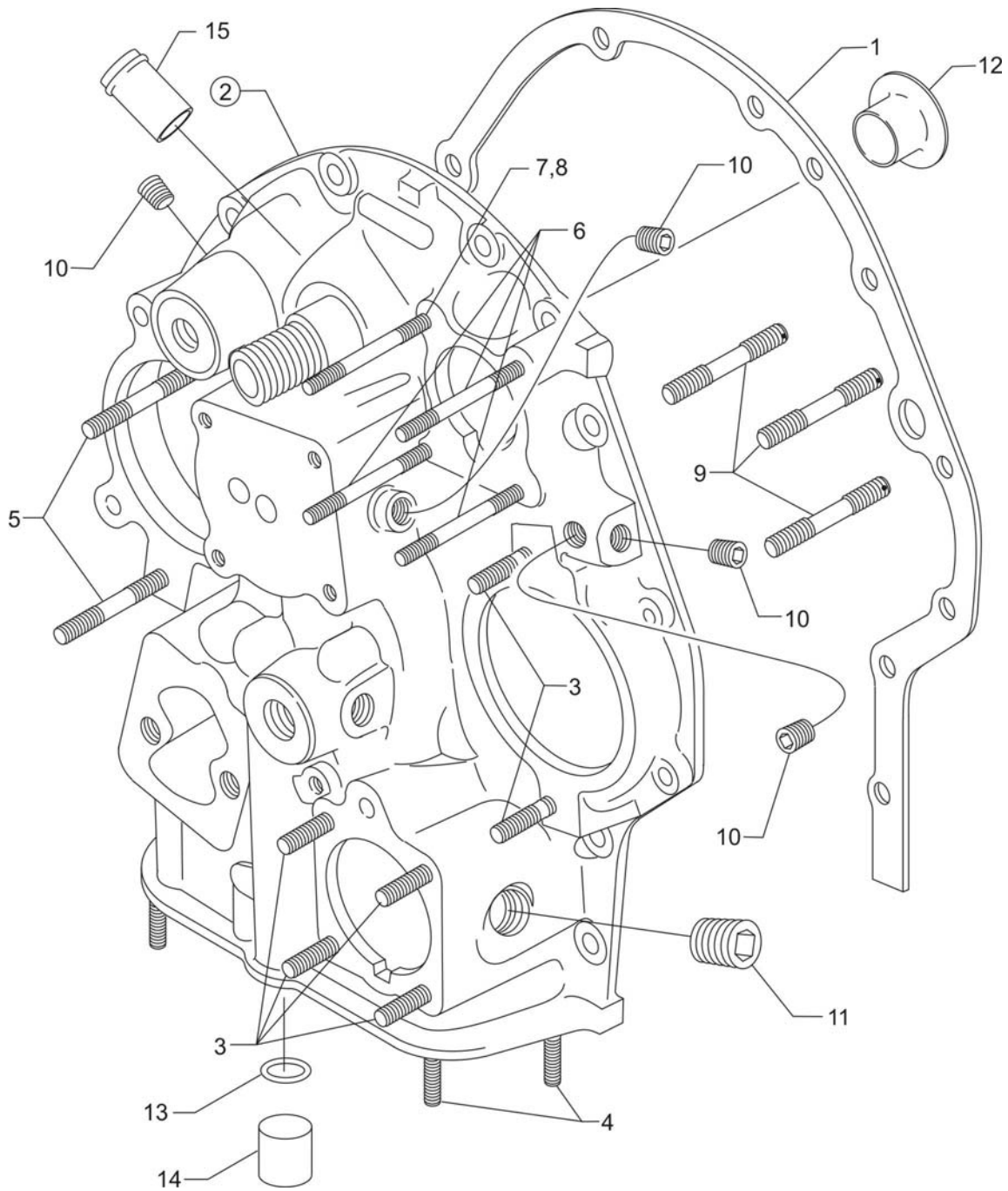
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		75767	TUBE, Oil level gage, 10-9/16 long	1	
		75736	TUBE, Oil level gage, 11-9/16 long		1
		75735	TUBE, Oil level gage, 6-5/16 long	1	
2		72059	GASKET, Oil level gage	1	
3	*	74065	RING, Oil level gage seal	1	
4	**	74068	RING, Oil level gage plug		1
5		LW-14780	GAGE ASSEMBLY, Oil level	1	
		LW-16783-18	GAGE ASSEMBLY, Oil level		1
		LW-14759	GAGE ASSEMBLY, Oil level	1	
6		75166	TUBE ASSEMBLY, Propeller governor oil line		1
7		STD-1930	HOSE, 3/8 I.D. x 1.00 long		1
8		75165	CLIP, Propeller governor oil line support		1
9		STD-35	WASHER, 5/16 plain		3
10		STD-475	WASHER, 5/16 lock, internal teeth		1
11		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head		1
12		LW-16266-25-38	CLAMP, 3/8 I.D. x 1/4 diameter screw		1
13		MS20822-6	ELBOW, 1/4 NPT to 3/8 tube		1
14		75739	NIPPLE, 3/8 flared tube		1
* Use with LW-14780 Oil Level Gage Assembly.					
** Use with LW-16783-18 and LW-14759 Oil Level Gage Assemblies.					



**Oil Sump Assembly and Oil Suction Screen
Figure 15**

LUBRICATION SYSTEM**FIGURE 15 – OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN**

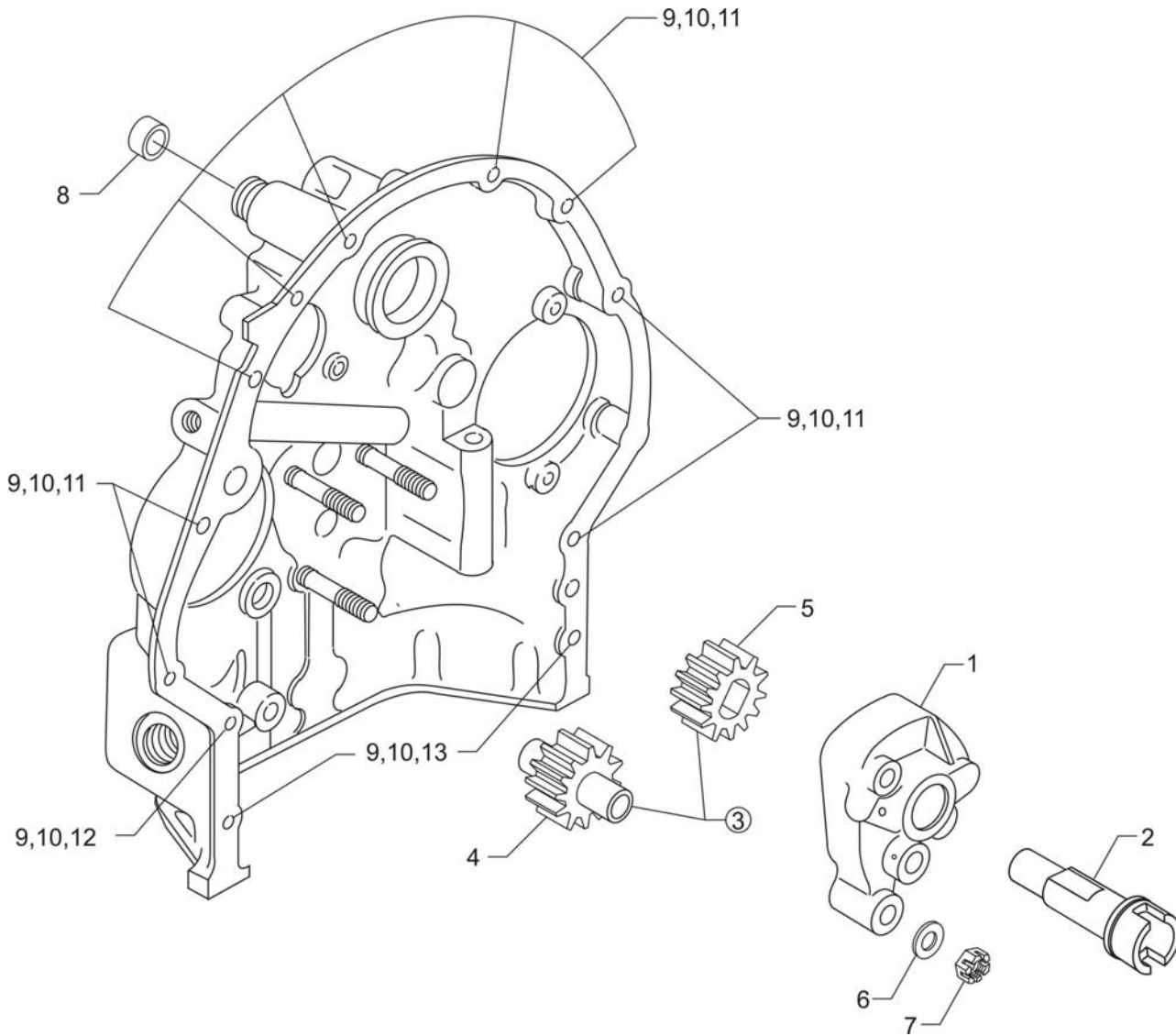
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		LW-13353	GASKET, Oil sump	1	1
2		72362	SUMP ASSEMBLY, Oil	1	1
3		61376	CONNECTION, Intake pipe, front	2	2
		61377	CONNECTION, Intake pipe, rear	2	2
4		31C-15	STUD, 5/16-18 x 1-7/8 long	4	4
5		STD-551	PLUG, 1/2-14 NPT, square head, drilled	1	1
6		STD-8	WASHER, 1/4 plain	32	32
7		STD-160	WASHER, 1/4 lock, internal teeth	20	20
8		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	16	16
9		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	2	2
10		STD-1411	NUT, 1/4-20 plain	14	14
11		60820	GASKET, Oil suction tube flange	1	1
12		61381	TUBE ASSEMBLY, Oil suction	1	1
13		STD-1227	WASHER, 1/4 plain	2	2
14		STD-1433	BOLT, 1/4-20 x 1-1/2 long, drilled	2	2
15		STD-8	WASHER, 1/4 plain	4	4
16		STD-2249	NUT, 1/4-20 slotted	2	2
17		STD-68	PIN, 1/16 diameter x 1/2 long	2	2
18		61378	SCREEN, Oil suction	1	1
19		06E19769-1.25	GASKET, 1-1/4 I.D. annular	1	1
20		61358	PLUG, 1-1/2 hex. head x 1-1/4-12 thread	1	1



**Accessory Housing Assembly
Figure 16**

ACCESSORY DRIVES**FIGURE 16 – ACCESSORY HOUSING ASSEMBLY**

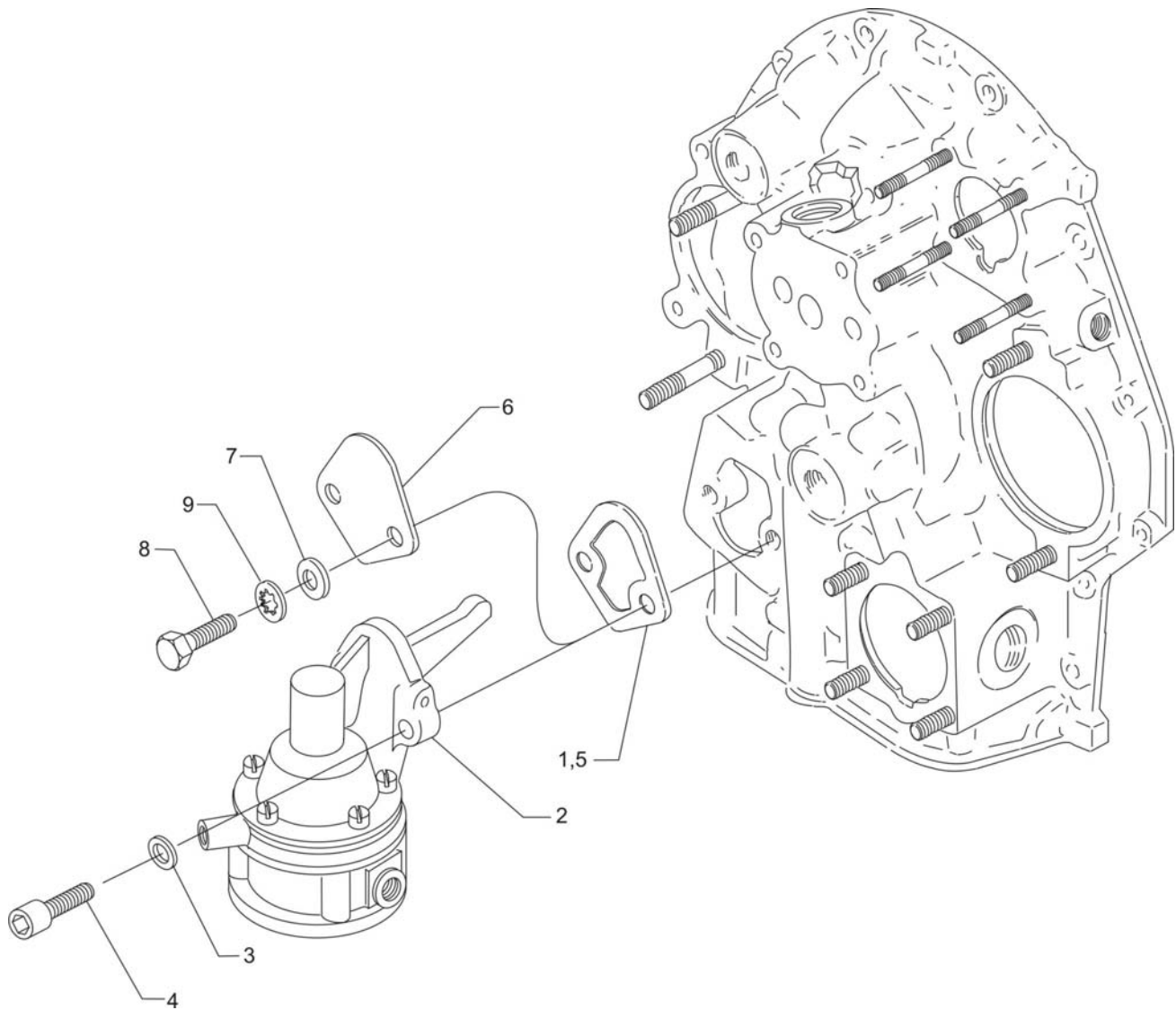
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		73818	GASKET, Accessory housing	1	1
2		21A21536-01	HOUSING ASSEMBLY, Accessory	1	
		21A21536-03	HOUSING ASSEMBLY, Accessory		1
3		31C-12	STUD, 5/16-18 x 1-1/2 long	6	6
4		61400	STUD, 1/4-20 x 1-3/16 long	2	2
5		31C-19	STUD, 5/16-18 x 2-3/8 long	2	2
6		25C-22	STUD, 1/2-20 x 2-3/4 long	4	
7		25C-11	STUD, 1/4-20 x 1-3/8 long		1
8		25C-31	STUD, 1/4-20 x 3-7/8 long		3
9		31CD-17	STUD, 5/16-18 x 2-1/8 long, drilled	3	3
10		1102	PLUG, 1/8-27 NPT, allen head	4	4
11		STD-784	PLUG, 3/8-18 NPT, allen head	1	1
12		76119	SHIELD, Accessory breather oil	1	1
13		STD-1006	RING, Oil seal, 7/16 I.D. x 3/32 diameter	1	1
14		75656-S	PLUG, 5/8 O.D. x 3/4 long	1	1
15		71140	FITTING, Breather	1	1



**Oil Pump Assembly and Accessory Housing Attaching Parts
Figure 17**

ACCESSORY DRIVES**FIGURE 17 – OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS**

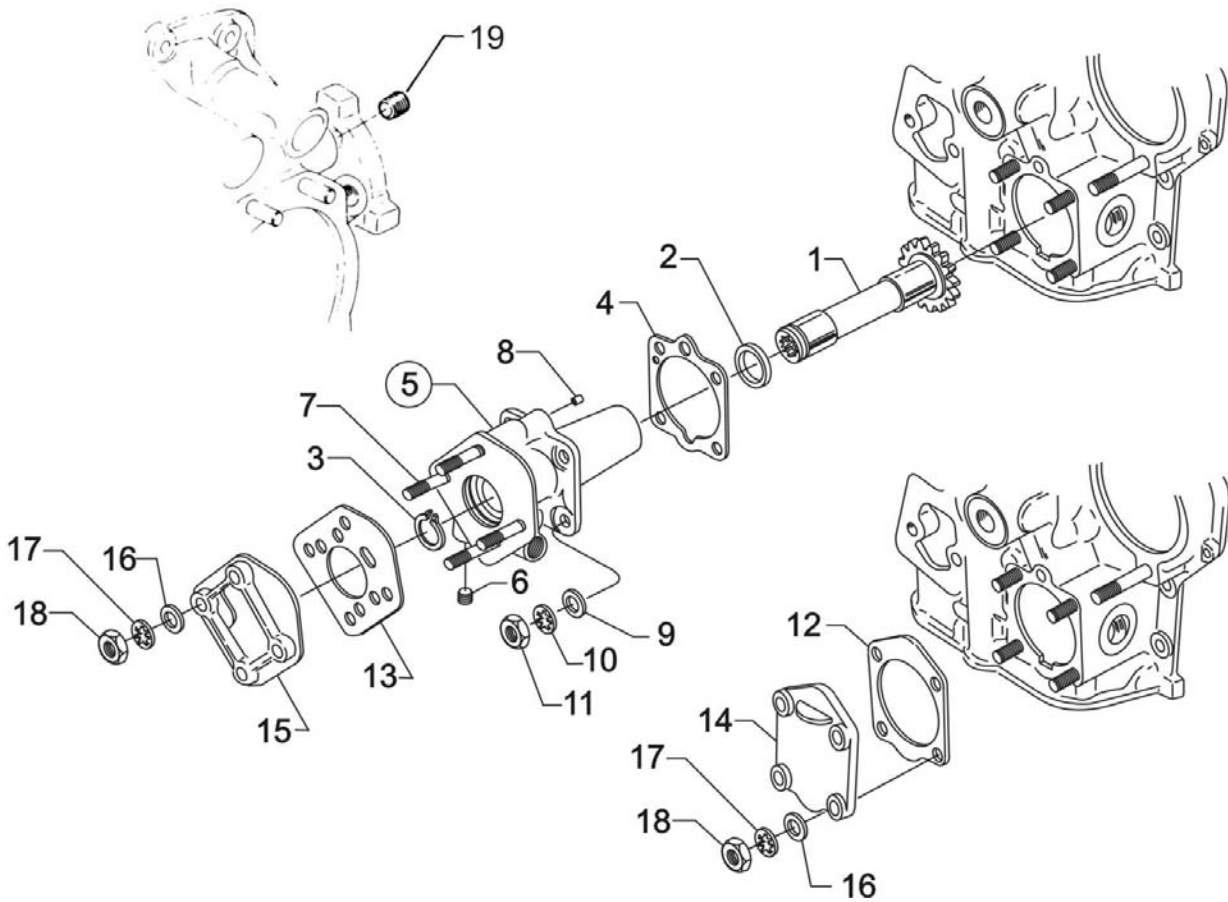
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		78531	BODY ASSEMBLY, Oil pump	1	1
2		61174	SHAFT, Oil pump drive	1	1
3		05K19423-S	IMPELLER KIT	1	1
4	*	LW-18110	IMPELLER ASSEMBLY, Oil pump driven	1	1
5	*	LW-18109	IMPELLER, Oil pump driven	1	1
6		STD-35	WASHER, 5/16 plain	3	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 as matched sets only in Kit P/N 05K19423-S.					



**Fuel Pump Assembly and Attaching Parts
Figure 18**

ACCESSORY DRIVES**FIGURE 18 – FUEL PUMP ASSEMBLY AND ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		60096	GASKET, Fuel pump	1	1
2		LW-15472	FUEL PUMP, Dual diaphragm, low pressure	1	1
3		STD-33	WASHER, 3/8 plain	2	2
4		STD-1882	SCREW, 3/8-16 x 1-9/32 long, socket head, drilled	2	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	

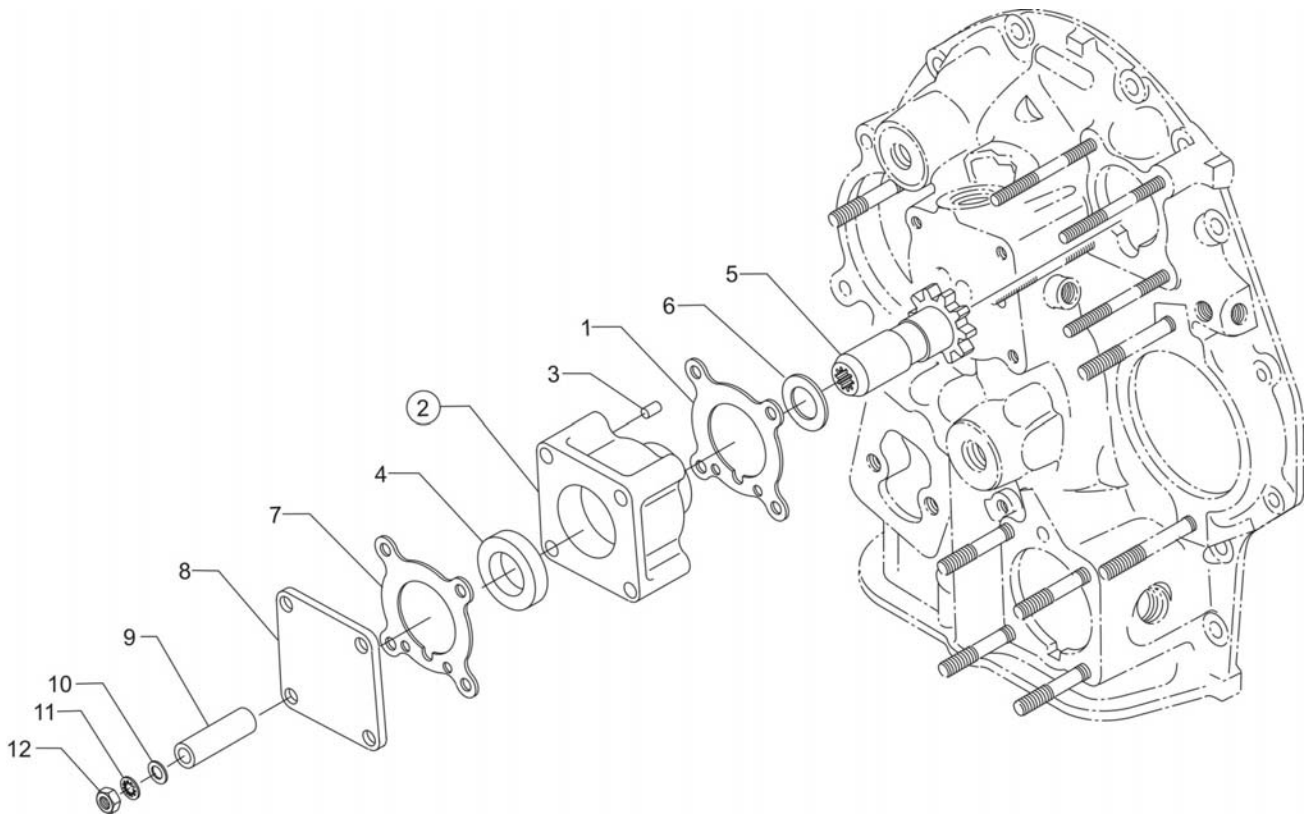


**Propeller Governor Drives and Covers
Figure 19**

ACCESSORY DRIVES**FIGURE 19 – PROPELLER GOVERNOR DRIVES AND COVERS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		68317	SHAFTGEAR, Propeller governor drive		1
2		71596	WASHER, Accessory drive gear		1
3		STD-1221	RING, 13/16 diameter x 1/32 thick		1
4		68315	GASKET, Accessory drive adapter		1
5		75153	ADAPTER ASSEMBLY, Propeller governor drive		1
6		1102	PLUG, 1/8-27 NPT, allen head		1
7		31C-16	STUD, 5/16-18 x 2.00 long		4
8		STD-1774	PIN, 1/8 diameter x 1/4 long		1
9		STD-35	WASHER, 5/16 plain		4
10		STD-475	WASHER, 5/16 lock, internal teeth		4
11		STD-1410	NUT, 5/16-18 plain		4
12		69551	GASKET, Accessory drive adapter	1	
13		72053	GASKET, Governor		1
14		69106	COVER, Governor drive adapter pad	1	
15		72378	COVER, Governor drive		1
16		STD-35	WASHER, 5/16 plain	4	4
17		STD-475	WASHER, 5/16 lock, internal teeth	4	4
18		STD-1410	NUT, 5/16-18 plain	4	4
19	*	STD-783	PLUG, 1/4-18 NPT, allen head	1	

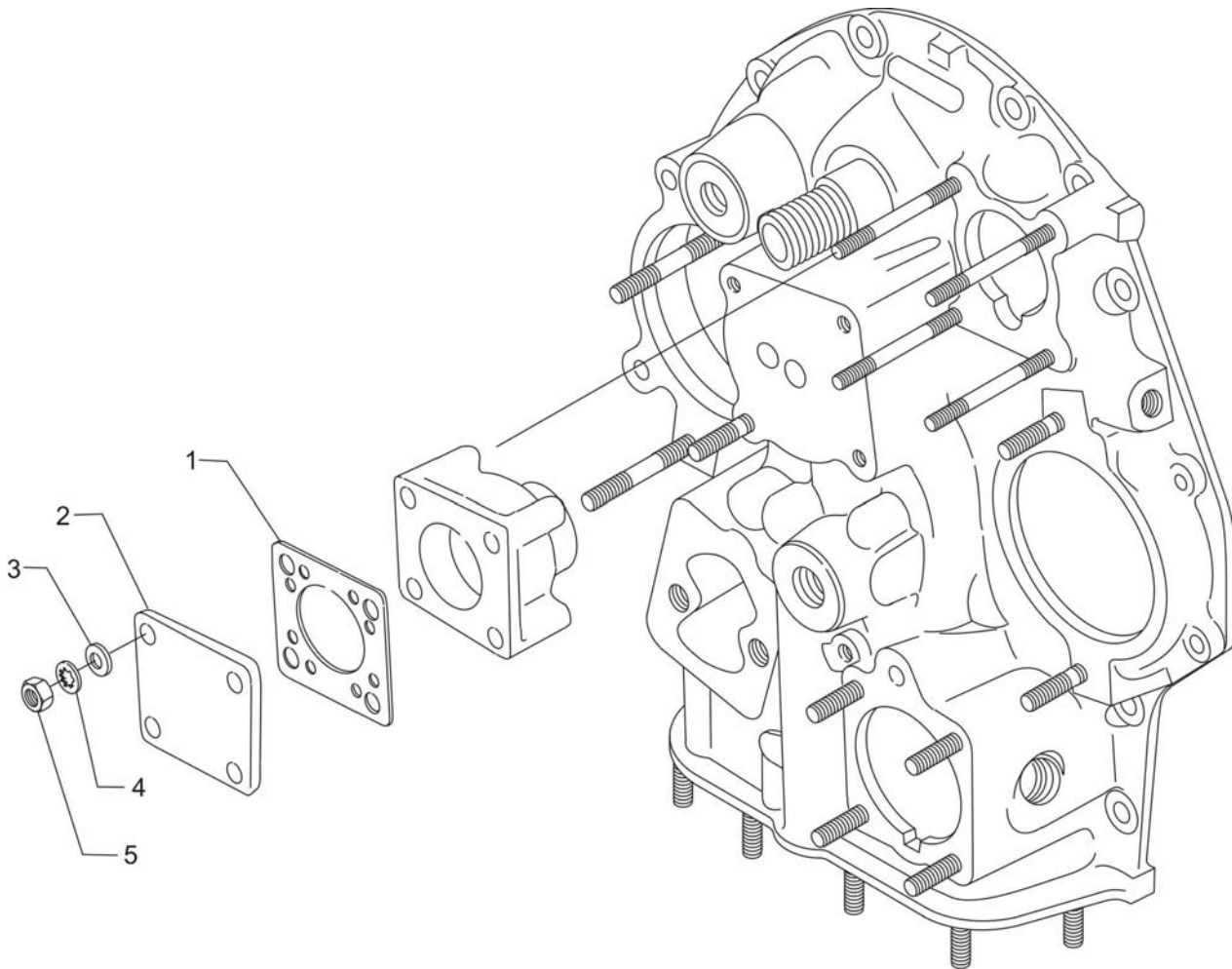
* Assemble in right crankcase, front.



**Vacuum Pump Drive and Cover
Figure 20**

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

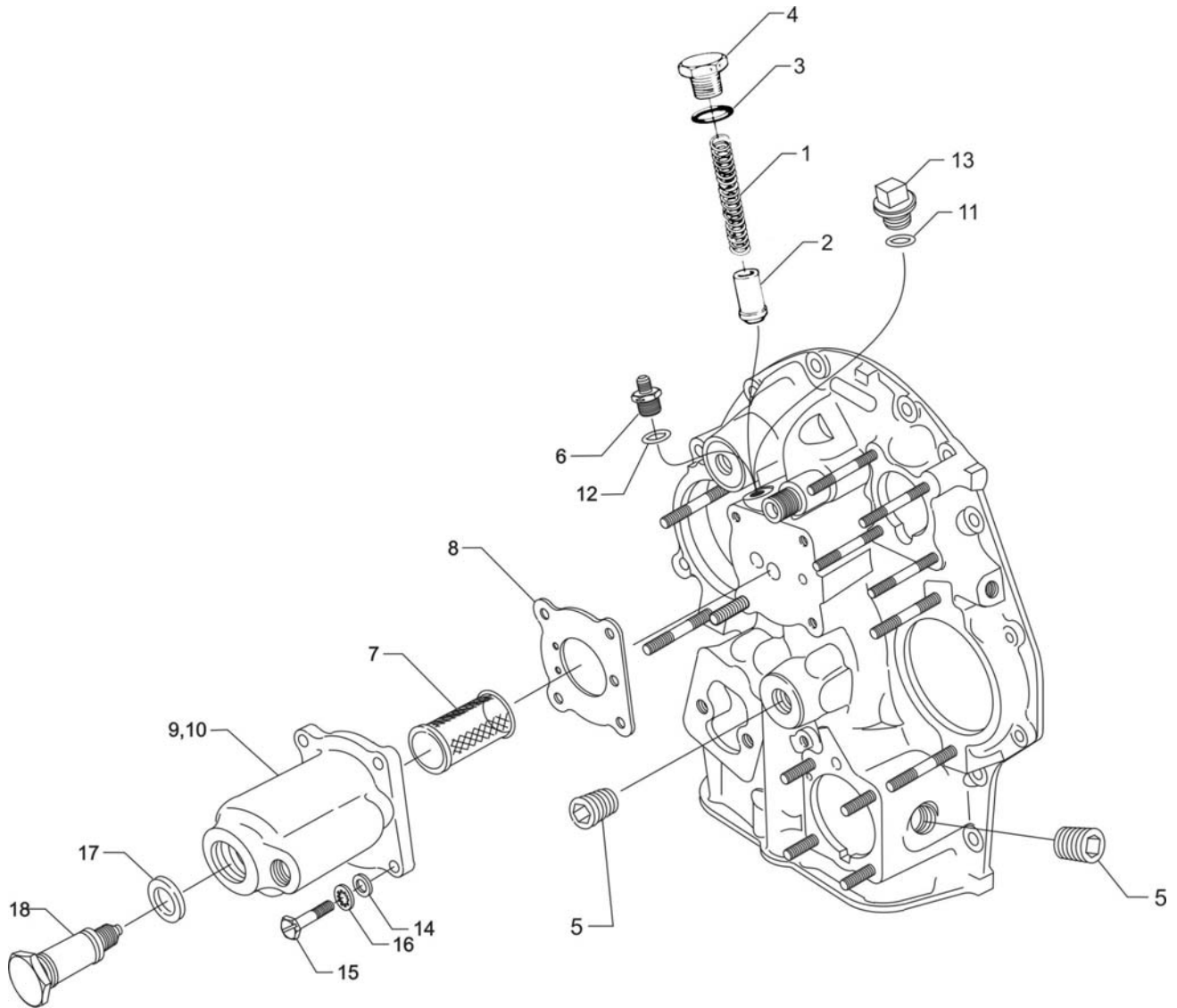
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		61183	GASKET, Accessory adapter	1	
2		61098	ADAPTER ASSEMBLY, Vacuum pump	1	
3		STD-1774	PIN, 1/8 diameter x 1/4 long	1	
4		06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16	1	
5		72970	GEAR ASSEMBLY, Vacuum pump driven	1	
6		71596	WASHER, Accessory drive gear	1	
7	*	61183	GASKET, Accessory adapter	1	
8	*	60430	COVER, Vacuum pump	1	
9	*	68593	SPACER, Vacuum pump stud	4	
10	*	STD-8	WASHER, 1/4 plain	4	
11	*	STD-160	WASHER, 1/4 lock, internal teeth	4	
12	*	STD-1411	NUT, 1/4-20 plain	4	
* Used on –A2B model with stud in accessory housing.					



**Vacuum Pump Drive Cover
Figure 21**

ACCESSORY DRIVES**FIGURE 21 – VACUUM PUMP DRIVE COVER**

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		8313	GASKET, Vacuum pump	1	2
2		60430	COVER, Vacuum pump	1	2
3		STD-8	WASHER, 1/4 plain	4	8
4		STD-160	WASHER, 1/4 lock, internal teeth	4	8
5		STD-1411	NUT, 1/4-20 plain	4	8

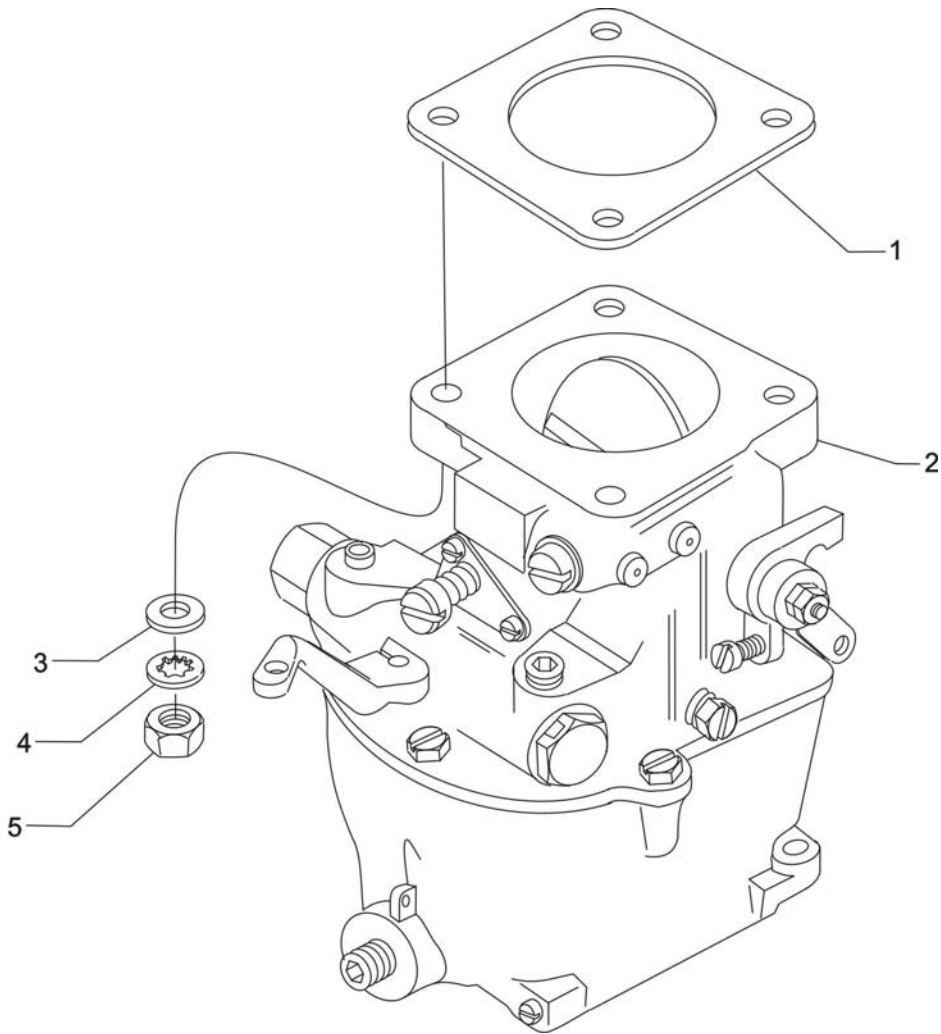


**Oil Cooler Bypass and Oil Pressure Screen
Figure 22**

ACCESSORY DRIVES**FIGURE 22 – OIL COOLER BYPASS AND OIL PRESSURE SCREEN**

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1	*	69436	SPRING, Oil cooler bypass	1	
2	*	62415	PLUNGER, Oil cooler bypass	1	
3		06E19769-0.63	GASKET, 5/8 I.D. annular	1	1
4		62417	PLUG, Oil cooler bypass	1	
5		STD-784	PLUG, 3/8-18 NPT, allen head	2	2
6		69675	CONNECTOR, Accessory housing oil cooler	1	1
7		62817	SCREEN ASSEMBLY, Oil pressure	1	1
8		61173	GASKET, Oil pressure housing	1	1
9	**	53B21736	HOUSING, Oil pressure screen	1	
10		69510	HOUSING, Oil pressure screen	1	1
11	◆	06E19769-1.00	GASKET, 1.00 I.D. annular	1	
12		06E19769-0.63	GASKET, 5/8 I.D. annular	1	1
13		STD-1350	PLUG, 1.00-14, square head	1	
14		STD-8	WASHER, 1/4 plain	4	4
15		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	4	4
16		STD-160	WASHER, 1/4 lock, internal teeth	4	4
17		06E19769-0.63	GASKET, 5/8 I.D. annular	2	
18		53E22144	VALVE ASSEMBLY, Temperature control, oil cool	1	1

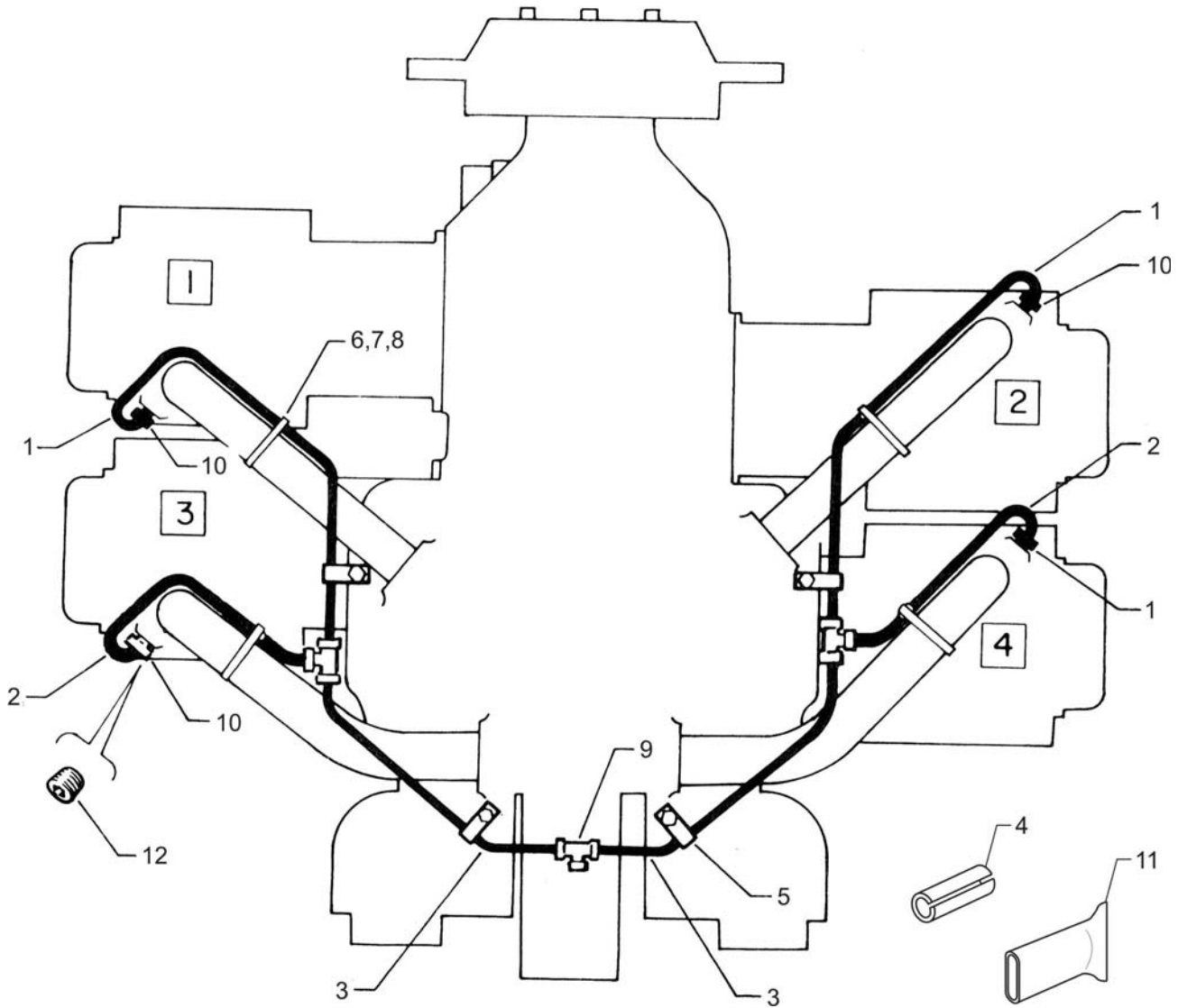
* Not required when thermostatic bypass valve is used.
** Provision for thermostatic valve in oil screen housing.
◆ Used with STD-1350 plug.



**Carburetor Assembly
Figure 23**

FUEL DISTRIBUTION**FIGURE 23 – CARBURETOR ASSEMBLY**

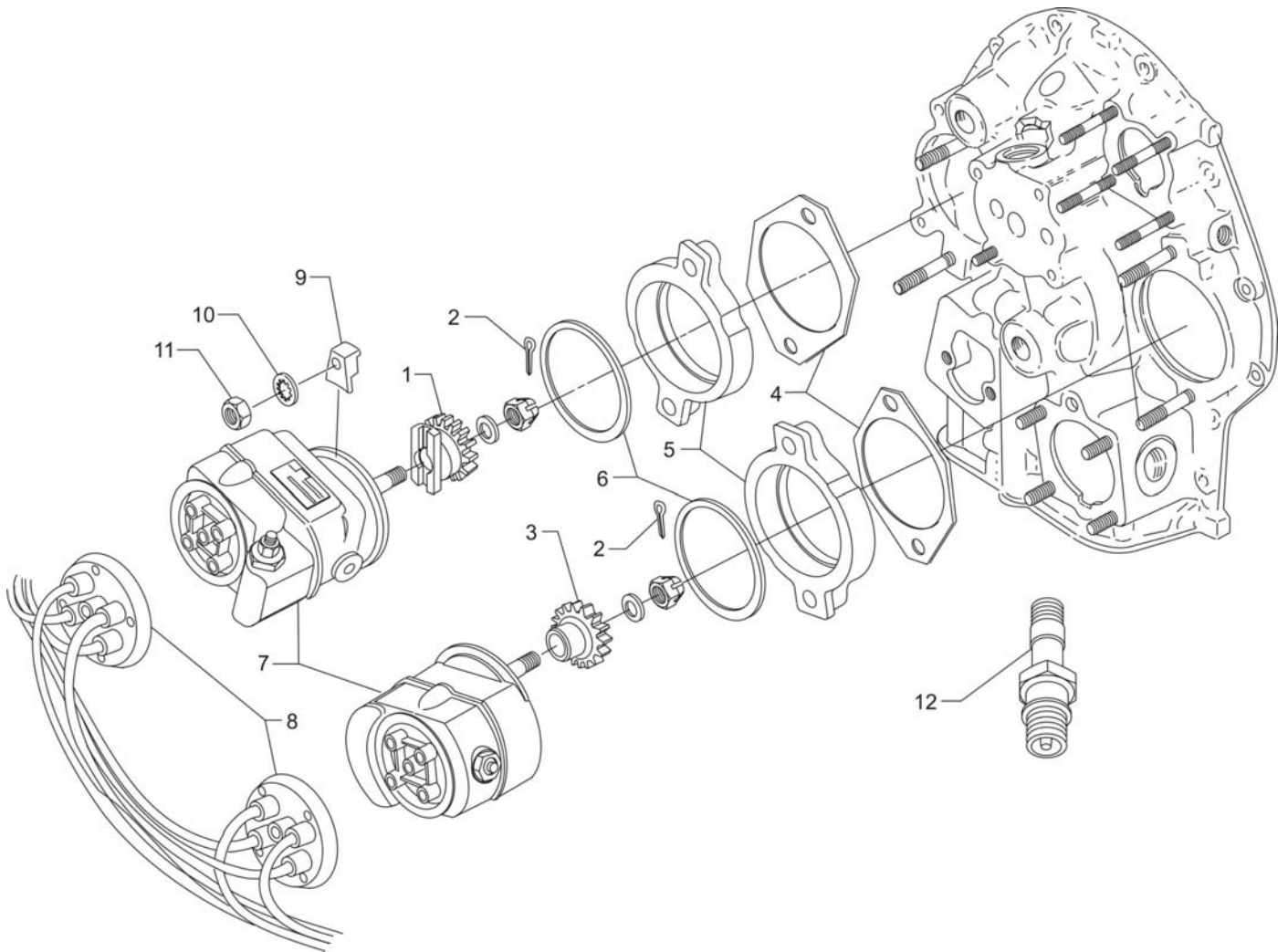
Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		66224	GASKET, Carburetor	1	1
2	V	61B26213	CARBURETOR, MA-4SPA V AV 10-5009	1	
	V	61B26211	CARBURETOR, MA-4SPA V AV 10-3678-32	1	1
3		STD-35	WASHER, 5/16 plain	4	4
4		STD-475	WASHER, 5/16 lock, internal teeth	4	4
5		STD-1410	NUT, 5/16-18 plain	4	4
V Vendor Prime Manufacturer part					



**Priming Lines
Figure 24**

FUEL DISTRIBUTION**FIGURE 24 – PRIMING LINES**

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		LW-12098-0-170	TUBE ASSEMBLY, Primer, cyls. no. 1 & 2	2	
2		LW-12098-0-130	TUBE ASSEMBLY, Primer, cyls. no. 3 & 4	2	
3		LW-12098-0-100	TUBE ASSEMBLY, Primer, intermediate	2	
4		LW-12598	SLEEVE, Priming line	4	
5		LW-16266-25-13	CLAMP	4	
6		LW-18959-150-25	CLAMP, 1-1/2 I.D.	4	
7		STD-553	SCREW, No. 6-32 x 1/2 long, round	4	
8		MS21044N06	NUT, No. 6-32, self-locking	4	
9		STD-853	TEE, Union, 1/8 tube	3	
10		63D21408	NIPPLE ASSEMBLY, Primer	4	
11		61597	CAP, Sealing, 5/16 diameter x 1.00 long	1	
12	*	1102	PLUG, 1/8-27 NPT, allen head (assemble in cylinder head)	4	4
* Used when no priming lines.					



**Magnetos, Magneto Drives, Harnesses and Spark Plugs
Figure 25**

IGNITION DISTRIBUTION SYSTEM**FIGURE 25 -MAGNETOS, MAGNETO DRIVES, HARNESES AND SPARK PLUGS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		61665	GEAR, Magneto, impulse coupling	1	1
2		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	2	2
3		68C19622	GEAR, Magneto	1	1
4		62224	GASKET, Magneto adapter	1	1
5		LW-12706	ADAPTER, Magneto, impulse coupling	1	1
6		LW-12681	GASKET, Magneto	2	2
7	V	66GP-0SANN	MAGNETO, Plain, Slick V 4370	1	1
	V	66GC25SFNN	MAGNETO, Impulse, Slick V 4373	1	1
8	V	67P20428	HARNESS ASSEMBLY, Right, Slick V M2990	1	1
	V	67P20429	HARNESS ASSEMBLY, Left, Slick V M2989	1	1
9		66M21195	CLAMP, Magneto	4	4
10		STD-475	WASHER, 5/16 lock, internal teeth	4	4
11		STD-1410	NUT, 5/16-18 plain	4	4
12	V	1182-E7	SPARK PLUG, Champion V REM38E	8	8
	**	01P19762-1-1	BAG, Harness attaching	1	1

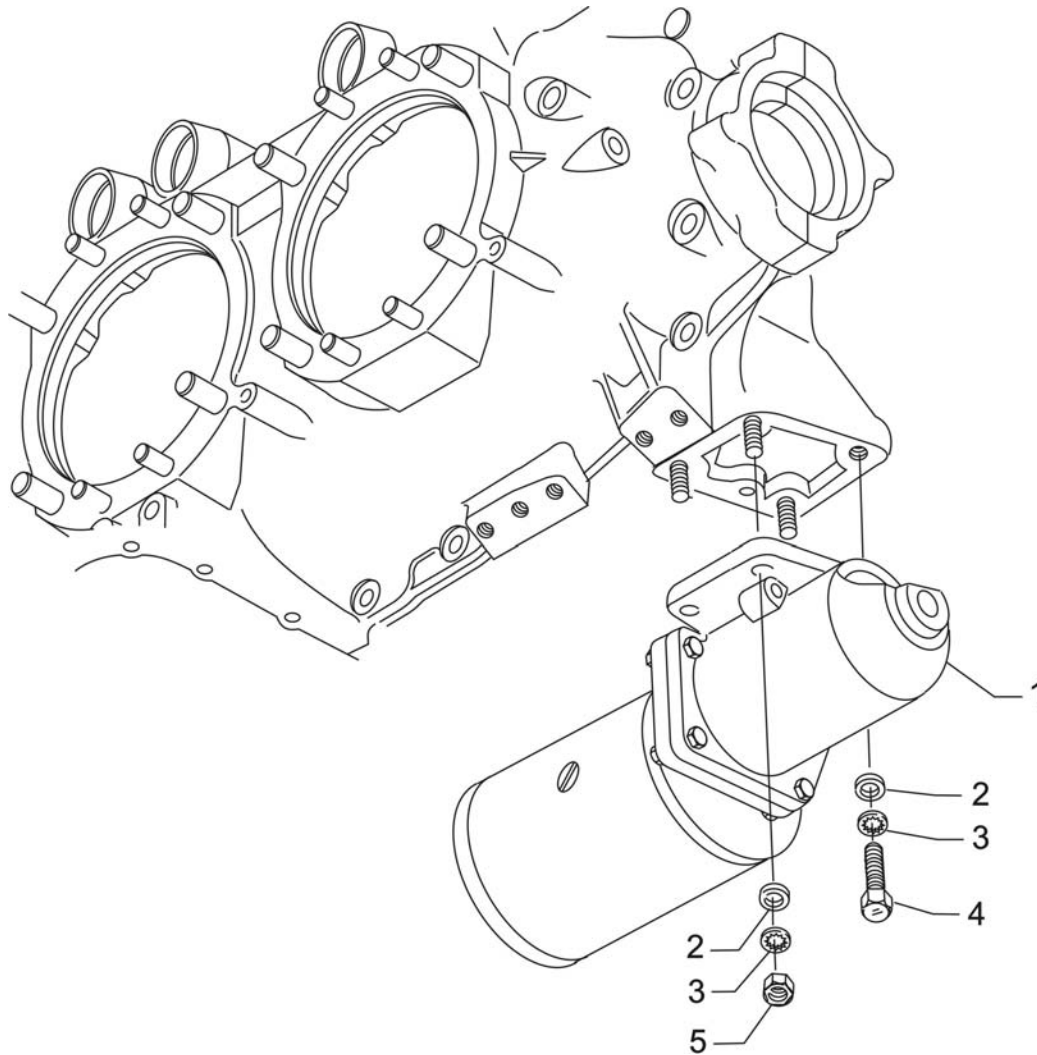
V Vendor Prime Manufacturer part
***** Item No. 12 spark plugs are used in current production only. Additional spark plugs are available for this engine. See latest revision of Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs.
****** See below for breakdown of individual parts contained in the magneto and harness attaching bag. These parts to be added by customer per engine line drawing included in each bag.

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

Part No.	Part Name	Qty.
LW-16266-25-25	CLIP, One wire	2
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-1411	NUT, 1/4-20 plain	2
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

IGNITION DISTRIBUTION SYSTEM**FIGURE 26 – ALTERNATOR ASSEMBLY AND BELT**

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1		LW-14371	ALTERNATOR ASSEMBLY, 12V.-60Amp.	1	
2	V	LW-14313	ALTERNATOR, V ALY-8520LS	1	
3		36B19484	PULLEY, Alternator	1	
4		37A19773-376	BELT, Alternator drive, 3/8 wide	1	
		37B19774-325	BELT, Generator drive	1	1
<p>V Vendor Prime Manufacturer part</p> <p>NOTE: See latest revision of Lycoming Service Instruction No. 1154 for complete listing of FAA approved starters, generators, alternators, regulators and relays.</p>					



**Starter Motor and Attaching Parts
Figure 27**

CRANKING SECTION**FIGURE 27 - STARTER MOTOR AND ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly	
				A2B	A3B
1	V	31A26043	STARTER ASSEMBLY, 12V., Kelly V ERZ-8012	1	
	V	31A26041	STARTER ASSEMBLY, 12V., Kelly V ERZ-8011	1	1
	V	31A22110	STARTER, Sky-Tec, V 149-12HT	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
	**	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	1	
5		STD-1410	NUT, 5/16-18 plain	3	3
<p>V Vendor Prime Manufacturer part * Not used with Sky-Tec starter. ** Use with Sky-Tec starter only.</p> <p>NOTE: See latest revision of Lycoming Service Instruction No. 1154 for complete listing of FAA approved starters, generators, alternators, regulators and relays.</p>					

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.)**

69371-1	KIT – SEAL AND GASKET SET (CONT.)	1
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.
05K21237-A	KIT - CYLINDER, PISTON AND RING ASSEMBLY	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.
11B20061-3SL-S	KIT - CRANKCASE ASSEMBLY AND THRU-STUD	1
11B20061-3SL	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
SSP-582	TAG, Crankcase Assembly and Thin Wall High Crush Bearings	1
SSP-272	TAG, Crankcase Assembly and Piston Cooling Nozzles	1

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

PART NO.	PART NAME	Qty.
11B20161-3SL-S	KIT - CRANKCASE ASSEMBLY AND THRU-STUD	1
11B20161-3SL	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	1
SSP-582	TAG, Crankcase Assembly and Thin Wall High Crush Bearings	1
SSP-272	TAG, Crankcase Assembly and Piston Cooling Nozzles	1

SERVICE KIT SECTION (CONT.)**CRANKSHAFT KIT – O-320-A2B**

PART NO.	PART NAME	Qty.
05K22927	KIT - CRANKSHAFT	1
13B47024	CRANKSHAFT ASSEMBLY	1
18A26093	BEARING, Crankshaft	2
18D26098	BEARING, Crankshaft	4
STD-2246	BOLT, 5/16-24 x 1.00 long	1
LW-18639	LOCKPLATE, Crankshaft gear	1
LW-13792	SEAL, Crankshaft, oil	1

CRANKSHAFT KIT – O-320-A3B

PART NO.	PART NAME	Qty.
05K23732	KIT - CRANKSHAFT	1
13B47022	CRANKSHAFT ASSEMBLY	1
18A26093	BEARING, Crankshaft	2
18D26098	BEARING, Crankshaft	4
STD-2246	BOLT, 5/16-24 x 1.00 long	1
LW-18639	LOCKPLATE, Crankshaft gear	1
LW-13792	SEAL, Crankshaft, oil	1

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LRT23381	Body Assy.	7	LW-14780	Gage Assy.	27
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LW-25-1.25	Bolt	25	LW-16475	Seat	19
LW-25-1.44	Bolt	33	LW-16728	Pipe	25
LW-25-1.50	Bolt	13	LW-16729	Pipe	25
LW-25-1.75	Bolt	13	LW-16730	Pipe	25
LW-25S1.50	Bolt	13	LW-16783-18	Gage Assy.	27
LW-31-0.94	Bolt	1	LW-18085	Spring	7
LW-31-0.94	Bolt	3	LW-18108	Impeller	33
LW-31-0.94	Bolt	27	LW-18109	Impeller	33
LW-31-0.94	Bolt	53	LW-18110	Impeller Assy.	33
LW-31-1.16	Bolt	53	LW-18639	Lockplate	9
LW-31H0.75	Bolt	1	LW-18661	Seal	19
LW-31H0.75	Bolt	3	LW-18667	Pin	11
LW-31H0.88	Bolt	11	LW-18815-S	Bushing	9
LW-31S1.91	Bolt	3	LW-18816-S	Bushing	9
LW-31S2.29	Bolt	3	LW-18817-S	Bushing	9
LW-38-0.75	Bolt	35	LW-18840	Camshaft Assy.	11
LW-10077	Seat	19	LW-18921-S	Bushing	9
LW-11713	Spring	7	LW-18922-S	Bushing	9
LW-11795	Spring	19	LW-18959-150-25	Clamp	47
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LW-12098-0-170	Tube Assy.	47	STD-8	Washer	13
LW-12186	Nut	15	STD-8	Washer	25
LW-12272	Lockplate	19	STD-8	Washer	29
LW-12416	Cylinder Assy.	17	STD-8	Washer	33
LW-12598	Sleeve	47	STD-8	Washer	39
LW-12681	Gasket	49	STD-8	Washer	41
LW-12706	Adapter	49	STD-8	Washer	43
LW-12892	Thrust Button	21	STD-33	Washer	13
LW-13323	Seat	19	STD-33	Washer	35
LW-13353	Gasket	29	STD-35	Washer	1
LW-13790	Shaft	21	STD-35	Washer	3
LW-13792	Seal	7	STD-35	Washer	17
LW-13793	Stud	5	STD-35	Washer	27
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STD-160	Washer	39	STD-1727	Washer	3
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STD-475	Washer	49	STD-2168	Nut	11
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STD-514	Dowel	5	STD-2231	Ring	11
STD-551	Plug	29	STD-2246	Bolt	9
STD-553	Screw	47	STD-2249	Nut	13
STD-557	Dowel	5	STD-2249	Nut	29
STD-596	Nut	13	25C-8	Stud	17
STD-678	Washer	13	25C-11	Stud	31
STD-678	Washer	35	25C-22	Stud	31
STD-684	Nipple	23	25C-31	Stud	31
STD-690	Washer	1	31C-12	Stud	5
STD-713	Cotter Pin	1	31C-12	Stud	17
STD-713	Cotter Pin	49	31C-12	Stud	31
STD-783	Plug	37	31C-13	Stud	5
STD-784	Plug	31	31C-15	Stud	29
STD-784	Plug	43	31C-16	Stud	37
STD-853	Tee	47	31C-19	Stud	31
STD-872	Nut	1	31CD-17	Stud	31
STD-872	Nut	13	38-13	Stud	5
STD-1006	Ring	31	38D-17	Stud	5
STD-1065	Dowel	9	50-15	Stud	5
STD-1196	Hose	25	383-B	Nut	21
STD-1211	Plug	9	1028-B	Ball	7
STD-1221	Ring	37	1102	Plug	5
STD-1227	Washer	29	1102	Plug	17
STD-1339	Plug	5	1102	Plug	31
STD-1350	Plug	43	1102	Plug	37
STD-1353	Insert	17	1102	Plug	47
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61174	Shaft	33	72091	Ring	7
61183	Gasket	39	72198	Plug	15
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61358	Plug	29	72378	Cover	37
61376	Connection	29	72566	Gear	9
61377	Connection	29	72569	Baffle Assy.	23
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61381	Tube Assy.	29	72970	Gear Assy.	39
61400	Stud	31	73383	Lockplate	1
61544	Plunger	11	73383	Lockplate	3
61597	Cap	47	73818	Gasket	31
61665	Gear	49	74065	Ring	27
62224	Gasket	49	74068	Ring	27
62415	Plunger	43	74241	Ring	15
62417	Plug	43	74414	Support Assy.	9
62817	Screen Assy.	43	74630	Flange	25
65441	Seat	19	74637	Bushing	21
66224	Gasket	45	74887	Spacer	21
66610	Bushing	17	74996	Gear Assy.	11
66796	Insert	17	75072	Gear Assy.	11
68315	Gasket	37	75153	Adapter Assy.	37
68317	Shaftgear	37	75154	Stud	5
68593	Spacer	39	75165	Clip	27
68668	Spring	7	75166	Tube Assy.	27
68759	Tube Assy.	23	75380	Link	1
68760	Tube Assy.	23	75413	Piston	15
68761	Tube Assy.	23	75656-S	Plug	31
68867	Support Assy.	9	75735	Tube	27
68987	Shroud Tube Assy.	19	75736	Tube	27
69106	Cover	37	75739	Nipple	27
69436	Spring	43	75767	Tube	27
69510	Housing	43	75906	Gasket	21
69551	Gasket	37	76028	Link	3
69675	Connector	43	76118	Spacer	11
69796	Dowel	5	76119	Shield	31
70310	Seal	19	76121	Shaft Assy.	11
70419	Bracket	3	76220	Stud	13
71140	Fitting	31	76534	Shim	1
71481	Ring	21	76628	Support Assy.	9
71596	Washer	37	76943	Guide	17
71596	Washer	39	76944	Support Assy.	9
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06A23493	Seal	19	17C21191	Key	19
06E19769-0.63	Gasket	43	17F19357	Rocker Assy.	21
06E19769-1.00	Gasket	43	18A26093	Bearing	7
06E19769-1.25	Gasket	7	18D26098	Bearing	7
06E19769-1.25	Gasket	29	18M26104	Bearing	15
07A19474	Bracket	1	21A21536-01	Housing Assy.	31
07F23268	Strut	1	21A21536-03	Housing Assy.	31
11B20061-3SL	Crankcase Assy.	5	31A22110	Starter	53
11B20061-3SL-S	Crankcase Assy. Kit	5	31A26041	Starter Assy.	53
11B20161-3SL	Crankcase Assy.	5	31A26043	Starter Assy.	53
11B20161-3SL-S	Crankcase Assy. Kit	5	36B19484	Pulley	51
13B47022	Crankshaft Assy.	9	37A19773-376	Belt	51
13B47024	Crankshaft Assy.	9	37B19774-325	Belt	51
13S19646	Gear	9	53B21736	Housing	43
14H21950	Ring	15	53E22144	Valve Assy.	43
15B21319	Socket	19	61B26211	Carburetor	45
15B26064	Body	7	61B26213	Carburetor	45
15B26066	Plunger Assy.	19	63D21408	Nipple Assy.	47
15F19957-08	Rod Assy.	21	66GC25SFNN	Magneto	49
15F19957-09	Rod Assy.	21	66GP-0SANN	Magneto	49
15F19957-10	Rod Assy.	21	66M21195	Clamp	49
15F19957-11	Rod Assy.	21	67P20428	Harness Assy.	49
15F19957-12	Rod Assy.	21	67P20429	Harness Assy.	49
			68C19622	Gear	49