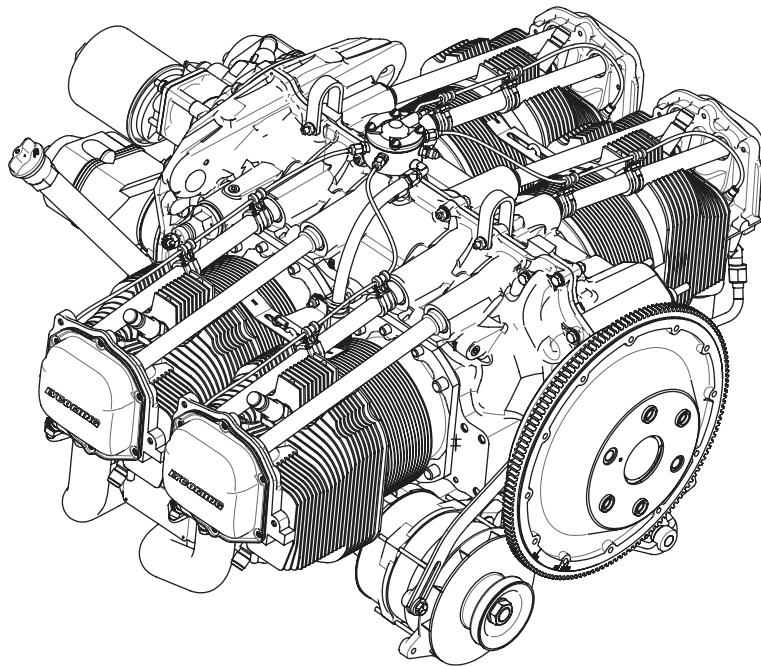


Lycoming Aircraft Engines Parts Catalog

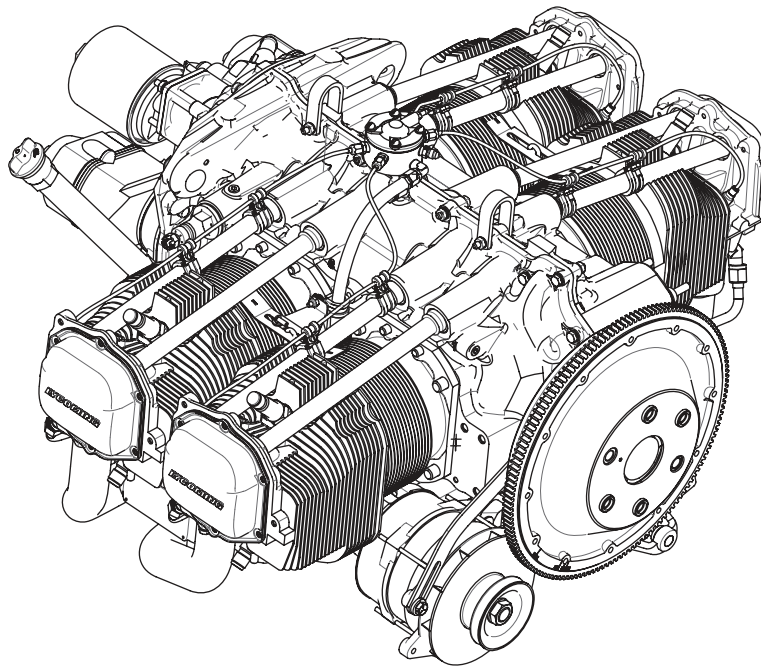


IO-360-B1G6

Wide Cylinder Flange Crankcase Model Engine

LYCOMING

Lycoming Aircraft Engines Parts Catalog



IO-360-B1G6

Wide Cylinder Flange Crankcase Model Engine

LYCOMING

This illustrated parts catalog contains a complete parts listing for the Lycoming IO-360-B1G6 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 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 for 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 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
61681	GUIDE	See Latest Edition of Service Instruction No. 1256.										
66610	BUSHING		X	X								
66796	INSERT			X								
69796	DOWEL		X									
72057	SEAT			X		X	X					
72058	SEAT			X		X	X					
72155-S	BUSHING		X	X		X						
74230	GUIDE	See Latest Edition of Service Instruction No. 1256.										
74241	RING			X								
75656-S	BUSHING		X	X	X	X						
75657-S	BUSHING		X	X		X						
LW-11997	SEAL	See Latest Edition of Service Instruction No. 1324.										
LW-13792	SEAL	See Latest Edition of Service Instruction No. 1324.										
LW-13884	BEARING				X					X*	X*	X*
LW-16711	BEARING				X					X	X	X
14H21950	RING			X		X						
18A19441	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 along with the proper part number. For example, to order bearing LW-13884 in .003 undersize, order part number LW-13884-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	11D22549	CRANKCASE ASSEMBLY	1
2	75154	STUD, 1/2-13 x 10-1/32 long	2
3	50-15	STUD, 1/2-13 x 1-7/8 long	8
4	38-13	STUD, 3/8-16 x 1-5/8 long	13
5	38D-17	STUD, 3/8-16 x 2-1/8 long, drilled	1
6	LW-13793	STUD, 5/16-18 x 15/16 long, drilled	1
7	31C-12	STUD, 5/16-18 x 1-1/2 long	2
8	31C-13	STUD, 5/16-18 x 1-5/8 long	1
9	38-22	STUD, 3/8-16 x 2-3/4 long	1
10	STD-557	DOWEL, 1/2 dia. x 11/16 long, hollow	2
11	STD-514	DOWEL, 5/16 dia. x 1/2 long	2
12	STD-1623	INSERT, 1/4-20 Helicoil x 3/8 long	2
13	69796	DOWEL, Crankshaft bearing	2
14	31C-17	STUD, 5/16-18 x 2-1/8 long	4
15	72158	BUSHING, Governor drive idler shaft	1
16	1102	PLUG, 1/8-27 NPT, Allen head	1
17	STD-1339	PLUG, 1/16-27 NPT, Allen head	4

This crankcase assembly is not available as a service item. Refer to Service Kits, Section 7, for applicable Crankcase Assembly and Governor Stud Kit Part Number.

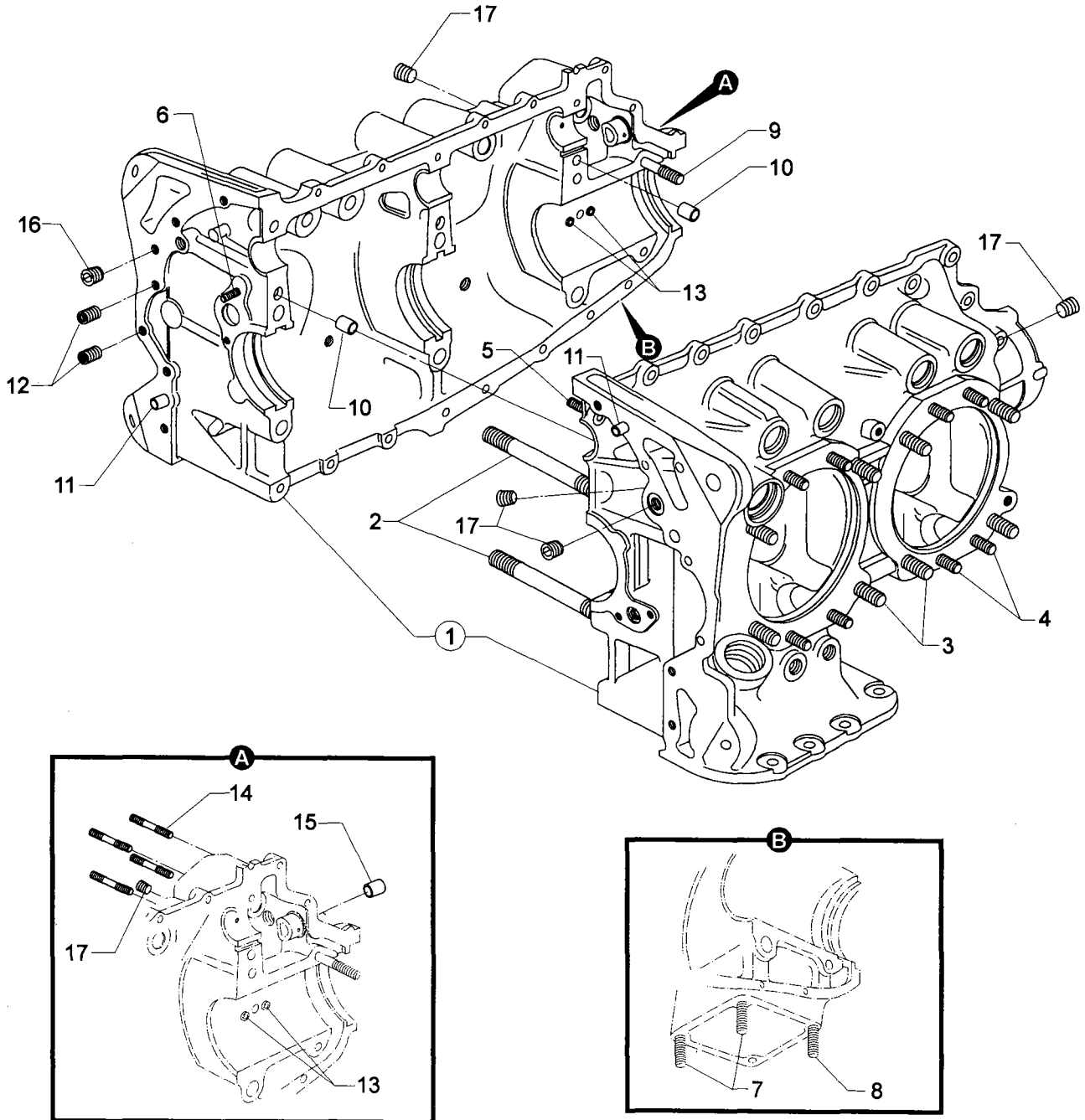


Figure 1. CRANKCASE ASSEMBLY

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP OIL LEVEL GAGE ASSEMBLY AND CRANKCASE RELATED PARTS

FIG REF. 2	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	75736	TUBE, Oil level gage, long	1
2	72059	GASKET, Oil level gage	1
3	74068	RING, Oil level gage seal	1
4	LW-16783-18	GAGE ASSEMBLY, Oil level	1
5	1028-B	BALL, 11/16 diameter	1
6	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
7	06E19769-1.25	GASKET, 1-1/4 I.D. x 1-1/2 O.D. x 3/32 annular	1
8	77808	VALVE ASSY., Oil pressure relief valve, adj.	1
9	LW-16711	BEARING, Crankshaft	4
10	LW-13884	BEARING, Crankshaft, front	2
	18A19441	BEARING, Crankshaft, front (alternate)	2
11	LW-13792**	SEAL, Crankshaft oil, solid	1
	LW-11997**	SEAL, Crankshaft oil, split	1
12	72075	SEAL, Oil, 3/32 section x 7/16 I.D.	2
13	72091	RING, Oil seal, 23/64 I.D. x 7/64 dia.	2
14	72877	BODY, Hydraulic tappet	8

* 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.

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

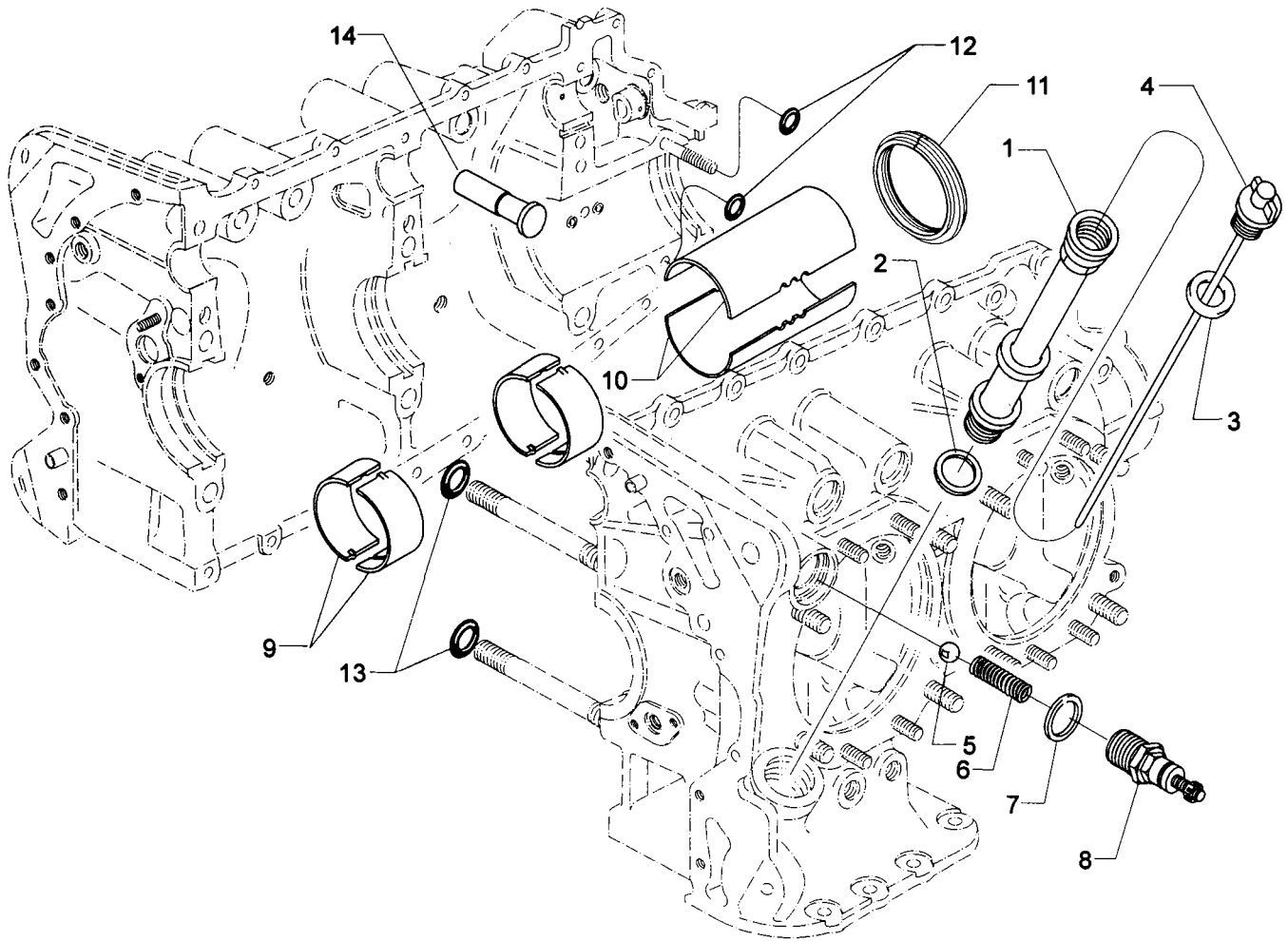


Figure 2. OIL LEVEL GAGE ASSEMBLY AND CRANKCASE RELATED PARTS

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY AND RELATED PARTS

FIG REF. 3	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	13B27228	CRANKSHAFT AND BUSHING ASSEMBLY	1
2	61510	PLUG, 1-3/4 O.D.	1
3	75656-S	BUSHING, Propeller flange, long	4
4	72155-S	BUSHING, Propeller flange, short	1
5	75657-S	BUSHING, Propeller flange, indexing	1
6	STD-1065	DOWEL, Stepped, 5/16 & 1/4 dia. x 35/64 long	1
7	STD-1211	PLUG, 2.00 dia. expansion	1
8	LW-19227	COUNTERWEIGHT ASSEMBLY	2
9	71903-A	BUSHING, Dynamic counterweight	8
10	14W21696	ROLLER, Dynamic counterweight., 8th order	2
11	72797	ROLLER, Dynamic counterweight., 6.3 order	2
12	LW-14820	RING, Internal retaining	8
13	71907	WASHER, Dynamic counterweight	8
14	13S19646*	GEAR, Crankshaft	1
15	LW-18639	LOCKPLATE, Crankshaft gear	1
16	STD-2213	SCREW, 5/16-24 x 1.00 long	1
17	74977	SUPPORT ASSY., Starter ring gear, 12/14 pitch	1
18	72566	GEAR, Starter ring	1

* See latest edition of

Lycoming Service Bulletin No. 475 for proper installation.

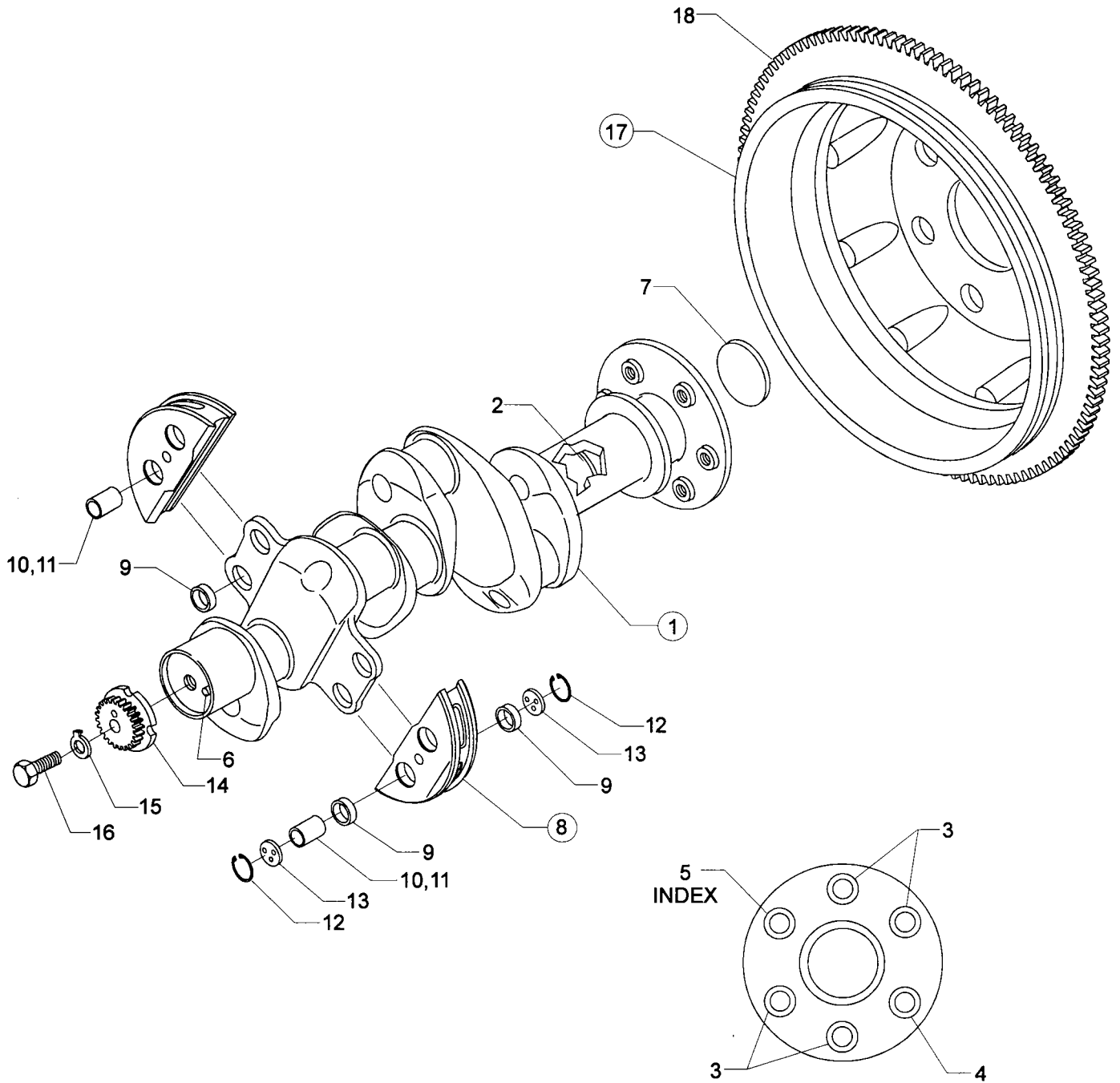


Figure 3. CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY AND RELATED PARTS

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

FIG REF. 4	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	61544	PLUNGER, Fuel pump, long	1
2	74996	GEAR ASSY., Crankshaft idler, plain	1
3	77309	BUSHING, Crankshaft idler gear	1
4	75072	GEAR ASSY., Crankshaft idler	1
5	77309	BUSHING, Crankshaft idler gear	1
6	76121	SHAFT ASSY., Tachometer	1
7	LW-18667	PIN, 3/16 dia. x 2-21/64 long	1
8	STD-2231	RING, Internal retaining	1
9	LW-13796	SHAFT, Crankshaft idler gear	2
10	LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. hd., dr.	3
11	STD-2168	NUT, 5/16-18 NC-3 slotted shear	1
12	LW-18843	CAMSHAFT ASSEMBLY	1
13	76118	SPACER, Tach. shaft centering	1

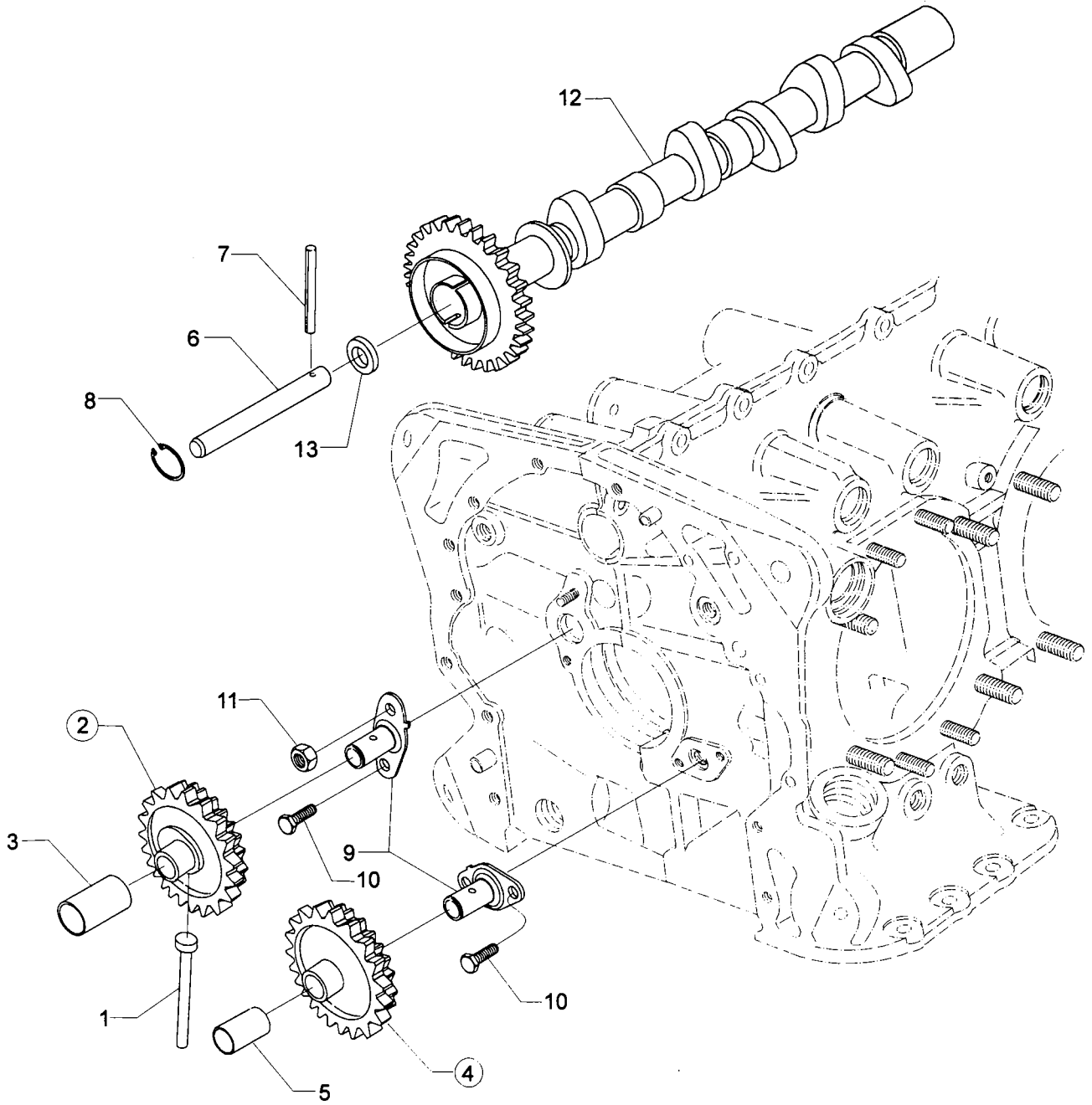


Figure 4. CRANKSHAFT IDLER GEARS, TACHOMETER DRIVE AND CAMSHAFT

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CRANKCASE ATTACHING PARTS

FIG REF. 5	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. hd.	6
2	LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. hd.	2
3	STD-8	WASHER, 1/4 plain	13
4	60803	STRAP, Lifting	1
5	LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. hd.	1
6	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. hd.	3
7	STD-160	WASHER, 1/4 lock, internal teeth	12
8	STD-1411	NUT, 1/4-20 plain	9
9	LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. hd., dr. end	3
10	STD-8	WASHER, 1/4 plain (Max. 9)	AR
11	STD-1409	NUT, 1/4-20 slotted shear	3
12	STD-33	WASHER, 3/8 plain, 1/16 thick	3
13	AN960-616L	WASHER, 3/8 plain, 1/32 thick	1
14	STD-872	NUT, 3/8-24 slotted	1
15	AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. hd.	2
16	LW-11866*	SPACER, Nut compressor	1
17	STD-33**	WASHER, 3/8 plain	5
18	STD-678+	WASHER, 3/8 lock, internal teeth	1
19	STD-596	NUT, 3/8-24 plain	1
20	76220	STUD, 1/2-20 x 10-45/64 long	4

* Install at lower front main bearing hole on right crankcase side.

** Use with P/N STD-596.

+ 2 required under head of P/N AN6-34A bolt , used with P/N LW-11866 spacer.

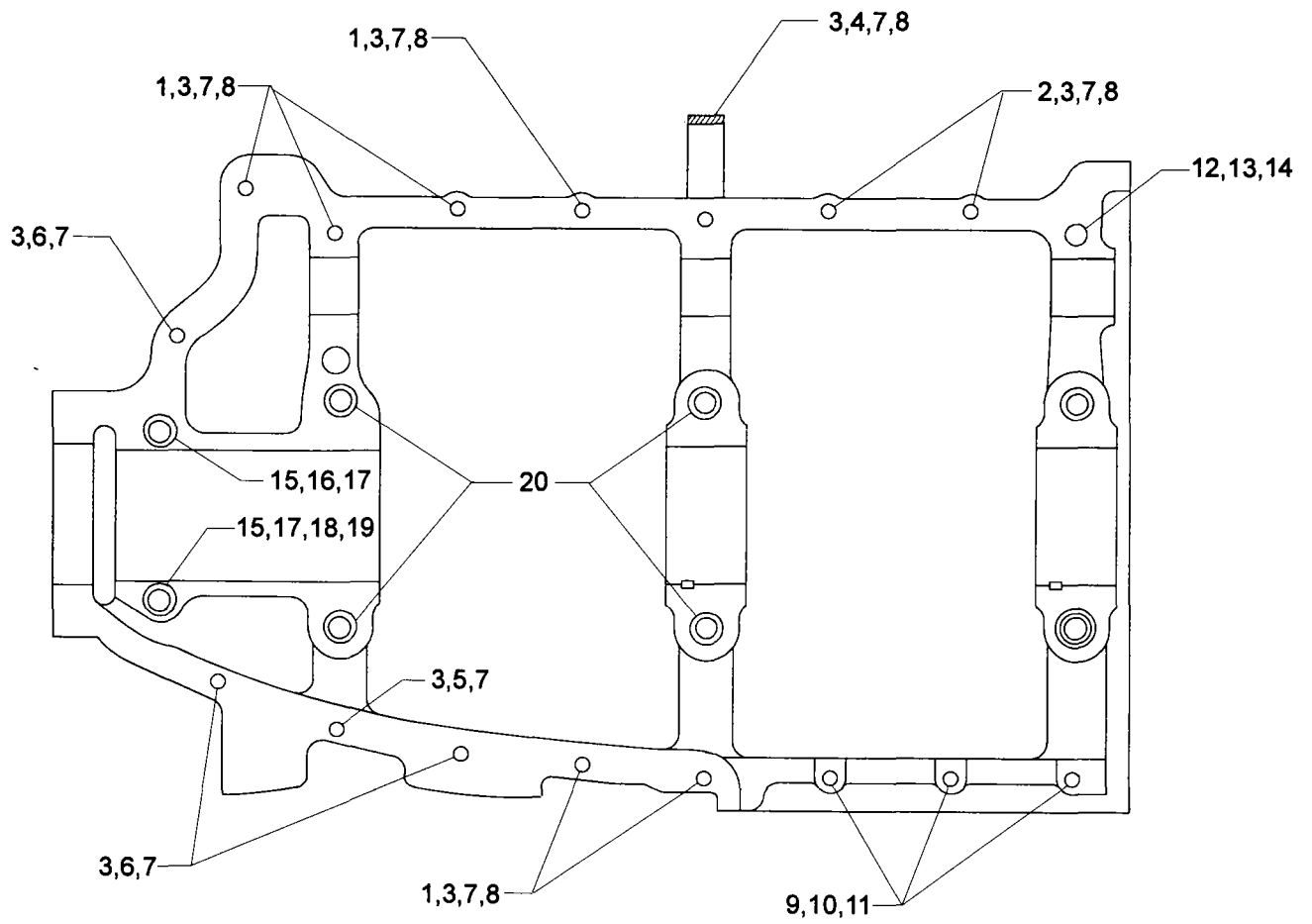


Figure 5. CRANKCASE ATTACHING PARTS

**ACCESSORY HOUSING AND RELATED PARTS
ACCESSORY HOUSING ASSEMBLY**

FIG REF. 6	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	73818	GASKET, Accessory housing	1
2	21A21533-02	HOUSING ASSY., Accessory	1
3	31C-12	STUD, 5/16-18 x 1-1/2 long	6
4	75888	STUD, 1/4-20 x 1-1/4 long	6
5	31C-19	STUD, 5/16-18 x 2-3/8 long	2
6	25C-22	STUD, 1/4-20 x 2-3/4 long	4
7	31CD-17	STUD, 5/16-18 x 2-1/8 long, drilled	3
8	1102	PLUG, 1/8-27 NPT, Allen head	4
9	STD-784	PLUG, 3/8-18 NPT, Allen head	1

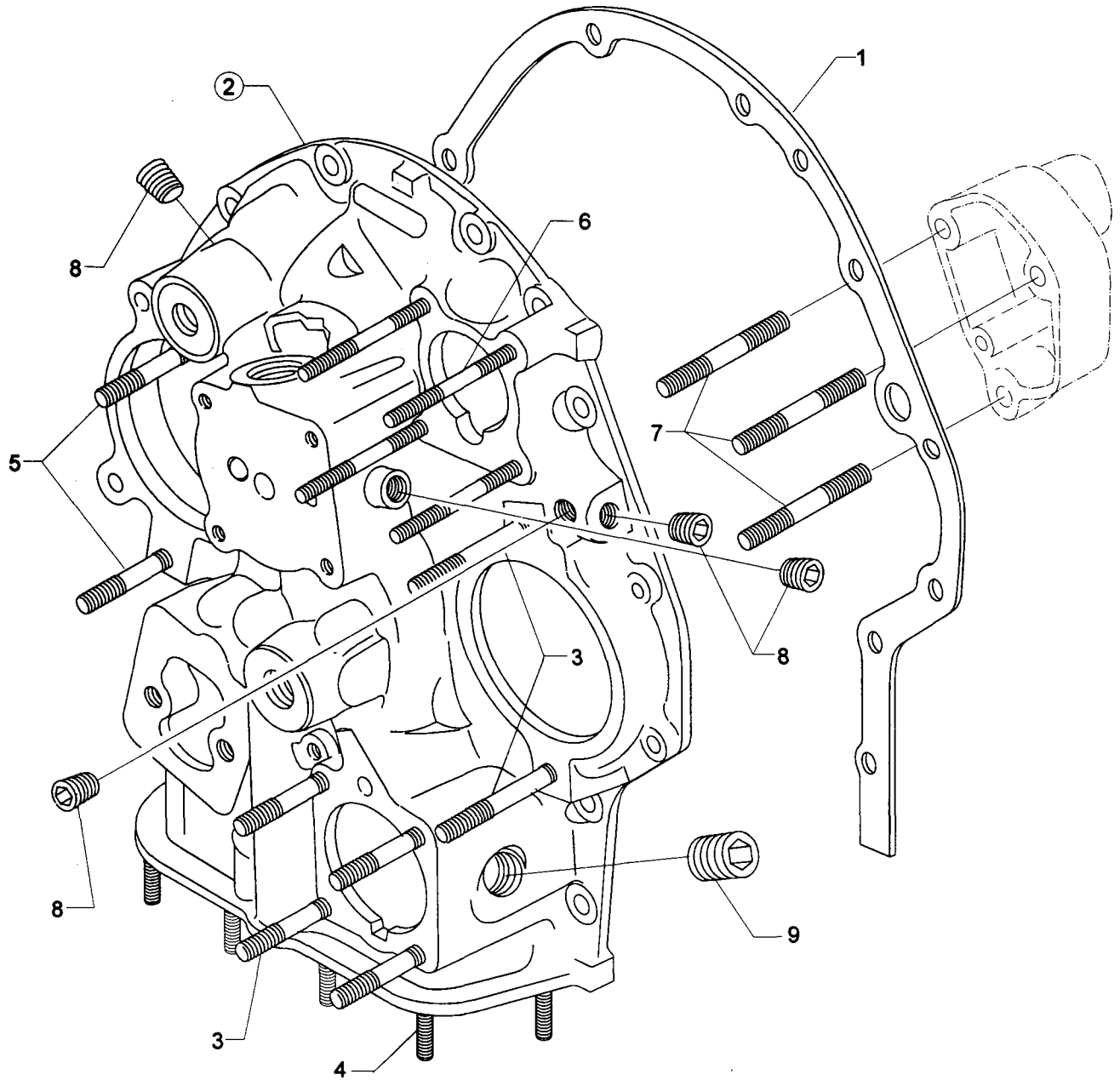


Figure 6. ACCESSORY HOUSING ASSEMBLY

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

FIG REF. 7	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	78531	BODY ASSY., Oil pump	1
2	05K19423-S*	OIL PUMP IMPELLER KIT	1
3	61174	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. hd.	9
10	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. hd.	1
11	LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. hd.	2

* See latest edition of Lycoming Service Bulletin No. 524.

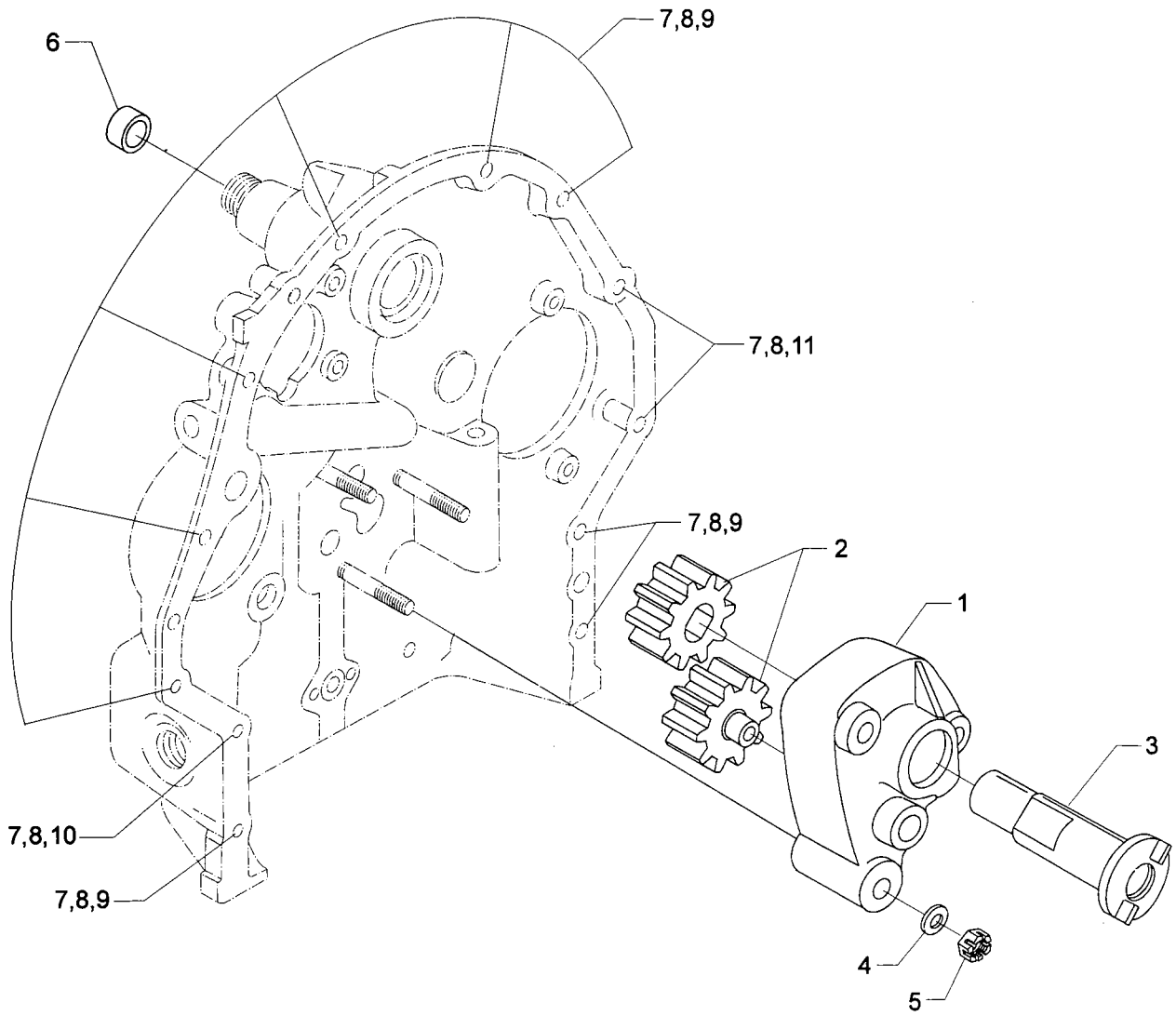


Figure 7. OIL PUMP AND ACCESSORY HOUSING ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS FUEL PUMP AND PROPELLER GOVERNOR DRIVE (CRANKCASE) AND COVERS

FIG REF. 8	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
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 long, socket dr.	2
5	69551	GASKET, Accessory drive adapter	1
6	69106	COVER, Governor drive adapter pad	1
7	STD-35	WASHER, 5/16 plain	4
8	STD-475	WASHER, 5/16 lock, internal teeth	4
9	STD-1410	NUT, 5/16-18 plain	4
10	77875	GEAR, Propeller governor driven	1
11	LW-14021	SHAFT, Propeller governor idler gear	1
12	77874	GEAR ASSY., Propeller governor idler	1
13	77872	BUSHING, Propeller governor idler gear	2
14	STD-19	DOWEL, 3/32 dia. x 7/32 long	1
15	STD-798	DOWEL, 3/32 dia. x 9/32 long	1
16	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
17	AN565B1032H5	SET SCREW, No. 10-32 x 5/16 long	1
18	70455	GASKET, 25/32 I.D. x 1-1/8 O.D. x 1/32 thick	1
19	LW-13896	PLUG, 3/4-16 hex. hd.	1
20	72053	GASKET, Governor drive	1
21	72378	COVER, Governor drive	1
22	STD-35	WASHER, 5/16 plain	32
23	STD-475	WASHER, 5/16 lock, internal teeth	4
24	STD-1410	NUT, 5/16-18 plain	4

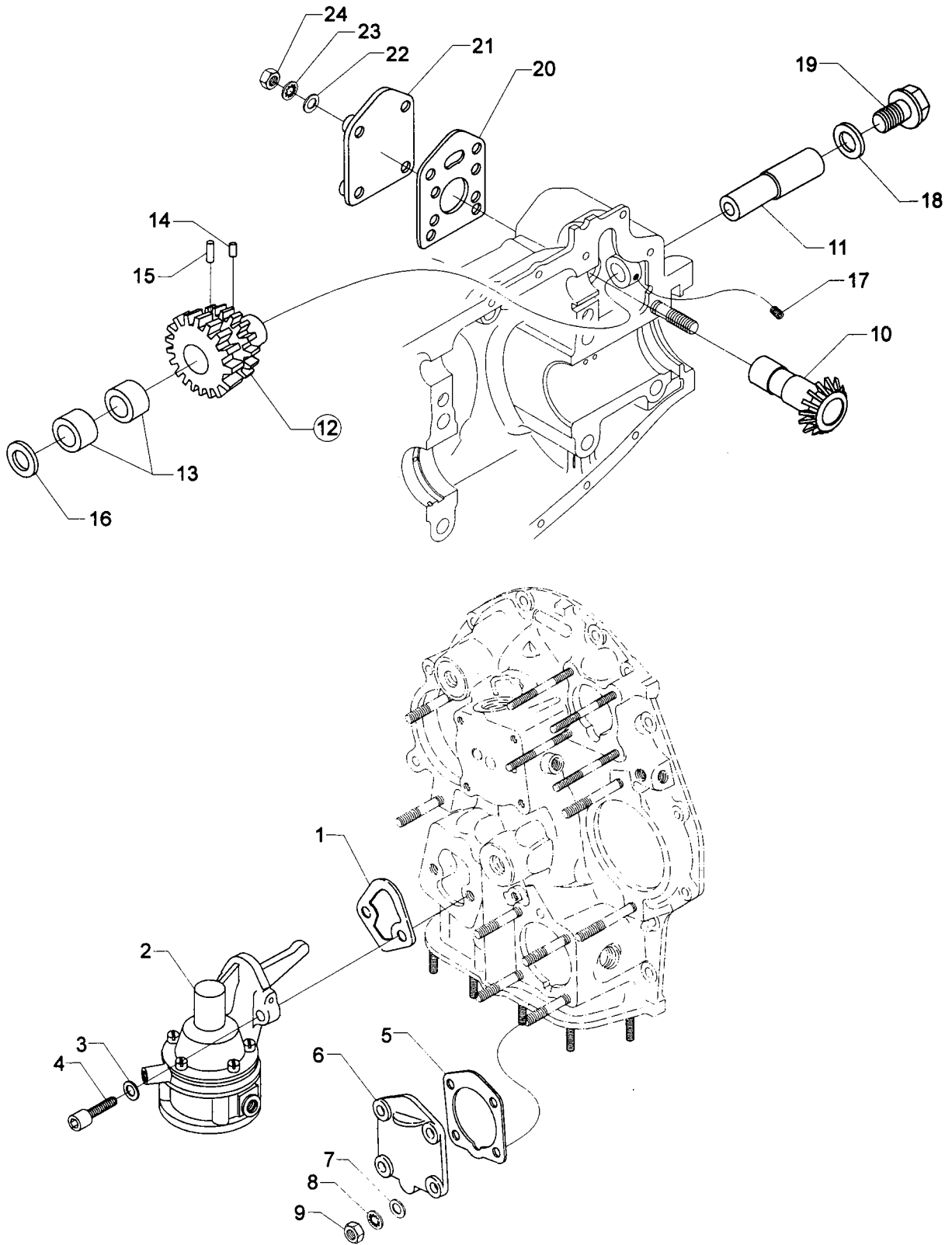


Figure 8. FUEL PUMP AND PROPELLER GOVERNOR DRIVE (CRANKCASE) AND COVERS

**ACCESSORY HOUSING AND RELATED PARTS
VACUUM PUMP DRIVE AND COVER**

FIG REF. 9	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	61183	GASKET, Vacuum pump	1
2	61098	ADAPTER ASSY., Vacuum pump	1
3	STD-1774	PIN, 1/8 dia. x 1/4 long	1
4	06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide	1
5	72970	GEAR ASSY., 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

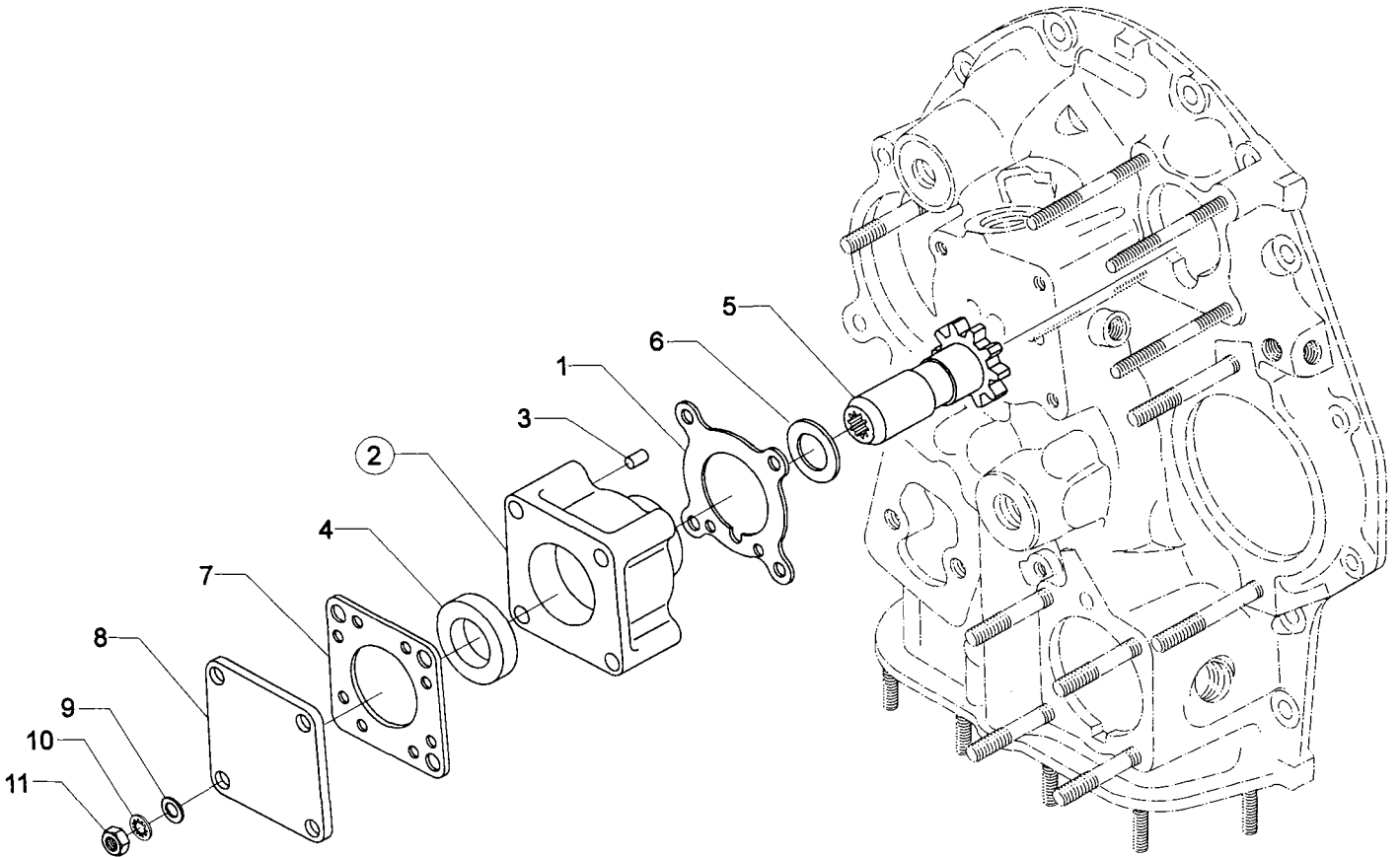


Figure 9. VACUUM PUMP DRIVE AND COVER

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

FIG REF. 10	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	LW-12795*	GASKET, Oil filter adapter	2
2	77852	OIL FILTER BASE ASSEMBLY	1
3	LW-13215	OIL FILTER, Short, Spin-on	1
4	STD-8	WASHER, 1/4 plain	4
5	STD-160	WASHER, 1/4 lock, internal teeth	1
6	STD-1411	NUT, 1/4-20 plain	1
7	STD-1856	SCREW, 1/4-20 x 1.00 long, hex. hd.	3
8	53E22144	VALVE ASSY., Temp. control oil cooler bypass	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	STD-784	PLUG, 3/8-18 NPT, Allen head	1
14	MS20823-8	ELBOW, 3/8 NPT, 1/2 flared tube	1
15	AN844-10D	ELBOW, Pipe	1

* Extra gasket, shipped as loose part, with engine.

NOTE

Reference latest edition of
replacement filters.

Lycoming SSP-885 for oil filter kits and

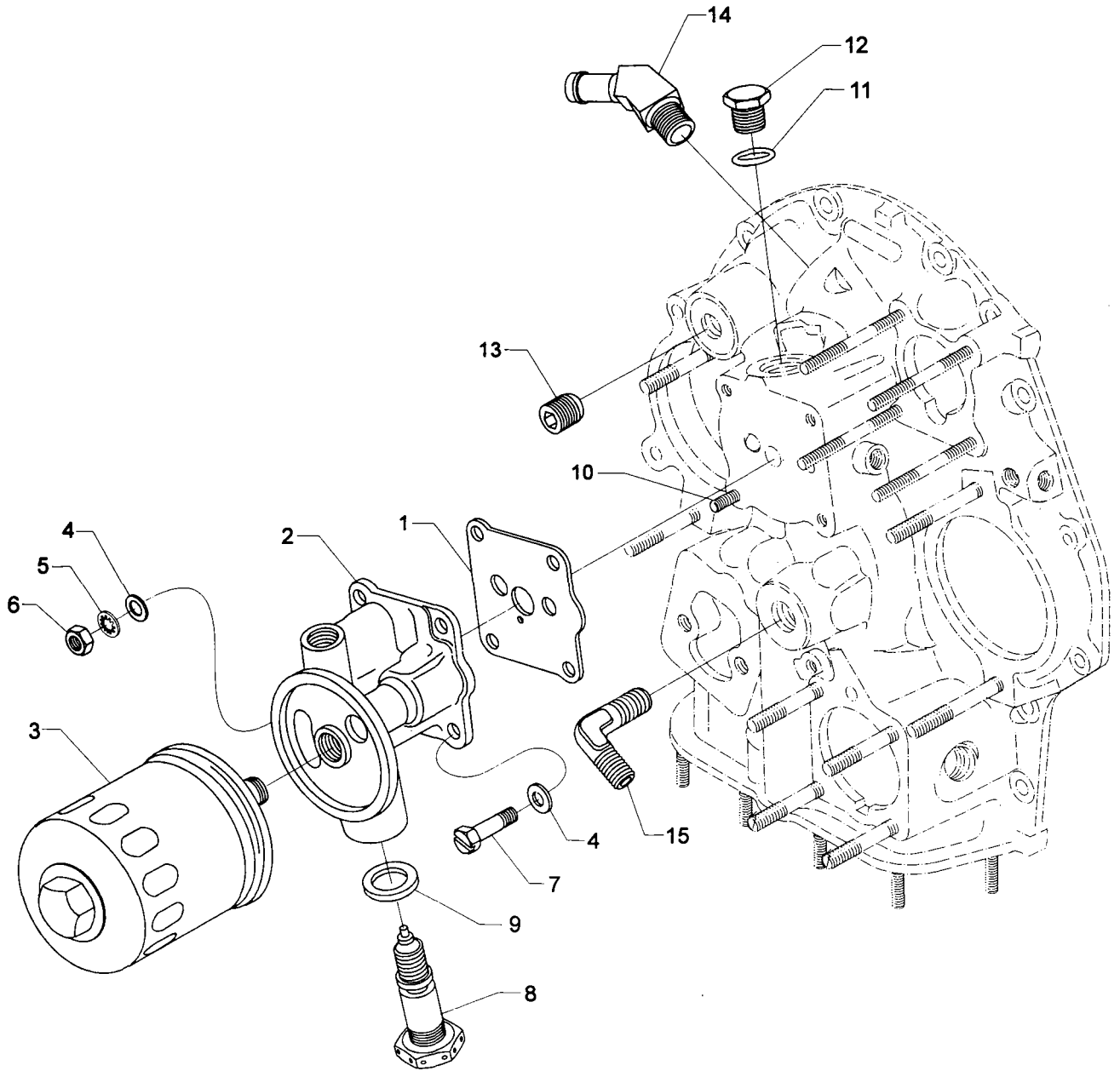


Figure 10. OIL FILTER ASSEMBLY, OIL COOLER BYPASS VALVE AND BREATHER FITTING

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

FIG REF. 11	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	LW-11750-S	CONNECTING ROD ASSEMBLY	4
2	LW-13923	BUSHING, Connecting rod, upper	4
3	75061	BOLT, Connecting rod	8
4	LW-12186	NUT, Connecting rod bolt	8
5	LW-13521	BEARING, Connecting rod	8
6	75089	PISTON, Compression ratio, 8.50:1	4
7	LW-14077*	PIN, Piston	4
8	72198*	PLUG, Piston pin	8
9	74241	RING, Piston compression	8
10	14H21950	RING, Piston, oil regulating, expander type	4

* See latest edition of Lycoming Service Instruction No. 1267.

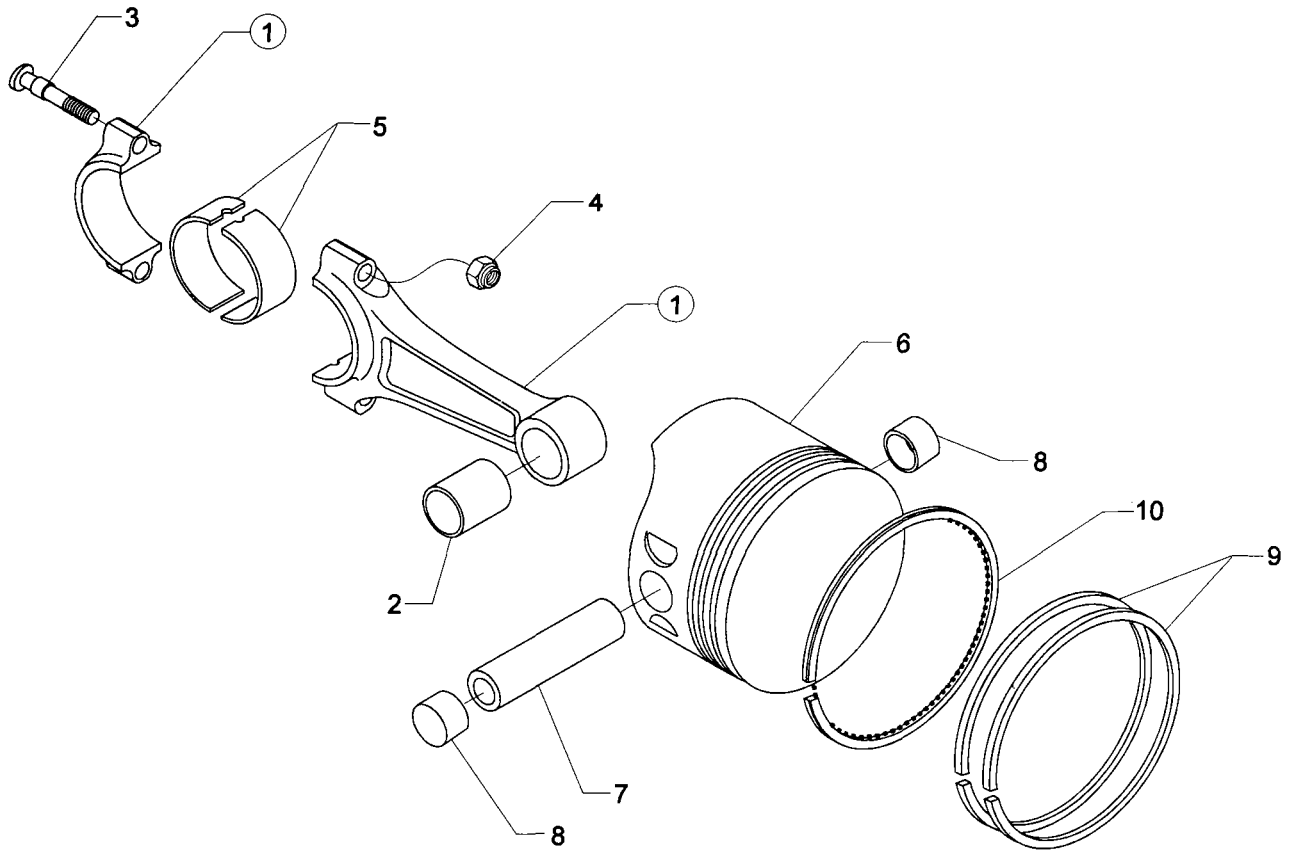


Figure 11. CONNECTING RODS, PISTONS AND RING ASSEMBLIES

CYLINDER, PISTON AND VALVE TRAIN CYLINDER ASSEMBLY

FIG REF. 12	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	LW-12427	CYLINDER AND HEAD ASSY., Nitrided	4
2	72057	SEAT, Intake valve	4
3	72058	SEAT, Exhaust valve	4
4	61681*	GUIDE, Valve, intake, flanged	4
5	16R22291*	GUIDE, Valve, exhaust, flanged	4
6	66796	INSERT, Spark plug, 18 - 1.5 MM	8
7	STD-1353	INSERT, No. 10-24 Helicoil x 3/8 long	4
8	31C-12	STUD, 5/16-18 x 1-1/2 long	8
9	25C-8	STUD, 1/4-20 x 1.00 long	4
10	MS20823-6D	ELBOW, 45°, 3/8 flared tube	4
11	66610	BUSHING, Rocker shaft	16
12	1102	PLUG, 1/8-27 NPT, Allen head	4
13	77611	GASKET, Exhaust flange	4
14	STD-35	WASHER, 5/16 plain	8
15	STD-475	WASHER, 5/16 lock, internal teeth	8
16	STD-1410	NUT, 5/16-18 plain	8

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

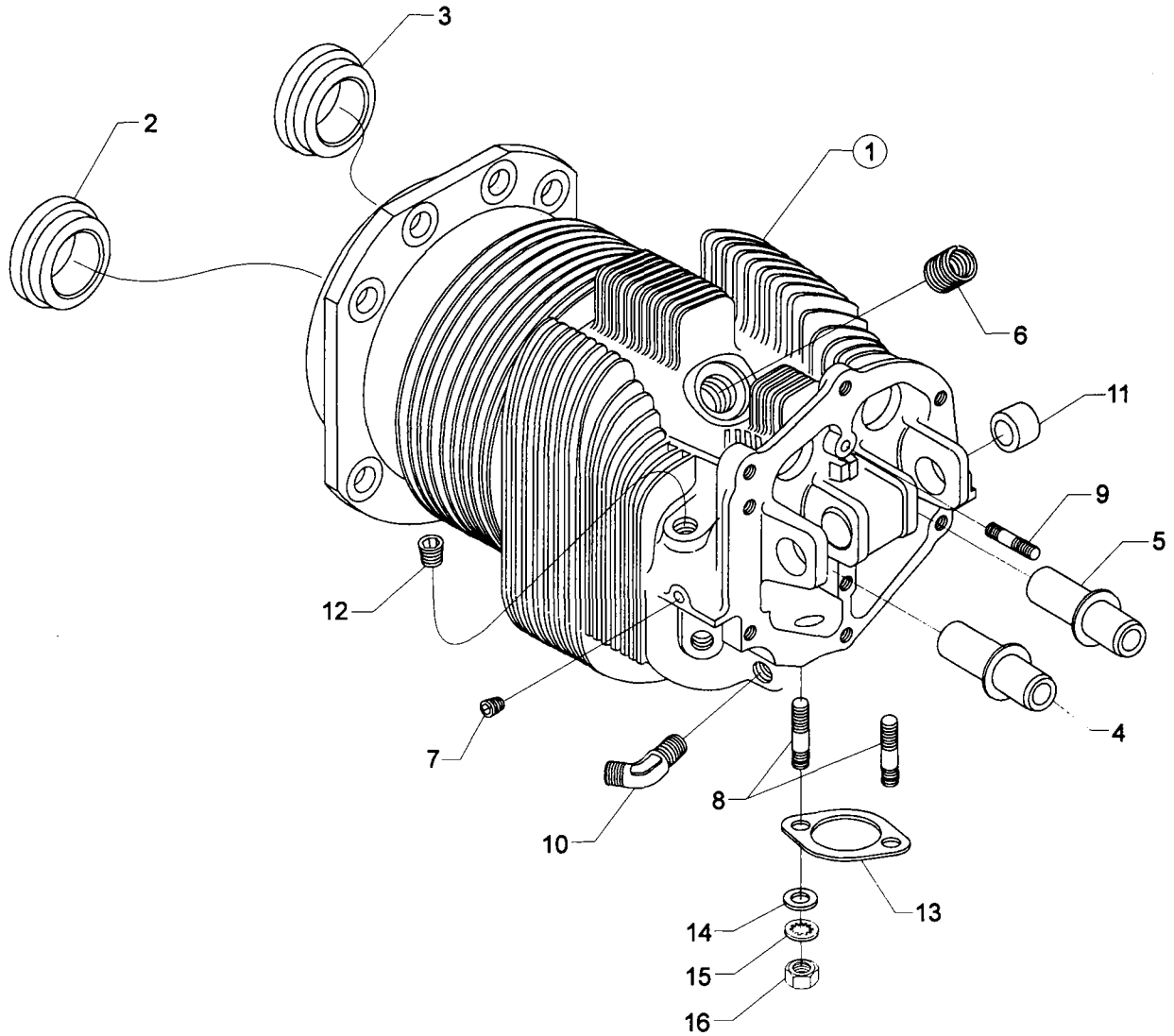


Figure 12. CYLINDER ASSEMBLY

CYLINDER, PISTON AND VALVE TRAIN CYLINDER RELATED PARTS

FIG. REF. 13	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	15F19957-34*	ROD ASSY., Push (A total of 8 required)	AR
	15F19957-35*	ROD ASSY., Push (A total of 8 required)	AR
	15F19957-36*	ROD ASSY., Push (A total of 8 required)	AR
	15F19957-37*	ROD ASSY., Push (A total of 8 required)	AR
2	17F19357**	ROCKER ASSY., Valve	8
3	74637	BUSHING, Valve rocker	8
4	LW-13790	SHAFT, Valve rocker	4
5	LW-12892	THRUST BUTTON, Rocker shaft	8
6	71481	RING, Oil seal, 3/32 dia. x 4-27/32 long	4
7	74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
8	383-B	NUT, 3/8-24 plain	16
9	STD-2090	NUT, 1/2-20 plain	18

* See latest edition of Lycoming Service Instruction No. 1060 for complete push rod application.

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

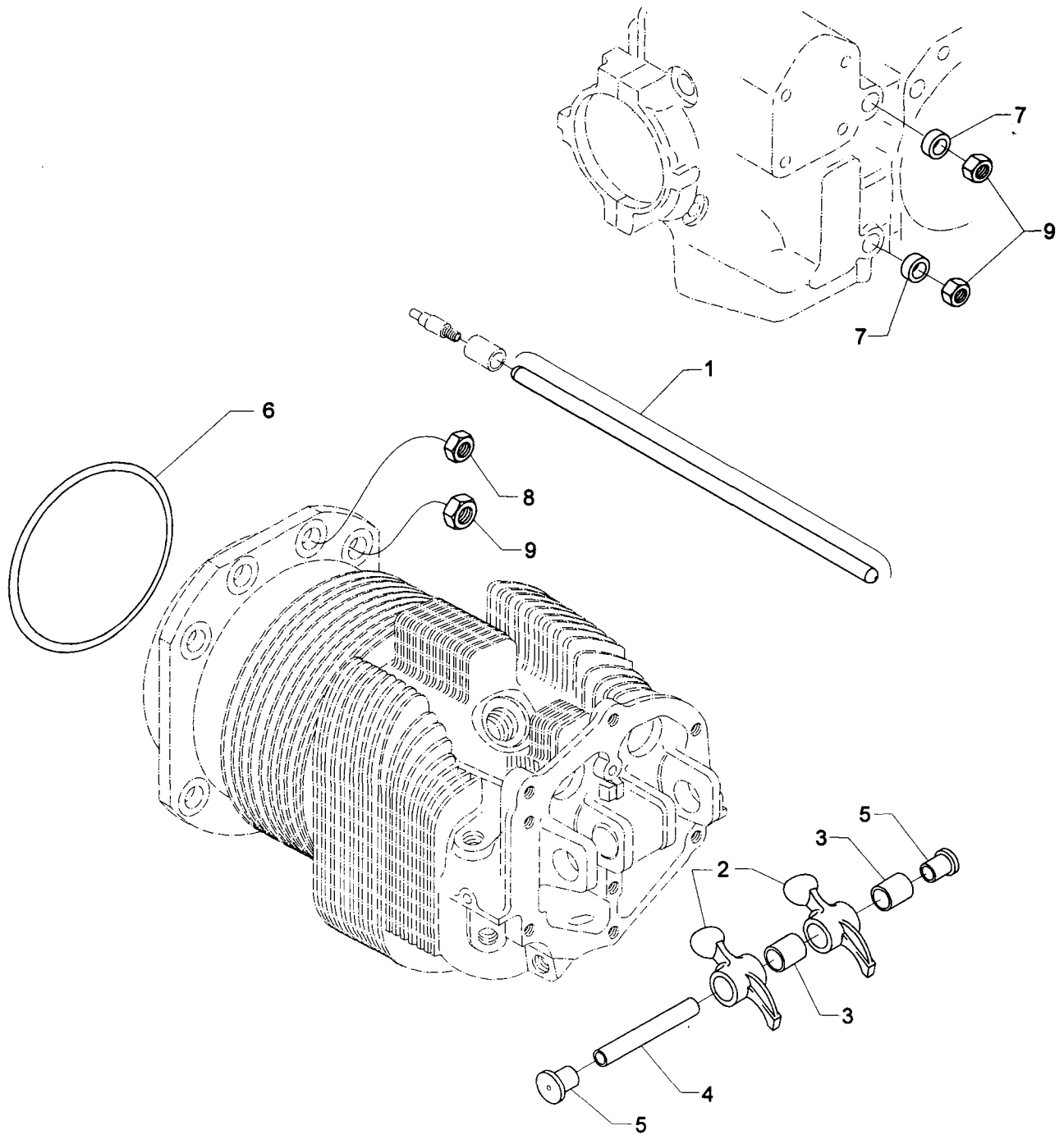


Figure 13. CYLINDER RELATED PARTS

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

FIG REF. 14	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	73938	VALVE, Intake	4
2	LW-19001	VALVE, Exhaust (rotator type)	4
3	LW-11795	SPRING, Valve, inner	8
4	LW-11800	SPRING, Valve, outer	8
5	65441	SEAT, Valve spring, lower intake	4
6	LW-13323	SEAT, Valve spring, lower exhaust	4
7	LW-10077	SEAT, Valve spring, upper intake	4
8	LW-16475	SEAT, Valve spring, upper exhaust (rotator type)	4
9	60009	KEY, Valve, intake	8
10	17C21191	KEY, Valve, exhaust (rotator type)	8
11	17C19386	CAP, Valve stem, exhaust (rotator type)	4
12	78290	PLUNGER ASSY., Hydraulic tappet	8
13	15B21319	SOCKET, Hydraulic tappet	8
14	LW-11485	SHROUD TUBE ASSY., Push rod	8
15	LW-14995	SPRING, Shroud tube	4
16	LW-12272	LOCKPLATE, Shroud tube	4
17	STD-1411	NUT, 1/4-20 plain	4
18	LW-18661	SEAL, Shroud tube	8
19	70310	SEAL, Shroud tube	8

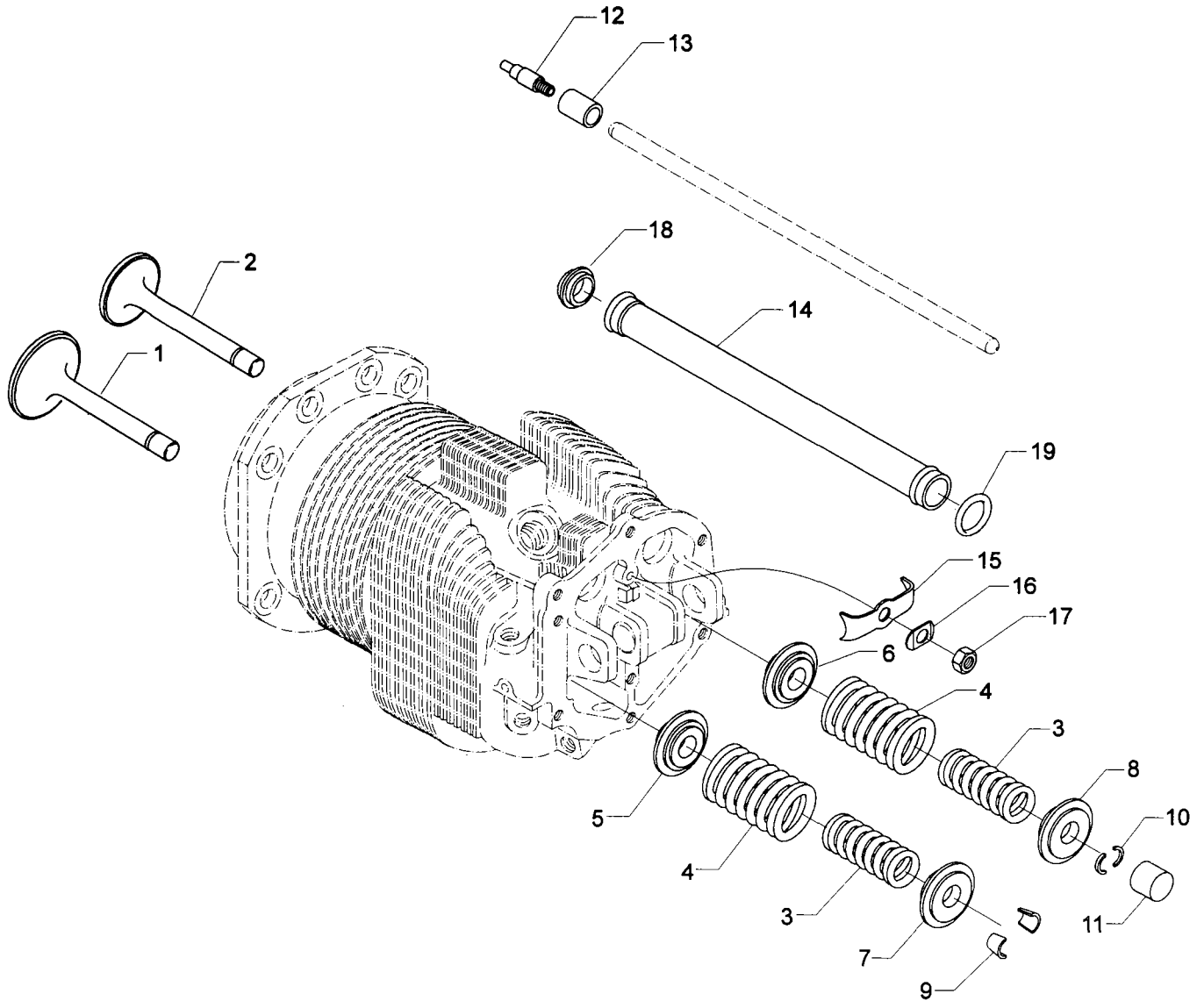


Figure 14. VALVE ASSEMBLY

**CYLINDER, PISTON AND VALVE TRAIN
CYLINDER HEAD DRAIN TUBES, INTERCYLINDER COOLING BAFFLES
AND ROCKER BOX COVERS**

FIG REF. 15	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	STD-684	NIPPLE, Straight, 3/8 I.D. hose	4
2	STD-1821	HOSE, 3/8 x 2-1/2 long	4
3	LW-15592-5-05	CLAMP, Hose	8
4	68759	TUBE ASSY., Cyl. head oil drain, cyl. no. 1	1
5	68760	TUBE ASSY., Cyl. head oil drain, cyl. no. 2	1
6	68761	TUBE ASSY., Cyl. head oil drain, cyls. no. 3 & 4	2
7	75339	BAFFLE ASSY., Intercylinder	2
8	71611	RETAINER, Intercylinder baffle	2
9	71610	HOOK, Intercylinder baffle retainer	2
10	75906	GASKET, Rocker box cover	4
11	61247	COVER, Rocker box	4
12	STD-1925	SCREW, 1/4-20 x 5/8 long, pan. hd., self-locking	24

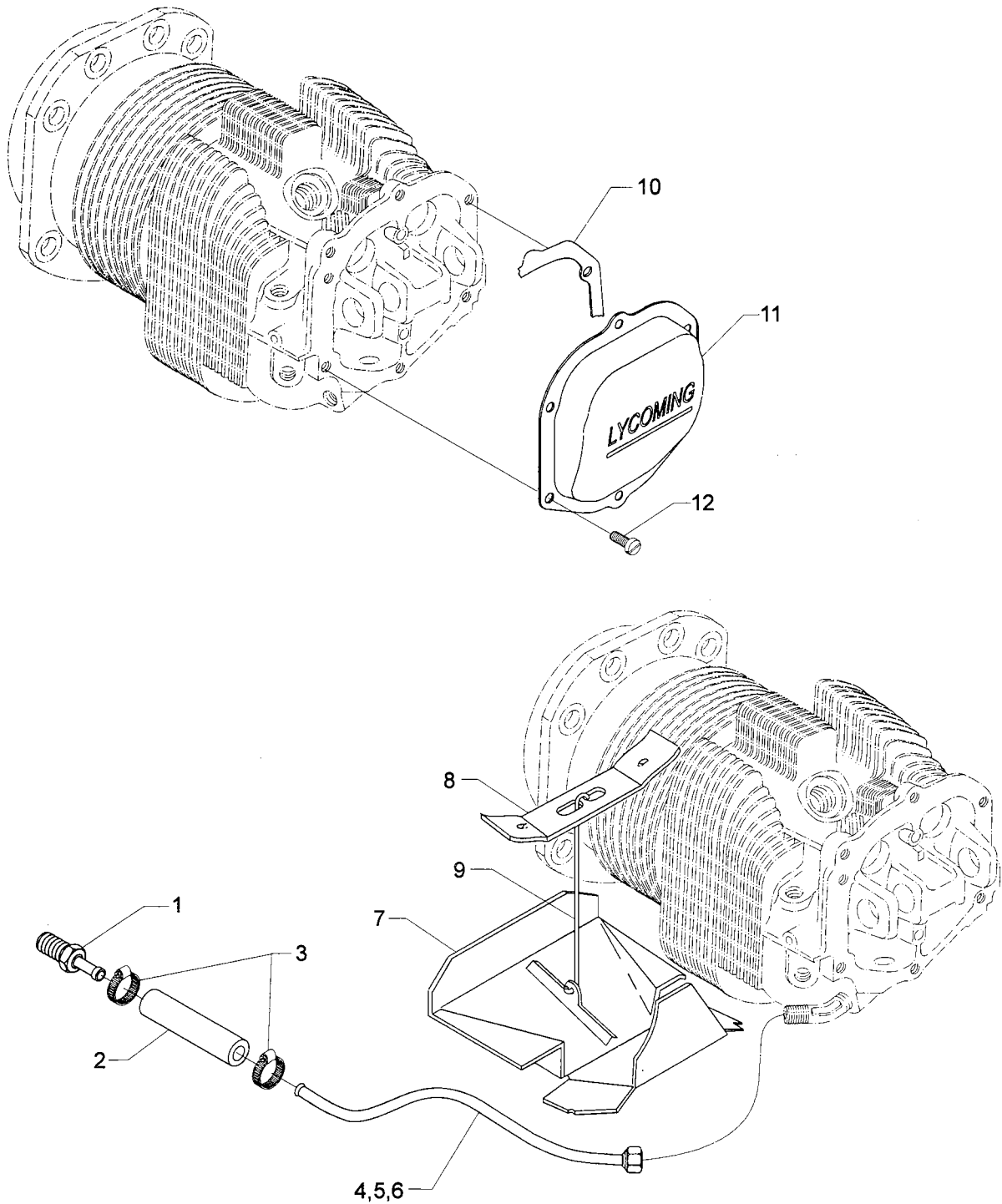


Figure 15. CYLINDER HEAD DRAIN TUBES, INTERCYLINDER COOLING BAFFLES AND ROCKER BOX COVERS

IGNITION SYSTEM

LASAR MAGNETOS, MAGNETO DRIVES, SLICK HARNESSES AND SPARK PLUGS

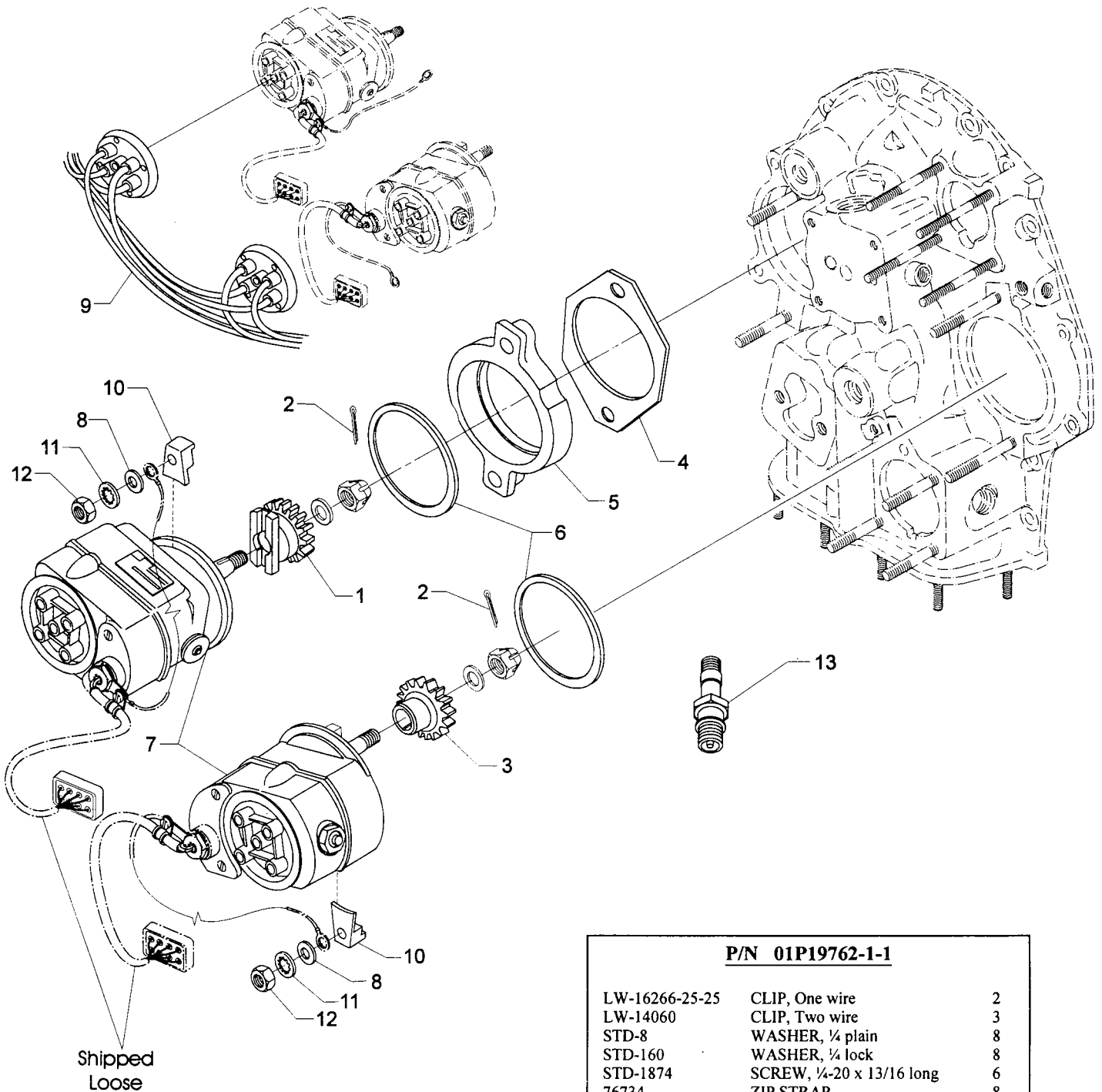
FIG REF. 16	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	61665	GEAR, Magneto, impulse coupling	1
2	STD-713	COTTER PIN, 3/32 dia. x 3/4 long	2
3	68C19622	GEAR, Magneto	1
4	62224	GASKET, Magneto adapter	1
5	LW-12706	ADAPTER, Magneto, impulse coupling	1
6	LW-12681	GASKET, Magneto	2
7	66K22442 +	MAGNETO, Lasar, Left (4771)	1
	66K22445 +	MAGNETO, Lasar, Right (4770)	1
8	STD-35	WASHER, 5/16 plain	2
9	67P20428 +	HARNESS ASSY., Right, Slick Model M-2990	1
	67P20429 +	HARNESS ASSY., Left, Slick Model M-2989	1
10	66M21195	CLAMP, Magneto	4
11	STD-475	WASHER, 5/16 lock, internal teeth	4
12	STD-1410	NUT, 5/16-18 plain	4
13	1182-E7*	SPARK PLUG, Champion (REM38E) or Auburn (SR8)	8
**	66Y22550	HARNESS ASSY., Laser (LH-1010-43)	1
**	66SLC-1022-03	CONT., Lasar (24V)	1
***	01P19762-1-1	BAG, Magneto harness attaching	1

* Item No. 13 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.

** Ship loose with engine.

*** 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.

+ A P/N L-1540 Lasar Instruction Manual is included.



P/N 01P19762-1-1		
LW-16266-25-25	CLIP, One wire	2
LW-14060	CLIP, Two wire	3
STD-8	WASHER, 1/4 plain	8
STD-160	WASHER, 1/4 lock	8
STD-1874	SCREW, 1/4-20 x 13/16 long	6
76734	ZIP STRAP	8
LW-16266-25-50	CLAMP	1
STD-1411	NUT, 1/4-20 plain	2
STD-696	WASHER, 1/4 plain (thin)	4
STD-1916	SCREW, 1/4-20 x 1-1/8 long	3
LW-M-2375	PLATE, Spark plug cable	2

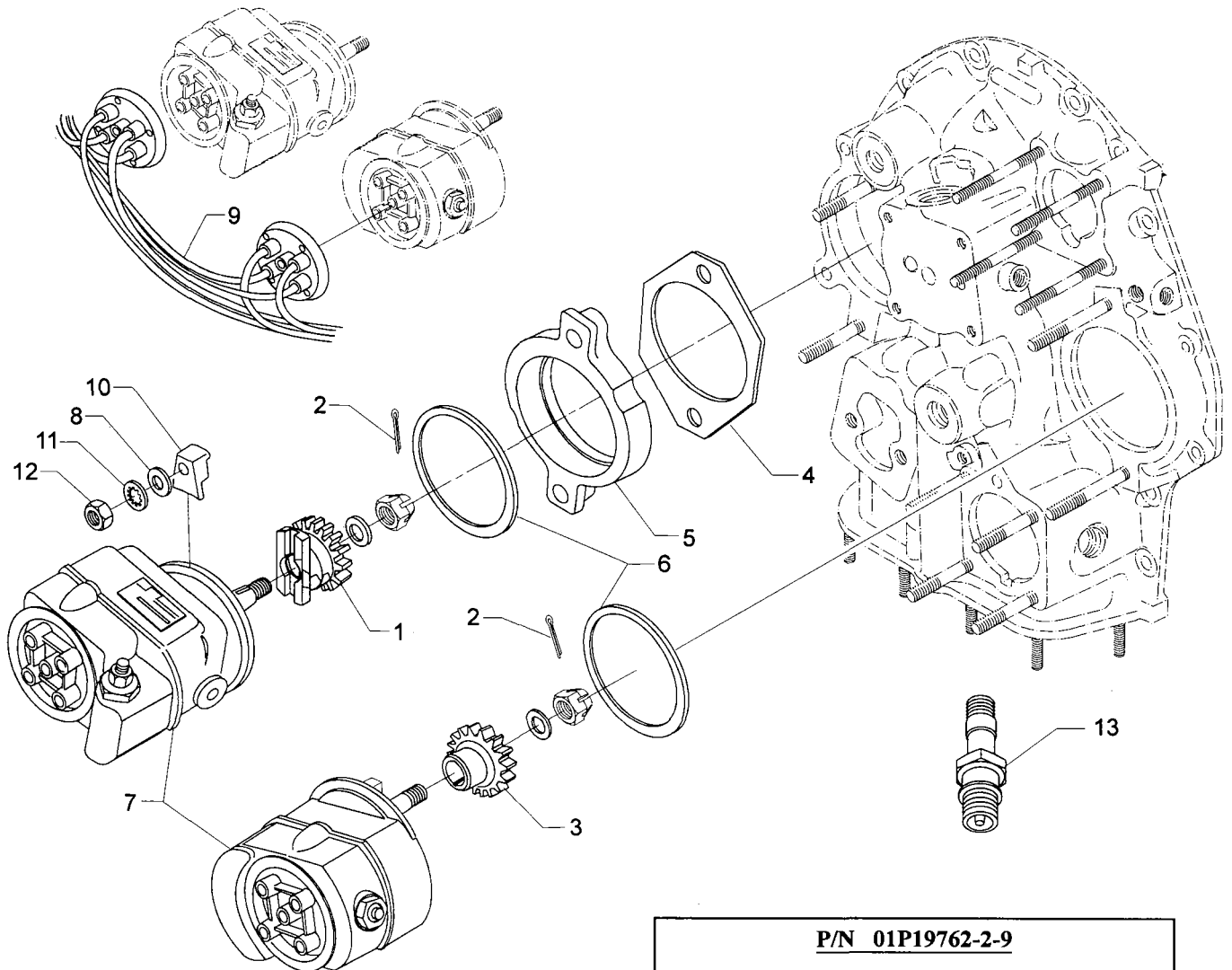
Figure 16. LASAR MAGNETOS, MAGNETO DRIVES, SLICK HARNESSES AND SPARK PLUGS

IGNITION SYSTEM SLICK MAGNETOS, MAGNETO DRIVES, SLICK HARNESES AND SPARK PLUGS

FIG REF. 16A	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	61665	GEAR, Magneto, impulse coupling	1
2	STD-713	COTTER PIN, 3/32 dia. x 3/4 long	2
3	68C19622	GEAR, Magneto	1
4	62224	GASKET, Magneto adapter	1
5	LW-12706	ADAPTER, Magneto, impulse coupling	1
6	LW-12681	GASKET, Magneto	2
7	66GP-OSANN	MAGNETO, Slick, Plain (4370)	1
	66GC25SFNN	MAGNETO, Slick, Impulse (4373)	1
8	STD-35	WASHER, 5/16 plain	2
9	67P20416	HARNESS ASSY., Right, Slick Model M-2984	1
	67P20417	HARNESS ASSY., Left, Slick Model M-2983	1
10	66M21195	CLAMP, Magneto	4
11	STD-475	WASHER, 5/16 lock, internal teeth	4
12	STD-1410	NUT, 5/16-18 plain	4
13	1182-E7*	SPARK PLUG, Champion (REM38E) or Auburn (SR8)	8
**	01P19762-2-9	BAG, Magneto harness attaching	1

* Item No. 13 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.

** See page 4-4 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 01P19762-2-9		
LW-16266-25-25	CLIP, One wire	4
LW-14060	CLIP, Two wire	4
STD-8	WASHER, ¼ plain	8
STD-1874	SCREW, ¼-20 x 13/16 long	4
76734	ZIP STRAP	12
LW-16266-25-50	CLAMP	3
STD-1411	NUT, ¼-20 plain	1
STD-696	WASHER, ¼ plain (thin)	4
STD-1916	SCREW, ¼-20 x 1-1/8 long	1
STD-1925	SCREW, ¼-20 x 5/8 long	2
72815	BRACKET	3
73152	BRACKET	2
STD-692	SCREW, No. 10-32 x ½ long	5
STD-425	WASHER, No. 10 plain	5
STD-670	LOCKNUT, No. 10-32	5
LW-M-2375	PLATE, Spark plug cable	2

Figure 16A. SLICK MAGNETOS, MAGNETO DRIVES, SLICK HARNESSES AND SPARK PLUGS

ELECTRICAL SYSTEM
SKY-TEC STARTER AND ATTACHING PARTS

FIG REF. 17	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	31B22105	STARTER, Sky-Tec (149 - 24 LS)	1
2	STD-475	WASHER, 5/16 lock, internal teeth	4
3	LW-31-1.09	BOLT, 5/16-18 x 1-3/32 long, hex. hd.	1
4	STD-1410	NUT, 5/16-18 plain	3

NOTE

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

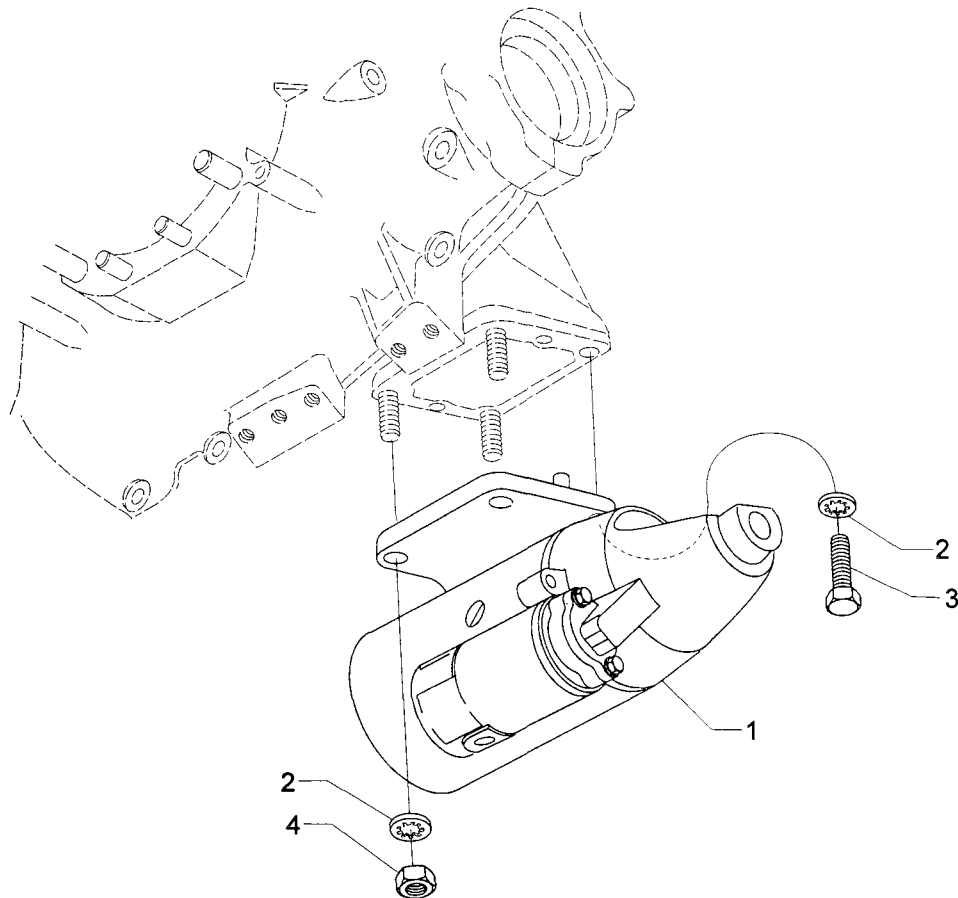


Figure 17. SKY-TEC STARTER AND ATTACHING PARTS

ELECTRICAL SYSTEM ALTERNATOR ASSEMBLY AND BELT

FIG. REF. 18	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	32C21681	ALTERNATOR ASSY., 28 volt, 90 amp.	1
2	32C20114	ALTERNATOR, Electrosystems (ES 4011-LS)	1
3	36B21680	PULLEY, Alternator, dual belt	1
4	37A19773M396	BELT, Alternator drive, 3/8 wide	1

NOTE

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

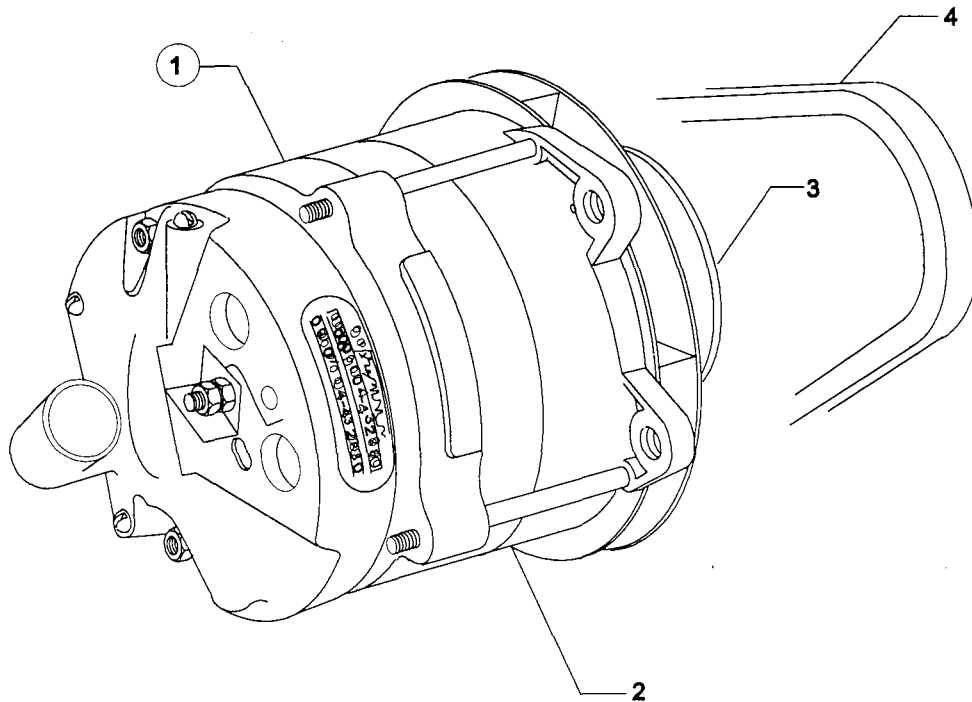


Figure 18. ALTERNATOR ASSEMBLY AND BELT

ELECTRICAL SYSTEM ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG REF. 19	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	07A21156	BRACKET, Alternator	1
2	LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. hd., drilled	2
3	STD-35	WASHER, 5/16 plain	2
4	07A21157	BRACKET, Alternator belt, adj.	1
5	STD-1727	WASHER, Plain, 21/64 I.D. x 3/4 O.D. x 1/8 thick	1
6	LW-14637	SHIM, 13/16 O.D. x 11/32 I.D. x .005 thick	3
7	LW-14649	SHIM, 13/16 O.D. x 11/32 I.D. x .010 thick	3
8	LW-31H1.22	BOLT, 5/16-18 x 1-7/32 long, hex.hd., drilled	1
9	LW-19265	PULLEY & SHAFT ASSY., Alternator	1
10	76420	PULLEY, Alternator idler, dual	1
11	78629	BALL BEARING, Double row, alternator	1
12	MS16625-1125	RING, Internal retaining, 1-1/4 dia.	2
13	LW-19238	SHAFT, Alternator dual belt idler	1
14	76768	LOCKWASHER, Alternator idler pulley bearing	1
15	76769	LOCKNUT, Alternator idler pulley bearing	1
16	LW-11635	SHIELD, Alternator idler bearing	1
17	STD-669	WASHER, 33/64 I.D. x 1.00 O.D. x 1/8 thick	1
18	STD-2221	NUT, 1/2-20 self-locking	1
19	STD-33	WASHER, 3/8 plain	1
20	STD-2145	BOLT, 3/8-16 x 1-3/16 long, hex. hd.	1
21	07F21160	STRUT, Alternator support	1
22	STD-35	WASHER, 5/16 plain	2
23	LW-31H0.88	BOLT, 5/16-18 x 7/8 long, hex. hd., drilled	1
24	STD-632	WASHER, 7/16 plain	1
25	LW-14650	SHIM, 7/8 O.D. x 15/32 I.D. x .005 thick	3
26	AN7-42	BOLT, 7/16-20 x 4-21/64 long, hex. hd.	1
27	AN310-7	NUT, 7/16-20 plain, slotted	1
28	STD-713	COTTER PIN, 3/32 dia. x 3/4 long	1

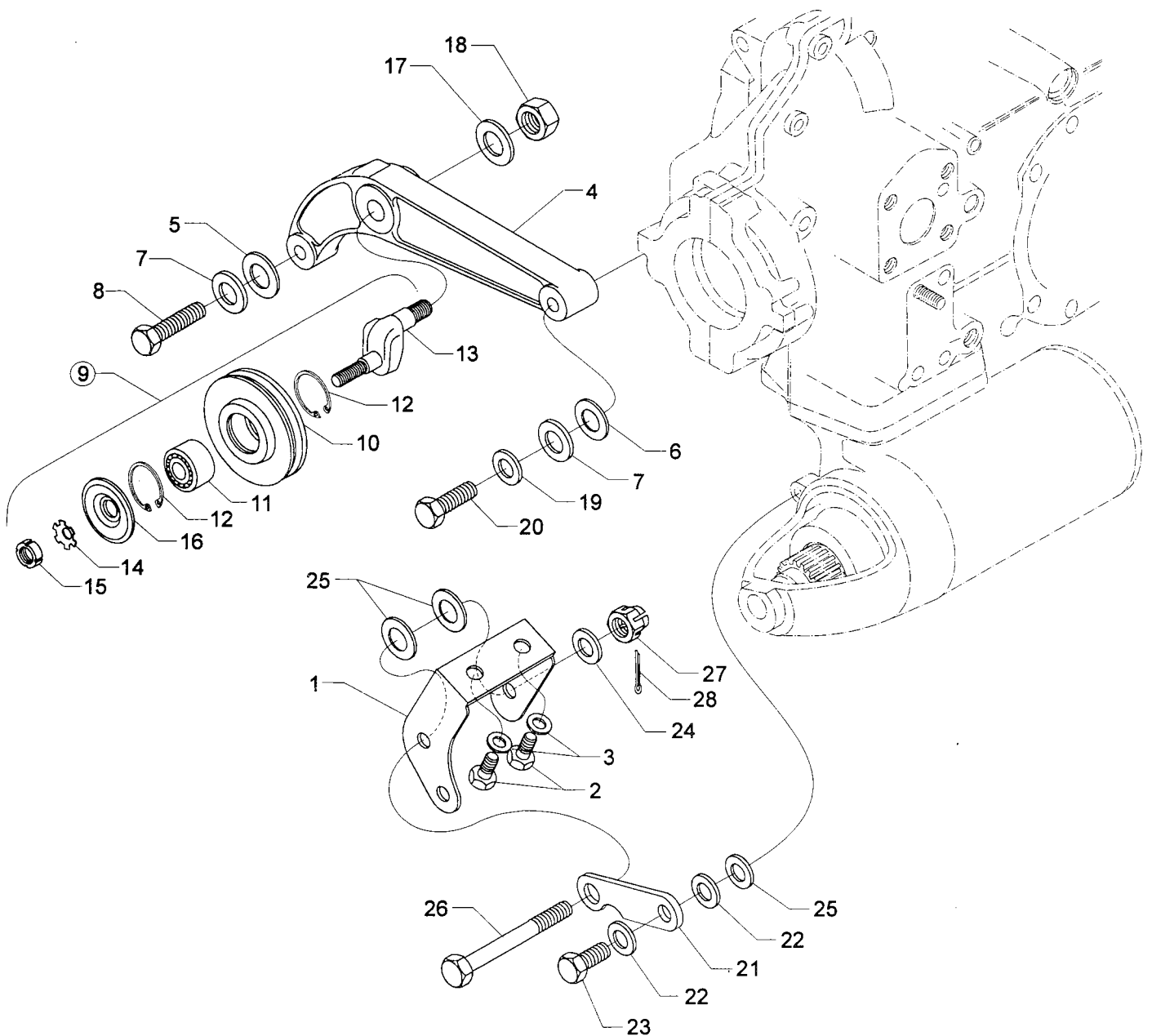


Figure 19. ALTERNATOR MOUNTING AND ATTACHING PARTS

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

FIG REF. 20	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	LW-13353	GASKET, Oil sump	1
2	78778	SUMP ASSEMBLY, Oil	1
3	69602	CONNECTION, Intake pipe	4
4	61400	STUD, 1/4-20 x 1-3/16 long	4
5	31C-24	STUD, 5/16-18 x 3.00 long	4
6	STD-551	PLUG, 1/2-14 NPT, Sq. hd., drilled	1
7	STD-8	WASHER, 1/4 plain	27
8	STD-160	WASHER, 1/4 lock, internal teeth	19
9	LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. hd.	7
10	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. hd.	2
11	STD-1411	NUT, 1/4-20 plain	17
12	STD-8	WASHER, 1/4 plain	4
13	LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. hd.	1
14	STD-2044	NUT, 1/4-20 self-locking	1
15	70484	SCREEN, Oil suction	1
16	06E19769-1.00	GASKET, 1.00 I.D. x 1-1/4 O.D. x 3/32 annular	1
17	LW-12545	PLUG, 5/8 hex. hd. x 1.00-20 thread	1

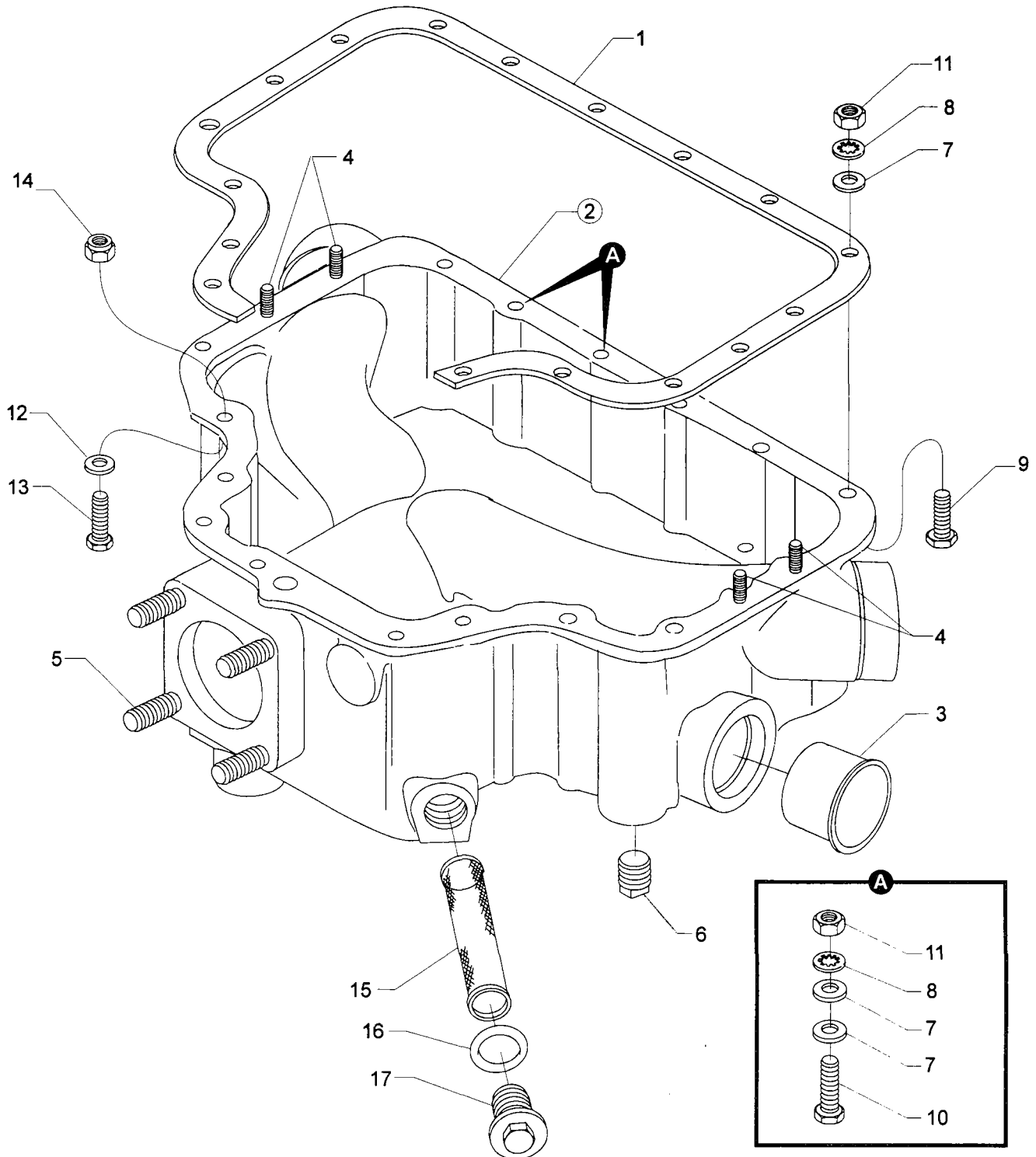


Figure 20. OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN

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

FIG REF. 21	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	71712	PIPE, Intake, cylinders no. 1 & 2	2
	71713	PIPE, Intake, cylinders no. 3 & 4	2
2	69603	HOSE, 1-3/4 I.D. x 2-3/16 O.D. x 1-3/4 long	4
3	LW-15592-8-28	CLAMP, Hose	8
4	71973	GASKET, 2 bolt flange, 1-3/4 I.D.	4
5	73346	FLANGE, Intake pipe, upper	4
6	STD-8	WASHER, 1/4 plain	8
7	STD-160	WASHER, 1/4 lock, internal teeth	8
8	LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. hd.	8
9	1102	PLUG, 1/8 pipe	2

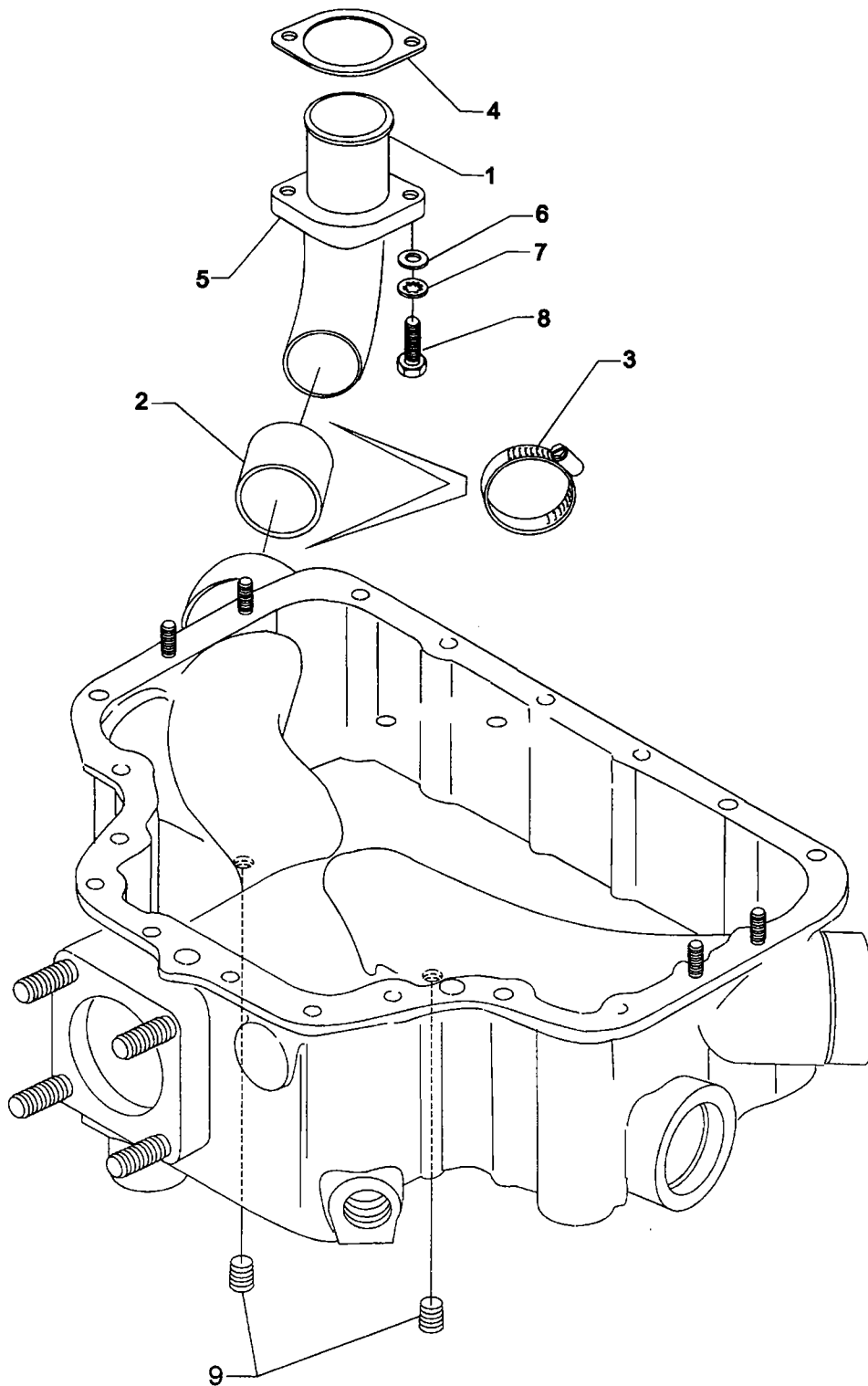


Figure 21. INTAKE PIPES AND ATTACHING PARTS

OIL SUMP AND INDUCTION SYSTEM FUEL INJECTOR, FUEL MANIFOLD AND BRACKETS

FIG REF. 22	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	66224	GASKET, Fuel injector	2
2	74842	SPACER, Fuel injector	1
3	76504	FUEL INJECTOR, (2524297-10)	1
4	STD-35	WASHER, 5/16 plain	4
5	STD-475	WASHER, 5/16 lock, internal teeth	4
6	STD-1410	NUT, 5/16-18 plain	4
7	LW-18265	NOZZLE, Injection	4
8	78805	MANIFOLD ASSY., Fuel	1
9	AN816-4	NIPPLE, 1/8 NPT to 1/4 tube	1
10	STD-148	NIPPLE, Union, 1/8 NPT	4
11	1102	PLUG, 1/8-27 NPT, Allen	2
12	02G21382	NIPPLE, 3/16 tube to 1/8 NPT, restricted	1
13	77547	BRACKET, Fuel manifold	1
14	STD-251	WASHER, No. 10, internal lock	4
15	STD-82	SCREW, No. 10-24 x 1/2 long, fill. hd.	4
16	STD-160	WASHER, 1/4 lock, internal teeth	1
17	LW-25-0.50	BOLT, 1/4-20 x 1/2 long, hex. hd.	1

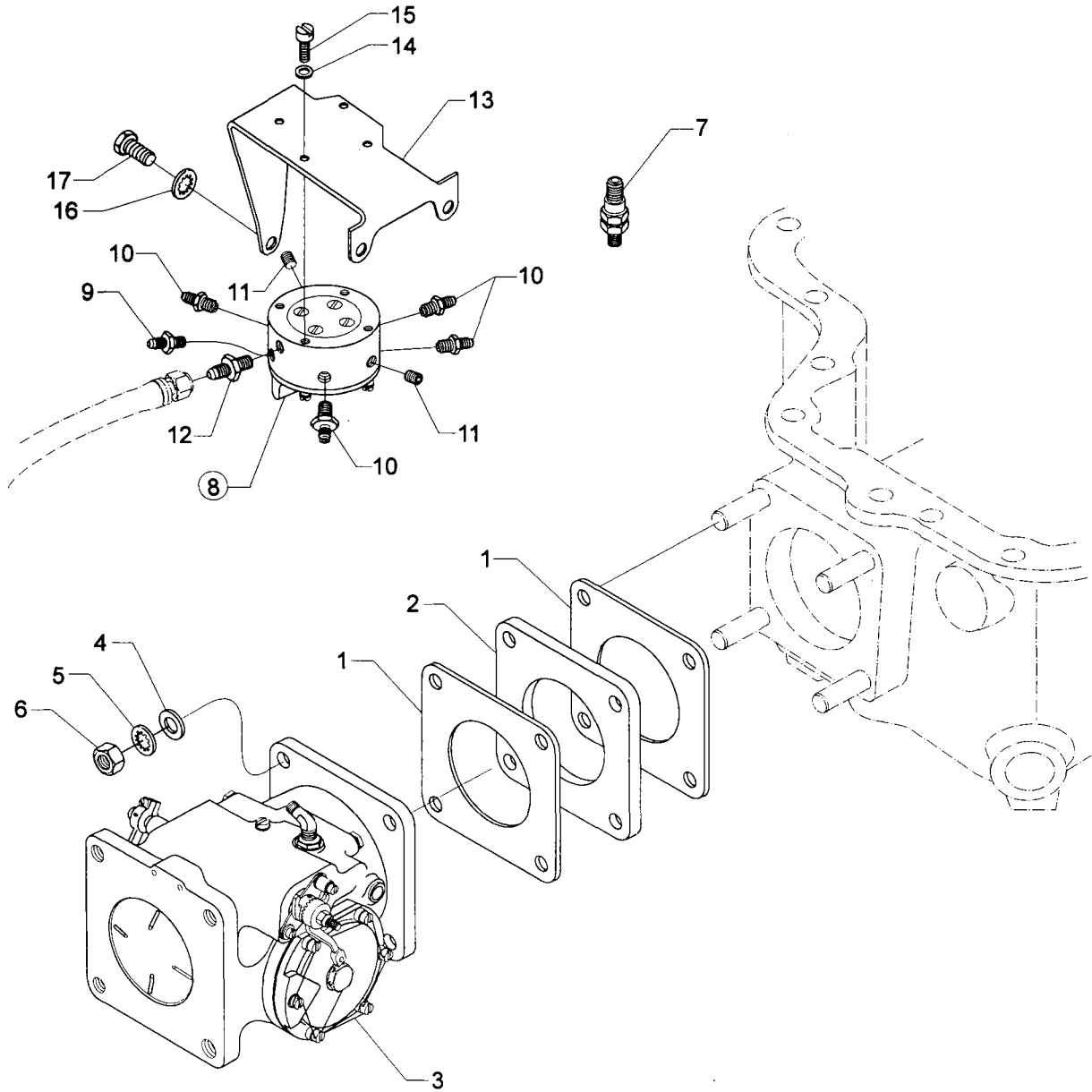


Figure 22. FUEL INJECTOR, FUEL MANIFOLD AND BRACKETS

OIL SUMP AND INDUCTION SYSTEM FUEL LINES, FUEL HOSES AND ATTACHING PARTS

FIG REF. 23	PART NUMBER	DESCRIPTION	QTY. PER ASSY.
1	LW-12098-0-140	TUBE ASSY., Fuel manifold to nozzles, cyl. 2 & 4	2
2	LW-12098-0-210	TUBE ASSY., Fuel manifold to nozzles, cyl. 1 & 3	2
3	LW-16266-10-75	CLAMP	4
4	LW-16266-10-13	CLAMP, 1/8 dia. for No. 10 screw	6
5	STD-860	SCREW, No. 10-32 x 5/8 long, fill. hd.	6
6	STD-670	LOCKNUT, No. 10-32	6
7	73136	BRACKET, Extension, fuel inj. line	2
8	LW-16562*	NIPPLE, 3/8 flared tube, 9/16-18	1
9	74070*	ELBOW, 3/8 flared tube & 9/16-18	1
10	77287	TUBE ASSY., Fuel pump to injector	1
11	LW-12798-4S340	HOSE ASSY., 1/4 hose, straight (inj. to man.)	1
12	72815	BRACKET, Support clamp, 90°	1
13	LW-16266-25-50	CLAMP	1
14	STD-860	SCREW, No. 10-32 x 5/8 long, fill. hd.	1
15	STD-425	WASHER, No. 10 plain	1
16	STD-670	LOCKNUT, No. 10-32	1

* Requires P/N MS29512-06 O-ring.

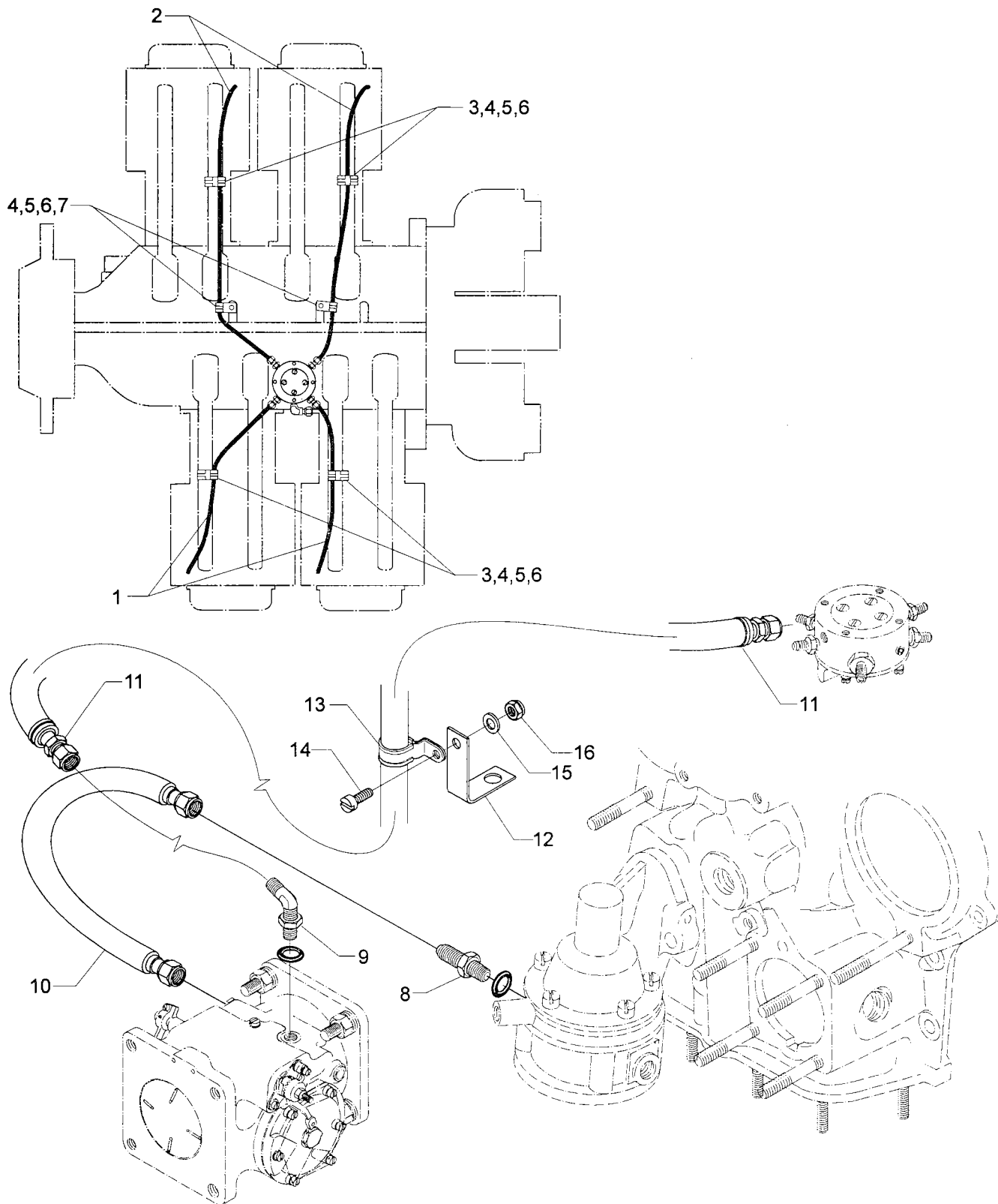


Figure 23. FUEL LINES, FUEL HOSES AND ATTACHING PARTS

SERVICE KIT SECTION SEAL AND GASKET SET
--

Part No.	Part Name	Qty.
75439-1	SEAL & GASKET SET	1
AN901-8A	GASKET, Metal tube connect seal	1
LW-10332	LOCKPLATE, Crankshaft gear	1
LW-12272	LOCKPLATE, Shroud tube	4
LW-12681	GASKET, Magneto	2
LW-12795	GASKET, Oil filter adapter	1
LW-13353	GASKET, Oil sump	1
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Tachometer drive	1
LW-14995	SPRING, Shroud tube	4
LW-18639	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	8
LW-19296	GASKET, Exhaust flange	4
STD-475	WASHER, 5/26 lock, internal teeth	4
STD-213	SEAL, Oil	1
06A19956	SEAL, Oil	1
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	3
66224	GASKET, Carburetor	2
68315	GASKET, Accessory drive	1
69164	GASKET, Fuel pump adapter	1
69345	SPACER	4
69551	GASKET, Accessory drive	1
70310	SEAL, Shroud tube	8
70455	GASKET	1
71481	RING, Oil seal	4
71973	GASKET	4
72053	GASKET, Governor	2
72059	GASKET, Oil level gage	1
72075	SEAL, Oil	6
72078	LOCKPLATE	2
72091	RING, Oil seal	2
72220	GASKET, Oil level gage	1
72312	RING, Oil seal	1
72829	LOCKPLATE	1
73189	GASKET	1
73383	LOCKPLATE	2
73817	LOCKPLATE	2
73818	GASKET, Accessory housing	1
74065	RING, Oil level gage seal	1

**SEAL & GASKET SET (CONT.) AND
SERVICE KIT SECTION CYLINDER, PISTON AND RING ASSY. KIT**

Part No.	Part Name	Qty.
75439-1	SEAL & GASKET SET (Cont.)	
74068	RING, Oil level gage plug	1
75906	GASKET, Rocker box cover	4
76510	GASKET, Oil cooler bypass	1
76940	SEAL, Crankshaft oil	1
77154	GASKET, Carburetor	1
77611	GASKET, Exhaust flange	4
8313	GASKET, Vacuum pump	1
05K21104	KIT, CYLINDER, PISTON AND RING ASSY.	1
LW-12427	CYLINDER ASSEMBLY	1
LW-19001	VALVE, Exhaust	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
65441	SEAT, Valve spring, lower intake	1
LW-13323	SEAT, Valve spring, lower exhaust	1
60009	KEY, Valve, intake	2
17C21191	KEY, Valve, exhaust	2
17C19386	CAP, Valve steam, exhaust	1
75089	PISTON	1
74241	RING, Piston, compression	2
14H21950	RING, Piston , oil regulating	1
LW-14077	PIN, Piston	1
60828	PLUG, Piston pin	2
71481	RING, Oil seal	1
LW-18661	SEAL, Shroud tube	2
70310	SEAL, Shroud tube	2
75906	GASKET, Rocker box cover	1
72198	PLUG, Piston pin	2
77611	GASKET, Exhaust	1
71973	GASKET, Intake	1
LW-12272	LOCKPLATE, Shroud tube	1

SERVICE KIT SECTIONCRANKCASE ASSY. AND THRU STUD KIT

Part No.	Part Name	Qty.
11D22549-S	CRANKCASE ASSY. AND THRU STUD KIT	1
11D22549*	CRANKCASE ASSEMBLY	1
31C-14	STUD (AN Governor)	4
76220	THRU STUD	4
74887	SPACER	2
AN565B1032-H4	SET SCREW, No. 10-32 x 1/4 long	1
AN565B1032-H5	SET SCREW, No. 10-32 x 5/16 long	1
STD-2090	NUT	2
SSP-582	TAG, Thin wall bearings	1
SSP-1576	TAG, Governor drive idler shaft	1
SSP-1769	TAG, Governor drive pad studs	1

* See Figure 1, Page 1-1 for component parts.

NUMERICAL INDEX

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
AN310-7	Nut	5-3	LW-12706	Adapter	4-1
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