

IO-540-AE1A5 Illustrated Parts Catalog

October 2025

PC-IO-540-AE1A5 (Supersedes PC-615-AE1A5)



652 Oliver Street
Williamsport, PA 17701

IO-540-AE1A5 Illustrated Parts Catalog

Lycoming Part Number: PC-IO-540-AE1A5 (Supersedes PC-615-AE1A5)

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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New	Initial Release of PC-IO-540-AE1A5 which superseded PC-615-AE1A5	October 2025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 OVERHAUL MANUAL.

Purpose of this Catalog

This Illustrated Parts Catalog (IPC) contains a complete list of spare parts for the Lycoming IO-540-AE1A5 wide cylinder flange model engine.

How to Use this Catalog

This catalog is based on the Air Transport Association (ATA) Spec 100 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 format specifies the subject matter for each chapter-section. According to the ATA Standards, the following chapters apply to the IO-540-AE1A5 Illustrated Parts Catalog:

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

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

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

Numerical Index

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

Description column

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

Units per Assembly Column

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

Cross-Reference List of Manufacturer Parts to Standard Part Number

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.

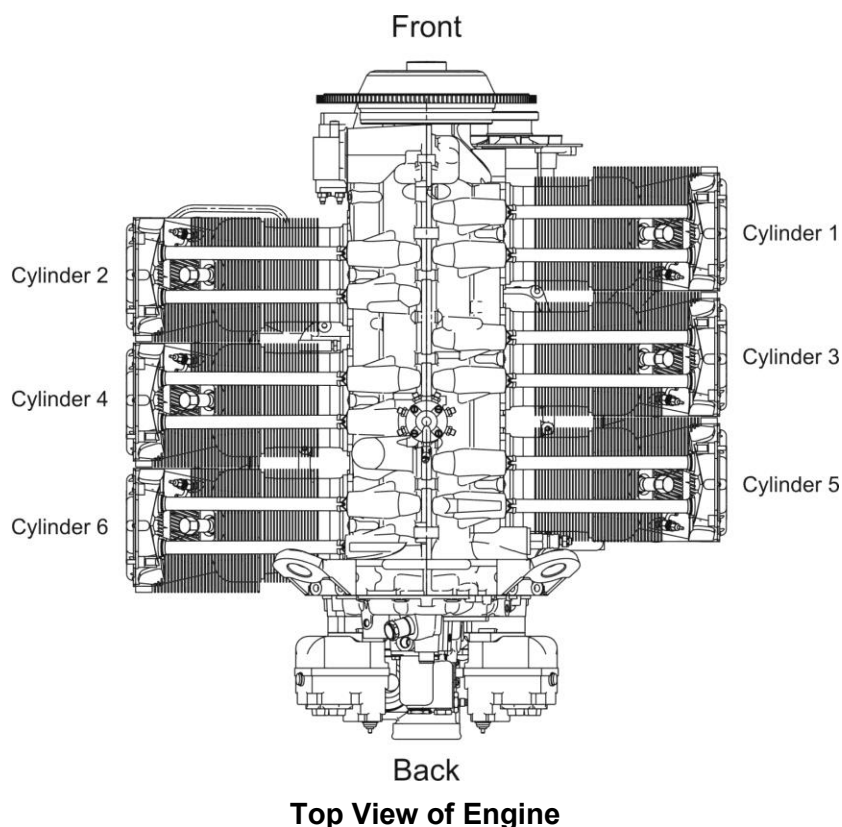
Any reference in this document to the suppliers/part manufacturer's product, by name, trademark, part number or other description is solely for the purpose of identification and does not indicate or infer that Lycoming accepts responsibility for quality control and/or airworthiness of parts, which do 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 six-cylinder engine is 1-4-5-2-3-6.



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	
Adj.	Adjustable
amp.	Ampere
AR	As Required
Assy.	Assembly
C	
Cyl.	Cylinder
D	
dr.	Drilled
F	
Fill.	Fillister
H	
Hex.	Hexagon
I	
I.D.	Inside Diameter
in.	Inch
M	
mm	Millimeter
N	
No.	Number
NPT	National Pipe Taper (thread)
O	
O.D.	Outside Diameter
P	
P/N	Part Number
psi	Pounds per square inch
Q	
Qty.	Quantity
R	
RF	Reference
S	
SB	Service Bulletin
SI	Service Instruction
SSP	Special Service Publication
U	
UNF	Unified National Fine

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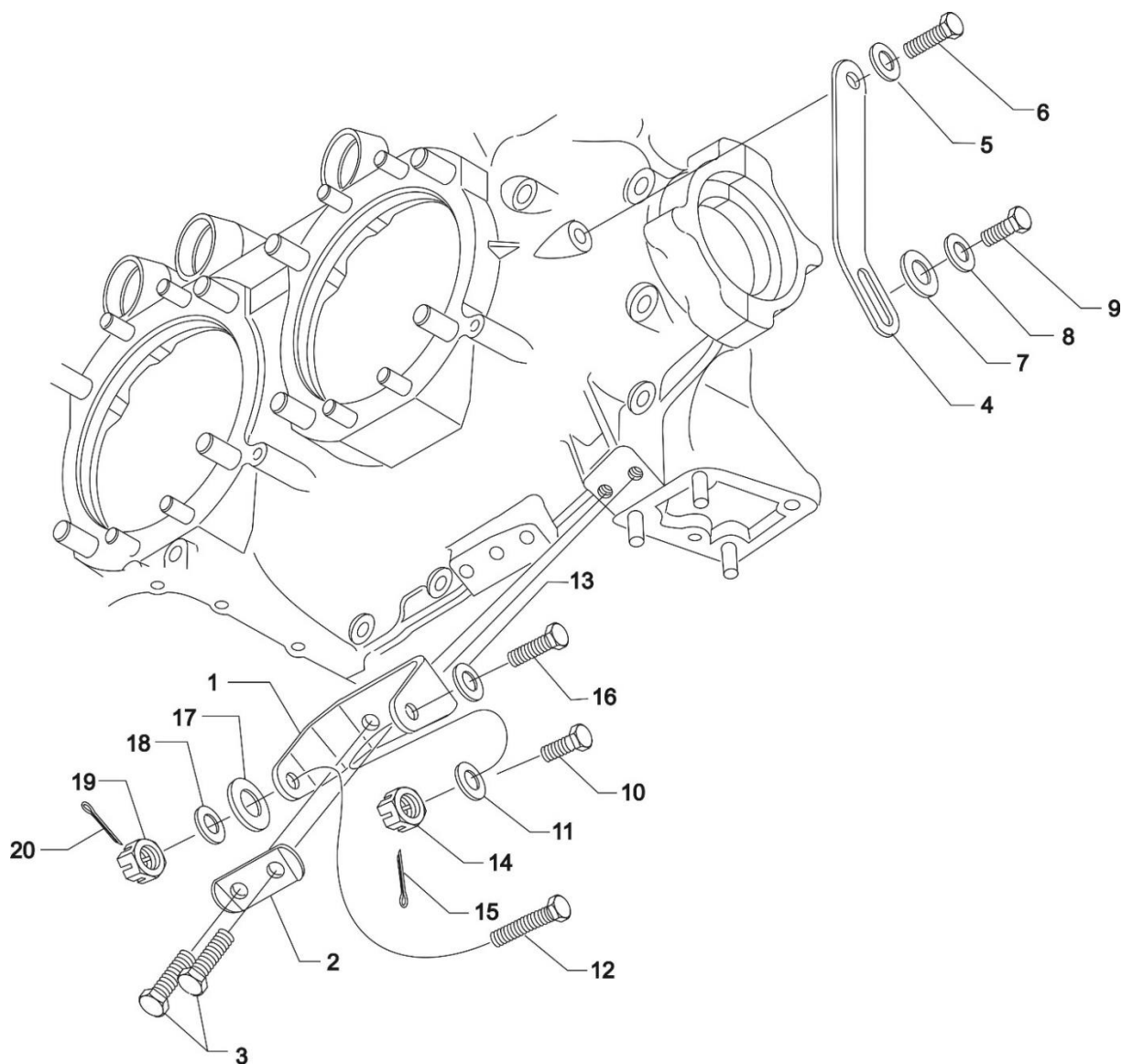
OVERSIZE AND UNDERSIZE PARTS LISTING

PART NO.	DESCRIPTION	OVERSIZE (IN.)								UNDERSIZE (IN.)		
		P02 .002	P05 .005	P10 .010	P15 .015	P20 .020	P30 .030	P40 .040	P50 .050	M03 .003	M06 .006	M10 .010
66670	BUSHING		X	X								
66713*	GUIDE		X	X		X	X	X				
66796	INSERT		X	X								
69796	DOWEL		X									
72155-S	BUSHING		X	X	X	X						
73810	BUSHING		X	X	X							
75656-S	BUSHING		X	X	X	X						
75657-S	BUSHING		X	X	X	X						
75838*	GUIDE		X	X		X	X	X				
LW-11997	SEAL								X			
LW-12688	SEAT		X	X		X	X					
18M26105	BEARING			X						X	X	X
LW-13792	SEAL								X			
STD-1065	DOWEL		X	X	X							
16T19468	SEAT		X	X		X	X					
18M19389	BEARING			X						X	X	X
18A26093	BEARING									X	X	X
18D26098	BEARING									X	X	X

* Reference Figure 12 items no. 4 and 5 for valve guides.

NOTE

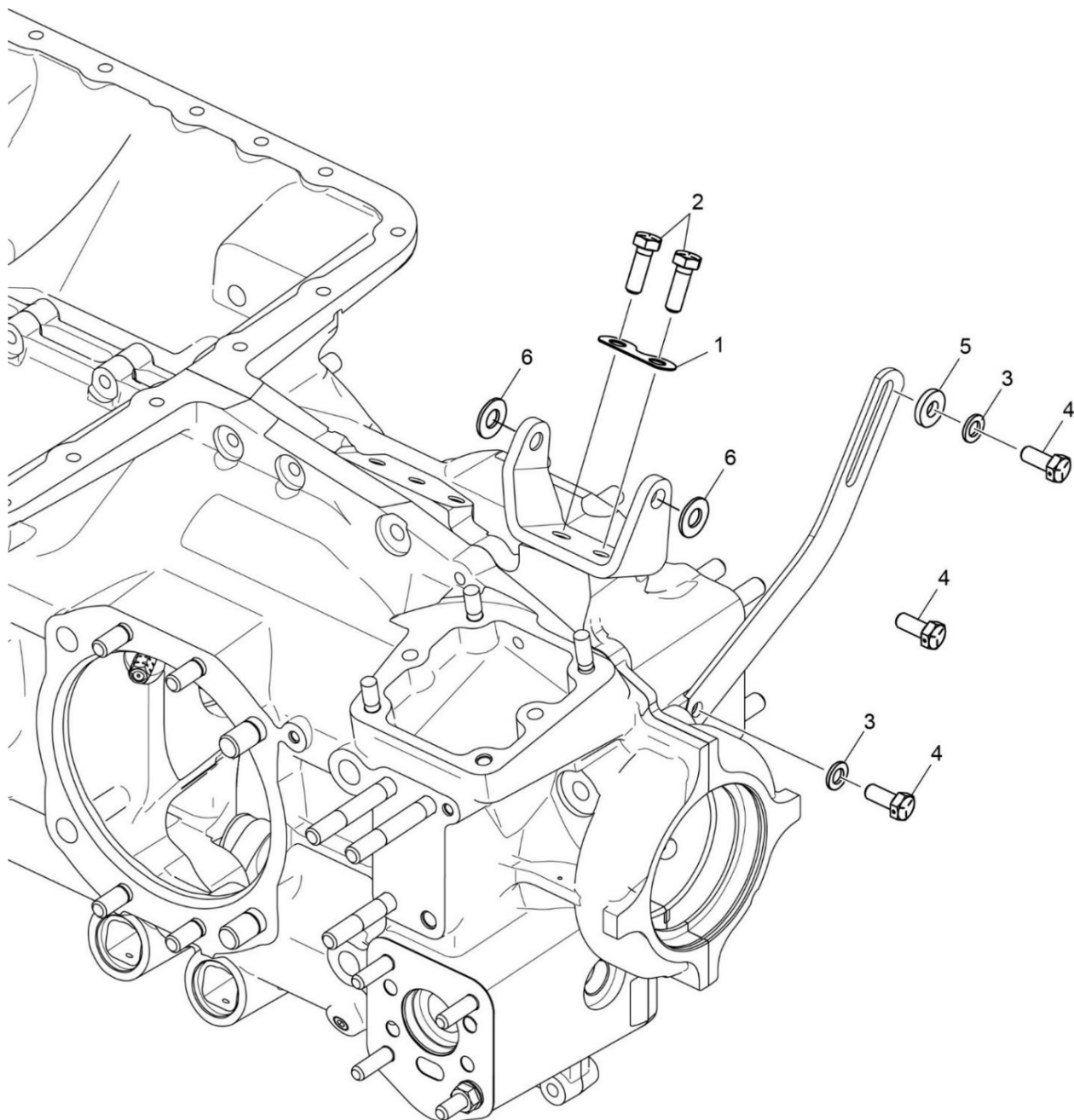
When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing P/N 18D26098 bearing in .003 in. undersize, order P/N 18D26098-M03. Undersize code letter is "M" while oversize code letter is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



Alternator Attaching Parts
Figure 1A

DC GENERATION**FIGURE 1A - ALTERNATOR ATTACHING PARTS**

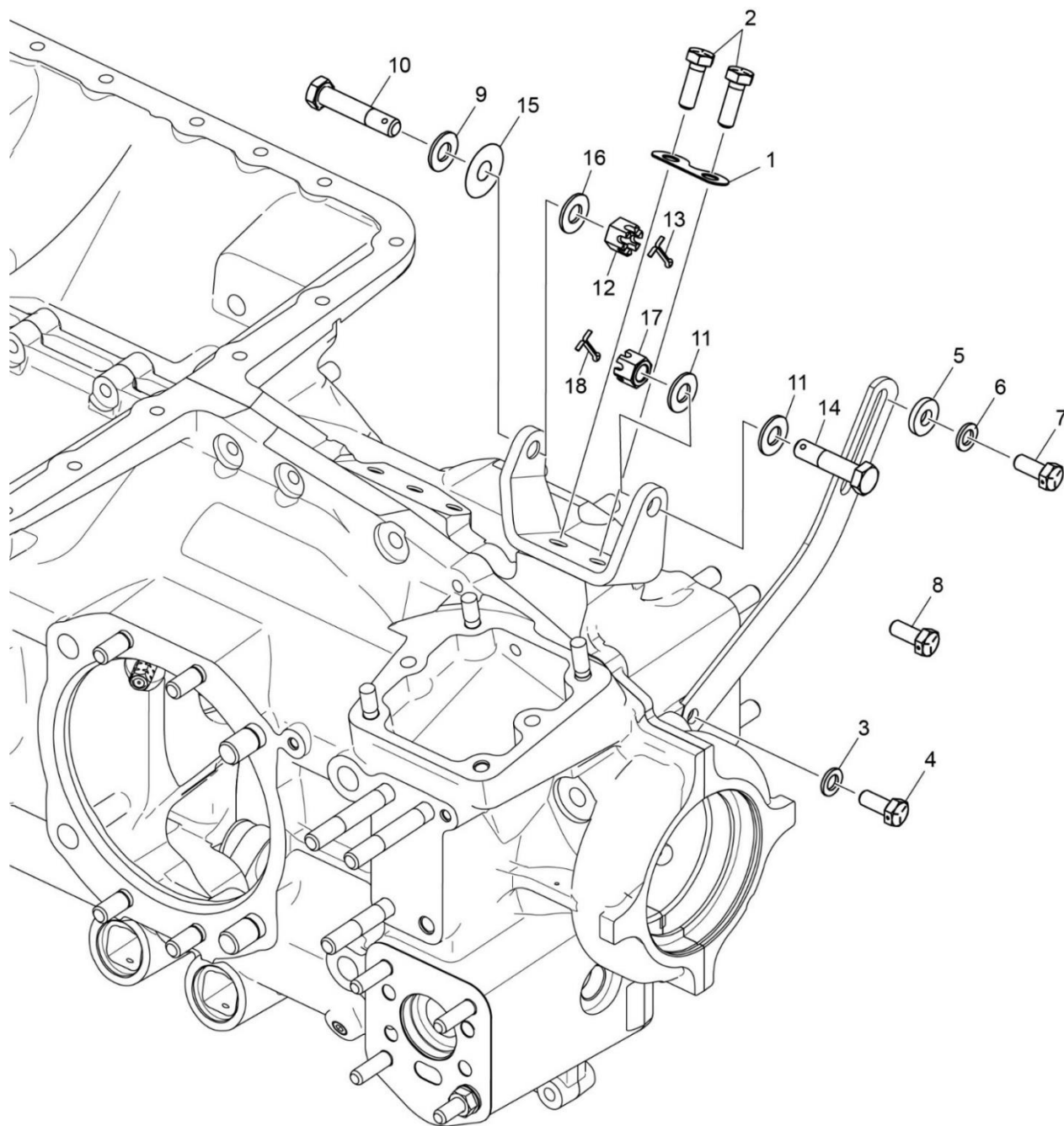
Figure Item	Code	Part Number	Description	Units per Assembly
1		07A19474	BRACKET, Alternator	1
2		73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	1
3		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex.head	2
4		75380	LINK, Alternator adjusting	1
5		STD-35	WASHER, 5/16 plain	1
6		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
7		STD-1727	WASHER, Plain, 3/4 O.D. x 21/64 I.D. x 1/8 thick	1
8	AR	STD-33	WASHER, 3/8 plain	AR
9		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
10		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
11		STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick	1
12		AN6-17	BOLT, 3/8-24 x 1-61/64 long, hex. head	1
13	AR	STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick	AR
14		STD-872	NUT, 3/8-24 slotted	1
15		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	1
16		AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. head, drilled end	1
17	AR	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick	AR
18	AR	STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick	AR
19		STD-872	NUT, 3/8-24 slotted	1
20		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	1
AR as required				



**Alternator Attaching Parts
Figure 1B**

DC GENERATION**FIGURE 1B - ALTERNATOR ATTACHING PARTS**

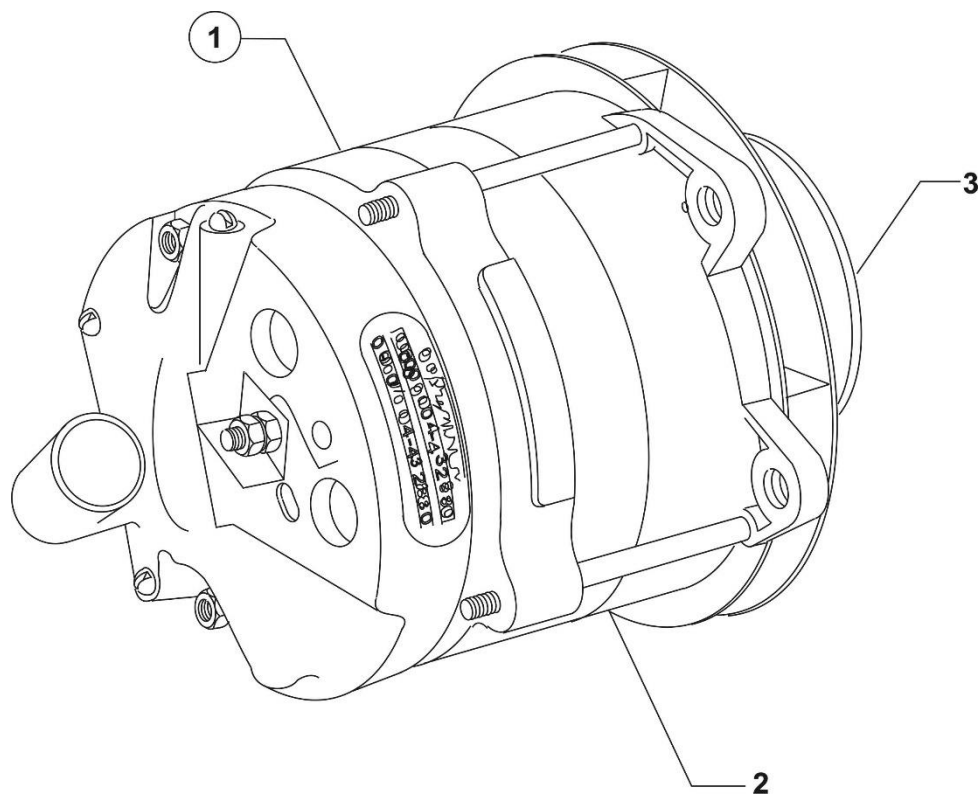
Figure Item	Code	Part Number	Description	Units per Assembly
1		73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	1
2		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex.head	2
3	AR	STD-35	WASHER, 5/16 plain	AR
4		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	3
5		STD-1727	WASHER, Plain, 3/4 O.D. x 21/64 I.D. x 1/8 thick	1
6	AR	STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick	AR
AR as required				



Alternator Attaching Parts
Figure 1C

DC GENERATION**FIGURE 1C - ALTERNATOR ATTACHING PARTS**

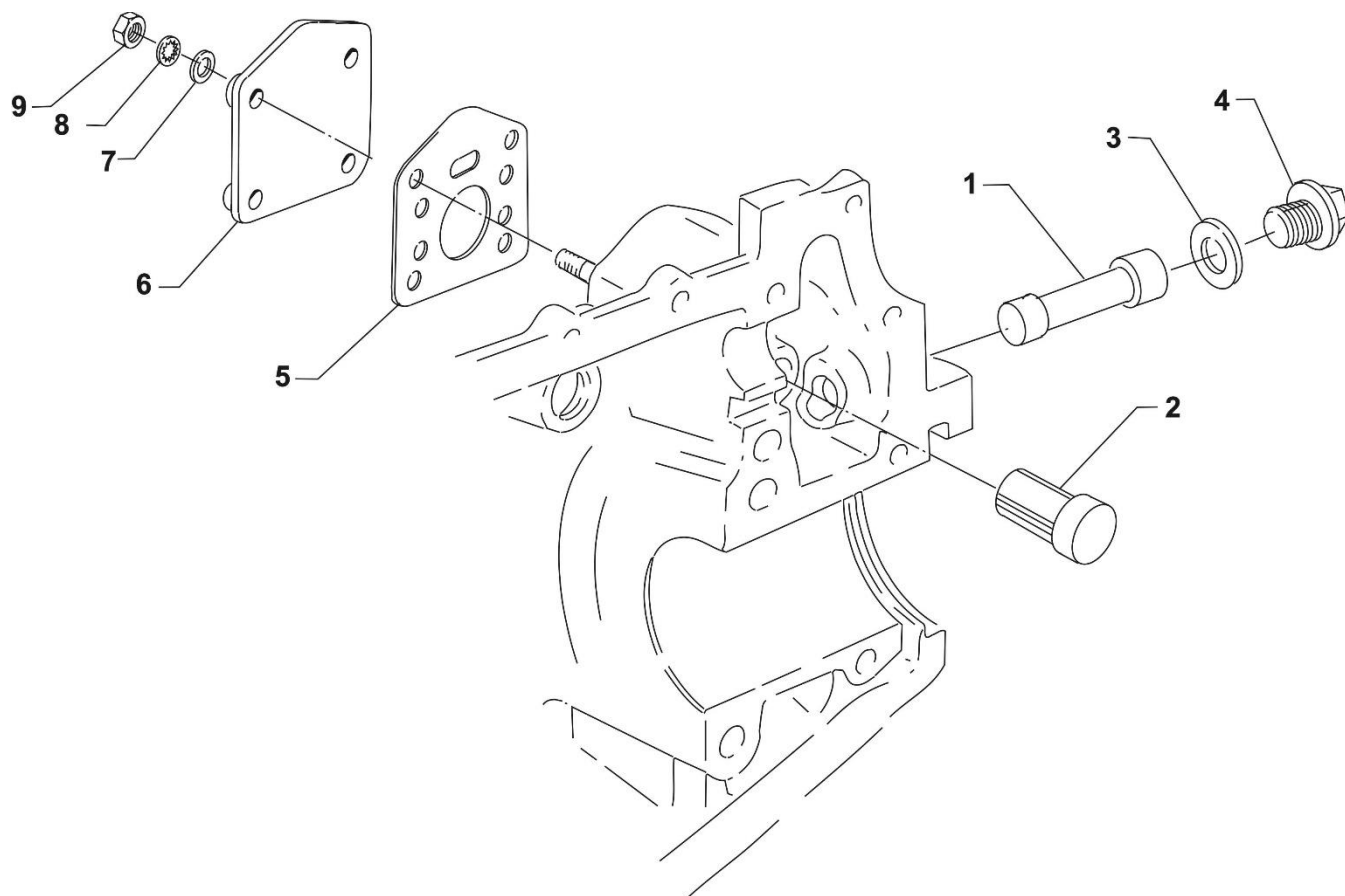
Figure Item	Code	Part Number	Description	Units per Assembly
1		73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	1
2		LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex.head	2
3		STD-35	WASHER, 5/16 plain	1
4		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
5		STD-1727	WASHER, Plain, 3/4 O.D. x 21/64 I.D. x 1/8 thick	1
6	AR	STD-33	WASHER, 3/8 plain	3 AR
7		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
8		LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
9		STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick	1
10		AN6-17	BOLT, 3/8-24 x 1-61/64 long, hex. head	1
11	AR	STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick	3 AR
12		STD-872	NUT, 3/8-24 slotted	1
13		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	1
14		AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. head, drilled end	1
15	AR	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick	AR
16	AR	STD-690	WASHER, 13/16 O.D. x 3/8 I.D. x 1/16 thick	AR
17		STD-872	NUT, 3/8-24 slotted	1
18		STD-713	COTTER PIN, 3/32 diameter x 3/4 long	1
AR as required				



Alternator Assembly Figure 2

DC GENERATION**FIGURE 2 - ALTERNATOR ASSEMBLY**

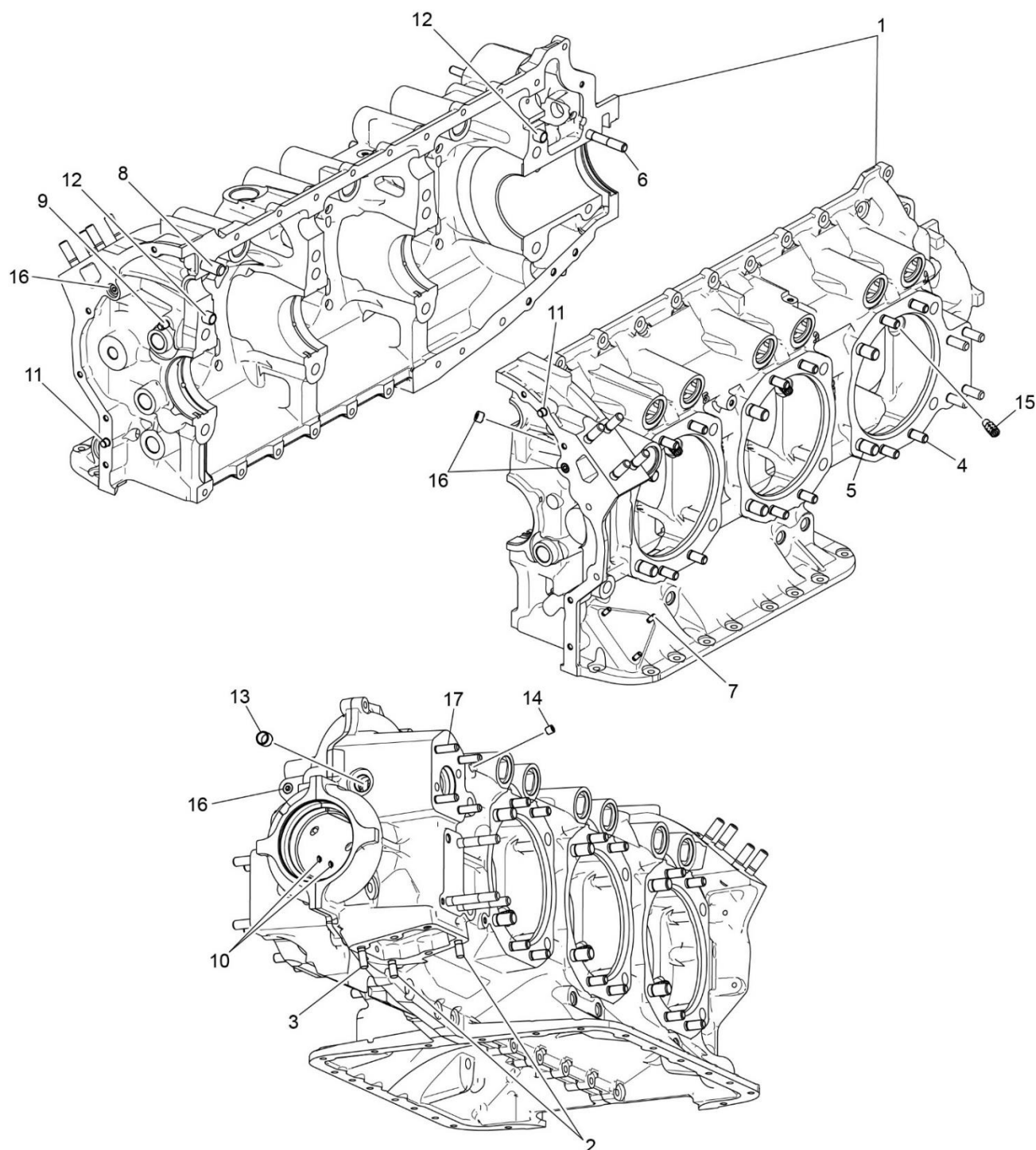
Figure Item	Code	Part Number	Description	Units per Assembly
1	*	32C19553	ALTERNATOR ASSEMBLY, 24 volt, 70 amp.	1
2	*	LW-14326	ALTERNATOR, (ALU-8521-LS)	1
3	*	36B19484	PULLEY, Alternator	1
* Shipped loose with engine				



Propeller Governor Plugs and Cover
Figure 3

FRONT SECTION**FIGURE 3 – PROPELLER GOVERNOR PLUGS AND COVER**

Figure Item	Code	Part Number	Description	Units per Assembly
1		78589	PLUG, Propeller governor idler shaft	1
2		03C21721	PLUG, Propeller governor drive gear	1
3		70455	GASKET, 25/32 I.D. x 1-1/8 O.D. x 1/32 thick	1
4		LW-13896	PLUG, 3/4-16 hex. head	1
5		72053	GASKET, Governor	1
6		72378	COVER, Governor drive	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

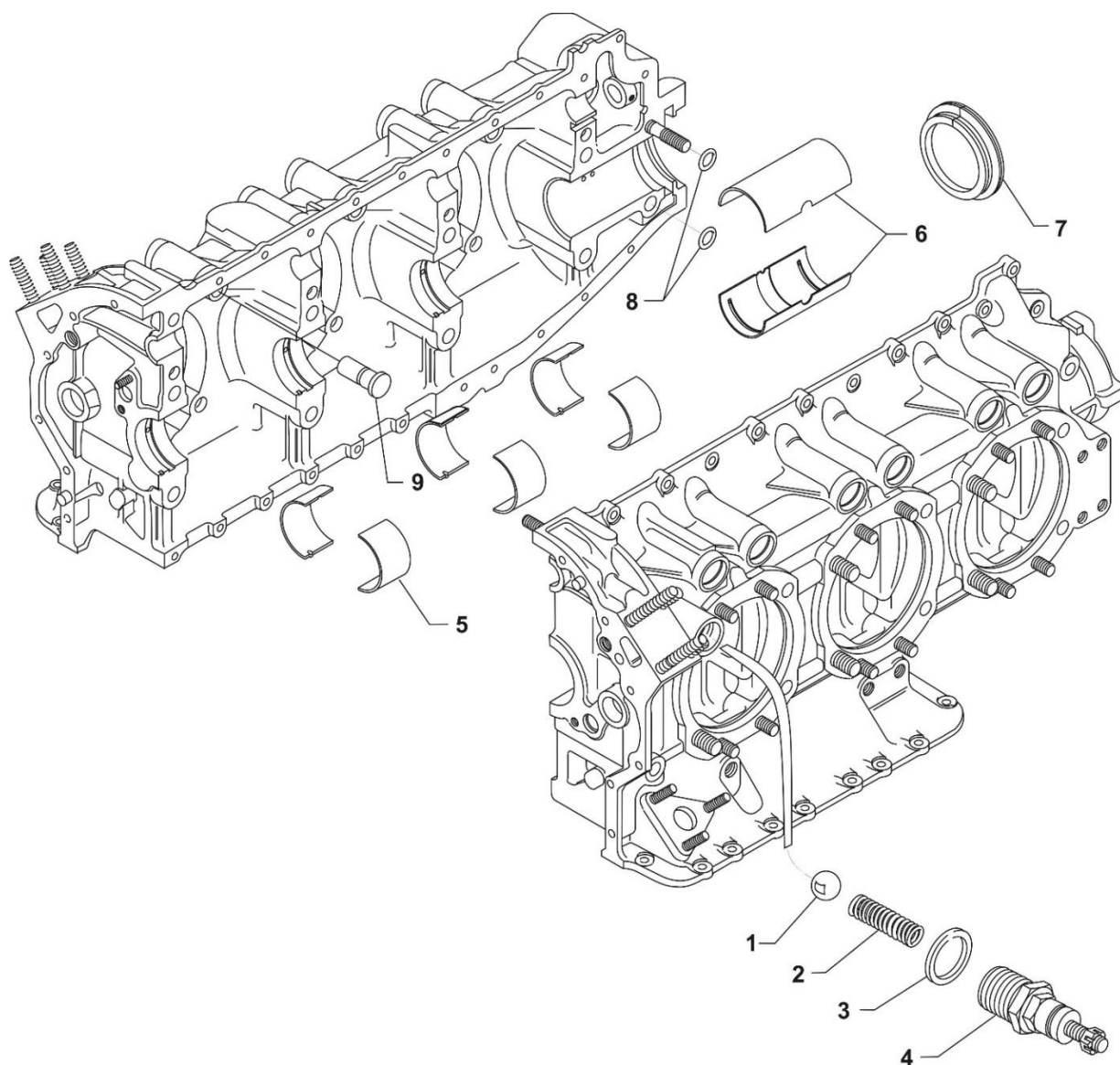


Crankcase Assembly
Figure 4

POWER SECTION

FIGURE 4 - CRANKCASE ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1	*	11E24004-S1-S	CRANKCASE ASSEMBLY KIT (Flat Tappet)	1
	P	11E24004-S1	CRANKCASE ASSEMBLY	1
	*	11E24104-S1-S	CRANKCASE ASSEMBLY KIT (Roller Tappet)	1
	P	11E24104-S1	CRANKCASE ASSEMBLY	1
	*	11E24106-S1-S	CRANKCASE ASSEMBLY KIT (Roller Tappet)	1
	P	11E24106-S1	CRANKCASE ASSEMBLY	1
2		31C-12	STUD, 5/16-18 x 1-1/2 long	2
3		31C-13	STUD, 5/16-18 x 1-5/8 long	1
4		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
6		38-22	STUD, 3/8-16 x 2-3/4 long	1
7		10-8	STUD, No. 10-32 x 1.00 long	3
8		38D-17	STUD, 3/8-16 x 2-1/8 long, drilled	1
9		01A23354	STUD, 5/16-18 x 1.00 long, drilled	1
10		69796	DOWEL, Crankshaft bearing	2
11		STD-514	DOWEL, 5/16 diameter x 1/2 long	2
12		STD-557	DOWEL, 1/2 diameter x 11/16 long, hollow	2
13		72158	BUSHING, Governor drive idler shaft	1
14		STD-1339	PLUG, 1/16-27 NPT, Allen head	1
15		73772	NOZZLE ASSEMBLY, Piston cooling	6
16		1102	PLUG, 1/8-27 NPT, Allen head	4
17		31C-14	STUD, 5/16-18 x 1-3/4 long	4
P Lycoming proprietary part. Listed for reference purposes only, cannot be purchased. * Refer to Service Kits Section for applicable Crankcase Assembly and Governor Thru-Stud Kit Part Numbers.				

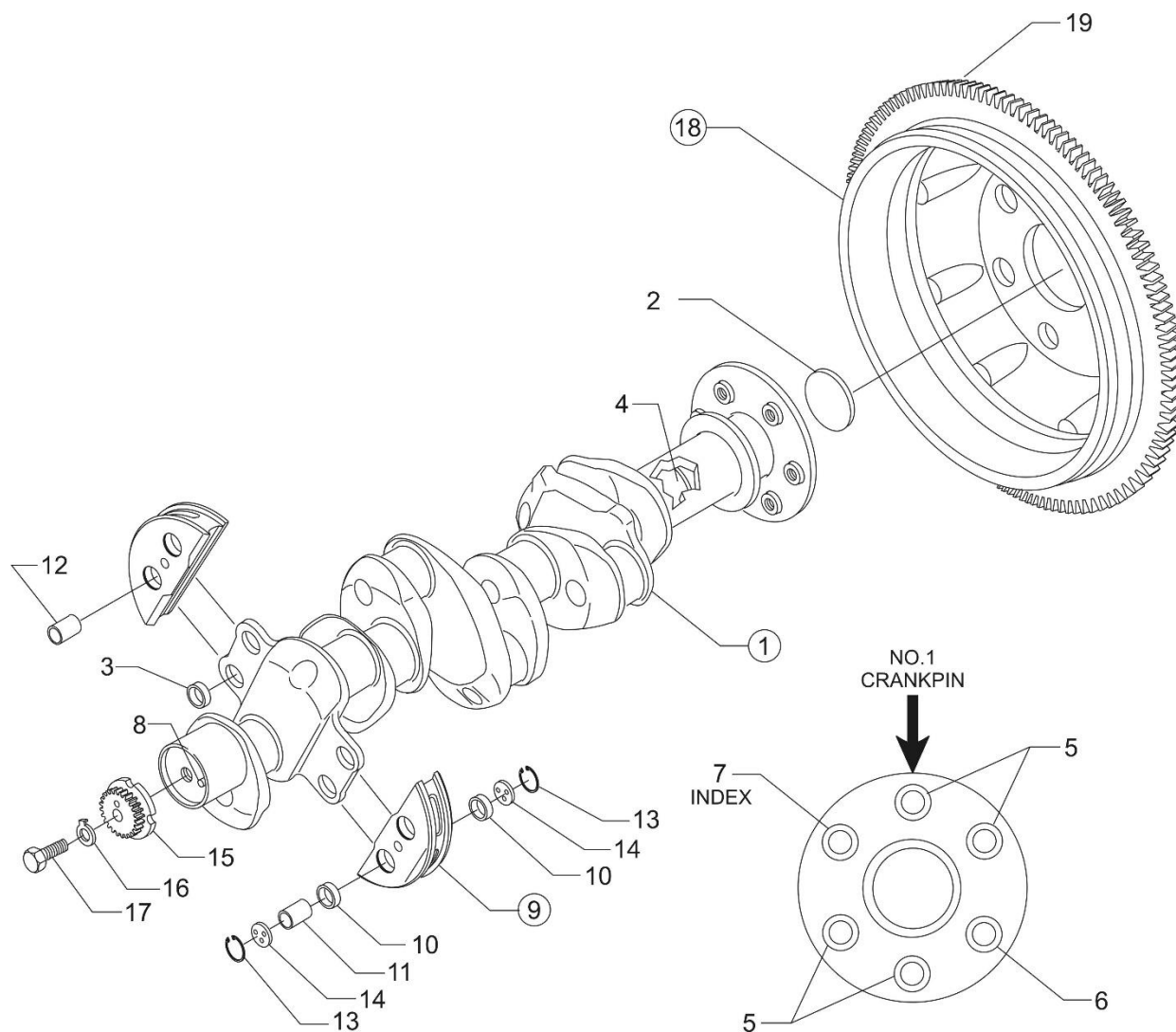


Crankcase Related Parts
Figure 5

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, Annular, 1-1/4 I.D.	1
4		77808	VALVE ASSEMBLY, Oil pressure relief valve, adj.	1
5		18D26098	BEARING, Crankshaft	6
6		18A26093	BEARING, Crankshaft	2
7	**	LW-13792	SEAL, Crankshaft oil	1
8		72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter	2
9		15B26262	BODY, Hydraulic tappet	12
		LRT23381	BODY ASSEMBLY, Hydraulic tappet, Lycoming roller type	12
* Select spring to give a minimum of three threads exposed on adjusting screw to allow field adjustment. Reference latest revision of SSP-1776, Part I for spring identification. ** Refer to the latest revision of Lycoming Service Instruction No. 1324 for installation.				

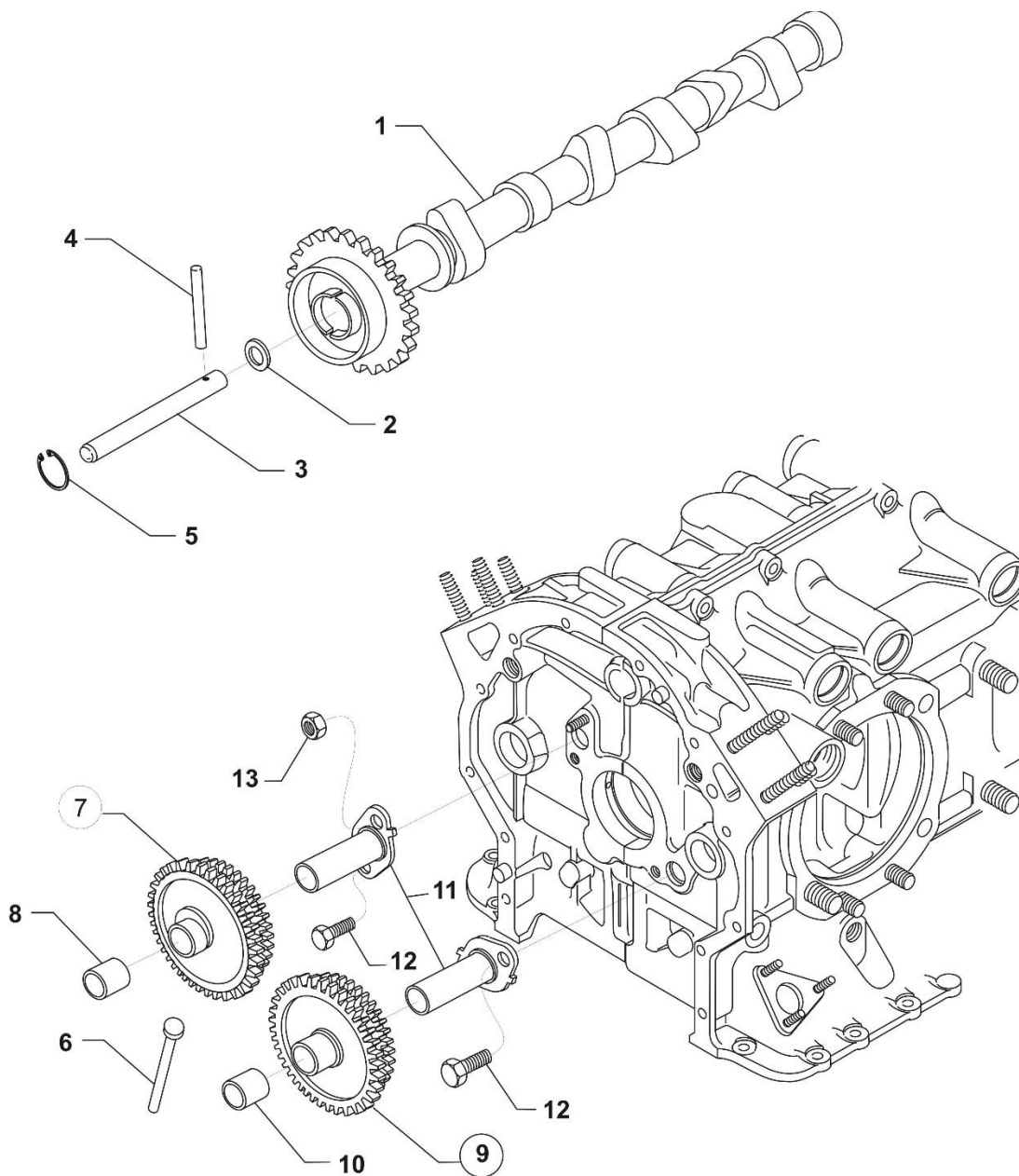


Crankshaft Assembly and Related Parts
Figure 6

POWER SECTION

FIGURE 6 - CRANKSHAFT ASSEMBLY AND RELATED PARTS

Figure Item	Code	Part Number	Description	Units per Assembly
1		13E47622	CRANKSHAFT AND BUSHING ASSEMBLY	1
2		STD-1211	PLUG, 2.00 diameter expansion	1
3		73810	BUSHING, Crankshaft dynamic counterweight	4
4		71640	PLUG, 1-3/8 diameter	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-1065	DOWEL, Stepped, 5/16 x 1/4 diameter	1
9		14U22539	COUNTERWEIGHT ASSEMBLY	2
10		71903-A	BUSHING, Dynamic counterweight	4
11		14W22647	ROLLER, Dynamic counterweight, 4.81 order	2
12		70416	ROLLER, Dynamic counterweight	2
13		LW-14820	RING, Internal retaining	8
14		71907	WASHER, Dynamic counterweight	8
15	*	13S19647	GEAR, Crankshaft	1
16		LW-18638	LOCKPLATE, Crankshaft gear	1
17		STD-2247	BOLT, 5/16 -24 x 1-3/4 long	1
18		31M22972	SUPPORT ASSEMBLY, Starter ring gear, 12/14 pitch	1
19		72566	GEAR, Starter ring, 12/14 pitch	1
* Refer to the latest revision of Service Bulletin No. 475 for proper installation. NOTE: Refer to Service Kit Section for Crankshaft and Counterweight Assembly kit.				

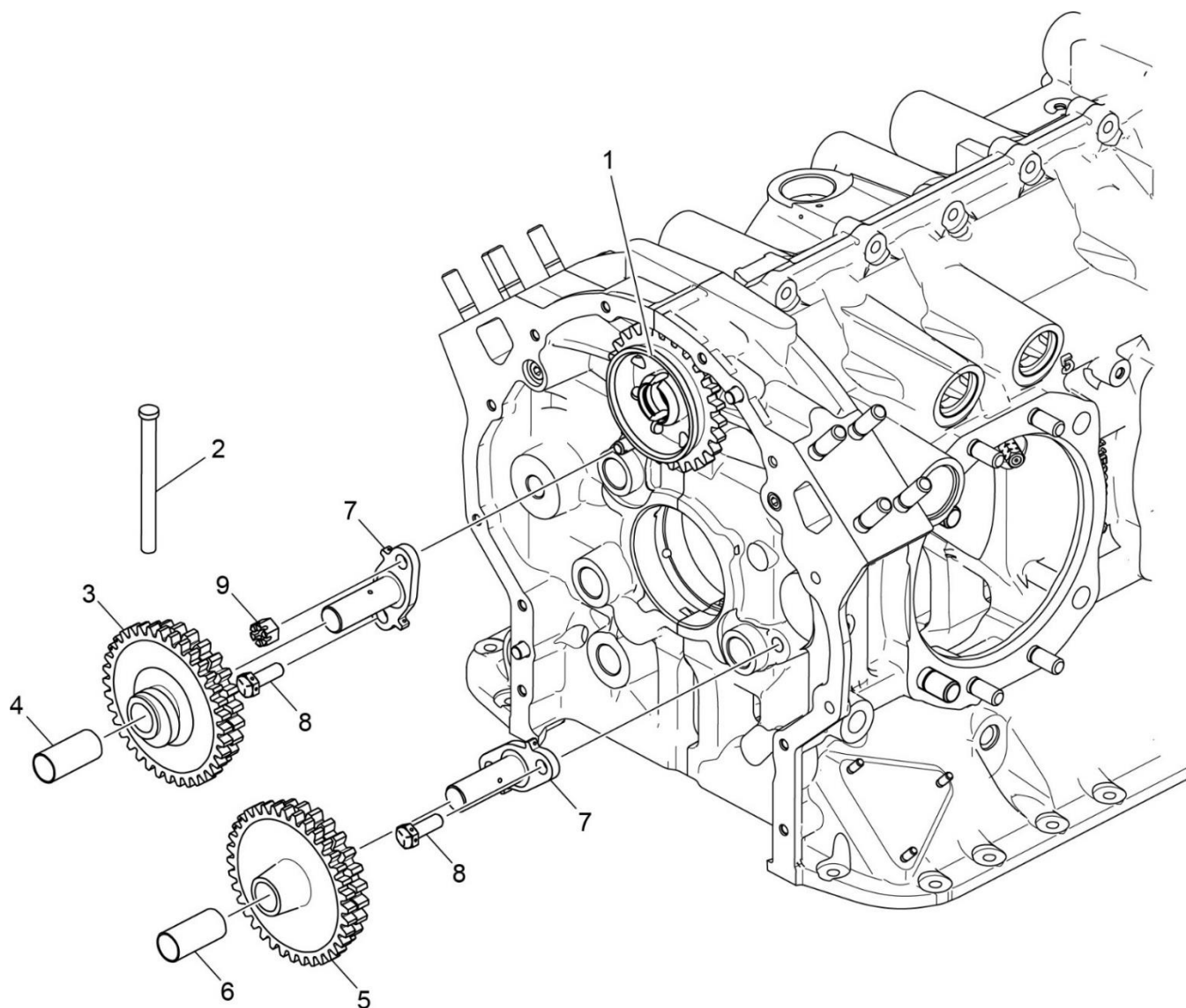


**Crankshaft Idler Gears, Tachometer Drive and Camshaft
Figure 7A**

POWER SECTION

FIGURE 7A - CRANKSHAFT IDLER GEARS, TACHOMETER DRIVE AND CAMSHAFT

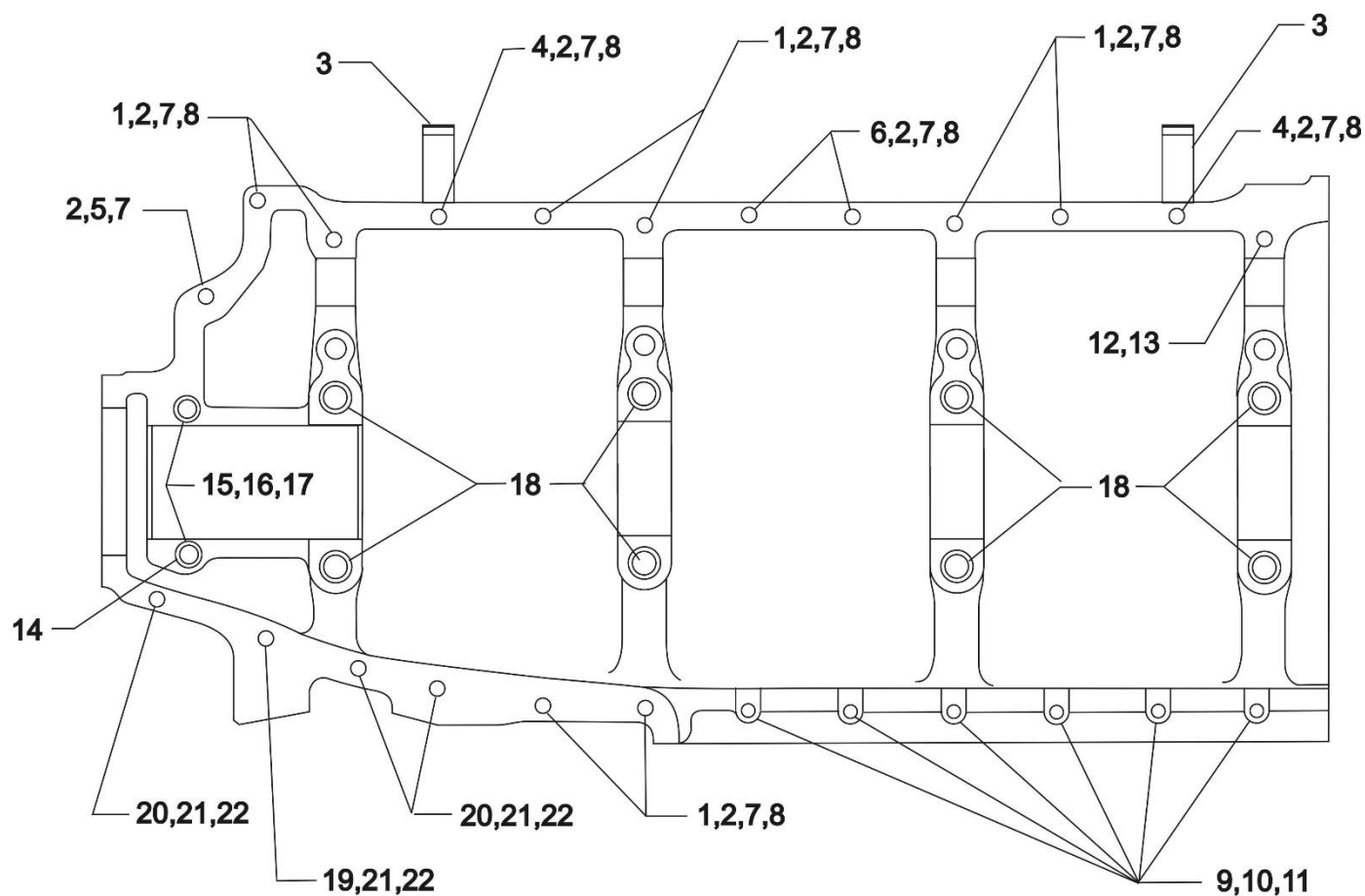
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-19340	CAMSHAFT ASSEMBLY, Flat Tappets	1
	*	15N26092	CAMSHAFT ASSEMBLY, Roller Lifter	1
2		76118	SPACER, Tachometer shaft centering	1
3		76155	SHAFT ASSEMBLY, Tachometer	1
4		LW-18667	PIN, 3/16 diameter x 2-21/64 long	1
5		STD-2231	RING, Internal retaining (13/16)	1
6		23D26777	PLUNGER, Fuel pump, long	1
7		71652	GEAR ASSEMBLY, Crankshaft idler	1
8		67530	BUSHING, Crankshaft idler gear	1
9		71668	GEAR ASSEMBLY, Crankshaft idler, plain	1
10		67530	BUSHING, Crankshaft idler gear	1
11		LW-13795	SHAFT, Crankshaft idler gear	2
12		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	3
13		STD-2168	NUT, 5/16-18 NC-3 slotted shear	1
* 15N26092 Camshaft Assembly does not include tachometer shaft				



Crankshaft Idler Gears, Tachometer Drive and Camshaft
Figure 7B

POWER SECTION**FIGURE 7B - CRANKSHAFT IDLER GEARS AND CAMSHAFT**

Figure Item	Code	Part Number	Description	Units per Assembly
1		15N26092	CAMSHAFT ASSEMBLY, Roller lifter	1
2		23D26777	PLUNGER, Fuel pump, long	1
3		71652	GEAR ASSEMBLY, Crankshaft idler	1
4		67530	BUSHING, Crankshaft idler gear	1
5		71668	GEAR ASSEMBLY, Crankshaft idler, plain	1
6		67530	BUSHING, Crankshaft idler gear	1
7		LW-13795	SHAFT, Crankshaft idler gear	2
8		LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, drilled	3
9		STD-2168	NUT, 5/16-18 NC-3 slotted shear	1

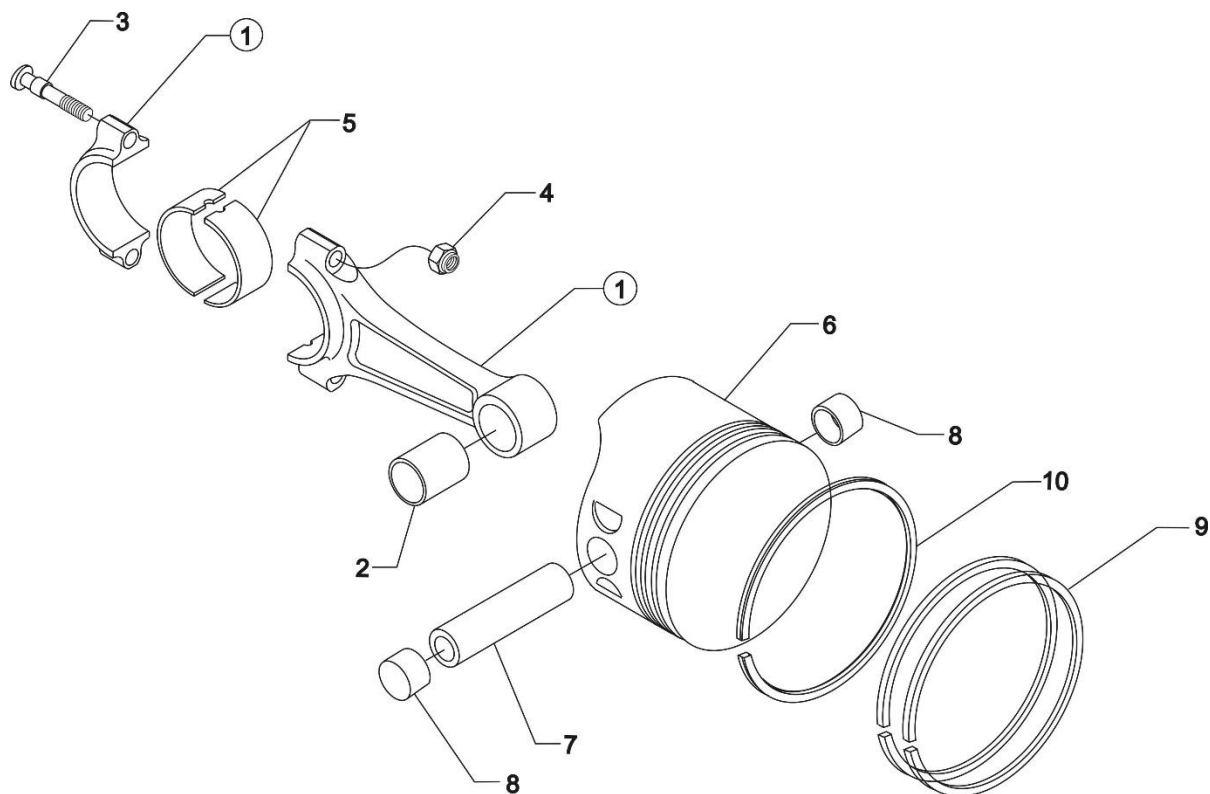


Crankcase Attaching Parts
Figure 8

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	9
2		STD-8	WASHER, 1/4 plain	24
3		60803	STRAP, Lifting	2
4		LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	2
5		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
6		LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. head	2
7		STD-160	WASHER, 1/4 lock, internal teeth	13
8		STD-1411	NUT, 1/4-20 plain	12
9		LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head, drilled end	6
10	AR	STD-8	WASHER, 1/4 plain (max. 18)	AR
11		STD-2249	NUT, 1/4-20 slotted	6
12		STD-33	WASHER, 3/8 plain	1
13		STD-872	NUT, 3/8-24 slotted	1
14		AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. head	1
15		STD-33	WASHER, 3/8 plain	3
16		STD-678	WASHER, 3/8 lock, internal teeth	2
17		STD-596	NUT, 3/8-24 plain	2
18		76220	STUD, 1/2-20 x 10-45/64 long	8
19		LW-31-2.75	BOLT, 5/16-18 x 2-3/4 long, hex. head	1
20		LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	3
21		STD-35	WASHER, 5/16 plain	4
22		STD-475	WASHER, 5/16 lock, internal teeth	4
AR as required				

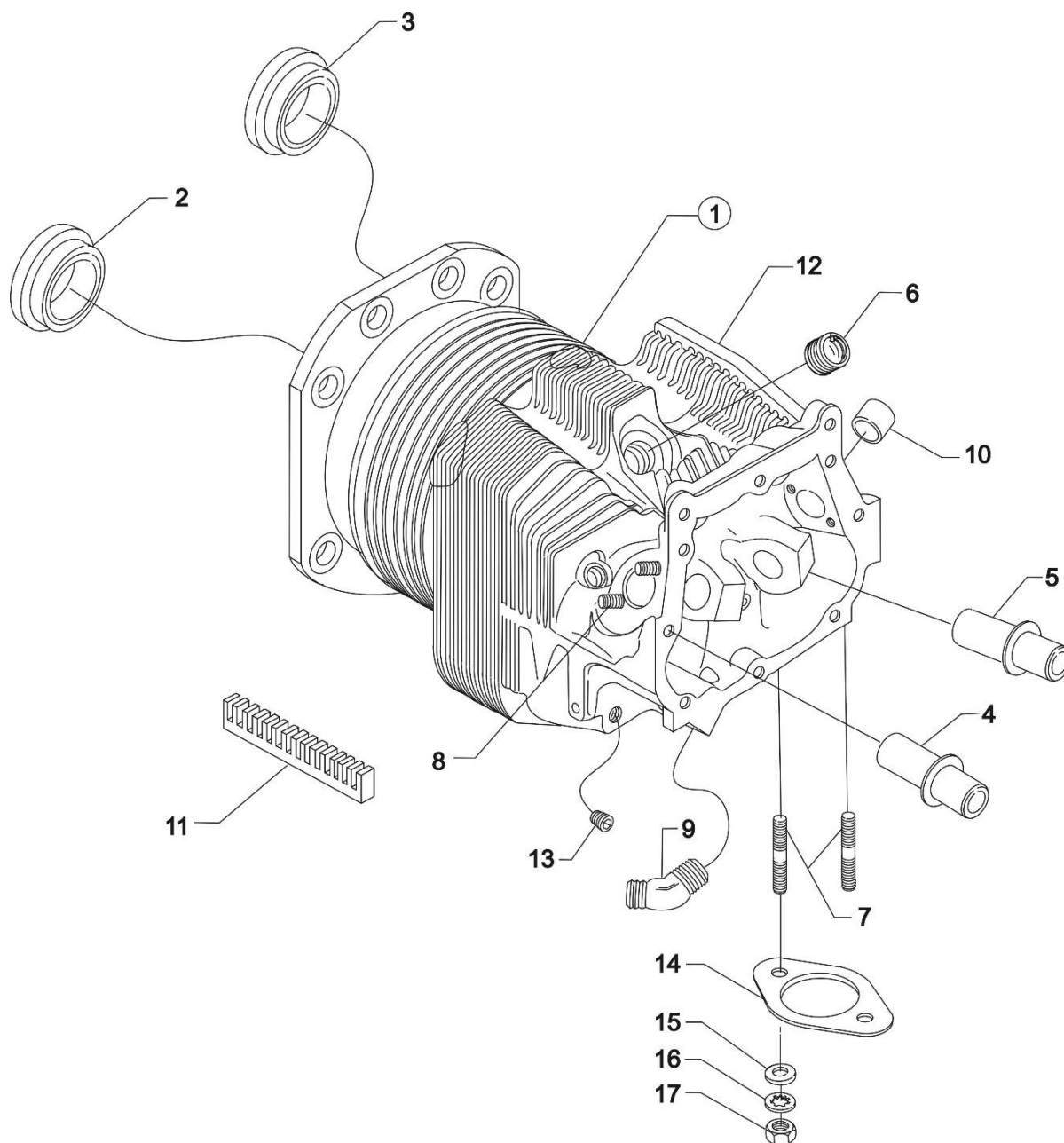


Connecting Rods, Pistons and Ring Assemblies
Figure 9

CYLINDER SECTION

FIGURE 9 - CONNECTING RODS, PISTONS AND RING ASSEMBLIES

Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-11750	CONNECTING ROD ASSEMBLY	6
2		01K28983	BUSHING, Connecting rod, upper	6
3	P	14S23890	BOLT, Connecting rod	
	*	75061	BOLT, Connecting rod	12
4		LW-12186	NUT, Connecting rod bolt	12
5		18M26105	BEARING, Connecting rod	12
6		14D23908	PISTON, Compression ratio 8.70:1	6
7	**	LW-14078	PIN, Piston	6
8	**	72198	PLUG, Piston pin	12
9		74241	RING, Piston, compression	12
10		14H29884	RING, Piston, oil regulating (expander type)	6
P Lycoming proprietary part. Listed for reference purpose only, cannot be purchased. * Service use only. ** Refer to the latest revision of Lycoming Service Instruction No. 1267.				

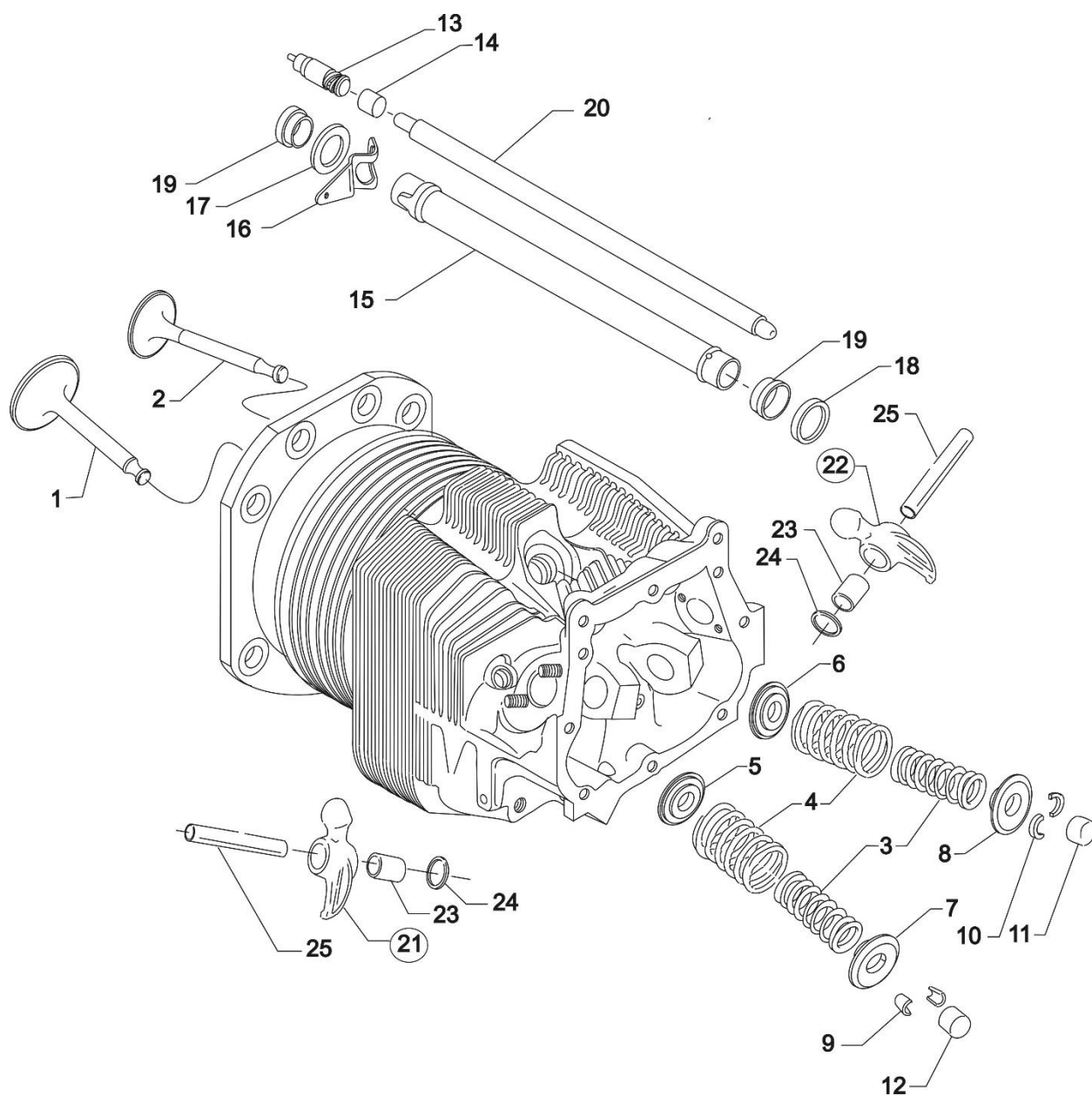


Cylinder Assembly
Figure 10

CYLINDER SECTION

FIGURE 10 - CYLINDER ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1		16A30160-01	CYLINDER AND HEAD ASSEMBLY, Nitrided	6
2		LW-12688	SEAT, Intake valve	6
3		16T19468	SEAT, Exhaust valve	6
4	P*	LW-11956	GUIDE, Valve, intake, flanged	6
5	P*	LW-11958	GUIDE, Valve, exhaust, flanged	6
6		66796	INSERT, Spark plug, 18-1.5 MM	12
7		31C-12	STUD, 5/16-18 x 1-1/2 long	12
8		25C-8	STUD, 1/4-20 x 1.00 long	24
9		MS20823-6D	ELBOW, 45 Degree, 3/8 flared tube	6
10		66670	BUSHING, Rocker shaft, inner	24
11		72343	STABILIZER, Cylinder head fins, 15 teeth	6
12		72344	STABILIZER, Cylinder head fins, 26 teeth	6
13	**	1102	PLUG, 1/8-27 NPT, Allen head	6
14		77611	GASKET, Exhaust flange	6
15		STD-35	WASHER, 5/16 plain	12
16		STD-475	WASHER, 5/16 lock, internal teeth	12
17		STD-1410	NUT, 5/16-18, plain	12
P Lycoming proprietary part. Listed for reference purpose only, cannot be purchased. * Refer to the latest revision of Lycoming Service Instruction No. 1256 for service valve guides. ** Assemble in cylinder head.				

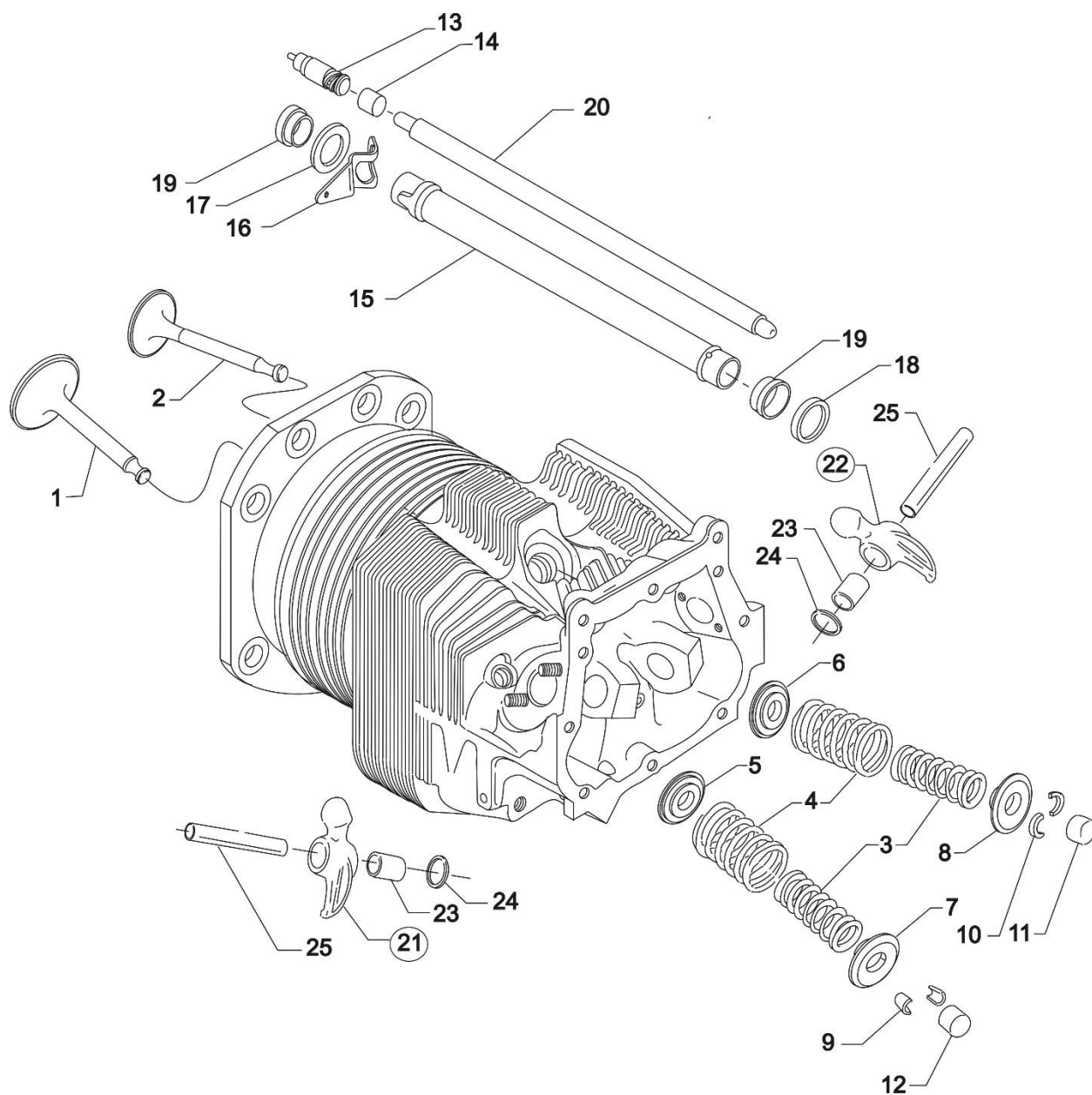


Valve Assembly and Related Parts
Figure 11

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 (rotator type)	6
3		LW-11797	SPRING, Valve, inner	12
		17D29057	SPRING, Valve, auxiliary	12
4		LW-11796	SPRING, Valve, outer	12
		17D29056	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 exh. (rotator type)	6
9		72050	KEY, Valve intake	12
10		17C21191	KEY, Valve exhaust (rotator type)	12
11		17C19386	CAP, Valve stem, exhaust (rotator type)	6
12		62388	CAP, Valve stem	6
13		15B26066	PLUNGER ASSEMBLY, Hydraulic lifter	12
14		15B21319	SOCKET, Hydraulic tappet	12
15		72255	SHROUD TUBE ASSEMBLY, Push rod, Flat Tappet	12
		15G23462	SHROUD TUBE ASSEMBLY, Push rod, Roller Tappet	12
16		15H21201	SPRING, Shroud tube	24
17		66728	WASHER, Flat Tappet, 23/32 I.D. x 1-1/4 O.D. x 1/32	12
		01L23459	WASHER, Roller Tappet, 25/32 I.D. x 1-3/8 O.D. x 3/64	12
18		61503	SLEEVE, Shroud tube seal	12
19		LW-18661	SEAL, Shroud tube, Flat Tappet	24
		06A23493	SEAL, Shroud tube, Roller Tappet	12
AR as required * Refer to the latest revision of Service Instruction No. 1060 for complete push rod application. ** Due to the size of the area where the part number is stamped, the last five digits may be all that is shown (21185, 21186).				

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

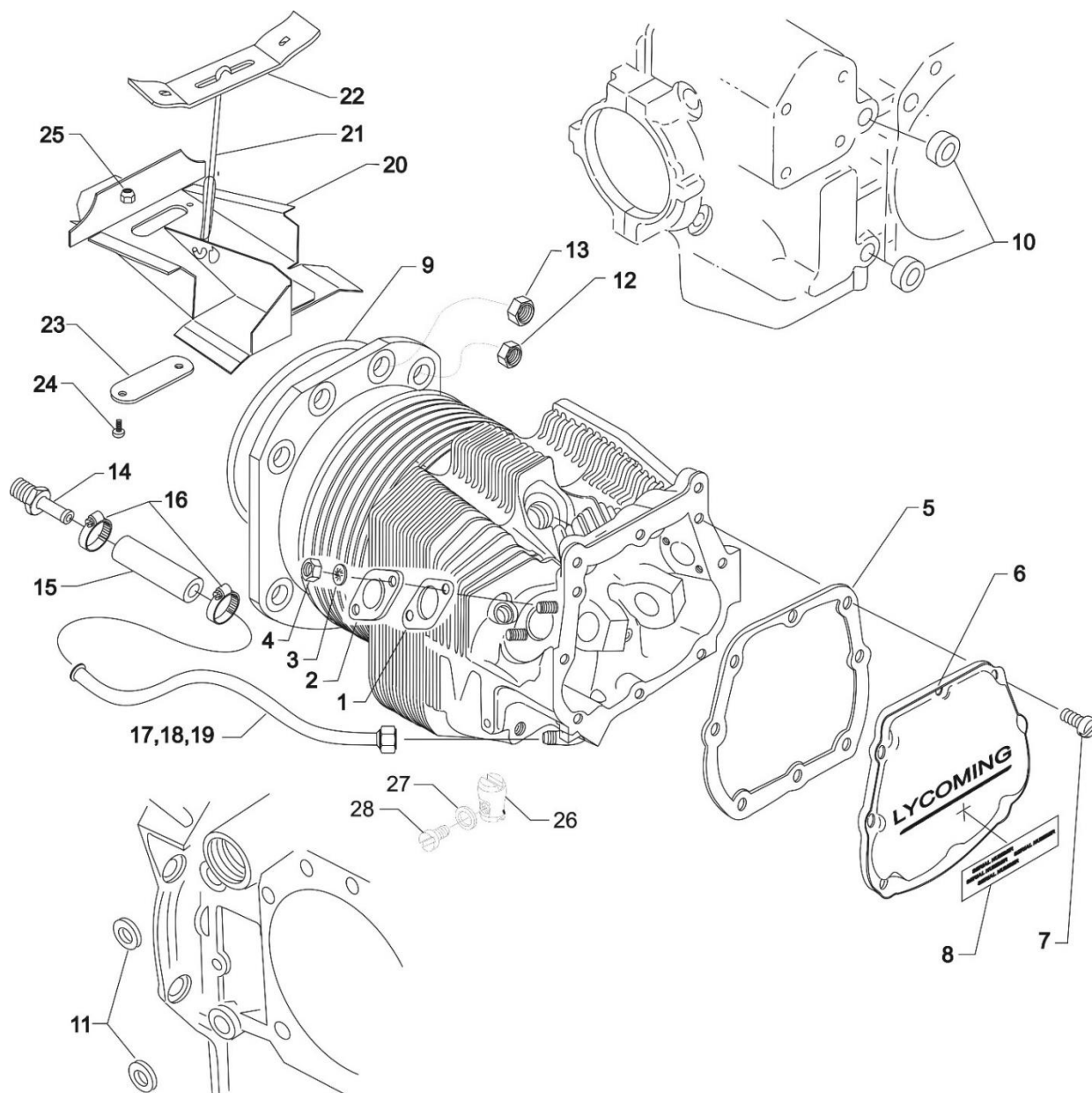


Valve Assembly and Related Parts

**Figure 11 Cont.
CYLINDER SECTION**

FIGURE 11 – VALVE ASSEMBLY AND RELATED PARTS - CONT.

Figure Item	Code	Part Number	Description	Units per Assembly
20	AR*	15F28835-52	ROD ASSEMBLY, Push	AR
	AR*	15F28835-53	ROD ASSEMBLY, Push	AR
	AR*	15F28835-54	ROD ASSEMBLY, Push	AR
	AR*	15F28835-55	ROD ASSEMBLY, Push	AR
	AR*	15F28835-56	ROD ASSEMBLY, Push	AR
	AR*	15F28835-57	ROD ASSEMBLY, Push	AR
	AR*	15F28835-58	ROD ASSEMBLY, Push	AR
	AR*	15F28864-18	ROD ASSEMBLY, Push	AR
	AR*	15F28864-19	ROD ASSEMBLY, Push	AR
	AR*	15F28864-20	ROD ASSEMBLY, Push	AR
	AR*	15F28864-21	ROD ASSEMBLY, Push	AR
	AR*	15F28864-22	ROD ASSEMBLY, Push	AR
	AR*	15F28864-23	ROD ASSEMBLY, Push	AR
	AR*	15F28864-24	ROD ASSEMBLY, Push	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 * Refer to the latest revision of Service Instruction No. 1060 for complete push rod application. ** Due to the size of the area where the part number is stamped, the last five digits may be all that is shown (21185, 21186). NOTE: Various push rod lengths are used to set valve clearances.				

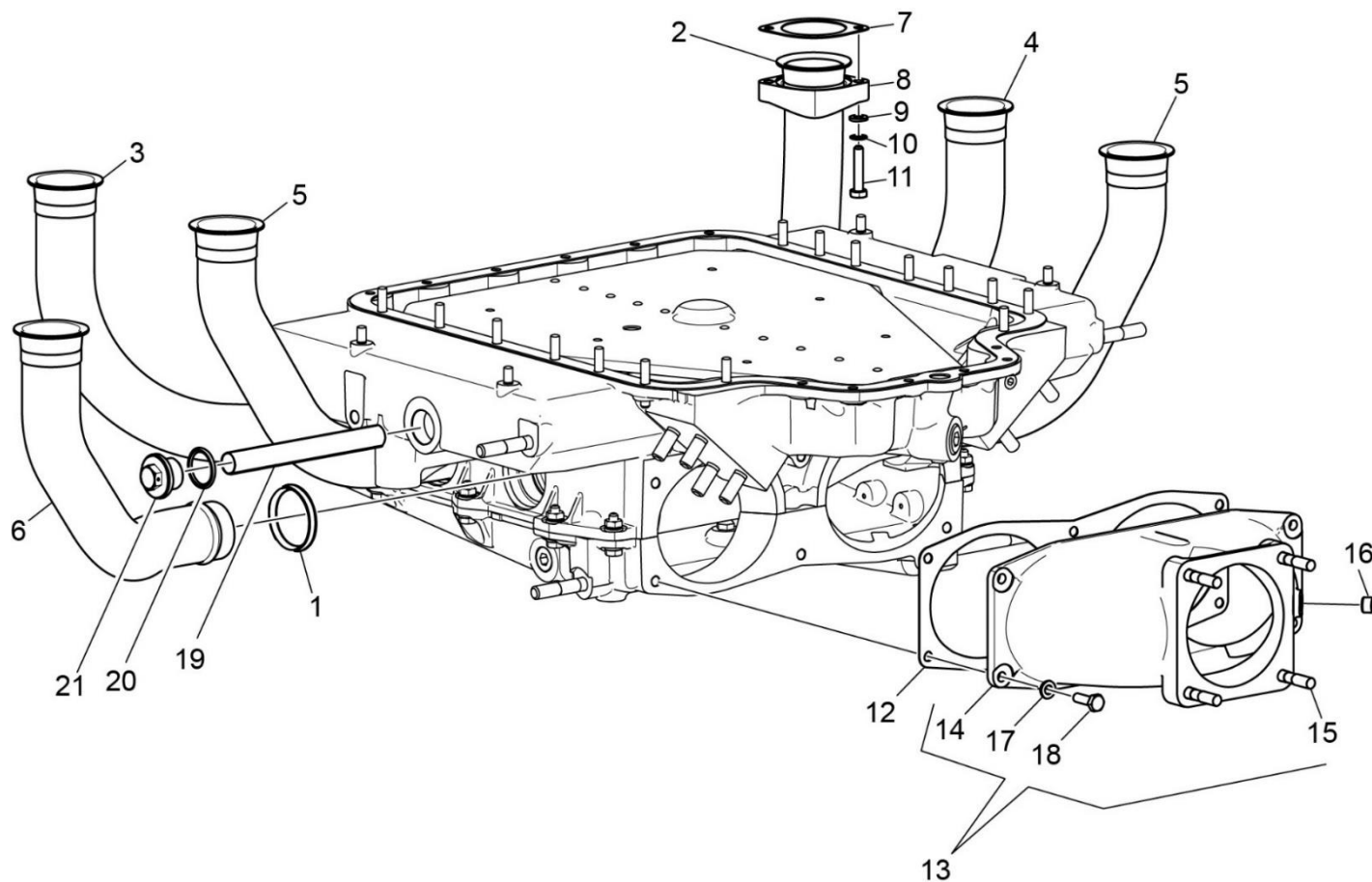


Cylinder Related Parts
Figure 12

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		06B26811	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, 1/2-20 plain	28
14		STD-684	NIPPLE, Straight, 3/8 I.D. hose	6
15		STD-2180	HOSE, 3/8 I.D. x 1-7/8 long	6
16		LW-15592-5-04	CLAMP, Hose	12
17		72702	TUBE ASSEMBLY, Cylinder head oil drain, cylinder #1	1
18		72703	TUBE ASSEMBLY, Cylinder head oil drain, cylinder #2	1
19		73027	TUBE ASSEMBLY, Cylinder head oil drain, cylinders #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
26		65614	PLUG, Baffle attaching	4
27		STD-251	WASHER, No. 10, internal lock	4
28		STD-1686	SCREW, No. 10-32 x 7/16 long	4

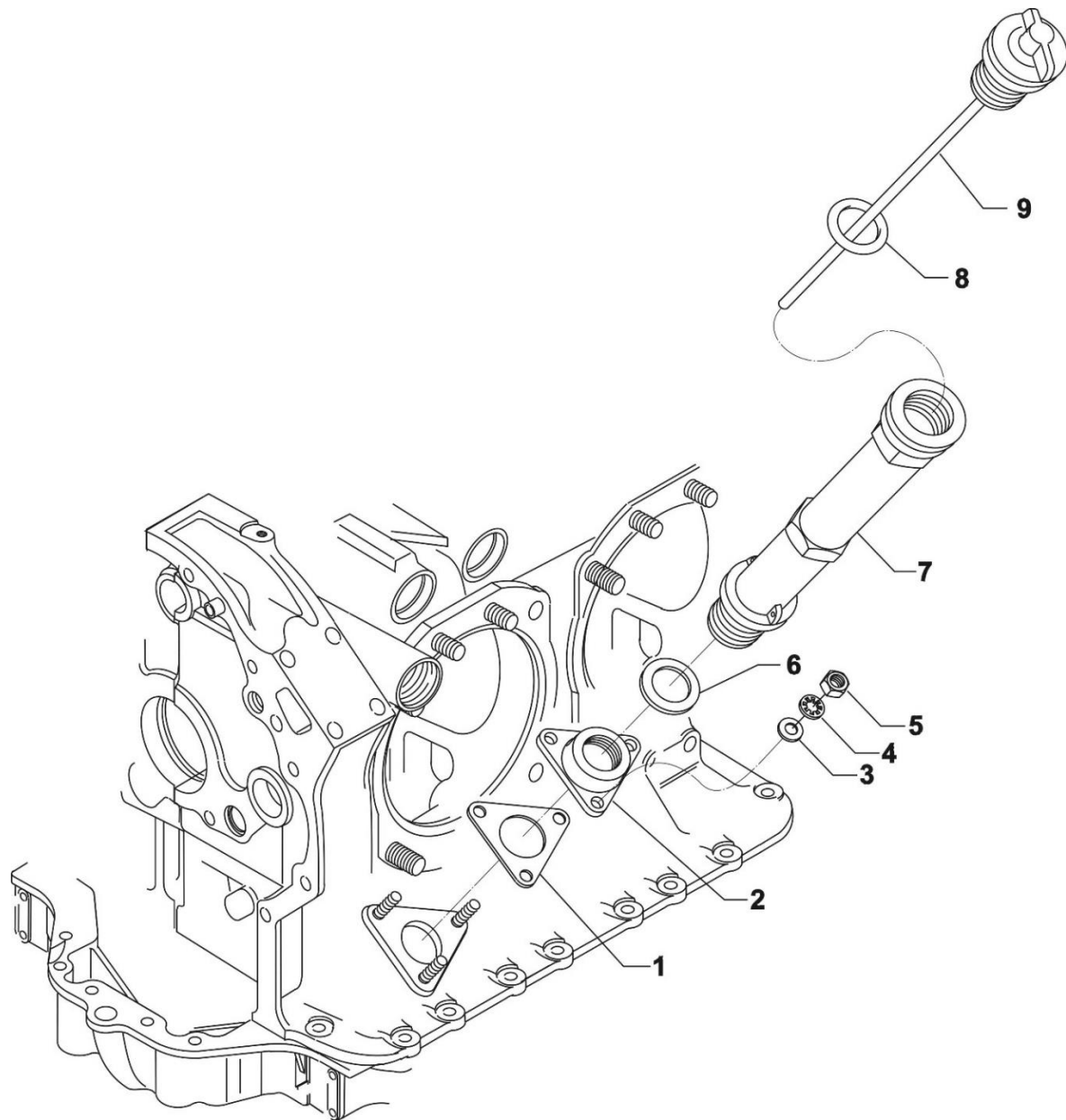


**Intake Pipes Assembly
Figure 13**

CYLINDER SECTION

FIGURE 13 – INTAKE PIPES ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1		72711	RING, Seal, intake pipes	6
2		LW-12191	PIPE, Intake, cylinder #1	1
3		LW-12192	PIPE, Intake, cylinder #2	1
4		LW-12193	PIPE, Intake, cylinder #3	1
5		LW-12194	PIPE, Intake, cylinders #4 and 5	2
6		LW-12195	PIPE, Intake, cylinder #6	1
7		71973	GASKET, 2 bolt flange, 1-3/4 I.D.	6
8		74360	FLANGE, Intake pipe, upper	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		72210	GASKET, Air inlet throttle housing	2
13		77653	HOUSING ASSEMBLY, Air inlet	1
14		LW-15673	HOUSING, Air inlet	1
15		31C-16	STUD, 5/16-18 x 2.00 long	4
16		1102	PLUG, 1/8 pipe	
17		STD-8	WASHER, 1/4 plain	6
18		LW-25-0.81	BOLT, 1/4-20 x 13/16 long, hex. head	6
19		60422	SCREEN, Oil suction	1
20		06E19769-1.00	GASKET, Annular, 1.00 I.D.	1
21		LW-12545	PLUG, 5/8 hex. head x 1.00-20 thread	1

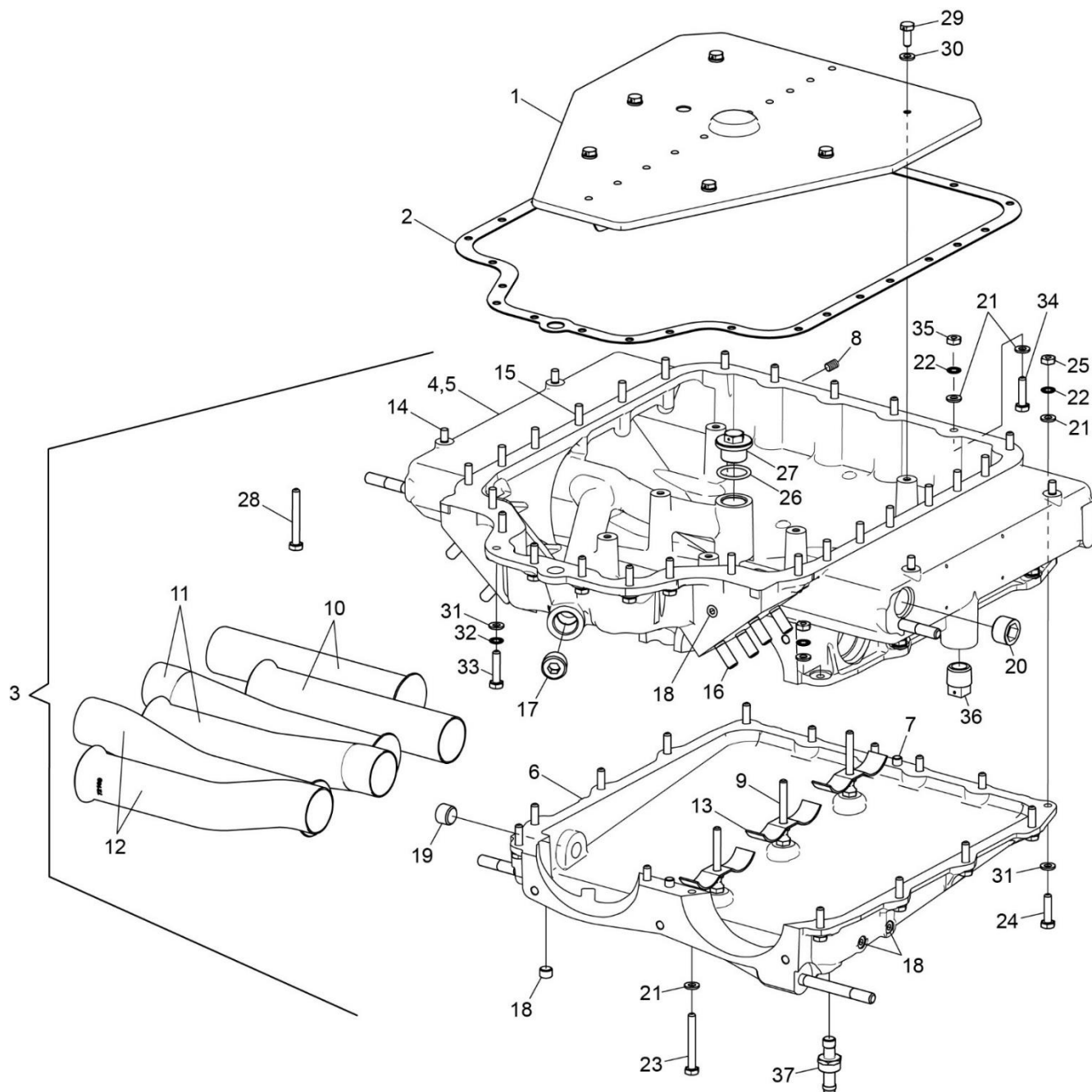


Oil Level Gage Assembly and Engine Mounting Brackets

Figure 14

LUBRICATION SYSTEM**FIGURE 14 – OIL LEVEL GAGE ASSEMBLY AND ENGINE MOUNTING BRACKETS**

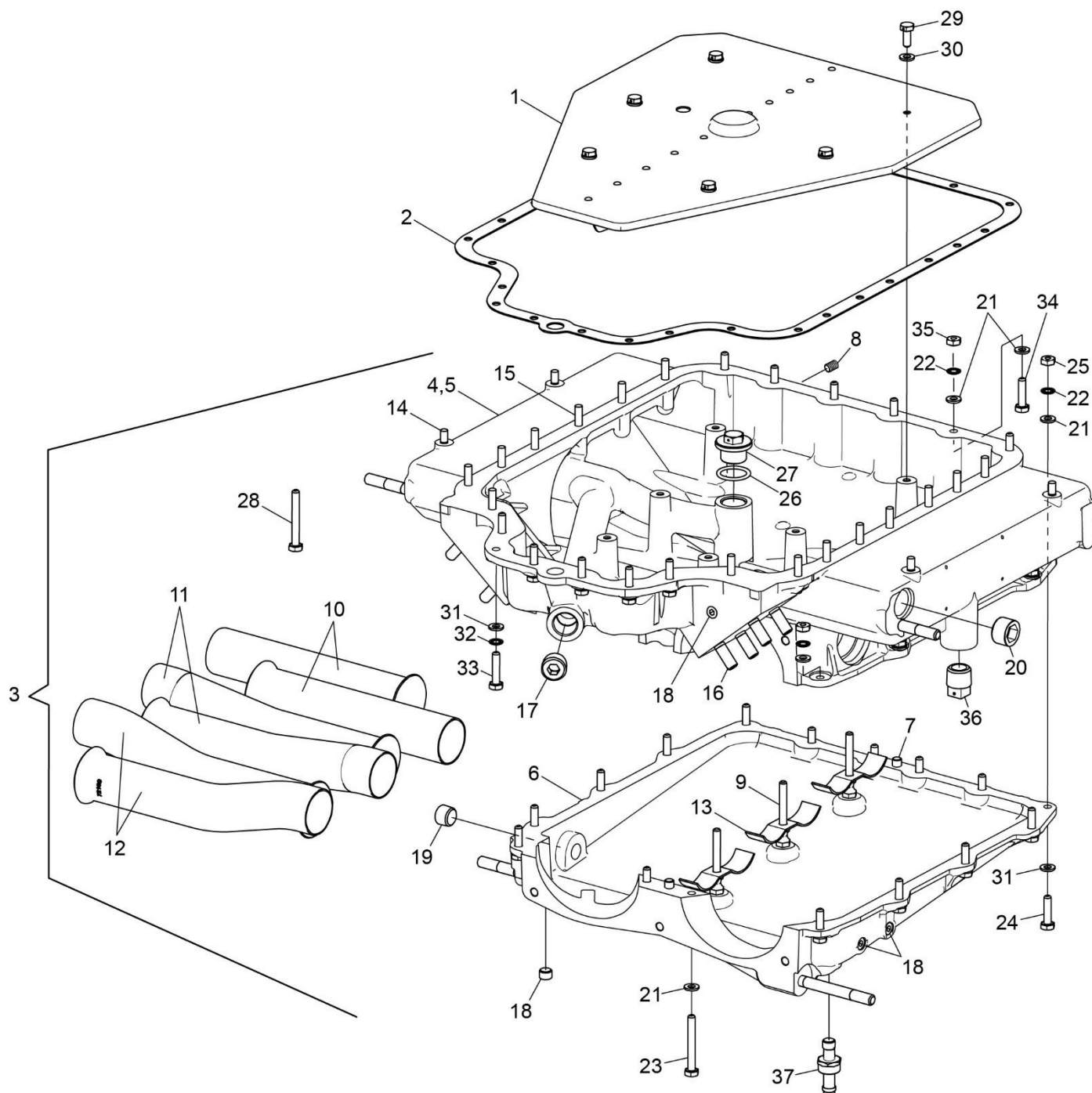
Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-18481	GASKET, Oil filler adapter	1
2		LW-18482	ADAPTER, Oil filler tube	1
3		STD-28	WASHER, No. 10 plain	3
4		STD-251	WASHER, No. 10 internal lock	3
5		STD-63	NUT, No. 10-32 plain	3
6		72059	GASKET, Oil filler extension	1
7		LW-15970	TUBE, Oil level gage (3.00 long)	1
8		74068	RING, Oil level gage plug	1
9		LW-16783-30P	GAGE ASSEMBLY, Oil level	1



Oil Sump and Induction Housing Assembly
Figure 15A

LUBRICATION SYSTEM
FIGURE 15A – OIL SUMP AND INDUCTION HOUSING ASSEMBLY

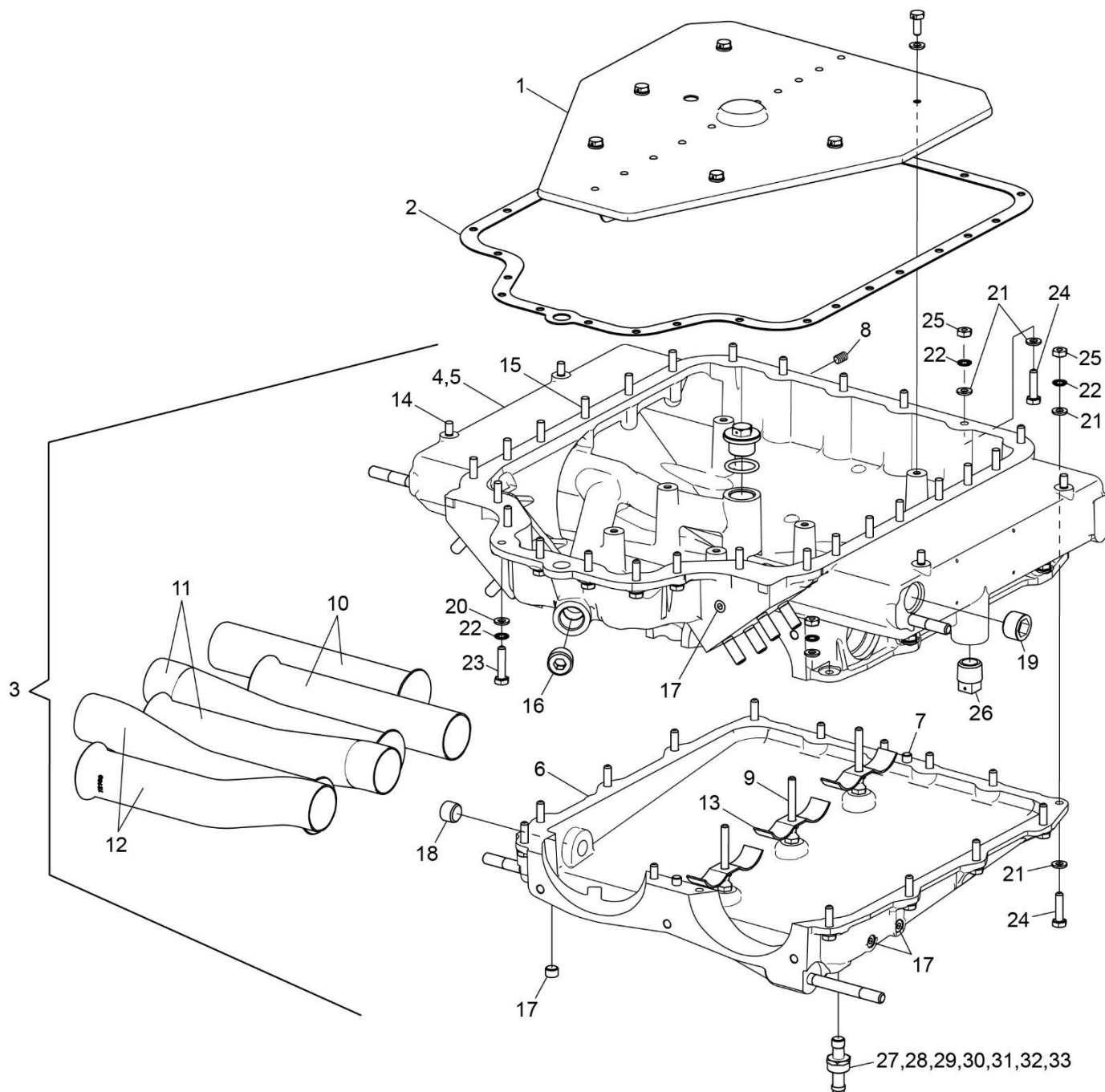
Figure Item	Code	Part Number	Description	Units per Assembly
1	*	56G28031	BAFFLE, Oil sump	1
2		06B21326	GASKET, Oil sump	1
3		56A26071-03	HOUSING ASSEMBLY, Oil sump and induction housing	1
4		56A26071	HOUSING, Holding assembly, oil sump and induction	1
5		56A26070	HOUSING, Oil sump and induction	1
6		56A21692	COVER, Induction housing	1
7		STD-514	DOWEL, 5/16 diameter x 1/2 long	2
8		72706	INSERT, Heli-coil, 1/4-20 x 3/8 long	14
9		72179	STUD, Intake pipe extension	3
10		72167	PIPE, Extension, intake (cylinders 1 and 2)	2
11		72168	PIPE, Extension, intake (cylinders 3 and 4)	2
12		72169	PIPE, Extension, intake (cylinders 5 and 6)	2
13		LW-11273	CLAMP, Intake pipe extension	3
14		25C-9	STUD, 1/4-20 x 1-1/8 long	4
15		25C-11	STUD, 1/4-20 x 1-3/8 long	15
16		38-15	STUD, 3/8-16 x 1-7/8 long	8
17		STD-91	PLUG, 1/2-14 NPT, Allen head	1
18		1102	PLUG, 1/8-27 NPT, Allen head	5
19		STD-784	PLUG, 3/8-18 NPT, Allen head	1
20		STD-355	PLUG, 3/4-14 NPT	2
21	AR	STD-8	WASHER, 1/4 plain	AR
22		STD-160	WASHER, 1/4 lock, internal teeth	23
23		LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex head	2
24		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex head	10
25		STD-1411	NUT, 1/4-20 plain	13
26		06E19769-0.91	GASKET, Annular, 29/32 I.D.	1
27		72960	PLUG, 7/8-14 x 5/8 hex head	1
28		LW-25-2.00	BOLT, 1/4-20 x 13/16 long, hex head	4
29		LW-25H0.63	BOLT, 1/4-20 x 5/8 long, hex head, drilled	6
30		STD-8	WASHER, 1/4 plain	6
31	AR	STD-8	WASHER, 1/4 plain	AR
32		STD-160	WASHER, 1/4 lock, internal teeth	23
33		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex head	6
34		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex head	6
* Reference Service Instruction 1279 AR as required				



Oil Sump and Induction Housing Assembly - Cont.
Figure 15A

LUBRICATION SYSTEM**FIGURE 15A – OIL SUMP AND INDUCTION HOUSING ASSEMBLY - Cont.**

Figure Item	Code	Part Number	Description	Units per Assembly
35	AR	STD-1411	NUT, 1/4-20 plain	AR
36		STD-551	PLUG, 1/2-14 NPT, square head, drilled	2
37		75444	ADAPTER ASSEMBLY, Fuel drain valve	2
AR as required				

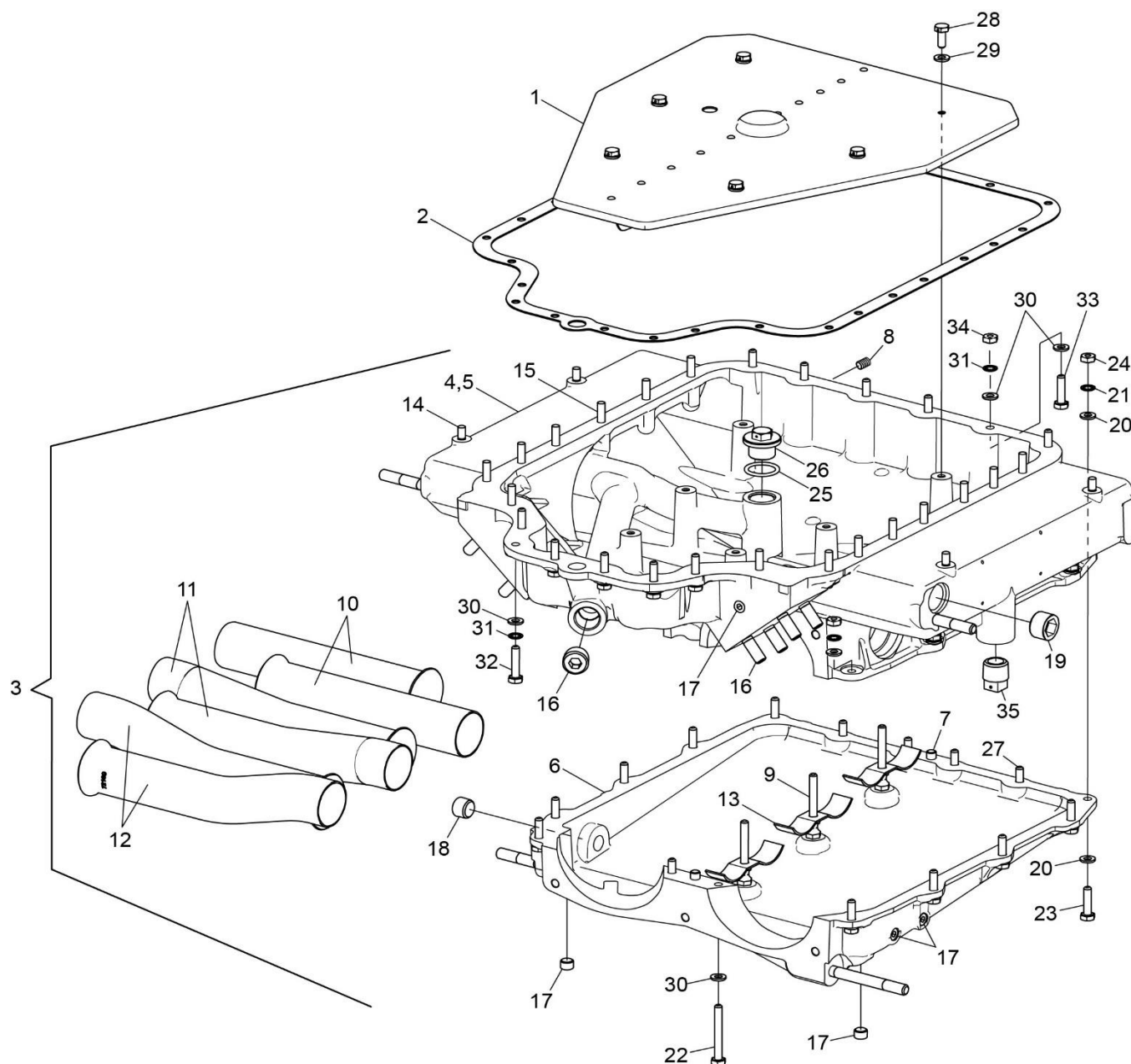


**Oil Sump and Induction Housing Assembly
Figure 15B**

LUBRICATION SYSTEM

FIGURE 15B – OIL SUMP AND INDUCTION HOUSING ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1		56G26069	BAFFLE, Oil sump	1
2		06B21326	GASKET, Oil sump	1
3		56A26071-09	HOUSING ASSEMBLY, Oil sump and induction housing	1
4		56A26071	HOUSING, Holding assembly, oil sump and induction	1
5		56B23949	HOUSING, Oil sump and induction	1
6		LW-18291	COVER, Induction housing	1
7		STD-514	DOWEL, 5/16 diameter x 1/2 long	2
8		72706	INSERT, Heli-coil, 1/4-20 x 3/8 long	14
9		72179	STUD, Intake pipe extension	3
10		72167	PIPE, Extension, intake (cylinders 1 and 2)	2
11		72168	PIPE, Extension, intake (cylinders 3 and 4)	2
12		72169	PIPE, Extension, intake (cylinders 5 and 6)	2
13		LW-11273	CLAMP, Intake pipe extension	3
14		25C-9	STUD, 1/4-20 x 1-1/8 long	4
15		25C-11	STUD, 1/4-20 x 1-3/8 long	15
16		STD-91	PLUG, 1/2-14 NPT, Allen head	1
17		1102	PLUG, 1/8-27 NPT, Allen head	5
18		STD-784	PLUG, 3/8-18 NPT, Allen head	1
19		STD-355	PLUG, 3/4-14 NPT	2
20		STD-8	WASHER, 1/4 plain	6
21	AR	STD-8	WASHER, 1/4 plain	AR
22		STD-160	WASHER, 1/4 lock, internal teeth	23
23		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex head	6
24		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex head	8
25		STD-1411	NUT, 1/4-20 plain	25
26		STD-551	PLUG, 1/2-14 NPT, square head, drilled	2
27		LW-13807	ADAPTER ASSEMBLY, Fuel drain valve	1
28		LW-13806	ADAPTER, Fuel drain valve	1
29		LW-13805	CONNECTION, Fuel drain valve	1
30		LW-13874	SPRING, Fuel drain valve	2
31		LW-13927	DISC, Fuel drain valve	1
32		MS-28775-015	O-RING, 35/64 I.D. x 45/64 diameter	1
33		MS-16625-1068	RING, Internal retaining	1
AR as required				

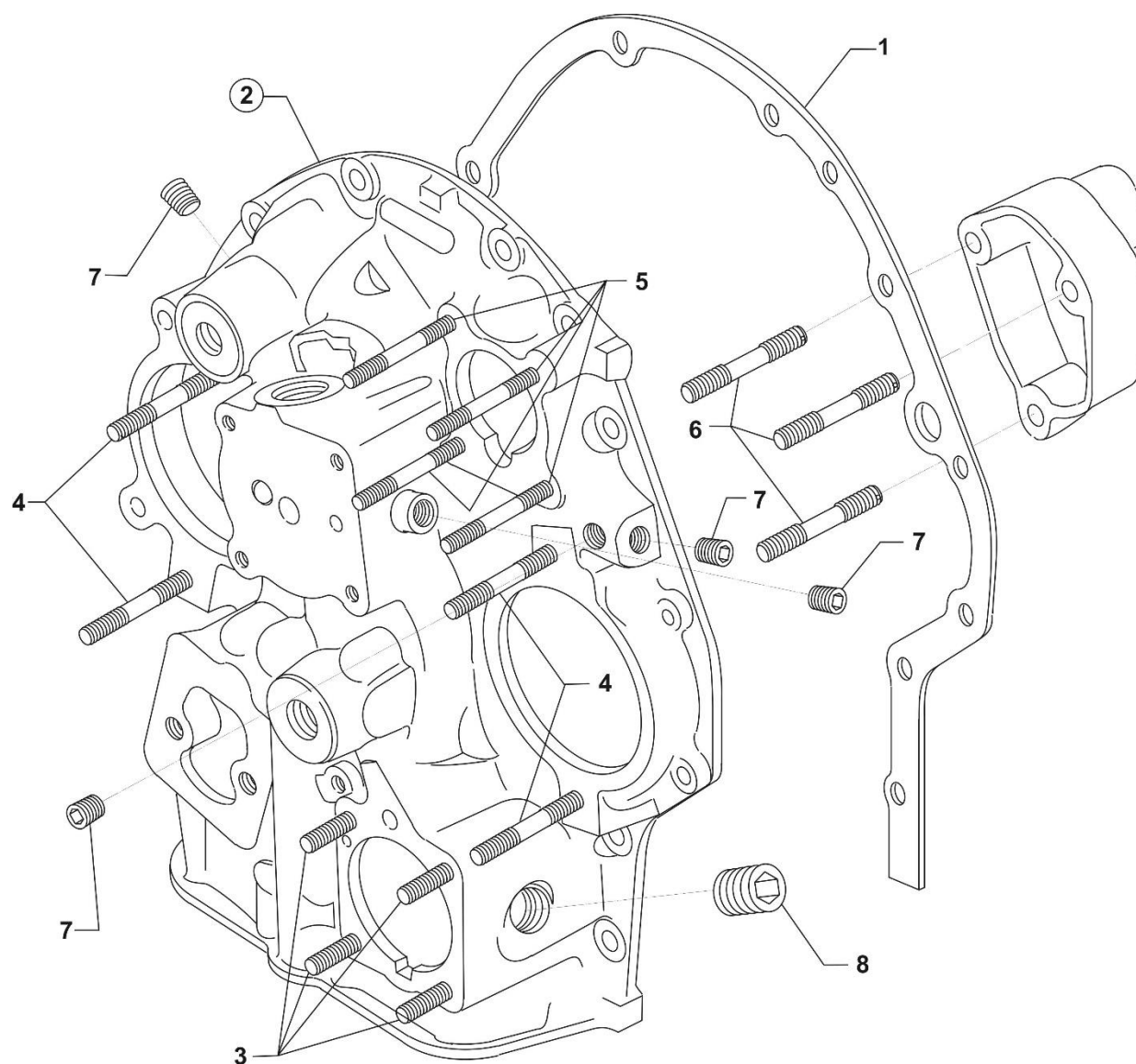


Oil Sump and Induction Housing Assembly
Figure 15C

LUBRICATION SYSTEM

FIGURE 15C – OIL SUMP AND INDUCTION HOUSING ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1		56G26069	BAFFLE, Oil sump	1
2		06B21326	GASKET, Oil sump	1
3		56A26071-09	HOUSING ASSEMBLY, Oil sump and induction housing	1
4		56A26071	HOUSING, Holding assembly, oil sump and induction	1
5		56B23949	HOUSING, Oil sump and induction	1
6		LW-18291	COVER, Induction housing	1
7		STD-514	DOWEL, 5/16 diameter x 1/2 long	2
8		72706	INSERT, Heli-coil, 1/4-20 x 3/8 long	14
9		72179	STUD, Intake pipe extension	3
10		72167	PIPE, Extension, intake (cylinders 1 and 2)	2
11		72168	PIPE, Extension, intake (cylinders 3 and 4)	2
12		72169	PIPE, Extension, intake (cylinders 5 and 6)	2
13		LW-11273	CLAMP, Intake pipe extension	3
14		25C-9	STUD, 1/4-20 x 1-1/8 long	4
15		25C-11	STUD, 1/4-20 x 1-3/8 long	15
16		STD-91	PLUG, 1/2-14 NPT, Allen head	1
17		1102	PLUG, 1/8-27 NPT, Allen head	5
18		STD-784	PLUG, 3/8-18 NPT, Allen head	1
19		STD-355	PLUG, 3/4-14 NPT	2
20	AR	STD-8	WASHER, 1/4 plain	AR
21		STD-160	WASHER, 1/4 lock, internal teeth	23
22		LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex head	2
23		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex head	10
24		STD-1411	NUT, 1/4-20 plain	13
25		06E19769-0.91	GASKET, Annular, 29/32 I.D.	1
26		72960	PLUG, 7/8-14 x 5/8 hex head	1
27		LW-25-0.81	BOLT, 1/4-20 x 13/16 long, hex head	4
28		LW-25H0.63	BOLT, 1/4-20 x 5/8 long, hex head, drilled	6
29		STD-8	WASHER, 1/4 plain	6
30	AR	STD-8	WASHER, 1/4 plain	AR
31		STD-160	WASHER, 1/4 lock, internal teeth	23
32		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex head	6
33		LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex head	6
34		STD-1411	NUT, 1/4-20 plain	AR
35		STD-551	PLUG, 1/2-14 NPT, square head, drilled	2
AR as required				

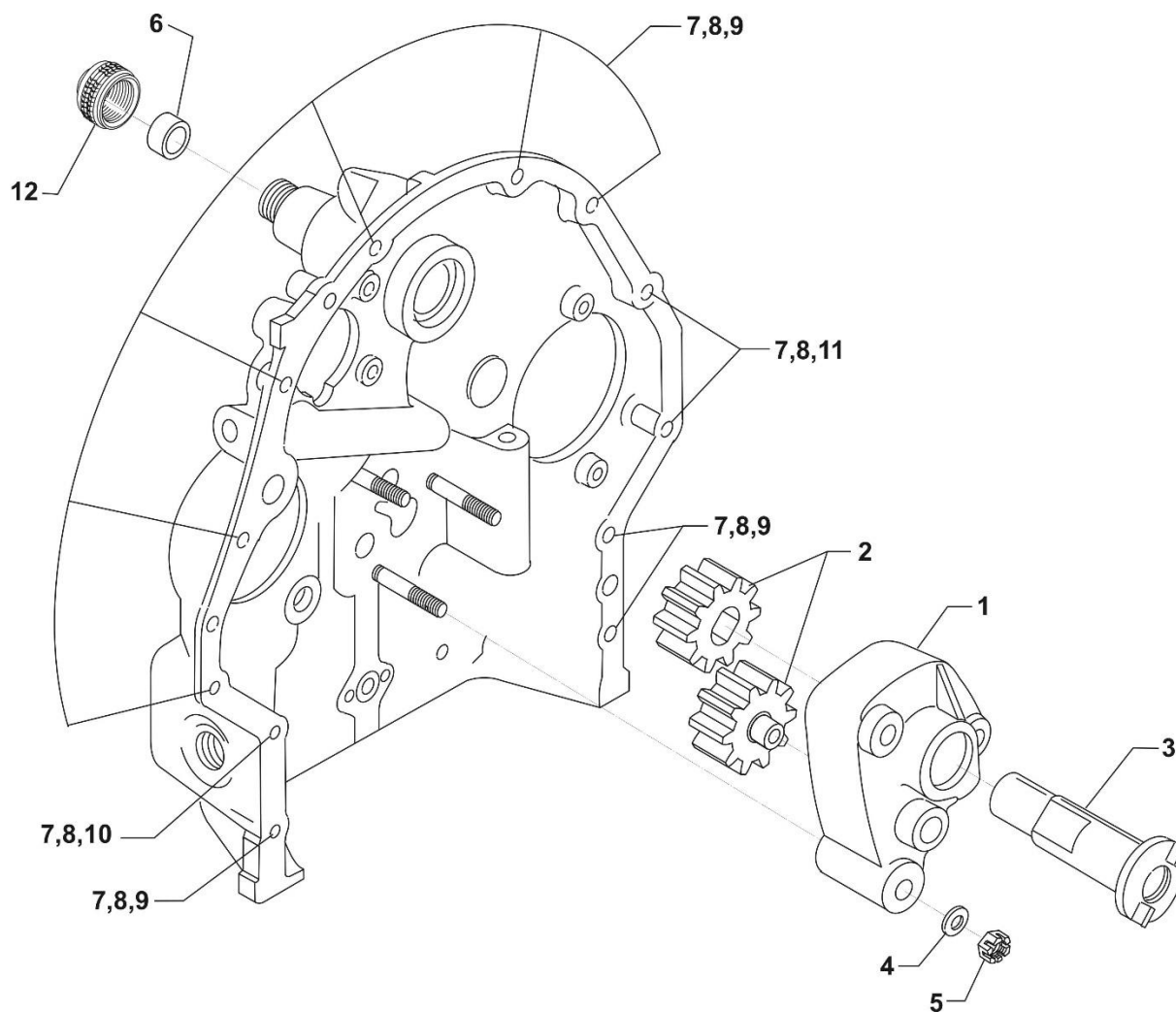


**Accessory Housing Assembly
Figure 16**

ACCESSORY DRIVES

FIGURE 16 – ACCESSORY HOUSING ASSEMBLY

Figure Item	Code	Part Number	Description	Units per Assembly
1		73818	GASKET, Accessory housing	1
2		21C21539-03	HOUSING ASSEMBLY, Accessory	1
		21C21546-03	HOUSING ASSEMBLY, Accessory, Roller Tappet Model, No Propeller Gov. Drive	1
3		31C-12	STUD, 5/16-18 x 1-1/2 long	4
4		31C-21	STUD, 5/16-18 x 2-5/8 long	4
5		25C-12	STUD, 1/4-20 x 1-1/2 long	4
6		31CD-17	STUD, 5/16-18 x 2-1/8 long, drilled	3
7		1102	PLUG, 1/8-27 NPT, Allen head	4
8		STD-784	PLUG, 3/8 -18 NPT, Allen head	1

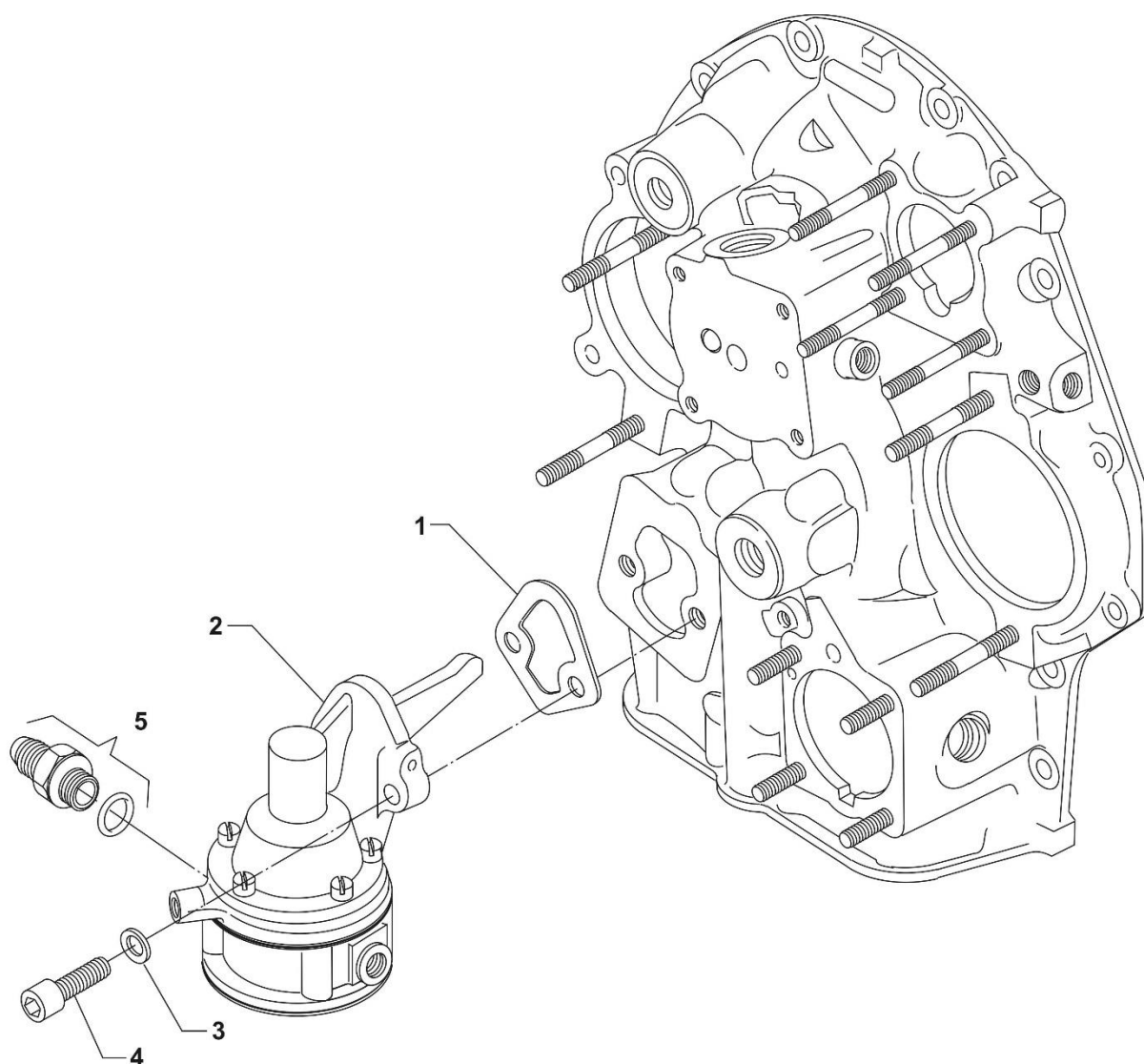


**Oil Pump Assembly and Accessory Housing Attaching Parts
Figure 17**

ACCESSORY DRIVES

FIGURE 17 – OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS

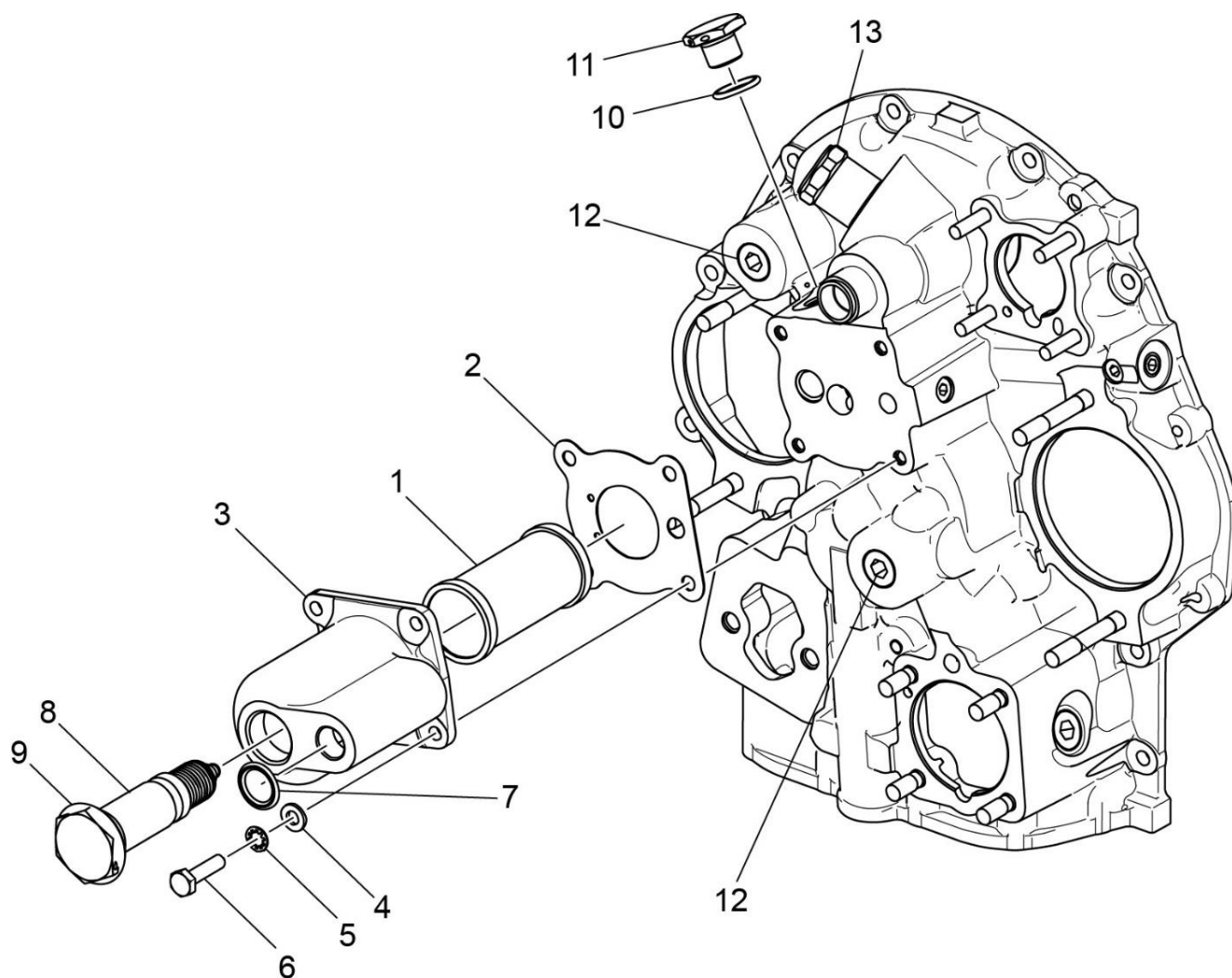
Figure Item	Code	Part Number	Description	Units per Assembly
1		78531	BODY ASSEMBLY, Oil pump	1
2	*	LW-18110	IMPELLER ASSEMBLY, Oil pump driven	1
3		74641	SHAFT, Oil pump drive	1
4		STD-35	WASHER, 5/16 plain	3
5		STD-1420	NUT, 5/16-18 slotted	3
6		LW-14260	SEAL, Tachometer drive, oil	1
7		STD-8	WASHER, 1/4 plain	12
8		STD-160	WASHER, 1/4 lock, internal teeth	12
9		LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	9
10		LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
11		LW-25-1.44	BOLT, 1/4-20 x 1-7/16 long, hex. head	2
12		62732	CAP, Tachometer boss (metal)	1
* - To ensure impellers are replaced together, oil pump impellers available in kit form only.				



Fuel Pump Assembly and Attaching Parts
Figure 18

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

Figure Item	Code	Part Number	Description	Units per Assembly
1		60096	GASKET, Fuel pump	1
2		62B26931	FUEL PUMP, Dual diaphragm High pressure	1
3		STD-33	WASHER, 3/8 plain	2
4		STD-1882	SCREW, 3/8-16 x 1-9/32 long, socket drive	2
5	*	LW-16561	NIPPLE, 1/4 tube, 9/16-18 thread	1
* Requires P/N MS2512-06 O Ring				

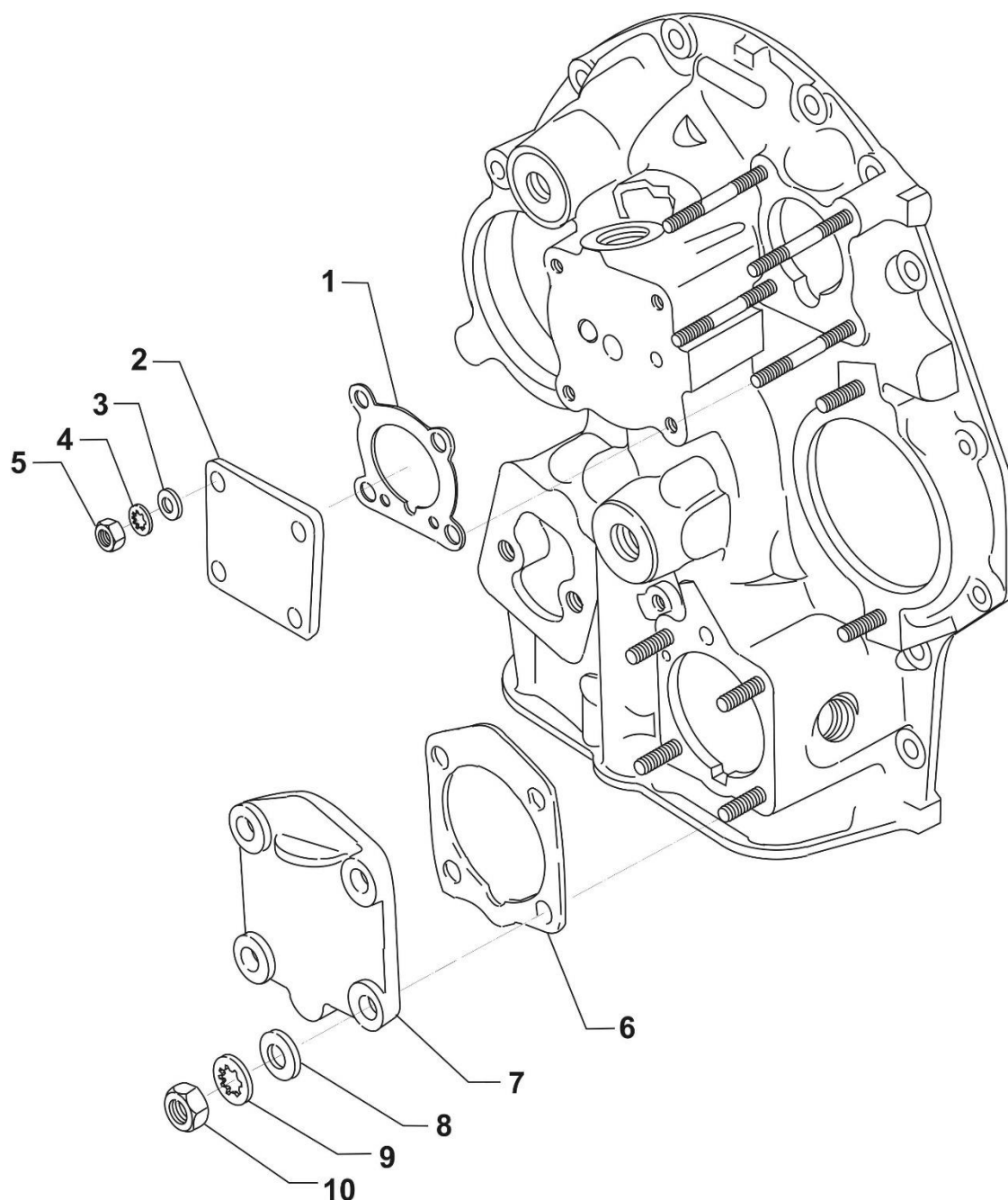


Oil Pressure Screen and Bypass Valve Assembly
Figure 19

ACCESSORY DRIVES

FIGURE 19 – OIL PRESSURE SCREEN AND BYPASS VALVE ASSEMBLY

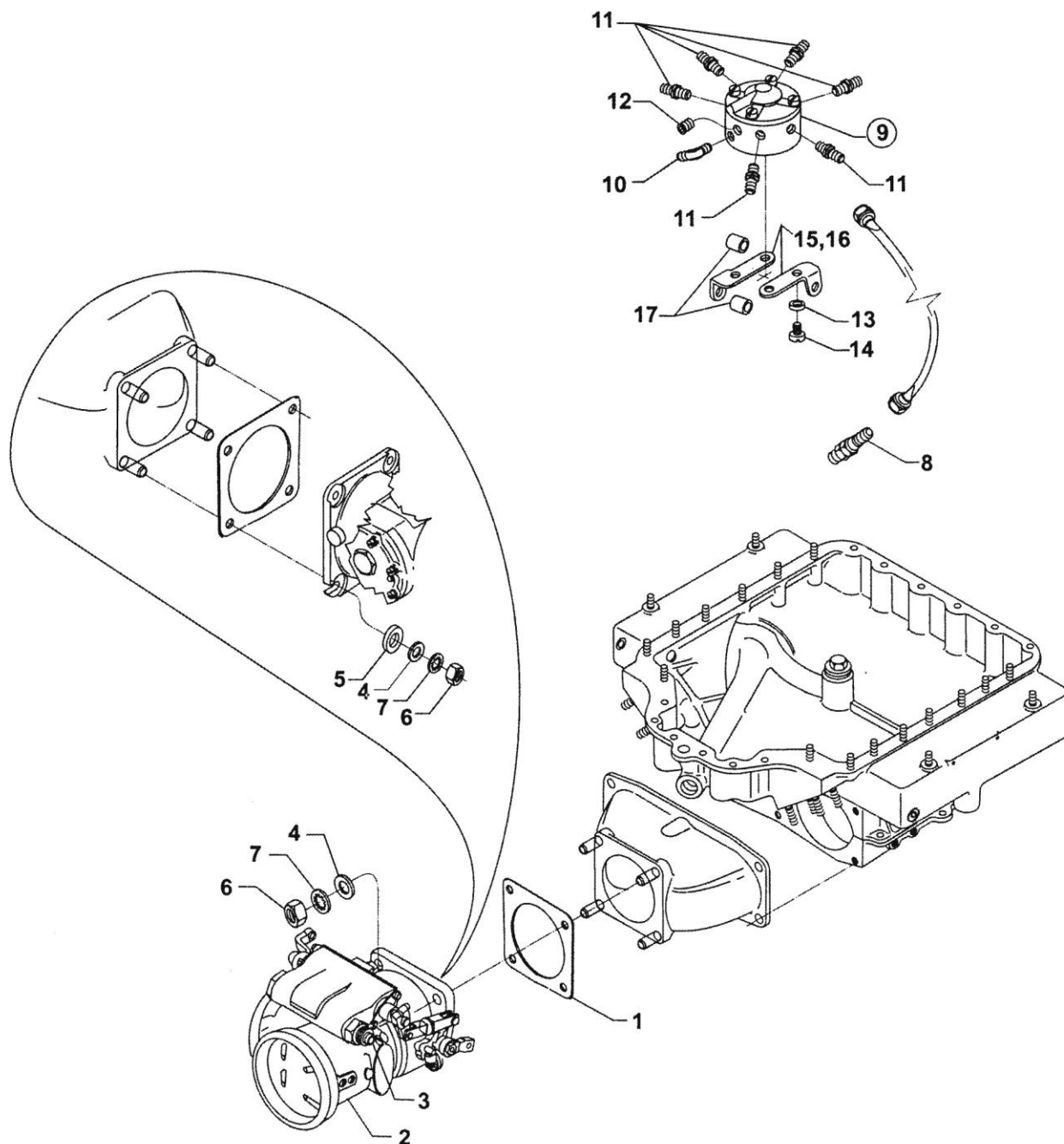
Figure Item	Code	Part Number	Description	Units per Assembly
1		62817	SCREEN ASSEMBLY, Oil pressure	1
2		61173	GASKET, Oil pressure housing	1
3		69510	HOUSING, Oil pressure screen	1
4		STD-8	WASHER, 1/4 plain	4
5		STD-160	WASHER, 1/4 lock, internal teeth	4
6		STD-1856	BOLT, 1/4-20 x 1.00 long hex head	4
		LW-25-1.00	BOLT, 1/4-20 x 1.00 long hex head	4
7		06E19769-0.63	GASKET, 5/8 I.D. annular	1
8		53E22144	VALVE ASSEMBLY, Temperature control oil cooler bypass	1
9		76510	GASKET, Oil cooler bypass valve	1
10		06E19769-0.63	GASKET, 5/8 I.D. annular	1
11		62417	PLUG, Oil cooler bypass	1
12		STD-784	PLUG, 3/8-18 NPT Allen head	2
13		72996	FITTING, Breather	1



Vacuum and Hydraulic Pump Covers
Figure 20

ACCESSORY DRIVES**FIGURE 20 – VACUUM AND HYDRAULIC PUMP COVERS**

Figure Item	Code	Part Number	Description	Units per Assembly
1		61183	GASKET, Accessory adapter	1
2		60430	COVER, Vacuum pump	1
3		STD-8	WASHER, 1/4 plain	4
4		STD-160	WASHER, 1/4 lock, internal teeth	4
5		STD-1411	NUT, 1/4-20 plain	4
6		69551	GASKET, Accessory drive adapter	1
7		69106	COVER, Governor drive adapter pad	1
8		STD-35	WASHER, 5/16 plain	4
9		STD-475	WASHER, 5/16 lock, internal teeth	4
10		STD-1410	NUT, 5/16-18 plain	4

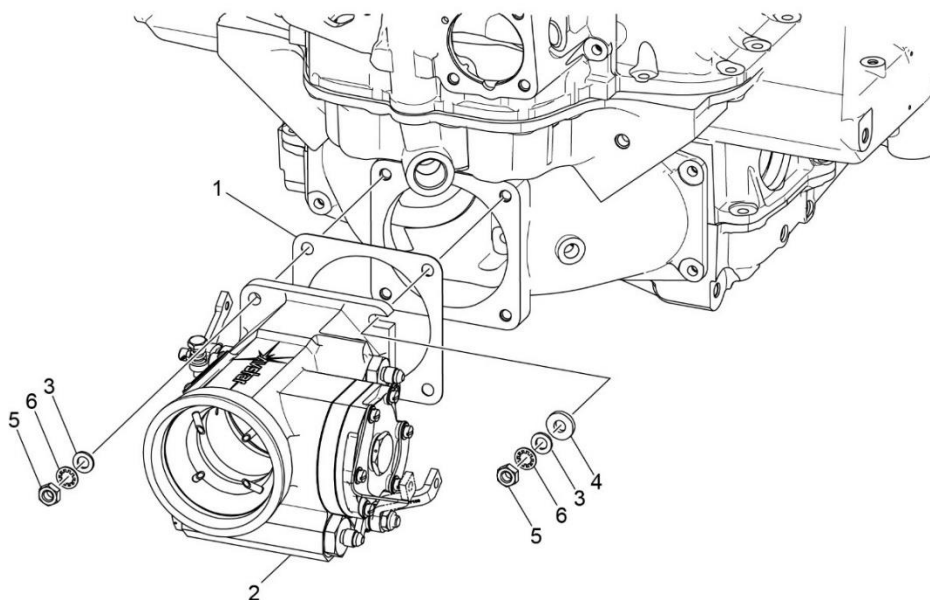
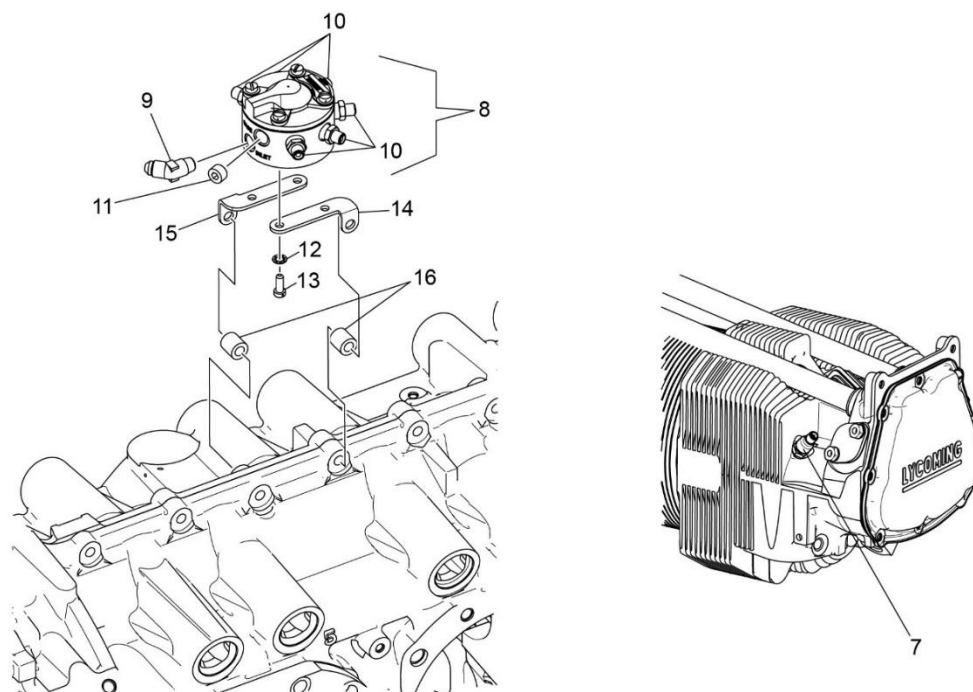


Fuel Injector, Fuel Manifold and Injection Nozzles
Figure 21A

FUEL DISTRIBUTION

FIGURE 21A – FUEL INJECTOR, FUEL MANIFOLD AND INJECTION NOZZLES

Figure Item	Code	Part Number	Description	Units per Assembly
1	*	73032	GASKET, Fuel injector	2
2		61M23587	FUEL INJECTOR 2576630-4	1
3	**	LW-16561	NIPPLE, 1/4 tube to 9/16-18 thread	1
4		STD-35	WASHER, 5/16 plain	2
5		STD-1727	WASHER, 21/64 I.D. x 3/4 O.D. x 1/8 thick	2
6		STD-1410	NUT, 5/16-18 plain	4
7		STD-475	WASHER, 5/16 lock, internal teeth	4
8		63C26450	NOZZLE, Injection, Low (AV2524864-2), one groove on jet OD	6
9		63B23300	MANIFOLD ASSEMBLY, Fuel (4 psi)	1
10		MS20823-4	ELBOW, 1/8 NPT to 1/4 flared tube	1
11		STD-148	NIPPLE, Union 1/8 NPT	6
12		1102	PLUG, 1/8-27 NPT, Allen head	1
13		STD-251	WASHER, No. 10 lock, internal teeth	4
14		STD-82	SCREW, NO. 10-24 x 1/2 long fill. head	4
15		07A23031	BRACKET, Fuel manifold	1
16		07A23032	BRACKET, Fuel manifold	1
17		73966	SPACER, Fuel manifold bracket	2
* Extra gasket, shipped as loose part with engine. ** Requires P/N MS2512-06 O Ring				

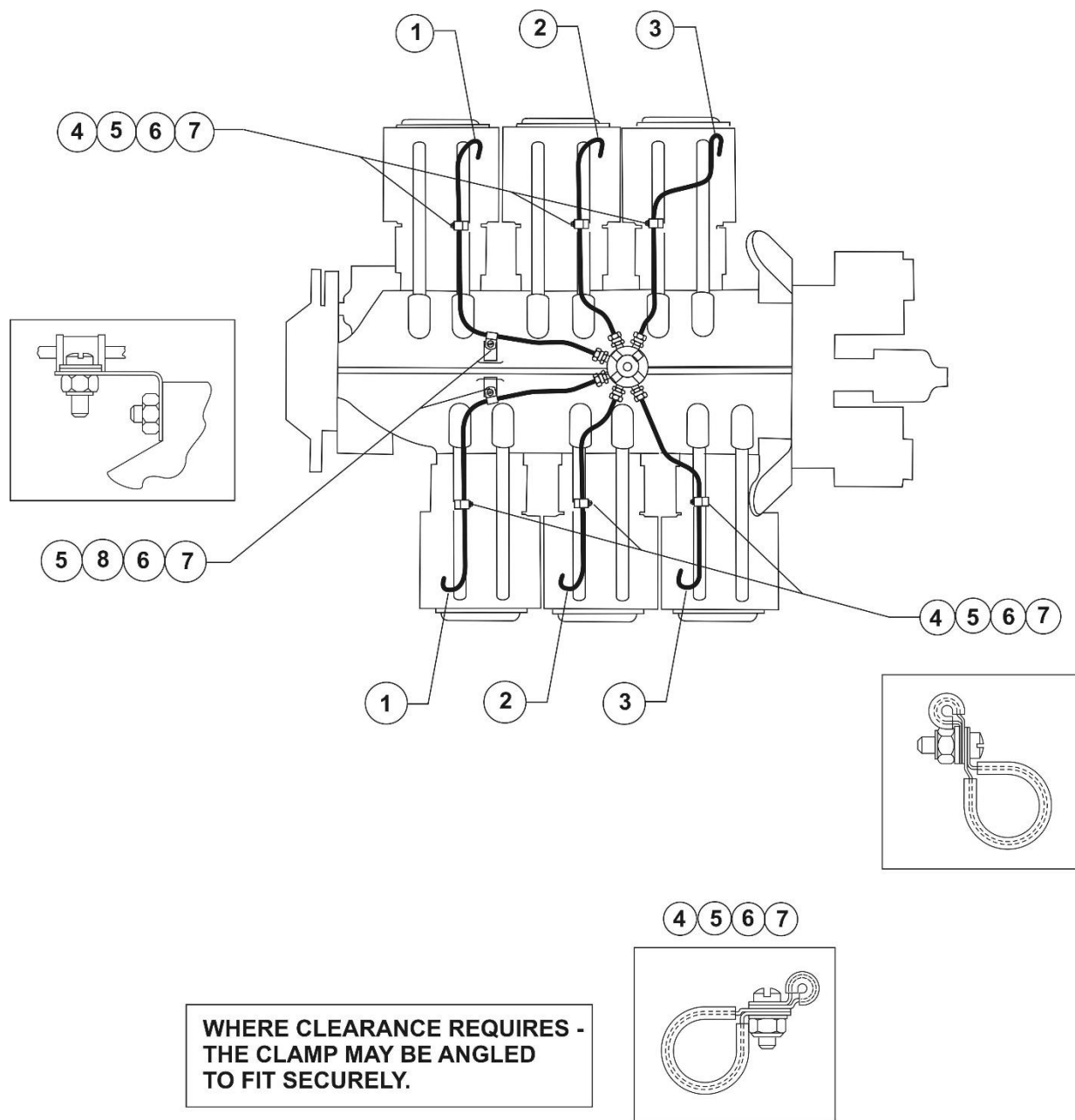


Fuel Injector, Fuel Manifold and Injection Nozzles
Figure 21B

FUEL DISTRIBUTION

FIGURE 21B – FUEL INJECTOR, FUEL MANIFOLD AND INJECTION NOZZLES

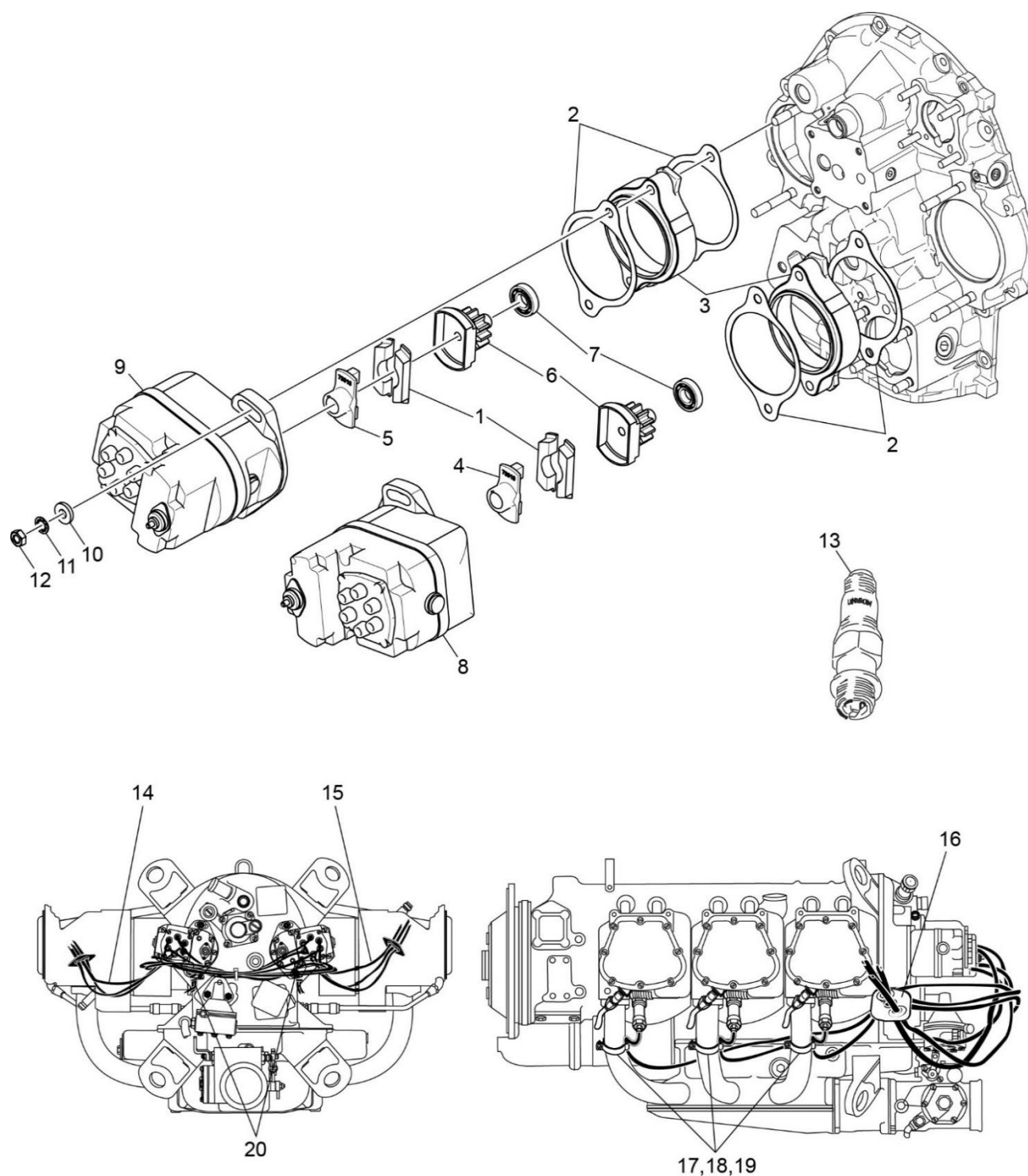
Figure Item	Code	Part Number	Description	Units per Assembly
1	*	73032	GASKET, Fuel injector	2
2		61M26405	FUEL INJECTOR, RSA-10AD1 P/N AV2576630-4	1
3		STD-35	WASHER, 5/16 plain	2
4		STD-1727	WASHER, 21/64 I.D. x 3/4 O.D. x 1/8 thick	2
5		STD-1410	NUT, 5/16-18 plain	4
6		STD-475	WASHER, 5/16 lock, internal teeth	4
7		63C26450	NOZZLE, Injection (AV2524864-2)	6
8		63B26710	MANIFOLD ASSEMBLY, Fuel (4 psi)	1
9		MS20823-4	ELBOW, 1/8 NPT to 1/4 flared tube	1
10		STD-148	NIPPLE, Union 1/8 NPT	6
11		1102	PLUG, 1/8-27 NPT, Allen head	1
12		STD-251	WASHER, No. 10 lock, internal teeth	4
13		STD-82	SCREW, NO. 10-24 x 1/2 long fill. head	4
14		07A23031	BRACKET, Fuel manifold	1
15		07A23032	BRACKET, Fuel manifold	1
16		73966	SPACER, Fuel manifold bracket	2
* Extra gasket, shipped as loose part with engine.				



**Fuel Lines and Attaching Parts
Figure 22**

FUEL DISTRIBUTION**FIGURE 22 – FUEL LINES AND ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly
1		LW-12098-0-240	TUBE ASSEMBLY, Fuel manifold to nozzle, cylinders 1 and 2	2
2		LW-12098-0-170	TUBE ASSEMBLY, Fuel manifold to nozzle, cylinders 3 and 4	2
3		LW-12098-0-180	TUBE ASSEMBLY, Fuel manifold to nozzle, cylinders 5 and 6	2
4		LW-16266-10-75	CLAMP	6
5		LW-16266-10-13	CLAMP, 1/8 diameter for No. 10 screw	8
6		STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	8
7		STD-670	LOCKNUT, No. 10-32	8
8		73136	BRACKET, Extension, fuel injector line	2

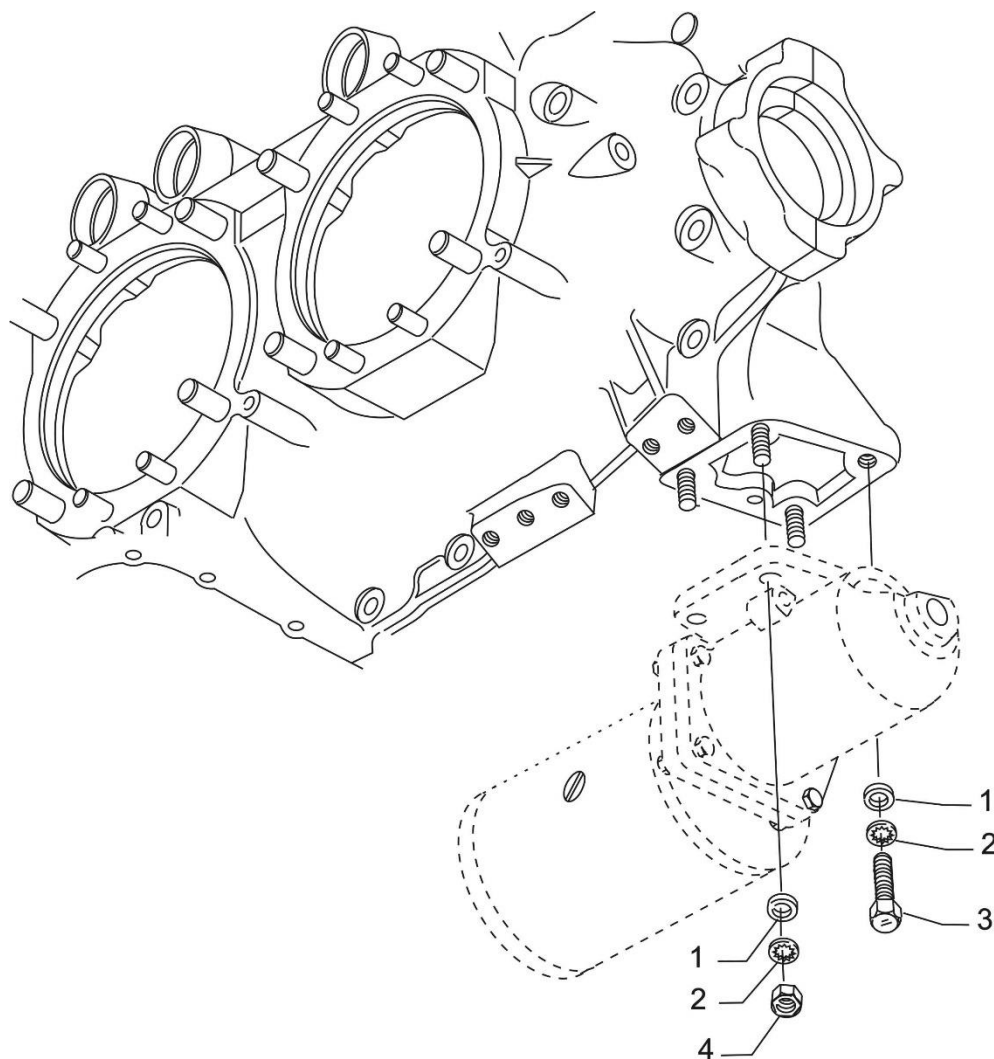


Magnetos, Magneto Drives, Harnesses and Spark Plugs
Figure 23

IGNITION DISTRIBUTION SYSTEM

FIGURE 23 – MAGNETOS, MAGNETO DRIVES, HARNESSSES AND SPARK PLUGS

Figure Item	Code	Part Number	Description	Units per Assembly
1		68H22624	CUSHION, Magneto drive	4
2		62224	GASKET, Magneto adapter and magneto	4
3		LW-12707	ADAPTER, Magneto	2
4		73000	COUPLING, Magneto drive, right	1
		73636	COUPLING, Magneto drive, right	1
5		73013	COUPLING, Magneto drive, retard, left	1
		73000	COUPLING, Magneto drive, retard, left	1
6		LW-19096	GEAR RETAINING ASSEMBLY	2
7		67542	BALL BEARING	2
8		66B21783	MAGNETO, Right (S6LSC-204T)	1
		66B31680	MAGNETO, Right, (ES-600646-1)	
9		66B21774	MAGNETO, Left, retard (S6LSC-200)	1
		66B31674	MAGNETO, Left, retard, (ES-600616-3)	
		66B21784	MAGNETO, Left, retard (S6LSC-200)	1
10		STD-1727	WASHER, 3/4 O.D. x 21/64 I.D. x 1/8 thick	4
11		STD-475	WASHER, 5/16 lock, internal teeth	4
12		STD-1410	NUT, 5/16-18 plain	4
13	*	1182-E7	SPARK PLUG, Champion (REM 38E)	12
14		LW-M-2463	HARNESS ASSEMBLY, Left magneto	1
15		LW-M-2464	HARNESS ASSEMBLY, Right magneto	1
16		LW-M-2376	PLATE, Spark plug cable	2
17		LW-18959-163-25	CLAMP	6
18		STD-553	SCREW, No. 6-32 x 1/2 long, round head	6
19		MS21044N06	NUT, No. 6-32 self-locking	6
20		LW-16266-25-56	CLAMP, 9/16 I.D. x 1/4 diameter screw	2
* Refer to the latest revision of Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs.				



**Starter Attaching Parts
Figure 24**

STARTING**FIGURE 24 - STARTER ATTACHING PARTS**

Figure Item	Code	Part Number	Description	Units per Assembly
1	*	STD-35	WASHER, 5/16 plain	4
2	*	STD-475	WASHER, 5/16 lock, internal teeth	4
3	*	LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	1
4	*	STD-1410	NUT, 5/16-18 plain	3
* Hardware only, supplied by Lycoming				

SERVICE KIT SECTION

SEAL AND GASKET SET

PART NO.	PART NAME	Qty.
05K23341	KIT - SEAL AND GASKET SET	1
06B21326	GASKET, Oil sump	1
06E19769-0.63	GASKET, Annular 5/8 I.D.	2
06E19769-1.00	GASKET, Annular, 1.00 I.D.	1
06E19769-1.25	GASKET, Annular, 1 1/4 I.D.	1
15H21201	SPRING, Shroud tube	24
60096	GASKET, Fuel pump	1
61173	GASKET, Oil pressure housing	1
61183	GASKET, Accessory adapter	1
62224	GASKET, Magneto adapter	4
66732	GASKET, Valve rocker shaft cover	12
06B26811	GASKET, Rocker box cover	6
68H22624	CUSHION, Magneto drive	4
69551	GASKET, Accessory drive adapter	1
70455	GASKET, 25/32 I.D. x 1-1/8 O.D. x 1/32 thick	1
71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	6
71973	GASKET, 2 bolt flange, 1-13/16 I.D.	6
72053	GASKET, Governor	1
72059	GASKET, Oil level gage	1
72091	RING, Oil seal, 3/8 I.D. x 7/64 diameter	2
72210	GASKET, Air throttle housing	1
72711	RING, Seal, intake pipes	6
73032	GASKET, Air inlet housing	2
73383	LOCKPLATE, 5/16 bolt x 1.00	2
73818	GASKET, Accessory housing	1
74068	RING, Oil level gage plug	1
76510	GASKET, Oil cooler bypass valve	1
77611	GASKET, Exhaust flange	6
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Tachometer drive, oil	1
LW-14820	RING, Internal retaining	8
LW-18481	GASKET, Oil filler adapter	1
LW-18638	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	24
MS29512-06	O-RING, 15/32 I.D. x 5/64 section	2
STD-2180	HOSE, 3/8 I.D. x 1-7/8 long	6
STD-2231	RING, Internal retaining (13/16)	1

CYLINDER, PISTON AND RING ASSEMBLY

PART NO.	PART NAME	Qty.
05K21120	KIT - CYLINDER, PISTON AND RING ASSEMBLY	1
16A30160-01	CYLINDER AND HEAD ASSEMBLY, Nitrided	1
LW-12993	CYLINDER ASSEMBLY	1
72343	STABILIZER, Cylinder head fins, 15 teeth	1
72344	STABILIZER, Cylinder head fins, 26 teeth	1
17A23937	VALVE, Intake	1
17B23935	VALVE, Exhaust (rotator type)	1
LW-13321	SEAT, Valve spring, lower intake	1
LW-13322	SEAT, Valve spring, lower exhaust	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 (rotator type)	1
72050	KEY, Valve intake	2
17C21191	KEY, Valve exhaust (rotator type)	2
MS20523-6D	ELBOW, 45 degree, 3/8 flared tube	1
62388	CAP, Valve stem	1
17C19386	CAP, Valve stem, exhaust (rotator type)	1
1102	PLUG, 1/8-27 NPT, allen head	2
71481	RING, Oil seal, 3/32 diameter x 4-27/32 I.D.	1
14D23908	PISTON, 8.70:1	1
74241	RING, Piston, compression	2
14H21950	RING, Piston, oil regulating (expander type)	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
SSP-299	TAG, Use of piston pin plugs	1
77611	GASKET, Exhaust flange	1
71973	GASKET, 2 bolt flange, 1-13/16 I.D.	1
06A23493	SEAL, Shroud tube	2

CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY KIT

PART NO.	PART NAME	Qty.
05K23340	KIT - CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY	1
13E47622	CRANKSHAFT ASSEMBLY	1
14U22539	COUNTERWEIGHT ASSEMBLY	2
14W22647	ROLLER, Dynamic counterweight, 4.81 order	2
70416	ROLLER, Dynamic counterweight	2
71907	WASHER, Counterweight	8
LW-14820	RING, Internal retaining	8

CRANKCASE ASSEMBLY AND THRU-STUD KITS

PART NO.	PART NAME	Qty.
11E24004-S1-S	KIT - CRANKCASE ASSEMBLY AND THRU-STUD	1
11E24004-S1	CRANKCASE ASSEMBLY	1
76220	STUD, 1/2-20 x 10-45/64 long	8
31C-14	STUD, 5/16-18 x 1-3/4 long	4
31C-16	STUD, 5/16-18 x 2.00 long	4
STD-1339	PLUG, 1/16-27 NPT, Allen head	7
AN565B1032H4	SETSCREW, No. 10-32 x 1/4 long	1
AN565B1032H5	SETSCREW, No. 10-32 x 5/16 long	1
1102	PLUG, 1/8-27 NPT, Allen head	4
LW-31-2.75	BOLT, 5/16-18 x 2-3/4 long, hex. head	1
LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	3
STD-35	WASHER, 5/16 plain	4
STD-475	WASHER, 5/16 lock, internal teeth	4

CRANKCASE ASSEMBLY AND THRU-STUD KITS

PART NO.	PART NAME	Qty.
11E24104-S1-S	KIT - CRANKCASE ASSEMBLY AND THRU-STUD	1
11E24104-S1	CRANKCASE ASSEMBLY	1
76220	STUD, 1/2-20 x 10-45/64 long	8
31C-14	STUD, 5/16-18 x 1-3/4 long	4
31C-16	STUD, 5/16-18 x 2.00 long	4
STD-1339	PLUG, 1/16-27 NPT, Allen head	7
AN565B1032H4	SETSCREW, No. 10-32 x 1/4 long	1
AN565B1032H5	SETSCREW, No. 10-32 x 5/16 long	1
1102	PLUG, 1/8-27 NPT, Allen head	4
LW-31-2.75	BOLT, 5/16-18 x 2-3/4 long, hex. head	1
LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	3
STD-35	WASHER, 5/16 plain	4
STD-475	WASHER, 5/16 lock, internal teeth	4

CRANKCASE ASSEMBLY AND THRU-STUD KITS

PART NO.	PART NAME	Qty.
11E24106-S1-S	KIT - CRANKCASE ASSEMBLY AND THRU-STUD	1
11E24106-S1	CRANKCASE ASSEMBLY	1
1102	PLUG, 1/8-27 NPT, Allen head	6

NUMERICAL INDEX

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
01A23354	STUD	11	13E47622	C'SHAFT ASSY	15
01K28983	BUSHING	23	13S19647	GEAR	15
01L23459	WASHER	27	14D23908	PISTON	23
03C21721	PLUG	9	14H29884	RING	23
06A23493	SEAL	27	14S23890	BOLT	23
06B21326	GASKET	37	14U22539	C'WEIGHT ASSY	15
06B21326	GASKET	41	14W22647	ROLLER	15
06B21326	GASKET	43	15B21319	SOCKET	27
06B26811	GASKET	31	15B26066	PLUNGER ASSY	27
06E19769-0.63	GASKET	51	15B26262	BODY	13
06E19769-0.91	GASKET	37	15F28835-52	ROD ASSEMBLY	29
06E19769-0.91	GASKET	43	15F28835-53	ROD ASSEMBLY	29
06E19769-1.00	GASKET	33	15F28835-54	ROD ASSEMBLY	29
06E19769-1.25	GASKET	13	15F28835-55	ROD ASSEMBLY	29
07A19474	BRACKET	1	15F28835-56	ROD ASSEMBLY	29
07A23031	BRACKET	55	15F28835-57	ROD ASSEMBLY	29
07A23031	BRACKET	57	15F28835-58	ROD ASSEMBLY	29
07A23032	BRACKET	55	15F28864-18	ROD ASSEMBLY	29
07A23032	BRACKET	57	15F28864-19	ROD ASSEMBLY	29
1028-B	BALL	13	15F28864-20	ROD ASSEMBLY	29
10-8	STUD	11	15F28864-21	ROD ASSEMBLY	29
1102	PLUG	11	15F28864-22	ROD ASSEMBLY	29
1102	PLUG	25	15F28864-23	ROD ASSEMBLY	29
1102	PLUG	33	15F28864-24	ROD ASSEMBLY	29
1102	PLUG	37	15G23462	SHROUD ASSY	27
1102	PLUG	41	15H21201	SPRING	27
1102	PLUG	43	15N26092	CAMSHAFT ASSY	17
1102	PLUG	45	15N26092	CAMSHAFT ASSY	19
1102	PLUG	55	16A30160-01	CYL HEAD ASSY	25
1102	PLUG	57	16T19468	SEAT	25
1182-E7	SPARK PLUG	61	17A23937	VALVE	27
11E24004-S1	C'CASE ASSY	11	17B23935	VALVE	27
11E24004-S1-S	C'CASE ASSY KIT	11	17C19386	CAP	27
11E24104-S1	C'CASE ASSY	11	17C21191	KEY	27
11E24104-S1-S	C'CASE ASSY KIT	11	17D29056	SPRING	27
11E24106-S1	C'CASE ASSY	11	17D29057	SPRING	27
11E24106-S1-S	C'CASE ASSY KIT	11	17F21185	ROCKER ASSY	29

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
17F21186	ROCKER ASSY	29	56A26071	HOUSING	43
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18D26098	BEARING	13	56A26071-09	HOUSING ASSY	41
18M26105	BEARING	23	56A26071-09	HOUSING ASSY	43
21C21539-03	HOUSING ASSY	45	56B23949	HOUSING	41
21C21546-03	HOUSING ASSY	45	56B23949	HOUSING	43
23D26777	PLUNGER	17	56G26069	BAFFLE	41
23D26777	PLUNGER	19	56G26069	BAFFLE	43
25C-11	STUD	37	56G28031	BAFFLE	37
25C-11	STUD	41	60096	GASKET	49
25C-11	STUD	43	60422	SCREEN	33
25C-12	STUD	45	60430	COVER	53
25C-8	STUD	25	60803	STRAP	21
25C-9	STUD	37	61084	SPRING	13
25C-9	STUD	41	61173	GASKET	51
25C-9	STUD	43	61183	GASKET	53
31C-12	STUD	11	61503	SLEEVE	27
31C-12	STUD	25	61M23587	FUEL INJECTOR	55
31C-12	STUD	45	61M26405	FUEL INJECTOR	57
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31C-14	STUD	11	62388	CAP	27
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