

# **AEIO-390-A Series Engine Illustrated Parts Catalog**

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**June 2025**

**| PC-AEIO-390-A Rev 1 (Supersedes PC-409-3)**

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652 Oliver Street  
Williamsport, PA 17701

## **AEIO-390-A Series Engine Illustrated Parts Catalog**

**Lycoming Part Number: PC-AEIO-390-A Rev 1 (Supersedes PC-409-3)**

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## Record of Revisions

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

Rev No.	Revision Changes	Issue Date
New	Initial Release of PC-AEIO-390-A Series (Supersedes PC-409-3)	August 2016
Rev. 1	<p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Revised the CAUTION at the beginning of the chapter</li> <li>Deleted the Roller Tappets section</li> <li>Added the Lockwire, Safety Cable section</li> <li>Revised the "How to Order Parts" section</li> </ul> <p><b>Chapter 24-30</b></p> <ul style="list-style-type: none"> <li>Moved the figure and parts list for the Alternator Belt from Chapter 80-00 to Chapter 24-30. Renumbered subsequent figures</li> </ul> <p><b>Chapter 72-20</b></p> <ul style="list-style-type: none"> <li>Added new Crankcase Assembly part number, 11U28752-1S1 to the parts list for Figure 4A/4B</li> <li>Changed the part number for item 12 in the parts list for Figure 8 from AN960-616L to NAS1149F0632P</li> <li>Added new Figure 8A and new parts list for Figures 8A</li> <li>Changed the part number for item 17 in the parts list for Figure 8A from AN960-616L to NAS1149F0632P</li> </ul> <p><b>Chapter 72-30</b></p> <ul style="list-style-type: none"> <li>Changed the part number for item 2 from LW-13923 to 01K28983 in the parts list for Figure 9</li> <li>Changed the part number for the oil regulating piston ring from 14H23148 to 14H29865 in the parts list for Figure 9</li> <li>Added footnote referencing SI 1458 to the parts list for Figure 9</li> <li>Revised the part numbers for all push rods in the parts list for Figure 11</li> <li>Changed the part number for item 5, GASKET, Rocker box cover, from 67193 to 06B26811 in the parts list for Figure 12</li> <li>Added part number LW-15592-5-04 to the parts list for Figure 13</li> <li>Added new footnote to the parts list for Figure 13</li> </ul> <p><b>Chapter 72-50</b></p> <ul style="list-style-type: none"> <li>Revised Figure 16 to show additional Sump Oil Suction Fitting</li> <li>Added P/N LW-13751 to the parts list for Figure 16</li> </ul> <p><b>Chapter 72-60</b></p> <ul style="list-style-type: none"> <li>Changed the part number for item 2 from 21A21533-30 to 21A21533-27 in the parts list for Figure 17</li> </ul> <p><b>Chapter 73-10</b></p> <ul style="list-style-type: none"> <li>Revised the model designation for fuel injector P/N 61J26426 in the parts list for Figure 23</li> </ul> <p><b>Chapter 74-20</b></p> <ul style="list-style-type: none"> <li>Added HET magnetos as an approved alternate to the parts list for Figure 25</li> <li>Added footnote referencing S.I. 1443 to the parts list for Figure 25</li> </ul>	June 2025


Rev No.	Revision Changes	Issue Date
Rev. 1	<b>Service Kit Section</b> <ul style="list-style-type: none"><li>• Changed the P/N for the GASKET, Rocker box cover from 67193 to 06B26811 in the Seal and Gasket Set parts list</li><li>• Revised the P/N of the Cylinder and Head Assembly in the Cylinder, Piston and Ring Assembly parts list</li><li>• Changed the P/N of the PISTON, Compression ratio 8.90:1 from 14D23911 to 14E23911 in the Cylinder, Piston and Ring Assembly parts list</li><li>• Revised the P/N and description for the Rocker Box Cover Gaskets in the Cylinder, Piston and Ring Assembly parts list</li><li>• Changed the part number for the oil regulating piston ring from 14H23148 to 14H29865 in the parts list for cylinder kit 05K26625</li></ul>	June 2025

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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 MAINTENANCE OR OVERHAUL MANUAL.

PART NUMBERS AND DESCRIPTIONS IN THIS PARTS CATALOG ARE NOT AUTHORITATIVE AND CAN BE SUPERSEDED BY FAA APPROVED SERVICE BULLETINS AND SERVICE INSTRUCTIONS.

## Purpose of this Catalog

This Illustrated Parts Catalog (IPC) contains a complete list of spare parts for the Lycoming AEIO-390-A Series engine model.

## How to Use this Catalog

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

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

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

The ATA format specifies the subject matter for each chapter-section. According to the ATA Standards, the following chapters apply to the AEIO-390-A Series Illustrated Parts Catalog:

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

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

**NOTICE:** Refer to the IPC Table of Contents for the sub-systems identified in each section.

## Numerical Index

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

### Description column

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

## Units per Assembly Column

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

## Lockwire, Safety Cable

To maintain as assembled torque integrity Lockwire used is to be a one continuous strand twisted to keep tension on various internal fasteners ensuring a minimum torque is retained. Lockwire installed correctly will pull in the direction of fastener assembled tension. Lycoming Engines does not recommend the use of safety cable for retention of internal engine parts or assemblies. Refer to the latest revision of **Service Instruction No. 1566**.

## Vendor Accessories

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

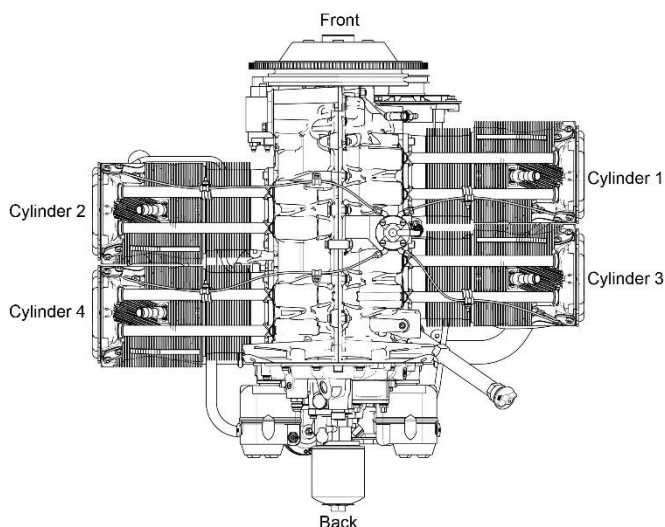
Any reference in this document to the supplier’s/part manufacturer’s product, by name, trademark, part number or other description is solely for the purpose of identification and does not indicate or infer that Lycoming accepts responsibility for quality control and/or airworthiness of parts, which do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

## Environmental Compliance

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

## Perspective of References

In this manual, all references to locations of various components will be designated as if viewing the engine from the rear (or anti-propeller) end. The front of the engine is the propeller end and the oil sump is 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 four-cylinder engine is 1-3-2-4.



**Top View of Engine**

## How to Order Parts

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

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

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

### **NOTE:**

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

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## Abbreviations and Acronyms

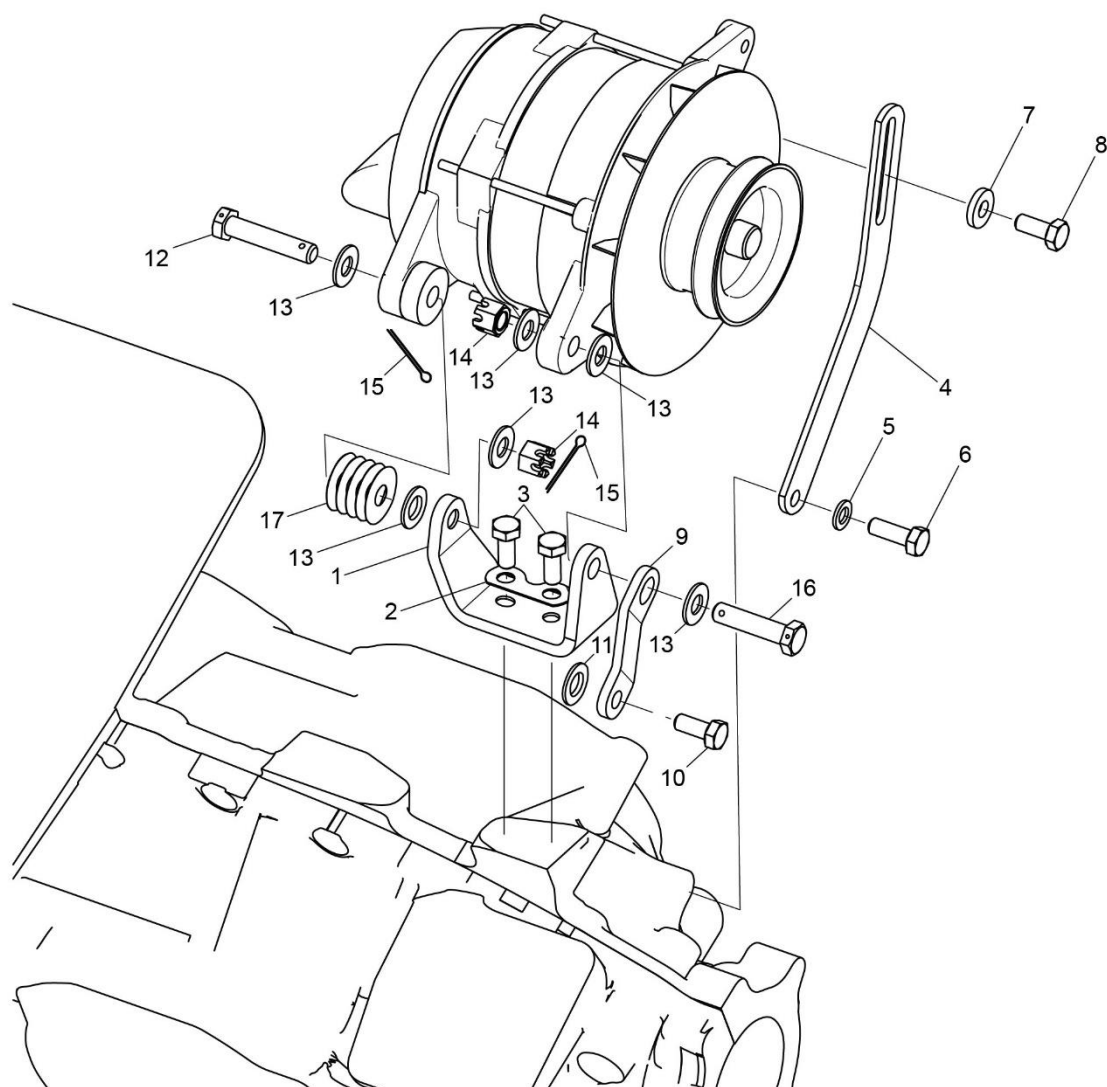
A	
AR	As Required
Assy.	Assembly
ATA	Air Transport Association
C	
Cyl.	Cylinder
F	
Fill.	Fillister
H	
Hd.	Head
Hex.	Hexagon
I	
I.D.	Inside Diameter
in.	Inch
IPC	Illustrated Parts Catalog
M	
mm	Millimeter
N	
No.	Number
NPT	National Pipe Taper (thread)
O	
O.D.	Outside Diameter
P	
P	Lycoming Proprietary Part
P/N	Part Number
Q	
Qty.	Quantity
R	
RF	Reference
RT	Roller Tappet
S	
SB	Service Bulletin
SI	Service Instruction
SSP	Special Service Publication

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### Oversize and Undersize Parts Listing

PART NO.	DESCRIPTION	OVERSIZE (IN.)					UNDERSIZE (IN.)	
		P05 .005	P10 .010	P20 .020	P30 .030	P50 .050	M03 .003	M06 .006
18B23885	BEARING, Front Crankshaft						X	X
18E23886	BEARING, Crankshaft						X	X
18M23887	BEARING, Connecting Rod						X	X
71903-A ❖	BUSHING, Counterweight	--	--	--	--	--	--	--
72155-S	BUSHING, Prop Flange	X						
75656-S	BUSHING, Prop Flange	X						
75657-S	BUSHING, Prop Flange	X						
79024-S	BUSHING, Prop Flange	X						
66670	BUSHING, Rocker Shaft Inner		X					
STD-1065	DOWEL, Crankshaft		X					
66713	GUIDE, Intake Valve				X			
75838	GUIDE, Exhaust Valve				X			
69260	INSERT, Spark Plug		X					
72212	SEAT, Intake Valve			X				
16T19468	SEAT, Exhaust Valve			X				
LW-15628	SEAL, Crankshaft Oil					X		
❖ 71903-A is the undersize part number. When ordering, do not specify an undersize code letter.								

**NOTICE:** When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing Part Number (P/N) 18B23885 bearing in 0.003 in. undersize, order P/N 18B23885-M03. Undersize code letter is "M" while oversize code letter is "P". These letters are then followed by the number designating the size in thousandths of an inch.

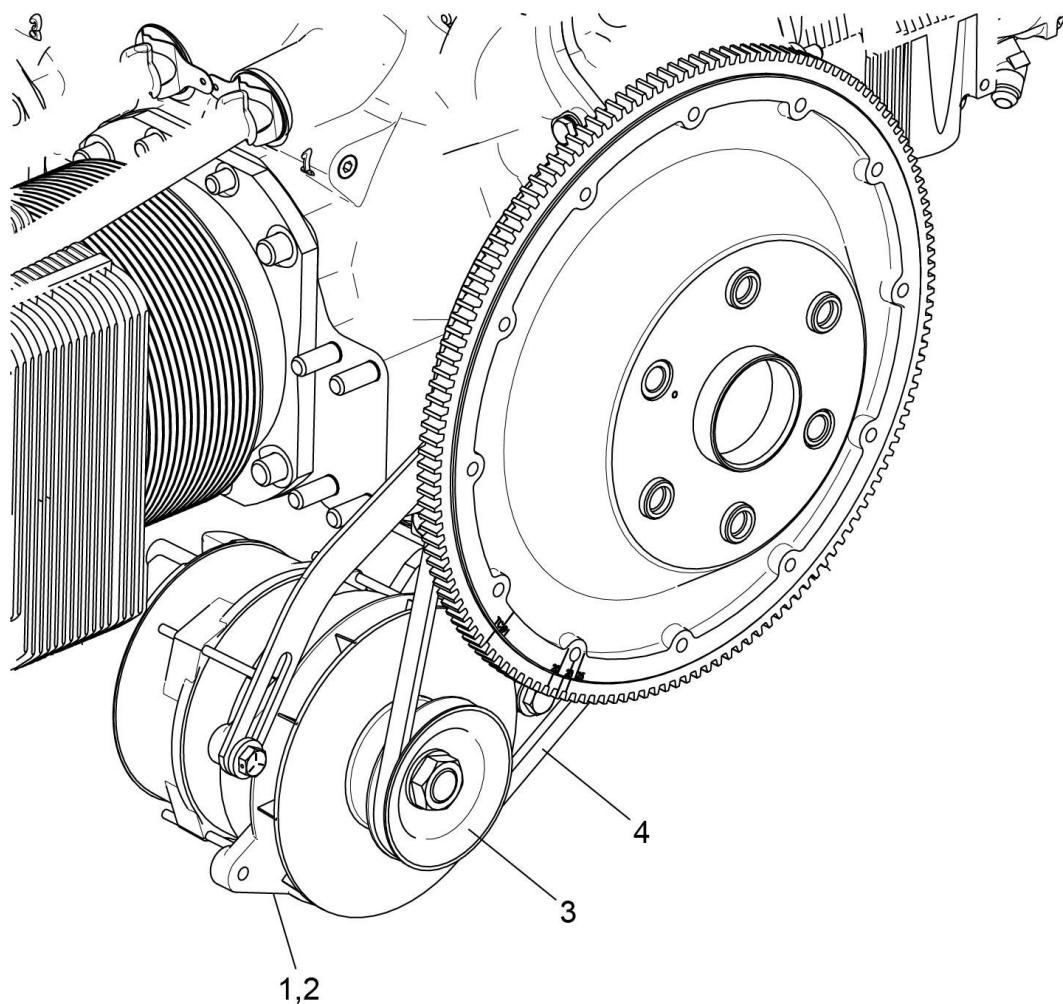


**Figure 1**  
**Alternator Attaching Parts**

## DC GENERATION

### Figure 1 - Alternator Attaching Parts

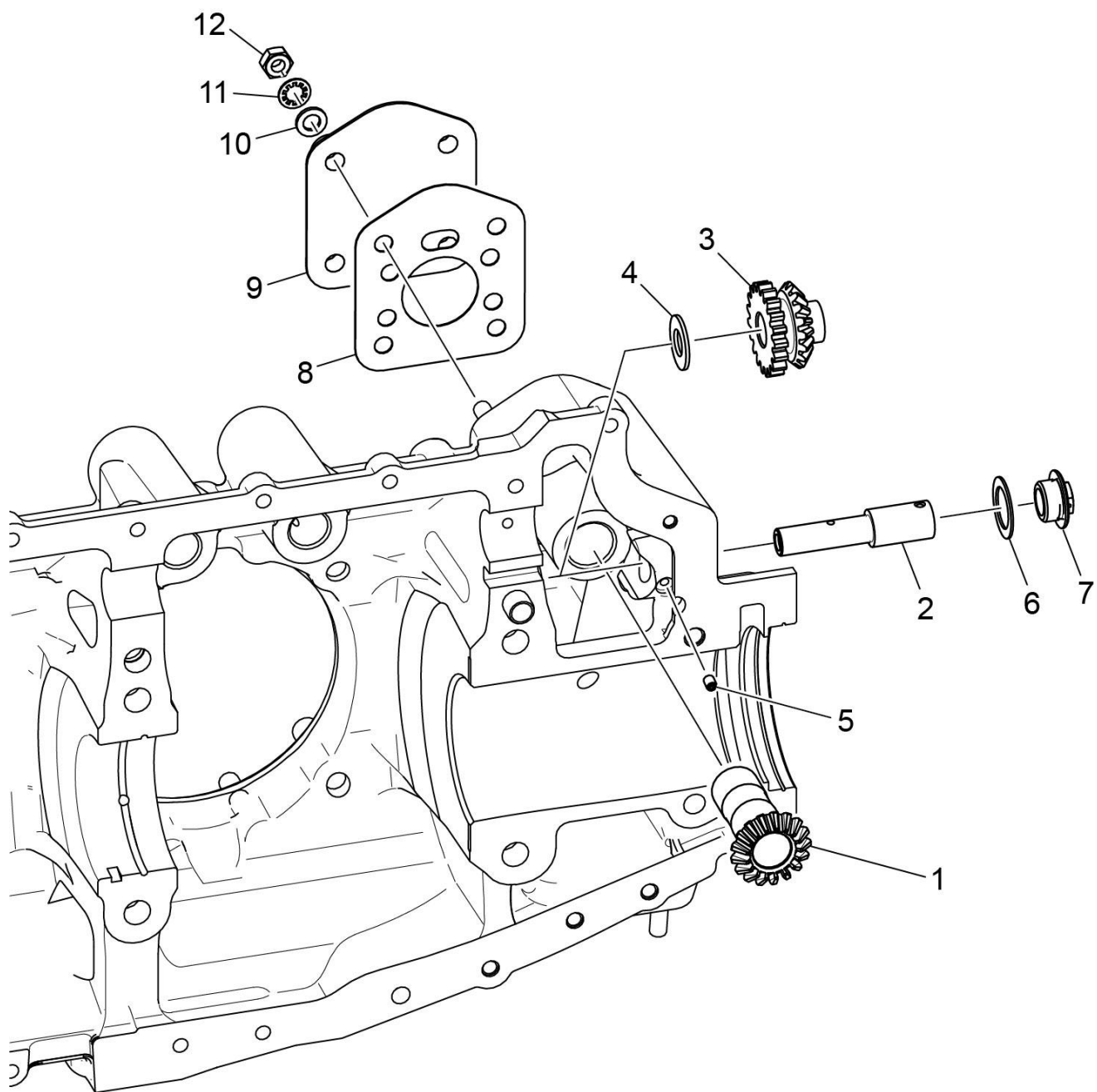
Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		07A19474	BRACKET, Alternator	1		1	1
2		73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	1		1	1
3		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2		2	2
4		75380	LINK, Alternator, adjusting	1		1	1
5		STD-35	WASHER, 5/16 plain	1		1	1
6		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head	1		1	1
7		STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick	1		1	1
8		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head	1		1	1
9		07F23268	STRUT, Alternator support	1		1	1
10		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head	1		1	1
11	❖	STD-35	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	1		1	1
12		AN6-17	BOLT, 3/8-24 x 1-61/64 long, hex. head, drilled end	1		1	1
13		STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	10		10	10
14		STD-872	NUT, 3/8-24 slotted	2		2	2
15		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	2		2	2
16		AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. head	1		1	1
17	AR	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick	AR		AR	AR
AR – As Required ❖ - Install between strut and attachment to starter lug.							



**Figure 2**  
**Alternator Assembly and Belt**

**DC GENERATION****| Figure 2 - Alternator Assembly and Belt**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		32B19567	ALTERNATOR ASSEMBLY, 12V, 70 AMP, Thermocoupled (Type K)			1	1
2		LW-14337	ALTERNATOR, 12V, 70 AMP, Thermocoupled (Type K) (ALX-8521-LS)			1	1
3		36B19484	PULLEY, Alternator			1	1
4		37A19773-376	BELT, Alternator drive, 3/8 wide	1		1	1
<b>NOTICE:</b> Refer to the latest revision of Lycoming Service Instruction No. 1154 for complete listing of FAA approved starters and alternators.							

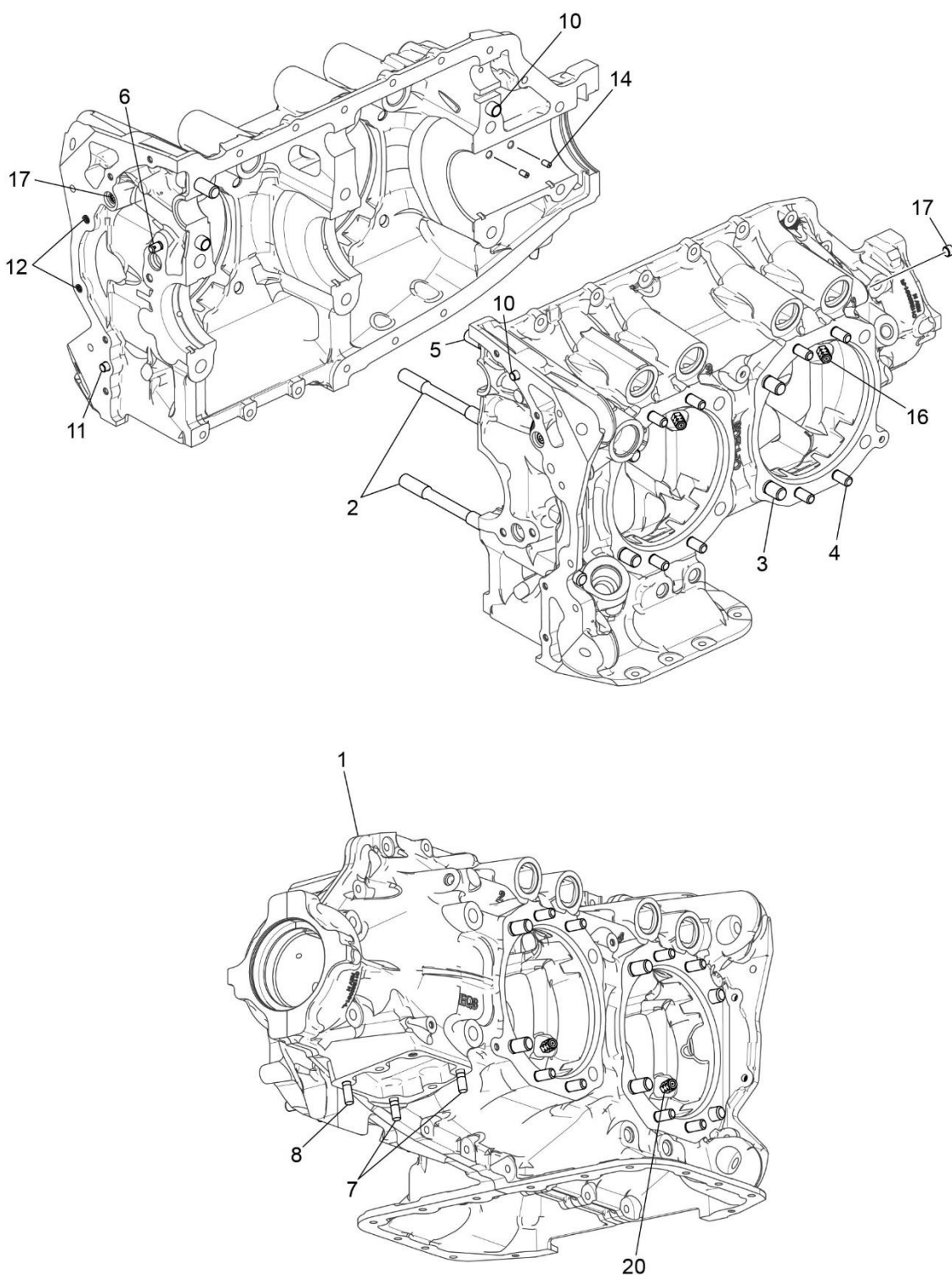


**Figure 3**  
**Propeller Governor Drive and Attaching Parts**

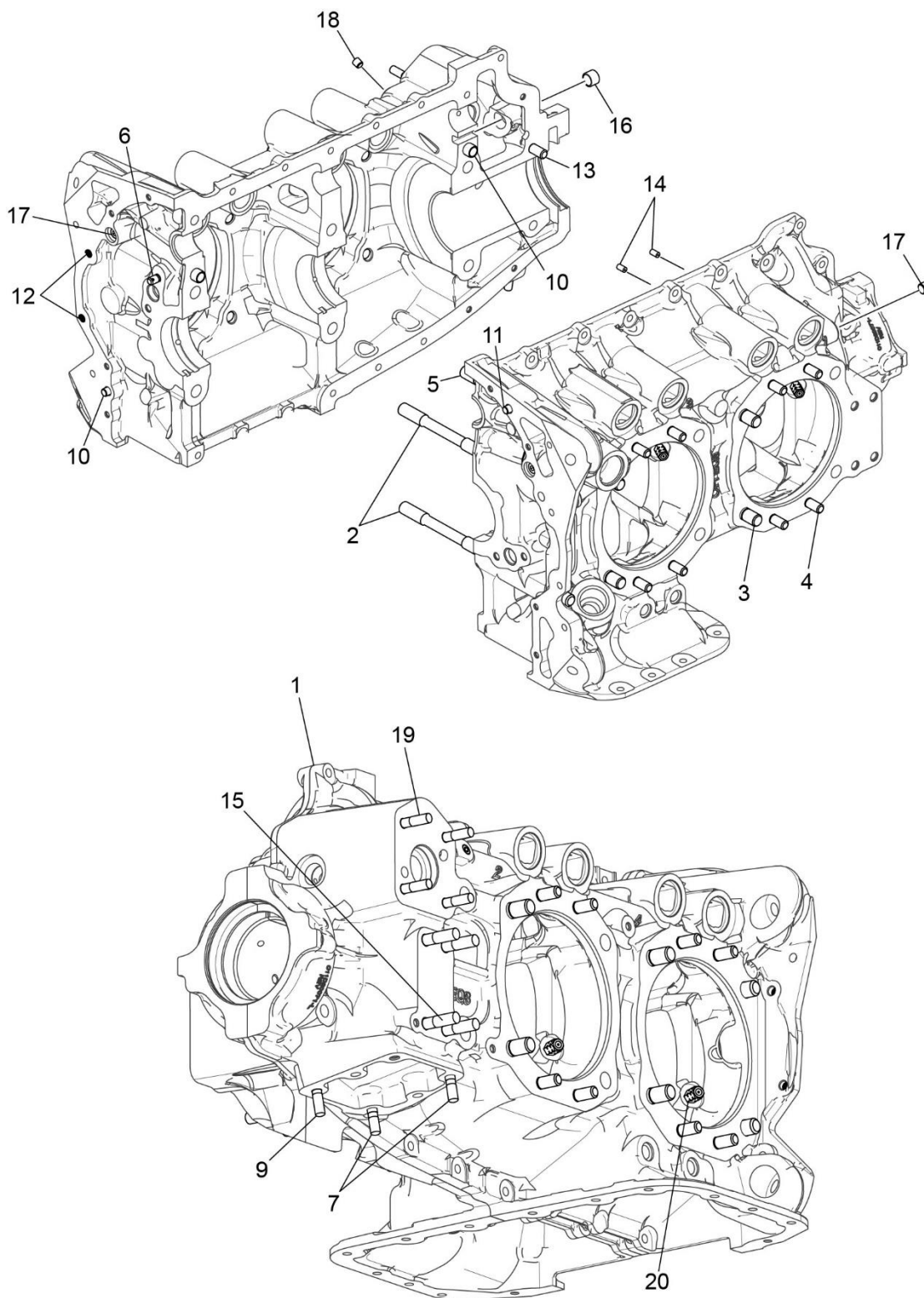
# FRONT SECTION

**Figure 3 - Propeller Governor Drive and Attaching Parts**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		77875	GEAR, Propeller governor driven			1	1
2		LW-14021	SHAFT, Propeller governor idler gear			1	1
3		77874	GEAR ASSEMBLY, Propeller governor idler			1	1
4		73249	WASHER, Thrust (0.0585 - 0.0595 thick)			AR	AR
		73250	WASHER, Thrust (0.062 - 0.063 thick)			AR	AR
		73251	WASHER, Thrust (0.0655 - 0.0665 thick)			AR	AR
		73252	WASHER, Thrust (0.069 - 0.070 thick)			AR	AR
		01L21418	WASHER, Thrust (0.055 - 0.056 thick)			AR	AR
5		AN565B1032H5	SET SCREW, No. 10-32 x 5/16 long			1	1
6		70455	GASKET, 25/32 I.D. x 1-1/8 O.D. x 1/32 thick			1	1
7		LW-13896	PLUG, 3/4-16 hex. head			1	1
8		72053	GASKET, Governor			1	1
9		72378	COVER, Governor drive			1	1
10		STD-35	WASHER, 5/16 plain			4	4
11		STD-475	WASHER, 5/16 lock, internal teeth			4	4
12		STD-1410	NUT, 5/16-18 plain			4	4
AR – As Required							



**Figure 4A**  
**Crankcase Assembly A1A6, A3A6**

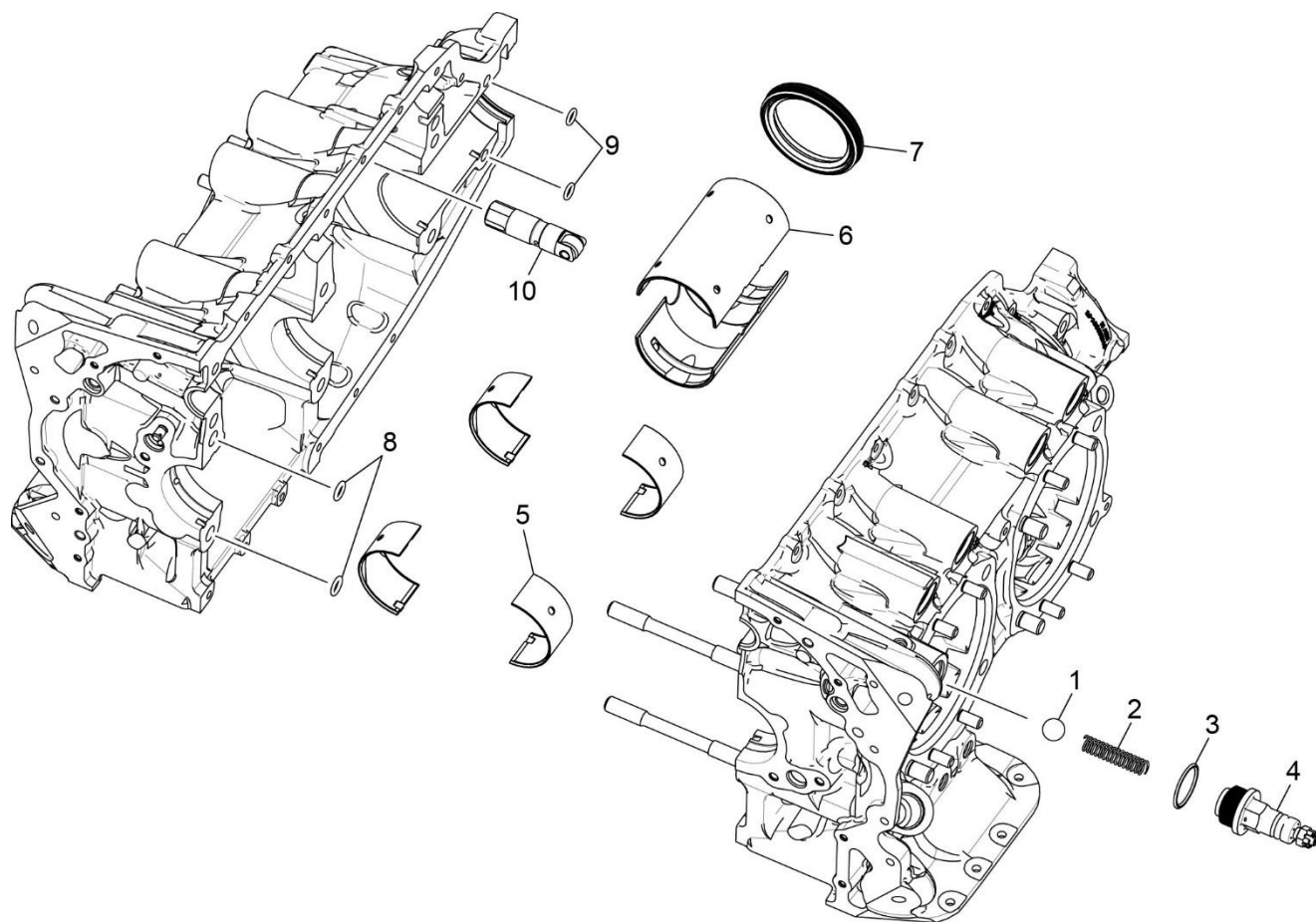


**Figure 4B**  
**Crankcase Assembly A1B6, A3B6**

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**POWER SECTION**  
**Figures 4A/4B - Crankcase Assembly**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		11U20391-1S	CRANKCASE ASSEMBLY	1	1		
		11U28750-1S1	CRANKCASE ASSEMBLY			1	1
		11U28752-1S1	CRANKCASE ASSEMBLY			1	1
2		01A23544	STUD, 1/2-13 x 9-27/32 long	2	2	2	2
3		50-15	STUD, 1/2-13 x 1-7/8 long	8	8	8	8
4		38-13	STUD, 3/8-16 x 1-5/8 long	13	13	13	13
5		38D-17	STUD, 3/8-16 x 2-1/8 long, drilled	1	1	1	1
6		LW-13793	STUD, 5/16-18 x 15/16 long, drilled	1	1	1	1
7		31C-12	STUD, 5/16-18 x 1-1/2 long	2	2	2	2
8		31C-13	STUD, 5/16-18 x 1-5/8 long	1	1		
9		31C-14	STUD, 5/16-18 x 1-3/4 long			1	1
10		STD-557	DOWEL, 1/2 diameter x 11/16 long, hollow	2	2	2	2
11		STD-514	DOWEL, 5/16 diameter x 1/2 long	2	2	2	2
12		STD-1623	INSERT, 1/4-20 UNC x 3/8 long	2	2	2	2
13		38-22	STUD, 3/8-16 x 1-5/8 long			1	1
14		69796	DOWEL, Crankshaft	2	2	2	2
15		38-13	STUD, 3/8-16 x 1-5/8 long			4	4
16		72158	BUSHING, Governor drive idler shaft			1	1
17		1102	PLUG, 1/8-27 NPT, Allen head	6	6	5	5
18		STD-1339	PLUG, 1/16-27 NPT, Allen head			1	1
19		31C-17	STUD, 5/16-18 x 2-1/8 long			4	4
20		12E23021	NOZZLE ASSEMBLY, Piston cooling	4	4	4	4

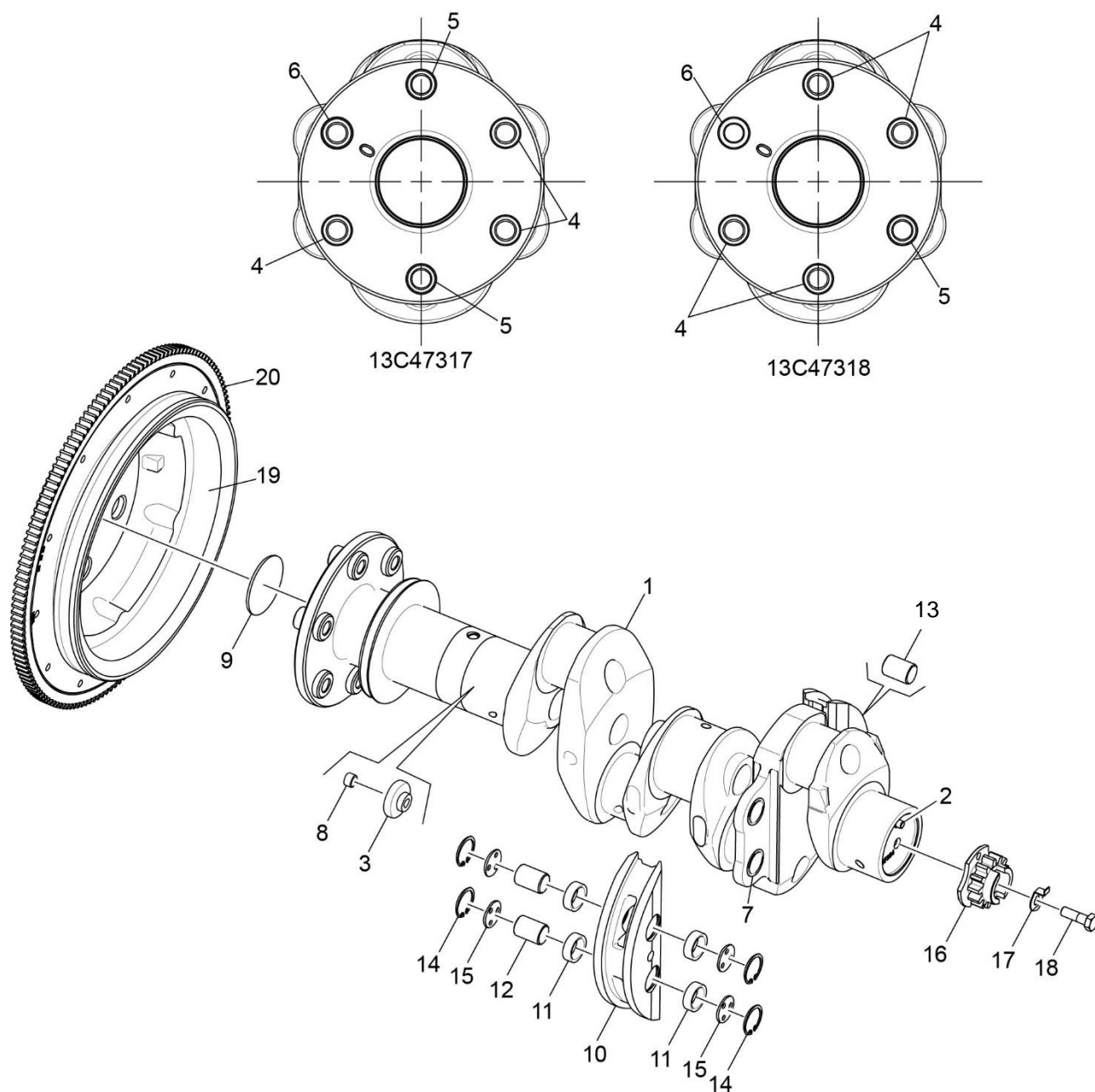


**Figure 5**  
**Crankcase Related Parts**

## POWER SECTION

### Figure 5 - Crankcase Related Parts

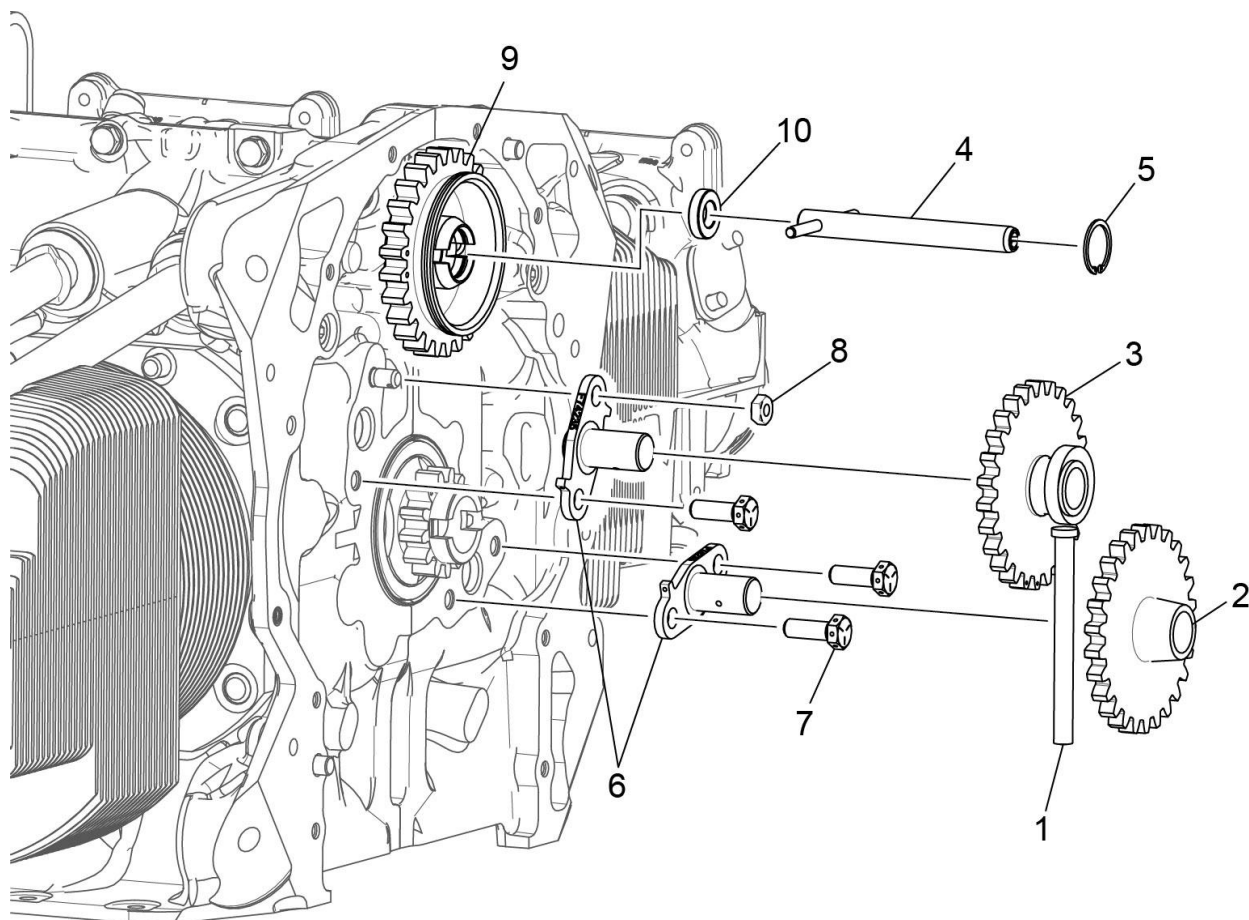
Figure Item	Code	Part Number	Description	Units per Assembly
1		1028-B	BALL, 11/16 diameter	1
2	*	61084	SPRING, Oil pressure relief valve	1
	*	68668	SPRING, Oil pressure relief valve	1
	*	77467	SPRING, Oil pressure relief valve	1
	*	LW-11713	SPRING, Oil pressure relief valve	1
	*	LW-18085	SPRING, Oil pressure relief valve	1
3		06E19769-1.25	GASKET, 1-1/4 I.D. x 1-1/2 O.D. x 3/32 annular	1
4		77808	VALVE ASSEMBLY, Oil pressure relief valve	1
5		18E23886	BEARING, Crankshaft	4
6		18B23885	BEARING, Crankshaft, front	2
7	**	LW-15628	SEAL, Crankshaft, Oil	1
8		72075	SEAL, Oil, 3/32 section x 7/16 I.D.	2
9		72091	RING, Oil seal, 23/64 I.D. x 1/10 diameter	2
10	***	LRT23381	BODY ASSEMBLY, Hydraulic roller tappet	8
<p>* Select spring to give a minimum of three threads exposed on adjusting screw to allow field adjustment. Reference latest revision of Lycoming Table of Limits SSP-1776, Part I for spring identification.</p> <p>** Refer to latest revision of Lycoming Service Instruction No. 1324 for installation.</p> <p>*** Sold as exchange part only.</p>				



**Figure 6**  
**Crankshaft and Counterweight Assembly and Related Parts**

**POWER SECTION****| Figure 6 - Crankshaft and Counterweight Assembly and Related Parts**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		13C47317	CRANKSHAFT AND BUSHING ASSEMBLY	1		1	
		13C47318	CRANKSHAFT AND BUSHING ASSEMBLY		1		1
2		STD-1065	DOWEL, Stepped, 5/16 & 1/4 diameter	1	1	1	1
3		74711	PLUG, 1-1/4	1	1	1	1
4		75656-S	BUSHING, Prop flange, long	3	4	3	4
5		72155-S	BUSHING, Prop flange, short	2	1	2	1
6		79024-S	BUSHING, Propeller flange, indexing	1		1	
		75657-S	BUSHING, Propeller flange, indexing		1		1
7		73810	BUSHING, Crankshaft counterweight	4	4	4	4
8		1102	PLUG, 1/8 pipe	1	1	1	1
9		LW-14529	PLUG, 2-1/16 diameter expansion	1	1	1	1
10		LW-19227	COUNTERWEIGHT ASSEMBLY	2	2	2	2
11		71903-A	BUSHING, Dynamic counterweight	8	8	8	8
12		14W21696	ROLLER, Dynamic counterweight	2	2	2	2
13		72797	ROLLER, Dynamic counterweight, 6.3 order	2	2	2	2
14		LW-14820	RING, Internal retaining	8	8	8	8
15		71907	WASHER, Counterweight	8	8	8	8
16		13S19646	GEAR, Crankshaft	1	1	1	1
17		LW-18639	LOCKPLATE, Crankshaft gear	1	1	1	1
18		STD-2246	BOLT, 5/16-24 x 1.00 long	1	1	1	1
19		LW-16471	SUPPORT ASSEMBLY, Starter ring gear	1	1	1	1
20		72566	GEAR, Starter ring, 12/14 pitch	1	1	1	1

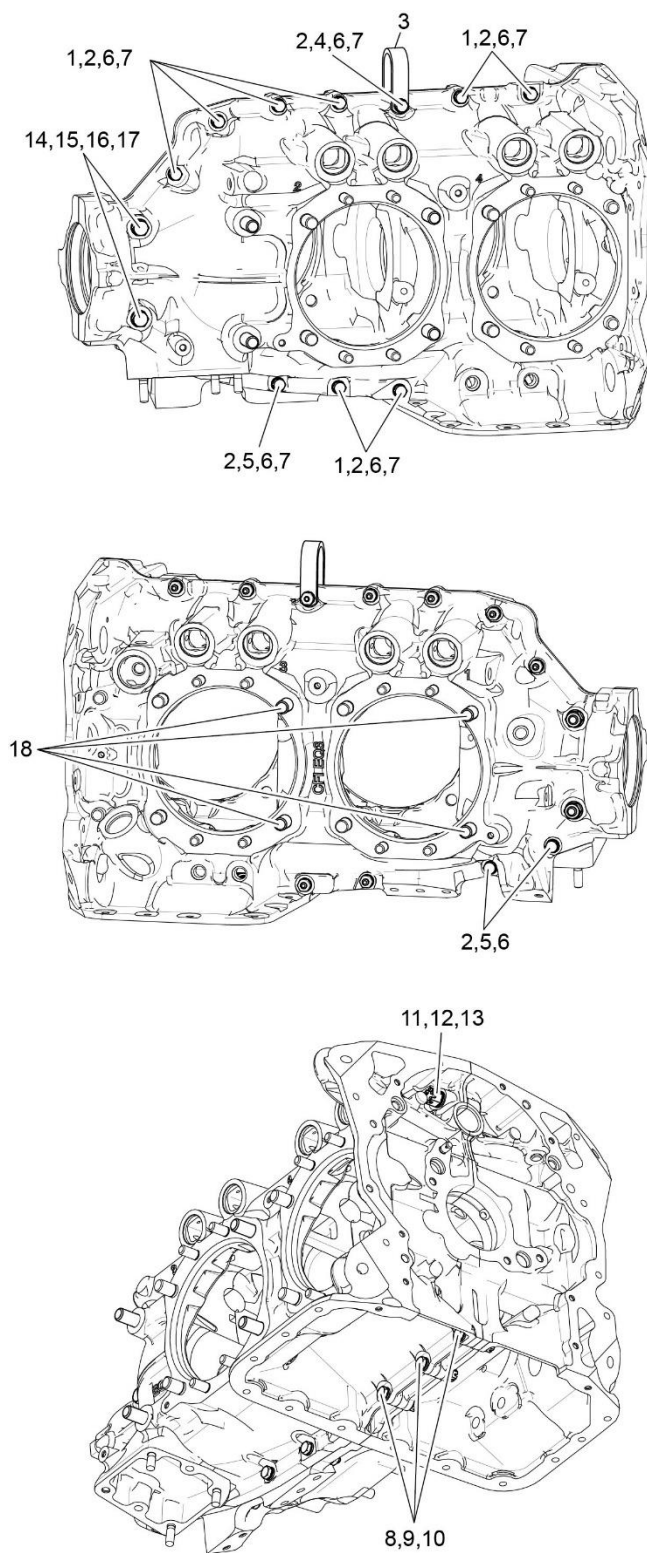


**Figure 7**  
**Crankshaft Idler Gears, Tachometer Drive, and Camshaft**

## POWER SECTION

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

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		23D26777	PLUNGER, Fuel pump, long	1	1	1	1
2		74996	GEAR ASSEMBLY, Crankshaft idler, plain	1	1	1	1
3		75072	GEAR ASSEMBLY, Crankshaft idler	1	1	1	1
4		76121	SHAFT ASSEMBLY, Tachometer	1	1	1	1
5		STD-2231	RING, Internal retaining	1	1	1	1
6		LW-13796	SHAFT, Crankshaft idler gear	2	2	2	2
7		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	3	3	3	3
8		STD-2168	NUT, 5/16-18 NC-3 slotted shear	1	1	1	1
9		15M23452	CAMSHAFT ASSEMBLY	1	1		
		15M23456	CAMSHAFT ASSEMBLY			1	1
10		76118	SPACER, Tachometer shaft centering	1	1	1	1

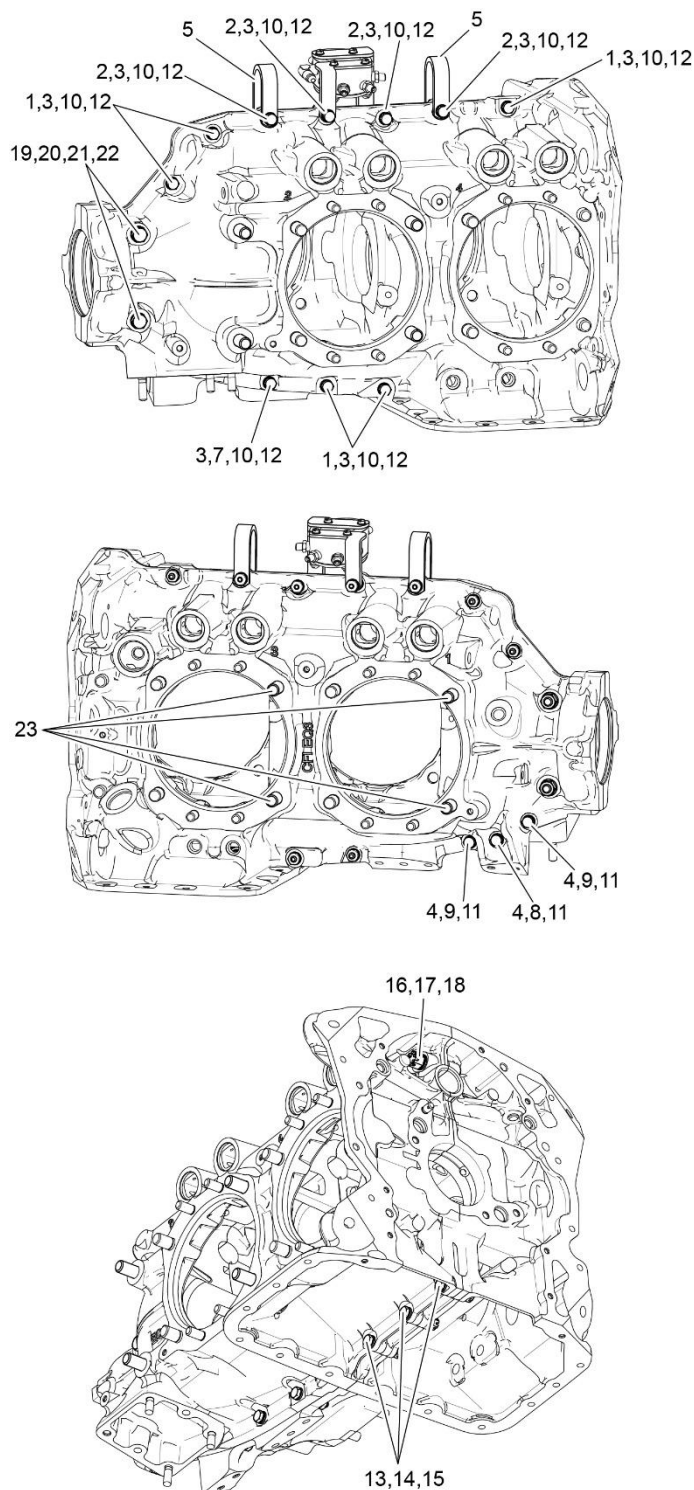


**Figure 8**  
**Crankcase Attaching Parts**

## POWER SECTION

### Figure 8 - Crankcase Attaching Parts

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	8	8	8	8
2		STD-8	WASHER, 1/4 plain	19	19	20	20
3		60803	STRAP, Lifting	1	1	1	1
4		LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	1	1	1	1
5		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	3	3	4	4
6		STD-160	WASHER, 1/4 lock, internal teeth	12	12	13	13
7		STD-1411	NUT, 1/4-20 plain	9	9	9	9
8		LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head, drilled	3	3	3	3
9	AR	STD-8	WASHER, 1/4 plain	9	9	9	9
10		STD-2249	NUT, 1/4-20 slotted	3	3	3	3
11		STD-33	WASHER, 3/8 plain	1	1	1	1
12		NAS1149F0632P	WASHER, 3/8 plain, thin	1	1	1	1
13		STD-872	NUT, 3/8-24 slotted	1	1	1	1
14		AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. head	2	2	1	1
15		STD-33	WASHER, 3/8 plain	4	4	3	3
16		STD-678	WASHER, 3/8 lock, internal teeth	2	2	2	2
17		STD-596	NUT, 3/8-24 plain	2	2	2	2
18		01A22453	STUD, 1/2-20 x 10-1/2 long	4	4	4	4
AR – As Required							



**Figure 8A**  
**Crankcase Attaching Parts**  
 (Use with Crankcase Assembly P/N 11U28752-1S1)

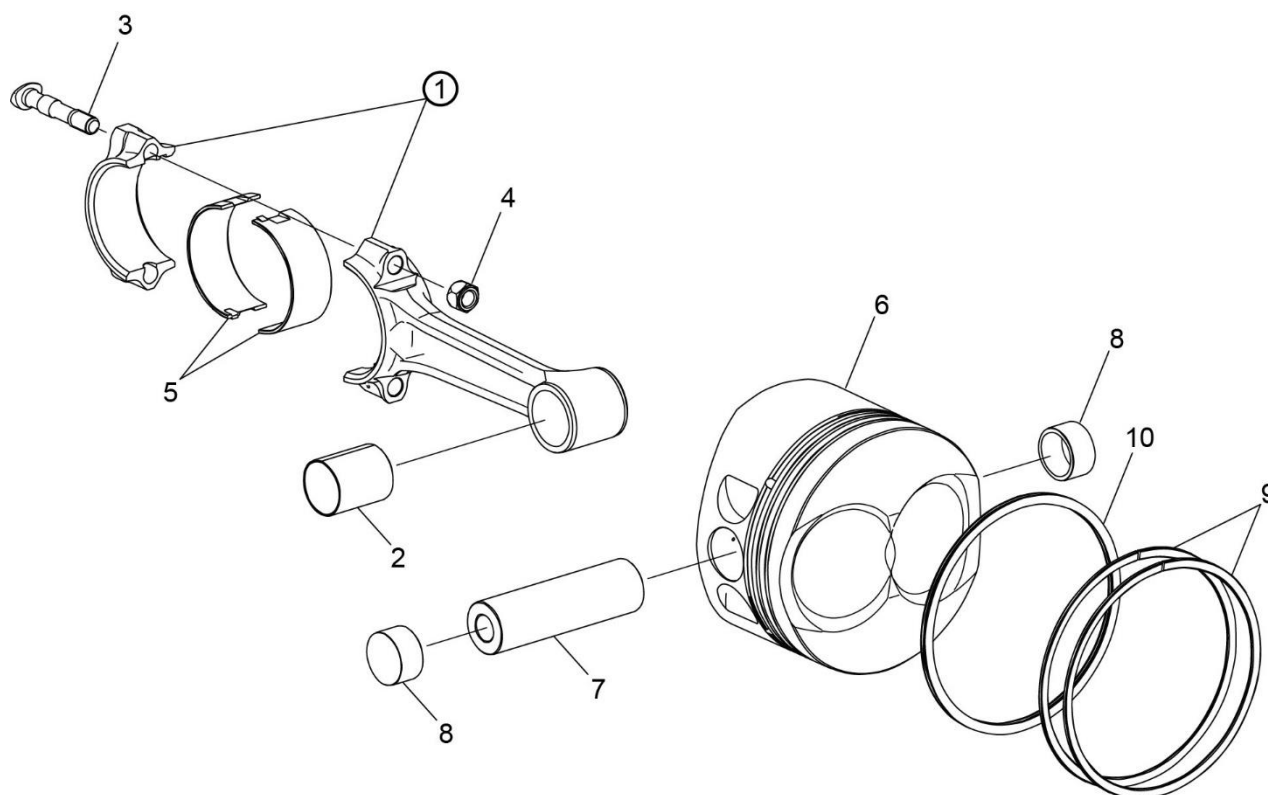
**POWER SECTION**

**Figure 8A - Crankcase Attaching Parts**  
**(Use with Crankcase Assembly P/N 11U28752-1S1)**

Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	5
2		NASM90725-15	BOLT, 1/4-20 x 2-1/8 long hex	2
		LW-25-2.13	BOLT, 1/4-20 x 2-1/8 long hex	2
3		STD-8	WASHER, 1/4 plain	14
4		STD-35	WASHER, 5/16 plain	4
5		60803	STRAP, Lifting	2
6		LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	2
7		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
8		LW-31-1.31	BOLT, 5/16-18 x 1-5/16 long, hex. head	2
9		LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	2
10		STD-160	WASHER, 1/4 lock, internal teeth	10
11		STD-475	WASHER, 5/16 lock, internal teeth	4
12		STD-1411	NUT, 1/4-20 plain	9
13		LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head, drilled	3
14	<b>AR</b>	STD-8	WASHER, 1/4 plain	9
15		STD-2249	NUT, 1/4-20 slotted	3
16		STD-33	WASHER, 3/8 plain	2
17		NAS1149F0632P	WASHER, 3/8 plain, thin	3
18		STD-872	NUT, 3/8-24 slotted	1
19		AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. head	1
20		STD-33	WASHER, 3/8 plain	3
21		STD-678	WASHER, 3/8 lock, internal teeth	2
22		STD-596	NUT, 3/8-24 plain	2
23		01A22453	STUD, 1/2-20 x 10-1/2 long	4

AR – As Required

LW-25-2.13 is an approved alternate to NASM90725-15

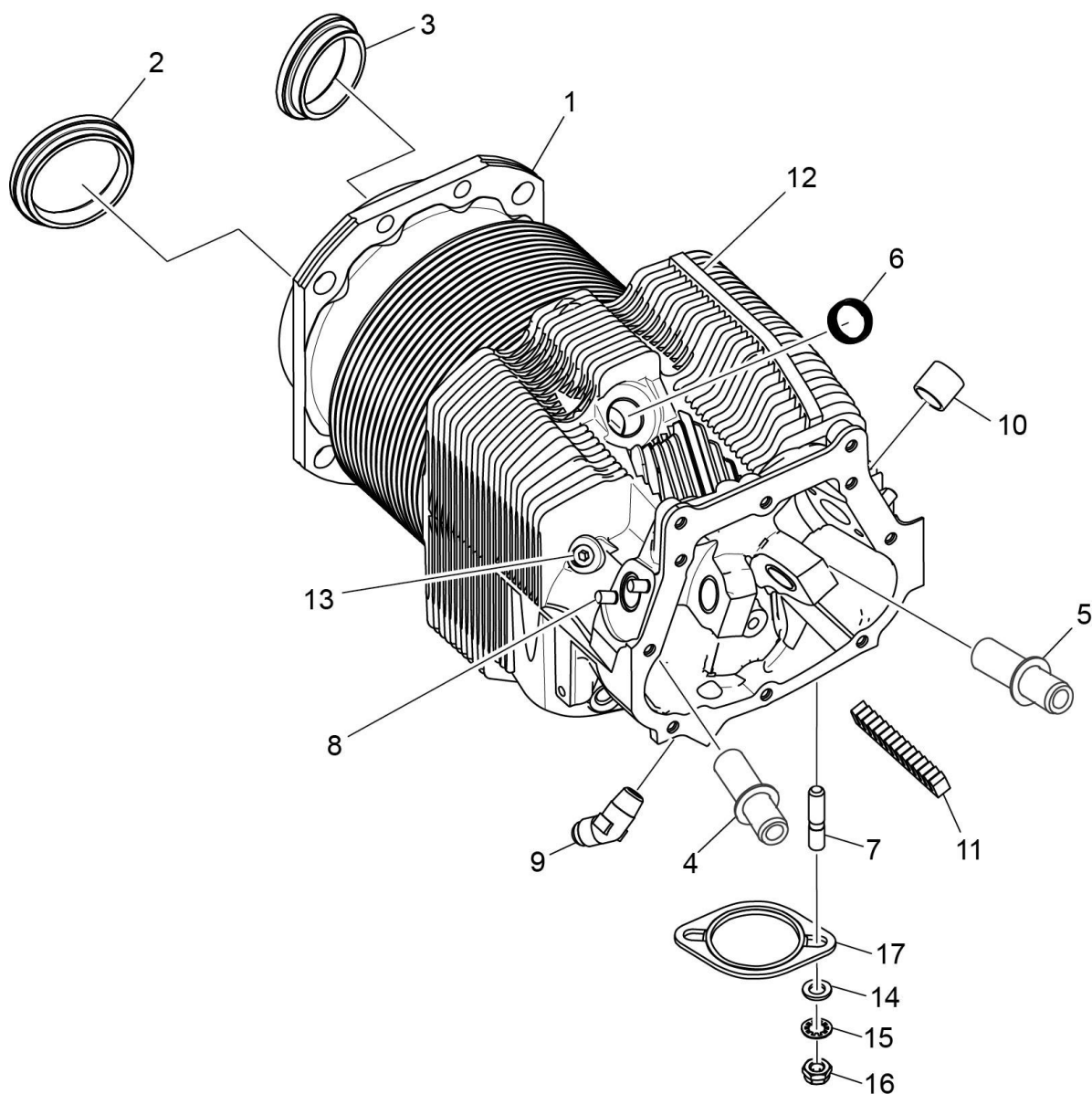


**Figure 9**  
**Connecting Rods, Pistons, and Ring Assemblies**

## CYLINDER SECTION

**| Figure 9 - Connecting Rods, Pistons, and Ring Assemblies**

Figure Item	Code	Part Number	Description	Units per Assembly
1		77450-S	CONNECTING ROD ASSEMBLY	4
2		01K28983	BUSHING, Connecting rod, upper	4
3	*	75060	BOLT, Connecting rod	8
4		LW-12186	NUT, Connecting rod bolt	8
5		18M23887	BEARING, Connecting rod	8
6		14E23911	PISTON, Compression ratio 8.90:1	4
7	**	14J22048	PIN, Piston	4
8		72198	PLUG, Piston pin	8
9		14G22050	RING, Piston compression	8
10		14H29865	RING, Piston oil regulating, expander type	4
* Refer to the latest revision of Lycoming Service Instruction No. 1458. ** Refer to the latest revision of Lycoming Service Instruction No. 1267.				

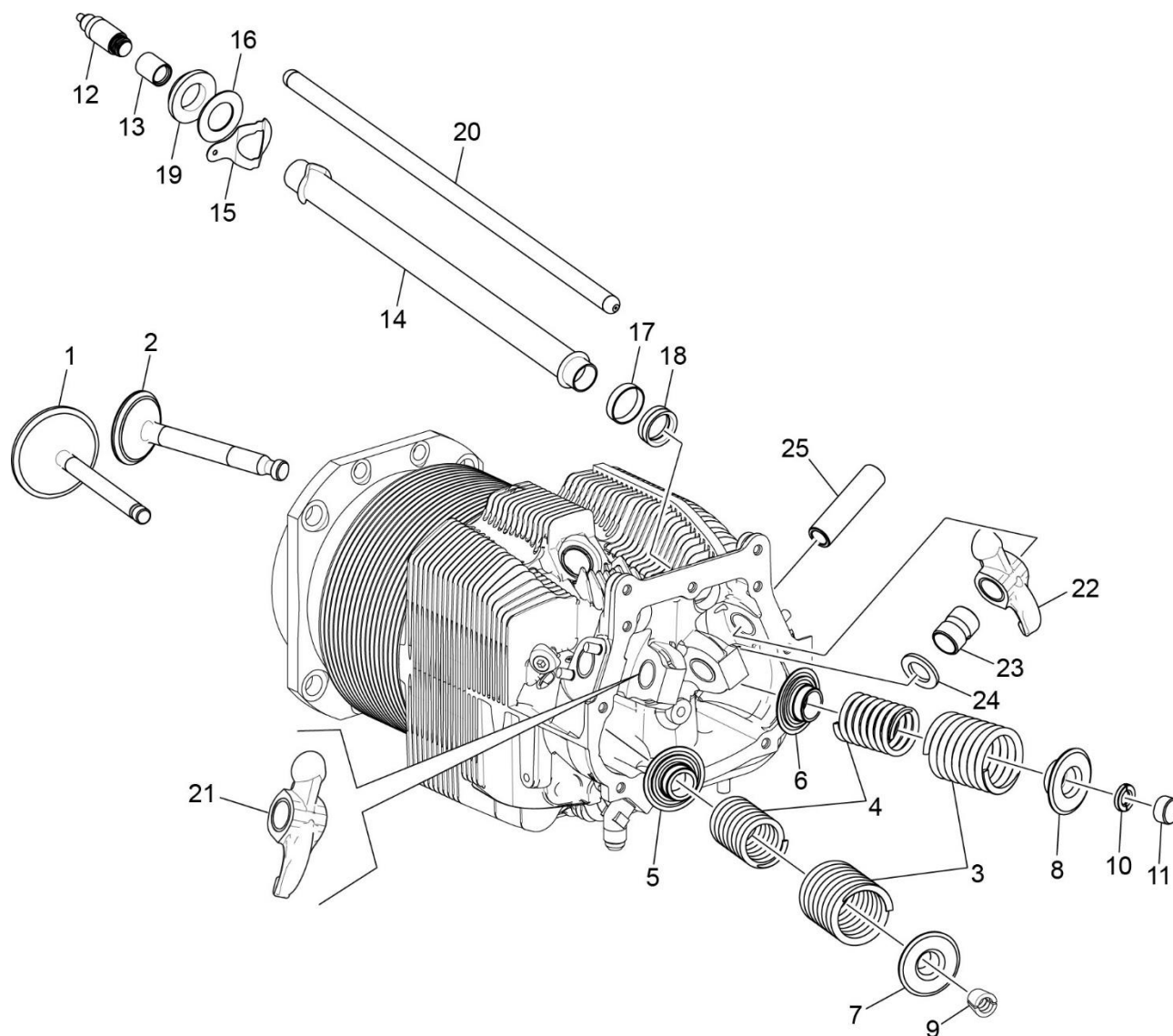


**Figure 10**  
**Cylinder Assembly**

# CYLINDER SECTION

**Figure 10 - Cylinder Assembly**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		16A26081	CYLINDER AND HEAD ASSEMBLY, Nitrided bore	4	4	4	4
2		72212-P20	SEAT, Intake valve	4	4	4	4
3		16T19468-P20	SEAT, Valve, exhaust	4	4	4	4
4		66713-P30	GUIDE, Valve, intake	4	4	4	4
5		75838-P30	GUIDE, Valve, exhaust	4	4	4	4
6		69260-P10	INSERT, Spark plug, 18-1.5 MM	8	8	8	8
7		31C-13	STUD, 5/16-18 x 1-5/8 long	8	8	8	8
8		25C-8	STUD, 1/4-20 x 1.00 long	16	16	16	16
9		MS20823-6D	ELBOW, 45°, 3/8 flared tube	4	4	4	4
10		66670	BUSHING, Rocker shaft, inner	16	16	16	16
11		72343	STABILIZER, Cylinder head fins, 15 teeth	4	4	4	4
12		72344	STABILIZER, Cylinder head fins, 26 teeth	4	4	4	4
13		1102	PLUG, 1/8-27 NPT, Allen head	4	4	4	4
14		STD-35	WASHER, 5/16 plain	8	8	8	8
15		STD-475	WASHER, 5/16 lock, internal teeth	8	8	8	8
16		STD-1410	NUT, 5/16-18 plain	8	8	8	8
17	*	75118	GASKET, Exhaust flange	8	8	8	8
* This part is shipped loose with the engine.							



**Figure 11**  
**Valve Assembly and Related Parts**

# CYLINDER SECTION

**Figure 11 - Valve Assembly and Related Parts**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		17A23946	VALVE, Intake	4	4	4	4
2		17B23935	VALVE, Exhaust	4	4	4	4
3		LW-11796	SPRING, Valve, outer	8	8	8	8
4		LW-11797	SPRING, Valve, inner	8	8	8	8
5		LW-13321	SEAT, Valve spring, lower intake	4	4	4	4
6		LW-13322	SEAT, Valve spring, lower exhaust	4	4	4	4
7		LW-10077	SEAT, Valve spring, upper intake	4	4	4	4
8		LW-16475	SEAT, Valve spring, upper exhaust	4	4	4	4
9		60009	KEY, Valve, intake	8	8	8	8
10		17C21191	KEY, Valve, exhaust	8	8	8	8
11		17C19386	CAP, Valve stem, exhaust	4	4	4	4
12		15B26066	PLUNGER ASSEMBLY, Hydraulic tappet	8	8	8	8
13		15B21319	SOCKET, Hydraulic tappet	8	8	8	8
14		15G23462	SHROUD TUBE ASSEMBLY, Push rod	8	8	8	8
15		15H21201	SPRING, Shroud tube	16	16	16	16
16		01L23459	WASHER, 3/4 I.D. x 1-3/8 O.D. x 1/32	8	8	8	8
17		61503	SLEEVE, Shroud tube	8	8	8	8
18		LW-18661	SEAL, Shroud tube	8	8	8	8
19		06A23493	SEAL, Shroud tube	8	8	8	8

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## CYLINDER SECTION

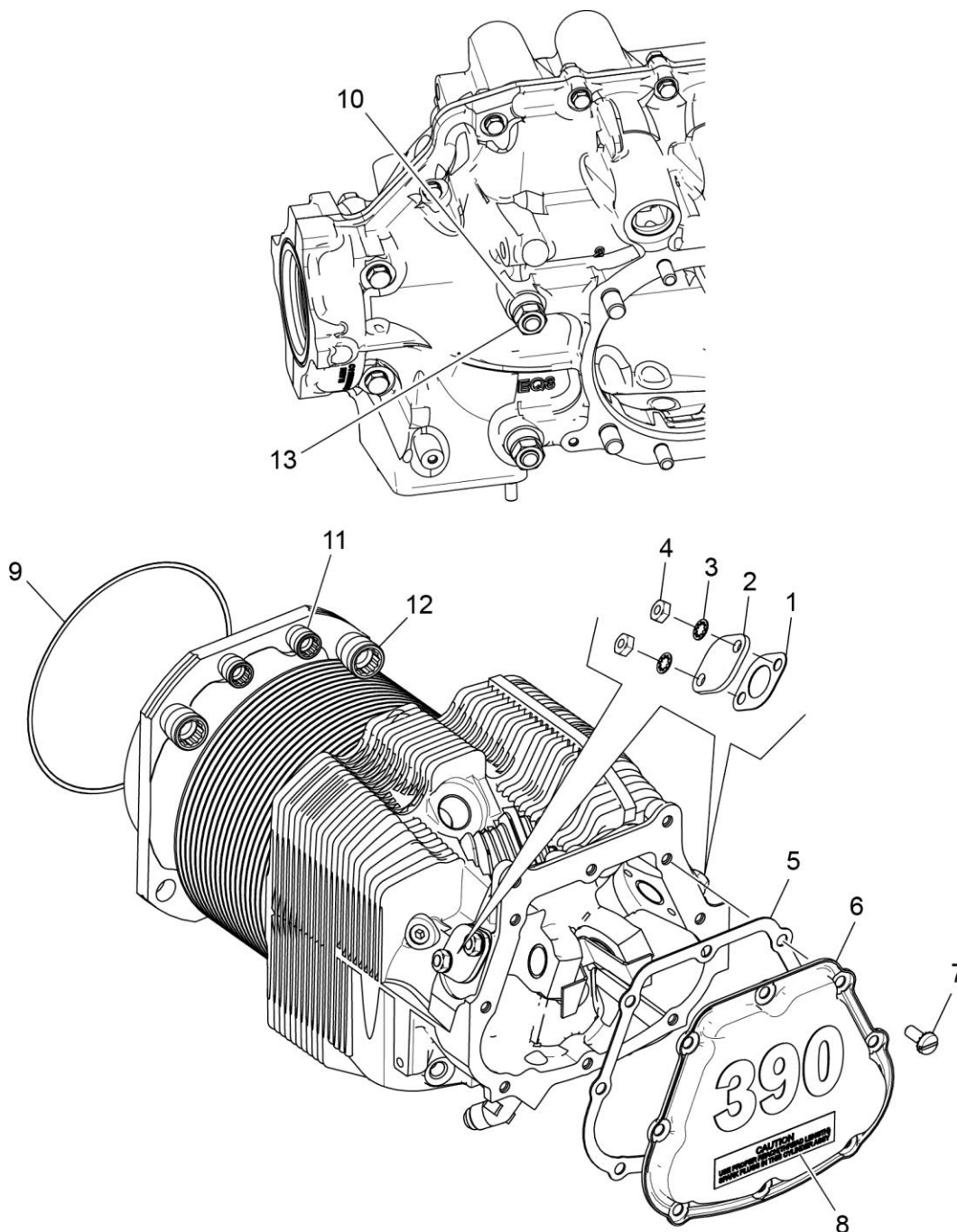
| **Figure 11 - Valve Assembly and Related Parts (Cont.)**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
20		15F28835-51	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28835-52	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28835-53	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28835-54	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28835-55	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28835-56	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28864-17	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28864-18	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28864-19	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28864-20	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28864-21	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
		15F28864-22	ROD ASSEMBLY, Push (A total of 8 required)	AR	AR	AR	AR
21	*	17F21188	ROCKER ASSEMBLY, Valve, intake	4	4	4	4
22	*	17F21187	ROCKER ASSEMBLY, Valve, exhaust	4	4	4	4
23		74389	BUSHING, Valve rocker	8	8	8	8
24		71549	WASHER, Thrust, valve rocker	8	8	8	8
25		72626	SHAFT, Valve rocker	8	8	8	8

AR – As Required

\* Due to the size of the area where the part number is stamped, the last five digits (19357) could be all that is shown of the part number.

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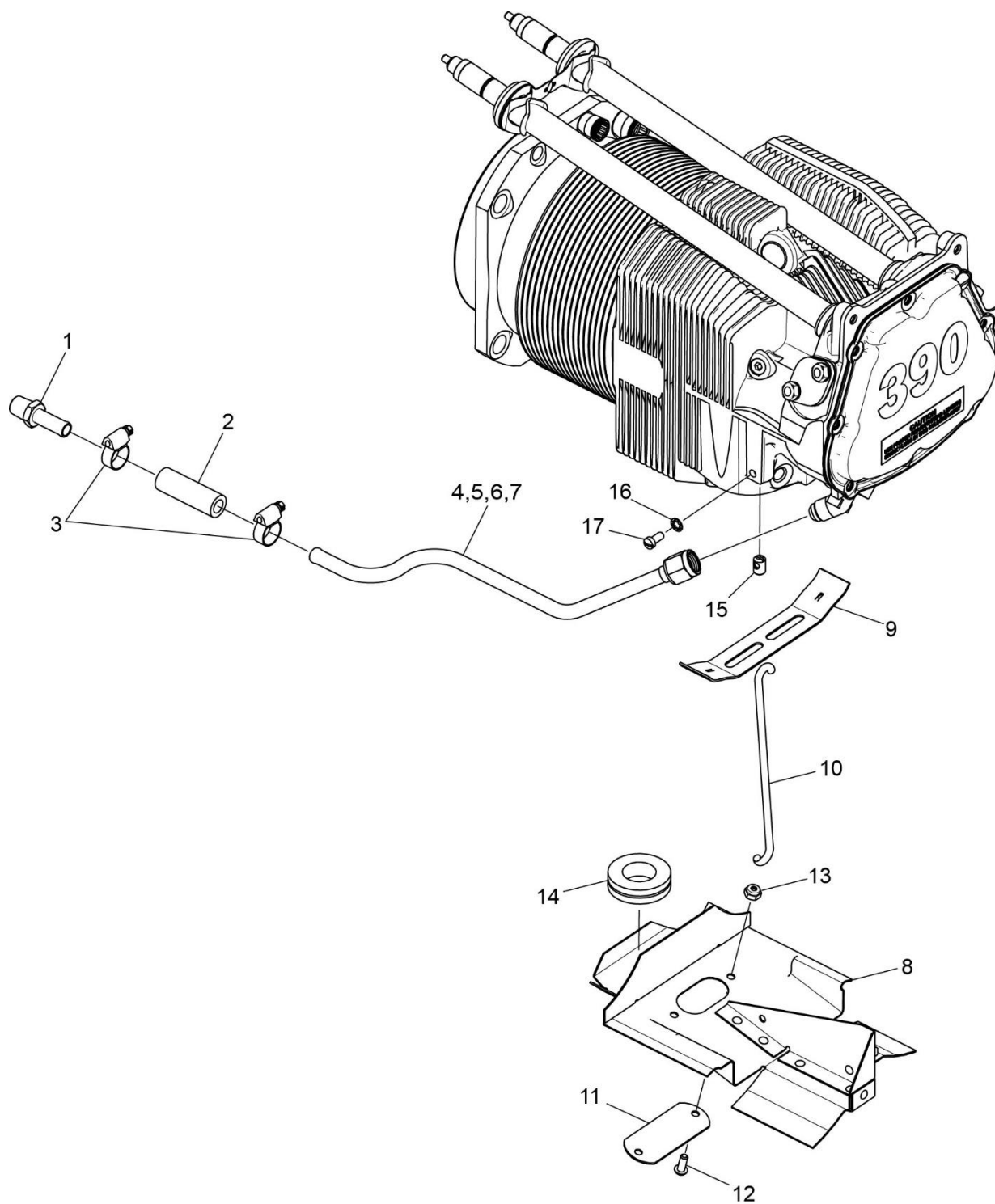


**Figure 12**  
**Cylinder Related Parts**

# CYLINDER SECTION

## | Figure 12 - Cylinder Related Parts

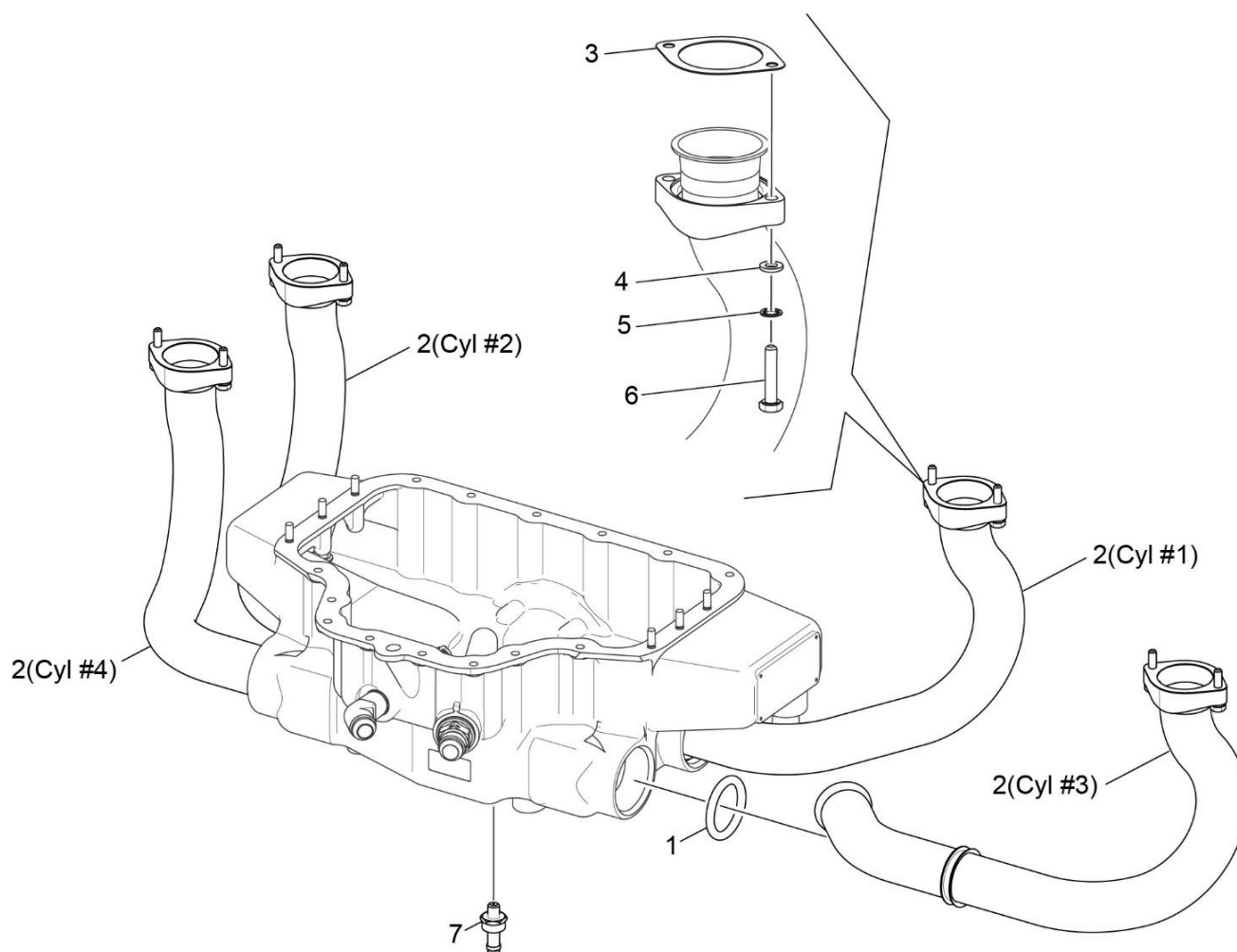
Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		66732	GASKET, Valve rocker shaft cover	8	8	8	8
2		72710	COVER, Valve rocker shaft	8	8	8	8
3		STD-160	WASHER, 1/4 lock, internal teeth	16	16	16	16
4		STD-1411	NUT, 1/4-20 plain	16	16	16	16
5		06B26811	GASKET, Rocker box cover	4	4	4	4
6		17J26469	COVER ASSEMBLY, Rocker box	4	4	4	4
7		STD-1925	SCREW, 1/4-20 x 5/8 long, pan hd., self-locking	32	32	32	32
8		74494	PLATE, Spark plug reach caution	4	4	4	4
9		71481	RING, Oil seal, 3/32 diameter x 4-27/32 long	4	4	4	4
10		74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2	2	2	2
11		71134	NUT, 3/8-24 NF-3	16	16	16	16
12		71133	NUT, 1/2-20 NF-3	16	16	16	16
13		STD-2090	NUT, 1/2-20 plain	2	2	2	2



**Figure 13**  
**Cylinder Head Drain Tubes and Intercylinder Cooling Baffles**

**CYLINDER SECTION****| Figure 13 - Cylinder Head Drain Tubes and Intercylinder Cooling Baffles**

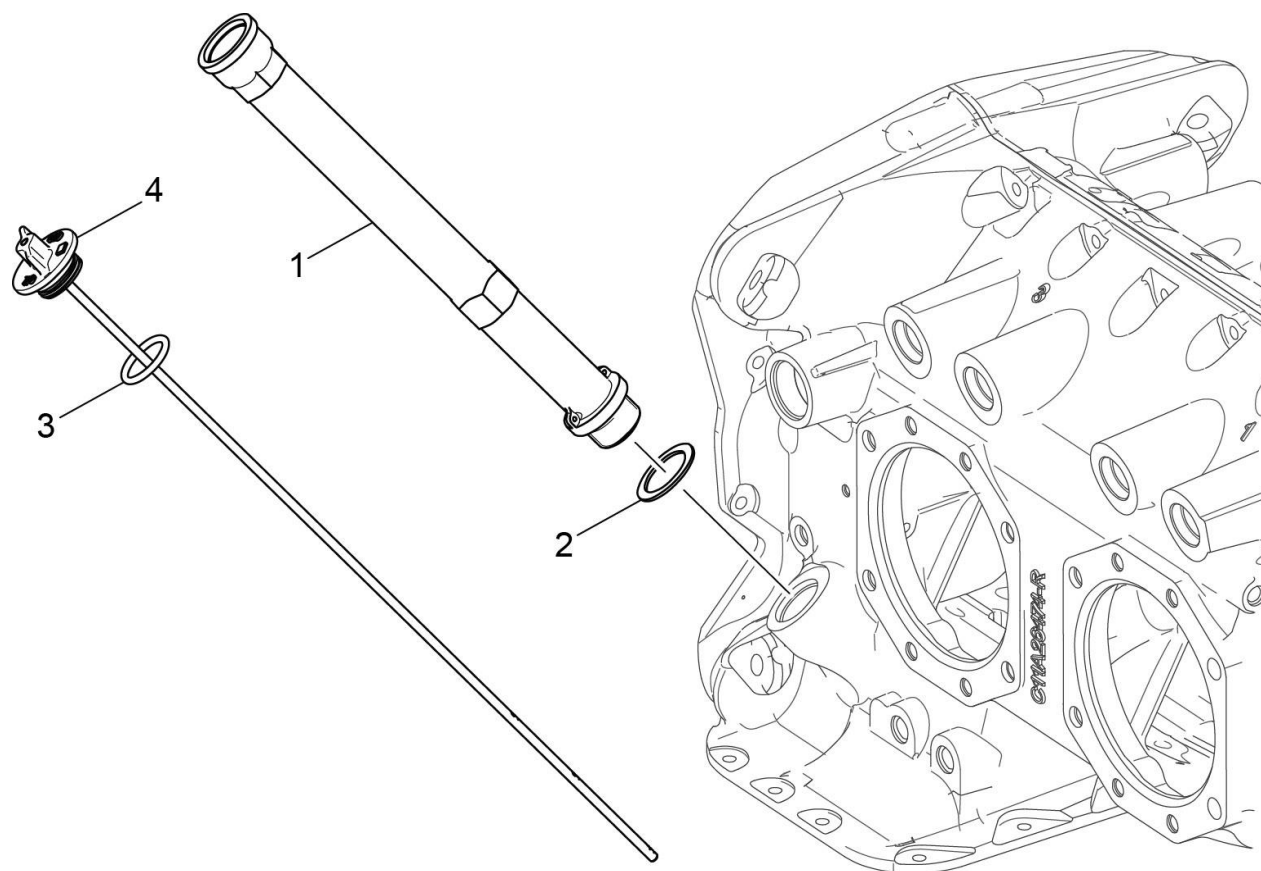
Figure Item	Code	Part Number	Description	Units per Assembly
1		STD-684	NIPPLE, Straight, 3/8 I.D. hose	4
2		STD-2180	HOSE, 3/8 x 1-13/16 long	4
3	***	LW-15592-5-04	CLAMP, Hose, 7/16 O.D.	8
	***	LW-15592-5-05	CLAMP, Hose	8
4		72702	TUBE ASSEMBLY, Cyl. head oil drain, cyl. No. 1	1
5		72703	TUBE ASSEMBLY, Cyl. head oil drain, cyl. No. 2	1
6		74808	TUBE ASSEMBLY, Cyl. head oil drain, cyl. No. 3	1
7		73027	TUBE ASSEMBLY, Cyl. head oil drain, cyl. No. 4	1
8	*	75338	BAFFLE ASSEMBLY, Intercylinder	1
	**	75337	BAFFLE ASSEMBLY, Intercylinder	1
9		71611	RETAINER, Intercylinder baffle	2
10		17M23284	HOOK, Intercylinder baffle retainer	2
11		72834	COVER, Baffle ignition cable hole	2
12		STD-692	SCREW, No. 10-32 x 1/2 long, round head	4
13		STD-670	LOCK NUT, No. 10-32	4
14	**	MS35489-20X	GROMMET	1
15		65614	PLUG, Baffle attaching	4
16		STD-251	WASHER, No. 10, internal lock	4
17		STD-1686	SCREW, No. 10-32 x 7/16 long	4
* Install on left side cylinders No. 2 and 4 ** Install on right side between cylinders No. 1 and 3 *** Use only in complete sets of the same part number				



**Figure 14**  
**Intake Pipes Assembly**

**CYLINDER SECTION****| Figure 14 - Intake Pipes Assembly**

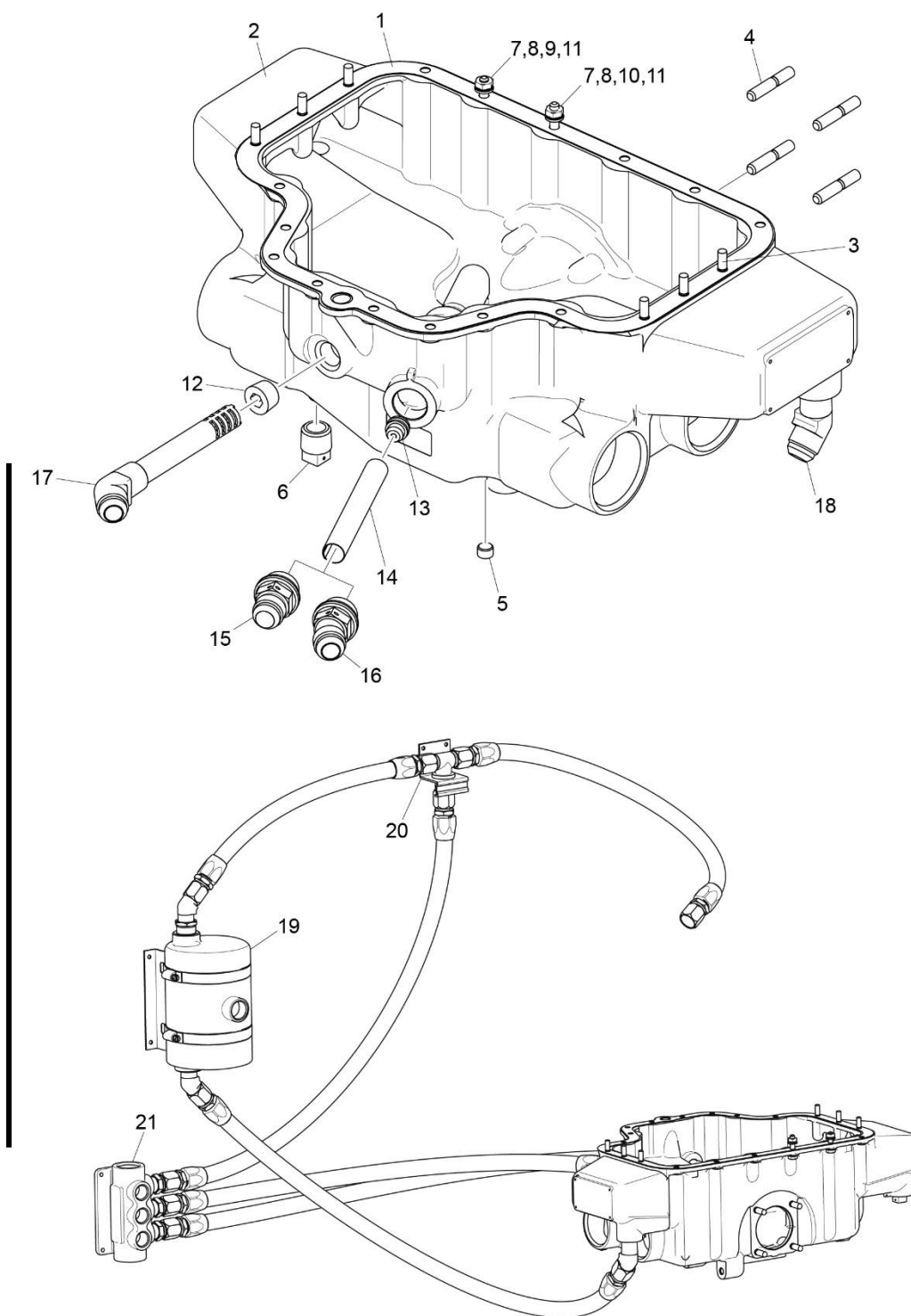
<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		77569	SEAL, Intake pipe	4
2		78741	PIPE, Intake, cylinder No. 1	1
		78742	PIPE, Intake, cylinder No. 2	1
		78743	PIPE, Intake, cylinder No. 3	1
		78744	PIPE, Intake, cylinder No. 4	1
3		71973	GASKET, 2 bolt flange, 1-3/4 I.D.	4
4		STD-8	WASHER, 1/4 plain	8
5		STD-160	WASHER, 1/4 lock, internal teeth	8
6		LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	8
7		75444	ADAPTER ASSEMBLY, Fuel drain valve	1



**Figure 15**  
**Oil Level Gage**

**LUBRICATION SYSTEM****| Figure 15 - Oil Level Gage**

<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		75736	TUBE, Oil level gage	1
2		72059	GASKET, Oil level gage	1
3		74068	RING, Oil level gage plug	1
4		LW-14760	GAGE ASSEMBLY, Oil level	1

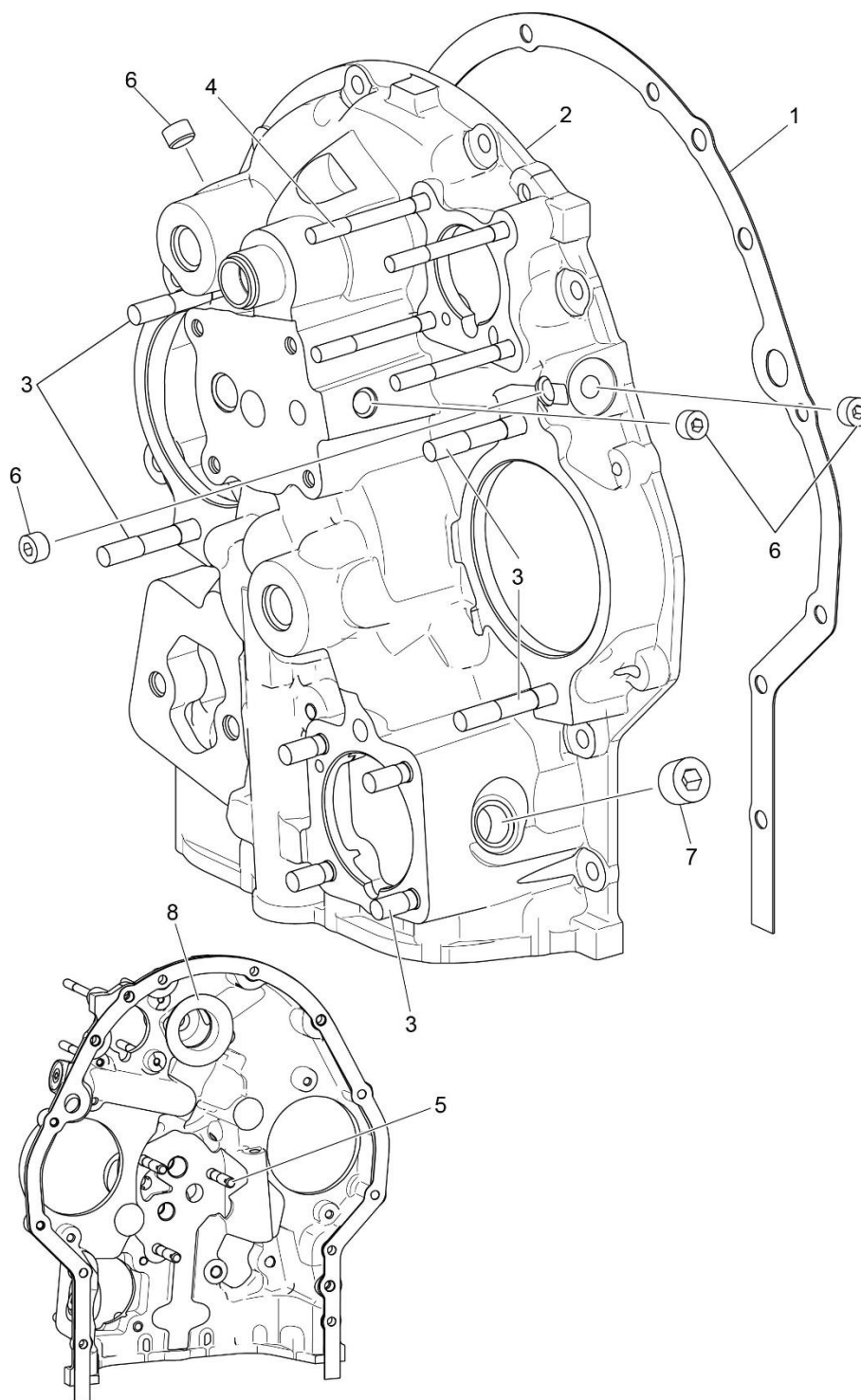


**Figure 16**  
**Oil Sump Assembly, Oil Suction Screen, and Oil Separator**

# LUBRICATION SYSTEM

**Figure 16 - Oil Sump Assembly, Oil Suction Screen, and Oil Separator**

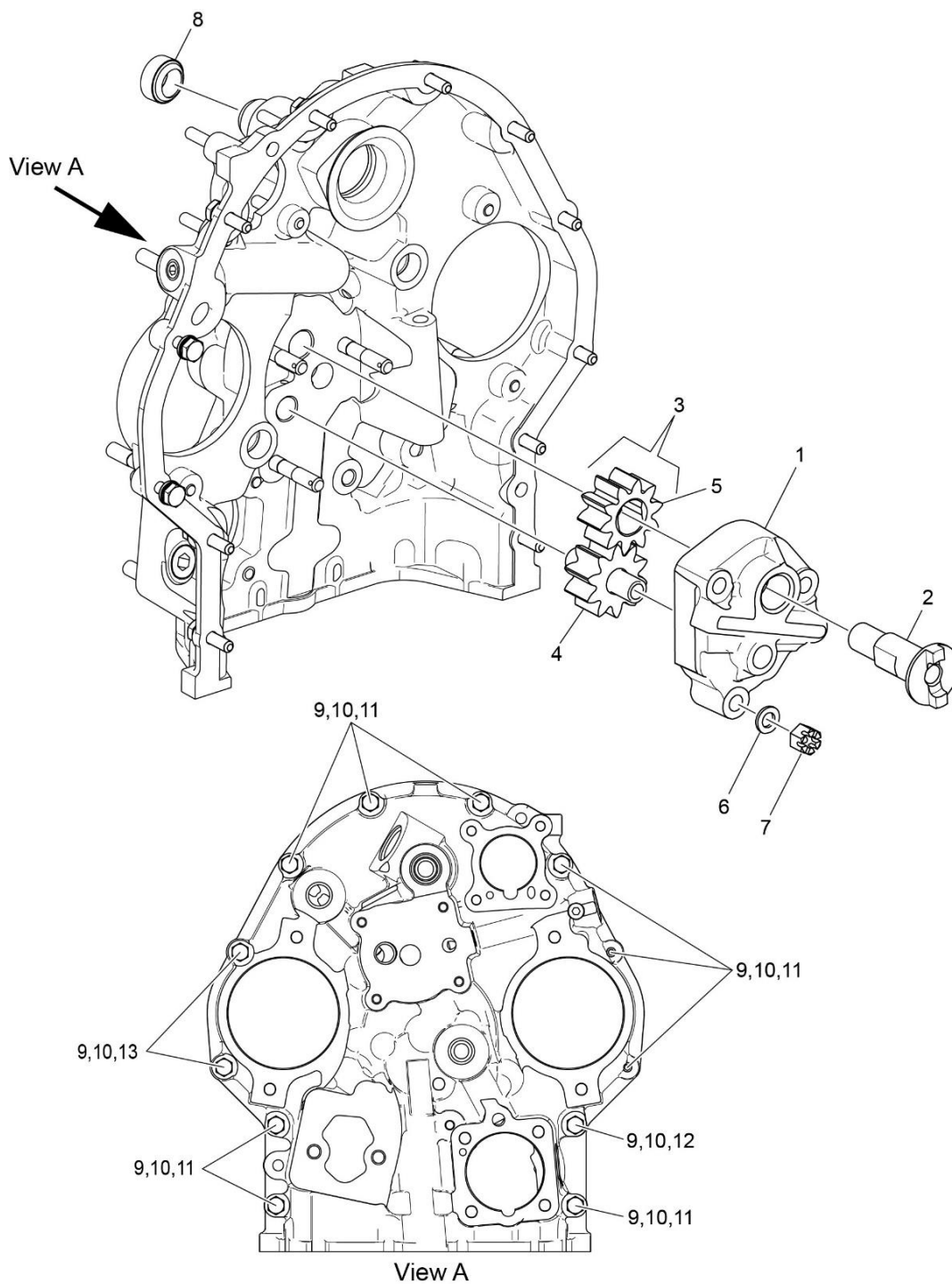
Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		LW-13353	GASKET, Oil sump	1	1	1	1
2		LW-13864	SUMP ASSEMBLY, Oil	1	1	1	1
3		61400	STUD, 1/4-20 x 1-3/16 long	6	6	6	6
4		31C-14	STUD, 5/16-18 x 1-3/4 long	4	4	4	4
5		1102	PLUG, 1/8 pipe	1	1	1	1
6		STD-551	PLUG, 1/2-14 NPT, square head, drilled	2	2	2	2
7		STD-8	WASHER, 1/4 plain	26	26	26	26
8		STD-160	WASHER, 1/4 lock, internal teeth	20	20	20	20
9		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	12	12	12	12
10		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	2	2	2	2
11		STD-1411	NUT, 1/4-20 plain	12	12	12	12
12		STD-2229	PLUG, 1/2 NPT, Allen head	1	1	1	1
13		LW-13752	PLUG, Sump	1	1	1	1
14		70484	SCREEN, Oil suction	1	1	1	1
15		LW-14035	FITTING, Sump oil suction	1	1	1	1
16		LW-13751	FITTING, Sump oil suction, 45° fitting				1
17		LW-15394	FITTING, Sump oil strainer	1	1	1	1
18		LW-14148	FITTING, Sump oil return	1	1	1	1
19		57A21009	OIL SEPARATOR	1	1	1	1
20		LW-13755	BREATHER, Tee	1	1	1	1
21		57B19829	OIL VALVE	1	1	1	1



**Figure 17**  
**Accessory Housing Assembly**

**ACCESSORY DRIVES****| Figure 17 - Accessory Housing Assembly**

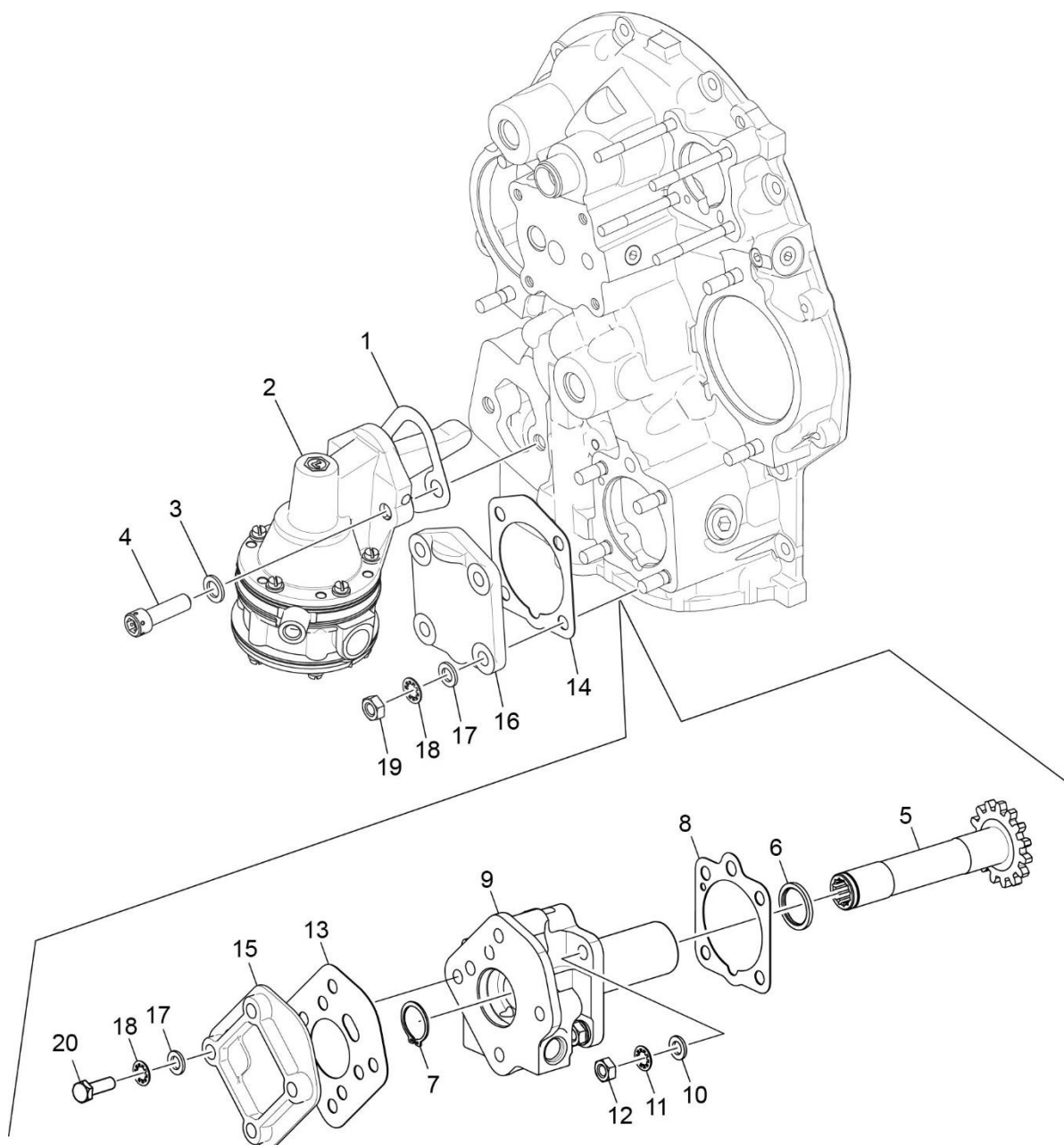
Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		73818	GASKET, Accessory housing	1	1	1	1
2		21A21533-27	ACCESSORY HOUSING ASSEMBLY,	1	1	1	1
		21A21533-26	HOUSING ASSEMBLY, Accessory studding	1			
3		31C-12	STUD, 5/16-18 x 1-1/2 long	8	8	8	8
4		25C-22	STUD, 1/4-20 x 2-3/4 long	4	4	4	4
		25C-12	STUD, 1/4-20 x 1-1/2 long	4			
5		31CD-17	STUD, 5/16-18 x 2-1/8 long drilled	3	3	3	3
6		1102	PLUG, 1/8 pipe	4	4	4	4
7		STD-784	PLUG, 3/8-18 NPT, Allen head	1	1	1	1
8		76119	SHIELD, Accessory breather oil	1	1	1	1



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

**ACCESSORY DRIVES****| Figure 18 - Oil Pump Assembly and Accessory Housing Attaching Parts**

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

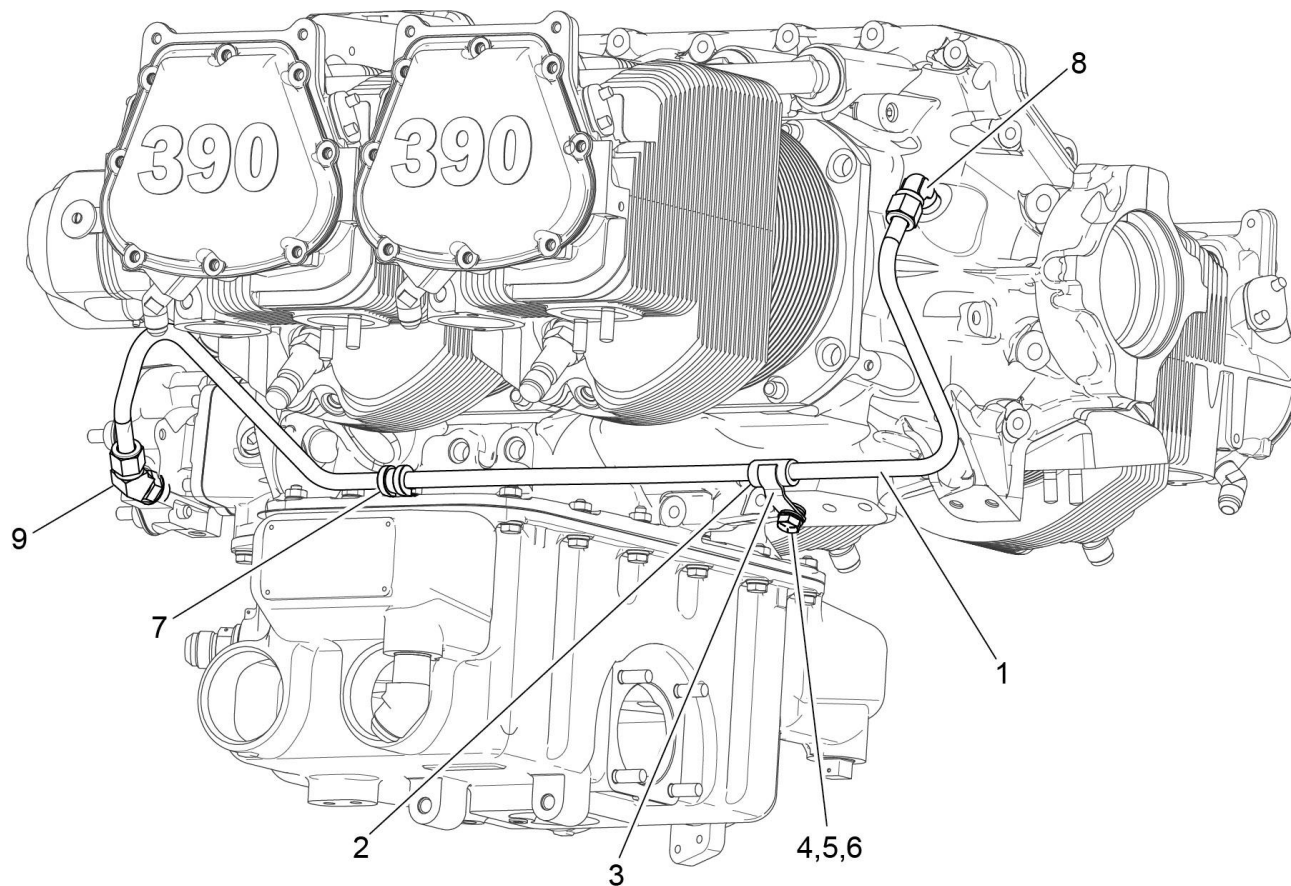


**Figure 19**  
**Fuel Pump, Propeller Governor Drive Adapter, and Covers**

## ACCESSORY DRIVES

**Figure 19 - Fuel Pump, Propeller Governor Drive Adapter, and Covers**

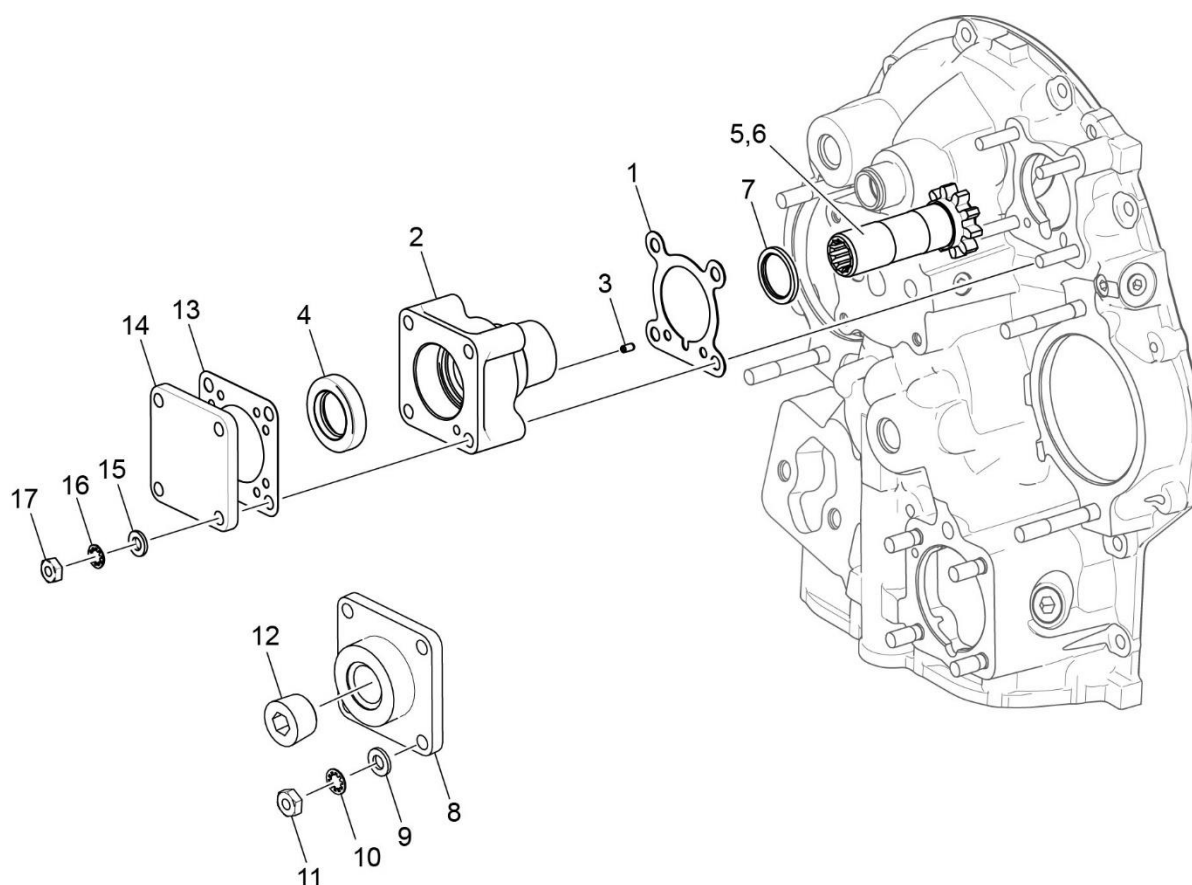
Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		60096	GASKET, Fuel pump	1	1	1	1
2		62B26931	FUEL PUMP, High Pressure	1	1	1	1
3		STD-33	WASHER, 3/8 plain	2	2	2	2
4		STD-1882	SCREW, 3/8-16 x 1-9/32 long, socket head, drilled	2	2	2	2
5		68317	SHAFTGEAR, Propeller governor drive	1	1		
6		71596	WASHER, Accessory drive gear	1	1		
7		STD-1221	RING, 13/16 diameter x 1/32 thick	1	1		
8		68315	GASKET, Accessory drive adapter	1	1		
9		78594	ADAPTER ASSY, Propeller governor drive	1	1		
10		STD-35	WASHER, 5/16 plain	4	4		
11		STD-475	WASHER, 5/16 lock, internal teeth	4	4		
12		STD-1410	NUT, 5/16-18 plain	4	4		
13		72053	GASKET, Governor	1	1		
14		69551	GASKET, Governor			1	1
15		72378	COVER, Governor	1	1		
16		69106	COVER, Governor drive adapter pad			1	1
17		STD-35	WASHER, 5/16 plain	4	4	4	4
18		STD-475	WASHER, 5/16 lock, internal teeth	4	4	4	4
19		STD-1410	NUT, 5/16-18 plain			4	4
20		LW-31H1.22	BOLT, 5/16-18 x 1-7/32 long	4	4		



**Figure 20**  
**Propeller Governor Oil Line Tube Assembly and Attaching Parts**

**ACCESSORY DRIVES****| Figure 20 - Propeller Governor Oil Line Tube Assembly and Attaching Parts**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		75167	TUBE ASSEMBLY, Propeller governor oil	1			
		75730	TUBE ASSEMBLY, Propeller governor oil		1		
2		STD-1930	HOSE, 3/8 I.D. x 1.00 long	1	1		
3		75165	CLIP, Propeller governor oil line support	1	1		
4		STD-35	WASHER, 5/16 plain	3	3		
5		STD-475	WASHER, 5/16 lock, internal teeth	1	1		
6		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	1	1		
7		LW-16266-25-	CLAMP, 3/8 I.D. x 1/4 diameter screw	1	1		
8		MS20822-6	ELBOW, 1/4 NPT to 3/8 flared tube, 90°	1	1		
9		74070	ELBOW, 3/8 flared tube and 9/16-18	1	1		

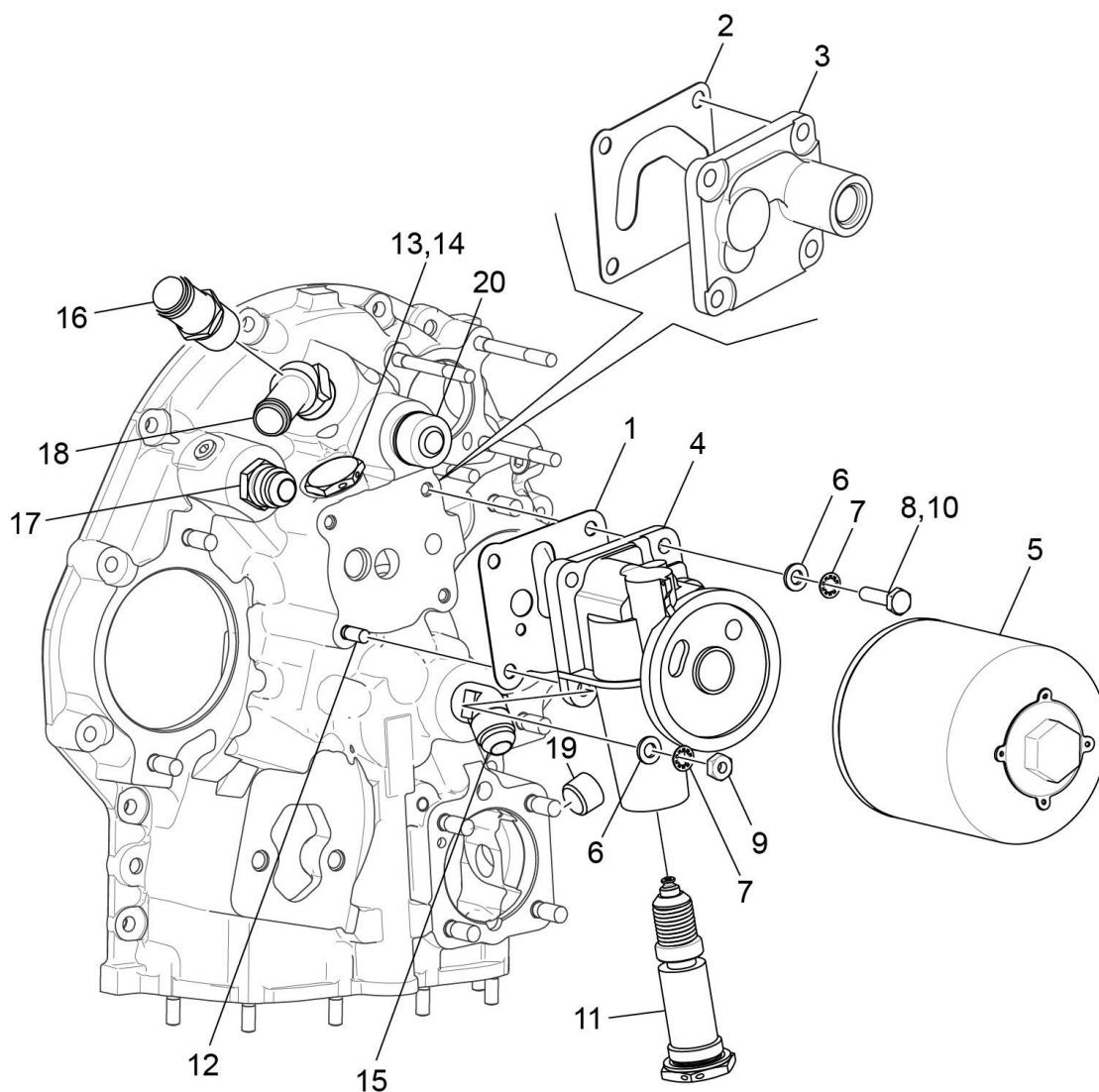


**Figure 21**  
**Vacuum Pump Drive and Cover**

## ACCESSORY DRIVES

**| Figure 21 - Vacuum Pump Drive and Cover**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		61183	GASKET, Accessory adapter	1	1	1	1
2		61098	ADAPTER ASSEMBLY, Vacuum pump	1	1	1	1
3		STD-1774	PIN, 1/8 diameter x 1/4 long	1	1	1	1
4		06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16	1	1	1	1
5		72970	GEAR ASSEMBLY, Vacuum pump driven	1	1	1	1
6		72962	THRUST BUTTON, Vacuum pump gear	1	1	1	1
7		71596	WASHER, Accessory drive gear	1	1	1	1
8		LW-16878	BREATHER, Adapter	1			
9		STD-8	WASHER, 1/4 plain	4			
10		STD-160	WASHER, 1/4 lock, internal teeth	4			
11		STD-1411	NUT, 1/4-20 plain	4			
12		STD-2229	PLUG, 1/2 NPT, Allen head	1			
13		8313	GASKET, Vacuum pump	1	1	1	1
14		60430	COVER, Vacuum pump	1	1	1	1
15		STD-8	WASHER, 1/4 plain	4	4	4	4
16		STD-160	WASHER, 1/4 lock, internal teeth	4	4	4	4
17		STD-1411	NUT, 1/4-20 plain	4	4	4	4



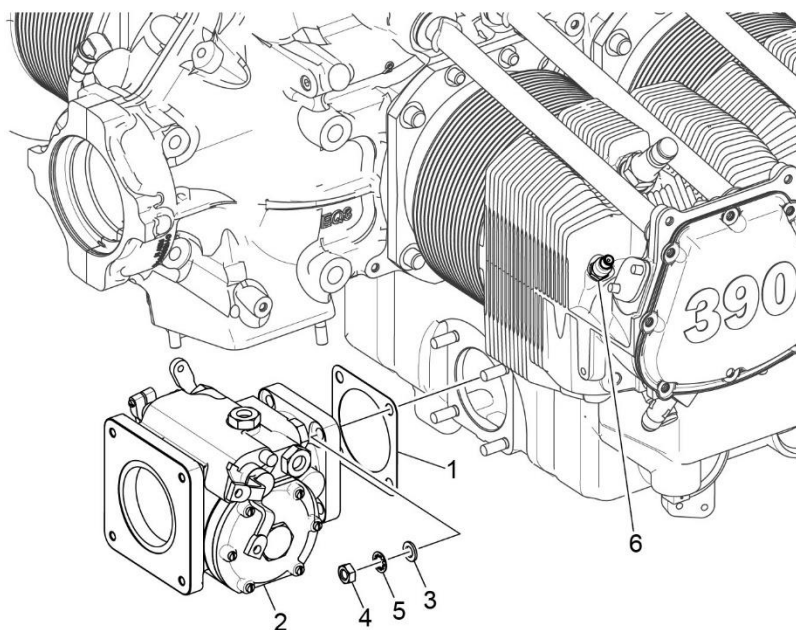
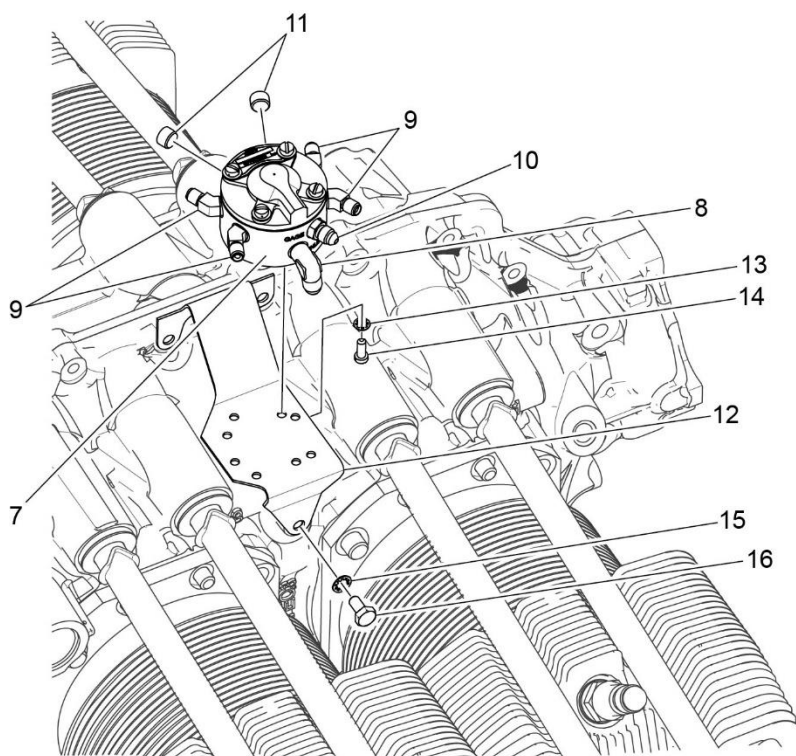
**Figure 22**  
**Oil Filter Assembly, Oil Cooler Bypass Valve, and Fittings**

## ACCESSORY DRIVES

| **Figure 22 - Oil Filter Assembly, Oil Cooler Bypass Valve, and Fittings**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1	*	06B23862	GASKET, Oil filter adapter	2	2	2	2
2		06B21644	GASKET, Oil filter base cover			1	
3		21M23736	COVER, Oil filter base			1	
4		77852	OIL FILTER BASE ASSEMBLY	1	1	1	1
5		LW-13215	OIL FILTER, Short, CH48110-1	1	1	1	1
6		STD-8	WASHER, 1/4 plain	4	4	4	4
7		STD-160	WASHER, 1/4 lock, internal teeth	4	4	4	4
8		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head			3	
9		STD-1411	NUT, 1/4-20 plain	1	1	1	1
10		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	3	3	3	3
		LW-25H-1.00	BOLT, drilled hex head, 1/4-20 x 1.00 lg			1	
11		53E22144	VALVE ASSEMBLY, Temp. control, oil cooler bypass	1	1	1	1
12		25C-10	STUD, 1/4-20 x 1-1/4 long	1	1	1	1
13		06E19769-0.63	GASKET, Annular, 5/8 I.D.	1	1	1	1
14		62417	PLUG, Oil cooler bypass	1	1	1	1
15		MS20823-8	ELBOW, 3/8 NPT, 1/2 flared tube	1	1	1	1
16		71140	FITTING, Breather	1		1	1
17		AN816-8	NIPPLE, 1/2 flared tube	1	1	1	1
18		AN844-10D	ELBOW, Pipe		1		
19		STD-784	PLUG, 3/8-18 NPT, Allen head	1			
20		62732	CAP, Tachometer drive	1	1	1	1

\* One of the oil filter adapter gaskets P/N 06B23862 is shipped loose with the engine.

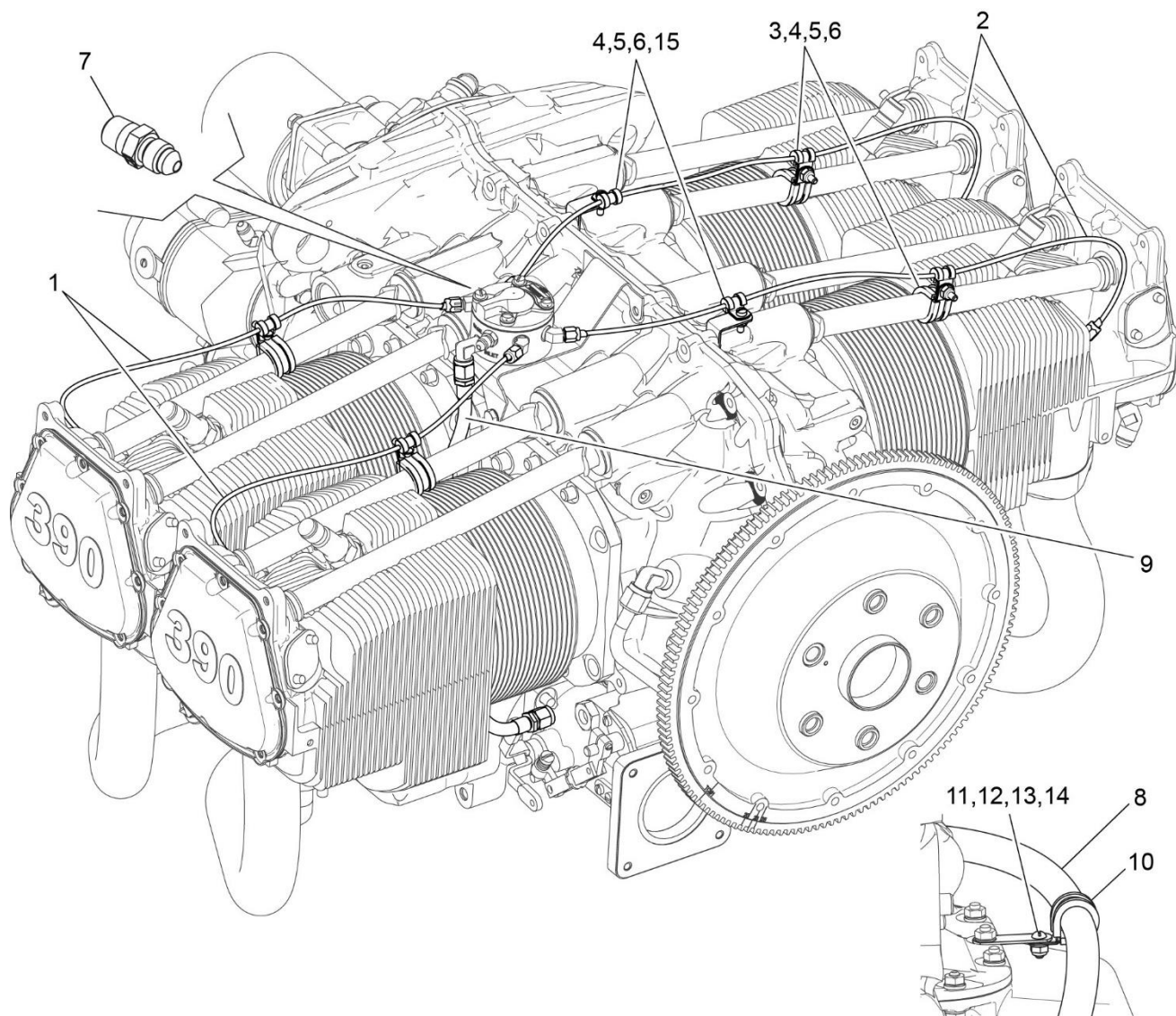


**Figure 23**  
**Fuel Injector, Fuel Manifold Assembly, and Brackets**

## FUEL DISTRIBUTION

**Figure 23 - Fuel Injector, Fuel Manifold Assembly, and Brackets**

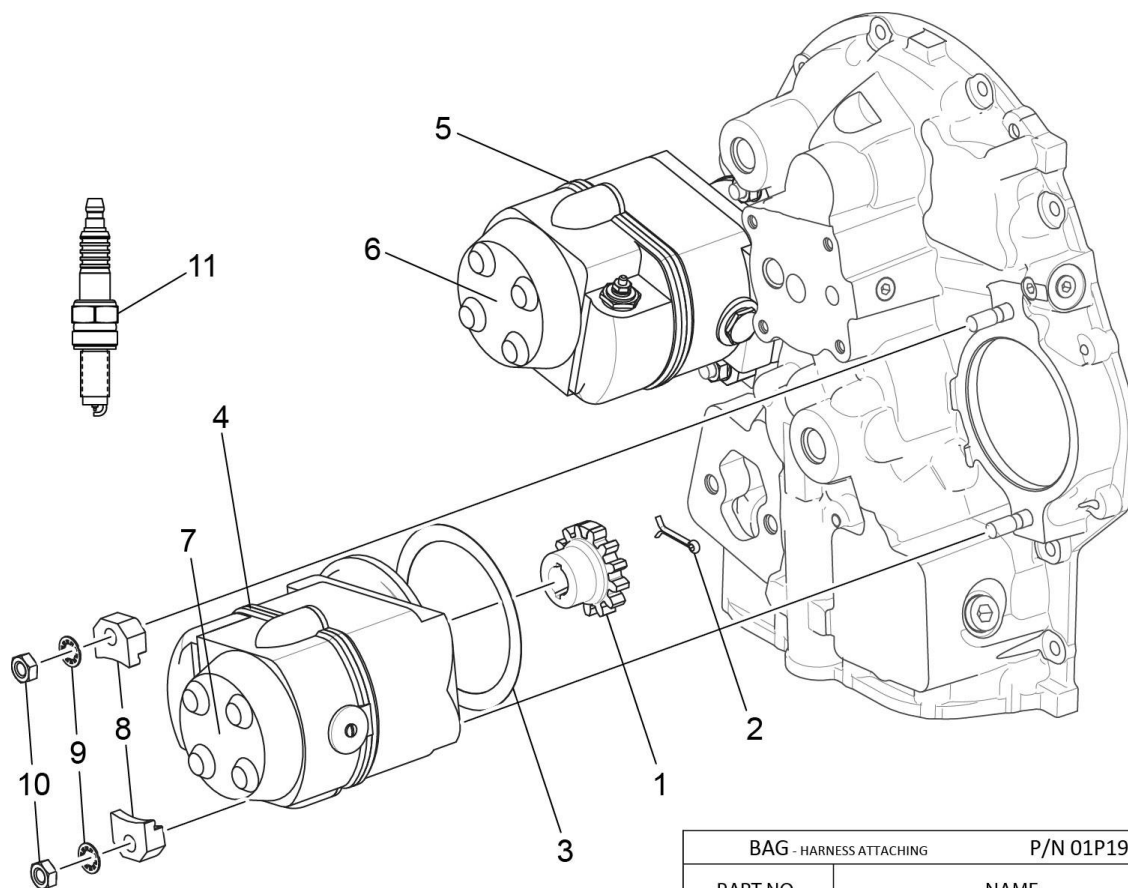
Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		66224	GASKET, Carburetor	1	1	1	1
2		61J26426	FUEL INJECTOR, LFR-NNSS5 AV 2524054-11	1	1	1	1
3		STD-35	WASHER, 5/16 plain	4	4	4	4
4		STD-1410	NUT, 5/16-18 plain	4	4	4	4
5		STD-475	WASHER, 5/16 lock, internal teeth	4	4	4	4
6		63C26450	NOZZLE, Injection, low, AV2524864-2	4	4	4	4
7		63B26702	MANIFOLD ASSEMBLY	1		1	1
		63B26724	MANIFOLD ASSEMBLY, Fuel		1		
8		MS20822-4	ELBOW, 1/8 NPT to 1/4 tube, 90°	1	1	1	1
9		AN791-2	ELBOW, Union 45°, 1/8 tube	4	4	4	4
10		02G21382	NIPPLE, Nozzle pressure gauge	1		1	1
11		1102	PLUG, 1/8 pipe	2	3	2	2
12		75009	BRACKET, Fuel manifold	1	1	1	1
13		STD-251	WASHER, No. 10, internal lock	4	4	4	4
14		STD-82	SCREW, No. 10-24 x 1/2 long, fill. head	4	4	4	4
15		STD-160	WASHER, 1/4 lock, internal teeth	1	1	1	1
16		LW-25-0.50	BOLT, 1/4-20 x 1/2 long, hex. head	1	1	1	1



**Figure 24**  
**Fuel Lines, Fuel Hoses, and Attaching Parts**

**FUEL DISTRIBUTION****| Figure 24 - Fuel Lines, Fuel Hoses, and Attaching Parts**

<b>Figure Item</b>	<b>Code</b>	<b>Part Number</b>	<b>Description</b>	<b>Units per Assembly</b>
1		LW-12098-0-140	TUBE ASSEMBLY, Fuel	2
2		LW-12098-0-210	TUBE ASSEMBLY, Fuel injector line	2
3		LW-16266-10-75	CLAMP, 0.075 I.D. No.10 screw	4
4		LW-16266-10-13	CLAMP, 1/8 diameter for No.10 screw	6
5		STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	6
6		STD-670	LOCK NUT, No. 10-32	6
7		LW-16562	NIPPLE, 3/8 flared tube, 9/16-18	1
8		LW-12799-6S254	HOSE ASSEMBLY, 3/8 hose, straight	1
9		LW-12798-4S172	HOSE ASSEMBLY, 1/4 hose, straight	1
10		LW-16266-10-75	CLAMP, 0.075 I.D. No.10 screw	1
11		73152	BRACKET, Support clamp	1
12		STD-692	SCREW, No. 10-32 x 1/2 long, round head	1
13		STD-425	WASHER, No. 10 plain	1
14		STD-670	LOCK NUT, No. 10-32	1
15		73136	BRACKET, Extension, fuel injector	2



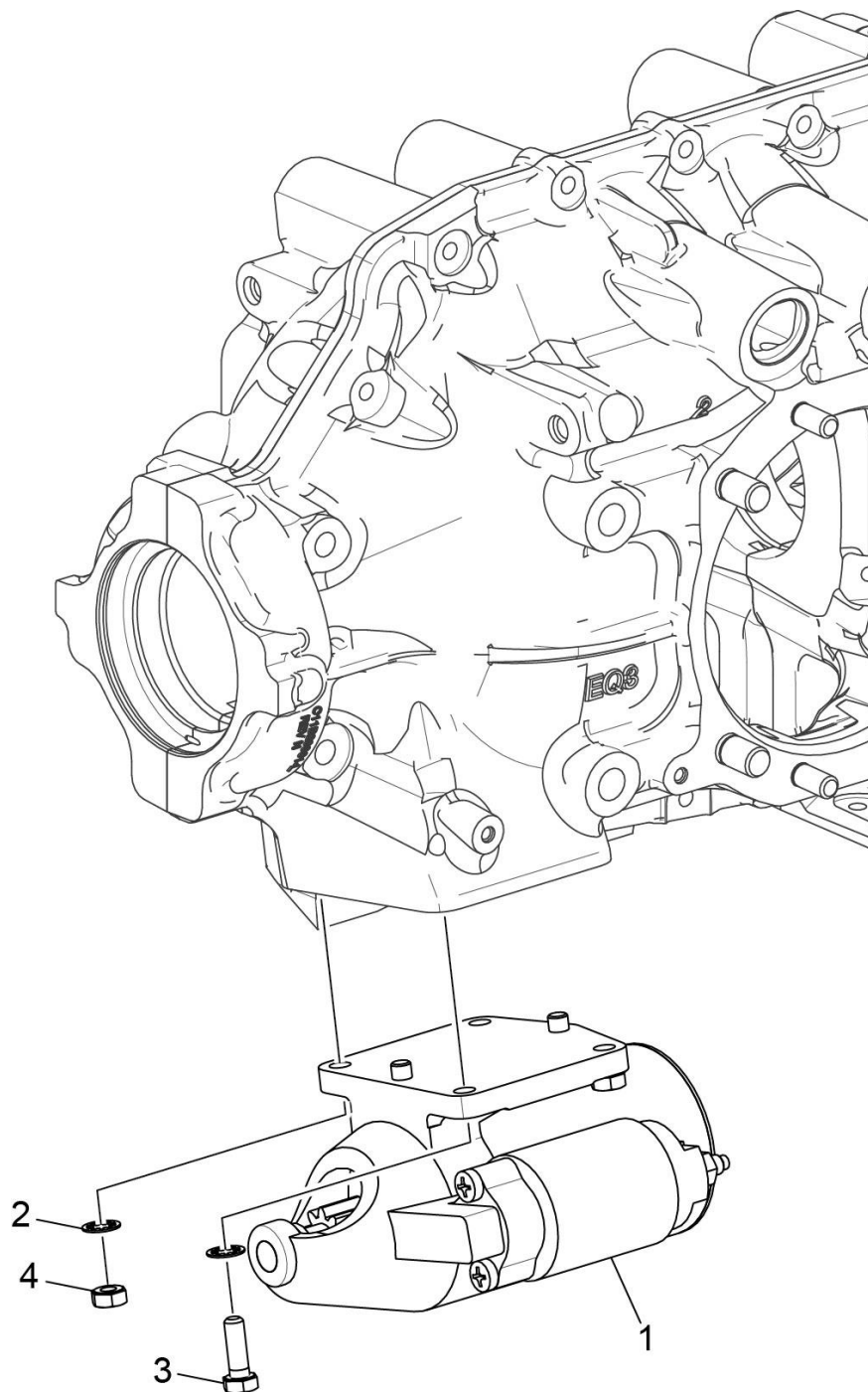
BAG - HARNESS ATTACHING		P/N 01P19762-2-7
PART NO.	NAME	QTY.
LW-16266-25-25	CLAMP - ONE WIRE	4
LW-14060	CLIP - TWO WIRE	4
STD-8	WASHER - .250 PLAIN	8
STD-1874	SCREW - .250-20 X .81 LG. FILL.	4
76734	ZIP STRAP	12
LW-16266-25-50	CLAMP	3
STD-1411	NUT - .250-20 PLAIN	1
STD-696	WASHER - .250 PLAIN (THIN)	4
STD-1916	SCREW - .250-20 X 1.13 LG. FIL HD	1
STD-1925	SCREW - .250-20 X .63 LG. PAN HD	2
72815	BRACKET - SUPPORT CLAMP - 90 DEGRE	3
73152	BRACKET - SUPPORT CLAMP	2
STD-692	SCREW - #10-32 X .50 LG. RD. HD.	5
STD-425	WASHER - #10 PLAIN	5
STD-670	LOCK NUT - #10-32	5
LW-M-2375	SET OF 2 PLATES - SPARK PLUG CABLE - 2 WIRE	2

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

# DISTRIBUTION

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

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		68C19622	GEAR, Magneto	2	2	2	2
2		MS9245-44	COTTER PIN, 3/32 diameter x 5/8 long	2	2	2	2
3		LW-12681	GASKET, Magneto	2	2	2	2
4		66GP-0SANN	MAGNETO, Plain 4370	1	1	1	1
	*	66GHP-0SBNN	MAGNETO, (ES4370)	1	1	1	1
		66GP-0SAGN	MAGNETO, Plain 4353, grounded EL	1			
	*	66GHP-0SBGN	MAGNETO, (ES4353)	1			
5		66GR15SANN	MAGNETO, Retard 4345	1	1	1	1
	*	66GHR15SBNN	MAGNETO, (ES4345)	1	1	1	1
6	V	67P20413	HARNESS ASSEMBLY, Slick, Left, V M4019	1	1	1	1
7	V	67P20412	HARNESS ASSEMBLY, Slick, Right, V M4020	1	1	1	1
8		66M21195	CLAMP, Magneto	4	4	4	4
9		STD-475	WASHER, 5/16 lock, internal teeth	4	4	4	4
10		STD-1410	NUT, 5/16-18 plain	4	4	4	4
11	V**	1182-G7	SPARK PLUG, Champion, REB37E	8	8	8	8
***		01P19762-2-7	BAG, Harness attaching	1	1	1	1
<p>* Refer to the latest revision of Service Instruction No. 1443 for a listing of approved alternate ignition systems.</p> <p>V Vendor Prime Manufacturer part</p> <p>** Refer to the latest revision of Lycoming Service Instruction No. 1042 for a complete listing of all approved spark plugs.</p> <p>*** See the previous page for a breakdown of individual parts contained in the magneto and harness attaching parts bag. These parts to be attached by customer per engine line drawing included in each bag.</p>							



**Figure 26**  
**Starter Motor and Attaching Parts**

**CRANKING****Figure 26 - Starter Motor and Attaching Parts**

Figure Item	Code	Part Number	Description	Units per Assembly			
				A 1 A 6	A 3 A 6	A 1 B 6	A 3 B 6
1		31B23592	STARTER, 12/24, 12/14P (149NL Sky-Tec)	1	1		
		31A22104	STARTER, Sky-Tec (149-12LS)			1	1
2		STD-475	WASHER, 5/16 lock, internal teeth	4	4	4	4
3		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex.head	1	1	1	1
4		STD-1410	NUT, 5/16-18 plain	3	3	3	3
<b><u>NOTICE:</u></b> Refer to the latest revision of Service Instruction No. 1154 for complete listing of FAA-approved starters, alternators, generators, regulators and relays.							

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

Part No.	Part Name	Qty.
05K26640	KIT - SEAL AND GASKET SET	1
AN901-8A	GASKET, Metal tube connect seal	1
LW-12681	GASKET, Magneto	2
LW-13353	GASKET, Oil sump	1
LW-14260	SEAL, Tachometer drive, oil	1
LW-15628	SEAL, Crankshaft, oil	1
LW-18639	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	8
06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 0.31	1
06A23493	SEAL, Shroud tube	8
06B23862	GASKET, Oil filter adapter	2
06E19769-0.63	GASKET, Annular, 5/8 I.D.	1
06E19769-1.00	GASKET, Annular, 1.00 I.D.	1
06E19769-1.25	GASKET, 1-1/4 I.D.	1
8313	GASKET, Vacuum pump	1
60096	GASKET, Fuel pump	1
61183	GASKET, Accessory adapter	1
66224	GASKET, Carburetor	1
66732	GASKET, Valve rocker shaft cover	8
06B26811	GASKET, Rocker box cover	4
68315	GASKET, Accessory drive adapter	1
71481	RING, Oil seal, 0.09 dia. x 4.84 I.D.	4
71973	GASKET, 2 bolt flange, 1.81 I.D.	4
72053	GASKET, Governor	1
72059	GASKET, Oil level gage	1
72075	SEAL, Oil, 0.09 section x 0.455 I.D.	2
72091	RING, Oil seal, 0.36 I.D. x 0.10 dia.	2
73818	GASKET, Accessory housing	1
74068	RING, Oil level gage plug	1
75118	GASKET, Exhaust flange	4
77569	RING, Seal, intake pipe	4
SSP-115	STICKER	1

**Cylinder, Piston and Ring Assembly**

Part No.	Part Name	Qty.
05K26625	KIT - CYLINDER, PISTON AND RING ASSEMBLY	1
16A26081	CYLINDER AND HEAD ASSEMBLY	1
1102	PLUG, 1/8 pipe	1
71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	1
14E23911	PISTON, Compression ratio 8.90:1	1
14G22050	RING, Piston, compression,	2
14H29865	RING, Piston, oil	1
14J22048	PIN, Piston	1
72198	PLUG, Piston pin	2
66732	GASKET, Valve rocker shaft cover	2
06B26811	GASKET, Rocker box cover (Silicone)	1
71973	GASKET, 2 bolt flange, 1-13/16 I.D.	1
06A23493	SEAL, Shroud tube	2
71195	CONTAINER	1
75118	GASKET, Exhaust flange	2
77569	RING, Seal, Intake pipe	1
LW-18661	SEAL, Shroud tube	2
SSP-115	STICKER	1

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01L23459	WASHER	25
01P19762-2-7	BAG	55
02G21382	NIPPLE	51
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06A19956	OIL SEAL	47
06A23493	SEAL	25
06B21644	GASKET	49
06B23862	GASKET	49
06B26811	GASKET	29
06E19769-0.63	GASKET	49
06E19769-1.25	GASKET	11
07A19474	BRACKET	1
07F23268	STRUT	1
1028-B	BALL	11
1102	PLUG	9
1102	PLUG	13
1102	PLUG	23
1102	PLUG	37
1102	PLUG	39
1102	PLUG	51
1182-G7	SPARK PLUG	55
11U20391-1S	CRANKCASE ASSY	9
11U28750-1S1	CRANKCASE ASSY	9
11U28752-1S1	CRANKCASE ASSY	9
12E23021	NOZZLE ASSEMBLY	9
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13C47318	CRANKSHAFT ASSY	13
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15F28835-54	ROD ASSEMBLY	26
15F28835-55	ROD ASSEMBLY	26
15F28835-56	ROD ASSEMBLY	26
15F28864-17	ROD ASSEMBLY	26
15F28864-18	ROD ASSEMBLY	26
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15F28864-21	ROD ASSEMBLY	26
15F28864-22	ROD ASSEMBLY	26
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17B23935	VALVE	25
17C19386	CAP	25
17C21191	KEY	25
17F21187	ROCKER ASSEMBLY	26
17F21188	ROCKER ASSEMBLY	26
17J26469	COVER ASSEMBLY	29
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36B19484	PULLEY	3
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66GHP-0SBGN	MAGNETO	55
66GHR15SBNN	MAGNETO	55
66GP-0SAGN	MAGNETO	55
66GP-0SANN	MAGNETO	55
66GR15SANN	MAGNETO	55
66M21195	CLAMP	55
67P20412	HARNESS ASSY	55
67P20413	HARNESS ASSY	55
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68317	SHAFTGEAR	43
68668	SPRING	11
68C19622	GEAR	55
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69796	DOWEL	9
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