

# **PARTS CATALOG**

**PC-203-2**

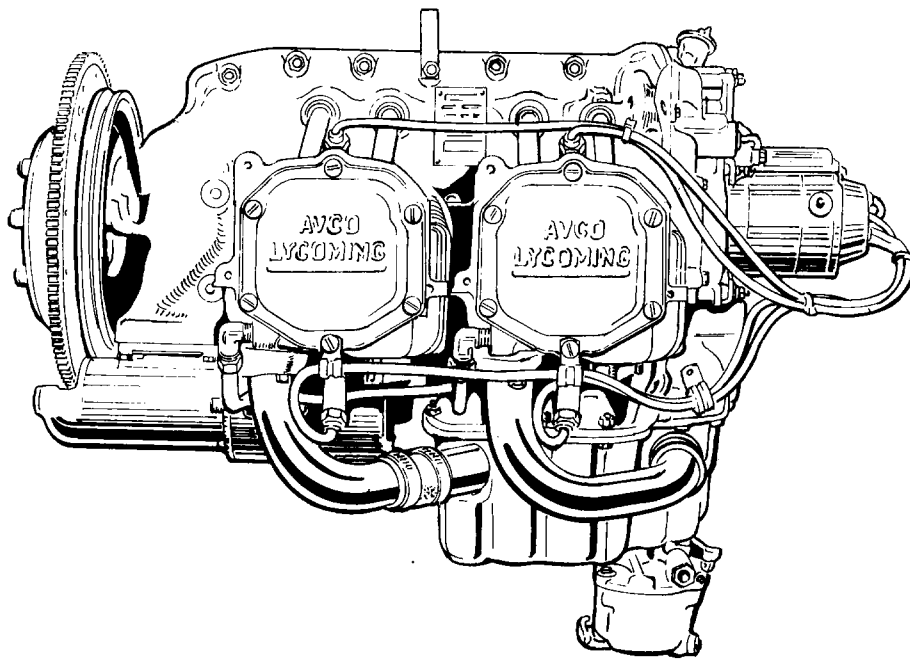
**AVCO LYCOMING**

**O-320 B and D Series**

**HIGH COMPRESSION**

**Wide Cylinder Flange Model**

**AIRCRAFT ENGINES**



PRICE \$18.00

JULY 1984

---

**AVCO** LYCOMING WILLIAMSPORT DIVISION  
652 Oliver Street, Williamsport, Pennsylvania 17701  
**AVCO** LYCOMING ENGINE GROUP

# TECHNICAL PUBLICATION REVISION

REVISION No. <b>PC203-2-A</b>	ENGINE MODEL O-320-B and -D Series	PUBLICATION No. PC203-2	PUBLICATION DATE July, 1984
The page(s) furnished herewith are intended to replace the corresponding page(s) of the publication indicated above.			
Remove		Insert	
July, 1984  iii, 1-5, 2-4, 2-5, 2-6, 2-14, 2-15, 3-1, 3-3, 3-7, 7-4, 8-1, 8-2, 8-4, 8-5		December, 1985  iii, 1-5, 2-4, 2-5, 2-6, 2-14, 2-15, 3-1, 3-3, 3-7, 7-4, 8-1, 8-2, 8-4, 8-5	

## INTRODUCTION

This illustrated parts catalog contains a complete parts listing for the Avco Lycoming O-320 B and D series high compression wide cylinder flange 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 Avco Lycoming engines may be found in the appropriate Vendor's Parts Catalog. A list of these publications appear 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 Avco Lycoming accepts responsibility for quality control and/or airworthiness of parts which do not pass through the Avco 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 urged to keep abreast of later information through all Avco 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.

**TABLE OF CONTENTS**

SECTION	PAGE
Introduction .....	i
Table of Contents .....	ii
Oversize and Undersize Parts .....	iii
<b>1. CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP</b>	
Crankcase Assembly .....	1-1
Oil Level Gage Assemblies .....	1-3
Crankcase Related Parts .....	1-5
Crankshaft and Related Parts .....	1-7
Camshaft and Related Parts .....	1-9
Propeller Governor Drive Assembly .....	1-11
Crankshaft Idler Gears .....	1-13
Crankcase Attaching Parts .....	1-15
<b>2. ACCESSORY HOUSING AND RELATED PARTS</b>	
Accessory Housing Assembly .....	2-1
Oil Pump Assy. and Accessory Housing Attaching Parts .....	2-3
Propeller Governor Oil Line .....	2-5
Propeller Governor Drives and Covers .....	2-7
Fuel Pump Assembly and Attaching Parts .....	2-9
Vacuum Pump Drive and Dual Drive Assemblies .....	2-11
Accessory Drive Covers .....	2-13
Oil Filter Assembly and Oil Cooler Bypass Valve .....	2-14
<b>3. CYLINDER, PISTON AND VALVE TRAIN</b>	
Connecting Rods, Pistons and Ring Assemblies .....	3-1
Cylinder Assembly .....	3-3
Valve Assembly .....	3-5
Cylinder Related Parts .....	3-7
Cylinder Head Drain Tubes and Intercylinder Cooling Baffles .....	3-9
<b>4. IGNITION SYSTEM</b>	
Magnetos and Magneto Drives .....	4-1
Ignition Harness and Lead Assembly (Slick) .....	4-3
<b>5. ELECTRICAL COMPONENTS</b>	
Alternator Assembly .....	5-1
Generator Mounting and Attaching Parts .....	5-2
Alternator Mounting and Attaching Parts .....	5-4
Starter Motor and Attaching Parts .....	5-6
<b>6. OIL SUMP AND INDUCTION SYSTEM</b>	
Oil Sump Assembly and Oil Suction Screen .....	6-1
Intake Pipe Assembly .....	6-3
Carburetor Assembly .....	6-5
Priming System .....	6-7
<b>7. SERVICE KIT SECTION</b> .....	7-1
<b>8. NUMERICAL INDEX</b> .....	8-1

Oversize and Undersize Parts Listing

PART NO.	DESCRIPTION	OVERSIZE							UNDERSIZE		
		P02	P05	P10	P15	P20	P30	P50	M03	M06	M10
		.002	.005	.010	.015	.020	.030	.050	.003	.006	.010
60028	GUIDE		X	X		X	X				
66145	DOWEL			X		X					
66610	BUSHING		X	X							
66796	INSERT			X							
69373	BEARING								X	X	X
69796	DOWEL			X							
72057	SEAT			X		X	X				
72058	SEAT			X		X	X				
72063S	BUSHING		X	X	X	X					
72064S	BUSHING		X	X	X	X					
72065S	BUSHING		X	X	X	X					
72066S	BUSHING		X	X	X						
72067S	BUSHING		X	X	X	X					
73857	RING			X		X					
74230	GUIDE		X	X		X	X				
74241	RING			X							
LW-10647	DOWEL		X	X							
LW-13792	SEAL							X			
LW-13884	BEARING				X				X	X	X
LW-16047	BEARING	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1377 FOR APPLICATION.									
LW-16711	BEARING	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1377 FOR APPLICATION.									
STD-1065	DOWEL	X	X	X	X						

Studs available in P03, P07, P12.

NOTE

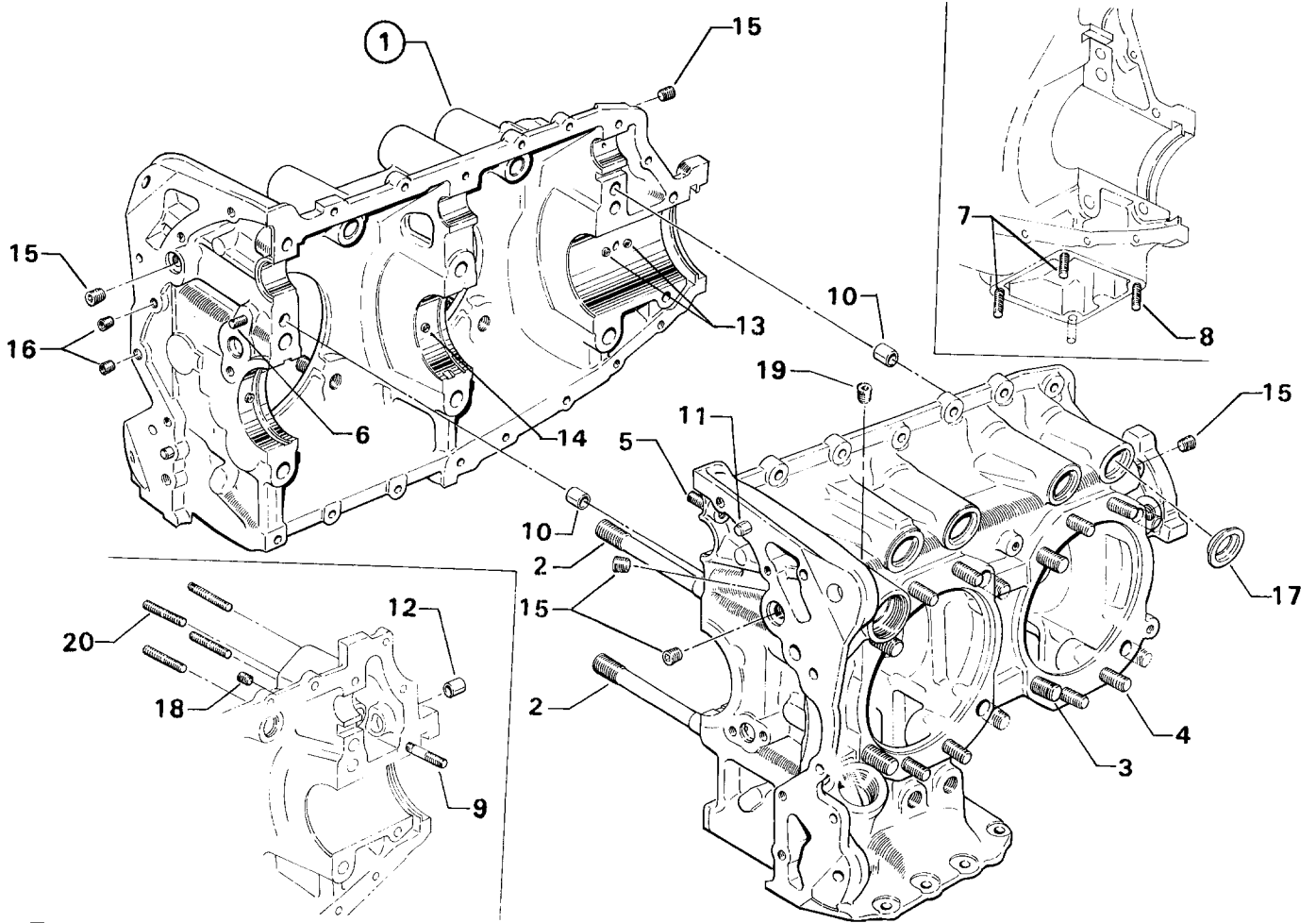
When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing LW-13884 in .003 undersize, order part number LW-13884-M3. Oversize code letter is "P" while undersize code letter is "M". These letters are then followed by the number designating the size in thousandths of an inch.

# **SECTION**

# **1**

**CRANKCASE,  
CRANKSHAFT AND  
CAMSHAFT GROUP**





2821

**Figure 1. CRANKCASE ASSEMBLY**

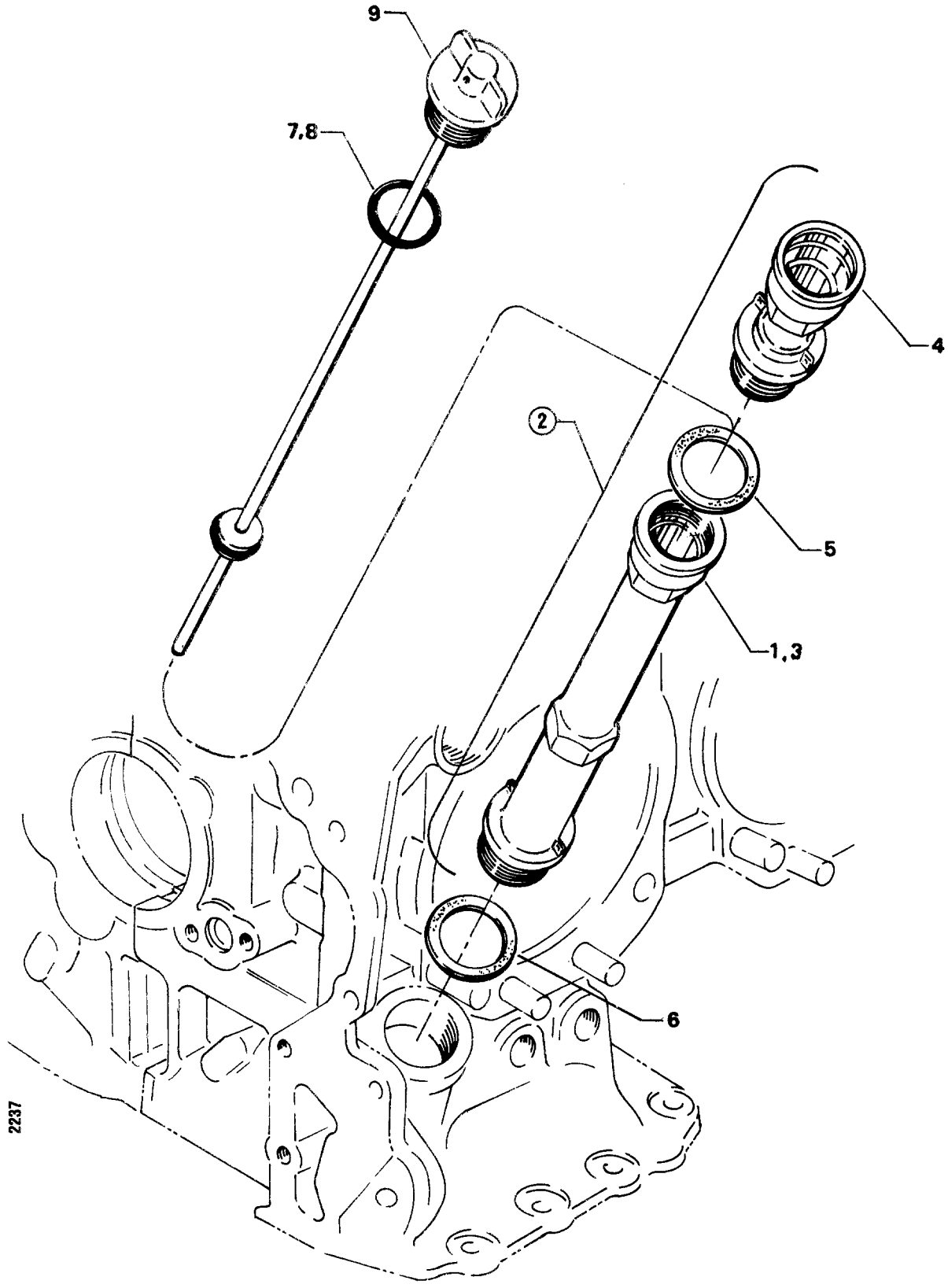


**CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP**

**OIL LEVEL GAGE ASSEMBLIES**

FIG. REF. 2	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																			
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G								
1	75735	TUBE, Oil level gage, short		1	1	1	1	1															
	75767	TUBE, Oil level gage, intermediate						1	1		1	1											
	75736	TUBE, Oil level gage, long		1	1	1	1	1	1	1		1	1		1								
	LW-15970	TUBE, Oil level gage, short			1																		
2	78626	TUBE ASSY., Oil level gage, 15-1/8 long											1	1									
3	75767	TUBE, Oil level gage											1	1									
4	75761	EXTENSION, Oil filler											1	1									
5	72220	GASKET, Oil level gage											1	1									
6	72059	GASKET, Oil level gage	1																				
7	74068*	RING, Oil level gage seal		1	1	1	1	1	1	1		1	1		1								
8	74065**	RING, Oil level gage seal						1	1		1	1	1	1									
9	LW-14759	GAGE ASSY., Oil level		1	1	1	1	1															
	LW-14758	GAGE ASSY., Oil level		1	1	1	1	1	1	1		1	1		1								
	LW-14780	GAGE ASSY., Oil level							1		1	1											
	LW-14768	GAGE ASSY., Oil level											1										
	LW-14788	GAGE ASSY., Oil level						1															
	LW-14793	GAGE ASSY., Oil level			1																		
	LW-14798	GAGE ASSY., Oil level																			1		

\* Used with LW-14759, LW-14758 & LW-14793 gage assy's.  
 \*\* Used with LW-14780, LW-14768, LW-14788 & LW-14798 gage assy's.



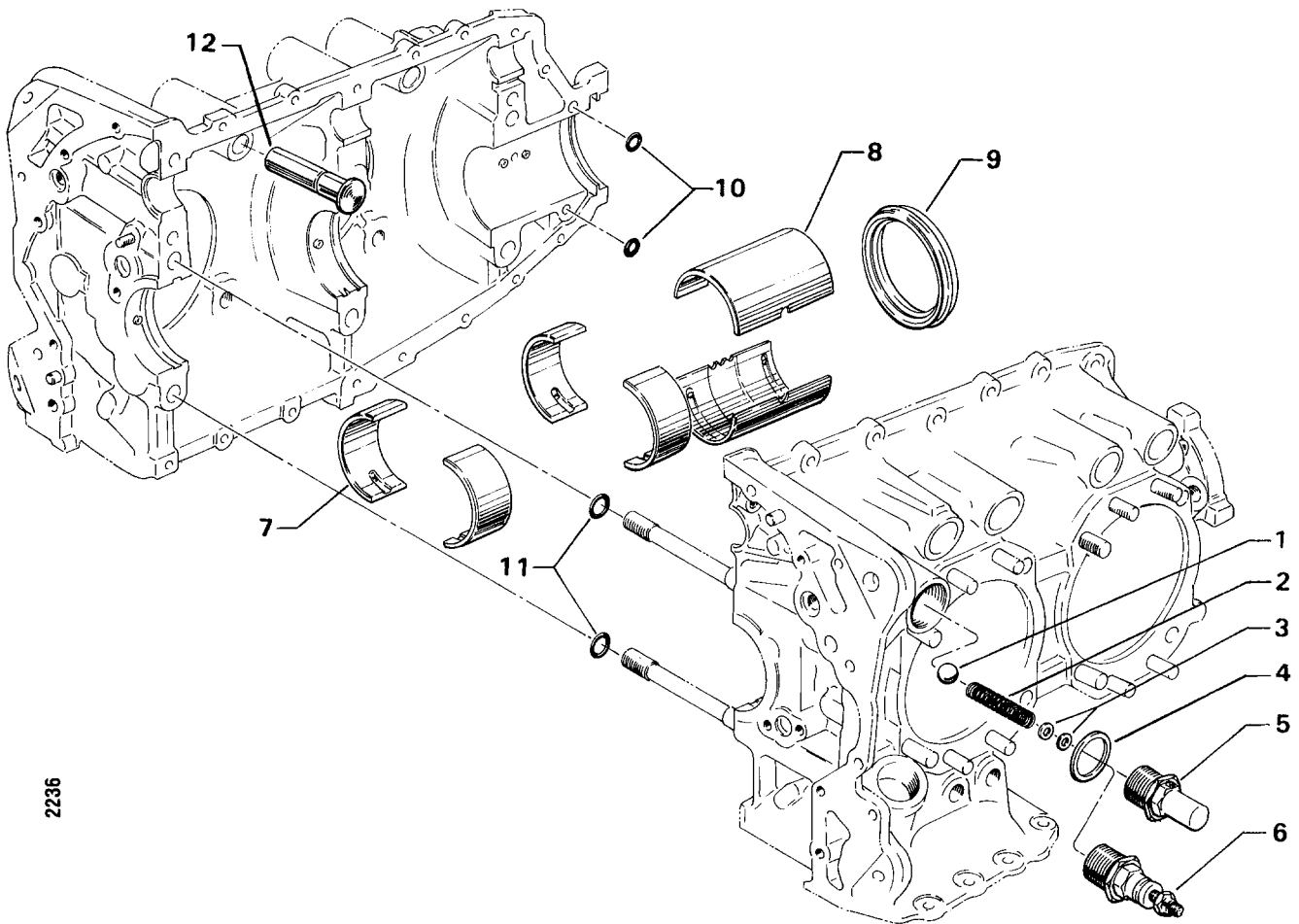
2237

**Figure 2. OIL LEVEL GAGE ASSEMBLIES**

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

FIG. REF. 3	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																			
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G								
1	1028-B	BALL, 11/16 diameter	1																				
2	61084*	SPRING, Oil pressure relief valve	1																				
	77467*	SPRING, Oil pressure relief valve					1																
3	STD-425●	WASHER, No. 10 plain (Max. 9)	AR																				
4	STD-1045	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	77808	VALVE ASSY., Oil pressure relief, adjustable					1	1	1	1													
7	LW-16047**	BEARING, Crankshaft	4																				
	LW-16711★	BEARING, Crankshaft		4	4		4	4		4				4	4	4							
8	LW-13884	BEARING, Crankshaft, front	2																				
9	LW-13792	SEAL, Oil, crankshaft	1																				
10	72075	SEAL, Oil, 3/32 sect. x 15/32 I.D.	2																				
11	72091	RING, Oil seal, 23/64 I.D. x 7/64 dia.	2																				
12	72877	BODY, Hydraulic tappet	8																				

- \* Select spring to give a minimum of three threads exposed on adjusting screw to allow field adjustment.
- \*\* Used as alternate to LW-11020 and LW-11021 crankshaft bearings.
- ★ Thin wall, high crush.
- Used only with item no. 5 plug.

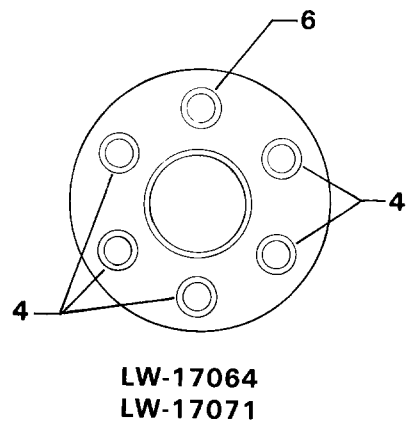
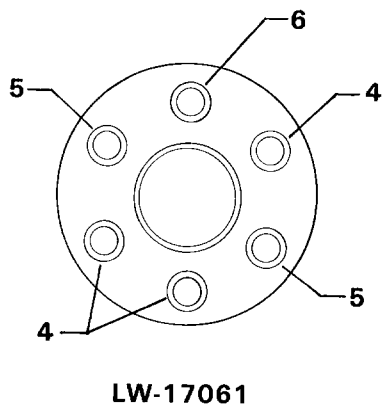
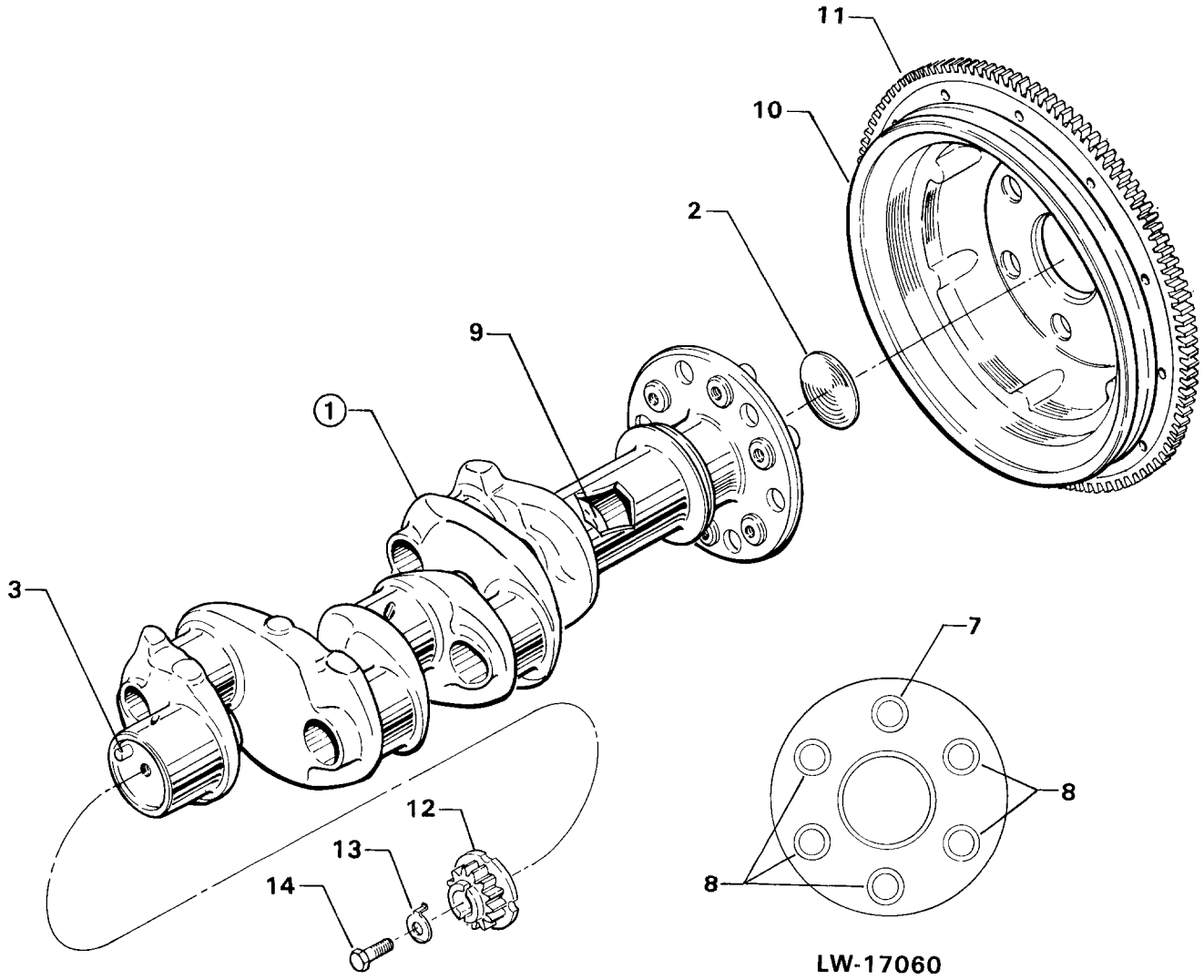


2236

**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															
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G				
1	LW-17060	CRANKSHAFT AND PLUG ASSEMBLY		1	1						1	1	1		1				
	LW-17061	CRANKSHAFT AND PLUG ASSEMBLY				1	1	1	1										
	LW-17064	CRANKSHAFT AND PLUG ASSEMBLY												1					
	LW-17071	CRANKSHAFT AND PLUG ASSEMBLY													1				
2	STD-1211	PLUG, 2.00 dia. expansion	1																
3	STD-1065	DOWEL, Stepped 5/16-1/4 dia. x 9/16 long	1																
4	72063	BUSHING, Propeller flange				3	3	3	3										
	72063	BUSHING, Propeller flange												5	5				
5	72064	BUSHING, Propeller flange				2	2	2	2										
6	72065	BUSHING, Propeller flange				1	1	1	1					1	1				
7	72066	BUSHING, Propeller flange		1	1					1	1	1						1	
8	72067	BUSHING, Propeller flange		5	5					5	5	5						5	
9	61510	PLUG, 1-3/4 O.D.				1	1	1	1										
10	74414	SUPPORT ASSY., Starter ring gear 12/14 pitch, 1.91:1 drive		1	1	1	1			1	1	1						1	
	76628	SUPPORT ASSY., Starter ring gear 12/14 pitch, 3.25:1 drive		1	1	1	1	1	1	1	1	1	1						
	LW-16843	SUPPORT ASSY., Starter ring gear 12/14 pitch, 3.25:1 drive																1	
11	72566	GEAR, Starter ring	1																
12	61155	GEAR, Crankshaft	1																
13	LW-18639	LOCKPLATE, Crankshaft gear	1																
14	STD-2213	SCREW, 5/16-24 x 1.00 long	1																

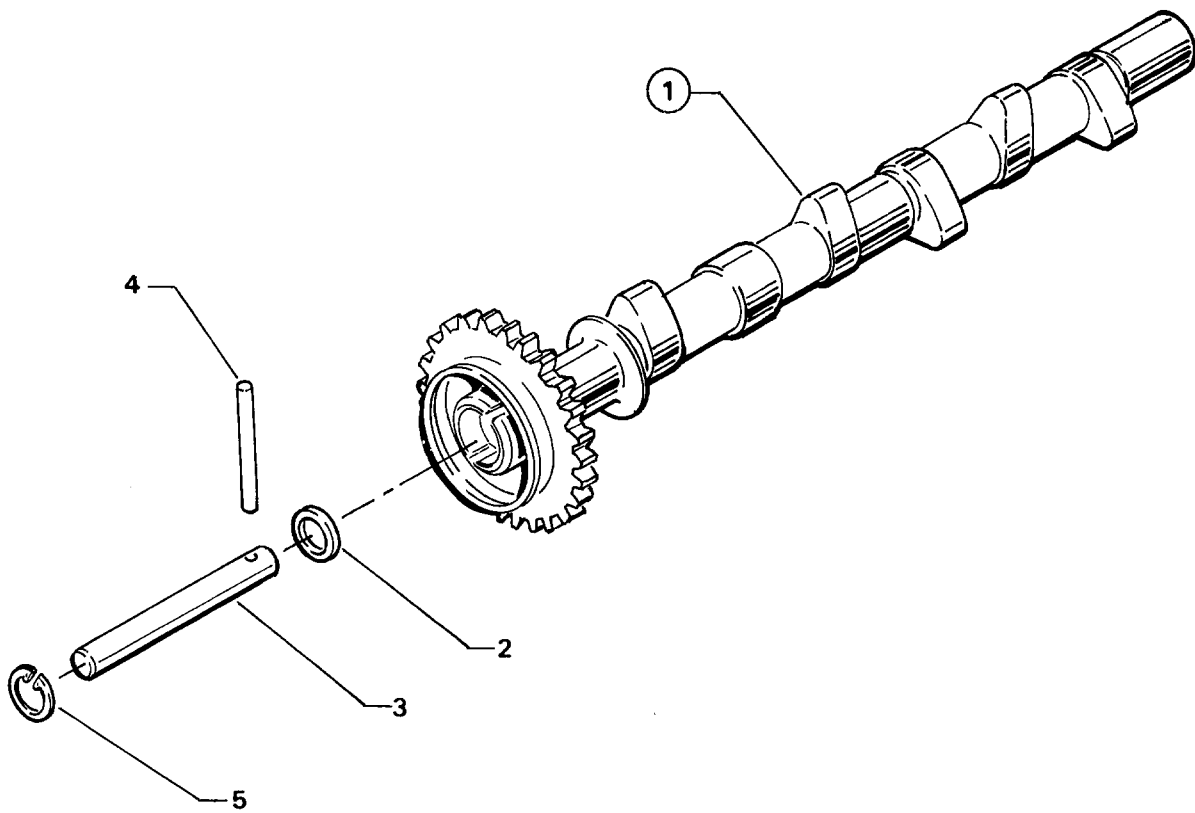


2852

**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	QUANTITY PER ASSEMBLY													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
1	LW-18837	CAMSHAFT ASSEMBLY		1	1	1	1	1		1	1	1	1	1	1		
	LW-18838	CAMSHAFT ASSEMBLY							1								
2	76118	SPACER, Tachometer shaft centering	1														
3	76121	SHAFT ASSY., Tachometer	1														
4	LW-18667	PIN, 3/16 dia. x 2-21/64 long	1														
5	MS16625-1081	RING, Internal retaining	1														

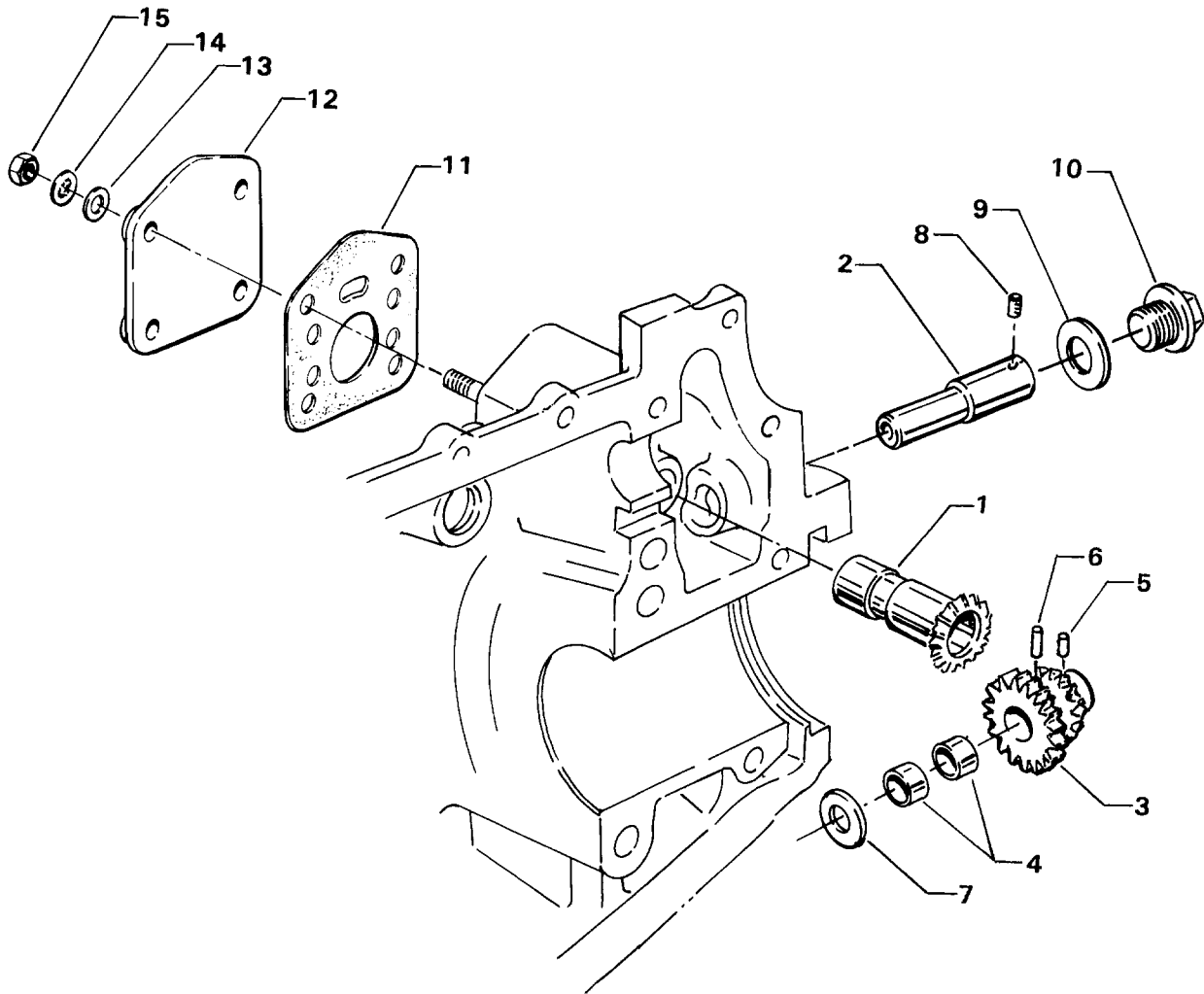


2286

**Figure 5. CAMSHAFT AND RELATED PARTS**







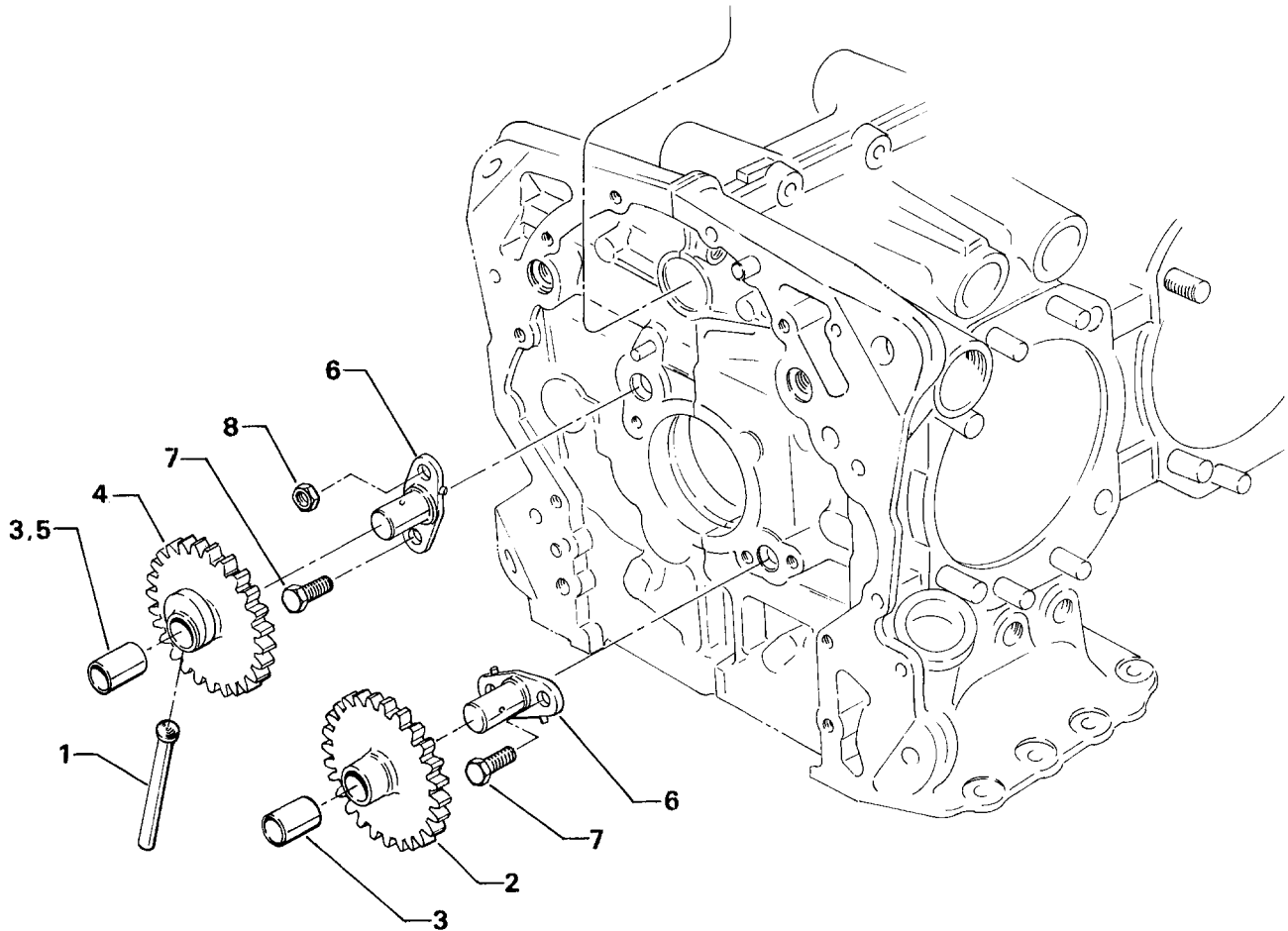
2859

**Figure 6. PROPELLER GOVERNOR DRIVE ASSEMBLY**

**CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP**

**CRANKSHAFT IDLER GEARS**

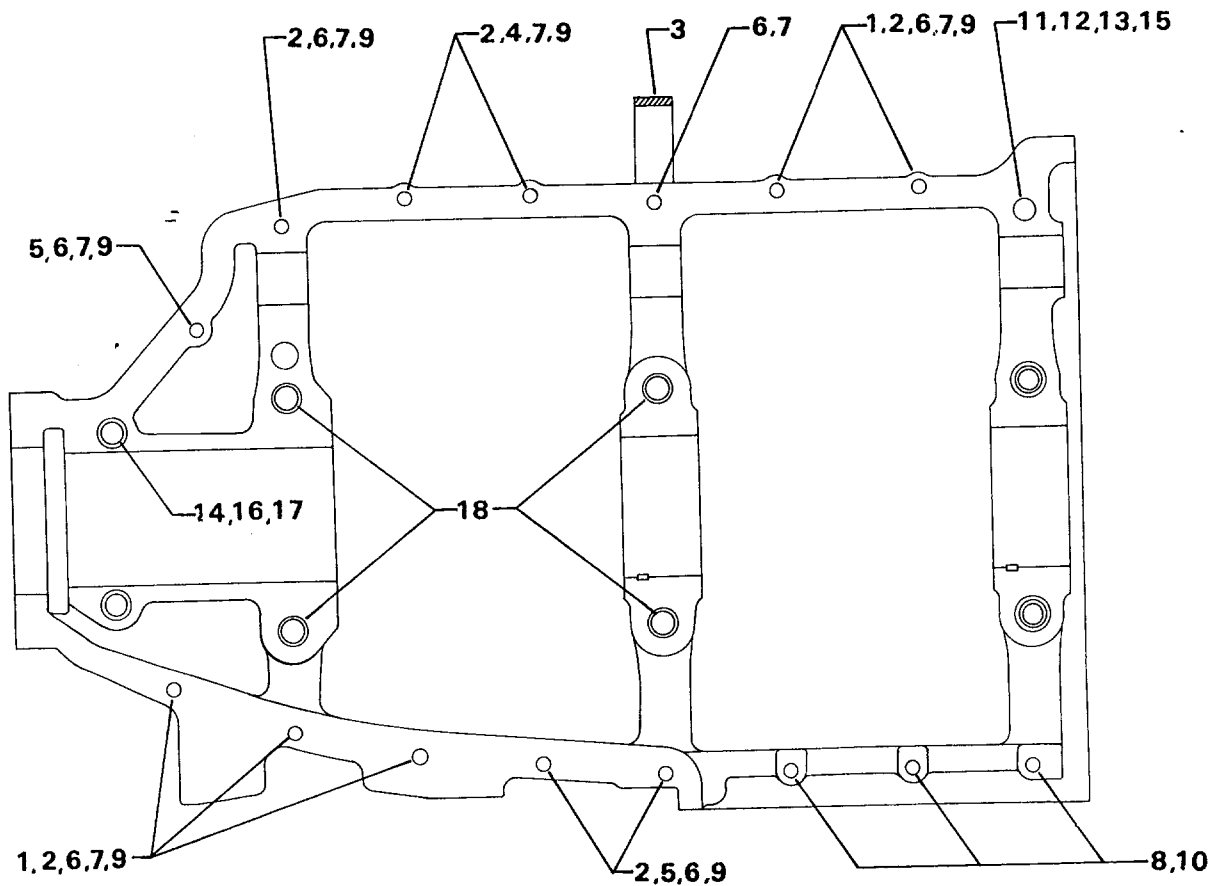
FIG. REF. 7	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
1	61544	PLUNGER, Fuel pump, long															
2	74996	GEAR ASSY., Crankshaft idler, plain		1	1	1	1	1	1	1	1	1	1	1	1		
	74996	GEAR ASSY., Crankshaft idler, plain		1	1	1	1	1	1	1	1	1	1	1	1		
3	77309	BUSHING, Crankshaft idler gear		2	2								2	2			
	77309	BUSHING, Crankshaft idler gear		1	1	1	1	1	1	1	1	1	1	1	1		
4	75072	GEAR ASSY., Crankshaft idler		2	2								2	2			
	75072	GEAR ASSY., Crankshaft idler		1	1	1	1	1	1	1	1	1	1	1	1		
5	77309	BUSHING, Crankshaft idler gear		1	1	1	1	1	1	1	1	1	1	1	1		
6	LW-13796	SHAFT, Crankshaft idler gear	2														
7	STD-2167	SCREW, 5/16-18 x 7/8 long, hex. hd. dr.	3														
8	STD-2168	NUT, 5/16-18 NC-3 slotted shear	1														



2820

**Figure 7. CRANKSHAFT IDLER GEARS**





2279

**Figure 8. CRANKCASE ATTACHING PARTS**

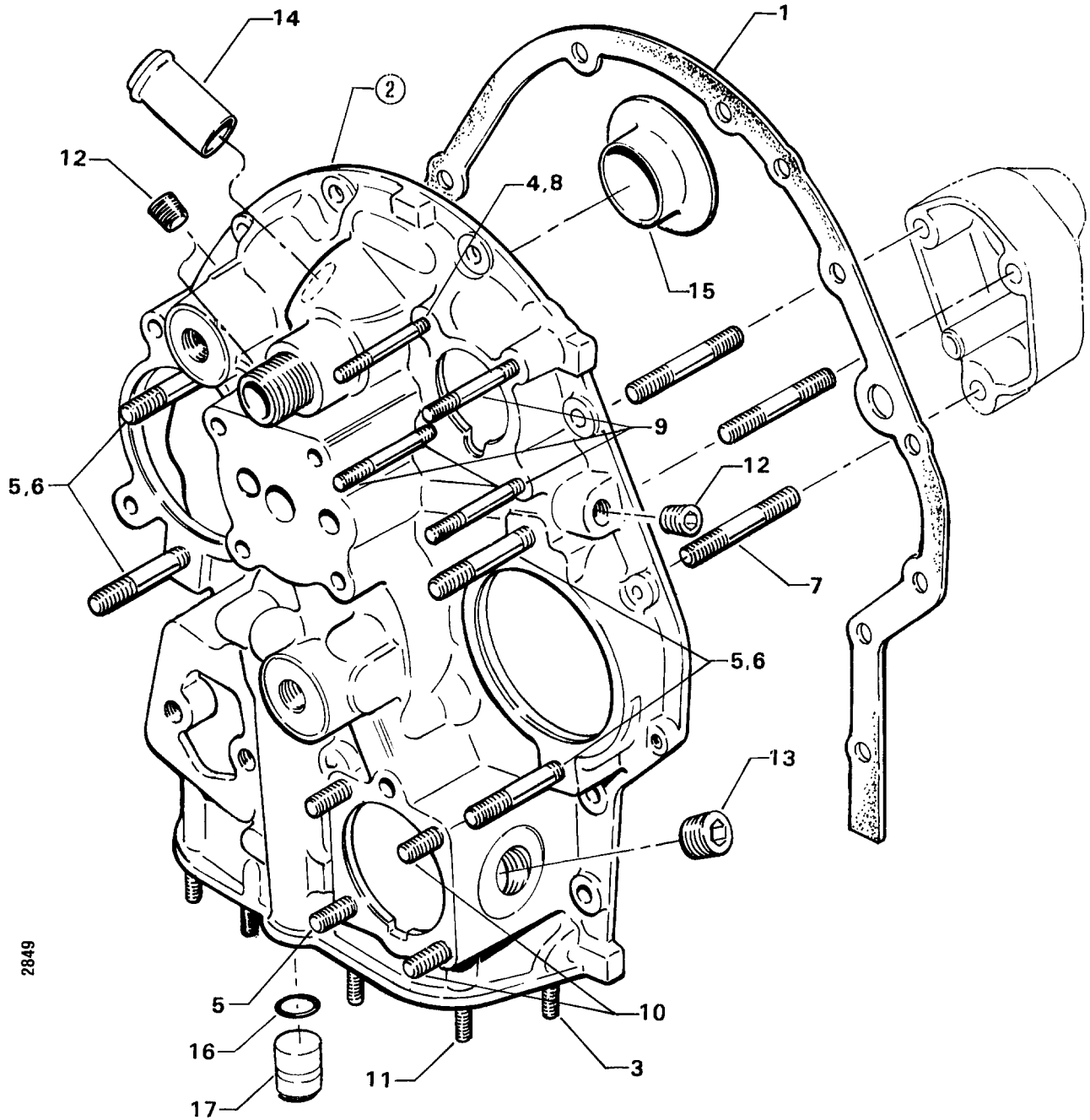
**SECTION**

**2**

**ACCESSORY  
HOUSING AND  
RELATED PARTS**





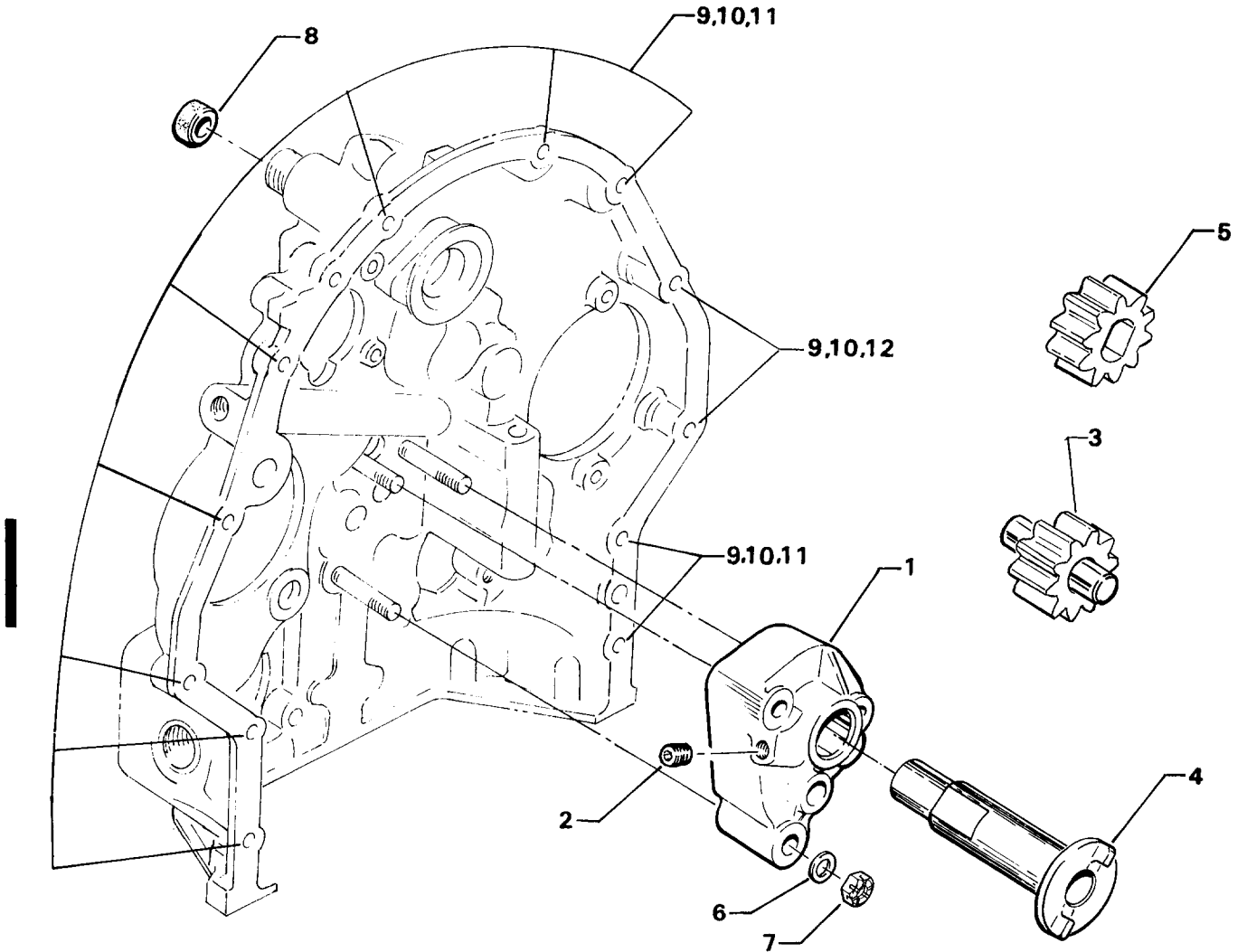


2849

**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													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
1	78528	BODY ASSY., Oil pump	1														
2	STD-1339	PLUG, 1/16-27 NPT, Allen head	1														
3	LW-13775	IMPELLER ASSY., Oil pump driven	1														
4	61174	SHAFT, Oil pump drive	1														
5	60746	IMPELLER, Oil pump driving	1														
6	STD-35	WASHER, 5/16 plain	3														
7	STD-1420	NUT, 5/16-18 slotted	3														
8	LW-14260	SEAL, Tachometer drive, oil	1														
9	STD-8	WASHER, 1/4 plain	12														
10	STD-160	WASHER, 1/4 lock, internal teeth	12														
11	STD-1204	BOLT, 1/4-20 x 15/16 long, hex. hd.	10														
12	STD-1414	BOLT, 1/4-20 x 1-1/2 long, hex. hd.	2														



2598

**Figure 10. OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS**

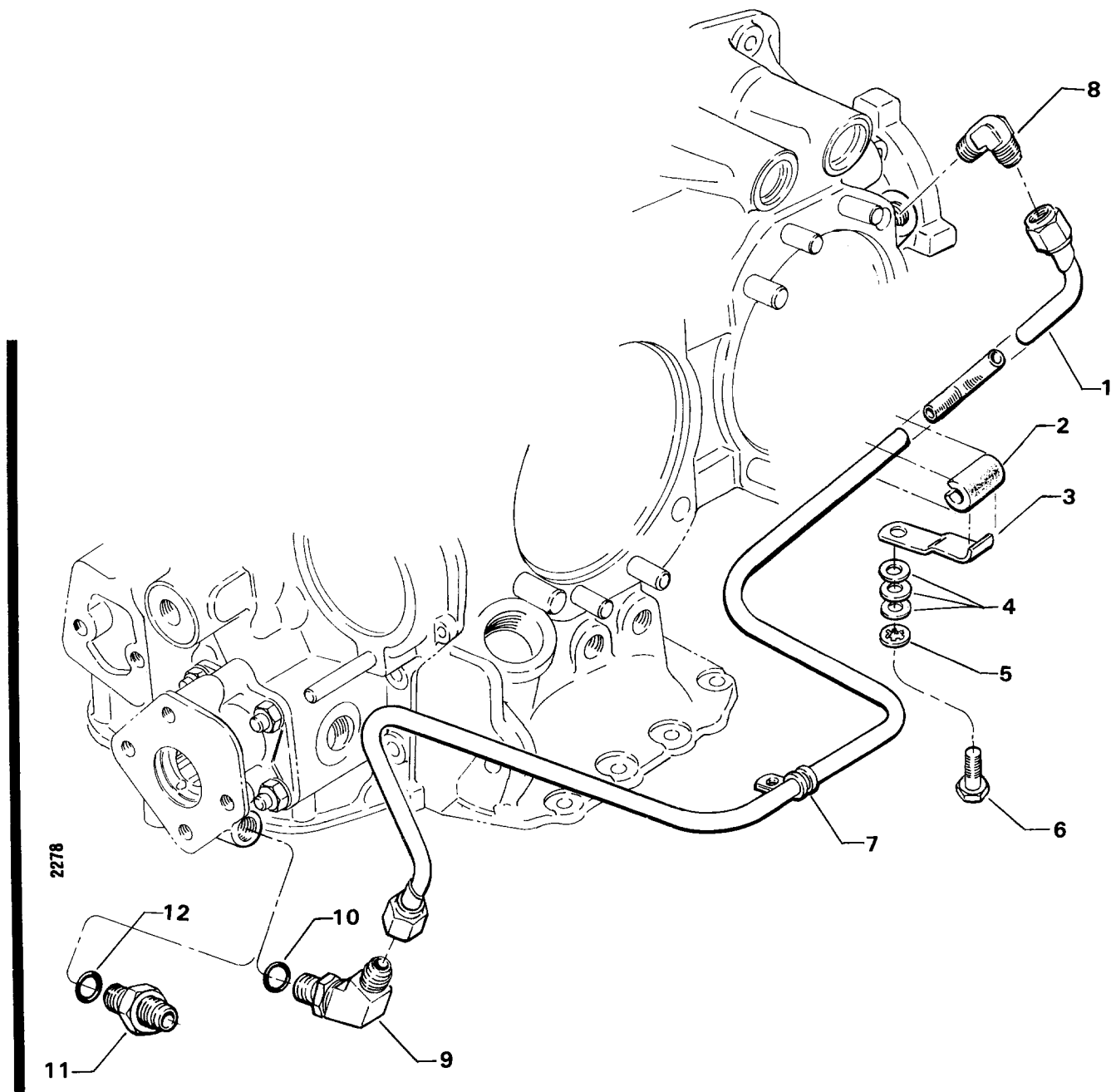
**ACCESSORY HOUSING AND RELATED PARTS**
**PROPELLER GOVERNOR OIL LINE**

FIG. REF. 11	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																		
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G							
1	75167*	TUBE ASSY., Prop. governor oil line					1	1	1													
	75166*	TUBE ASSY., Prop. governor oil line					1	1														
2	STD-1930	HOSE, 3/8 I.D. x 1.00 long					1	1	1													
3	75165	CLIP, Prop. governor oil line support					1	1	1													
4	STD-35	WASHER, 5/16 plain					3	3	3													
5	STD-475	WASHER, 5/16 lock, internal teeth					1	1	1													
6	STD-1838	BOLT, 5/16-18 x 15/16 long, hex. hd.					1	1	1													
7	LW-16266-25-38	CLAMP					1	1	1													
8	MS20822-6**	ELBOW, 3/8 flared tube & 1/4 NPT, 90°					1	1	1													
9	74070●	ELBOW, 3/8 flared tube & 9/16-18 str. thd., adj. 45°					1	1	1													
10	MS29512-06	RING, "O"					1	1	1													
11	75739●	NIPPLE, 3/8 flared tube & 9/16-18 str. thd.					1	1														
12	MS29512-06	RING, "O"					1	1														

\* Refer to Service Instruction No. 1435 for application.

\*\* Assemble in right crankcase, front.

● Assemble in prop. governor adapter.

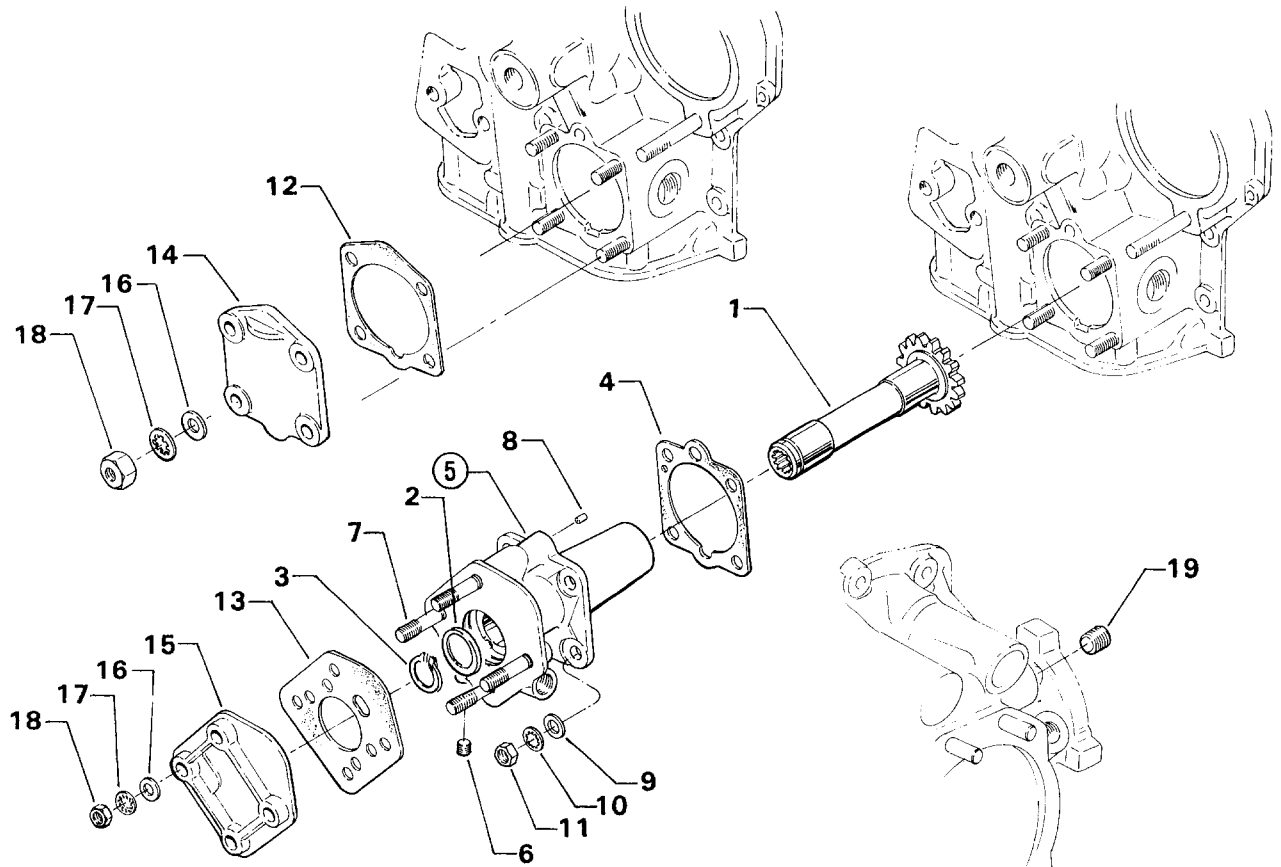


**Figure 11. PROPELLER GOVERNOR OIL LINE**

**ACCESSORY HOUSING AND RELATED PARTS  
PROPELLER GOVERNOR DRIVES AND COVERS**

FIG. REF. 12	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY														
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G			
1	68317	SHAFTGEAR, Prop. governor drive					1	1	1									
2	71596	WASHER, Accessory driven gear					1	1	1									
3	STD-1221	RING, 13/16 dia. x 27/64 thick, internal retaining					1	1	1									
4	68315	GASKET, Accessory drive adapter					1	1	1									
5	75153*	ADAPTER ASSY., Prop. governor drive					1	1	1									
	75545**	ADAPTER ASSY., Prop. governor drive					1	1	1									
6	1102	PLUG, 1/8-27 NPT, Allen					1	1	1									
7	31C-16*	STUD, 5/16-18 x 2.00 long					4	4	4									
	31C-14**	STUD, 5/16-18 x 1-3/4 long					4	4	4									
8	STD-1774	PIN, 1/8 dia. x 1/4 long					1	1	1									
9	STD-35	WASHER, 5/16 plain					4	4	4									
10	STD-475	WASHER, 5/16 lock, internal teeth					4	4	4									
11	STD-1410	NUT, 5/16-18 plain					4	4	4									
12	69551	GASKET, Accessory drive adapter		1	1					1	1	1	1	1				
13	72053	GASKET, Governor					1	1	1									
14	69106	COVER, Governor drive adapter pad		1	1					1	1	1	1	1				
15	72378	COVER, Governor drive adapter pad					1	1	1									
16	STD-35●	WASHER, 5/16 plain		4	4	AR	AR	AR	AR	4	4	4	4	4				
17	STD-475	WASHER, 5/16 lock, internal teeth		4	4	4	4	4	4	4	4	4	4	4				
18	STD-1410	NUT, 5/16-18 plain		4	4	4	4	4	4	4	4	4	4	4				
19	STD-783★	PLUG, 1/4-18 NPT, Allen hd.		1	1					1	1	1	1					1

- \* Adapter assembly and studs for Woodward governor installations.
- \*\* Adapter assembly and studs for "AN" governor installations.
- ★ Assemble in right crankcase, front.
- 32 required for Woodward governor; 4 required for "AN" governor.



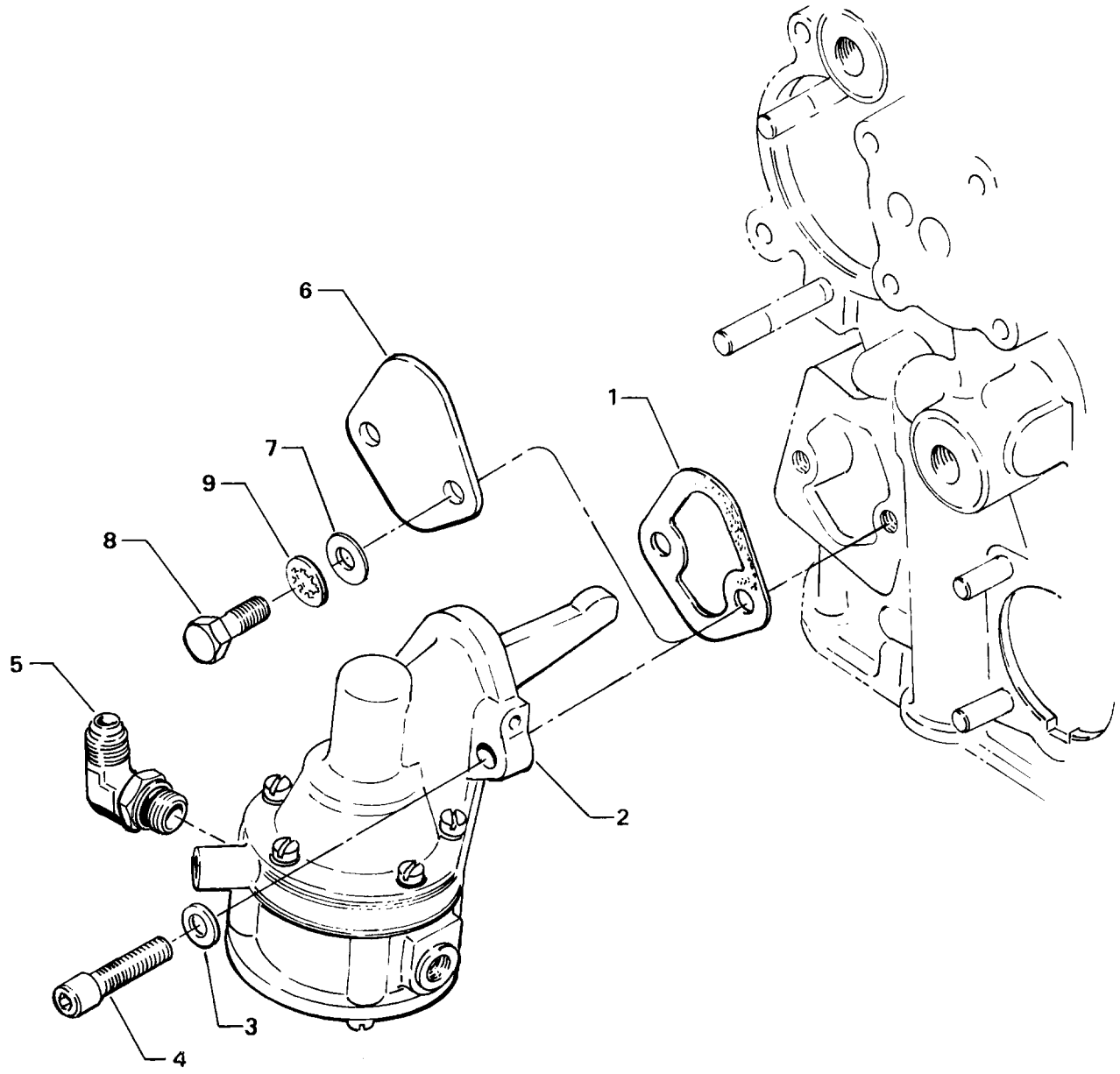
2853

**Figure 12. PROPELLER GOVERNOR DRIVES AND COVERS**

**ACCESSORY HOUSING AND RELATED PARTS  
FUEL PUMP ASSEMBLY AND ATTACHING PARTS**

FIG. REF. 13	PART NUMBER	DESCRIPTION	O N A L	QUANTITY PER ASSEMBLY															
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G				
1	60096	GASKET, Fuel pump		1	1	1	1	1	1	1	1	1	1	1	1				
2	LW-15472	FUEL PUMP, Low pressure, dual diaphragm (6441271)		1	1	1	1	1	1	1	1	1	1	1	1				
	LW-16335	FUEL PUMP, Low pressure, dual diaphragm (6441452)						1											
3	STD-33	WASHER, 3/8 plain		2	2	2	2	2	2	2	2	2	2	2	2				
4	STD-1882	SCREW, 3/8-16 x 1-9/32 long, socket hd., dr. hd.		2	2	2	2	2	2	2	2	2	2	2	2				
5	72377	ELBOW, 3/8 tube, 90° (inlet)						1											
6	65098	COVER, Fuel pump		1	1														
7	STD-33	WASHER, 3/8 plain		2	2														
8	LW-38.75	BOLT, 3/8-16 x 3/4 long, hex. hd.		2	2														
9	STD-678	WASHER, Lock		2	2														



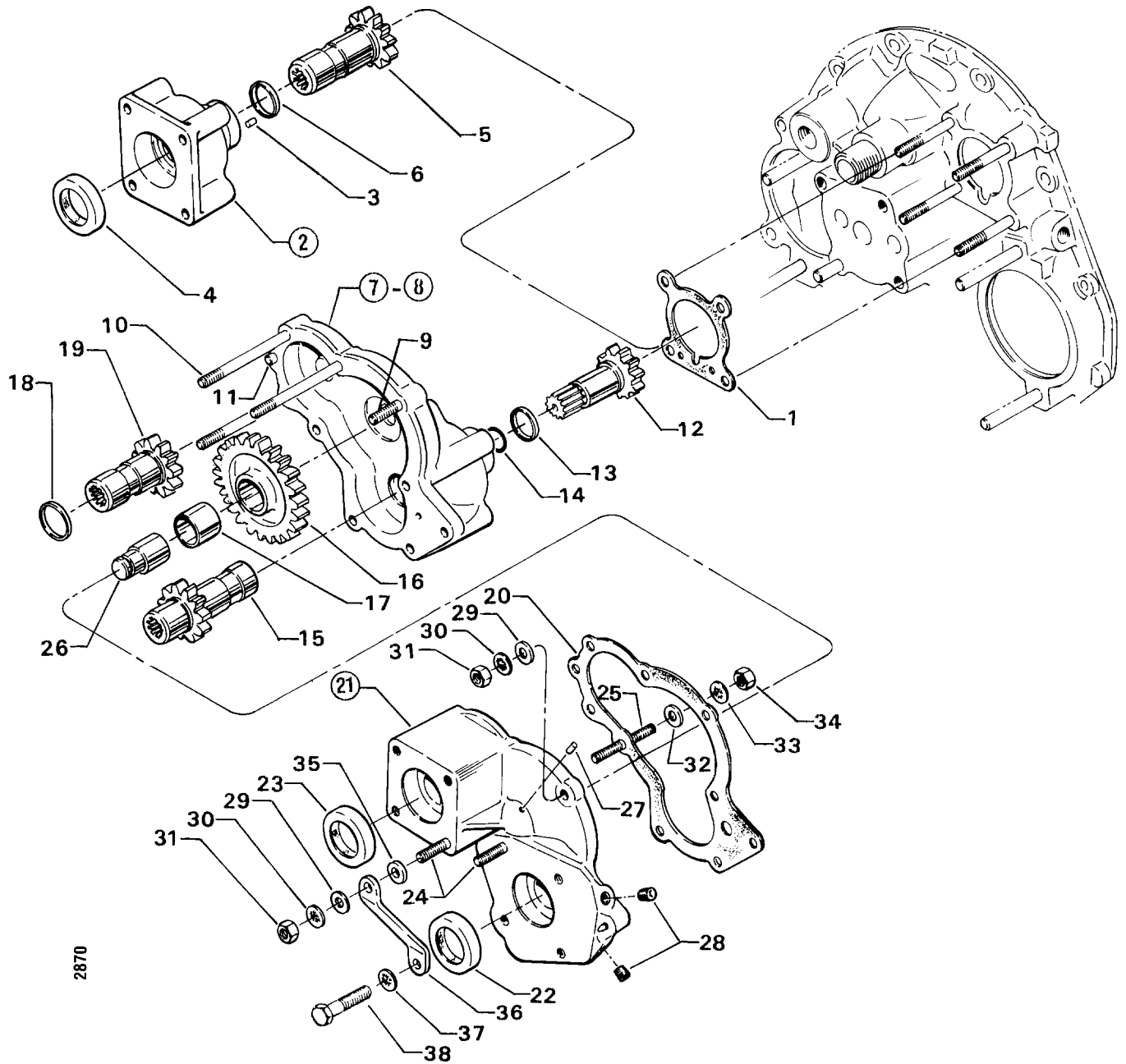


2850

**Figure 13. FUEL PUMP ASSEMBLY AND ATTACHING PARTS**

**ACCESSORY HOUSING AND RELATED PARTS  
VACUUM PUMP DRIVE AND DUAL DRIVE ASSEMBLIES**

FIG. REF. 14	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																
				B 2	B 2	B 3	D 1	D 1	D 1	D 2	D 2	D 2	D 2	D 2	D 3	D 3				
				B	C	B	A	D	F	A	B	C	G	J	G					
1	61183	GASKET, Accessory adapter	1																	
2	61098	ADAPTER ASSY., Vacuum pump		1	1	1	1	1	1	1		1	1	1	1					
3	STD-1774	PIN, 1/8 x 1/4 long		1	1	1	1	1	1	1		1	1	1	1					
4	STD-2217	SEAL, Oil, 7/8 I.D. x 1-1/2 O.D. x 5/16		1	1	1	1	1	1	1		1	1	1	1					
5	72970	GEAR ASSY., Vacuum pump driven		1	1	1	1	1	1	1		1	1	1	1					
6	71596	WASHER, Accessory driven gear		1	1	1	1	1	1	1		1	1	1	1					
7	70347	DUAL DRIVE ASSY., Vacuum pump & hydraulic pump				1														
8	69725	ADAPTER ASSY., Dual accessory drive				1														
9	61262	STUD, 1/4-20 x 1-17/32 long				1														
10	69724	STUD, 1/4-20 x 3-5/8 long				3														
11	66145	DOWEL, 1/4 dia. x 1/2 long				2														
12	69319	GEAR ASSY., Accessory drive				1														
13	71596	WASHER, Accessory driven gear				1														
14	STD-2072	RING, "O", Static seal				1														
15	69316	GEAR, Dual accessory drive				1														
16	69730	GEAR ASSY., Accessory idler				1														
17	69731	BUSHING, Accessory idler gear				1														
18	71596	WASHER, Accessory driven gear				2														
19	73231	GEAR ASSY., Vacuum pump driven				1														
20	69720	GASKET, Dual accessory drive adapter cover				1														
21	69742	COVER ASSY., Vacuum & hydraulic pump drive				1														
22	STD-548	SEAL, Oil, 7/8 I.D. x 1-3/8 O.D. x 5/16				1														
23	STD-2217	SEAL, Oil, 7/8 I.D. x 1-1/2 O.D. x 5/16				1														
24	69942	STUD, 1/4-20 x 1-17/32 long				2														
25	69722	STUD, 1/4-20 x 1-15/16 long				1														
26	69318	SHAFT, Accessory idler gear				1														
27	STD-938	DOWEL, 3/32 dia. x 11/32 long				1														
28	STD-1339	PLUG, 1/16-27 NPT, Allen				2														
29	STD-8	WASHER, 1/4 plain				2														
30	STD-160	WASHER, 1/4 internal lock				2														
31	STD-1411	NUT, 1/4-20 plain				2														
32	STD-8	WASHER, 1/4 plain				1														
33	STD-160	WASHER, 1/4 lock, internal teeth				1														
34	STD-1411	NUT, 1/4-20 plain				1														
35	STD-696	WASHER, 17/64 I.D. x 1/2 O.D. x 1/32 thick				AR														
36	71023	BRACE, Dual drive				1														
37	STD-160	WASHER, 1/4 lock, internal teeth				1														
38	STD-1215	BOLT, 1/4-20 x 1-1/4 long, hex. hd.				1														



**Figure 14. VACUUM PUMP DRIVE AND DUAL DRIVE ASSEMBLIES**

ACCESSORY HOUSING AND RELATED PARTS  
ACCESSORY DRIVE COVERS

FIG. REF. 15	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																		
				B	B	B	D	D	D	D	D	D	D	D	D	D						
				2	2	3	1	1	1	2	2	2	2	2	3							
1	8313	GASKET, Vacuum pump		1	1	1	1	1	1	1		1	1	1	1							
2	60430	COVER, Vacuum pump	1																			
3	68593	SPACER, Vacuum pump stud		4	4	4	4				4	4										
4	STD-8	WASHER, 1/4 plain	4																			
5	STD-160	WASHER, 1/4 lock, internal teeth	4																			
6	STD-1411	NUT, 1/4-20 plain	4																			
7	8313	GASKET, Vacuum and hydraulic pump					2															
8	60430	COVER, Vacuum and hydraulic pump					2															
9	STD-8	WASHER, 1/4 plain					8															
10	STD-160	WASHER, 1/4 lock, internal teeth					8															
11	STD-1411	NUT, 1/4-20 plain					8															

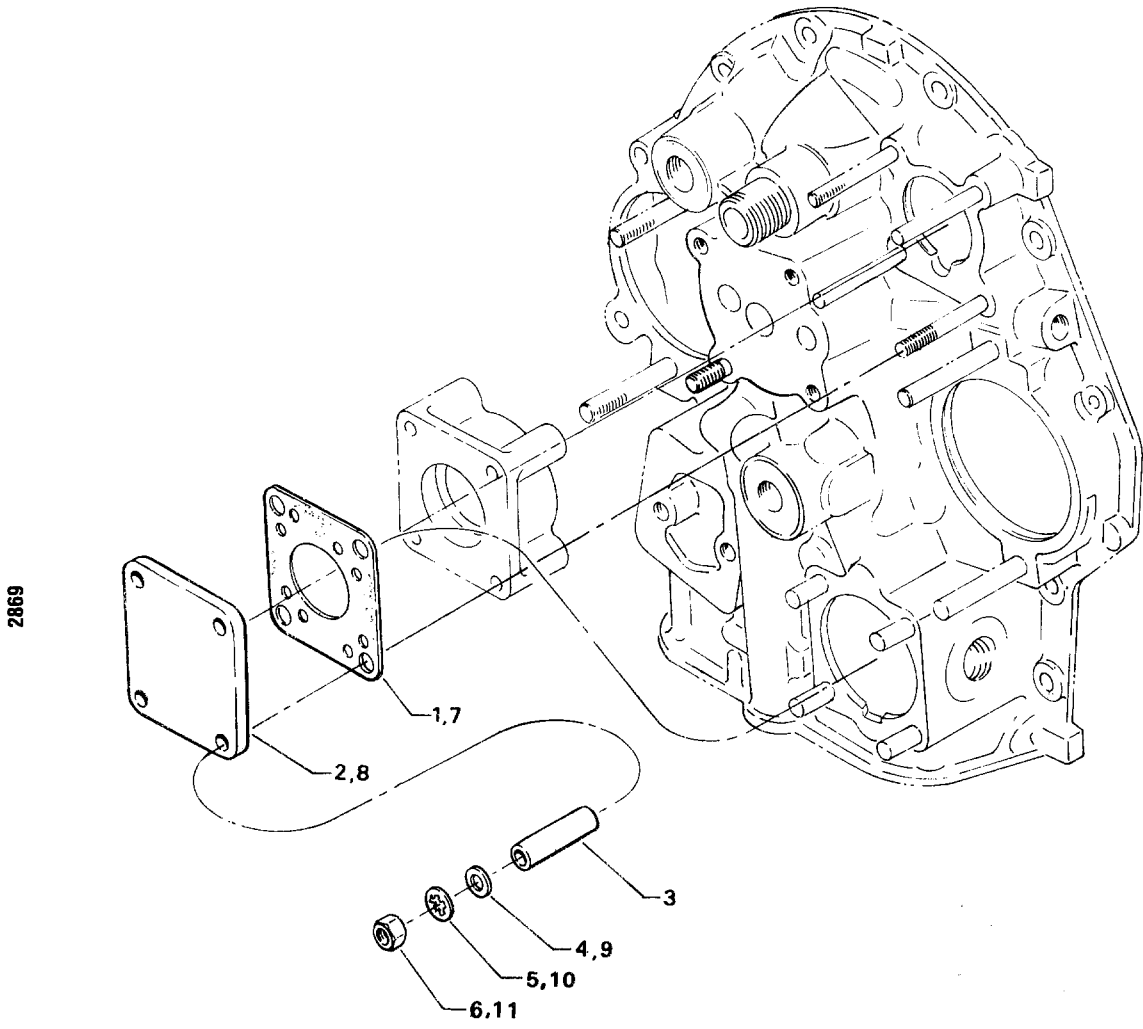
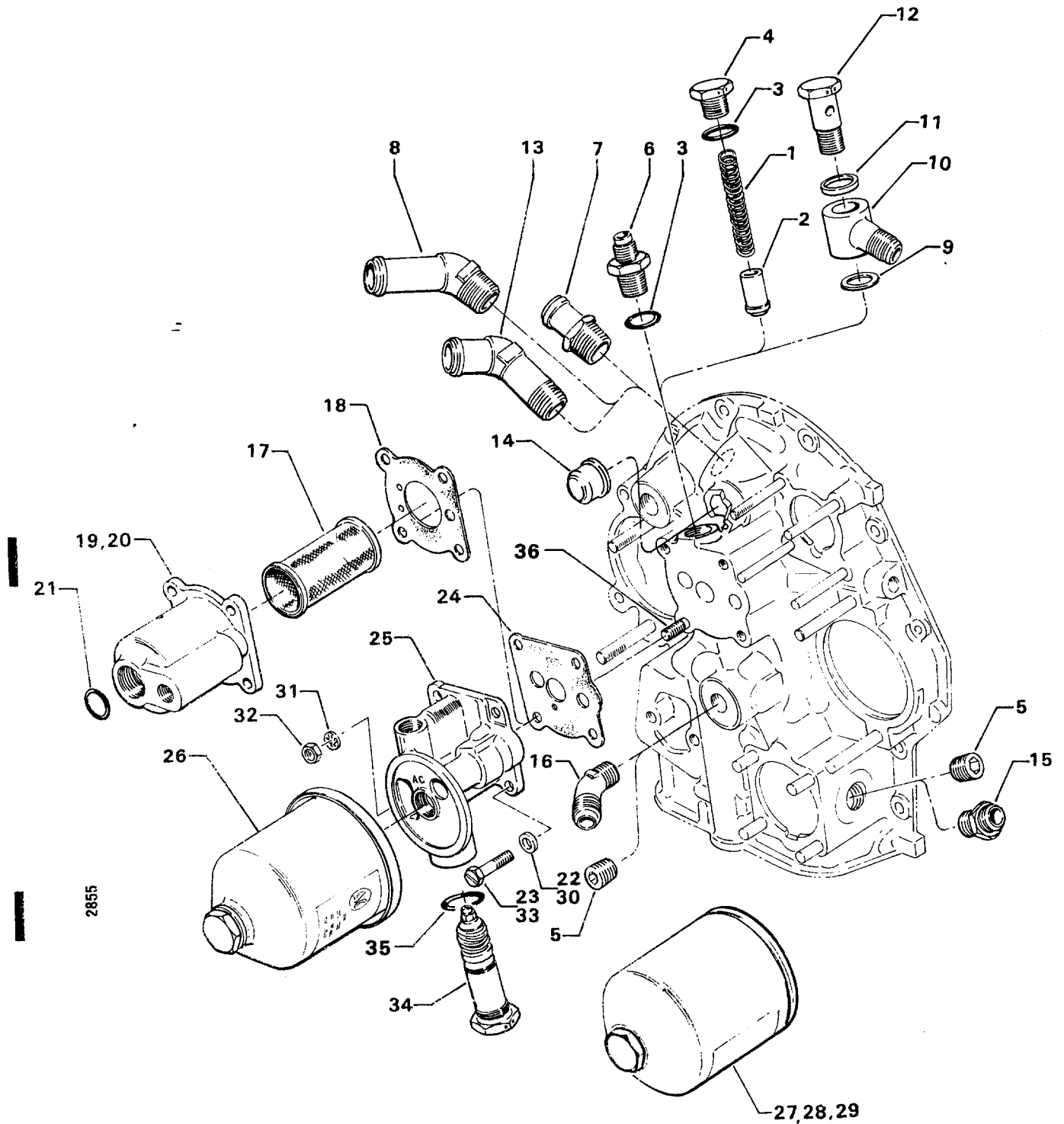


Figure 15. ACCESSORY DRIVE COVERS

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

FIG. REF. 16	PART NUMBER	DESCRIPTION	O N A L	QUANTITY PER ASSEMBLY													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
1	69436*	SPRING, Oil cooler bypass								1	1		1	1			
2	62415*	PLUNGER, Oil cooler bypass								1	1		1	1			
3	STD-294	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular	1														
4	62417	PLUG, Oil cooler bypass			1					1	1	1	1	1	1		
5	STD-784	PLUG, 3/8 pipe	2														
6	69675	CONNECTOR, Accessory housing to oil cooler inlet hose		1	1	1	1	1	1	1	1	1	1	1	1		
7	71140	FITTING, Breather					1	1	1	1	1	1	1	1	1		
8	AN844-10D	ELBOW, Breather, 45°														1	
9	71623	WASHER, Oil cooler fitting					1			1		1					
10	AN777-8D	ELBOW, Universal, 75°					1			1		1					
11	AN901-8A	GASKET, Metal tube connection seal					1			1		1					
12	71620	BOLT, Oil cooler fitting					1			1		1					
13	72413	FITTING, Breather, 120° elbow					1	1	1	1	1	1					
14	62732	CAP, Tachometer drive (assemble on acc. hsg.)			1												
15	AN816-8	NIPPLE, 1/2 flared tube, 3/8 NPT								2							
16	MS20823-8	ELBOW, 1/2 flared tube, 3/8 NPT													2		
17	62817	SCREEN ASSY., Oil pressure		1	1	1	1	1	1	1	1	1	1	1		1	
18	61173	GASKET, Oil pressure housing		1	1	1	1	1	1	1	1	1	1	1		1	
19	68974	HOUSING, Oil pressure screen							1	1		1		1			
20	69510**	HOUSING, Thermostatic valve and pressure screen		1	1	1	1	1	1	1		1	1				
21	STD-294	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular		1	1	1	1	1	1	1	1	1	1	1		1	
22	STD-8	WASHER, 1/4 plain		4	4	4	4	4	4	4	4	4	4	4		4	
	STD-8	WASHER, 1/4 plain				3											
23	STD-1856	SCREW, 1/4-20 x 31/32 to 1.00 long, hex. hd. slotted		4	4	4	4	4	4	4	4	4	4	4		4	
24	LW-12795	GASKET, Oil filter adapter		2	2	2	2	2	2	2			2	2	2		
25	77852	OIL FILTER BASE ASSY.		1	1	1	1	1	1	1			1	1	1		
26	77853	OIL FILTER HOUSING ASSY.		1	1			1	1	1						1	
27	LW-16286	FILTER ASSY., Oil, short							1								
28	LW-13215	FILTER, Oil, short (spin on)		1		1	1	1		1			1		1		
29	LW-13216	FILTER ASSY., Oil, long (spin on)													1		
30	STD-8	WASHER, 1/4 plain		4	4	4	4	4	4	4			4	4	4		
31	STD-160	WASHER, 1/4 lock, internal teeth		1	1	1	1	1	1	1			1	1	1		
32	STD-1411	NUT, 1/4-20 plain		1	1	1	1	1	1	1			1	1	1		
33	STD-1856	SCREW, 1/4-20 x 31/32 to 1.00 long, hex. hd. slotted		3	3	3	3	3	3	3			3	3	3		
34	75944	VALVE ASSY., Temp. control, oil cooler bypass		1	1	1	1	1	1	1			1	1	1	1	
35	76510	GASKET, Valve assembly		1	1	1	1	1	1	1			1	1	1	1	
36	25C-10	STUD, 1/4-20 x 1-1/4 long		1	1	1	1	1	1	1			1	1	1		

\* Not required when thermostatic bypass valve is used.  
 \*\* Provision for thermostatic valve in oil screen housing.



**Figure 16. OIL FILTER ASSEMBLY AND OIL COOLER BYPASS VALVE**

**SECTION**

**3**

**CYLINDER, PISTON  
AND VALVE TRAIN**

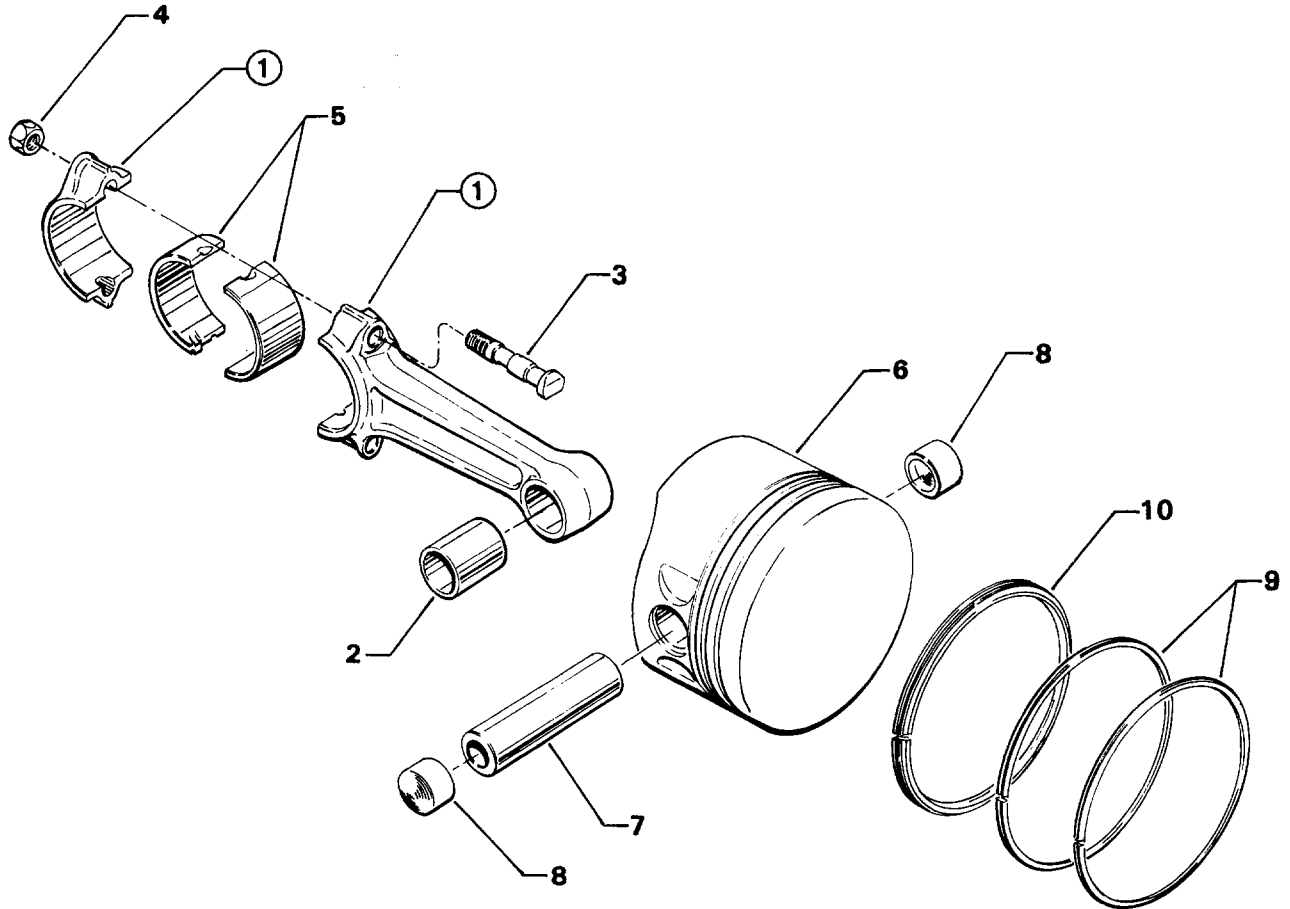
**HIGH COMPRESSION: WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE.**

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

FIG. REF. 17	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G					
1	78030	ROD ASSY., Connecting	4																	
2	LW-13923	BUSHING, Connecting rod, upper	4																	
3	78027	BOLT, Connecting rod	8																	
4	LW-12186	NUT, Connecting rod	8																	
5	69373	BEARING, Connecting rod	8																	
6	75089	PISTON, Compression ratio 8.50:1	4																	
7	LW-14078	PIN, Piston	4																	
	LW-14077	PIN, Piston							4	4										
8	60828	PLUG, Piston pin	8																	
	72198*	PLUG, Piston pin		8	8															
	LW-11775	PLUG, Piston pin (piloted in piston pin)							8	8										
9	74241**	RING, Piston, compression	8																	
	74673★	RING, Piston, compression		8	8															
10	73857●	RING, Piston, oil regulating (expander type)	4																	
	73998‡	RING, Piston, oil regulating (expander type)		4	4															

- \* Used with chrome cylinder installations.
- \*\* Chrome ring for nitrided cylinders.
- ★ Plain ring for chrome cylinders.
- Oil ring for nitrided cylinders.
- ‡ Oil ring for chrome cylinders.





2854

**Figure 17. CONNECTING RODS, PISTONS AND RING ASSEMBLIES**

**HIGH COMPRESSION: WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE**

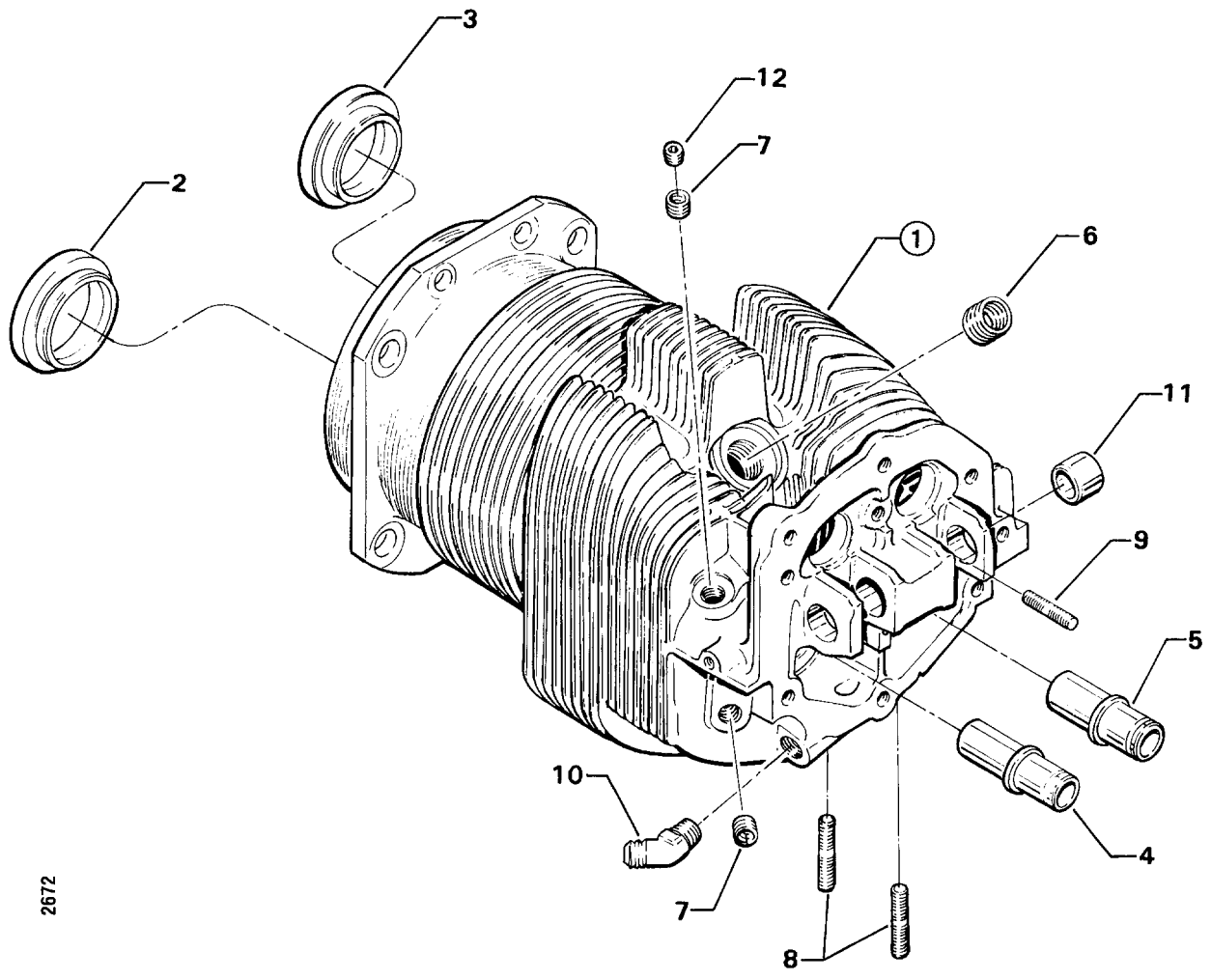
**CYLINDER, PISTON AND VALVE TRAIN**

**CYLINDER ASSEMBLY**

FIG. REF. 18	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																		
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G							
1	LW-12416	CYLINDER AND HEAD ASSY., Nitrided	4																			
2	72057	SEAT, Intake valve	4																			
3	72058	SEAT, Exhaust	4																			
4	60028	GUIDE, Valve intake	4																			
5	74230	GUIDE, Valve exhaust	4																			
6	66796	INSERT, Spark plug (18-1.5mm)	8																			
7	STD-1872	INSERT, 1/8-27 heli-coil, taper pipe thread	8																			
8	31C-12	STUD, 5/16-18 x 1-1/2 long	8																			
9	25C-9	STUD, 1/4-20 x 1-1/8 long	4																			
10	MS20823-6D	ELBOW, 45°, 3/8 flared tube	4																			
11	66610	BUSHING, Rocker shaft	16																			
12	1102	PLUG, 1/8-27 NPT, Allen head	4																			

NOTE

No injection or primer system.



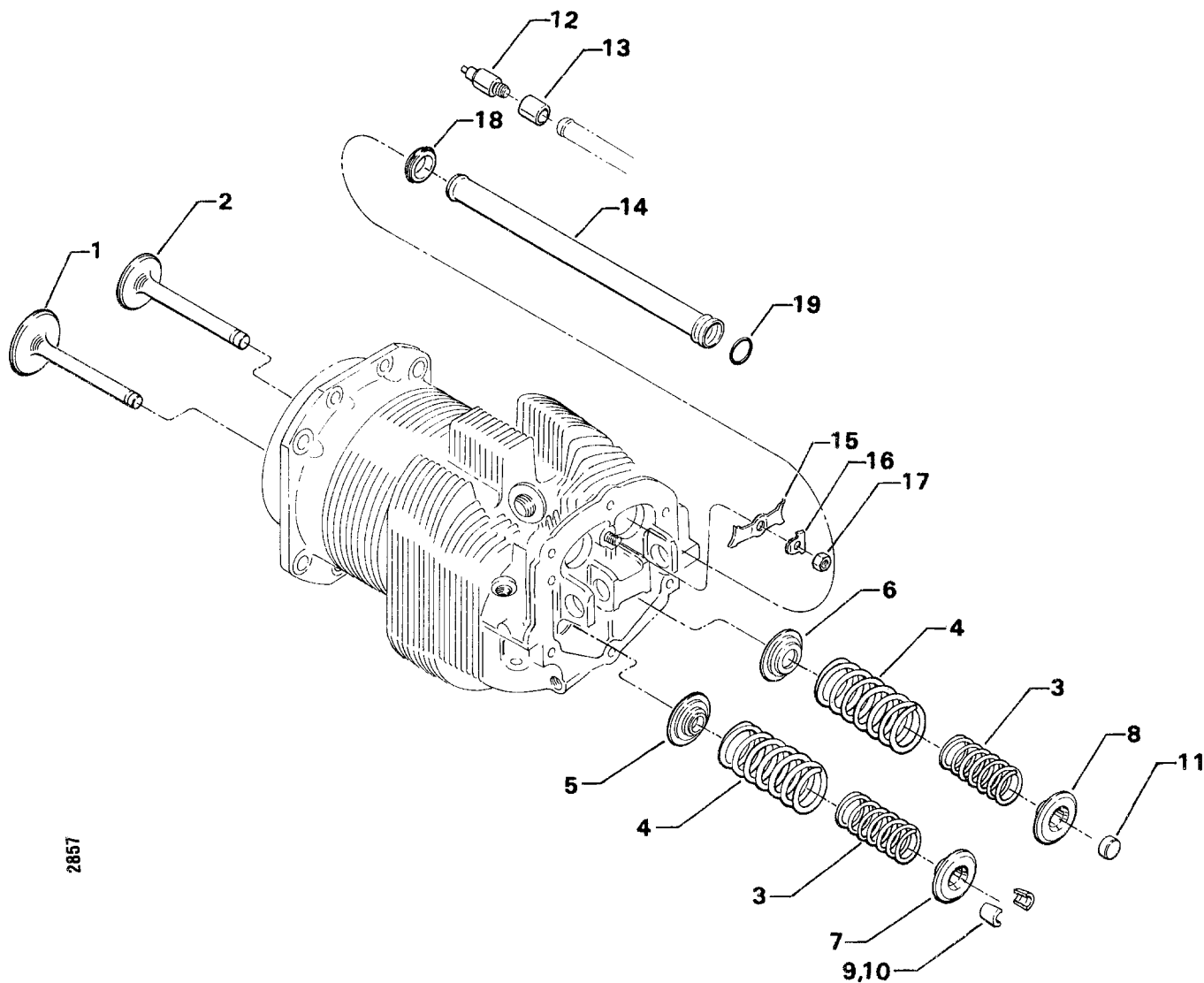
2672

**Figure 18. CYLINDER ASSEMBLY**

**CYLINDER, PISTON AND VALVE TRAIN**

**VALVE ASSEMBLY**

FIG. REF. 19	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
1	73938	VALVE, Intake	4														
2	LW-19001	VALVE, Exhaust (rotator type)	4														
3	LW-11795	SPRING, Valve, inner	8														
4	LW-11800	SPRING, Valve, outer	8														
5	65441	SEAT, Valve spring, lower intake	4														
6	LW-13323	SEAT, Valve spring, lower exhaust	4														
7	LW-10077	SEAT, Valve spring, upper intake	4														
8	LW-16475	SEAT, Valve spring, upper exhaust (rotator type)	4														
9	60009	KEY, Valve, intake	8														
10	MS13997-3	KEY, Valve, exhaust (rotator type)	8														
11	MS13998-3	CAP, Valve stem, exhaust (rotator type)	4														
12	78290	PLUNGER ASSY., Hydraulic tappet	8														
13	78524	SOCKET, Push rod, hydraulic tappet	8														
14	68987	TUBE, Push rod shroud	8														
15	LW-14995	SPRING, Shroud tube	4														
16	LW-12272	LOCKPLATE, Shroud tube	4														
17	STD-1411	NUT, 1/4-20 plain	4														
18	62922	SEAL, Shroud tube	8														
19	70310	SEAL, Shroud tube	8														



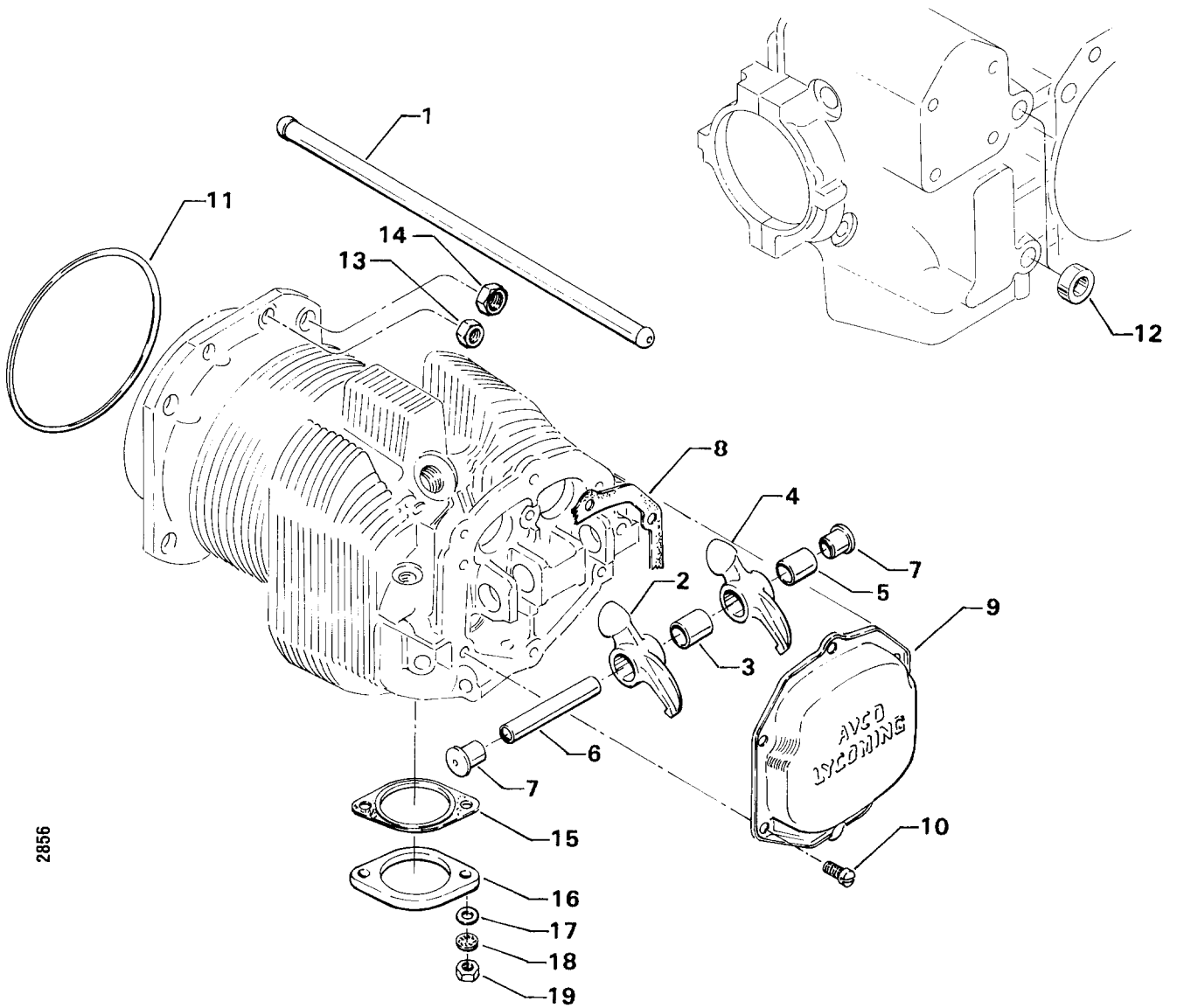
2857

**Figure 19. VALVE ASSEMBLY**

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

FIG. REF. 20	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY															
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G				
1	73411*	ROD ASSY., Push	AR																
	73412*	ROD ASSY., Push	AR																
	73413*	ROD ASSY., Push	AR																
	73414*	ROD ASSY., Push	AR																
2	69444	ROCKER ASSY., Valve, intake	4																
3	60398	BUSHING, Valve rocker, intake	4																
4	74636	ROCKER ASSY., Valve, exhaust	4																
5	74637	BUSHING, Valve rocker, exhaust	4																
6	LW-13790	SHAFT, Valve rocker	4																
7	LW-12892	THRUST BUTTON, Rocker shaft	8																
8	75906	GASKET, Cover, rocker box	4																
9	61247	COVER, Rocker box	4																
10	STD-1925	SCREW, 1/4-20 x 5/8 long, pan hd., self-locking	24																
11	71481	RING, Oil seal, 3/32 x 4-27/32 I.D.	4																
12	74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2																
13	383-B	NUT, 3/8-24 plain	16																
14	STD-2090	NUT, 1/2-20 plain	18																
15	65321	GASKET, Exhaust flange, copper/asbestos	4																
	77611	GASKET, Exhaust flange, stainless				4													
	75118	GASKET, Exhaust flange, copper				4													
16	61260	FLANGE, Exhaust (stainless)		4	4	4	4	4	4	4		4	4						
17	STD-35	WASHER, 5/16 plain	8																
18	STD-475	WASHER, 5/16 lock, internal teeth	8																
19	STD-1410	NUT, 5/16-18 plain	8																

\* A total of 8 required.



**Figure 20. CYLINDER RELATED PARTS**

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

FIG. REF. 21	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																			
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G								
1	STD-684	NIPPLE, Straight, 3/8 I.D. hose	4																				
2	STD-2180	HOSE, 3/8 I.D. x 1-13/16 long	4																				
3	LW-15592-5-05	CLAMP, Hose	8																				
4	68759	TUBE ASSY., Oil drain, cylinder no. 1	1																				
5	68760	TUBE ASSY., Oil drain, cylinder no. 2	1																				
6	68761	TUBE ASSY., Oil drain, cylinders no. 3 & 4	2																				
7	72569	BAFFLE ASSY., Intercylinder	2																				
8	71611	RETAINER, Intercylinder	2																				
9	71610	HOOK, Intercylinder baffle retainer	2																				

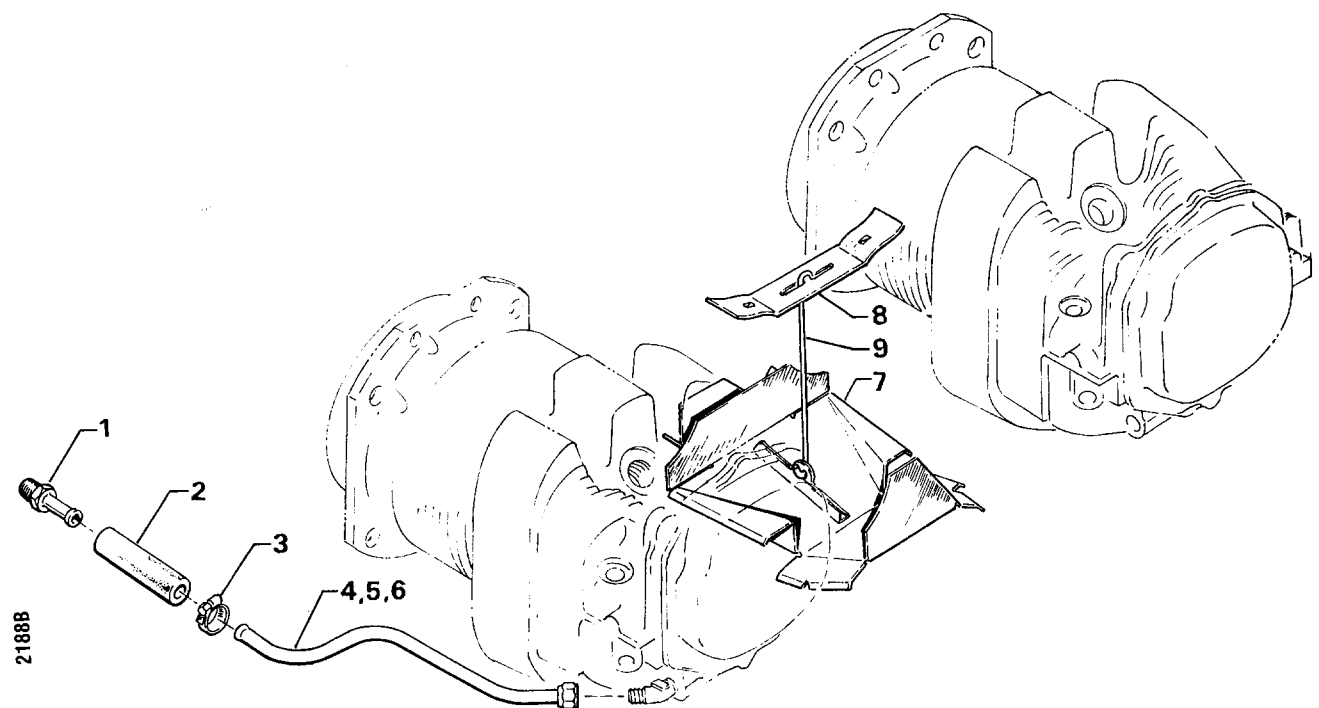


Figure 21. CYLINDER HEAD DRAIN TUBES AND INTERCYLINDER COOLING BAFFLES



**SECTION**

**4**

**IGNITION SYSTEM**

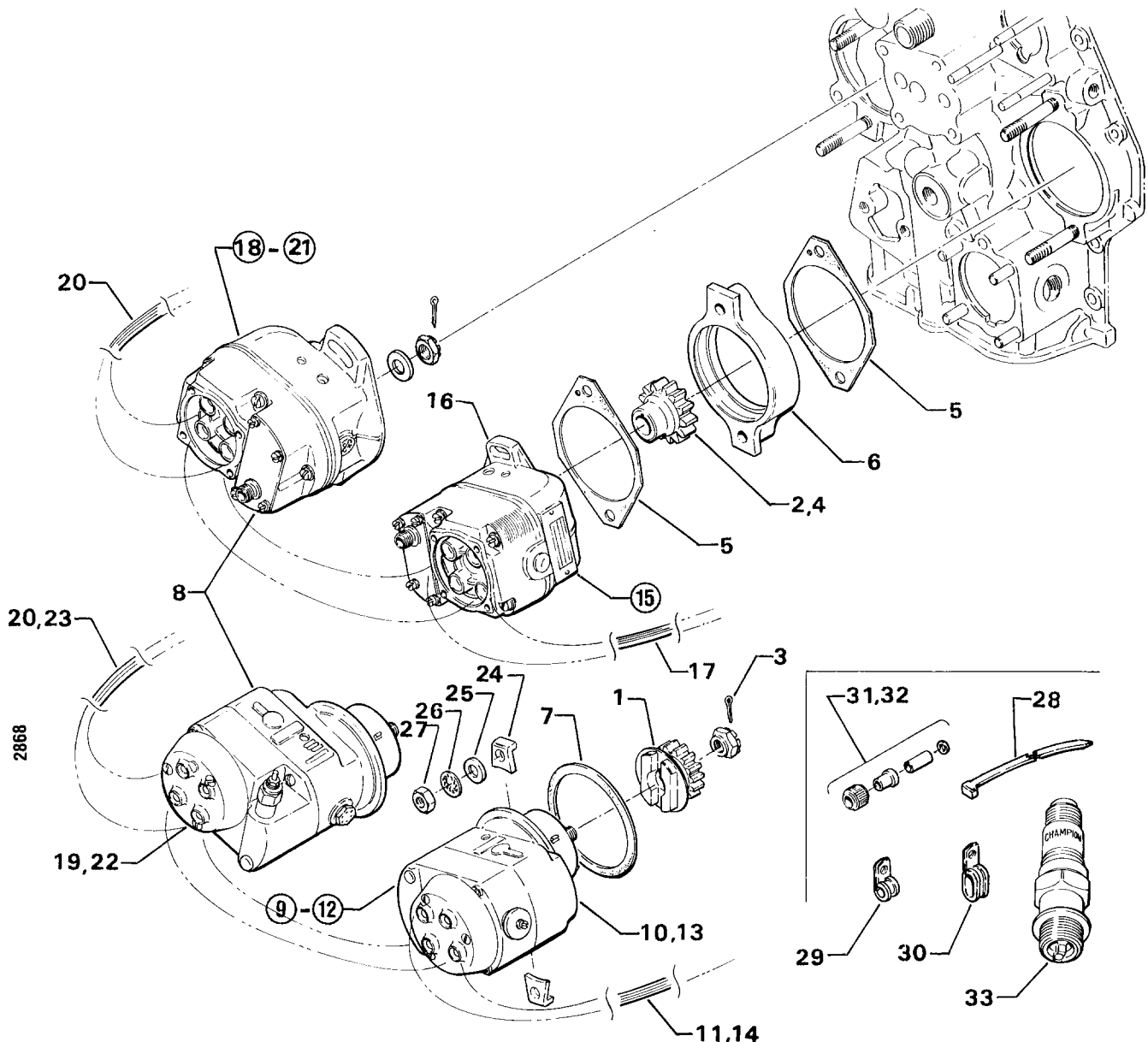
**IGNITION SYSTEM  
MAGNETOS AND MAGNETO DRIVES**

FIG. REF. 22	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY														
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G			
1	61665	GEAR, Magneto, impulse coupling		1		1	1	1	1	1		1	1		1			
	61665	GEAR, Magneto, impulse coupling													2			
2	72495	GEAR, Magneto, retard breaker			1							1						
3	STD-761	PIN, Cotter, 3/32 dia. x 1.00 lg.						1						1				
	STD-761	PIN, Cotter, 3/32 dia. x 1.00 lg.													2			
4	61163	GEAR, Magneto		1	1	1	1	1	1	1	1	1	1	1	1			
5	62224	GASKET, Magneto adapter and magneto		3	2	3	3	1	1	3	2	1	1	2	1			
6	LW-12706	ADAPTER, Magneto, impulse coupling		1		1	1	1	1	1		1	1	2	1			
7	LW-12681	GASKET, Magneto						2	2			2	2	2	2			
8	LW-51360-29	MAGNETO, S4LN-20		1		1	1			1								
	LW-51360-37	MAGNETO, Impulse coupling, S4LN-21		1		1	1			1								
	LW-163045-3	MAGNETO, S4LN-204			1						1							
	LW-163005-2	MAGNETO, Retard breaker, S4LN-200			1						1							
	LW-349305-1	MAGNETO, S4LN-1209								1		1						
	LW-349365-3	MAGNETO, Impulse coupling, S4LN-1227							1			1						
	LW-163045-6	MAGNETO, W/Electric tach. pick-up, S4LN-204		1														
9	LW-15635	MAGNETO AND HARNESS ASSY., Right (Slick)						1				1		1				
10	LW-15636	MAGNETO, Right, Slick model 4250						1				1		1				
11	77743	HARNESS ASSY., Ignition, right						1				1		1				
12	LW-16591	MAGNETO AND HARNESS ASSY., Right (Slick)													1			
13	LW-15638	MAGNETO, Right (Slick model 4251, impulse coupling)													1			
14	77743	HARNESS ASSY., Ignition, right													1			
15	LW-16895	MAGNETO AND HARNESS ASSY., Right (Slick)													1			
16	LW-15638	MAGNETO, Right (Slick model 4251, impulse coupling)													1			
17	LW-16892	HARNESS ASSY., Ignition, right													1			
18	LW-15637	MAGNETO AND HARNESS ASSY., Left (Slick)						1				1	1	1				
19	LW-15638	MAGNETO, Left (Slick model 4251, impulse coupling)						1				1	1	1				
20	77745	HARNESS ASSY., Ignition, left						1				1	1	1				
21	LW-16894	MAGNETO AND HARNESS ASSY., Left (Slick)													1			
22	LW-15638	MAGNETO, Left (Slick model 4251, impulse coupling)													1			
23	LW-16893	HARNESS ASSY., Ignition, left													1			
24	75965	CLAMP, Magneto							4			4						
	76961	CLAMP, Magneto						4				4	4	4				
25	STD-1727	WASHER, Plain, 3/4 O.D. x 21/64 I.D. x 1/8 thick		4	4	4	4	4		4	4	4	4	4				
26	STD-475	WASHER, 5/16 lock, internal teeth		4														
27	STD-1410	NUT, 5/16-18 plain		4														
28	76734	STRAP, Zip						8				8	8	8				
29	LW-14057	CLIP, 1 wire						2				2	2	2				
30	LW-14060	CLIP, 2 wire						3				3	3	3				
31	LW-52305-1	KIT ASSY., Magneto ground terminal		2		2	2			2								
	LW-157209	KIT ASSY., Magneto ground terminal			2					2								
32	LW-157208	KIT ASSY., Magneto ground terminal			1					1								

**IGNITION SYSTEM**  
**MAGNETOS AND MAGNETO DRIVES (Cont.)**

FIG. REF. 22	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
33	1182-B3*	SPARK PLUG, (Champion REM-40E)	8														
	1182-Q5*	SPARK PLUG, (AC-SR93)					8										

\* Item No. 33 spark plugs are used in current production only. Additional spark plugs are available for these engines. See latest edition of Avco Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs.



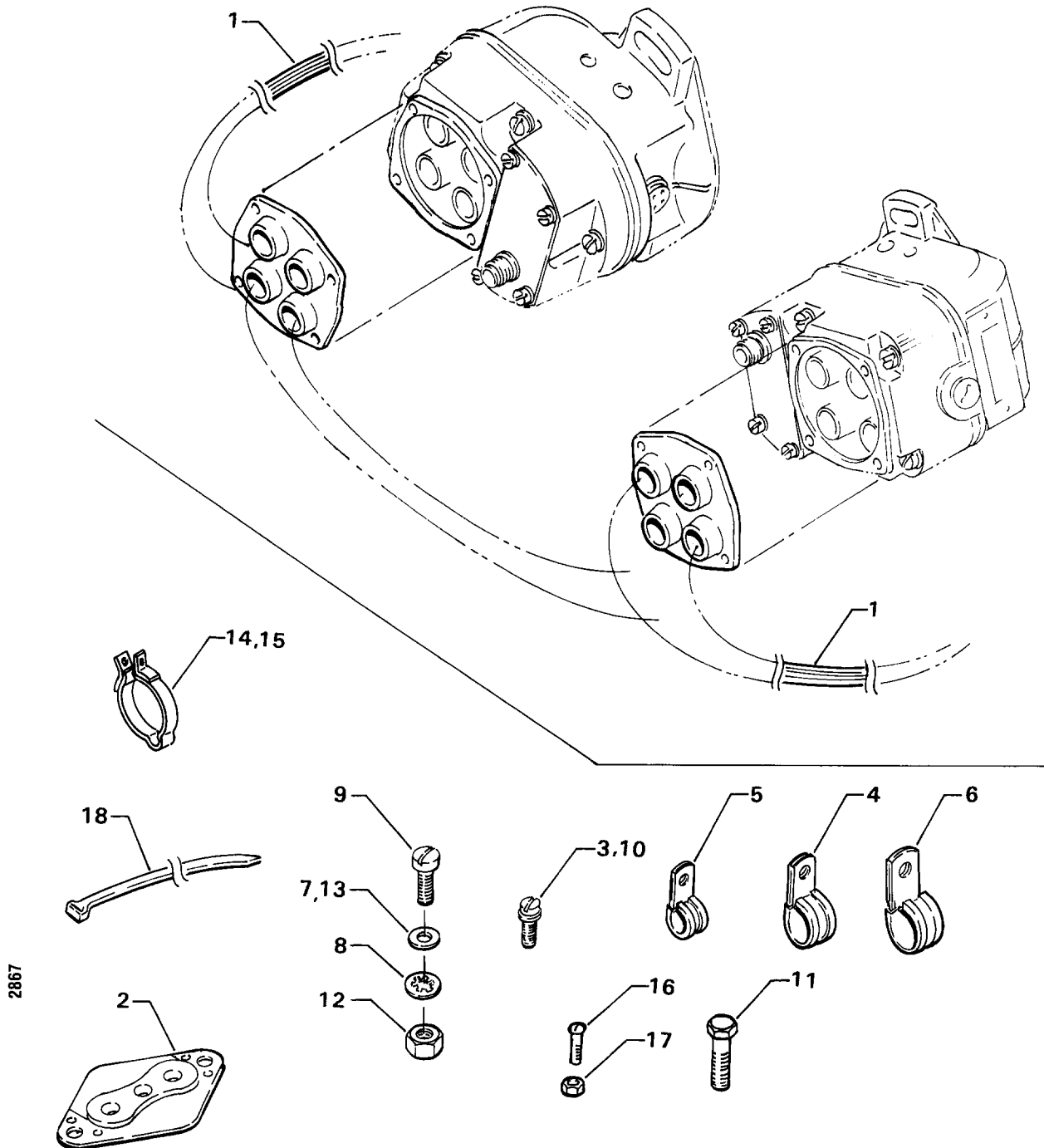
**Figure 22. MAGNETOS AND MAGNETO DRIVES**

**IGNITION SYSTEM**

**IGNITION HARNESS AND LEAD ASSEMBLY (SLICK)**

FIG. REF. 23	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
1	LW-M-2403	HARNESS ASSY., Magneto (left)		1	1	1	1			1	1						
	LW-M-2415	HARNESS ASSY., Magneto (left)								1			1				
	LW-M-2404	HARNESS ASSY., Magneto (right)		1	1	1	1				1	1					
	LW-M-2416	HARNESS ASSY., Magneto (right)								1			1				
2	LW-M-2375	PLATE, Spark plug cable		2	2	2	2			2	2	2	2				
3	72351	SCREW, No. 10-32 self-locking		8	8	8	8			8	8						
4	LW-14060	CLIP, Two wire for 1/4 screw		2	2	2	2			2	2	2	2				
5	LW-14057	CLIP, One wire for 1/4 screw								2			2				
6	LW-16266-25-50	CLAMP								1			1				
7	STD-8	WASHER, 1/4 plain		2	2	2	2			8	2	2	8				
8	STD-160	WASHER, 1/4 lock, internal teeth		2	2	2	2				2	2					
9	AN500-416-18	SCREW, 1/4-20 x 1-1/8 long, fillister head		1	1	1	1				1	1					
10	STD-1874	SCREW, 1/4-20 self-locking								4			4				
11	STD-1215	SCREW, 1/4-20 x 1-1/4 long		1	1	1	1				1	1					
12	STD-1411	NUT, 1/4-20 plain		2	2	2	2				2	2					
13	STD-696	WASHER, 1/4 plain								AR			AR				
14	71910	CLAMP, 1-3/4 I.D.					4				4	4					
15	LW-18959-150-25	CLAMP, 1-1/2 I.D.		2	2	2											
16	STD-553	SCREW, 6/32 x 1/2 long, rd. hd.		4	4	4	4				4	4					
17	AN365-632A	NUT, 6/32 self-locking		4	4	4	4				4	4					
18	76734	ZIP STRAP		2	2	2	2			6	2	2	6				
*	M-1985-48	LEAD ASSY., Replacement top & bottom leads (LW-M-2403 & LW-M-2404 harnesses)		AR	AR	AR	AR				AR	AR					
*	M-1985-48	LEAD ASSY., Replacement top & bottom leads except for 1T & 2T (LW-M-2415 & LW-M-2416 harnesses)									AR			AR			
*	M-1985-72	LEAD ASSY., Replacement for 1T & 2T leads (LW-M-2415 & LW-M-2416 harnesses)									AR			AR			
*	76923-48S70-63	LEAD ASSY., Replacement, top and bottom leads (78539 harness)		AR	AR	AR	AR				AR	AR					
*	76923-72S90-63	LEAD ASSY., Replacement, Nos. 1 & 2 top leads (78546 harness)									AR			AR			
*	76923-48S90-63	LEAD ASSY., Replacement, Nos. 3 & 4 top leads (78546 harness)									AR			AR			
*	76923-48S70-63	LEAD ASSY., Replacement, bottom leads (78546 harness)									AR			AR			

\* Replacement lead assemblies have spark plug terminal end assembled and are shipped with necessary parts to complete magneto end assembly after being cut to proper length.



**Figure 23. IGNITION HARNESS AND LEAD ASSY. (SLICK)**

**SECTION**

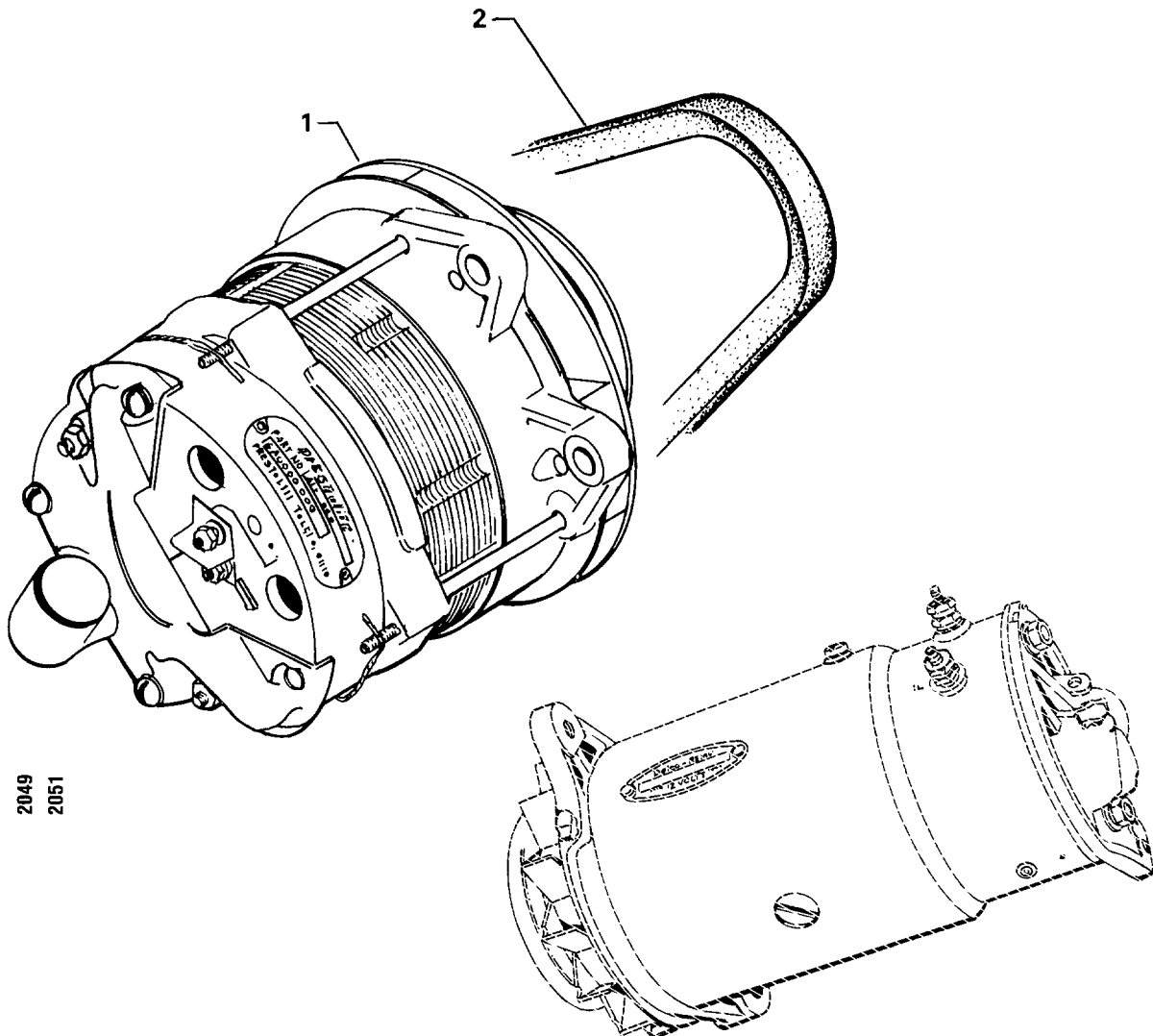
**5**

**ELECTRICAL  
COMPONENTS**

ELECTRICAL COMPONENTS  
ALTERNATOR ASSEMBLY

FIG. REF. 24	PART NUMBER	DESCRIPTION	O N A L	QUANTITY PER ASSEMBLY																		
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G							
1	78308*	ALTERNATOR, 12 volt - 40 amp (ALE-8406)		1		1			1	1	1	1										
	LW-14319*	ALTERNATOR, 24 volt - 50 amp (ALT-8421)		1																		
	LW-14324*	ALTERNATOR, 24 volt - 70 amp (ALU-8421)					1		1	1												
	LW-14308*	ALTERNATOR, 12 volt - 60 amp (ALY-8420)		1	1	1	1	1	1	1	1	1		1								
	LW-14310*	ALTERNATOR, 12 bolt - 60 amp (ALY-6420)								1												
2	60886	BELT, Generator drive		1	1	1	1			1	1	1										
	71579	BELT, Generator drive		1																		
	76026	BELT, Alternator drive		1	1	1	1	1	1	1	1	1	1	1								

\* Externally grounded, 3.25:1 ratio.



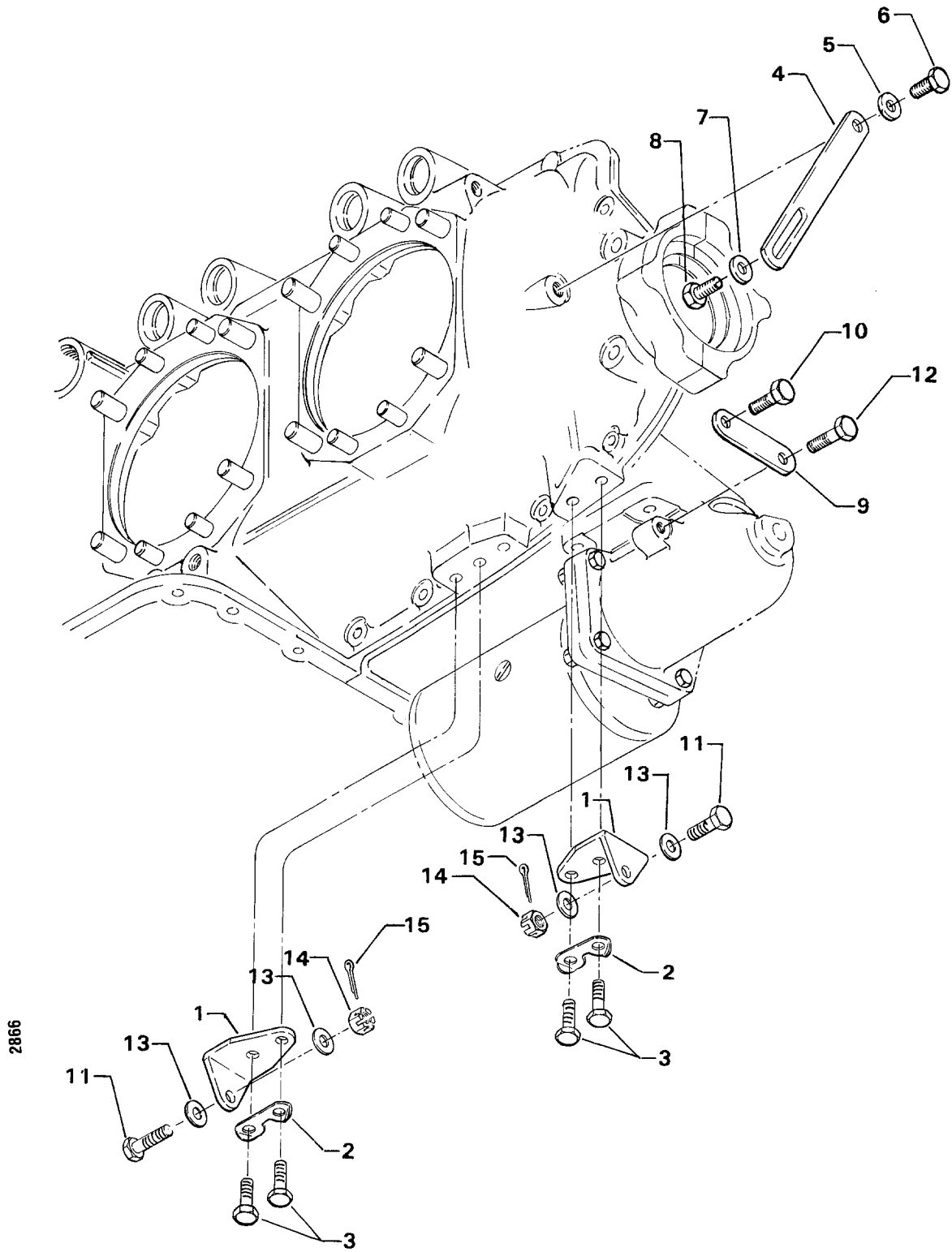
2049  
2051

Figure 24. ALTERNATOR ASSEMBLY

**ELECTRICAL COMPONENTS**  
**GENERATOR MOUNTING AND ATTACHING PARTS**

FIG. REF. 25	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
1	70419	BRACKET, Generator		2	2	2	2			2	2	2	2				
2	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing		2	2	2	2			2	2	2	2				
3	STD-1838	BOLT, 5/16-18 x 15/16 long, hex. hd.		4	4	4	4			4	4	4	4				
4	76028	LINK, Generator adjusting		1	1	1	1			1	1	1	1				
5	STD-35	WASHER, 5/16 plain		1	1	1	1			1	1	1	1				
6	LW-31H.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.		1	1	1	1			1	1	1	1				
7	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick		1	1	1	1			1	1	1	1				
8	LW-31H.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.		1	1	1	1			1	1	1	1				
9	77718	STRUT, Generator support		1													
10	LW-31H.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.		1													
11	STD-1851	BOLT, 5/16-18 x 1-5/32 long, dr. end		2	2	2	2			2	2	2	2				
12	STD-2033	BOLT, 5/16-18 x 1-9/32 long, dr. end		1													
13	STD-35	WASHER, 5/16 plain		AR	AR	AR	AR			AR	AR	AR	AR				
14	STD-1420	NUT, 5/16-18 slotted		2	2	2	2			2	2	2	2				
15	STD-68	PIN, Cotter, 1/16 dia. x 1/2 long		2	2	2	2			2	2	2	2				





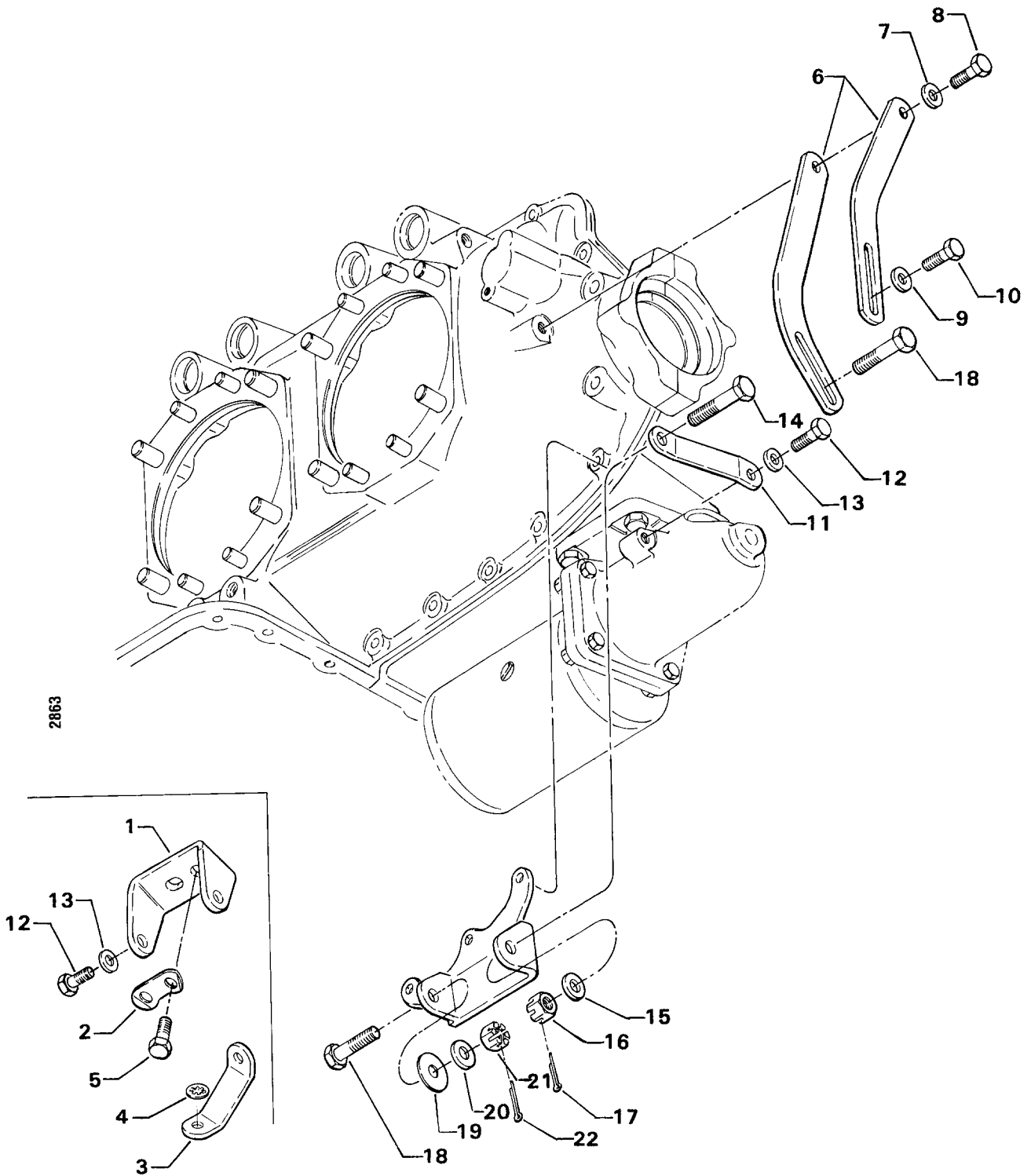
**Figure 25. GENERATOR MOUNTING AND ATTACHING PARTS**

ELECTRICAL COMPONENTS  
ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF. 26	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY															
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G				
1	74324	BRACKET, Alternator		1															
	LW-13039*	BRACKET, Alternator		1	1	1	1	1	1	1	1	1	1	1					
	76906**	BRACKET, Alternator					1							1					
2	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	1																
3	LW-13365	BRACE, Alternator bracket																	1
4	STD-475	WASHER, 5/16 lock, internal teeth																	1
5	STD-1838	BOLT, 5/16-18 x 15/16 long, hex. hd.		2	2	2	2	2	2	2	2	2	2	2					
	STD-1838	BOLT, 5/16-18 x 15/16 long, hex. hd.																	3
6	74325	LINK, Alternator adjusting		1															
	75380	LINK, Alternator adjusting		1	1	1	1	1	1	1	1	1	1	1					
	LW-10729**	LINK, Alternator adjusting					1												1
7	STD-35	WASHER, 5/16 plain		1	1	1	1	1	1	1	1	1	1	1	1				
8	LW-31H.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.		1	1	1	1	1	1	1	1	1	1	1					
	STD-1858**	BOLT, 5/16-18 x 29/32 long, hex. hd. dr.					1												1
9	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick		1	1	1	1	1	1	1	1	1	1	1					
10	LW-31H.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.		1	1	1	1	1	1	1	1	1	1	1					
11	74323	STRUT, Alternator support		1	1	1	1	1	1	1	1	1	1	1					
	76908**	STRUT, Alternator support					1												1
12	LW-31H.75	BOLT, 5/16-18 x 3/4 long, hex. hd. dr.		1	1	1	1	1	1	1	1	1	1	1					
	STD-1858**	BOLT, 5/16-18 x 29/32 long, hex. hd. dr.					1												1
13	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick		1	1	1	1	1	1	1	1	1	1	1					
14	AN6-32	BOLT, 3/8-24 x 3-21/64 long, hex. hd. dr. end		1															
	AN6-14	BOLT, 3/8-24 x 1-37/64 long, hex. hd. dr. end		1	1	1	1	1	1	1	1	1	1	1					
15	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick		AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR					
16	STD-872	NUT, 3/8-24 slotted		1	1	1	1	1	1	1	1	1	1	1					
17	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long		1	1	1	1	1	1	1	1	1	1	1					
18	AN6-13	BOLT, 3/8-24 x 1-7/16 long, hex. hd. dr. end		1	1	1	1	1	1	1	1	1	1	1					
	AN6-16	BOLT, 3/8-24 x 53/64 long, hex. hd. dr. end		1		1		1	1	1		1							
19	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x 1/64 thick		AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR					
20	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick		AR	AR	AR	AR	AR	AR	AR	AR	AR	AR	AR					
21	STD-872	NUT, 3/8-24 slotted		1	1	1	1	1	1	1	1	1	1	1					
22	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long		1	1	1	1	1	1	1	1	1	1	1					

\* Used on Prestolite installations.

\*\* Used on Cessna and Beech installations.

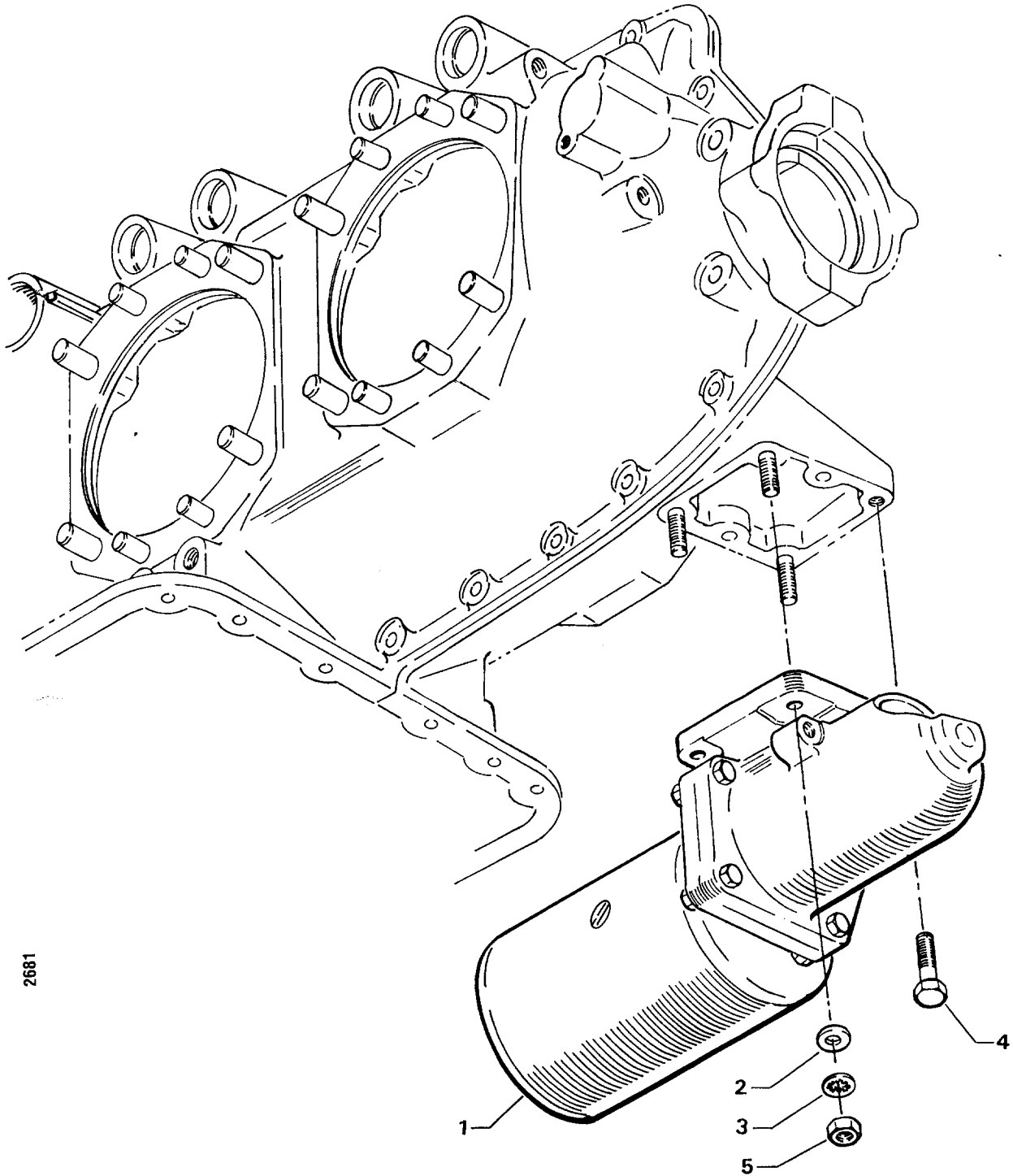


**Figure 26. ALTERNATOR MOUNTING AND ATTACHING PARTS**

**ELECTRICAL COMPONENTS**

**STARTER MOTOR AND ATTACHING PARTS**

FIG. REF. 27	PART NUMBER	DESCRIPTION	O N A L	QUANTITY PER ASSEMBLY															
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G				
1	LW-15571	STARTER, 12 volt, 3.38:1 internal reduction, 12/14 pitch pinion (MZ-4222)			1	1	1	1	1	1	1	1	1	1	1				
	LW-15572	STARTER, 24 volt, 3.38:1 internal reduction, 12/14 pitch pinion (MHB-4016)		1			1		1	1		1	1	1					
	LW-16460	STARTER, 12 volt, 3.38:1 internal reduction, 12/14 pitch pinion (MZ-4224)				1													
2	STD-35	WASHER, 5/16 plain	4																
3	STD-475	WASHER, 5/16 lock, internal teeth	4																
4	STD-2156	BOLT, 5/16-18 x 1-5/32 long, hex. hd.	1																
5	STD-1410	NUT, 5/16-18 plain	3																



2681

**Figure 27. STARTER MOTOR AND ATTACHING PARTS**

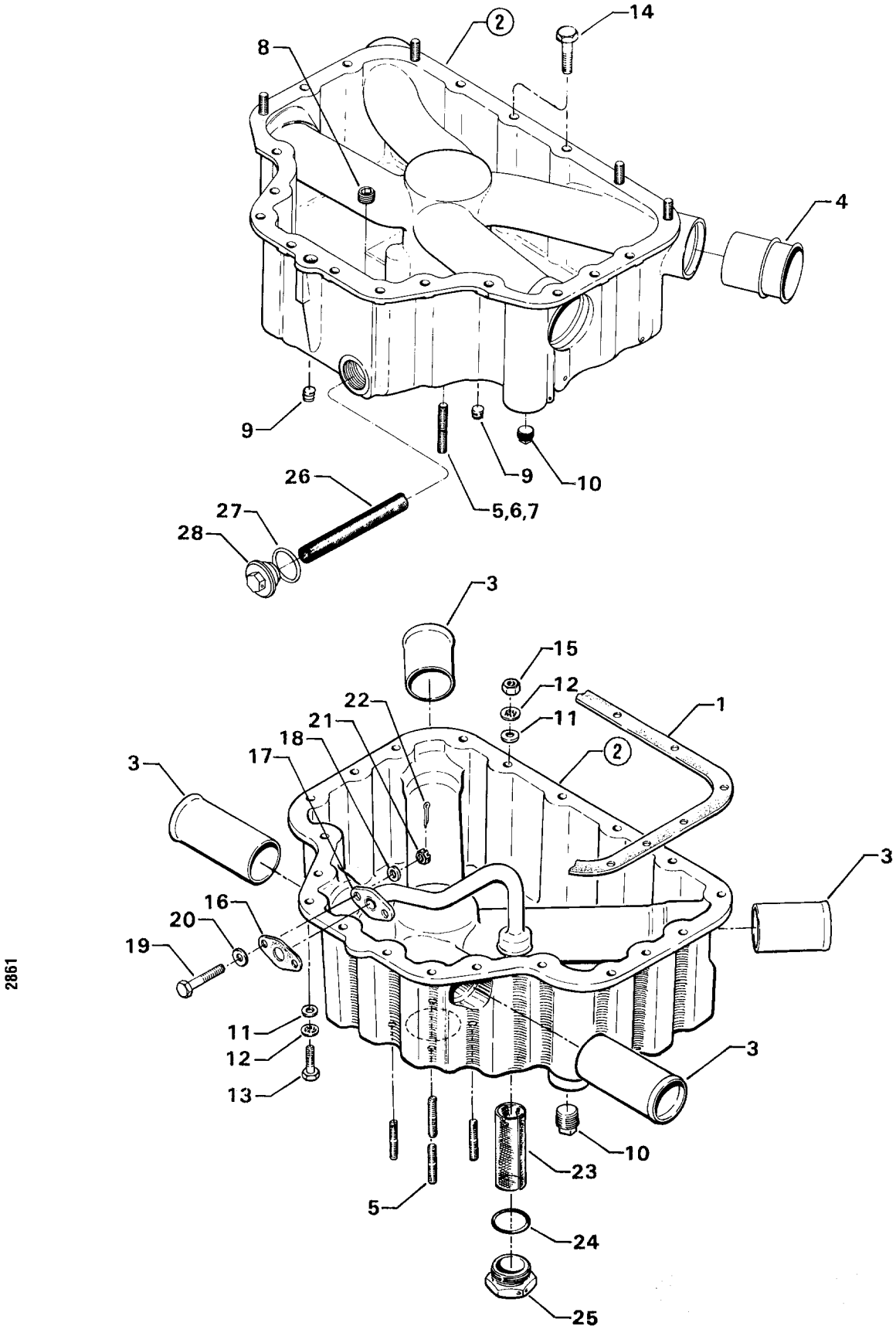
**SECTION**

**6**

**OIL SUMP AND  
INDUCTION SYSTEM**

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

FIG. REF. 28	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																						
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G											
1	LW-13353	GASKET, Oil sump	1																							
2	72362	SUMP ASSEMBLY, Oil		1	1	1																				
	LW-10828	SUMP ASSEMBLY, Oil					1		1	1	1	1	1	1	1											
	77159	SUMP ASSEMBLY, Oil						1																		
3	61376	CONNECTION, Intake pipe, front		2	2	2																				
	61377	CONNECTION, Intake pipe, rear		2	2	2																				
4	78914	CONNECTION, Intake pipe					4		4	4	4	4	4	4	4	4										
	69602	CONNECTION, Intake pipe						4																		
5	31C-15	STUD, 5/16-18 x 1-7/8 long		4	4	4	4		4	4	4	4	4	4	4	4										
6	61400	STUD, 1/4-20 x 1-3/16 long					4	4	4	4	4	4	4	4	4	4										
7	31C-14	STUD, 5/16-18 x 1-3/4 long						4																		
8	STD-91	PLUG, 1/2-14 NPT, Allen						1		1	1	1	1	1	1	1										
9	1102	PLUG, 1/8-27 NPT, Allen							2																	
10	STD-551	PLUG, 1/2-14 NPT, Sq. hd. drilled			1	1	1	2	2	2	2	2	2	2	2	2										
11	STD-8	WASHER, 1/4 plain			32	32	32	28	28	28	28	28	28	28	28	28										
12	STD-160	WASHER, 1/4 lock, internal teeth	20																							
13	STD-1204	BOLT, 1/4-20 x 15/16 long, hex. hd.			16	16	16	14	8	14	14	14	14	14	14	14										
14	STD-1419	BOLT, 1/4-20 x 1-1/8 long, hex. hd.	2																							
15	STD-1411	NUT, 1/4-20 plain			14	14	14	12	18	12	12	12	12	12	12	12										
16	60820	GASKET, Oil suction tube flange			1	1	1																			
17	61381	TUBE ASSY., Oil suction			1	1	1																			
18	STD-1227	WASHER, 1/4 plain (copper)			2	2	2																			
19	STD-1433	BOLT, 1/4-20 x 1-1/2 long, hex. hd. dr. end			2	2	2																			
20	STD-8	WASHER, 1/4 plain (max. 4)			AR	AR	AR																			
21	STD-1409	NUT, 1/4-20, slotted shear			2	2	2																			
22	STD-68	PIN, 1/16 dia. x 1/2 long, cotter			2	2	2																			
23	61378	SCREEN, Oil suction			1	1	1																			
24	STD-1045	GASKET, 1-1/4 I.D. x 1-1/2 O.D. x 3/32 annular			1	1	1																			
25	61358	PLUG, 1-1/2 hex. hd. x 1-1/4-12 thd.			1	1	1																			
26	70484	SCREEN, Oil suction						1	1	1	1	1	1	1	1	1										
27	STD-111	GASKET, 1.00 I.D. x 1-1/4 O.D. x 3/32 annular						1	1	1	1	1	1	1	1	1										
28	LW-12545	PLUG, 5/8 hex. hd. x 1.00-20 thd.						1	1	1	1	1	1	1	1	1										



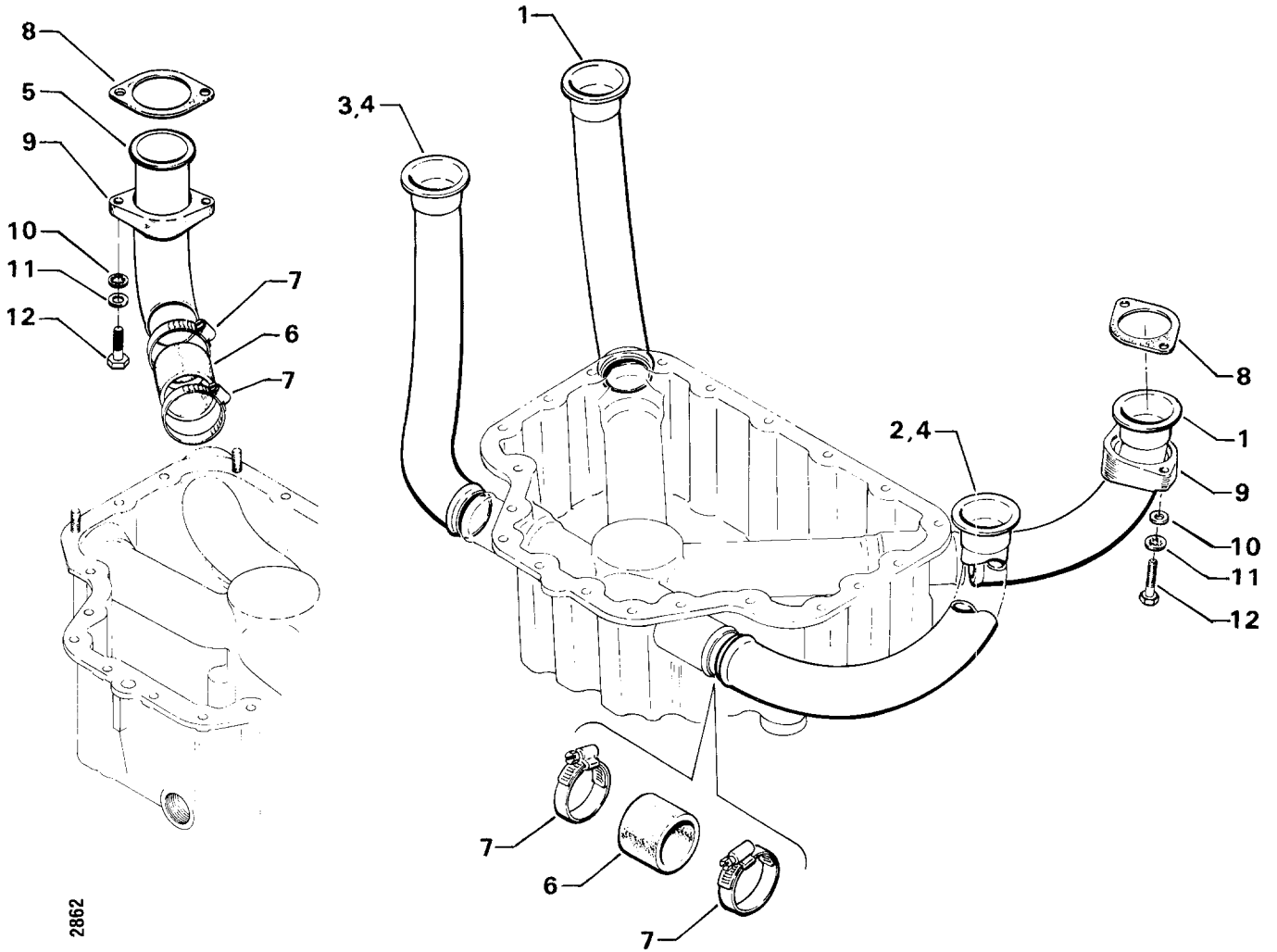
**Figure 28. OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN**



**OIL SUMP AND INDUCTION SYSTEM  
INTAKE PIPE ASSEMBLY**

FIG. REF. 29	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY														
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G			
1	LW-16728	PIPE, Intake, cyls. no. 1 and 2		2	2	2												
	74521	PIPE, Intake, cyls. no. 1 and 2					2											
2	LW-16730	PIPE, Intake, cyl. no. 3		2	2	2												
3	LW-16729	PIPE, Intake, cyl. no. 4		2	2	2												
4	74522	PIPE, Intake, cyl. no. 3 and 4					2											
5	74084*	PIPE, Intake					4	4	4	4	4	4	4	4	4			
6	STD-1196	HOSE, 1-1/2 I.D. x 1-7/8 O.D. x 1-1/2 long		4	4	4												
	69603	HOSE, 1-3/4 I.D. x 2-3/16 O.D. x 1-3/4 long					4	4	4	4	4	4	4	4	4			
7	LW-15592-8-28	CLAMP, Hose	8															
8	71973	GASKET, 2 bolt flange, 1-7/8 I.D.	4															
9	74360	FLANGE, Intake pipe, upper		4	4	4												
	73346	FLANGE, Intake pipe, upper					4	4	4	4	4	4	4		4			
	LW-14555	FLANGE, Intake pipe, upper												4				
10	STD-8	WASHER, 1/4 plain	8															
11	STD-160	WASHER, 1/4 lock, internal teeth	8															
12	STD-1215	BOLT, 1/4-20 x 1-1/4 long, hex. hd.	8															

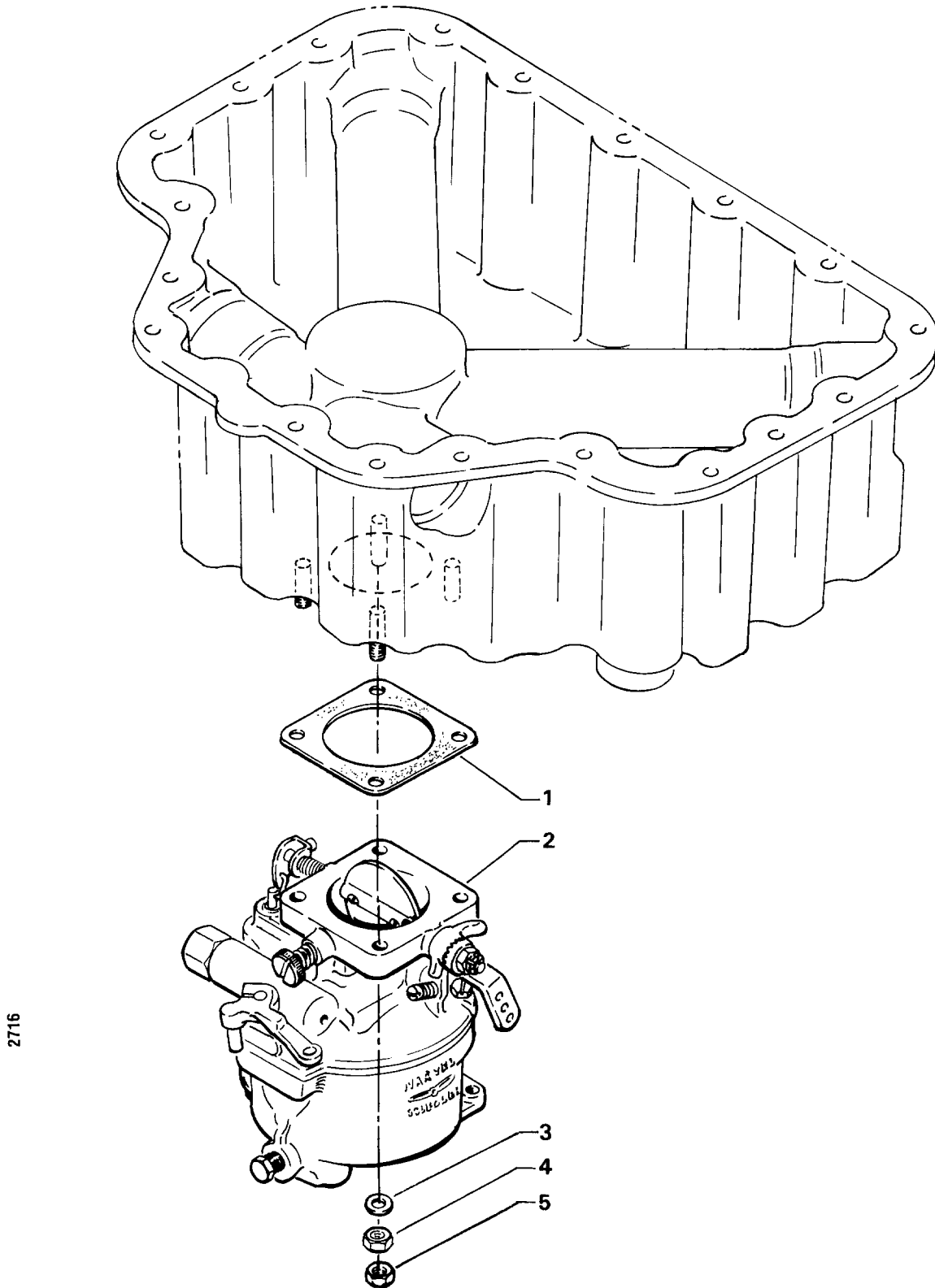
\* Used on sumps with dynafocal mounting.



**Figure 29. INTAKE PIPE ASSEMBLY**

**OIL SUMP AND INDUCTION SYSTEM  
CARBURETOR ASSEMBLY**

FIG. REF. 30	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
1	66224	GASKET, Carburetor		1	1	1	1		1	1	1	1	1	1	1		
	77154	GASKET, Carburetor						1									
2	72394	CARBURETOR, Marvel Schebler, MA-4SPA (10-3678-32)		1	1	1	1			1	1	1					
	77279	CARBURETOR, Marvel Schebler, MA-4SPA (10-4910)		1						1							
	78728	CARBURETOR, Marvel Schebler, MA-4SPA (10-5009)		1	1		1		1			1					
	LW-13659	CARBURETOR, Marvel Schebler, MA-4SPA (10-5135)					1		1	1			1	1	1		
	LW-15958	CARBURETOR, Marvel Schebler, HA-6 (10-5224)						1									
	LW-15986	CARBURETOR, Marvel Schebler, MA-4SPA (10-5217)			1										1		
3	STD-35	WASHER, 5/16 plain	4														
4	STD-1410	NUT, 5/16-18 plain	4														
5	STD-1763	LOCKNUT, 5/16 painut	4														

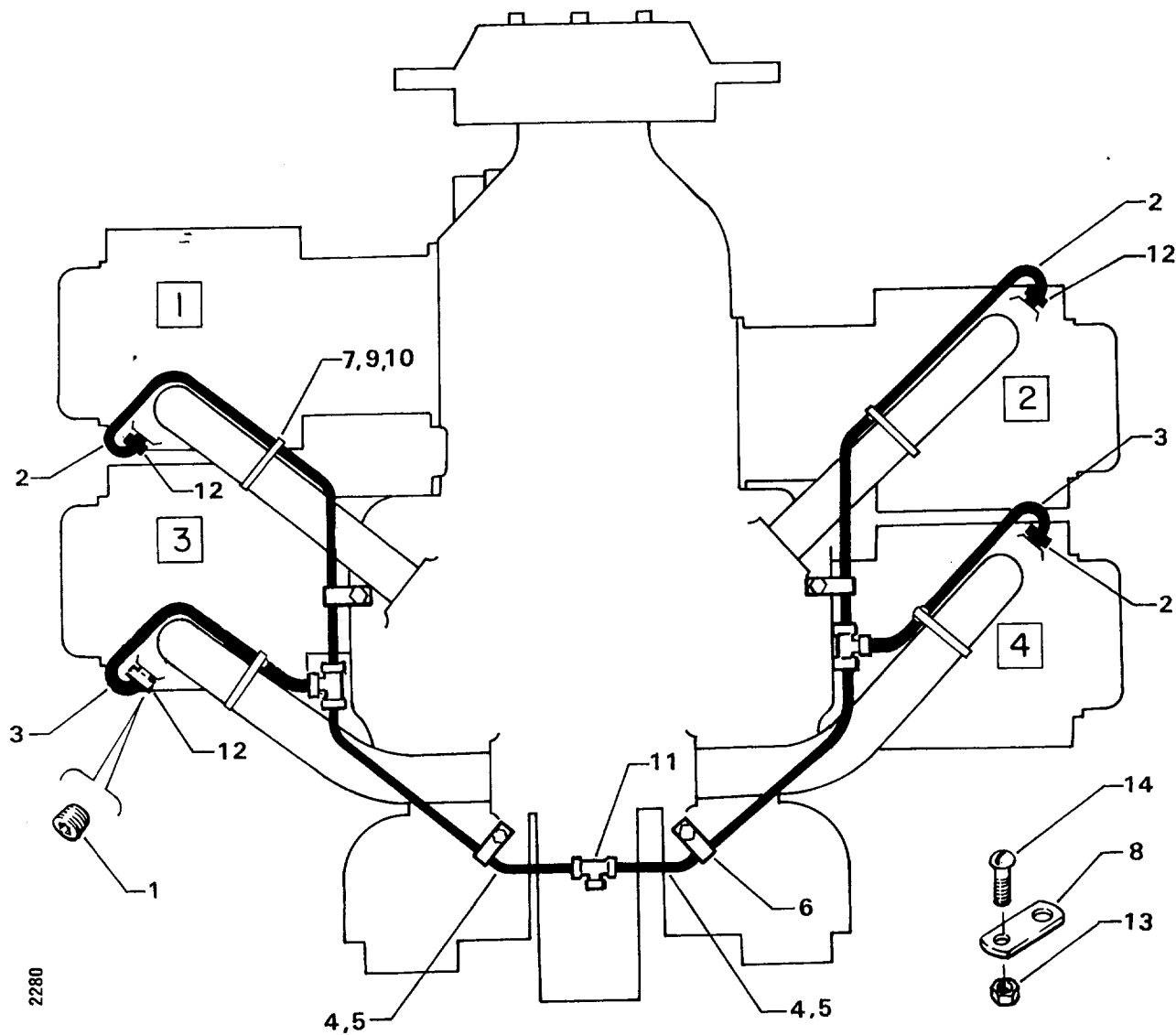


**Figure 30. CARBURETOR ASSEMBLY**

**OIL SUMP AND INDUCTION SYSTEM  
PRIMING SYSTEM**

FIG. REF. 31	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				B 2 B	B 2 C	B 3 B	D 1 A	D 1 D	D 1 F	D 2 A	D 2 B	D 2 C	D 2 G	D 2 J	D 3 G		
1	1102*	PLUG, 1/8-27 NPT, Allen	4														
2	LW-12098-1-170	TUBE ASSY., Primer cylinders, nos. 1 & 2	2														
3	LW-12098-1-116	TUBE ASSY., Primer cylinders, nos. 3 & 4	2														
4	LW-12098-0-100	TUBE ASSY., Primer, intermediate		2	2	2				2	2		2				
5	LW-12098-1-134	TUBE ASSY., Primer, intermediate, left								1							
	LW-12098-0-100	TUBE ASSY., Primer, intermediate, right								1							
6	LW-16266-25-13	CLAMP	4														
7	LW-18959-150-25	CLAMP, 1-1/2 I.D. with 1/4 dia. offset		4	4	4											
	71910	CLAMP, 1-3/4 I.D. with 1/4 dia. offset								4	4		4				
8	LW-14432	BRACKET, Support clamp								1							
9	STD-553	SCREW, No. 6-32 x 1/2 long, rd. hd.	4														
10	AN365-632A	NUT, No. 6-32, self-locking	4														
11	STD-853	TEE, Union, 1/8 tube	3														
12	74225	NIPPLE ASSY., Primer	4														
13	STD-670	NUT, No. 10-32								1							
14	STD-692	SCREW, No. 10-32								1							

\* Assemble in cylinder heads.



2280

**Figure 31. PRIMING SYSTEM**

**SECTION**

**7**

**SERVICE KIT**

**SERVICE KIT SECTION**

**SEAL AND GASKET SET  
WIDE CYLINDER FLANGE MODELS**

Part No.	Part Name	Qty.
69371-1	SEAL AND GASKET SET	1
MS29512-6	SEAL	1
STD-111	GASKET	1
STD-2217	SEAL, Oil	1
STD-213	SEAL	1
STD-294	GASKET, Annular	2
STD-548	SEAL, Oil	1
STD-1006	RING, Oil seal	1
STD-1045	GASKET, Annular	2
STD-2072	"O RING"	1
1691-C	GASKET	1
8313	GASKET, Vacuum pump	2
60096	GASKET, Fuel pump	1
60592	GASKET, Carburetor	1
60820	GASKET, Oil suction tube flange	1
61173	GASKET, Oil pressure housing	1
61183	GASKET, Accessory adapter	1
61523	CONTAINER	1
61531	GASKET, Hydraulic valve	1
62224	GASKET, Magneto adapter	4
65321	GASKET, Exhaust flange	4
66224	GASKET, Carburetor	2
68315	GASKET, Accessory drive adapter	1
69164	GASKET	1
69345	SPACER	4
69551	GASKET, Accessory pad cover	1
69720	GASKET, Dual accessory drive cover	1
69827	GASKET, Governor spacer	1
70310	SEAL, Shroud tube	8
70455	GASKET	1
71481	RING, Oil seal	4
71973	GASKET, Intake flange	4
72053	GASKET, Governor drive	2
72059	GASKET	1
72075	SEAL, Oil	6
72078	LOCKPLATE, Cam gear	2
72091	RING, Oil seal	2
72312	RING, Oil seal	1
72829	LOCKPLATE	1
73383	LOCKPLATE	2
73817	LOCKPLATE, Crankshaft idler gear shaft	2
73818	GASKET, Accessory housing	1
74065	RING, Oil level gage seal	1
74068	RING, Oil level gage seal	1
74524	RING, Oil seal	1
75906	GASKET, Rocker box cover	4
76510	GASKET	1
76940	SEAL, Crankshaft oil	1
LW-12272	LOCKPLATE, Shroud tube	4



**SERVICE KIT SECTION****SEAL AND GASKET SET  
WIDE CYLINDER FLANGE MODELS**

Part No.	Part Name	Qty.
69371-1	SEAL AND GASKET SET (Continued)	1
LW-12681	GASKET, Magneto	2
LW-12795	GASKET	1
LW-13353	GASKET, Oil sump	1
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Tachometer shaft	1
LW-14995	SPRING	4
LW-18639	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	16

**SERVICE KIT SECTION****SEAL AND GASKET SET  
WIDE CYLINDER FLANGE MODELS**

Part No.	Part Name	Qty.
LW-16850	SEAL AND GASKET SET	1
STD-111	GASKET	1
STD-2217	SEAL, Oil	1
STD-294	GASKET, Annular	2
STD-1045	GASKET, Annular	2
8313	GASKET, Vacuum pump	2
LW-18639	LOCKPLATE, Crankshaft gear	1
61183	GASKET, Accessory adapter	1
62224	GASKET, Magneto adapter	2
LW-18661	SEAL, Shroud tube	8
65321	GASKET, Exhaust flange	4
66224	GASKET, Carburetor	2
70310	SEAL, Shroud tube	8
71481	RING, Oil seal	4
71973	GASKET, Intake flange	4
72059	GASKET	1
72075	SEAL, Oil	6
72091	RING, Oil seal	2
73383	LOCKPLATE	2
73818	GASKET, Accessory housing	1
75906	GASKET, Rocker box cover	4
LW-12272	LOCKPLATE, Shroud tube	4
LW-12681	GASKET, Magneto	2
LW-12795	GASKET	1
LW-13353	GASKET, Oil sump	1
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Tachometer shaft	1
LW-14995	SPRING	4

**SERVICE KIT SECTION**
**CYLINDER, PISTON AND RING KIT  
WIDE CYLINDER FLANGE MODELS**

Part No.	Part Name	Qty.
75401	CYLINDER, PISTON AND RING KIT	1
MS13997-3	KEY, Valve exhaust	2
MS13998-3	CAP, Valve stem, exhaust	1
STD-1411	NUT, Plain, 1/4-20	1
STD-1925	SCREW, 1/4-20 x 5/8 long, fill. hd., self-locking	6
60009	KEY, Valve intake	2
LW-18661	SEAL, Shroud tube	2
LW-13790	SHAFT, Valve rocker	1
60828	PLUG, Piston	2
75906	GASKET, Rocker box cover	1
61247	COVER, Rocker box	1
LW-11800	SPRING, Valve, outer	2
65441	SEAT, Valve spring, lower	1
LW-11795	SPRING, Valve, inner	2
LW-10077	SEAT, Valve spring, upper, intake	1
LW-14995	SPRING, Shroud tube	1
LW-12272	LOCKPLATE, Shroud tube	1
LW-18790	ROCKER ASSY., Valve	2
73857 or LW-12328	RING, Piston, oil regulating (expander type)	1
LW-14077	PIN, Piston	1
70310	SEAL, Shroud tube	2
71195	BOX, Set-up	1
71481	RING, Oil seal 4-27/32 I.D. x 3/32 dia. sect.	1
LW-16475	SEAT, Valve spring, upper, exhaust	1
73938	VALVE, Intake	1
74241	RING, Piston, compression	2
75089	PISTON	1
LW-19001	VALVE, Exhaust (rotator type)	1
LW-13323	SEAT, Valve spring, lower, exhaust	1
LW-12416	CYLINDER AND HEAD ASSY.	1
STD-1215	BOLT	2
SSP-2472	TAG	1
LW-11775	PLUG, Piston pin	2
SSP-2272	TAG	1
LW-12892	BUTTON, Thrust	2

**SECTION**

**8**

**NUMERICAL INDEX**

**NUMERICAL INDEX**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
AN365-632A	Nut	4-3	LW-13896	Plug	1-11
AN365-632A	Nut	6-7	LW-13923	Bushing	3-1
AN500-416-18	Screw	4-3	LW-14021	Shaft	1-11
AN565B1032H5	Screw	1-11	LW-14057	Clip	4-1
AN6-13	Bolt	5-4	LW-14057	Clip	4-3
AN6-14	Bolt	5-4	LW-14060	Clip	4-1
AN6-16	Bolt	5-4	LW-14060	Clip	4-3
AN6-32	Bolt	5-4	LW-14077	Pin	3-1
AN6-34A	Bolt	1-15	LW-14078	Pin	3-1
AN777-8D	Elbow	2-14	LW-14260	Seal	2-3
AN816-8	Nipple	2-14	LW-14308	Alternator	5-1
AN844-10D	Elbow	2-14	LW-14310	Alternator	5-1
AN901-8A	Gasket	2-14	LW-14319	Alternator	5-1
AN960-616L	Washer	1-15	LW-14324	Alternator	5-1
LW-10077	Seat	3-5	LW-14416	Housing Assy.	2-1
LW-10647	Dowel	1-1	LW-14432	Bracket	6-7
LW-10729	Link	5-4	LW-14555	Flange	6-3
LW-10828	Sump Assy.	6-1	LW-14758	Gage Assy.	1-3
LW-11775	Plug	3-1	LW-14759	Gage Assy.	1-3
LW-11795	Spring	3-5	LW-14768	Gage Assy.	1-3
LW-11800	Spring	3-5	LW-14780	Gage Assy.	1-3
LW-11866	Nut	1-15	LW-14788	Gage Assy.	1-3
LW-12098-0-100	Tube Assy.	6-7	LW-14793	Gage Assy.	1-3
LW-12098-1-116	Tube Assy.	6-7	LW-14798	Gage Assy.	1-3
LW-12098-1-134	Tube Assy.	6-7	LW-14995	Spring	3-5
LW-12098-1-170	Tube Assy.	6-7	LW-15472	Fuel Pump	2-9
LW-12186	Nut	3-1	LW-15571	Starter	5-6
LW-12272	Lockplate	3-5	LW-15572	Starter	5-6
LW-12408	Housing Assy.	2-1	LW-15592-5-05	Clamp	3-9
LW-12416	Cylinder Assy.	3-3	LW-15592-8-28	Clamp	6-3
LW-12545	Plug	6-1	LW-15635	Mag. & Harness Assy.	4-1
LW-12681	Gasket	4-1	LW-15636	Magneto	4-1
LW-12706	Adapter	4-1	LW-15637	Mag. & Harness Assy.	4-1
LW-12795	Gasket	2-14	LW-15638	Magneto	4-1
LW-12892	Thrust Button	3-7	LW-157208	Kit Assy.	4-1
LW-13039	Bracket	5-4	LW-157209	Kit Assy.	4-1
LW-13215	Filter	2-14	LW-15958	Carburetor	6-5
LW-13216	Filter	2-14	LW-15970	Tube	1-3
LW-13323	Seat	3-5	LW-15986	Carburetor	6-5
LW-13353	Gasket	6-1	LW-16047	Bearing	1-5
LW-13365	Brace	5-4	LW-16266-25-13	Clamp	6-7
LW-13659	Carburetor	6-5	LW-16266-25-38	Clamp	2-5
LW-13775	Impeller Assy	2-3	LW-16266-25-50	Clamp	4-3
LW-13790	Shaft	3-7	LW-16286	Filter Assy.	2-14
LW-13792	Seal	1-5	LW-16335	Fuel Pump	2-9
LW-13793	Stud	1-1	LW-163005-2	Magneto	4-1
LW-13796	Shaft	1-13	LW-163045-3	Magneto	4-1
LW-13813	Crankcase Ass	1-1	LW-163045-6	Magneto	4-1
LW-13884	Bearing	1-5	LW-16437	Housing Assy.	2-1
			LW-16460	Starter	5-6

**NUMERICAL INDEX (Cont.)**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
LW-16475	Seat	3-5	STD-8	Washer	2-14
LW-16591	Mag. & Harness Assy.	4-1	STD-8	Washer	4-3
LW-16711	Bearing	1-5	STD-8	Washer	6-1
LW-16728	Pipe	6-3	STD-8	Washer	6-3
LW-16729	Pipe	6-3	STD-19	Dowel	1-11
LW-16730	Pipe	6-3	STD-33	Washer	1-15
LW-16843	Support Assy.	1-7	STD-33	Washer	2-9
LW-16892	Harness Assy.	4-1	STD-35	Washer	1-11
LW-16893	Harness Assy.	4-1	STD-35	Washer	2-3
LW-16894	Mag. & Harness Assy.	4-1	STD-35	Washer	2-5
LW-16895	Mag. & Harness Assy.	4-1	STD-35	Washer	2-7
LW-17060	Crankshaft Assy.	1-7	STD-35	Washer	3-7
LW-17061	Crankshaft Assy.	1-7	STD-35	Washer	5-2
LW-17064	Crankshaft Assy.	1-7	STD-35	Washer	5-4
LW-17071	Crankshaft Assy.	1-7	STD-35	Washer	5-6
LW-18369	Crankcase Assy.	1-1	STD-35	Washer	6-5
LW-18372	Crankcase Assy.	1-1	STD-68	Pin	5-2
LW-18402	Crankcase Assy.	1-1	STD-68	Pin	6-1
LW-18639	Lockplate	1-7	STD-91	Plug	6-1
LW-18667	Pin	1-9	STD-111	Gasket	6-1
LW-18837	Camshaft Assy.	1-9	STD-160	Washer	1-15
LW-18838	Camshaft Assy.	1-9	STD-160	Washer	2-3
LW-18959-150-25	Clamp	4-3	STD-160	Washer	2-11
LW-18959-150-25	Clamp	6-7	STD-160	Washer	2-13
LW-19001	Valve	3-5	STD-160	Washer	2-14
LW-31H.75	Bolt	5-2	STD-160	Washer	4-3
LW-31H.75	Bolt	5-4	STD-160	Washer	6-1
LW-38.75	Bolt	2-9	STD-160	Washer	6-3
LW-349305-1	Magneto	4-1	STD-294	Gasket	2-14
LW-349365-3	Magneto	4-1	STD-425	Washer	1-5
LW-51360-29	Magneto	4-1	STD-475	Washer	1-11
LW-51360-37	Magneto	4-1	STD-475	Washer	2-5
LW-52305-1	Kit Assy.	4-1	STD-475	Washer	2-7
LW-M-2375	Plate	4-3	STD-475	Washer	3-7
LW-M-2403	Harness Assy.	4-3	STD-475	Washer	4-1
LW-M-2404	Harness Assy.	4-3	STD-475	Washer	5-4
LW-M-2415	Harness Assy.	4-3	STD-475	Washer	5-6
LW-M-2416	Harness Assy.	4-3	STD-514	Dowel	1-1
M-1985-48	Lead Assy.	4-3	STD-548	Seal	2-11
M-1985-72	Lead Assy.	4-3	STD-551	Plug	6-1
MS13997-3	Key	3-5	STD-553	Screw	4-3
MS13998-3	Cap	3-5	STD-553	Screw	6-7
MS16625-1081	Ring	1-9	STD-557	Dowel	1-1
MS20822-6	Elbow	2-5	STD-596	Nut	1-15
MS20823-6D	Elbow	3-3	STD-670	Nut	6-7
MS20823-8	Elbow	2-14	STD-678	Washer	1-15
MS29512-06	Ring	2-5			
STD-8	Washer	1-15	STD-678	Washer	2-9
STD-8	Washer	2-3	STD-684	Nipple	3-9
STD-8	Washer	2-11	STD-690	Washer	5-4
STD-8	Washer	2-13	STD-692	Screw	6-7

**NUMERICAL INDEX (Cont.)**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
STD-696	Washer	2-11	STD-1433	Bolt	6-1
STD-696	Washer	4-3	STD-1623	Insert	1-1
STD-713	Pin	5-4	STD-1727	Washer	4-1
STD-761	Pin	4-1	STD-1727	Washer	5-2
STD-783	Plug	2-7	STD-1727	Washer	5-4
STD-784	Plug	2-1	STD-1763	Locknut	6-5
STD-784	Plug	2-14	STD-1774	Pin	2-7
STD-798	Dowel	1-11	STD-1774	Pin	2-11
STD-853	Tee	6-7	STD-1838	Bolt	2-5
STD-872	Nut	1-15	STD-1838	Bolt	5-2
STD-872	Nut	5-4	STD-1838	Bolt	5-4
STD-938	Dowel	2-11	STD-1851	Bolt	5-2
STD-1006	Ring	2-1	STD-1856	Screw	2-14
STD-1045	Gasket	1-5	STD-1858	Bolt	5-4
STD-1045	Gasket	6-1	STD-1872	Insert	3-3
STD-1065	Dowel	1-7	STD-1874	Screw	4-3
STD-1196	Hose	6-3	STD-1882	Screw	2-9
STD-1204	Bolt	2-3	STD-1925	Screw	3-7
STD-1204	Bolt	6-1	STD-1930	Hose	2-5
STD-1211	Plug	1-7	STD-2033	Bolt	5-2
STD-1215	Bolt	2-11	STD-2072	Ring	2-11
STD-1215	Screw	4-3	STD-2084	Bolt	1-15
STD-1215	Bolt	6-3	STD-2090	Nut	3-7
STD-1221	Ring	2-7	STD-2156	Bolt	5-6
STD-1227	Washer	6-1	STD-2167	Screw	1-13
STD-1339	Plug	1-1	STD-2168	Nut	1-13
STD-1339	Plug	2-3	STD-2180	Hose	3-9
STD-1339	Plug	2-11	STD-2213	Screw	1-7
STD-1409	Nut	1-15	STD-2217	Seal	2-11
STD-1409	Nut	6-1	25C-9	Stud	3-3
STD-1410	Nut	1-11	25C-10	Stud	2-14
STD-1410	Nut	2-7	25C-11	Stud	2-1
STD-1410	Nut	3-7	25C-22	Stud	2-1
STD-1410	Nut	4-1	25C-31	Stud	2-1
STD-1410	Nut	5-6	31C-12	Stud	1-1
STD-1410	Nut	6-5	31C-12	Stud	2-1
STD-1411	Nut	1-15	31C-12	Stud	3-3
STD-1411	Nut	2-11	31C-13	Stud	1-1
STD-1411	Nut	2-13	31C-13	Stud	2-1
STD-1411	Nut	2-14	31C-14	Stud	1-1
STD-1411	Nut	3-5	31C-14	Stud	2-7
STD-1411	Nut	4-3	31C-14	Stud	6-1
STD-1411	Nut	6-1	31C-15	Stud	6-1
STD-1414	Bolt	1-15	31C-16	Stud	1-1
STD-1414	Bolt	2-3	31C-16	Stud	2-7
STD-1416	Bolt	1-15	31CD-17	Stud	2-1
STD-1419	Bolt	1-15	31C-19	Stud	2-1
STD-1419	Bolt	6-1	38-13	Stud	1-1
STD-1420	Nut	2-3	38-22	Stud	1-1
STD-1420	Nut	5-2	38D-17	Stud	1-1

**NUMERICAL INDEX (Cont.)**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
50-15	Stud	1-1	65441	Seat	3-5
383-B	Nut	3-7	66145	Dowel	2-11
1028-B	Ball	1-5	66224	Gasket	6-5
1102	Plug	1-1	66610	Bushing	3-3
1102	Plug	2-1	66796	Insert	3-3
1102	Plug	2-7	68315	Gasket	2-7
1102	Plug	3-3	68317	Shaftgear	2-7
1102	Plug	6-1	68593	Spacer	2-13
1102	Plug	6-7	68759	Tube Assy.	3-9
1182-Q5	Spark Plug	4-1	68760	Tube Assy.	3-9
1182-B3	Spark Plug	4-1	68761	Tube Assy.	3-9
8313	Gasket	2-13	68974	Housing	2-14
60009	Key	3-5	68987	Tube	3-5
60028	Guide	3-3	69106	Cover	2-7
60096	Gasket	2-9	69316	Gear	2-11
60398	Bushing	3-7			
60430	Cover	2-13	69318	Shaft	2-11
60746	Impeller	2-3	69319	Gear Assy.	2-11
60803	Strap	1-15	69373	Bearing	3-1
60820	Gasket	6-1	69436	Spring	2-14
60828	Plug	3-1	69444	Rocker Assy.	3-7
60886	Belt	5-1	69510	Housing	2-14
61084	Spring	1-5	69551	Gasket	2-7
61098	Adapter Assy.	2-11	69602	Connection	6-1
61155	Gear	1-7	69603	Hose	6-3
61163	Gear	4-1	69675	Connector	2-14
61173	Gasket	2-14	69720	Gasket	2-11
61174	Shaft	2-3	69722	Stud	2-11
61183	Gasket	2-11	69724	Stud	2-11
61247	Cover	3-7	69725	Adapter Assy.	2-11
61260	Flange	3-7	69730	Gear Assy.	2-11
61262	Stud	2-11	69731	Bushing	2-11
61358	Plug	6-1	69742	Cover Assy.	2-11
61376	Connection	6-1	69796	Dowel	1-1
61377	Connection	6-1	69942	Stud	2-11
61378	Screen	6-1	70310	Seal	3-5
61381	Tube Assy.	6-1	70347	Drive Assy.	2-11
61400	Stud	2-1	70419	Bracket	5-2
61400	Stud	6-1	70455	Gasket	1-11
61510	Plug	1-7	70484	Screen	6-1
61544	Plunger	1-13	71023	Brace	2-11
61665	Gear	4-1	71140	Fitting	2-14
62224	Gasket	4-1	71481	Ring	3-7
62415	Plunger	2-14	71579	Belt	5-1
62417	Plug	2-14	71596	Washer	2-7
62732	Cap	2-14	71596	Washer	2-11
62817	Screen Assy.	2-14	71610	Hook	3-9
62922	Seal	3-5	71611	Retainer	3-9
65007	Retainer	1-1	71620	Bolt	2-14
65098	Cover	2-9	71623	Washer	2-14
65321	Gasket	3-7	71910	Clamp	4-3



**NUMERICAL INDEX (Cont.)**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
71910	Clamp	6-7	74225	Nipple Assy.	6-7
71973	Gasket	6-3	74230	Guide	3-3
72053	Gasket	1-11	74241	Ring	3-1
72053	Gasket	2-7	74323	Strut	5-4
72057	Seat	3-3	74324	Bracket	5-4
72058	Seat	3-3	74325	Link	5-4
72059	Gasket	1-3	74360	Flange	6-3
72063	Bushing	1-7	74414	Support Assy.	1-7
72064	Bushing	1-7	74521	Pipe	6-3
72065	Bushing	1-7	74522	Pipe	6-3
72066	Bushing	1-7	74636	Rocker Assy.	3-7
72067	Bushing	1-7	74637	Bushing	3-7
72075	Seal	1-5	74673	Ring	3-1
72091	Ring	1-5	74887	Spacer	3-7
72158	Bushing	1-1	74996	Gear Assy.	1-13
72198	Plug	3-1	75072	Gear Assy.	1-13
72220	Gasket	1-3	75089	Piston	3-1
72351	Screw	4-3	75118	Gasket	3-7
72362	Sump Assy.	6-1	75153	Adapter Assy.	2-7
72377	Elbow	2-9	75154	Stud	1-1
72378	Cover	1-11	75165	Clip	2-5
72378	Cover	2-7	75166	Tube Assy.	2-5
72394	Carburetor	6-5	75167	Tube Assy.	2-5
72413	Fitting	2-14	75380	Link	5-4
72495	Gear	4-1	75545	Adapter Assy.	2-7
72566	Gear	1-7	75626	Plug	2-1
72569	Baffle Assy.	3-9	75735	Tube	1-3
72877	Body	1-5	75736	Tube	1-3
72970	Gear Assy.	2-11	75739	Nipple	2-5
73231	Gear Assy.	2-11	75761	Extension	1-3
73249	Washer	1-11	75767	Tube	1-3
73250	Washer	1-11	75888	Stud	2-1
73251	Washer	1-11	75906	Gasket	3-7
73252	Washer	1-11	75944	Valve Assy.	2-14
73317	Tube	2-1	75965	Clamp	4-1
73346	Flange	6-3	76026	Belt	5-1
73383	Lockplate	5-2	76028	Link	5-2
73383	Lockplate	5-4	76103	Housing Assy.	2-1
73411	Rod Assy.	3-7	76104	Housing Assy.	2-1
73412	Rod Assy.	3-7	76107	Housing Assy.	2-1
73413	Rod Assy.	3-7	76110	Housing Assy.	2-1
73414	Rod Assy.	3-7	76111	Housing Assy.	2-1
73818	Gasket	2-1	76113	Housing Assy.	2-1
73857	Ring	3-1	76118	Spacer	1-9
73938	Valve	3-5	76119	Shield	2-1
73998	Ring	3-1	76121	Shaft Assy.	1-9
74065	Ring	1-3	76220	Stud	1-15
74068	Ring	1-3	76510	Gasket	2-14
74070	Elbow	2-5	76529	Plug	1-5
74084	Pipe	6-3	76534	Shim	5-4
			76628	Support Assy.	1-7

**NUMERICAL INDEX (Cont.)**

PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
76734	Strap	4-1	77745	Harness Assy.	4-1
76734	Zip Strap	4-3	77808	Valve Assy.	1-5
76906	Bracket	5-4	77852	Base Assy.	2-14
76908	Strut	5-4	77853	Housing Assy.	2-14
76923-48S70-63	Lead Assy.	4-3	77872	Bushing	1-11
76923-48S90-63	Lead Assy.	4-3	77874	Gear Assy.	1-11
76923-72S90-63	Lead Assy.	4-3	77875	Gear	1-11
76927	Housing Assy.	2-1	78027	Bolt	3-1
76961	Clamp	4-1	78030	Rod Assy.	3-1
77154	Gasket	6-5	78290	Plunger Assy.	3-5
77159	Sump Assy.	6-1	78308	Alternator	5-1
77279	Carburetor	6-5	78524	Socket	3-5
77309	Bushing	1-13	78528	Body Assy.	2-3
77467	Spring	1-5	78626	Tube Assy.	1-3
77611	Gasket	3-7	78728	Carburetor	6-5
77718	Strut	5-2	78914	Connection	6-1
77743	Harness Assy.	4-1			