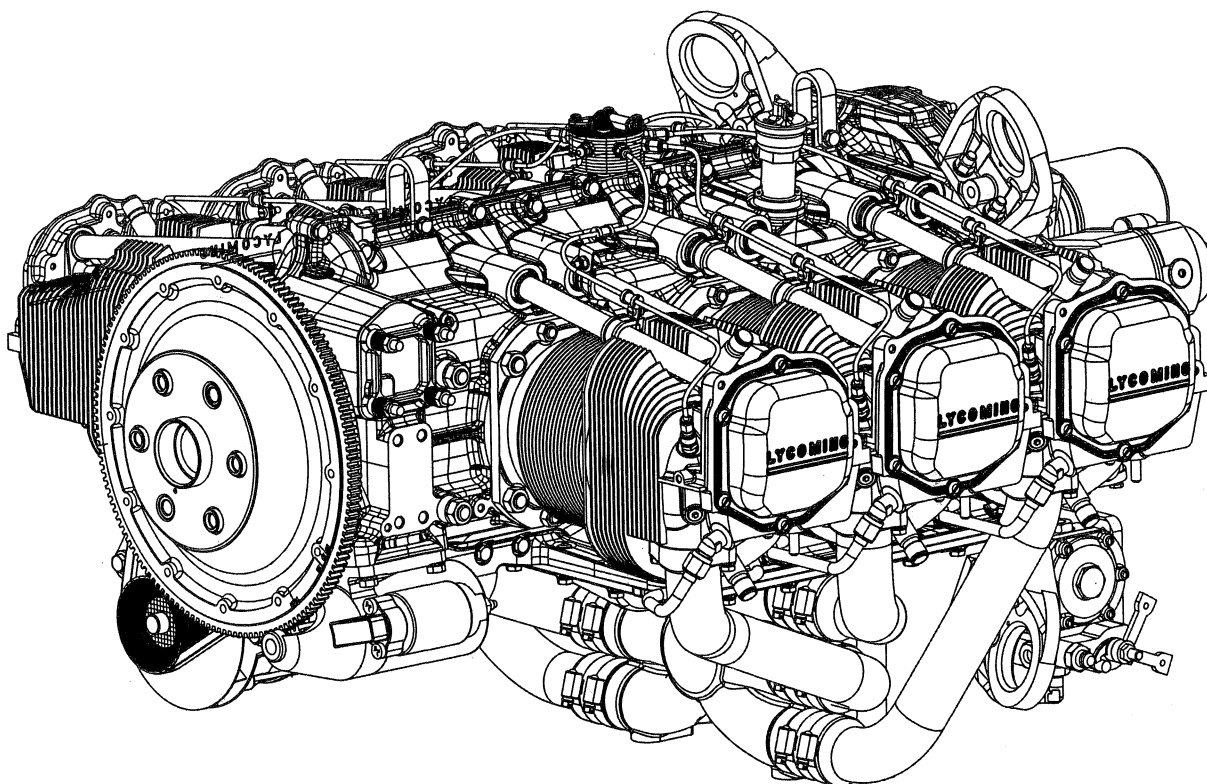


LYCOMING



Engine Parts Catalog
IO-540-AF1A5

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July 2008

Part No. PC-615-14

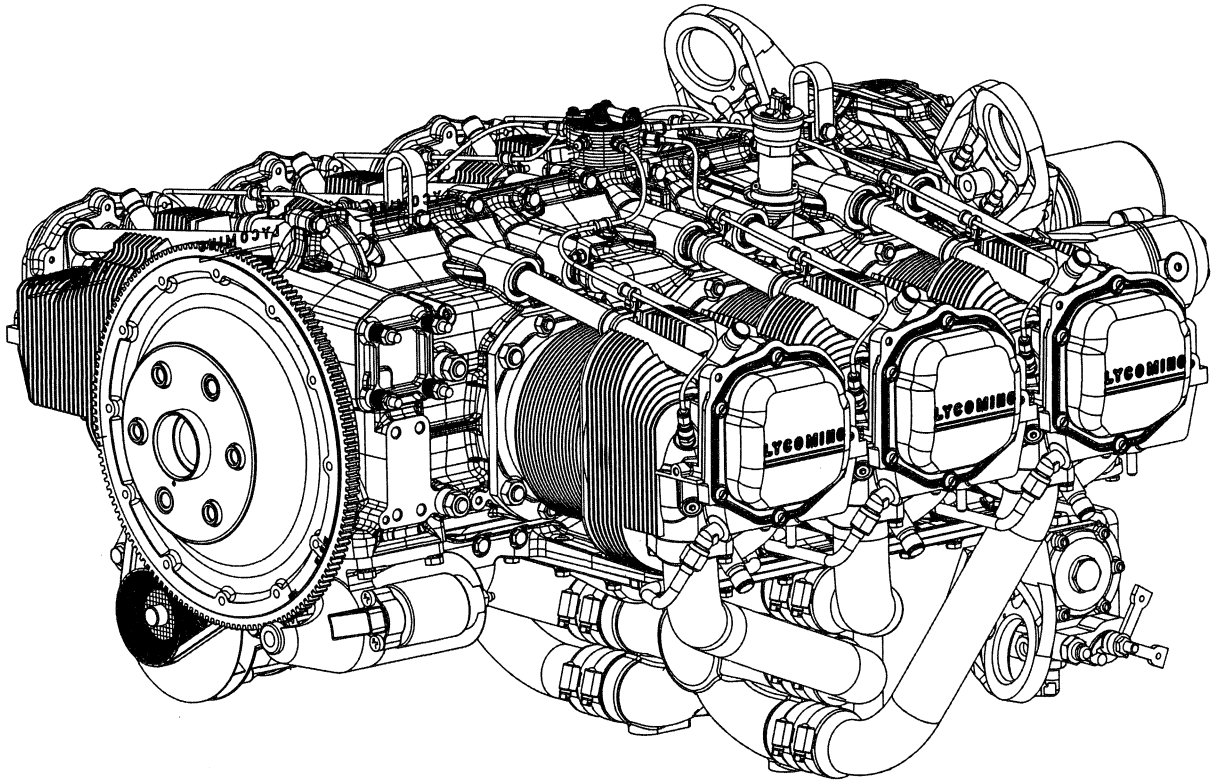
652 Oliver Street
Williamsport, PA 17701



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LYCOMING



Engine Parts Catalog
IO-540-AF1A5

LYCOMING ©

July 2008

Part No. PC-615-14

652 Oliver Street
Williamsport, PA 17701

INTRODUCTION

This illustrated parts catalog contains a complete parts listing for the Lycoming IO-540-AF1A5 wide cylinder flange crankcase model aircraft engines.

Major assembly and sub-assembly parts of the engine are listed in the Group Assembly sections in the general sequence of engine build-up.

An Oversize and Undersize Parts List are included to aid in ordering parts as necessary during overhaul.

The Numerical Index is provided for convenience in finding parts when only the part number is known.

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

NOTE

This catalog, when used in conjunction with the appropriate overhaul manual, is only to be used for parts identification.

Do not use this catalog as an assembly or installation document.

Any reference in this document to the suppliers/parts manufacturer's product, by name, trademark, part number or other description is solely for the purposes 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.

SERVICE BULLETINS, INSTRUCTIONS AND LETTERS

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. Consult the latest revision of Service Letter No. L114 for subscription information.

HOW TO ORDER PARTS

In ordering parts for your engine, observe the following instructions which will expedite shipment of correct parts required without delay.

- a. Always specify the model and serial number of your engine.
- b. Always specify part number, nomenclature and quantity required.

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OVERSIZE AND UNVERSIZE 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
66610	BUSHING		X	X								
76943†	GUIDE		X									
66796†	INSERT		X	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						
16R22126†	GUIDE		X									
LW-13792	SEAL								X			
72057	SEAT		X	X		X	X					
18D23135	BEARING				X					X*	X*	X*
STD-1065	DOWEL	X	X	X	X							
72058	SEAT		X	X		X	X					
18A19441	BEARING				X					X*	X*	X*

* - Also available in P15 oversize.

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

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

NOTE

When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension with the proper part number. For example, to order bearing 18D23135 in .003 undersize, order part number 18D23135-M03. Oversize code letter is "P" while undersize code letter is "M". These letters are then followed by the number designating the size in thousandths of an inch.

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKCASE ASSEMBLY

FIG. REF. 1	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	11E24100-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 1-1/8 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	38D-17	STUD, 3/8-16 x 2-1/8 long, dr.	1
8	38-16	STUD, 3/8-16 x 2.00 long	8
9	69796	DOWEL, Crankshaft bearing	2
10	STD-514	DOWEL, 5/16 dia. x 1/2 long	2
11	STD-557	DOWEL, 1/2 dia. x 11/16 long, hollow	2
12	72158	BUSHING, Governor drive idler shaft	1
13	01A23354	STUD, 5/16-18 x 1.00 long, dr.	1
14	STD-1339	PLUG, 1/16-27 NPT	7
15	1102	PLUG, 1/8-27 NPT	4
16	31C-17	STUD, 5/16-28 x 2-1/8 long	4

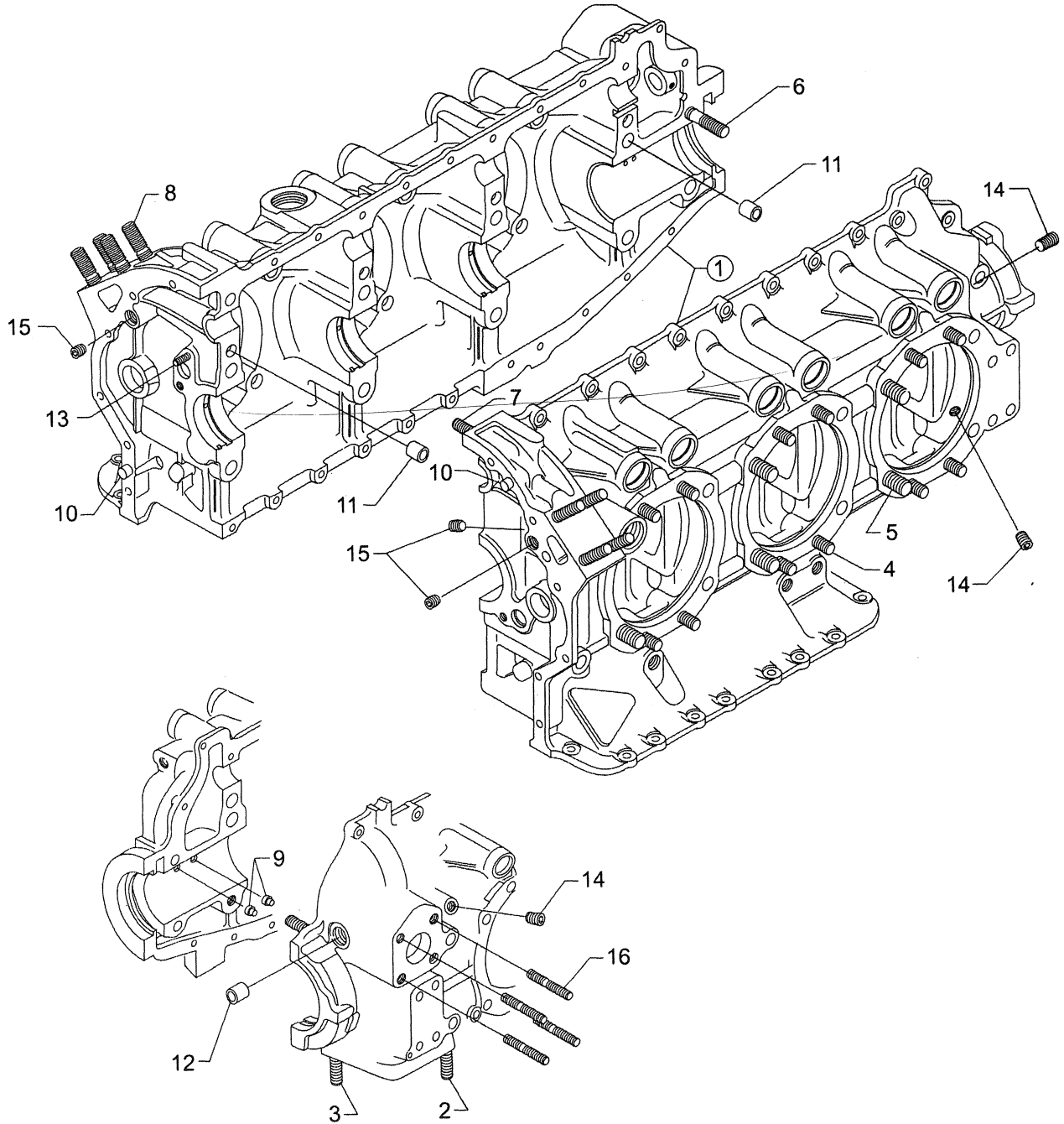


FIGURE 1. CRANKCASE ASSEMBLY

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
OIL LEVEL GAGE AND ENGINE MOUNTING BRACKET

FIG. REF. 2	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	06E19769-0.63	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular	1
2	LW-16254	ADAPTER, Oil level gage	1
3	LW-16255	TUBE ASSEMBLY, Oil level gage	1
4	75414*	BRACKET, Fuel manifold	1
5	STD-8*	WASHER, 1/4 plain	2
6	STD-1874*	SCREW, 1/4-20 x 7/8 long	1
7	LW-16266-25-38	CLAMP	1
8	STD-160	WASHER, 1/4 lock, internal teeth	1
9	LW-25-0.50	BOLT, 1/4-20 x 1/2 long	1
10	STD-1411	NUT, 1/4-20 plain	1
11	STD-1733	RING, Oil seal, 1/4 x 1/16	1
12	LW-16256	GAGE ASSEMBLY, Oil level	1
13	70457	GASKET, Oil filter extension	1
14	LW-15556	PLUG, Oil filter hole	1
15	75737	EXTENSION, Oil filter	1
16	74068	RING, Oil level gage	1

* - Assemble at rocker box cover hole.

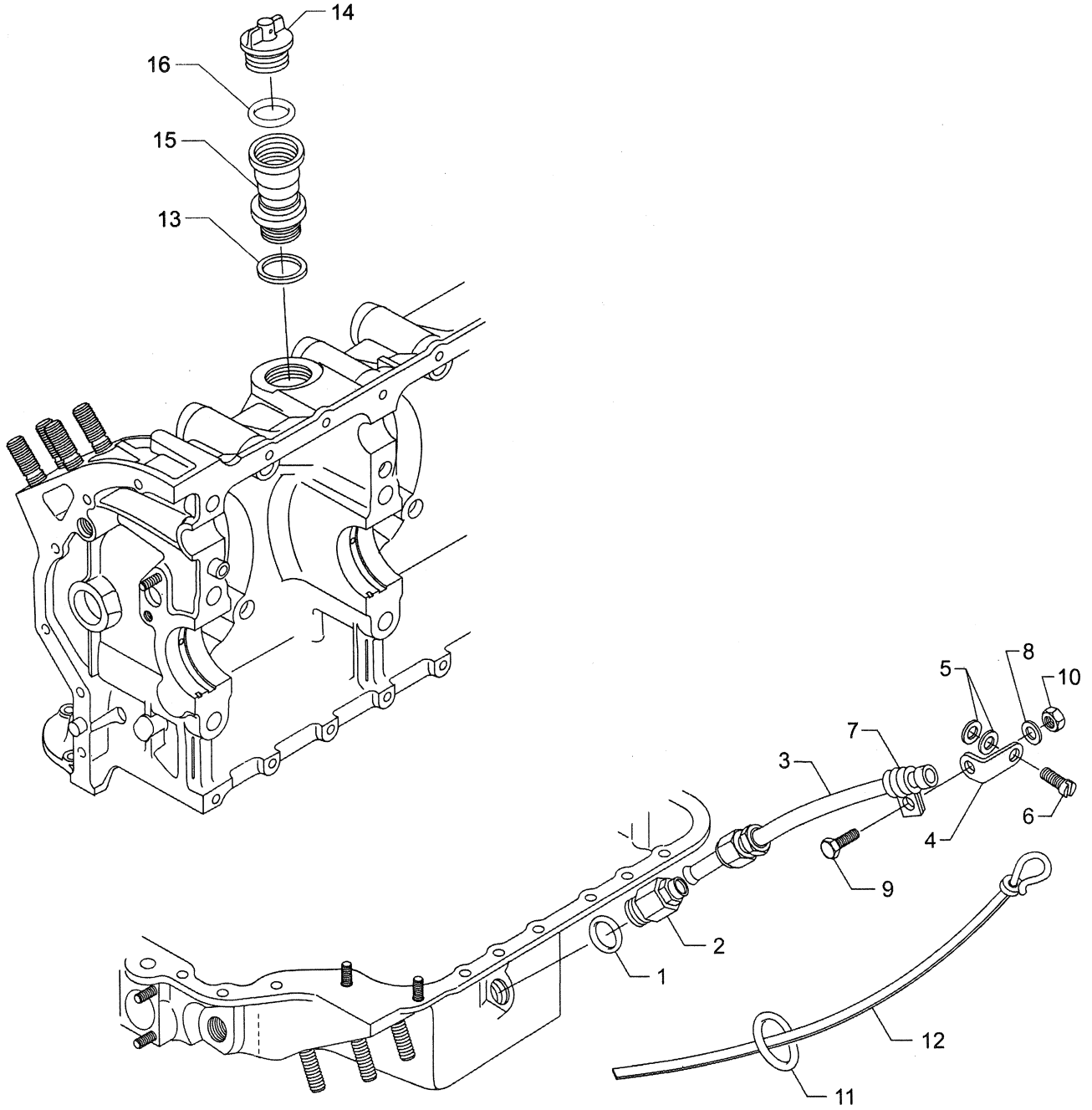


FIGURE 2. OIL LEVEL GAGE ASSEMBLY

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKCASE RELATED PARTS

FIG. REF. 3	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	1028-B	BALL, 11/16 diameter	1
2	61084*	SPRING, Oil pressure relief valve	1
	68668*	SPRING, Oil pressure relief valve	1
	77467*	SPRING, Oil pressure relief valve	1
	LW-11713*	SPRING, Oil pressure relief valve	1
	LW-18085*	SPRING, Oil pressure relief valve	1
3	06E19769-1.25	GASKET, 1-1/4 I.D. x 1-1/2 O.D. x 3/32 annular	1
4	77808	VALVE ASSEMBLY, Oil pressure relief valve, adj.	1
5	18D23135	BEARING, Crankshaft	6
6	18A19441	BEARING, Crankshaft, front	2
7	LW-13792	SEAL, Crankshaft oil, solid	1
8	72091	RING, Oil seal, 23/64 I.D. x 7/64 dia.	2
9	LRT23381	BODY, Hydraulic tappet roller	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 1 for spring identification.

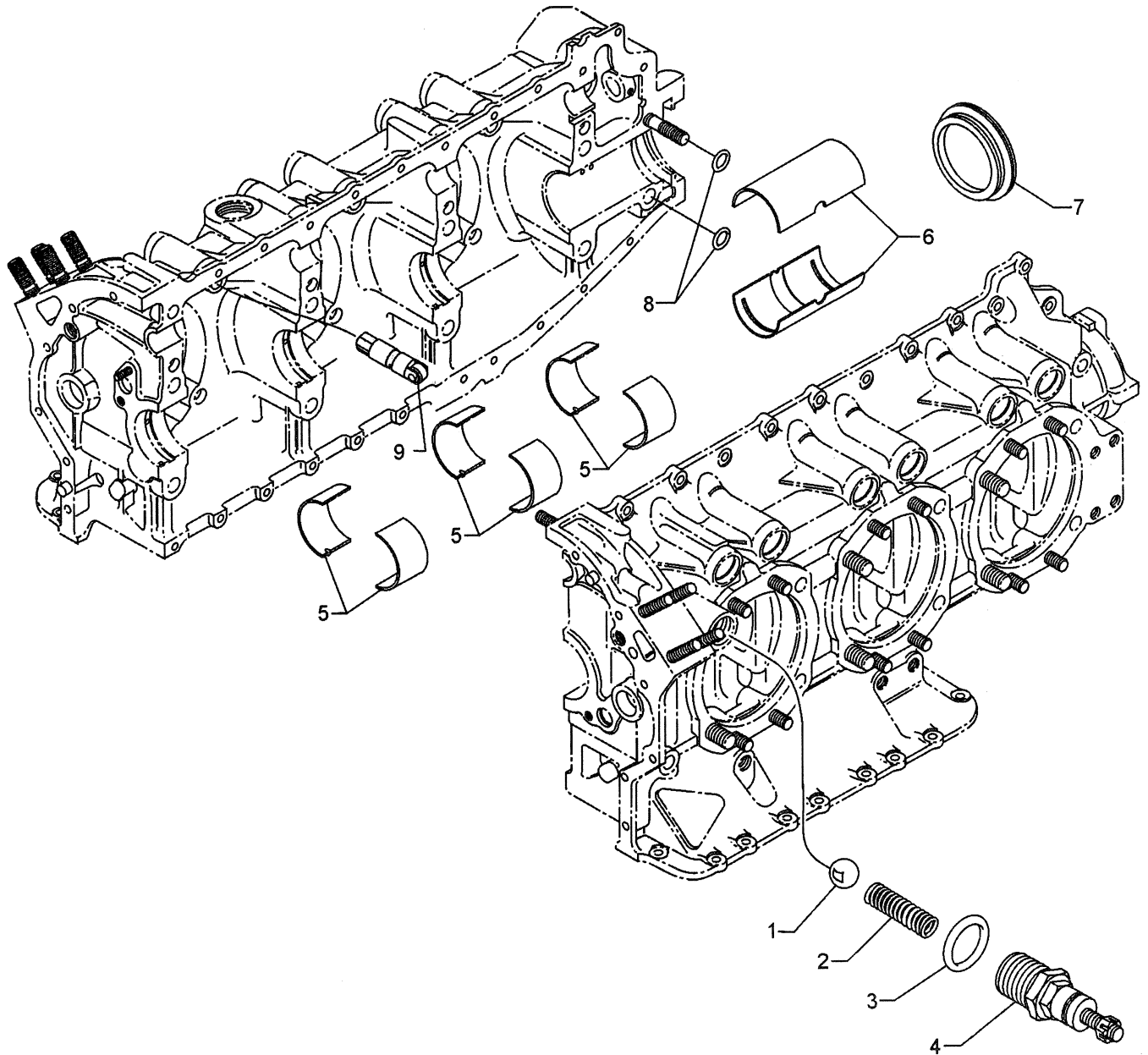
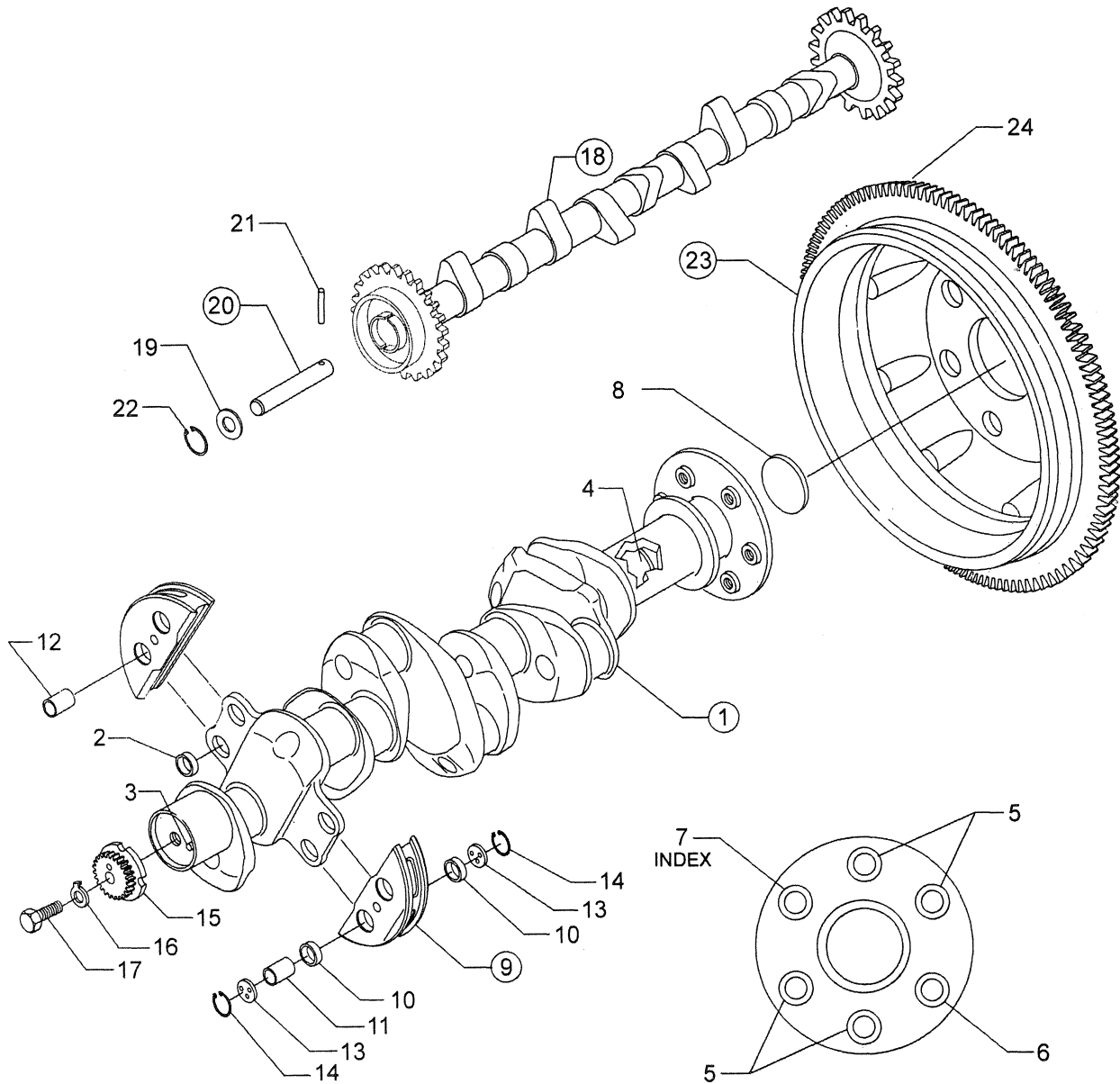


FIGURE 3. CRANKCASE RELATED PARTS

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKSHAFT, COUNTERWEIGHT, CAMSHAFT, TACHOMETER DRIVE AND
STARTER SUPPORT ASSEMBLIES

FIG. REF. 4	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	13E47622	CRANKSHAFT ASSEMBLY	1
2	73810	BUSHING, Crankshaft, dynamic counterweight	4
3	STD-1065	DOWEL, Stepped, 5/16 & 1/4 dia. x 35/64 long	1
4	71640	PLUG, 1-3/4 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 dia. expansion	1
9	LW-19227	COUNTERWEIGHT ASSEMBLY	2
10	71903-A	BUSHING, Dynamic counterweight	8
11	72965	ROLLER, Dynamic counterweight	2
12	72797	ROLLER, Dynamic counterweight, 6.3 order	2
13	71907	WASHER, Dynamic counterweight	8
14	LW-14820	RING, Internal retaining	8
15	13S19647	GEAR, Crankshaft	1
16	LW-18638	LOCKPLATE, Crankshaft gear	1
17	STD-2247	BOLT, 5/16-27 x 1-3/4 long, hex. head	1
18	15N23374	CAMSHAFT ASSEMBLY	1
19	76118	SPACER, Tachometer shaft centering	1
20	76155	SHAFT ASSEMBLY, Tachometer	1
21	LW-18667	PIN, 3/16 dia. x 2-21/64 long	1
22	STD-2231	RING, Internal retaining	1
23	LW-16471	SUPPORT ASSEMBLY, Starter ring gear, 12/14 pitch	1
24	72566	GEAR, Starter ring	1

CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY, KIT P/N 05K47676 AVAILABLE.



**FIGURE 4. CRANKSHAFT, COUNTERWEIGHT, CAMSHAFT,
TACHOMETER DRIVE AND STARTER SUPPORT ASSEMBLIES**

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
PROPELLER GOVERNOR DRIVE ASSEMBLY

FIG. REF. 5	PART NUMBER	DESCRIPTION	QUANTITY 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 dia. x 7/32 long	1
6	STD-798	DOWEL, 3/32 dia. x 9/32 long	1
7	73249	WASHER, Thrust (.0585 - .0595 thick)	AR
	73250	WASHER, Thrust (.062 - .063 thick)	AR
	73251	WASHER, Thrust (.0655 - .0665 thick)	AR
	73252	WASHER, Thrust (.069 - .070)	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

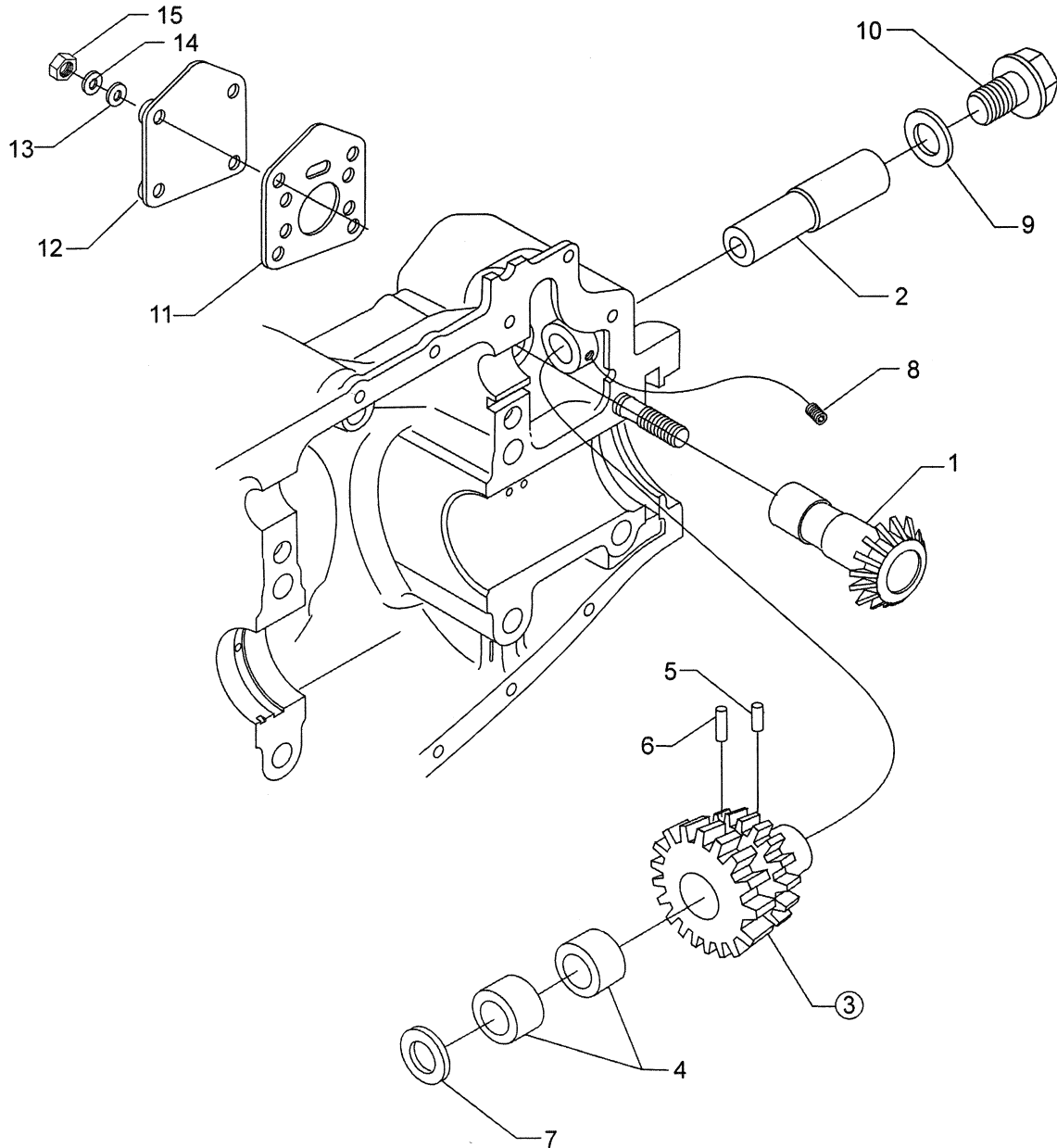


FIGURE 5. PROPELLER GOVERNOR DRIVE ASSEMBLY

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKSHAFT AND FUEL PUMP IDLER GEARS

FIG. REF. 6	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	61544	PLUNGER, Fuel pump, long	1
2	71652	GEAR ASSEMBLY, Crankshaft idler	1
3	67530	BUSHING, Crankshaft idler gear	1
4	71668	GEAR ASSEMBLY, Crankshaft idler, plain	1
5	67530	BUSHING, Crankshaft idler gear	1
6	LW-13795	SHAFT, Crankshaft idler gear	2
7	LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, dr.	3
8	STD-2168	NUT, 5/16-18 NC-3 slotted shear	1

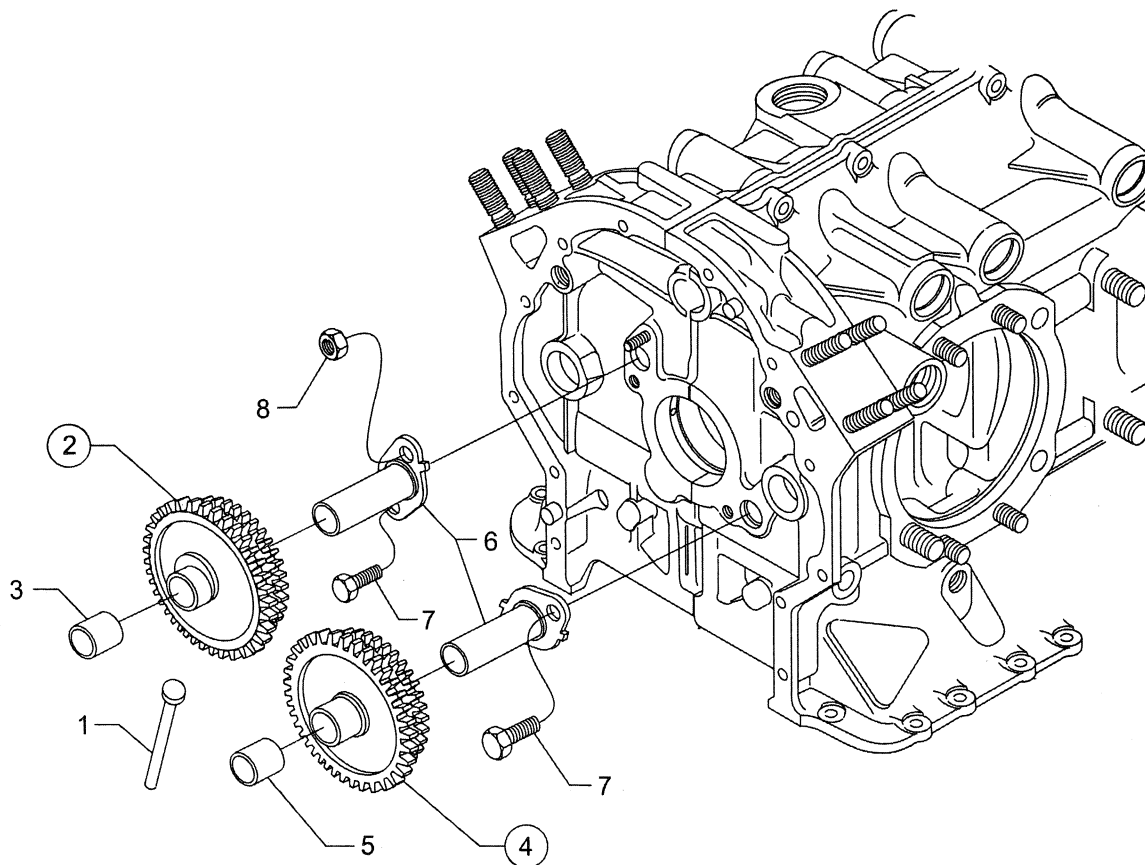


FIGURE 6. CRANKSHAFT AND FUEL PUMP IDLER GEARS

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKCASE ATTACHING PARTS

FIG. REF. 7	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	8
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	2
4	STD-8	WASHER, 1/4 plain	22
5	60803	STRAP, Lifting	2
6	LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	1
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
9	STD-1411	NUT, 1/4-20 plain	12
10	LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head, dr. end	6
11	STD-8	WASHER, 1/4 plain (Max. 9)	18
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, hex. head	1
21	LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	3
22	STD-35	WASHER, 5/16 plain	4
23	STD-475	WASHER, 5/16 lock, internal teeth	4

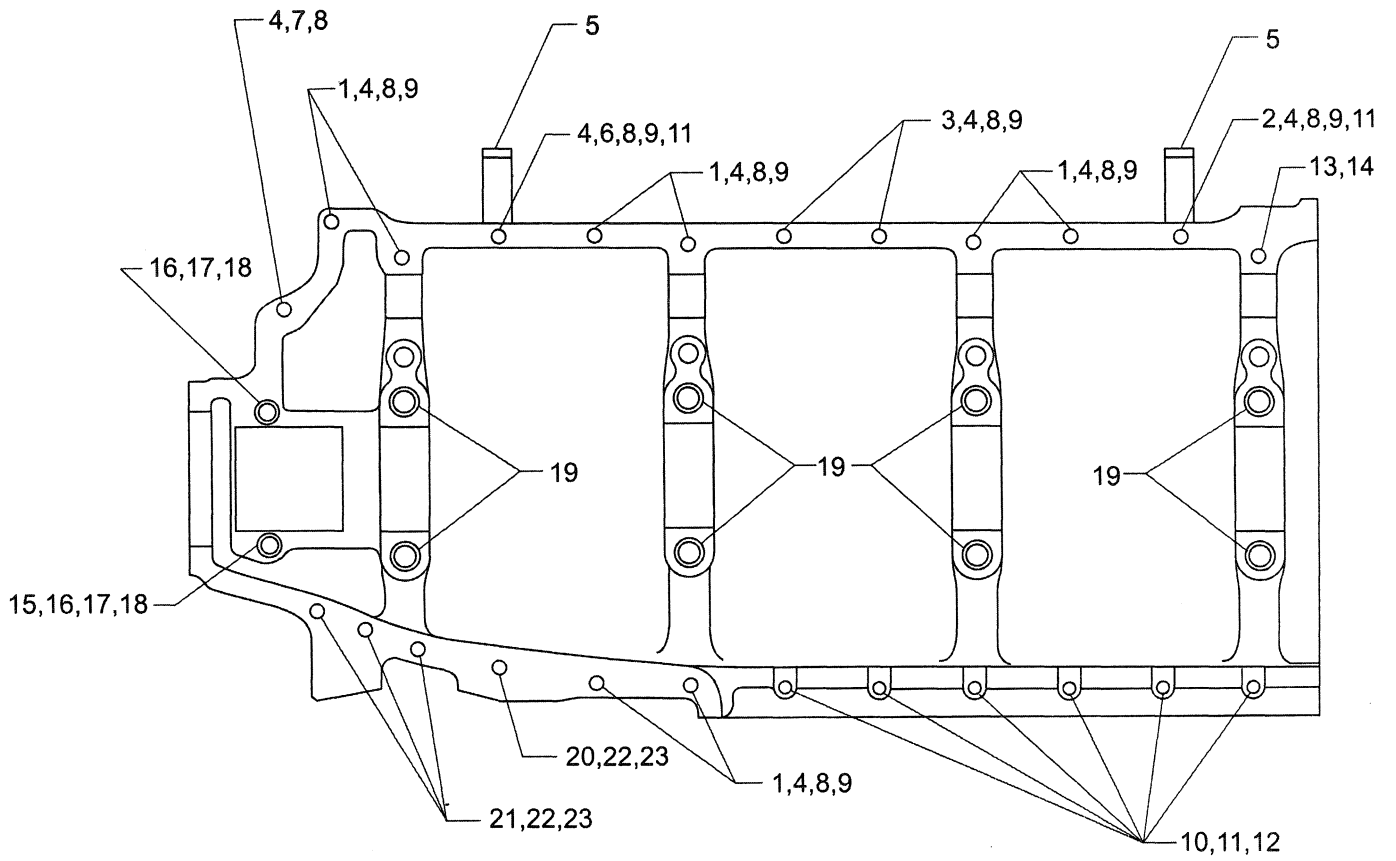


FIGURE 7. CRANKCASE ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS
ACCESSORY HOUSING ASSEMBLY

FIG. REF. 8	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	73818	GASKET, Accessory housing	1
2	21C21539-02	HOUSING ASSEMBLY, Accessory	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-21	STUD, 1/4-20 x 2-5/8 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

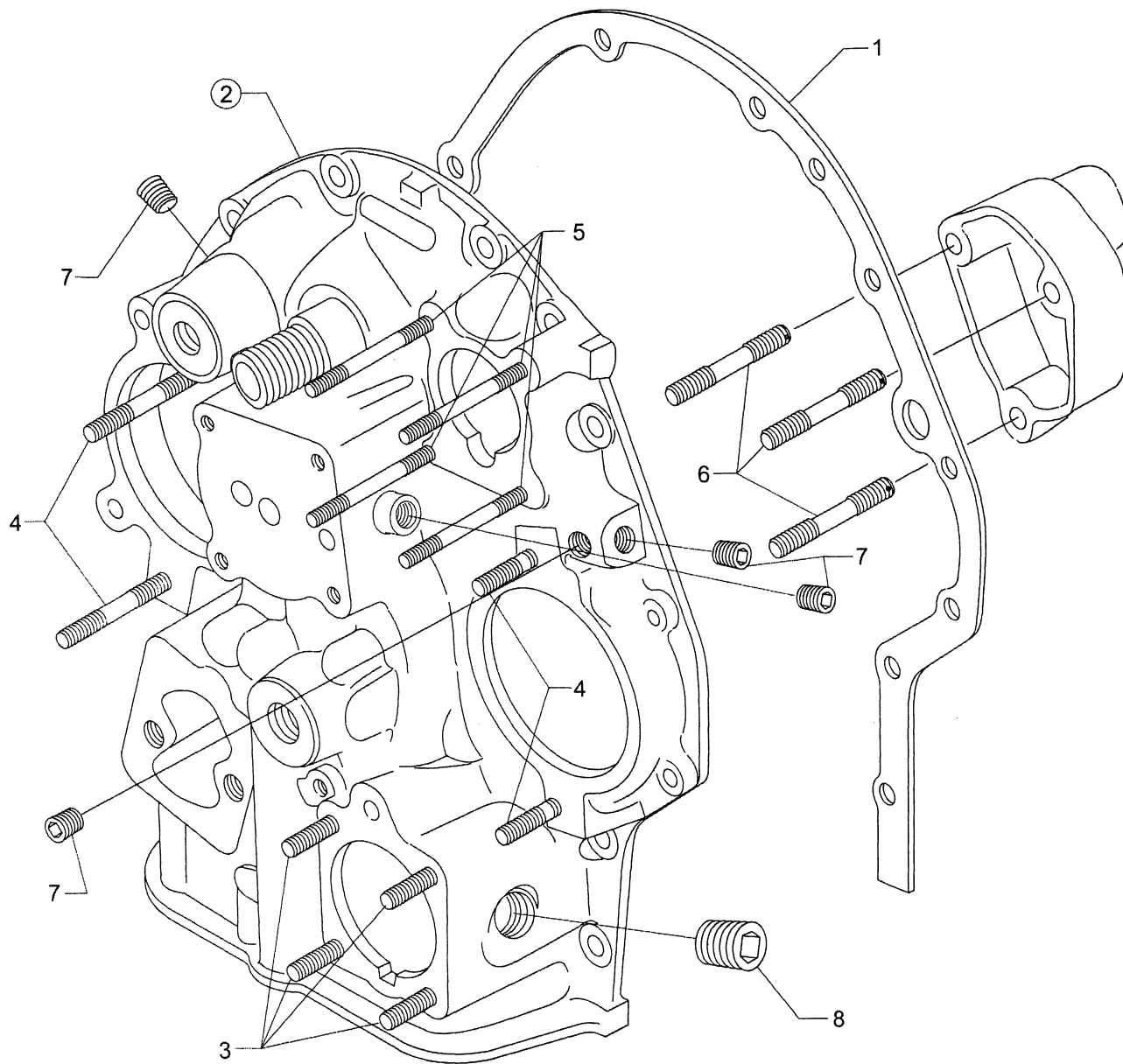


FIGURE 8. ACCESSORY HOUSING ASSEMBLY

ACCESSORY HOUSING AND RELATED PARTS
OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS

FIG. REF. 9	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	78531	BODY ASSEMBLY, Oil pump	1
2	78530	SHAFT, Oil pump idler	1
3	74641	SHAFT, Oil pump drive	1
4	LW-18108	IMPELLER, Oil pump, driven	1
5	LW-18109	IMPELLER, Oil pump, driven	1
6	STD-35	WASHER, 5/16 plain	3
7	STD-1420	NUT, 5/16-18 slotted	3
8	LW-14260	SEAL, Tachometer shaft, oil	1
9	STD-8	WASHER, 1/4 plain	12
10	STD-160	WASHER, 1/4 lock, internal teeth	12
11	LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	9
12	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
13	LW-25-1.44	BOLT, 1/4-20 x 1-7/16 long, hex. head	2

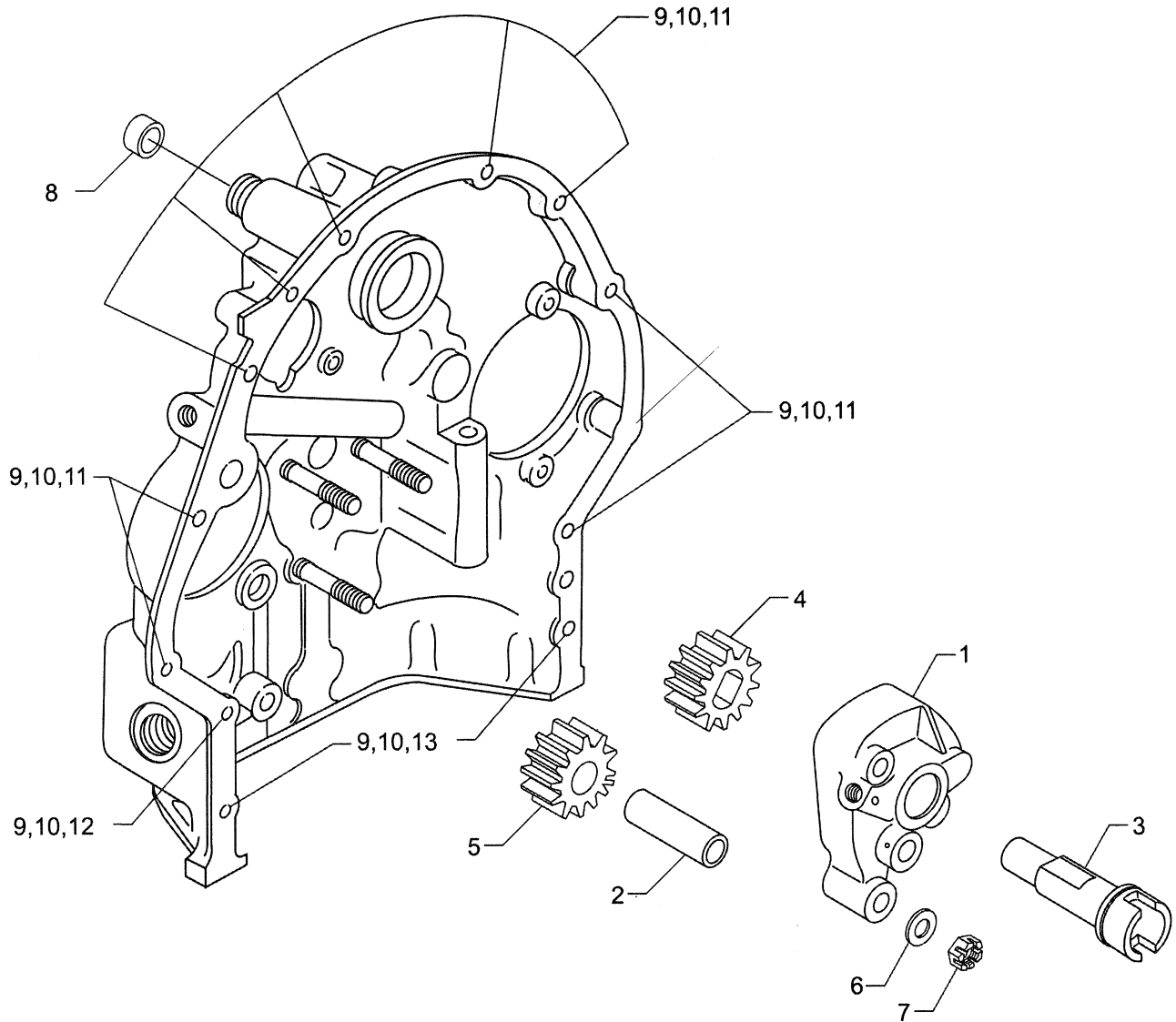


FIGURE 9. OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS
FUEL PUMP ASSEMBLY AND ATTACHING PARTS

FIG. REF. 10	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	60096	GASKET, Fuel pump	1
2	LW-15473	FUEL PUMP, Dual diaphragm (6441234)	1
3	STD-33	WASHER, 3/8 plain	2
4	STD-1882	SCREW, 3/8-16 x 1-9/32 socket head, dr. end	2
5	72377	ELBOW, 3/8 flared tube, adjustable	2
6	MS29512-06	O-RING	2

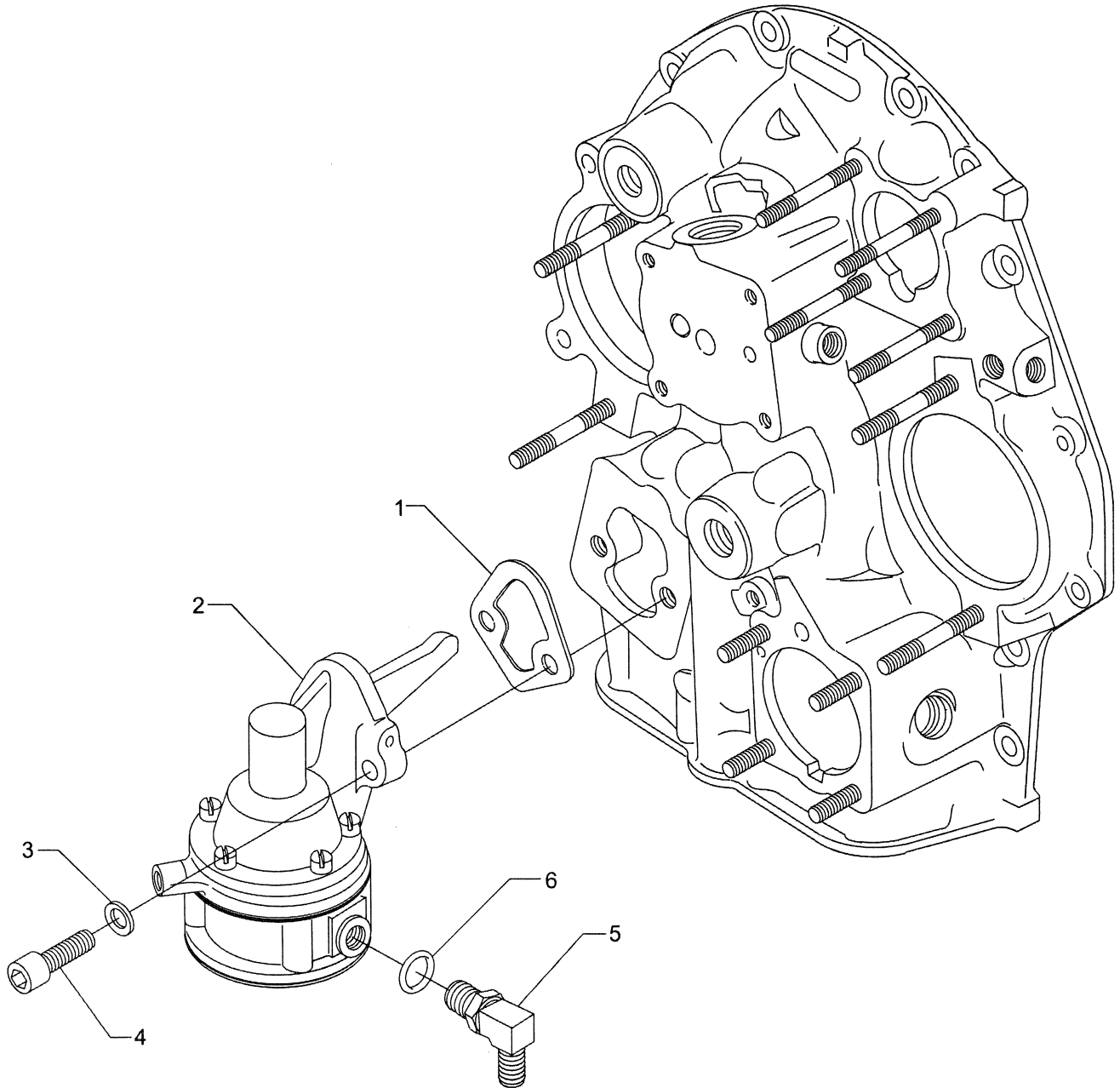


FIGURE 10. FUEL PUMP ASSEMBLY AND ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS
VACUUM PUMP DRIVES AND HYDRAULIC PUMP COVERS

FIG. REF. 11	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	61183	GASKET, Accessory adapter	1
2	28A21289	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 dia. x 1/4 long	1
5	72974	GEAR ASSEMBLY, Vacuum pump driven	1
6	71596	WASHER, Accessory drive gear	1
7	8313	GASKET, Vacuum pump	1
8	60430	COVER, Vacuum pump	1
9	STD-8	WASHER, 1/4 plain	4
10	STD-160	WASHER, 1/4 lock, internal teeth	4
11	STD-1411	NUT, 1/4-20 plain	4
12	69551	GASKET, Accessory drive adapter	1
13	69106	COVER, Governor drive adapter	1
14	STD-35	WASHER, 5/16 plain	4
15	STD-475	WASHER, 5/16 lock, internal teeth	4
16	STD-1410	NUT, 5/16-18 plain	4

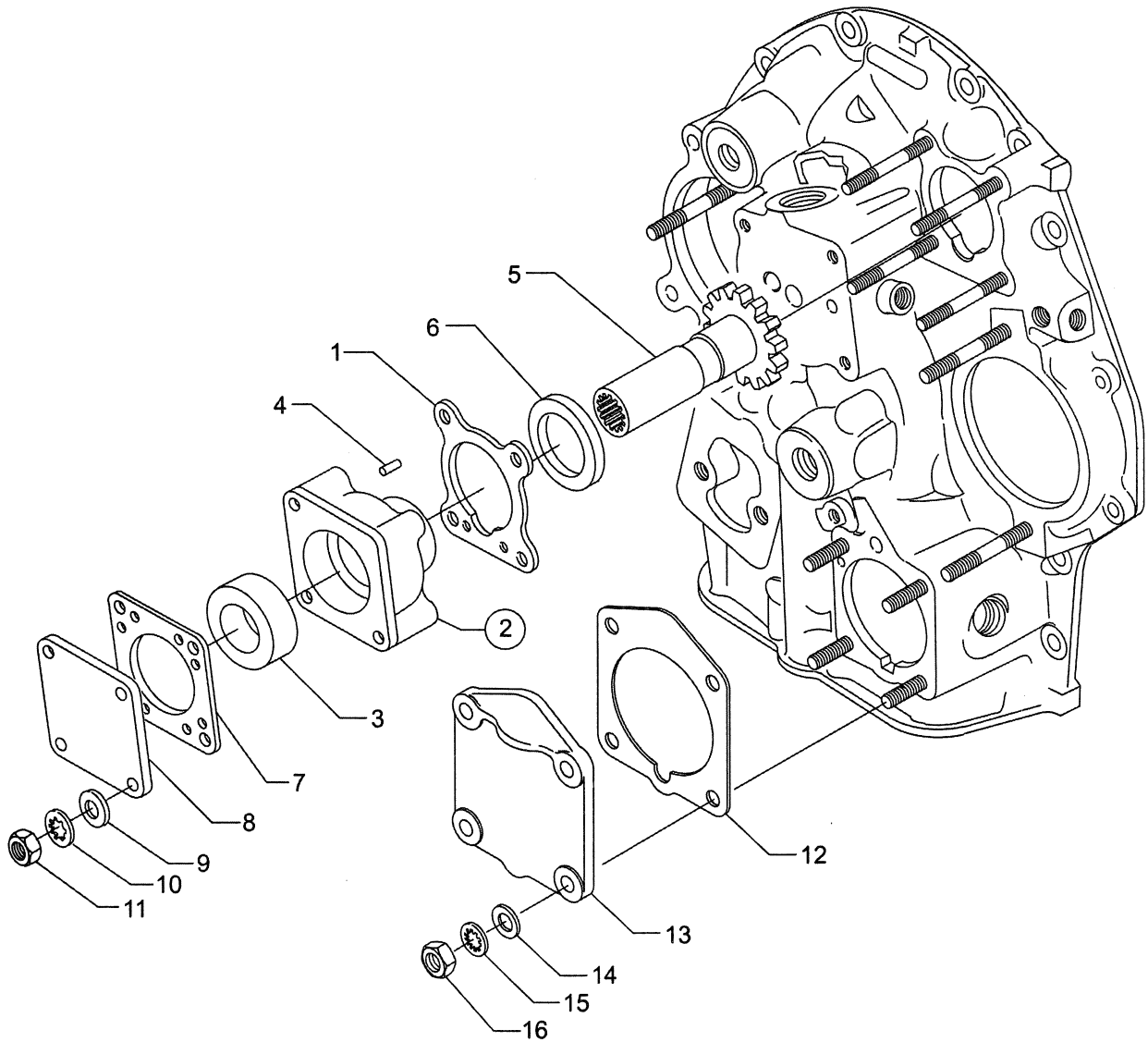


FIGURE 11. VACUUM PUMP DRIVES AND HYDRAULIC PUMP COVERS

ACCESSORY HOUSING AND RELATED PARTS
OIL FILTER ASSEMBLY, OIL COOLER BYPASS VALVE AND BREATHER FITTINGS

FIG. REF. 12	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	06B23862	GASKET, Oil filter adapter	1
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
11	06E19769-0.63	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular	1
12	62417	PLUG, Oil cooler bypass	1
13	MS20823-8	ELBOW, 1/2 flared tube, 3/8 NPT	2
14	72966	FITTING, Breather	1

* - See latest revision of Lycoming SSP-885 for oil filter kits and replacement filters.

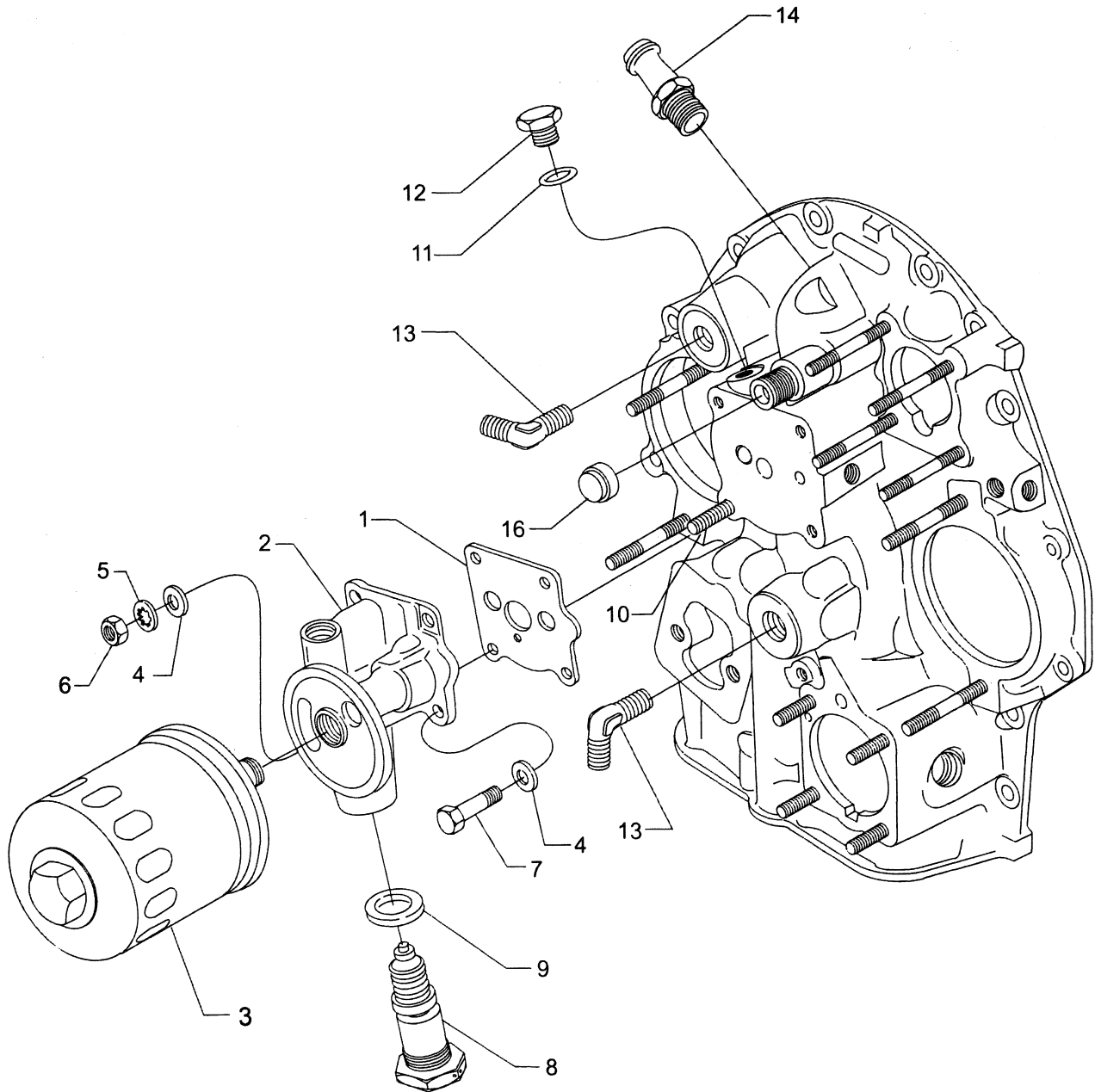


FIGURE 12. OIL FILTER ASSEMBLY, OIL COOLER BYPASS VALVE AND BREATHER FITTINGS

CYLINDER, PISTON AND VALVE TRAIN
CONNECTING RODS, PISTONS AND RING ASSEMBLIES

FIG. REF. 13	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-11750	CONNECTING ROD ASSEMBLY	6
2	LW-13923	BUSHING, Connecting rod, upper	6
3	14S23890*	BOLT, Connecting rod	12
	75061**	BOLT, Connecting rod	12
4	LW-12186	NUT, Connecting rod bolt	12
5	18M19389	BEARING, Connecting rod	12
6	75089	PISTON, Compression ratio, 8.50:1	6
7	LW-14078	PIN, Piston	12
8	72198	PLUG, Piston pin	12
9	74241	RING, Piston compression	12
10	14H21950	RING, Piston, oil regulating, expander type	6

* - Lycoming use only.

** - Service use only.

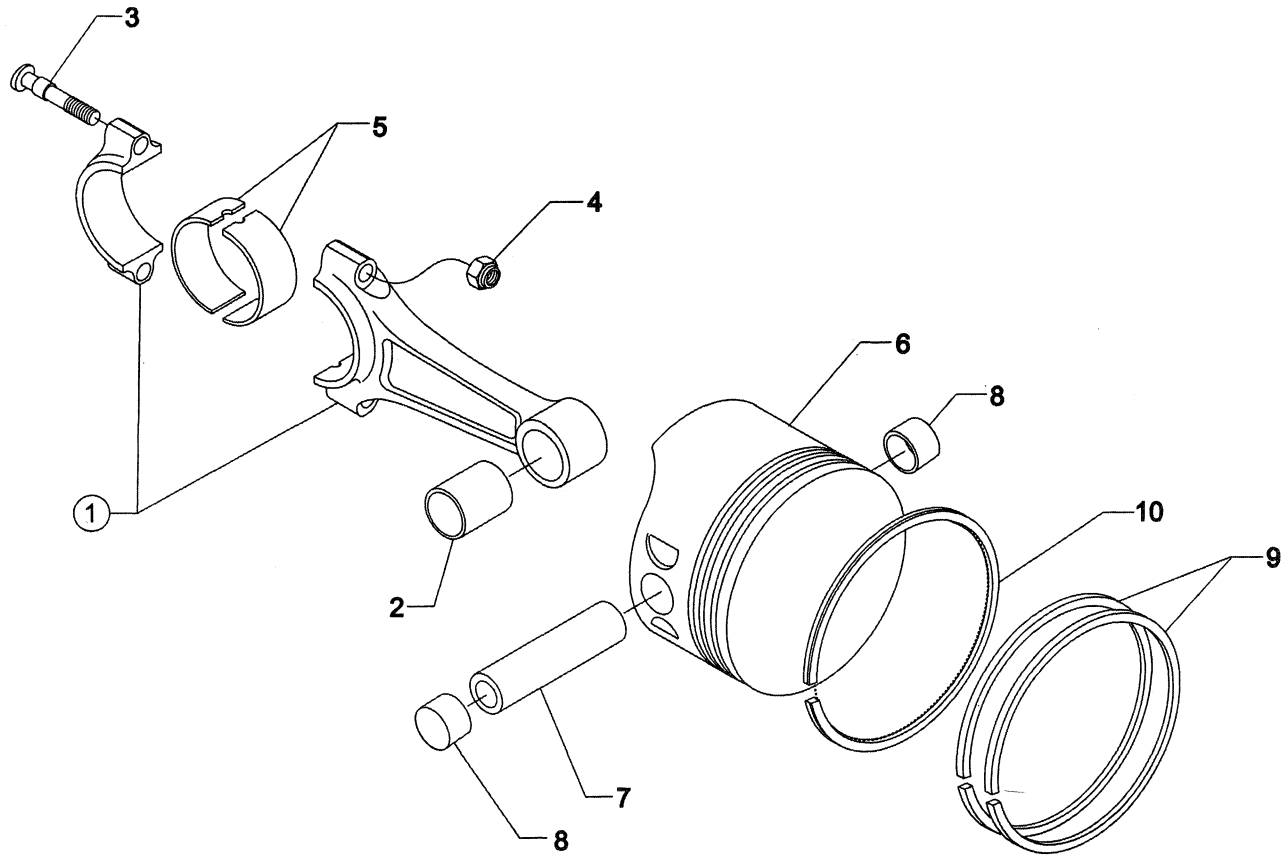


FIGURE 13. CONNECTING RODS, PISTONS AND RING ASSEMBLIES

CYLINDER, PISTON AND VALVE TRAIN
CYLINDER ASSEMBLY

FIG. REF. 14	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	16G23262-05	CYLINDER HEAD AND VALVE ASSEMBLY	6
2	LW-12427	CYLINDER ASSEMBLY	6
3	72057	SEAT, Intake valve	6
4	72058	SEAT, Exhaust valve	6
5	76943	GUIDE, Intake valve, flanged	6
6	16R22126	GUIDE, Exhaust valve, flanged	6
7	66796	INSERT, Spark plug, 18 – 1.5 MM	12
8	STD-1353	INSERT, No. 10-24 Heli-coil x 3/8 long	6
9	31C-12	STUD, 5/16-18 x 1-1/2 long	12
10	25C-8	STUD, 1/4-20 x 1.00 long	6
11	MS20823-6D	ELBOW, 45°, 3/8 flared tube	6
12	66610	BUSHING, Rocker shaft	24
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

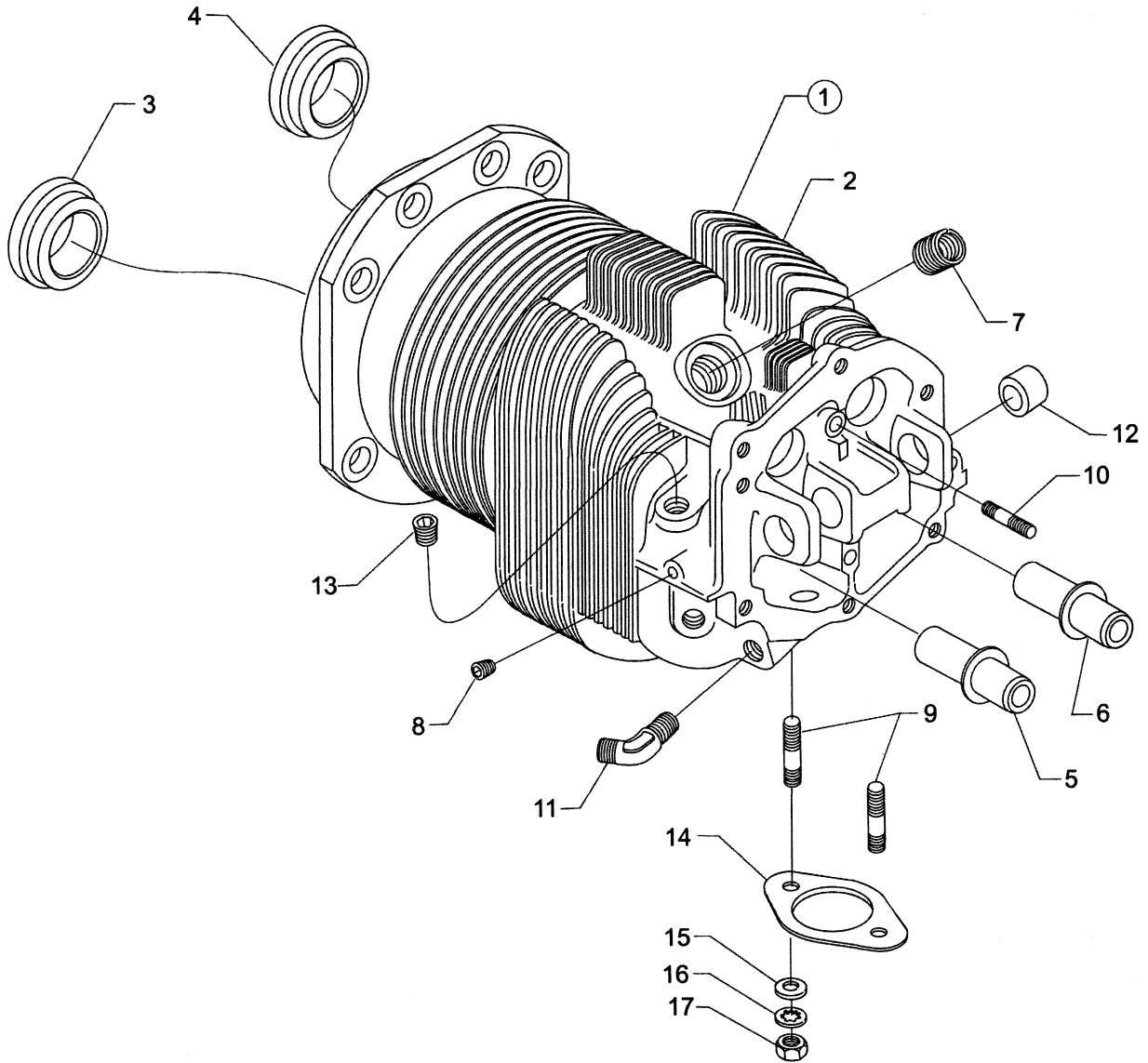


FIGURE 14. CYLINDER ASSEMBLY

CYLINDER, PISTON AND VALVE TRAIN
VALVE ASSEMBLY AND RELATED PARTS

FIG. REF. 15	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	17A23938	VALVE, Intake	6
2	17B23936	VALVE, Exhaust (rotator type)	6
3	LW-11795	SPRING, Valve, inner	12
4	LW-11800	SPRING, Valve, outer	12
5	LW-10077	SEAT, Valve spring, upper intake	6
6	65441	SEAT, Valve spring, lower intake	6
7	LW-13323	SEAT, Valve spring, lower exhaust	6
8	LW-16475	SEAT, Valve spring, upper exhaust (rotator type)	12
9	60009	KEY, Valve intake	12
10	17C21191	KEY, Valve, exhaust	12
11	17C19386	CAP, Valve stem, exhaust (rotator type)	6
12	15B26066	PLUNGER ASSEMBLY, Hydraulic tappet	12
13	15B21319	SOCKET, Hydraulic tappet	12
14	15G23461	SHROUD TUBE ASSEMBLY, Push rod	12
15	LW-14995	SPRING, Shroud tube	6
16	LW-12272	LOCKPLATE, Shroud tube	6
17	STD-1411	NUT, 1/4-20 plain	6
18	01L23459	WASHER, 3/4 I.D. x 1-3/8 O.D. x 1/32	12
19	06A23493	SEAL, Shroud tube	12
20	70310	SEAL, Shroud tube	12
21	15F19957-28	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-29	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-30	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-31	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-32	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-33	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-34	ROD ASSEMBLY, Push (A total of 12 required)	AR
22	17F19357*	ROCKER ASSEMBLY, Valve	12
23	74637	BUSHING, Valve rocker	12
24	LW-13790	SHAFT, Valve rocker	6
25	LW-12892	THRUST BUTTON, Rocker shaft	12

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

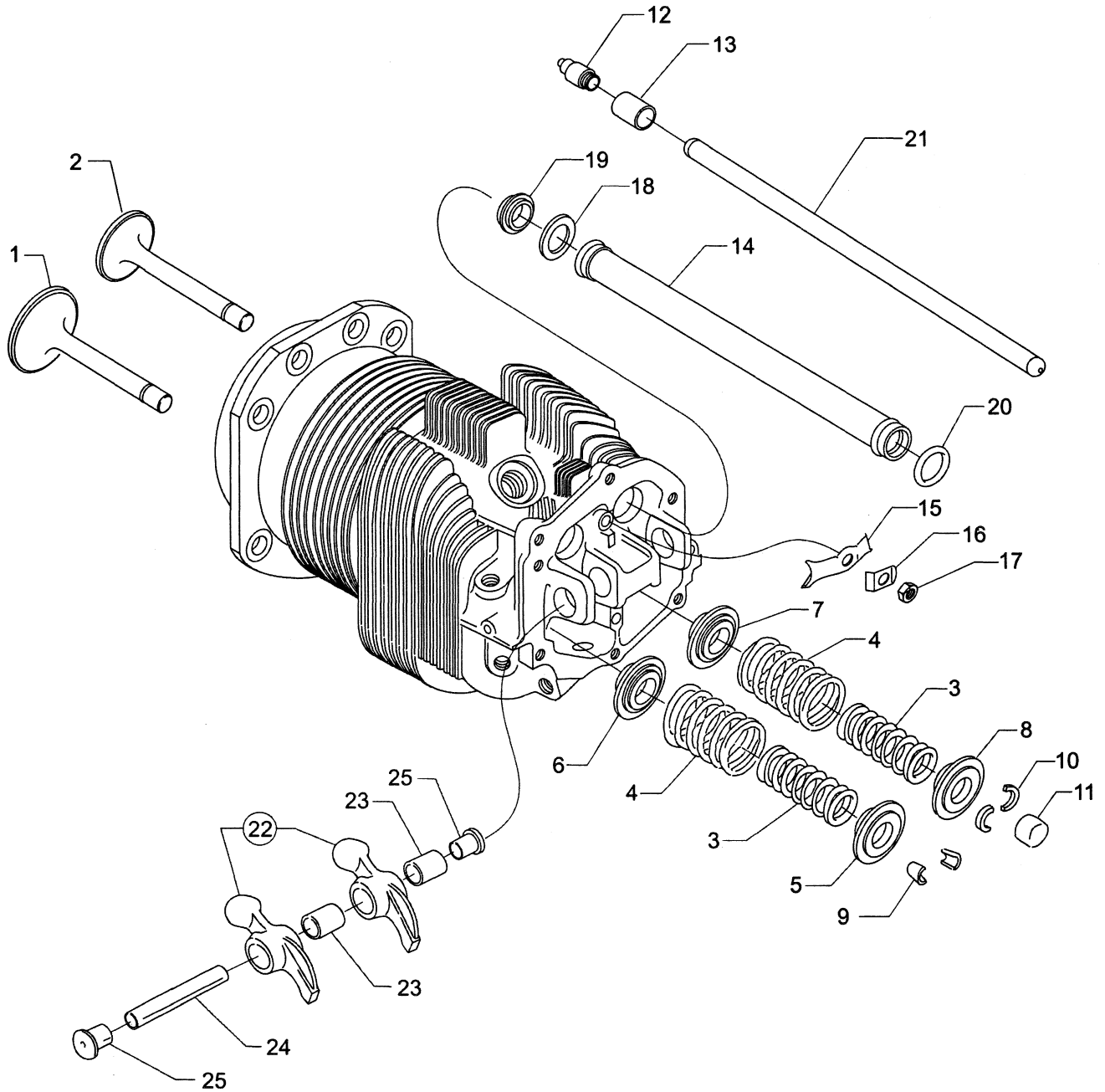


FIGURE 15. VALVE ASSEMBLY AND RELATED PARTS

CYLINDER, PISTON AND VALVE TRAIN
CYLINDER RELATED PARTS

FIG. REF. 16	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	75906	GASKET, Rocker box cover	6
2	61247	COVER, Rocker box	6
3	STD-1925	SCREW, 1/4-20 x 5/8 long, pan. head	36
4	71481	RING, Oil seal, 3/32 diameter section x 4-27/32 I.D.	6
5	77906	SPACER, 33/64 I.D. x 7/8 O.D. x 1/8 thick	2
6	74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
7	383-B	NUT, 3/8-24 plain	24
8	STD-2090	NUT, 1/2-20 plain	28
9	STD-684	NIPPLE, Straight, 3/8 I.D. hose	6
10	STD-1821	HOSE, 3/8 I.D. x 2-1/2 long	6
11	LW-15592-5-05	CLAMP, Hose	12
12	68759	TUBE ASSEMBLY, Cylinder head oil drain, cylinder no. 1	1
13	71737	TUBE ASSEMBLY, Cylinder head oil drain, cylinder no. 2	1
14	68761	TUBE ASSEMBLY, Cylinder head oil drain, cylinders no. 3, 4, 5, 6	4
15	75339	BAFFLE ASSEMBLY, Inter-cylinder	3
16	LW-13389	BAFFLE ASSEMBLY, Inter-cylinder	1
17	71611	RETAINER, Inter-cylinder baffle	4
18	71610	HOOK, Inter-cylinder baffle	4
19	MS35489-20X	GROMMET	1

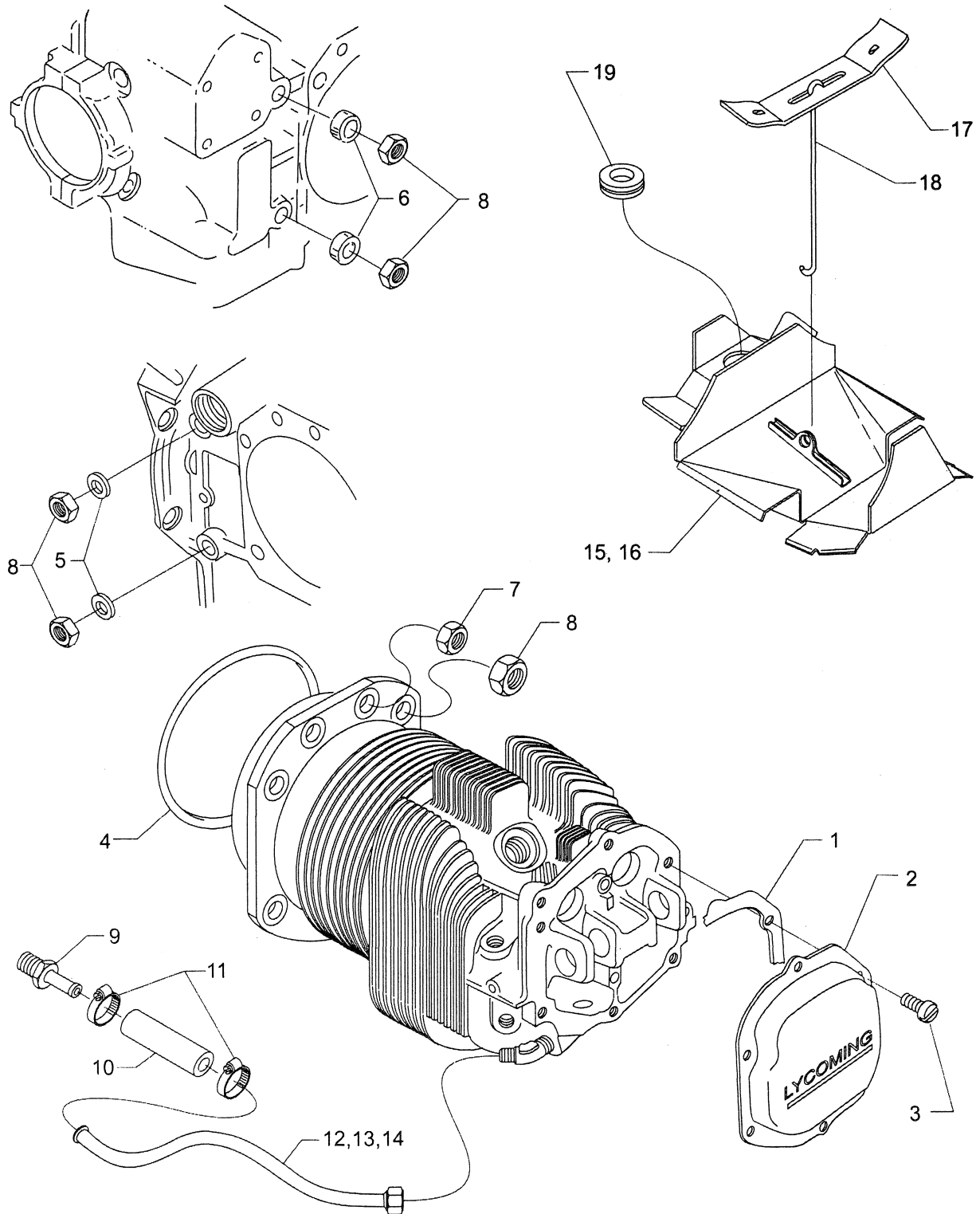


FIGURE 16. CYLINDER RELATED PARTS

IGNITION SYSTEM
MAGNETOS, MAGNETO DRIVES, HARNESSSES AND SPARK PLUGS

FIG. REF. 17	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	68H22624	CUSHION, Magneto drive	4
2	LW-19096	RETAINER GEAR ASSEMBLY	2
3	67542	BALL BEARING	2
4	62224	GASKET, Magneto adapter	2
5	LW-12707	ADAPTER, Magneto	2
6	LW-12681	GASKET, Magneto	2
7	66LC35SDNN	MAGNETO, Impulse, Slick Model No. 6351	2
	66LP-0SCNN*	MAGNETO, Plain, Slick Model No. 6350	1
	LW-349370-11*	MAGNETO, Impulse, Left, TCM Model No. S6LN-1227	1
	LW-349310-8*	MAGNETO, Plain, Right, TCM Model No. S6LN-1209	1
8	67J20648	HARNESS, Right, Slick Model No. M-6074	1
	67J20647	HARNESS, Left, Slick Model No. M-6073	1
9	66M21195	CLAMP, Magneto	4
10	STD-475	WASHER, 5/16 lock, internal teeth	4
11	STD-1410	NUT, 5/16-18 plain	4
12	STD-713	COTTER PIN, 3/32 dia. x 3/4 long	2
13	1182-F7	SPARK PLUG, Champion (RHM38E)	12
	1182-A5	SPARK PLUG, Unison (URHM38E)	12
**	01P19762-4-18	BAG, Magneto harness attaching	1

* - May be supplied as optional equipment.

** - See page 4-2 for a breakdown of individual parts contained in the magneto and harness attaching parts bag. These parts to be attached by customer per engine line drawing included in each bag.

P/N 01P19762-4-18		
LW-16266-25-25	CLIP-ONE WIRE	4
LW-14060	CLIP-TWO WIRE	4
STD-8	WASHER-.250 PLAIN	12
STD-160	WASHER-.250 LOCK INT. TEETH	10
STD-1874	SCREW-.250-20 X .81 LG. FILL	6
76734	ZIP STRAP	8
LW-16266-10-75	CLAMP	1
LW-16266-25-44	CLAMP-.44 ID X .250 DIA. SCREW	3
STD-1925	SCREW-.250-20 X .63 LG. PAN HD	4
72815	BRACKET-SUPPORT CLAMP-90 DEGREE	2
STD-692	SCREW-#10-32 X .50 LG. RD. HD	2
STD-425	WASHER-#10 PLAIN	4
STD-670	LOCKNUT-#10-32	2
LW-M-2376	PLATE-SPARK PLUG CABLE-3 WIRE	2

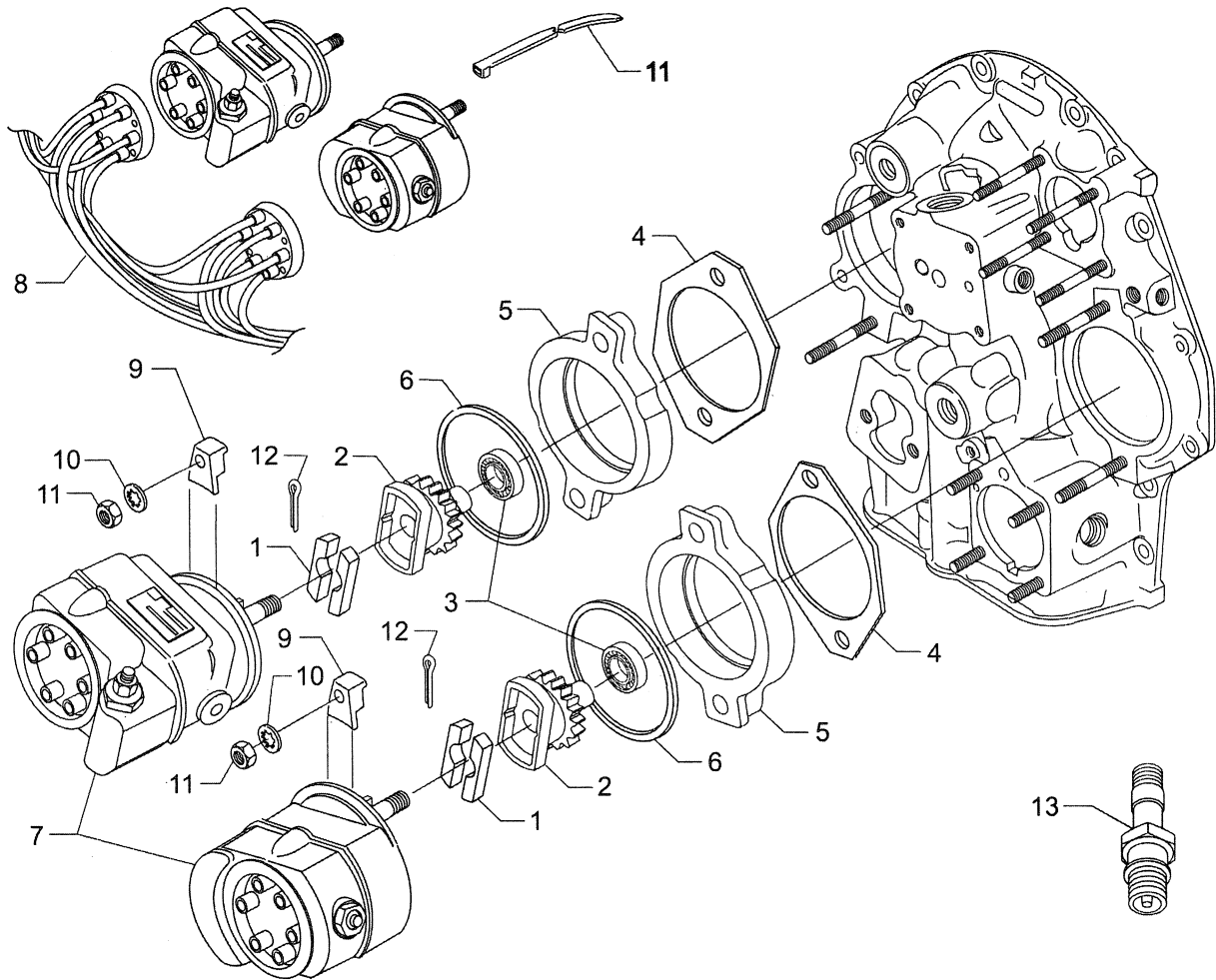


FIGURE 17. MAGNETOS, MAGNETO DRIVES, HARNESSES AND SPARK PLUGS

ELECTRICAL SYSTEM
STARTER AND ATTACHING PARTS

FIG. REF. 18	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	31B23592*	STARTER, 12/24 volt, 12/15 pitch pinion (Sky-Tec 149NL)	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

* - For optional starter see the latest revision of Service Instruction No. 1154.

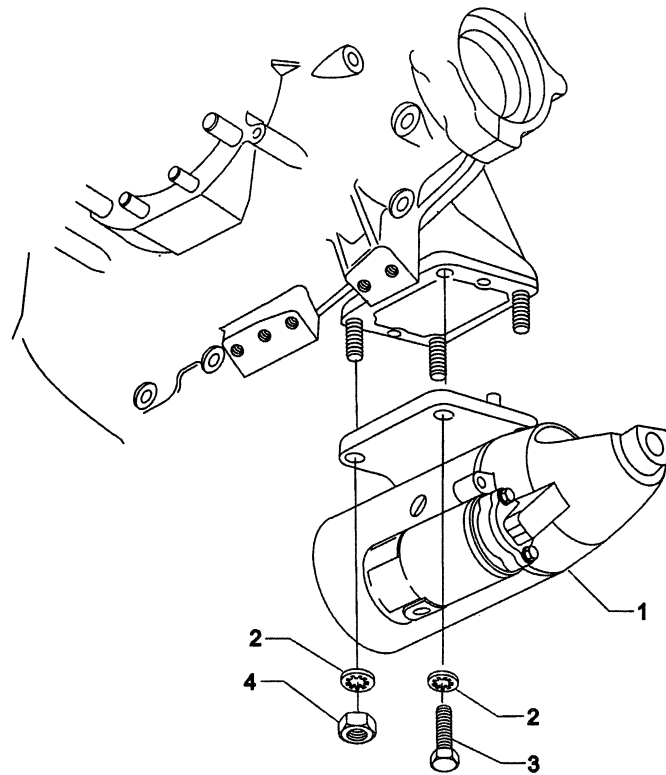


FIGURE 18. STARTER AND ATTACHING PARTS

ELECTRICAL SYSTEM
ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF. 19	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	07A21443	BRACKET, Alternator	1
2	73383	LOCKPLATE, 5/16 bolt x 1.00 long	1
3	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2
4	LW-10729	LINK, Alternator adjusting	1
5	STD-35	WASHER, 5/16 plain	1
6	LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, dr.	1
7	76908	STRUT, Alternator support	1
8	LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head, dr.	1

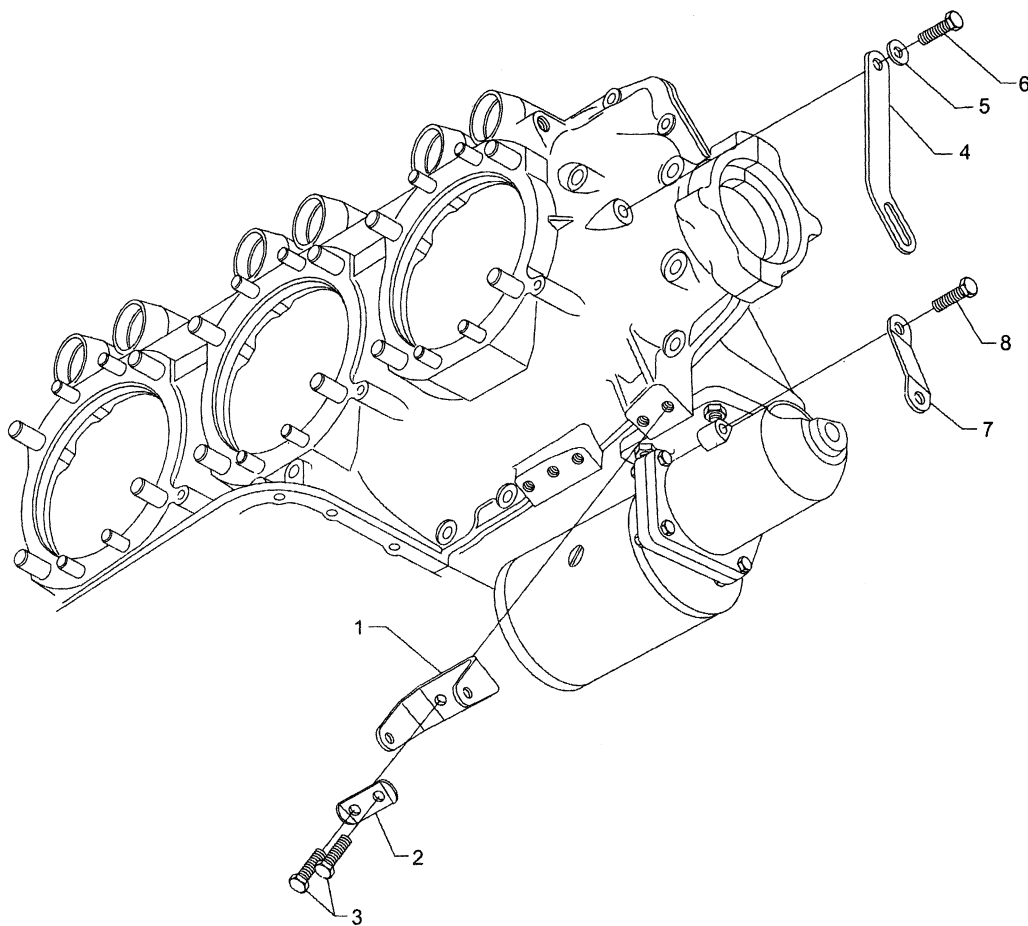


FIGURE 19. ALTERNATOR MOUNTING AND ATTACHING PARTS

OIL SUMP AND INDUCTION SYSTEM
OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN

FIG. REF. 20	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	06B21326	GASKET, Oil sump	1
2	56A23892	SUMP ASSEMBLY, Oil	1
3	STD-8	WASHER, 1/4 plain	44
4	STD-160	WASHER, 1/4 lock, internal teeth	27
5	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	17
6	LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	5
7	STD-1411	NUT, 1/4-20 plain	21
8	STD-551	PLUG, 1/2-14 NPT, square head, drilled	2
9	70484	SCREEN, Oil suction	1
10	06E19769-1.00	GASKET, 1.00 I.D. x 1-1.4 O.D. x 3/32 annular	1
11	LW-12545	PLUG, 5/8 hex. head x 100-20 thread	1
12	STD-2153	BOLT, 1/4-20 x 1-9/16 long	1

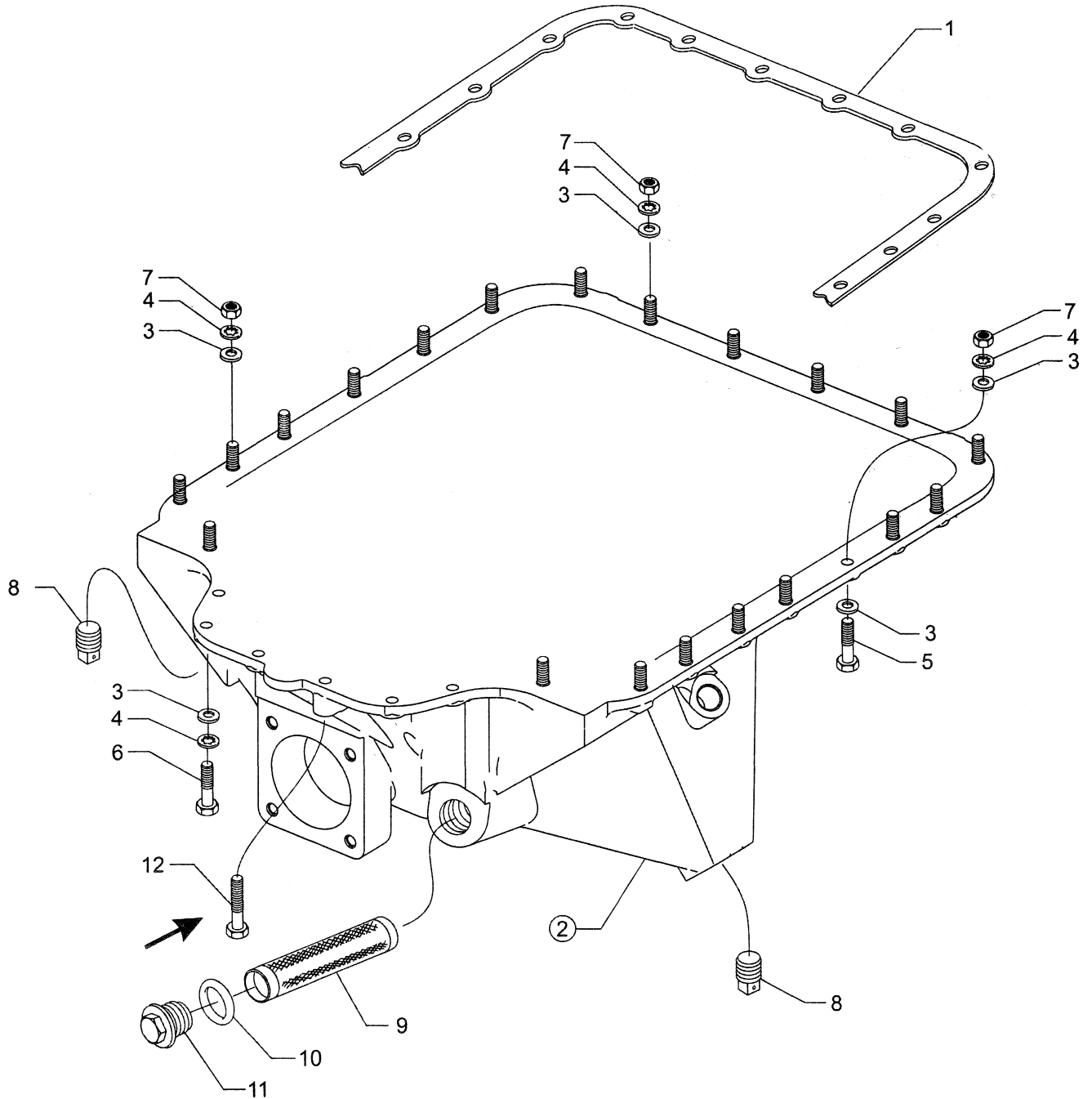


FIGURE 20. OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN

OIL SUMP AND INDUCTION SYSTEM
INTAKE PIPES AND ATTACHING PARTS

FIG. REF. 21	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-14931	PIPE, Intake, cylinder no. 1	1
2	LW-14932	PIPE, Intake, cylinder no. 2	1
3	LW-14933	PIPE, Intake, cylinder no. 3	1
4	LW-14934	PIPE, Intake, cylinder no. 4	1
5	LW-14935	PIPE, Intake, cylinder no. 5	1
6	LW-16477	PIPE, Intake, cylinder no. 6	1
7	69603	HOSE, 1-3/4 I.D. x 2-3/16 O.D. x 1-3/4 long	6
8	LW-15592-8-28	CLAMP, Hose	12
9	71973	GASKET, 2 bolt flange, 1-3/4 I.D.	6
10	73346	FLANGE, Intake pipe, upper	6
11	STD-8	WASHER, 1/4 plain	12
12	STD-160	WASHER, 1/4 lock, internal teeth	12
13	LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	12

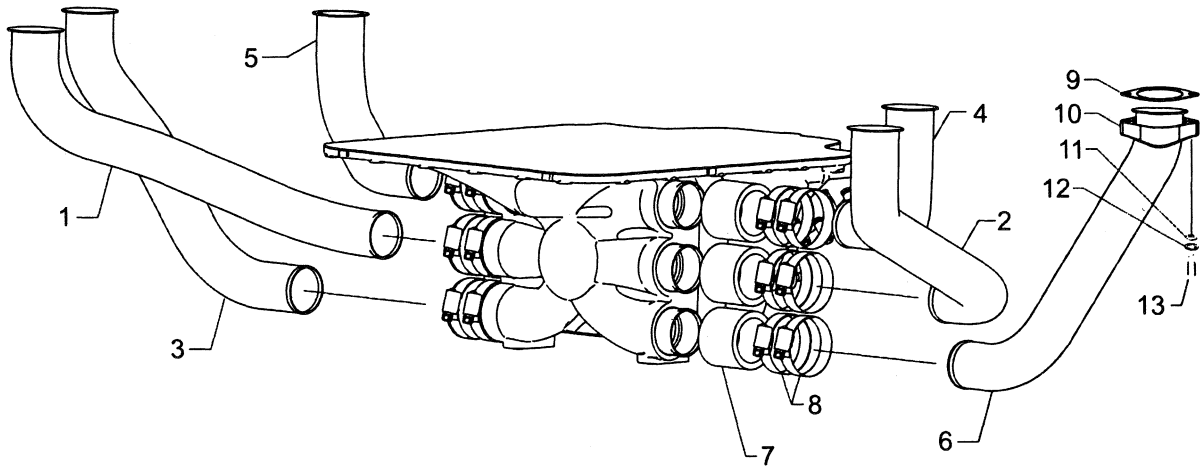


FIGURE 21. INTAKE PIPES AND ATTACHING PARTS

OIL SUMP AND INDUCTION SYSTEM
FUEL INJECTOR, FUEL MANIFOLD, INJECTION LINES AND NOZZLES

FIG. REF. 22	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	66224*	GASKET, Fuel injector	1
2	61J23428	FUEL INJECTOR (2576544-3)	1
	61J26065*	FUEL INJECTOR (2576644-1))	1
3	STD-35*	WASHER, 5/16 plain	4
4	STD-475*	WASHER, 5/16 lock, internal teeth	4
5	STD-1410*	NUT, 5/16-18 plain	4
6	LW-18265	NOZZLE, Injection (2524864)	6
7	63B23497	MANIFOLD ASSEMBLY, Fuel	1
8	MS20823-4	ELBOW, 1/8 NPT to 1/4 flared tube	1
9	02G21382	NIPPLE, Nozzle pressure gauge	1
10	STD-148	NIPPLE, Union, 1/8 NPT	6
11	73966	SPACER, Fuel manifold bracket	2
12	07A23031	BRACKET, Fuel manifold	2
13	STD-251	WASHER, No. 10 internal lock	4
14	STD-82	SCREW, No. 10-24 x 1/2 long, fill. head	4
15	LW-12098-0-210	TUBE ASSEMBLY, Fuel manifold to nozzle, cylinders no. 1, 2, 5, 6	4
16	LW-12098-0-170	TUBE ASSEMBLY, Fuel manifold to nozzle, cylinders no. 3, 4	2
17	LW-16266-10-75	CLAMP	12
18	LW-16266-10-13	CLAMP	12
19	STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	14
20	STD-425	WASHER, No. 10 plain	2
21	STD-670	NUT, No. 10-32 self-locking	14
22	73136	BRACKET, 90°	2
23	LW-12798-4S334	HOSE ASSEMBLY, 1/4 hose, straight	1
24	AN815-4	UNION, 1/4 flared	1
25	LW-12876-4S066	HOSE ASSEMBLY, 1/4 hose, 90°	1

* - Ship loose.

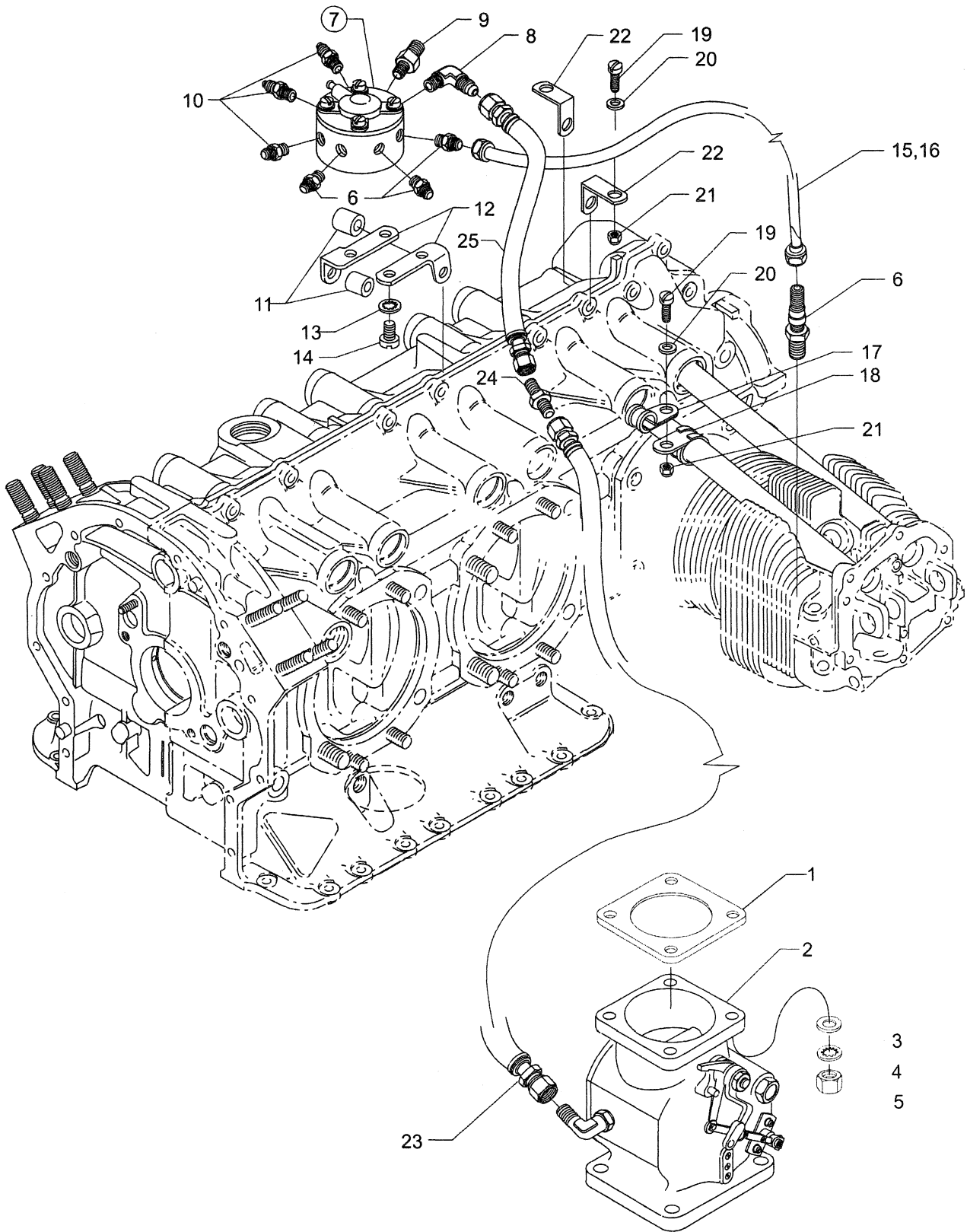


FIGURE 22. FUEL INJECTOR, FUEL MANIFOLD, INJECTION LINES AND NOZZLES

SECTION 7 – SERVICE KIT SECTION**SEAL AND GASKET SET**

PART NO.	PART NAME	QTY.
71569-1	KIT - SEAL AND GASKET SET	1
LW-12272	LOCKPLATE, Shroud tube	6
LW-12681	GASKET, Magneto	2
06B23862	GASKET, Oil filter adapter	1
06B21326	GASKET, Oil sump	1
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Tachometer drive	1
LW-14995	SPRING, Shroud tube	6
LW-15628	SEAL, Crankshaft oil	1
LW-18638	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	12
77611	GASKET, Exhaust flange	6
STD-2231	RING, Internal retaining	1
STD-213	SEAL, Oil	1
06A19956	SEAL, Oil	2
06E19769-0.63	GASKET	2
06E19769-1.00	GASKET	1
06E19769-1.25	GASKET	1
1691-C	GASKET, Fuel pump	1
60096	GASKET, Fuel pump	1
61173	GASKET, Oil pressure housing	1
61183	GASKET, Accessory adapter	1
62224	GASKET, Magneto adapter	4
66224	GASKET, Fuel injector	1
68315	GASKET, Accessory drive	1
69164	GASKET, Fuel pump adapter	1
69345	SPACER	6
69551	GASKET, Accessory drive	1
70310	SEAL, Shroud tube	12
70455	GASKET	1
70457	GASKET, Oil filler extension	1
71481	RING, Oil seal	6
71667	LOCKPLATE	1
71973	GASKET	6
72053	GASKET, Governor	1
72059	GASKET, Oil level gage	1
72075	SEAL, Oil	8
72078	LOCKPLATE	2
72091	RING, Oil seal	2
72210	GASKET, Air throttle housing	1
72312	RING, Oil seal	1
73383	LOCKPLATE	2
73818	GASKET, Accessory housing	1
74065	RING, Oil level gage seal	1
74068	RING, Oil level gage plug	1
74305	SEAL	1
75906	GASKET, Rocker box cover	6
76510	GASKET, Oil cooler bypass	1
76940	SEAL, Crankshaft oil	1
8313	GASKET, Vacuum pump	2
06A23493	SEAL, Shroud tube	12

SECTION 7 NUMERICAL INDEX (CONT.)

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
STD-35	Washer	2-3	STD-1411	Nut	6-1
STD-35	Washer	2-7	STD-1420	Nut	2-3
STD-35	Washer	3-3	STD-1733	Ring	1-3
STD-35	Washer	5-2	STD-1774	Pin	2-7
STD-35	Washer	6-5	STD-1821	Hose	3-7
STD-82	Screw	6-5	STD-1874	Screw	1-3
STD-148	Nipple	6-5	STD-1882	Screw	2-5
STD-160	Washer	1-3	STD-1925	Screw	3-7
STD-160	Washer	1-13	STD-2090	Nut	3-7
STD-160	Washer	2-3	STD-2168	Nut	1-11
STD-160	Washer	2-7	STD-2231	Ring	1-7
STD-160	Washer	2-9	STD-2247	Bolt	1-7
STD-160	Washer	6-1	STD-2249	Nut	1-13
STD-160	Washer	6-3	25C-8	Stud	3-3
STD-251	Washer	6-5	25C-10	Stud	2-9
STD-425	Washer	6-5	25C-21	Stud	2-1
STD-475	Washer	1-9	31C-12	Stud	1-1
STD-475	Washer	1-13	31C-12	Stud	2-1
STD-475	Washer	2-7	31C-12	Stud	3-3
STD-475	Washer	3-3	31C-13	Stud	1-1
STD-475	Washer	4-1	31C-17	Stud	1-1
STD-475	Washer	5-1	31C-21	Stud	2-1
STD-475	Washer	6-5	31CD-17	Stud	2-1
STD-514	Dowel	1-1	38-13	Stud	1-1
STD-551	Plug	6-1	38-16	Stud	1-1
STD-557	Dowel	1-1	38-22	Stud	1-1
STD-596	Nut	1-13	38D-17	Stud	1-1
STD-670	Locknut	6-5	50-15	Stud	1-1
STD-678	Washer	1-13	383-B	Nut	3-7
STD-684	Nipple	3-7	1028-B	Ball	1-5
STD-713	Cotter Pin	4-1	1102	Plug	1-1
STD-784	Plug	2-1	1102	Plug	2-1
STD-798	Dowel	1-9	1102	Plug	3-3
STD-860	Screw	6-5	1182-A5	Spark Plug	4-1
STD-872	Nut	1-13	1182-F7	Spark Plug	4-1
STD-1065	Dowel	1-7	8313	Gasket	2-7
STD-1211	Plug	1-7	60009	Key	3-5
STD-1339	Plug	1-1	60096	Gasket	2-5
STD-1353	Insert	3-3	60430	Cover	2-7
STD-1410	Nut	1-9	60803	Strap	1-13
STD-1410	Nut	2-7	61084	Spring	1-5
STD-1410	Nut	3-3	61183	Gasket	2-7
STD-1410	Nut	4-1	61247	Cover	3-7
STD-1410	Nut	5-1	61544	Plunger	1-11
STD-1410	Nut	6-5	62224	Gasket	4-1
STD-1411	Nut	1-3	62417	Plug	2-9
STD-1411	Nut	1-13	65441	Seat	3-5
STD-1411	Nut	2-7	66224	Gasket	6-5
STD-1411	Nut	2-9	66610	Bushing	3-3
STD-1411	Nut	3-5	66796	Insert	3-3

SECTION 7 NUMERICAL INDEX (CONT.)

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
67530	Bushing	1-11	74637	Bushing	3-5
67542	Ball Bearing	4-1	74641	Shaft	2-3
68668	Spring	1-5	74887	Spacer	3-7
68759	Tube Assy.	3-7	75061	Bolt	3-1
68761	Tube Assy.	3-7	75089	Piston	3-1
69106	Cover	2-7	75339	Baffle Assy.	3-7
69551	Gasket	2-7	75414	Bracket	1-3
69603	Hose	6-3	75656-S	Bushing	1-7
69796	Dowel	1-1	75657-S	Bushing	1-7
70310	Seal	3-5	75737	Extension	1-3
70455	Gasket	1-9	75906	Gasket	3-7
70457	Gasket	1-3	76118	Spacer	1-7
70484	Screen	6-1	76155	Shaft Assy.	1-7
71481	Ring	3-7	76220	Stud	1-13
71596	Washer	2-7	76510	Gasket	2-9
71610	Hook	3-7	76908	Strut	5-2
71611	Retainer	3-7	76943	Guide	3-3
71640	Plug	1-7	77467	Spring	1-5
71652	Gear Assy.	1-11	77611	Gasket	3-3
71668	Gear Assy.	1-11	77808	Valve Assy.	1-5
71737	Tube Assy.	3-7	77852	Oil Filter Base Assy.	2-9
71903-A	Bushing	1-7	77872	Bushing	1-9
71907	Washer	1-7	77906	Spacer	3-7
71973	Gasket	6-3	78530	Shaft	2-3
72053	Gasket	1-9	78531	Body Assy.	2-3
72057	Seat, Intake	3-3	01A23354	Stud	1-1
72058	Seat, Exhaust	3-3	01P19762-4-18	Bag, Attaching	4-1
72091	Ring	1-5	01L21418	Washer	1-9
72155-S	Bushing	1-7	01L23459	Washer	3-5
72158	Bushing	1-1	02G21382	Nipple	6-5
72198	Plug	3-1	06A19956	Oil Seal	2-7
72377	Elbow	2-5	06A23493	Seal	3-5
72378	Cover	1-9	06B21326	Gasket	6-1
72566	Gear	1-7	06B23862	Gasket	2-9
72797	Roller	1-7	06E19769-0.63	Gasket	1-3
72965	Roller	1-7	06E19769-0.63	Gasket	2-9
72966	Fitting	2-9	06E19769-1.00	Gasket	6-1
72974	Gear Assy.	2-7	06E19769-1.25	Gasket	1-5
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