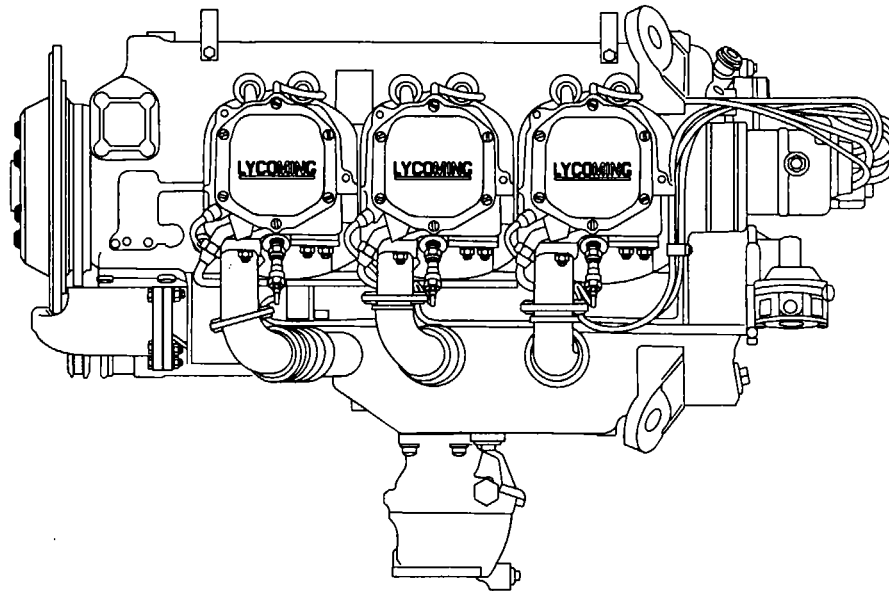


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Engine Parts Catalog

0-540-H2A5

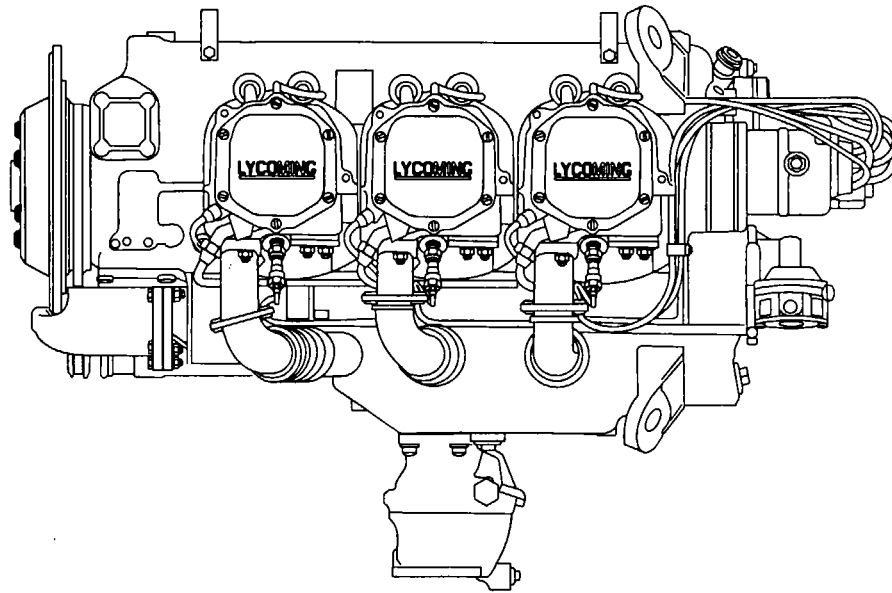
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November 2005

Part No. PC-515-4

652 Oliver Street
Williamsport, PA 17701

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Engine Parts Catalog

0-540-H2A5

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November 2005

Part No. PC-515-4

652 Oliver Street
Williamsport, PA 17701

This illustrated parts catalog contains a complete parts listing for the O-540-H2A5 wide cylinder flange crankcase model aircraft Lycoming 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.

A Service Kits section and 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 edition of Service Letter No. L114.

NOTE

The illustrations, pictures and drawings shown in the publication are typical of the subject matter they portray.

This catalog, when used in conjunction with the appropriate overhaul manual, shall be used for parts identification only. **Under no circumstances shall this catalog be used as an assembly or installation document.**

Any reference in this document to a 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 or quality control and/or airworthiness of parts which do not pass through the Lycoming quality control system.

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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 edition of Service Letter Number L114 or 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 Undersize Parts Listing

PART NO.	DESCRIPTION	OVERSIZE								UNDERSIZE		
		P02 .002	P05 .005	P10 .010	P15 .015	P20 .020	P30 .030	P40 .040	P50 .050	M03 .003	M06 .006	M10 .010
61681	GUIDE		X	X		X	X	X				
66610	BUSHING		X	X								
66796	INSERT		X	X								
69796	DOWEL		X									
72057	SEAT		X	X		X	X					
72058	SEAT		X	X		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						
LW-11997	SEAL								X			
18M19389	BEARING									X	X	X
LW-13792	SEAL								X			
STD-1065	DOWEL	X	X	X	X							
16R22291	GUIDE		X	X		X	X	X				
LW-14830	BEARING			X						X	X	X
18E22677	BEARING									X		
18A19399	BEARING									X	X	

In addition to the above, studs are available in P03, P07 & P12.

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 LW-16143 in .003 undersize, order part number LW-16143-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	QTY. PER ASSY.
1	11F24020-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	38D-17	STUD -3\8-16 X 2-1\8 Long drilled	1
8	38-16	STUD -3\8-16 X 2.00 Long	8
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	1
15	1102	PLUG-1\8 Pipe	4
16	31C-14	STUD-5\16-18 X 1-3\4 Long	4
17	73772	NOZZLE Assembly-Piston Cooling	6

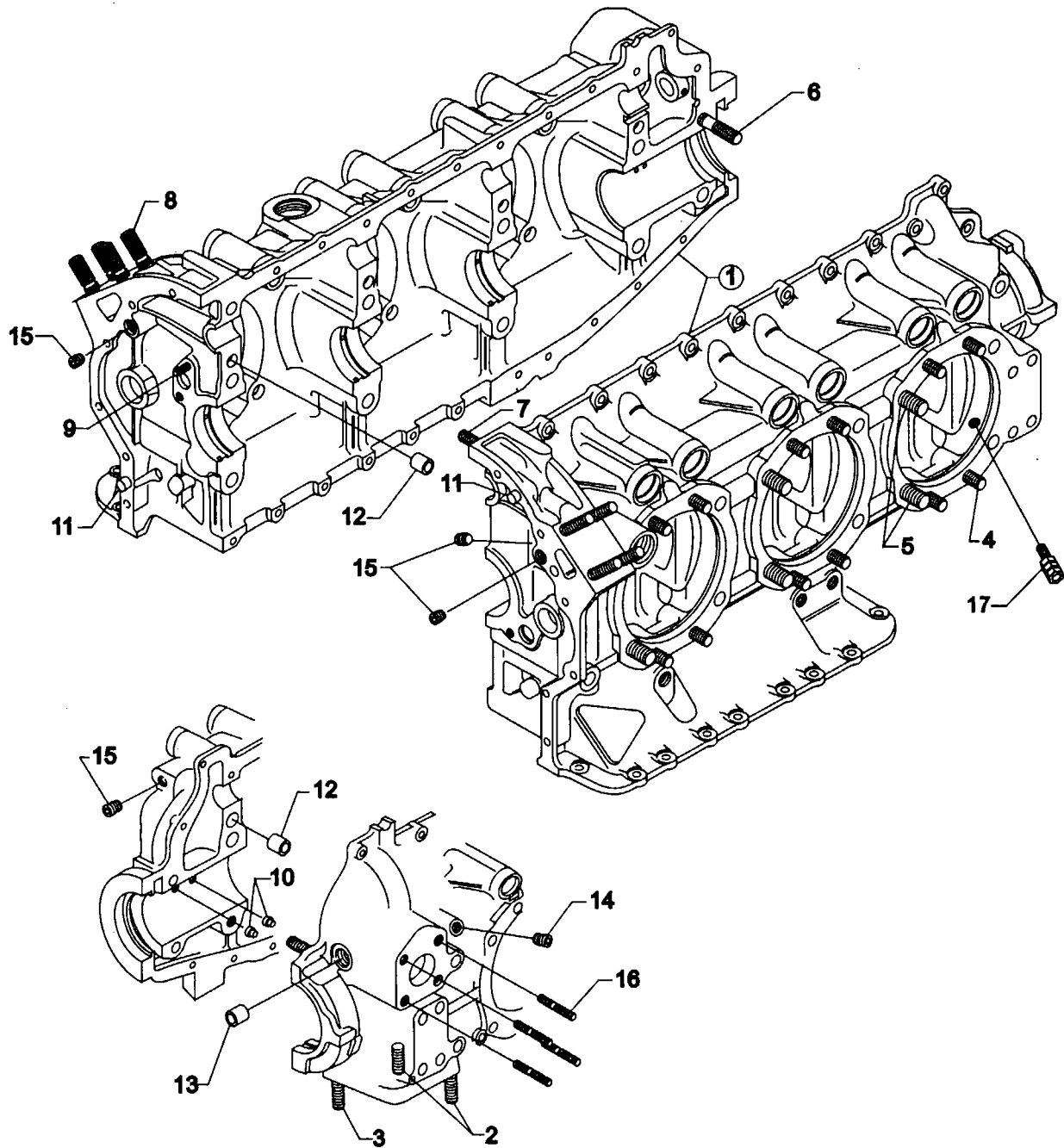


Figure 1. Crankcase Assembly

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
OIL LEVEL GAGE ASSEMBLY AND ENGINE MOUNTING BRACKETS

FIG. REF. 2	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	70457	GASKET-Oil Filler Extension	1
2	75737	EXTENSION-Oil Filler	1
3	74068	RING-Oil Level Gage	1
4	LW-14756	GAGE Assembly-Oil Level	1
5	LW-15484-10	PLUG-Shipping	1
6	70456	BRACKET-Engine MTG-Dynafocal	4
7	STD-33	WASHER-3/8 Plain	16
8	STD-678	WASHER-3/8 Lock Internal Teeth	16
9	STD-596	NUT-3/8-24 Plain	16

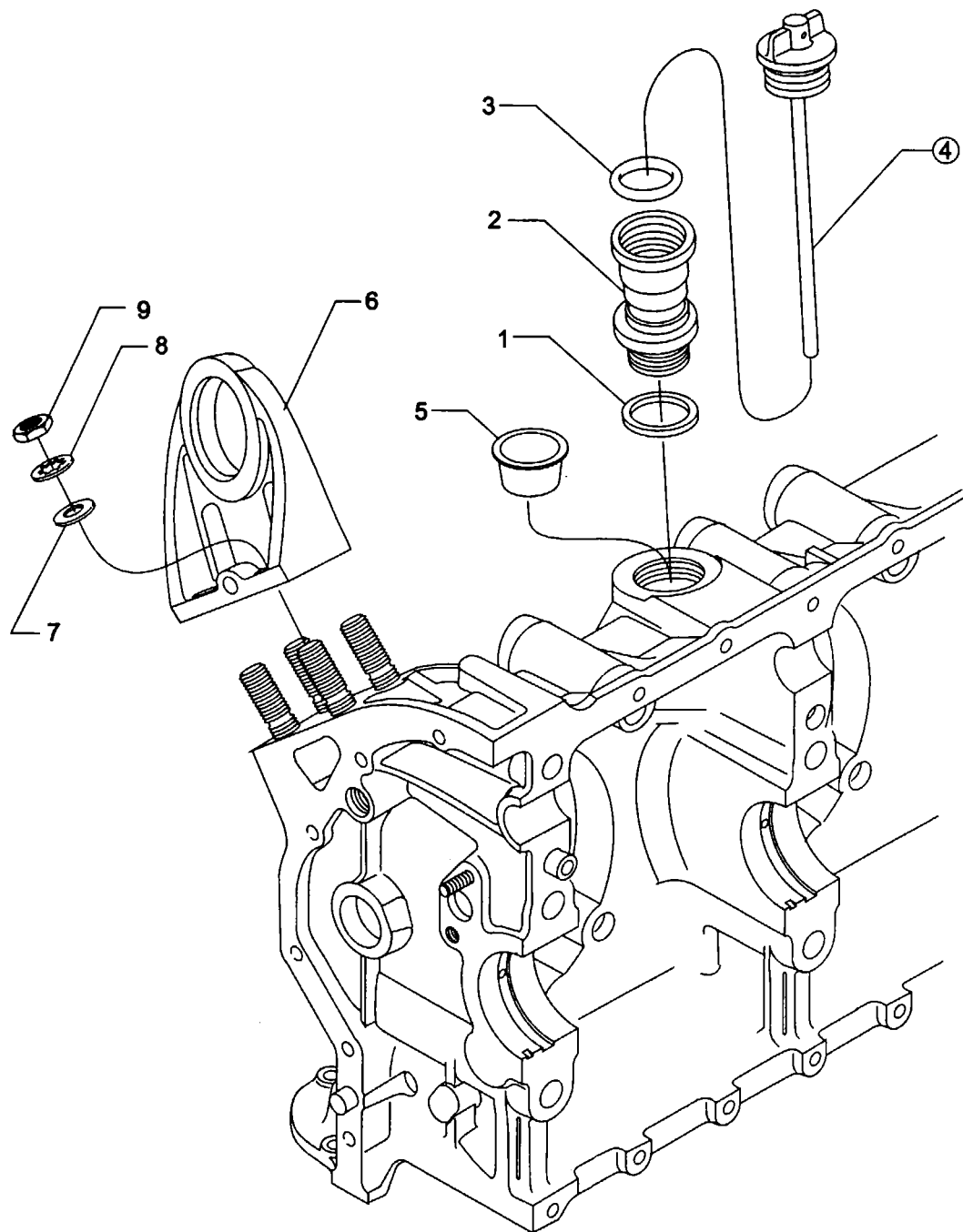


Figure 2. Oil Level Gage Assembly and Engine Mounting Brackets

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP**CRANKSHAFT BEARINGS, SEAL, TAPPETS AND OIL PRESSURE RELIEF VALVE**

FIG. REF. 3	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	1028-B	BALL-11\16 Diameter	1
2	61084*	SPRING-Oil Press. Relief Valve	1
	68668*	SPRING-Oil Press. Relief Valve	1
	77467*	SPRING-Oil Press. Relief Valve	1
	LW-11713*	SPRING-Oil Press. Relief Valve	1
	LW-18085*	SPRING-Oil Press. Relief Valve	1
3	06E19769-1.25	GASKET-Annular-1-1/4 I.D.	1
4	77808	VALVE Assembly-Oil Pressure Relief	1
5	LW-14830	BEARING-Crankshaft	6
6	18A19399	BEARING-Crankshaft-Front	2
7	LW-15628**	SEAL-Crankshaft-Oil	1
8	72091	RING-Oil Seal-23\64 I.D. X.10 Diameter	2
9	72877	BODY-Hydraulic Tappet	12
10	78589	PLUG-Prop Gov Idler Shaft	1
11	03C21721	PLUG-Prop Gov Drive Gear	1
12	70455	GASKET-25\32 ID X 1-1/8 O.D. X 1/32	1
13	LW-13896	PLUG-3/4-16 Hex Head	1
14	72053	GASKET-Governor	1
15	72378	COVER-Governor Drive	1
16	STD-35	WASHER-5\16 Plain	4
17	STD-475	WASHER-5\16 Lock-Internal Teeth	4
18	STD-1410	NUT-5\16-18 Plain	4

* 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.

** For installation of alternate crankshaft seal replacement see latest edition of Lycoming Service Instruction No. 1324.

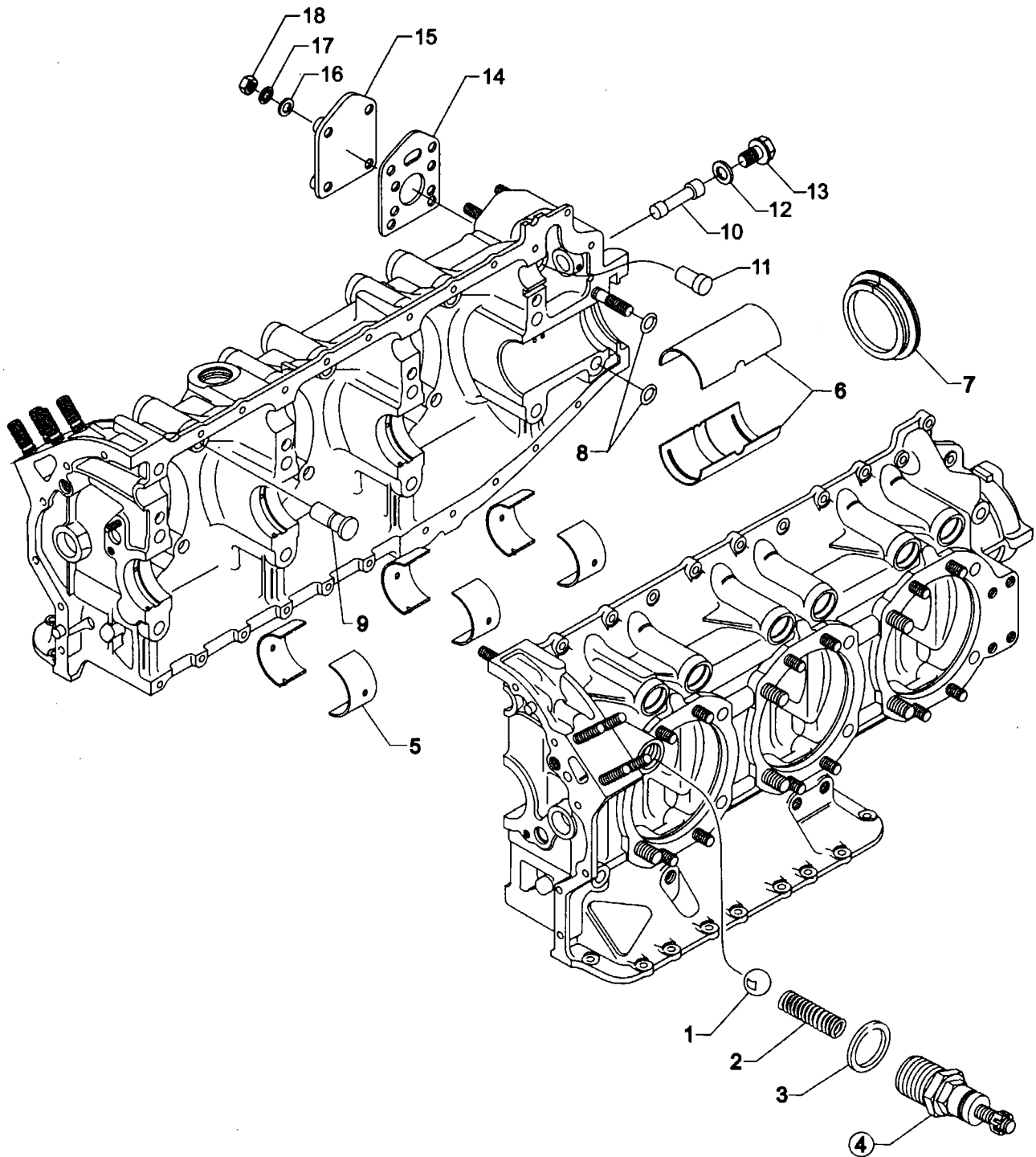


Figure 3. Crankshaft Bearings, Seal, Tappets and Oil Pressure Relief Valve

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKSHAFT ASSEMBLY AND RELATED PARTS

FIG. REF. 4	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	13F47729**	CRANKSHAFT Assembly	1
2	73810	BUSHING Crankshaft Cwt	4
3	60945	PLUG-1-1/4 Diameter	1
4	75656-S	BUSHING-Prop Flange-Long	4
5	72155-S	BUSHING-Prop Flange.7505-.7510	1
6	75657-S	BUSHING-Prop Flange.7818-.7823	1
7	STD-1065	DOWEL-Stepped-.310-.251 Diameter	1
8	14U22539	COUNTERWEIGHT Assembly	2
9	71903-A	BUSHING-Dynamic Counterweight	8
10	72022	ROLLER-Dynamic Counterweight	2
11	70416	ROLLER-Dynamic Counterweight	2
12	71907	WASHER- Dynamic Counterweight	8
13	LW-14820	RING-Internal Retaining	8
14	STD-1211	PLUG-2.00 Diameter	1
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	LW-16064	SUPPORT Assembly -Starter Ring Gear	1
19	72566	GEAR-Starter Ring-12/14 Pitch	1

* See latest edition of Lycoming Service Instruction No. 1324 for installation.

** See 05K47779 Kit –Crankshaft & Counterweight

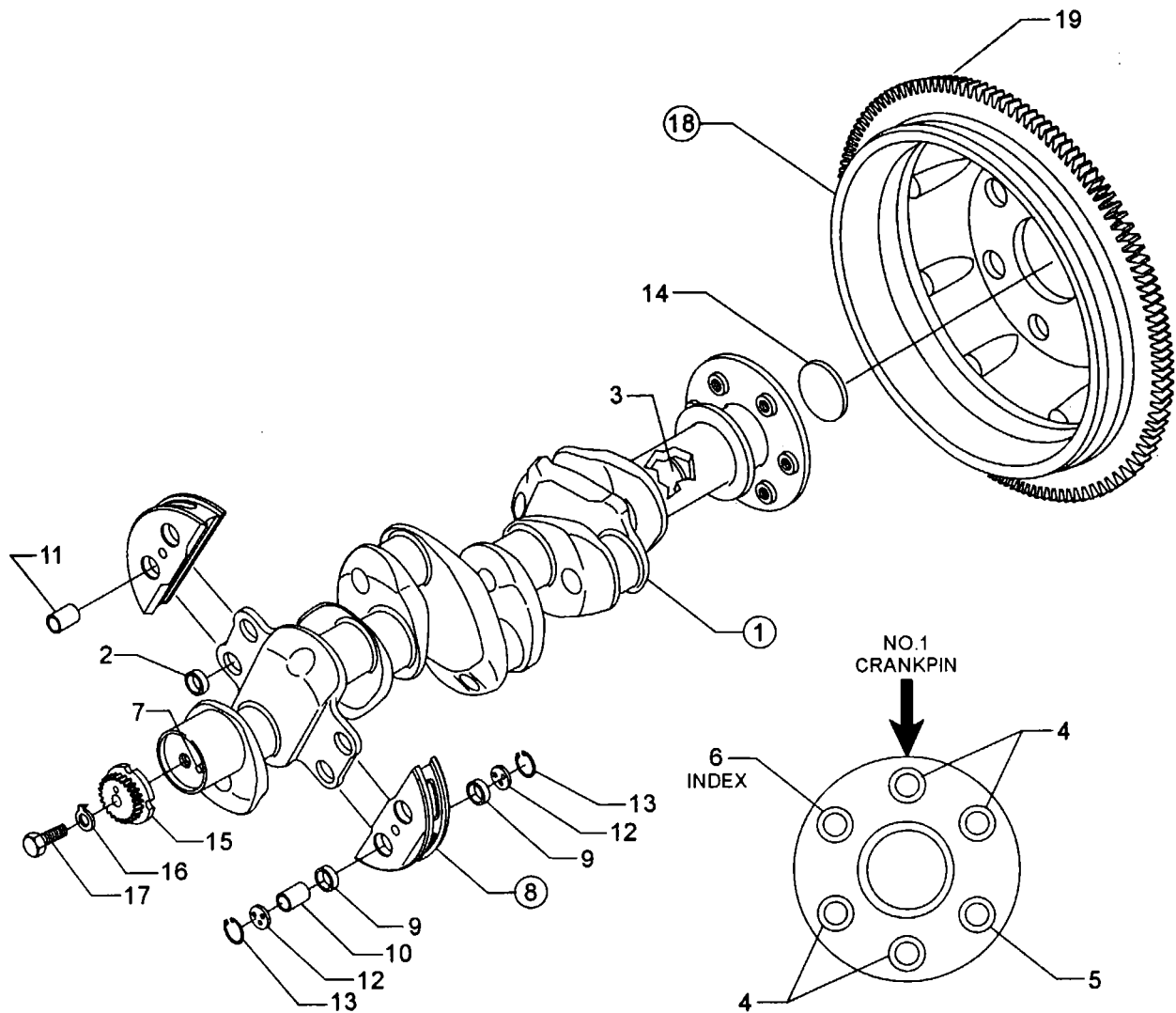


Figure 4. Crankshaft Assembly and Related Parts

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKSHAFT IDLER GEARS, TACHOMETER DRIVE AND CAMSHAFT

FIG. REF. 5	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	LW-19340	CAMSHAFT Assembly	1
2	LW-13908	CAMSHAFT	1
3	76118	SPACER-Tachometer Shaft Centering	1
4	76155	SHAFT Assembly Tachometer	1
5	76154	SHAFT-Tachometer	1
6	LW-18667	PIN 3\16 Diameter X 2-21\64 Long	1
7	STD-2231	RING-Internal Retaining (31\16)	1
8	LW-13795	SHAFT-Crankshaft Idler Gear	2
9	LW-31H0.88	BOLT-.3125-18 X 7\8 Long Hx Dr	3
10	STD-2168	NUT 5\16-18 Nc-3 Slot. Shear	1
11	61544	PLUNGER-Fuel Pump-Long	1
12	71652	GEAR Assembly - Crankshaft Idler	1
13	71653	GEAR-Crankshaft Idler	1
14	67530	BUSHING-Crankshaft Idler Gear	1
15	71668	GEAR Assembly -Crankshaft Idler-Plain	1
16	71669	GEAR-Crankshaft Idler-Plain	1
17	67530	BUSHING-Crankshaft Idler Gear	1

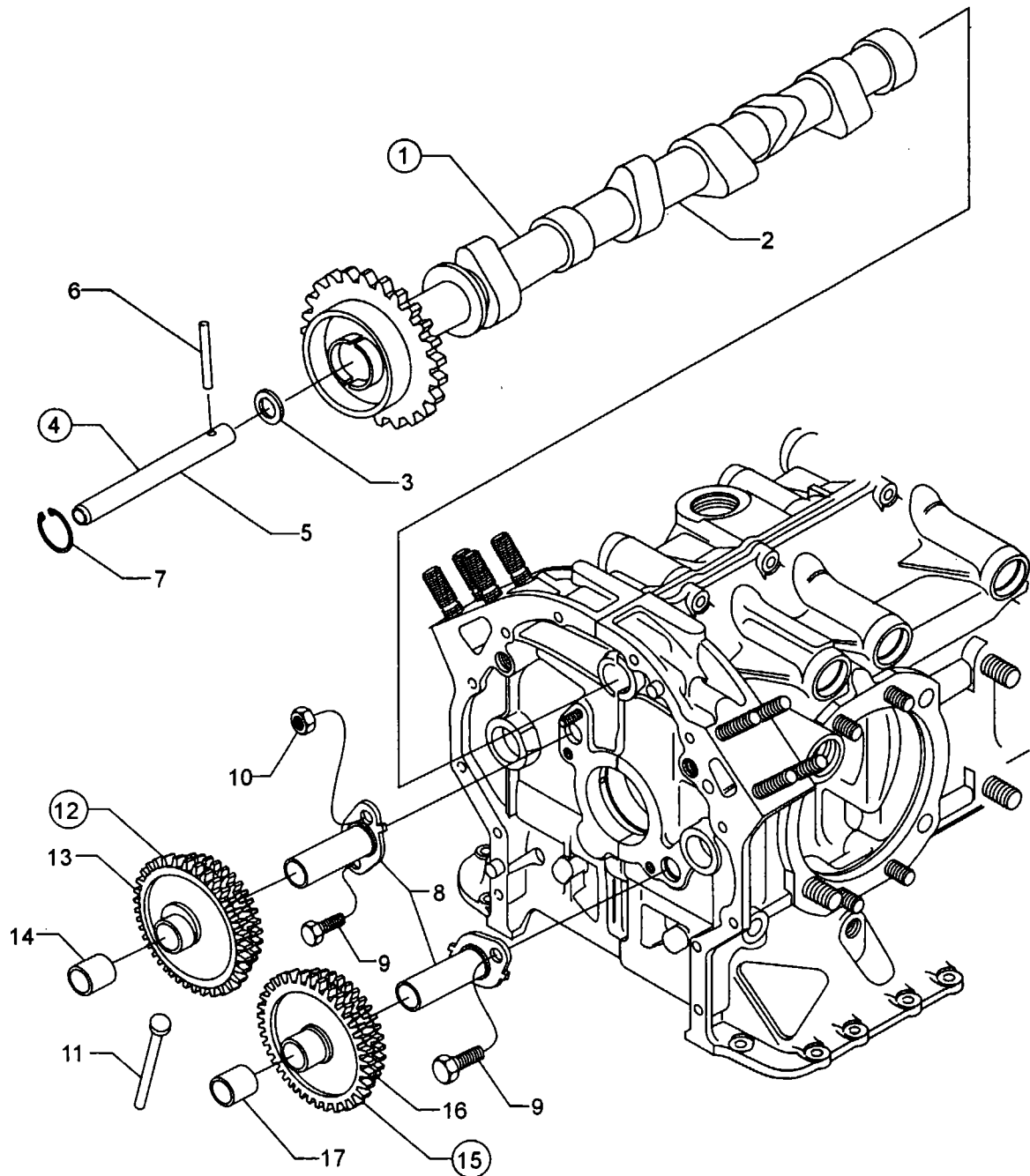


Figure 5. Crankshaft Idler Gears, Tachometer Drive and Camshaft

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKCASE ATTACHING PARTS

FIG. REF. 6	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	60803	STRAP-Lifting	2
2	LW-25-1.50	BOLT-1¼-20 X 1-½ Long Hex	10
3	LW-25-1.75	BOLT-1¼-20 X 1-¾ Long Hex	1
4	STD-8	WASHER-¼ Plain	23
5	LW-25-1.75	BOLT 1¼-20 X 1-⅛ Long Hex	1
6	LW-25-1.13	BOLT-1¼-20 X 1-⅛ Long Hex	1
7	STD-160	WASHER-¼ Lock Internal Teeth	13
8	STD-1411	NUT-1¼-20 Plain	12
9	LW-25S1.50	BOLT-1¼-20 X 1-½ Long Drive	6
10	STD-8	WASHER-¼ Plain	18
11	STD-2249	NUT-1¼-20 Slotted	6
12	STD-33	WASHER-⅜ Plain	1
13	STD-872	NUT-⅜-24 Slotted	1
14	AN6-34A	BOLT-⅜-24 X 3.58 Long Hex Head	1
15	STD-33	WASHER-⅜ Plain	3
16	STD-678	WASHER-⅜ Lock Internal Teeth	2
17	STD-596	NUT-⅜-24 Plain	2
18	76220	STUD-½-20 X 10-45⅓ Long	8
19	LW-31-2.75	BOLT-5⅓-18 X 2.75 Long Hex	1
20	LW-31-1.16	BOLT-5⅓-18 X 1.16 Long Hex	3
21	STD-35	WASHER-5⅓ Plain	4
22	STD-475	WASHER-5⅓ Lock-Internal Teeth	4

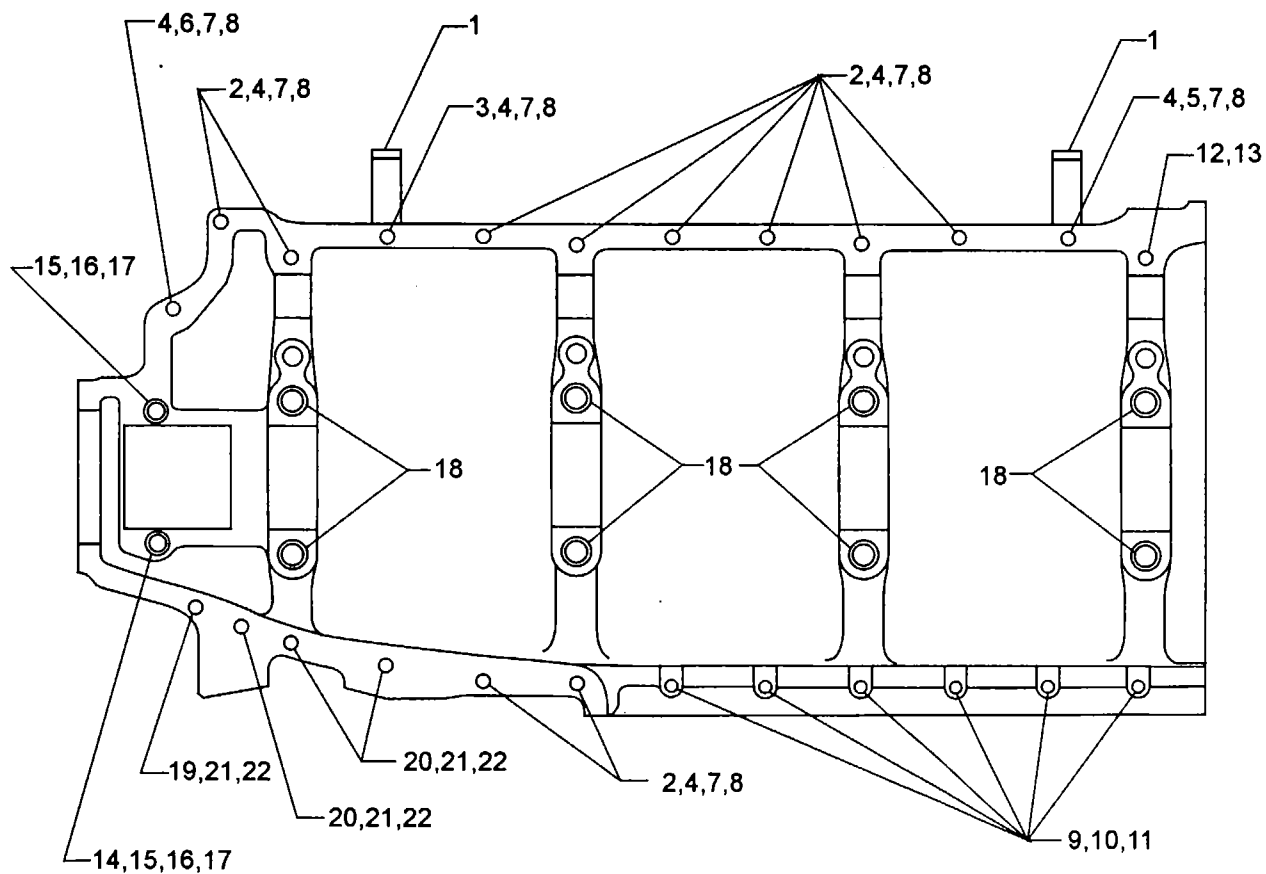


Figure 6. Crankcase Attaching Parts

ACCESSORY HOUSING AND RELATED PARTS
ACCESSORY HOUSING ASSEMBLY

FIG. REF. 7	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	73818	GASKET-Accessory Housing	1
2	21C21539-02	HOUSING Assembly- Accessory -Studding	1
3	21C21539	HOUSING-Accessory	1
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-21	STUD-1\4-20 X 2-5\8 Long	4
7	31CD-17	STUD-5\16-18 X 2.13 Long Dr	3
8	1102	PLUG-1\8 Pipe	4
9	STD-784	PLUG-5\8 -18 NPT Allen Head	1

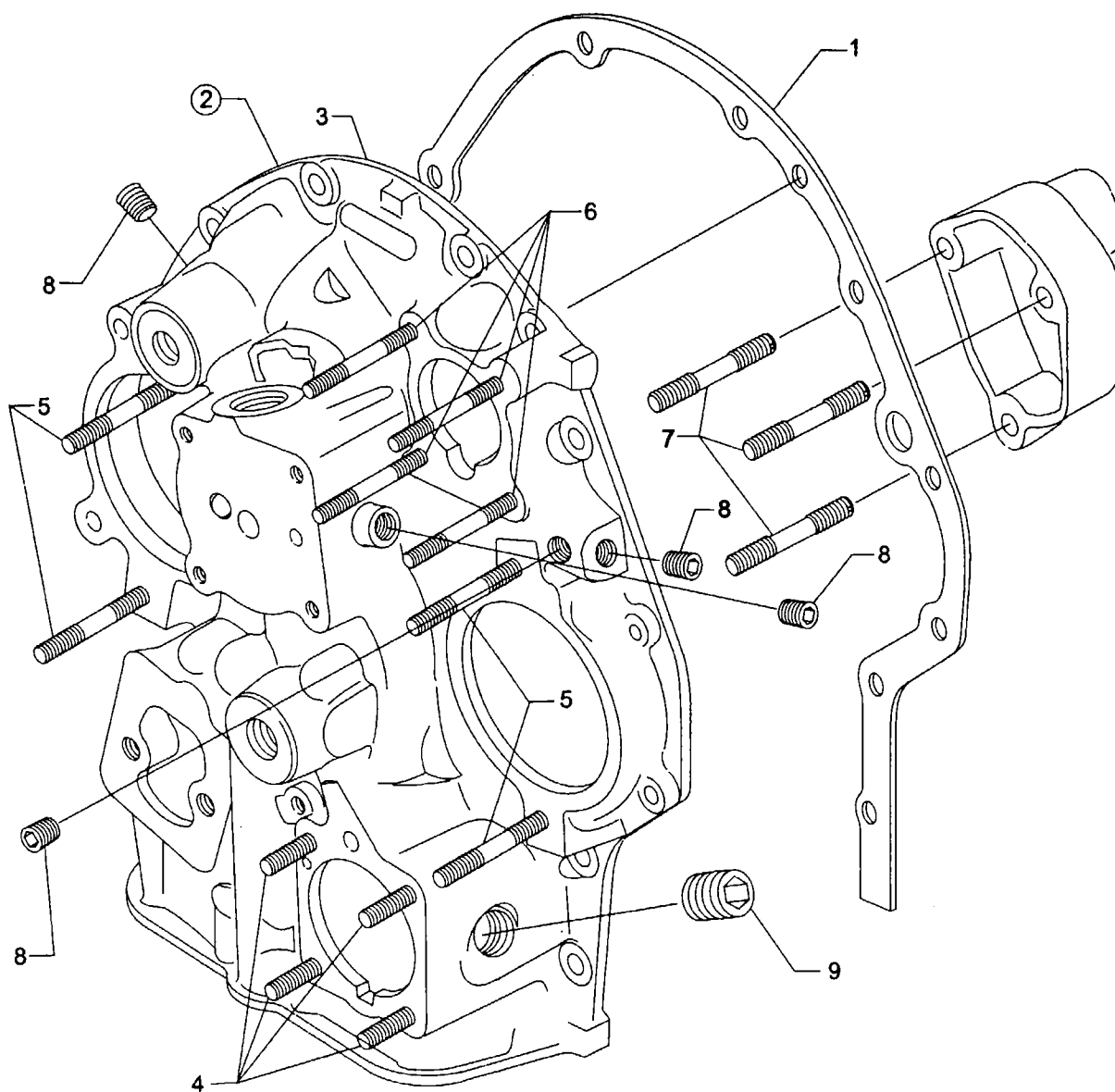


Figure 7 Accessory Housing Assembly

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

FIG. REF. 8	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	78531	BODY Assembly-Oil Pump	1
2	O5K19423-S*	KIT-Oil Pump Impeller's	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	9
10	LW-25-1.13	BOLT-1\4 -20 X 1-1\8 Long Hex	1
11	LW-25-1.44	BOLT-1\4 -20 X 1-7\16 Long Hex	2

*Ref. Service Bulletin No. 524

O5K19423-S consist of 1 each LW-18110 and LW-18109 oil pump impeller's

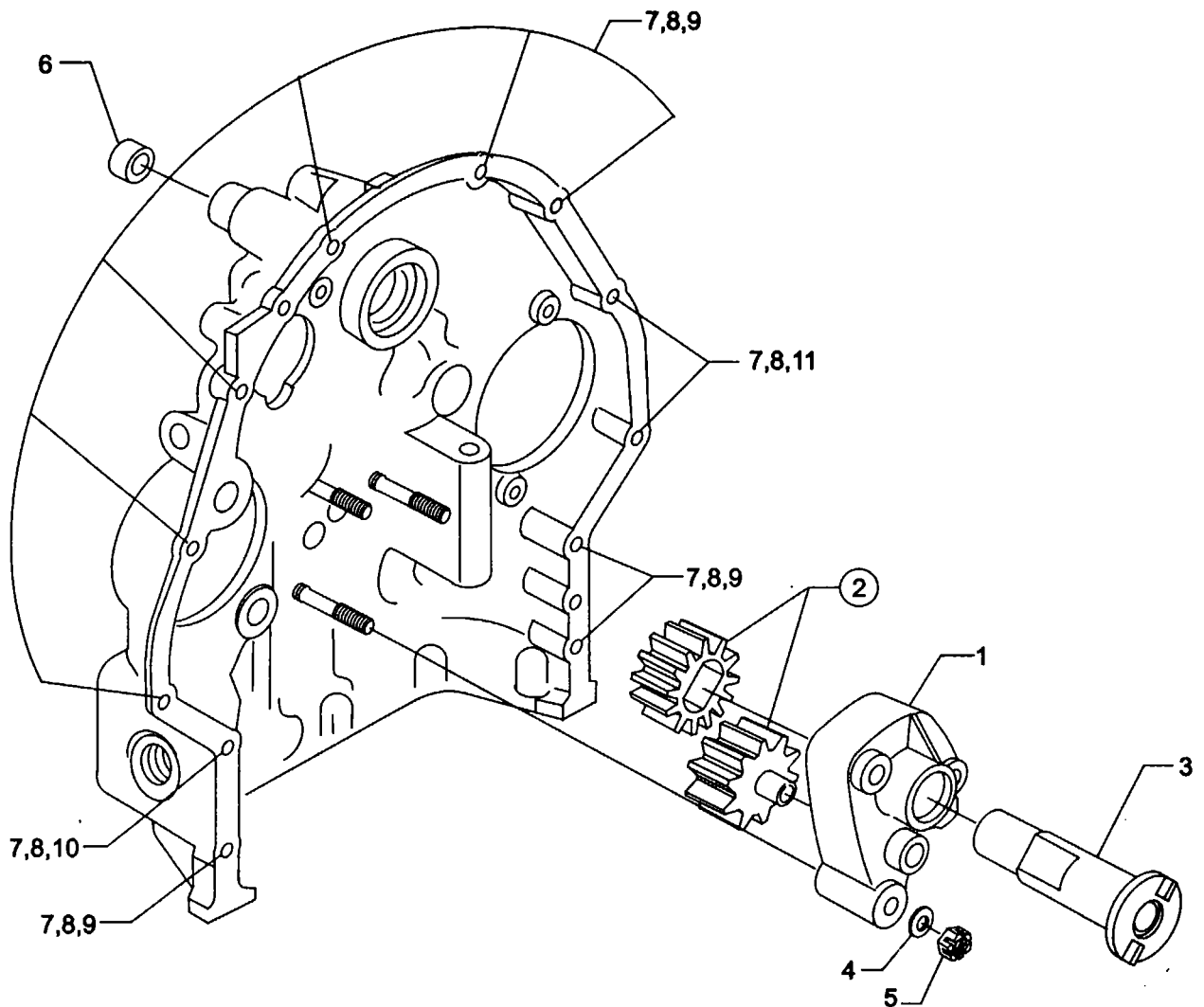


Figure 8 Oil Pump Assembly and Accessory Housing Attaching Parts

ACCESSORY HOUSING AND RELATED PARTS
FUEL PUMP ASSEMBLY

FIG. REF. 9	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	60096	GASKET-Fuel Pump	1
2	LW-15472	FUEL PUMP-Dual Diaphragm-Low Press	1
3	STD-33	WASHER-3\8 Plain	2
4	STD-1882	SCREW-3\8-16 X 1-9\32 Long Soc Dr	2

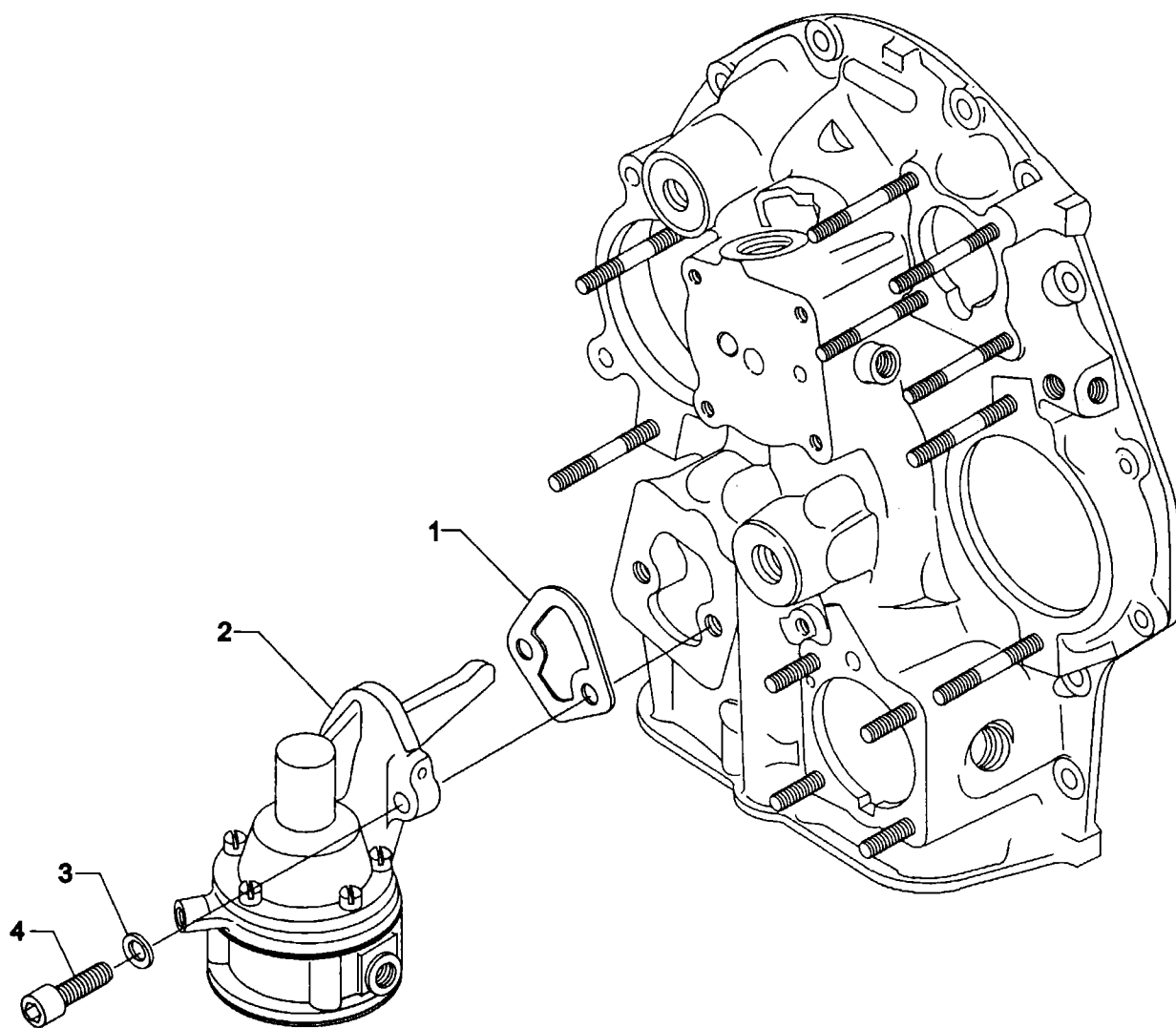


Figure 9 Fuel Pump Assembly

ACCESSORY HOUSING AND RELATED PARTS
OIL FILTER, OIL FILTER ADAPTER AND BREATHER FITTING

FIG. REF. 10	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	06E19769-0.63	GASKET-Annular-5\8 I.D.	1
2	62417	PLUG-Oil Cooler By-Pass	1
3	STD-784	PLUG-3\8-18 NPT Allen Head	2
4	71651	FITTING-Breather	1
5	LW-12795	GASKET-Oil Filter Adapter	1
6	77852	OIL Filter Base Assembly	1
7	LW-13216	Oil Filter-Long	1
8	STD-8	WASHER-1\4 Plain	4
9	STD-160	WASHER-1\4 Lock Internal Teeth	1
10	STD-1411	NUT-1\4 -20 Plain	1
11	LW-25-1.00	BOLT-1\4 -20 X 1.00 Long Hex	3
12	STD-160	WASHER-1\4 Lock Internal Teeth	3
13	53E22144	VALVE Assembly-Temp Cont. Oil Cool	1
14	25C-10	STUD-1\4 -20 X 1-1\4 Long	1

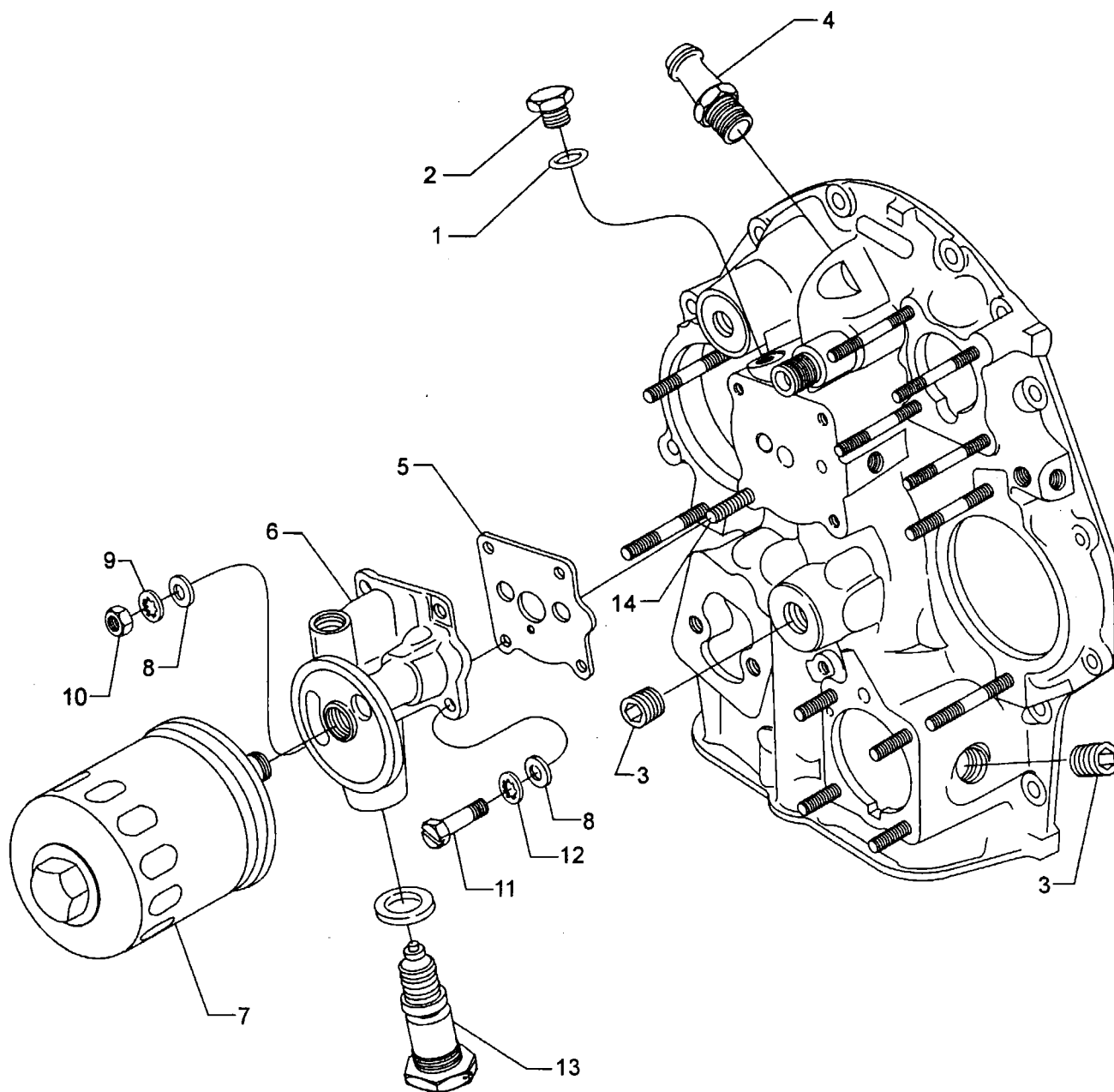


Figure 10 Oil Filter, Oil Filter Adapter and Breather Fitting

ACCESSORY HOUSING AND RELATED PARTS
ACCESSORY COVERS AND GASKETS

FIG. REF. 11	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	61183	GASKET-Accessory Adapter	1
2	60430	COVER-Vacuum Pump	1
3	68593	SPACER-Vacuum Pump Stud	4
4	STD-8	WASHER-1\4 Plain	4
5	STD-160	WASHER-1\4 Lock Int.Teeth	4
6	STD-1411	NUT-1\4 -20 Plain	4
7	69551	GASKET-Accessory Drive Adapter	1
8	69106	COVER-Governor Dr Adapter Pad	1
9	STD-35	WASHER-5\16 Plain	4
10	STD-475	WASHER-5\16 Lock-Internal Teeth	4
11	STD-1410	NUT-5\16 -18 Plain	4

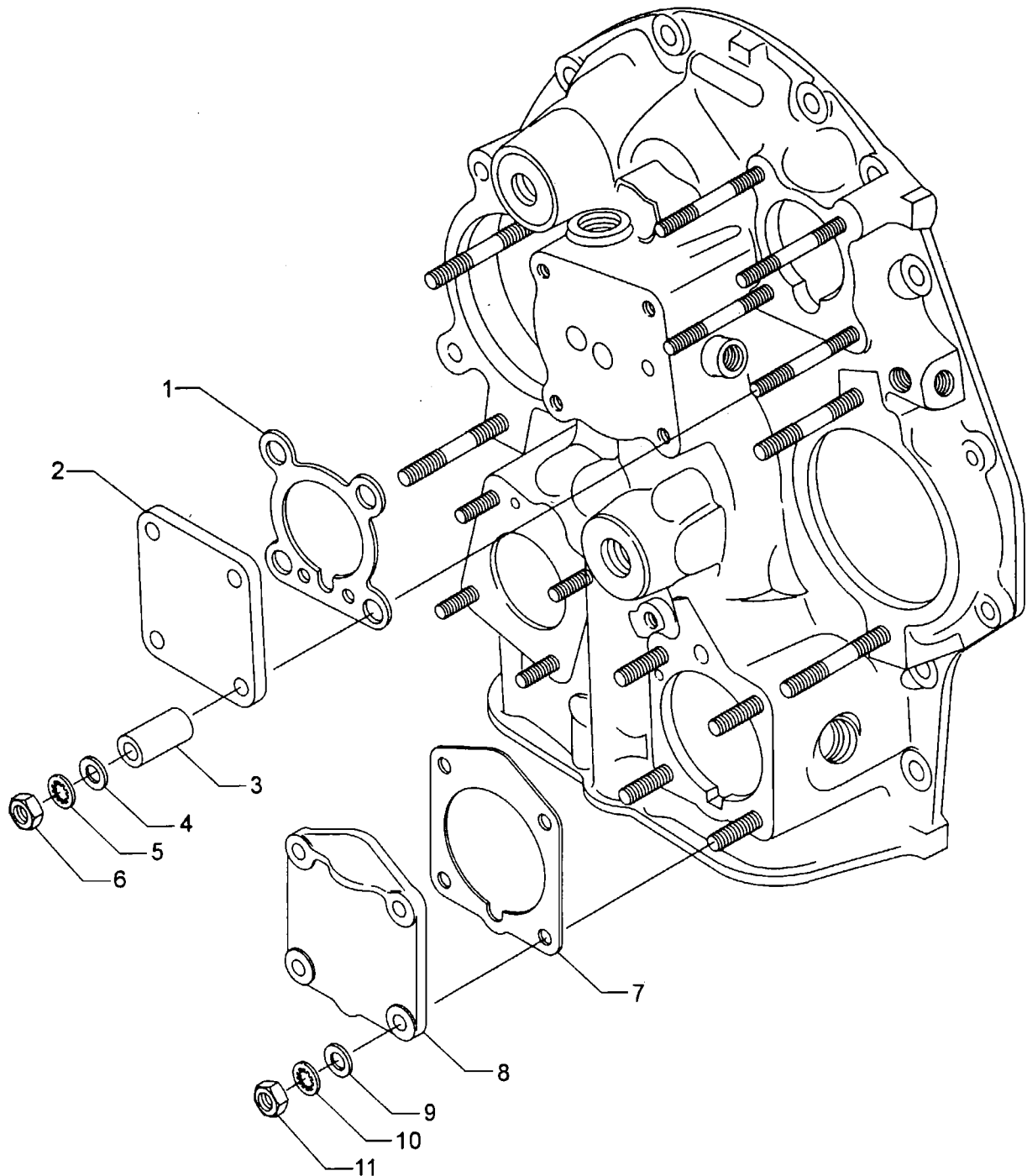


Figure 11 Accessory Covers and Gaskets

**CYLINDER, PISTON AND VALVE TRAIN
CONNECTING ROD, PISTON AND RING ASSEMBLIES**

FIG. REF. 12	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	75089	PISTON-5.125 Bore-8.5:1 Comp R	6
2	LW-14078	PIN-Piston	6
3	72198	PLUG-Piston Pin	12
4	74241	RING-Piston-Comp 5.125 Bore	12
5	14H21950	RING-Piston-Oil 5.125 Bore	6
6	LW-11750	ROD Assembly-Connecting-Machining	6
7	LW-13923	BUSHING-Connecting Rod-Upper (2)	6
8	75061	BOLT-Connecting Rod	12
9	LW-12186	NUT-Connecting Rod Bolt	12
10	18M19389	BEARING-Connecting Rod	12

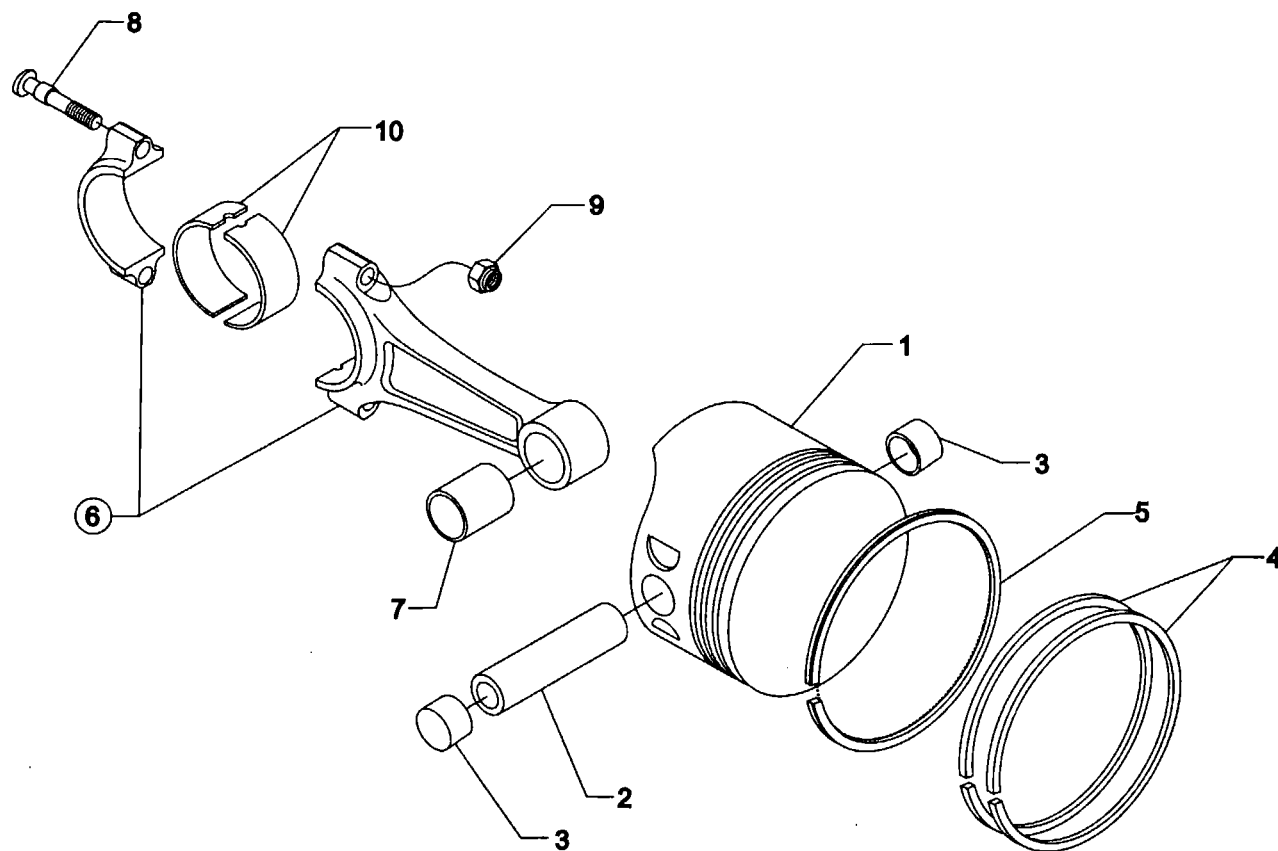


Figure 12. Connecting Rod, Piston and Ring Assemblies

**CYLINDER, PISTON AND VALVE TRAIN
CYLINDER ASSEMBLY**

FIG. REF. 13	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	LW-12427	CYLINDER Assembly	6
2	72057	SEAT-Valve-Intake	6
3	72058	SEAT- Valve - Exhaust	6
4	61681*	GUIDE-Valve-Intake	6
5	16R22291*	GUIDE-Valve-Exhaust (Ni-Resist)	6
6	66796	INSERT-Spark Plug-18-1.5mm	12
7	STD-1353	INSERT-#10-24 UNC X 3\8 Long	6
8	31C-12	STUD-5\16-18 X 1-1\2 Long (Exhaust port)	12
9	25C-8	STUD-1\4-20 X 1.00 Long	6
10	MS20823-6D	ELBOW-45 Deg-.3\8 Flared Tube	6
11	66610	BUSHING-Rocker Shaft	24
12	LW-19296	GASKET-Exhaust Flange	6
13	61260	FLANGE-Exhaust-Stainless	6
14	STD-35	WASHER-5\16 Plain	12
15	STD-475	WASHER-5\16 Lock-Internal. Teeth	12
16	STD-1410	NUT-5\16-18 Plain	12
17	1102**	PLUG-1\8 Pipe	6

* See latest edition of Lycoming Service Instruction No.1256.

** Assemble in cylinder head.

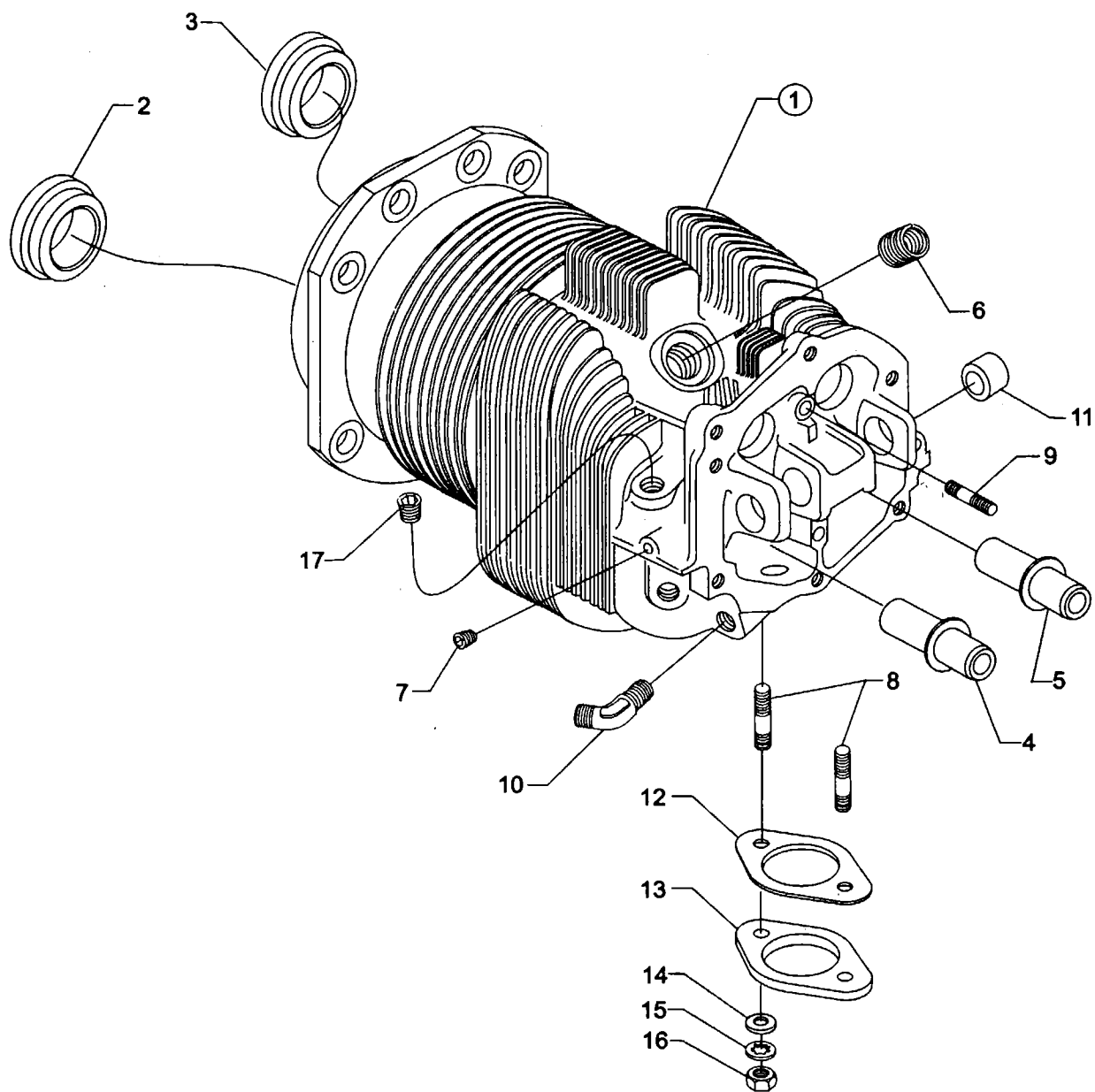


Figure 13. Cylinder Assembly

**CYLINDER, PISTON AND VALVE TRAIN
VALVE AND ROD ASSEMBLY**

FIG. REF. 14	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	73938	VALVE-Intake	6
2	LW-19001	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	6
9	60009	KEY-Valve-Intake	12
10	17C21191	KEY-Valve-Exhaust	12
11	17C19386	CAP-Valve Stem-Exhaust (Rotator)	6
12	78290	PLUNGER Assembly-Hydraulic Tappet	12
13	15B21319	SOCKET-Hydraulic Tappet	12
14	LW-11485	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	LW-18661	SEAL-Shroud Tube	12
19	70310	SEAL-Shroud Tube	12
20	15F19957-34	ROD ASSY-PUSH (A Total of 12 Required)	AR
	15F19957-35	ROD ASSY-PUSH (A Total of 12 Required)	AR
	15F19957-36	ROD ASSY-PUSH (A Total of 12 Required)	AR
	15F19957-37	ROD ASSY-PUSH (A Total of 12 Required)	AR
21	17F19357	ROCKER Assembly-Valve	12
22	74637	BUSHING-Valve Rocker	12
23	LW-13790	SHAFT-Valve Rocker	6
24	LW-12892	THRUST BUTTON-Rocker Shaft	12

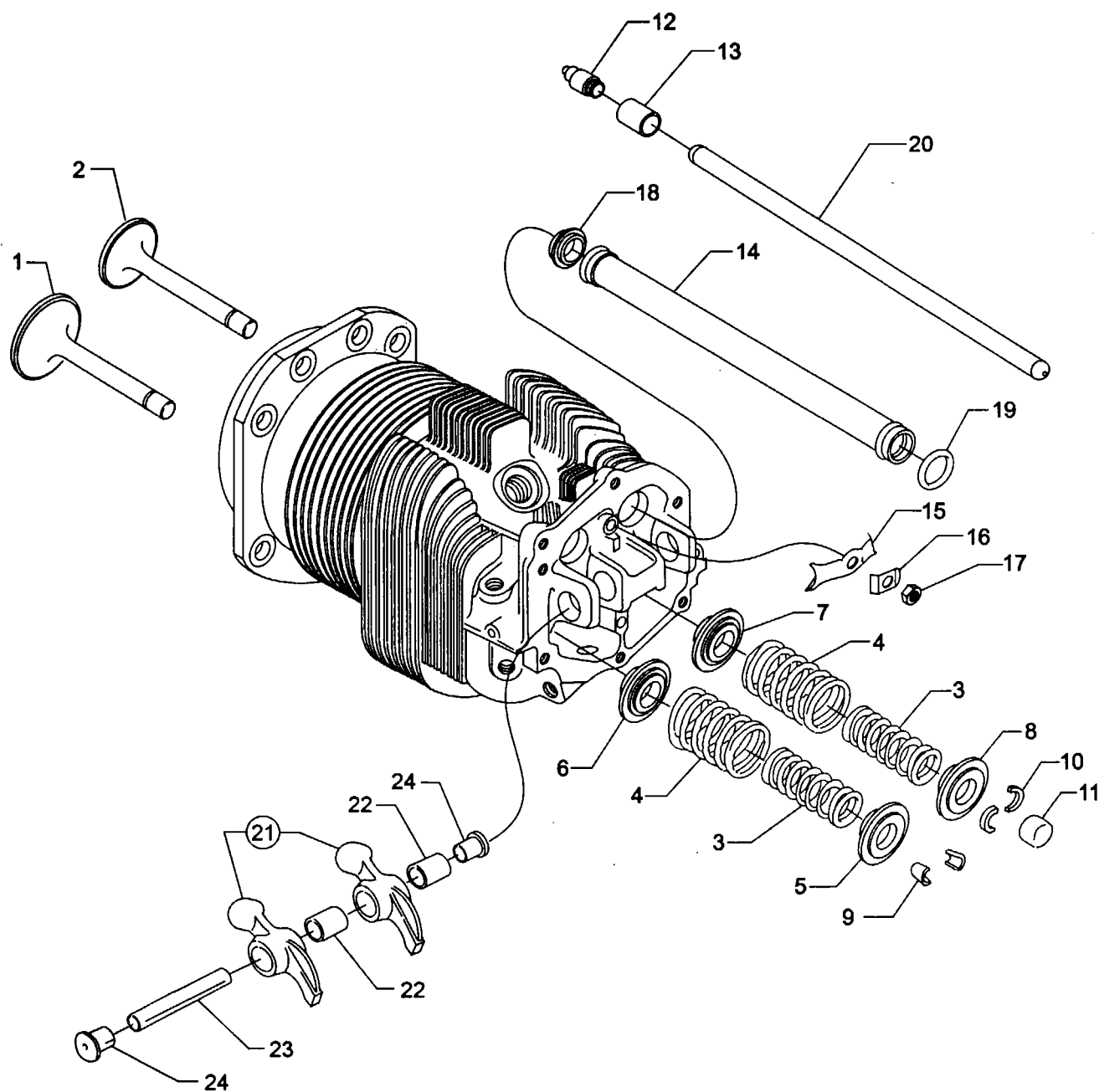


Figure 14 Valve and Rod Assembly

CYLINDER, PISTON AND VALVE TRAIN
CYLINDER HEAD DRAIN TUBES AND INTERCYLINDER COOLING BAFFLES

FIG. REF. 15	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	75906	GASKET-Rocker Box Cover	6
2	61247	COVER-Rocker Box	6
3	STD-1925	SCREW-1 $\frac{1}{4}$ -20 X $\frac{5}{8}$ Long Pan Head	36
4	71481	RING-Oil Seal-3 $\frac{1}{32}$ Diameter X 4-27 $\frac{1}{32}$ I.D.	6
5	77906	SPACER-33 $\frac{1}{64}$ I.D. X $\frac{7}{8}$ O.D. X $\frac{1}{8}$	2
6	74887	SPACER-33 $\frac{1}{64}$ I.D. X $\frac{7}{8}$ O.D. X $\frac{3}{8}$ Thick	2
7	383-B	NUT-3 $\frac{1}{8}$ -24 Plain	24
8	STD-2090	NUT-1 $\frac{1}{2}$ -20 Plain	28
9	STD-684	NIPPLE-Straight-3 $\frac{1}{8}$ I.D. Hose	6
10	STD-1821	HOSE-3 $\frac{1}{8}$ X 2-1 $\frac{1}{2}$ Long	6
11	LW-15592-5-05	CLAMP-Hose	12
12	68759	TUBE Assembly-Cylinder Head Oil Drain #1	1
13	71737	TUBE Assembly - Cylinder #2	1
14	68761	TUBE Assy - Cylinder Head Oil Drain #3 & #4	4
15	75339	BAFFLE Assembly -Intercylinder	4
16	71611	RETAINER-Intercylinder Baffle	4
17	71610	HOOK- Intercylinder Baffle Retainer	4

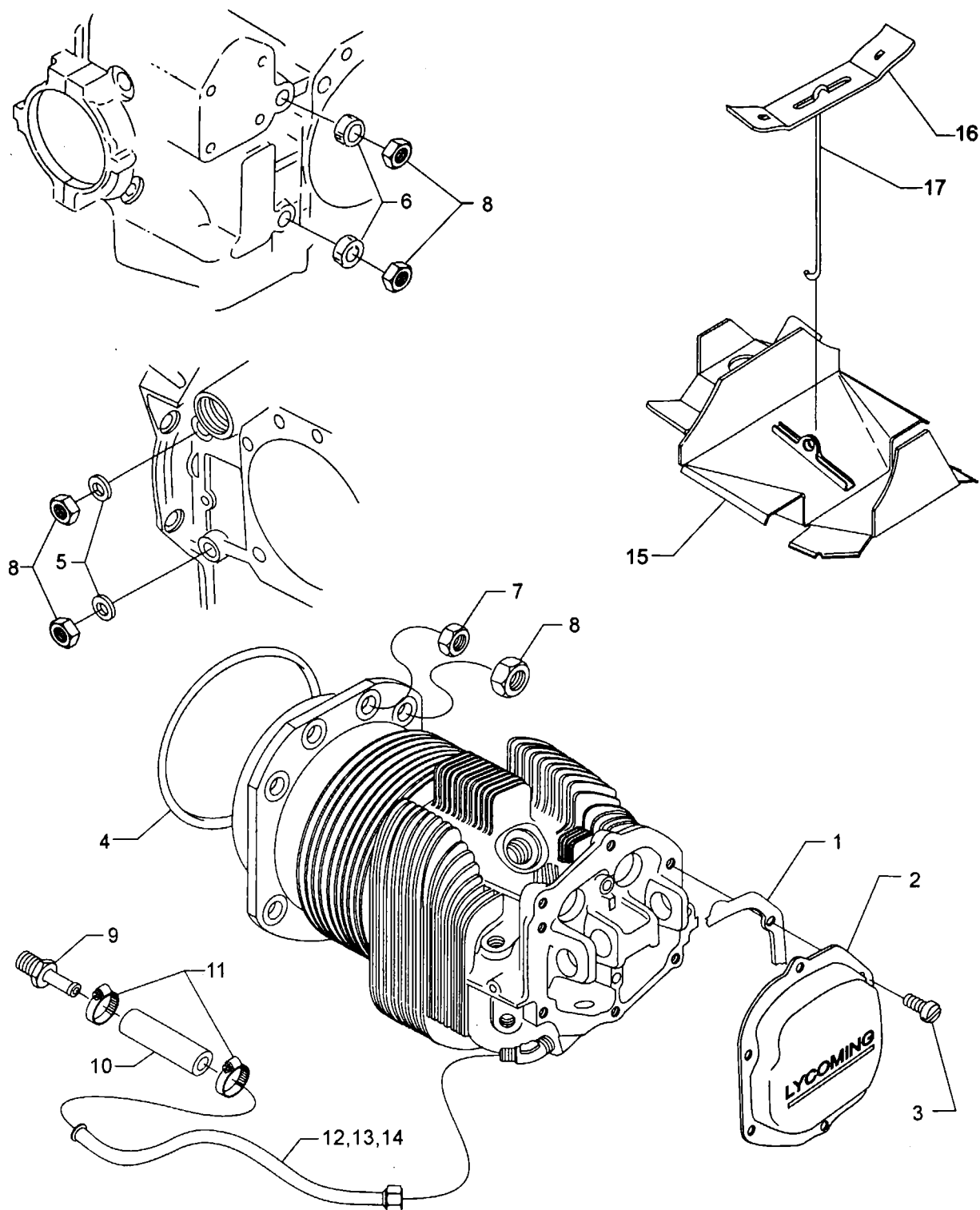


Figure 15 Cylinder Head Drain Tubes and Intercylinder Cooling

IGNITION SYSTEM
MAGNETOS, MAGNETO DRIVES, HARNESES AND SPARK PLUGS

FIG. REF. 16	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	LW-19096	GEAR Assembly-Retainer	1
2	67542	BEARING-Ball	1
3	LW-19100	GEAR-Retainer Assembly Dr-Right	1
4	67542	BEARING-Ball	1
5	68H22624	CUSHION- Magneto Drive	4
6	62224	GASKET- Magneto Adapter	2
7	LW-12707	ADAPTER-Magneto	2
8	LW-12681	GASKET-Magneto	2
9	66LC35SDNN	MAGNETO-Slick (Imp) 6351	2
10	67U20639	HARNESS-Left-Slick M-2961	1
11	67U20638	HARNESS-Right-Slick M-2962	1
12	76734	ZIP STRAP	4
13	66M21195	CLAMP-Magneto M3741	4
14	STD-475	WASHER-5\16 Lock-Internal Teeth	4
15	STD-1410	NUT-5\16-18 Plain	4
16	STD-713	PIN-Cotter-3\32 Diameter X 3\4 Long	2
17	1182-E7*	SPARK PLUG (Champion P/N Rem38e)	12
18	01P19762-4-17	BAG-Harness Attaching	1

NOTE

The breakdown of individual parts as well as a line Drawing is provided in a bag (item 18) attached to the Engine. These parts are to be installed by the customer.

*Item No. 17 spark plugs are used in current production only. Additional spark plugs are available for this engine. See latest edition of Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs

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	8
STD-1874	SCREW-.250-20 X .81 LG. FILL	6
76734	ZIP STRAP	12
STD-1916	SCREW-.250-20 X 1.13 LG. FIL HD	2
LW-16266-25-44	CLAMP-.44 ID X .250 DIA. SCREW	5
STD-696	WASHER-.250 PLAIN (THIN)	6
STD-1925	SCREW-.250-20 X .63 LG. PAN HD	4
72815	BRACKET-SUPPORT CLAMP-90 DEGREE	4
STD-692	SCREW-#10-32 X .50 LG. RD. HD	4
STD-425	WASHER-#10 PLAIN	4
STD-670	LOCKNUT-#10-32	4
LW-M-2376	PLATE-SPARK PLUG CABLE-3 WIRE	2
LW-16266-10-75	CLAMP	1

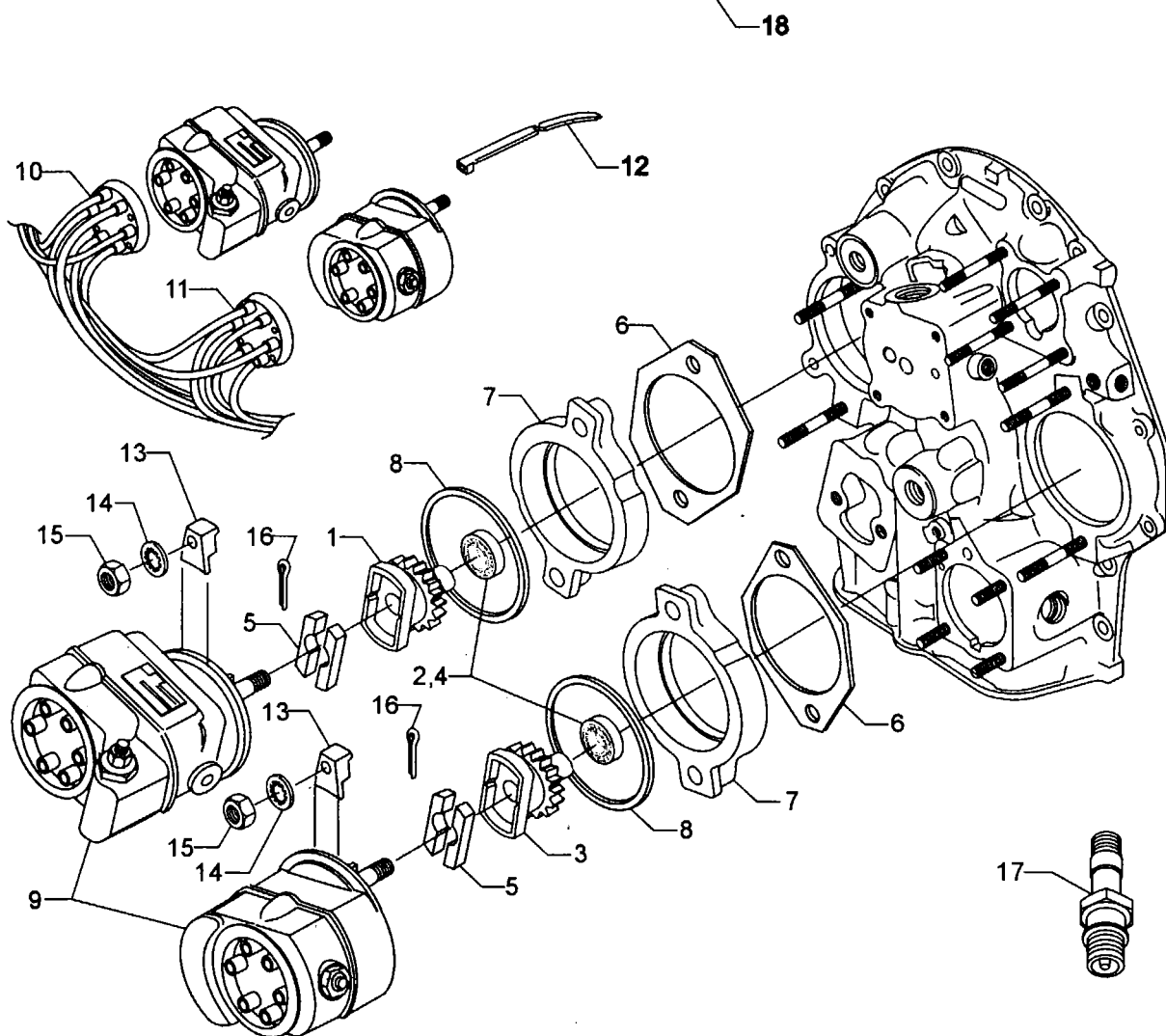


Figure 16. Magnetos, Magneto Drives, Harnesses and Spark Plugs

ELECTRICAL SYSTEM
STARTER AND ATTACHING PARTS

FIG. REF. 17	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	31A22470	STARTER-12v 12/14 Pitch (M2-6222)	1
2	STD-35	WASHER-5\16 Plain	4
3	STD-475	WASHER-5\16 Lock-Internal Teeth	4
4	LW-31-1.16	BOLT-5\16 -18 X 1-5\32 Long Hex	1
5	STD-1410	NUT-5\16 -18 Plain	3

NOTE

See latest edition of Service Instruction No. 1154 for complete listing of FAA approved starters, generators, alternators regulators and relays

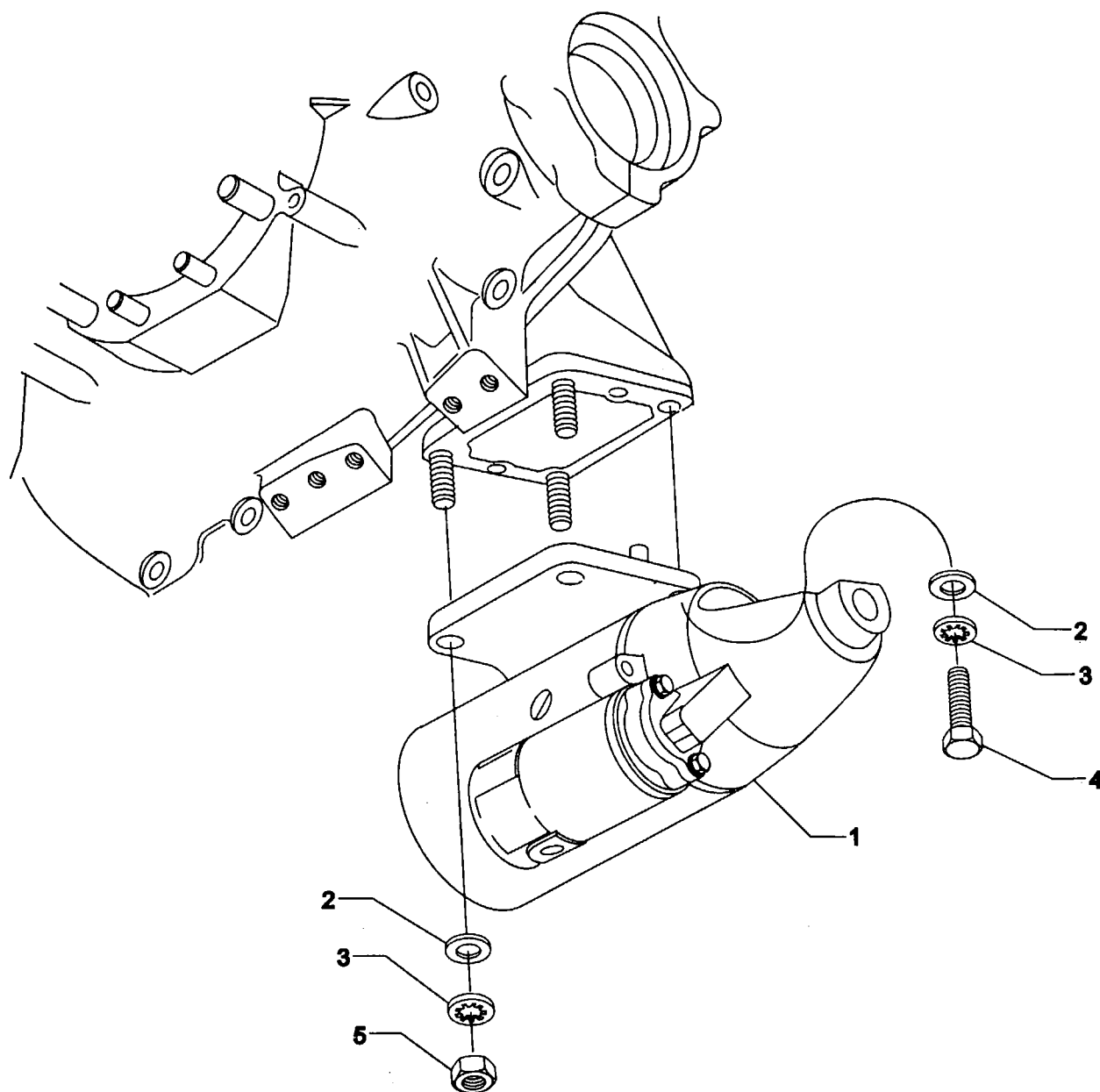


Figure 17. Starter and Attaching Parts

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

FIG. REF. 18	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	06B21326	GASKET-Oil Sump	1
2	LW-13901	SUMP Assembly -Oil	1
3	71699	CONNECTION-Intake Pipe	6
4	25C-11	STUD-1/4-20 X 1-3/8 Long	14
5	31C-15	STUD-5/16 -18 X 1-7/8 Long	4
6	38-15	STUD-3/8-16 X 1-7/8 Long	8
7	STD-1173	INSERT-1/4-20 UNC X 1/2 Long	4
8	STD-8	WASHER-1/4 Plain	34
9	STD-160	WASHER-1/4 Lock Int. Teeth	27
10	LW-25-1.13	BOLT-1/4-20 X 1.13 Long Hex	7
11	LW-25-1.00	BOLT-1/4-20 X 1.00 Long Hex	6
12	STD-1411	NUT-1/4-20 PLAIN	21
13	STD-551	PLUG-1/2-14 NPT Square Head Drilled	2
14	STD-2229	PLUG-1/2 NPT-Allen Head	2
15	70484	SCREEN-Oil Suction	1
16	06E19769-1.00	GASKET-Annular-1.00 ID	1
17	LW-12545	PLUG-5/8 HX HD X 1-20 TMD	1

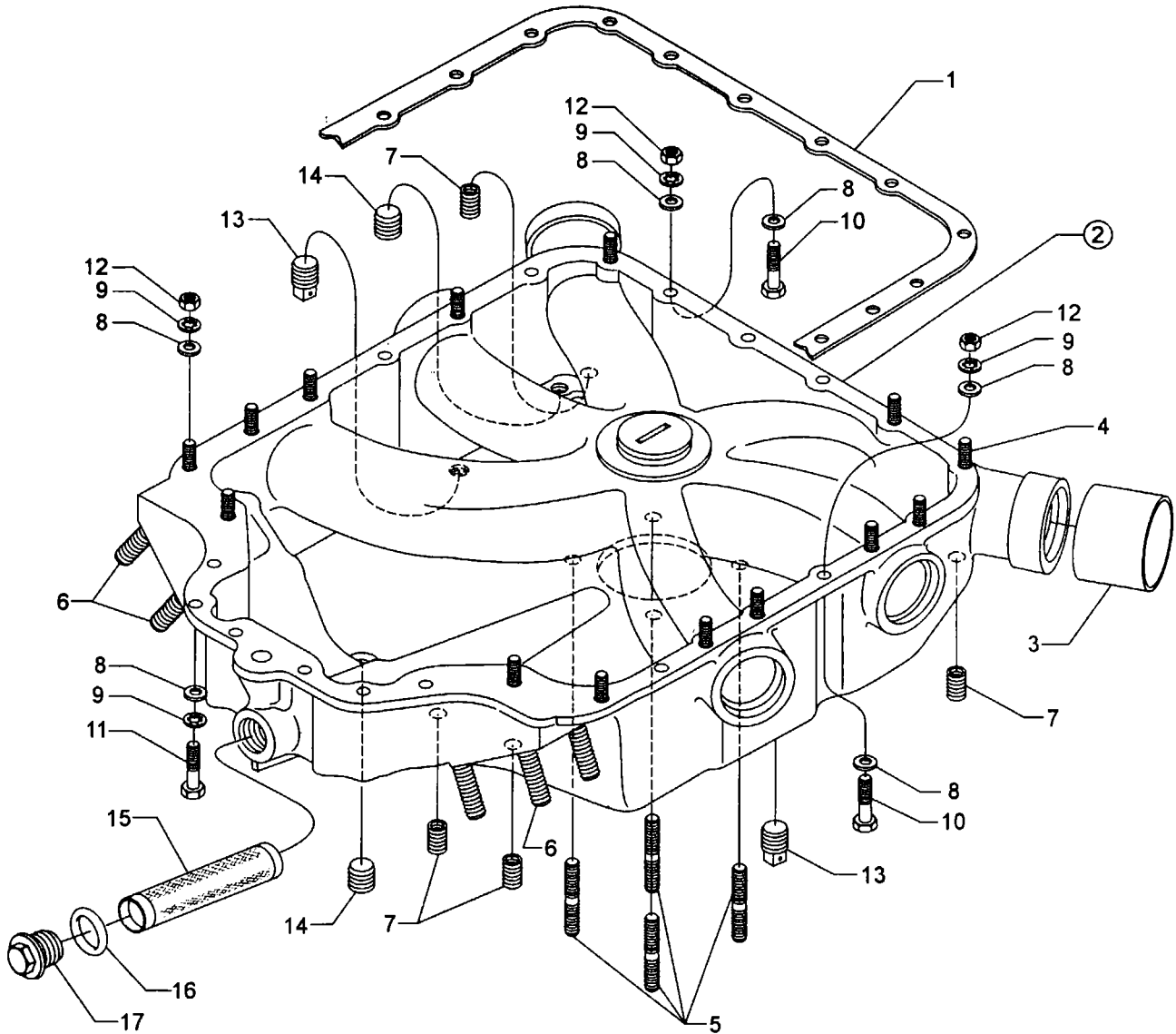


Figure 18 Oil Sump Assembly and Oil Suction Screen

**OIL SUMP AND INDUCTION SYSTEM
INTAKE PIPES AND ATTACHING PARTS**

FIG. REF. 19	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	70485	PIPE-Intake	6
2	69603	HOSE-1-3/4 ID X 2.-3/16 O.D. X 1-3/4	6
3	LW-15592-8-28	CLAMP-Hose	12
4	71973	GASKET-2 Bolt Flange-1-13/16 I.D.	6
5	73346	FLANGE-Intake Pipe-Upper	6
6	STD-8	WASHER-1/4 Plain	12
7	STD-160	WASHER-1/4 Lock Int. Teeth	12
8	LW-25-1.25	BOLT-1/4-20 X 1-1/4 Long Hex	12

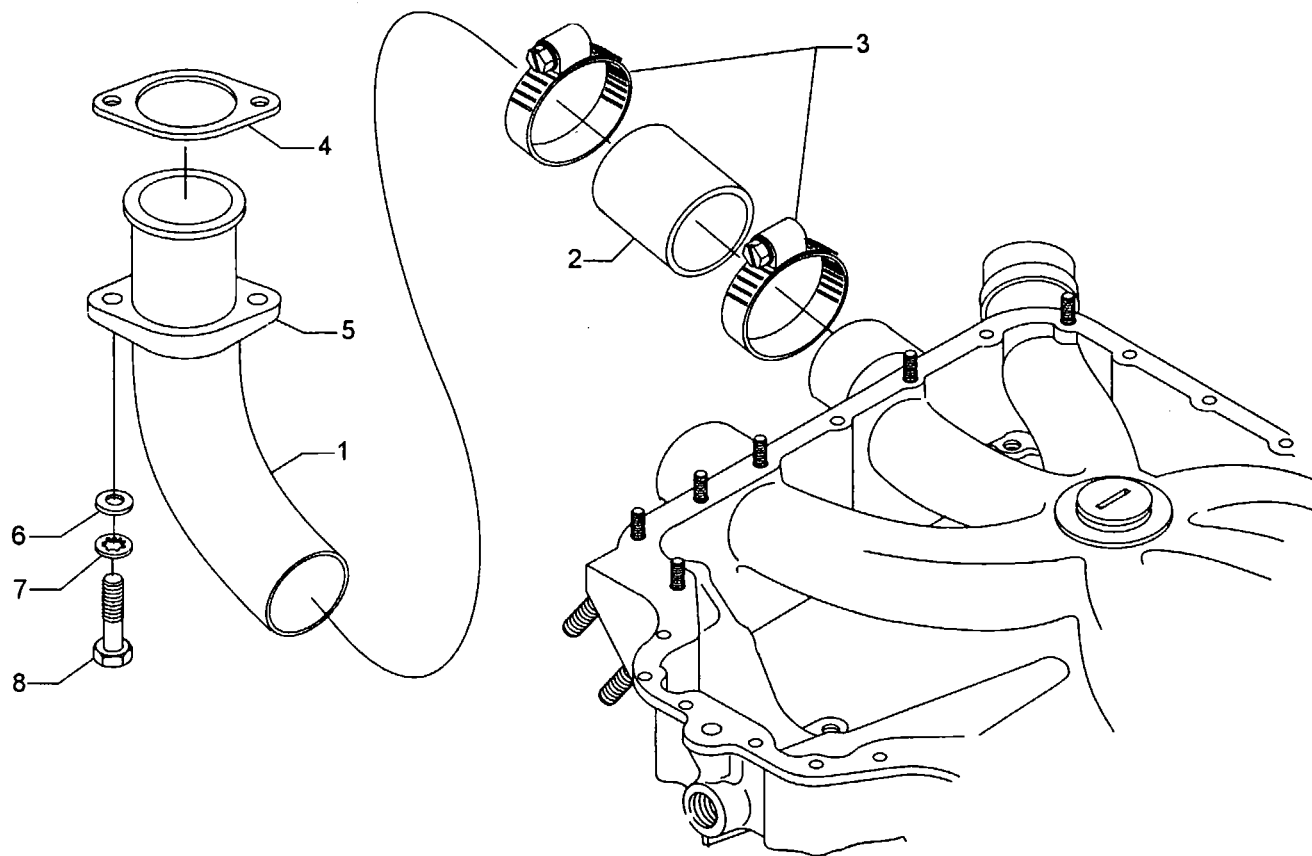


Figure 19. Intake Pipes and Attaching Parts

**OIL SUMP AND INDUCTION SYSTEM
CARBURETOR AND ATTACHING PARTS**

FIG. REF. 20	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	66224	GASKET-Carburetor	1
2	74121	CARBURETOR-MA4-5 (10-4404-1)	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

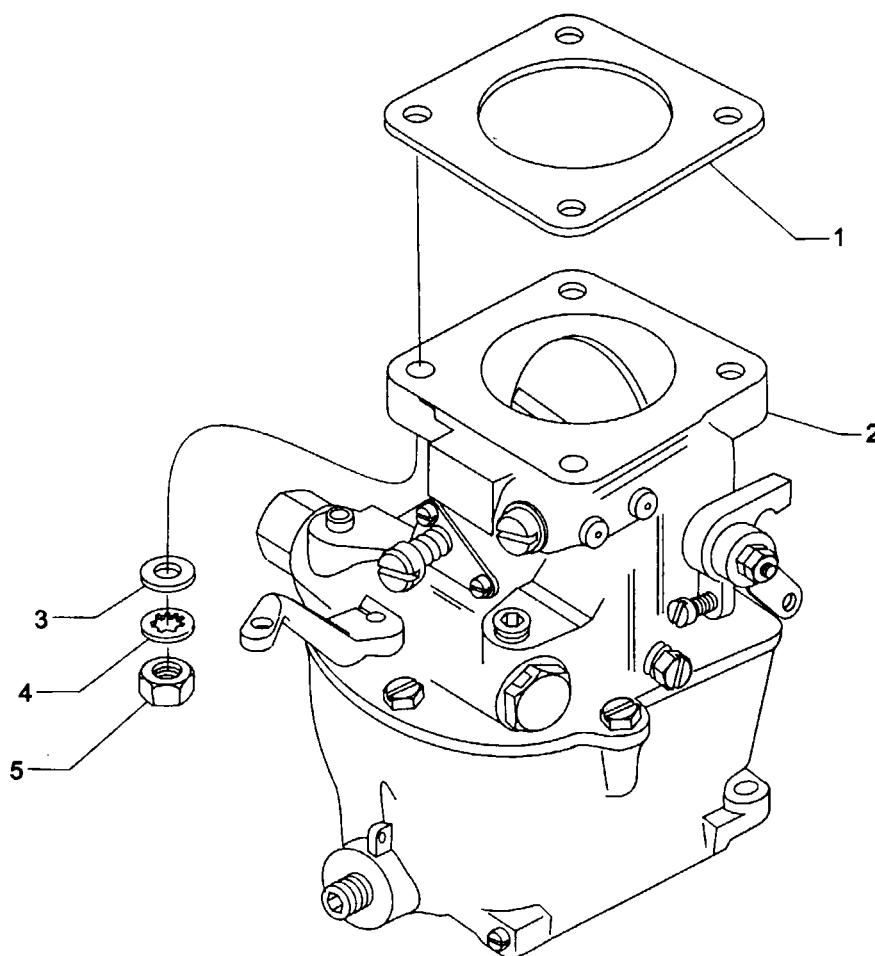


Figure 20. Carburetor and Attaching Parts

SERVICE KIT SECTION SEAL AND GASKET SET

71569-1	KIT-SEAL & GASKET SET	1
LW-12272	LOCKPLATE-SHROUD TUBE	6
LW-12681	GASKET-MAGNETO	2
LW-12795	GASKET-OIL FILTER ADAPTER	1
06B21326	GASKET-OIL SUMP	1
LW-13792	SEAL-CRANKSHAFT-OIL	1
LW-14260	SEAL-TACHOMETER DRIVE-OIL	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
LW-19296	GASKET-EXHAUST FLANGE	6
STD-2231	RING-INTERNAL RETAINING (.812	1
STD-213	OIL SEAL-.75 ID X 1.375 OD	1
06A19956	OIL SEAL-.875ID X 1.50 OD X.31	2
06E19769-0.63	GASKET-ANNULAR-.625 ID	2
06E19769-1.00	GASKET-ANNULAR-1.000 ID	1
06E19769-1.25	GASKET-ANNULAR-1.250 ID	1
1691-C	GASKET-FUEL PUMP	1
60096	GASKET-FUEL PUMP	1
61173	GASKET-OIL PRESS HOUSING	1
61183	GASKET-ACCESSORY ADAPTER	1
62224	GASKET-MAG ADAPTER	4
66224	GASKET-CARBURETOR	1
68315	GASKET-ACCESSORY DRIVE ADAPTER	1
69164	GASKET-FUEL PUMP ADAPTER	1
69345	SPACER	6
69551	GASKET-ACCESSORY DRIVE ADAPTER	1
70310	SEAL-SHROUD TUBE	12
70455	GASKET-.78 ID X 1.13 OD X .030	1
70457	GASKET-OIL FILLER EXTENSION	1
71193	CONTAINER	1
71481	RING-OIL SEAL-.09 DIA X 4.84ID	6
71667	LOCKPLATE-.250 BOLT X 1.75 SPA	1
71973	GASKET-2 BOLT FLANGE-1.81 ID	6
72053	GASKET-GOVERNOR	1
72059	GASKET-OIL LEVEL GAGE	1
72075	SEAL-OIL-.090 SEC. X .455 ID	8
72078	LOCKPLATE-.3125 BOLT X 1.33 SP	2
72091	RING-OIL SEAL-.36ID X.10 DIA	2
72210	GASKET-AIR THROTTLE HOUSING	1
72312	RING-OIL SEAL-1.00 X 1.3	1
73383	LOCKPLATE-.3125 BOLT X 1.00	2
73818	GASKET-ACCESSORY HOUSING	1
74065	RING-OIL LEVEL GAGE SEAL	1
74068	RING-OIL LEVEL GAGE SEAL	1
74305	SEAL	1
75906	GASKET-ROCKER BOX COVER	6
76510	GASKET-OIL COOLER BY-PASS VLV	1
76940	SEAL-CRANKSHAFT OIL	1
8313	GASKET-VACUUM PUMP	2

SERVICE KIT SECTION CYLINDER, PISTON & RING ASSY. KIT

05K21104	KIT, Cylinder piston & ring assembly	1
LW-12427	CYLINDER, Assembly	1
LW-19001	VALVE, Exhaust-rotator type	1
73938	VALVE, Intake	1
LW-11800	SPRING, Valve-outer	2
LW-11795	SPRING, Valve-inner	2
LW-10077	SEAT, Valve spring, upper intake	1
LW-16475	SEAT, Valve spring, upper exhaust	1
LW-13323	SEAT, Exhaust valve, spring lower	1
65441	SEAT, Intake valve, spring lower	1
60009	KEY-Valve-intake	2
17C21191	KEY-Valve-exhaust	2
17C19386	CAP-VALVE STEM-EXHAUST(ROTATOR	1
75089	PISTON-5.125 BORE-8.5:1 COMP R	1
74241	RING-PISTON-COMP-5.125 BORE	2
14H21950	RING-PISTON-OIL-5.125 BORE	1
LW-14078	PIN-PISTON	1
60828	PLUG-PISTON PIN	2
71481	RING-OIL SEAL-.09 DIA X 4.84ID	1
LW-18661	SEAL-SHROUD TUBE	2
70310	SEAL-SHROUD TUBE	2
75906	GASKET-ROCKER BOX COVER	1
SSP-299	TAG	1
71195	CONTAINER	1
72198	PLUG-PISTON PIN	2
77611	GASKET-EXHAUST FLANGE	1
71973	GASKET-2 BOLT FLANGE-1.81 ID	1
LW-12272	LOCKPLATE-SHROUD TUBE	1

SERVIC KIT SECTION CRANKCASE ASSY. AND THRU STUD KIT

11F24020-S1-S	CRANKCASE ASSY. AND THRU STUD KIT	1
11F24020-S1	CRANKCASE ASSY-MACH & STUDDING	1
AN565B1032H4	SETSCREW-#10-32 X .25 LONG	1
AN565B1032H5	SETSCREW-#10-32 X .31 LONG	1
STD-1339	PLUG-.0625-27 NPT	7
1102	PLUG-.125 PIPE	4
31C-14	STUD-.3125-18 X 1.75 LONG	4
31C-16	STUD-.3125-18 X 2.00 LONG	4
76220	STUD-.500-20 X 10.70 LONG	8
SSP-272	TAG (PISTON COOLING NOZZLES)	1
SSP-582	TAG (THIN WALL BRG'S)	1
SSP-1576	TAG (GOV. DR. IDLER SHAFT)	1
SSP-1769	TAG (STUDS GOV DR. PAD)	1

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01P19762-4-17	BAG-HARNESS	4-1	31CD-17	STUD	2-1
03C21721	PLUG	1-5	38-13	STUD	1-1
06B21326	GASKET	6-1	38-15	STUD	6-1
06E19769-0.63	GASKET	2-7	38-16	STUD	1-1
06E19769-1.00	GASKET	6-1	38-22	STUD	1-1
06E19769-1.25	GASKET	1-5	383-B	NUT	3-7
1028-B	BALL	1-5	38D-17	STUD	1-1
1102	PLUG	2-1	50-15	STUD	1-1
1102	PLUG	3-3	53E22144	VALVE	2-7
1102	PLUG	1-1	60009	KEY	3-5
1182-E7	SPARK PLUG	4-1	60096	GASKET	2-5
11F24020-S1	CRANKCASE	1-1	60430	COVER	2-9
13F47729	CRANKSHAFT	1-7	60803	STRAP	1-11
13S19647	GEAR	1-7	60945	PLUG	1-7
14H21950	RING	3-1	61084	SPRING	1-5
14U22539	COUNTERWEIGHT	1-7	61183	GASKET	2-9
15B21319	SOCKET	3-5	61247	COVER	3-7
15F19957-34	ROD	3-5	61260	FLANGE	3-3
15F19957-35	ROD	3-5	61681	GUIDE	3-3
15F19957-36	ROD	3-5	62224	GASKET	4-1
15F19957-37	ROD	3-5	62417	PLUG	2-7
16R22291*	GUIDE	3-3	65441	SEAT	3-5
17C19386	CAP	3-5	66224	GASKET	6-4
17C21191	KEY	3-5	66610	BUSHING	3-3
17F19357	ROCKER	3-5	66796	INSERT	3-3
18A19399	BEARING	1-5	66LC35SDNN	MAGNETO	4-1
18E22677	BEARING	1-5	66M21195	CLAMP	4-1
18M19389	BEARING	3-1	67530	BUSHING	1-9
21C21539	HOUSING	2-1	67530	BUSHING	1-9
21C21539-02	HOUSING	2-1	67542	BEARING	4-1
25C-10	STUD	2-7	67542	BEARING	4-1
25C-11	STUD	6-1	67U20638	HARNESS	4-1
25C-21	STUD	2-1	67U20639	HARNESS	4-1
25C-8	STUD	3-3	68593	SPACER	2-9
31A22470	STARTER	5-1	68668	SPRING	1-5
31C-12	STUD	2-1	68759	TUBE	3-7
31C-12	STUD	3-3	68761	TUBE	3-7
31C-12	STUD	1-1	68H22624	CUSHION	4-1
31C-13	STUD	1-1	69106	COVER	2-9
31C-14	STUD	1-1	69551	GASKET	2-9
31C-15	STUD	6-1	69603	HOSE	6-3

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70455	GASKET	1-5	75089	PISTON	3-1
70456	BRACKET	1-3	75339	BAFFLE	3-7
70457	GASKET	1-3	75656-S	BUSHING	1-7
70484	SCREEN	6-1	75657-S	BUSHING	1-7
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71481	RING	3-7	75906	GASKET	3-7
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71611	RETAINER	3-7	76154	SHAFT	1-9
71651	FITTING	2-7	76155	SHAFT	1-9
71652	GEAR	1-9	76159	PLUG	1-5
71653	GEAR	1-9	76161	CAP	1-5
71668	GEAR	1-9	76162	NSERT	1-5
71669	GEAR	1-9	76220	STUD	1-11
71699	PIPE	6-1	76734	ZIP STRAP	4-1
71737	TUBE	3-7	77467	SPRING	1-5
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71907	WASHER	1-7	77808	VALVE	1-5
71973	GASKET	6-3	77852	OIL FILTER BASE	2-7
72022	ROLLER	1-7	77906	SPACER	3-7
72053	GASKET	1-5	78290	PLUNGER	3-5
72057	SEAT	3-3	78530	SHAFT	2-3
72058	SEAT	3-3	78531	BODY	2-3
72091	SEAL	1-5	78589	PLUG	1-5
72155-S	BUSHING	1-7	AN310-6	NUT	1-5
72158	BUSHING	1-1	AN6-34A	BOLT	1-11
72198	PLUG	3-1	LW-10077	SEAT	3-5
72378	COVER	1-5	LW-11485	SHROUD	3-5
72566	GEAR	1-7	LW-11713	SPRING	1-5
72842	PLUG	1-3	LW-11750	ROD	3-1
72877	TAPPET	1-1	LW-11795	SPRING	3-5
73346	FLANGE	6-3	LW-11800	SPRING	3-5
73772	NOZZLE	1-1	LW-12186	NUT	3-1
73810	BUSHING	1-7	LW-12272	LOCKPLATE	3-5
73818	GASKET	2-1	LW-12427	CYLINDER	3-3
73938	VALVE	3-5	LW-12545	PLUG	6-1
74068	GAGE	1-3	LW-12681	GASKET	4-1
74121	CARBURETOR	6-4	LW-12707	ADAPTER	4-1
74241	RING	3-1	LW-12795	GASKET	2-7
74306	TUBE	1-7	LW-12892	THRUST	3-5
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LW-13901	SUMP	6-1	LW-31H0.88	BOLT	1-9
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LW-14260	SEAL	2-3	STD-1173	INSERT	6-1
LW-14710-25	GAGE	1-3	STD-1211	PLUG	1-7
LW-14756	GAGE	1-3	STD-1339	PLUG	1-1
LW-14820	RING	1-7	STD-1353	INSERT	3-3
LW-14830	BEARING	1-5	STD-1410	NUT	5-1
LW-14995	SPRING	3-5	STD-1410	NUT	4-1
LW-15472	FUEL	2-5	STD-1410	NUT	3-3
LW-15484-10	PLUG	1-3	STD-1410	NUT	2-9
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LW-19096	GEAR	4-1	STD-160	WASHER	2-7
LW-19100	GEAR	4-1	STD-160	WASHER	2-7
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LW-19340	CAMSHAFT	1-9	STD-1882	SCREW	2-5
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LW-25-1.00	BOLT	6-1	STD-2090	NUT	3-7
LW-25-1.00	BOLT	2-7	STD-2168	NUT	1-9
LW-25-1.13	BOLT	1-11	STD-2168	PLUNGER	1-9
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