

TIO-540-AH1A Series Engine Illustrated Parts Catalog

June 2011

PC-315-10

LYCOMING © 2011

652 Oliver Street
Williamsport, PA 17701

TIO-540-AH1A Series Engine Illustrated Parts Catalog

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RECORD OF REVISIONS

Rev No.	Issue Date	Initials	Insertion Date

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SERVICE BULLETIN LIST

NOTE: The “Incorporation Date” column indicates the latest revision date of this report, due to a Service Bulletin (SB), or SB revision. The words “No Effect” indicate that the SB caused no changes within this report.

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INTRODUCTION

⚠ CAUTION: DO NOT USE THIS CATALOG AS AN ASSEMBLY OR INSTALLATION DOCUMENT. THIS CATALOG MUST ONLY BE USED TO IDENTIFY PARTS IN CONJUNCTION WITH THE APPLICABLE OVERHAUL MANUAL.

Purpose of this Catalog

This Illustrated Parts Catalog contains a complete parts listing for the Lycoming TIO-540-AH1A (Electronic Engine Control) wide cylinder flange model engine.

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 TIO-540-AH1A 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 of name of the part.

Description column

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

Units per Assembly column

Where more than one assembly exists, this column contains the quantity of a specific part required in the build sequence of only one next higher assembly. The Letters "AR" represent "as required" for bulk items or non-illustrated select-from-range-parts. "RF" represents items listed for reference purposes only.

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

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

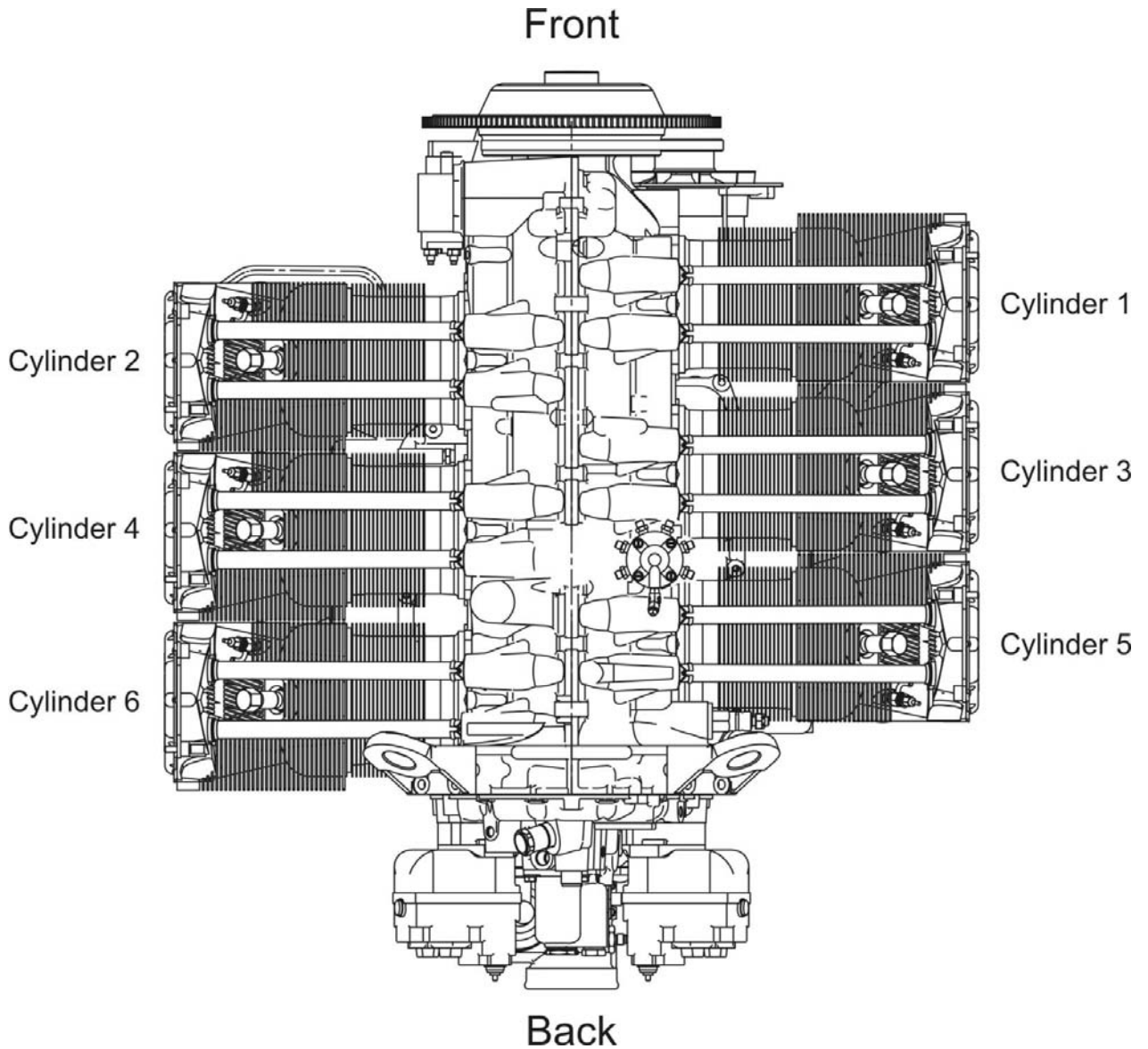
Any reference in this document to the suppliers/part manufacturer's product, by name, trademark, part number or other description is solely for the purpose of identification and does not indicate or infer that Lycoming accepts responsibility for quality control and/or airworthiness of parts, which do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

Environmental Compliance

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

Perspective of References

In this manual, all references to locations of various components will be designated as if viewing the engine from the rear (or anti-propeller) end. The front of the engine is considered to be the propeller end and the oil sump is considered to be on the bottom of the engine. Cylinders are numbered from front to rear with the odd-numbered cylinders on the right-hand side. The firing order for this engine is 1-4-5-2-3-6.



Top View of Engine

How to Order Parts and Publications

An Oversize and Undersize Parts List is included in the frontal 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 part number, nomenclature and quantity required.

The SB and SI documents are available from Lycoming distributors, 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 is responsible for notifying the factory of a change of address.

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

Call **(570) 323-6181**

8:00 A.M. – 5:00 P.M. EST (-5GMT)

Monday – Friday.

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ABBREVIATIONS AND ACRONYMS

A	
Adj.	Adjustable
C	
Cyl.	Cylinder
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

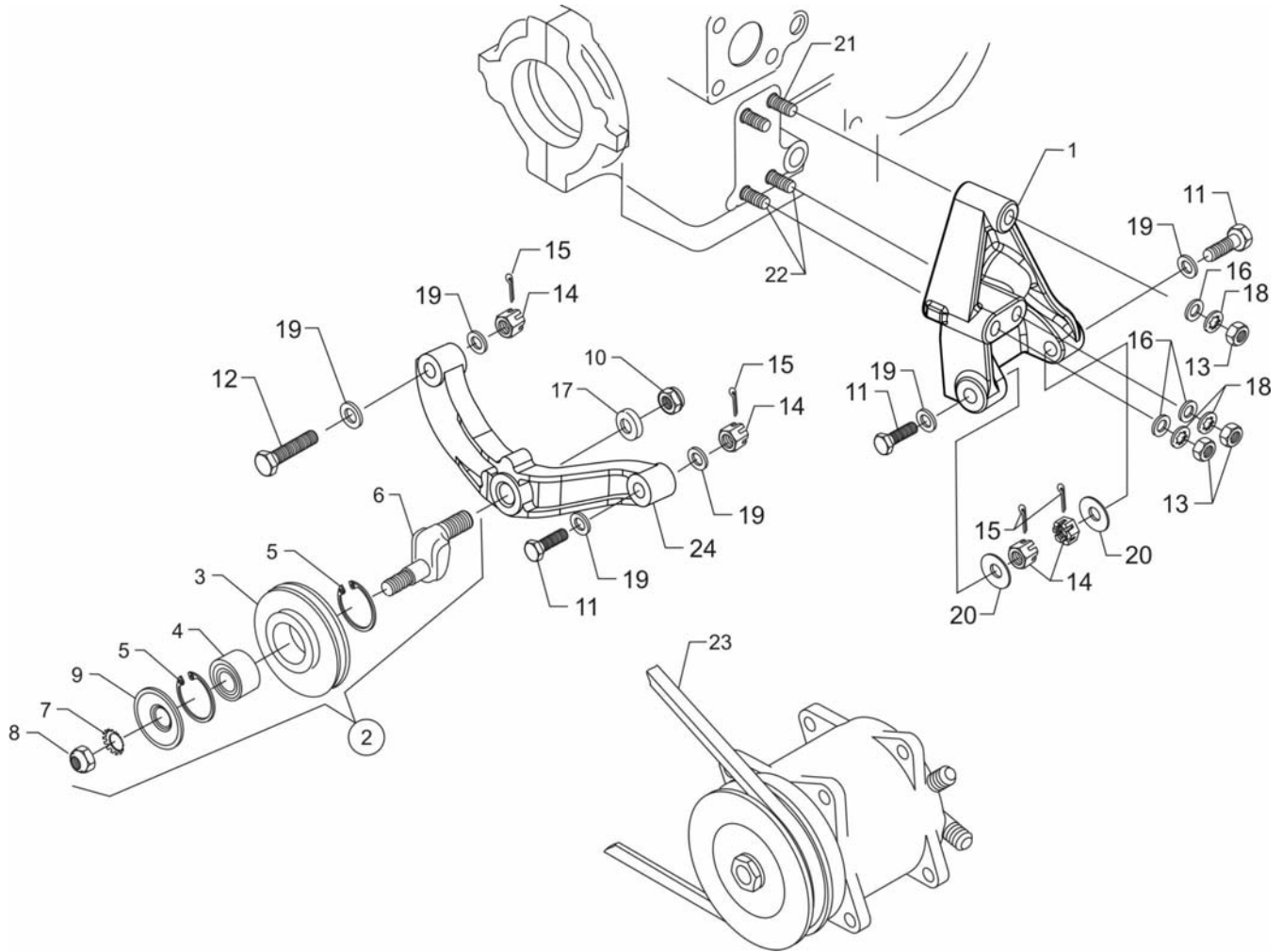
Part No.	Description	Oversize (In.)									Undersize (In.)		
		.0015	P02 .002	P05 .005	P10 .010	P15 .015	P20 .020	P30 .030	P40 .040	P50 .050	M03 .003	M06 .006	M10 .010
66670	BUSHING			X	X								
66713	GUIDE			X	X		X	X	X				
69260	INSERT				X								
69796	DOWEL			X									
71903-A†	BUSHING	X											
72155-S	BUSHING			X	X	X	X						
73810	BUSHING					X♦							
75656-S	BUSHING			X	X	X	X						
75657-S	BUSHING			X	X	X	X						
75838	GUIDE			X	X		X	X					
78443	SEAL									X			
18E23886	BEARING					X					X	X	X
LW-15628	SEAL									X			
STD-1065	DOWEL		X	X	X	X							
16T19468	SEAT				X		X	X					
18N26106	BEARING										X	X	X
18A23885	BEARING										X	X	X

♦ - Also available in P125 (.0125 in.) oversize.

† - 71903-A is the undersize part number. When ordering, do not specify the undersize code letter.

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 18E23886 bearing in .003 in. undersize, order P/N 18E23886-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.

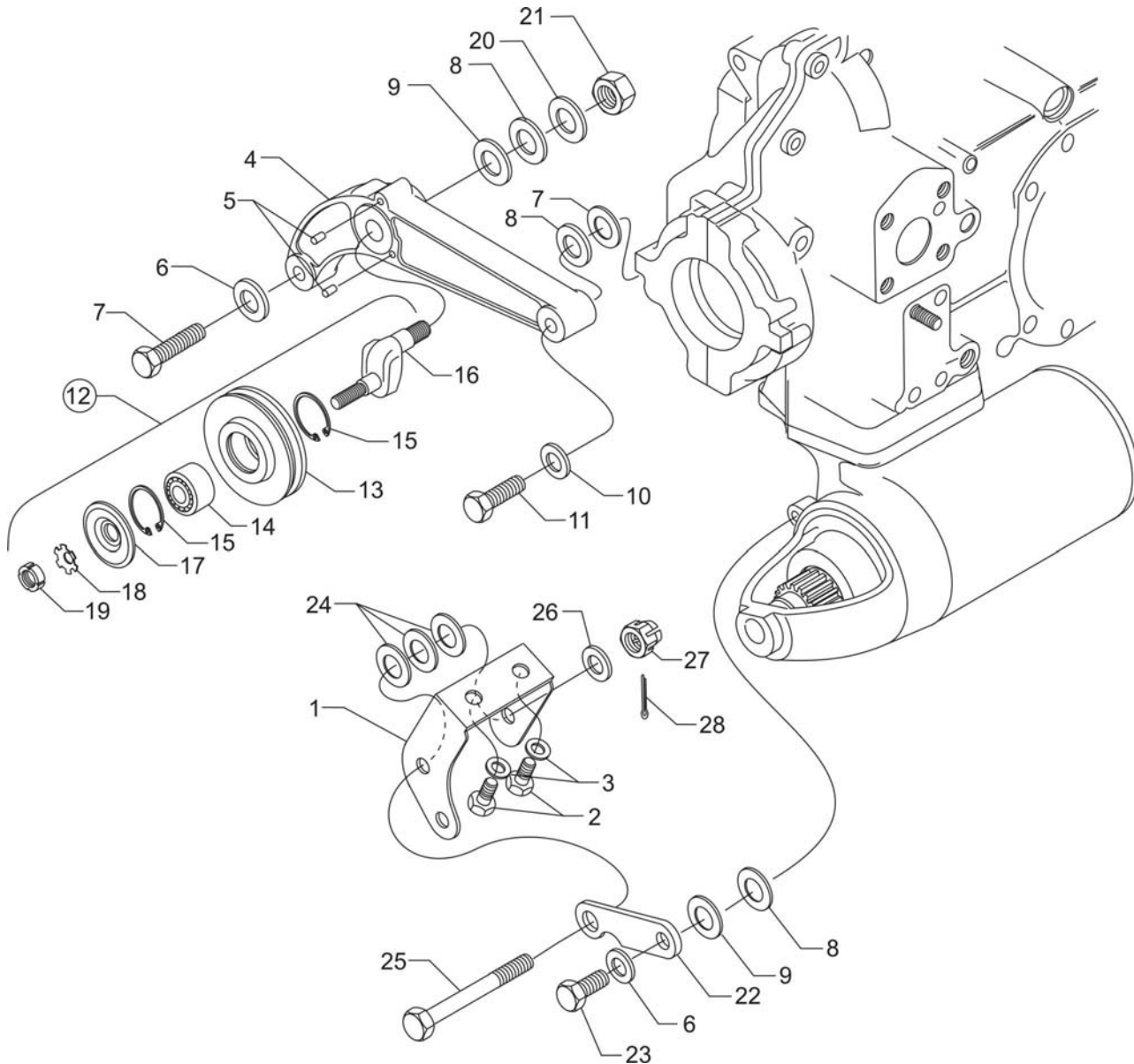


**Compressor Mounting and Attaching Parts
Figure 1**

AIR CONDITIONING - GENERAL
FIGURE 1 – COMPRESSOR MOUNTING BRACKETS

Figure Item	Code	Part Number	Description	Units per Assembly
1		07A22351	BRACKET, Compressor	1
2		36A22449	PULLEY & SHAFT ASSEMBLY, HC-50, Belt	1
3		LW-18804	PULLEY, Idler	1
4		78629	BALL BEARING, Double row, alternator	1
5		MS16625-1125	RING, Internal retaining, 1-1/4 diameter	2
6		LW-19238	SHAFT, Alternator, dual belt idler	1
7		76768	LOCKWASHER, Alternator idler pulley bearing	1
8		76769	LOCKNUT, Alternator idler pulley bearing	1
9		LW-11635	SHIELD, Alternator idler bearing	1
10		STD-2221	NUT, 1/2-20 self-locking	1
11		AN6-17	BOLT, 3/8-24 x 1-15/16 long, hex. head	3
12		AN6-21	BOLT, 3/8-24 UNF x 2-3/16 long, drilled	1
13		STD-596	NUT, 3/8-24 plain	3
14		STD-872	NUT, 3/8-24 slotted	4
15		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	4
16		STD-33	WASHER, 3/8 plain	3
17		STD-669	WASHER, 33/64 I.D. x 1.00 O.D. x 1/8 thick	1
18		STD-678	WASHER, 3/8 lock, internal teeth	3
19		STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	12
20		76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick	10
21		38-21	STUD, 3/8-16 x 2-5/8 long	1
22		38-25	STUD, 3/8-16 x 3-1/8 long	2
23		37B19774-472	BELT, Freon compressor drive	1
24		07A22349	BRACKET, Compressor belt adjusting	1

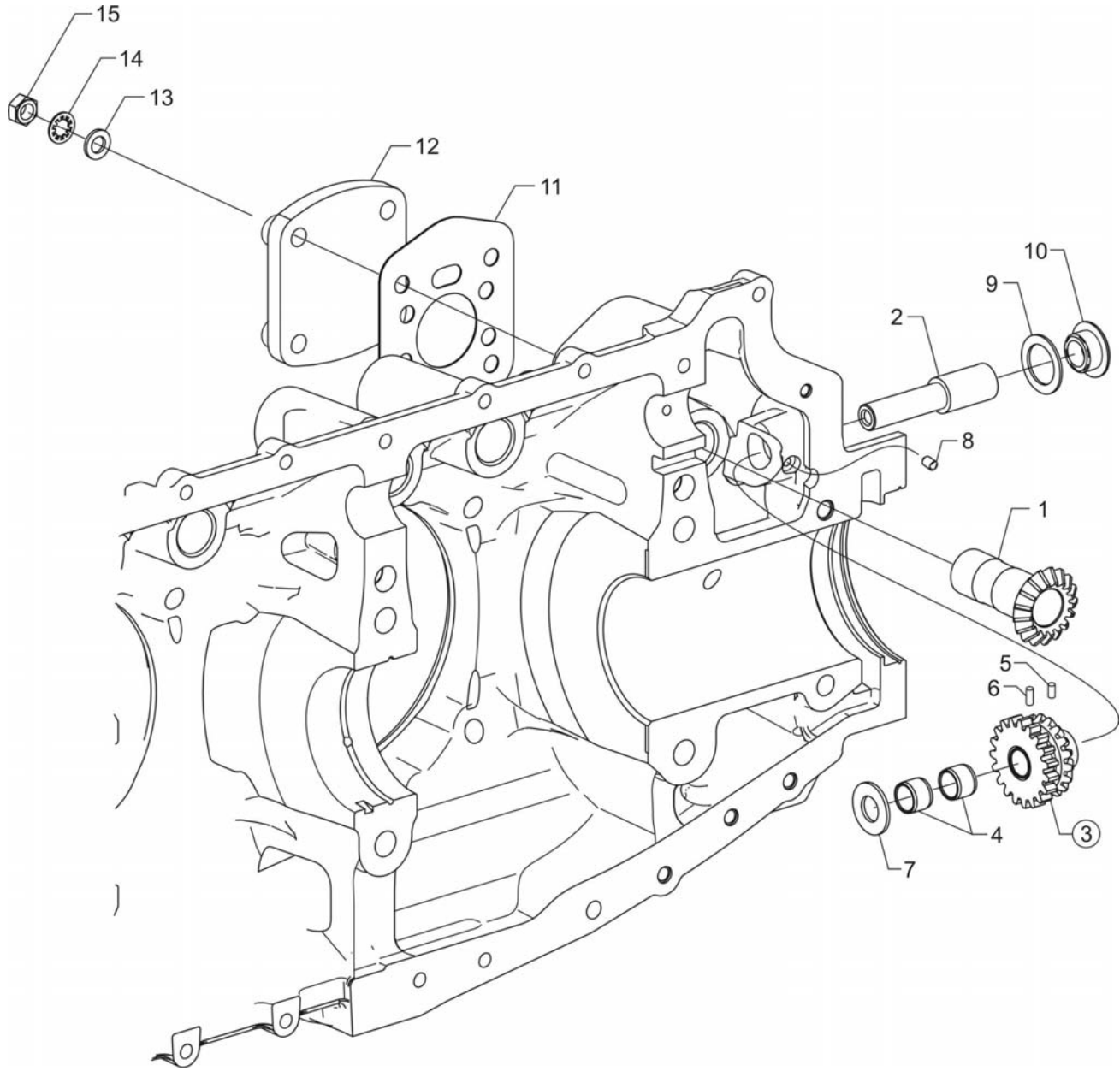
NOTE: 05K22448 Compressor Kit is available.



**Alternator Mounting and Attaching Parts
Figure 2**

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

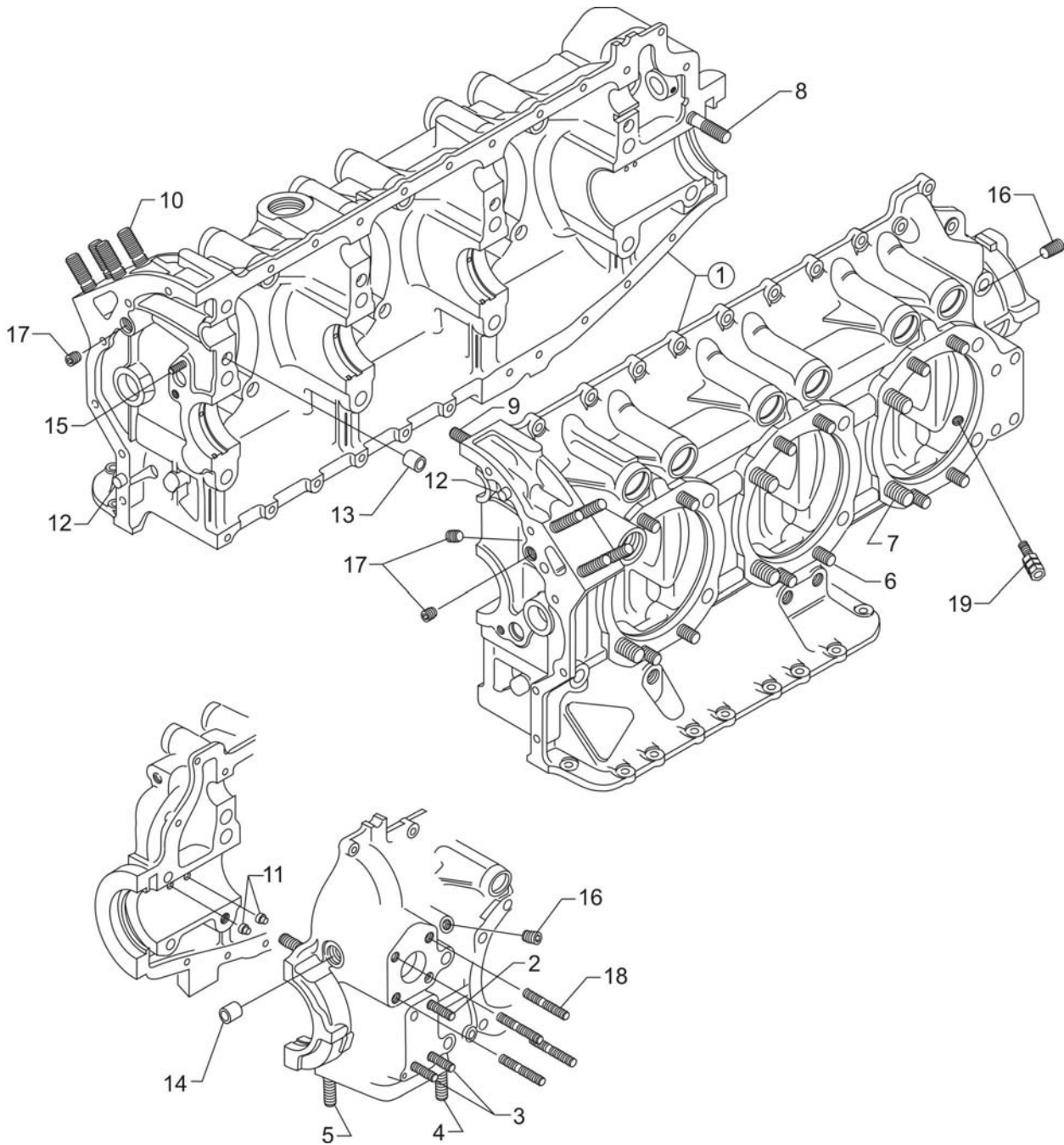
Figure Item	Code	Part Number	Description	Units per Assembly
1		07A22348	BRACKET, Alternator	1
2		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	2
3		STD-35	WASHER, 5/16 plain	2
4		07A22356	BRACKET ASSEMBLY, Alternator belt adjusting	1
5		STD-1021	DOWEL, 3/16 diameter x 5/8 long	2
6		STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick	1
7		LW-31H1.22	BOLT, 5/16-18 x 1-7/32 long, hex. head, drilled	1
8		LW-14637	SHIM, 13/16 O.D. x 11/32 I.D. x .005 thick	3
9		LW-14649	SHIM, 13/16 O.D. x 11/32 I.D. x .010 thick	3
10		STD-33	WASHER, 3/8 plain	1
11		LW-38H1.19	BOLT, 3/8-16 x 1-3/16 long, hex. head	1
12		36A22374	PULLEY & SHAFT ASSEMBLY	1
13		LW-12233	PULLEY, Alternator belt adjusting	1
14		78629	BALL BEARING, Double row, alternator	1
15		MS16625-1125	RING, Internal retaining, 1-1/4 diameter	2
16		LW-19238	SHAFT, Alternator dual belt idler	1
17		LW-11635	SHIELD, Alternator idler bearing	1
18		76768	LOCKWASHER, Alternator idler pulley bearing	1
19		76769	LOCKNUT, Alternator idler pulley bearing	1
20		STD-669	WASHER, 33/64 I.D. x 1.00 O.D. x 1/8 thick	1
21		STD-2221	NUT, 1/2-20 self-locking	1
22		07F21160	STRUT, Alternator support	1
23		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	1
24		LW-14650	SHIM, 7/8 O.D. x 15/32 I.D. x .005 thick	3
25		AN7-43	BOLT, 7/16-20 x 4-15/32 long, hex. head	1
26		STD-632	WASHER, 7/16 plain	2
27		AN310-7	NUT, 7/16-20 plain, slotted	1
28		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	1



**Propeller Governor Drive Assembly
Figure 3**

FRONT SECTION**FIGURE 3 - PROPELLER GOVERNOR DRIVE ASSEMBLY**

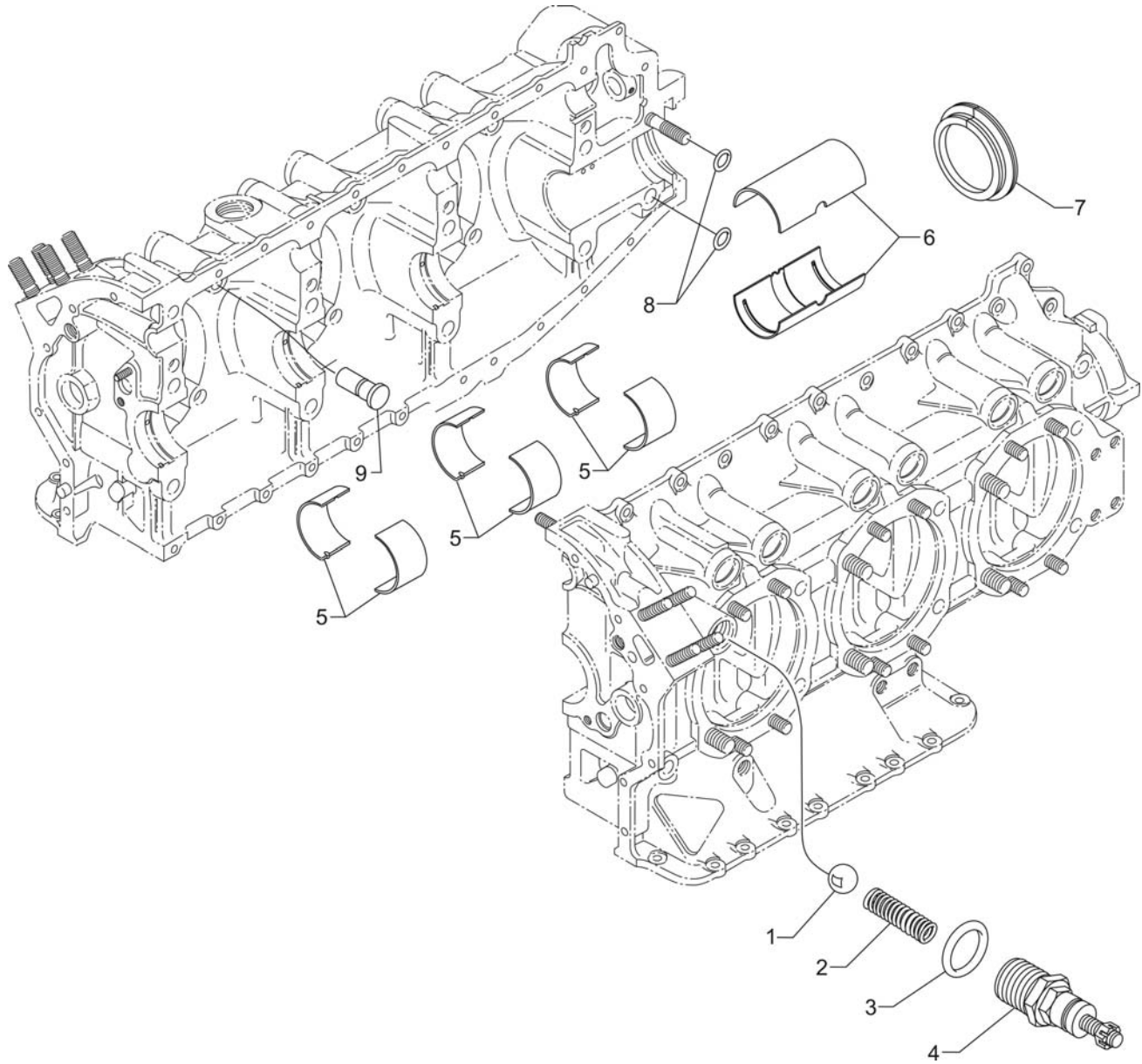
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-10442	GEAR, Propeller governor driven	1
2		LW-14021	SHAFT, Propeller governor idler gear	1
3		LW-10541	GEAR ASSEMBLY, Propeller governor idler	1
4		77872	BUSHING, Propeller governor idler gear	2
5		STD-19	DOWEL, 3/32 diameter x 7/32 long	1
6		STD-798	DOWEL, 3/32 diameter x 9/32 long	1
7	AR	73249	WASHER, Thrust (.0585 - .0595 thick)	AR
	AR	73250	WASHER, Thrust (.062 - .063 thick)	AR
	AR	73251	WASHER, Thrust (.0655 - .0665 thick)	AR
	AR	73252	WASHER, Thrust (.069 - .070 thick)	AR
	AR	01L21418	WASHER, Thrust (.055 - .056 thick)	AR
8		AN565B1032H5	SET SCREW, No. 10-32 x 5/16 long	1
9		70455	GASKET, 25/32 I.D. x 1-1/8 O.D. x 1/32 thick	1
10		LW-13896	PLUG, 3/4-16 hex. head	1
11		72053	GASKET, Governor	1
12		72378	COVER, Governor drive	1
13		STD-35	WASHER, 5/16 plain	20
14		STD-475	WASHER, 5/16 lock, internal teeth	4
15		STD-1410	NUT, 5/16-18 plain	4
AR as required				



**Crankcase Assembly
Figure 4**

POWER SECTION**FIGURE 4 - CRANKCASE ASSEMBLY**

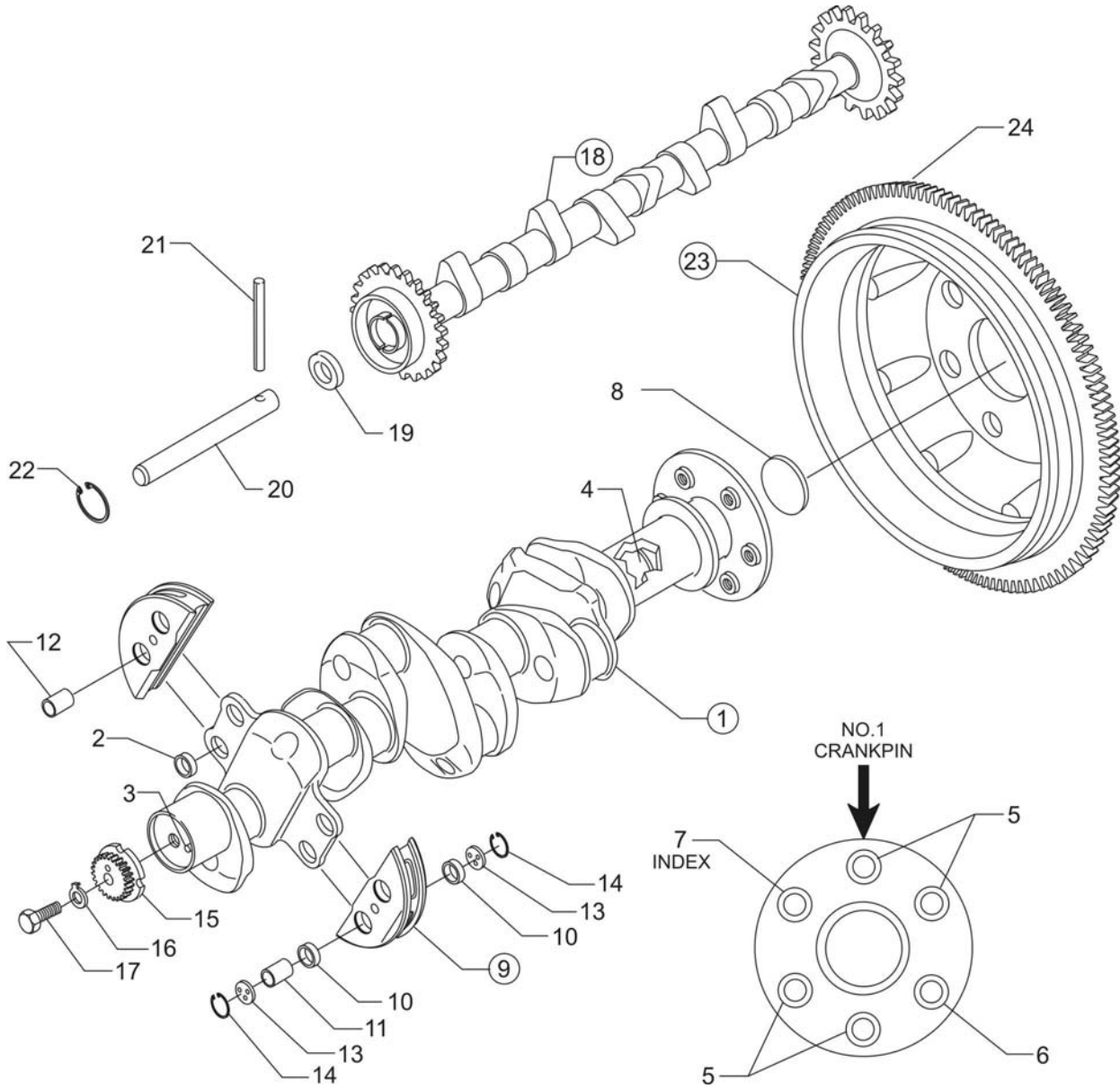
Figure Item	Code	Part Number	Description	Units per Assembly
1	*	11F24023-S1-S	CRANKCASE ASSEMBLY KIT	1
	P	11F24023-S1	CRANKCASE ASSEMBLY	1
	*	11F24023-S6-S	CRANKCASE ASSEMBLY KIT	1
	P	11F24023-S6	CRANKCASE ASSEMBLY	1
2	**	38-21	STUD, 3/8-16 x 2-5/8 long	1
3	**	38-25	STUD, 3/8-16 x 3-1/8 long	2
4		31C-12	STUD, 5/16-18 x 1-1/2 long	2
5		31C-13	STUD, 5/16-18 x 1-5/8 long	1
6		38-13	STUD, 3/8-16 x 1-5/8 long	24
5		50-15	STUD, 1/2-13 x 1-7/8 long	12
8		38-22	STUD, 3/8-16 x 2-3/4 long	1
9		38D-17	STUD, 3/8-16 x 2-1/8 long, drilled	1
10		38-16	STUD, 3/8-16 x 2.00 long	8
11		69796	DOWEL, Crankshaft bearing	2
12		STD-514	DOWEL, 5/16 diameter x 1/2 long	2
13		STD-557	DOWEL, 1/2 diameter x 11/16 long, hollow	2
14		72158	BUSHING, Governor drive idler shaft	1
15		01A23354	STUD, 5/16-18 x 1.00 long, drilled	1
16		STD-1339	PLUG, 1/16-27 NPT, allen head	1
17		1102	PLUG, 1/8-27 NPT, allen head	4
18		31C-17	STUD, 5/16-18 x 2-1/8 long	4
19		73772	NOZZLE ASSEMBLY, Piston cooling	6
<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> <p>** Use on P/N 11F24023-S6 Crankcase Assembly only.</p>				



**Crankcase Related Parts
Figure 5**

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

Figure Item	Code	Part Number	Description	Units per Assembly
1		1028-B	BALL, 11/16 diameter	1
2	*	61084	SPRING, Oil pressure relief valve	1
	*	68668	SPRING, Oil pressure relief valve	1
	*	77467	SPRING, Oil pressure relief valve	1
	*	LW-11713	SPRING, Oil pressure relief valve	1
	*	LW-18085	SPRING, Oil pressure relief valve	1
3		06E19769-1.25	GASKET, 1-1/4 I.D. annular	1
4		77808	VALVE ASSEMBLY, Oil pressure relief valve, adj.	1
5		18E23886	BEARING, Crankshaft	6
6		18B23885	BEARING, Crankshaft	2
7		LW-15628	SEAL, Crankshaft oil, solid	1
8		72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter	2
9		15B26064	BODY, Hydraulic tappet	12
* Select spring to give a minimum of three threads exposed on adjusting screw to allow field adjustment. Reference latest revision of Lycoming Table of Limits, SSP-1776, Part I for spring identification.				

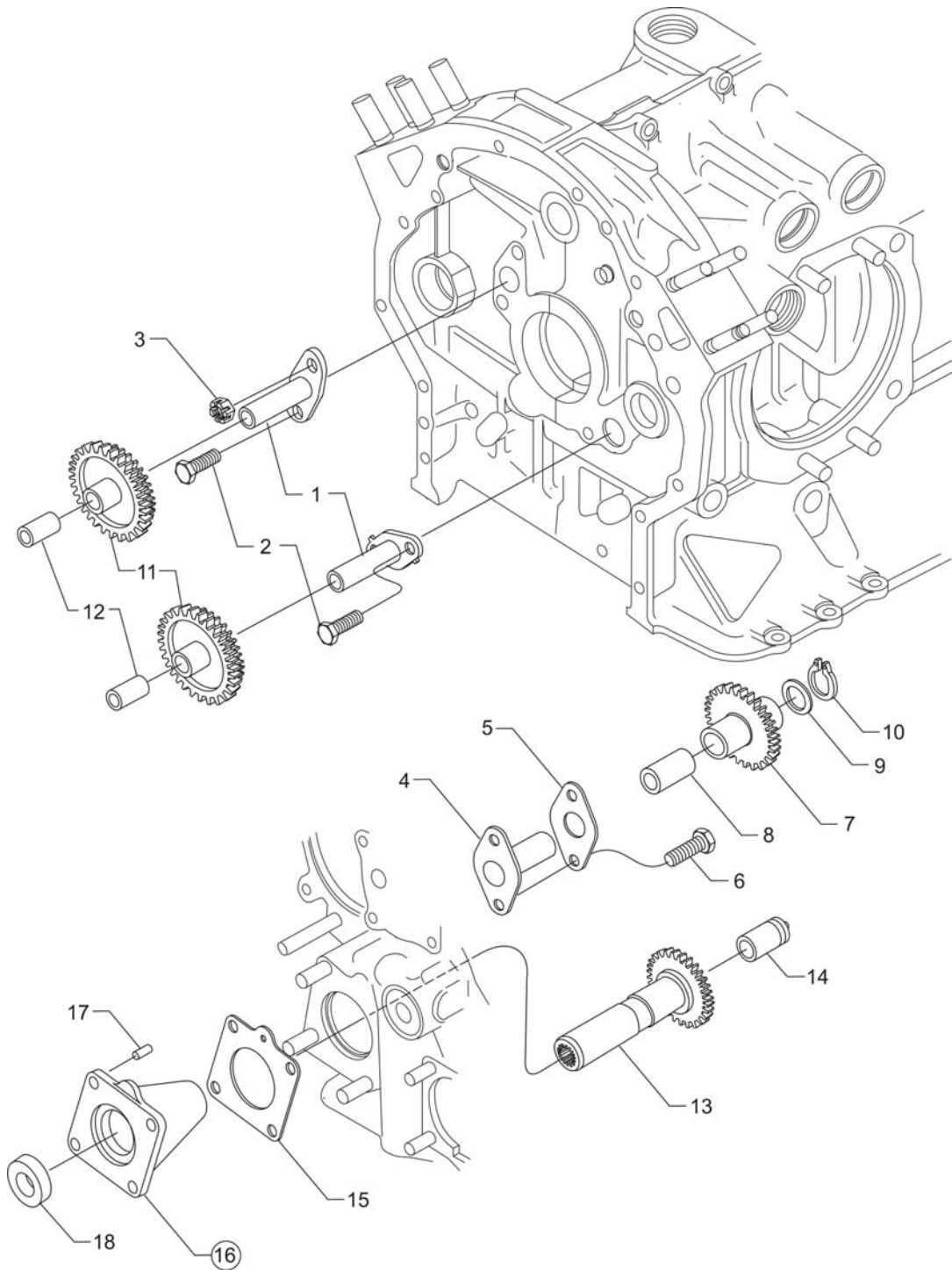


**Crankshaft, Counterweight, Camshaft and Related Parts
Figure 6**

POWER SECTION**FIGURE 6 - CRANKSHAFT, COUNTERWEIGHT, CAMSHAFT AND RELATED PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly
1		13F47727	CRANKSHAFT ASSEMBLY	1
2		73810	BUSHING, Crankshaft dynamic	4
3		STD-1065	DOWEL, Stepped, 5/16 & 1/4 dia. x 35/64 long	1
4		60945	PLUG, 1-1/4 O.D.	1
5		75656-S	BUSHING, Propeller flange, long	4
6		72155-S	BUSHING, Propeller flange, short	1
7		75657-S	BUSHING, Propeller flange, indexing	1
8		STD-1211	PLUG, 2.00 diameter expansion	1
9		LW-19210	COUNTERWEIGHT ASSEMBLY	2
10		71903-A	BUSHING, Dynamic counterweight	8
11		73648	ROLLER, Dynamic counterweight, 5.1 order	2
12		76788	ROLLER, Dynamic counterweight, 6.3 order	2
13		71907	WASHER, Dynamic counterweight	8
14		LW-14820	RING, Internal retaining	8
15		13S19648	GEAR, Crankshaft	1
16		LW-18638	LOCKPLATE, Crankshaft gear	1
17		STD-2247	BOLT, 5/16-24 x 1-3/4 long	1
18		LW-19340	CAMSHAFT ASSEMBLY	1
19		76118	SPACER, Tachometer shaft, centering	1
20		76155	SHAFT ASSEMBLY, Tachometer	1
21		LW-18667	PIN, 3/16 diameter x 2-21/64 long	1
22		STD-2231	RING, Internal retaining	1
23		31M22350	SUPPORT ASSEMBLY, Starter ring gear, 12/14 pitch	1
		31M22993	SUPPORT ASSEMBLY, Starter ring gear	1
24		72566	GEAR, Starter ring	

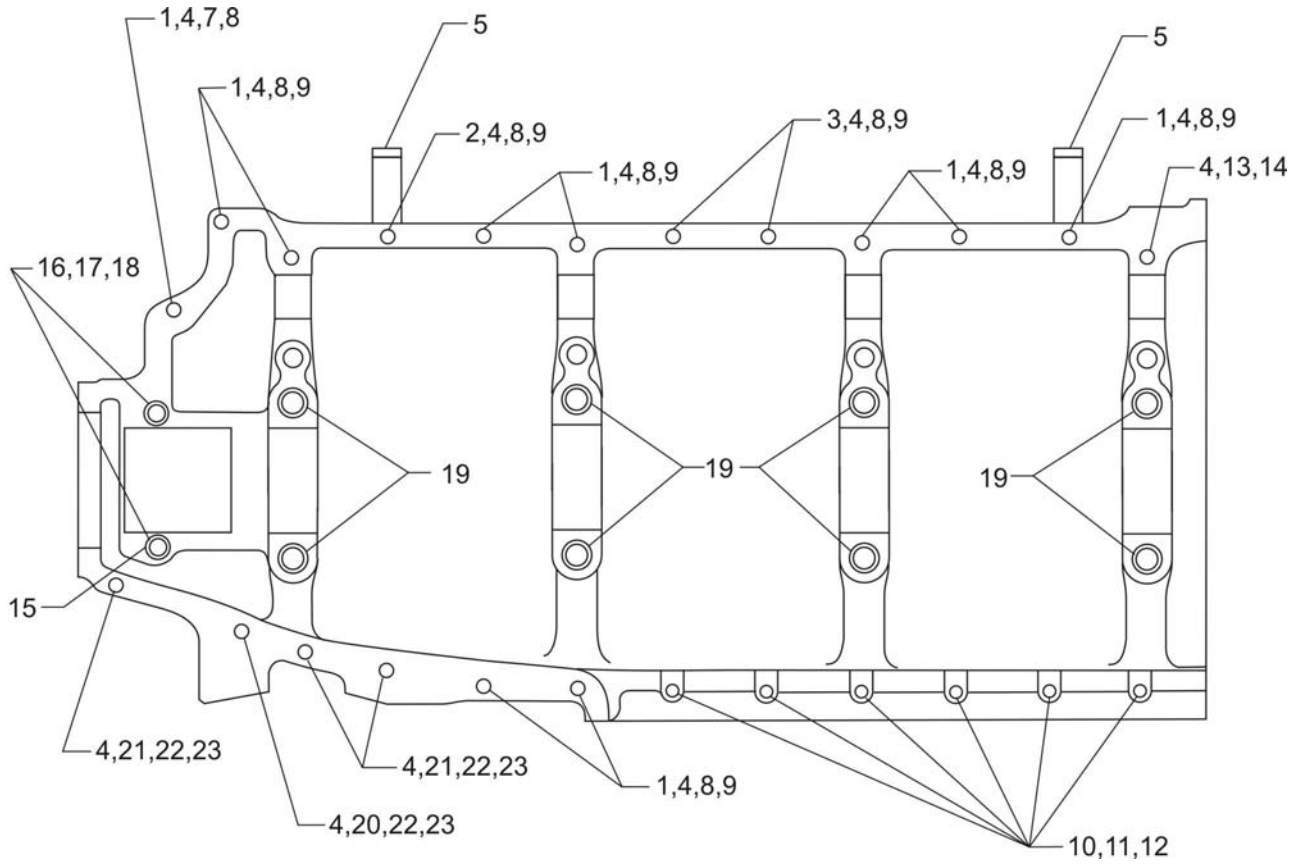
NOTE: Crankshaft and Counterweight Assembly Kit P/N 05K47777 is available.



**Crankshaft and Fuel Pump Idler Gears
Figure 7**

POWER SECTION**FIGURE 7 - CRANKSHAFT AND FUEL PUMP IDLER GEARS**

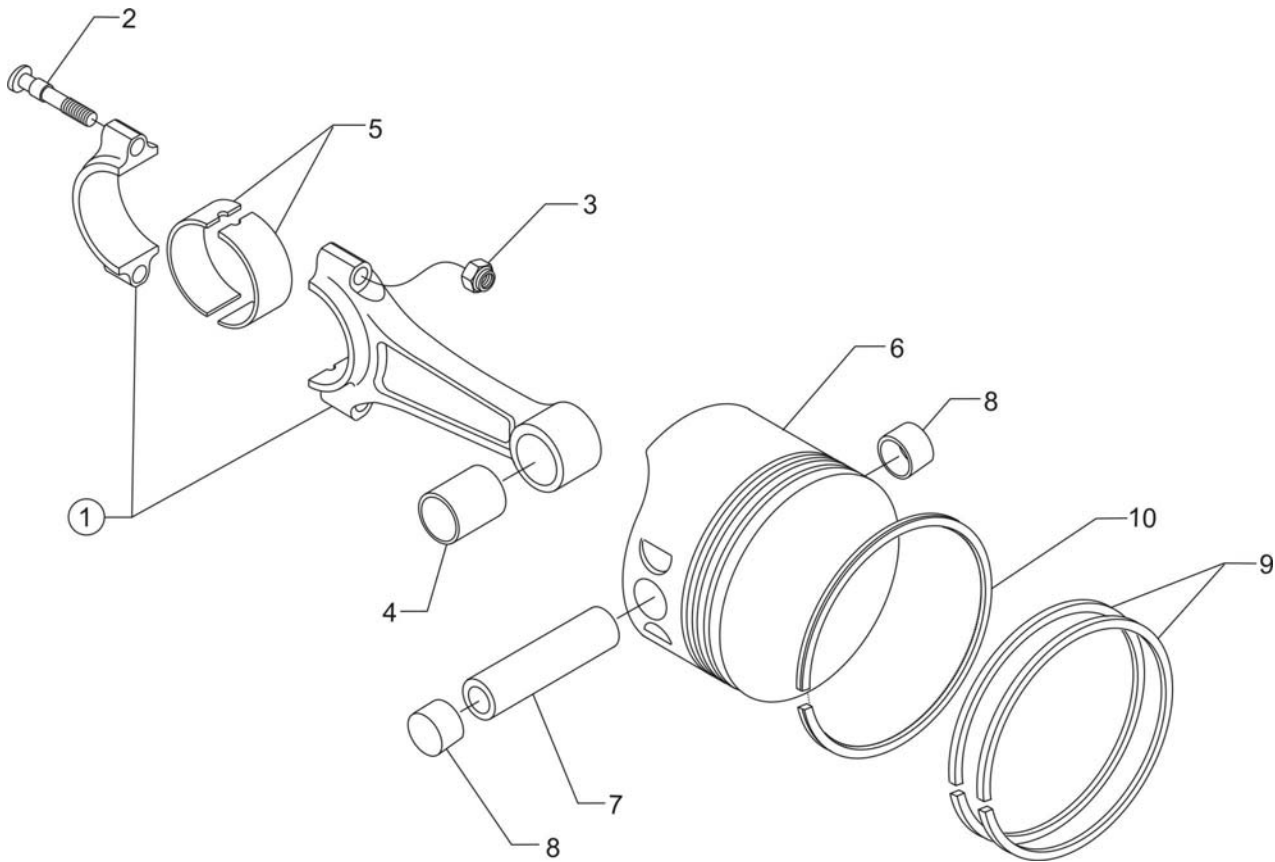
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-13795	SHAFT, Crankshaft idler gear	2
2		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head	3
3		STD-2168	NUT, 5/16-18 NC-3 slotted shear	1
4		72246	SHAFT, Fuel pump idler gear	1
5		71667	LOCKPLATE, 1/4 bolt x 1-3/4 spacing (offset)	1
6		LW-25-0.63	SCREW, 1/4-20 x 5/8 long, hex. head	2
7		71664	GEAR ASSEMBLY, Fuel pump idler	1
8		77309	BUSHING, Crankshaft idler gear	1
9		70474	WASHER, Fuel pump idler thrust	1
10		STD-1737	RING, External retaining	1
11		71668	GEAR ASSEMBLY, Crankshaft idler, plain	2
12		67530	BUSHING, Crankshaft idler gear	1
13		72972	SHAFTGEAR ASSEMBLY, Fuel pump drive	1
14		72962	THRUST BUTTON, Shaftgear	1
15		69164	GASKET, Fuel pump adapter	1
16		69159	ADAPTER ASSEMBLY, Fuel pump drive	1
17		STD-1774	PIN, 1/8 diameter x 1/4 long	1
18		STD-213	OIL SEAL, 3/4 I.D. x 1-3/8 O.D.	1



**Crankcase Attaching Parts
Figure 8**

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

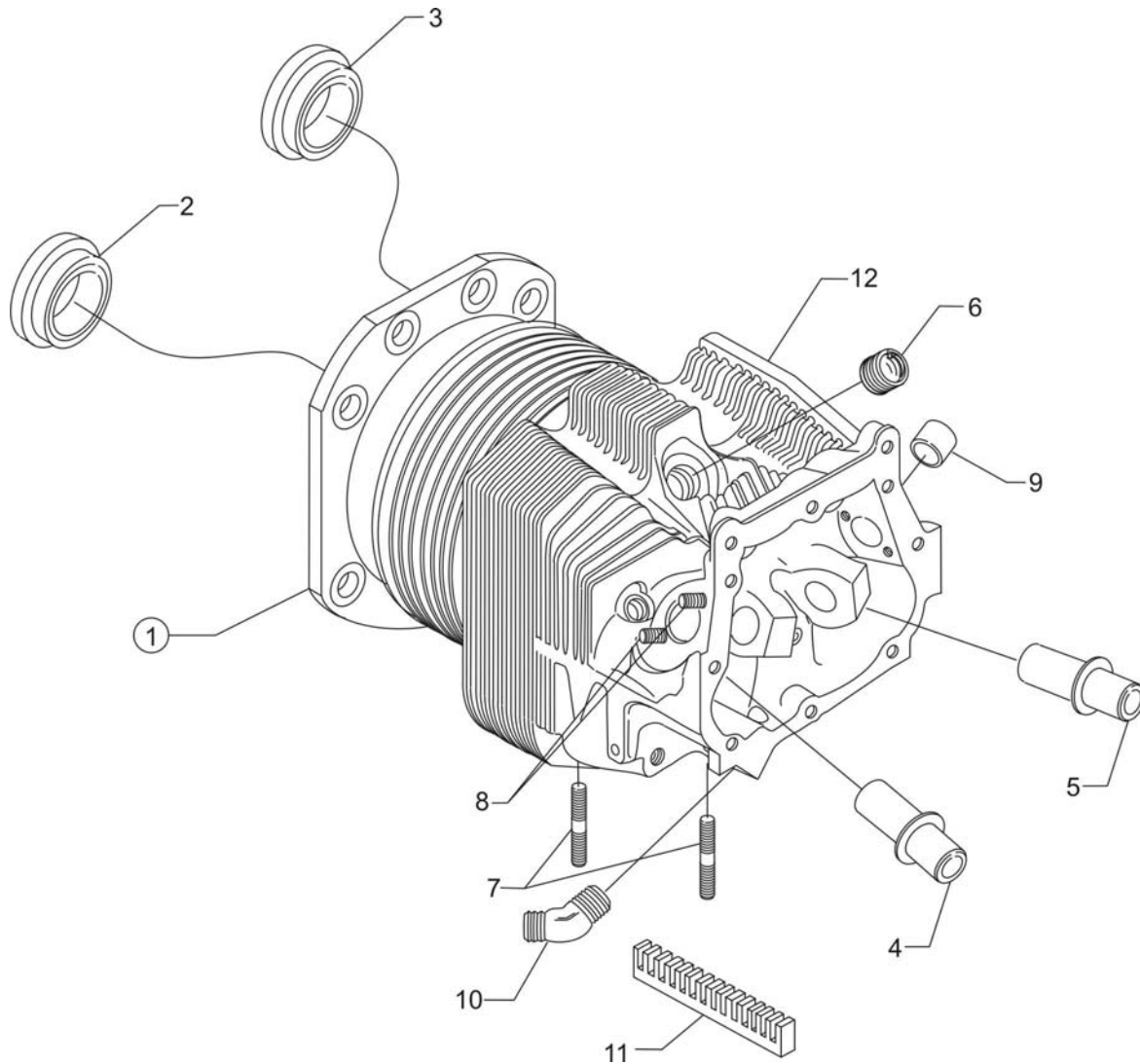
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	10
2		LW-25-1.88	BOLT, 1/4-20 x 1-7/8 long, hex. head	1
3		LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. head	1
4		STD-8	WASHER, 1/4 plain	26
5		60803	STRAP, Lifting	2
6		LW-25-2.13	BOLT, 1/4-20 x 2-1/8 long, hex. head	2
7		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
8		STD-160	WASHER, 1/4 lock, internal teeth	13
		STD-160	WASHER, 1/4 lock, internal teeth	15
9		STD-1411	NUT, 1/4-20 plain	12
		STD-1411	NUT, 1/4-20 plain	14
10		LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head, drilled	6
11		STD-8	WASHER, 1/4 plain	6
12		STD-2249	NUT, 1/4-20 slotted shear	6
13		STD-33	WASHER, 3/8 plain	1
14		STD-872	NUT, 3/8-24 slotted	1
15		AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. head	1
16		STD-33	WASHER, 3/8 plain	3
17		STD-678	WASHER, 3/8 lock, internal teeth	2
18		STD-596	NUT, 3/8-24 plain	2
19		76220	STUD, 1/2-20 x 10-45/64 long	8
20		LW-31-2.75	BOLT, 5/16-18 x 2-3/4 long	1
21		LW-31-1.16	BOLT, 5-16-18 x 1-5/32 long	3
22		STD-35	WASHER, 5/16 plain	4
23		STD-475	WASHER, 5/16 lock, internal teeth	4



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

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

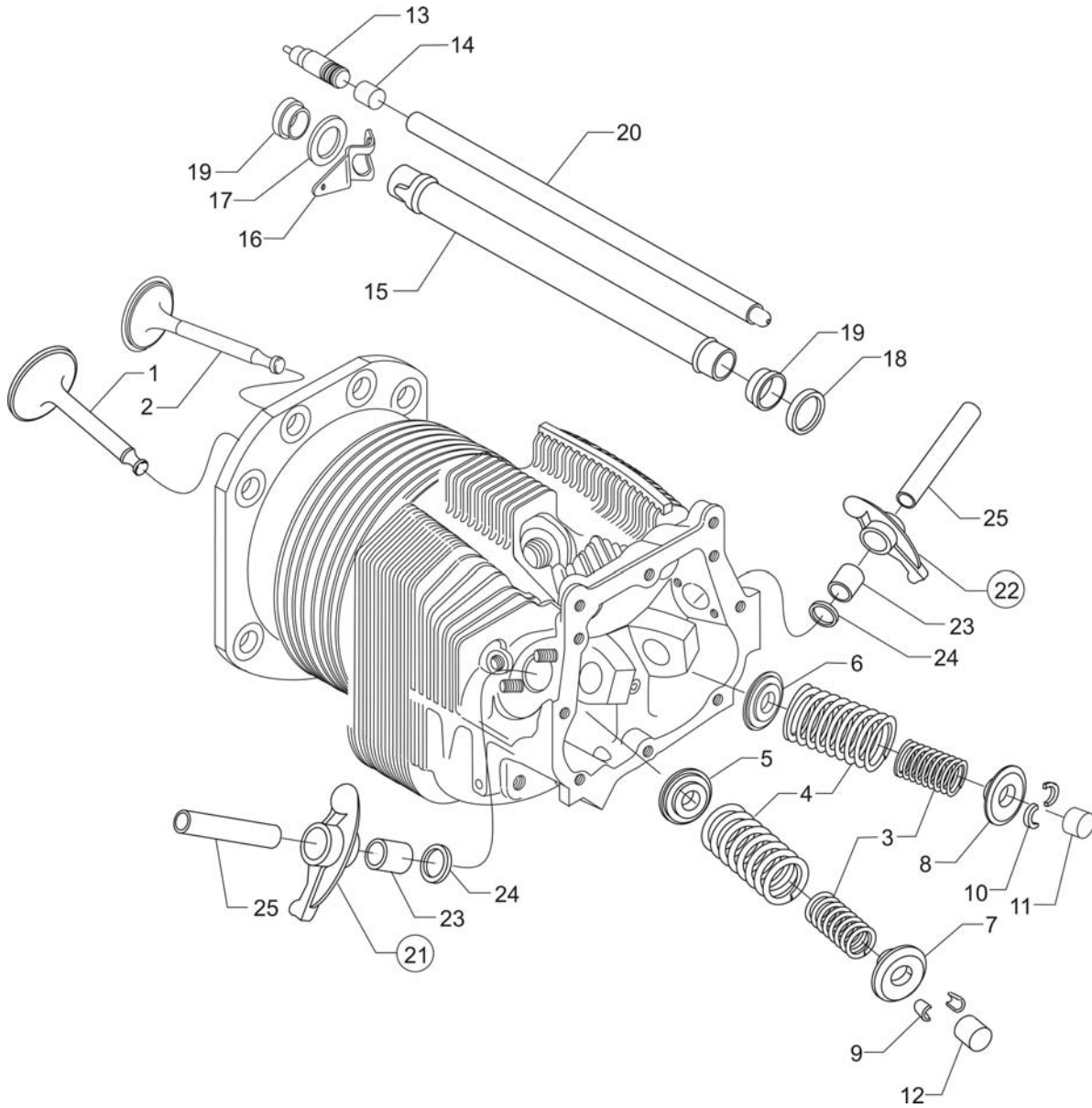
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-19332-S	CONNECTING ROD ASSEMBLY	6
2		LW-13923	BUSHING, Connecting rod, upper	6
3	* P	LW-12596 14S23889	BOLT, Connecting rod	12
4		LW-12186	NUT, Connecting rod bolt	12
5		18N26106	BEARING, Connecting rod	12
6		LW-10545-S	PISTON, Compression ratio, 7.30:1	6
7		LW-14078	PIN, Piston	6
8		72198	PLUG, Piston pin	12
9		74241	RING, Piston, compression	12
10		14H21990	RING, Piston, oil regulating, expander type	6
		14H21950	RING, Piston, oil regulating, expander type	6
P Lycoming proprietary part. Listed for reference purpose only, cannot be purchased. * Service use only.				



**Cylinder Assembly
Figure 10**

CYLINDER SECTION
FIGURE 10 - CYLINDER ASSEMBLY

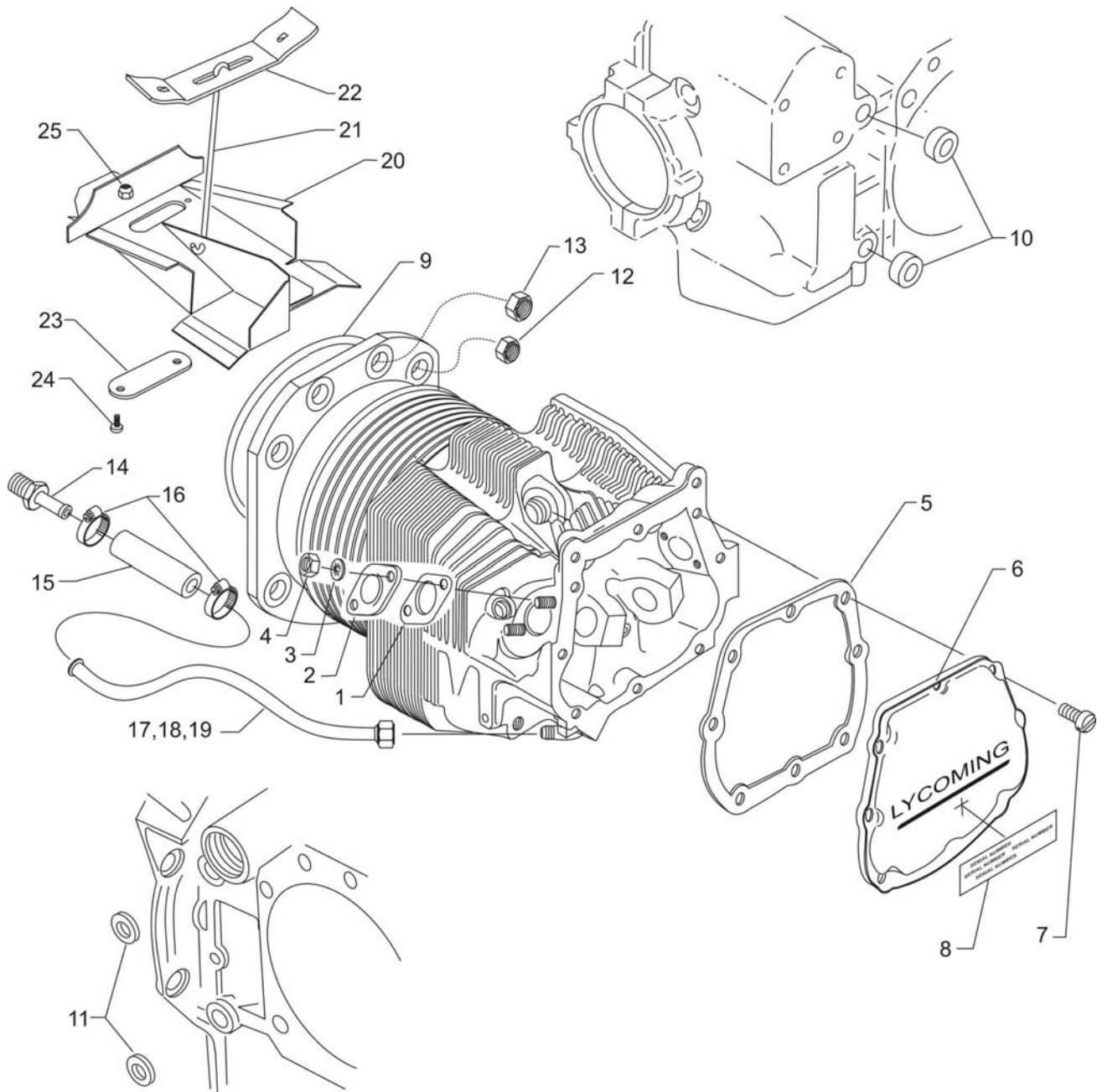
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-12988	CYLINDER ASSEMBLY, Nitrided	6
2		LW-12688	SEAT, Intake valve	6
3		16T19468	SEAT, Exhaust valve	6
4	*	LW-11956	GUIDE, Intake valve, flangeless	6
5	*	LW-11958	GUIDE, Exhaust valve, flangeless	6
6		69260	INSERT, Spark plug, 18-1.5 MM	12
7		31C-13	STUD, 5/16-18 x 1-5/8 long	12
8		25C-8	STUD, 1/4-20 x 1.00 long	24
9		66670	BUSHING, Rocker shaft, inner	24
10		MS20823-6D	ELBOW, 45°, 3/8 flared tube	6
11		72343	STABILIZER, Cylinder head fins, 15 teeth	6
12		72344	STABILIZER, Cylinder head fins, 26 teeth	6
* See latest revision of Service Instruction No. 1256 for service valve guides.				



**Valve Assembly and Related Parts
Figure 11**

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

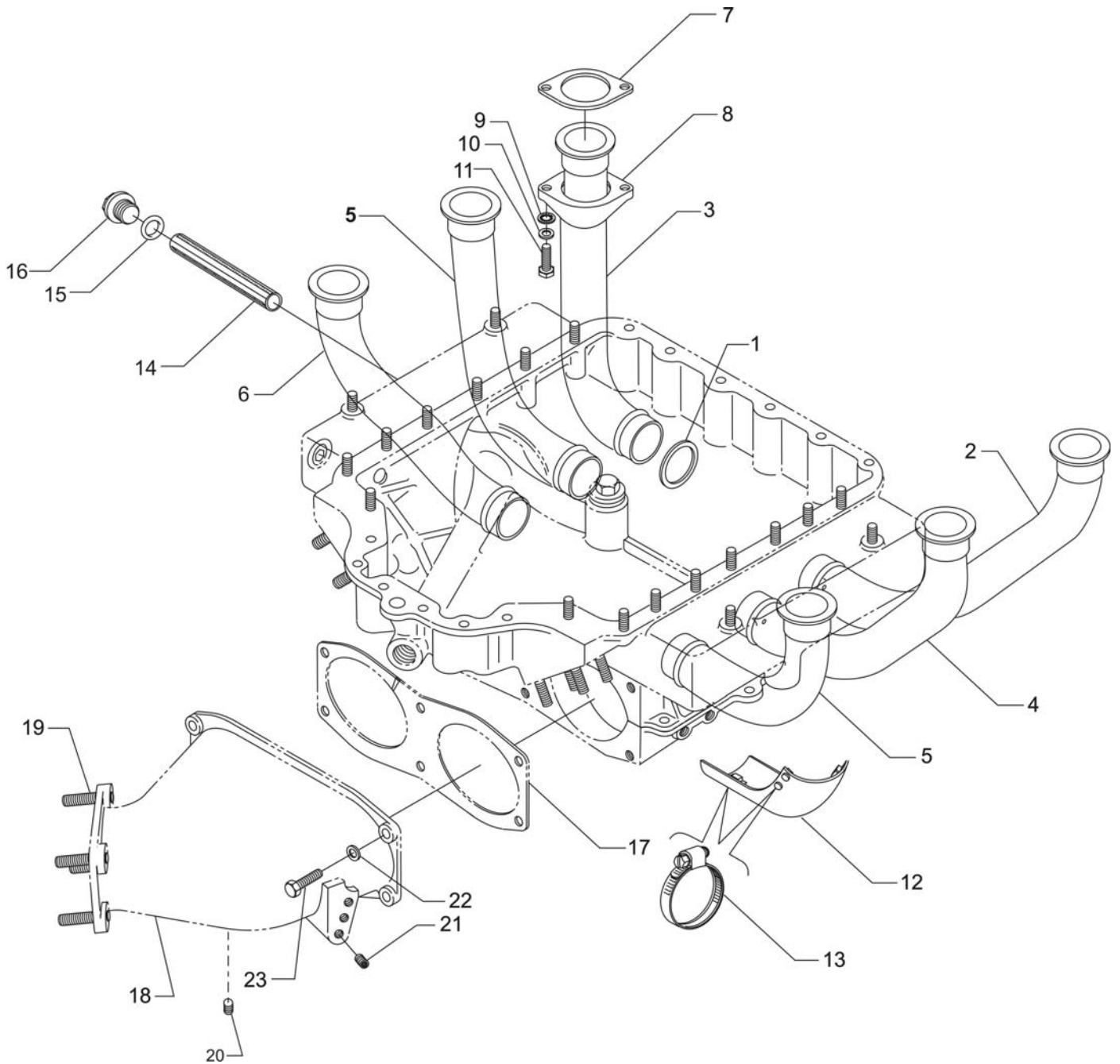
Figure Item	Code	Part Number	Description	Units per Assembly
1		17A23937	VALVE, Intake	6
2		17B23935	VALVE, Exhaust	6
3		LW-11797	SPRING, Valve, inner	12
4		LW-11796	SPRING, Valve, outer	12
5		LW-13321	SEAT, Valve spring, lower intake	6
6		LW-13322	SEAT, Valve spring, lower exhaust	6
7		69532	SEAT, Valve spring, upper intake	6
8		LW-16475	SEAT, Valve spring, upper exhaust	6
9		72050	KEY, Valve intake	12
10		17C21191	KEY, Valve exhaust	12
11		17C19386	CAP, Valve stem, exhaust (rotator type)	6
12		62388	CAP, Valve stem	6
13		15B26066	PLUNGER ASSEMBLY, Hydraulic tappet	12
14		15B21319	SOCKET, Hydraulic tappet	12
15		72255	SHROUD TUBE ASSEMBLY, Push rod	12
16		15H21201	SPRING, Shroud tube	24
17		66728	WASHER, 25/32 I.D. x 1-1/4 O.D. x 1/32	12
18		61503	SLEEVE, Shroud tube seal	12
19		LW-18661	SEAL, Shroud tube	24
20	AR	15F19957-55	ROD ASSEMBLY, Push (A total of 12 required)	AR
	AR	15F19957-56	ROD ASSEMBLY, Push (A total of 12 required)	AR
	AR	15F19957-57	ROD ASSEMBLY, Push (A total of 12 required)	AR
	AR	15F19957-58	ROD ASSEMBLY, Push (A total of 12 required)	AR
	AR	15F21362-21	ROD ASSEMBLY, Push (A total of 12 required)	AR
	AR	15F21362-22	ROD ASSEMBLY, Push (A total of 12 required)	AR
	AR	15F21362-23	ROD ASSEMBLY, Push (A total of 12 required)	AR
	AR	15F21362-24	ROD ASSEMBLY, Push (A total of 12 required)	AR
21	*	17F21186	ROCKER ASSEMBLY, Valve, intake	6
22	*	17F21185	ROCKER ASSEMBLY, Valve, exhaust	6
23		74389	BUSHING, Valve rocker	12
24		71549	WASHER, Valve rocker	12
25		72626	SHAFT, Valve rocker	12
AR as required				
* Due to the size of the area where the part number is stamped, the last five digits may be all that is shown (21185 or 21186).				



**Cylinder Related Parts
Figure 12**

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

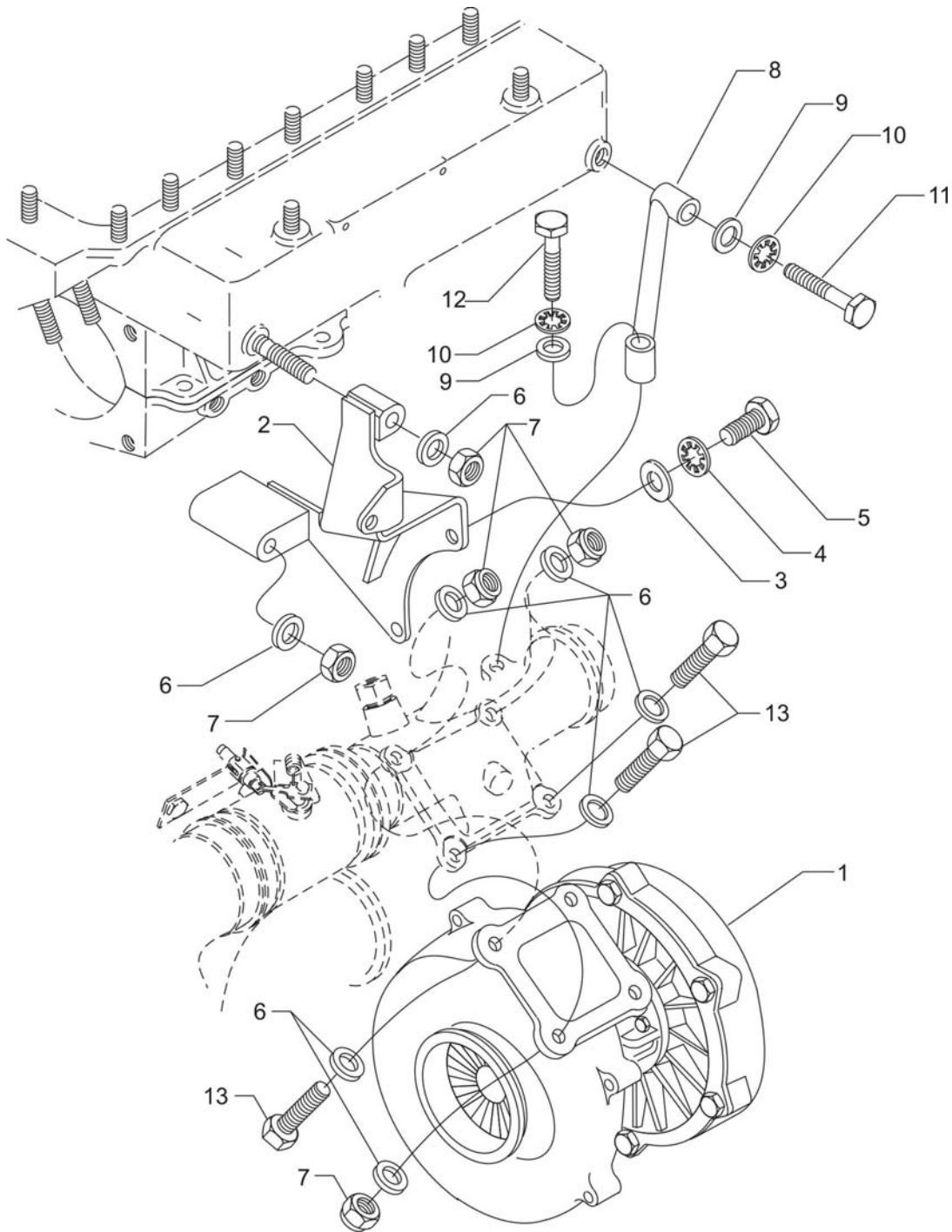
Figure Item	Code	Part Number	Description	Units per Assembly
1		66732	GASKET, Valve rocker shaft cover	12
2		72710	COVER, Valve rocker shaft	12
3		STD-160	WASHER, 1/4 lock, internal teeth	24
4		STD-1411	NUT, 1/4-20 plain	24
5		67193	GASKET, Rocker box cover	6
6		68795	COVER ASSEMBLY, Rocker box	6
7		STD-1925	SCREW, 1/4-20 x 5/8 long, pan. head	48
8		74494	PLATE, Spark plug reach caution	6
9		71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	6
10		77906	SPACER, 33/64 I.D. x 7/8 O.D. x 1/8 thick	2
11		74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
12		383-B	NUT, 3/8-24 plain	24
13		STD-2090	NUT, 1/4-20 plain	28
14		STD-684	NIPPLE, Straight, 3/8 I.D. hose	6
15		STD-2180	HOSE, 3/8 I.D. x 1-13/16 long	6
16		LW-15592-5-05	CLAMP, Hose	12
17		72702	TUBE ASSEMBLY, Cyl. head oil drain, cyl. no. 1	1
18		02P22209	TUBE ASSEMBLY, Cyl. head oil drain, cyl. no. 2	1
19		73027	TUBE ASSEMBLY, Cyl. head oil drain, cyl. no. 3,4,5,6	4
20		75338	BAFFLE ASSEMBLY, Intercylinder	4
21		71610	HOOK, Intercylinder baffle	4
22		71611	RETAINER, Intercylinder baffle	4
23		72834	COVER, Baffle ignition cable hole	4
24		STD-692	SCREW, No. 10-32 x 1/2 long, round head	8
25		STD-670	LOCKNUT, No. 10-32	8



**Intake Pipes, Oil Suction Screen and Air Inlet Housing
Figure 13**

TURBOCHARGER SYSTEM**FIGURE 13 – INTAKE PIPES, OIL SUCTION SCREEN AND AIR INLET HOUSING**

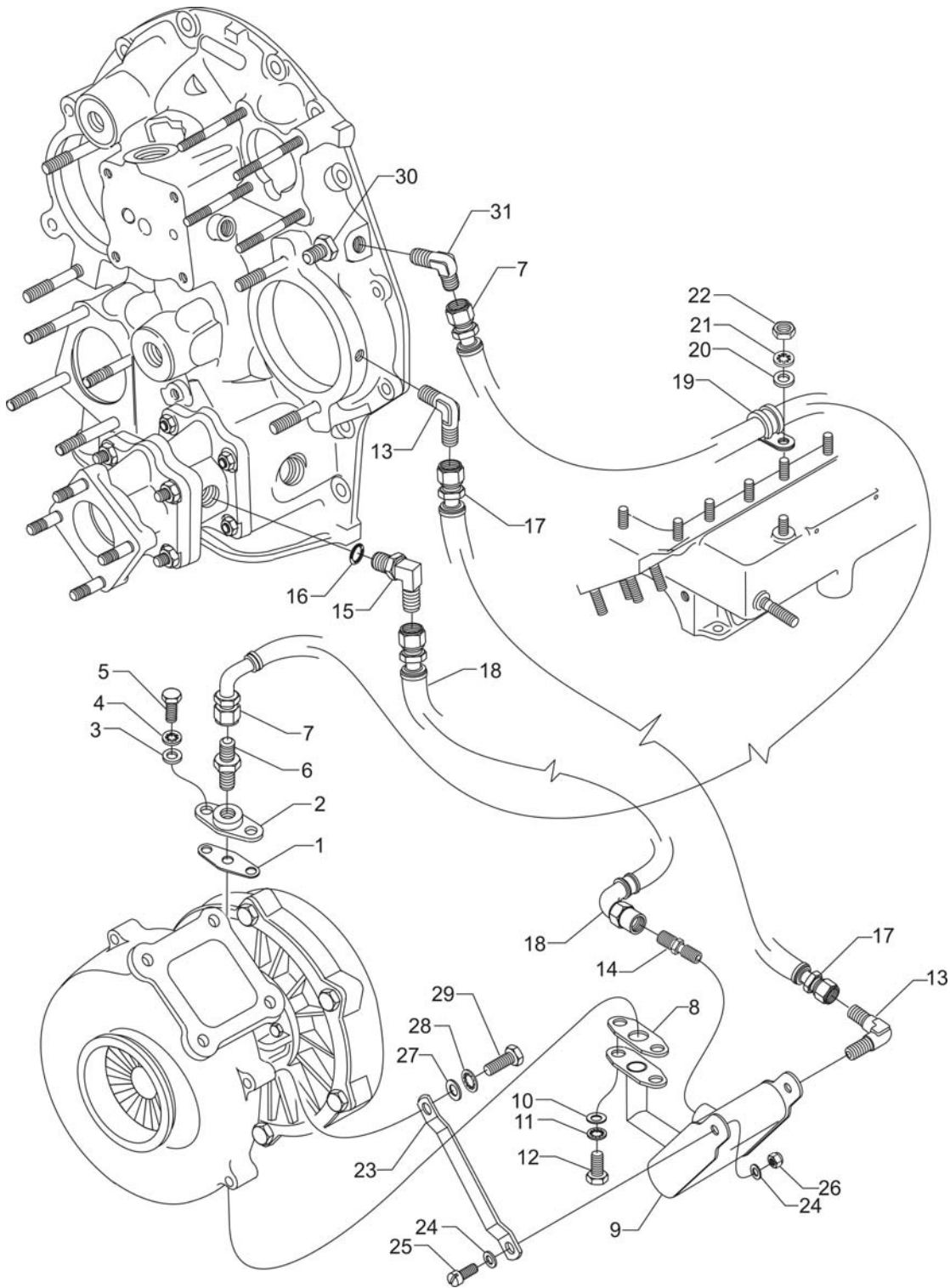
Figure Item	Code	Part Number	Description	Units per Assembly
1		72711	RING, Seal, intake pipes	6
2		LW-12191	PIPE, Intake, cylinder no. 1	1
3		42E21917	PIPE, Intake, cylinder no. 2	1
4		LW-12193	PIPE, Intake, cylinder no. 3	1
5		LW-12194	PIPE, Intake, cylinders no. 4 and 5	2
6		LW-12195	PIPE, Intake, cylinder no. 6	1
7		71973	GASKET, 2 bolt flange, 1-3/4 I.D.	6
8		74360	FLANGE, Intake pipe	6
9		STD-8	WASHER, 1/4 plain	12
10		STD-160	WASHER, 1/4 lock, internal teeth	12
11		LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	12
12		40J19947	HEAT SHIELD	1
13		LW-15592-8-24	CLAMP, 1-13/16 diameter x 9/16 wide	2
14		60422	SCREEN, Oil suction	1
15		06E19769-1.00	GASKET, 1.00 I.D. x 1-1/4 O.D. x 3/32 thick	1
16		LW-12545	PLUG, 5/8 hex. head x 1.00-20 thread	1
17		72210	GASKET, Air throttle housing	1
18		LW-16956	HOUSING ASSEMBLY, Air inlet	1
19		31C-14	STUD, 5/16-18 x 1-3/4 long	4
20		1102	PLUG, 1/8-27 NPT, allen head	1
21		STD-1353	INSERT, No. 10-24 x 3/8 long	3
22		STD-8	WASHER, 1/4 plain	6
23		LW-25-0.81	BOLT, 1/4-20 x 13/16 long, hex. head	6



**Turbocharger, Supports and Attaching Parts
Figure 14**

TURBOCHARGER SYSTEM**FIGURE 14 – TURBOCHARGER, SUPPORTS AND ATTACHING PARTS**

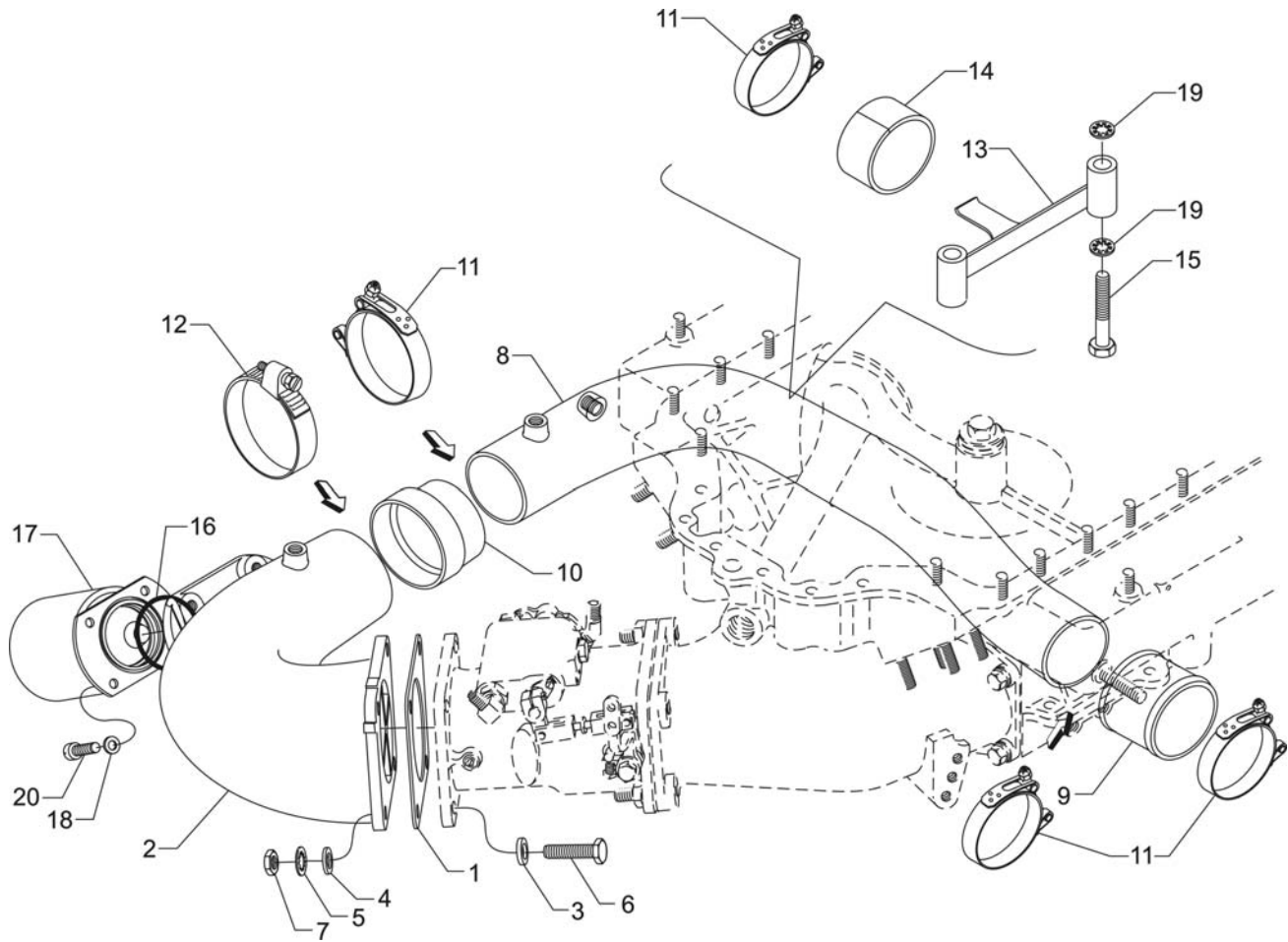
Figure Item	Code	Part Number	Description	Units per Assembly
1	V	46C19386	TURBOCHARGER, V TA0413-466011-2	1
2		07A22530	BRACKET, Turbo mounting, right	1
3		AN9060C516	WASHER, 5/16 plain	2
4		STD-475	WASHER, 5/16 lock, internal teeth	2
5		LW-31SS-0.88	BOLT, 5/16-18 x 7/8 long, internal teeth	2
6		AN960C616	WASHER, 3/8 plain	8
7		MS20500-624	NUT, 3/8-24 self-locking	6
8		07F19871	STRUT, Turbo, right	1
9		STD-35	WASHER, 5/16 plain	2
10		STD-475	WASHER, 5/16 lock, internal teeth	2
11		LW-31-1.69	BOLT, 5/16-18 x 1-11/16 long, hex. head	1
12		LW-31-1.31	BOLT, 5/16-18 x 1-5/16 long, hex. head	1
13		AN6C12A	BOLT, 3/8-24 x 1-5/16 long	4
V Vendor Prime Manufacturer part				



**Turbocharger Hoses, Drain Tank and Related Parts
Figure 15**

TURBOCHARGER SYSTEM**FIGURE 15 – TURBOCHARGER HOSES, DRAIN TANK AND RELATED PARTS**

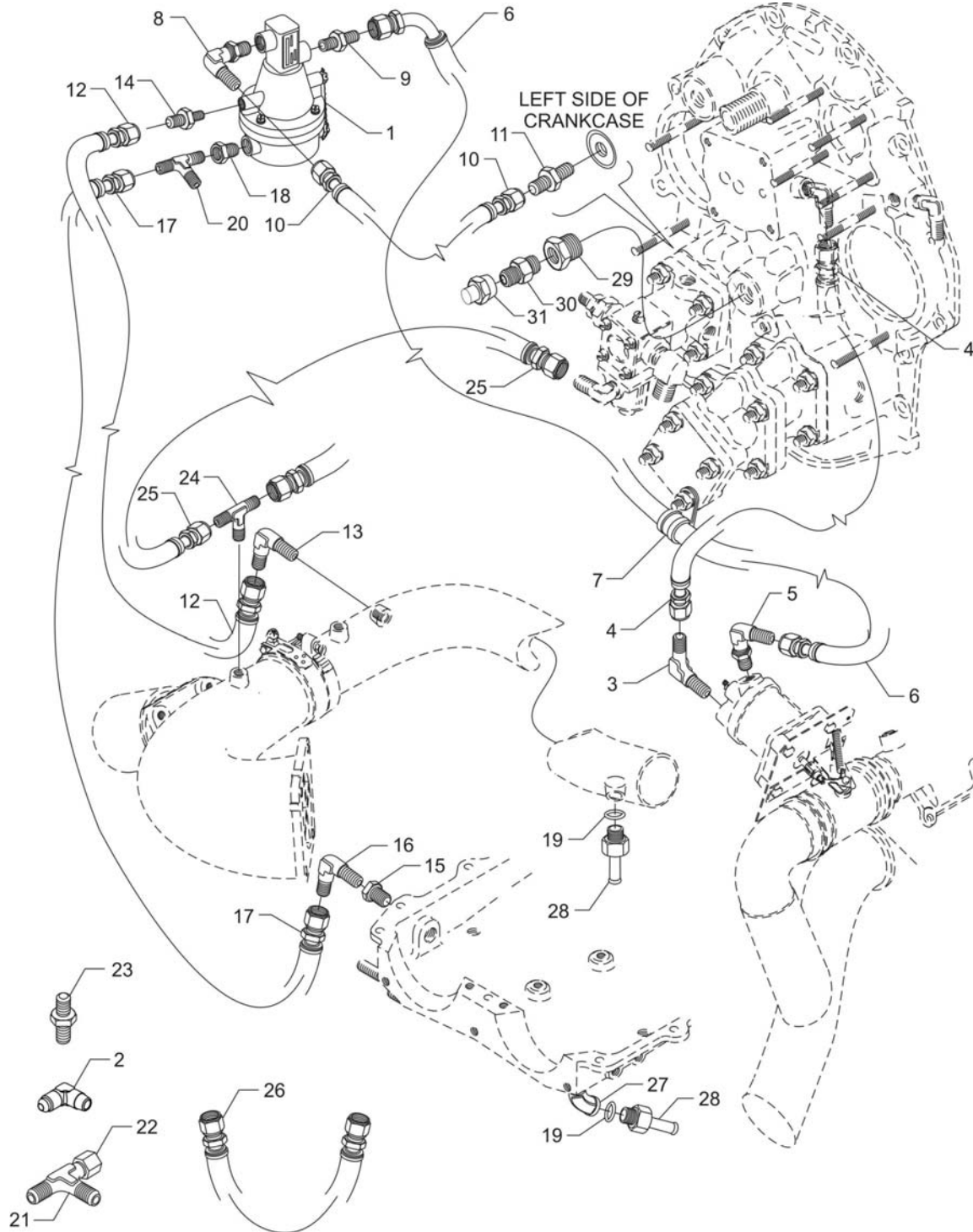
Figure Item	Code	Part Number	Description	Units per Assembly
1		77813	GASKET, Turbo oil inlet adapter	1
2		LW-12287	ADAPTER, Turbo oil inlet	1
3		STD-35	WASHER, 5/16 plain	2
4		STD-475	WASHER, 5/16 lock, internal teeth	2
5		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2
6		78212	VALVE ASSEMBLY, Check	1
7		LW-12878-4S230	HOSE ASSEMBLY	1
8		LW-18038	GASKET, Turbo oil drain	1
9		58B22631	TANK, Turbo oil drain	1
10		MS9321-12	WASHER, 3/8 I.D. x 3/4 O.D.	2
11		STD-678	WASHER, 3/8 lock, internal teeth	2
12		LW-38-0.75	BOLT, 3/8-16 x 3/4 long, hex. head	2
13		MS20822-4	ELBOW, 1/8 NPT to 1/4 tube, 90°	2
14		AN816-8	NIPPLE, 1/2 flared tube	1
15		LW-14685	ELBOW, 1/2 tube x 3/4-16	1
16		MS29512-08	"O" RING, 41/64 I.D. x 5/64 section	1
17		LW-12798-4S313	HOSE ASSEMBLY, 1/4 hose, straight	1
18		02M19935-8S284	HOSE ASSEMBLY, 1/2 hose, 45° elbow	1
19		LW-16266-25-63	CLAMP, 7/8 I.D. x 1/4 diameter	1
20		STD-8	WASHER, 1/4 plain	1
21		STD-160	WASHER, 1/4 lock, internal teeth	1
22		STD-1411	NUT, 1/4-20 plain	1
23		07A21931	BRACKET, Oil drain tank	1
24		STD-425	WASHER, No. 10 plain	3
25		STD-1650	BOLT, No. 10-32 x 21/32 long	1
26		MS21042-3	NUT, Self-locking	1
27		AN960C516	WASHER, 5/16 plain	1
28		STD-475	WASHER, 5/16 lock, internal teeth	1
29		LW-31SS-0.75	BOLT, 5/16-18 x 3/4 long, hex. head	1
30		LW-14914	NIPPLE, 1/8 NPT to 1/4 tube	1
31		MS20823-4	ELBOW, 1/8 NPT to 1/4 flared tube	1



**Air Inlet Housing Assembly
Figure 16**

TURBOCHARGER SYSTEM**FIGURE 16 – AIR INLET HOUSING ASSEMBLY**

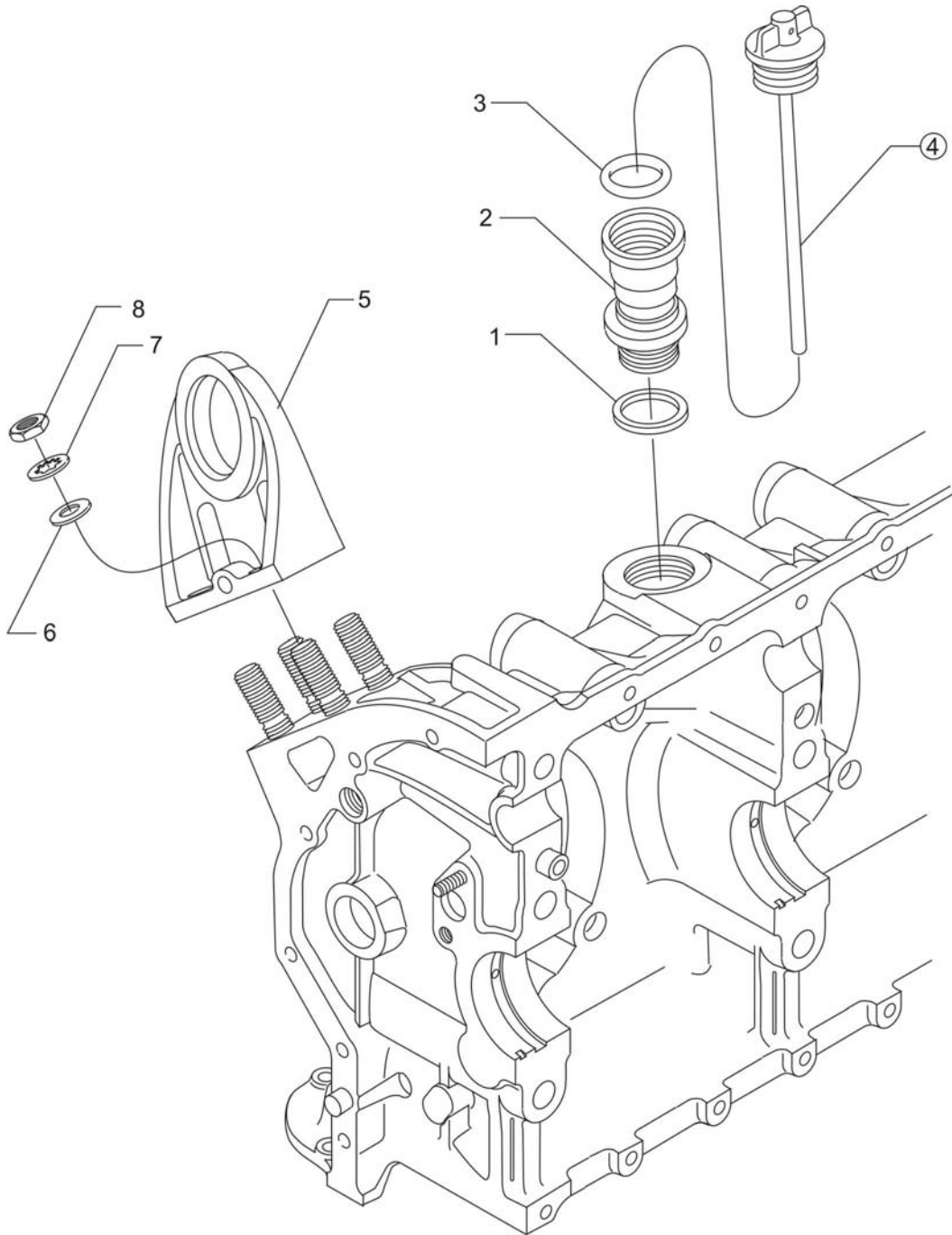
Figure Item	Code	Part Number	Description	Units per Assembly
1		74944	GASKET, Air inlet housing	1
2		41A21923	HOUSING, Air inlet	1
3		STD-1727	WASHER, Plain, 21/64 I.D. x 3/4 O.D. x 1/8 thick	4
4		STD-35	WASHER, 5/16 plain	4
5		STD-475	WASHER, 5/16 lock, internal teeth	4
6		LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	4
7		STD-1410	NUT, 5/16-18 plain	4
8		41A22742	PIPE, Air inlet	1
9		LW-19108	HOSE, Air box, 2-1/2 I.D.	1
10		LW-14467	HOSE, 2-1/2 diameter to 2-3/4 diameter	1
11		LW-15858-62-294	CLAMP, T-bolt	4
12		LW-15858-62-325	CLAMP, T-bolt	1
13		07A22741	BRACKET, Air inlet support	1
14		02M22744	HOSE, 1-1/2 I.D. x .19 thick, split	1
15		LW-25-2.56	BOLT, 1/4-20 x 2-1/4 long, hex. head	2
16		MS29513-138	"O" RING, 2-7/64 I.D. x 3/32 section	1
17	*	LW-14445-2	VALVE ASSEMBLY, Absolute pressure relief	1
18		STD-28	WASHER, No. 10 plain	4
19		STD-251	WASHER, No. 10 lock, internal teeth	4
20		STD-2248	SCREW, No. 10-24 x 5/8 long, fill. head	4
* See latest revision of Lycoming Service Instruction No. 1257 for aircraft model application.				



**Controller and Related Parts
Figure 17**

TURBOCHARGER SYSTEM**FIGURE 17 – CONTROLLER AND RELATED PARTS**

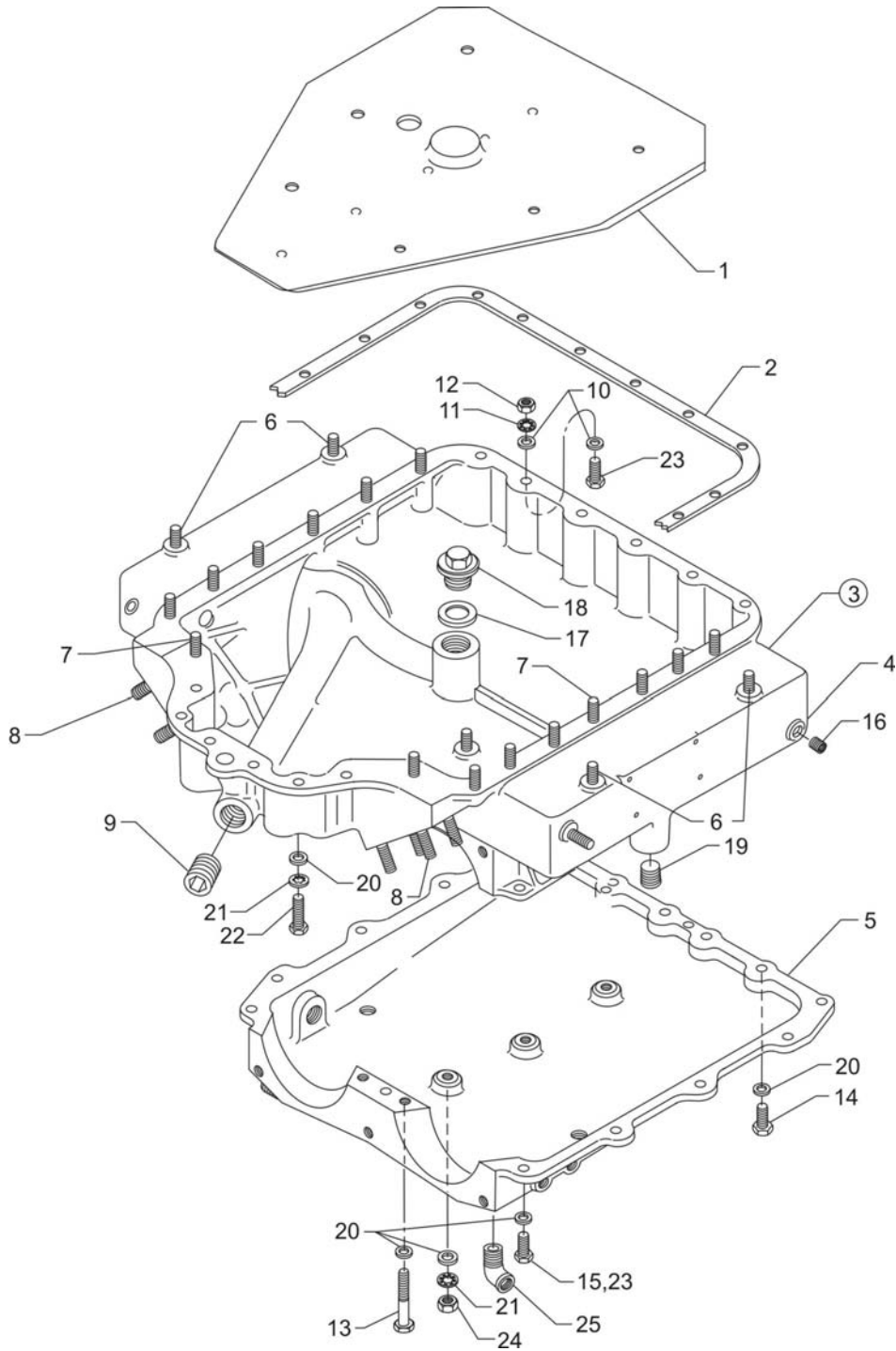
Figure Item	Code	Part Number	Description	Units per Assembly
1	V	48B22488	CONTROLLER, Sloped , V 481058-0007	1
2		MS20822-4	ELBOW, 1/8 NPT to 1/4 tube, 90°	1
3	*	72376	ELBOW, 90°, 1/4 tube to 7/16 thread	1
4		LW-12798-4S190	HOSE ASSEMBLY, 1/4 hose, straight	1
5	**	72377	ELBOW, 3/8 flared tube, adjustable	1
6		LW-12877-6S320	HOSE ASSEMBLY, 3/8 hose, 90° elbow	1
7		LW-16266-25-75	CLAMP, 3/4 I.D. x 1/4 diameter screw	1
8	**	72377	ELBOW, 3/8 flared tube, adjustable	1
9	**	75739	NIPPLE, 3/8 flared tube	1
10		LW-12879-6S195	HOSE ASSEMBLY, 3/8 hose, 45° elbow	1
11	**	75739	NIPPLE, 3/8 flared tube	1
12		LW-12798-4S120	HOSE ASSEMBLY, 1/4 hose, straight	1
13	*	72376	ELBOW, 90°, 1/4 tube to 7/16 thread	1
14		02G22466	NIPPLE, 5/16-24 to 7/16-20	1
15		AN912-3D	BUSHING, Reducer, 3/8 NPT	1
16		02A22483	ELBOW, Fuel pump vent	1
17		LW-12798-4S095	HOSE ASSEMBLY, 1/4 hose, straight	1
18		74797	FITTING, 9/16-18 to 1/8-27 NPT	1
19		MS29512-06	“O” RING, 15/32 I.D. x 5/64 section	1
20		AN826-4	TEE, 1/4 flared tube x 1/8 NPT	1
21		76355	TEE, 3/8 tube with 9/16 thread	1
22		AN818-6J	NUT, Tube coupling, short	1
23		LW-12975	ADAPTER, Reducing, 3/8 to 1/4	1
24	*	75948	TEE, 1/4 tube x 7/16 thread	1
25		LW-12798-4S150	HOSE ASSEMBLY, 1/4 hose, straight	1
26		LW-12876-4S410	HOSE ASSEMBLY, 1/4 hose, 90° elbow	1
27		02A22460	ELBOW, Street, 1/8-27 NPT, 45°	1
28		LW-13807	ADAPTER ASSEMBLY, Fuel drain valve	2
29		AN912-9	BUSHING, Reducer, 3/4 NPT to 1/4 NPT	1
30		AN816-6	NIPPLE, 1/4 NPT to 3/8 tube	1
31		AN929-6	CAP ASSEMBLY, 3/8 tube, pressure seal	1
<p>V Vendor Prime Manufacturer part * Uses a P/N MS29512-04 O-Ring. ** Uses a P/N MS29512-06 O-Ring.</p>				



**Oil Level Gage Assembly and Engine Mounting Brackets
Figure 18**

LUBRICATION SYSTEM**FIGURE 18 – OIL LEVEL GAGE ASSEMBLY AND ENGINE MOUNTING BRACKETS**

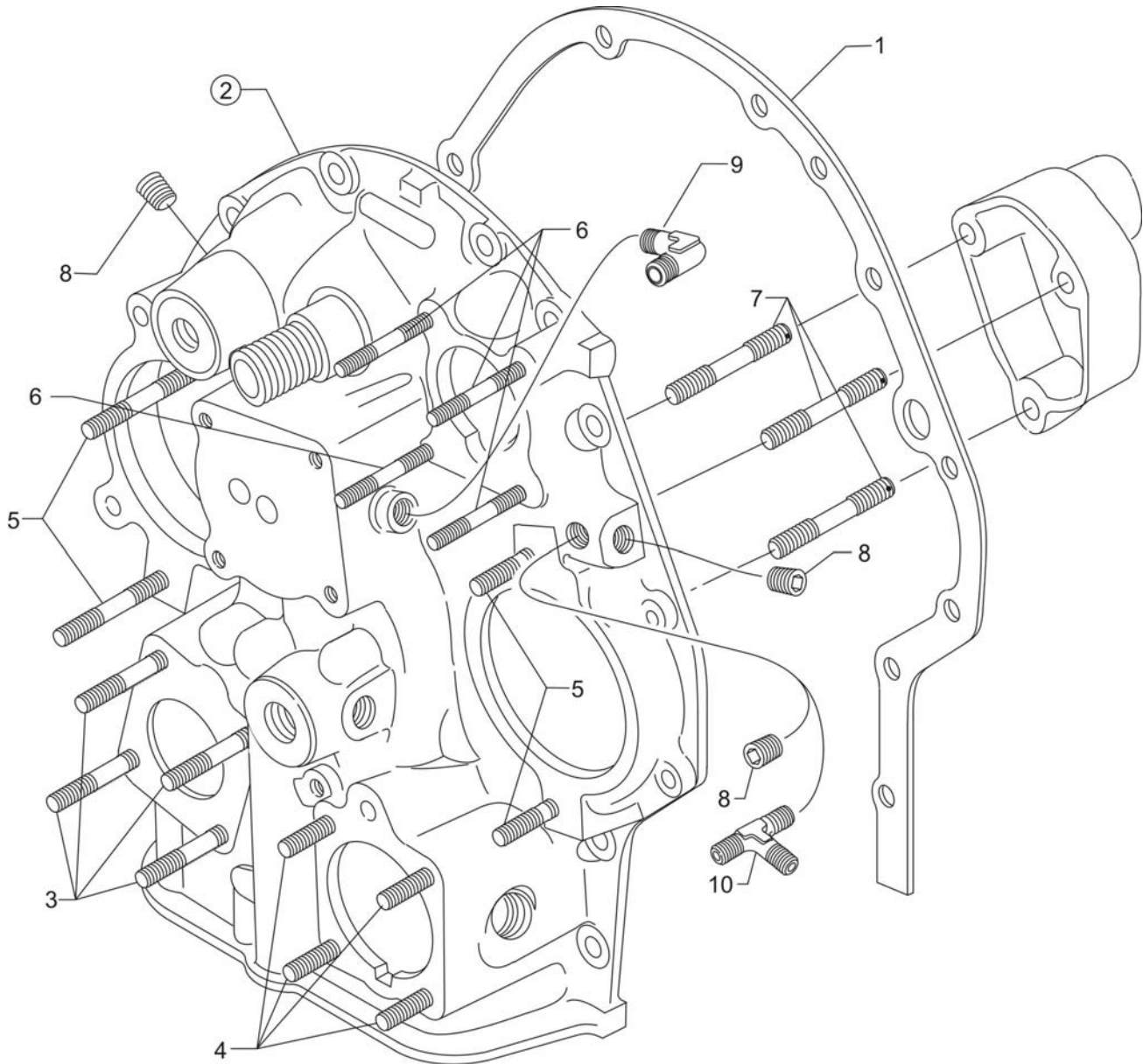
Figure Item	Code	Part Number	Description	Units per Assembly
1		70457	GASKET, Oil filler extension	1
2		75675	EXTENSION, Oil filler (short)	1
3		74065	RING, Oil level gage seal	1
4		LW-16783-25	GAGE ASSEMBLY, Oil level	1
5		12A19770	BRACKET, Engine mounting, dynafocal	4
6		STD-33	WASHER, 3/8 plain	16
7		STD-678	WASHER, 3/8 lock, internal teeth	16
8		STD-596	NUT, 3/8-24 plain	16



**Oil Sump Assembly
Figure 19**

LUBRICATION SYSTEM
FIGURE 19 – OIL SUMP ASSEMBLY

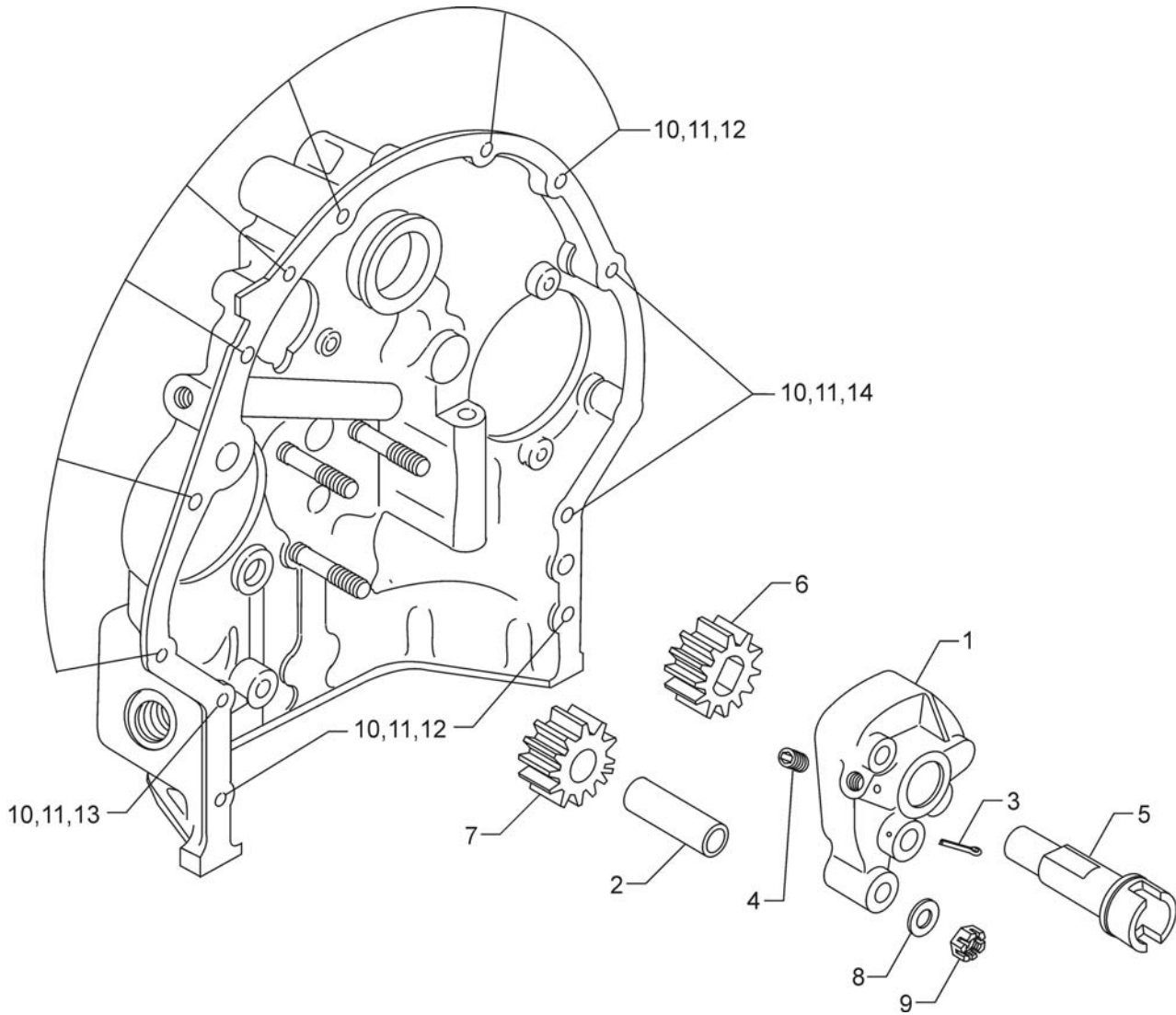
Figure Item	Code	Part Number	Description	Units per Assembly
1		56G26069	BAFFLE, Oil sump	1
2		06B21326	GASKET, Oil sump	1
3		56A26070-02	HOUSING ASSEMBLY, Oil sump and induction	1
4		56B23949	HOUSING, Oil sump and induction	1
5		42B22658	COVER, Induction housing	1
6		25C-9	STUD, 1/4-20 x 1-1/8 long	4
7		25C-11	STUD, 1/4-20 x 1-3/8 long	15
8		38-17	STUD, 3/8-16 x 2-1/8 long	8
9		STD-91	PLUG, 1/2-14 NPT, allen head	1
10		STD-8	WASHER, 1/4 plain	29
11		STD-160	WASHER, 1/4 lock, internal teeth	27
12		STD-1411	NUT, 1/4-20 plain	13
13		LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. head	2
14		LW-25-0.81	BOLT, 1/4-20 x 13/16 long, hex. head	4
15		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	10
16		STD-1164	INSERT, 5/16-18 x 5/8 long, Heli-coil	2
17		06E19769-0.91	GASKET, Annular, 1-1/8 O.D. x 29/32 I.D. x 3/32	1
18		72960	PLUG, 7/8-14 x 5/8 hex. head	1
19		STD-551	PLUG, 1/2-14 square head, drilled	2
20		STD-8	WASHER, 1/4 plain	37
21		STD-160	WASHER, 1/4 lock, internal teeth	23
22		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	6
23		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	6
24		STD-1411	NUT, 1/4-20 plain	25
25		02A21152	ELBOW, Street, 1/2-14 NPT	1



**Accessory Housing Assembly
Figure 20**

ACCESSORY DRIVES**FIGURE 20 – ACCESSORY HOUSING ASSEMBLY**

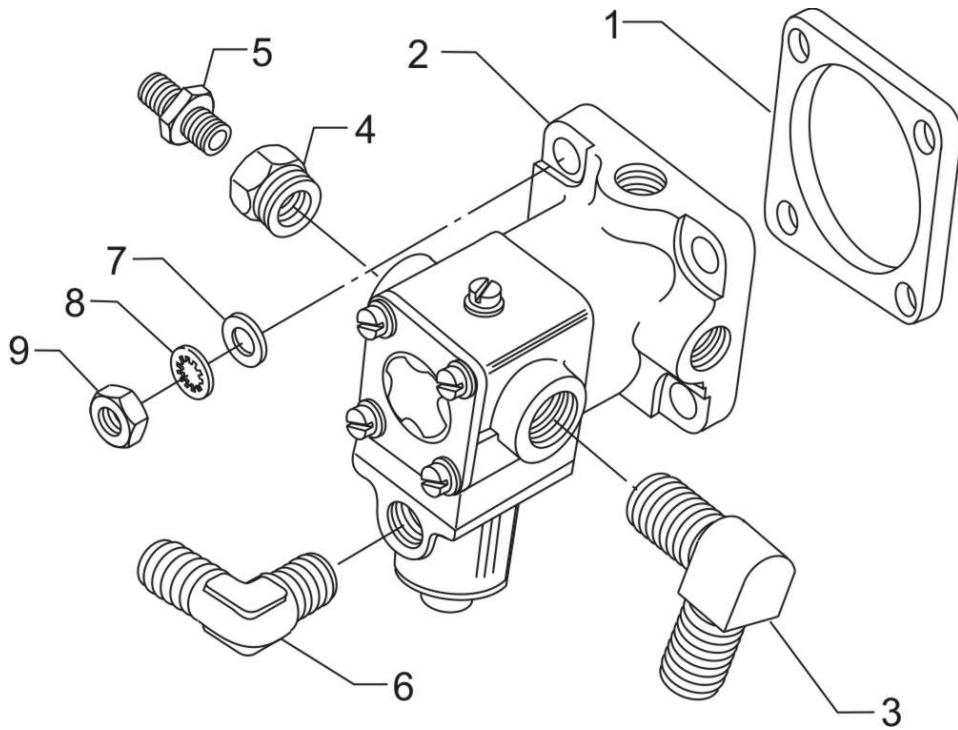
Figure Item	Code	Part Number	Description	Units per Assembly
1		73818	GASKET, Accessory housing	1
2		21C21543-02	HOUSING ASSEMBLY, Accessory	1
		21C21542-04	HOUSING ASSEMBLY, Accessory	1
3		31C-19	STUD, 5/16-18 x 2-3/8 long	4
4		31C-12	STUD, 5/16-18 x 1-1/2 long	4
5		31C-21	STUD, 5/16-18 x 2-5/8 long	4
6		25C-19	STUD, 1/4-20 x 2-3/8 long, drilled	4
	*	25C-21	STUD, 1/4-20 x 2-5/8 long	4
7		31CD-20	STUD, 5/16-18 x 2-1/2 long, drilled	3
8		1102	PLUG, 1/8-27 NPT, allen head	3
9	**	MS-20822-4	ELBOW, 1/8 NPT to 1/4 tube, 90°	1
10	*	LW-18696	TEE, 1/4 tube	1
* Used with P/N 21C21542-04 Accessory Housing Assembly.				
** Used with P/N 21C21543-02 Accessory Housing Assembly.				



**Oil Pump Assembly and Accessory Housing Attaching Parts
Figure 21**

ACCESSORY DRIVES**FIGURE 21 – OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS**

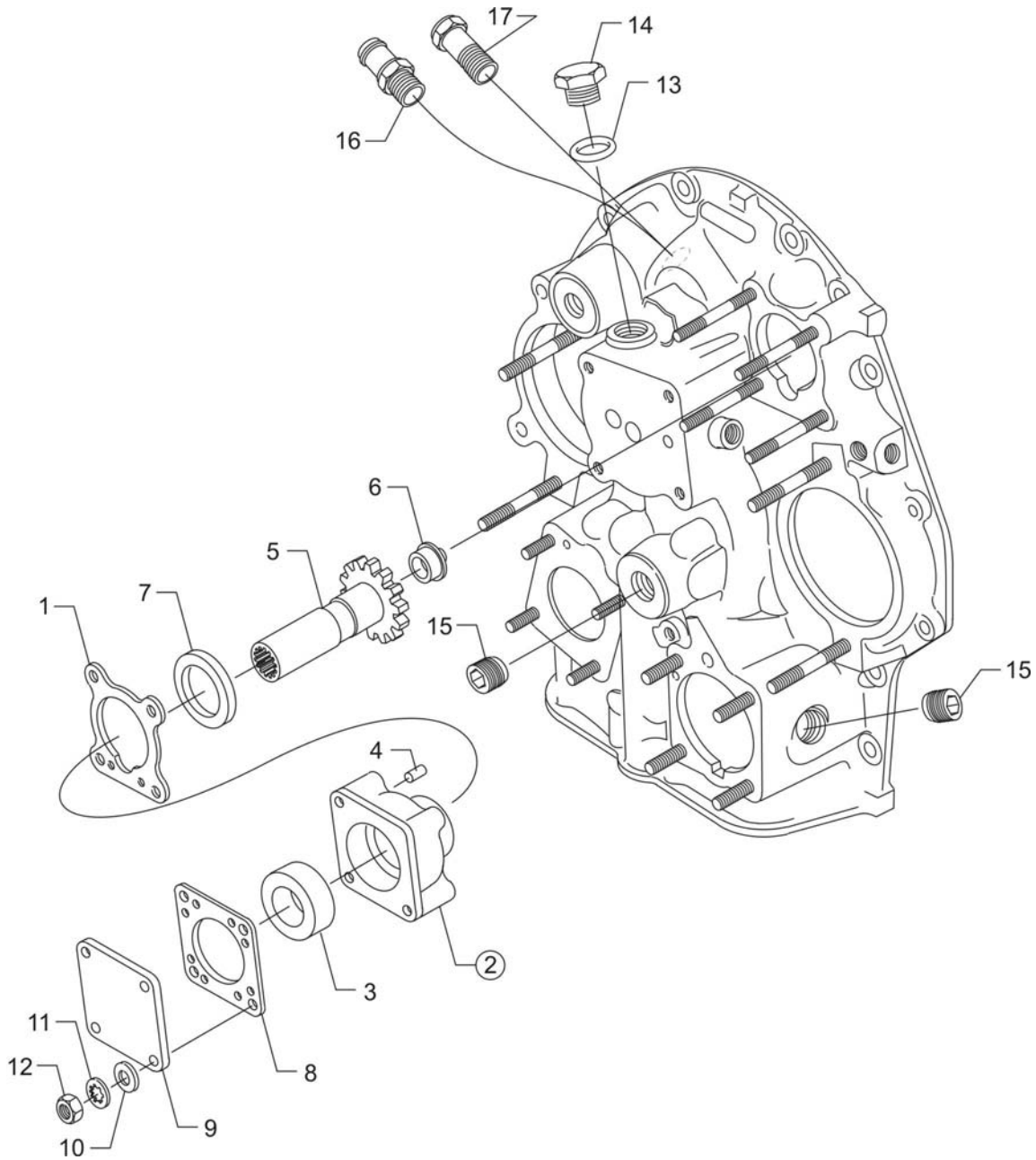
Figure Item	Code	Part Number	Description	Units per Assembly
1		51A22618	BODY ASSEMBLY, Oil pump	1
2		51D22617	SHAFT, Oil pump drive	1
3		STD-714	COTTER PIN, 1/8 diameter x 1.00 long	1
4		STD-1339	PLUG, 1/16-27 NPT, allen head	1
5		76784	SHAFT, Oil pump drive	1
6	*	51B23274	IMPELLER, Oil pump, driving	1
7	*	51C23290	IMPELLER ASSEMBLY, Oil pump, driven	1
8		STD-35	WASHER, 5/16 plain	3
9		STD-1420	NUT, 5/16-18 slotted	3
10		STD-8	WASHER, 1/4 plain	12
11		STD-160	WASHER, 1/4 lock, internal teeth	12
12		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	9
13		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
14		LW-25-1.44	BOLT, 1/4-20 x 1-7/16 long, hex. head	2
* Sold in complete sets only (Kit P/N 05K23463).				



**Fuel Pump Assembly and Attaching Parts
Figure 22**

ACCESSORY DRIVES**FIGURE 22 – FUEL PUMP ASSEMBLY AND ATTACHING PARTS**

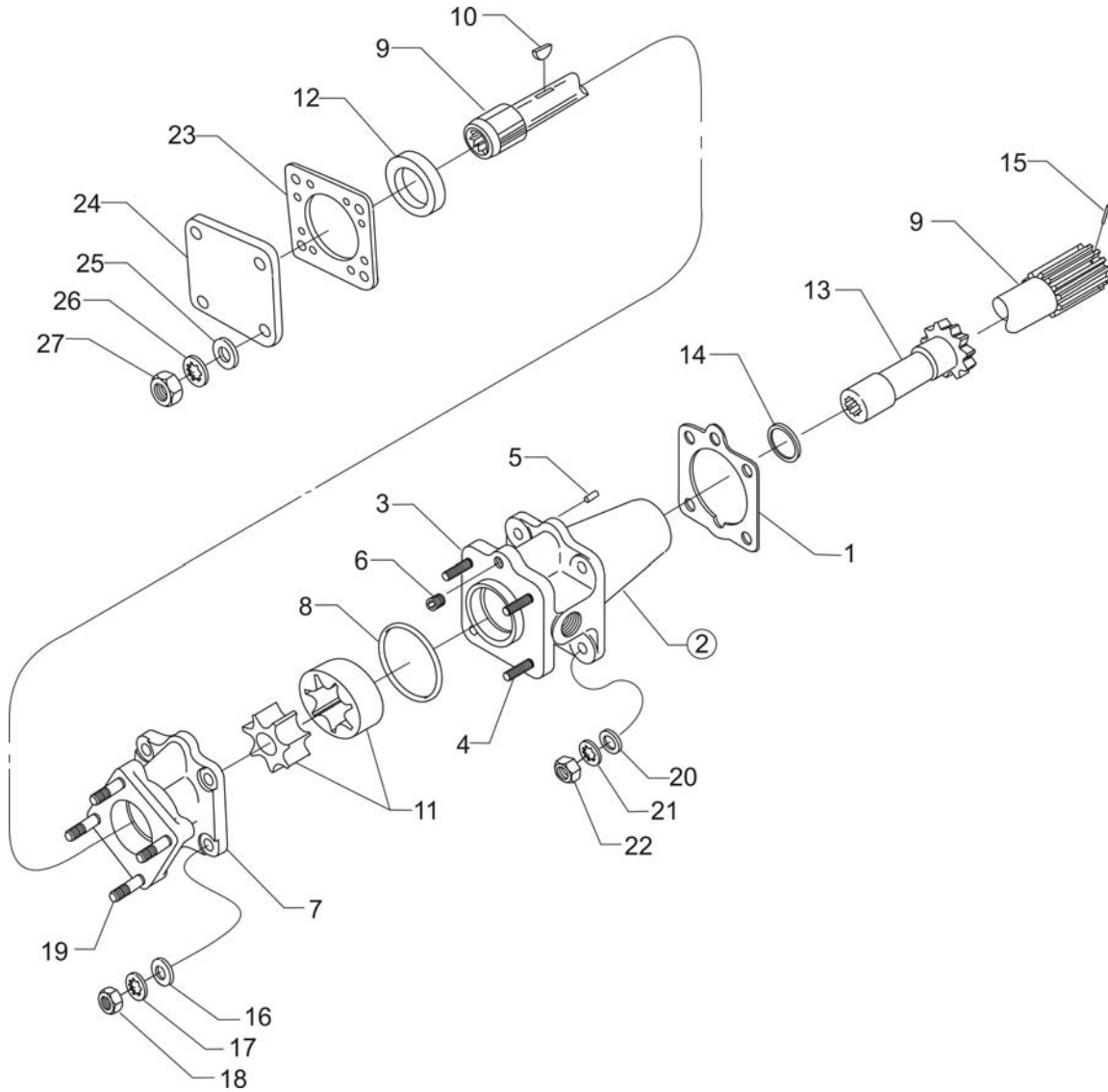
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-10799	SPACER, Fuel pump, insulating	1
2		62E26697	FUEL PUMPASSEMBLY	1
	V	62E23186	FUEL PUMP, V 200F5002	1
3		LW-18171	ELBOW, Tube to male pipe	1
4		AN912-5	BUSHING, Reducer – 1/2 NPT to 1/4 NPT	1
5		AN816-6	NIPPLE, 1/4 NPT to 3/8 tube	1
6		02A21376	ELBOW, Fuel pump, vent (rest.)	1
7		STD-35	WASHER, 5/16 plain	4
8		STD-475	WASHER, 5/16 lock, internal teeth	4
9		STD-1410	NUT, 5/16-18 plain	4
V Vendor Prime Manufacturer part				



**Vacuum Pump Drive, Oil Cooler, and Breather Fittings
Figure 23**

ACCESSORY DRIVES**FIGURE 23 – VACUUM PUMP DRIVE, OIL COOLER, AND BREATHER FITTINGS**

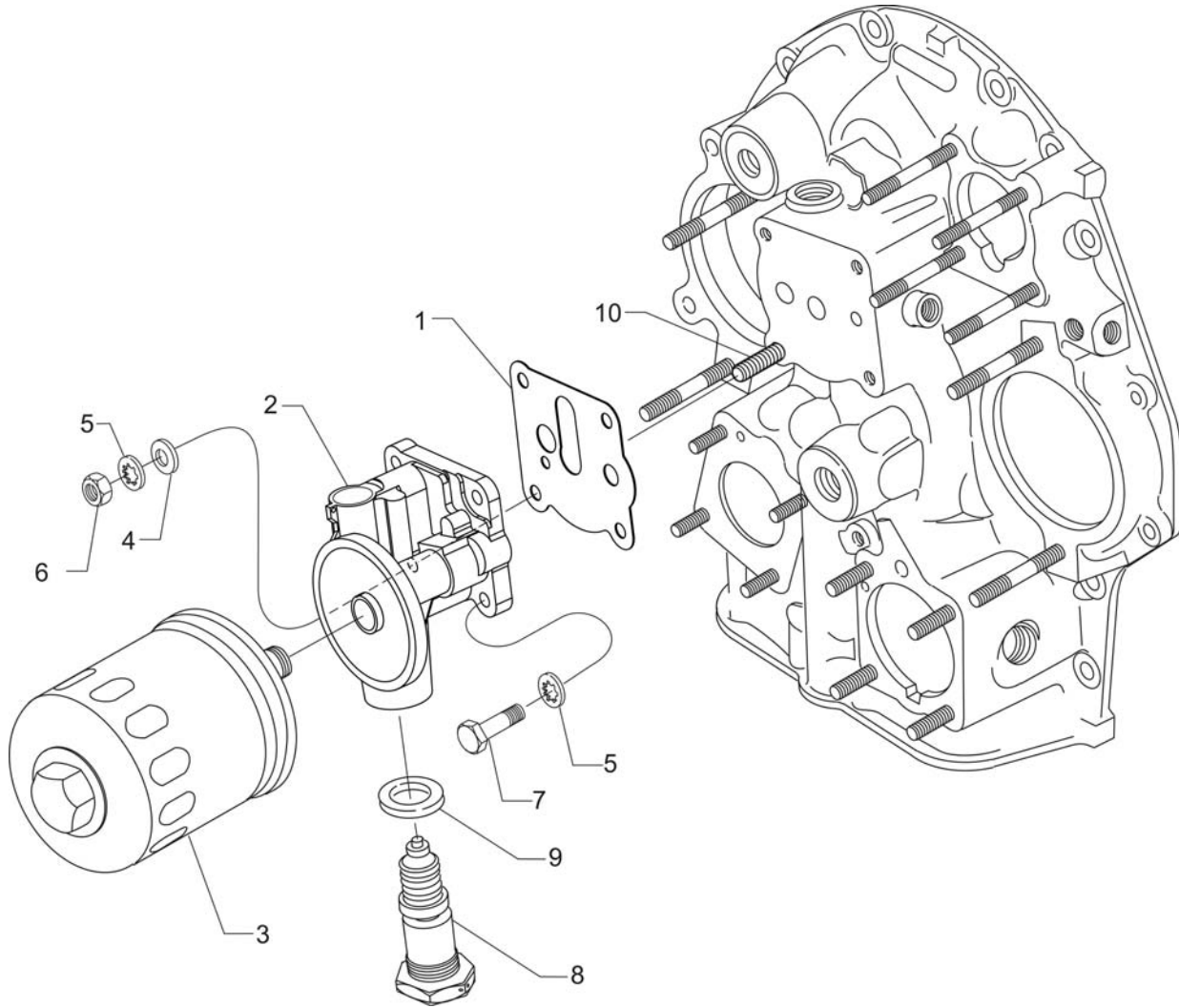
Figure Item	Code	Part Number	Description	Units per Assembly
1		61183	GASKET, Accessory adapter	1
2		67536	ADAPTER ASSEMBLY, Vacuum pump	1
3		06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide	1
4		STD-1774	PIN, 1/8 diameter x 1/4 long	1
5		72974	GEAR ASSEMBLY, Vacuum pump driven	1
6		72962	THRUST BUTTON	1
7		71596	WASHER, Accessory drive gear	1
8		8313	GASKET, Vacuum pump	1
9		60430	COVER, Vacuum pump	1
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
13		06E19769-0.63	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular	1
14		62417	PLUG, Oil cooler bypass	1
15		STD-784	PLUG, 3/8-18 NPT, allen head	2
16		LW-18575	NIPPLE, 3/4 diameter hose to 13/16-14 NPT breather	1
17		72996	FITTING, Breather, short	1



Turbo Scavenge Pump and Hydraulic Pump Drive and Cover
Figure 24

ACCESSORY DRIVES**FIGURE 24 – TURBO SCAVENGE PUMP AND HYDRAULIC PUMP DRIVE AND COVER**

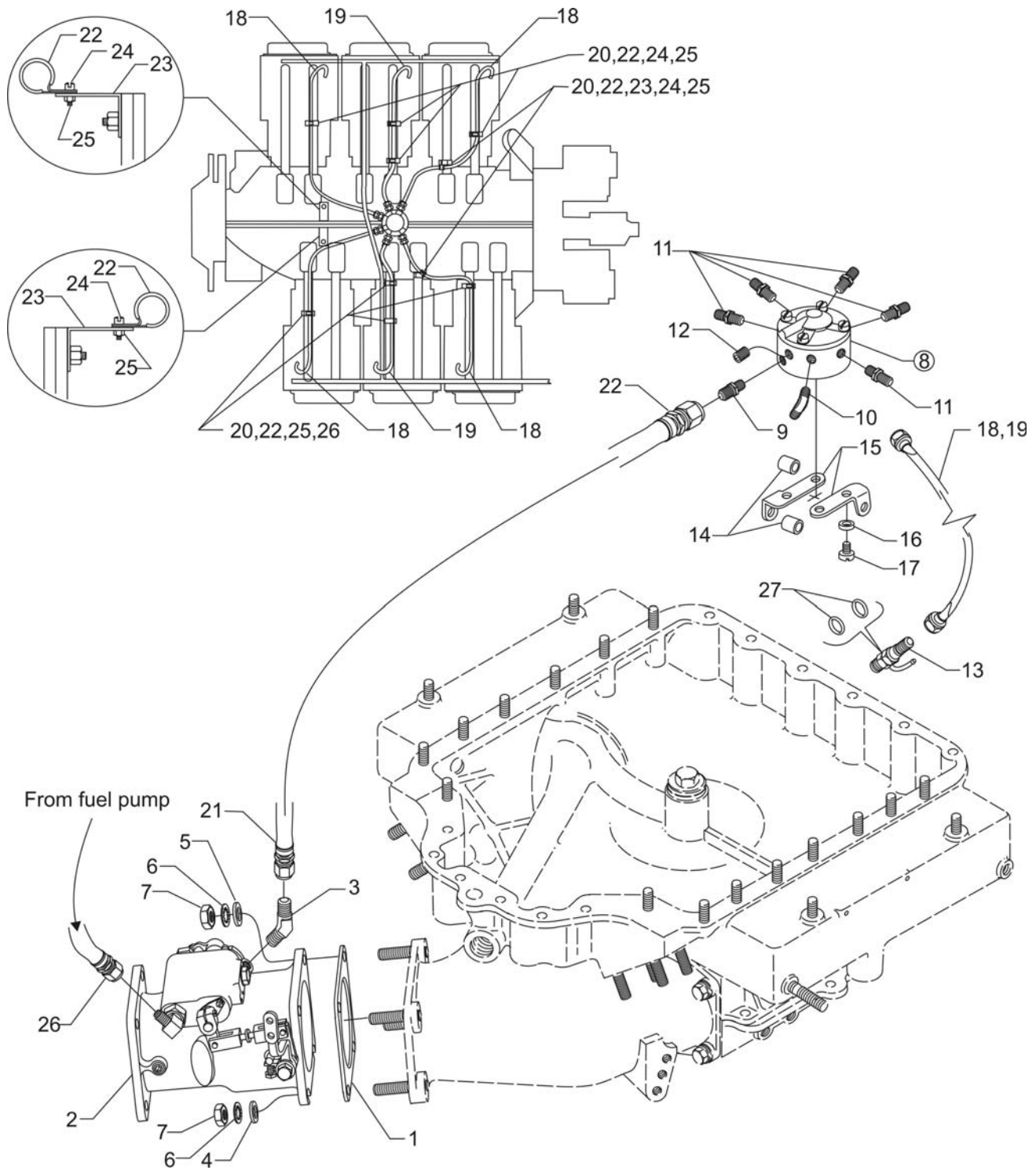
Figure Item	Code	Part Number	Description	Units per Assembly
1		68315	GASKET, Accessory drive adapter	1
2		29A21372	DRIVE ASSEMBLY, Turbo scavenge and hydraulic pump	1
3		29A21358	ADAPTER ASSEMBLY, Turbo scavenge pump	1
4		25C-11	STUD, 1/4-20 x 1-3/8 long	4
5		STD-1774	PIN, 1/8 diameter x 1/4 long	2
6		01N19833-281	PLUG, Pin	1
7		29D21310	ADAPTER, Hydraulic pump	1
8		LW-RF2.239-.070	RING, Oil seal	1
9		LW-15853	SHAFT, Hydraulic pump drive	1
10		STD-95	KEY, 1/8 x 1/2 Woodruff	1
11		LW-15550	GEROTOR PUMP	1
12		06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide	1
13		77825	SHAFTGEAR, Hydraulic pump drive	1
14		77708	WASHER, Retaining shaftgear	1
15		MS16562-28	PIN, 3/32 diameter x 3/4 long, slotted	1
16		STD-8	WASHER, 1/4 plain	4
17		STD-160	WASHER, 1/4 lock, internal teeth	4
18		STD-1411	NUT, 1/4-20 plain	4
19		25C-12	STUD, 1/4-20 x 1-1/2 long	4
20		STD-35	WASHER, 5/16 plain	4
21		STD-475	WASHER, 5/16 lock, internal teeth	4
22		STD-1410	NUT, 5/16-18 plain	4
23		8313	GASKET, Pump	1
24		60430	COVER, Pump	1
25		STD-8	WASHER, 1/4 plain	4
26		STD-160	WASHER, 1/4 lock, internal teeth	4
27		STD-1411	NUT, 1/4-20 plain	4



**Oil Filter Assembly and Oil Cooler Bypass Valve
Figure 25**

ACCESSORY DRIVES**FIGURE 25 – OIL FILTER ASSEMBLY AND OIL COOLER BYPASS VALVE**

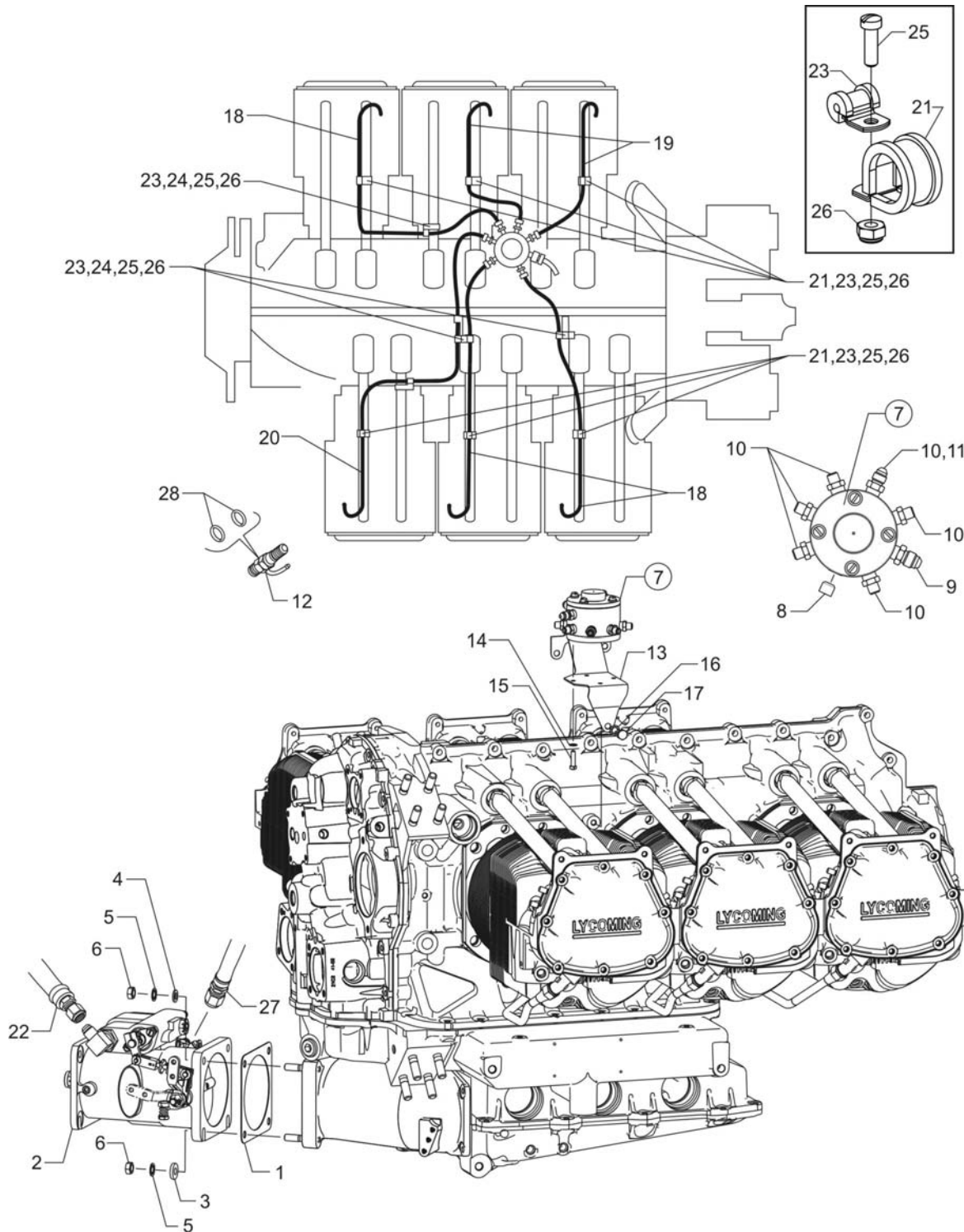
Figure Item	Code	Part Number	Description	Units per Assembly
1	*	06B23862	GASKET, Oil filter adapter	2
2		77852	OIL FILTER BASE ASSEMBLY	1
3	**	LW-13215	OIL FILTER	1
4		STD-8	WASHER, 1/4 plain	4
5		STD-160	WASHER, 1/4 lock, internal teeth	4
6		STD-1411	NUT, 1/4-20 plain	1
7		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	3
8		53E22144	VALVE ASSEMBLY, Temperature control oil cooler	1
9		76510	GASKET, Valve assembly	1
10		25C-10	STUD, 1/4-20 x 1-1/4 long	1
<p>* Extra gasket shipped as loose part with engine. ** See latest revision of Lycoming SSP-885 for oil filter kits and replacement filters.</p>				



Fuel Injector, Fuel Manifold and Injection Nozzles
Figure 26

FUEL DISTRIBUTION**FIGURE 26 – FUEL INJECTOR, FUEL MANIFOLD AND INJECTION NOZZLES**

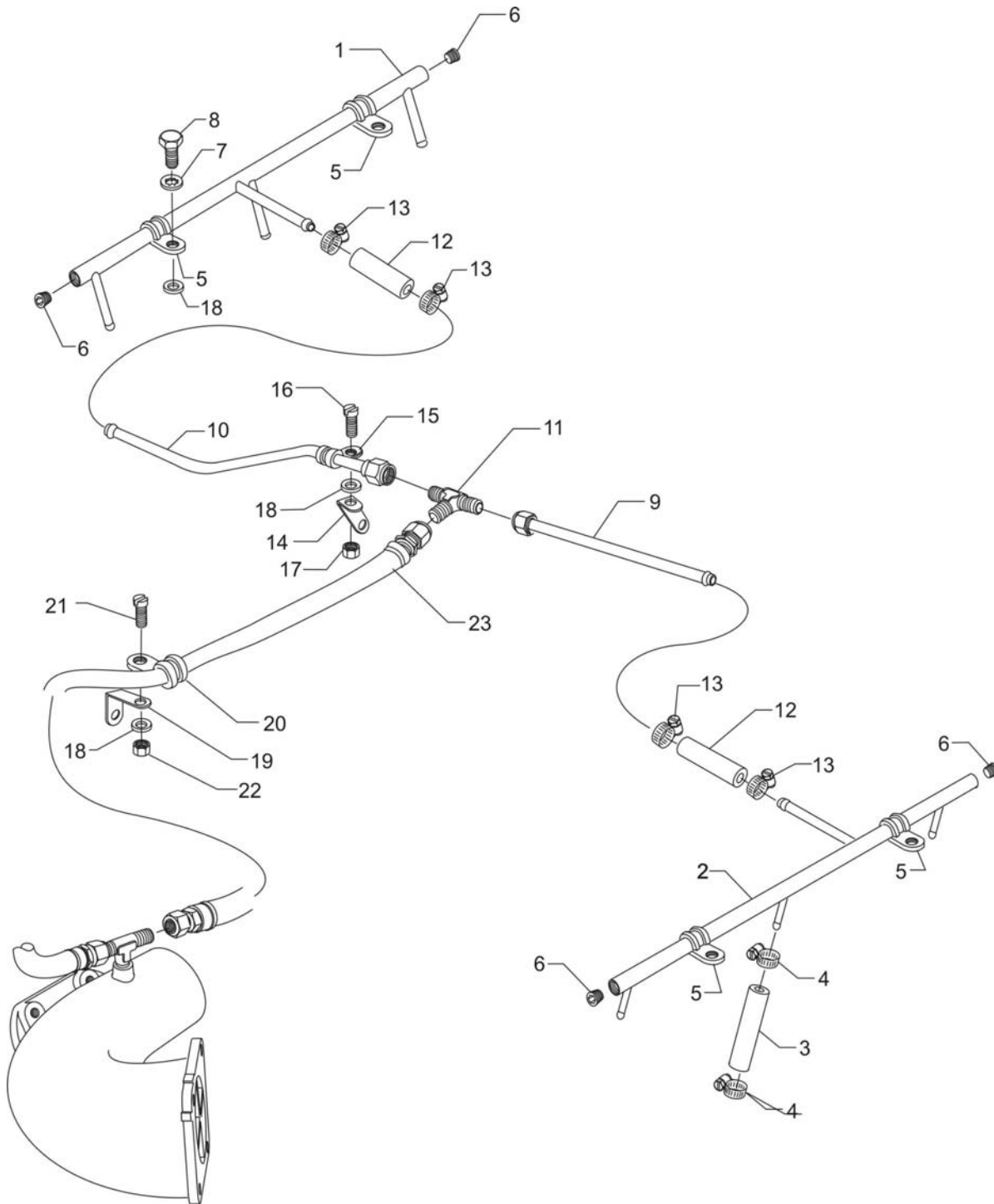
Figure Item	Code	Part Number	Description	Units per Assembly
1		73032	GASKET, Fuel injector	1
2	V	61M22458	FUEL INJECTOR , No vent return V 2576554-2	1
	V	61M26025	FUEL INJECTOR, No vent return V 2576554-3	1
3		76304	ELBOW, 1/4 tube, 45°	1
4		STD-1727	WASHER, Plain, 21/54 I.D. x 3/4 O.D. x 1/8 thick	2
5		STD-35	WASHER, 5/16 plain	2
6		STD-475	WASHER, 5/16 lock, internal teeth	4
7		STD-1410	NUT, 5/16-18 plain	4
8		63B22516	MANIFOLD ASSEMBLY, Fuel	1
9		AN816-4	NIPPLE, 1/8 NPT to 1/4 tube	1
10		AN791-2	ELBOW, Union, 45°, 1/8 tube	1
11		STD-148	NIPPLE, Union, 1/8 NPT	5
12		1102	PLUG, 1/8-27 NPT, allen head	1
13		LW-18855	NOZZLE ASSEMBLY, Manifold air bleed	6
14		73966	SPACER, Fuel manifold bracket	2
15		07A23031	BRACKET, Fuel manifold	2
16		STD-251	WASHER, No. 10 internal teeth	4
17		STD-82	SCREW, No. 10-24 x 1/2 long, fill. head	4
18		LW-12098-0-210	TUBE ASSEMBLY, Fuel manifold to nozzle, cylinders 1,2,5,6	4
19		LW-12098-0-170	TUBE ASSEMBLY, Fuel manifold to nozzle, cylinders 3 and 4	2
20		LW-16266-10-75	CLAMP	10
21		LW-12798-4S274	HOSE ASSEMBLY, 1/4 hose, straight	1
22		LW-16266-10-13	CLAMP, 1/8 diameter for no. 10 screw	12
23		73136	BRACKET, Extension	2
24		STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	12
25		STD-670	LOCKNUT, No. 10-32 self-locking	12
26		LW-12877-6S110	HOSE ASSEMBLY, 3/8 hose, 90° elbow	1
27		951391	“O” RING	12
V Vendor Prime Manufacturer part				



**Fuel Control (Lycoming), Fuel Manifold and Injection Nozzles
Figure 27**

FUEL CONTROL SYSTEM**FIGURE 27 – FUEL CONTROL (LYCOMING), FUEL MANIFOLD AND INJECTION NOZZLES**

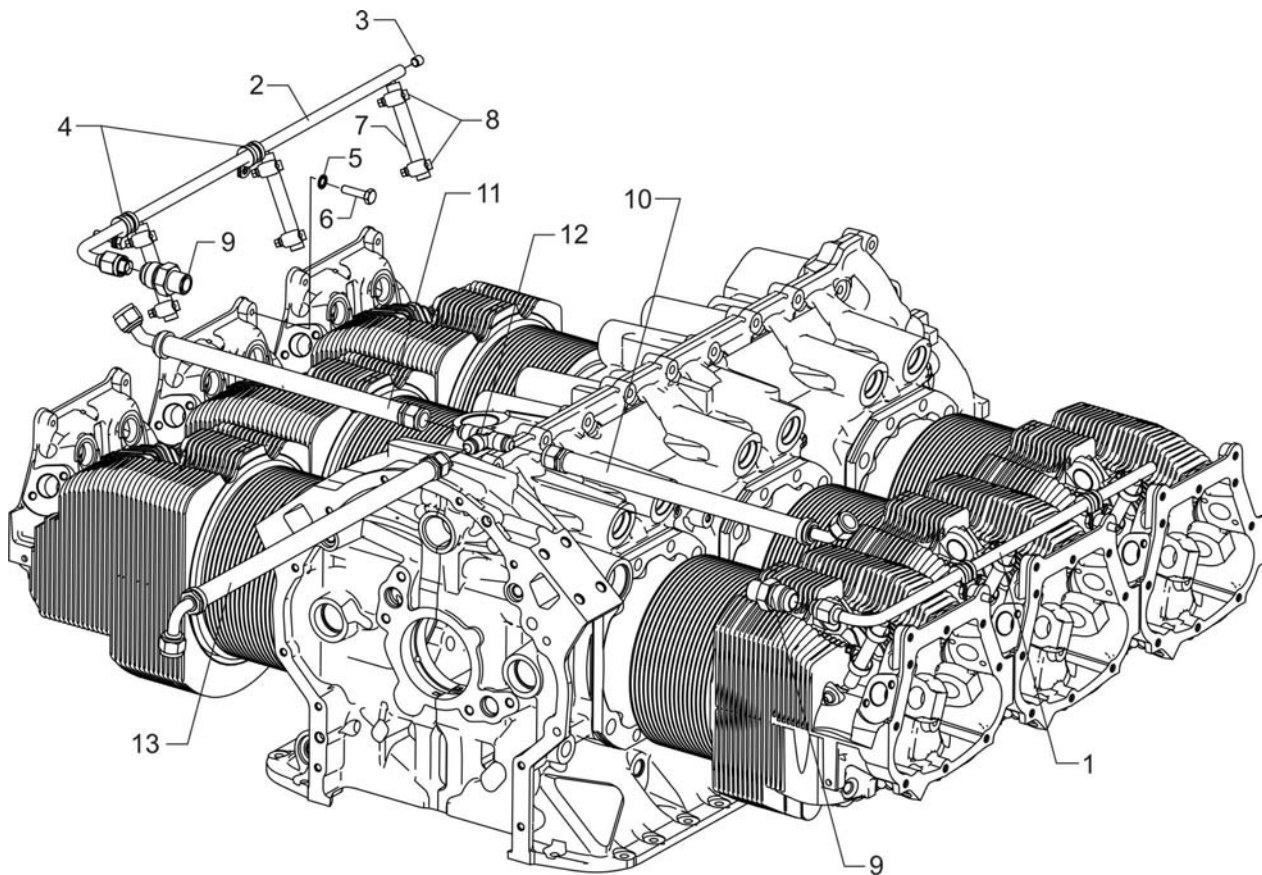
Figure Item	Code	Part Number	Description	Units per Assembly
1		73032	GASKET, Air inlet housing	1
2		61P23131	FUEL CONTROL (LYCOMING), FM-250	1
3		STD-1727	WASHER, Plain, 21/64 I.D. x 3/4 O.D. x 1/8 thick	2
4		STD-35	WASHER, 5/16 plain	2
5		STD-475	WASHER, 5/16 lock, internal teeth	4
6		STD-1410	NUT, 5/16-18 plain	4
7		63B23291	MANIFOLD ASSEMBLY, Fuel	1
8		1102	PLUG, 1/8-27 NPT, allen head	2
9		AN816-4	NIPPLE, 1/8 NPT to 1/4 tube	1
10		STD-148	NIPPLE, Union, 1/8 NPT	6
11		02G21382	NIPPLE, Nozzle pressure gauge	1
12		61P23132	NOZZLE ASSEMBLY, Turbo	6
13		07A23289	BRACKET, Fuel manifold	1
14		STD-251	WASHER, No. 10 lock, internal teeth	4
15		STD-1566	SCREW, No. 10-24 x 3/4 long, fill. head	4
16		STD-160	WASHER, 1/4 lock, internal teeth	1
17		LW-25-0.50	BOLT, 1/4-20 x 1/2 long, hex. head	1
18		LW-12098-0-210	TUBE ASSEMBLY, Fuel injector line	3
19		LW-12098-0-140	TUBE ASSEMBLY, Fuel line	2
20		LW-12098-0-280	TUBE ASSEMBLY, Fuel injector line	1
21		LW-16266-10-75	CLAMP	8
22		LW-12798-4S274	HOSE ASSEMBLY, 1/4 hose, straight	1
23		LW-16266-10-13	CLAMP, 1/8 diameter for no. 10 screw	12
24		73136	BRACKET, Extension, fuel injector line	4
25		STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	12
26		STD-670	LOCKNUT, No. 10-32 self-locking	12
27		LW-12877-6S110	HOSE ASSEMBLY, 3/8 hose, 90° elbow	1
28		951391	"O" RING	12



**Injector Nozzle Vent Manifolds, Hoses and Attachments
Figure 28**

FUEL CONTROL SYSTEM**FIGURE 28 – INJECTOR NOZZLE VENT MANIFOLDS, HOSES AND ATTACHMENTS**

Figure Item	Code	Part Number	Description	Units per Assembly
1		63E19934	MANIFOLD, Injector nozzle vent, left	1
2		63E22480	MANIFOLD, Injector nozzle, vent, right	1
3		LW-18724	HOSE, 3/16 I.D. x 7/16 O.D. x 3-1/4 long	6
4		LW-15592-5-04	CLAMP, Hose, 7/16 O.D.	12
5	*	LW-16266-25-38	CLAMP, 3/8 I.D. x 1/4 diameter screw	4
6		STD-1339	PLUG, 1/16-27 NPT, allen head	4
7		STD-160	WASHER, 1/4 lock, internal teeth	4
8		STD-2029	BOLT, 1/4-20 x 1-1/8 long, hex. head	4
9		63A22481	TUBE, Crossover nozzle vent, manifold (right)	1
10		63A22482	TUBE, Crossover nozzle vent, manifold (left)	1
11		AN824-4	TEE, 1/4 flared tube	1
12		STD-2048	HOSE, 1/4 I.D. x 19/32 O.D. x 2-7/16 long	2
13		LW-15592-5-04	CLAMP, 7/16 O.D. hose	4
14		78753	BRACKET, Injector nozzle vent crossover	1
15		LW-16266-10-25	CLAMP	1
16		STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	1
17		STD-670	LOCKNUT, No. 10-32	1
18		STD-425	WASHER, No. 10 plain	3
19		73136	BRACKET, Extension, fuel	1
20		LW-16266-10-63	CLAMP, 5/8 I.D. x no. 10 screw	1
21		STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	1
22		STD-670	LOCKNUT, No. 10-32	1
24		LW-12876-4S410	HOSE ASSEMBLY, 1/4 hose, 90° elbow	1
* Assemble 1 each at top forward boss on cylinders, 2, 3, 5 & 6.				



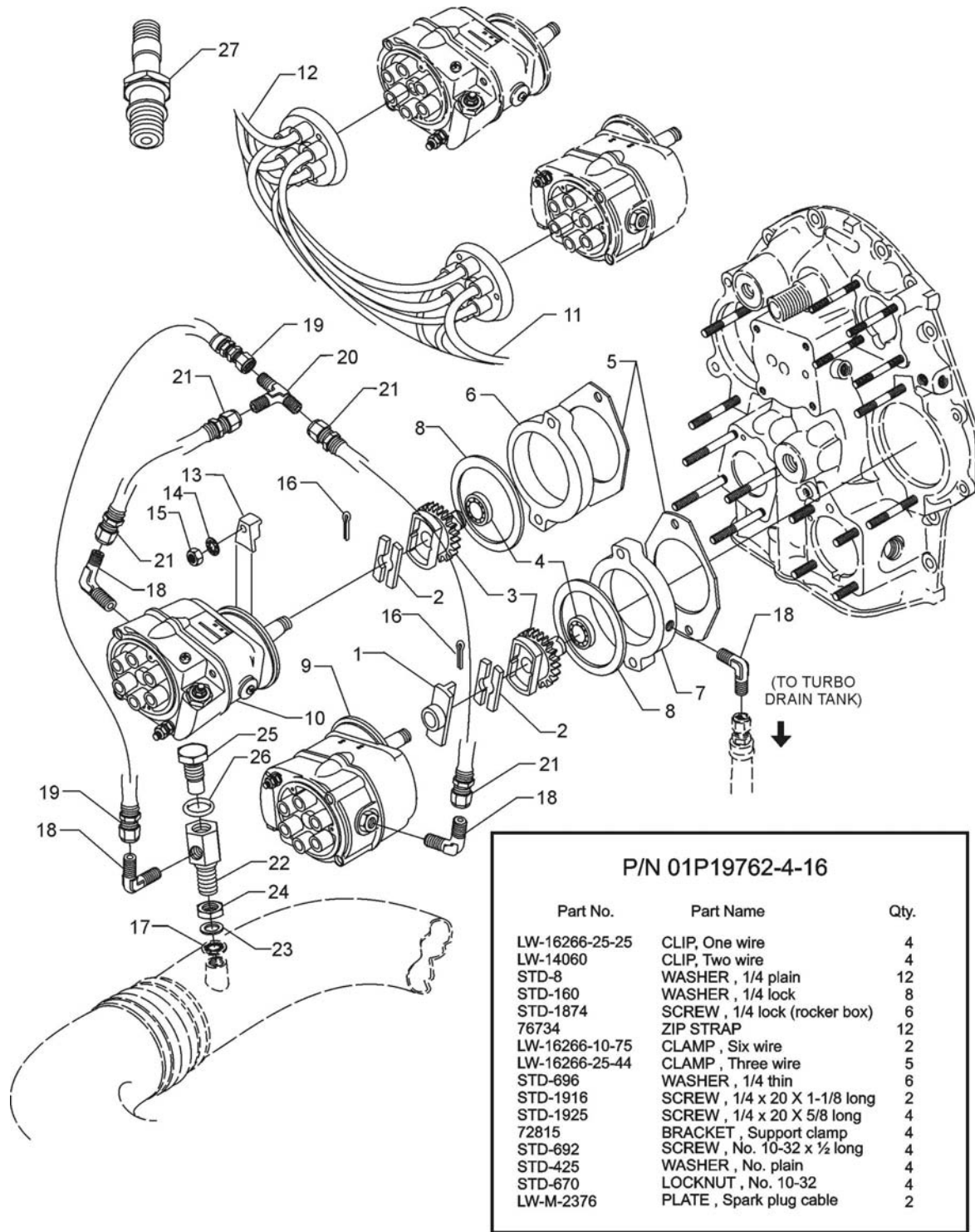
**Injector Nozzle Vent, Manifolds, Hoses and Attachments (Lycoming Fuel Control)
Figure 29**

FUEL CONTROL SYSTEM**FIGURE 29 – INJECTOR NOZZLE VENT, MANIFOLDS, HOSES AND ATTACHMENTS****(LYCOMING FUEL CONTROL)**

Figure Item	Code	Part Number	Description	Units per Assembly
1		63E23295	MANIFOLD, Right, outer injector nozzle vent	1
2		63E23296	MANIFOLD, Left, outer injector nozzle vent	1
3		STD-1339	PLUG, 1/16-27 NPT, allen head	2
4		LW-16266-25-38	CLAMP, 3/8 I.D. x 1/4 diameter	4
5		STD-160	WASHER, 1/4 lock, internal teeth	4
6		STD-2029	BOLT, 1/4-20 x 1-1/8 long, hex. head	4
7		LW-18724	HOSE, 3/16 I.D. x 7/16 O.D. x 3-1/4 long	6
8		LW-15592-5-04	CLAMP, Hose, 7/16 O.D.	12
9		AN815-6	UNION, 3/8 flared tube	2
10		LW-12879-6S110	HOSE ASSEMBLY, Teflon, 3/8 hose, 45° elbow with straight fitting x 11.00 long	1
11		LW-12879-6S147	HOSE ASSEMBLY, Teflon, 3/8 hose, 45° elbow with straight fitting x 14-7/8 long	1
12		AN824-6	TEE, 3/8 flared tube	1
13		LW-12877-6S280	HOSE ASSEMBLY, 3/8 hose, 90° elbow	1

IGNITION DISTRIBUTION SYSTEM**FIGURE 30 – ALTERNATOR ASSEMBLY AND BELT**

Figure Item	Code	Part Number	Description	Units per Assembly
1		32C22492	ALTERNATOR ASSEMBLY, 28 volt, 90 amp.	1
2	V	32C22491	ALTERNATOR, 28 volt, 90 amp. V ES-4011-1LS	1
3		36B22352	PULLEY, Alternator	1
4		37D22355	BELT, Alternator, 11MM	1
V Vendor Prime Manufacturer part.				



ATTACHING HARDWARE

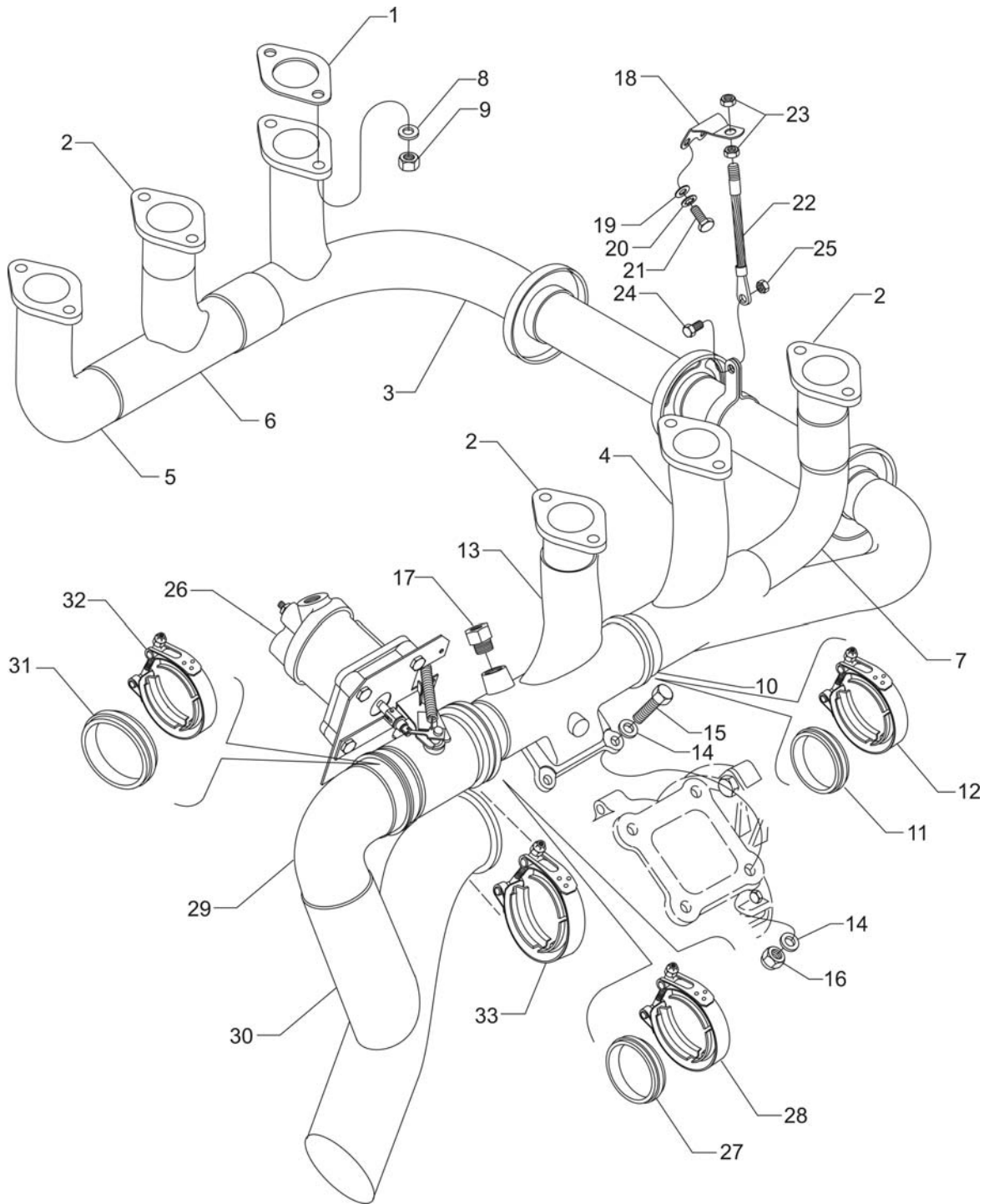
**Magnetos, Magneto Drives, Harnesses and Spark Plugs
Figure 31**

IGNITION DISTRIBUTION SYSTEM**FIGURE 31 – MAGNETOS, MAGNETO DRIVES, HARNESES AND SPARK PLUGS**

Figure Item	Code	Part Number	Description	Units per Assembly
1		73000	COUPLING, Magneto drive	1
2		68H22624	CUSHION, Magneto drive	4
3		LW-19096	GEAR RETAINER ASSEMBLY	2
4		67542	BALL BEARING	2
5		62224	GASKET, Magneto adapter	2
6		LW-12707	ADAPTER, Magneto, left, impulse coupling	1
7		LW-13926	ADAPTER, Magneto, right	1
8		LW-12681	GASKET, Magneto	2
9	V	66LP-0SCNP	MAGNETO, Right, V Slick model no. 6360	1
10	V	66LC35SDNP	MAGNETO, Left, impulse, V Slick model no. 6361	1
11	V	67J20608-P	HARNESS ASSEMBLY, Right, V Slick P/N M-2966	1
12	V	67J20609-P	HARNESS ASSEMBLY, Left, V Slick P/N M-2965	1
13		66M21195	CLAMP, Magneto	4
14		STD-475	WASHER, 5/16 lock, internal teeth	4
15		STD-1410	NUT, 5/16-18 plain	4
16		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	2
17		STD-2007	WASHER, 3/8 diameter seal	1
18		MS20822-4	ELBOW, 1/4 tube to 1/8 NPT, 90°	4
19		LW-12798-4S222	HOSE ASSEMBLY, 1/4 hose, straight	1
20		AN824-4	TEE, 1/4 flared tube	1
21		LW-12798-4S111	HOSE ASSEMBLY, Right and left magneto to tee	2
22		LW-13227	ADAPTER, Magneto pressurization	1
23		STD-33	WASHER, 3/8 plain	1
24		LW-13226	NUT, 3/8-16 plain	1
25		66N21020	VALVE ASSEMBLY, Relief	1
26		MS29512-04	"O" RING	1
27	V	1182-L7	SPARK PLUG, V Champion RHB36S	12
	*	01P19762-4-16	BAG, Magneto harness attaching	1

V Vendor Prime Manufacturer part
***** See page 62 for a breakdown of individual parts contained in the magneto and harness attaching parts bag. These parts are to be attached by customer per engine line drawing included in bag.

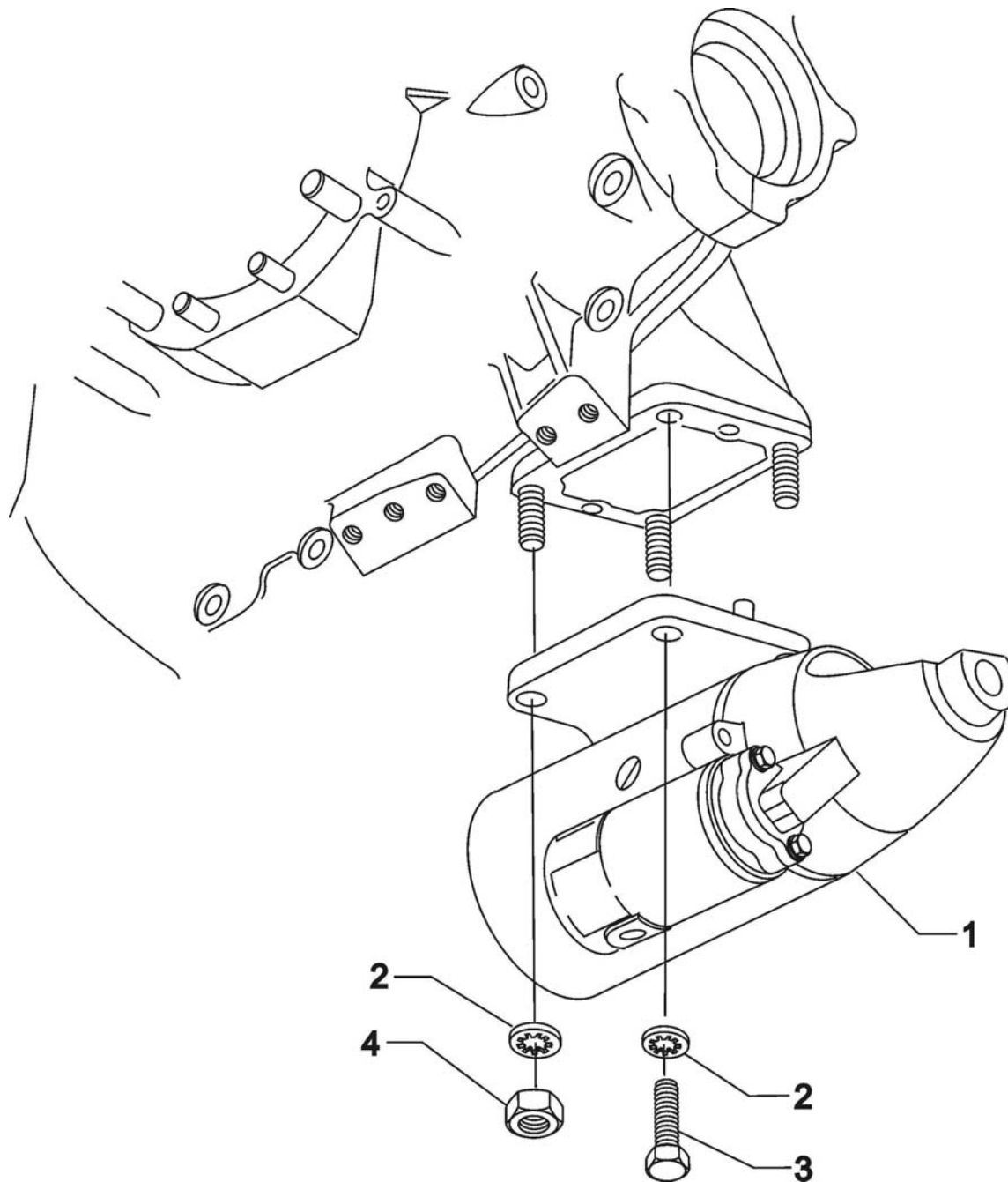
NOTE: See the latest revision of Service Instruction No. 1042 for a complete listing of all approved spark plugs.



**Exhaust Crossover Pipes and Transition Assembly
Figure 32**

EXHAUST SYSTEM**FIGURE 32 - EXHAUST CROSSOVER PIPES AND TRANSITION ASSEMBLY**

Figure Item	Code	Part Number	Description	Units per Assembly
1		77611	GASKET, Exhaust flange	6
2		40B19840	ADAPTER, Exhaust pipe	3
3		40B23369	PIPE, Exhaust, cylinder no. 2	1
4		40B22303	PIPE, Exhaust, cylinder no. 3	1
5		40B21919	PIPE, Exhaust, cylinder no. 6	1
6		40B21921	PIPE, Exhaust, cylinder no. 4	1
7		40B22315	PIPE, Exhaust, cylinder no. 1, inter	1
8		AN960C516	WASHER, 5/16 plain	12
9		STD-2233	LOCKNUT, 5/16-18 hex.	12
10		40C19819	FLANGE, V-band coupling, 2.00 tube	1
11		78084	GASKET, V-band coupling, 2.00 tube	1
12		LW-12093-5	COUPLING, V-band, 2.00 O.D. tube	1
13		47C21912	TRANSITION, Exhaust	1
14		AN960C616	WASHER, 3/8 plain	8
15		AN6C12A	BOLT, 3/8-24 x 1-5/16 long	4
16		MS20500-624	NUT, 3/8-24 self-locking	4
17		STD-1932	BUSHING, 1/4 to 1/8 NPT	1
18		07A22452	BRACKET, Cable, exhaust manifold retainer	1
19		STD-35	WASHER, 5/16 plain	2
20		STD-475	WASHER, 5/16 lock, internal teeth	2
21		LW-31-0.88	BOLT, 5/16-18 x 7/8 long, hex. head	2
22		LW-19189	CABLE, Exhaust manifold retainer	1
23		STD-1411	NUT, 1/4-20 plain	2
24		LW-25SS-0.75	BOLT, 1/4-20 x 3/4 long, hex. head	1
25		STD-2079	NUT, 1/4-20 UNC	1
26		47J22459	VALVE ASSEMBLY, Exhaust bypass	1
27		75845	GASKET, V-band coupling, 2-1/4 tube	1
28		LW-12125-3	COUPLING, V-band, 2-1/4 O.D. tube	1
29		40B22317	PIPE, Exhaust wastegate	1
30		40B22316	PIPE, Exhaust tail	1
31		75845	GASKET, V-band coupling, 2-1/4 tube	1
32		LW-12093-6	COUPLING, V-band, 2-1/4 O.D. tube	1
33		40D23255-340M	COUPLING, V-band	1



**Starter Motor and Attaching Parts
Figure 33**

CRANKING SECTION**FIGURE 33 - STARTER MOTOR AND ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly
1	V	31B22101	STARTER, Sky-Tec, V 149-24 PM	1
	V	31A22100	STARTER, Sky-Tec, V 149-12 PM	1
2		STD-475	WASHER, 5/16 lock, internal teeth	4
3		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	1
4		STD-1410	NUT, 5/16-18 plain	3
V Vendor Prime Manufacturer part				

SERVICE KIT SECTION
SEAL AND GASKET SET

PART NO.	PART NAME	Qty.
05K22599	KIT - SEAL AND GASKET SET	1
LW-RF2.239-.070	"O" RING, Scavenge pump	1
LW-12681	GASKET, Magneto	2
LW-14820	RING, Internal retaining	8
LW-15628	SEAL, Crankshaft oil	1
LW-18038	GASKET, Turbocharger oil drain	1
LW-18638	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	24
LW-18724	HOSE, Nozzle vent lines	6
MS16625-1068	RING, Internal retaining	1
MS16625-1125	RING, Internal retaining	2
MS28775-015	"O" RING	1
MS29512-04	"O" RING	1
MS29512-06	"O" RING	1
MS29512-08	"O" RING	1
MS29513-138	"O" RING	1
STD-1737	RING, External retaining	1
STD-213	OIL SEAL	1
STD-2180	HOSE, Cylinder drain tube	6
8313	GASKET, Vacuum pump	2
61183	GASKET, Accessory adapter	1
62224	GASKET, Magneto adapter	2
66732	GASKET, Valve rocker shaft cover	12
67193	GASKET, Rocker box	6
68315	GASKET, Accessory drive	1
69164	GASKET, Fuel pump	1
70455	GASKET	1
70457	GASKET, Oil filler tube	1
71481	RING, Cylinder base	6
71973	GASKET, Intake pipe	6
72053	GASKET, Governor	1
72091	"O" RING	2
72210	GASKET, Air throttle housing	1
72711	"O" RING, Intake pipe	6
73032	GASKET, Air inlet housing	1

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

PART NO.	PART NAME	Qty.
05K22599	KIT - SEAL AND GASKET SET (CONT.)	1
73818	GASKET, Accessory housing	1
74065	"O" RING, Oil level gauge	1
74944	GASKET, Fuel injector	1
75845	GASKET, V-band coupling	2
77611	GASKET, Exhaust	6
77813	GASKET, Turbocharger oil inlet	1
78084	GASKET, V-band coupling	1
06A19956	OIL SEAL	2
06B21326	GASKET, Sump	1
06B23862	GASKET, Oil filter adapter	1
06E19769-0.63	GASKET, Annular	1
06E19769-0.91	GASKET, Annular	1
06E19769-1.00	GASKET, Annular	1
06E19769-1.25	GASKET, Annular	1
15H21201	SPRING, Shroud tube	24

CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY

PART NO.	PART NAME	Qty.
05K47777	KIT - CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY	1
13F47727	CRANKSHAFT ASSEMBLY	1
LW-19210	COUNTERWEIGHT ASSEMBLY	2
73648	ROLLER, Dynamic counterweight, 5.1 order	2
76778	ROLLER, Dynamic counterweight, 6.3 order	2
71907	WASHER, Counterweight	8
LW-14820	RING, Internal retaining	8

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

PART NO.	PART NAME	Qty.
05K21262	KIT – CYLINDER, PISTON AND RING ASSEMBLY	1
LW-12988	CYLINDER ASSEMBLY	1
17B23935	VALVE, Exhaust, rotator type	1
17A23937	VALVE, Intake, rotator type	1
LW-11796	SPRING, Valve, outer	2
LW-11797	SPRING, Valve, inner	2
69532	SEAT, Valve spring, upper intake	1
LW-16475	SEAT, Valve spring, upper exhaust	1
LW-13321	SEAT, Intake valve, spring, lower	1
LW-13322	SEAT, Exhaust valve, spring, lower	1
72050	KEY, Valve, intake	2
17C21191	KEY, Valve, exhaust	2
62388	CAP, Valve stem	1
17C19386	CAP, Valve stem, exhaust, rotator	1
LW-10545-S	PISTON, 7.3:1 compression ratio	1
74241	RING, Piston, compression	2
14H21990	RING, Piston, oil regulating	1
LW-14078	PIN, Piston	1
72198	PLUG, Piston pin	2
66732	GASKET, Valve rocker shaft cover	2
67193	GASKET, Rocker box cover	1
LW-18661	SEAL, Shroud tube	4
71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	1
SSP-299	TAG	1
77611	GASKET, Exhaust flange	1

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

PART NO.	PART NAME	Qty.
11F24023-S1-S	KIT – CRANKCASE ASSEMBLY KIT	1
11F24023-S1	CRANKCASE ASSEMBLY	1
76220	THRU-STUD	8
31C-17	STUD, 5/16-18 x 2-1/8 long	4
73772	NOZZLE ASSEMBLY, Piston cooling	6
AN565B1032H5	SET SCREW, No. 10-32 x 5/16 long	1
1102	PLUG, 1/8-27 NPT, allen head	4
STD-1339	PLUG, 1/16-27 NPT, allen head	1
LW-31-2.75	BOLT, 5/16-18 x 2-3/4 long	1
LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long	3
STD-35	WASHER, 5/16 plain	4
STD-475	WASHER, 5/16 lock, internal teeth	4
STD-1410	NUT, Plain, 5/16-18	4

PART NO.	PART NAME	Qty.
11F24023-S6-S	KIT – CRANKCASE ASSEMBLY AND THRU-STUD	1
11F24023-S6	CRANKCASE ASSEMBLY	1
76220	THRU-STUD	8
31C-17	STUD, 5/16-18 x 2-1/8 long	4
73772	NOZZLE ASSEMBLY, Piston cooling	6
AN565B1032H5	SET SCREW, No. 10-32 x 5/16 long	1
1102	PLUG, 1/8-27 NPT, allen head	4
STD-1339	PLUG, 1/16-27 NPT, allen head	1
LW-31-2.75	BOLT, 5/16-18 x 2-3/4 long	1
LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long	3
STD-35	WASHER, 5/16 plain	4
STD-475	WASHER, 5/16 lock, internal teeth	4
LW-13896	PLUG, 3/4-16, hex. head	1

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AN565B1032H5	Set Screw	5	LW-25S1.50	Bolt	15
AN6-17	Bolt	1	LW-25SS-0.75	Bolt	63
AN6-21	Bolt	1	LW-31-0.88	Bolt	63
AN6-34A	Bolt	15	LW-31-0.94	Bolt	29
AN6C12A	Bolt	27	LW-31-0.94	Bolt	65
AN6C12A	Bolt	63	LW-31-1.16	Bolt	15
AN7-43	Bolt	3	LW-31-1.16	Bolt	31
AN791-2	Elbow	51	LW-31-1.31	Bolt	27
AN815-6	Union	57	LW-31-1.69	Bolt	27
AN816-4	Nipple	51	LW-31-2.75	Bolt	15
AN816-4	Nipple	53	LW-31H0.88	Bolt	3
AN816-6	Nipple	33	LW-31H0.88	Bolt	13
AN816-6	Nipple	43	LW-31H1.22	Bolt	3
AN816-8	Nipple	29	LW-31SS-0.75	Bolt	29
AN818-6J	Nut	33	LW-31SS-0.88	Bolt	27
AN824-4	Tee	55	LW-38-0.75	Bolt	23
AN824-4	Tee	61	LW-38H1.19	Bolt	3
AN824-6	Tee	57	LW-10442	Gear	5
AN826-4	Tee	33	LW-10541	Gear Assy.	5
AN912-3D	Bushing	33	LW-10545-S	Piston	17
AN912-5	Bushing	43	LW-10799	Spacer	43
AN912-9	Bushing	33	LW-11635	Shield	1
AN929-6	Cap Assy.	33	LW-11635	Shield	3
AN960C516	Washer	27	LW-11713	Spring	9
AN960C516	Washer	29	LW-11796	Spring	21
AN960C516	Washer	63	LW-11797	Spring	21
AN960C616	Washer	27	LW-11956	Guide	19
AN960C616	Washer	63	LW-11958	Guide	19
LW-RF2.239-070	Ring	47	LW-12093-5	Coupling	63
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LW-25-0.81	Bolt	37	LW-12098-0-210	Tube Assy.	51
LW-25-0.94	Bolt	41	LW-12098-0-210	Tube Assy.	53
LW-25-1.00	Bolt	37	LW-12098-0-280	Tube Assy.	53
LW-25-1.00	Bolt	49	LW-12125-3	Coupling	63
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LW-25-1.13	Bolt	37	LW-12191	Pipe	25
LW-25-1.13	Bolt	41	LW-12193	Pipe	25
LW-25-1.25	Bolt	25	LW-12194	Pipe	25
LW-25-1.44	Bolt	41	LW-12195	Pipe	25
LW-25-1.50	Bolt	15	LW-12233	Pulley	3
LW-25-1.88	Bolt	15	LW-12287	Adapter	29
LW-25-2.00	Bolt	15	LW-12545	Plug	25
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LW-12798-4S274	Hose Assy.	51	LW-16266-10-63	Clamp	55
LW-12798-4S274	Hose Assy.	53	LW-16266-10-75	Clamp	51
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LW-12876-4S410	Hose Assy.	55	LW-16266-25-38	Clamp	57
LW-12877-6S110	Hose Assy.	51	LW-16266-25-63	Clamp	29
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LW-12877-6S280	Hose Assy.	57	LW-16475	Seat	21
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LW-12878-4S320	Hose Assy.	29	LW-16956	Housing Assy.	25
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LW-12879-6S147	Hose Assy.	57	LW-18085	Spring	9
LW-12879-6S195	Hose Assy.	33	LW-18171	Elbow	43
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LW-12988	Cylinder Assy.	19	LW-18638	Lockplate	11
LW-13215	Oil Filter	49	LW-18661	Seal	21
LW-13226	Nut	61	LW-18667	Pin	11
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LW-13321	Seat	21	LW-18724	Hose	55
LW-13322	Seat	21	LW-18724	Hose	57
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MS29512-04	"O" Ring	61	STD-160	Washer	55
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MS29512-08	"O" Ring	29	STD-213	Oil Seal	13
MS29513-138	"O" Ring	31	STD-251	Washer	31
MS9321-12	Washer	29	STD-251	Washer	51
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STD-35	Washer	31	STD-596	Nut	35
STD-35	Washer	41	STD-632	Washer	3
STD-35	Washer	43	STD-669	Washer	1
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STD-35	Washer	53	STD-670	Locknut	51
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STD-148	Nipple	53	STD-678	Washer	35
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STD-160	Washer	23	STD-690	Screw	1
STD-160	Washer	25	STD-692	Screw	23
STD-160	Washer	29	STD-713	Cotter Pin	1
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STD-860	Screw	53	STD-2168	Nut	13
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STD-872	Nut	15	STD-2221	Nut	3
STD-1021	Dowel	3	STD-2231	Ring	11
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STD-1410	Nut	43	25C-12	Stud	47
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STD-1410	Nut	53	31C-12	Stud	7
STD-1410	Nut	61	31C-12	Stud	39
STD-1410	Nut	65	31C-13	Stud	7
STD-1411	Nut	15	31C-13	Stud	19
STD-1411	Nut	23	31C-14	Stud	25
STD-1411	Nut	29	31C-17	Stud	7
STD-1411	Nut	37	31C-19	Stud	39
STD-1411	Nut	45	31C-21	Stud	39
STD-1411	Nut	47	31CD-20	Stud	39
STD-1411	Nut	49	38-13	Stud	7
STD-1411	Nut	63	38-16	Stud	7
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STD-1566	Screw	53	38-21	Stud	1
STD-1650	Bolt	29	38-21	Stud	7
STD-1727	Washer	3	38-22	Stud	7
STD-1727	Washer	31	38-25	Stud	1
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STD-1727	Washer	53	38D-17	Stud	7
STD-1737	Ring	13	50-15	Stud	7
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STD-1774	Pin	45	1028-B	Ball	9
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60430	Cover	47	72343	Stabilizer	19
60803	Strap	15	72344	Stabilizer	19
60945	Plug	11	72376	Elbow	33
61084	Spring	9	72377	Elbow	33
61183	Gasket	45	72378	Cover	5
61503	Sleeve	21	72566	Gear	11
62224	Gasket	61	72626	Shaft	21
62388	Cap	21	72702	Tube Assy.	23
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66670	Bushing	19	72711	Ring	25
66728	Washer	21	72834	Cover	23
66732	Gasket	23	72960	Plug	37
67193	Gasket	23	72962	Thrust Button	13
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67536	Adapter Assy.	45	72972	Shaftgear Assy.	13
67542	Ball Bearing	61	72974	Gear Assy.	45
68315	Gasket	47	72996	Breather Fitting	45
68668	Spring	9	73000	Coupling	61
68795	Cover Assy.	23	73027	Tube Assy.	23
69159	Adapter Assy.	13	73032	Gasket	51
69164	Gasket	13	73032	Gasket	53
69260	Insert	19	73136	Bracket	51
69532	Seat	21	73136	Bracket	53
69796	Dowel	7	73136	Bracket	55
70455	Gasket	5	73249	Washer	5
70457	Gasket	35	73250	Washer	5
70474	Washer	13	73251	Washer	5
71481	Ring	23	73252	Washer	5
71549	Washer	21	73648	Roller	11
71596	Washer	45	73772	Nozzle Assy.	7
71610	Hook	23	73810	Bushing	11
71611	Retainer	23	73818	Gasket	39
71664	Gear Assy.	13	73966	Spacer	51
71667	Lockplate	13	74065	Ring	35
71668	Gear Assy.	13	74241	Ring	17
71903-A	Bushing	11	74360	Flange	25
71907	Washer	11	74389	Bushing	21
71973	Gasket	25	74494	Plate	23
72050	Key	21	74797	Fitting	33
72053	Gasket	5	74887	Spacer	23
72091	Ring	9	74944	Gasket	31
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75845	Gasket	63	06B21326	Gasket	37
75948	Tee	33	06B23862	Gasket	49
76118	Spacer	11	06E19769-0.63	Gasket	45
76155	Shaft Assy.	11	06E19769-0.91	Gasket	37
76220	Stud	15	06E19769-1.00	Gasket	25
76304	Elbow	51	06E19769-1.25	Gasket	9
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