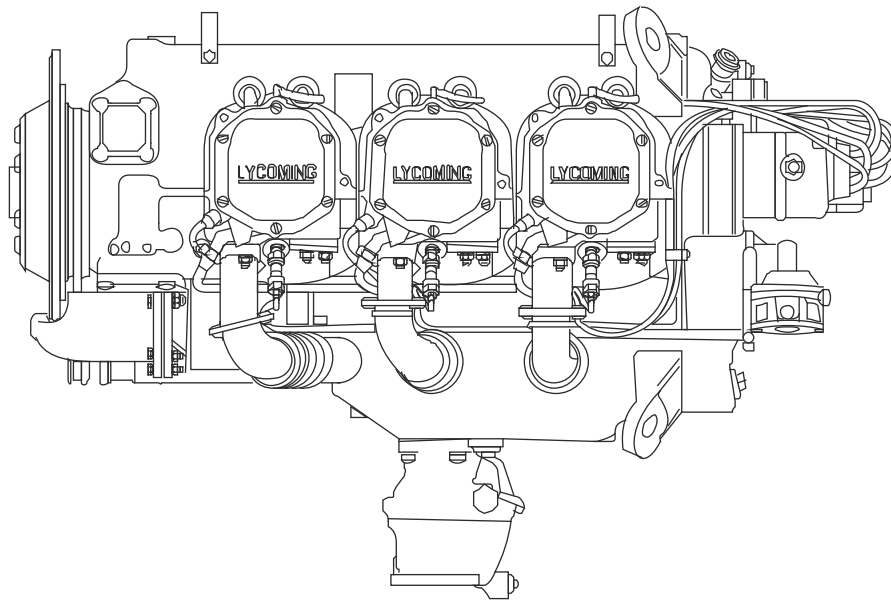


# Lycoming Aircraft Engines Parts Catalog



## **O-540-A Series** Standard Cylinder Flange Crankcase Models

***LYCOMING***

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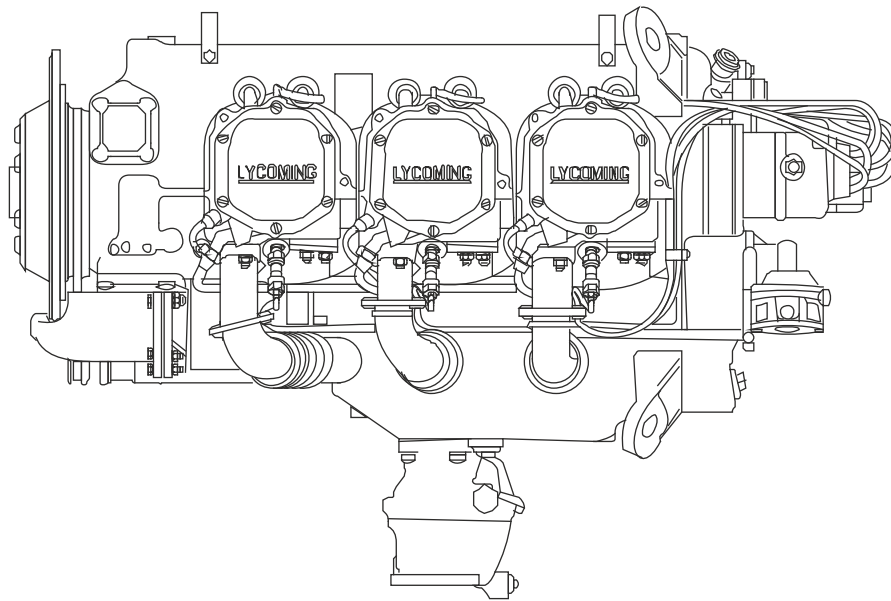
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# Lycoming Aircraft Engines Parts Catalog



## **O-540-A Series** Standard Cylinder Flange Crankcase Models

***LYCOMING***



## INTRODUCTION

This illustrated parts catalog contains a complete parts listing for the Lycoming 0-540-A Series standard cylinder flange crankcase model aircraft engines.

Major assembly and sub-assembly parts of the engines 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 this 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 manufacturers' 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 FOR APPLICATION.										
66610	BUSHING		X	X								
66796	INSERT			X								
69796	DOWEL		X									
71903-A, -B	BUSHING	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1143 FOR APPLICATION.										
72057	SEAT			X		X	X					
72058	SEAT			X		X	X					
72060-S	BUSHING		X	X	X	X						
72061-S	BUSHING		X	X	X	X						
72062-S	BUSHING		X	X	X	X						
72074-S	BUSHING		X	X		X						
73810	BUSHING	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1142 FOR APPLICATION.										
74230	GUIDE	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1256 FOR APPLICATION.										
LW-10647	DOWEL		X	X								
LW-11021	BEARING				X					X	X	X
LW-11997	SEAL	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1324 FOR APPLICATION.										
LW-13521	BEARING			X						X*	X*	X*
LW-13522	BEARING									X	X	X
LW-13792	SEAL	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1324 FOR APPLICATION.										
LW-13884	BEARING				X					X	X	X
LW-16047	BEARING				X					X	X	X
LW-16048	BEARING			X						X*	X*	X*
STD-1065	DOWEL	X	X	X	X							
18A19441	BEARING				X					X	X	X
18D19394	BEARING				X					X	X	X

\* Also available in P10 oversize.

In addition to the above, studs are available in P01, P02, P03, P05, P07, P10 & 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-M3. 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	O N A L L	QUANTITY PER ASSEMBLY									
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B	A 3 D 5			
1	LW-11033	CRANKCASE ASSEMBLY (See note)	1										
2	STD-557	DOWEL, 1/2 dia. x 11/16 long, hollow	2										
3	66734	STUD, 1/2-13 x 9-7/8 long	4										
4	50-15	STUD, 1/2-13 x 1-7/8 long	12										
5	69679	STUD, 5/16-18 x 10-21/32 long	4										
6	38-13	STUD, 3/8-16 x 1-5/8 long	24										
7	1102	PLUG, 1/8 pipe x 3/8 long, socket	5										
8	65007	RETAINER, Shroud tube seal	12										
9	38-15	STUD, 3/8-16 x 1-7/8 long	8										
10	38-22	STUD, 3/8-16 x 2-3/4 long	1										
11	STD-1339	PLUG, 1/16-27 pipe, Allen head	1										
12	31C-12	STUD, 5/16-18 Nat'l. Form x 1-1/2 long	2										
13	31C-13	STUD, 5/16-18 Nat'l. Form x 1-5/8 long	1										
14	69796	DOWEL, Crankshaft bearing	2										
15	LW-10647	DOWEL, Crankshaft bearing	6										
16	STD-514	DOWEL, 5/16 dia. x 1/2 long	2										
17	31C-16 *	STUD, 5/16-18 x 2.00 long, driven height (1.27-1.31)		4	4		4		4				
	31C-14 *	STUD, 5/16-18 x 1-3/4 long, driven height (.96-1.00)			4	4		4	4	4	4	4	4

\* Check crankcase for height of studs required.

#### NOTE

This part is not available as a service item. Refer to Service Kit Section 7 for applicable Crankcase Assy. and governor stud kit part number.

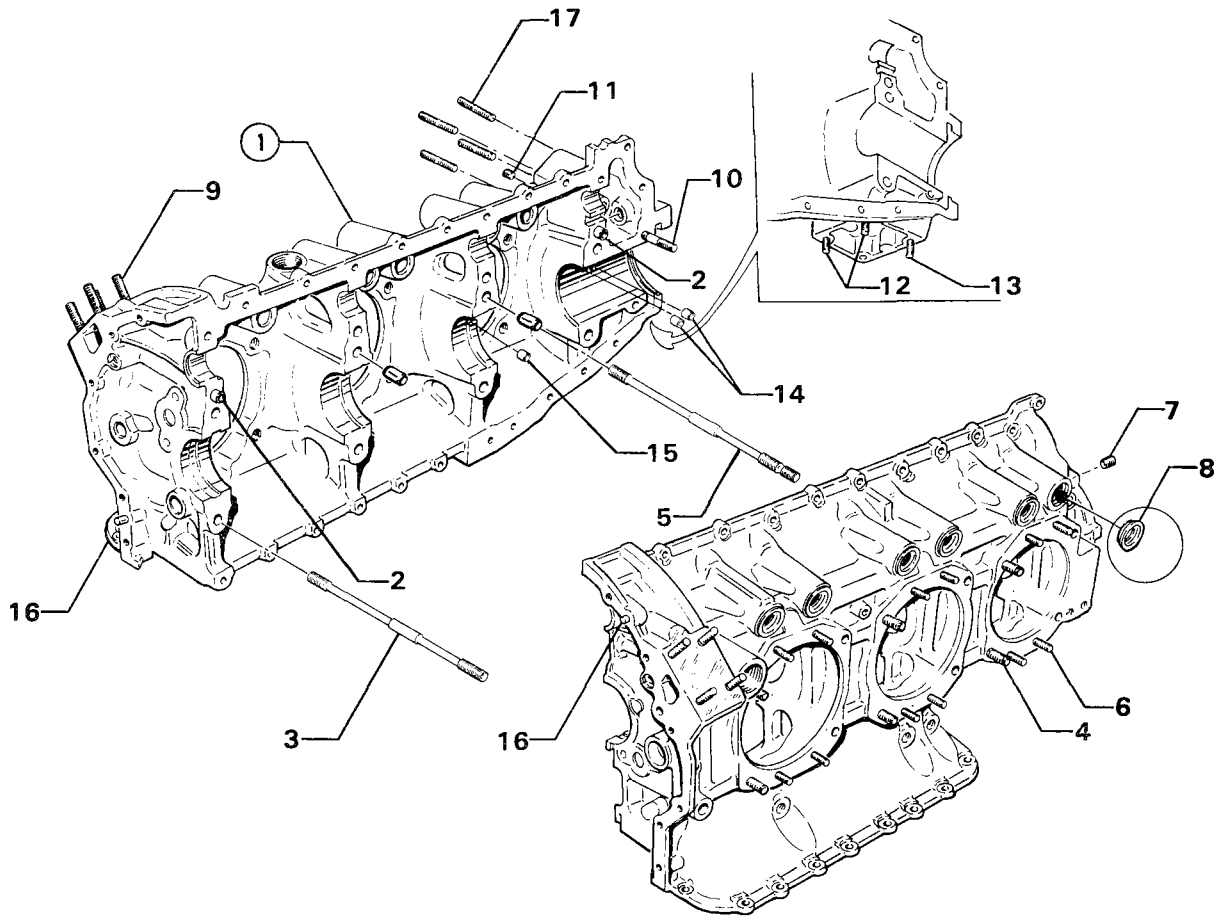
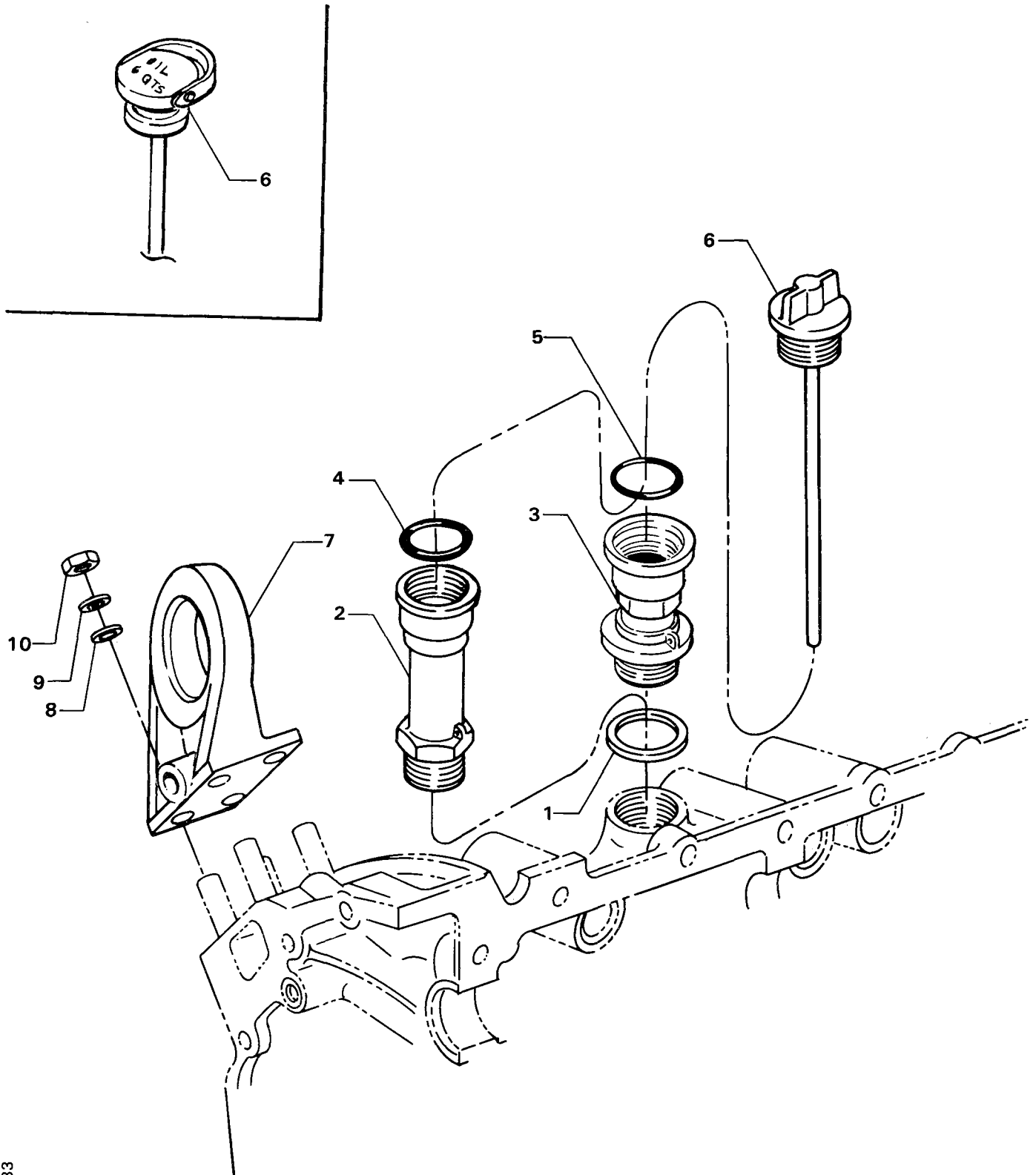


Figure 1. CRANKCASE ASSEMBLY

### CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP

#### OIL LEVEL GAGES AND ENGINE MOUNTING BRACKETS

FIG. REF. 2	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY										
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5			
1	70457	GASKET, Oil filler extension	1											
2	75761	EXTENSION, Oil filler, long (4-1/2")			1					1	1			
	77770	EXTENSION, Oil filler, long (6-5/16")								1				
3	75737	EXTENSION, Oil filler, short (2-11/16")		1	1	1	1	1	1	1				1
	77527	EXTENSION, Oil filler, short (2-3/16")					1							
	74313	EXTENSION, Oil filler, short (2-3/16") alternate					1							
	75675	EXTENSION, Oil filler, short (2-3/16")			1								1	
4	74065	"O" RING, Oil level gage	1											
5	72312	RING, Oil seal, 1.00 I.D. x 1/8 section					1		1					
6	LW-14779	GAGE ASSY., Oil level (threaded plug)		1	1								1	
	LW-14774	GAGE ASSY., Oil level (threaded plug)									1	1		
	LW-14756	GAGE ASSY., Oil level (threaded plug)		1	1	1	1	1	1	1				1
	LW-14771	GAGE ASSY., Oil level (threaded plug)			1								1	
	LW-14762	GAGE ASSY., Oil level (threaded plug)			1									
	LW-14732	GAGE ASSY., Oil level (cam action)						1						
	LW-14734	GAGE ASSY., Oil level (cam action)										1		
7	70456	BRACKET, Engine mounting (Dynafoal)	4											
	12A19770	BRACKET, Engine mounting (Dynafoal)			4							4		
8	STD-33	WASHER, 3/8 plain	16											
9	STD-678	WASHER, 3/8 lock, internal teeth	16											
10	STD-596	NUT, 3/8-24 plain, 21/64 thick	16											



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Figure 2. OIL LEVEL GAGES AND ENGINE MOUNTING BRACKETS

### CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CRANKCASE RELATED PARTS

FIG. REF. 3	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY						
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B 5	A 3 D 5
1	1028-B	BALL, 11/16 diameter	1							
2	68668 *	SPRING, Oil pressure relief valve	1							
	LW-18085 *	SPRING, Oil pressure relief valve	1							
	77467 *	SPRING, Oil pressure relief valve	1							
	LW-11713 *	SPRING, Oil pressure relief valve	1							
	61084 *	SPRING, Oil pressure relief valve	1							
3	STD-425	WASHER, No. 10 plain (max. 9)	AR							
4	06E19769-1.25	GASKET, 1-1/4 I.D. x 1-1/2 O.D. x 3/32 annular	1							
5	76529	PLUG, Oil relief valve	1							
6	18D19394	BEARING, Crankshaft	6							
	LW-16047	BEARING, Crankshaft (alternate)	6							
	LW-11021	BEARING, Crankshaft (alternate)	6							
7	LW-13884	BEARING, Crankshaft, front.	2							
	18A19441	BEARING, Crankshaft, front (alternate)	2							
8	LW-13792 * *	SEAL, Crankshaft oil, solid	1							
	LW-11997 * *	SEAL, Crankshaft oil, split	1							
9	72075	SEAL, Oil, 3/32 section x 15/32 I.D.	8							
10	72091	RING, Oil seal, 23/64 I.D. x 7/64 dia.	2							
11	72877	BODY, Hydraulic tappet	12							
12	78290	PLUNGER ASSY., Hydraulic tappet	12							
13	78524	SOCKET, Push rod, hydraulic tappet	12							

\* Select spring to give a minimum of three threads exposed on adjusting screw to allow field adjustment. Reference latest edition of SSP-1776, Part 1 for spring identification.

\* \* See latest edition of Service Instruction No. 1324 for application.

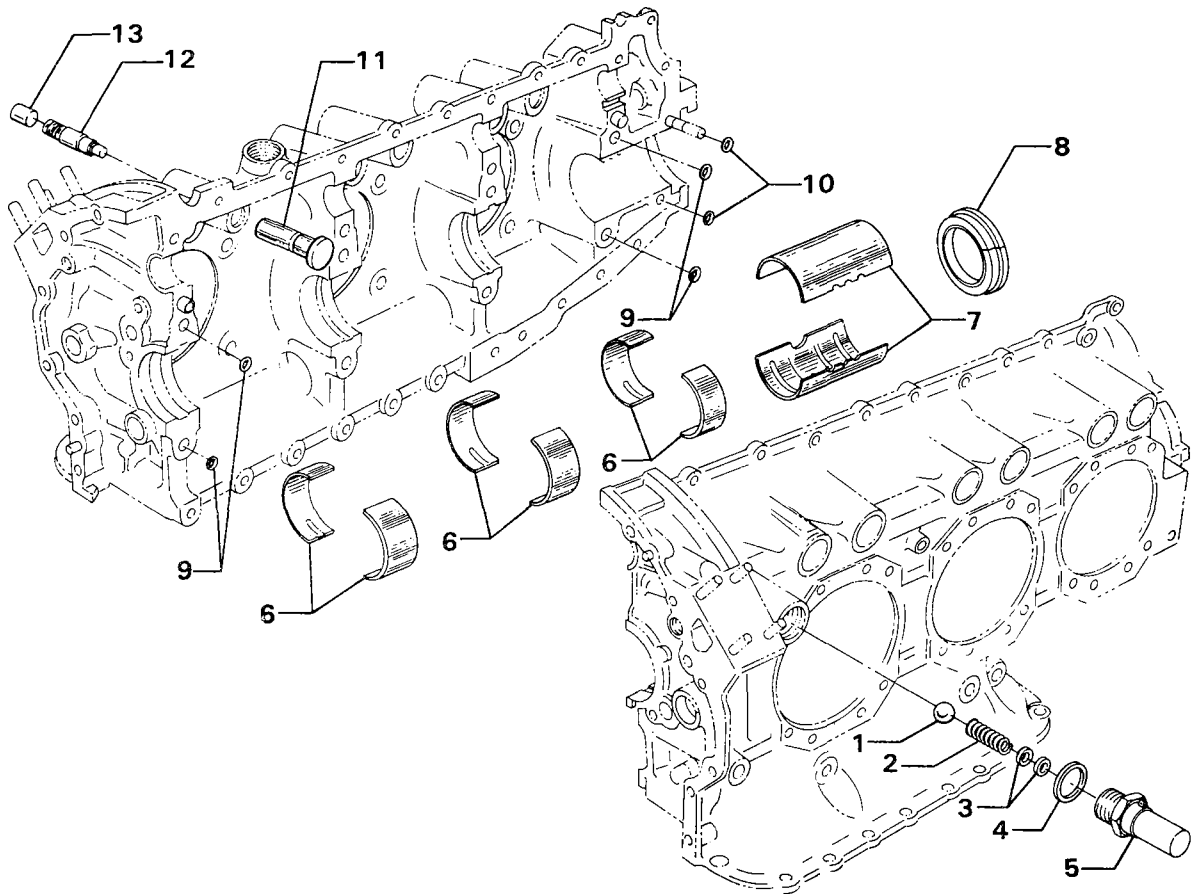
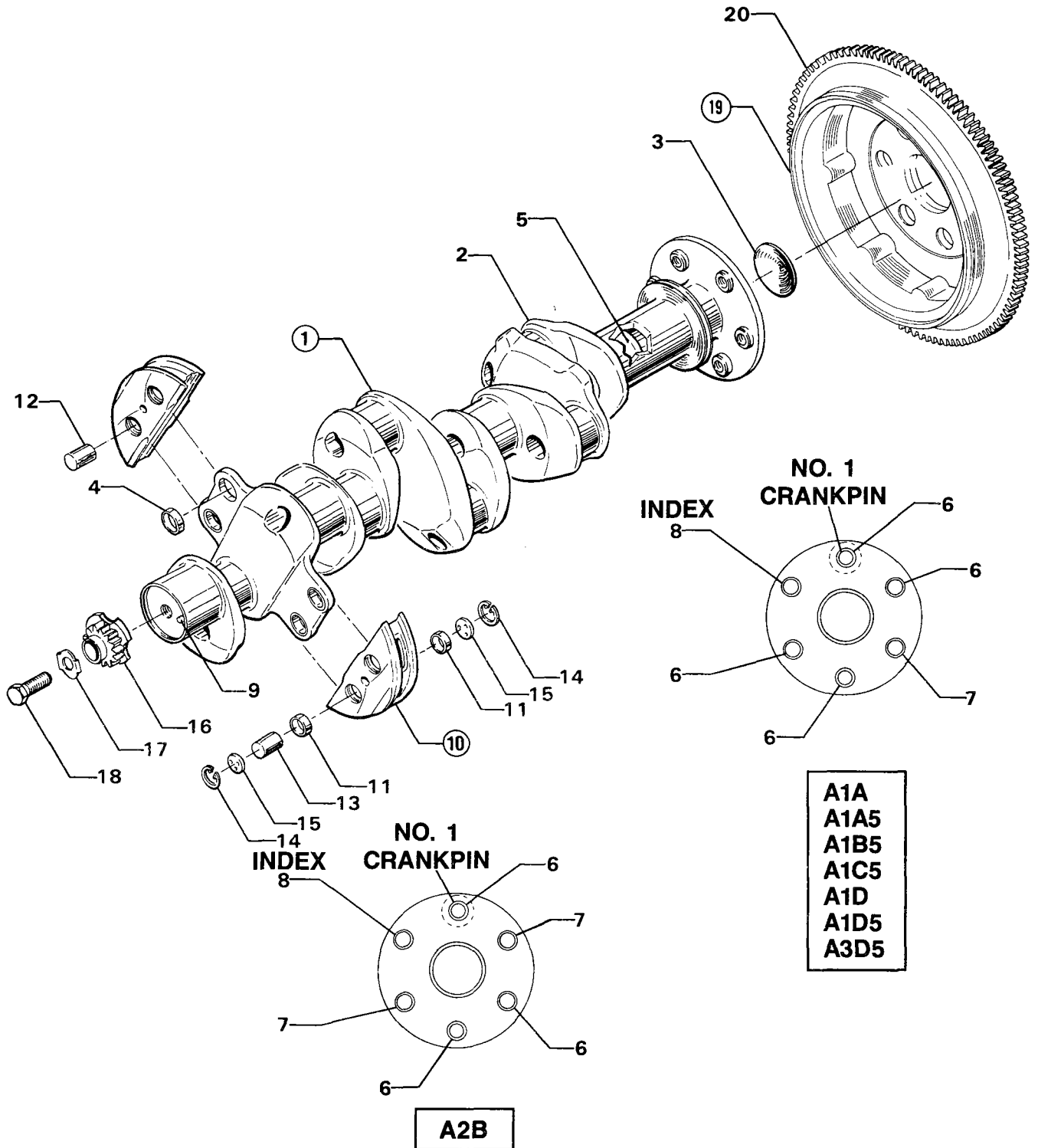


Figure 3. CRANKCASE RELATED PARTS

### CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CRANKSHAFT AND RELATED PARTS

FIG. REF. 4	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY								
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5	
1	13E17674	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY		1	1	1	1		1		1	
	13E17675	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY						1				
	13E17677	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY								1		
2	13E17648	CRANKSHAFT AND PLUG ASSEMBLY		1	1	1	1	1	1	1		1
	13E17649	CRANKSHAFT AND PLUG ASSEMBLY									1	
3	STD-1211	PLUG, 2.00 dia. expansion	1									
4	73810 *	BUSHING, Crankshaft dynamic counterweight	4									
5	71640	PLUG, 1-3/8 diameter	1									
6	72062-S	BUSHING, Propeller flange, long		4	4	4	4	4	4	4	3	4
7	72061-S	BUSHING, Propeller flange, short		1	1	1	1	1	1	1	2	1
8	72060-S	BUSHING, Propeller flange, indexing		1	1	1	1	1	1	1		1
	72074-S	BUSHING, Propeller flange, indexing									1	
9	STD-1065	DOWEL, Stepped, 5/16 x 1/4 dia. x 35/64 long	1									
10	LW-19225 * *	COUNTERWEIGHT ASSEMBLY	2									
11	71903 ★	BUSHING, Dynamic counterweight	8									
12	70416 * *	ROLLER, Dynamic counterweight, 6.3 order		2	2	2	2	4	2	4	2	
13	72022 * *	ROLLER, Dynamic counterweight, 5.1 order		2	2	2	2		2		2	
14	LW-14820	RING, Internal retaining	8									
15	71907	WASHER, Dynamic counterweight	8									
16	13S19647 ●	GEAR, Crankshaft	1									
17	LW-18638	LOCKPLATE, Crankshaft gear	1									
18	STD-2209	BOLT, 5/16-24 x 1-3/4 long, hex. head	1									
19	LW-16064 ‡	SUPPORT ASSY., Starter ring gear, 12/14 pitch		1	1	1	1		1	1		
	78446 ■	SUPPORT ASSY., Starter ring gear, 12/14 pitch		1								
	75221 §	SUPPORT ASSY., Starter ring gear, 12/14 pitch						1				
	77579 ►	SUPPORT ASSY., Starter ring gear, 12/14 pitch					1		1			
	77236 ◄	SUPPORT ASSY., Starter ring gear, 12/14 pitch							1		1	
	LW-11151 ‡‡	SUPPORT ASSY., Starter ring gear, 12/14 pitch										1
	75030 ☆	SUPPORT ASSY., Starter ring gear, 12/14 pitch						1				
20	72566	GEAR, Starter ring	1									

- \* See latest edition of Service Instruction No. 1142 for application.
- \* \* See latest edition of Service Instruction No. 1012 for application.
- ★ See latest edition of Service Instruction No. 1143 for application.
- See latest edition of Service Bulletin No. 475 for application.
- ‡ Provision for 1.91:1 drive.
- Provision for 3.25:1 drive for alternators w/de-icer holes for 3 bladed prop.
- § Provision for 2.50:1 drive with de-icing provision.
- Provision for 3.25:1 drive for alternators w/no de-icing.
- ◄ Provision for 1.91:1 drive with electric de-icing provision.
- ‡‡ Provision for 3.25:1 drive with 3 point liquid de-icing.
- ☆ Provision for 3.25:1 drive for alternators w/de-icing provision.



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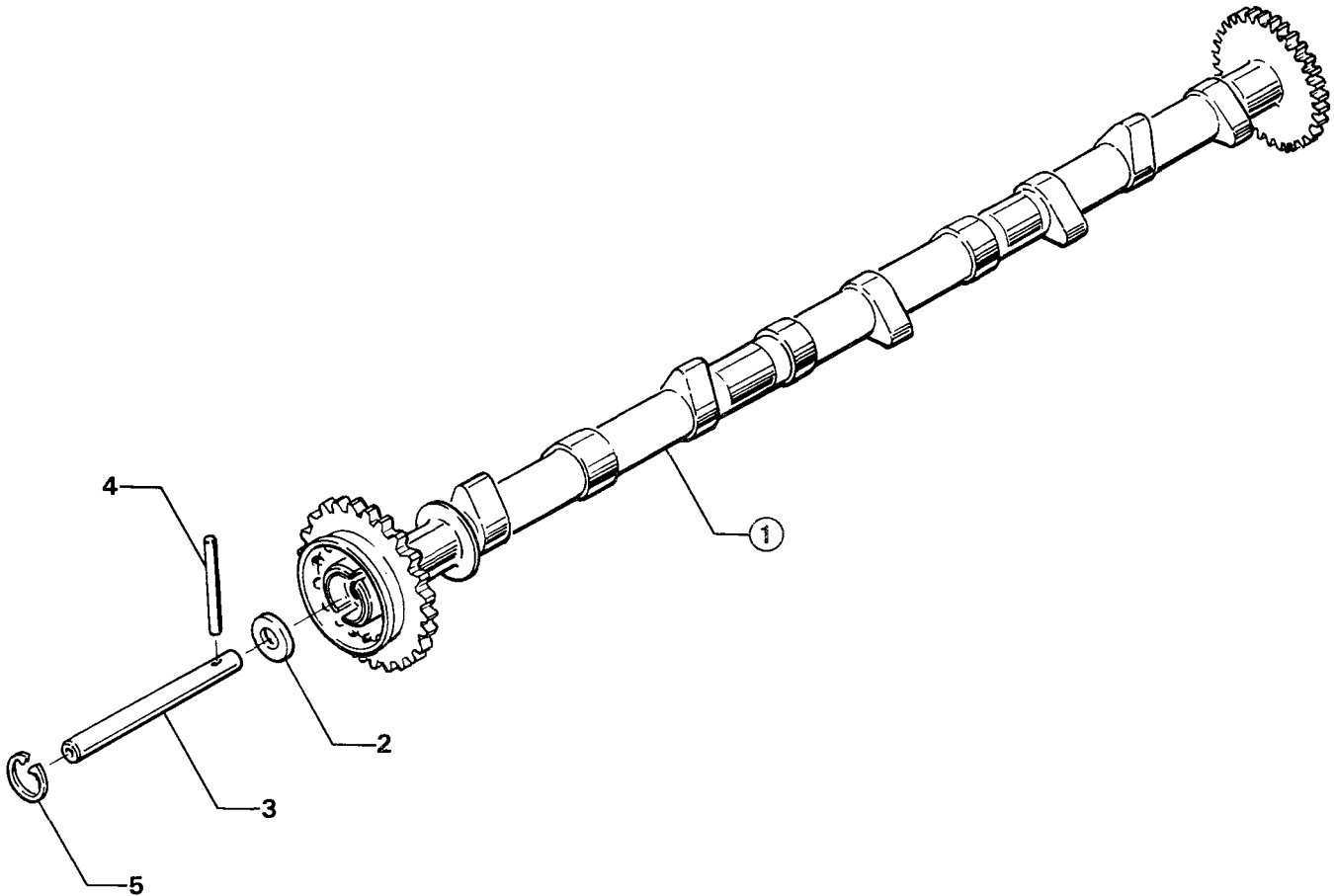
Figure 4. CRANKSHAFT AND RELATED PARTS



### CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CAMSHAFT AND RELATED PARTS

FIG. REF. 5	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY							
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5	
1	LW-19340 *	CAMSHAFT ASSEMBLY	1								
2	76118	SPACER, Tachometer shaft centering	1								
3	76155	SHAFT ASSEMBLY, Tachometer	1								
4	LW-18667	PIN, 3/16 dia. x 2-21/64 long	1								
5	MS16625-1081	RING, Internal retaining	1								

\* Incorporates integral gear.



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Figure 5. CAMSHAFT AND RELATED PARTS

### CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP PROPELLER GOVERNOR DRIVE ASSEMBLY

FIG. REF. 6	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY						
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B	A 3 D 5
1	70389	GEAR, Propeller governor driven	1							
2	70384	SHAFT, Propeller governor idler gear	1							
3	70388	GEAR, Propeller governor idler	1							
4	STD-737	KEY, 3/32 x 1/2, Woodruff	1							
5	73249	WASHER, Thrust	AR							
	73250	WASHER, Thrust	AR							
	73251	WASHER, Thrust	AR							
	73252	WASHER, Thrust	AR							
	01L21418	WASHER, Thrust	AR							
6	70455	GASKET, 25/32 I.D. x 1-1/8 O.D. x 1/32 to 3/64 thick	1							
7	LW-13896	PLUG, 3/4-16 hex. head	1							
8	72053	GASKET, Governor	1							
9	72378	COVER, Governor drive	1							
10	STD-35	WASHER, 5/16 plain (Woodward governor)		20	20		20	20	20	
	STD-35	WASHER, 5/16 plain (AN governor)			4	4		4	4	4
11	STD-475	WASHER, 5/16 lock, internal teeth	4							
12	STD-1410	NUT, 5/16-18 plain	4							

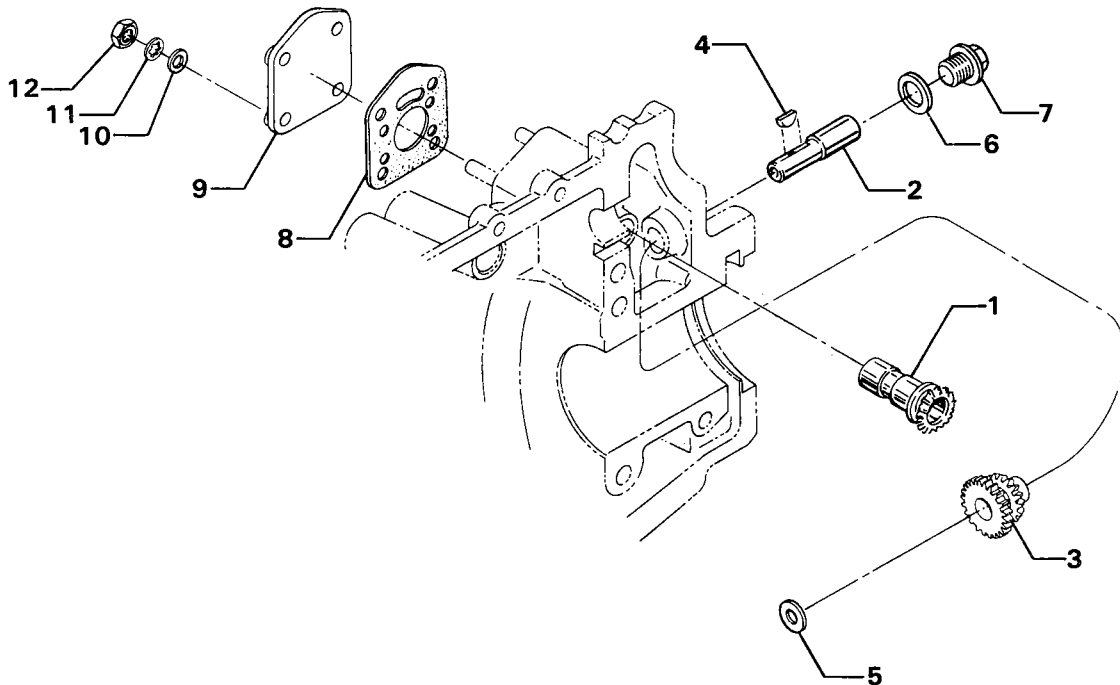
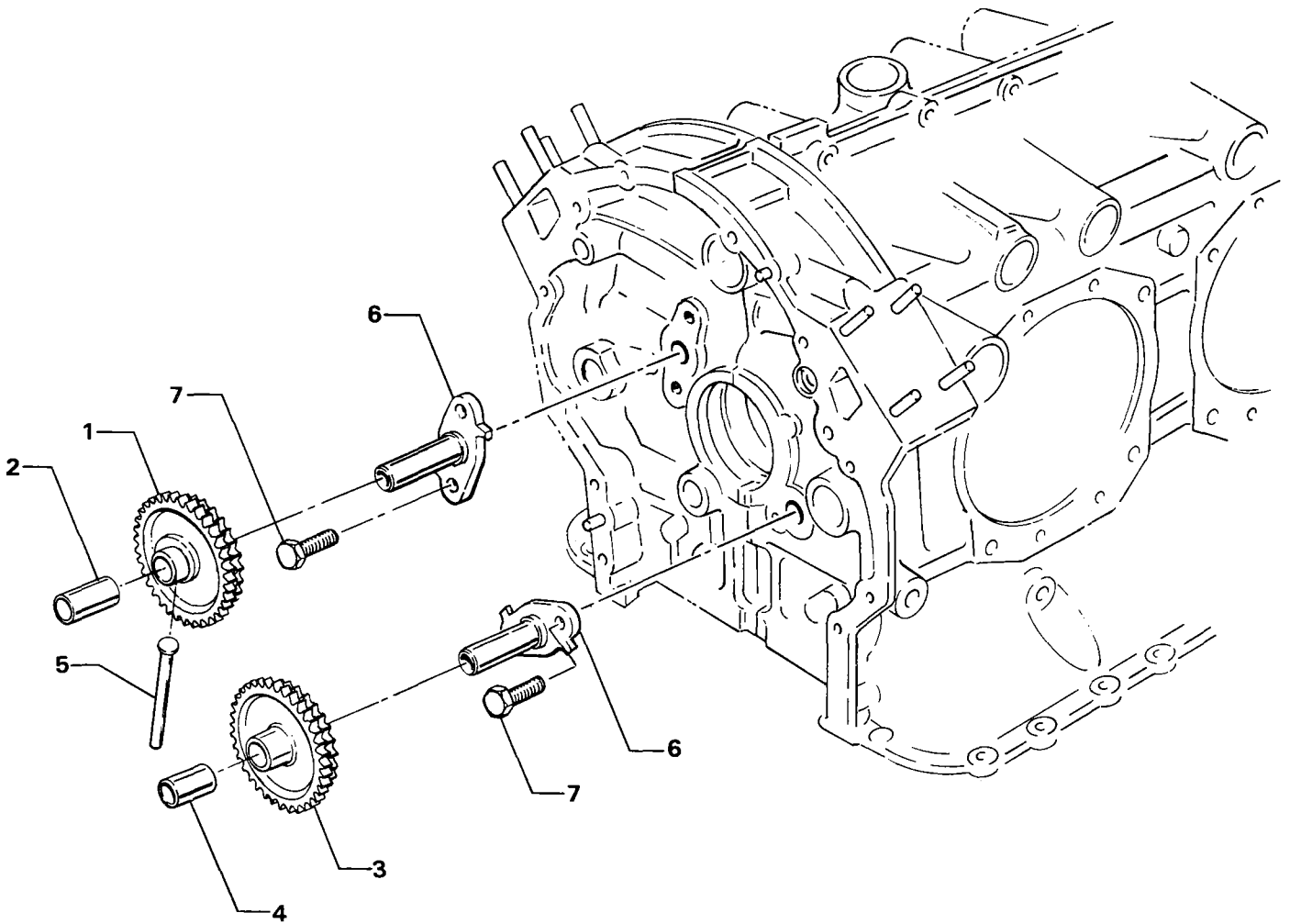


Figure 6. PROPELLER GOVERNOR DRIVE ASSEMBLY

#### CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CRANKSHAFT IDLER GEARS

FIG. REF. 7	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY									
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5		
1	71652	GEAR ASSEMBLY, Crankshaft idler	1										
2	67530	BUSHING, Crankshaft idler gear	1										
3	71668	GEAR ASSEMBLY, Crankshaft idler, plain	1										
4	67530	BUSHING, Crankshaft idler gear	1										
5	61544	PLUNGER, Fuel pump, long	1										
6	LW-13795	SHAFT, Crankshaft idler gear	2										
7	STD-2167	SCREW, 5/16-18 x 7/8 long, hex. hd. dr.	4										



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**Figure 7. CRANKSHAFT IDLER GEARS**

### CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CRANKCASE ATTACHING PARTS

FIG. REF. 8	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY							
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5	
1	60803	STRAP, Lifting	1								
2	AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. head	1								
3	STD-33	WASHER, 3/8 plain	3								
4	STD-678	WASHER, 3/8 lock, internal teeth	2								
5	STD-596	NUT, 3/8-24 plain	2								
6	LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head	11								
7	LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	1								
8	STD-8	WASHER, 1/4 plain	27								
9	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	4								
10	STD-160	WASHER, 1/4 lock, internal teeth	16								
11	STD-1411	NUT, 1/4-20 plain	12								
12	LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. head dr. end	6								
13	STD-8	WASHER, 1/4 plain (18 max.)	AR								
14	STD-1409	NUT, 1/4-20 slotted shear	6								
15	AN6-21	BOLT, 3/8-24 x 2-13/64 long, hex. head drilled	1								
16	STD-33	WASHER, 3/8 plain	2								
17	STD-872	NUT, 3/8-24 slotted	1								

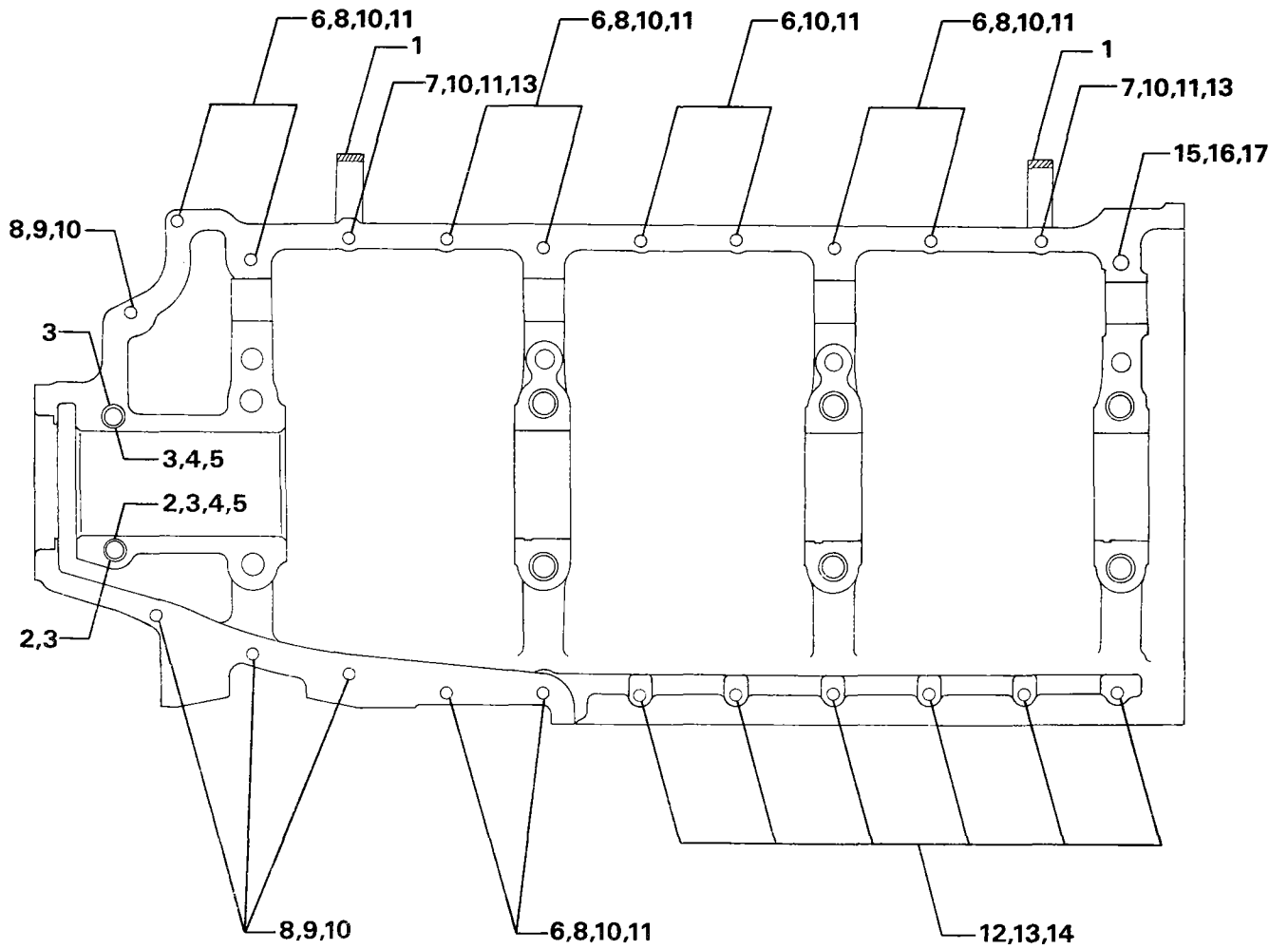


Figure 8. CRANKCASE ATTACHING PARTS

### ACCESSORY HOUSING AND RELATED PARTS

#### ACCESSORY HOUSING ASSEMBLY

FIG. REF. 9	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY							
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B	A 3 D 5	
1	73818	GASKET, Accessory housing	1								
2	76152	HOUSING ASSEMBLY, Accessory	1								
3	31C-12	STUD, 5/16-18 x 1-1/2 long	4								
4	31CD-17	STUD, 5/16-18 x 2-1/8 long, drilled	3								
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	STD-784	PLUG, 3/8 pipe, Allen head	1								
8	1102	PLUG, 1/8-27 NPT, Allen head	2								

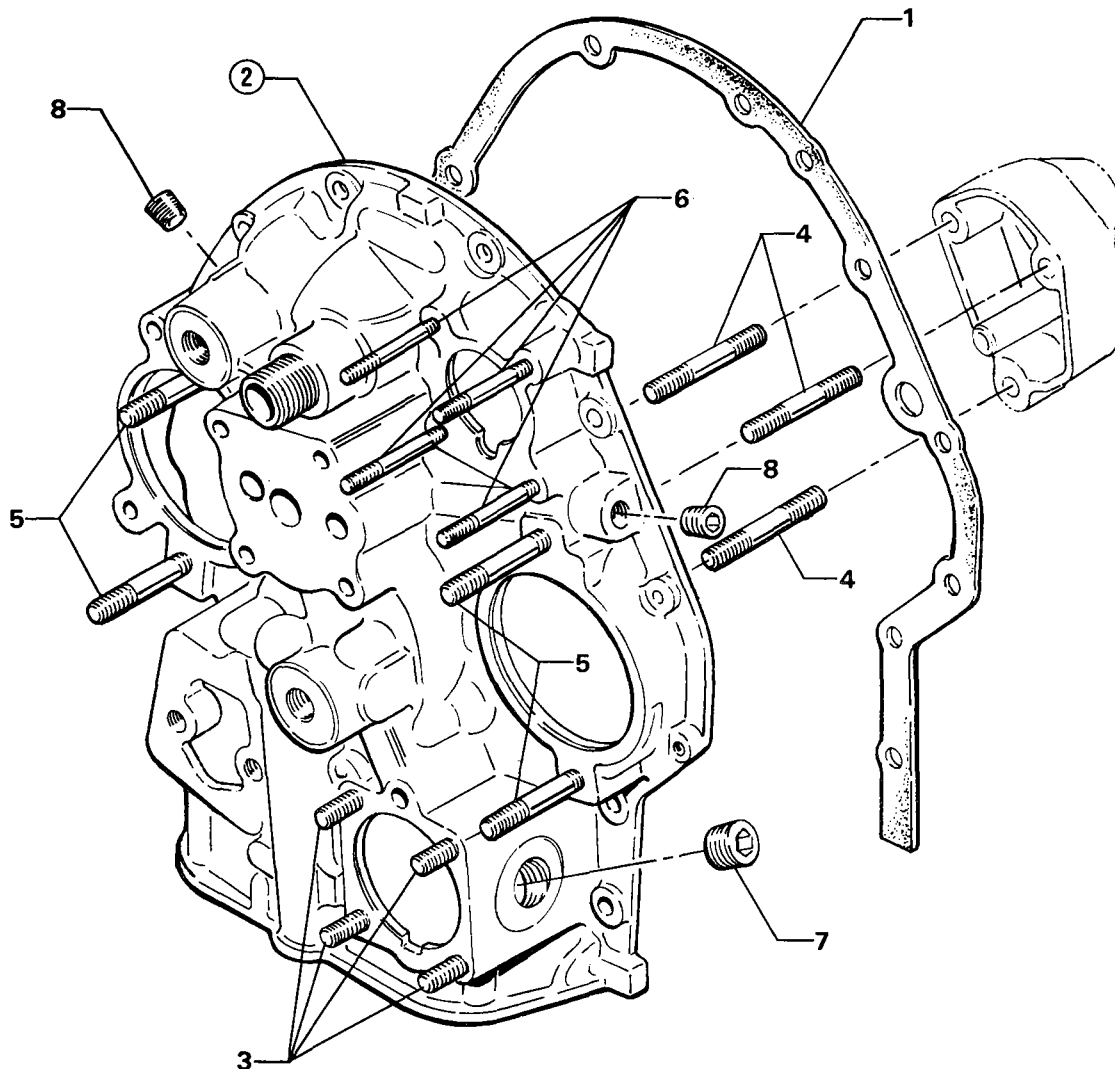
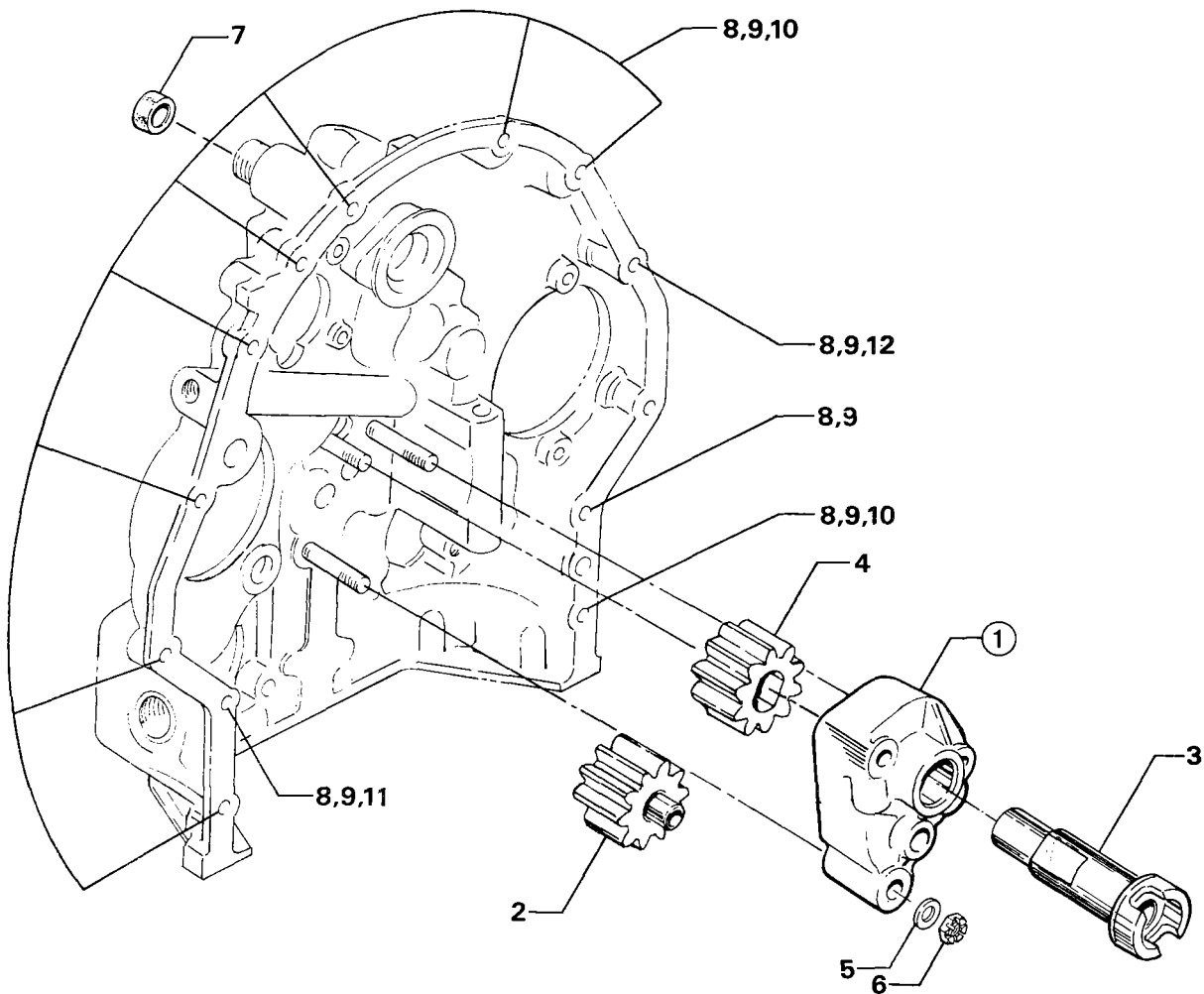


Figure 9. ACCESSORY HOUSING ASSEMBLY

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

FIG. REF. 10	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY									
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5		
1	78531	BODY, Oil pump	1										
2	LW-18110	IMPELLER ASSY., Oil pump driven	1										
3	74641	SHAFT, Oil pump drive	1										
4	LW-18109	IMPELLER, Oil pump driving	1										
5	STD-35	WASHER, 5/16 plain	3										
6	STD-1420	NUT, 5/16-18 slotted	3										
7	LW-14260	SEAL, Oil, tachometer drive	1										
8	STD-8	WASHER, 1/4 plain	10										
9	STD-160	WASHER, 1/4 lock, internal teeth	12										
10	LW-25-0.94	BOLT, 1/4-20 x 15/16 long, hex. head	9										
11	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	1										
12	LW-25-1.88	BOLT, 1/4-20 x 1-7/8 long, hex. head	2										



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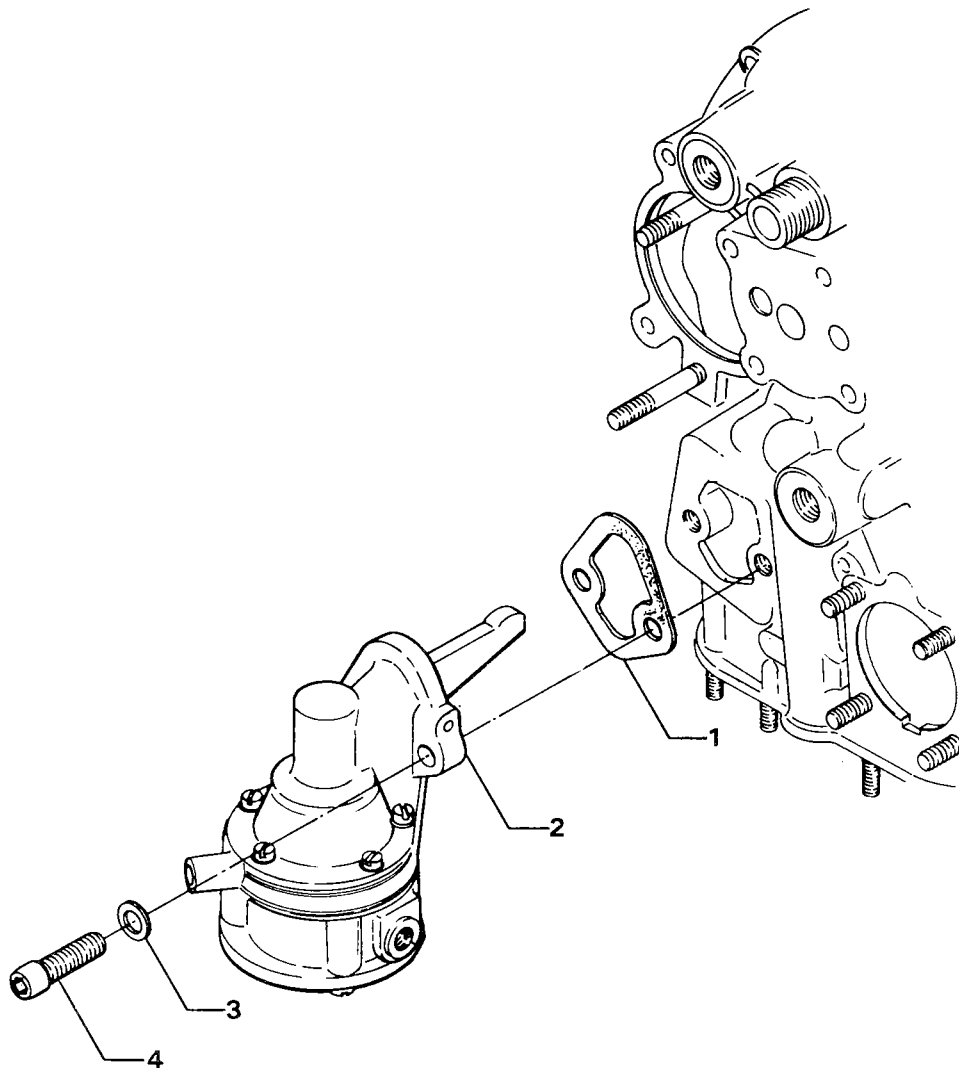
Figure 10. OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS



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### ACCESSORY HOUSING AND RELATED PARTS FUEL PUMP ASSEMBLY AND ATTACHMENTS

FIG. REF. 11	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY							
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5
1	60096	GASKET, Fuel pump	1								
2	LW-15472	FUEL PUMP (6441271)	1								
3	STD-33	WASHER, 3/8 plain	2								
4	STD-1882	SCREW, 3/8-16 x 1-9/32 long, socket hd. dr. hd.	2								



3290

Figure 11. FUEL PUMP ASSEMBLY AND ATTACHMENTS

ACCESSORY HOUSING AND RELATED PARTS  
OIL PRESSURE SCREEN, OIL FILTER AND OIL COOLER BYPASS VALVE

FIG. REF. 12	PART NUMBER	DESCRIPTION	O N	QUANTITY PER ASSEMBLY									
				A 1	A 1	A 1	A 1	A 1	A 1	A 2	A 3		
1	62817	SCREEN ASSY., Oil pressure	1										
2	61173	GASKET, Oil pressure housing	1										
3	68974	HOUSING, Oil pressure screen		1							1		
	69510	HOUSING, Oil pressure screen & thermostatic valve	1										
4	STD-8	WASHER, 1/4 plain	4										
5	STD-1856	SCREW, 1/4-20 x 31/32 to 1.00 long, hex. hd. slotted	4										
6	06E19769-0.63	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular	1										
7	53E19600	VALVE ASSY., Temp. control, oil cooler bypass	1										
8	76510	GASKET, Valve	1										
9	LW-12795	GASKET, Oil filter adapter					1			1			
10	77853*	HOUSING ASSEMBLY, Oil filter					1			1			
11	77852	BASE ASSEMBLY, Oil filter					1			1			
12	LW-13215* *	OIL FILTER, Short (spin on type)								1			
13	STD-8	WASHER, 1/4 plain					4			4			
14	STD-160	WASHER, 1/4 lock, internal teeth					1			1			
15	STD-1411	NUT, 1/4-20 plain					1			1			
16	STD-1856	SCREW, 1/4-20 x 1.00 long, hex. hd. self-locking					3			3			
17	56E19600	VALVE ASSY., Temp. control, oil cooler bypass					1			1			
18	76510	GASKET, Valve					1			1			
19	25C-10	STUD, 1/4-20 x 1-1/4 long					1			1			

\* This complete Oil Filter Housing Assy. is no longer available. Lycoming will continue to supply a Filter Element Kit P/N LW-14089 which includes (1) element, (1) square gasket, (1) copper gasket and (1) flat gasket.

\*\* Reference latest edition of SSP-885 for oil filter kits and replacement filters

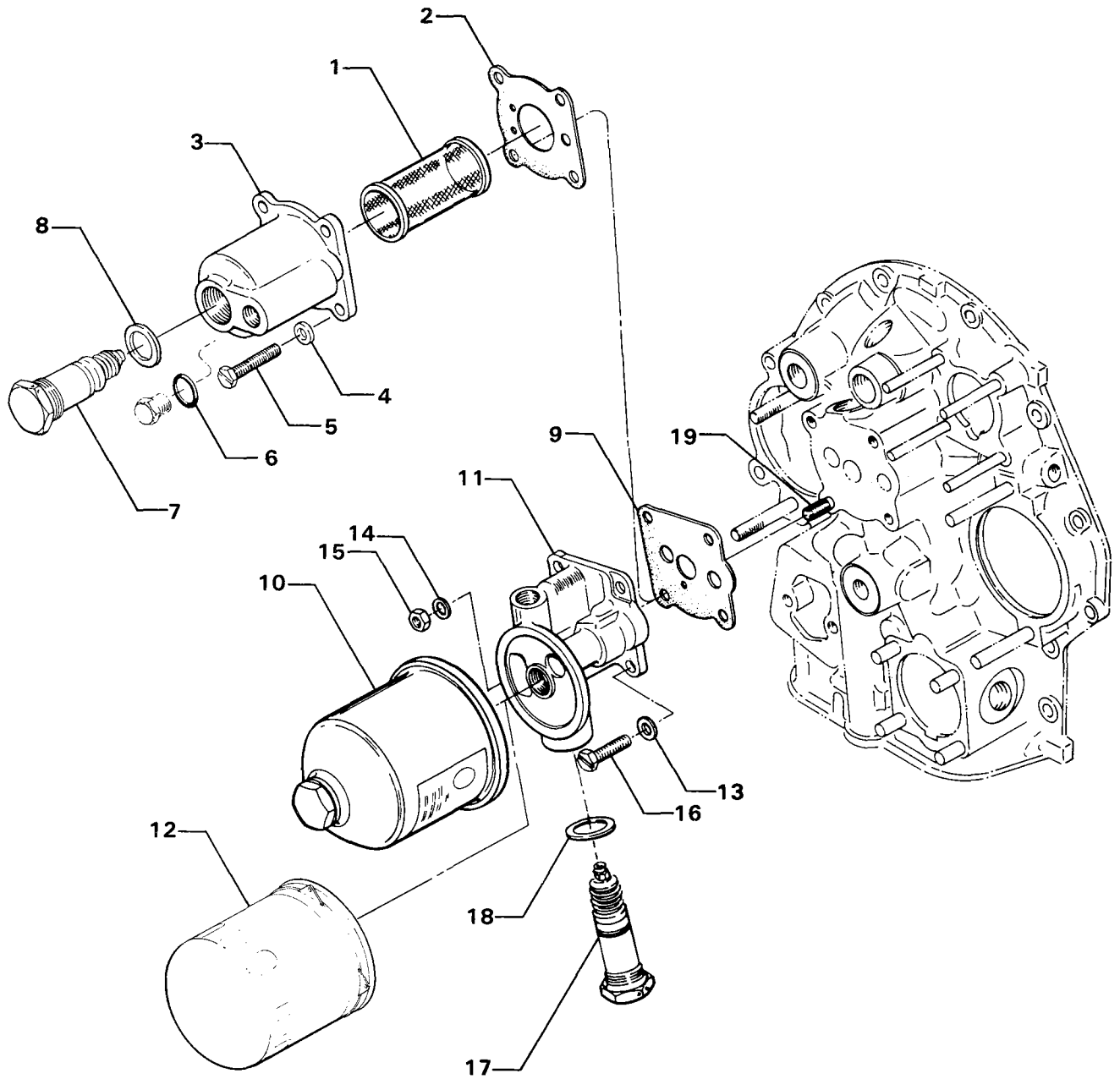


Figure 12. OIL PRESSURE SCREEN, OIL FILTER AND OIL COOLER BYPASS VALVE

### ACCESSORY HOUSING AND RELATED PARTS VACUUM PUMP DRIVE, OIL COOLER AND BREATHER FITTINGS

FIG. REF. 13	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY									
				A 1 A 5	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B 5	A 3 D 5		
1	61183	GASKET, Accessory adapter	1										
2	67536	ADAPTER ASSEMBLY, Vacuum pump	1										
3	STD-1774	DOWEL, 1/8 dia. x 1/4 long	1										
4	06A19956	SEAL, Oil, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide	1										
5	72974	GEAR ASSY., Vacuum pump driven	1										
6	71596	WASHER, Accessory driven gear	1										
7	8313	GASKET, Vacuum pump	1										
8	60430	COVER, Vacuum pump	1										
9	68593	SPACER, Vacuum pump stud			4		4	4					
10	STD-8	WASHER, 1/4 plain	4										
11	STD-160	WASHER, 1/4 lock, internal teeth	4										
12	STD-1411	NUT, 1/4-20 plain	4										
13	69436 *	SPRING, Oil cooler bypass			1							1	
14	62415 *	PLUNGER, Oil cooler bypass			1							1	
15	06E19769-0.63	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32	1										
16	62417	PLUG, Oil cooler bypass			1						1	1	
17	STD-784	PLUG, 3/8-18 NPT Allen pipe, slotted	2										
18	71651	FITTING, Breather (assemble in accessory housing)	1										
19	69675	CONNECTOR, Acc. hsg. to oil cooler inlet hose	1										
20	71600	ADAPTER, Oil cooler connection			1	1	1	1			1		
21	78948	ELBOW, 45°									1		

\* Not used if Temperature Control Bypass Valve P/N 56E19600 is installed.

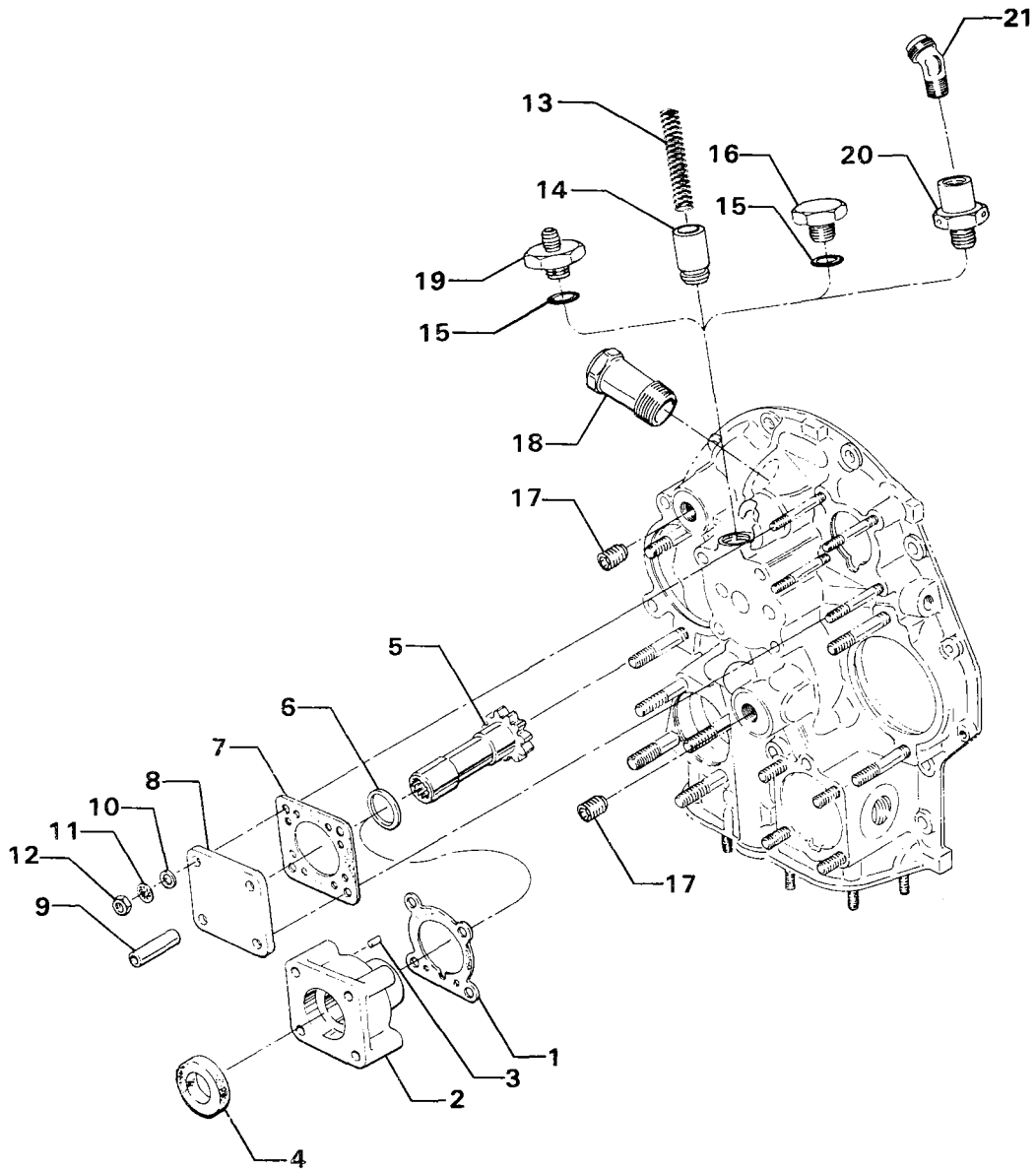
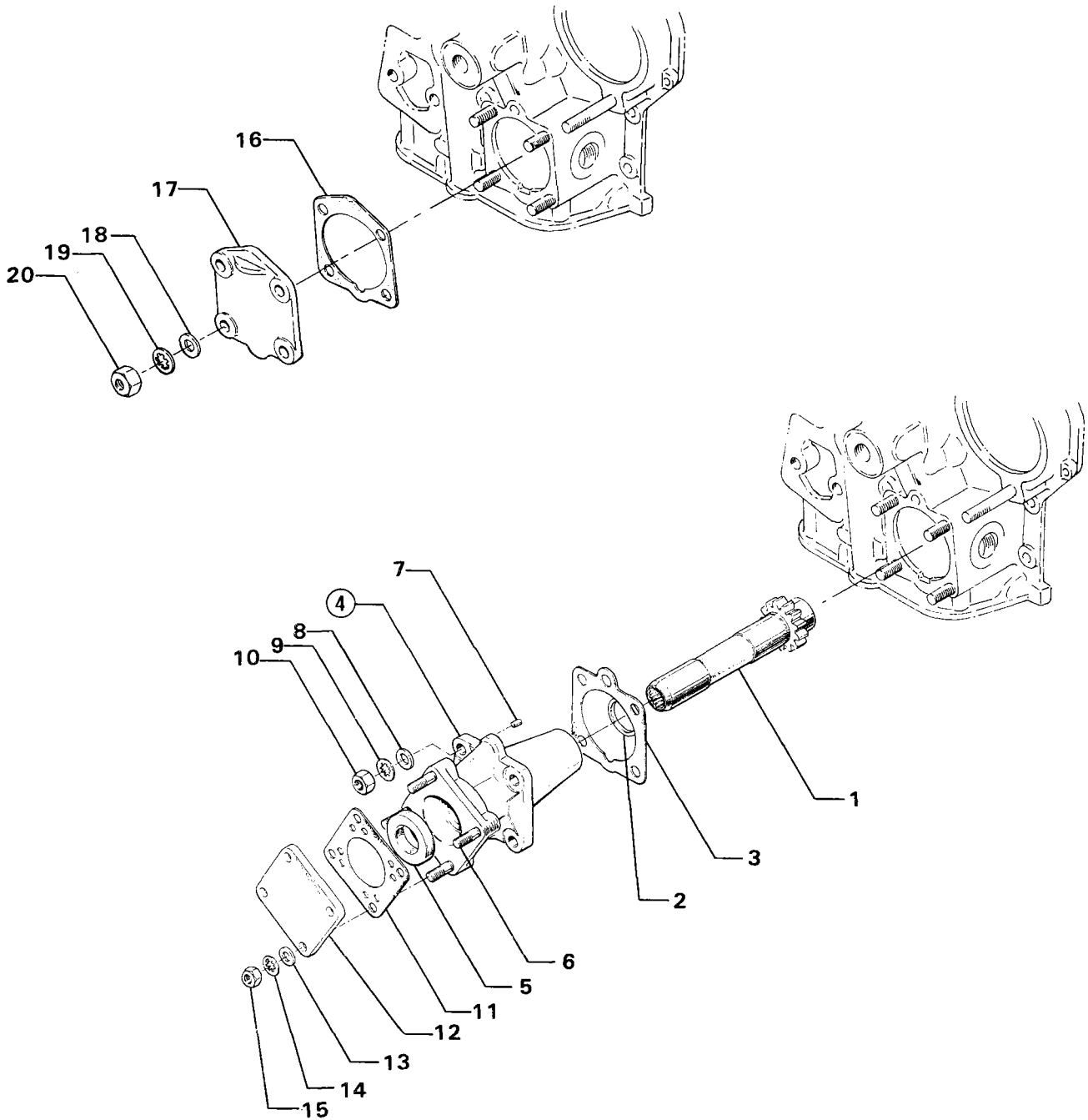


Figure 13. VACUUM PUMP DRIVE, OIL COOLER AND BREATHER FITTINGS

### ACCESSORY HOUSING AND RELATED PARTS HYDRAULIC PUMP DRIVE, COVER AND ATTACHMENTS

FIG. REF. 14	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY								
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5	
1	72964	GEAR ASSY., Hydraulic pump driven		1	1	1				1	1	1
2	71596	WASHER, Accessory driven gear		1	1	1				1	1	1
3	68315	GASKET, Accessory drive adapter		1	1	1				1	1	1
4	71675	ADAPTER ASSY., Hydraulic pump		1	1	1				1	1	1
5	06A19956	SEAL, Oil, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide		1	1	1				1	1	1
6	25C-12	STUD, 1/4-20 x 1-1/2 long		4	4	4				4	4	4
7	STD-1774	PIN, 1/8 dia. x 1/4 long		1	1	1				1	1	1
8	STD-35	WASHER, 5/16 plain		4	4	4				4	4	4
9	STD-475	WASHER, 5/16 lock, internal teeth		4	4	4				4	4	4
10	STD-1410	NUT, 5/16-18 plain		4	4	4				4	4	4
11	8313	GASKET, Pump		1	1	1				1	1	1
12	60430	COVER, Pump		1	1	1				1	1	1
13	STD-8	WASHER, 1/4 plain		4	4	4				4	4	4
14	STD-160	WASHER, 1/4 lock, internal teeth		4	4	4				4	4	4
15	STD-1411	NUT, 1/4-20 plain		4	4	4				4	4	4
16	69551	GASKET, Hydraulic pump adapter pad	1									
17	69106	COVER, Hydraulic pump adapter pad	1									
18	STD-35	WASHER, 5/16 plain	4									
19	STD-475	WASHER, 5/16 lock, internal teeth	4									
20	STD-1410	NUT, 5/16-18 plain	4									



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Figure 14. HYDRAULIC PUMP DRIVE, COVER AND ATTACHMENTS



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

FIG. REF. 15	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY								
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5	
1	LW-11750	CONNECTING ROD ASSEMBLY	6									
2	LW-13923	BUSHING, Connecting rod, upper	6									
3	75061	BOLT, Connecting rod	12									
4	LW-12186	NUT, Connecting rod bolt	12									
5	LW-13521	BEARING, Connecting rod	12									
	LW-16048	BEARING, Connecting rod (alternate)	12									
	LW-13522	BEARING, Connecting rod (alternate)	12									
6	75089	PISTON, Compression ratio 8.50:1	6									
7	LW-14078	PIN, Piston	6									
8	60828	PLUG, Piston pin	12									
9	74241	RING, Piston, top compression	12									
10	73857	RING, Piston, oil regulating (expander type)	6									

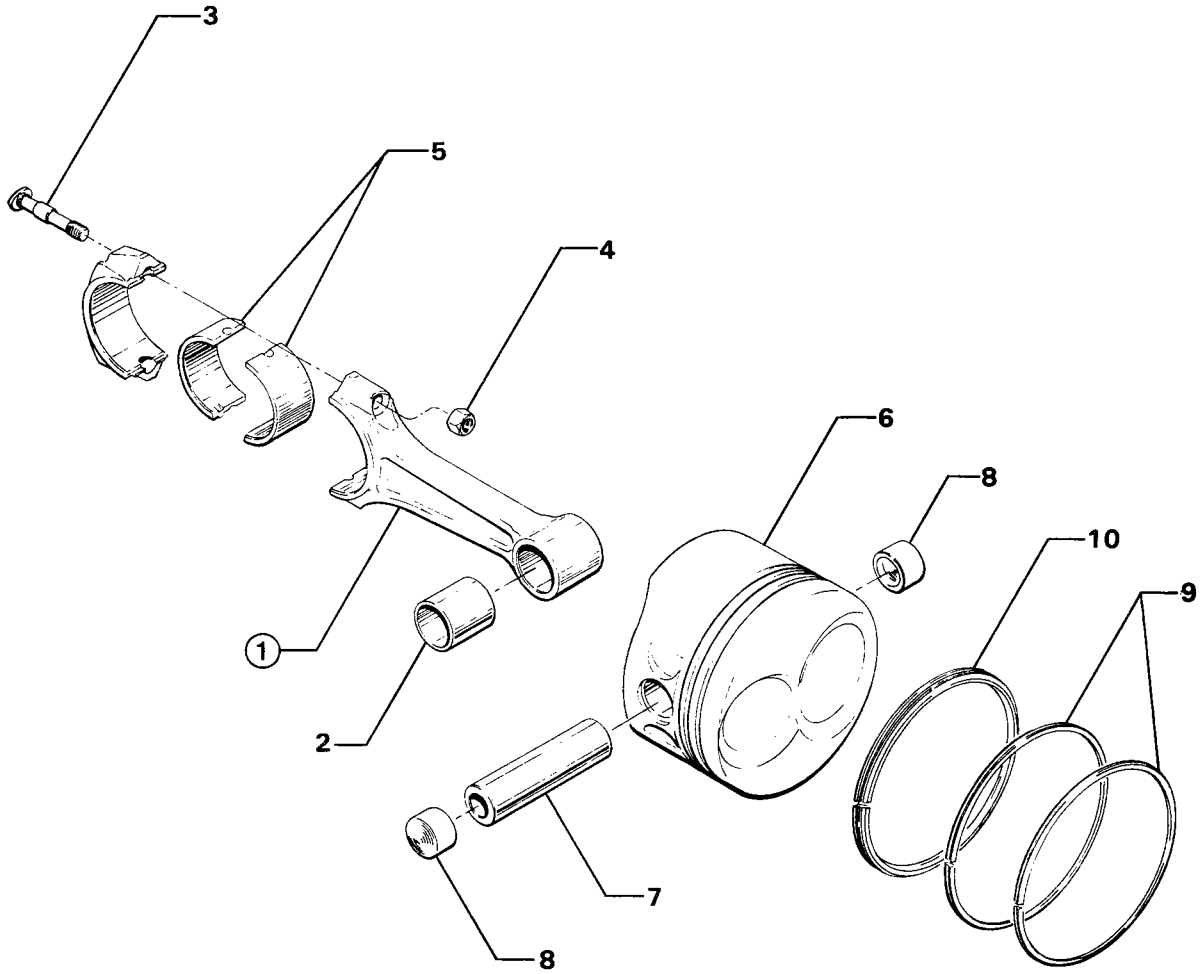
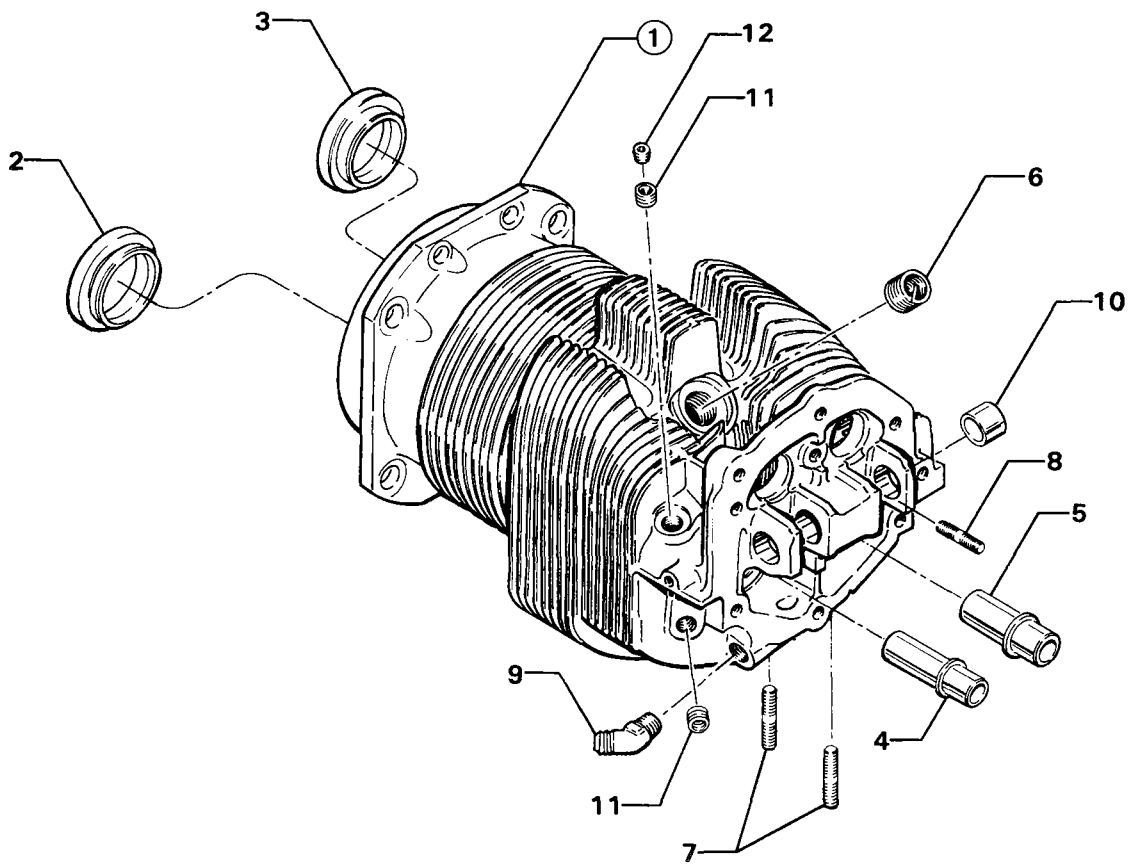


Figure 15. CONNECTING RODS, PISTONS AND RING ASSEMBLIES

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

FIG. REF. 16	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY								
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B 5	A 3 D 5		
1	LW-12425	CYLINDER AND HEAD ASSEMBLY (Nitrided)	6									
2	72057	SEAT, Intake valve	6									
3	72058	SEAT, Exhaust valve	6									
4	61681	GUIDE, Intake valve	6									
5	74230	GUIDE, Exhaust valve	6									
6	66796	INSERT, Spark plug, 18-1.5 MM	12									
7	31C-12	STUD, 5/16-18 x 1-1/2 long	12									
8	25C-9	STUD, 1/4-20 x 1-1/8 long	6									
9	MS20823-6D	ELBOW, 3/8 flared tube	6									
10	66610	BUSHING, Rocker shaft	24									
11	STD-1872	INSERT, 1/8-27 Heli-coil, taper pipe thread	12									
12	1102 *	PLUG, 1/8 pipe x 3/8 long	6									

\* Assemble in cylinder head.

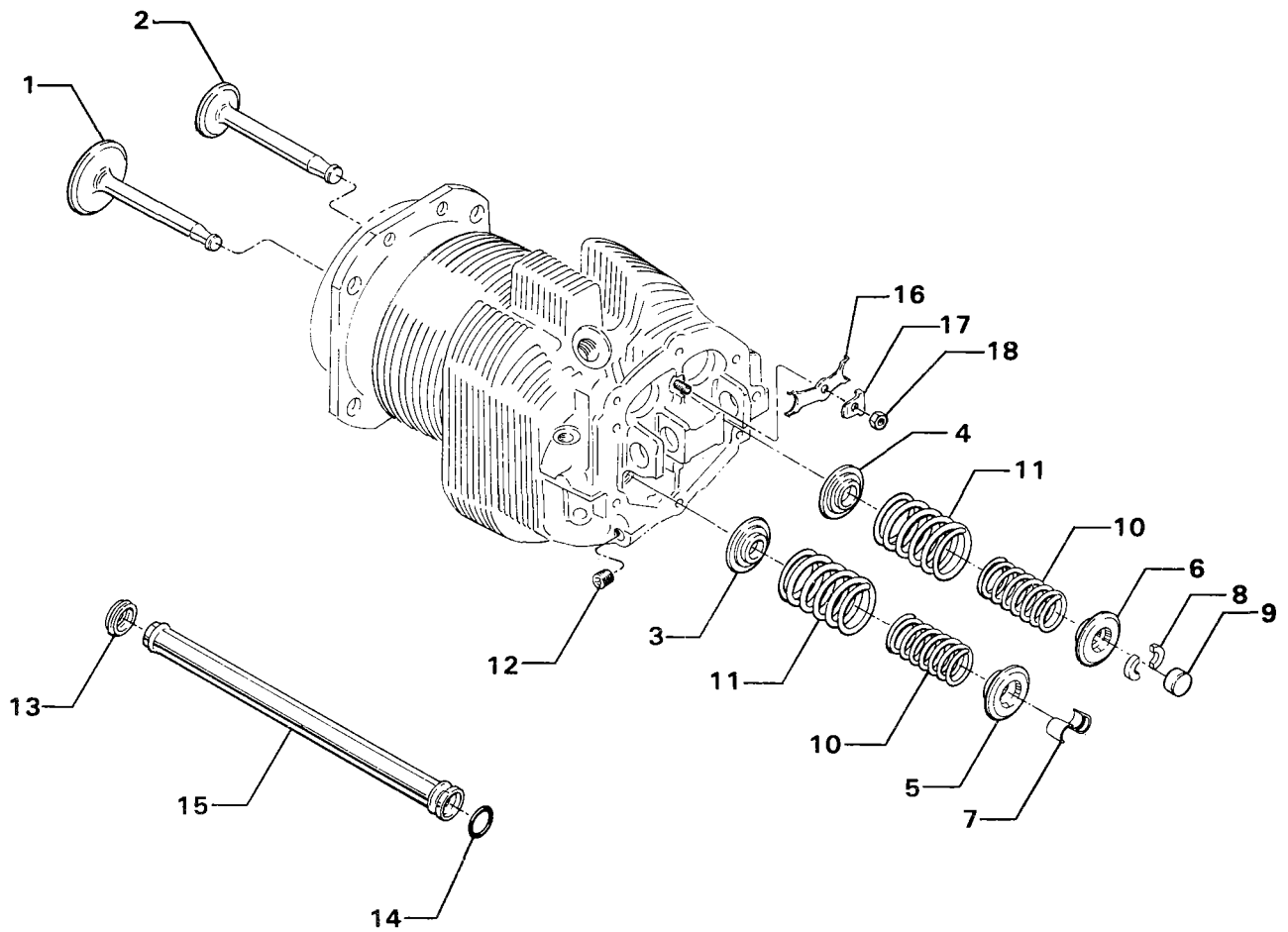


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Figure 16. CYLINDER ASSEMBLY

### CYLINDER, PISTON AND VALVE TRAIN VALVE ASSEMBLY AND RELATED PARTS

FIG. REF. 17	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY							
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B 5	A 3 D 5	
1	73938	VALVE, Intake	6								
2	LW-19001	VALVE, Exhaust (rotator type)	6								
3	65441	SEAT, Valve spring, lower intake	6								
4	LW-13323	SEAT, Valve spring, lower exhaust	6								
5	LW-10077	SEAT, Valve spring, upper intake	6								
6	LW-16475	SEAT, Valve spring, upper exhaust (rotator type)	6								
7	60009	KEY, Valve, intake	12								
8	17C21191	KEY, Valve, exhaust (rotator type)	12								
9	17C19386	CAP, Valve stem, exhaust (rotator type)	6								
10	LW-11795	SPRING, Valve, auxiliary	12								
11	LW-11800	SPRING, Valve, outer	12								
12	1102	PLUG, 1/8 pipe x 3/8 long	2								
13	LW-18661	SEAL, Shroud tube	12								
14	70310	SEAL, Shroud tube	12								
15	LW-11485	TUBE, Push rod shroud	12								
16	LW-14995	SPRING, Shroud tube	6								
17	LW-12272	LOCKPLATE, Shroud tube	6								
18	STD-1411	NUT, 1/4-20 plain	6								



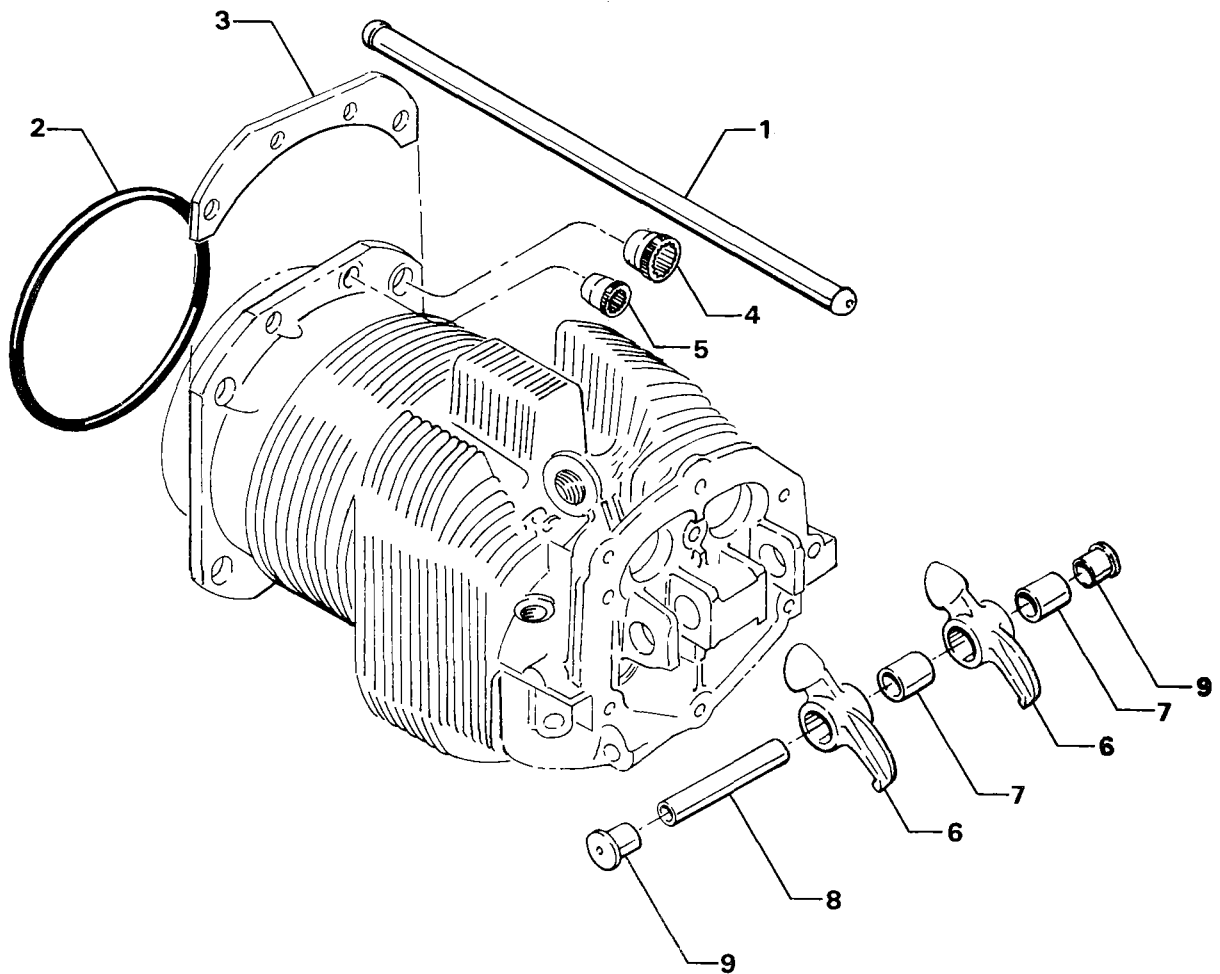
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Figure 17. VALVE ASSEMBLY AND RELATED PARTS

**CYLINDER, PISTON AND VALVE TRAIN**  
**CYLINDER RELATED PARTS**

FIG. REF. 18	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY								
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B 5	A 3 D 5		
1	73434 *	ROD ASSEMBLY, Push (total of 12 required)	AR									
	15F19957-35 *	ROD ASSEMBLY, Push (total of 12 required)	AR									
	15F19957-36 *	ROD ASSEMBLY, Push (total of 12 required)	AR									
	73437 *	ROD ASSEMBLY, Push (total of 12 required)	AR									
2	71481	RING, Oil seal, 3/32 dia. section x 4-27/32 I.D.	6									
3	69531	PLATE, Cylinder hold down nut	12									
4	71133	NUT, 1/2-20 NF-3, cylinder hold down	24									
5	71134	NUT, 3/8-24 NF-3, cylinder hold down	24									
6	17F19353	ROCKER ASSEMBLY, Valve	12									
7	74637	BUSHING, Valve rocker	12									
8	LW-13790	SHAFT, Valve, rocker	6									
9	LW-12892	THRUST BUTTON, Rocker shaft	12									

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



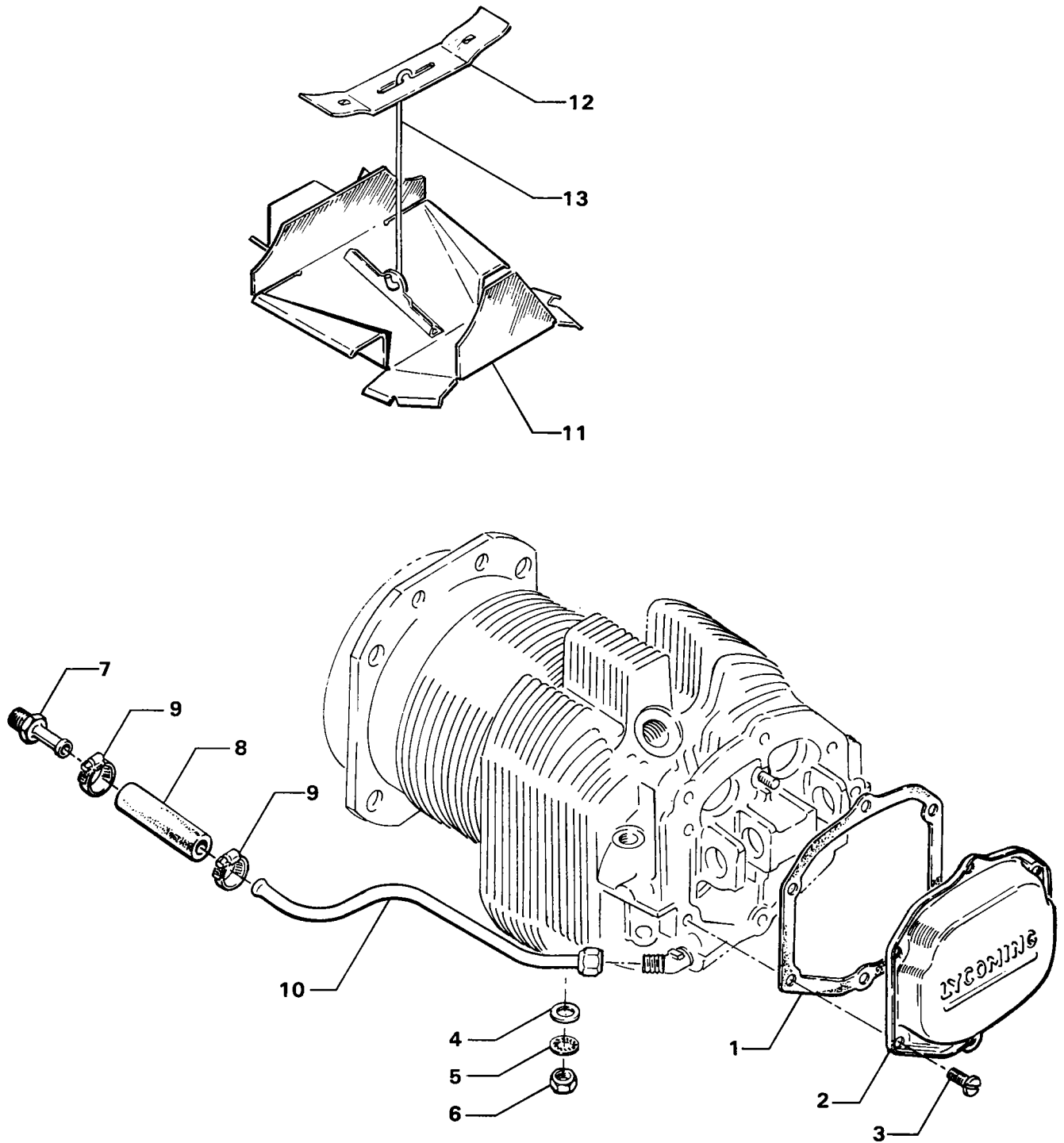
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Figure 18. CYLINDER RELATED PARTS



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

FIG. REF. 19	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY									
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5		
1	75906	GASKET, Rocker box cover	6										
2	61247	COVER, Rocker box	6										
3	STD-1925	SCREW, 1/4-20 x 5/8 long, pan hd., self-locking	36										
4	STD-35	WASHER, 5/16 plain	12										
5	STD-475	WASHER, 5/16 lock, internal teeth	12										
6	STD-1410	NUT, 5/16 plain	12										
7	STD-684	NIPPLE, Straight, 3/8 I.D. hose	6										
8	STD-1821	HOSE, 3/8 I.D. x 2-1/2 long	6										
9	LW-15592-5-05	CLAMP, Hose	12										
10	68759	TUBE ASSY., Cylinder head oil drain, cyl. no. 1	1										
	71737	TUBE ASSY., Cylinder head oil drain, cyl. no. 2	1										
	68761	TUBE ASSY., Cylinder head oil drain, cyl. nos. 3, 4, 5, 6	4										
11	72152	BAFFLE ASSY., Intercylinder	4										
12	71611	RETAINER, Intercylinder baffle	4										
13	71610	HOOK, Intercylinder baffle retainer	4										



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Figure 19. CYLINDER HEAD DRAIN TUBES, INTERCYLINDER COOLING BAFFLES AND RELATED PARTS

### IGNITION SYSTEM BENDIX MAGNETOS AND MAGNETO DRIVES

FIG. REF. 20	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY										
				A 1 A 5	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5			
1	LW-13641	CUSHION, Magneto drive	4											
2	62224	GASKET, Magneto adapter	4											
	62224	GASKET, Magneto adapter								2				
3	LW-12707	ADAPTER, Magneto	2											
4	LW-12681	GASKET, Magneto								2				
5	73000	COUPLING, Magneto drive		1	1	1			1	1	1	1		
	73013	COUPLING, Magneto drive (retard)							1	1		1		
6	LW-19096	GEAR RETAINER ASSEMBLY		2	2	2			2	2	2	2		
7	67542	BEARING, Ball		2	2	2			2	2	2	2		
8	LW-19096 *	GEAR RETAINER ASSEMBLY				1	1							
9	67542 *	BEARING, Ball				1	1							
10	LW-19100 *	GEAR RETAINER ASSEMBLY				1	1							
11	67542 *	BEARING, Ball				1	1							
12	LW-51365-47	MAGNETO, Bendix, impulse coupling (S6LN-21)				2	2							
	LW-163050-9	MAGNETO, Bendix (S6LN-204)				1			1	1		1		
	LW-163010-10	MAGNETO, Bendix, retard breaker (S6LN-200)				1			1	1		1		
	LW-51365-46	MAGNETO, Bendix (S6LN-20)		1	1	1						1		
	LW-51365-47	MAGNETO, Bendix, impulse coupling (S6LN-21)		1	1	1						1		
	LW-349290-1	MAGNETO, Bendix (S6LN-1208)									1			
	LW-349310-1	MAGNETO, Bendix (S6LN-1209)									1			
13	STD-1727	WASHER, 3/4 O.D. x 21/64 I.D. x 1/8	4											
14	STD-475	WASHER, 5/16 lock, internal teeth	4											
15	STD-1410	NUT, 5/16-18 plain	4											
16	66M19385	CLAMP, Magneto									4			

\* Used with two S6LN-21 Impulse Magnetos.

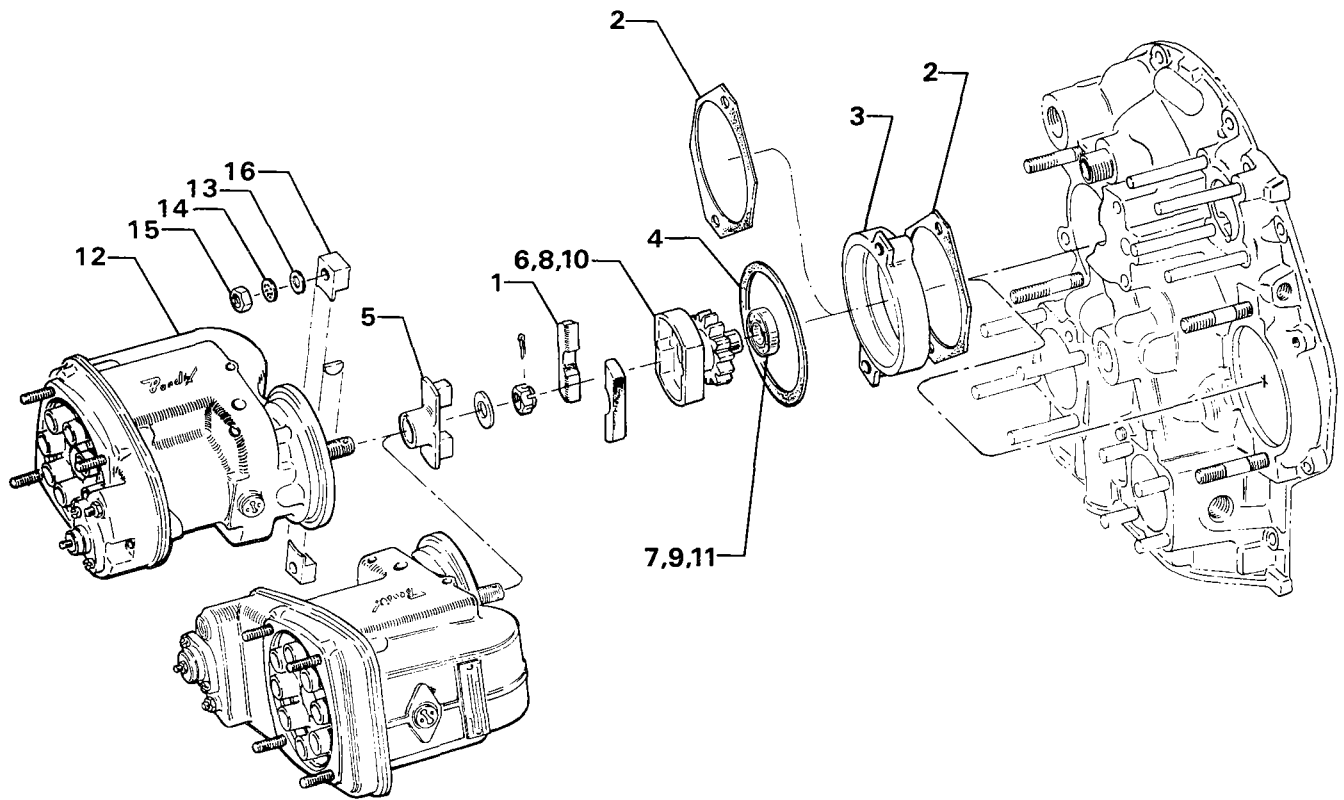


Figure 20. BENDIX MAGNETOS AND MAGNETO DRIVES

### IGNITION SYSTEM IGNITION HARNESSES AND ATTACHMENTS FOR BENDIX MAGNETOS

FIG. REF. 21	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY								
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D	A 5	
1	LW-M-2469 *	HARNESS ASSY., Magneto, left		1	1	1	1		1		1	
	LW-M-2470 *	HARNESS ASSY., Magneto, right		1	1	1	1		1		1	
	LW-M-2457	HARNESS ASSY., Magneto, left (1200 series)							1			
	LW-M-2458	HARNESS ASSY., Magneto, right (1200 series)							1			
	LW-M-2463	HARNESS ASSY., Magneto, left		1	1	1	1	1	1	1	1	
	LW-M-2464	HARNESS ASSY., Magneto, right		1	1	1	1	1	1	1	1	
2	LW-M-2376	PLATE, Spark plug cable	2									
3	72351	SCREW, No. 10-32 self-locking	8									
4	LW-18959-175-25	CLAMP, 1-3/4 I.D., offset	6									
5	LW-16266-25-25	CLIP, One wire for 1/4 screw							2			
6	LW-14060	CLIP, Two wire for 1/4 screw							2			
7	LW-16266-10-63	CLIP, Six wire for no. 10 screw							1			
8	LW-16266-25-44	CLAMP, Three wire		2	2	2	2	2	5	2	2	
9	STD-553	SCREW, No. 6-32 x 1/2 long	6									
10	AN365-632A	NUT, No. 6-32 self-locking	6									
11	STD-692	SCREW, No. 10-32 x 1/2 long							4			
12	STD-670	NUT, No. 10-32 self-locking							4			
13	72815	BRACKET, Twist							4			
14	STD-8	WASHER, 1/4 plain							10			
15	STD-160	WASHER, 1/4 lock							5			
16	STD-696	WASHER, 1/4 plain							AR			
17	STD-1874	SCREW, 1/4-20							5			
18	76734	ZIP STRAP							11			
19	1182-B3 **	SPARK PLUG (Champion REM-40E)	12									
	1182-Q5 **	SPARK PLUG (Auburn SR93)						12				

\* Used for parallel valve and Piper long top leads.

\*\* See latest edition of Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs.

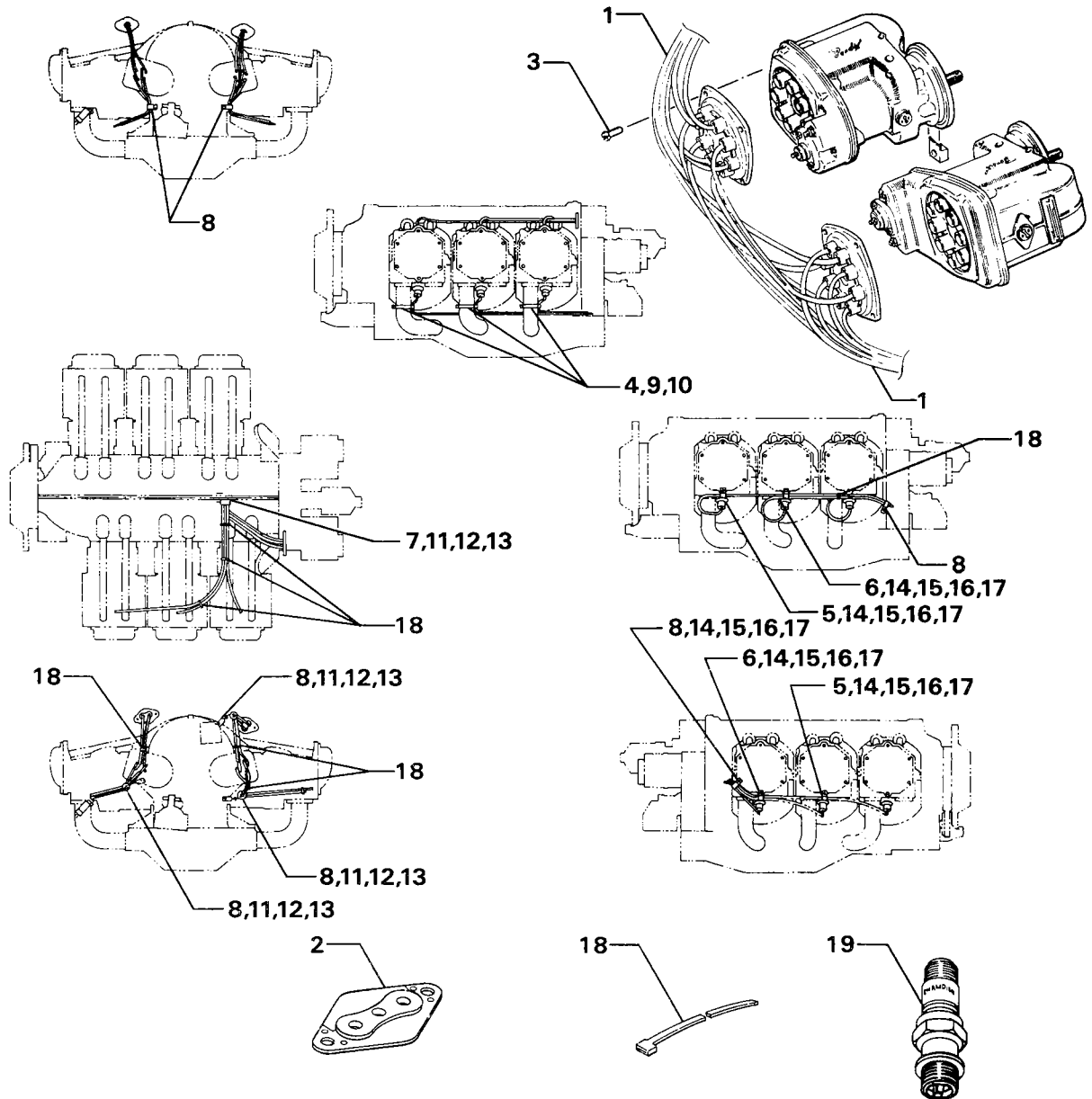


Figure 21. IGNITION HARNESSES AND ATTACHMENTS FOR BENDIX MAGNETOS

### IGNITION SYSTEM

SLICK MAGNETOS, HARNESSSES, DRIVES AND SPARK PLUGS

FIG. REF. 22	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY							
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B 5	A 3 D 5	
1	73000	COUPLING, Magneto drive		1	1	1				1	
2	LW-13641	CUSHION, Magneto drive		4	4	4	4			4	
3	62224	GASKET, Magneto adapter		2	2	2	2			2	
4	LW-12707	ADAPTER, Magneto, impulse coupling		2	2	2	2			2	
5	LW-12681	GASKET, Magneto	2								
6	STD-713	PIN, Cotter, 3/32 x 3/4 long	2								
7	66JC45SDNN ★	MAGNETO, Right and Left (6255) impulse coupling				2	2				
	66JP-0SCNN ★	MAGNETO, Right (6250) plain		1	1	1		1	1	1	1
	66JC45SDNN ★	MAGNETO, Left (6255) impulse coupling		1	1	1				1	
	66JR37SCNN ★	MAGNETO, Left (6293) retard				1		1	1		1
8	67U20612	HARNESS ASSY., Ignition, right (M-2956)		1	1	1	1	1	1	1	
	67U20608	HARNESS ASSY., Ignition, right (M-2878)				1			1		1
	67U20630	HARNESS ASSY., Ignition, right (M-6026)							1		
9	67U20609	HARNESS ASSY., Ignition, left (M-2877)		1	1	1	1		1	1	1
	67U20613	HARNESS ASSY., Ignition, left (M-6027)						1	1		
	67U20631	HARNESS ASSY., Ignition, left (M-6025)							1		
10	76734	ZIP STRAP	AR								
11	66M21195	CLAMP, Magneto	4								
12	STD-475	WASHER, 5/16 lock, internal teeth	4								
13	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick	4								
14	STD-1410	NUT, 5/16-18 plain	4								
15	1182-B3 *	SPARK PLUG (Champion REM-40E)	12								
	1182-Q5 *	SPARK PLUG (Auburn SR93)					12				
16	LW-19096	GEAR RETAINER ASSEMBLY	2								
17	67542	BEARING, Ball	2								
18	LW-19096 * *	GEAR RETAINER ASSEMBLY				1	1				
19	67542 * *	BEARING, Ball				1	1				
20	LW-19100 * *	GEAR RETAINER ASSEMBLY				1	1				
21	67542 * *	BEARING, Ball				1	1				

\* See latest edition of Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs.

\* \* Used when two S6LN-21 Impulse Magnetos are installed.

★ See latest edition of Service Instruction No. 1443 for complete listing of approved Slick Magnetos.

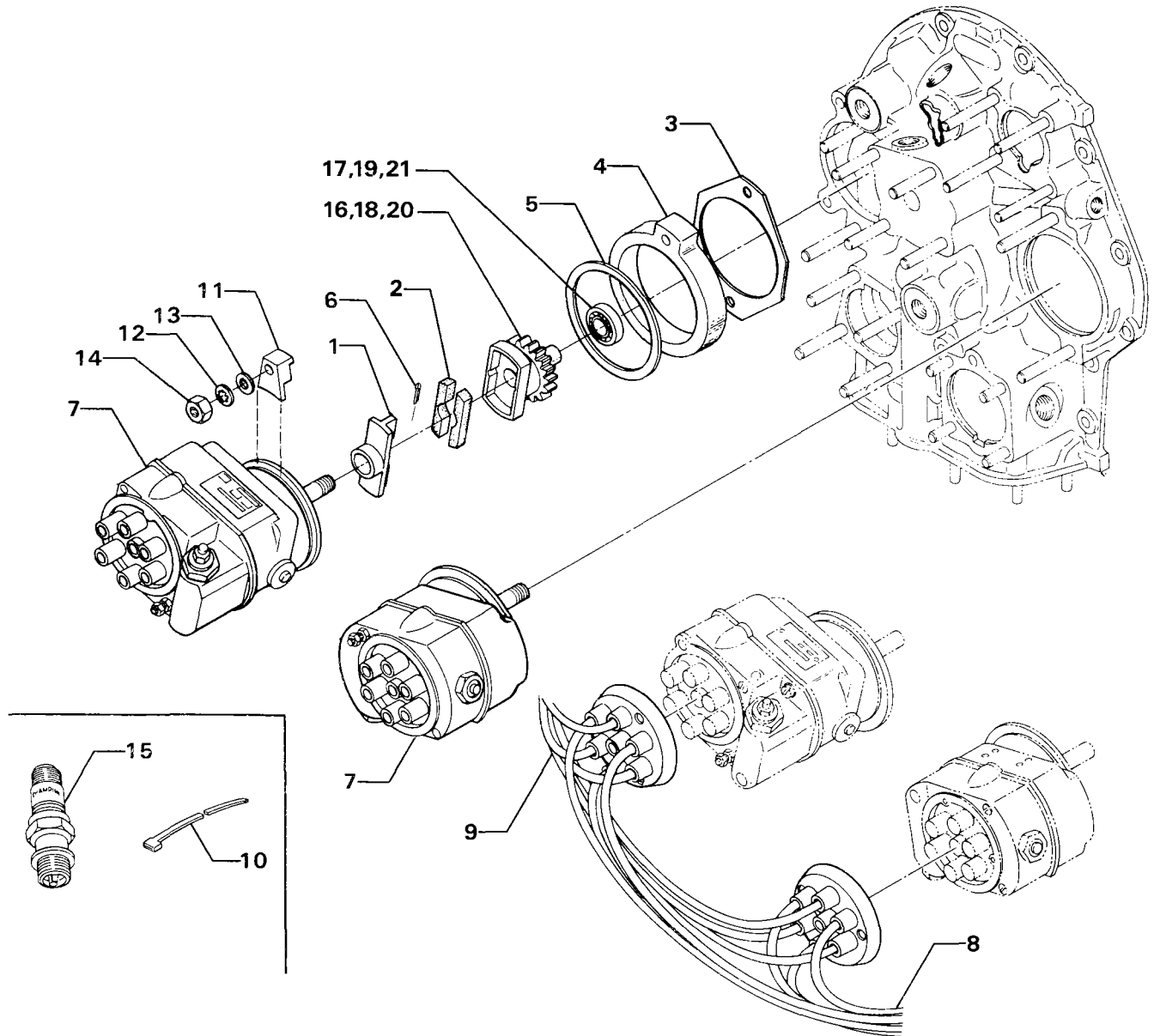


Figure 22. SLICK MAGNETOS, HARNESSES, DRIVES AND SPARK PLUGS



### BAG - MAGNETO HARNESS ATTACHING

PART NO. 01P19762-3

O-540-A1A, -A1A5, -A1B5, -A1C5, -A1D, -A1D5, -A2B, -A3D5

Part No.	Part Name	Qty.
01P19762-3	BAG - MAGNETO HARNESS ATTACHING	1
LW-16266-25-25	CLIP, 1 wire	2
LW-14060	CLIP, 2 wire, 1/4 screw	3
STD-8	WASHER, 1/4 plain	10
STD-160	WASHER, 1/4 lock	10
AN500-416-12	SCREW, 1/4 x 3/4 long	2
STD-1874	SCREW, Rocker box	6
76734	ZIP STRAP	8
LW-16266-25-44	CLIP, 4 wire	3
STD-1411	NUT, 1/4 plain	4
STD-696	WASHER, 1/4 thin	6
LW-M-2376	PLATE, 3 wire	2

### BAG - MAGNETO HARNESS ATTACHING

PART NO. 01P19762-4

O-540-A1D5

Part No.	Part Name	Qty.
01P19762-4	BAG - MAGNETO HARNESS ATTACHING	1
LW-16266-25-25	CLIP, 1 wire	4
LW-14060	CLIP, 2 wire, 1/4 screw	4
STD-8	WASHER, 1/4 plain	12
STD-160	WASHER, 1/4 lock	10
STD-1874	SCREW, Rocker box	6
76734	ZIP STRAP	12
LW-16266-10-75	CLIP, 6 wire	2
LW-16266-25-44	CLIP, 4 wire	5
STD-696	WASHER, 1/4 thin	6
AN500-416-18	SCREW, 1/4 x 1-1/8 long	2
STD-1925	SCREW, 1/4 x 5/8 long	4
72815	BRACKET, Twist	4
STD-692	SCREW, No. 10 (bracket to clip)	4
STD-425	WASHER, No. 10 (bracket to clip)	4
STD-670	NUT, No. 10 (bracket to clip)	4
LW-M-2376	PLATE, 3 wire	2

### ELECTRICAL COMPONENTS

#### PRESTOLITE STARTERS AND ATTACHING PARTS

FIG. REF. 23	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY									
				A	A	A	A	A	A	A	A		
				1	1	1	1	1	1	2	3		
1	LW-15571	STARTER, 12 volt (3.38:1 internal reduction, 12/14 pitch) (MZ-4222)		1	1	1	1	1	1	1	1		
	LW-15577 *	STARTER, 24 volt (3.38:1 internal reduction, 12/14 pitch) (MHB-4018)				1							
	LW-15572	STARTER, 24 volt (3.38:1 internal reduction, 12/14 pitch) (MHB-4016)		1			1	1	1	1	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										

\* Used if York Compressor is installed.

#### NOTE

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

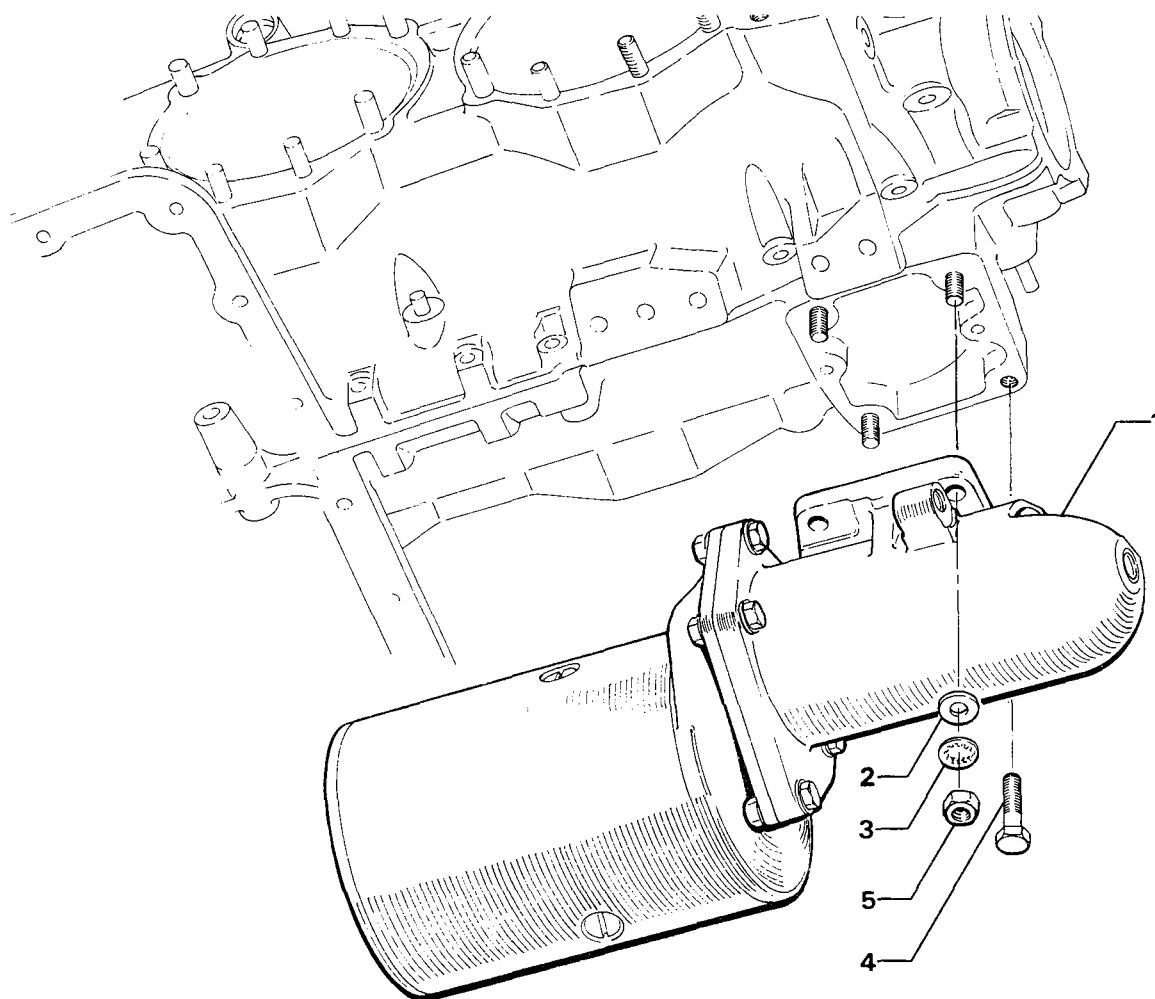


Figure 23. PRESTOLITE STARTERS AND ATTACHING PARTS

### ELECTRICAL COMPONENTS

#### LYCOMING LIGHT WEIGHT STARTER AND ATTACHING PARTS

FIG. REF. 24	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY								
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5	
1	31B21064 *	STARTER ASSEMBLY, 12/14 pitch, 24 volt	1									
	31A21198 *	STARTER ASSEMBLY, 12/14 pitch, 12 volt	1									
2	31E21143	MOTOR AND SOLENOID ASSEMBLY (24 volt)	1									
	31E21199	MOTOR AND SOLENOID ASSEMBLY (12 volt)	1									
3	31D21088	HOUSING ASSY., Starter support	1									
4	STD-514	DOWEL	2									
5	LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	1									
6	LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. head	2									
7	STD-160	WASHER, 1/4 lock, internal teeth	3									
8	STD-8	WASHER, 1/4 plain	3									
9	STD-35	WASHER, 5/16 plain	4									
10	STD-475	WASHER, 5/16 lock, internal teeth	4									
11	LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	1									
12	STD-1410	NUT, 5/16-18 plain	3									
13	01L21158 **	SHIM, Starter (housing shaped)	AR									
14	01L21159 **	SHIM, Starter	AR									

\* Refer to latest edition of Starter Maintenance Manual SSP-490 for complete parts breakdown.

\*\* Refer to latest edition of Service Instruction No. 1447 for shim application.

#### NOTE

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

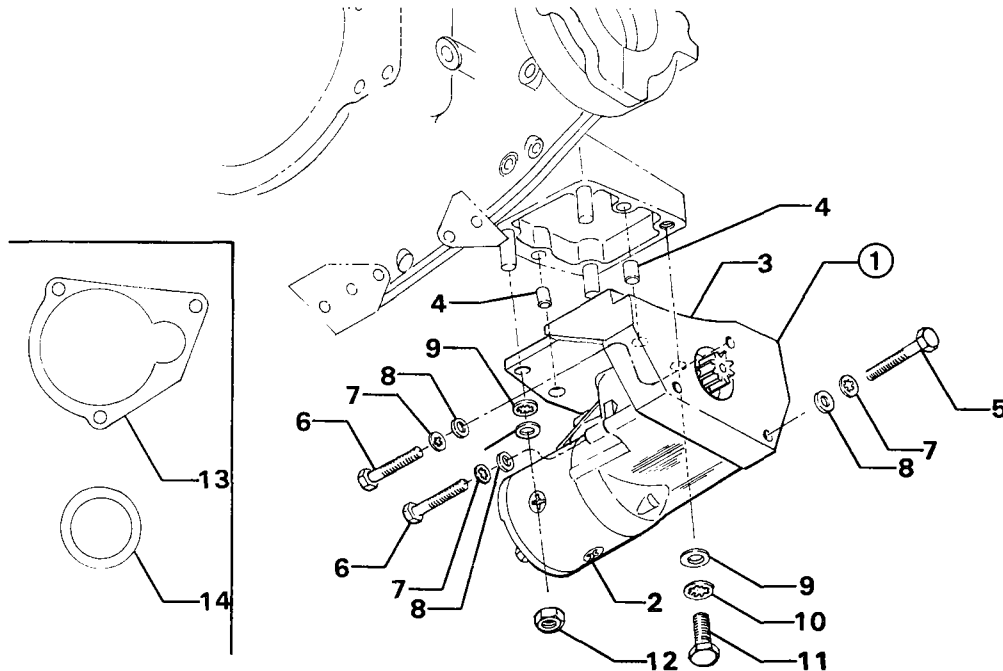


Figure 24.

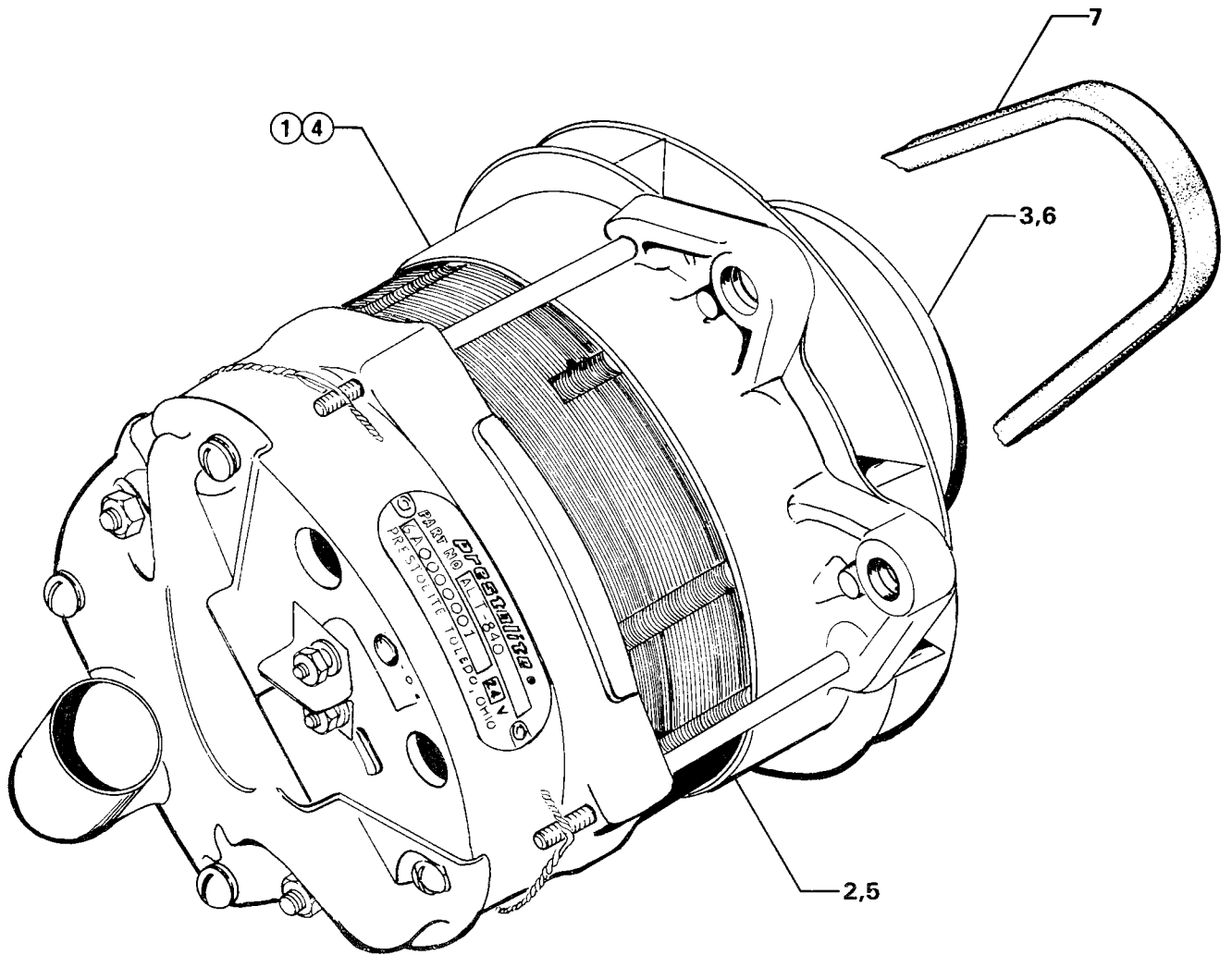
LYCOMING LIGHT WEIGHT STARTER AND ATTACHING PARTS

### ELECTRICAL COMPONENTS ALTERNATOR ASSEMBLIES AND BELTS

FIG. REF. 25	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY									
				A 1 A 5	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5		
1	32C19553	ALTERNATOR ASSY., 24 volt, 70 amp.						1					
2	LW-14326	ALTERNATOR, 24 volt, 70 amp. (ALU-8421-LS)						1					
3	36B19484	PULLEY, Alternator						1					
4	32B19549	ALTERNATOR ASSY., 12 volt, 70 amp.				1			1				
5	LW-14318	ALTERNATOR, 12 volt, 70 amp. (ALX-8421-LS)				1			1				
6	36B19484	PULLEY, Alternator				1			1				
7	37A19773-376	BELT, Alternator drive, 3/8 in. wide						1					
	37A19773-367	BELT, Alternator drive, 3/8 in. wide (Piper)				1			1				
	71579	BELT, Generator drive, 1.91:1 drive			1						1		
	72000	BELT, Generator drive, 2.50:1 drive						1					
	73275	BELT, Generator drive, 1.91:1 drive								1		1	

#### NOTE

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



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Figure 25. ALTERNATOR ASSEMBLIES AND BELTS

### ELECTRICAL COMPONENTS ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF. 26	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY									
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5		
1	07A19474	BRACKET, Alternator							1	1			
2	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing							1	1			
3	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head							2	2			
4	75380	LINK, Alternator adjusting							1	1			
5	STD-35	WASHER, 5/16 plain							1	1			
6	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.							1	1			
7	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick							1	1			
8	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.							1	1			
9	74323	STRUT, Alternator support							1	1			
10	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.							1	1			
11	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick							1	1			
12	AN6-17	BOLT, 3/8-24 x 1-61/64 long, hex. hd. drilled end							1	1			
13	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick							AR	AR			
14	STD-872	NUT, 3/8-24 slotted							1	1			
15	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long							1	1			
16	AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. hd. drilled end							1	1			
17	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x 1/64 thick							AR	AR			
18	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick							AR	AR			
19	STD-872	NUT, 3/8-24 slotted							1	1			
20	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long							1	1			

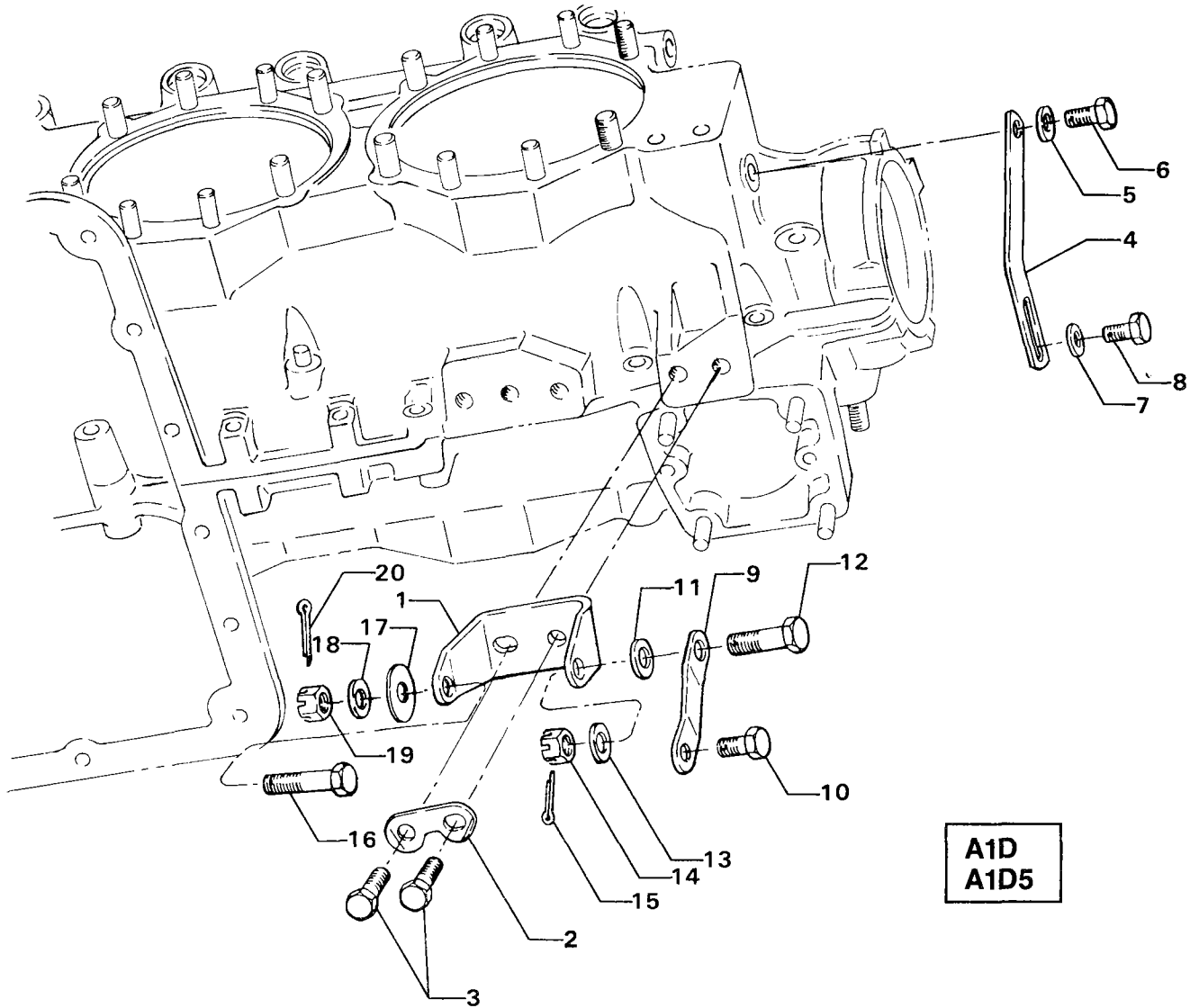


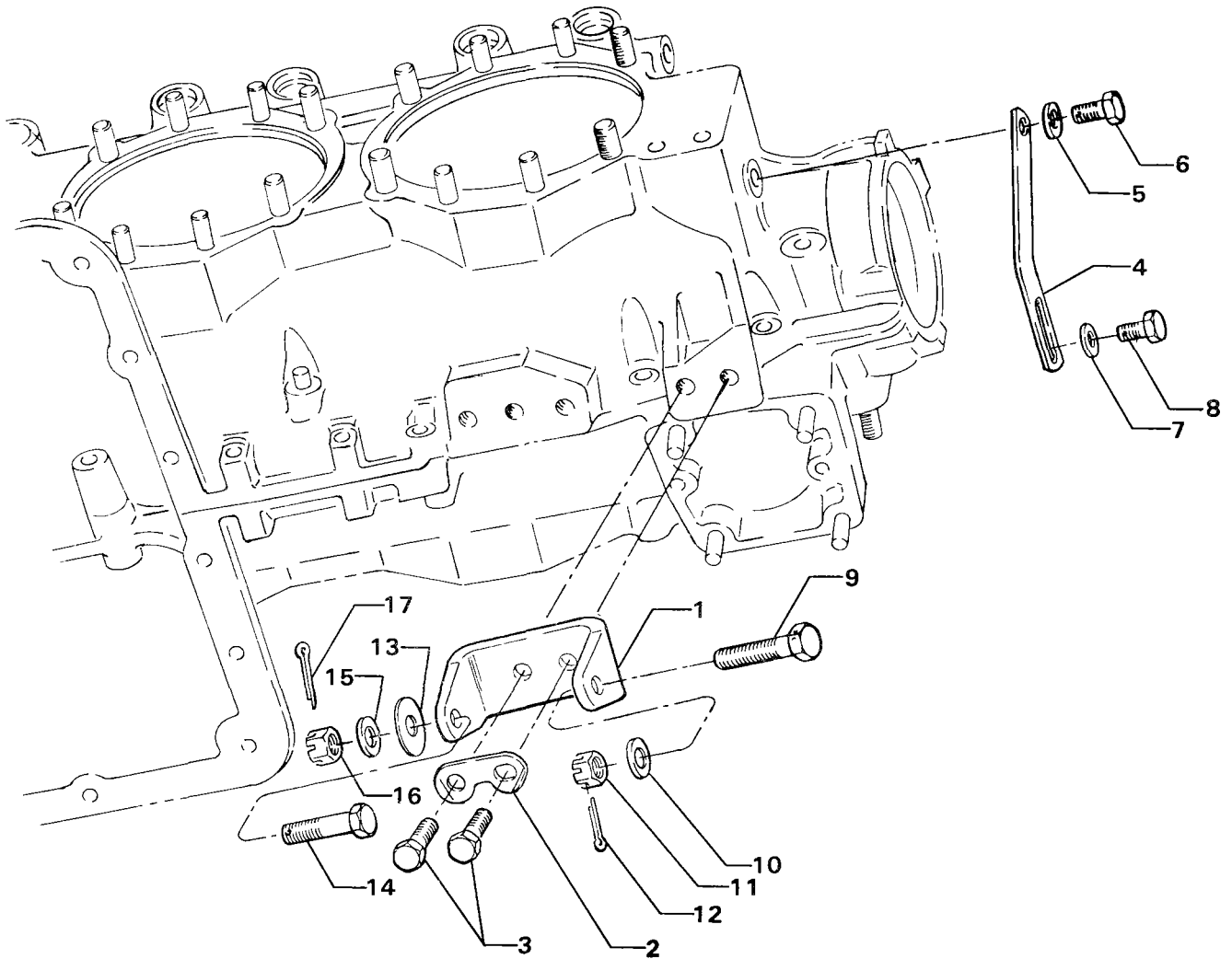
Figure 26. ALTERNATOR MOUNTING AND ATTACHING PARTS



### ELECTRICAL COMPONENTS ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF. 27	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY								
				A 1 A 5	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B 5	A 3 D 5	
1	77756 *	BRACKET, Alternator					1	1				
2	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing					1	1				
3	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head					2	2				
4	LW-10091 *	LINK, Alternator adjusting					1	1				
5	STD-35	WASHER, 5/16 plain					1	1				
6	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.					1	1				
7	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick					1	1				
8	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.					1	1				
9	AN6-12	BOLT, 3/8-24 x 1-21/64 long, hex. hd., drilled end					1	1				
10	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick					AR	AR				
11	STD-872	NUT, 3/8-24 slotted					1	1				
12	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long					1	1				
13	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick					AR	AR				
14	AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. hd., drilled end					1	1				
15	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick					AR	AR				
16	STD-872	NUT, 3/8-24 slotted					1	1				
17	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long					1	1				

\* Special installation for Piper Aircraft Corp.



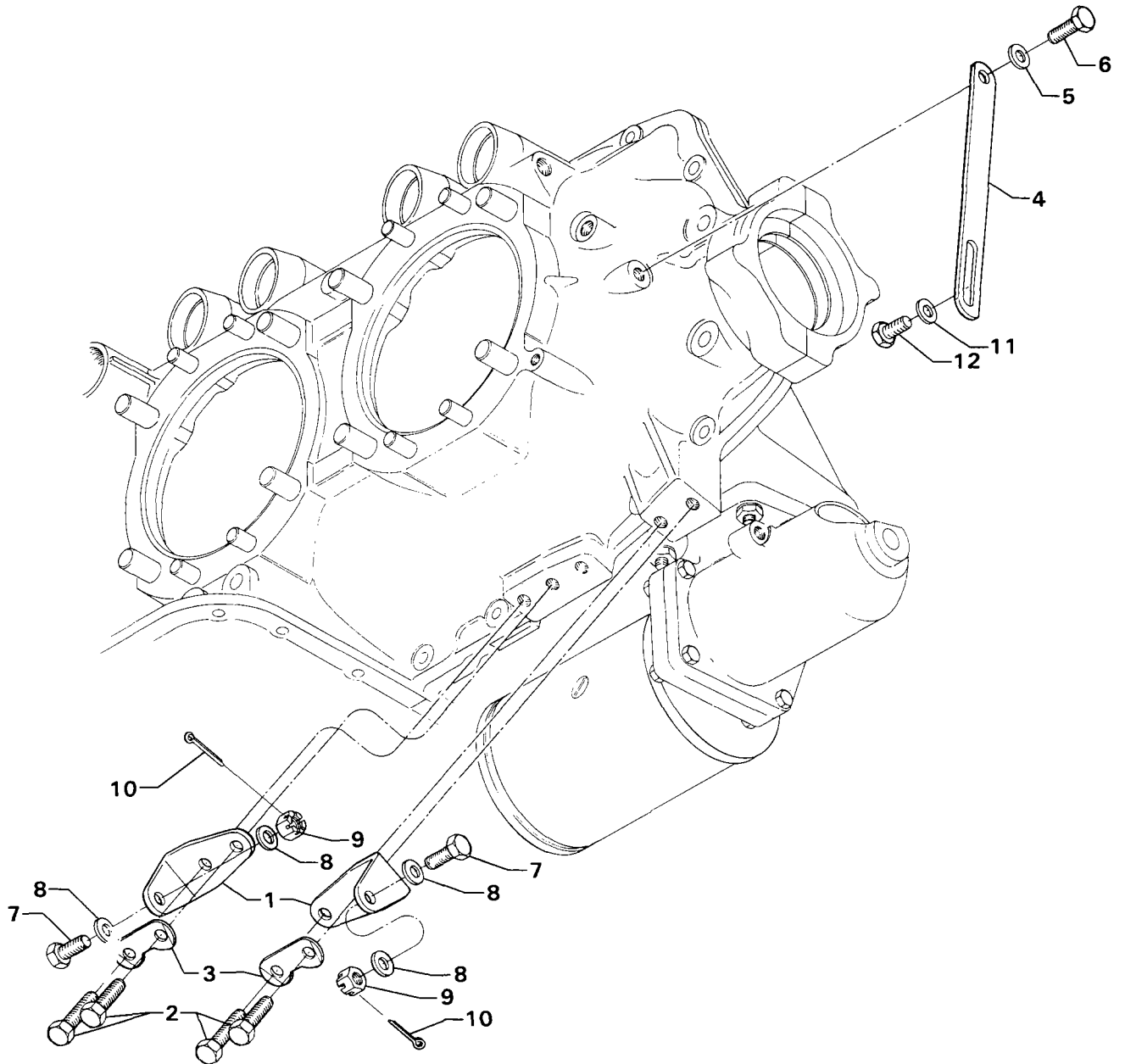
**A1C5  
A1D5**

Figure 27. ALTERNATOR MOUNTING AND ATTACHING PARTS

### ELECTRICAL COMPONENTS

#### GENERATOR MOUNTING AND ATTACHING PARTS

FIG. REF. 27A	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY								
				A 1 A 5	A 1 B 5	A 1 C 5	A 1 D 5	A 1 D 5	A 2 B 5	A 3 D 5		
1	70419	BRACKET, Generator	2									
2	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. head	4									
3	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	2									
4	76028	LINK, Generator adjusting	1									
	75380	LINK, Generator adjusting (Piper)							1		1	
5	STD-35	WASHER, 5/16 plain	1									
6	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.	1									
7	LW-31S1.16	BOLT, 5/16-18 x 1-5/32 long, dr. end	2									
8	STD-35	WASHER, 5/16 plain	AR									
9	STD-1420	NUT, 5/16-18 slotted	2									
10	STD-68	PIN, Cotter	2									
11	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick	1									
12	LW-31H0.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.	1									

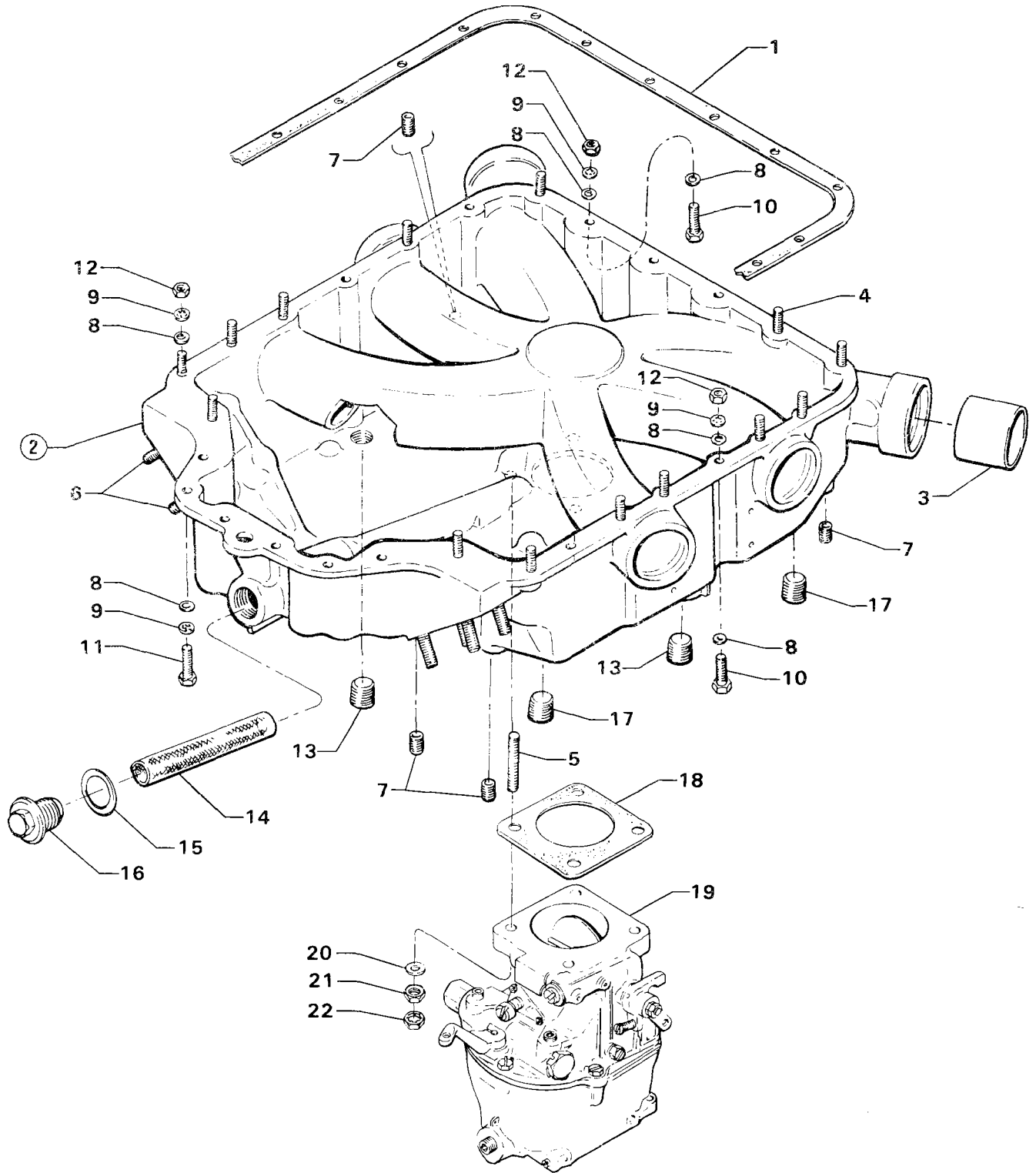


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Figure 27A. GENERATOR MOUNTING AND ATTACHING PARTS

### OIL SUMP AND INDUCTION SYSTEM OIL SUMP ASSEMBLY, CARBURETORS AND ATTACHMENTS

FIG. REF. 28	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY									
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5		
1	06B21236	GASKET, Oil sump	1										
2	LW-13901	SUMP ASSEMBLY, Oil	1										
3	71699	CONNECTION, Intake pipe	6										
4	25C-11	STUD, 1/4-20 x 1-3/8 long	14										
5	31C-15	STUD, 5/16-18 x 1-7/8 long	4										
6	38-15	STUD, 3/8-16 x 1-7/8 long	8										
7	STD-1173	INSERT, 1/4-20 Heli-Coil x 1/2 long	4										
8	STD-8	WASHER, 1/4 plain	34										
9	STD-160	WASHER, 1/4 lock, internal teeth	27										
10	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	7										
11	LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	6										
12	STD-1411	NUT, 1/4-20 plain	21										
13	STD-551	PLUG, 1/2-14 NPT, sq. hd., drilled	2										
14	70484	SCREEN, Oil suction	1										
15	06E19769-1.00	GASKET, 1.00 i.D. x 1-1/4 O.D. x 3/32 thick	1										
16	LW-12545	PLUG, 1.00-20 thread x 5/8 hex. head	1										
17	STD-2229	PLUG, 1/2-14 NPT, Allen head	2										
18	66224	GASKET, Carburetor	1										
19	72740	CARBURETOR, (10-4404) (Model MA-4-5)	1										
	74121	CARBURETOR, (10-4404-1) (Model MA-4-5)											
20	STD-35	WASHER, 5/16 plain	4										
21	STD-1410	NUT, 5/16-18 plain	4										
22	STD-36	LOCKNUT, 5/16, Palmnut	4										



3303

Figure 28. OIL SUMP ASSEMBLY, CARBURETORS AND ATTACHMENTS

### OIL SUMP AND INDUCTION SYSTEM INTAKE PIPES AND ATTACHMENTS

FIG. REF. 29	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY										
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5			
1	70485	PIPE, Intake	6											
2	69603	HOSE, 1-3/4 I.D. x 2-3/16 O.D. x 1-3/4 long	6											
3	LW-15592-8-28	CLAMP, Hose	12											
4	71973	GASKET, 2 bolt flange, 1-7/8 I.D.	6											
5	73346	FLANGE, Intake pipe, upper	6											
6	STD-8	WASHER, 1/4 plain	12											
7	STD-160	WASHER, 1/4 lock, internal teeth	12											
8	LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head	12											

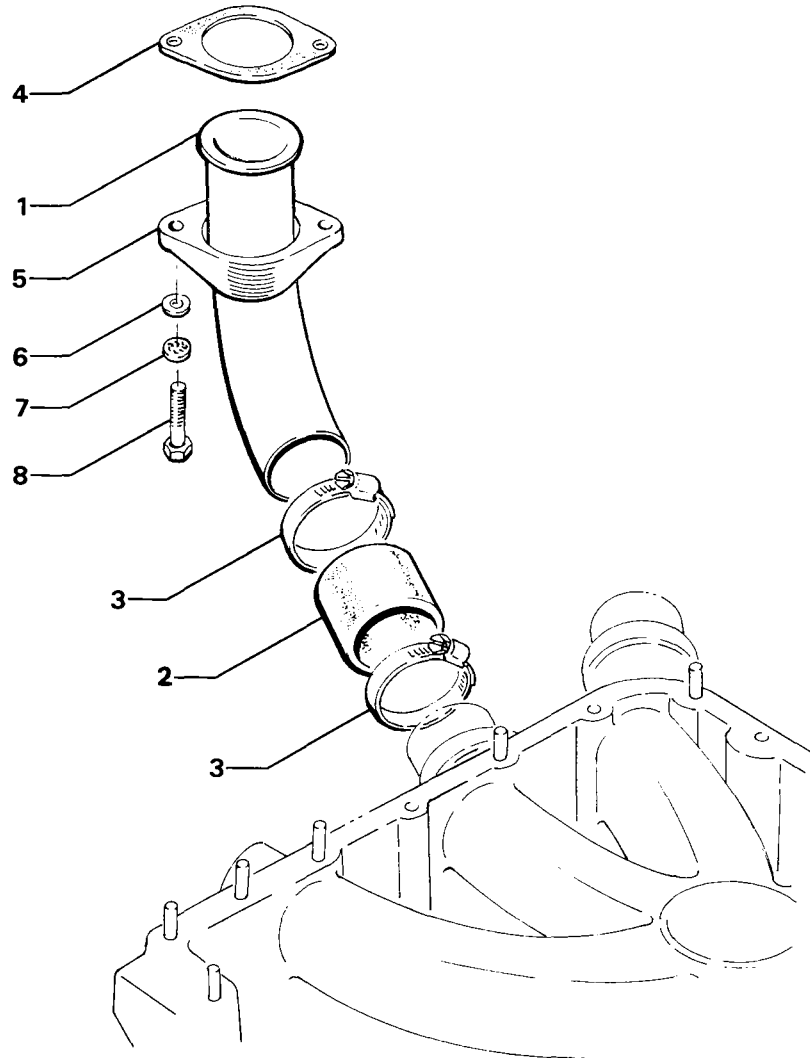


Figure 29. INTAKE PIPES AND ATTACHMENTS

### OIL SUMP AND INDUCTION SYSTEM PRIMING SYSTEM

FIG. REF. 30	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY							
				A 1 A	A 1 A 5	A 1 B 5	A 1 C 5	A 1 D	A 1 D 5	A 2 B	A 3 D 5
1	LW-12098-0-160	TUBE ASSEMBLY, Primer, cyl. no. 3		1	1	1	1	1	1		
2	LW-12098-0-190	TUBE ASSEMBLY, Primer, cyl. no. 4		1	1	1	1	1	1		
3	LW-12098-0-120	TUBE ASSEMBLY, Primer, cyls. no. 5 and 6		2	2	2	2	2	2		
4	LW-12098-0-100	TUBE ASSEMBLY, Primer, intermediate, right		1	1	1	1	1	1		
5	LW-12098-0-120	TUBE ASSEMBLY, Primer, intermediate, left		1	1	1	1	1	1		
6	LW-12598	SLEEVE, Primer line		4	4	4	4	4	4		
7	LW-16266-25-13	CLAMP, Primer line		4	4	4	4	4	4		
8	LW-18959-175-25	CLAMP, Primer line		4	4	4	4	4	4		
9	STD-553	SCREW, No. 6-32 x 1/2 long, round head		4	4	4	4	4	4		
10	AN365-632A	NUT, No. 6-32, self-locking		4	4	4	4	4	4		
11	STD-853	TEE, Union, 1/8 tube		3	3	3	3	3	3		
12	63D21408	NIPPLE ASSY., Primer		4	4	4	4	4	4		

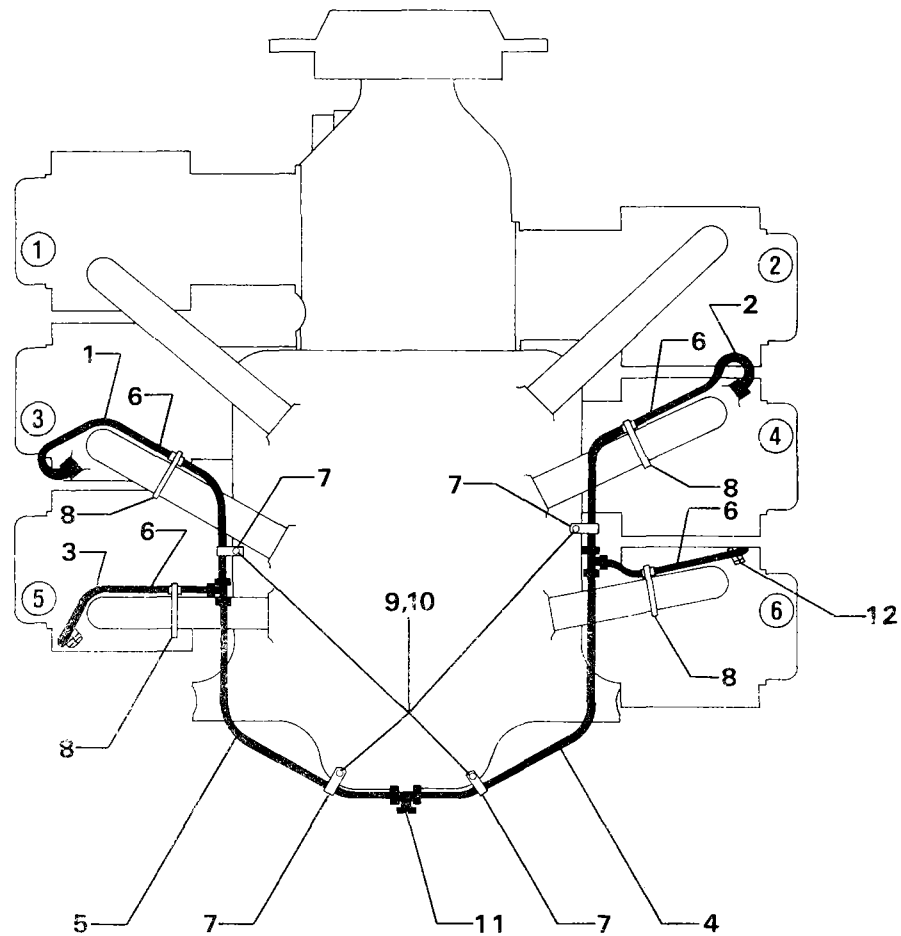


Figure 30. PRIMING SYSTEM



### SERVICE KIT SECTION

#### SEAL AND GASKET SET

Part No.	Part Name	Qty.
71569-1	SEAL AND GASKET SET	1
LW-12272	LOCKPLATE, Shroud tube	6
LW-12681	GASKET, Magneto	2
LW-12795	GASKET, Oil filter adapter	1
06B21326	GASKET, Oil sump	1
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Tachometer drive oil	1
LW-14995	SPRING, Shroud tube	6
LW-15628	SEAL, Crankshaft	1
LW-18638	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	12
MS16625-1081	RING, Internal retaining	1
06E19769-1.00	GASKET, Oil suction screen	1
STD-213	SEAL, Oil	1
06E19769-0.63	GASKET, Annular	2
06E19769-1.25	GASKET, Annular	1
06A19956	SEAL, Oil	2
1691-C	GASKET, Fuel pump	1
8313	GASKET, Vacuum pump	2
60096	GASKET, Fuel pump	1
61173	GASKET, Oil pressure housing	1
61183	GASKET, Accessory adapter	1
62224	GASKET, Magneto adapter	1
LW-19296	GASKET, Exhaust flange	6
66224	GASKET, Carburetor	1
68315	GASKET, Accessory drive adapter	1
69164	GASKET, Fuel pump adapter	1
69345	SPACER	6
69551	GASKET, Accessory drive adapter	1
70310	SEAL, Shroud tube	12
70455	GASKET	1
70457	GASKET	1
71481	RING, Oil seal	6
71667	LOCKPLATE, Fuel pump idler gear	1
71973	GASKET, 2 Bolt flange	6
72053	GASKET, Governor	1
72059	GASKET, Oil filler extension	1
72075	RING, Oil seal	8
72078	LOCKPLATE, Cam gear	2
72091	RING, Oil seal	2
72210	GASKET	1
72312	RING, Oil seal	1
73383	LOCKPLATE, Generator bracket	2
73818	GASKET, Accessory housing	1
74065	"O" Ring, Oil level gage	1
74068	"O" Ring	1
74305	SEAL	1
75906	GASKET, Rocker box cover	6
76510	GASKET	1
76940	SEAL, Crankshaft oil	1

### SERVICE KIT SECTION

#### CYLINDER, PISTON AND RING ASSEMBLY

Part No.	Part Name	Qty.
05K21102	CYLINDER, PISTON AND RING ASSEMBLY	1
LW-12425	CYLINDER AND HEAD 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
LW-13323	SEAT, Valve spring, lower, exhaust	1
60009	KEY, Valve, intake	2
17C21191	KEY, Valve, exhaust	2
17C19386	CAP, Valve stem, exhaust	1
75089	PISTON	1
74241	RING, Piston, compression	2
73857	RING, Piston, oil regulating	1
LW-14077	PIN, Piston	1
LW-11775	PLUG, Piston pin	2
60828	PLUG, Piston pin	2
71481	RING, Cylinder base seal	1
LW-18661	SEAL, Shroud tube	2
70310	SEAL, Shroud tube	2
75906	GASKET, Rocker box cover	1
SSP-2272	TAG	1
SSP-2472	TAG	1
65441	SEAT, Valve spring, lower, intake	1

## SERVICE KIT SECTION

### CRANKCASE ASSY. AND GOVERNOR STUD KIT

Part No.	Part Name	Qty.
LW-11033-S	CRANKCASE ASSY. AND GOVERNOR STUD KIT	1
LW-11033*	CRANKCASE ASSEMBLY	1
31C-14	STUD, AN governor	4
31C-16	STUD, Woodward governor	4

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

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