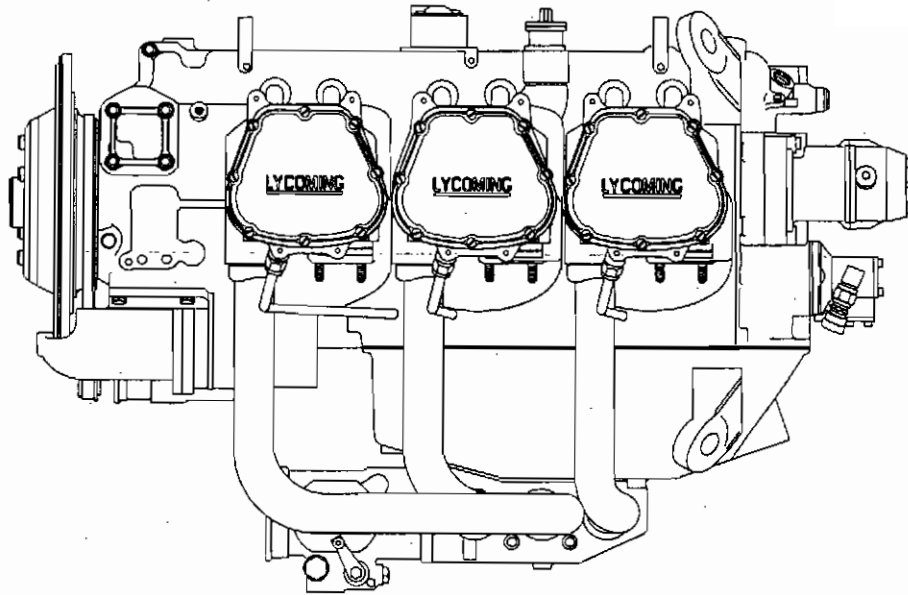


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Engine Parts Catalog

IO-580-B1A

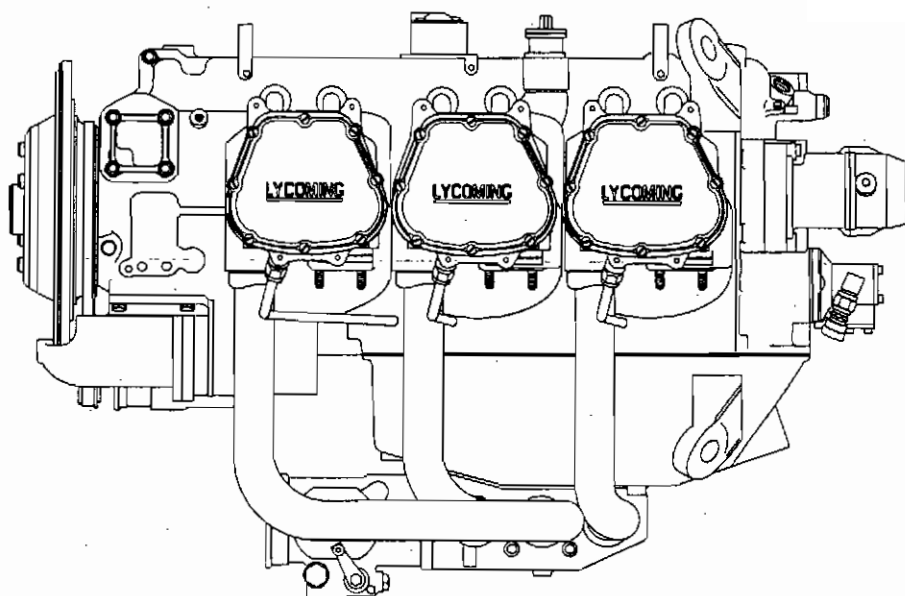
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March 2003

Part No. PC-701-1

652 Oliver Street
Williamsport, PA 17701

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Engine Parts Catalog

IO-580-B1A

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March 2003

Part No. PC-701-1

652 Oliver Street
Williamsport, PA 17701

NOTE

In order to incorporate the new roller tappets and up-to-date part numbers for the IO-580-B1A model engine, this edition of Parts Catalog PC-701-1 is reissued in its entirety. This edition is a complete manual, current as of the date of issue.

This manual will be kept current by revisions from Lycoming distributors or from the factory. All revisions will be accompanied by a Parts Catalog Revision page which will identify the revision level, the date of the revision, and the pages revised, added or deleted.

This illustrated parts catalog contains a complete parts listing for the Lycoming IO-580-B1A 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.

A Service Kits section and Oversize and Undersize Parts List are included to aid in ordering parts as necessary during overhaul.

The Supersedure Section lists a history of part numbers that have been superseded and gives a brief description of the change involved.

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

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 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 catalogs 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 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
66670	BUSHING		X	X								
66713	GUIDE		X	X		X	X	X				
66796	INSERT			X								
66796	DOWEL		X	For Lycoming use only.								
72155-S	BUSHING		X	X	X	X						
73810	BUSHING		X	X	X							
75656-S	BUSHING											
75657-S	BUSHING	X	X	X	X							
75838	GUIDE		X	X		X	X	X				
78443	SEAL								X			
LW-12688	SEAT		X		X	X						
LW-14830	BEARING				X					X*	X*	X*
LW-15628	SEAL								X			
STD-1065	DOWEL	X	X	X	X							
16T19468	SEAT			X		X	X					
18A19399	BEARING				X					X*	X*	X*

* - Also available in P15 oversize.

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-14830 in .003 undersize, order part number LW-14830-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. I	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	11T25020-S3	CRANKCASE ASSEMBLY	1
	11T25120-S3	CRANKCASE ASSEMBLY (Roller tappet engines)	1
2	31C-12	STUD, 5/16-18 X 1-1/2 long	1
3	31C-13	STUD, 5/16-18 x 1-1/8 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	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	STD-1339	PLUG, 1/16-27 NPT	1
14	1102	PLUG, 1/8-27 NPT, Allen head	4
15	31C-16	STUD, 5/16-18 x 2.00 long	4
16	12E23021	NOZZLE ASSEMBLY, Piston cooling	6

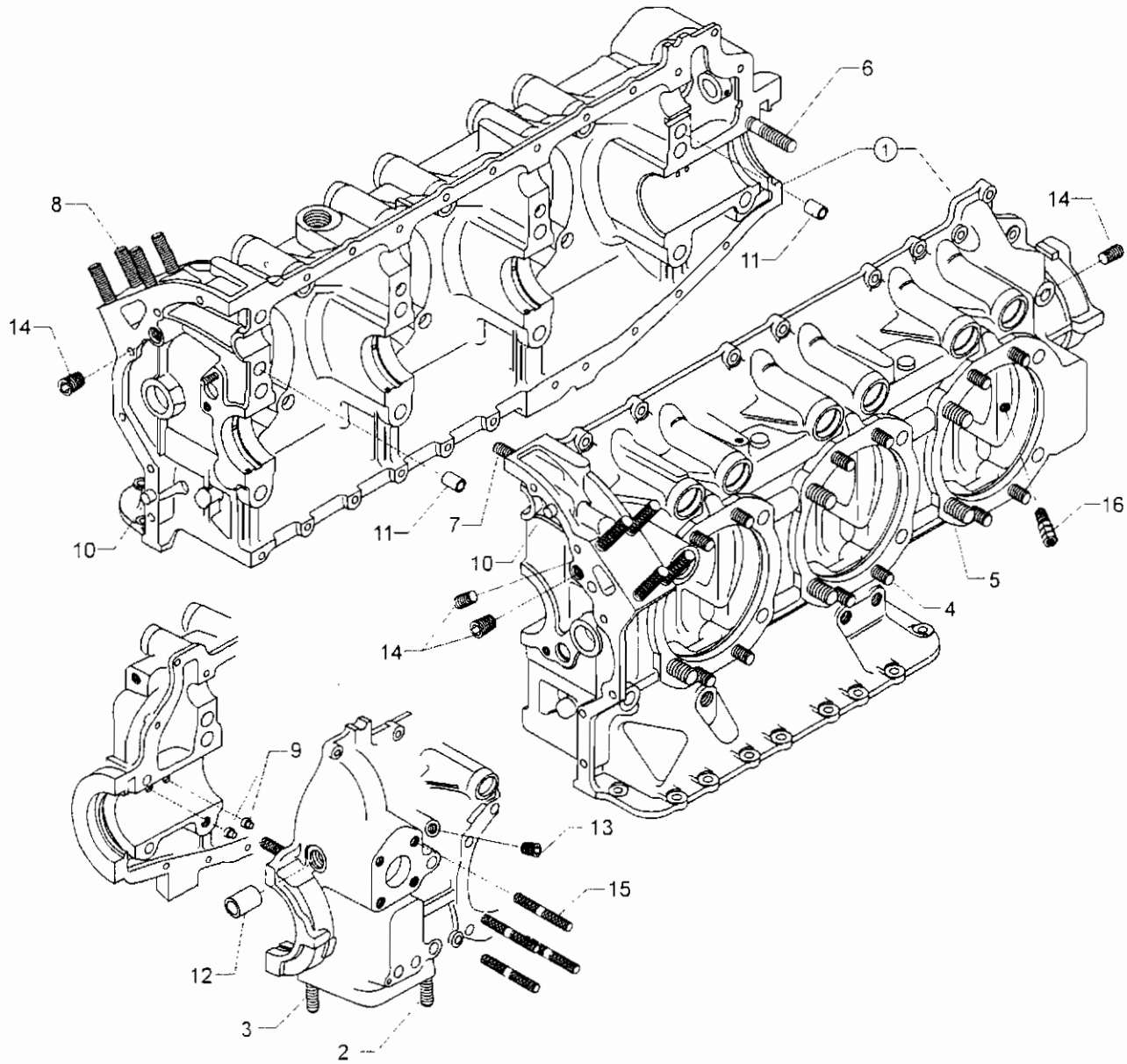


FIGURE 1. CRANKCASE ASSEMBLY

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

FIG. REF. 2	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	70457	GASKET, Oil filler extension	1
2	75737	EXTENSION, Oil filler (2.69 long)	1
3	74068	RING, Oil level gage seal	1
4	LW-16783-3	GAGE ASSEMBLY, Oil level	1
5	70456	BRACKET, Engine mounting (Dynafoval)	4
	12A19770	BRACKET, Engine mounting (Dynafoval) (alternate)	4
6	STD-33	WASHER, 3/8 plain	16
7	STD-678	WASHER, 3/8 lock, internal teeth	16
8	STD-596	NUT, 3/8-24 plain	16

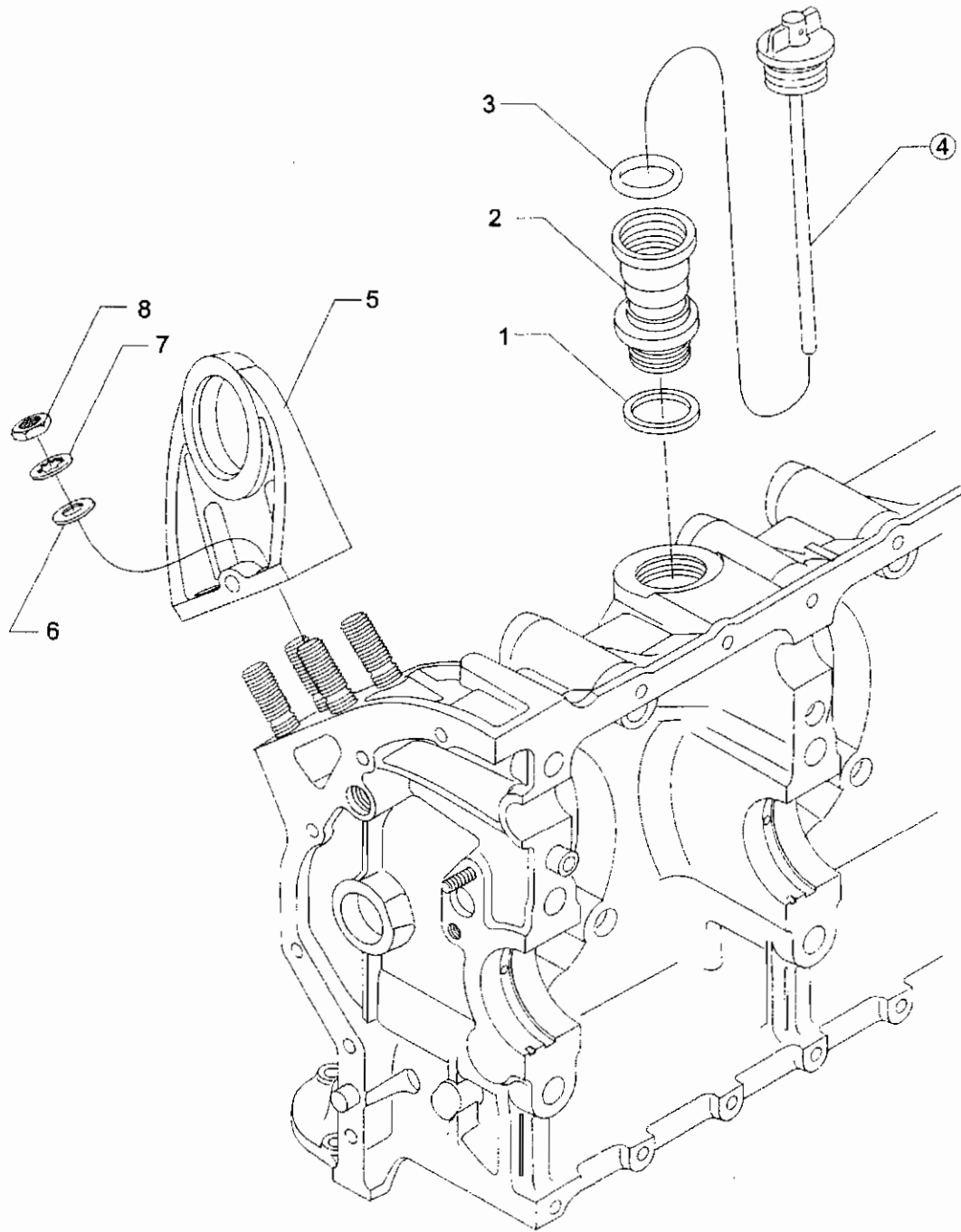


FIGURE 2. OIL LEVEL GAGE ASSEMBLY AND ENGINE MOUNTING BRACKETS

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, adjustable	1
5	LW-14830	BEARING, Crankshaft	6
6	18A19399	BEARING, Crankshaft, front	2
7	LW-15628	SEAL, Crankshaft oil, solid	1
	78443	SEAL, Crankshaft, oil, split	1
8	72091	RING, Oil seal, 23/64 I.D. x 7/64 dia. section	2
9	72877	BODY, Hydraulic tappet	12
10	LRT23381	BODY ASSEMBLY, Hydraulic tappet roller (Roller tappet engines)	12

* - Select spring to give a minimum of three threads exposed on adjusting screw to allow field adjustment. Reference latest revision of Lycoming Table of Limits SSP-1776, Part I for spring identification.

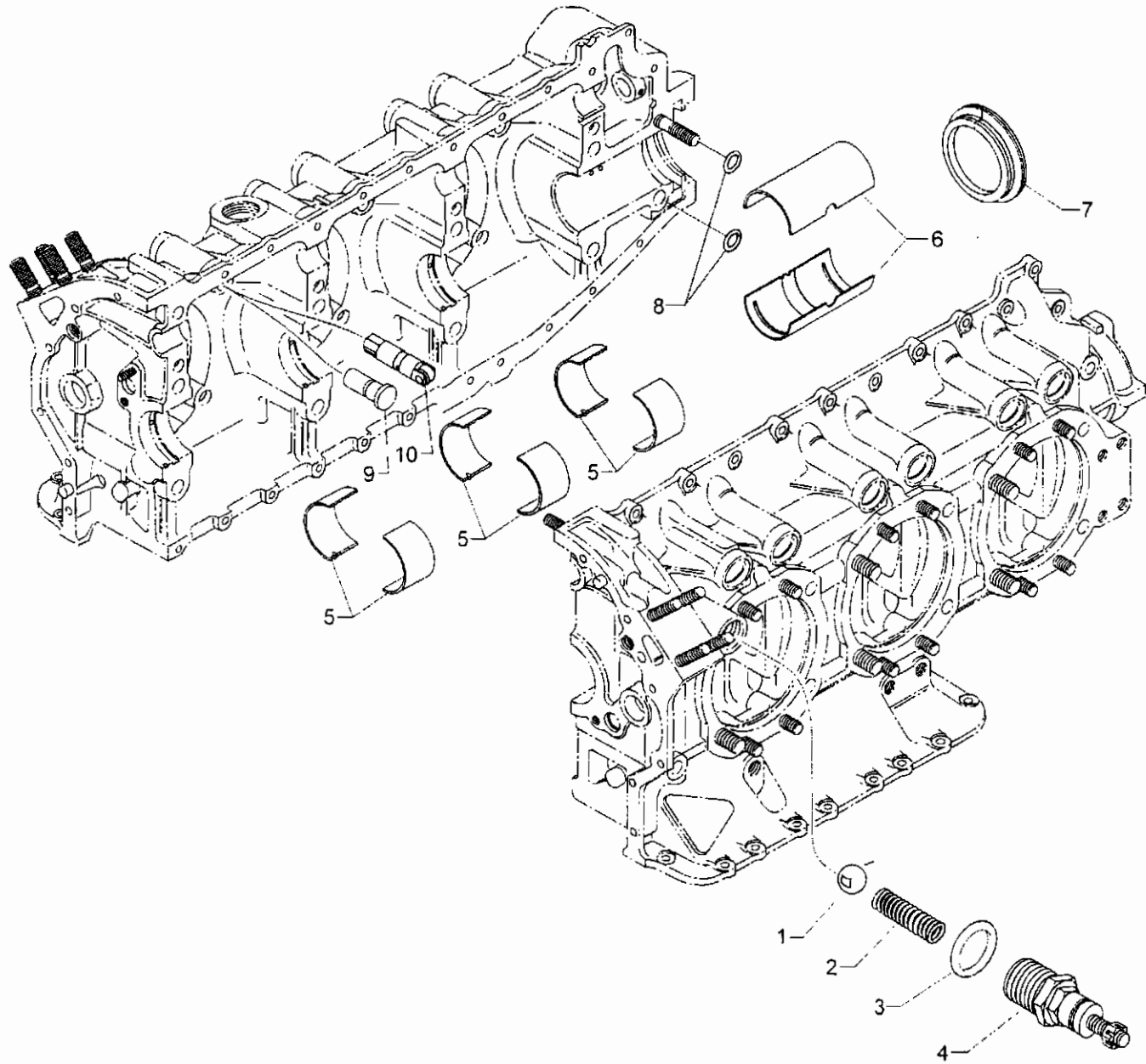


FIGURE 3. CRANKCASE RELATED PARTS

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

FIG. REF. 4	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	13F47727	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	60945	PLUG, 1-1/4 O.D.	1
5	75656-S	BUSHING, Propeller flange, long	4
6	72155-S	BUSHING, Propeller flange, short	1
7	75657-S	BUSHING, Propeller flange, indexing	1
8	STD-1211	PLUG, 2.00" dia. expansion	1
9	LW-19210	COUNTERWEIGHT ASSEMBLY	2
10	71903-A, -B	BUSHING, Dynamic counterweight	8
11	73648	ROLLER, Dynamic counterweight, 5.1 order	2
12	76788	ROLLER, Dynamic counterweight, 6.3 order	2
13	71907	WASHER, Dynamic counterweight	8
14	LW-14820	RING, Internal retaining	8
15	13S19648	GEAR, Crankshaft	1
16	LW-18638	LOCKPLATE, Crankshaft gear	1
17	STD-2247	BOLT, 5/16-24 x 1-3/4 long, hex. head	1
18	LW-19340	CAMSHAFT ASSEMBLY	1
	15N23374	CAMSHAFT ASSEMBLY, Roller lifter (Roller tappet engines)	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-16064	SUPPORT ASSEMBLY, Starter ring gear	1
	LW-10184	SUPPORT ASSEMBLY, Starter ring gear	1
24	72566	GEAR, Starter ring	1

CRANKSHAFT & COUNTERWEIGHT ASSEMBLY, KIT P/N 05K47777 AVAILABLE.

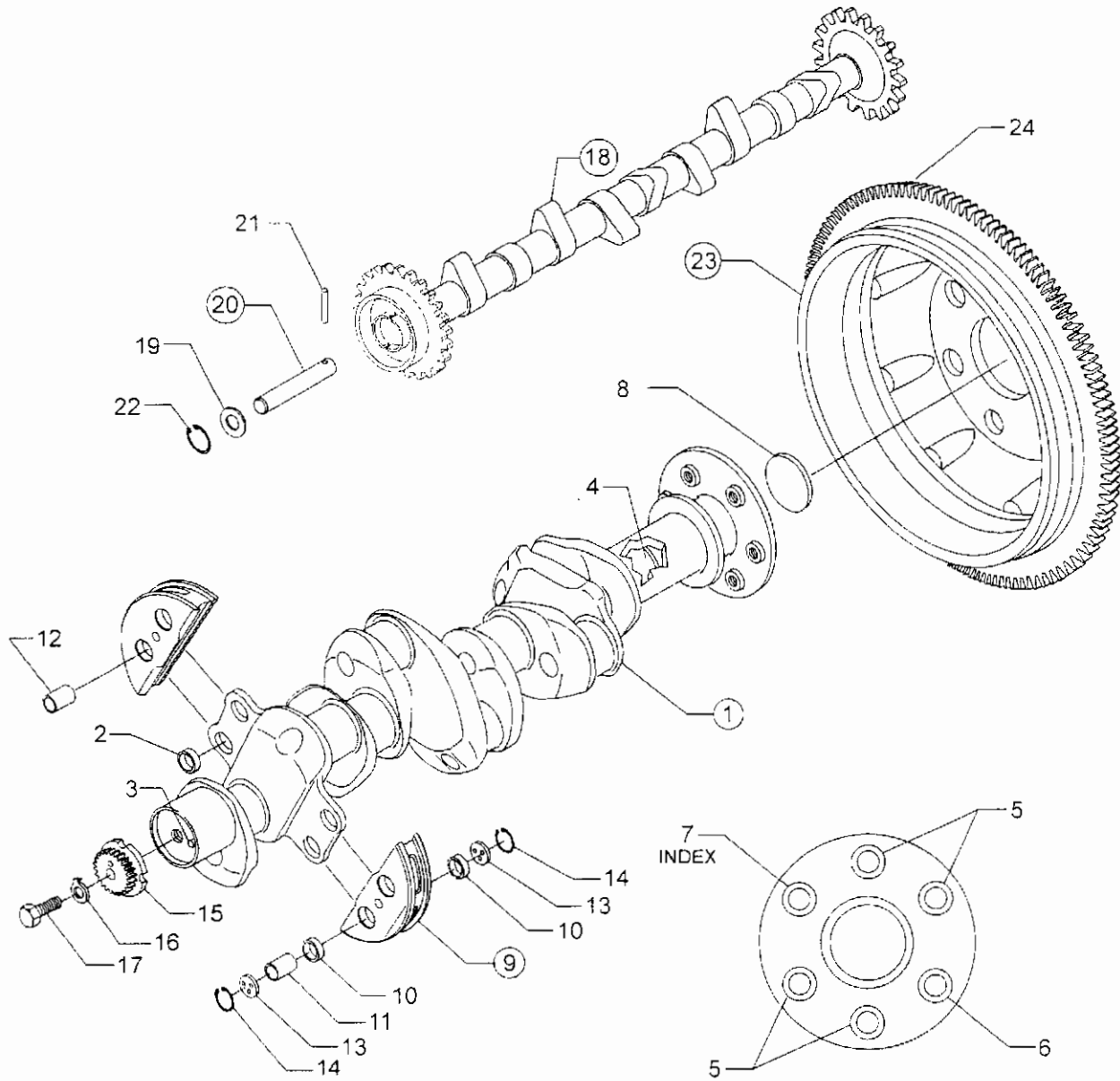


FIGURE 4. CRANKSHAFT, COUNTERWEIGHT, CAMSHAFT, TACHOMETER DRIVE AND STARTER SUPPORT ASSEMBLIES

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 thick)	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

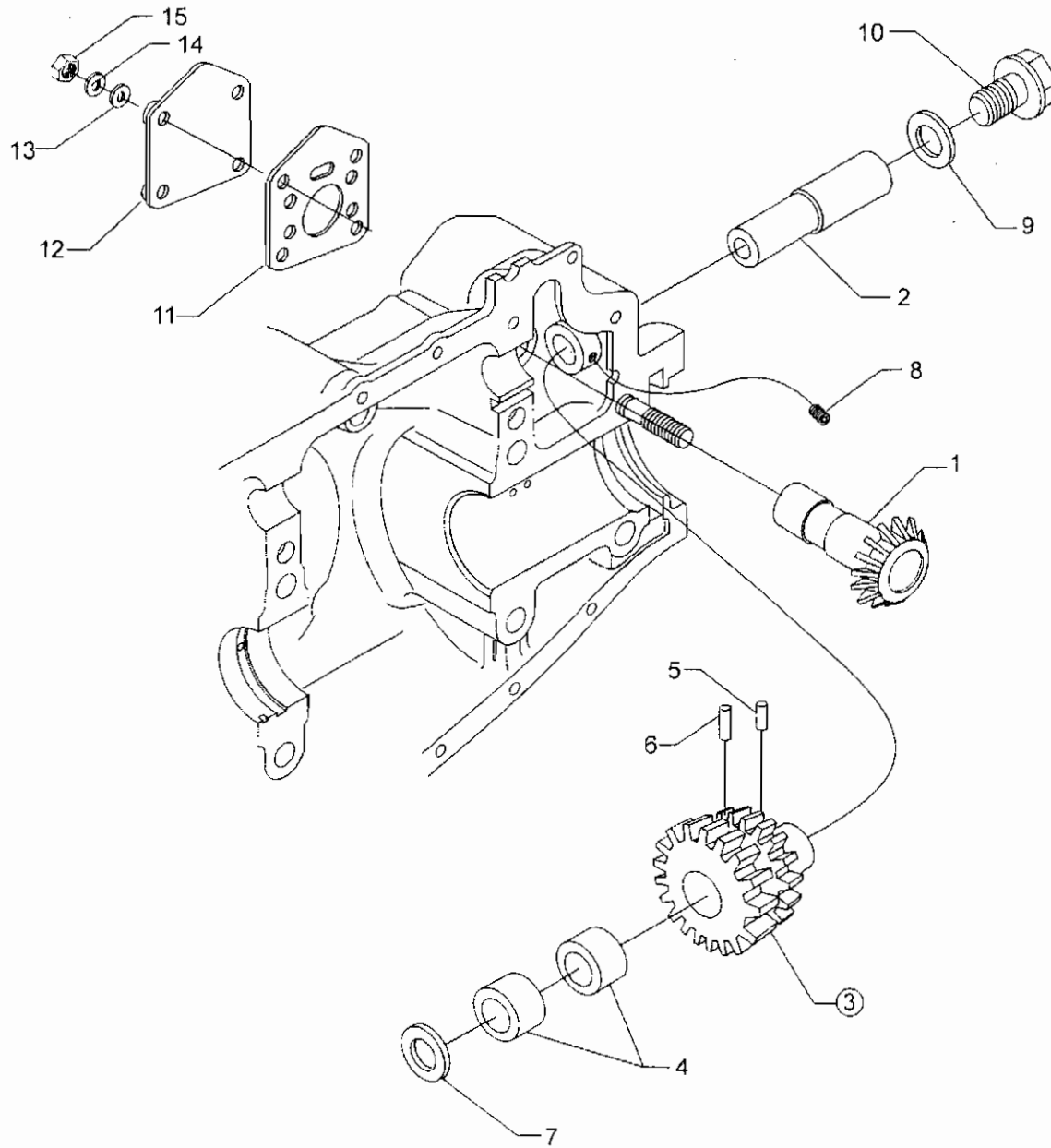


FIGURE 5. PROPELLER GOVERNOR DRIVE ASSEMBLY

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

FIG. REF. 6	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	72246	SHAFT, Fuel pump idler gear	1
2	71667	LOCKPLATE, 1/4 bolt x 1-3/4 spacing	1
3	LW-25-0.63	BOLT, 1/4-20 x 5/8 long, hex. head	2
4	71664	GEAR ASSEMBLY, Fuel pump idler	1
5	77309	BUSHING, Fuel pump gear	1
6	70474	WASHER, Fuel pump idler, thrust	1
7	STD-1737	RING, External retaining, 9//16 dia.	1
8	71668	GEAR ASSEMBLY, Crankshaft idler, plain	2
9	67530	BUSHING, Crankshaft idler gear	2
10	72972	SHAFTGEAR ASSEMBLY, Fuel pump drive	1
11	69164	GASKET, Fuel pump adapter	1
12	69159	ADAPTER ASSEMBLY, Fuel pump drive	1
13	LW-13795	SHAFT, Crankshaft idler gear	2
14	LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. head drilled	3
15	STD-2168	NUT, 5/16-18 NC-3 slotted shear	1

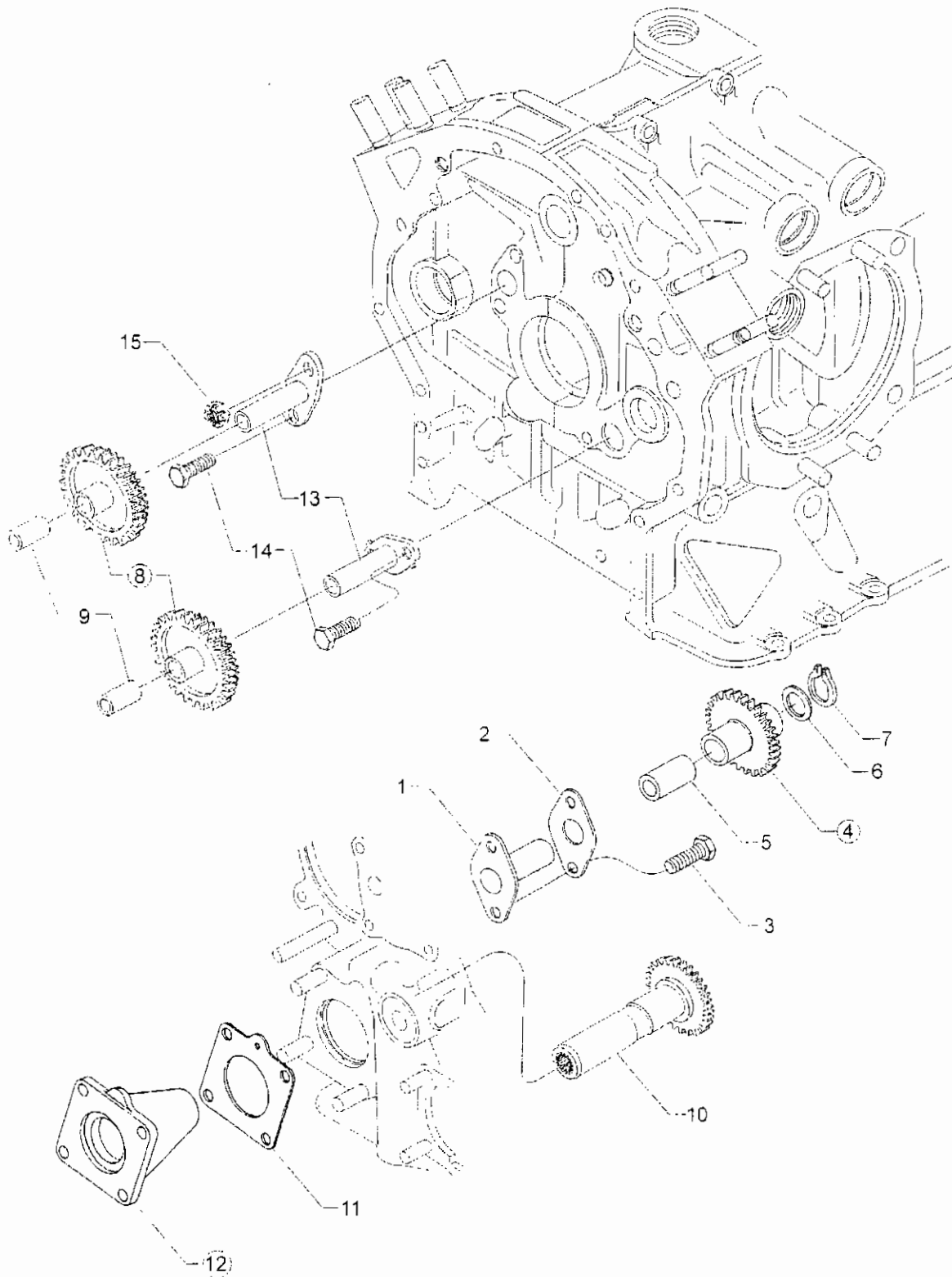


FIGURE 6. CRANKSHAFT AND FUEL PUMP IDLER GEARS

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	11
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	STD-160	WASHER, 1/4 lock, internal teeth	13
7	STD-1411	NUT, 1/4-20 plain	12
8	LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head, drilled end	6
9	STD-2249	NUT, 1/4-20 slotted shear	6
10	STD-33	WASHER, 3/8 plain	1
11	STD-872	NUT, 3/8-24 slotted	1
12	AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. head	1
13	STD-678	WASHER, 3/8 lock, internal teeth	2
14	STD-596	NUT, 3/8-24 plain	2
15	01A22453	STUD, 1/2-20 x 10-35/64 long	8
16	LW-31-2.75	BOLT, 5/16-18 x 2-3/4 long, hex. head	1
17	LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	3
18	STD-35	WASHER, 5/16 plain	4
19	STD-475	WASHER, 5/16 lock, internal teeth	4
20	STD-8	WASHER, 1/4 plain	18
21	STD-33	WASHER, 3/8 plain	3

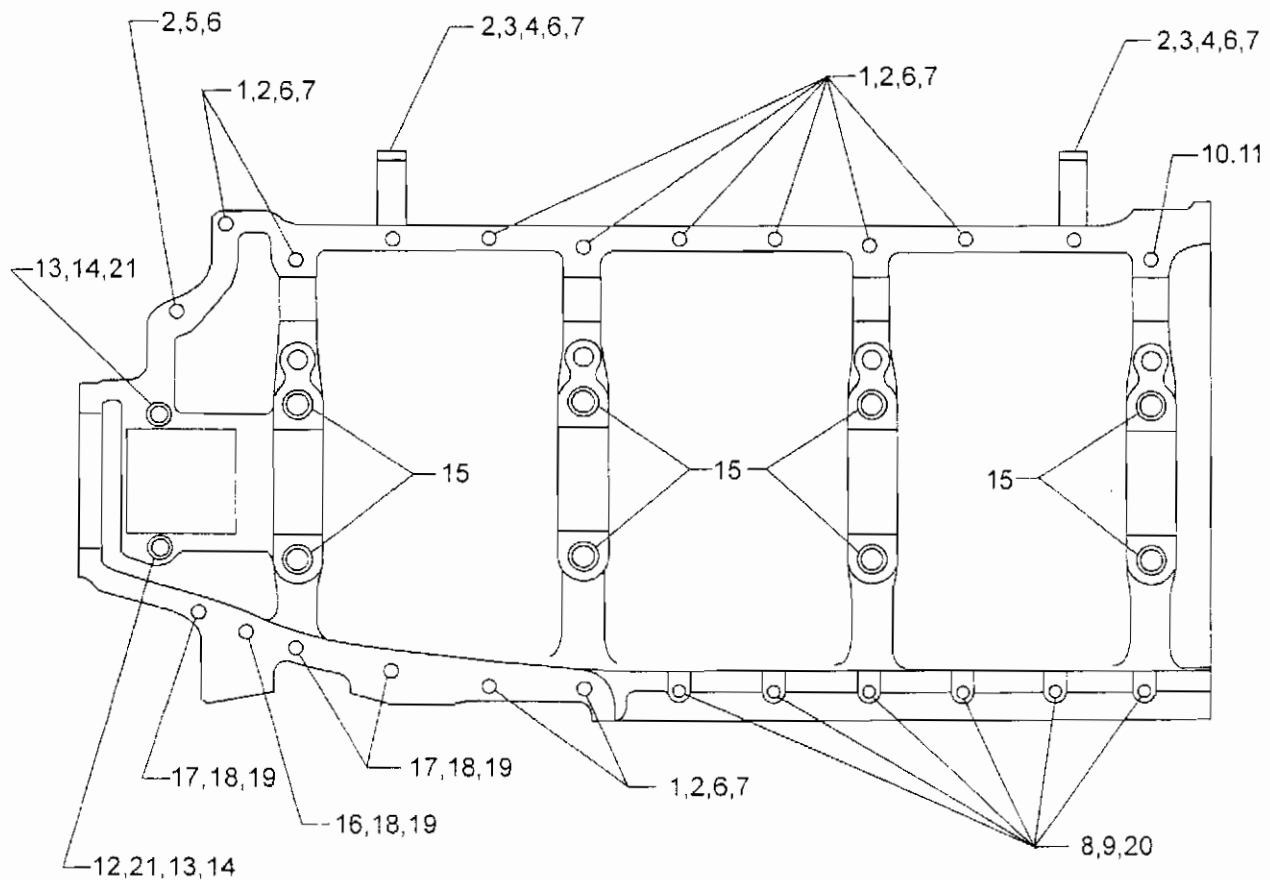


FIGURE 7. CRANKCASE ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS
ACCESSORY HOUSING ASSEMBLY

FIG. REF. 8	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	73818	GASKET, Accessory housing	1
2	21C21541-05	HOUSING ASSEMBLY, Accessory	1
3	31C-19	STUD, 5/16-18 x 2-3/8 long	4
4	31C-12	STUD, 5/16-18 x 1-1/2 long	4
5	31C-21	STUD, 5/16-18 x 2-5/8 long	4
6	25C-21	STUD, 1/4-20 x 2-5/8 long	4
7	31CD-20	STUD, 5/16-18 x 2-1/2 long, drilled	3
8	1102	PLUG, 1/8-27 NPT, Allen head	4
9	STD-784	PLUG, 3/8-18 NPT, Allen head	1

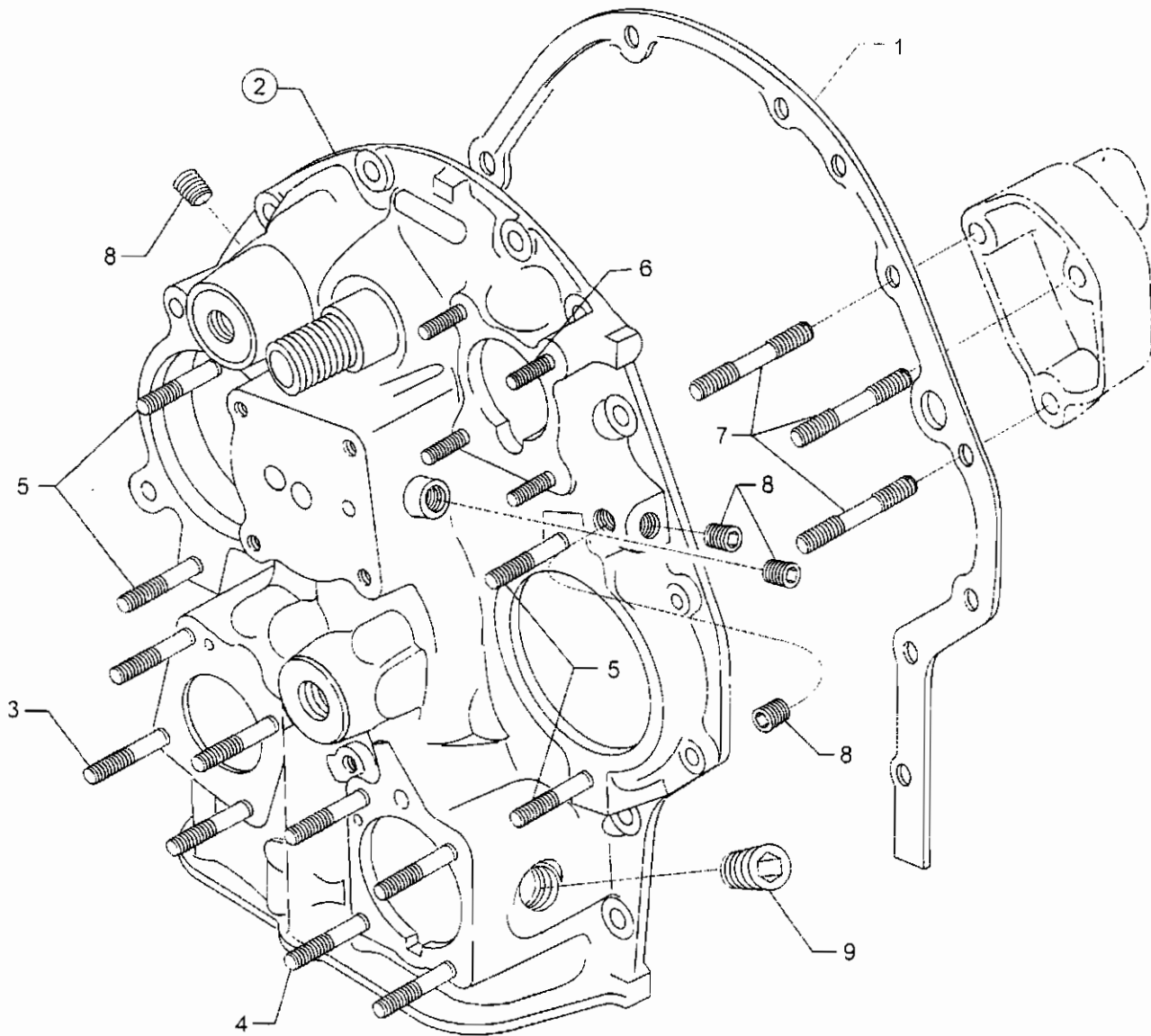


FIGURE 8. ACCESSORY HOUSING ASSEMBLY

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

FIG. REF. 9	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	51A22618	BODY ASSEMBLY, Oil pump	1
2	51D22617	SHAFT, Oil pump idler	1
3	STD-714	PIN, 1/8 diameter x 1.00 long, cotter	1
4	STD-1339	PLUG, 1/16-27 NPT, Allen head	1
5	76784	SHAFT, Oil pump drive	1
6	51B23274	IMPELLER, Oil pump, driving	1
7	51C23290	IMPELLER, Oil pump, driven	1
8	STD-35	WASHER, 5/16 plain	3
9	STD-1420	NUT, 5/16-18 slotted	3
10	LW-14260	SEAL, Tachometer shaft, oil	1
11	STD-8	WASHER, 1/4 plain	10
12	STD-160	WASHER, 1/4 lock, internal teeth	12
13	LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	9
14	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
15	LW-25-1.44	BOLT, 1/4-20 x 1-7/16 long, hex. head	2

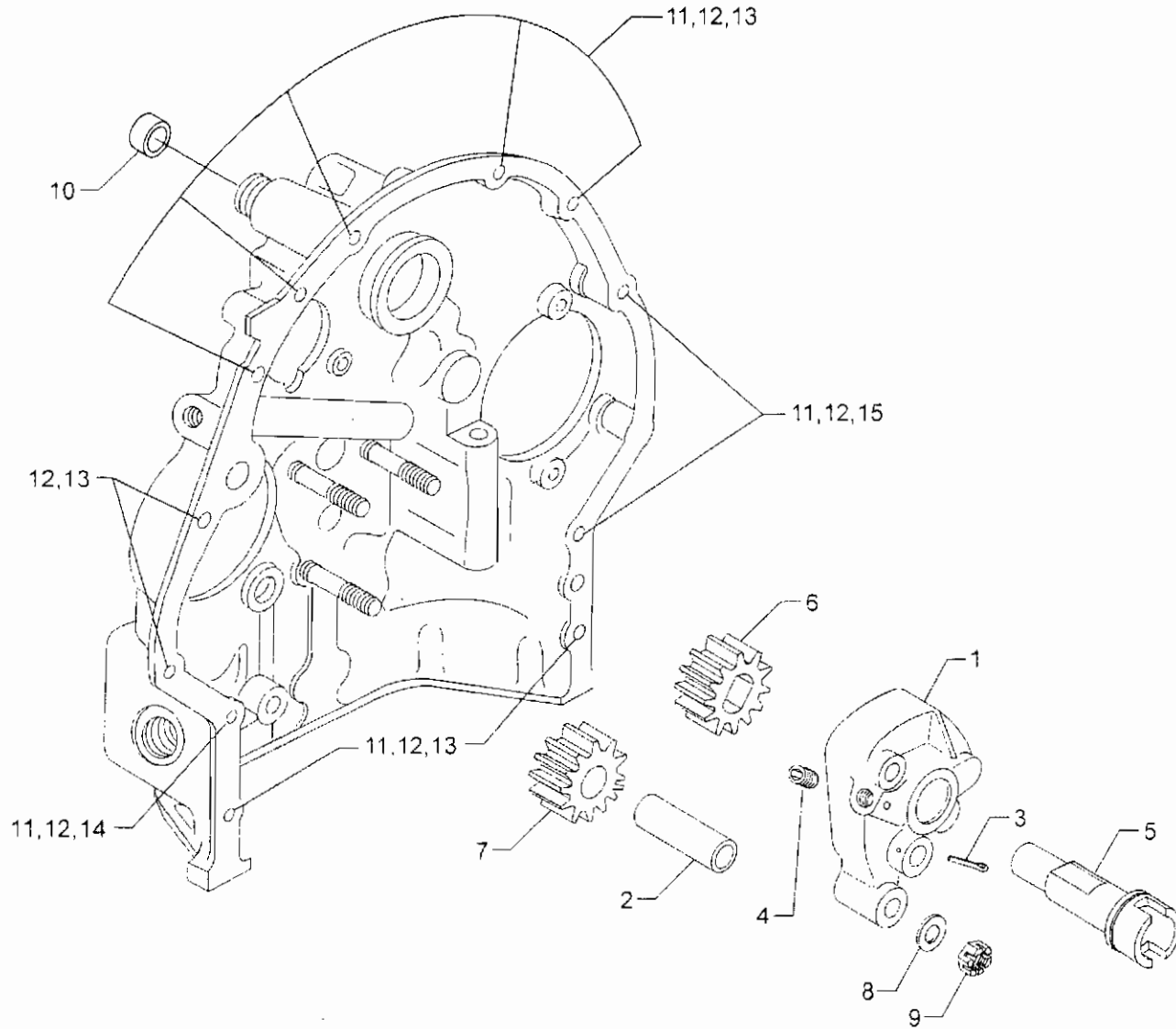


FIGURE 9. OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS
FUEL PUMP ASSEMBLY AND ATTACHING PARTS

FIG. REF. 10	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-10799	SPACER, Fuel pump insulating	1
2	62E22581	FUEL PUMP, Lear Siegler (RG9080J4A/M)	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	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

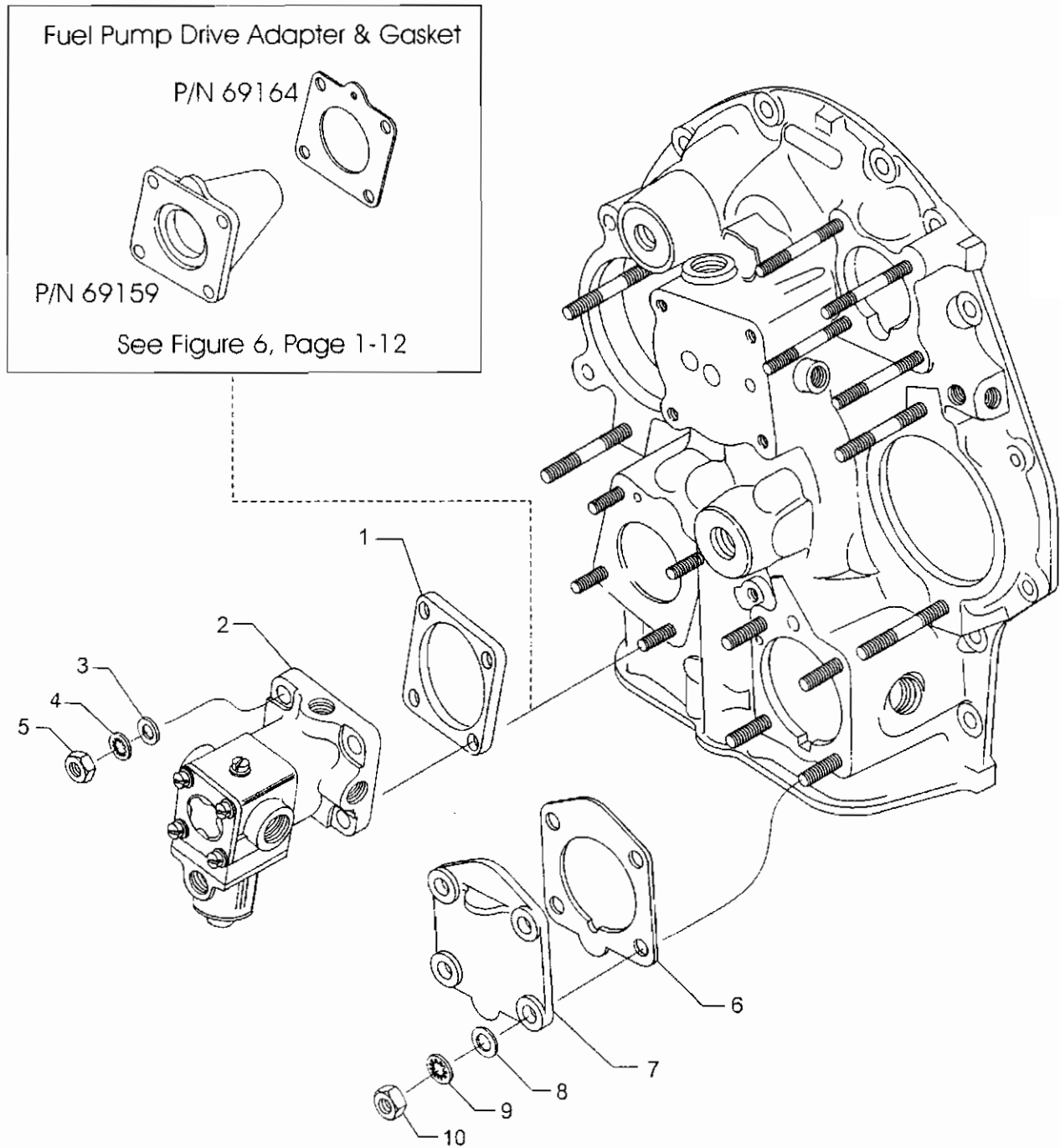


FIGURE 10. FUEL PUMP ASSEMBLY AND ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS
VACUUM PUMP ASSEMBLY AND BREATHER FITTINGS

FIG. REF. 11	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	61183	GASKET, Accessory adapter	1
2	67536	ADAPTER ASSEMBLY, Vacuum pump	1
3	06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16 thick	1
4	72974	GEAR ASSEMBLY, Vacuum pump driven	1
5	72962	THRUST BUTTON, Vacuum pump gear	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	06E19769-0.63	GASKET, Annular, 5/8 I.D.	1
13	62417	PLUG, Oil cooler bypass	1
14	STD-784	PLUG, 3/8-18 NPT, Allen head	2
15	72996	FITTING, Breather	1

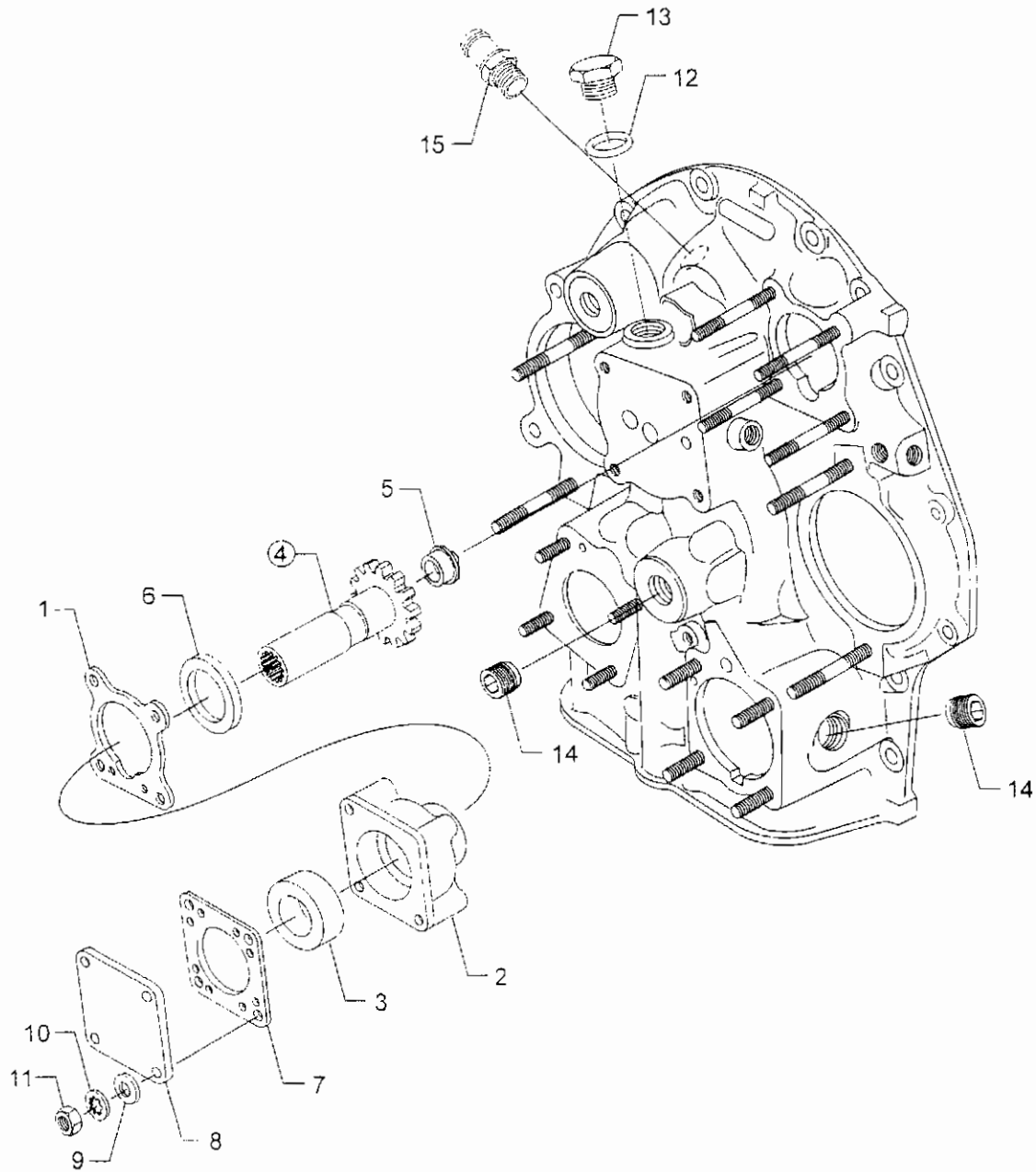


FIGURE 11. VACUUM PUMP ASSEMBLY AND BREATHER FITTINGS

ACCESSORY HOUSING AND RELATED PARTS
OIL FILTER ASSEMBLY AND OIL COOLER BYPASS VALVE

FIG. REF. 12	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-12795*	GASKET, Oil filter adapter	2
2	77852	OIL FILTER BASE ASSEMBLY	1
3	LW-13215*	OIL FILTER	2
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, Temp. control oil cooler	1
9	25C-10	STUD, 1/4-20 x 1-1/4 long	1

* - Extra gasket and filter shipped as loose parts with engine.

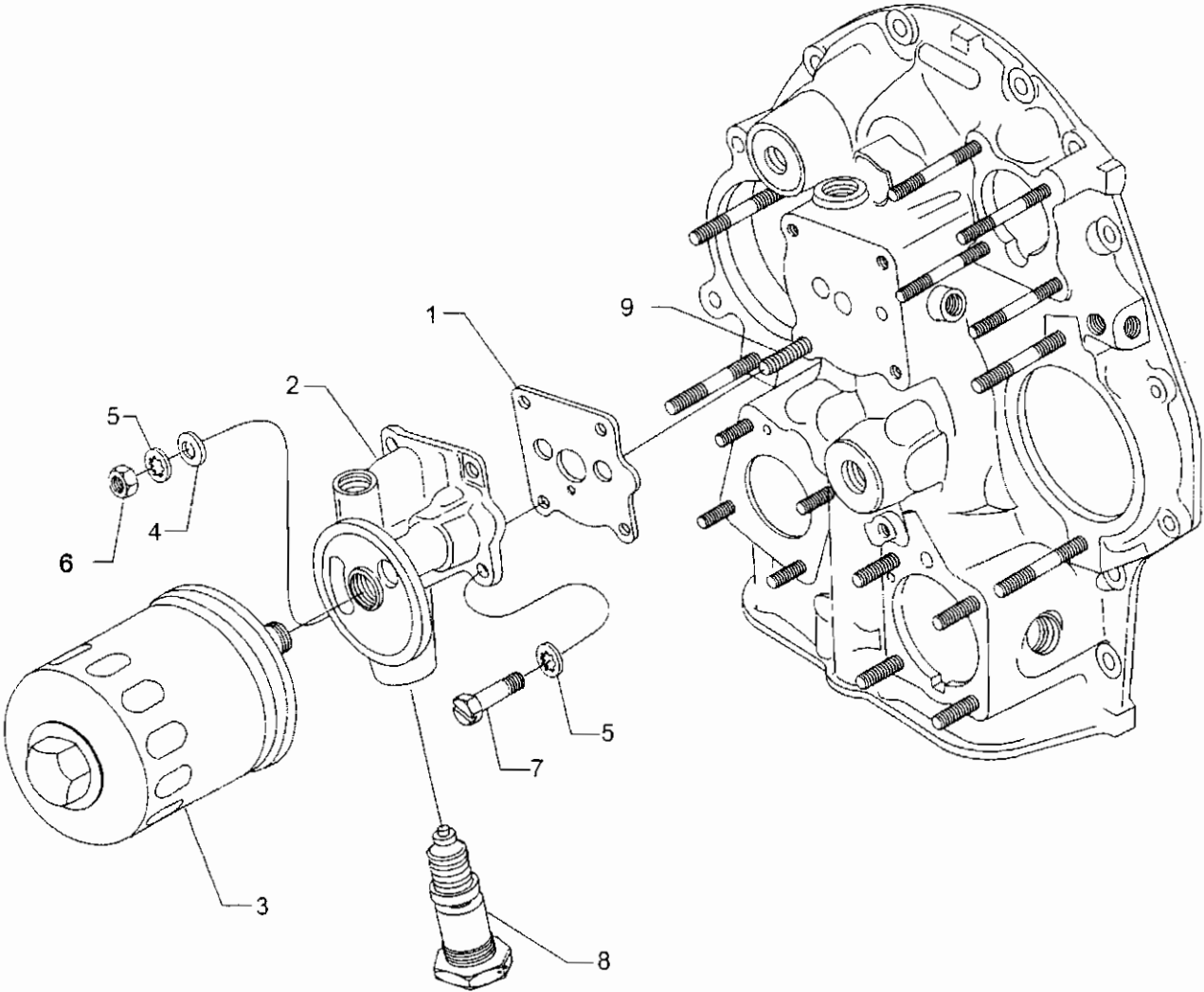


FIGURE 12. OIL FILTER ASSEMBLY AND OIL COOLER BYPASS VALVE

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

FIG. REF. 13	PART NUMBERS	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-19332	CONNECTING ROD ASSEMBLY	6
2	LW-13923	BUSHING, Connecting rod, upper	6
3	LW-12596	BOLT, Connecting rod	12
4	LW-12186	NUT, Connecting rod	12
5	18N19391	BEARING, Connecting rod	12
6	14E22396	PISTON, Compression ratio, 8.90:1	6
7	14J22048	PIN, Piston	6
8	72198	PLUG, Piston pin	12
9	14G22050	RING, Piston, compression	12
10	14H23148	RING, Piston, oil regulating, expander type	6

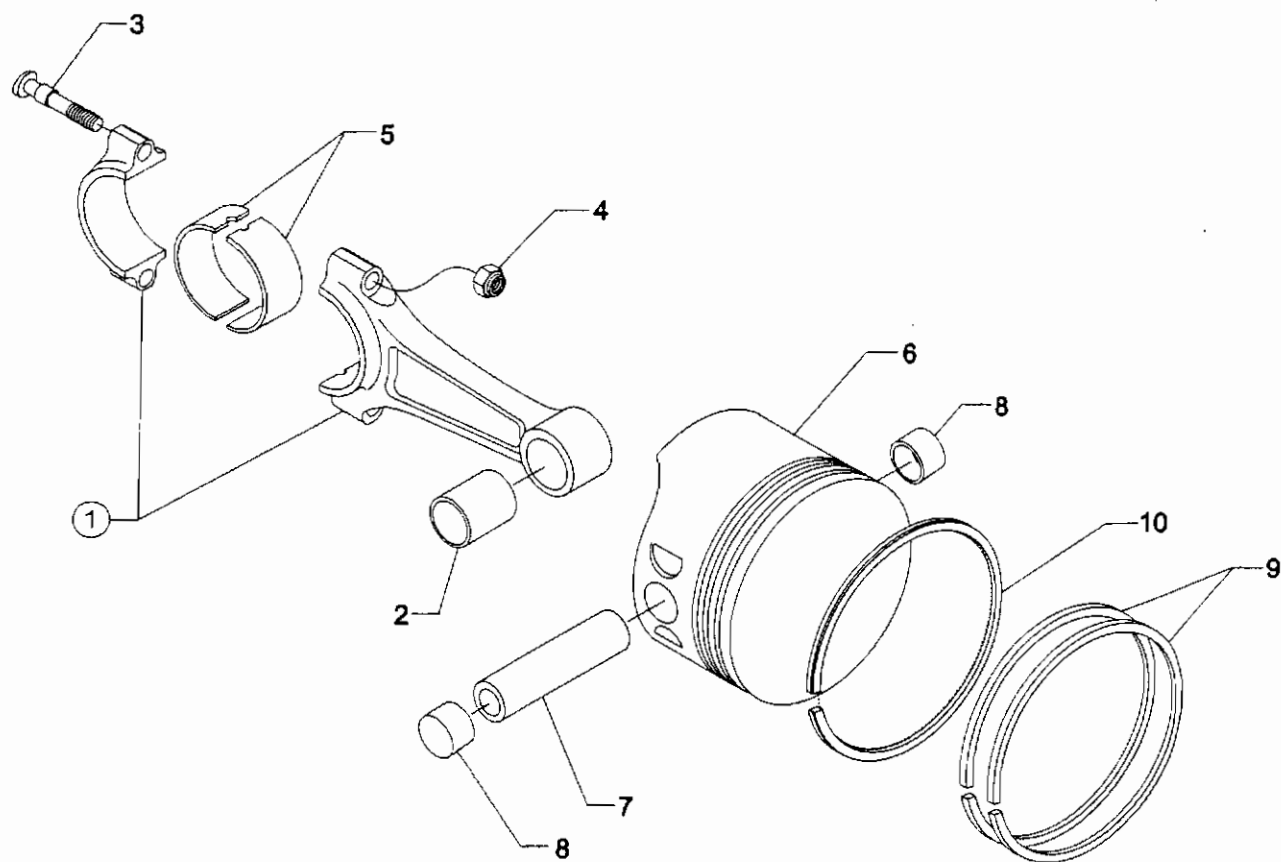


FIGURE 13. CONNECTING RODS, PISTONS AND RING ASSEMBLIES

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

FIG. REF. 14	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	16A22887	CYLINDER ASSEMBLY	6
2	LW-12688	SEAT, Intake valve	6
3	16T19468	SEAT, Exhaust valve	6
4	LW-11956	GUIDE, Valve, intake, flanged	6
5	LW-11958	GUIDE, Valve, exhaust, flanged	6
6	66796	INSERT, Spark plug, 18-1.5 MM	12
7	31C-13	STUD, 5/16-18 x 1-5/8 long	12
8	25C-8	STUD, 1/4-10 x 1.00 long	24
9	66670	BUSHING, Rocker shaft, inner	24
10	MS20823-6D	ELBOW, 45°, 3/8 flared tube	6
11	72343	STABILIZER, Cylinder head fins, 15 teeth	6
12	72344	STABILIZER, Cylinder head fins, 26 teeth	6
13	77611	GASKET, Exhaust flange	6
14	STD-35	WASHER, 5/16 plain	12
15	STD-2233	LOCKNUT, 5/16-18 hex.	12
16	1102*	PLUG, 1/8-27 NPT, Allen head	6

* - Assemble in cylinder head when no priming lines are installed.

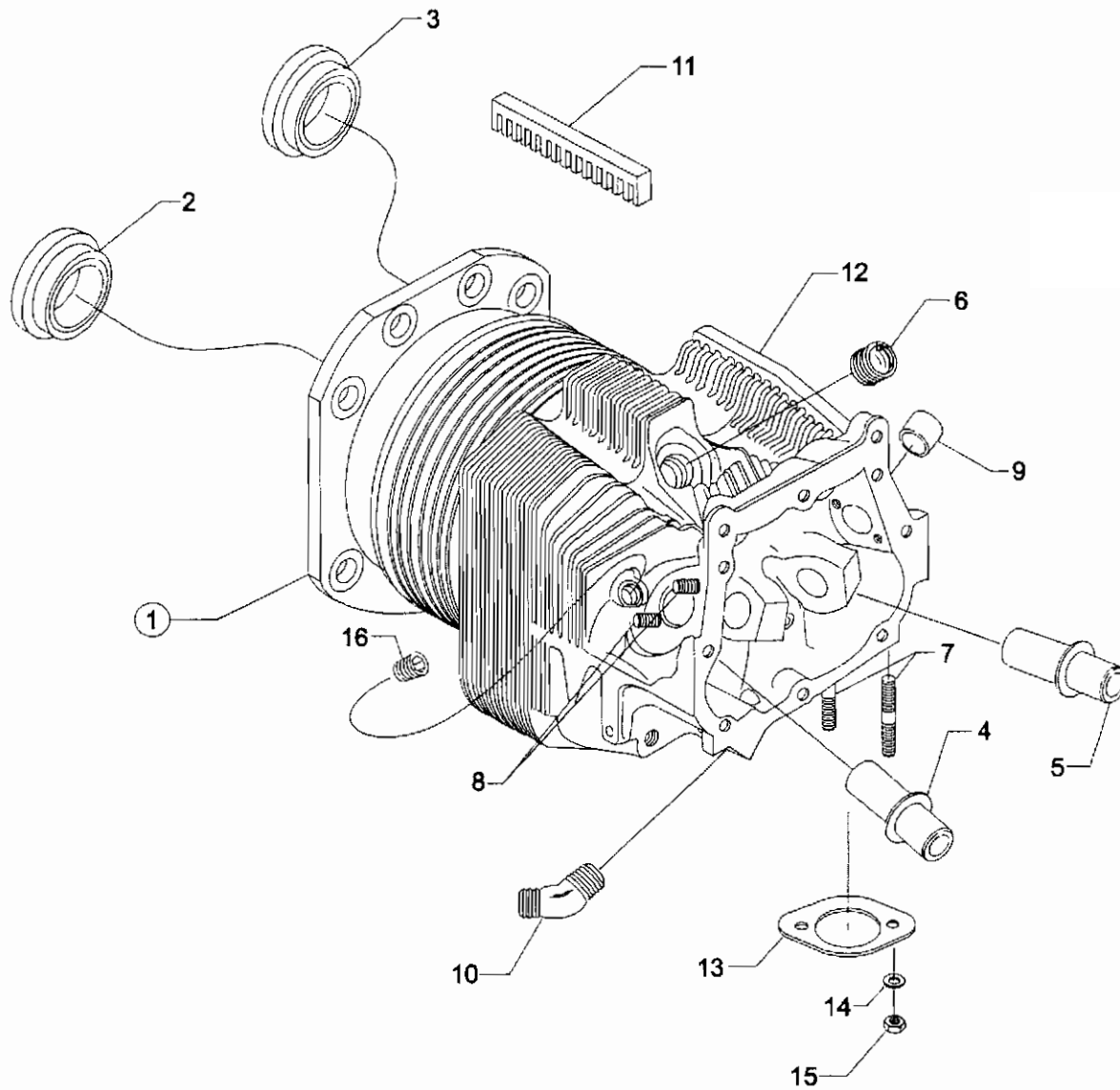


FIGURE 14. CYLINDER ASSEMBLY

CYLINDER, PISTON AND VALVE TRAIN
VALVE ASSEMBLY AND RELATED PARTS

FIG. REF. 15	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-13622	VALVE, Intake (rotator type)	6
2	LW-16740	VALVE, Exhaust (rotator type)	6
3	LW-11797	SPRING, Valve, inner	12
4	LW-11796	SPRING, Valve outer	12
5	LW-13321	SEAT, Valve spring, lower intake	6
6	LW-13322	SEAT, Valve, spring, upper intake	6
7	69532	SEAT, Valve spring, upper intake	6
8	LW-16475	SEAT, Valve spring, upper exhaust (rotator type)	6
9	75050	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	78290	PLUNGER ASSEMBLY, Hydraulic tappet	12
14	15B21319	SOCKET, Hydraulic tappet	12
15	72255	SHROUD TUBE ASSEMBLY, Push rod	12
16	15H21201	SPRING, Shroud tube	24
17	66728	WASHER, 25/32 I.D. x 1-1/4 O.D. x 1/32 thick	24
18	61503	SLEEVE, Shroud tube seal	12
19	LW-18661	SEAL, Shroud tube	24
20	15F19957-55	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-56	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-57	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-58	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F21362-21	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F21362-22	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F21362-23	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F21362-24	ROD ASSEMBLY, Push (A total of 12 required)	AR
21	17F21186*	ROCKER ASSEMBLY, Intake valve	6
22	15F21185*	ROCKER ASSEMBLY, Intake valve	6
23	74389	BUSHING, Valve rocker	12
24	71549	WASHER, Valve rocker	12
25	72626	SHAFT, Valve rocker	12

* - Due to the size of the area where the part number is stamped, the last five digits may be all that is shown (21185 or 21186).

CYLINDER, PISTON AND VALVE TRAIN
VALVE ASSEMBLY AND RELATED PARTS (CONT.)

The following parts listing applies to roller tappet engines only.

FIG. REF. 15	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
26	15G23462	SHROUD TUBE ASSEMBLY, Push rod	12
27	01L23459	WASHER, 25/32 I.D. x 1-3/8 O.D. x 1/32 thick	12
28	06A23493	SEAL, Shroud tube	12
29	15F19957-52*	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-53*	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F19957-54*	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F21362-18*	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F21362-19*	ROD ASSEMBLY, Push (A total of 12 required)	AR
	15F21362-20*	ROD ASSEMBLY, Push (A total of 12 required)	AR

* - These push rods are not to be used on non-roller tappet engines.

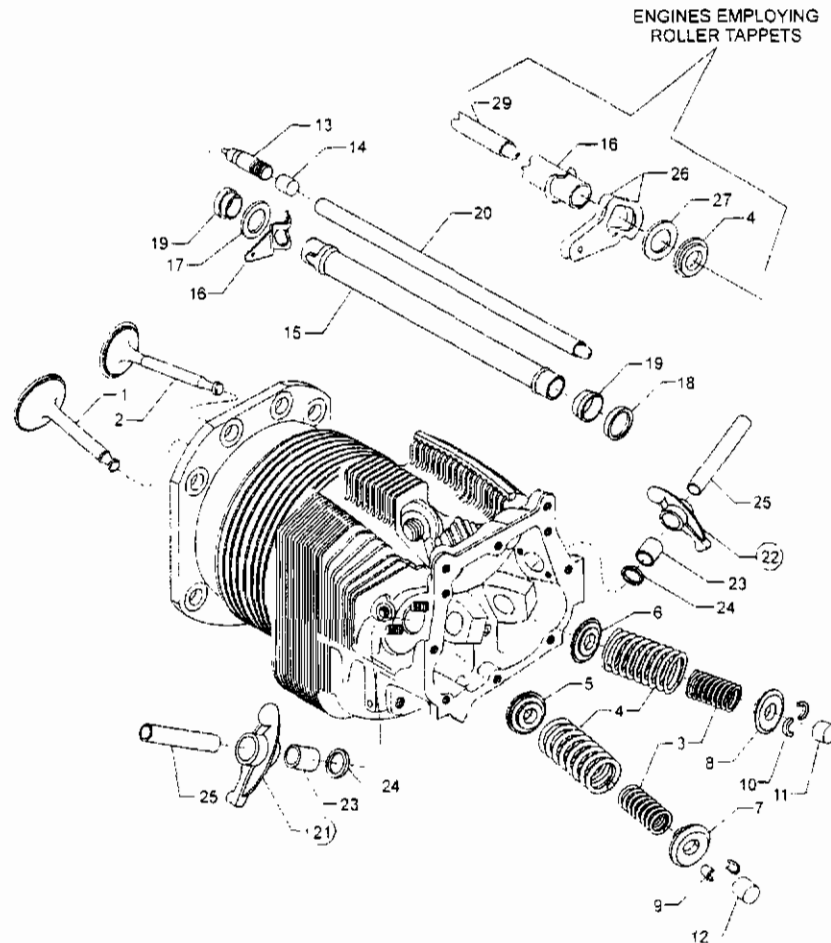


FIGURE 15. VALVE ASSEMBLY AND RELATED PARTS

CYLINDER, PISTON AND VALVE TRAIN
CYLINDER RELATED PARTS

FIG. REF. 16	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	66732	GASKET, Valve rocker shaft cover	12
2	72710	COVER, Valve rocker shaft	12
3	STD-160	WASHER, 1/4 lock, internal teeth	24
4	STD-1411	NUT, 1/4-20 plain	24
5	67193	GASKET, Rocker box cover	6
6	68795	COVER ASSEMBLY, Rocker box	6
7	STD-1925	SCREW, 1/4-20 x 5/8 long	48
8	74494	PLATE, Spark plug reach caution	6
9	71481	RING, Oil seal, 3/32 dia. 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	71134	NUT, 3/8-24 Allen (int.)	24
13	71133	NUT, 1/2-20 Allen (int.)	24
14	STD-2090	NUT, 1/2-20 plain	4
15	STD-684	NIPPLE, Straight, 3/8 I.D. hose	6
16	STD-2180	HOSE, 3/8 I.D. x 1-13/16 long	6
17	LW-15592-5-05	CLAMP, Hose	12
18	72702	TUBE ASSEMBLY, Cyl. head oil drain, cyl. #1	1
19	02P22209	TUBE ASSEMBLY, Cyl. head oil drain, cyl. #2	1
20	73027	TUBE ASSEMBLY, Cyl. head oil drain, cyl. #3, 4, 5, 6	4
21	75338	BAFFLE ASSEMBLY, Intercylinder	3
22	LW-13430	BAFFLE ASSEMBLY, Intercylinder (between #2 & #4 cyls.)	1
23	17M23284	HOOK, Intercylinder baffle retainer	4
24	71611	RETAINER, Intercylinder baffle	4
25	72834	COVER, Baffle ignition cable hole	4
26	STD-692	SCREW, No. 10-32 x 1/2 long, round head	8
27	STD-670	LOCKNUT, No. 10-32	8
28	65614	PLUG, Baffle attaching	4
29	STD-251	WASHER, No. 10 internal lock	4
30	STD-1686	SCREW, No. 10-32 x 7/16 long	4
31	MS25489-22X	GROMMET	1

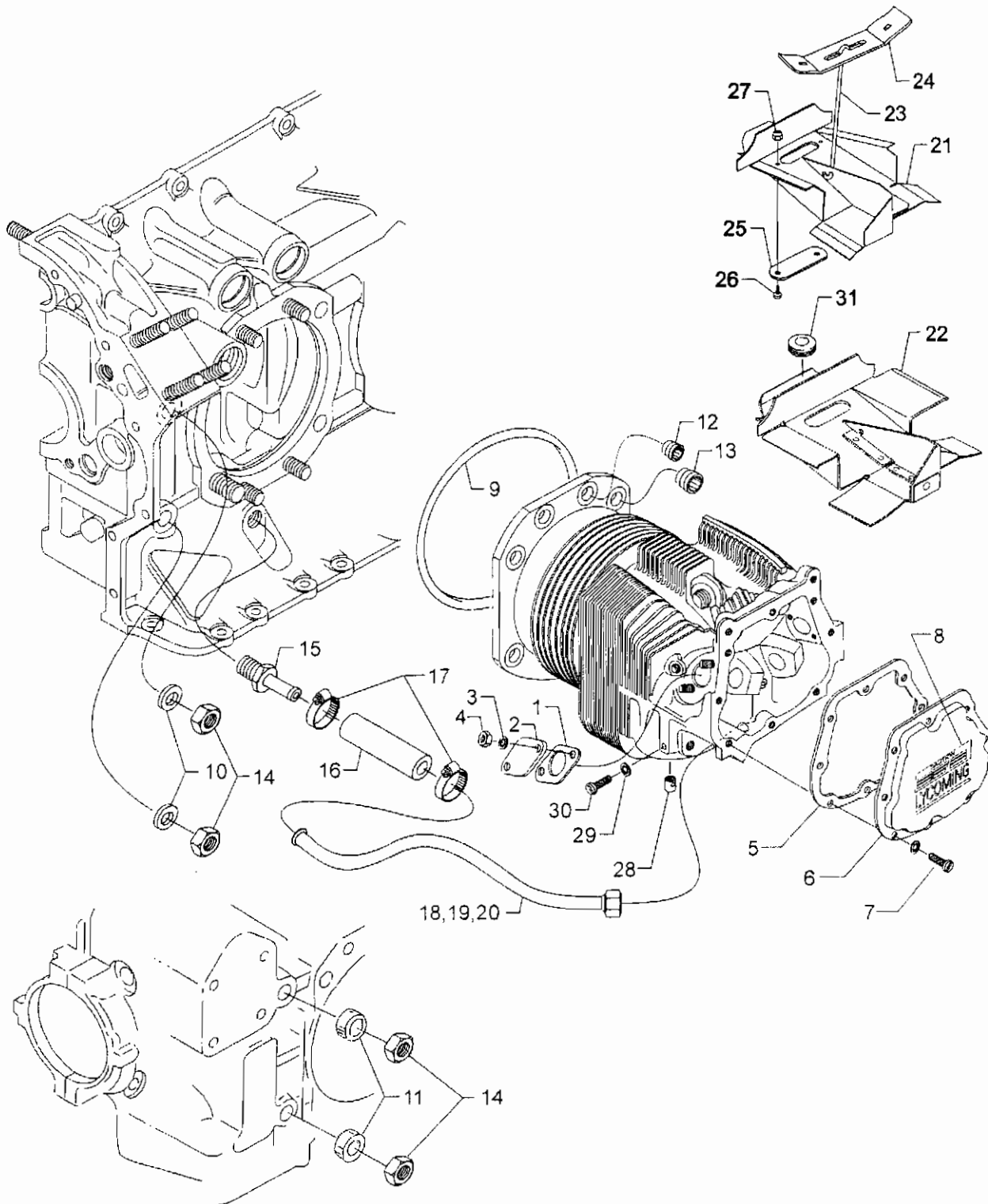


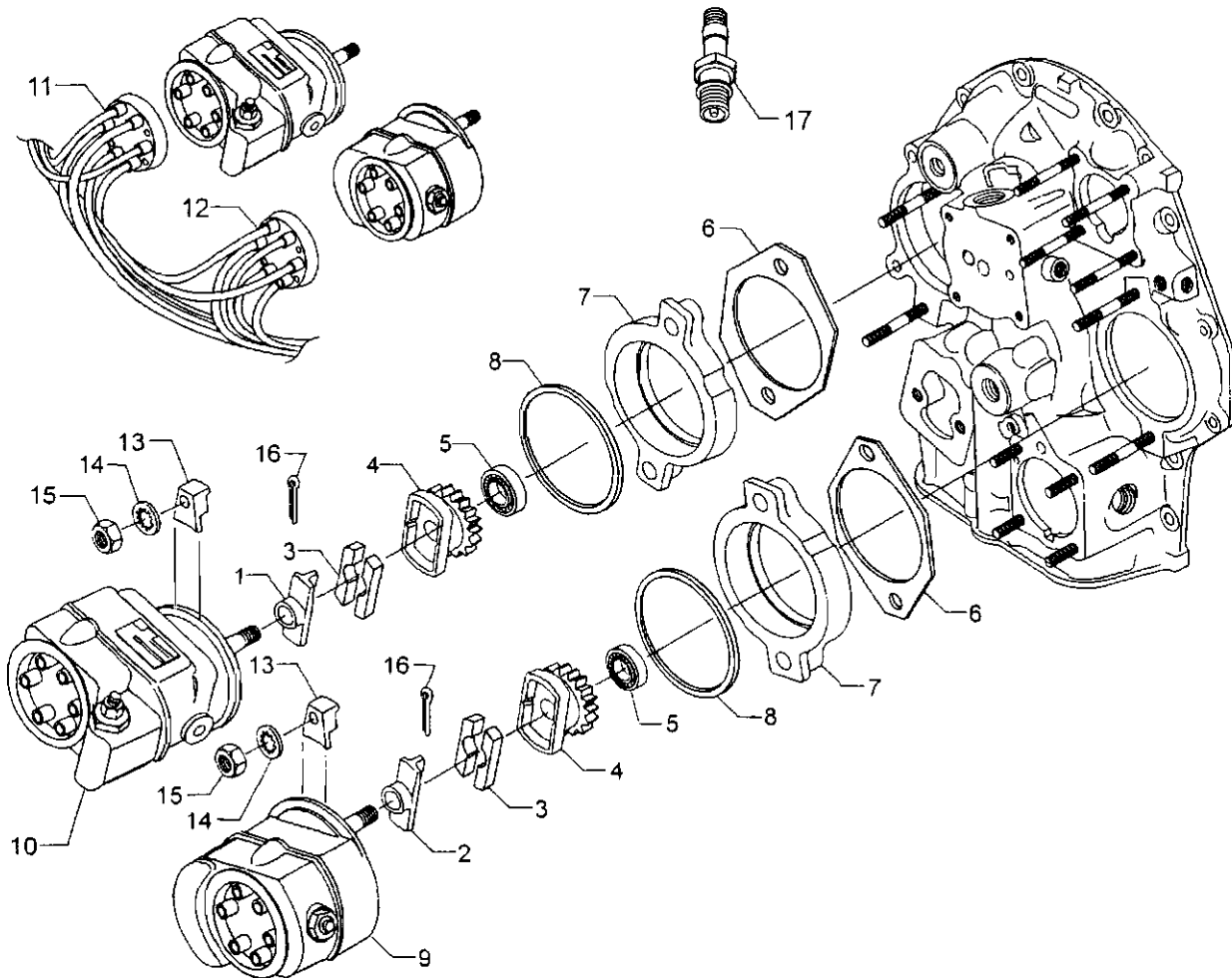
FIGURE 16. CYLINDER RELATED PARTS

IGNITION SYSTEM**MAGNETOS (SLICK), MAGNETO DRIVES, HARNESES (SLICK) AND SPARK PLUGS**

FIG. REF. 17	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	73000	COUPLING, Magneto drive	1
2	73013	COUPLING, Magneto drive	1
3	68H22624	CUSHION, Magneto drive	4
4	LW-19096	GEAR RETAINER ASSEMBLY	2
5	67542	BALL BEARING	2
6	62224	GASKET, Magneto adapter	2
7	LW-12707	ADAPTER, Magneto	2
8	LW-12681	GASKET, Magneto	2
9	66LP-OSCNN	MAGNETO, Plain, Slick Model No. 6350	1
10	66LR37SCNN	MAGNETO, Retard, Slick Model No. 6393	1
11	67J20609-P	HARNESS, Left, Slick P/N M-2965	1
12	67J20608-P	HARNESS, Right, Slick P/N M-2966	1
13	66M21195	CLAMP, Magneto	4
14	STD-475	WASHER, 5/16 lock, internal teeth	4
15	STD-1410	NUT, 5/16-18 plain	4
16	STD-713	COTTER PIN, 3/32 dia. x 3/4 long	2
17	1182-H7	SPARK PLUG, Champion (RHB37E) or Auburn (273)	12
	1182-Q4	SPARK PLUG, Unison (URHB73E)	12
*	01P19762-3-14	BAG, Magneto harness attaching	1

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

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



P/N 01P19762-3-14 Attaching Parts		
LW-16266-25-25	CLIP-ONE WIRE	2
LW-14060	CLIP-TWO WIRE	3
STD-8	WASHER-.250 PLAIN	10
STD-160	WASHER-.250 LOCK INT. TEETH	8
STD-1874	SCREW-.250-20 X .81 LG. FILL	8
76734	ZIP STRAP	8
LW-16266-25-44	CLAMP-.44 ID X .250 DIA. SCREW	3
STD-1411	NUT-.250-20 PLAIN	4
STD-696	WASHER-.250 PLAIN (THIN)	6
LW-M-2376	PLATE-SPARK PLUG CABLE-3 WIRE	2

FIGURE 17. MAGNETOS (SLICK), MAGNETO DRIVES, HARNESES (SLICK) AND SPARK PLUGS

ELECTRICAL SYSTEM
STARTERS AND ATTACHING PARTS

FIG. REF. 18	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
KELLY AEROSPACE POWER SYSTEMS INC. STARTERS			
1	31A22470	STARTER, 12/14 pitch, 12 Volt (MZ-6222)	1
	31B22474	STARTER, 12/14 pitch, 24 Volt (MHB-6016)	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. head	1
5	STD-1410	NUT, 5/16-18 plain	3
SKY-TEC STARTERS			
6	31A22100	STARTER, 12/14 pitch, 12 Volt (149-12PM)	1
	31A22104	STARTER, 12/14 pitch, 12 Volt (149-12LS)	1
	31A22110	STARTER, 12/14 pitch, 12 Volt (149-12HT)	1
	31B22101	STARTER, 12/14 pitch, 24 Volt (149-24PM)	1
	31B22105	STARTER, 12/14 pitch, 24 Volt (149-24LS)	1
	31B22111	STARTER, 12/14 pitch, 24 Volt (149-24HT)	1
7	STD-475	WASHER, 5/16 lock, internal teeth	4
8	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	1
9	STD-1410	NUT, 5/16-18 plain	3

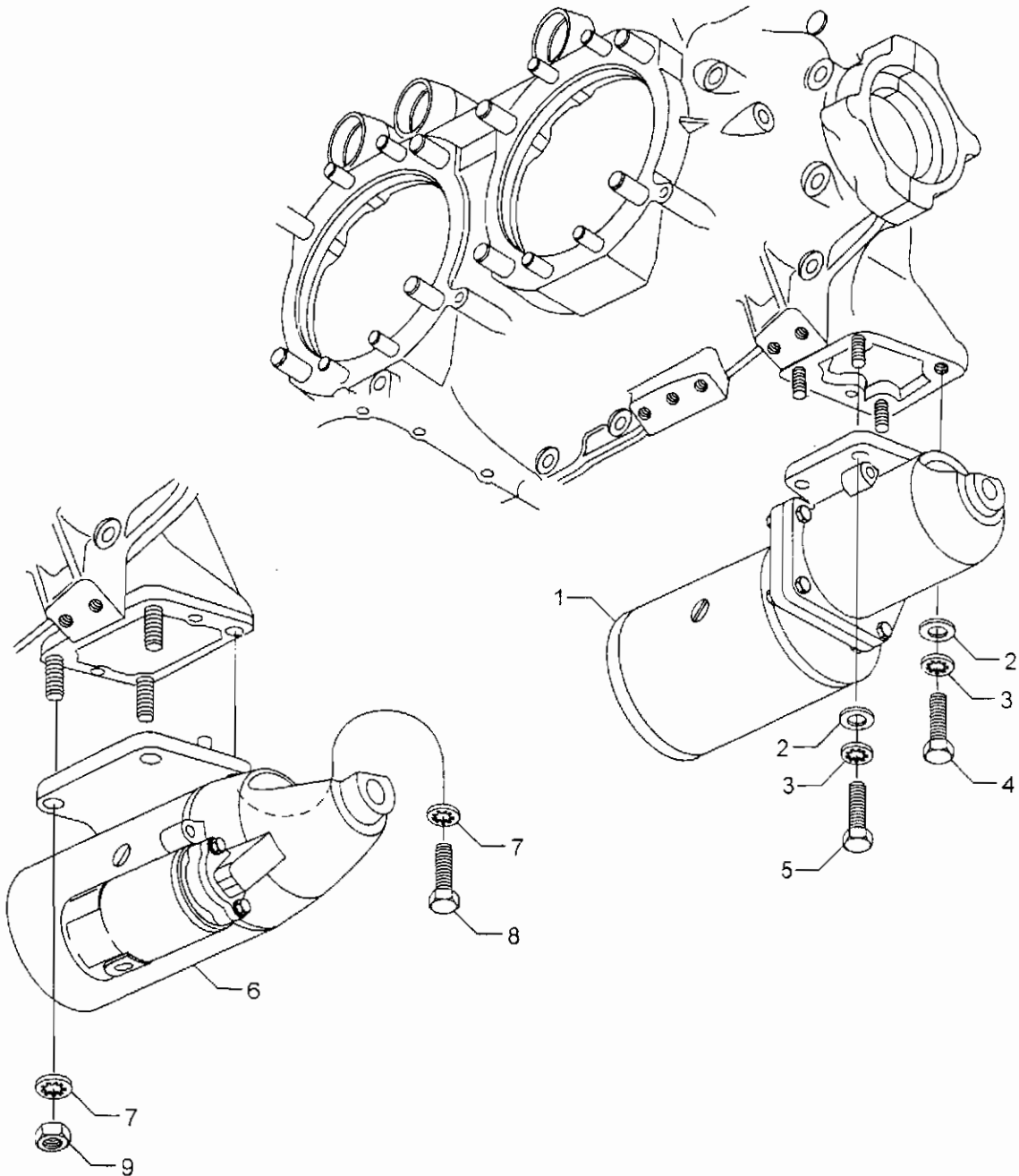


FIGURE 18. STARTERS AND ATTACHING PARTS

ELECTRICAL SYSTEM
ALTERNATOR ASSEMBLY

FIG. REF. 19	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	37A10773-400	BELT, Alternator drive, 3/8 wide	1

NOT SUPPLIED**BY****LYCOMING**

ELECTRICAL SYSTEM
ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF. 20	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
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NOT SUPPLIED

BY

LYCOMING

OIL SUMP AND INDUCTION HOUSING
OIL SUMP ASSEMBLY, INDUCTION HOUSING AND OIL SUCTION SCREEN

FIG. REF. 21	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	06B21326	GASKET, Oil sump	1
2	77517	SUMP ASSEMBLY, Oil	1
3	25C-9	STUD, 1/4-20 x 1-1/8 long	4
4	25C-11	STUD, 1/4-20 X 1-3/8 LONG	15
5	38-15	STUD, 3/8-16 x 1-7/8 long	8
6	STD-91	PLUG, 1/2-14 NPT, Allen	1
7	STD-355	PLUG, 3/4-14 NPT	2
8	STD-1173	INSERT, 1/4-20 x 1/2 long	4
9	STD-1171	INSERT, 3/8-16 x 3/4 Helicoil	3
10	STD-1164	INSERT, 5/16-18 UNC x 5/8 long	2
11	06E19769-0.91	GASKET, Annular, .29/32 I.D.	1
12	72960	PLUG, 7/8-14 x 5/8 hex. head	1
13	1102	PLUG, 1/8-27 NPT, Allen head	1
14	56G23399	BAFFLE, Oil sump	1
15	LW-13384	SUPPORT, Oil sump baffle	4
16	LW-13385	SUPPORT, Oil sump baffle	2
17	STD-1686	SCREW, No. 10-32 x 7/16 long	6
18	STD-425	WASHER, No. 10 plain	6
19	STD-8	WASHER, 1/4 plain	37
20	STD-160	WASHER, 1/4 lock, internal teeth	23
21	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	6
22	LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	6
23	STD-1411	NUT, 1/4-20 plain	25
24	STD-551	PLUG, 1/2-14 NPT, square head, drilled	2
25	LW-16899	HOUSING ASSEMBLY, Induction	1
26	STD-1164	INSERT, 5/16-18 UNC x 5/8 long	4
27	1102	PLUG, 1/8-27 NPT, Allen head	4
28	STD-1173	INSERT, 1/4-20 x 1/2 long	4
29	STD-2026	BOLT, 1/4-20 x 3-7/8 long, hex. head	2
30	STD-2025	BOLT, 1/4-20 x 2-7/16 long, hex. head	2
31	75444	ADAPTER ASSEMBLY, Fuel drain valve	1
32	STD-8	WASHER, 1/4 plain	4
33	STD-160	WASHER, 1/4 lock, internal teeth	4
34	60422	SCREEN, Oil suction	1
35	06E19769-1.00	GASKET, Annular, 1.00 I.D.	1
36	LW-12545	PLUG, 5/8 hex. head x 1.00-20 thread	1

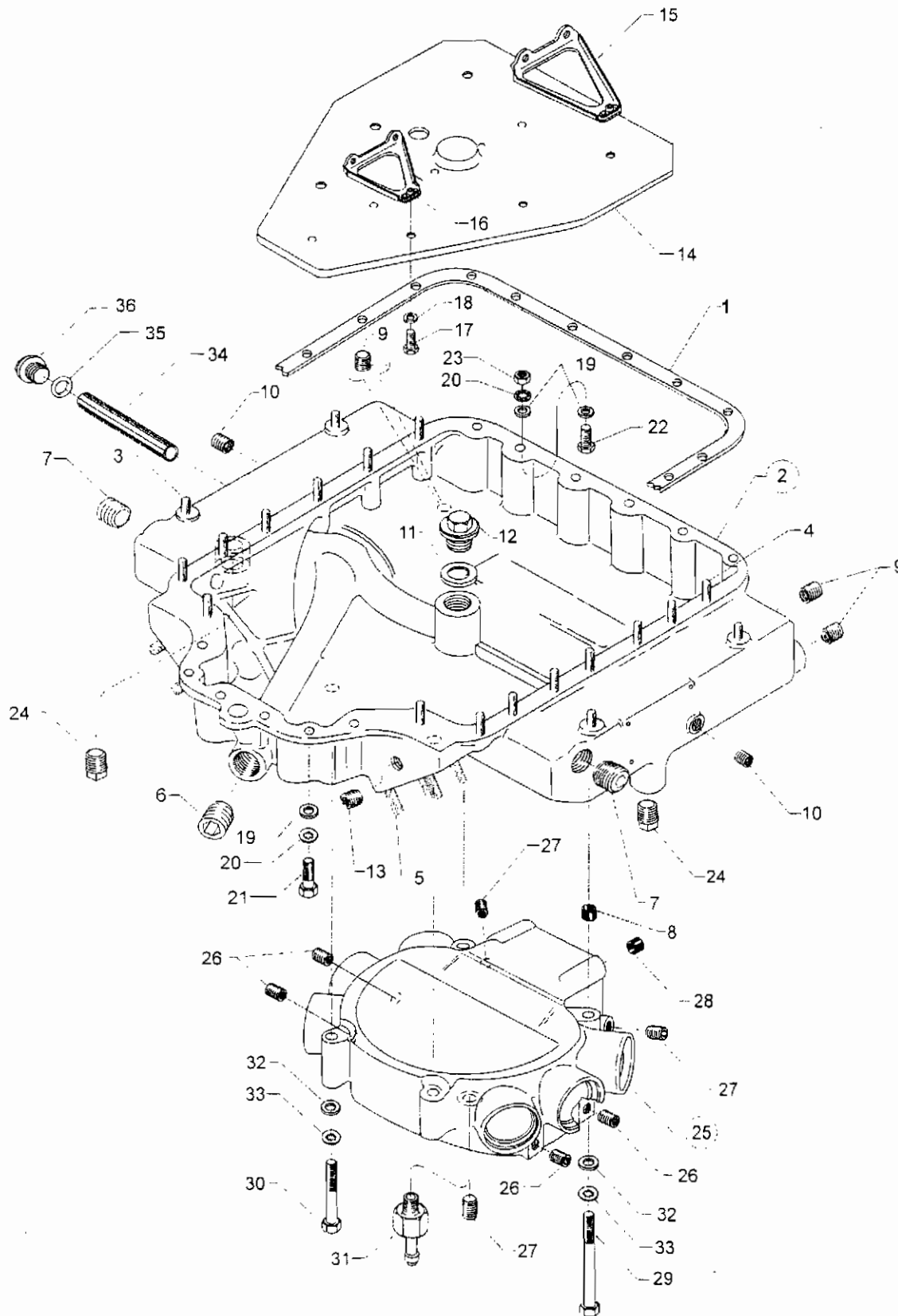


FIGURE 21. OIL SUMP ASSEMBLY, INDUCTION HOUSING AND OIL SUCTION SCREEN

OIL SUMP AND INDUCTION SYSTEM
INTAKE PIPES AND ATTACHING PARTS

FIG. REF. 22	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	72711	RING, Seal, intake pipes	6
2	LW-16486	PIPE, Intake, cylinder no. 1	1
3	76708	PIPE, Intake, cylinder no. 2	1
4	LW-16487	PIPE, Intake, cylinder no. 3	1
5	76707	PIPE, Intake, cylinder no. 4	1
6	LW-14449	PIPE, Intake, cylinder no. 5	1
7	76706	PIPE, Intake, cylinder no. 6	1
8	71973	GASKET, 2 bolt flange, 1-3/4 I.D.	6
9	74360	FLANGE, Intake pipe, upper	6
10	STD-8	WASHER, 1/4 plain	12
11	STD-160	WASHER, 1/4 lock, internal teeth	12
12	LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	12

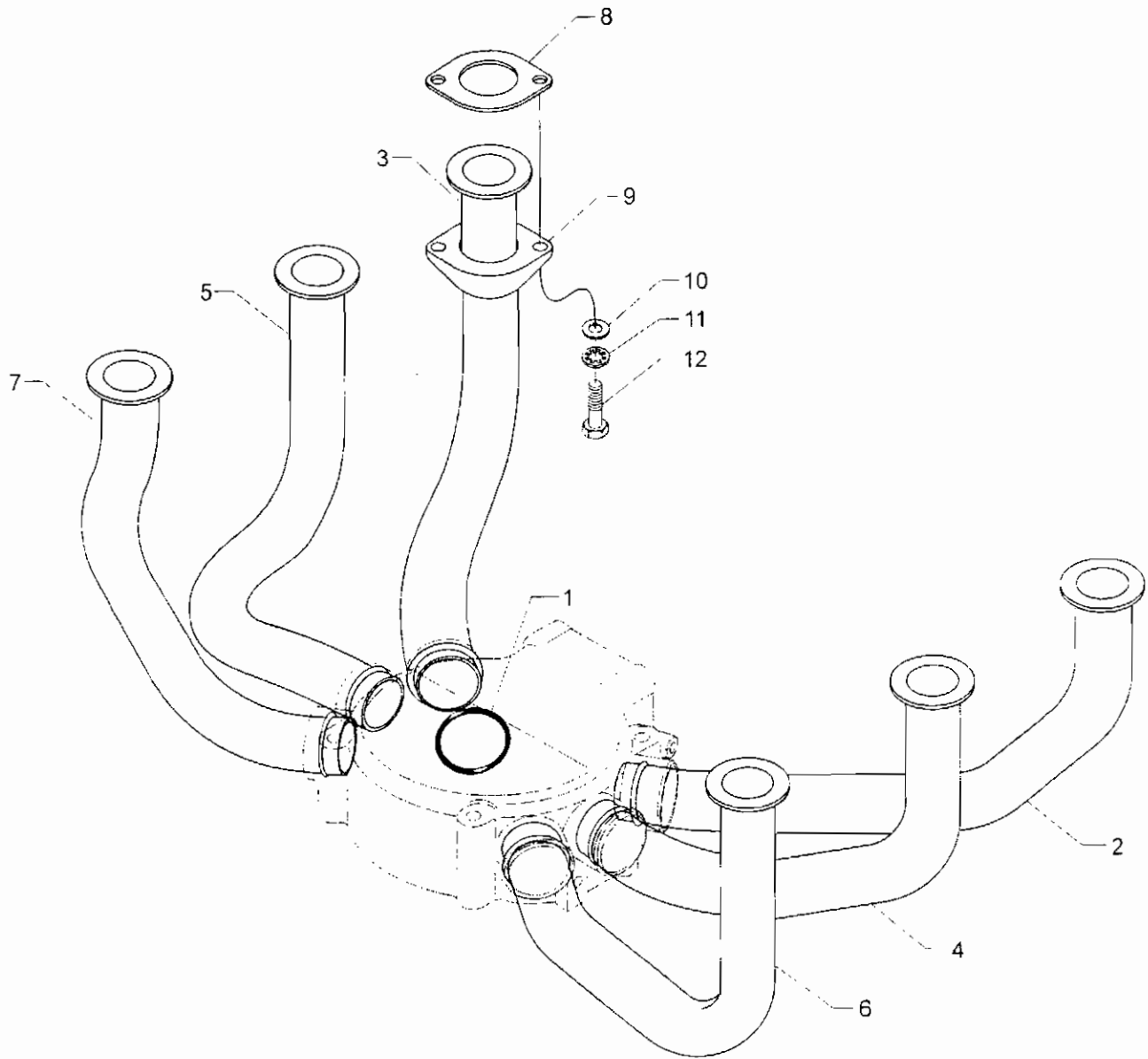


FIGURE 22. INTAKE PIPES AND ATTACHING PARTS

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

FIG. REF. 23	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	73032	GASKET, Fuel injector	1
2	79034	FUEL INJECTOR, (2524422-9), RSA-10	1
3	76304*	ELBOW, 45°	1
4	STD-35	WASHER, 5/16 plain	2
5	STD-1727	WASHER, Plain, 21/64 I.D. x 3/4 O.D. x 1/8 thick	2
6	LW-31-1.31	BOLT, 5/16-18 x 1-5/16 long, hex. head	4
7	STD-475	WASHER, 5/16 lock, internal teeth	4
8	LW-18265	NOZZLE, Injection	6
9	78924	MANIFOLD ASSEMBLY, Fuel	1
10	AN816-4	NIPPLE, 1/8 NPT to 1/4 tube	1
11	STD-148	NIPPLE, Union, 1/8 NPT	4
12	AN791-2	ELBOW, Union, 45°, 1/8 tube	2
13	02G21382	NIPPLE, Nozzle pressure gauge	1
14	75009	BRACKET, Fuel manifold	1
15	STD-251	WASHER, No. 10, internal lock	4
16	STD-82	SCREW, No. 10-24 x 1/2 long, fill. head	4
17	STD-160	WASHER, 1/4 lock, internal teeth	1
18	LW-25-0.50	BOLT, 1/4-20 x 1/2 long, hex. head	1

* - Requires P/N MS29512-08 O-ring.

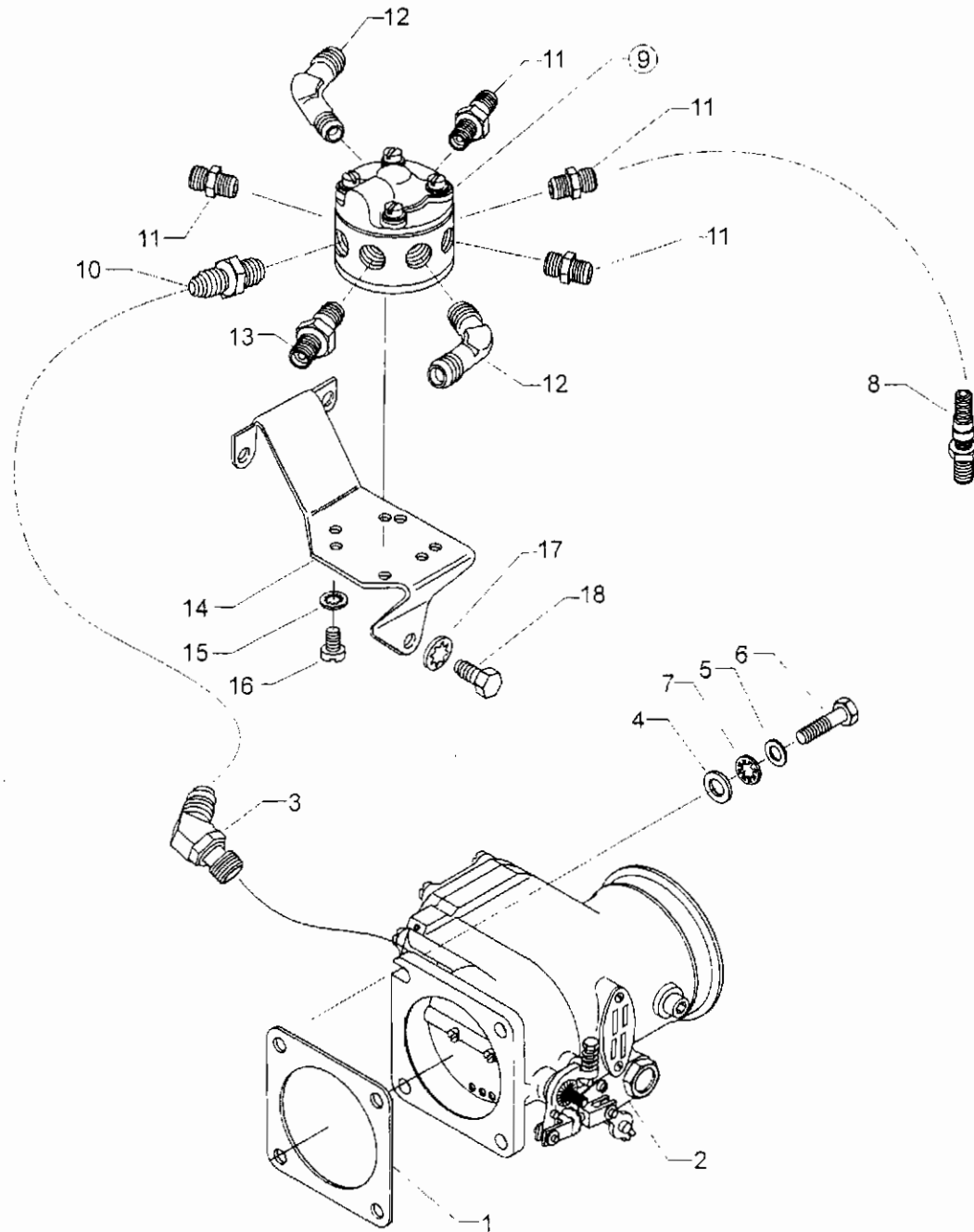


FIGURE 23. FUEL INJECTOR, FUEL MANIFOLD AND INJECTION NOZZLES

OIL SUMP AND INDUCTION SYSTEM
FUEL LINES AND ATTACHING PARTS

FIG. REF. 24	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-12098-0-210	TUBE ASSEMBLY, Fuel injector line	3
2	LW-12098-0-280	TUBE ASSEMBLY, Fuel injector line	1
3	LW-12098-0-140	TUBE ASSEMBLY, Fuel injector line	2
4	LW-16266-10-75	CLAMP	8
5	LW-16266-10-13	CLAMP, 1/8 dia. for No. 10 screw	12
6	STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	13
7	STD-425	WASHER, No. 10 plain	2
8	STD-670	LOCKNUT, No. 10-32	13
9	73136	BRACKET, Extension, fuel injector line	4
10	74278	BRACKET ASSEMBLY, Fuel line support	1
11	STD-1891	CLINCH NUT, No. 10-32 self-locking	2
12	STD-692	SCREW, No. 10-32 x 1/2 long, round head	2
13	STD-425	WASHER, No. 10 plain	2
14	LW-12876-4S334	HOSE ASSEMBLY, 1/4 hose, 90° elbow	1
15	LW-16266-10-63	CLAMP, 5/8 I.D.	3
16	73136	BRACKET, Extension, fuel injector line	1
17	STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	2
18	STD-670	LOCKNUT, No. 10-32	2
19	LW-12879-6S350	HOSE ASSEMBLY, 3/8 hose, 45° elbow	1
20	MS20822-6-8	ELBOW, 1/2 NPT to 3/8 flared tube	1
21	LW-16266-25-75	CLAMP, 3/4 I.D. x 1/4 dia. screw	2
22	STD-8	WASHER, 1/4 plain	2
23	STD-1411	NUT, 1/4-20 plain	2

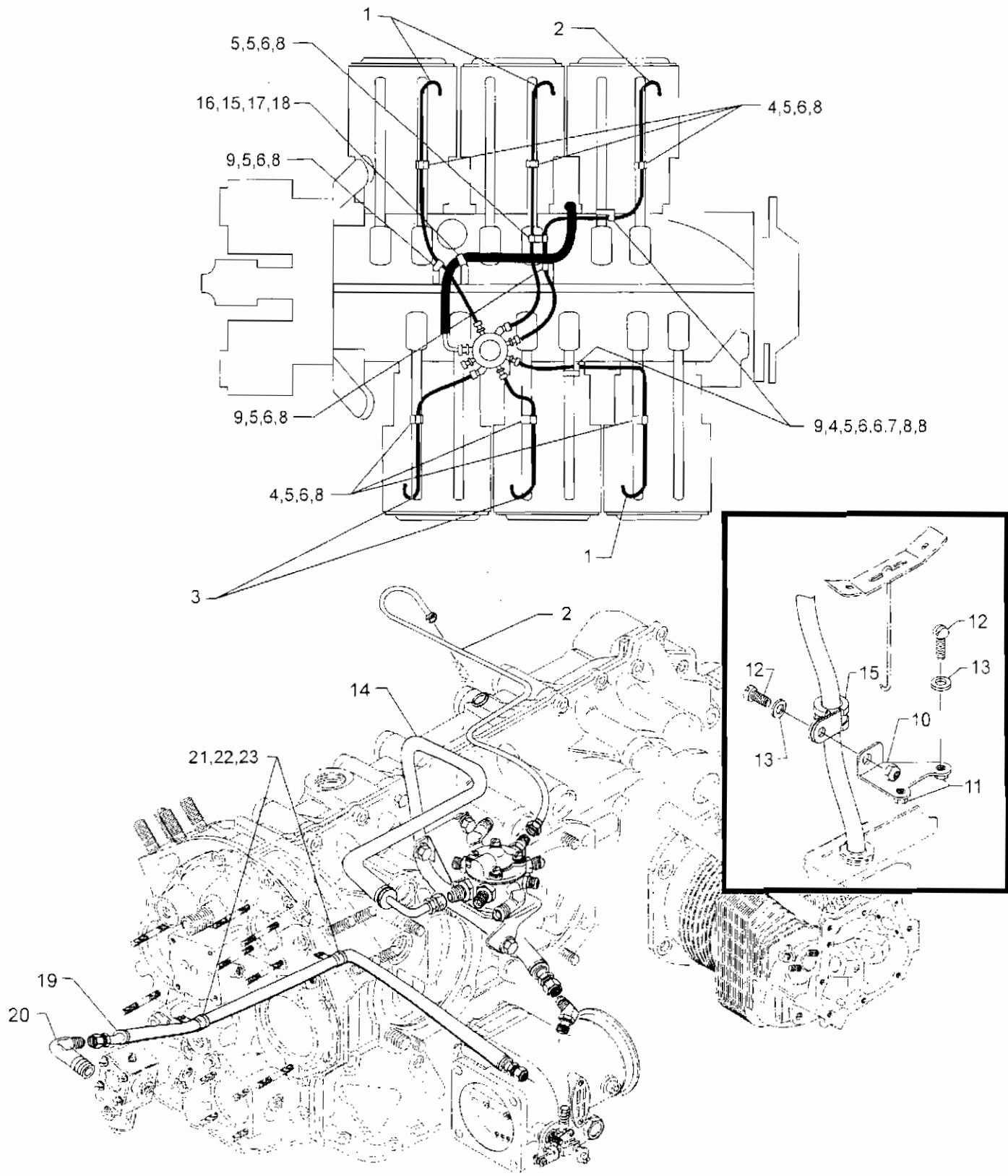


FIGURE 24. FUEL LINES AND ATTACHING PARTS

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

Part No.	Part Name	Qty.
05K23258	KIT – SEAL AND GASKET SET	1
LW-12681	GASKET, Magneto	2
LW-12795	GASKET, Oil filter adapter	1
LW-14260	SEAL, Tachometer	1
LW-14820	RING, Internal retaining	8
LW-15628	SEAL, Crankshaft oil (solid)	1
LW-18638	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	24
STD-1727	RING, External retaining, 9/16 dia.	1
STD-2180	HOSE, Cylinder drain tube	6
STD-2231	RING, Internal retaining, tachometer shaft	1
06A19956	OIL SEAL	1
06E19769-0.63	GASKET, Annular	1
06E19769-0.91	GASKET, Annular	1
06E19769-1.00	GASKET, Annular	1
06E19769-1.25	GASKET, Annular	1
15H21201	SPRING, Shroud tube	24
68H22624	CUSHION, Magneto drive	4
61183	GASKET, Vacuum pump adapter	1
62224	GASKET, Magneto adapter and magneto	2
66732	GASKET, Valve rocker shaft cover	12
67193	GASKET, Rocker box cover	6
69164	GASKET, Fuel pump adapter	1
69551	GASKET, Accessory drive adapter	1
70455	GASKET, Governor plug	1
70457	GASKET, Oil filler extension	1
71481	RING, Cylinder base	6
71667	LOCKPLATE, Idler shaft	1
71973	GASKET, Intake pipe flange	6
72053	GASKET, Governor	1
72091	RING, Oil seal	2
72711	RING, Seal, intake pipes	6
73032	GASKET, Fuel injector	1
73818	GASKET, Accessory housing	1
74068	RING, Oil level gage	1
77611	GASKET, Exhaust flange	6
78443	SEAL, Crankshaft oil (split)	1
8313	GASKET, Vacuum pump	1

SECTION 7
SERVICE KIT SECTION**CYLINDER, PISTON AND RING ASSEMBLY KIT**

Part No.	Part Name	Qty.
05K23259	KIT - CYLINDER, PISTON AND RING ASSEMBLY	1
16A22887	CYLINDER ASSEMBLY	1
LW-13622	VALVE, Intake	1
LW-16740	VALVE, Exhaust	1
LW-11797	SPRING, Valve, inner	2
LW-11796	SPRING, Valve, outer	2
LW-13321	SEAT, Valve spring, lower intake	1
LW-13322	SEAT, Valve spring, lower exhaust	1
69532	SEAT, Valve spring, upper intake	1
LW-16475	SEAT, Valve spring, upper exhaust	1
72050	KEY, Valve, intake	2
17C21191	KEY, Valve, exhaust	2
17C19386	CAP, Valve stem, exhaust	1
62388	CAP, Valve stem, intake	1
14E22396	PISTON	1
14J22048	PIN, Piston	1
72198	PLUG, Piston pin	2
14G22050	RING, Piston, compression	2
14H23148	RING, Piston, oil regulating	1
71481	RING, Oil seal	1
67193	GASKET, Rocker box cover	1
66732	GASKET, Valve rocker shaft	2
71973	GASKET, Intake	1
77611	GASKET, Exhaust	2
06A23493	SHROUD TUBE SEAL	2

SECTION 7
SERVICE KIT SECTION**CRANKCASE ASSEMBLY AND THRU STUD KIT**

Part No.	Part Name	Qty.
11T25020-S3-S	KIT, CRANKCASE ASSEMBLY AND THRU STUD	1
11T25020-S3	CRANKCASE ASSEMBLY	1
01A22453	THRU STUD	8
STD-1339	PLUG, 1/16-27 NPT	7
1102	PLUG, 1/8-27 NPT	4
31C-16	STUD, Governor drive pad	4
AN565B1032H4	SET SCREW, No. 10-32 x 1/4 long	1
AN565B1032H5	SET SCREW, No. 10-32 x 5/16 long	1
SSP-272	TAG, (Piston cooling nozzles)	1
SSP-1576	TAG, (Governor drive idler shaft)	1
74887	SPACER, 33/64 dia. x 7/8 O.D. x 3/8 thick	2
77906	SPACER, 33/64 dia. X 7/8 O.D. x 1/8 thick	2
STD-1090	NUT, 1/2-20-plain-	4

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18E22677	N/A	Bearing, Crankshaft	Obsolete.
LW-13885	N/A	Bearing, Crankshaft	Obsolete.
Reference Page 1-7			
13F27727	13F37727	Crankshaft and Bushing Assy.	Product improvement.
13F37727	13F47727	Crankshaft and Bushing Assy.	Product improvement.
STD-2209	STD-2247	Bolt	Product improvement.
Reference Page 1-13			
STD-1409	STD-2249	Nut	Product improvement.

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Reference Page 2-3			
61297	51B23274	Impeller, Oil Pump	Product improvement.
61298	51C23298	Impeller, Oil Pump	Product improvement.

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64309	18N19391	Bearing, Connecting Rod	Product improvement.
Reference Page 3-3			
66713	LW-11956	Guide, Valve, Intake	Product improvement.
75838	LW-11958	Guide, Valve, Exhaust	Product improvement.
Reference Page 3-7			
17M23151	17M23284	Hook, Intercylinder Baffle Retainer	Product improvement.

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LW-13383	56G23399	Baffle, Oil Sump	Product improvement.
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AN791-2	Elbow	6-5	LW-13321	Seat	3-5
AN816-4	Nipple	6-5	LW-13322	Seat	3-5
LRT23381	Body Assy.	1-5	LW-13384	Support	6-1
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LW-25-1.00	Bolt	6-1	LW-13896	Plug	1-9
LW-25-1.13	Bolt	1-13	LW-13923	Bushing	3-1
LW-25-1.13	Bolt	2-3	LW-14021	Shaft	1-9
LW-25-1.13	Bolt	6-1	LW-14260	Seal	2-3
LW-25-1.25	Bolt	6-3	LW-14449	Intake Pipe	6-3
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LW-25-1.50	Bolt	1-13	LW-14830	Bearing	1-5
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