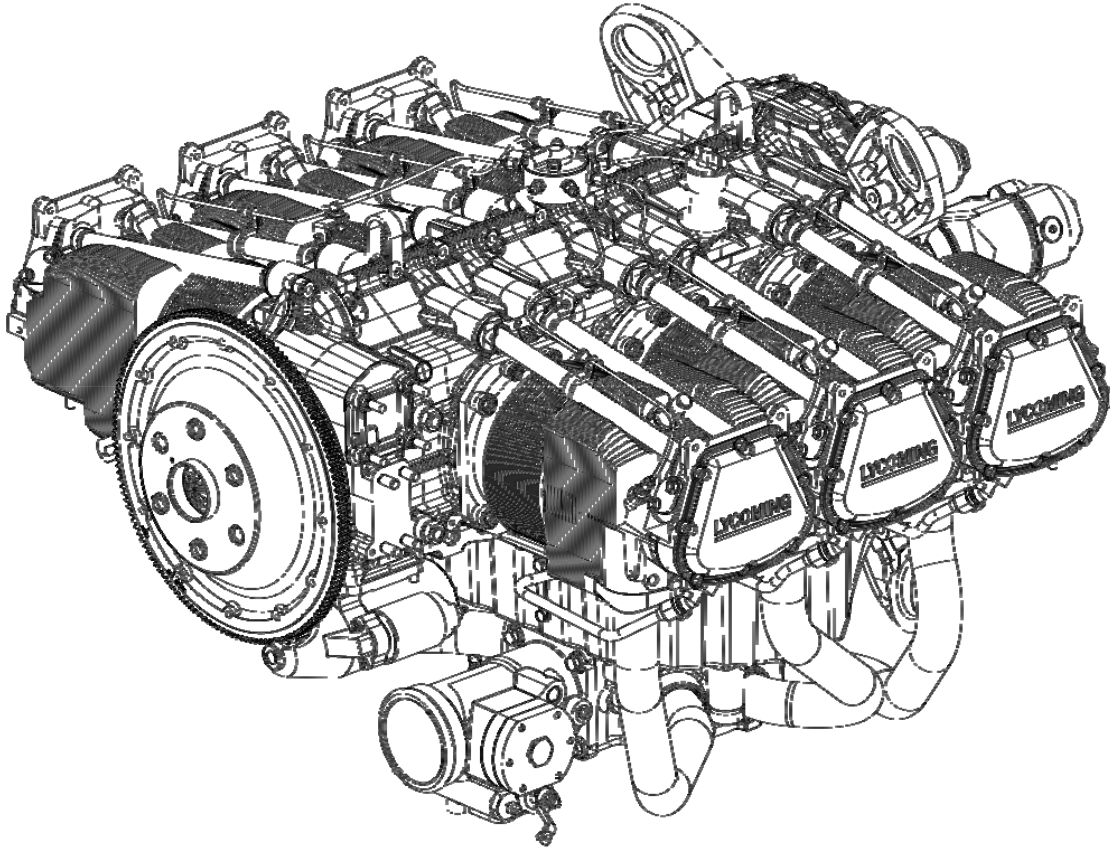


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Engine Parts Catalog

AEIO-580-B1A

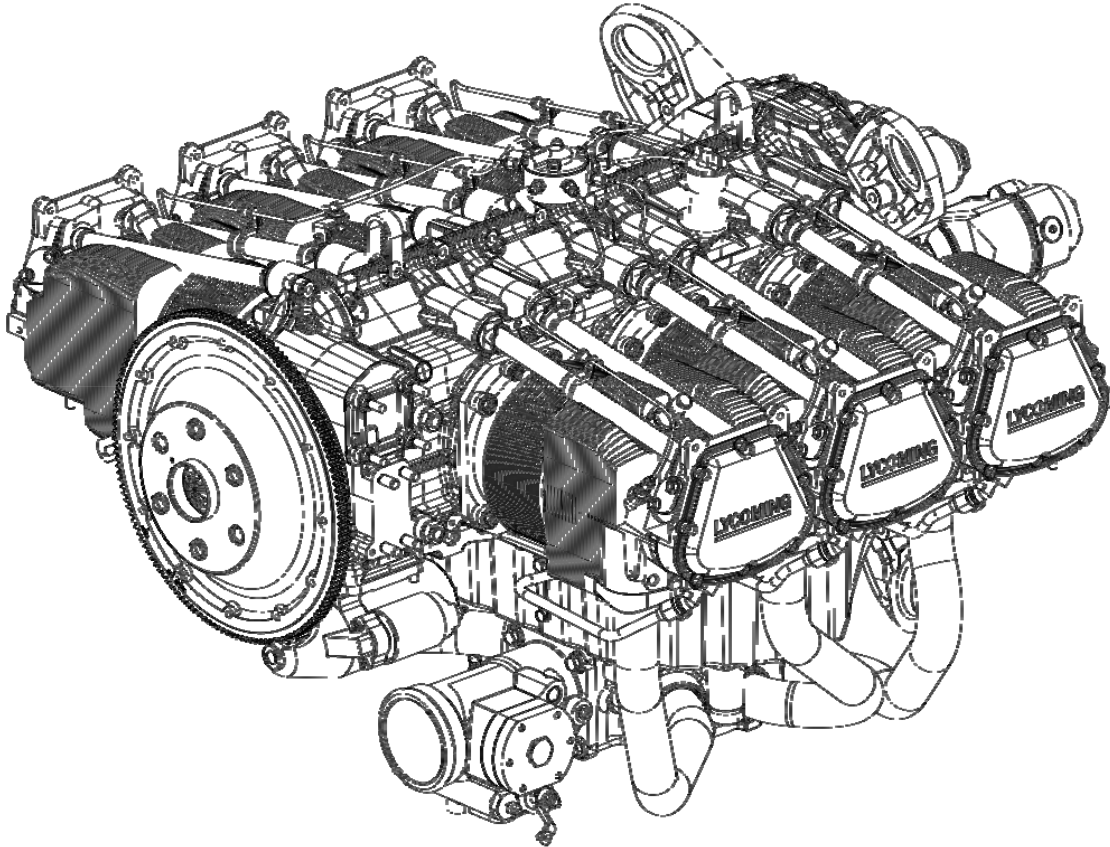
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June 2007

Part No. PC-701-2

652 Oliver Street
Williamsport, PA 17701

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Engine Parts Catalog

AEIO-580-B1A

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June 2007

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652 Oliver Street
Williamsport, PA 17701



TECHNICAL PUBLICATION REVISION

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INTRODUCTION

This illustrated parts catalog contains a complete parts listing for the Lycoming AEIO-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.

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

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

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

NOTE

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

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

Any reference in this document to the suppliers/parts manufacturer's product, by name, trademark, part number or other description is solely for the purposes of identification and does not indicate or infer that Lycoming accepts responsibility for quality control and/or airworthiness of parts which do not pass through the Lycoming quality control system.

SERVICE BULLETINS, INSTRUCTIONS AND LETTERS

Although the information contained in this parts catalog is up-to-date at time of publication, users are advised to procure current information through all Lycoming distributors or from the factory by subscription. Consult the latest revision of Service Letter No. L114 for subscription information.

HOW TO ORDER PARTS

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

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

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OVERSIZE AND UNDERSIZE PARTS LISTING

Part No.	Description	Oversize (In.)									Undersize (In.)		
		.0015	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				
69796	DOWEL			X									
71903-B	BUSHING	X†											
72155-S	BUSHING			X	X	X	X						
73810	BUSHING					X♦							
75656-S	BUSHING			X	X	X	X						
75657-S	BUSHING			X	X	X	X						
75838	GUIDE			X	X		X	X	X				
78443	SEAL									X			
LW-12688	SEAT		X		X	X							
18E23886	BEARING					X					X*	X*	X*
LW-15628	SEAL									X			
STD-1065	DOWEL		X	X	X	X							
16T19468	SEAT				X		X	X					
18B23885	BEARING					X					X*	X*	X*

* - Also available in P15 (.015 in.) oversize.

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

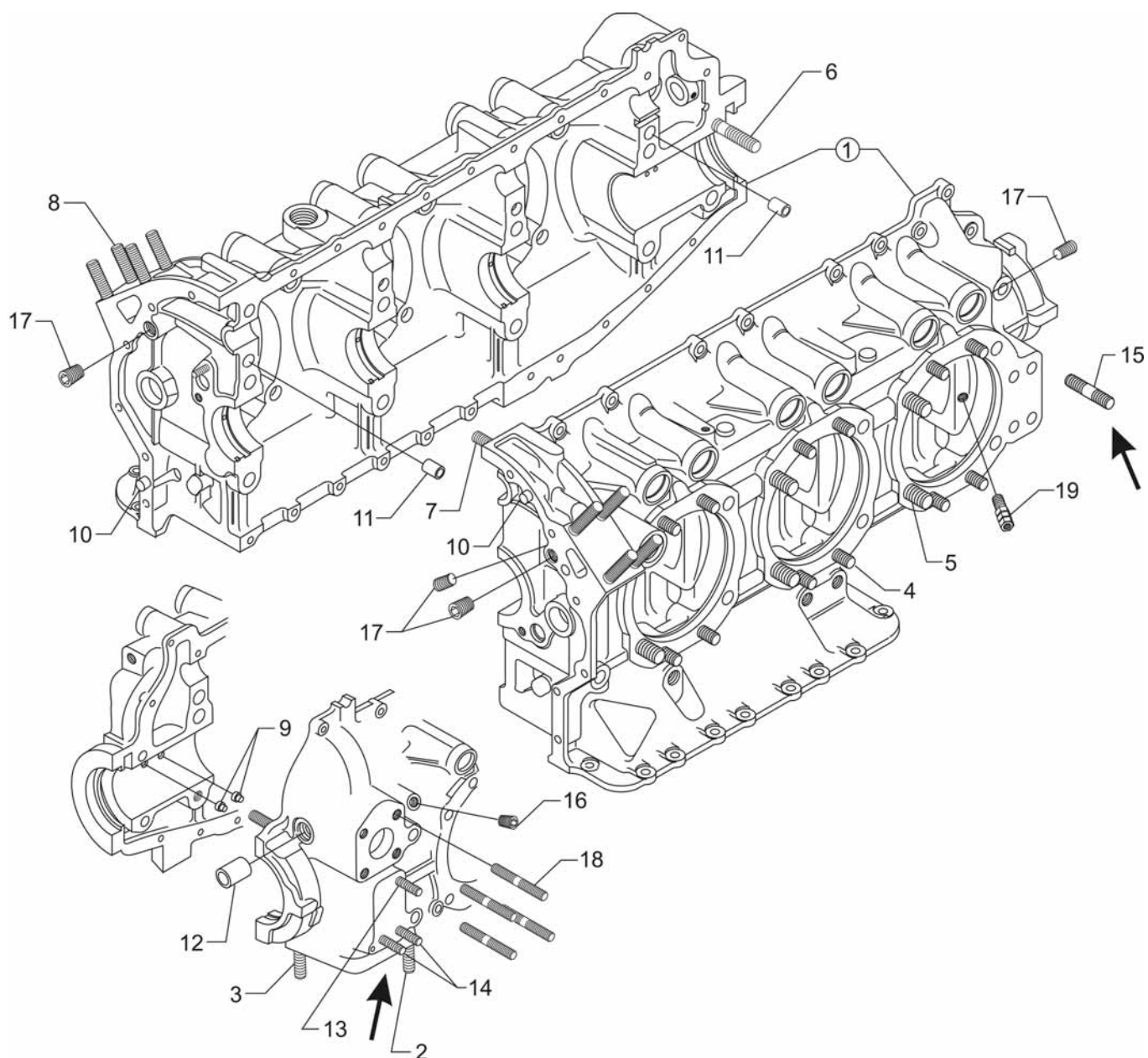
† - 71903-B is the oversize part number. When ordering, do not specify the oversize code letter.

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 P/N 18E23886 in .003 undersize, order P/N 18E23886-M03. Oversize code letter is “P” while undersize code letter is “M”. These letters are then followed by the number designating the size in thousandths of an inch.

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKCASE ASSEMBLY

FIG. REF. 1	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	11T25120-S1	CRANKCASE ASSEMBLY	1
	11T25120-S3	CRANKCASE ASSEMBLY	1
	11T25120-S6	CRANKCASE ASSEMBLY	1
2	31C-12	STUD, 5/16-18 x 1-1/2 long	2
3	31C-13	STUD, 5/16-18 x 1-1/8 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 diameter x 1/2 long	2
11	STD-557	DOWEL, 1/2 diameter x 11/16 long, hollow	2
12	72158	BUSHING, Governor drive idler shaft	1
13	38-21	STUD, 3/8-16 x 2-5/8 long	1
14	38-25	STUD, 3/8-16 x 3-1/8 long	2
15	38-13	STUD, 3/8-16 x 1-5/8 long	4
16	STD-1339	PLUG, 1/16-27 NPT, Allen head	1
17	1102	PLUG, 1/8-27 NPT, Allen head	4
18	31C-17	STUD, 5/16-18 x 2.00 long	4
19	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	75675	EXTENSION, Oil filler (2.19 long)	1
3	74065	RING, Oil level gage seal	1
4	LW-14799	GAGE ASSEMBLY, Oil level	1
5	12A19770	BRACKET, Engine mounting (Dynafoal)	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

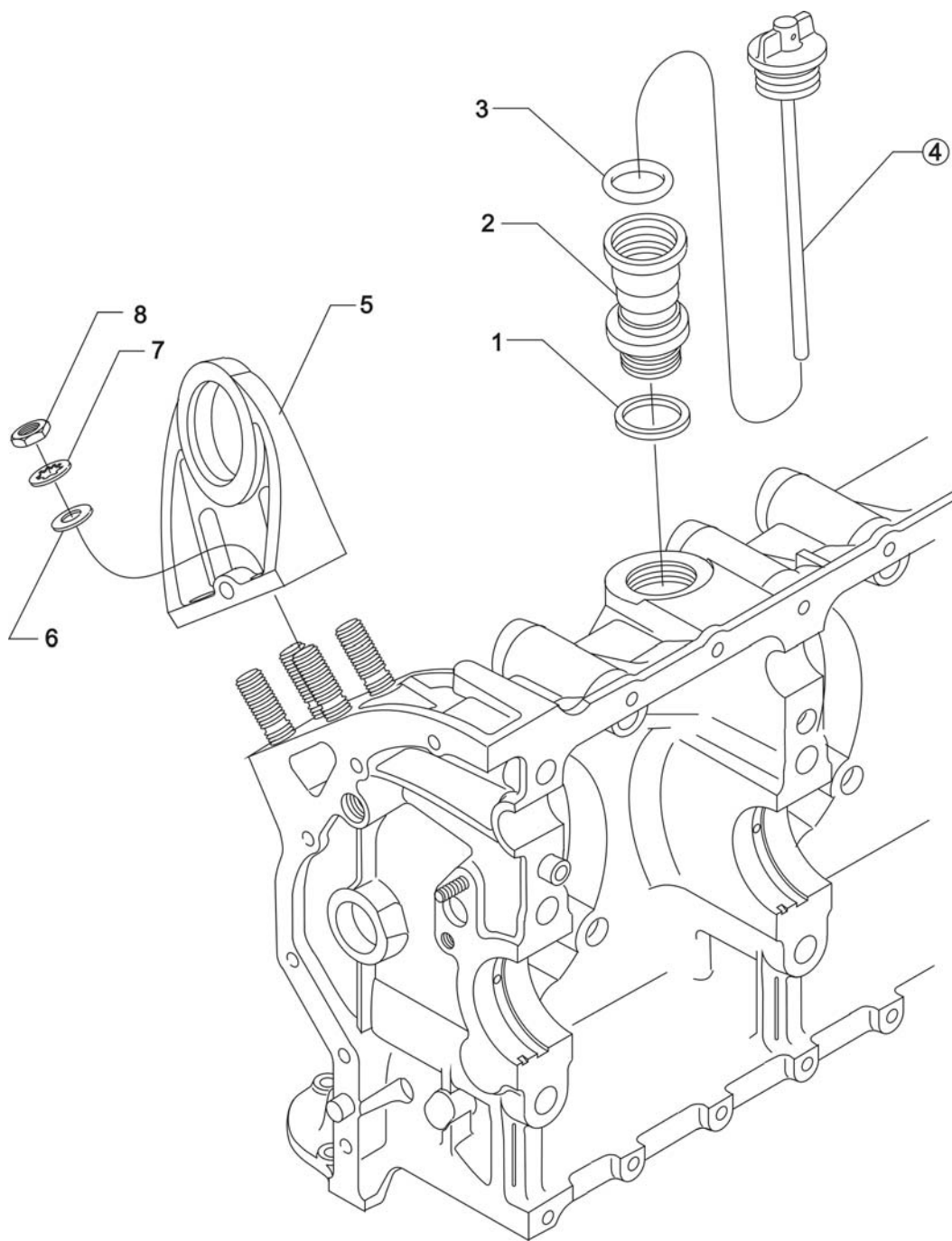
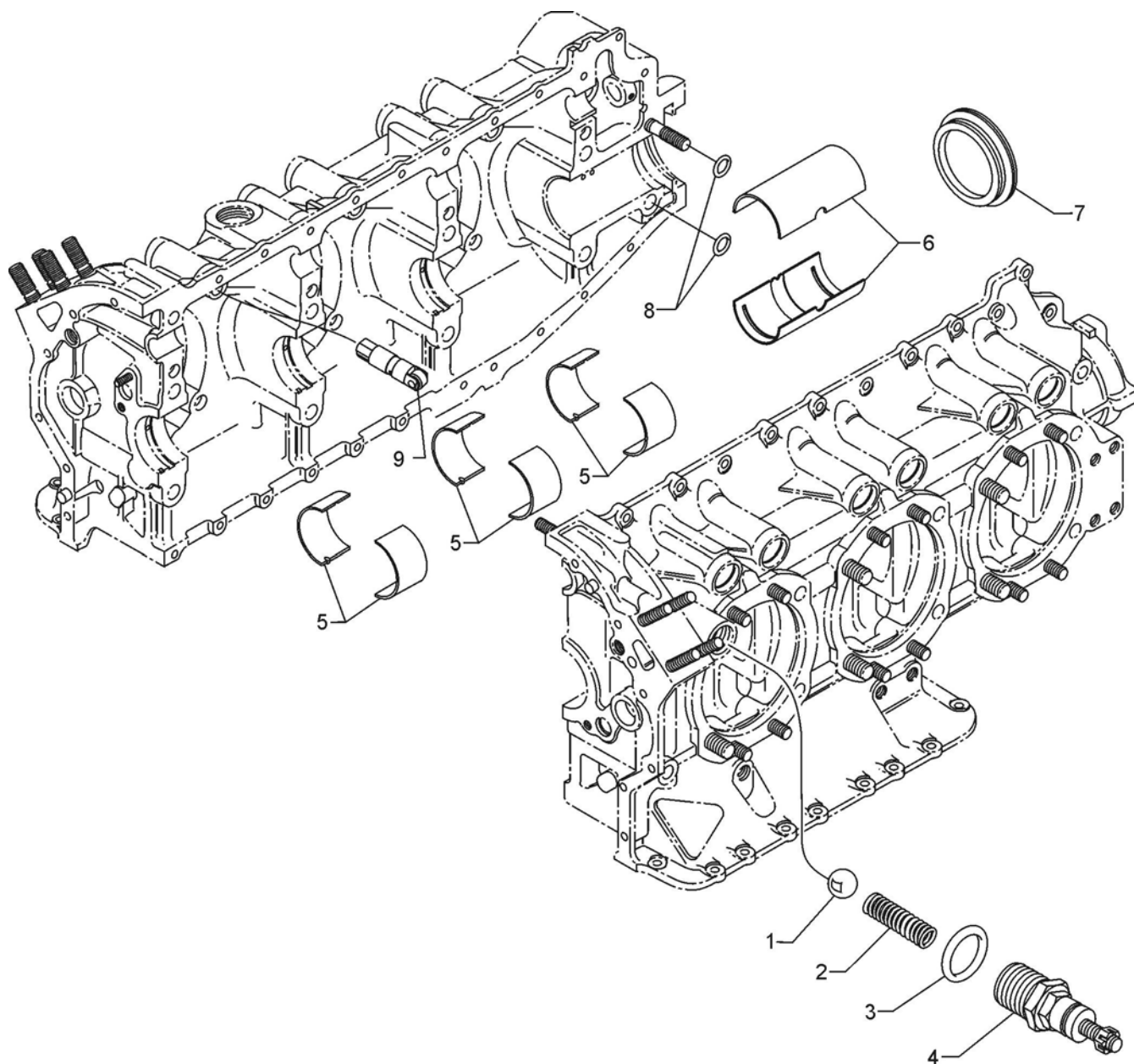


FIGURE 2. OIL LEVEL GAGE ASSEMBLY AND ENGINE MOUNTING BRACKETS

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 annular	1
4	77808	VALVE ASSEMBLY, Oil pressure relief, adjustable	1
5	18E23886	BEARING, Crankshaft	6
6	18B23885	BEARING, Crankshaft, front	2
7	LW-15628	SEAL, Crankshaft oil, solid	1
8	72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter section	2
9	LRT23381	BODY ASSEMBLY, Hydraulic tappet roller	12

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

**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 diameter 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	LW-19210	COUNTERWEIGHT ASSEMBLY	2
9	71903-A	BUSHING, Dynamic counterweight	8
10	73648	ROLLER, Dynamic counterweight, 5.1 order	2
11	76788	ROLLER, Dynamic counterweight, 6.3 order	2
12	71907	WASHER, Dynamic counterweight	8
13	LW-14820	RING, Internal retaining	8
14	13S19648	GEAR, Crankshaft	1
15	LW-18638	LOCKPLATE, Crankshaft gear	1
16	STD-2247	BOLT, 5/16-24 x 1-3/4 long, hex. head	1
17	15N23374	CAMSHAFT ASSEMBLY, Roller lifter	1
18	76118	SPACER, Tachometer shaft centering	1
19	76155	SHAFT ASSEMBLY, Tachometer	1
20	LW-18667	PIN, 3/16 diameter x 2-21/64 long	1
21	STD-2231	RING, Internal retaining	1
22	LW-16471	SUPPORT ASSEMBLY, Starter ring gear	1
23	72566	GEAR, Starter ring	1

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

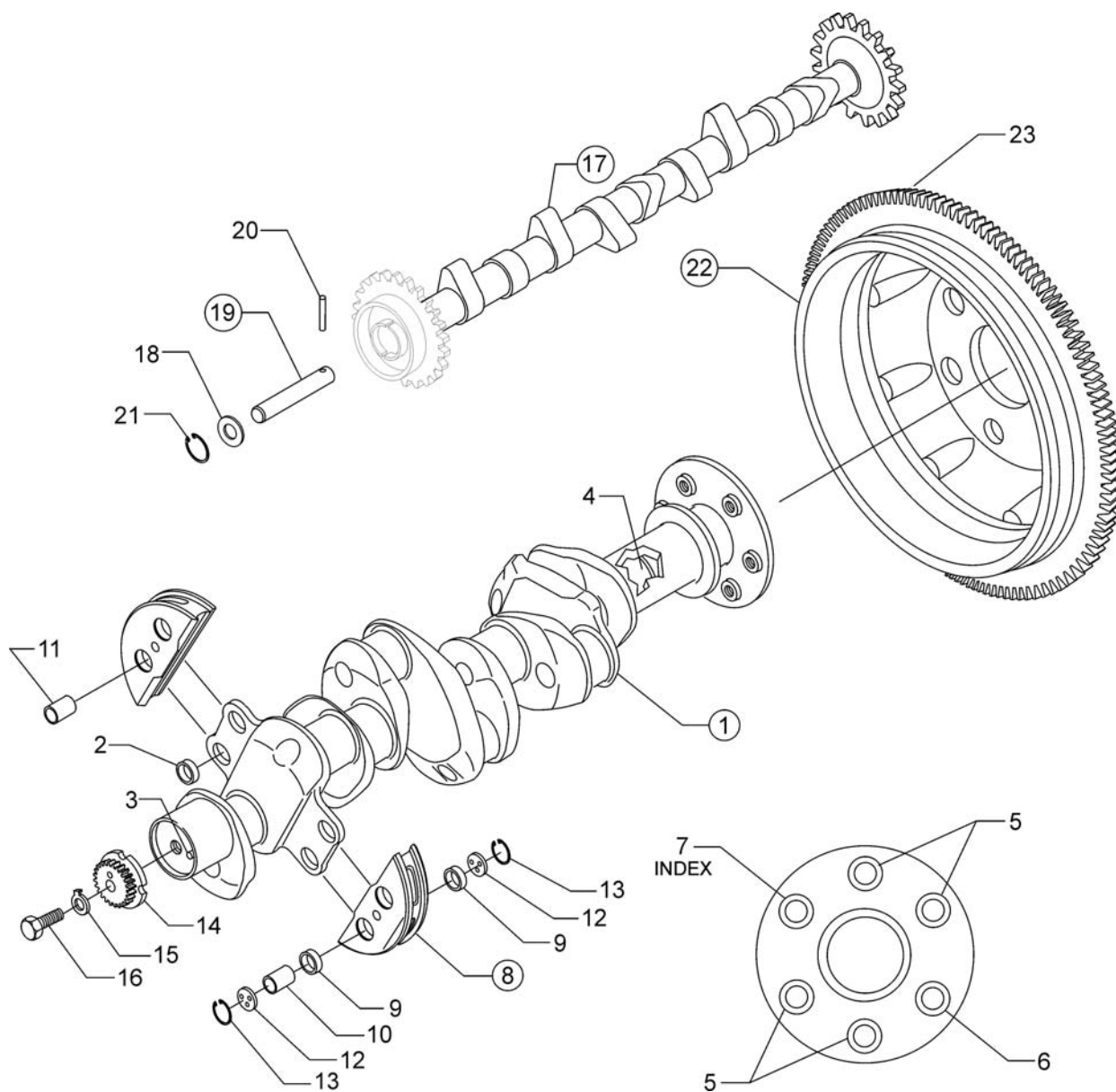
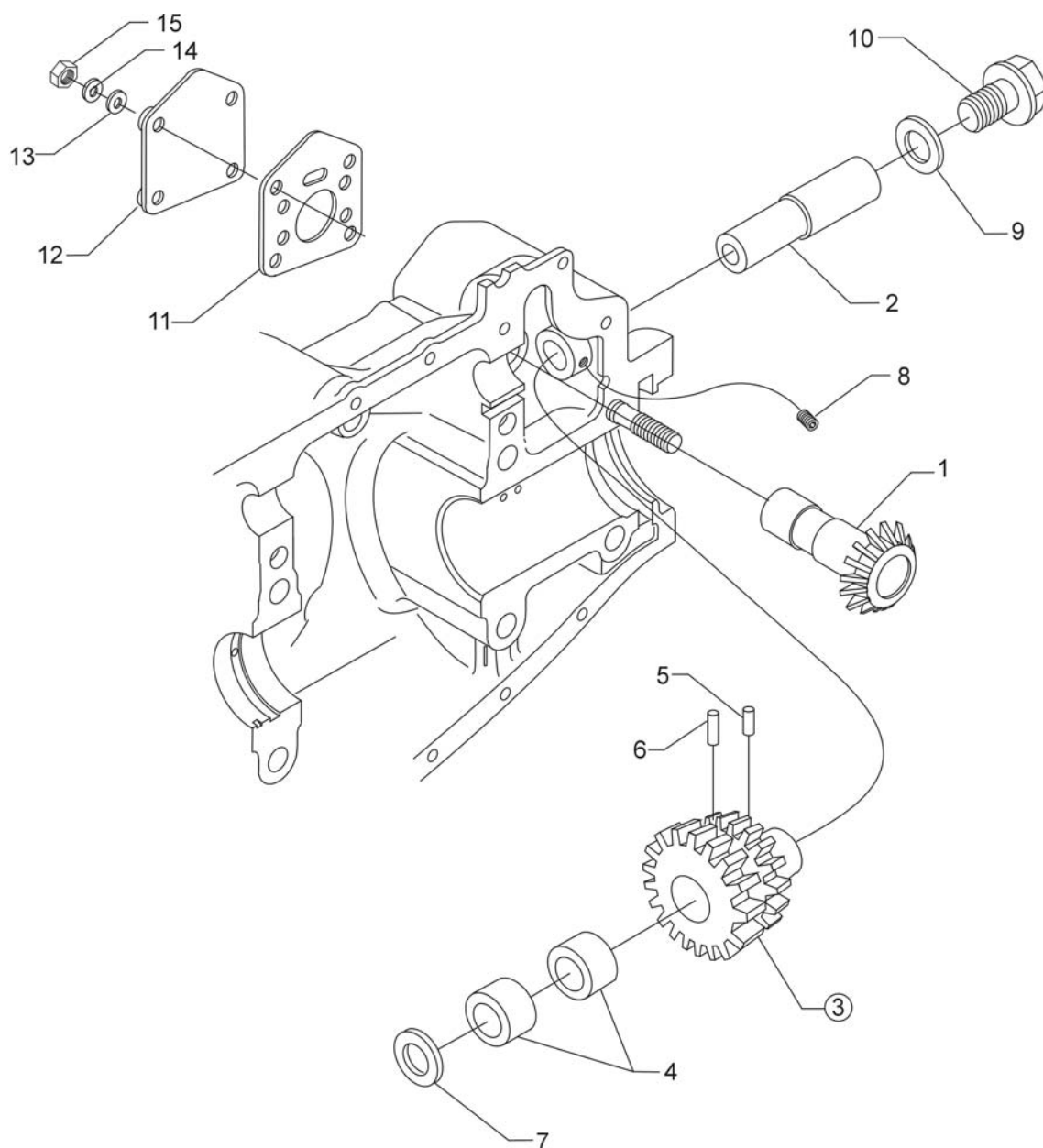


FIGURE 4. CRANKSHAFT, COUNTERWEIGHT, CAMSHAFT, TACHOMETER DRIVE AND STARTER SUPPORT ASSEMBLIES

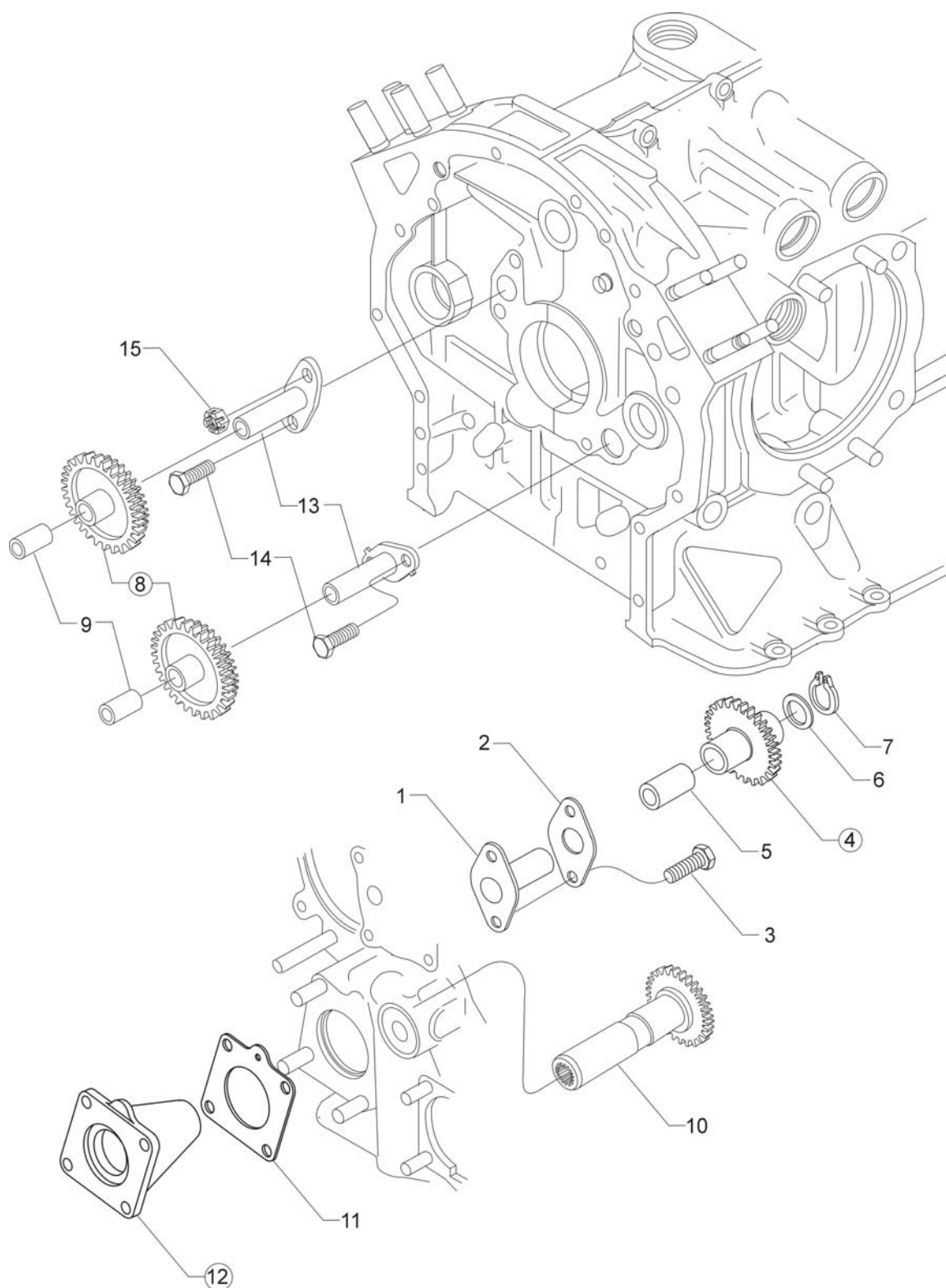
CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
PROPELLER GOVERNOR DRIVE ASSEMBLY

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 diameter x 7/32 long	1
6	STD-798	DOWEL, 3/32 diameter 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. 20-32 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 diameter	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

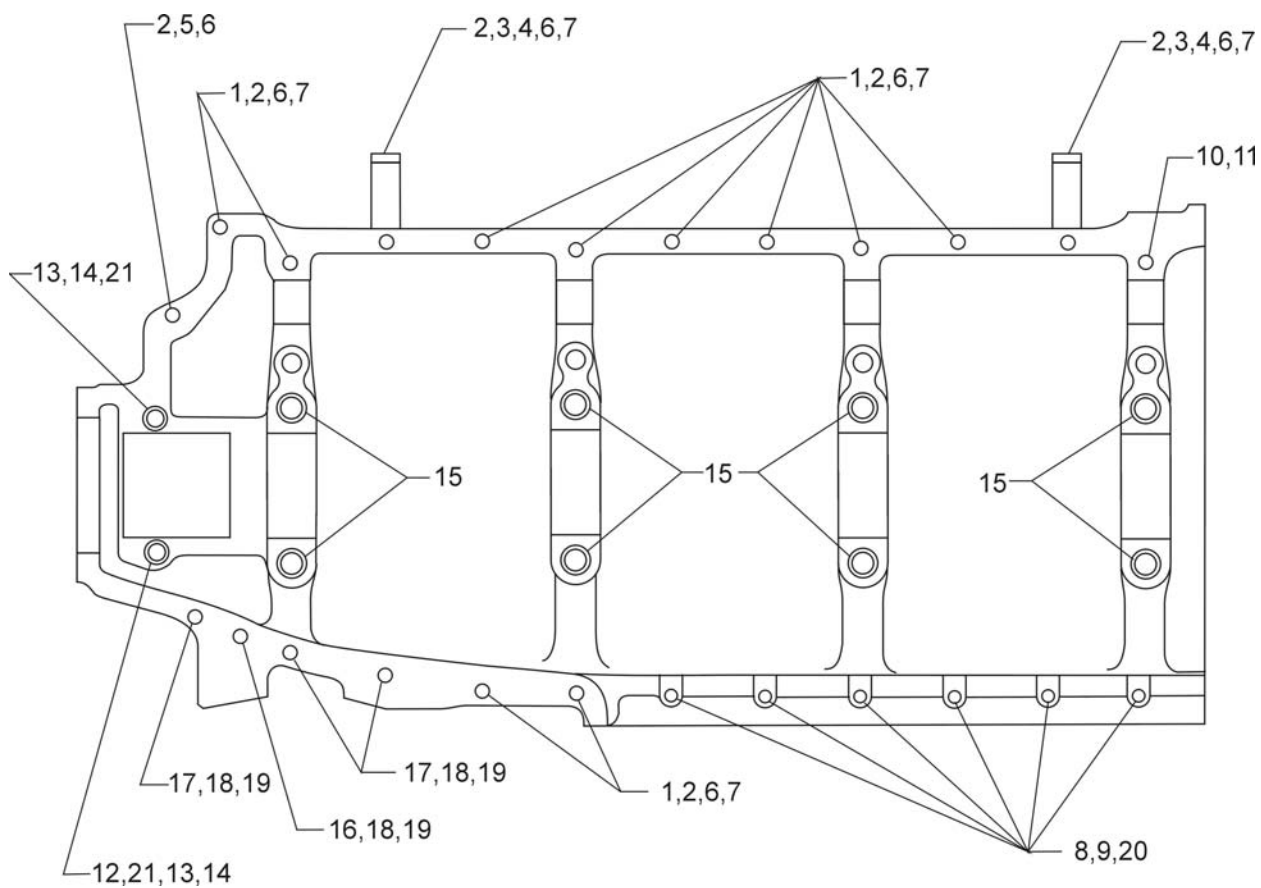
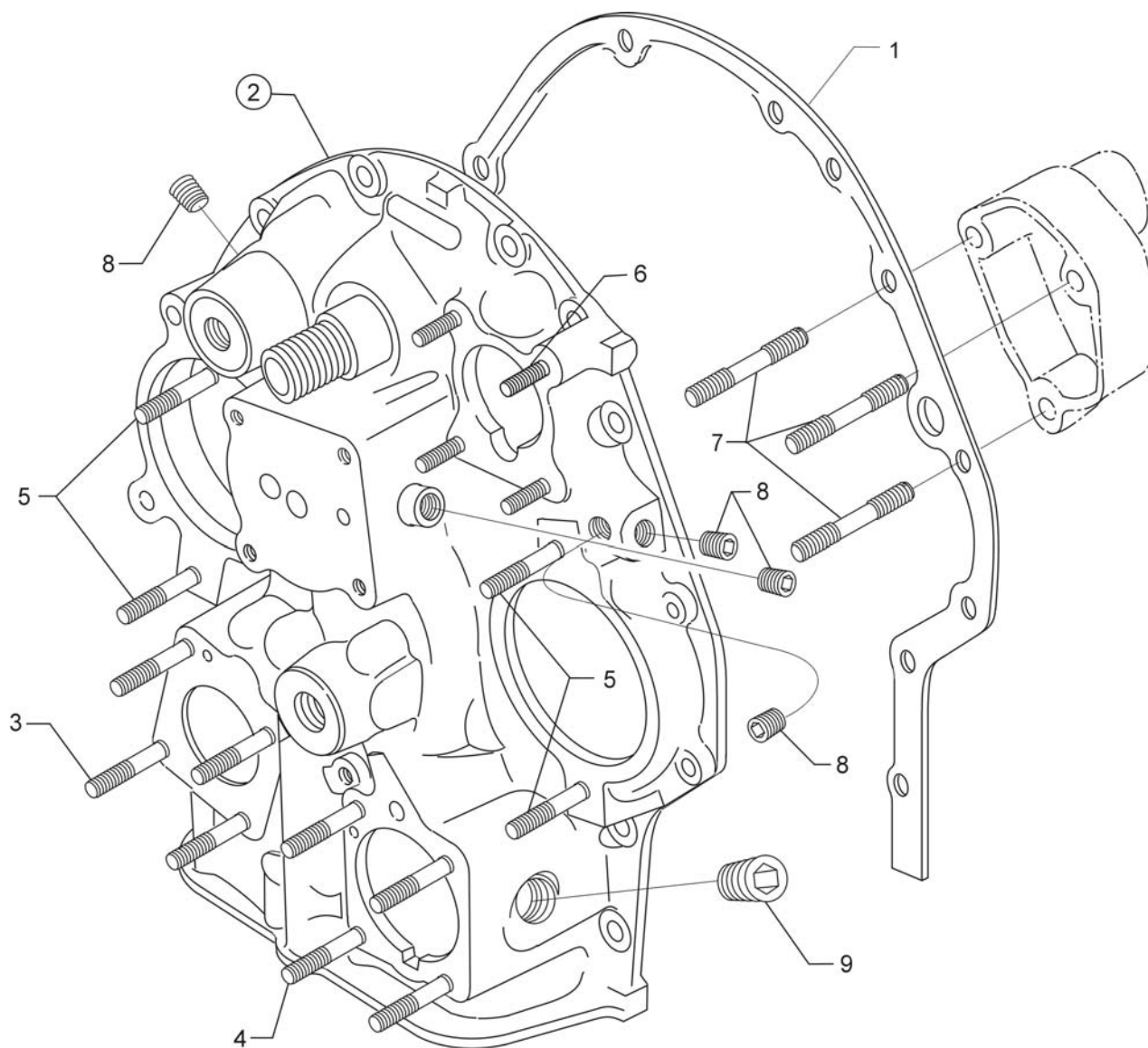


FIGURE 7. CRANKCASE ATTACHING PARTS

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
	21C21541-06	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-12	STUD, 1/4-20 x 1-1/2 long	4
	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	76784	SHAFT, Oil pump drive	1
3	51C23290*	IMPELLER ASSEMBLY, Oil pump driven	1
4	51B23275	IMPELLER, Oil pump, driven	1
5	51D22617	SHAFT, Oil pump drive	1
6	51B23274*	IMPELLER, Oil pump, driving	1
7	STD-35	WASHER, 5/16 plain	3
8	STD-1420	NUT, 5/16-18 slotted	3
9	LW-14260	SEAL, Tachometer shaft, oil	1
10	STD-8	WASHER, 1/4 plain	10
11	STD-160	WASHER, 1/4 lock, internal teeth	12
12	LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	9
13	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1
14	LW-25-1.44	BOLT, 1/4-20 x 1-7/16 long, hex. head	2

* - Sold in complete sets only (Kit P/N 05K23463).

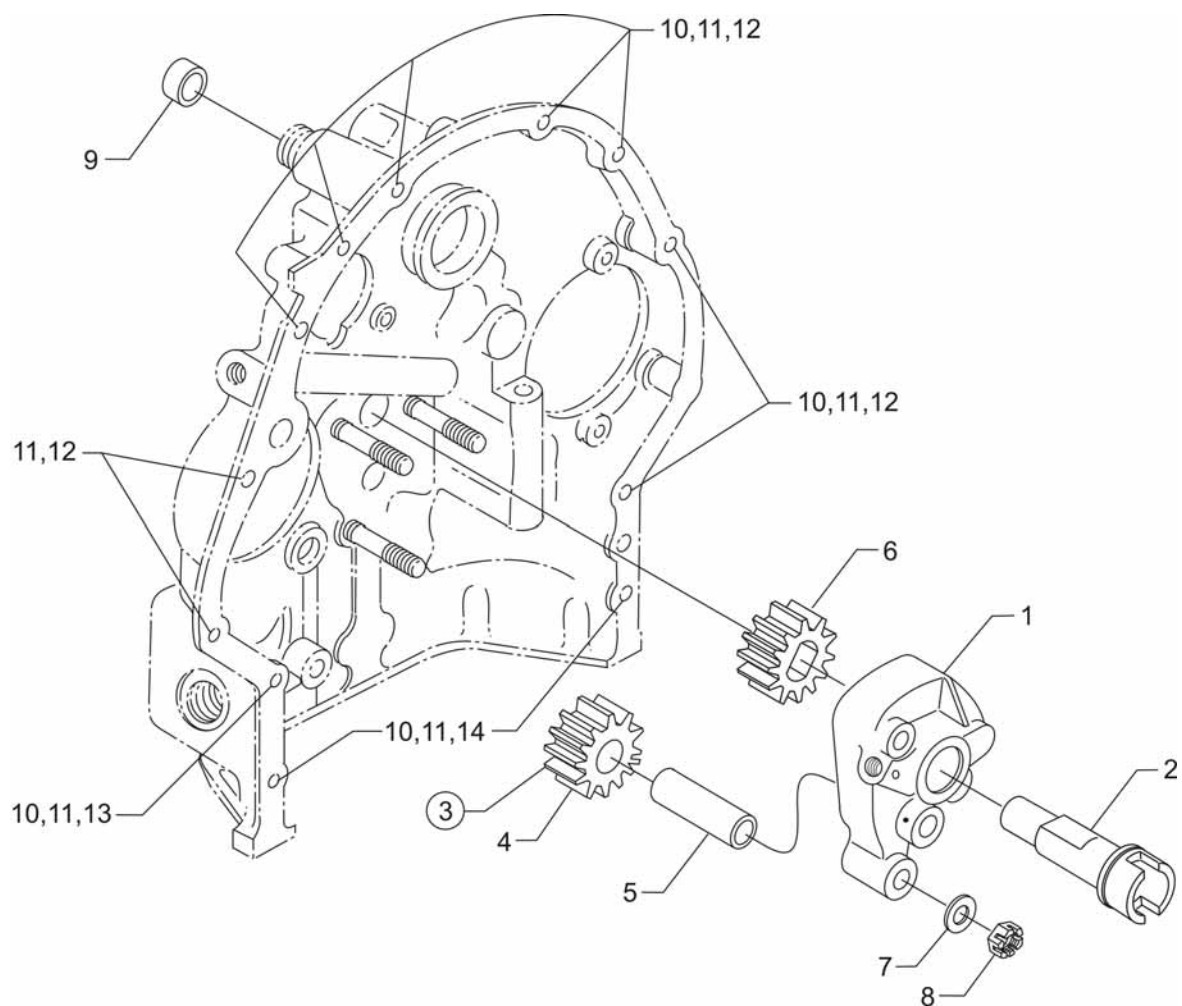
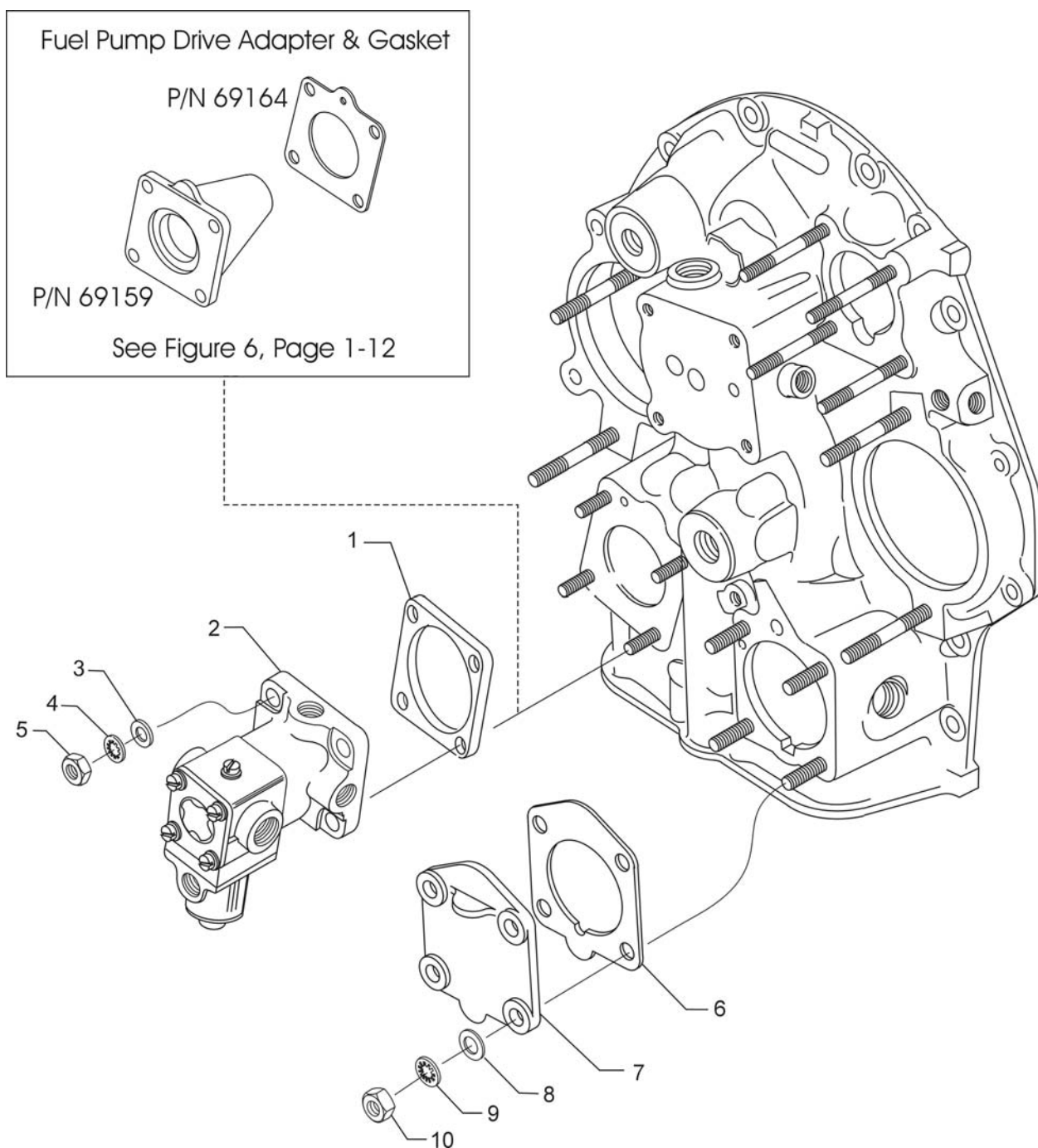


FIGURE 9. OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS

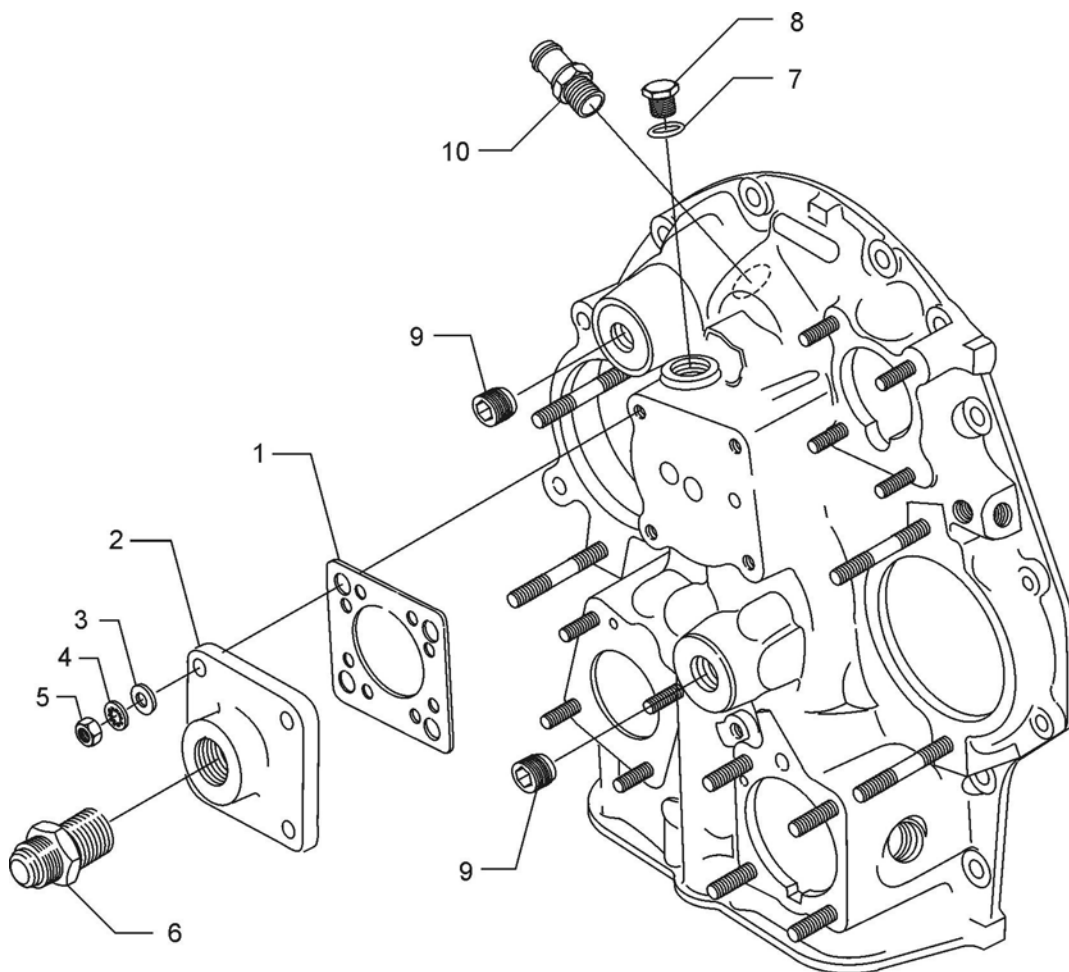
ACCESSORY HOUSING AND RELATED PARTS
FUEL PUMP ASSEMBLY AND ATTACHING PARTS

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**

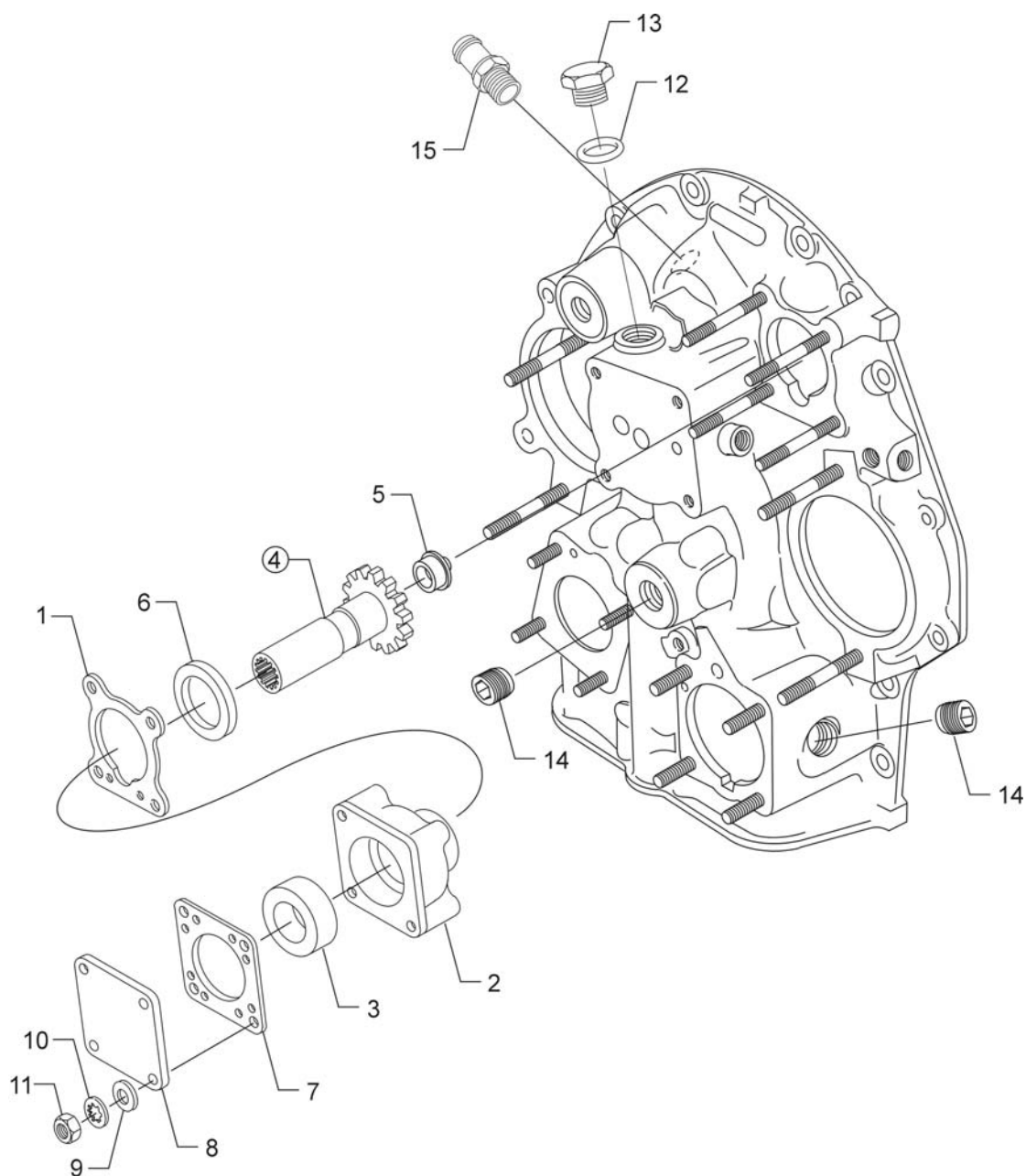
ACCESSORY HOUSING AND RELATED PARTS
ACCESSORY HOUSING BREATHER ADAPTER AND FITTING

FIG. REF. 11	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	8313	GASKET, Breather adapter	1
2	LW-16878	ADAPTER, Breather with oil pick up	1
3	STD-8	WASHER, 1/4 plain	4
4	STD-160	WASHER, 1/4 lock, internal teeth	4
5	STD-1411	NUT, 1/4-20 plain	4
6	AN816-10D	NIPPLE, 5/8 flared tube & 1/2 NPT	1
7	06E19769-0.63	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular	1
8	62417	PLUG, Oil cooler bypass	1
9	STD-784	PLUG, 3/8-18 NPT, Allen	2
10	AN816-10-12D	NIPPLE, 5/8 tube & 3/4 NPT	1

**FIGURE 11. ACCESSORY HOUSING BREATHER ADAPTER AND FITTING**

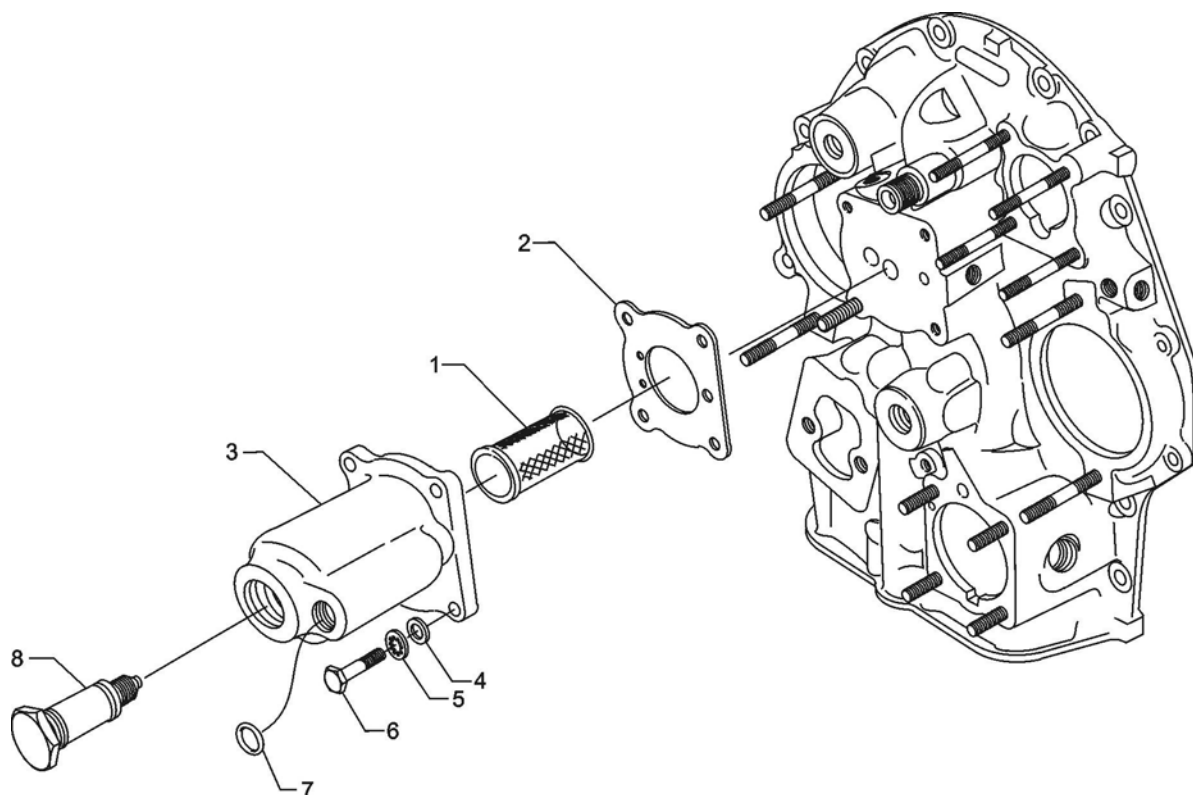
ACCESSORY HOUSING AND RELATED PARTS
VACUUM PUMP DRIVE AND BREATHER FITTINGS

FIG. REF. 11A	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, 7/8 O.D. x 5/8 I.D. x 3/32 annular	1
13	62417	PLUG, Oil cooler bypass	1
14	STD-784	PLUG, 3/8-18 NPT, Allen head	2
15	AN816-10-12D	NIPPLE, 5/8 tube and 3/4 NPT	1

**FIGURE 11A. VACUUM PUMP DRIVE AND BREATHER FITTINGS**

ACCESSORY HOUSING AND RELATED PARTS
OIL PRESSURE SCREEN ASSEMBLY AND OIL COOLER BYPASS VALVE

FIG. REF. 12	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	62817	SCREEN ASSEMBLY	1
2	61173	GASKET, Oil pressure housing	1
3	69510	HOUSING, Oil pressure screen	1
4	STD-8	WASHER, 1/4 plain	4
5	STD-160	WASHER, 1/4 lock, internal teeth	4
6	LW-25-1.00	BOLT, 1/4-20 x 1.00 long	4
7	06E19769-0.63	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular	1
8	53E22144	VALVE ASSEMBLY, Temperature control oil cooler bypass	1

**FIGURE 12. OIL PRESSURE SCREEN ASSEMBLY AND OIL COOLER BYPASS VALVE**



AEIO-580-B1A PARTS CATALOG
WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINES

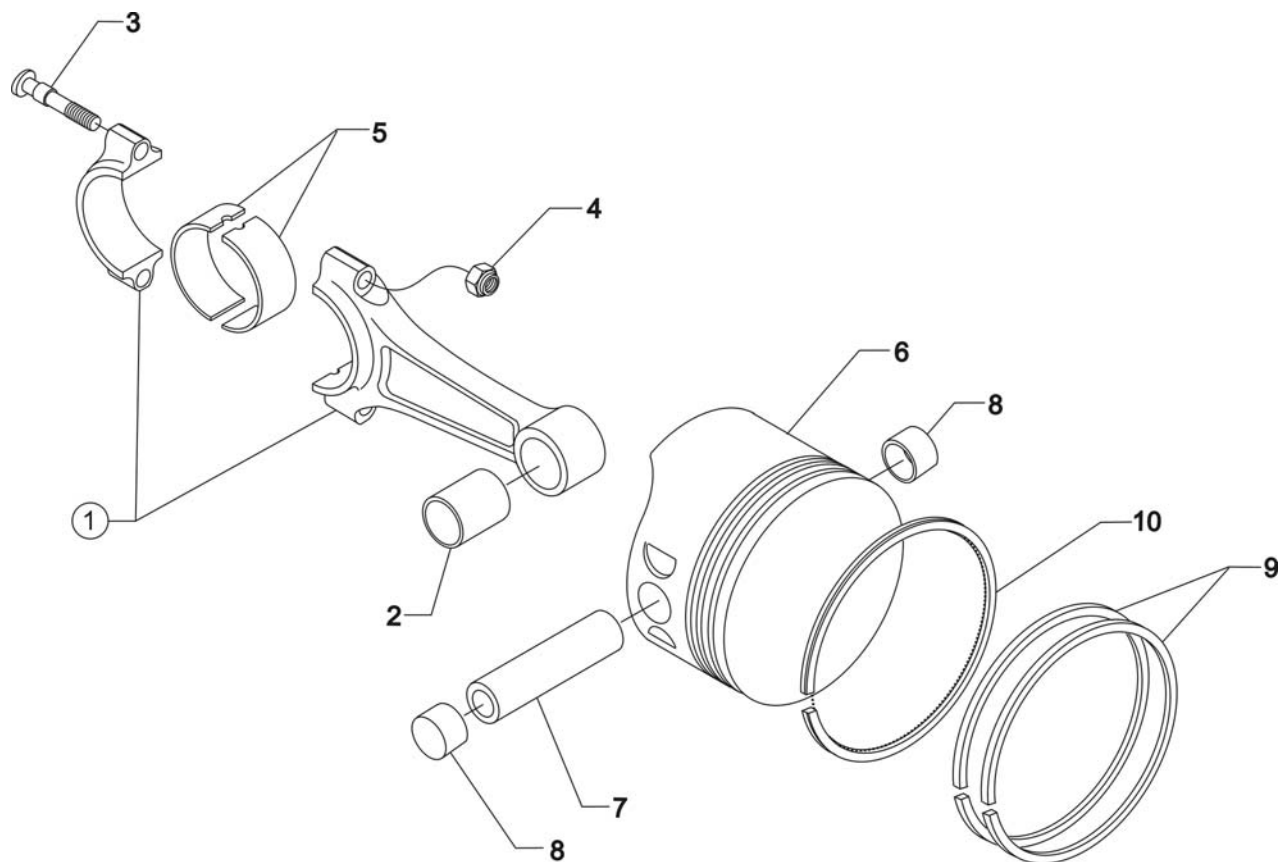
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CYLINDER, PISTON AND VALVE TRAIN
CONNECTING RODS, PISTONS AND RING ASSEMBLIES

FIG. REF. 13	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-19332	CONNECTING ROD ASSEMBLY	6
2	LW-13923	BUSHING, Connecting rod, upper	6
3	14S23889*	BOLT, Connecting rod	12
	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

* - Lycoming use only.

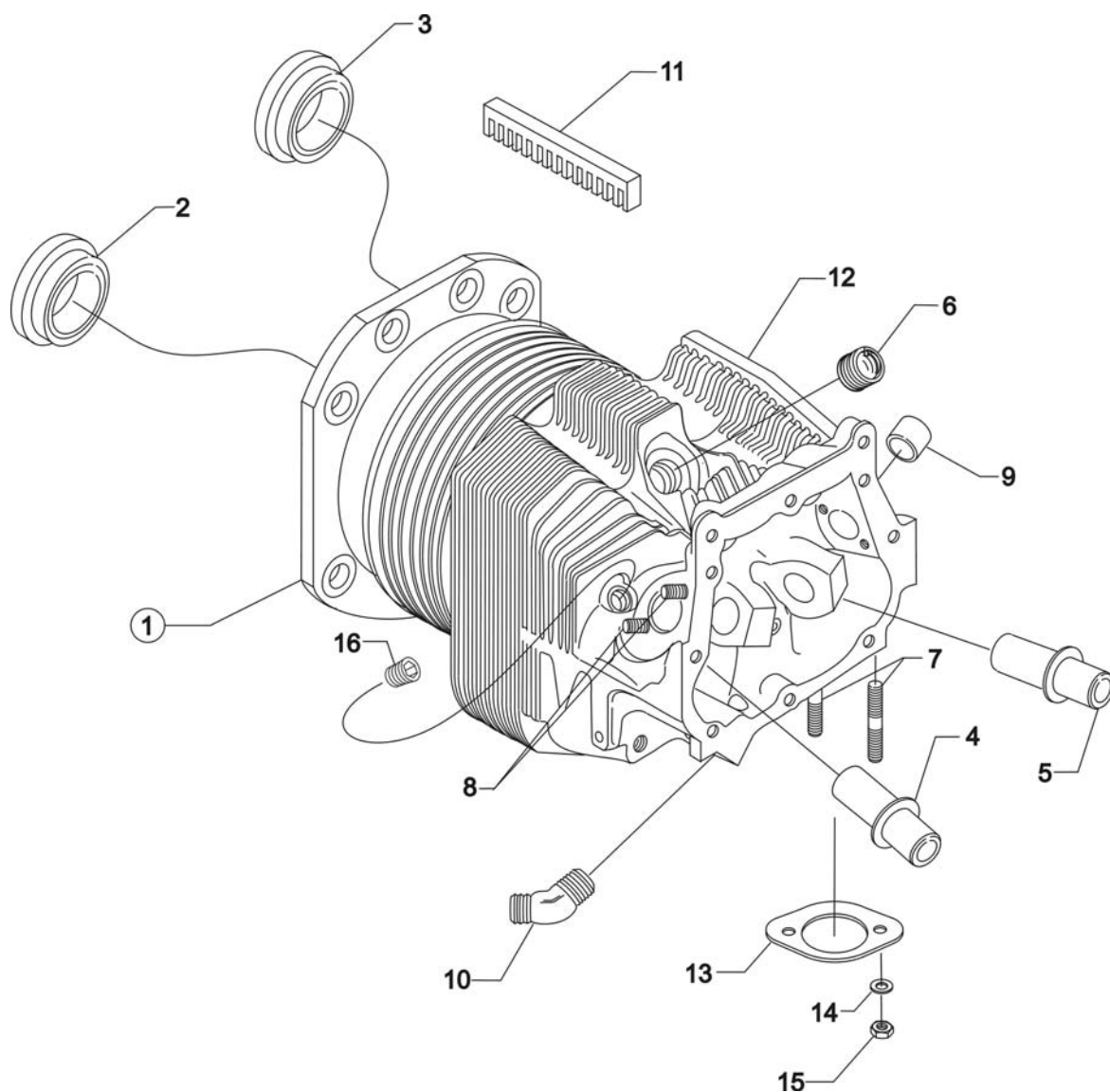
** - Service use only.

**FIGURE 13. CONNECTING RODS, PISTONS AND RING ASSEMBLIES**

CYLINDER, PISTON AND VALVE TRAIN
CYLINDER ASSEMBLY

FIG. REF. 14	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	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, 1/4-20 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	75118	GASKET, Exhaust flange	12
14	STD-35	WASHER, 5/16 plain	12
15	STD-2233	LOCKNUT, 5/16-18 hex. head	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	17A23937	VALVE, Intake (rotator type)	6
2	17B23935	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	72050	KEY, Valve, intake	12
10	17C21191	KEY, Valve, exhaust (rotator type)	12
11	17C19386	CAP, Valve stem, exhaust (rotator type)	6
12	62388	CAP, Valve stem	6
13	15B26066	PLUNGER ASSEMBLY, Hydraulic tappet	12
14	15B21319	SOCKET, Hydraulic tappet	12
15	15G23462	SHROUD TUBE ASSEMBLY, Push rod	12
16	15H21201	SPRING, Shroud tube	24
17	01L23459	WASHER, 25/32 I.D. x 1-3/8 O.D. x 1/32 thick	12
18	61503	SLEEVE, Shroud tube seal	12
19	LW-18661	SEAL, Shroud tube	12
20	06A23493	SEAL, Shroud tube	12
21	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
	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
	15F21362-18	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
	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
22	17F21186*	ROCKER ASSEMBLY, Intake valve	6
23	17F21185*	ROCKER ASSEMBLY, Exhaust valve	6
24	74389	BUSHING, Valve rocker	12
25	71549	WASHER, Valve rocker	12
26	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).

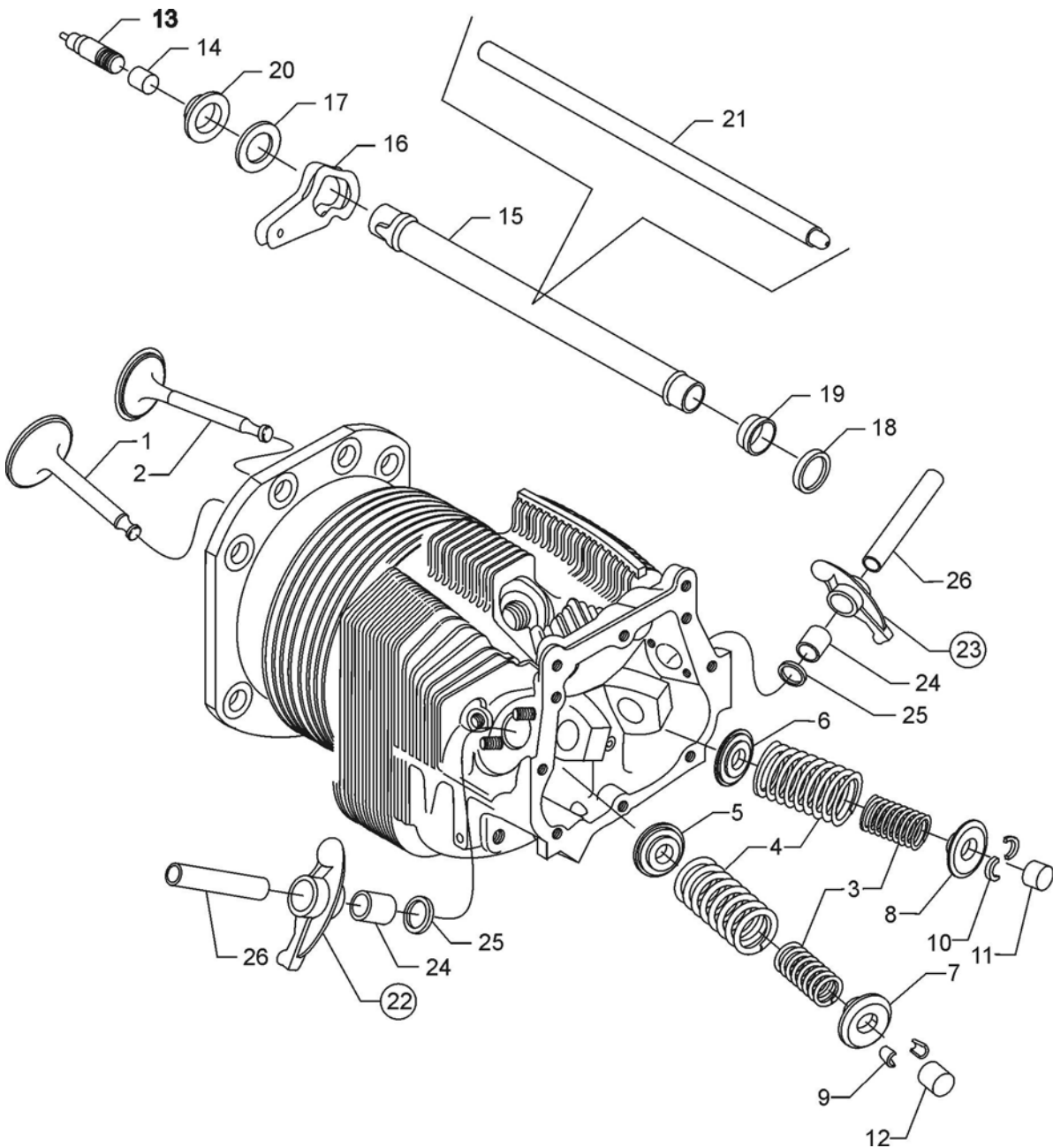
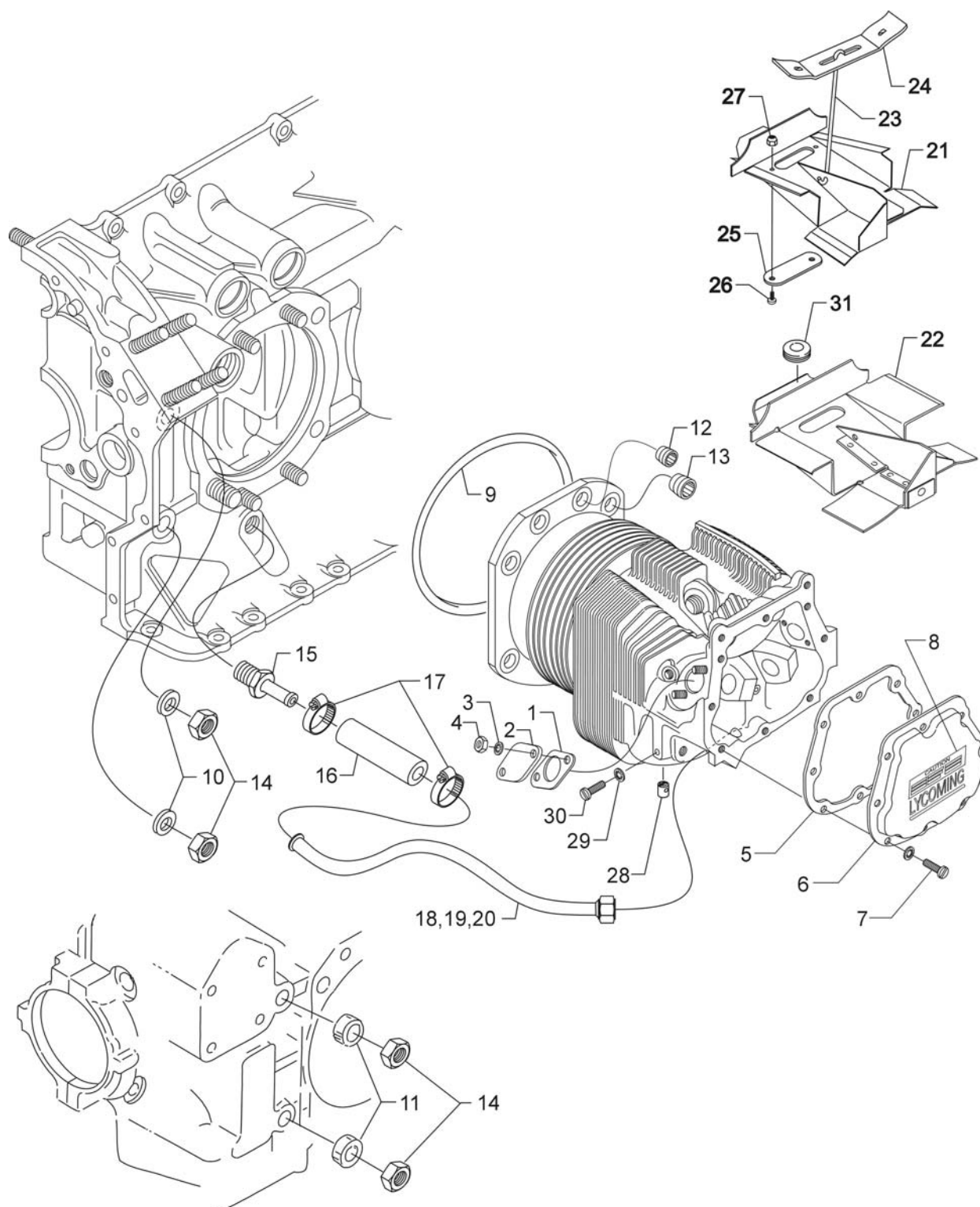


FIGURE 15. VALVE ASSEMBLY AND RELATED PARTS

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 diameter x 4-27/32 I.D.	6
10	77906	SPACER, 33/64 I.D. x 7/8 O.D. x 1/8 thick	2
11	74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
12	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, Cylinder head oil drain, cylinder no. 1	1
19	72703	TUBE ASSEMBLY, Cylinder head oil drain, cylinder no. 2	1
20	73027	TUBE ASSEMBLY, Cylinder head oil drain, cylinders no. 3, 4, 5, 6	4
21	75338	BAFFLE ASSEMBLY, Intercylinder	3
22	LW-13430	BAFFLE ASSEMBLY, Intercylinder (between no. 2 and no. 4 cylinders)	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	MS35489-22X	GROMMET	1

**FIGURE 16. CYLINDER RELATED PARTS**

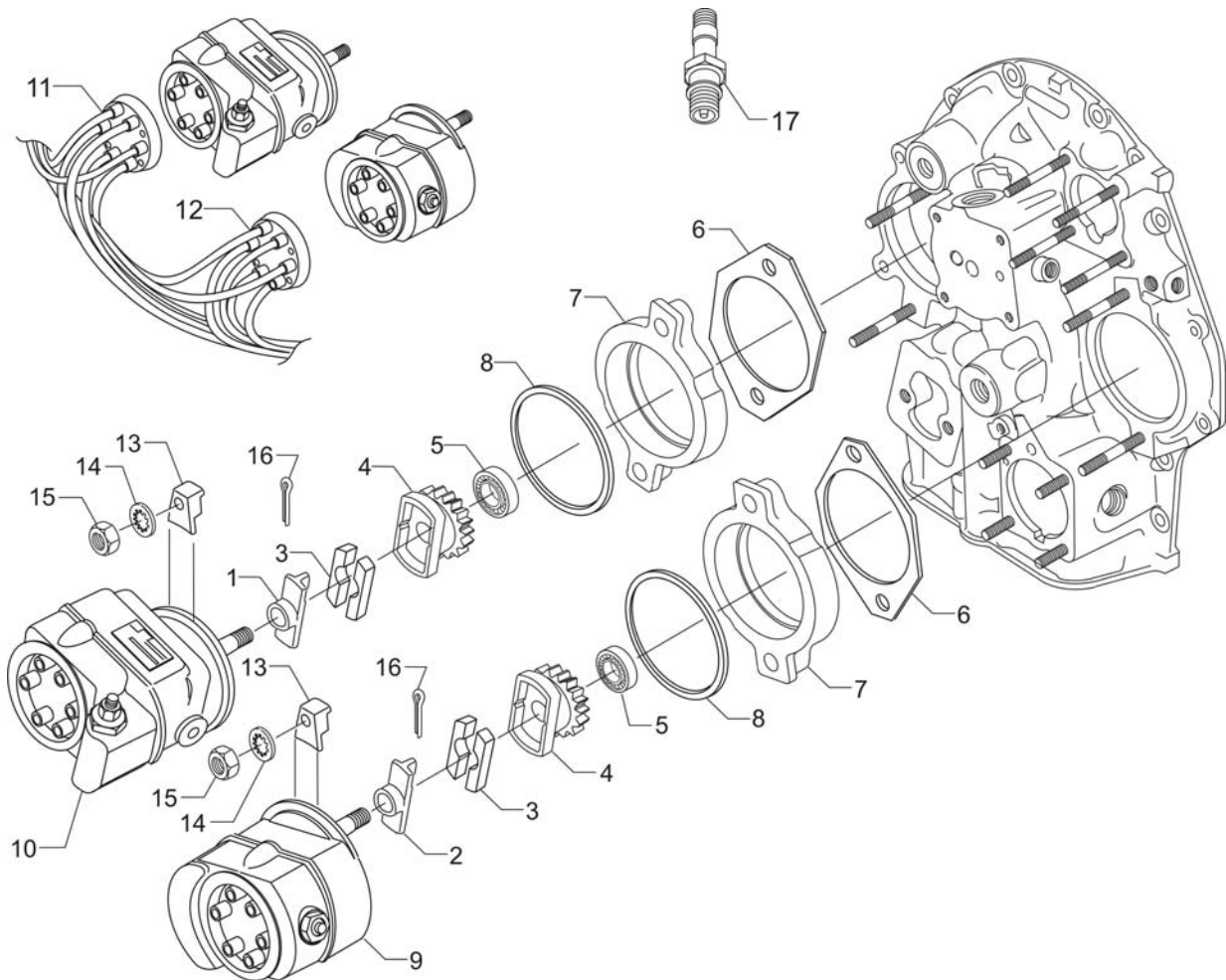
IGNITION SYSTEM

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
3	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-0SCNN	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 diameter x 3/4 long	2
17	1182-H7	SPARK PLUG, Champion (RHB37E)	12
	1182-Q4	SPARK PLUG, Unison (URHB37E)	12
*	01P19762-3-14	BAG, Magneto harness attaching	1

* - See page 4-2 for 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	4
LW-14060	CLIP-TWO WIRE	5
STD-8	WASHER-.250 PLAIN	10
STD-160	WASHER-.250 LOCK INT. TEETH	4
STD-1874	SCREW-.250-20 X .81 LG. FILL	6
76734	ZIP STRAP	9
LW-16266-25-44	CLAMP-.44 ID X .250 DIA. SCREW	4
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, HARNESSSES (SLICK) AND SPARK PLUGS

ELECTRICAL SYSTEM
STARTER AND ATTACHING PARTS

FIG. REF. 18	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	31A22104*	STARTER, Sky-Tec, 12/14 pitch, 12 volt (149-12LS)	1
	31B26554*	STARTER, Sky-Tec, 12/14 pitch, 24 volt (149NL/EC)	1
2	STD-475	WASHER, 5/16 lock, internal teeth	4
3	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	1
4	STD-1410	NUT, 5/16-18 plain	3

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

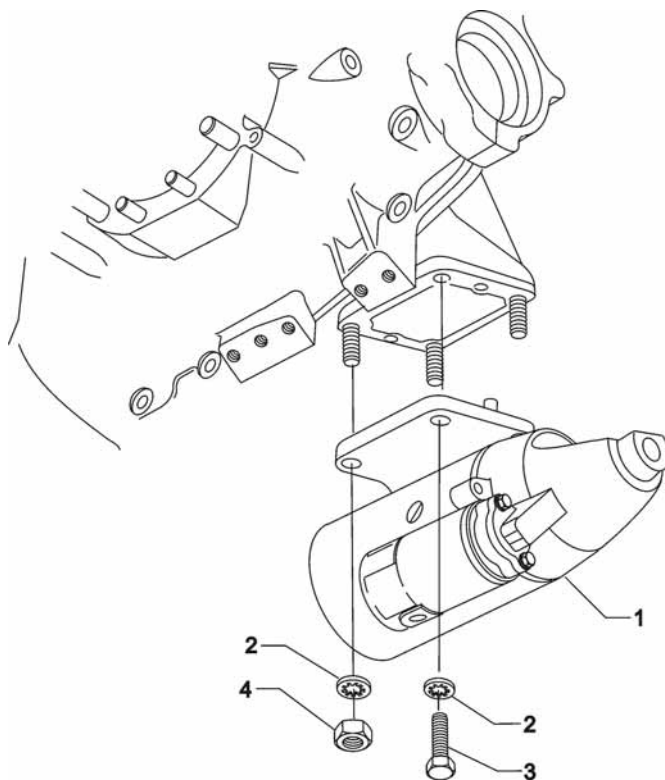
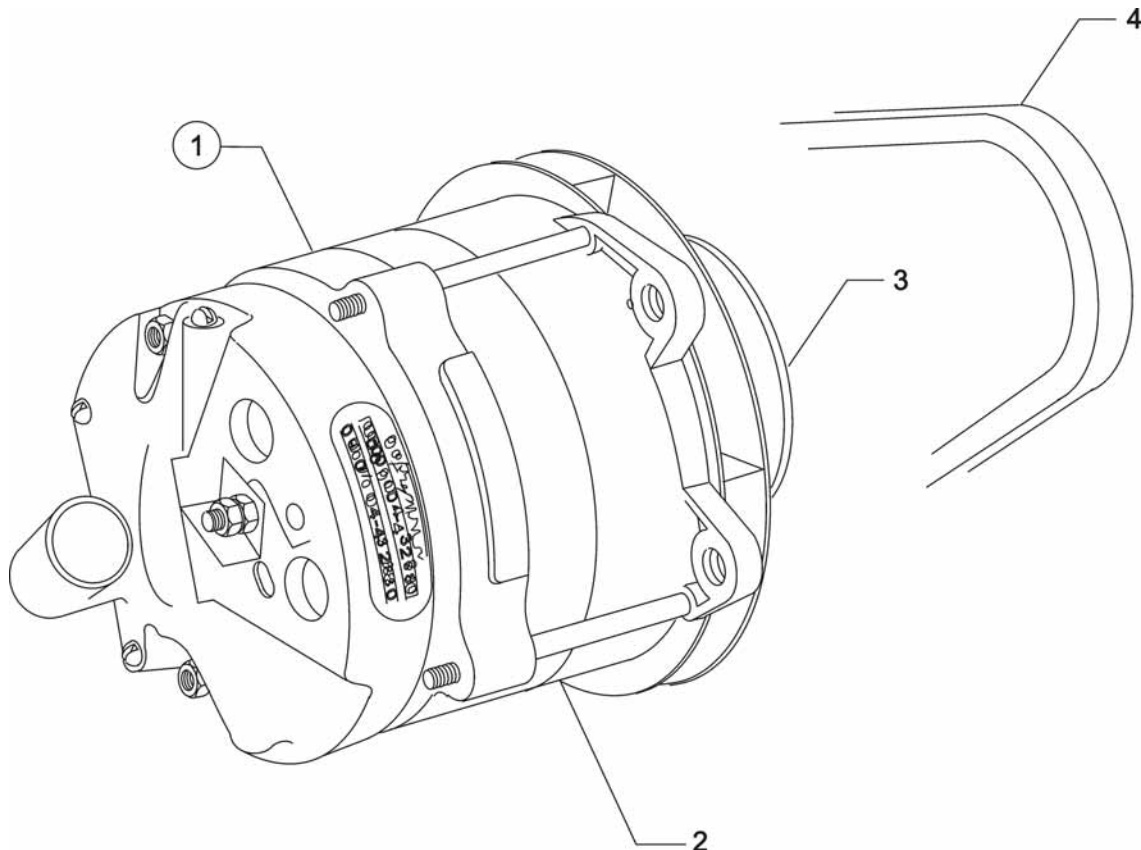


FIGURE 18. STARTER AND ATTACHING PARTS

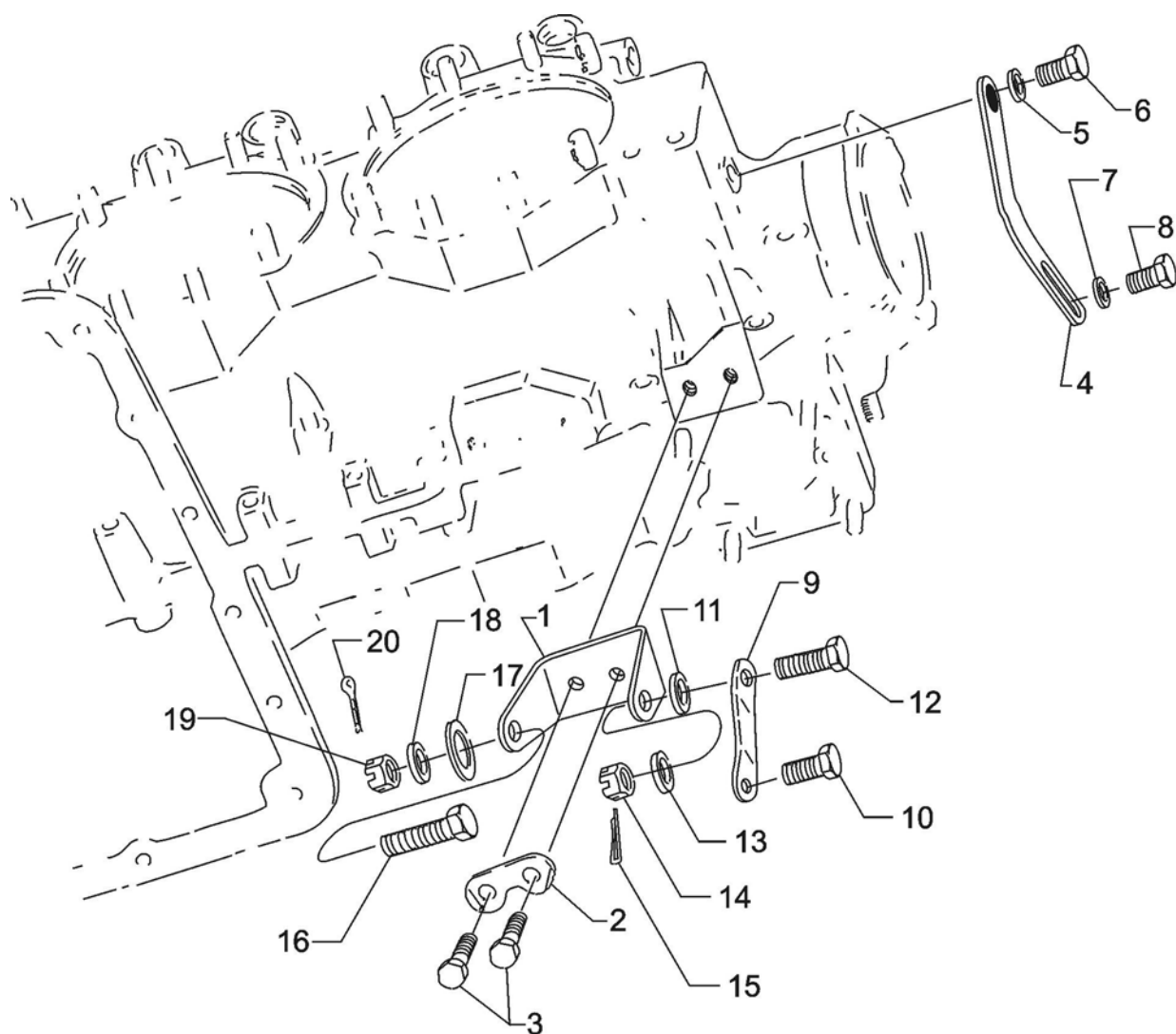
ELECTRICAL SYSTEM
ALTERNATOR ASSEMBLY

FIG. REF. 19	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	32B19549	ALTERNATOR ASSEMBLY, 12V.-70Amp.	1
	32C19553	ALTERNATOR ASSEMBLY, 24V.-70Amp.	1
	32C22492	ALTERNATOR ASSEMBLY, 28V.-90Amp.	1
2	LW-14318	ALTERNATOR, 12V.-70Amp.	1
	LW-14326	ALTERNATOR, 24V.-70Amp.	1
	32C22491	ALTERNATOR, 28V.-90Amp.	1
3	36B19484	PULLEY, Alternator	1
	36B22352	PULLEY, Alternator	1
4	37A19773-382	BELT, Alternator drive, 3/8 wide	1
	37A19773-376	BELT, Alternator drive, 3/8 wide	1

**FIGURE 19. ALTERNATOR ASSEMBLY**

ELECTRICAL COMPONENTS
ALTERNATOR MOUNTING AND ATTACHING PARTS

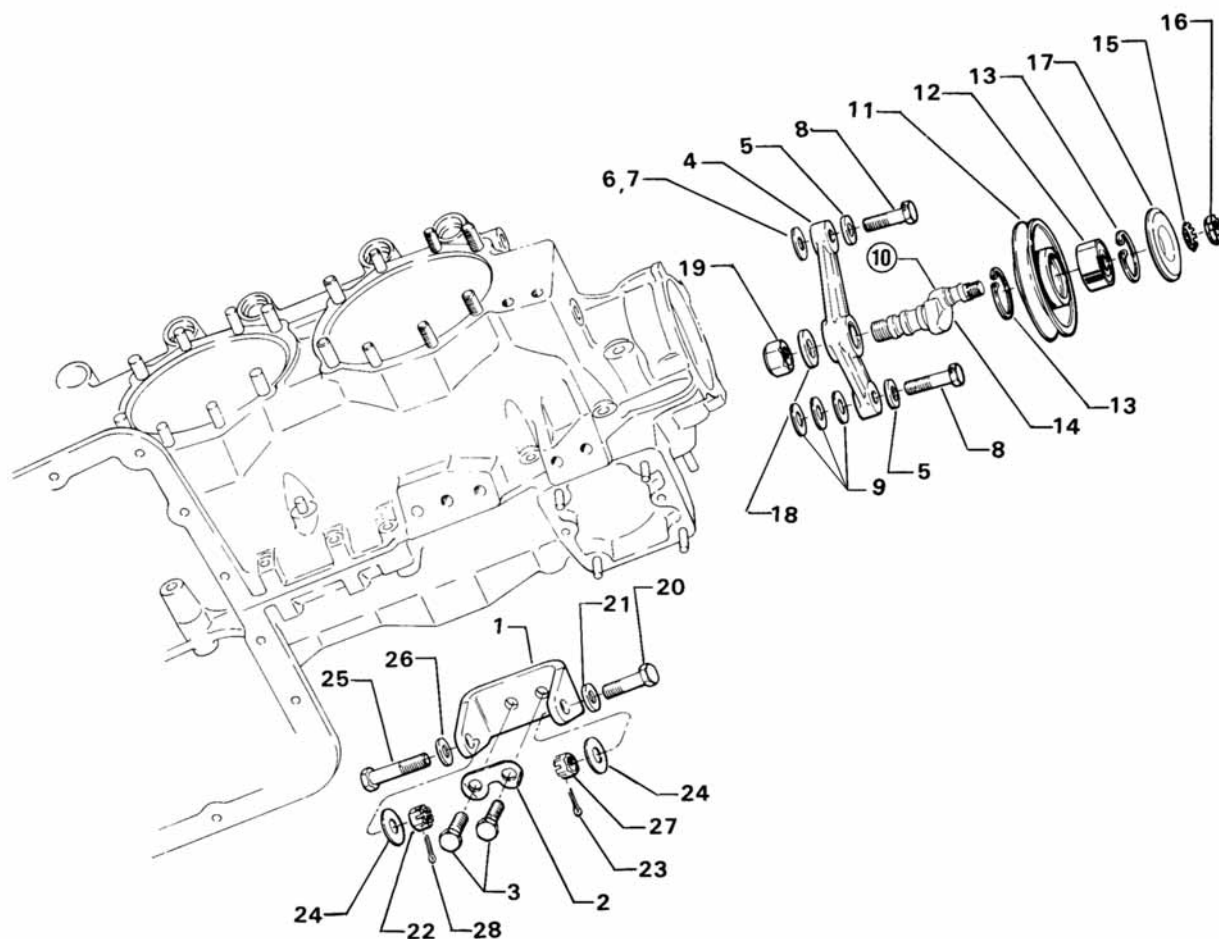
FIG. REF. 20	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	07A19474	BRACKET, Alternator	1
2	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	1
3	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2
4	75380	LINK, Alternator adjusting	1
5	STD-35	WASHER, 5/16 plain	1
6	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
7	STD-1727	WASHER, Plain, 3/4 O.D. x 1 1/32 I.D. x 1/8 thick	1
8	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
9	07F23268	STRUT, Alternator support	1
10	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. head, drilled	1
11	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	1
12	AN6-17	BOLT, 3/8-24 x 1-61/64 long, hex. head, drilled end	1
13	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	3
14	STD-872	NUT, 3/8-24 slotted	1
15	STD-713	PIN, Cotter, 3/32 diameter x 3/4 long	1
16	AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. head, drilled end	1
17	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x 1/64 thick	5
18	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	3
19	STD-872	NUT, 3/8-24 slotted	1
20	STD-713	PIN, Cotter, 3/32 diameter x 3/4 long	1

**FIGURE 20. ALTERNATOR MOUNTING AND ATTACHING PARTS**

ELECTRICAL COMPONENTS
ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF. 20A	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	77756	BRACKET, Alternator	1
2	73383	LOCKWASHER, 5/16 bolt x 1.00 spacing	1
3	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2
4	LW-18759	BRACKET, Alternator belt adjusting	1
5	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick	2
6	LW-14637*	SHIM, 13/16 O.D. x 11/32 I.D. x .005 thick	1
7	LW-14649*	SHIM, 13/16 O.D. x 11/32 I.D. x .010 thick	1
8	LW-31H1.31	BOLT, 5/16-18 x 1-5/16 long, hex. head, drilled	2
9	LW-10952	SHIM, 13/16 O.D. x 13/32 I.D. x .005 thick	3
10	LW-19262	PULLEY AND SHAFT ASSEMBLY, Alternator belt adjusting	1
11	78614	PULLEY, Alternator belt adjusting	1
12	78629	BEARING, Ball, alternator idler pulley	1
13	MS16625-1125	RING, Internal retaining, 1-1/4 diameter	2
14	LW-19237	SHAFT, Idler, alternator belt adjusting	1
15	76768	WASHER, Lock, alternator idler pulley bearing	1
16	76769	LOCKNUT, Alternator idler pulley bearing	1
17	LW-11635	SHIELD, Idler shaft	1
18	STD-669	WASHER, 33/64 I.D. x 1.00 I.D. x 1/8 thick	1
19	STD-2221	NUT, 1/2-20 self-locking	1
20	AN6-12	BOLT, 3/8-24 x 1-21/64 long, hex. head, drilled end	1
21	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	1
22	STD-872	NUT, 3/8-24 slotted	1
23	STD-713	PIN, Cotter, 3/32 diameter x 3/4 long	1
24	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick	1
25	AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. head, drilled end	1
26	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	1
27	STD-872	NUT, 3/8-24 slotted	1
28	STD-713	PIN, Cotter, 3/32 diameter x 3/4 long	1

* - Shim as required for belt alignment between crankcase, idler adjusting bracket, alternator and alternator bracket.

**FIGURE 20A. ALTERNATOR MOUNTING AND ATTACHING PARTS**

ELECTRICAL COMPONENTS
ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF. 20B	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	07A19474	BRACKET, Alternator	1
2	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	1
3	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	2
4	AN6-17	BOLT, 3/8-24 x 1-61/64 long, hex. head, drilled end	1
5	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	1
6	STD-872	NUT, 3/8-24 slotted	1
7	STD-713	PIN, Cotter, 3/32 diameter x 3/4 long	1
8	AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. head, drilled end	1
9	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x 1/64 thick	5

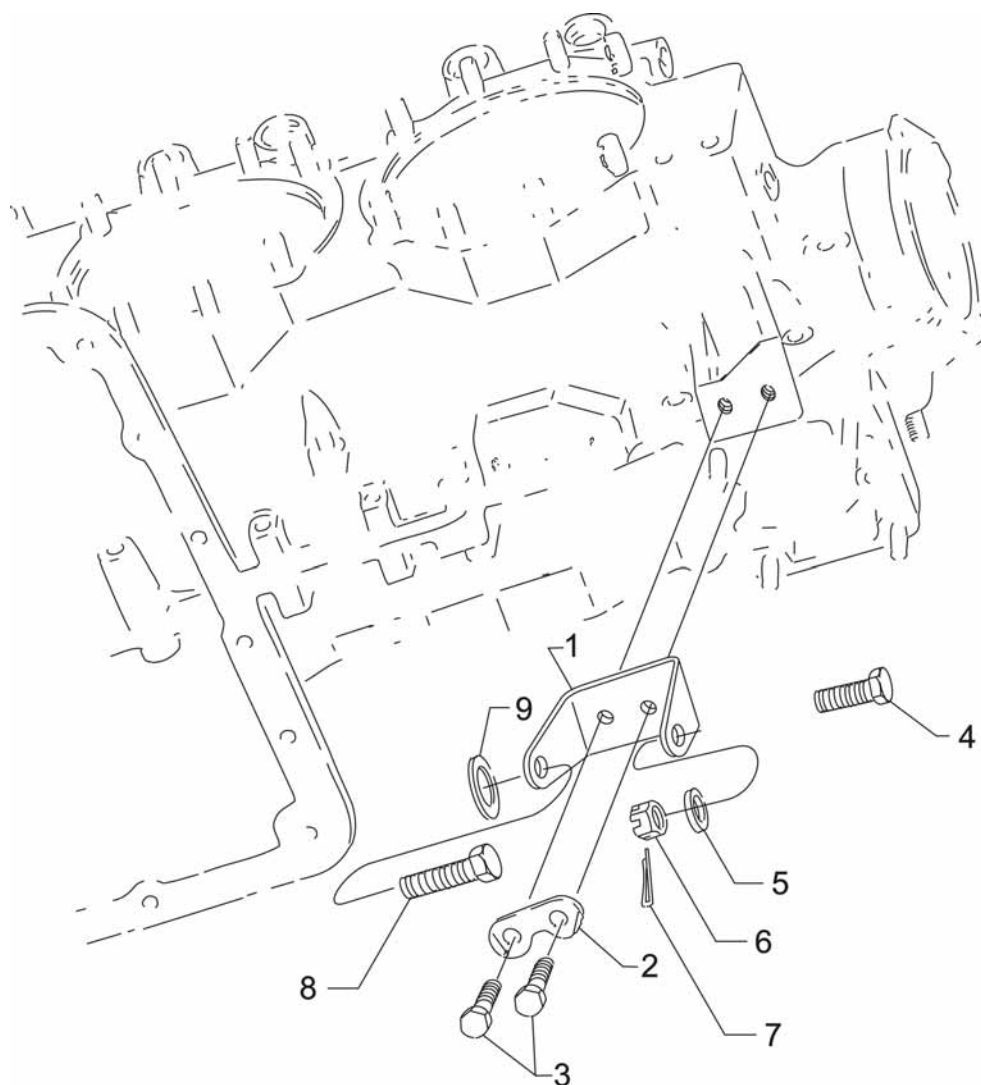
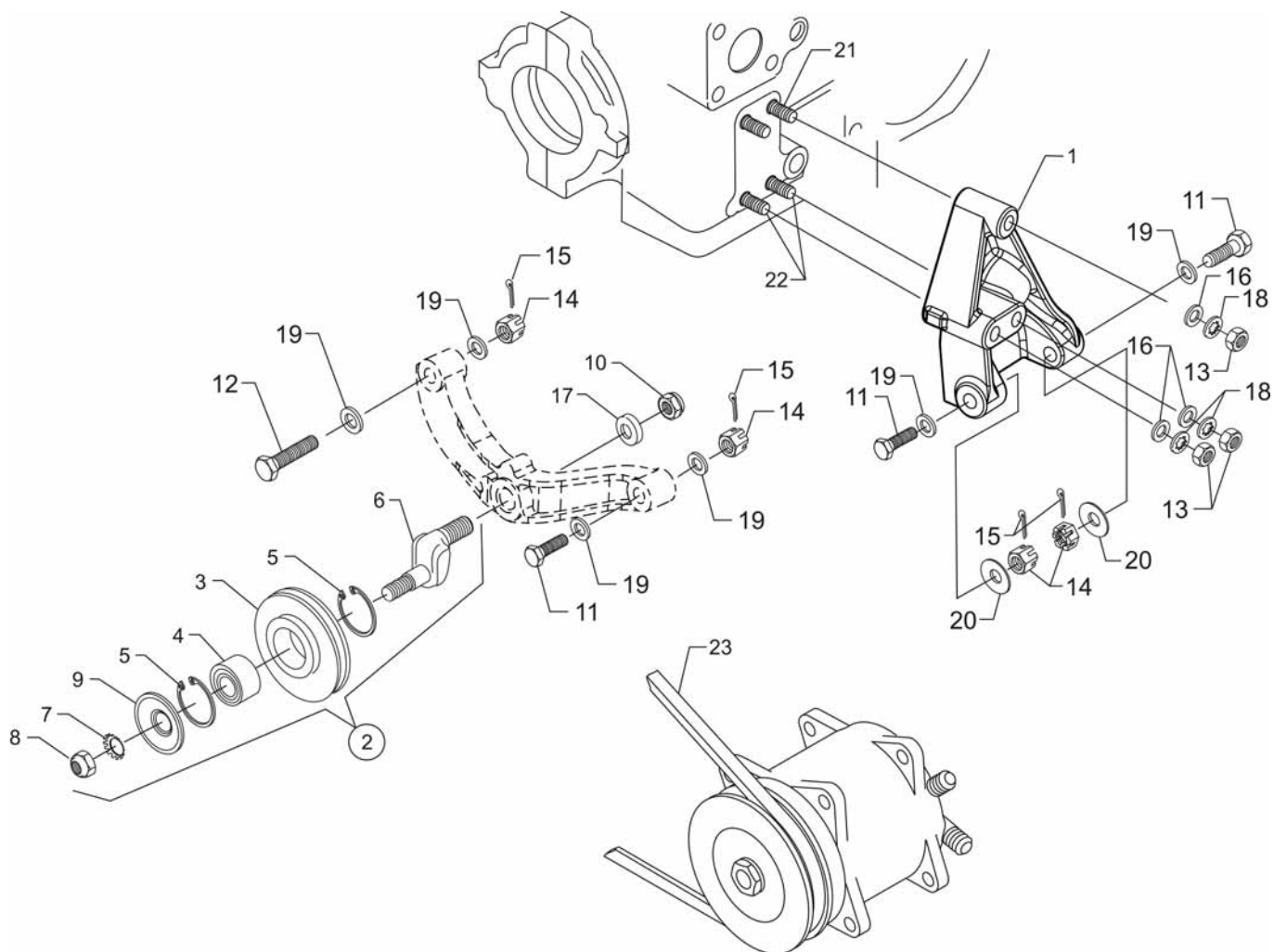


FIGURE 20B. ALTERNATOR MOUNTING AND ATTACHING PARTS

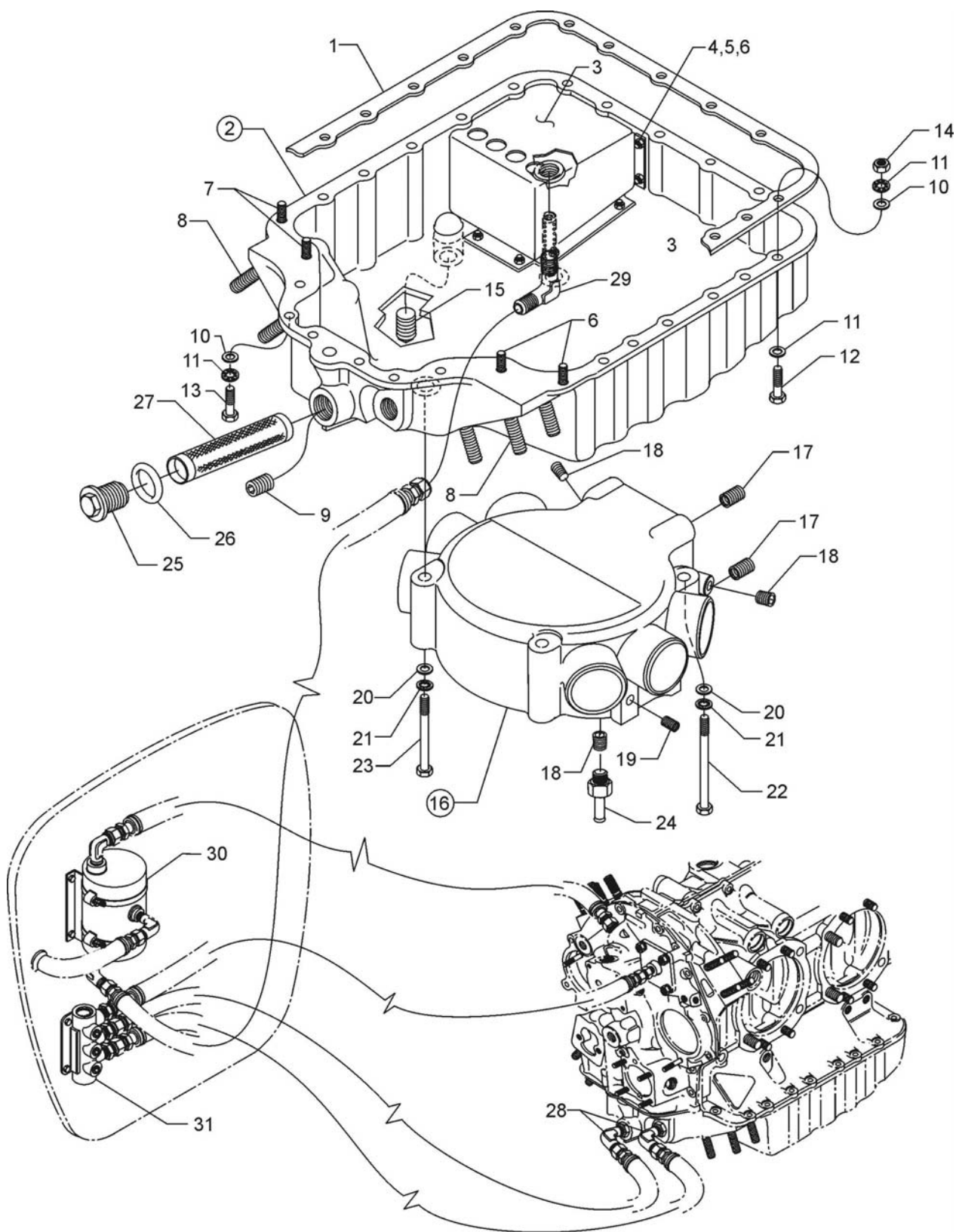
ELECTRICAL COMPONENTS
COMPRESSOR MOUNTING AND ATTACHMENTS

FIG. REF. 20C	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	07A22351	BRACKET, Compressor	1
2	36A22449	PULLEY AND SHAFT ASSEMBLY, Belt	1
3	LW-18804	PULLEY, Idler	1
4	78629	BEARING, Ball, alternator idler pulley	1
5	MS16625-1125	RING, Internal retaining, 1-1/4 diameter	2
6	LW-19238	SHAFT, Idler, alternator belt adjusting	1
7	76768	WASHER, Lock, alternator idler pulley bearing	1
8	76769	LOCKNUT, Alternator idler pulley bearing	1
9	LW-11635	SHIELD, Idler shaft	1
10	STD-2221	NUT, 1/2-20 self-locking	1
11	AN6-17	BOLT, 3/8-24 x 1-15/16 long, hex. head	3
12	AN6-21	BOLT, 3/8-24 UNF x 2-3/16 long, drilled	1
13	STD-596	NUT, 3/8-24 plain	3
14	STD-872	NUT, 3/8-24 slotted	4
15	STD-713	PIN, Cotter, 3/32 diameter x 3/4 long	4
16	STD-33	WASHER, 3/8 plain	3
17	STD-669	WASHER, 33/64 I.D. x 1.00 O.D. x 1/8 thick	1
18	STD-678	WASHER, Lock, 3/8 internal teeth	3
19	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	12
20	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick	10
21	38-21	STUD, 3/8-16 x 2-5/8 long	1
22	38-25	STUD, 3/8-16 x 3-1/8 long	2
23	37B19774-472	BELT, Freon compressor drive	1


FIGURE 20C. COMPRESSOR MOUNTING AND ATTACHMENTS

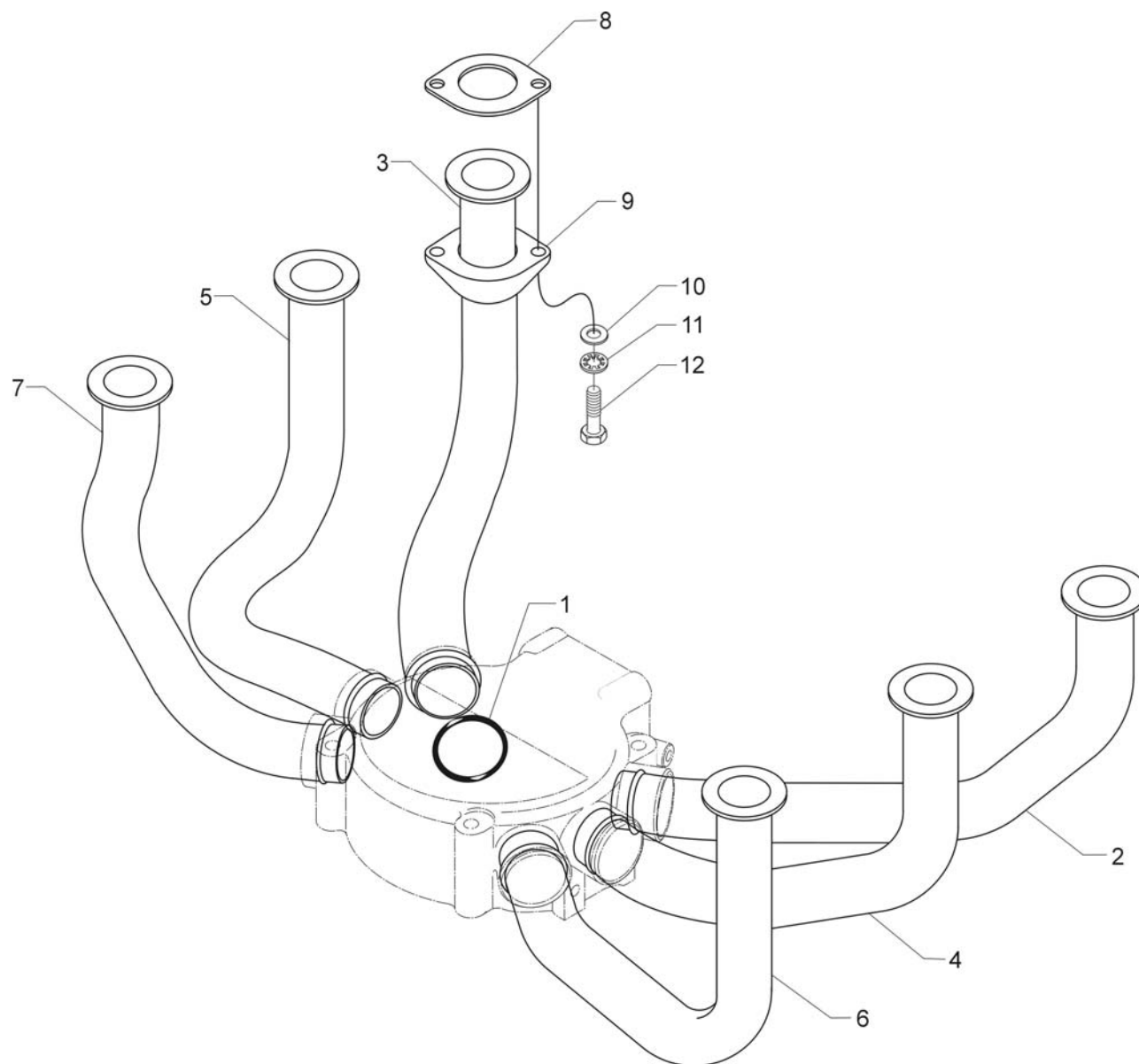
OIL SUMP AND INDUCTION SYSTEM
OIL SUMP AND INDUCTION HOUSING ASSEMBLY

FIG. REF. 21	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	06B21326	GASKET, Oil sump	1
2	LW-16975	SUMP AND BAFFLE ASSEMBLY, Oil	1
3	56G21286	BAFFLE, Oil sump breather	1
4	LW-18061	BOLT, No. 10-32 self-sealing	6
5	STD-425	WASHER, No. 10 plain	6
6	STD-670	LOCKNUT, No. 10-32	6
7	25C-11	STUD, 1/4 x 1-3/8 long	4
8	38-15	STUD, 3/8-16 x 1-7/8 long	8
9	STD-784	PLUG 3/8-18 NPT, Allen head	1
10	STD-8	WASHER, 1/4 plain	44
11	STD-160	WASHER, 1/4 lock, internal teeth	27
12	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	17
13	LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	6
14	STD-1411	NUT, 1/4-20 plain	21
15	STD-551	PLUG, 1/2-14 NPT, square head, drilled	1
16	LW-16899	HOUSING ASSEMBLY, Induction	1
17	STD-1164	INSERT, 5/16-18 x 5/8 long, Heli-coil	4
18	1102	PLUG, 1/8-27 NPT, Allen head	4
19	STD-1173	INSERT, 1/4-20 x 1/2 long, Heli-coil	4
20	STD-8	WASHER, 1/4 plain	4
21	STD-160	WASHER, 1/4 lock, internal teeth	4
22	STD-2026	BOLT, 1/4-20 NC-3 x 3-7/8 long, hex. head	2
23	STD-2025	BOLT, 1/4-20 NC-3 x 2-7/16 long, hex. head	2
24	75444	ADAPTER ASSEMBLY, Fuel drain valve	2
25	LW-16339	ADAPTER, Oil screen, 1-1/2-18 to 7/8-24 thread	1
26	06E19769-1.50	GASKET, 1-1/2 I.D. x 1-3/4 O.D. x 3/32 thick	1
27	77644	SCREEN, Oil suction	1
28	77155	ELBOW, 5/8 flared tube & 13/16-14 NPT, 90°	2
29	LW-16918	FITTING, Sump, oil return, 90°	1
30	57A21009	OIL SEPARATOR	1
31	57B19829	OIL VALVE	1


FIGURE 21. OIL SUMP AND INDUCTION HOUSING ASSEMBLY

OIL SUMP AND INDUCTION SYSTEM
INTAKE PIPE ASSEMBLY

FIG. REF. 22	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	72711	RING, Seal, intake pipes	6
2	LW-16341	PIPE, Intake, cylinder no. 1	1
3	LW-16342	PIPE, Intake, cylinder no. 2	1
4	LW-16343	PIPE, Intake, cylinder no. 3	1
5	LW-16344	PIPE, Intake, cylinder no. 4	1
6	LW-16345	PIPE, Intake cylinder no. 5	1
7	LW-16768	PIPE, Intake, cylinder no. 6	1
8	71973	GASKET, 2 bolt flange, 1-7/8 I.D.	6
9	74360	FLANGE, Intake pipe, upper	6
10	STD-8	WASHER, ¼ plain	12
11	STD-160	WASHER, ¼ lock, internal teeth	12
12	LW-25-1.25	BOLT, ¼-20 x 1-1/4 long, hex. head	12

**FIGURE 22. INTAKE PIPE ASSEMBLY**

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

FIG. REF. 23	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	73032	GASKET, Inlet housing	1
2	77442	FUEL INJECTOR, RSA10-AD1 (2524318-10)	1
3	MS29512-6*	SEAL, Oil, 5/64 dia. section x 15/32 I.D.	1
4	AN919-6*	REDUCER, Flared tube, ¼ tubing	1
5	STD-35	WASHER, 5/16 plain	4
6	STD-475	WASHER, 5/16 internal lock	4
7	LW-31-1.31	BOLT, 5/16-18 x 1-5/16 long, hex. head	4
8	STD-1727	WASHER, Plain, ¾ O.D. x 21/64 I.D. x 1/8 thick	2
9	LW-18265	NOZZLE, Injector	6
10	77418	MANIFOLD ASSEMBLY, Fuel	1
11	MS20822-4	ELBOW, ¼ tube & 1/8 NPT, 90°	1
12	STD-148	NIPPLE, Union, 1/8 NPT	6
13	02G21446	NIPPLE, 1/8 tube to 1/8 NPT	1
14	73966	SPACER, Fuel manifold bracket	2
15	07A23031	BRACKET, Fuel manifold	2
16	STD-251	WASHER, No. 10 lock, internal teeth	4
17	STD-82	SCREW, No. 10-24 x ½ long, round head	4
18	LW-12098-0-210	TUBE ASSEMBLY, Fuel manifold to nozzle, cyls. 1,2,5,6	4
19	LW-12098-0-170	TUBE ASSEMBLY, Fuel manifold to nozzle, cyls. 3,4	2
20	LW-16266-10-75	CLAMP	12
21	LW-16266-10-13	CLAMP	12
22	STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	14
23	STD-425	WASHER, No. 10 plain	2
24	STD-670	NUT, No. 10-32 self-locking	14
25	73136	BRACKET, 90°	2
26	LW-12798-4S242	HOSE ASSEMBLY, Fuel injector to fuel manifold	1
27	74278	BRACKET ASSEMBLY, Fuel line support	1
28	STD-1891	NUT, Clinch, 10-32 self-locking	2
29	LW-16266-25-63	CLAMP	1
30	STD-860	SCREW, No. 10-32 x 5/8 long, fill. head	1
31	STD-692	SCREW, No. 10-32 x ½ long, round head	2
32	STD-425	WASHER, No. 10 plain	3
33	STD-670	NUT, No. 10-32 self-locking	1
34	LW-16266-25-88	CLIP, 7/8 I.D. for ¼ dia. screw (cushion type)	2
35	LW-12799-6S322	HOSE, Fuel pump to injector	1
36	MS20822-6-8	ELBOW, 3/8 flared tube & ½ NPT (90°), fuel pump outlet	1

* - Assemble in fuel injector outlet.

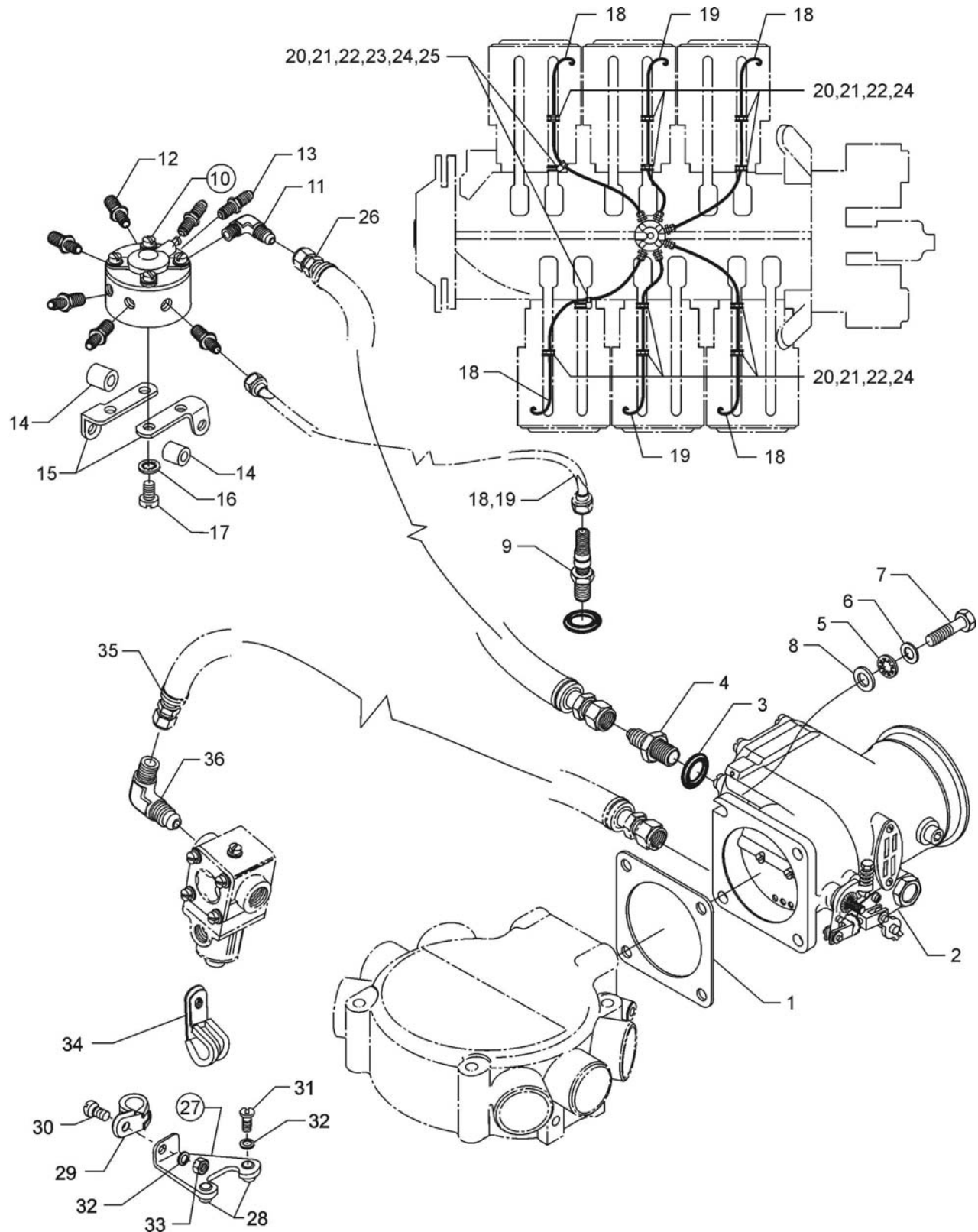


FIGURE 23. FUEL INJECTOR, FUEL MANIFOLD AND INJECTION NOZZLES

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

PART NO.	PART NAME	QTY.
05K26549	KIT - SEAL AND GASKET SET	1
LW-12681	GASKET, Magneto	2
06B23862	GASKET, Oil filter adapter	1
LW-14260	SEAL, Tachometer	1
LW-14820	RING, Internal retaining	8
06B21326	GASKET, Oil sump	1
LW-15628	SEAL, Crankshaft	1
LW-18638	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	12
STD-1737	RING, External retaining	1
STD-2180	HOSE, Cylinder drain tube	6
STD-2231	RING, Internal retaining	1
06A19956	OIL SEAL	1
MS29512-06	"O" RING	1
06E19769-0.63	GASKET, Annular	3
06E19769-1.50	GASKET, Annular	1
06E19769-1.25	GASKET, Annular	1
61183	GASKET, Vacuum pump adapter	1
62224	GASKET, Magneto adapter	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
75118	GASKET, Exhaust flange	6
8313	GASKET, Vacuum pump	2
15H21201	SPRING, Shroud tube	24
68H22624	CUSHION, Magneto	4
06A23493	SEAL, Shroud tube	12
MS35489-22X	GROMMET	1
61173	GASKET, Oil pressure housing	1
74065	RING, Oil level gage seal	1

SECTION 8
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PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
AN565B1032H5	Set Screw	1-9	LW-12098-4S242	Hose Assy.	6-5
AN6-12	Bolt	5-5	LW-12186	Nut	3-1
AN6-16	Bolt	5-3	LW-12596	Bolt	3-1
AN6-16	Bolt	5-5	LW-12681	Gasket	4-1
AN6-16	Bolt	5-7	LW-12688	Seat, Intake	3-3
AN6-17	Bolt	5-3	LW-12707	Adapter	4-1
AN6-17	Bolt	5-7	LW-12799-6S322	Hose	6-5
AN6-17	Bolt	5-9	LW-13321	Seat	3-5
AN6-21	Bolt	5-9	LW-13322	Seat	3-5
AN6-34A	Bolt	1-13	LW-13430	Baffle Assy.	3-7
AN816-10D	Nipple	2-7	LW-13795	Shaft	1-11
AN816-10-12D	Nipple	2-7	LW-13896	Plug	1-9
AN816-10-12D	Nipple	2-9	LW-13923	Bushing	3-1
AN919-6	Reducer	6-5	LW-14021	Shaft	1-9
LRT23381	Body Assy.	1-5	LW-14260	Seal	2-3
LW-25-0.63	Bolt	1-11	LW-14318	Alternator	5-2
LW-25-0.94	Bolt	2-3	LW-14326	Alternator	5-2
LW-25-1.00	Bolt	2-11	LW-14637	Shim	5-5
LW-25-1.00	Bolt	6-1	LW-14649	Shim	5-5
LW-25-1.13	Bolt	1-13	LW-14799	Gage Assy.	1-3
LW-25-1.13	Bolt	2-3	LW-14820	Ring	1-7
LW-25-1.13	Bolt	6-1	LW-15592-5-05	Clamp	3-7
LW-25-1.25	Bolt	6-3	LW-15628	Seal	1-5
LW-25-1.44	Bolt	2-3	LW-16266-10-13	Clamp	6-5
LW-25-1.50	Bolt	1-13	LW-16266-10-63	Clamp	6-5
LW-25-1.75	Bolt	1-13	LW-16266-10-75	Clamp	6-5
LW-25S1.50	Bolt	1-13	LW-16266-25-88	Clip	6-5
LW-31-0.94	Bolt	5-1	LW-16339	Adapter	6-1
LW-31-0.94	Bolt	5-3	LW-16341	Pipe	6-3
LW-31-0.94	Bolt	5-5	LW-16342	Pipe	6-3
LW-31-0.94	Bolt	5-7	LW-16343	Pipe	6-3
LW-31-1.16	Bolt	1-13	LW-16344	Pipe	6-3
LW-31-1.31	Bolt	6-5	LW-16345	Pipe	6-3
LW-31-2.75	Bolt	1-13	LW-16471	Support Assy.	1-7
LW-31H0.75	Bolt	5-3	LW-16475	Seat	3-5
LW-31H0.88	Bolt	1-11	LW-16768	Pipe, Intake	6-3
LW-31H1.31	Bolt	5-5	LW-16878	Adapter	2-7
LW-10442	Gear	1-9	LW-16899	Housing Assy.	6-1
LW-10541	Gear Assy.	1-9	LW-16918	Fitting	6-1
LW-10799	Spacer	2-5	LW-16975	Sump & Baffle Assy.	6-1
LW-10952	Shim	5-5	LW-18061	Bolt	6-1
LW-11635	Shield	5-5	LW-18085	Spring	1-5
LW-11635	Shield	5-9	LW-18265	Injection Nozzle	6-5
LW-11713	Spring	1-5	LW-18638	Lockplate	1-7
LW-11796	Spring	3-5	LW-18661	Seal	3-5
LW-11797	Spring	3-5	LW-18667	Pin	1-7
LW-11956	Guide, Intake	3-3	LW-18759	Bracket	5-5
LW-11958	Guide, Exhaust	3-3	LW-18804	Pulley	5-9
LW-12098-0-170	Tube Assy.	6-5	LW-19096	Gear Retainer Assy.	4-1
LW-12098-0-210	Tube Assy.	6-5	LW-19210	Counterweight Assy.	1-7

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PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
LW-19237	Shaft	5-5	STD-557	Dowel	1-1
LW-19238	Shaft	5-9	STD-596	Nut	1-3
LW-19262	Pulley & Shaft Assy.	5-5	STD-596	Nut	1-13
LW-19332	Connecting Rod Assy.	3-1	STD-596	Nut	5-9
MS16625-1125	Ring	5-5	STD-669	Washer	5-5
MS16625-1125	Ring	5-9	STD-669	Washer	5-9
MS20822-4	Elbow	6-5	STD-670	Locknut	3-7
MS20822-6-8	Elbow	6-5	STD-670	Locknut	6-1
MS20823-6D	Elbow	3-3	STD-670	Locknut	6-5
MS29512-6	Seal	6-5	STD-678	Washer	1-3
MS35489-22X	Grommet	3-7	STD-678	Washer	1-13
STD-8	Washer	1-13	STD-678	Washer	5-9
STD-8	Washer	2-3	STD-684	Nipple	3-7
STD-8	Washer	2-7	STD-690	Washer	5-3
STD-8	Washer	2-9	STD-690	Washer	5-5
STD-8	Washer	2-11	STD-690	Washer	5-7
STD-8	Washer	6-1	STD-690	Washer	5-9
STD-8	Washer	6-3	STD-692	Screw	3-7
STD-19	Dowel	1-9	STD-692	Screw	6-5
STD-33	Washer	1-3	STD-713	Cotter Pin	4-1
STD-33	Washer	1-13	STD-713	Cotter Pin	5-3
STD-33	Washer	5-9	STD-713	Cotter Pin	5-5
STD-35	Washer	1-9	STD-713	Cotter Pin	5-7
STD-35	Washer	1-13	STD-713	Cotter Pin	5-9
STD-35	Washer	2-3	STD-784	Plug	2-1
STD-35	Washer	2-5	STD-784	Plug	2-7
STD-35	Washer	5-3	STD-784	Plug	2-9
STD-35	Washer	6-5	STD-784	Plug	6-1
STD-82	Screw	6-5	STD-798	Dowel	1-9
STD-148	Nipple	6-5	STD-860	Screw	6-5
STD-160	Washer	1-13	STD-872	Nut	1-13
STD-160	Washer	2-3	STD-872	Nut	5-3
STD-160	Washer	2-7	STD-872	Nut	5-5
STD-160	Washer	2-9	STD-872	Nut	5-7
STD-160	Washer	2-11	STD-872	Nut	5-9
STD-160	Washer	3-7	STD-1065	Dowel	1-7
STD-160	Washer	6-1	STD-1164	Insert	6-1
STD-160	Washer	6-3	STD-1173	Insert	6-1
STD-251	Washer	3-7	STD-1339	Plug	1-1
STD-251	Washer	6-5	STD-1410	Nut	1-9
STD-425	Washer	6-1	STD-1410	Nut	2-5
STD-425	Washer	6-5	STD-1410	Nut	4-1
STD-475	Washer	1-9	STD-1410	Nut	5-1
STD-475	Washer	1-13	STD-1411	Nut	1-13
STD-475	Washer	2-5	STD-1411	Nut	2-7
STD-475	Washer	4-1	STD-1411	Nut	2-9
STD-475	Washer	5-1	STD-1411	Nut	3-7
STD-475	Washer	6-5	STD-1411	Nut	6-1
STD-514	Dowel	1-1	STD-1420	Nut	2-3
STD-551	Plug	6-1	STD-1686	Screw	3-7

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STD-1727	Washer	6-5	61173	Gasket	2-11
STD-1737	Ring	1-11	61183	Gasket	2-9
STD-1891	Clinch Nut	6-5	61503	Sleeve	3-5
STD-1925	Screw	3-7	62224	Gasket	4-1
STD-2025	Bolt	6-1	62388	Cap	3-5
STD-2026	Bolt	6-1	62417	Plug	2-7
STD-2090	Nut	3-7	62417	Plug	2-9
STD-2168	Nut	1-11	62817	Screen Assy.	2-11
STD-2180	Hose	3-7	65614	Plug	3-7
STD-2221	Nut	5-5	66670	Bushing	3-3
STD-2221	Nut	5-9	66732	Gasket	3-7
STD-2231	Ring	1-7	66796	Insert	3-3
STD-2233	Locknut	3-3	67193	Gasket	3-7
STD-2247	Bolt	1-7	67530	Bushing	1-11
STD-2249	Nut	1-13	67536	Adapter Assy.	2-9
25C-8	Stud	3-3	67542	Ball Bearing	4-1
25C-11	Stud	6-1	68668	Spring	1-5
25C-12	Stud	2-1	68795	Cover Assy.	3-7
25C-21	Stud	2-1	69106	Cover	2-5
31C-12	Stud	1-1	69159	Adapter Assy.	1-11
31C-12	Stud	2-1	69164	Gasket	1-11
31C-13	Stud	1-1	69510	Housing	2-11
31C-13	Stud	3-3	69532	Seat	3-5
31C-17	Stud	1-1	69551	Gasket	2-5
31C-19	Stud	2-1	69796	Dowel	1-1
31C-21	Stud	2-1	70455	Gasket	1-9
31CD-20	Stud	2-1	70457	Gasket	1-3
38-13	Stud	1-1	70474	Washer	1-11
38-15	Stud	6-1	71133	Nut	3-7
38-16	Stud	1-1	71134	Nut	3-7
38-21	Stud	1-1	71481	Ring	3-7
38-21	Stud	5-9	71549	Washer	3-5
38-22	Stud	1-1	71596	Washer	2-9
38-25	Stud	1-1	71611	Retainer	3-7
38-25	Stud	5-9	71664	Gear Assy.	1-11
38D-17	Stud	1-1	71667	Lockplate	1-11
50-15	Stud	1-1	71668	Gear Assy.	1-11
1028-B	Ball	1-5	71903-A	Bushing	1-7
1102	Plug	1-1	71907	Washer	1-7
1102	Plug	2-1	71973	Gasket	6-3
1102	Plug	3-3	72050	Key	3-5
1102	Plug	6-1	72053	Gasket	1-9
1182-H7	Spark Plug	4-1	72090	Plunger Assy.	3-5
1182-Q4	Spark Plug	4-1	72091	Ring	1-5
8313	Gasket	2-7	72155-S	Bushing	1-7
8313	Gasket	2-9	72158	Bushing	1-1
60430	Cover	2-9	72198	Piston Pin Plug	3-1
60803	Strap	1-13	72246	Shaft	1-11

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72378	Cover	1-9	76784	Shaft	2-3
72566	Starter Ring Gear	1-7	76788	Roller	1-7
72626	Shaft	3-5	77155	Elbow	6-1
72702	Tube Assy.	3-7	77309	Bushing	1-11
72703	Tube Assy.	3-7	77418	Manifold Assy.	6-5
72710	Cover	3-7	77442	Fuel Injector	6-5
72711	Ring	6-3	77467	Spring	1-5
72834	Cover	3-7	77644	Screen	6-1
72962	Thrust Button	2-9	77756	Bracket	5-5
72972	Shaftgear Assy.	1-11	77808	Valve Assy.	1-5
72974	Gear Assy.	2-9	77872	Bushing	1-9
73000	Coupling	4-1	77906	Spacer	3-7
73013	Coupling	4-1	78614	Pulley	5-5
73027	Tube Assy.	3-7	78629	Bearing, Ball	5-5
73032	Gasket	6-5	78629	Bearing, Ball	5-9
73136	Bracket	6-5	01A22453	Stud	1-13
73249	Thrust Washer	1-9	01L21418	Thrust Washer	1-9
73250	Thrust Washer	1-9	01L23459	Washer	3-5
73251	Thrust Washer	1-9	01P19762-3-14	Bag, Mag. Attaching	4-1
73252	Thrust Washer	1-9	02G21446	Nipple	6-5
73383	Lockplate	5-3	06A19956	Oil Seal	2-9
73383	Lockplate	5-5	06A23493	Seal	3-5
73383	Lockplate	5-7	06B21326	Gasket	6-1
73648	Roller	1-7	06E19769-0.63	Gasket	2-7
73810	Bushing	1-7	06E19769-0.63	Gasket	2-9
73818	Gasket	2-1	06E19769-0.63	Gasket	2-11
73966	Spacer	6-5	06E19769-1.25	Gasket	1-5
74065	Ring	1-3	06E19769-1.50	Gasket	6-1
74278	Bracket Assy.	6-5	07A19474	Bracket	5-3
74360	Intake Pipe Flange	6-3	07A19474	Bracket	5-7
74389	Busing	3-5	07A22351	Bracket	5-9
74494	Plate	3-7	07A23031	Bracket	6-5
74487	Spacer	3-7	07F23268	Strut	5-3
75118	Gasket	3-3	11T21520-S1	Crankcase Assy.	1-1
75338	Baffle Assy.	3-7	11T25120-S3	Crankcase Assy.	1-1
75380	Link	5-3	11T25120-S6	Crankcase Assy.	1-1
75444	Adapter Assy.	6-1	12A19770	Bracket	1-3
75656-S	Bushing	1-7	12E23021	Nozzle Assy.	1-1
75657-S	Bushing	1-7	13F47727	Crankshaft Assy.	1-7
75675	Extension	1-3	13S19648	Crankshaft Gear	1-7
76118	Spacer	1-7	14E22396	Piston	3-1
76155	Tach. Drive Shaft Assy.	1-7	14G22050	Ring	3-1
76534	Shim	5-3	14H23148	Ring	3-1
76534	Shim	5-5	14J22048	Piston Pin	3-1
76534	Shim	5-7	14S23889	Bolt	3-1
76534	Shim	5-9	15B21319	Socket	3-5
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15F19957-55	Rod Assy.	3-5	31B26554	Starter	5-1
15F19957-56	Rod Assy.	3-5	32B29549	Alternator Assy.	1-5
15F19957-57	Rod Assy.	3-5	32C19553	Alternator Assy.	5-2
15F19957-58	Rod Assy.	3-5	32C22491	Alternator	5-2
15F21362-18	Rod Assy.	3-5	32C22492	Alternator Assy.	5-2
15F21362-19	Rod Assy.	3-5	36A22449	Pulley & Shaft Assy.	5-9
15F21362-20	Rod Assy.	3-5	36B19484	Pulley	5-2
15F21362-21	Rod Assy.	3-5	36B22352	Pulley	5-2
15F21362-22	Rod Assy.	3-5	37A19773-376	Belt	5-2
15F21362-23	Rod Assy.	3-5	37A19773-382	Belt	5-2
15F21362-24	Rod Assy.	3-5	37B19774-472	Belt	5-9
15G23462	Shroud Tube Assy.	3-5	51A22618	Body Assy.	2-3
15H21201	Spring	3-5	51B23274	Impeller	2-3
15N23374	Camshaft Assy.	1-7	51B23275	Impeller	2-3
16A22887	Cylinder Assy.	3-3	51C23290	Impeller Assy.	2-3
16T19468	Seat, Exhaust	3-3	51D22617	Shaft	2-3
17A23937	Valve, Intake	3-5	53E22144	Valve Assy.	2-11
17B23935	Valve, Exhaust	3-5	56G21286	Baffle	6-1
17C19386	Cap	3-5	57A21009	Oil Separator	6-1
17C21191	Key	3-5	57B19829	Oil Valve	6-1
17F21185	Rocker Assy.	3-5	62E22581	Fuel Pump	2-5
17F21186	Rocker Assy.	3-5	66LP-0SCNN	Magneto	4-1
17M23284	Hook	3-7	66LR37SCNN	Magneto	4-1
18B23885	Bearing	1-5	66M21195	Clamp	4-1
18E23886	Bearing	1-5	67J20608-P	Harness	4-1
18N19391	Conn. Rod Bearing	3-1	67J20609-P	Harness	4-1
21C21541-05	Housing Assy.	2-1	68H22624	Cushion	4-1