

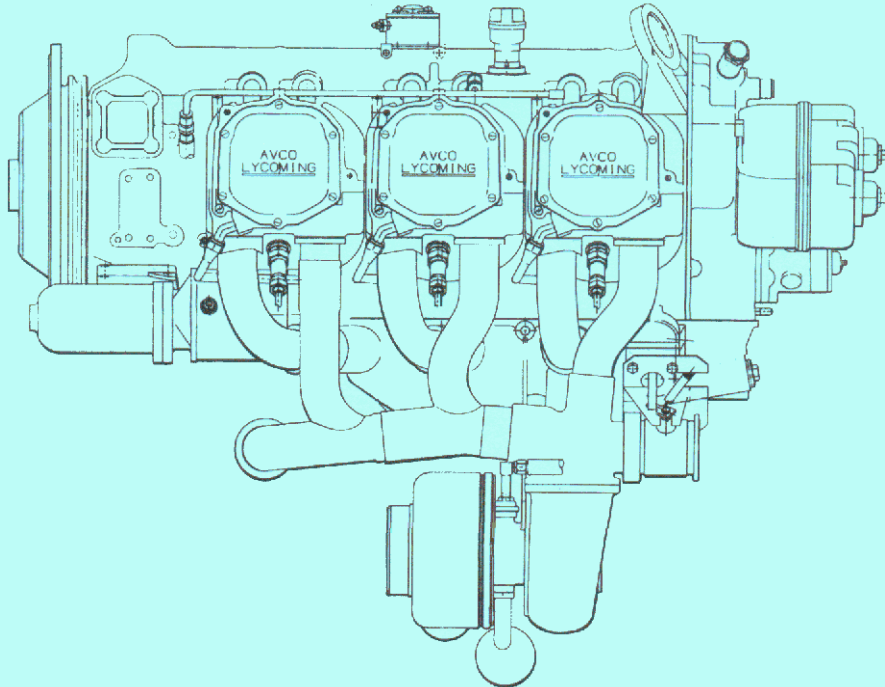
PARTS CATALOG

PC-315-3

T10-540-AB1AD

Wide Cylinder Flange Model

AIRCRAFT ENGINES



MAY 1985

INTRODUCTION

This illustrated parts catalog contains a complete parts listing for the Avco Lycoming TIO-540-AB1AD 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.

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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		X	X		X	X	X				
66610	BUSHING		X	X								
69260	INSERT			X								
69796	DOWEL		X									
71903	BUSHING	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1143 FOR APPLICATION.										
72057	SEAT			X		X	X					
72058	SEAT			X		X	X					
72060S	BUSHING		X	X	X	X						
72061S	BUSHING		X	X	X	X						
72062S	BUSHING		X	X	X	X						
73810	BUSHING	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1142 FOR APPLICATION.										
73857	RING			X		X						
74230	GUIDE		X	X		X	X	X				
74241	RING			X								
LW-13521	BEARING			X						X	X	X
LW-13792	SEAL								X			
LW-13884	BEARING				X					X	X	X
LW-16711	BEARING									X	X	X
STD-2078	DOWEL	X	X	X	X							

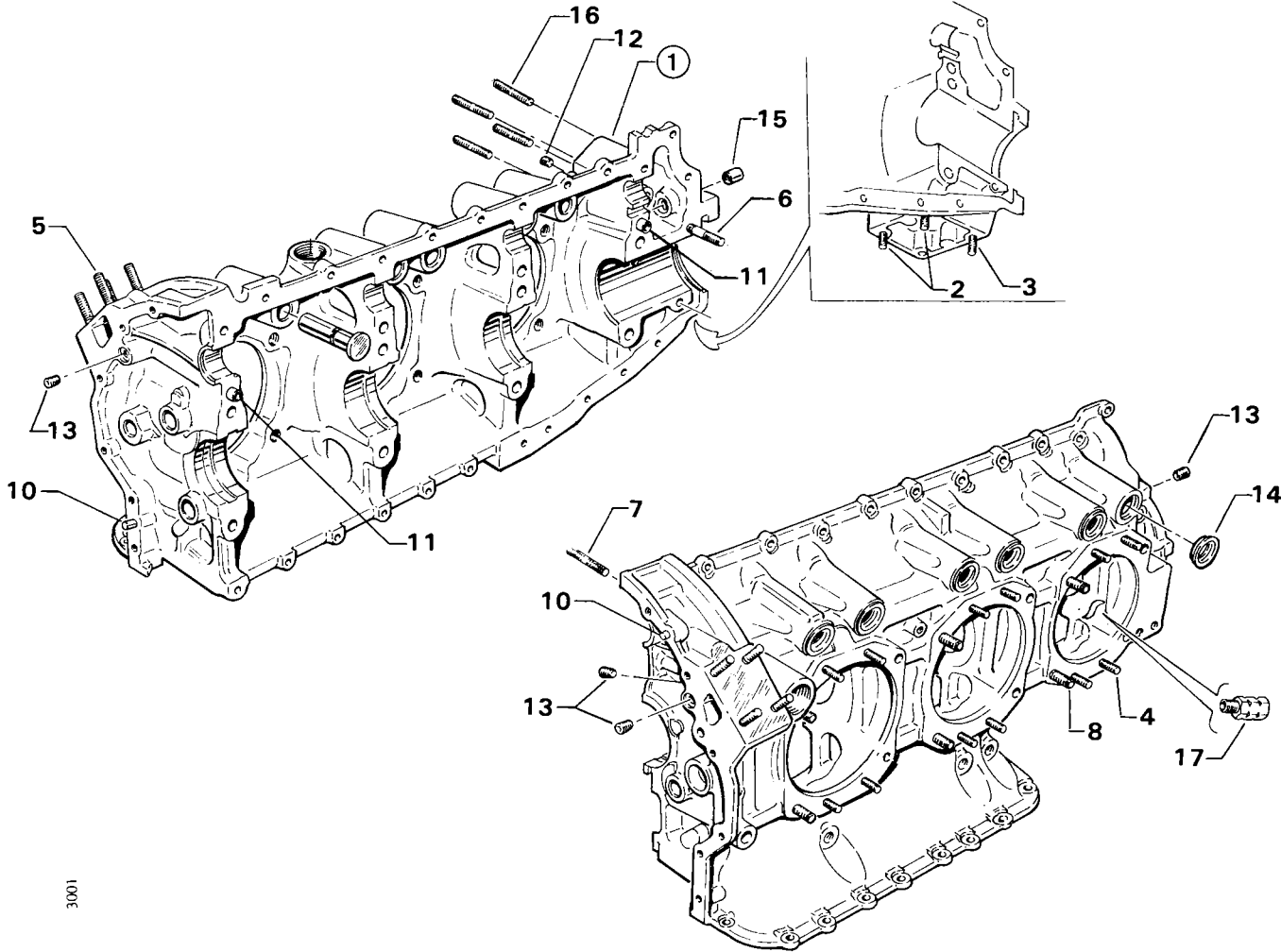
In addition to the above, studs are available in P01, P02, P03, P05, P07, P10 & P12.

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	QUANTITY PER ASSEMBLY
1	11E20000-D1	CRANKCASE ASSEMBLY	1
2	31C-12	STUD, 5/16-18 x 1-1/2 long	2
3	31C-13	STUD, 5/16-18 x 1-5/8 long	1
4	38-13	STUD, 3/8-16 x 1-5/8 long	24
5	38-16	STUD, 3/8-16 x 2.00 long	8
6	38-22	STUD, 3/8-16 x 2-3/4 long	1
7	38D-17	STUD, 3/8-16 x 2-1/8 long, drilled	1
8	50-15	STUD, 1/2-20 x 1-7/8 long	12
9	69796	DOWEL, Crankshaft bearing	2
10	STD-514	DOWEL, 5/16 x 1/2 long	2
11	STD-557	DOWEL, 1/2 dia. x 11/16 long	2
12	STD-1339	PLUG, 1/16-27 pipe, Allen head	1
13	1102	PLUG, 1/8 pipe x 3/8 long, Allen head	4
14	65007	RETAINER, Shroud tube seal	12
15	72158	BUSHING, Gov. drive idler shaft	1
16	31C-16	STUD, 5/16-18 x 2.00 long	4
17	73772	NOZZLE ASSY., Piston cooling	6



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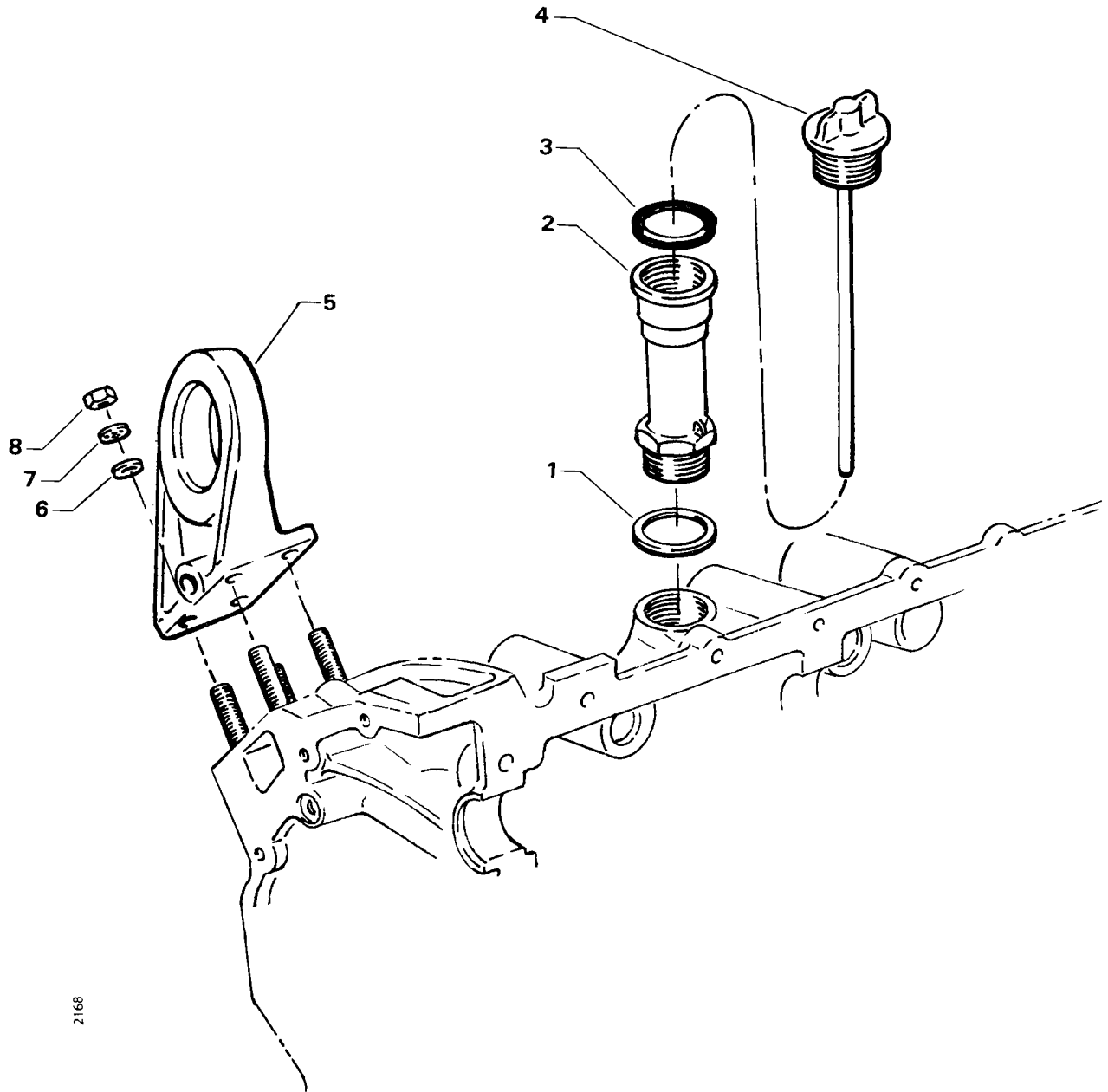
Figure 1. CRANKCASE ASSEMBLY

LYCOMING

T10-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

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

FIG. REF. 2	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	70457	GASKET, Oil filler extension	1
2	75675	EXTENSION, Oil filler (short)	1
3	74065	"O" RING, Oil level gage	1
4	LW-14771	GAGE ASSY., Oil level (short)	1
5	72306	BRACKET, Engine mounting (Dynafoal)	3
	76790	BRACKET, Engine mounting (Dynafoal) lower left	1
6	STD-33	WASHER, 3/8 plain	16
7	STD-678	WASHER, 3/8 internal lock	16
8	STD-596	NUT, 3/8-24 plain	16



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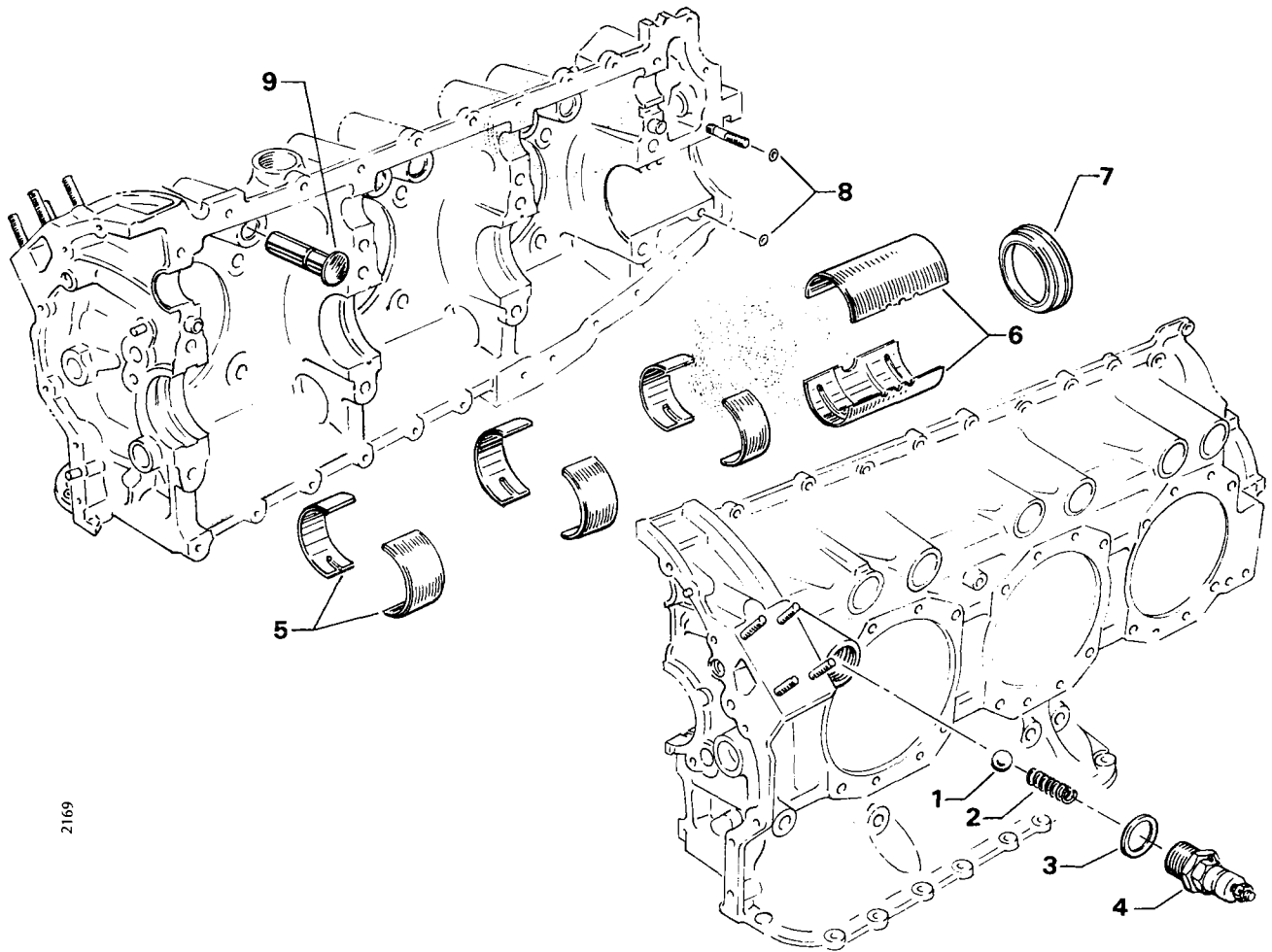
Figure 2. OIL LEVEL GAGE AND ENGINE MOUNTING BRACKETS

LYCOMING

T10-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CRANKCASE RELATED PARTS

FIG. REF. 3	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	1028-B	BALL, 11/16 dia.	1
2	LW-11713	SPRING, Oil pressure relief valve	1
3	STD-1045	GASKET, 1-1/4 I.D. x 1-1/2 O.D. x 3/32 annular	1
4	77808	VALVE ASSY., Oil pressure relief, adjustable	1
5	LW-16711	BEARING, Crankshaft	6
6	LW-13884	BEARING, Crankshaft, front	2
7	LW-13792	SEAL, Crankshaft, oil	1
8	72091	RING, Oil seal, 23/64 I.D. x 7/64 dia. section	2
9	72877	BODY, Hydraulic tappet	12

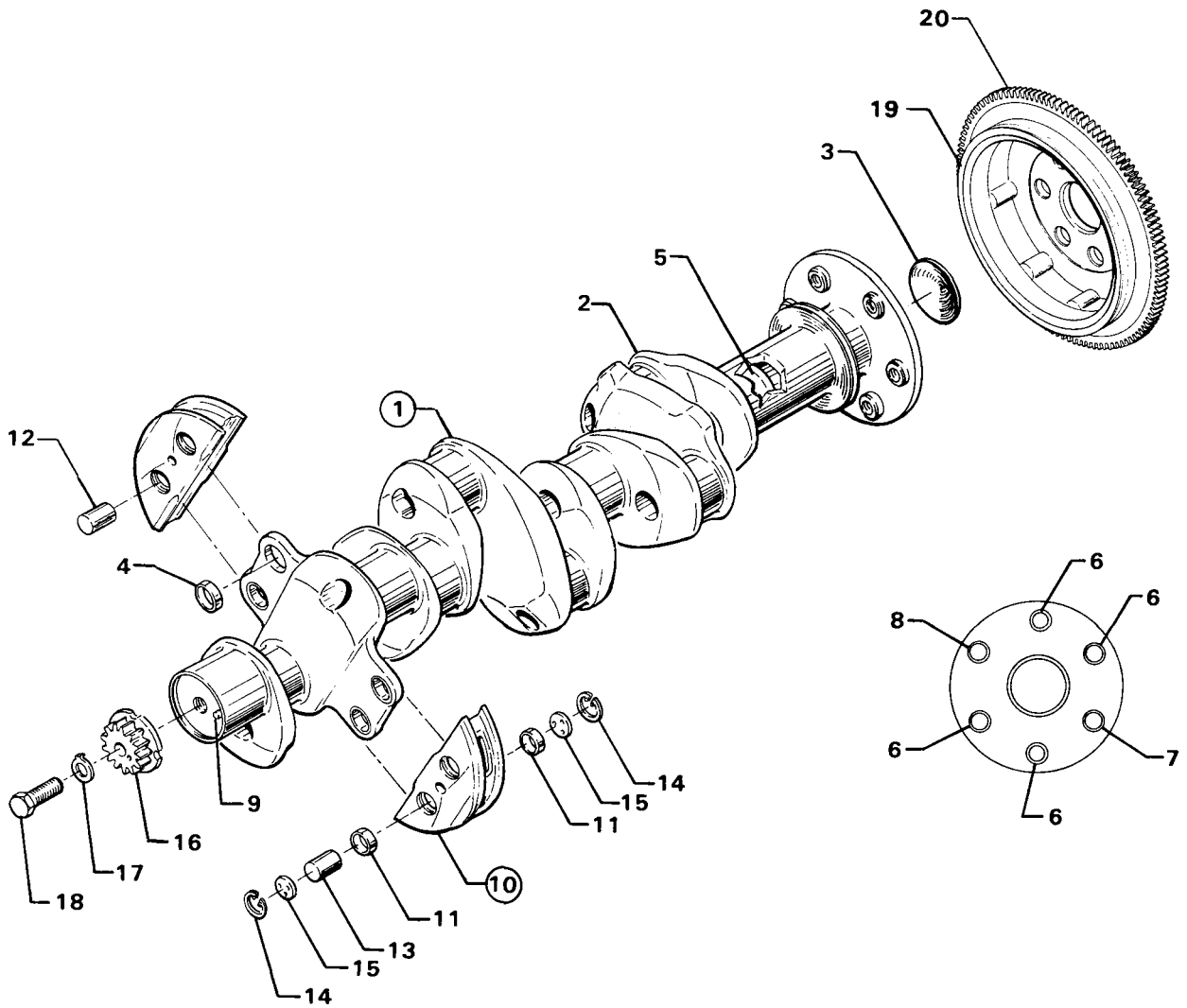


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Figure 3. CRANKCASE RELATED PARTS

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
 CRANKSHAFT AND RELATED PARTS

FIG. REF. 4	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-17680	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY	1
2	LW-17651	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 dia.	1
6	72062	BUSHING, Propeller flange, long	4
7	72061	BUSHING, Propeller flange, short	1
8	72060	BUSHING, Propeller flange, indexing	1
9	STD-2078	DOWEL, 3/8 O.D. x 1/2 long	1
10	72801	COUNTERWEIGHT ASSEMBLY	2
11	71903	BUSHING, Dynamic counterweight	8
12	72797	ROLLER, Dynamic counterweight, 6.3 order	2
13	72965	ROLLER, Dynamic counterweight, 5.1 order	2
14	LW-14820	RING, Internal retaining	8
15	71907	WASHER, Dynamic counterweight	8
16	LW-10284	GEAR, Crankshaft	1
17	LW-10332	LOCKPLATE, Crankshaft gear	1
18	AN8-14A	BOLT, 1/2-20 x 1-19/32 long	1
19	77579	SUPPORT ASSY., Starter ring gear, 12/14 pitch	1
20	72566	GEAR, Starter ring, 12/14 pitch	1



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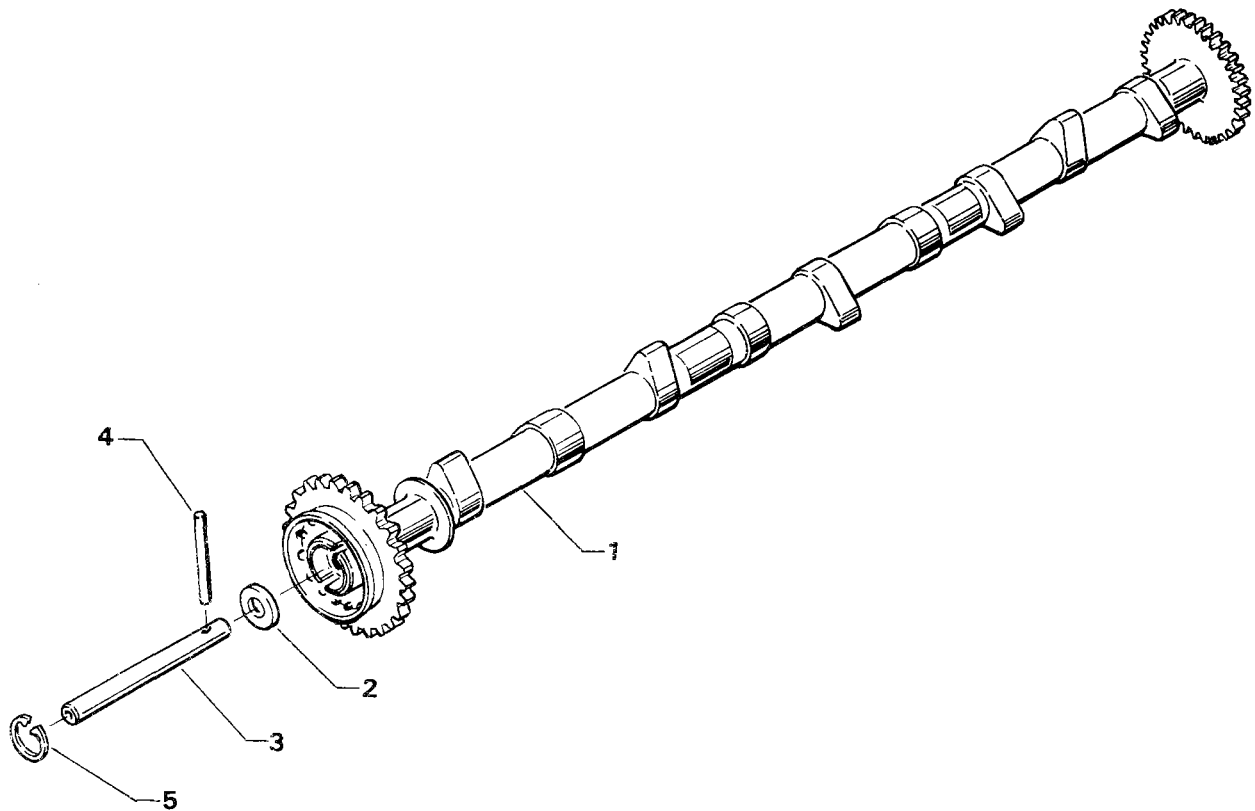
Figure 4. CRANKSHAFT AND RELATED PARTS

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TIO-540-AB1AD PARTS CATALOG
WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CAMSHAFT AND RELATED PARTS

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



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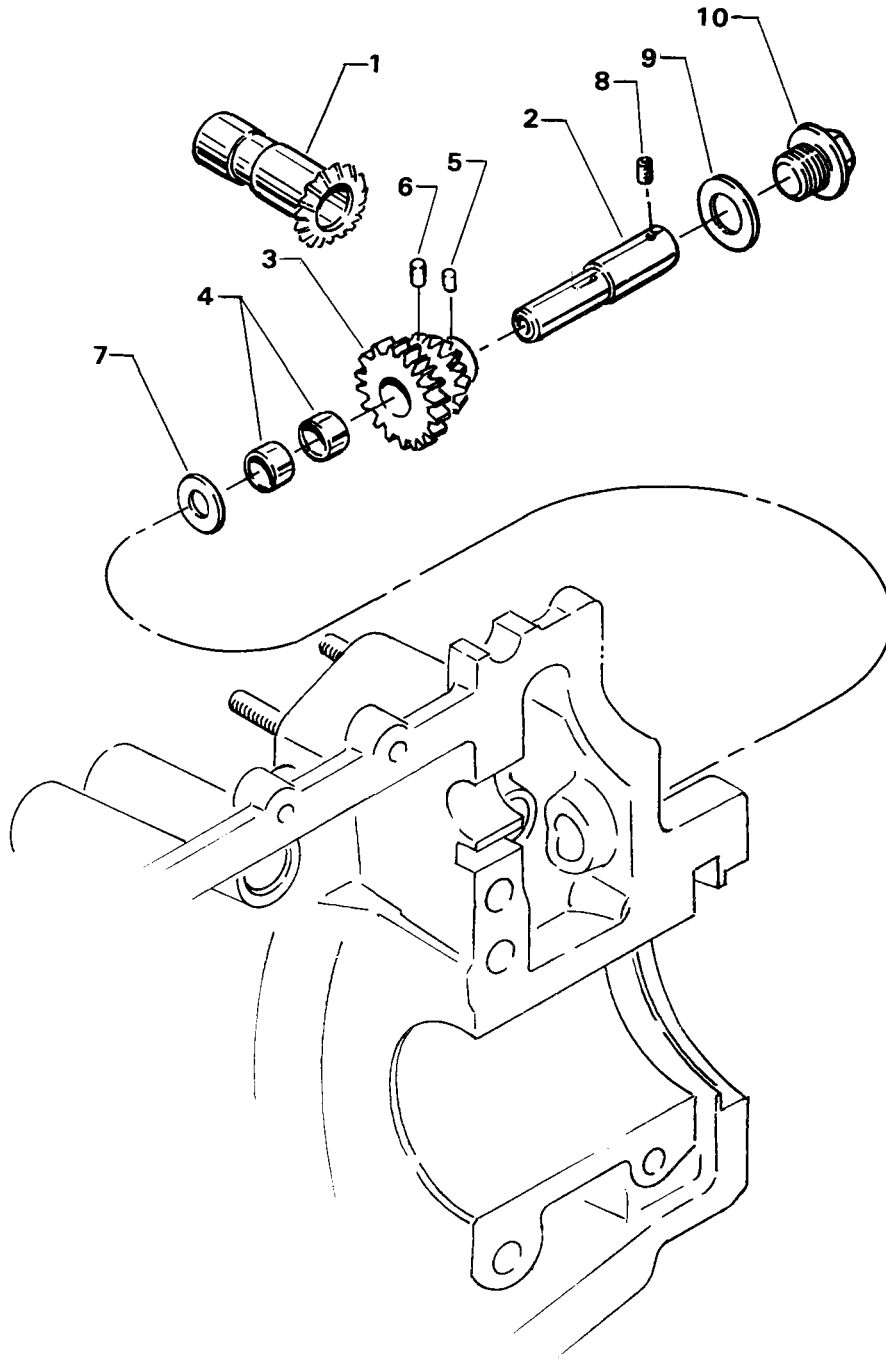

Figure 5. CAMSHAFT AND RELATED PARTS

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TIO-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP PROPELLER GOVERNOR DRIVE ASSEMBLY

FIG. REF. 6	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-10442	GEAR, Governor drive	1
2	LW-14021	SHAFT, Propeller governor idler gear	1
3	LW-10541	GEAR ASSY., Propeller governor drive	1
4	77872	BUSHING, Propeller governor idler gear	2
5	STD-19	DOWEL, 3/32 dia. x 7/32 long	1
6	STD-798	DOWEL, 3/32 dia. x 9/32 long	1
7	73249	WASHER, Thrust	AR
	73250	WASHER, Thrust	AR
	73251	WASHER, Thrust	AR
	73252	WASHER, Thrust	AR
8	AN565B1032H5	SET SCREW, No. 10/32 x 5/16 long	1
9	70455	GASKET, 25/32 I.D. x 1-1/8 O.D. x 1/16 thick	1
10	LW-13896	PLUG, 3/4-16 hex. head	1



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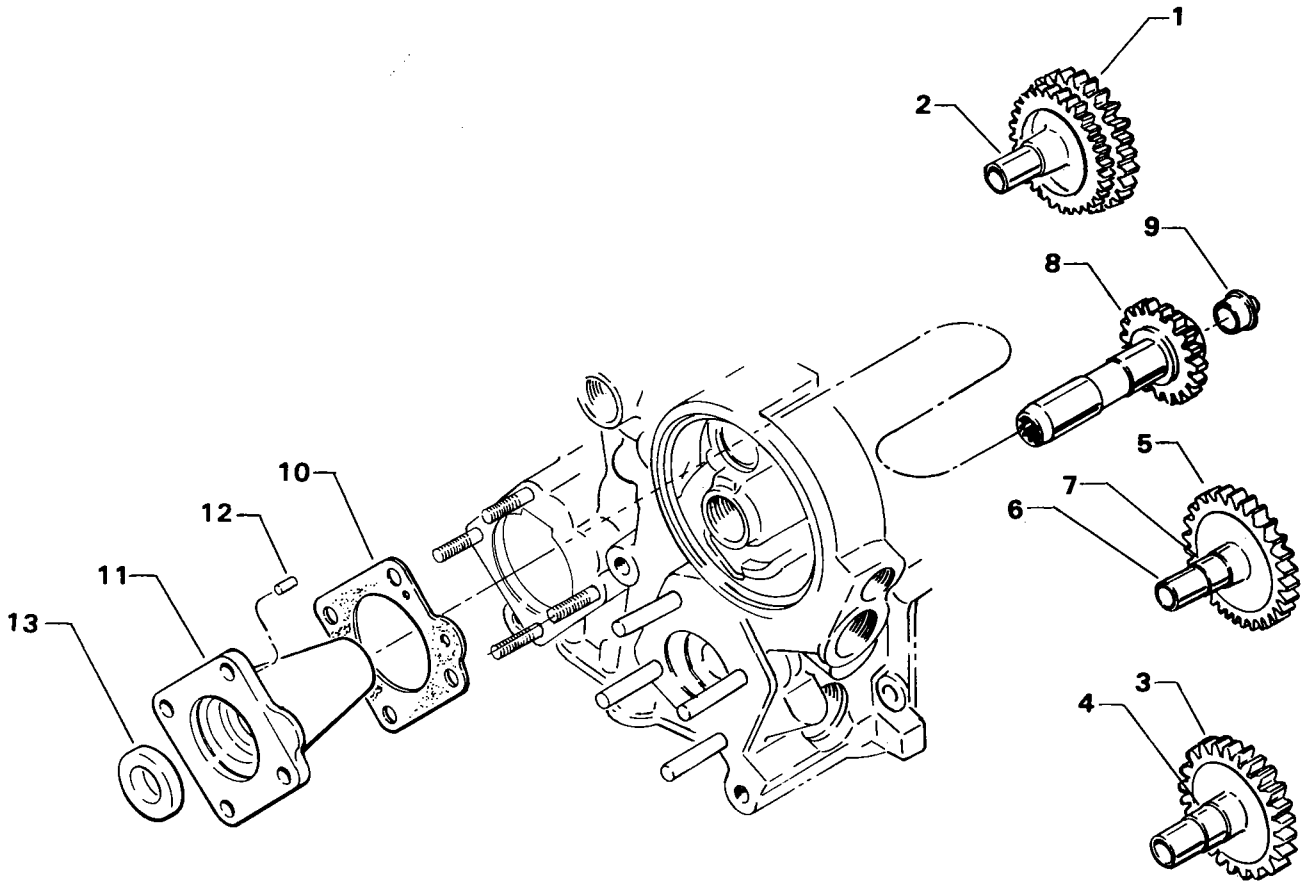
Figure 6. PROPELLER GOVERNOR DRIVE ASSEMBLY

LYCOMING

TIO-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

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

FIG. REF. 7	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-10292	GEAR ASSY., Crankshaft idler, plain	1
2	LW-10299	SHAFT, Crankshaft idler gear	1
3	LW-10297	GEAR ASSY., Crankshaft idler (heavy)	1
4	LW-10325	SPACER, Idler gear	1
5	LW-10324	GEAR ASSY., Fuel pump idler	1
6	LW-10299	SHAFT, Crankshaft idler gear	1
7	LW-10325	SPACER, Idler gear	1
8	LW-10329	SHAFTGEAR ASSY., Fuel pump drive	1
9	61166	THRUST BUTTON	1
10	69164	GASKET, Fuel pump adapter	1
11	69159	ADAPTER ASSY., Fuel pump drive	1
12	STD-1774	PIN, 1/8 dia. x 1/4 long	1
13	STD-213	SEAL, Oil, 3/4 I.D. x 1-3/8 O.D.	1

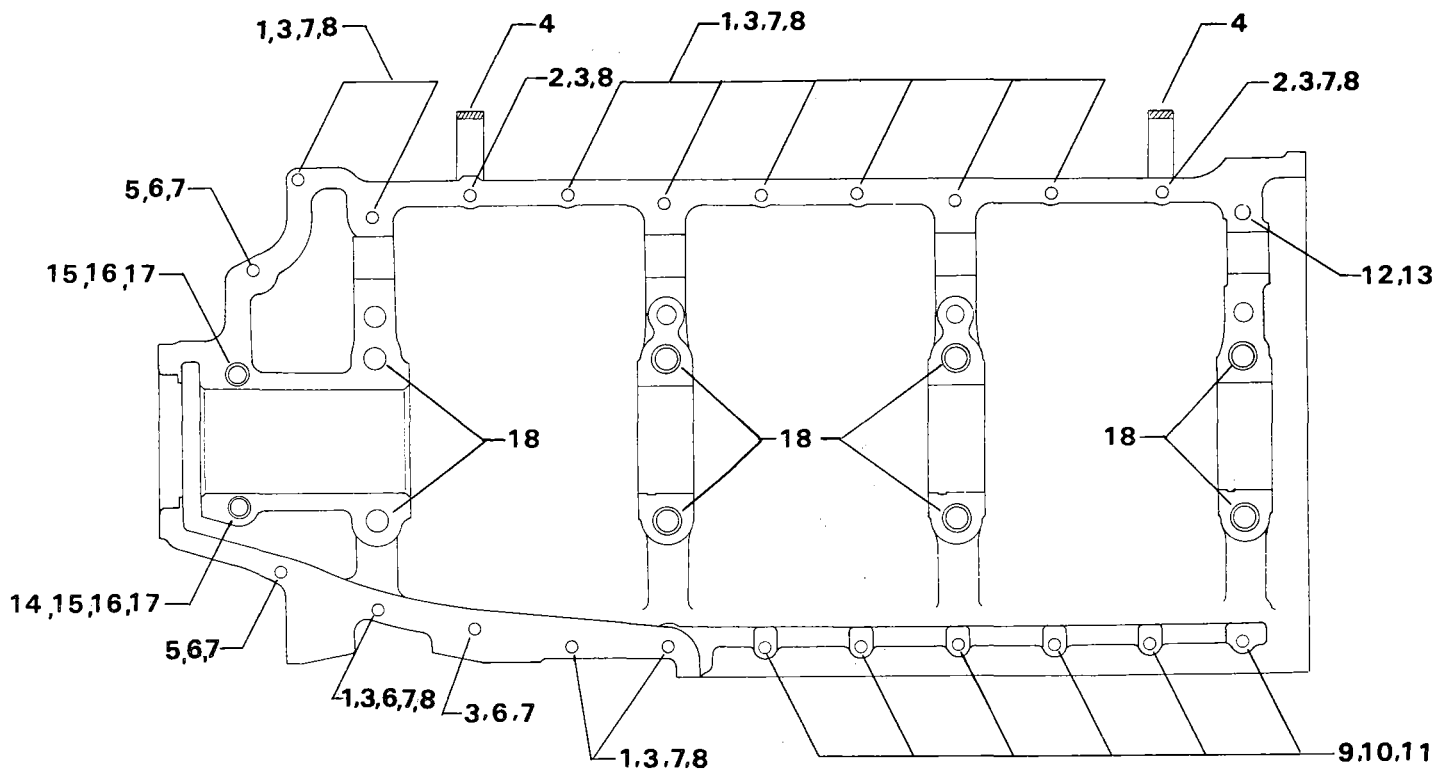


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Figure 7. CRANKSHAFT AND FUEL PUMP IDLER GEARS

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
 CRANKCASE ATTACHING PARTS

FIG. REF. 8	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	STD-1414	BOLT, 1/4-20 x 1-1/2 long, hex. hd.	8
2	STD-1646	BOLT, 1/4-20 x 2.00 long, hex. hd.	2
3	STD-8	WASHER, 1/4 plain	24
4	60803	STRAP, Lifting	2
5	STD-2084	BOLT, 1/4-20 x 1-3/4 long, hex. hd.	2
6	STD-1419	BOLT, 1/4-20 x 1-1/8 long, hex. hd.	4
7	STD-160	WASHER, 1/4 lock, internal teeth	16
8	STD-1411	NUT, 1/4-20 plain	12
9	STD-1416	BOLT, 1/4-20 x 1-1/2 long, hex. hd., dr. end	6
10	STD-8	WASHER, 1/4 plain (18 max.)	AR
11	STD-1409	NUT, 1/4-20 slotted shear	6
12	STD-33	WASHER, 3/8 plain	1
13	STD-872	NUT, 3/8-24 slotted	1
14	AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. hd.	1
15	STD-33	WASHER, 3/8 plain	3
16	STD-678	WASHER, 3/8 lock, internal teeth	2
17	STD-596	NUT, 3/8-24 plain	2
18	76220	STUD, 1/2-20 x 10-45/64 long	8



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Figure 8. CRANKCASE ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS ACCESSORY HOUSING ASSEMBLY

FIG. REF. 9	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	73818	GASKET, Accessory housing	1
2	LW-10920	HOUSING ASSEMBLY, Accessory	1
3	25C-12	STUD, 1/4-20 x 1-1/2 long	4
4	31C-19	STUD, 5/16-18 x 2-3/8 long	4
5	31CD-20	STUD, 5/16-18 x 2-1/2 long, drilled	3
6	31C-13	STUD, 5/16-18 x 1-5/8 long, (Mag. Pad)	2
7	76156	SHIELD, Oil accessory breather	1
8	STD-1339	PLUG, 1/16 NPT Allen head	1
9	LW-10341	INSERT, 1.00-14 Heli-Coil x 3/8 long	1
10	MS-124703	INSERT, 3/4-16 Heli-Coil x 1-1/8 long	1
11	LW-12589	INSERT, 5/8-18 Heli-Coil x 3/8 long	1
12	25C-39	STUD, 1/4-20 x 4-7/8 long	1
13	25C-19	STUD, 1/4-20 x 2-3/8 long	3
14	31C-12*	STUD, 5/16-18 x 1-1/2 long	1

* Install in extreme lower left corner of accessory housing.

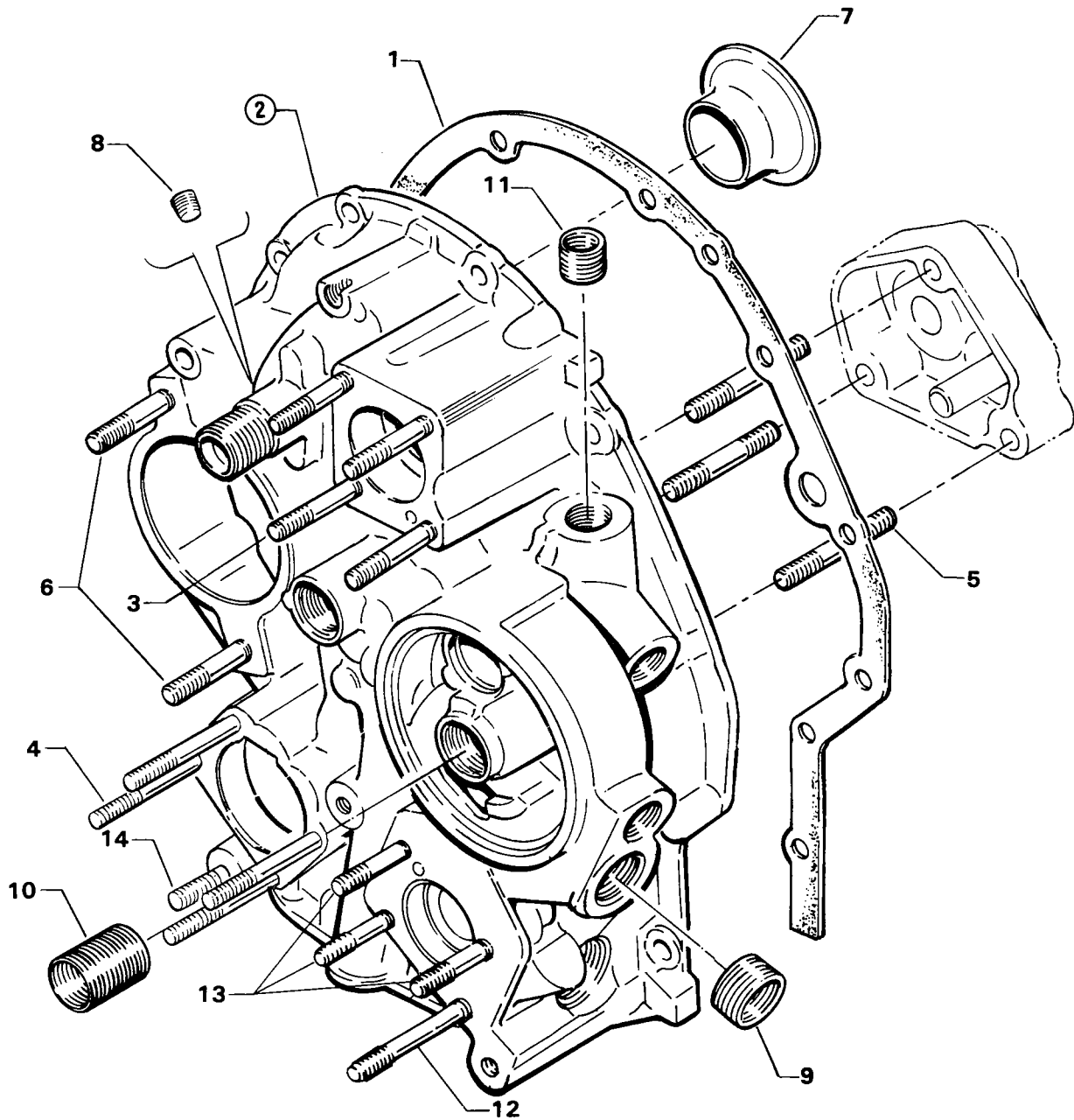


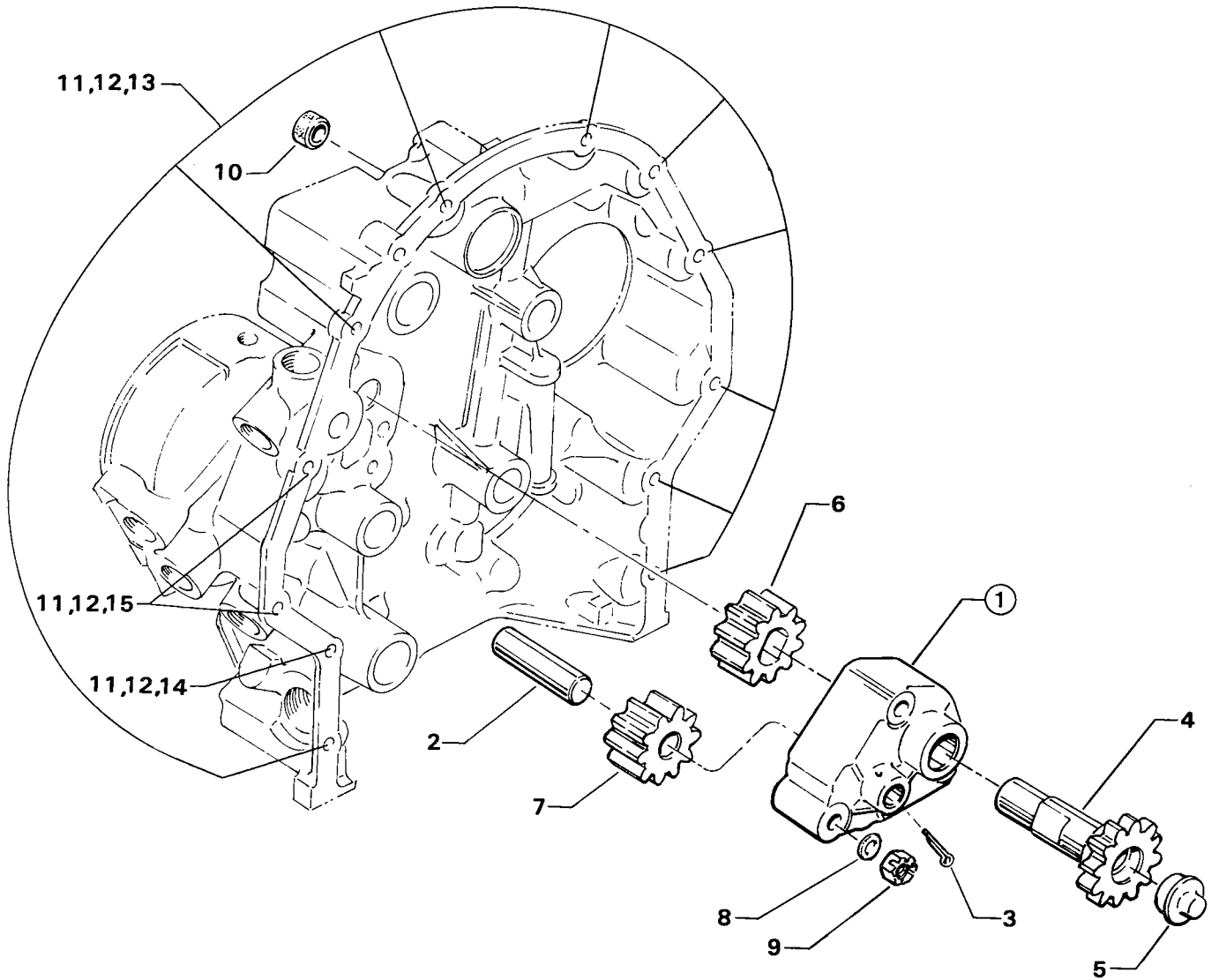
Figure 9. ACCESSORY HOUSING ASSEMBLY

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TIO-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

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

FIG. REF. 10	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-10344	BODY ASSY., Oil pump	1
2	60329	SHAFT, Oil pump idler	1
3	STD-714	PIN, 1/8 dia. x 1.00 long, cotter	1
4	LW-10318	GEAR ASSY., Oil pump drive	1
5	61166	THRUST BUTTON, Oil pump drive gear	1
6	61297	IMPELLER, Oil pump driving	1
7	61298	IMPELLER, Oil pump driven	1
8	STD-35	WASHER, 5/16 plain	3
9	STD-1420	NUT, 5/16-18 slotted	3
10	LW-14260	SEAL, Tachometer drive, oil	1
11	STD-8	WASHER, 1/4 plain	12
12	STD-160	WASHER, 1/4 lock, internal	12
13	STD-1204	BOLT, 1/4-20 x 15/16 long, hex. hd.	9
14	STD-1215	BOLT, 1/4-20 x 1-1/4 long, hex. hd.	1
15	STD-1875	BOLT, 1/4-20 x 13/16 long, hex. hd.	2

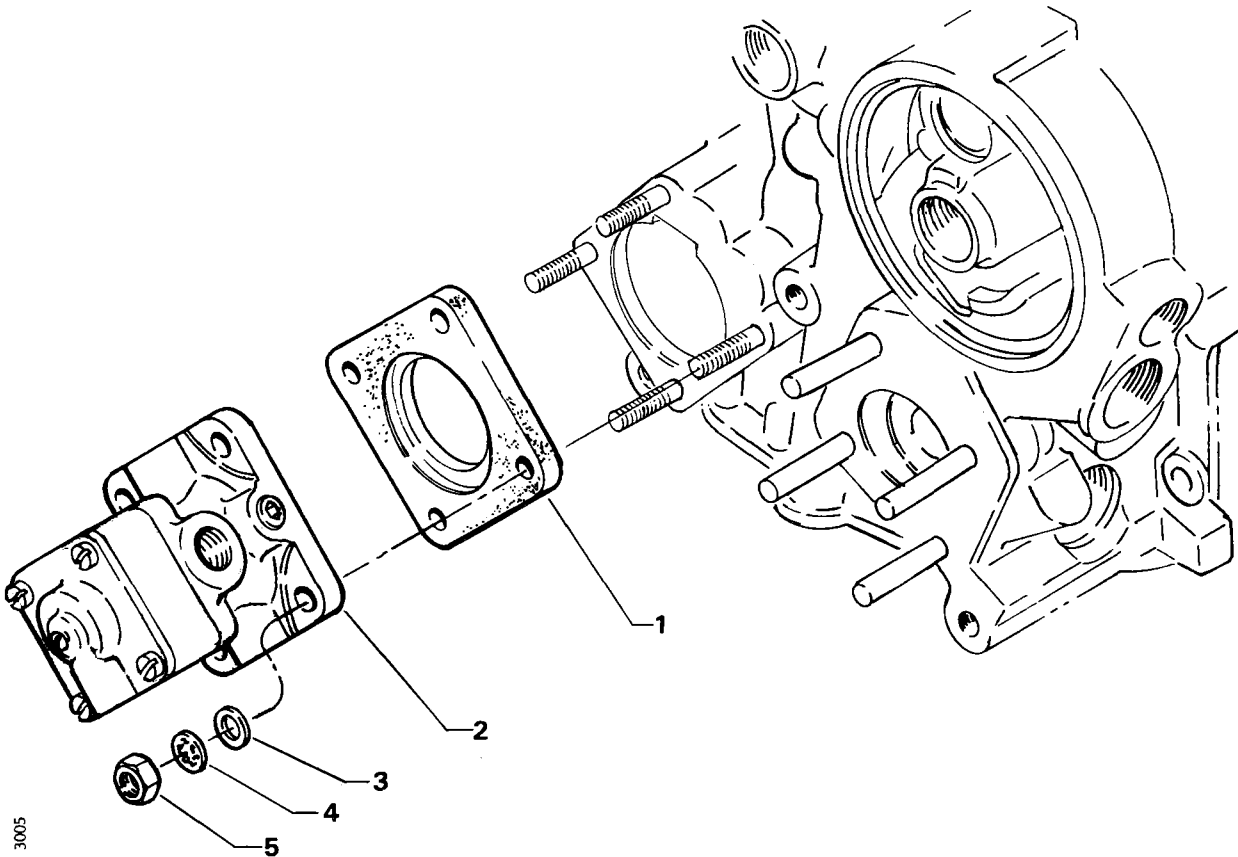


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Figure 10. OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS
 FUEL PUMP ASSEMBLY

FIG. REF. 11	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-10799	SPACER, Fuel pump insulating	1
2	LW-12534	PUMP, Fuel (RG17980P)	1
3	STD-35	WASHER, 5/16 plain	4
4	STD-475	WASHER, 5/16 lock, internal teeth	4
5	STD-1410	NUT, 5/16-18 plain	4

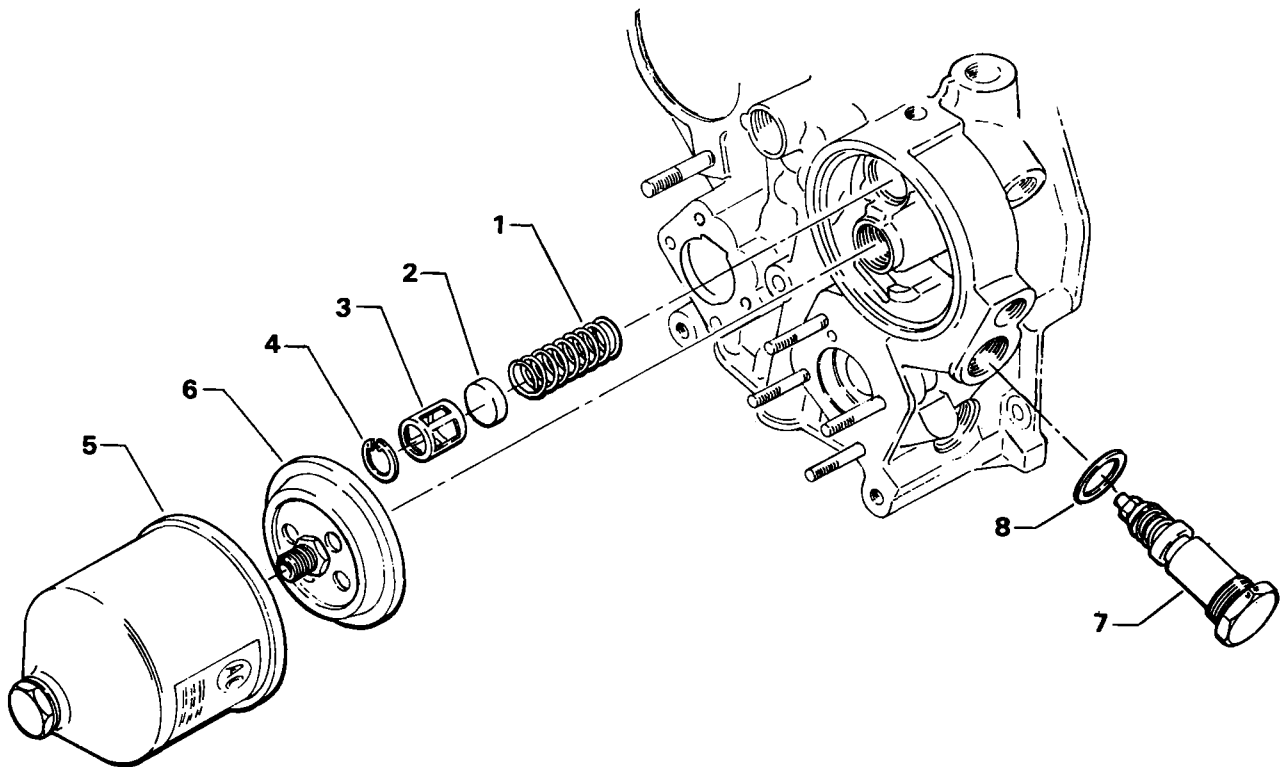


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Figure 11. FUEL PUMP ASSEMBLY

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

FIG. REF. 12	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-10321	SPRING, Oil filter bypass valve	1
2	76539	SEAT, Oil relief valve	1
3	LW-10320	SLEEVE, Oil filter bypass valve	1
4	MS16625-1100	RING, Internal retaining	1
5	LW-13905	OIL FILTER, Long (spin-on type) Champion	1
6	LW-13904	KIT, Converter plate, oil filter	1
7	75944	VALVE ASSY., Temp. control, oil cooler bypass	1
8	76510	GASKET, Valve assembly	1



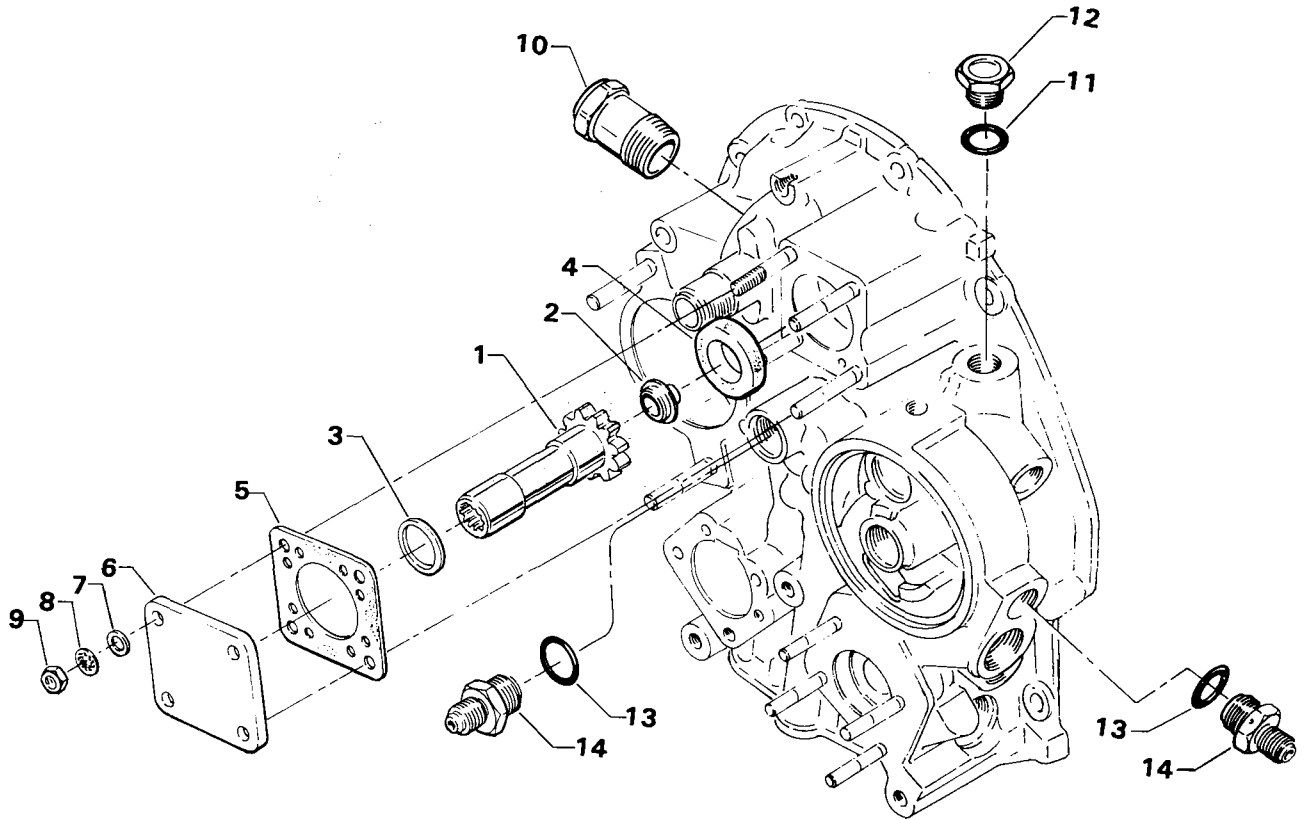
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Figure 12. OIL FILTER ASSEMBLY AND OIL COOLER BYPASS VALVE

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

FIG. REF. 13	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-10307	GEAR ASSY., Accessory driven	1
2	61166	THRUST BUTTON, Vacuum pump gear	1
3	71596	WASHER, Accessory drive gear	1
4	STD-2217	SEAL, Oil, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide	1
5	8313	GASKET, Vacuum pump	1
6	60430	COVER, Vacuum pump	1
7	STD-8	WASHER, 1/4 plain	4
8	STD-160	WASHER, 1/4 lock, internal teeth	4
9	STD-1411	NUT, 1/4-20 plain	4
10	71651	FITTING, Breather	1
11	STD-294*	GASKET, 7/8 I.D. x 5/8 I.D. x 3/32 annular	1
12	1540*	PLUG, Thermometer well	1
13	MS29512-10**	SEAL, Oil, 3/32 section x 45/64 I.D.	2
14	LW-14828**	REDUCER, 1/2 tubing to 5/8 tubing	2

* Assemble in accessory housing at oil temperature boss.
 ** Used at oil cooler inlet and outlet.



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

ACCESSORY HOUSING AND RELATED PARTS
 TURBO SCAVENGE & VACUUM PUMP DRIVE ASSEMBLY

FIG. REF. 14	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-16448	GEAR ASSY., Accessory driven	1
2	71596	WASHER, Accessory driven gear	1
3	8313	GASKET, Turbo scavenge & vac. pump drive assy.	1
4	LW-19069	DRIVE ASSY., Turbo scavenge & vacuum pump	1
5	LW-19068	ADAPTER ASSY., Vacuum pump	1
6	25C-12	STUD, 1/4-20 x 1-1/2 long	3
7	78612	SHAFT, Hydraulic pump	1
8	STD-95	KEY, 1/8 x 1/2 Woodruff	1
9	LW-15550	PUMP, Gerotor	1
10	LW-19066	ADAPTER, Turbo scavenge pump	1
11	70474	WASHER, Retaining, hydraulic pump drive shaft	1
12	STD-1737	RING, External retaining, 9/16 dia.	1
13	AN-500-10-16	SCREW, No. 10-24 x 1-1/8 long, fill. hd.	2
14	STD-122	WASHER, 13/64 I.D. x 5/16 O.D.	2
15	STD-178	WASHER, No. 10 spring lock	2
16	STD-2217	SEAL, Oil 7/8 I.D. x 1-1/2 O.D.	1
17	STD-8	WASHER, 1/4 plain	3
18	STD-160	WASHER, 1/4 internal lock	3
19	STD-1411	NUT, 1/4-20 plain	3
20	8313	GASKET, Hydraulic pump	1
21	60430	COVER, Hydraulic pump	1
22	STD-8	WASHER, 1/4 plain	4
23	STD-160	WASHER, 1/4 internal lock	4
24	STD-1411	NUT, 1/4-20 plain	4

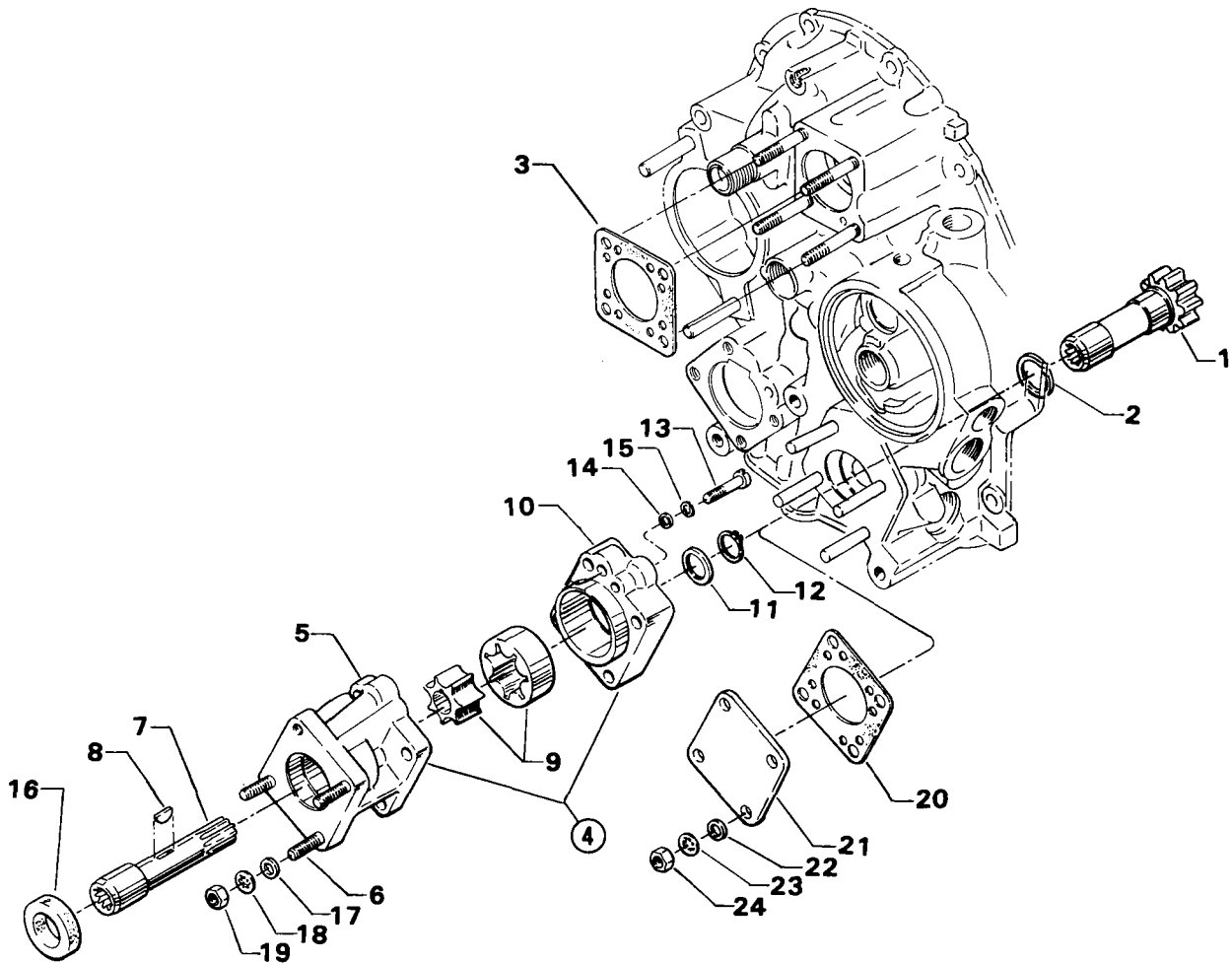


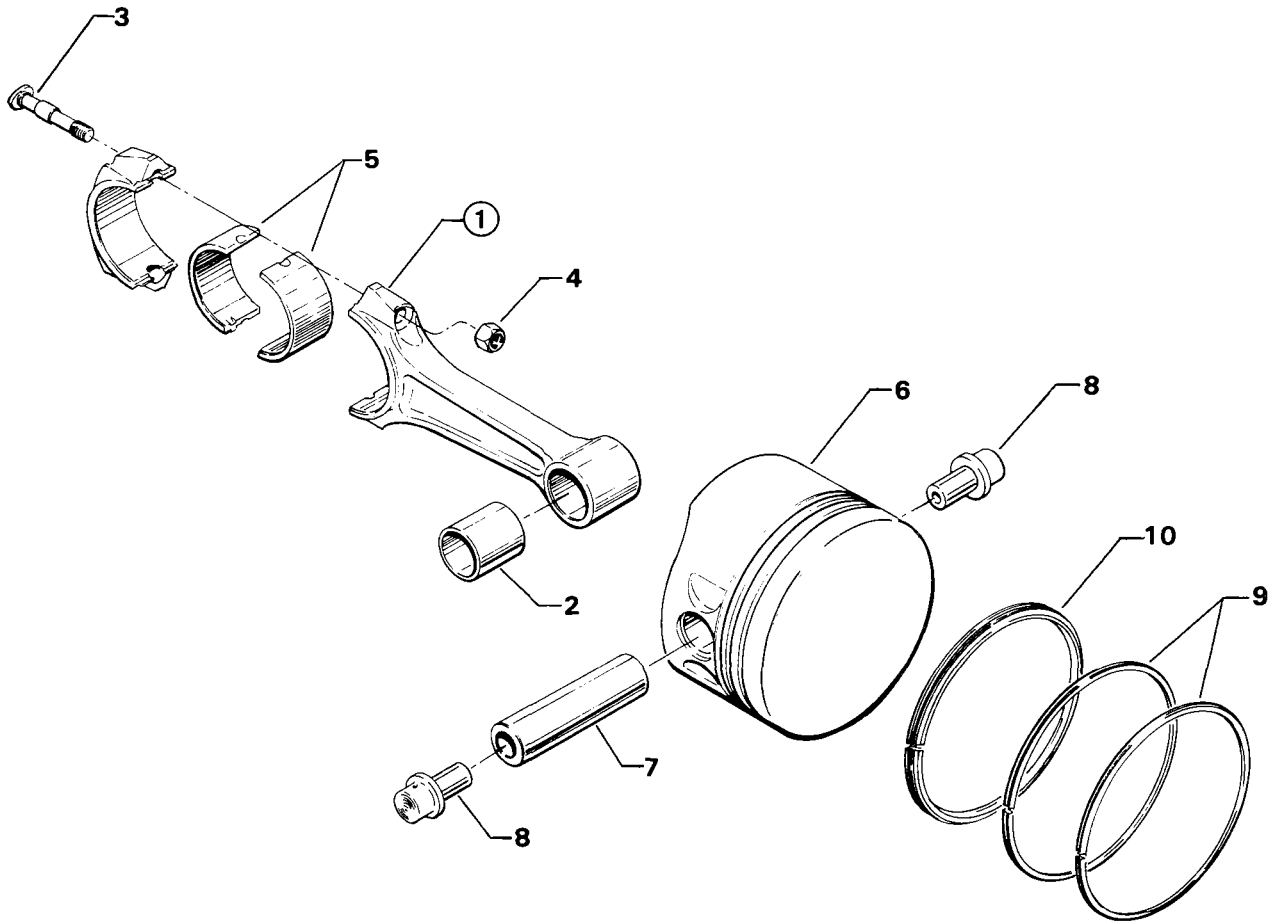
Figure 14. TURBO SCAVENGE & VACUUM PUMP DRIVE ASSEMBLY

LYCOMING

TIO-540-AB1AD PARTS CATALOG
WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

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

FIG. REF. 15	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
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
6	LW-12733	PISTON, Compression ratio 8.00:1	6
7	LW-14077	PIN, Piston	6
8	LW-11775	PLUG, Piston pin	12
9	74241	RING, Piston, top compression	12
10	73857	RING, Piston, oil regulating (expander type)	6



3004

Figure 15. CONNECTING RODS, PISTONS AND RING ASSEMBLIES

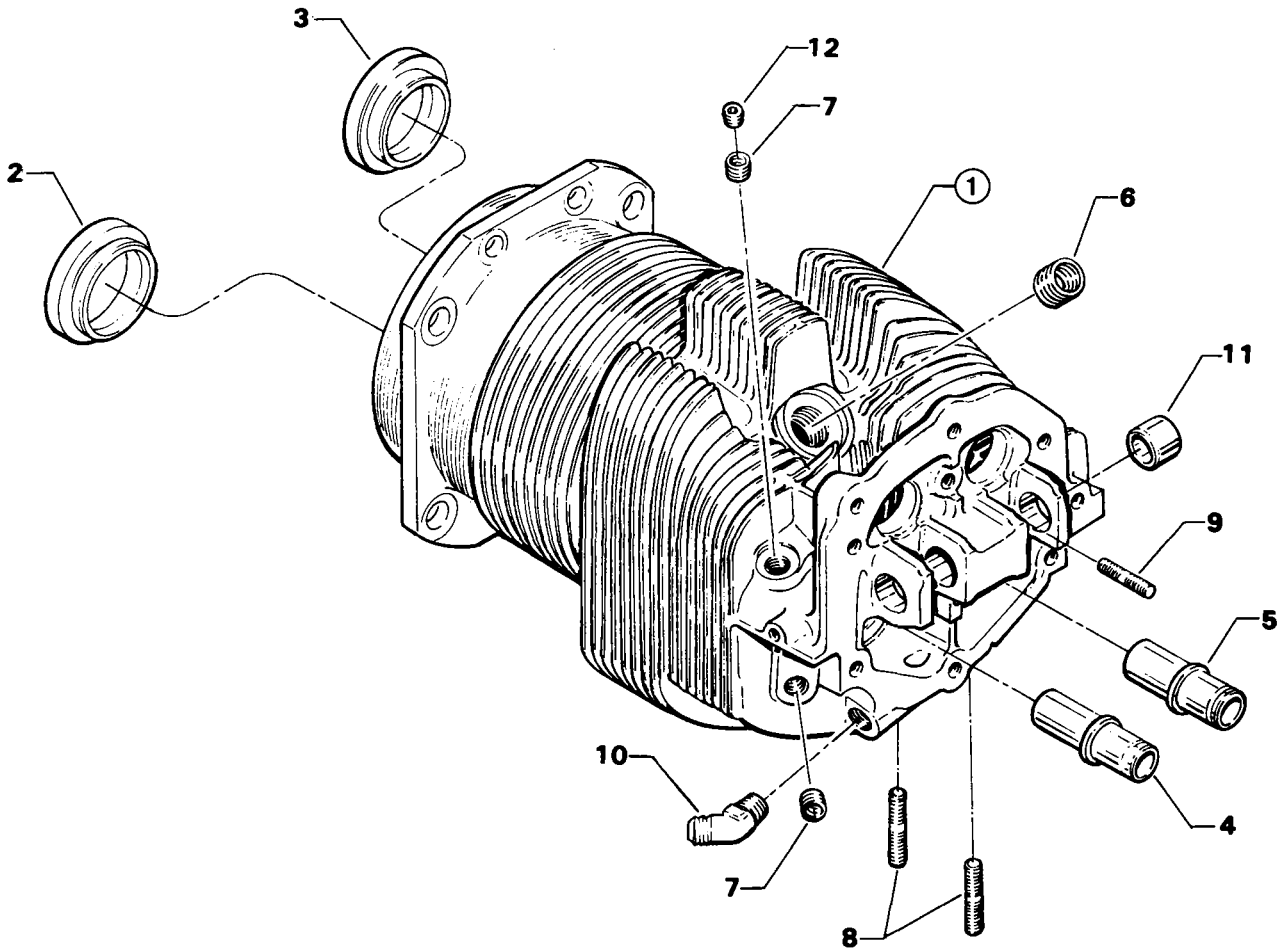
LYCOMING

TIO-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

CYLINDER, PISTON AND VALVE TRAIN CYLINDER ASSEMBLY

FIG. REF. 16	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-12429*	CYLINDER AND HEAD ASSEMBLY	6
2	72057	SEAT, Intake valve	6
3	72058	SEAT, Exhaust valve	6
4	61681	GUIDE, Valve intake	6
5	74230	GUIDE, Valve exhaust	6
6	69260	INSERT, Spark plug, 18-1.5 MM (long reach)	12
7	STD-1872	INSERT, 1/8-27 helicoil taper pipe thread	6
8	31C-12	STUD, 5/16-18 x 1-1/2 long	12
9	25C-9	STUD, 1/4-20 x 1-1/8 long	6
10	MS20823-6D	ELBOW, 45°, 3/8 flared tube	6
11	66610	BUSHING, Rocker shaft	24
12	1102	PLUG, 1/8-27 NPT, Allen (assemble in cyl. heads 1, 2, 3, 4 & 6)	5

* Nitrided cylinder, long reach plug.



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Figure 16. CYLINDER ASSEMBLY

LYCOMING

T10-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

CYLINDER, PISTON AND VALVE TRAIN VALVE ASSEMBLY

FIG. REF. 17	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	73938	VALVE, Intake	6
2	LW-19001	VALVE, Exhaust (rotator type)	6
3	LW-10077	SEAT, Valve spring, upper intake	6
4	LW-13323	SEAT, Valve spring, lower exhaust & intake	12
5	LW-16475	SEAT, Valve spring, exhaust (rotator type)	6
6	60009	KEY, Valve intake	12
7	MS13997-3	KEY, Valve exhaust (rotator type)	12
8	MS13998-3	CAP, Valve stem exhaust (rotator type)	6
9	LW-11795	SPRING, Valve, inner	12
10	LW-11800	SPRING, Valve, outer	12
11	AN823-3	ELBOW, 1/8 NPT to 3/16 tube, 45°	1
12	78290	PLUNGER ASSY., Hydraulic tappet	12
13	78524	SOCKET, Push rod, hydraulic tappet	12
14	LW-11485	TUBE, Shroud, push rod	12
15	LW-14995	SPRING, Shroud tube	6
16	LW-12272	LOCKPLATE, Shroud tube	6
17	STD-1411	NUT, 1/4-20 plain	6
18	LW-18661	SEAL, Shroud tube	12
19	70310	SEAL, Shroud tube	12
20	73434*	ROD ASSY., Push	AR
	73435*	ROD ASSY., Push	AR
	73436*	ROD ASSY., Push	AR
	73437*	ROD ASSY., Push	AR
21	LW-18790	ROCKER ASSY., Valve	12
22	74637	BUSHING, Valve rocker	12
23	LW-13790	SHAFT, Valve rocker	6
24	LW-12892	THRUST BUTTON, Rocker shaft	12

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

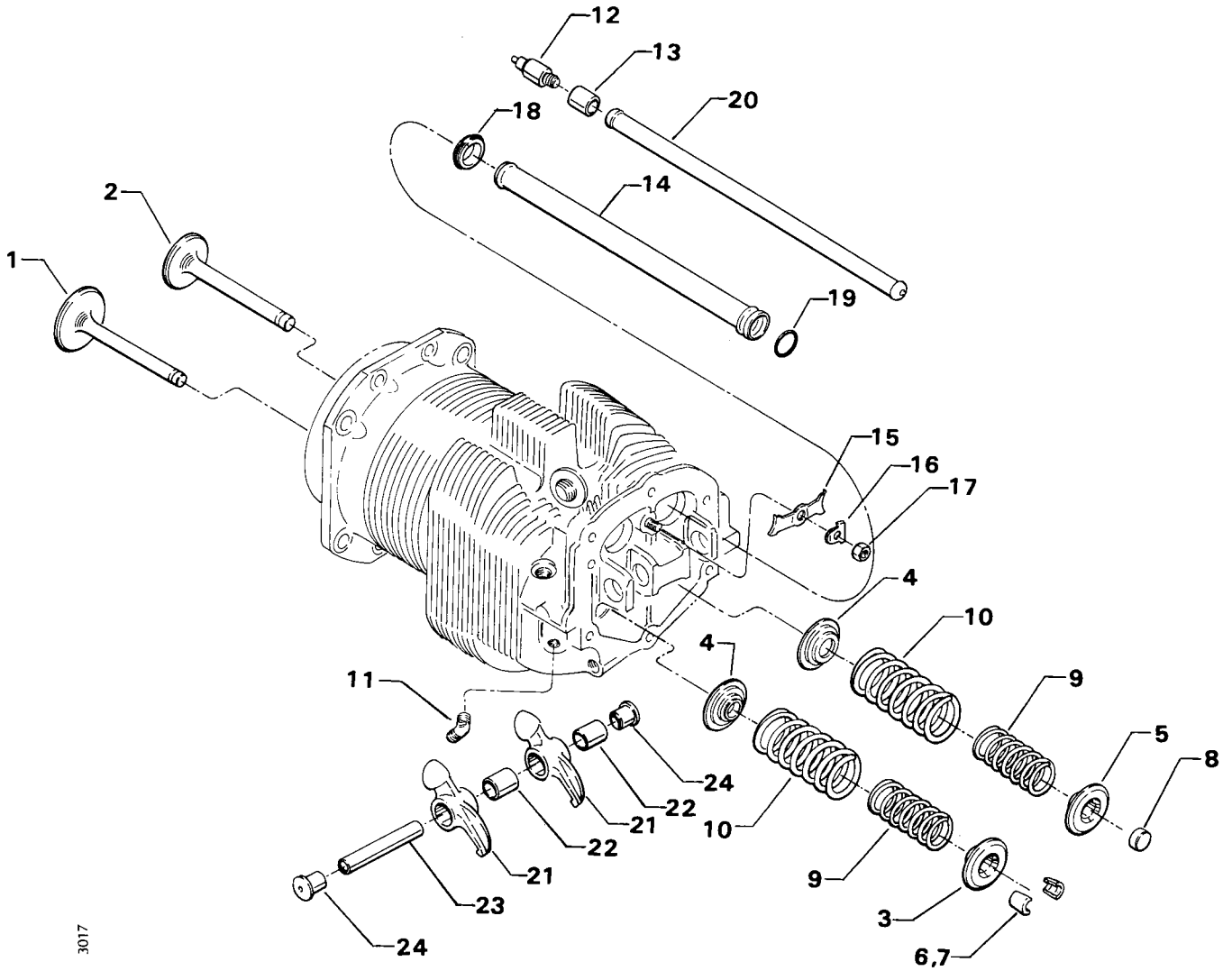
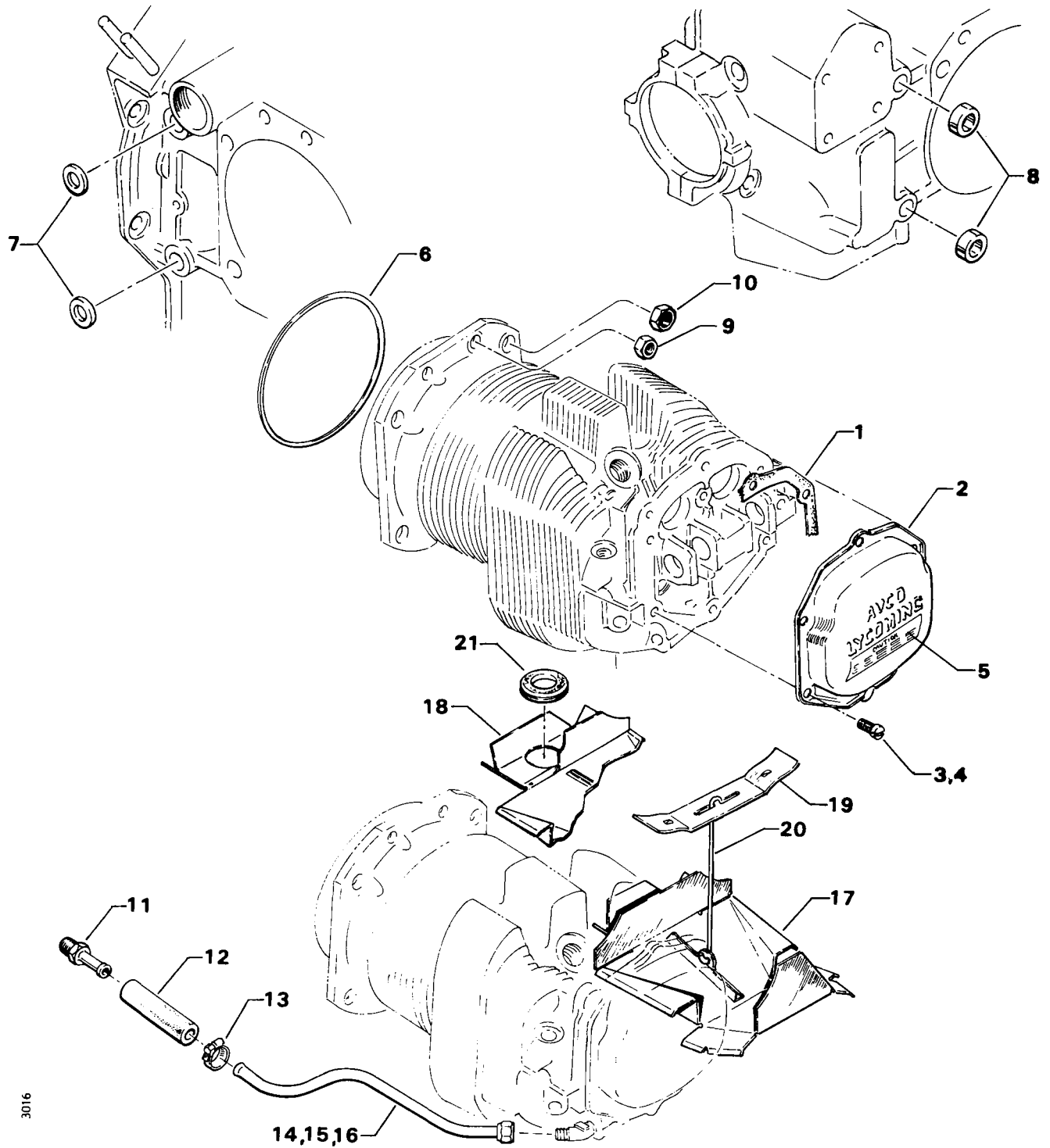


Figure 17. VALVE ASSEMBLY

CYLINDER, PISTON AND VALVE TRAIN

CYLINDER RELATED PARTS

FIG. REF. 18	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
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)	26
4	STD-1874	SCREW, 1/4-20 x 13/16 long, fill. hd. (self locking)	7
5	74494	PLATE, Spark plug caution	6
6	71481	RING, Oil seal, 3/32 dia. sect. x 4-27/32 I.D.	6
7	77906	SPACER, 33/64 I.D. x 7/8 O.D. x 1/8 thick	2
8	74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2
9	383-B	NUT, 3/8-24 plain	24
10	STD-2090	NUT, 1/2-20 plain	28
11	STD-684	NIPPLE, Straight, 3/8 I.D. hose	6
12	STD-1821	HOSE, 3/8 I.D. x 2-1/2 long	6
13	LW-15592-5-05	CLAMP, Hose	12
14	68759	TUBE ASSY., Cyl. head oil drain, cyl. no. 1	1
15	71737	TUBE ASSY., Cyl. head oil drain, cyl. no. 2	1
16	68761	TUBE ASSY., Cyl. head oil drain, cyls. no. 3, 4, 5, 6	4
17	75339	BAFFLE ASSY. Intercylinder	3
18	73975	BAFFLE ASSY., Intercylinder	1
19	71611	RETAINER, Intercylinder baffle	4
20	71610	HOOK, Intercylinder baffle retainer	4
21	AN931-12S17	GROMMET, 3/4 I.D. x 1-3/8 O.D. x 3/8 thick	1



3016

Figure 18. CYLINDER RELATED PARTS

LYCOMING

TIO-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

IGNITION SYSTEM MAGNETO, MAGNETO DRIVE AND SPARK PLUGS

FIG. REF. 19	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-13642	GEAR, Retainer, magneto drive	1
2	LW-13641	CUSHION, Magneto drive	2
3	LW-12681	GASKET, Magneto	1
4	LW-685126-107	MAGNETO, Ignition system (DL6N-3000)	1
5	LW-682560-13	MAGNETO, Ignition	1
6	LW-684602-303	HARNESS, Ignition	1
7	66M19385	CLAMP, Magneto	2
8	STD-475	WASHER, 5/16 lock, internal teeth	2
9	STD-1410	NUT, 5/16-18 plain	2
10	LW-620029-6	CLIP, 3 wire for 10/32 screw (bottom lead)	1
11	LW-620037-4	CLIP, 6 wire for 10/32 screw	1
12	76734	ZIP STRAP	26
13	STD-1925	SCREW, 1/4-20 self locking	4
14	LW-620026-2	CLIP, 1 wire for no. 10 screw (4 bottom & 2 top leads)	6
15	LW-620028-2	CLIP, 2 wire for 1/4 screw (1 bottom & 2 top leads)	3
16	STD-8	WASHER, 1/4 plain	12
17	LW-16266-25-19	CLAMP, Cushion type (standoff of nozzle vent man.)	4
18	LW-620029-5	CLIP, 3 wire for 1/4 screw (bottom leads)	2
19	LW-620036-4	CLIP, 6 wire for no. 10 screw	1
20	LW-620032-7	CLAMP, Ignition harness	1
21	LW-14875	BRACKET, Extension	1
22	STD-692	SCREW, 10/32 x 1/2 long, rd. head	2
23	STD-670	NUT, 10/32 self locking	2
24	LW-16266-10-75	CLAMP, Cushion type	1
25	STD-696	WASHER, 17/64 I.D. x 1/2 O.D. x 1/32 thick	AR
26	STD-1411	NUT, 1/4-20 plain	4
27	STD-8	WASHER, 1/4 plain	4
28	STD-1874	SCREW, 1/4-20 x 13/16 long, self locking, fill. hd.	7
29	1182-W5*	SPARK PLUG, Champion (RHB-37E) long reach	12
30	LW-382698	KIT, Magneto ground terminal	2

* Item No. 29 spark plug is used in current production only. Additional spark plugs are available for this engine. See latest edition of Avco Lycoming Service Instruction No. 1042 for complete listing of all approved spark plugs.

NOTE

Individual spark plug leads may be replaced by ordering either 10-720633-48 (4B, 6B, 4T, 6T) or 10-720633-78 (1B, 2B, 3B, 5B, 1T, 2T, 3T, 5T).

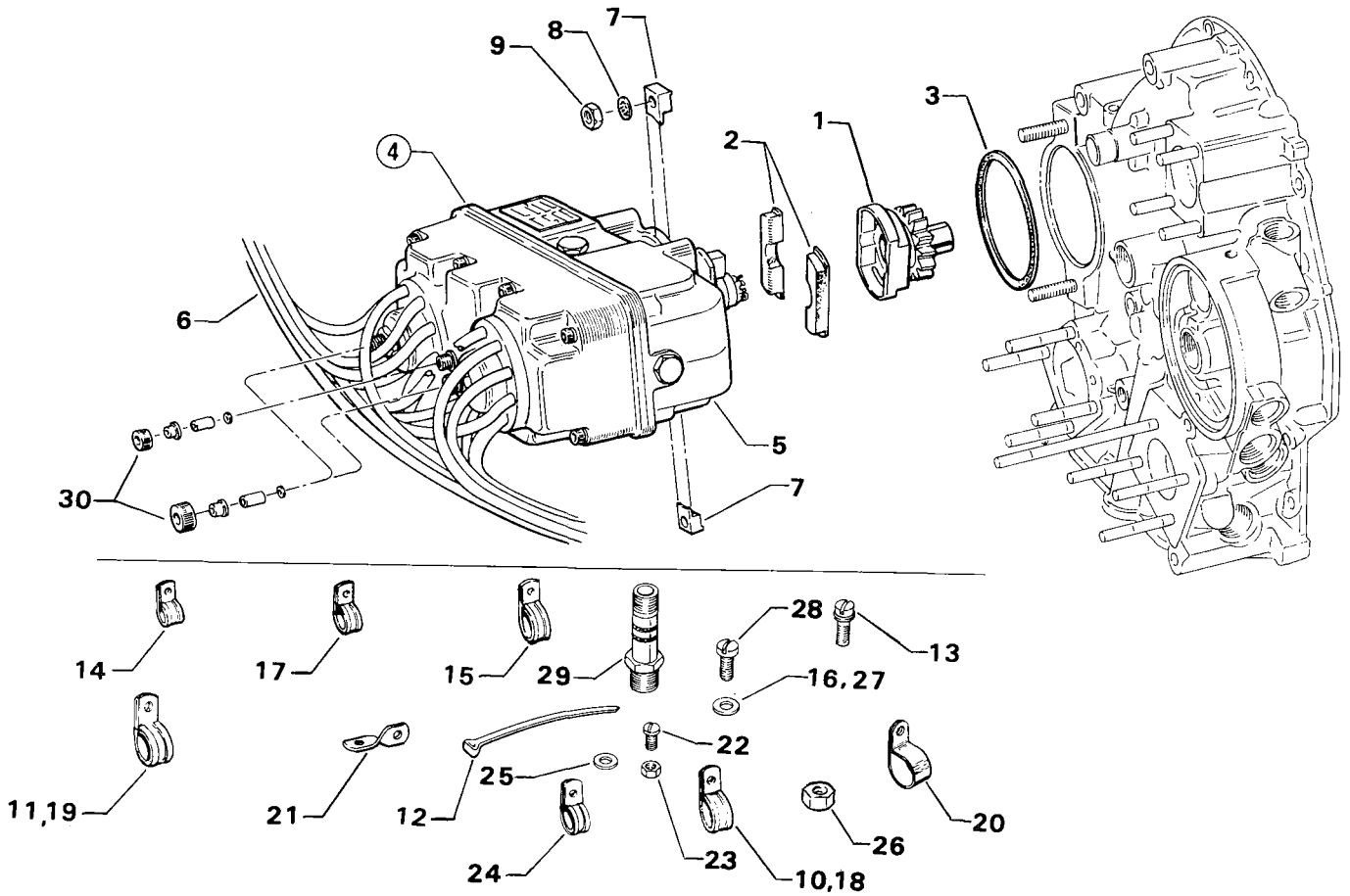


Figure 19. MAGNETO, MAGNETO DRIVE AND SPARK PLUGS

LYCOMING

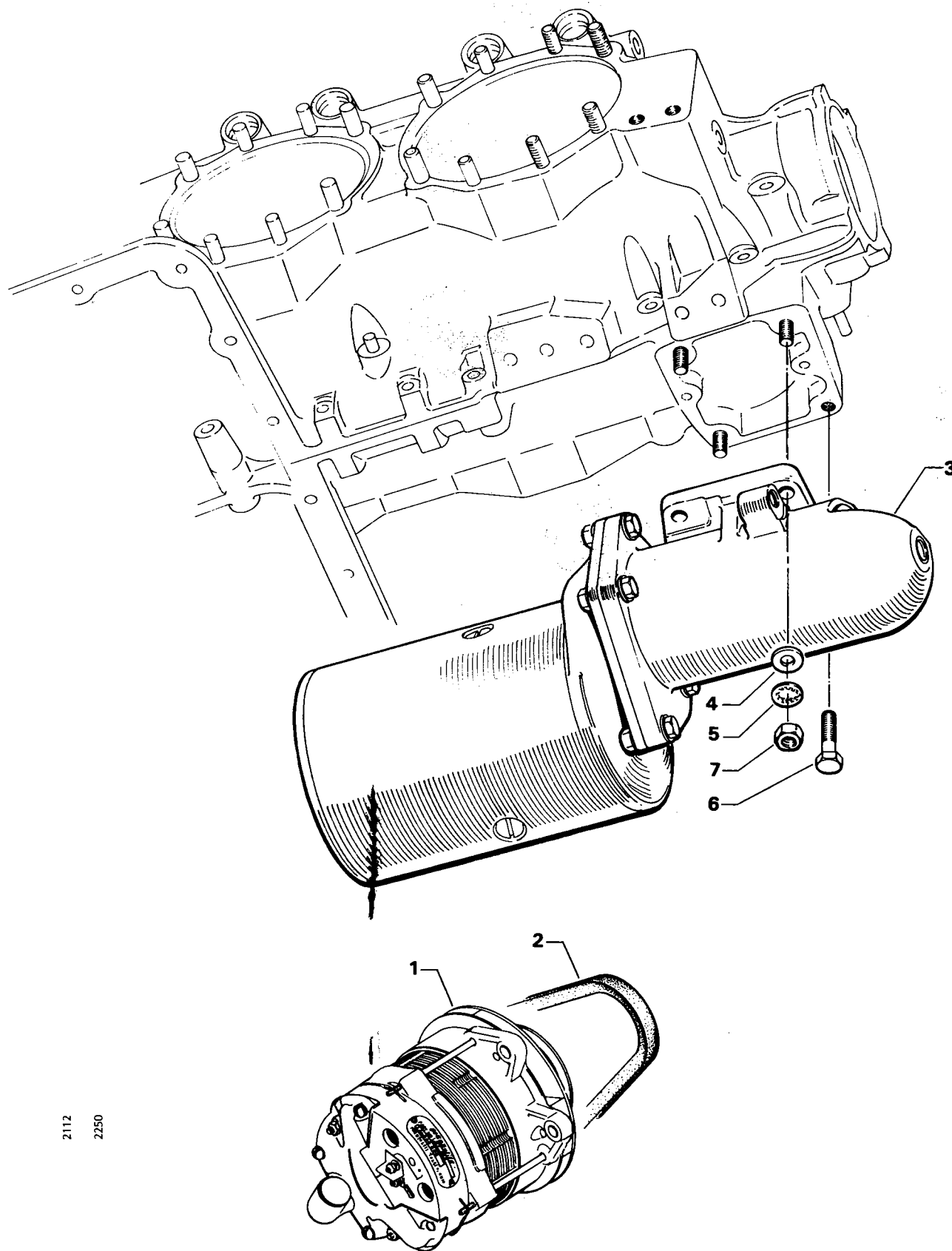
TIO-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

ELECTRICAL COMPONENTS ALTERNATOR, BELT, STARTER MOTOR AND ATTACHING PARTS

FIG. REF. 20	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-14316	ALTERNATOR, 12 volt, 70 amp. externally grounded (ALX-8421)	1
2	76026	BELT, Alternator drive, 3/8 wide	1
3	LW-15571	STARTER, 12 volt (3.38:1 internal reduction), (12/14 pitch pinion), (MZ-4222)	1
4	STD-35	WASHER, 5/16 plain	4
5	STD-475	WASHER, 5/16 lock, internal teeth	4
6	LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. hd.	1
7	STD-1410	NUT, 5/16-18 plain	3

NOTE

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



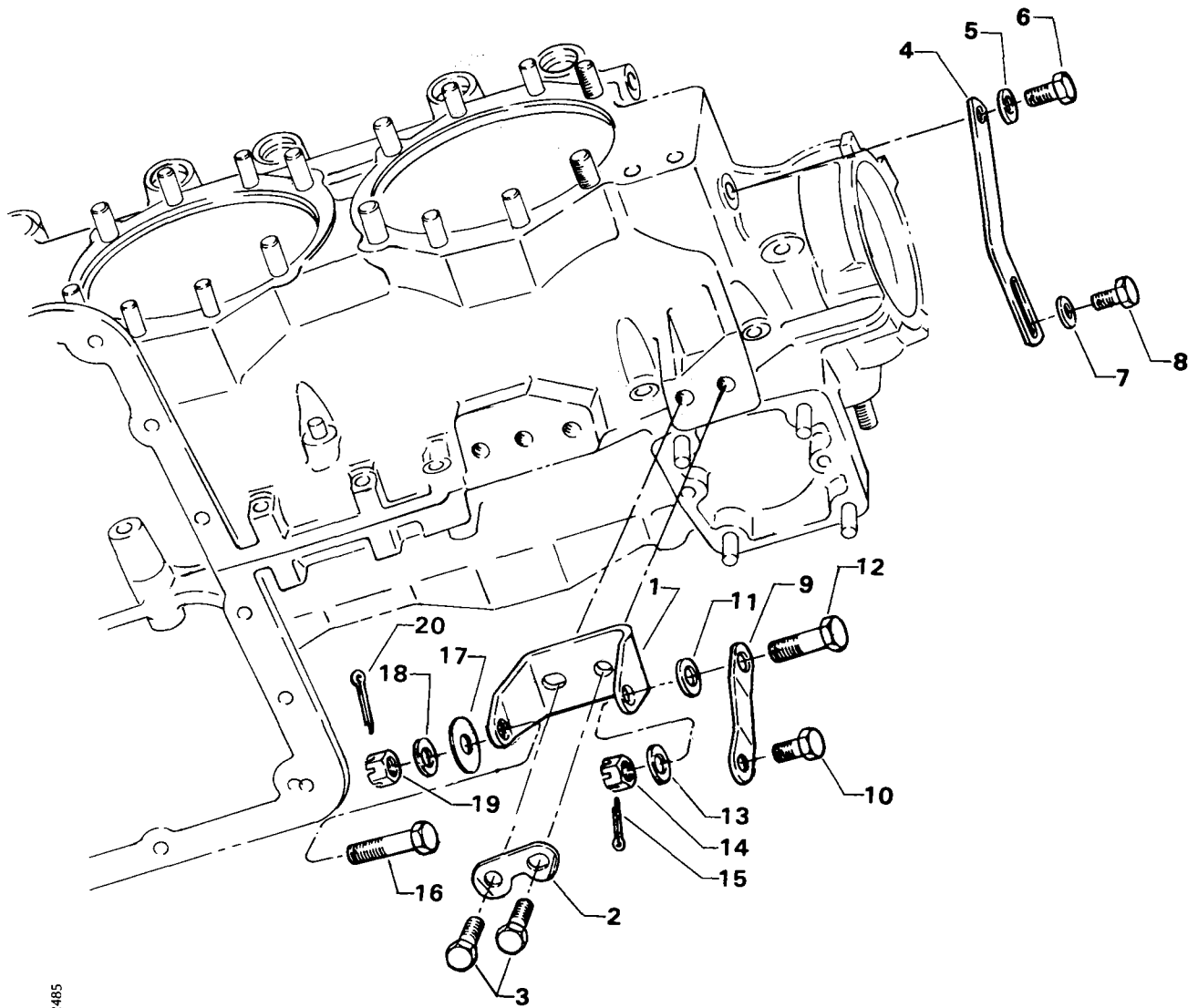
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2250

Figure 20. ALTERNATOR, BELT, STARTER MOTOR AND ATTACHING PARTS

ELECTRICAL COMPONENTS

ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF. 21	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-13039	BRACKET, Alternator	1
2	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing	1
3	STD-1838	BOLT, 5/16-18 x 15/16 long, hex. hd.	2
4	75380	LINK, Alternator adjusting	1
5	STD-35	WASHER, 5/16 plain	1
6	LW-31H.75	BOLT, 5/16-18 x 3/4 long, hex. hd. drive	1
7	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick	1
8	LW-31H.75	BOLT, 5/16-18 x 3/4 long, hex. hd. drive	1
9	74323	STRUT, Alternator support	1
10	LW-31H.75	BOLT, 5/16-18 x 3/4 long, hex. hd. drive	1
11	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	1
12	AN6-14	BOLT, 3/8-24 x 1-37/64 long, hex. hd., drilled end	1
13	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	AR
14	STD-872	NUT, 3/8-24, slotted	1
15	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long	1
16	AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. hd., drilled end	1
17	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick	AR
18	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	AR
19	STD-872	NUT, 3/8-24, slotted	1
20	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long	1



2485

Figure 21. ALTERNATOR MOUNTING AND ATTACHING PARTS

OIL SUMP AND INDUCTION SYSTEM
OIL SUMP ASSEMBLY

FIG. REF. 22	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-13306	GASKET, Oil sump	1
2	LW-19168	SUMP ASSY., Oil	1
3	71699	CONNECTION, Intake pipe	6
4	25C-11	STUD, 1/4-20 x 1-3/8 long	15
5	25C-14	STUD, 1/4-20 x 1-3/4 long	1
6	STD-1164	INSERT, 5/16-18 Heli-Coil x 5/8 long	4
7	38-15	STUD, 3/8-16 x 1-7/8 long	8
8	STD-1173	INSERT, 1/4-20 Heli-Coil x 1/2 long	4
9	STD-1171	INSERT, 3/8-16 Heli-Coil x 3/4 long	3
10	1102	PLUG, 1/8-27 NPT, Allen	1
11	STD-8	WASHER, 1/4 plain	34
12	STD-160	WASHER, 1/4 internal lock	27
13	STD-1419	BOLT, 1/4-20 x 1-1/8 long, hex. hd.	6
14	STD-1688	BOLT, 1/4-20 x 1.00 long, hex. hd.	5
15	STD-1411	NUT, 1/4-20 plain	21
16	STD-551	PLUG, 1/2-14 NPT sq. hd., drilled	2
17	STD-1885	BOLT, 1/4-20 x 1-41/64 long	1
18	74655	SPACER, Exhaust manifold bracket	1
19	LW-19240	BRACKET, Cable, exhaust manifold	1
20	70484	SCREEN, Oil suction	1
21	STD-111	GASKET, 1.00 I.D. x 1-1/4 O.D. x 3/32 annular	1
22	LW-12545	PLUG, 5/8 hex. hd. x 1.00-20 thread	1

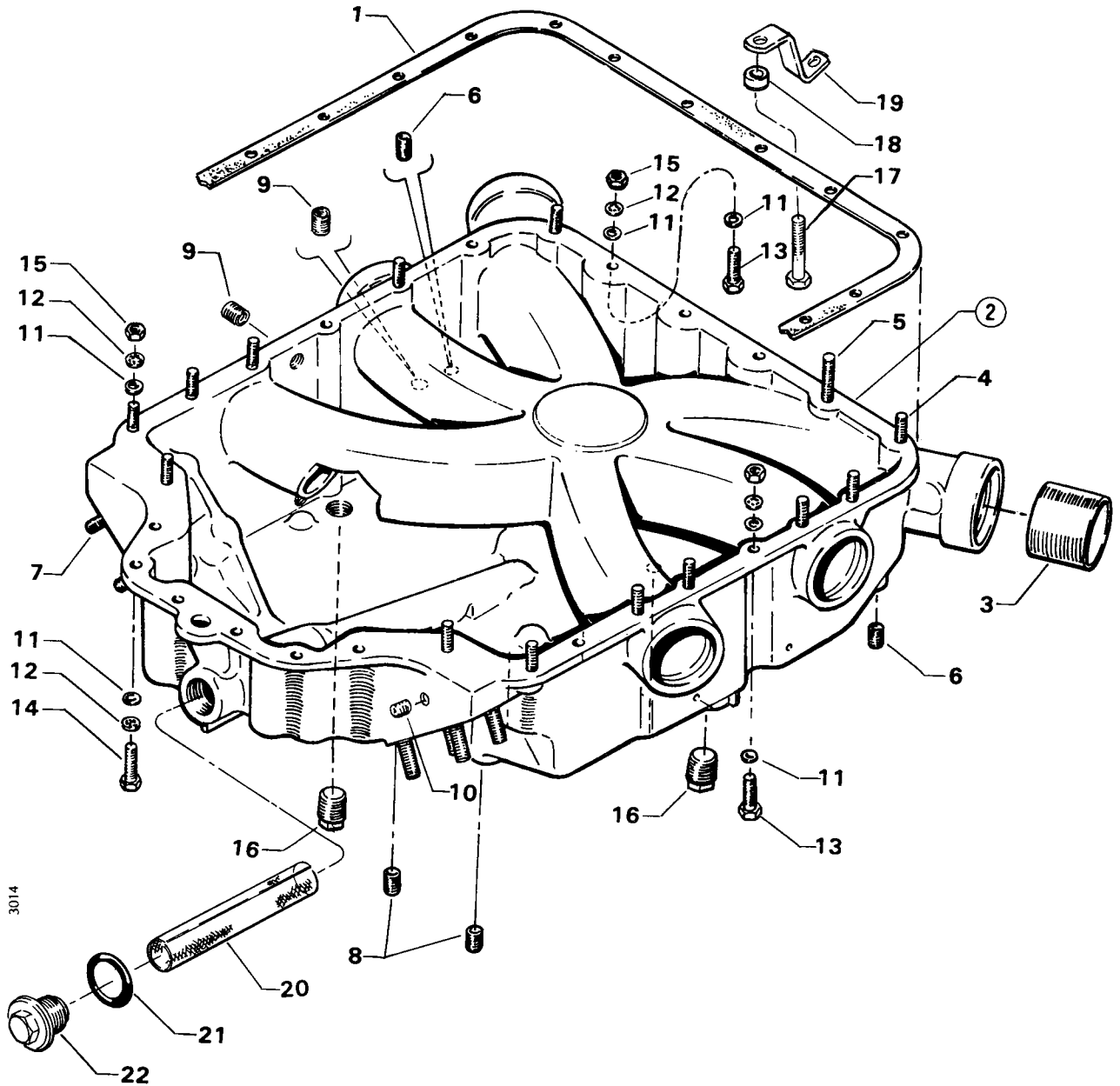


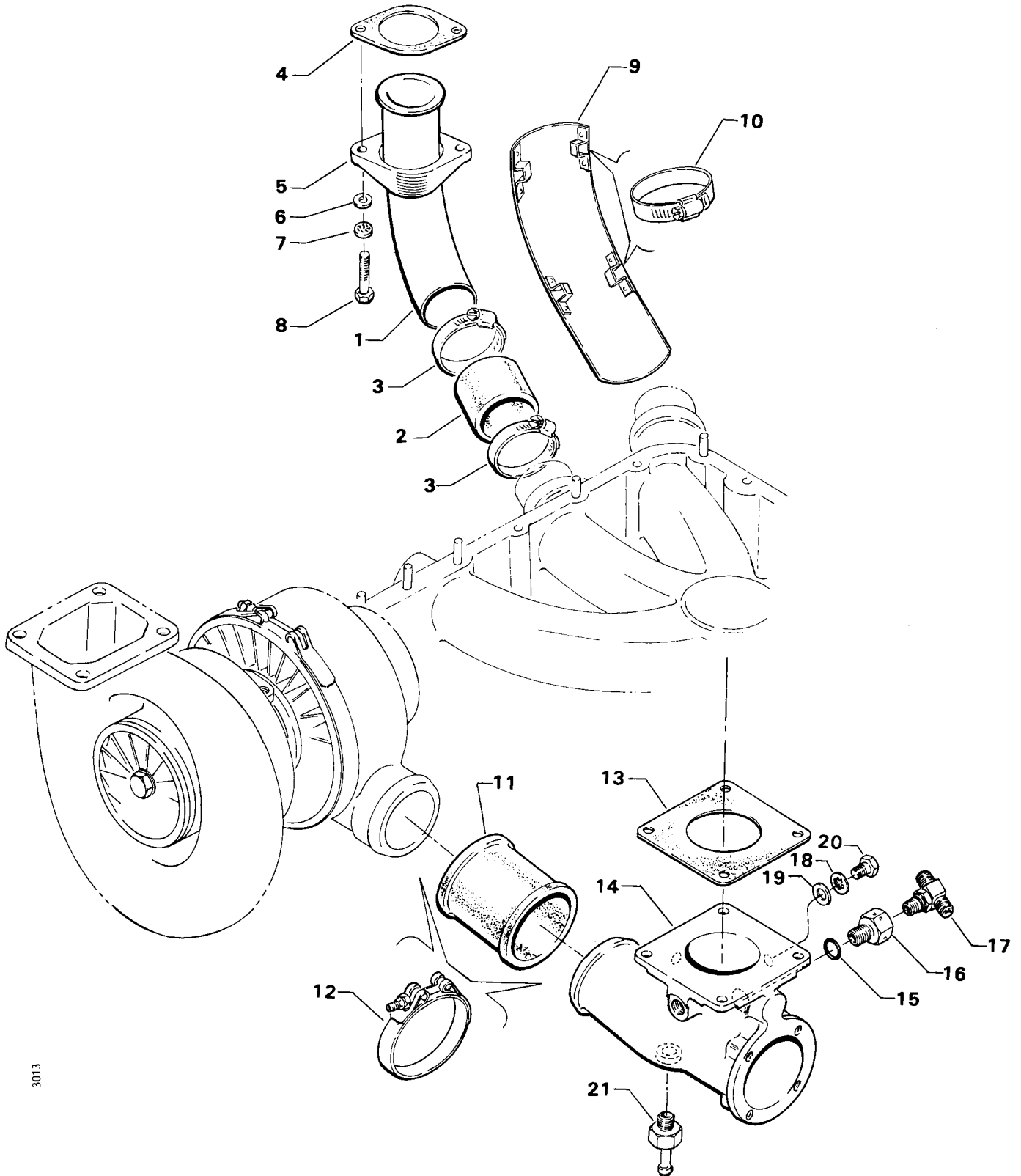
Figure 22. OIL SUMP ASSEMBLY

LYCOMING

TIO-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

OIL SUMP AND INDUCTION SYSTEM INTAKE PIPES AND AIR INLET HOUSING

FIG. REF. 23	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
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 internal lock	12
8	STD-1215	BOLT, 1/4-20 x 1-1/4 lg., hex. hd.	12
9	78366	HEAT SHIELD, (1, 2, 4 & 6) intake pipes	4
10	LW-15592-8-24	CLAMP, 1-13/16 dia. x 9/16 wide	8
11	LW-19108	HOSE, Air inlet housing, 2-1/2 I.D.	1
12	LW-15858-62-294	CLAMP, "T" Bolt	2
13	77504	GASKET, Fuel injector	1
14	LW-19088	HOUSING, Air inlet	1
15	MS29512-6	"O" RING, 15/32 I.D. x 5/64 section	1
16	AN-893-2	BUSHING, Reducer, 9/16-18 to 7/16-20	1
17	75948	TEE, 1/4 tube with st. thread on side	1
18	STD-678	WASHER, 3/8 internal lock	1
19	STD-33	WASHER, 3/8 plain	1
20	LW-38-0.59	BOLT, 3/8-16 x 19/32 long, hex. hd. (in air inlet hsg.)	1
21	LW-13807	ADAPTER ASSY., Fuel drain valve	1



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Figure 23. INTAKE PIPES AND AIR INLET HOUSING

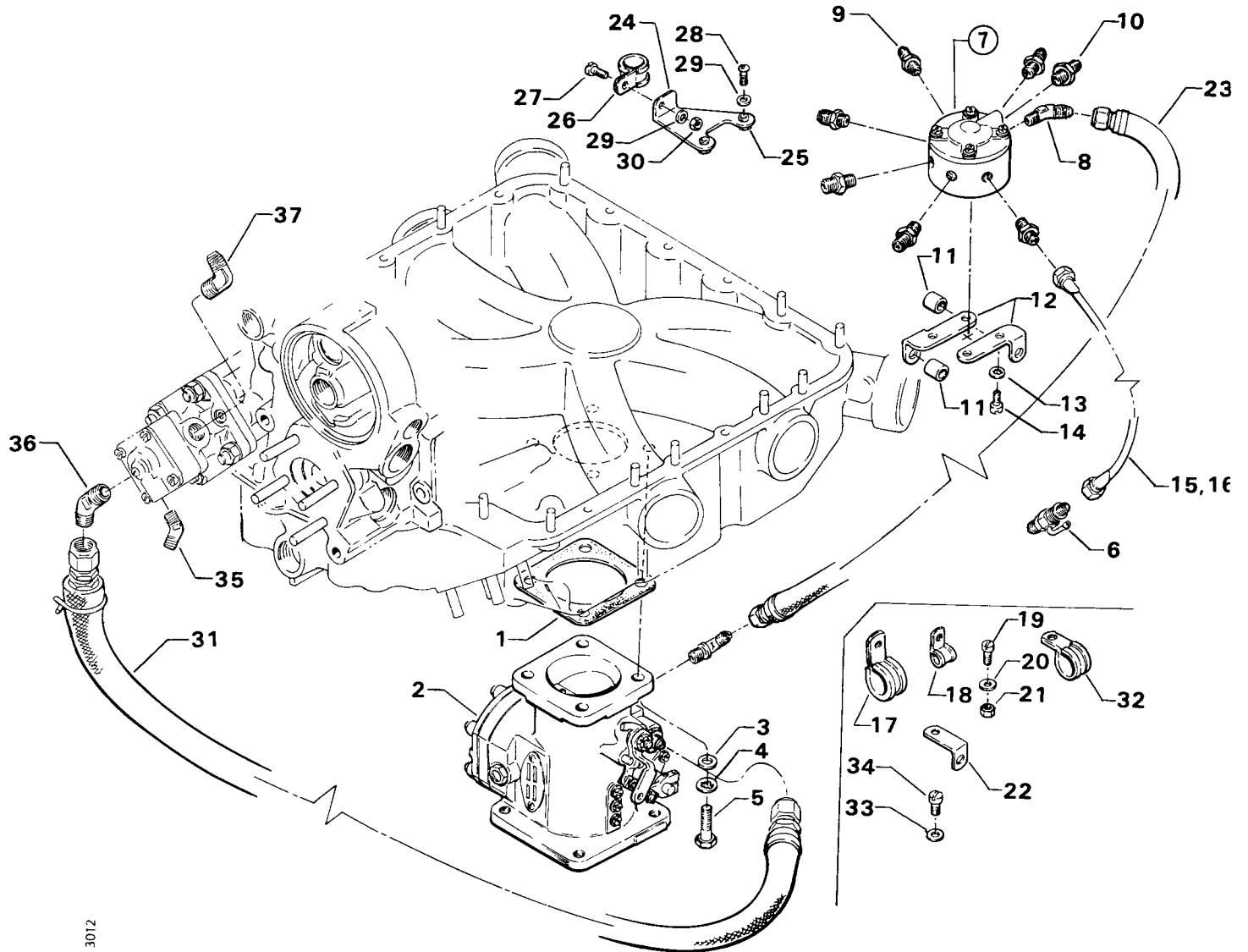
LYCOMING

TIO-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

OIL SUMP AND INDUCTION SYSTEM FUEL INJECTOR, FUEL MANIFOLD AND AIR BLEED NOZZLES

FIG. REF. 24	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	66224	GASKET, Fuel injector	1
2	LW-19379	FUEL INJECTOR, Bendix (2524979-1)	1
3	STD-35	WASHER, 5/16 plain	4
4	STD-475	WASHER, 5/16 internal lock	4
5	LW-31-1.25	BOLT, 5/16-18 x 1-1/4 long, hex. head	4
6	LW-18854	NOZZLE ASSY., Manifold air bleed (2524917)	6
7	75283	MANIFOLD ASSY., Fuel	1
8	MS20823-4	ELBOW, 1/4 tube to 1/8 NPT, 45°	1
9	STD-148	NIPPLE, Union, 1/8 NPT	6
10	LW-12604	NIPPLE, 1/8 tube to 1/8 NPT (restricted)	1
11	73966	SPACER, Fuel manifold bracket	2
12	73965	BRACKET, Fuel manifold	2
13	STD-251	WASHER, No. 10 lock, internal teeth	4
14	STD-82	SCREW, No. 10-24 x 1/2 long, hd. dr.	4
15	LW-12098-0-200	TUBE ASSY., Fuel manifold to nozzle, cyls. 1, 2, 5 & 6	4
16	LW-12098-0-170	TUBE ASSY., Fuel manifold to nozzle, cyls. 3 & 4	2
17	LW-16266-10-75	CLAMP	12
18	LW-16266-10-13	CLAMP	12
19	STD-860	SCREW, No. 10-32 x 5/8 long, fill. hd.	14
20	STD-425	WASHER, No. 10 plain	2
21	STD-670	NUT, No. 10-32 self-locking	14
22	73136	BRACKET, 90°	2
23	LW-12798-4S-274	HOSE ASSY., Fuel injector to fuel manifold	1
24	74278	BRACKET ASSY., Fuel line support	1
25	STD-1891	NUT, Clinch, 10-32 self locking	2
26	LW-16266-10-63	CLAMP, Bracket	1
27	STD-860	SCREW, No. 10-32 x 5/8 long, fill. hd.	1
28	STD-692	SCREW, No. 10-32 x 1/2 long, rd. hd.	2
29	STD-425	WASHER, No. 10 plain	3
30	STD-670	NUT, No. 10-32 self locking	1
31	LW-12799-6S-300	HOSE ASSY., Fuel pump to injector	1
32	LW-16266-25-75	CLAMP, Attach to sump	1
33	STD-8	WASHER, 1/4 plain	1
34	STD-1874	SCREW, 1/4-20 x 13/16 long, fill. head	1
35	MS20823-3	ELBOW, 1/4 tube, 45°, fuel pump vent	1
36	MS20823-6	ELBOW, 3/8 tube, 45°, fuel pump outlet	1
37	MS20822-6*	ELBOW, 3/8 flared tube with 1/4 NPT, 90° angle	1

* Assemble horizontally in fuel pump inlet.



3012

Figure 24. FUEL INJECTOR, FUEL MANIFOLD AND AIR BLEED NOZZLES

OIL SUMP AND INDUCTION SYSTEM
 NOZZLE VENT MANIFOLDS AND ATTACHMENTS

FIG. REF. 25	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	78109	MANIFOLD, Right (injector nozzle vent)	1
2	78110	MANIFOLD, Left (injector nozzle vent)	1
3	LW-18737	HOSE, 3/16 I.D. x 7/16 O.D. x 2.00 long	6
4	LW-15592-5-04	CLAMP, 7/16 I.D. x 5/16 wide	12
5	78127	TUBE, Crossover, injector nozzle vent manifold	1
6	STD-2048	HOSE, 1/4 I.D. x 19/32 O.D. x 2-7/16 long	2
7	LW-15592-5-04	CLAMP, 7/16 I.D. x 5/16 wide	4
8	STD-2049	CLIP, 1/4 dia. tube or 1/4 dia. screw	4
9	STD-1916	SCREW, 1/4-20 x 1-1/8 long, fill. hd., self locking	4
10	STD-2044	NUT, 1/4-20 self locking	4
11	LW-16266-25-25	CLAMP	2
12	78753	BRACKET, Injector nozzle vent crossover	1
13	STD-692	SCREW, 10-32 x 1/2 long, fill. hd.	1
14	STD-425	WASHER, No. 10 plain	1
15	STD-670	NUT, 10-32 self locking	1
16	STD-1339	PLUG, 1/16-27 NPT, Allen	3
17	AN815-4	NIPPLE, 1/4 tube (between hose & vent tube)	1
18	LW-12784-4-310	HOSE ASSY., (Nozzle vent to air inlet housing)	1
19	LW-16266-25-31	CLAMP, (Attach to bracket)	1
20	73136	BRACKET, Support clamp (attach to sump)	1
21	STD-860	SCREW, 10-32 x 5/8 long, fill. hd.	1
22	STD-425	WASHER, No. 10 plain	1
23	STD-670	NUT, 10-32 self locking	1

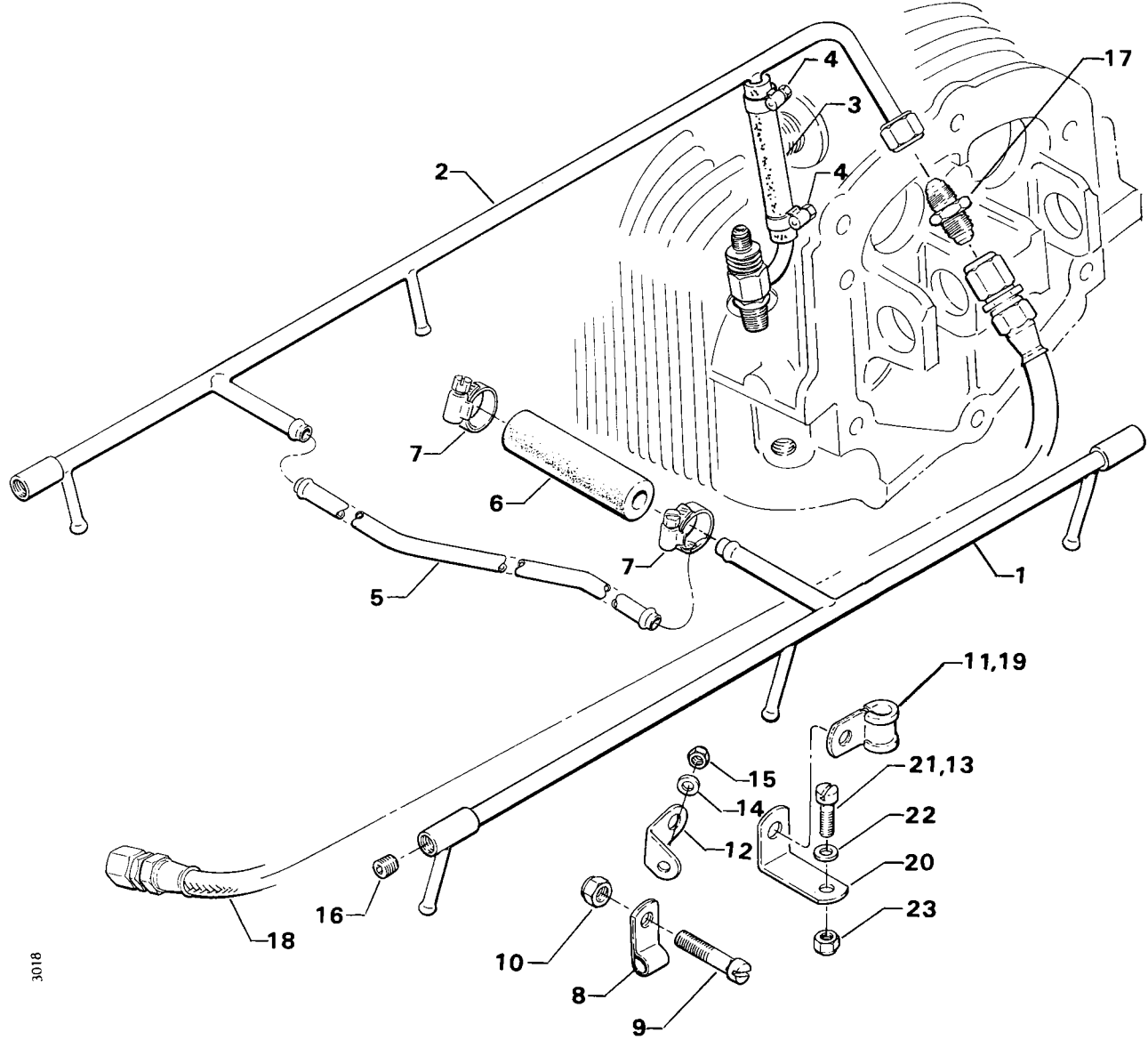


Figure 25. NOZZLE VENT MANIFOLDS AND ATTACHMENTS

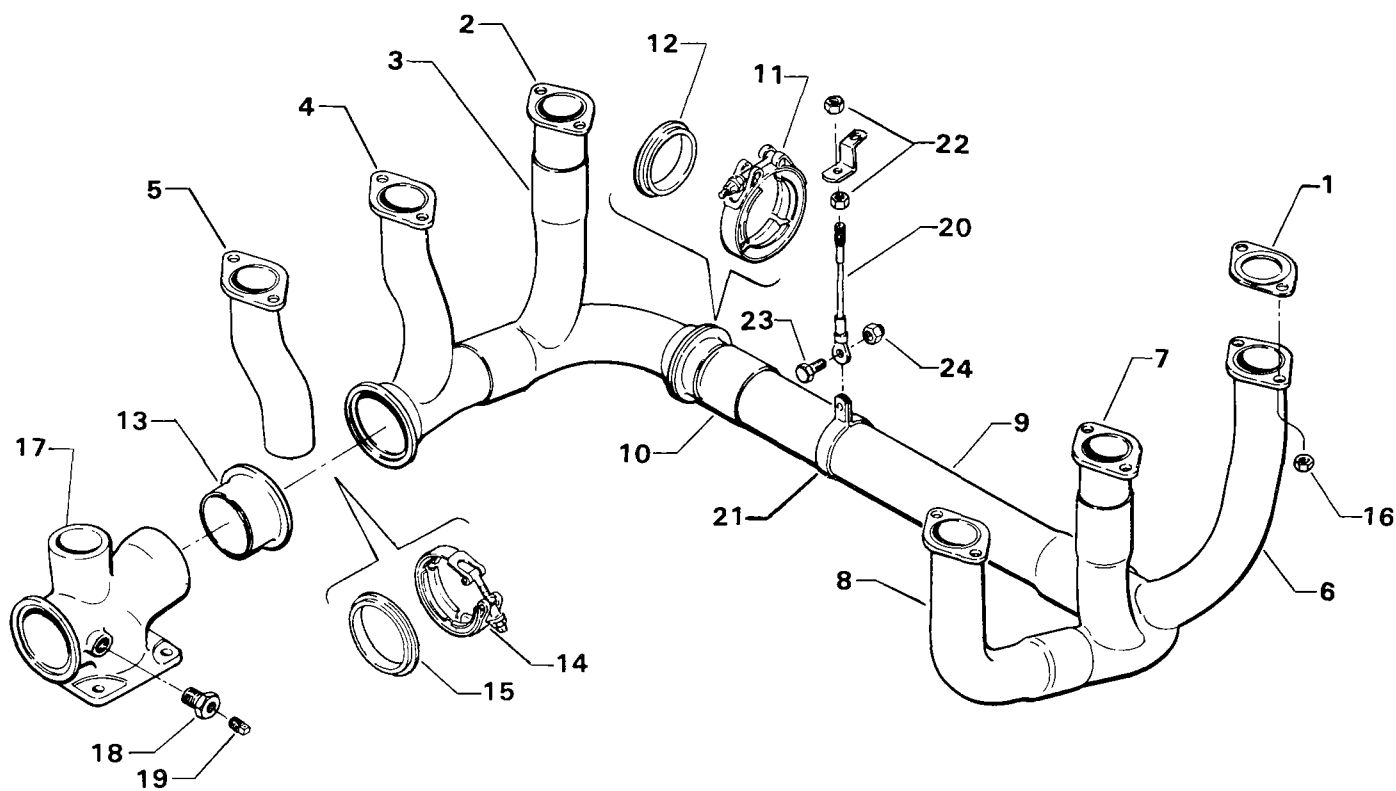
LYCOMING

T10-540-AB1AD PARTS CATALOG WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

TURBOCHARGER AND EXHAUST SYSTEMS EXHAUST PIPES AND TRANSITION ASSEMBLY

FIG. REF. 26	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	77611	GASKET, Exhaust flange	6
2	LW-12728	ADAPTER, Exhaust pipe, cylinder no. 2	1
3	LW-19112	PIPE, Exhaust, cylinder no. 2	1
4	LW-19114	PIPE, Exhaust, cylinder no. 4	1
5	LW-19116	PIPE, Exhaust, cylinder no. 6	1
6	LW-19111	PIPE, Exhaust, cylinders no. 1 and 3	1
7	LW-12728	ADAPTER, Exhaust pipe, cylinder no. 3	1
8	LW-19115	PIPE, Exhaust, cylinder no. 5	1
9	LW-19276	CROSSOVER, Exhaust pipe, right	1
10	LW-19239	CROSSOVER, Exhaust pipe, left	1
11	LW-12093-5*	COUPLING, V-Band, 2.00 tube	1
12	78084*	GASKET, V-Band coupling, 2.00 tube	1
13	78064**	FLANGE, Exhaust	1
14	LW-12093-6**	COUPLING, V-Band, 2-1/4 tube	1
15	78246**	GASKET, V-Band coupling, 2-1/4 tube	1
16	STD-2043	NUT, 5/16-18 self locking	12
17	LW-19084	TRANSITION, Exhaust	1
18	STD-1932	BUSHING, 1/4 to 1/8 NPT	1
19	STD-405	PLUG, 1/8 NPT, sq. hd.	1
20	LW-19189	CABLE, Exhaust manifold retainer	1
21	LW-14525	CLAMP, Exhaust pipe	1
22	STD-1411	NUT, 1/4-20 plain	2
23	STD-705	BOLT, 1/4-20 x 11/16 long, hex. hd.	1
24	STD-2044	NUT, 1/4-20 self locking	1

- * Assemble at crossover pipe.
- ** Assemble at exhaust transition.

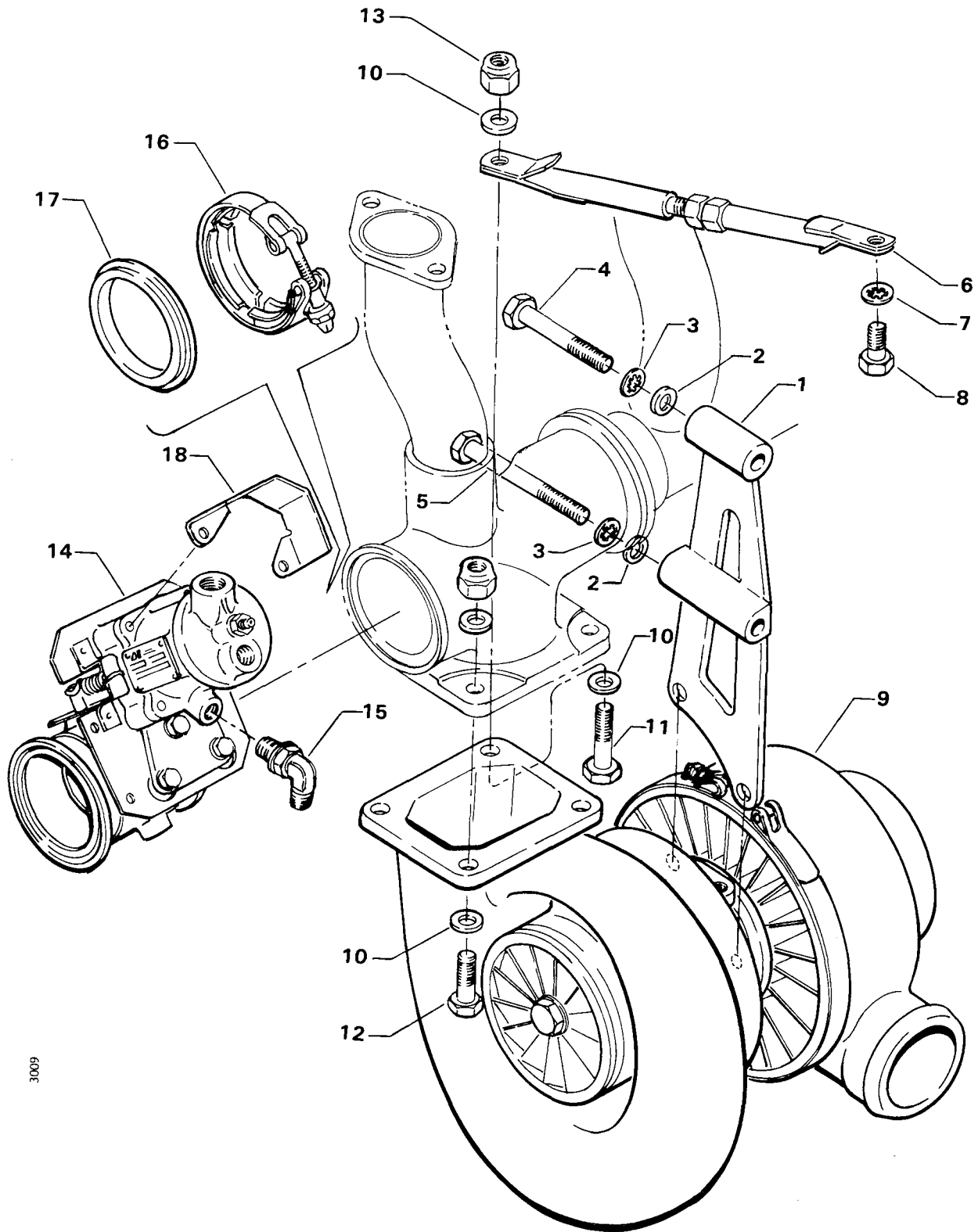


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Figure 26. EXHAUST PIPES AND TRANSITION ASSEMBLY

TURBOCHARGER AND EXHAUST SYSTEMS
 TURBOCHARGER, SUPPORT AND ATTACHING PARTS

FIG. REF. 27	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-19106	BRACKET, Turbocharger mounting	1
2	STD-33	WASHER, 3/8 plain	2
3	STD-678	WASHER, 3/8 internal lock (bracket to sump)	2
4	LW-38-2.50	BOLT, 3/8-16 x 2-1/2 long, hex. hd. (bracket to sump)	1
5	LW-38-3.50	BOLT, 3/8-16 x 3-1/2 long, hex. hd. (bracket to sump)	1
6	LW-19107	STRUT, Turbocharger, adjustable	1
7	STD-678	WASHER, 3/8 internal lock (strut to sump)	1
8	STD-1957	BOLT, 3/8-16 x 1.00 long, hex. hd. (strut to sump)	1
9	LW-19330	TURBOCHARGER (TE0659)	1
10	AN960C-616	WASHER, 3/8 plain	8
11	AN6C-13A	BOLT, 3/8-24 x 1-7/16 long, hex. hd. (turbo to transition)	1
12	AN6C-11A	BOLT, 3/8-24 x 1-13/64 long, hex. hd. (turbo to transition)	3
13	MS20500-624	NUT, 3/8-24 self locking (turbo to transition)	4
14	LW-18861	VALVE, Exhaust bypass	1
15	72376	ELBOW, 1/4 tube, 90° (bypass drain)	1
16	LW-12125-3	COUPLING, V-Band, 2-1/4 O.D. tube	1
17	75845	GASKET, V-Band coupling, 2-1/4 O.D. tube	1
18	LW-19277	HEAT SHIELD	1

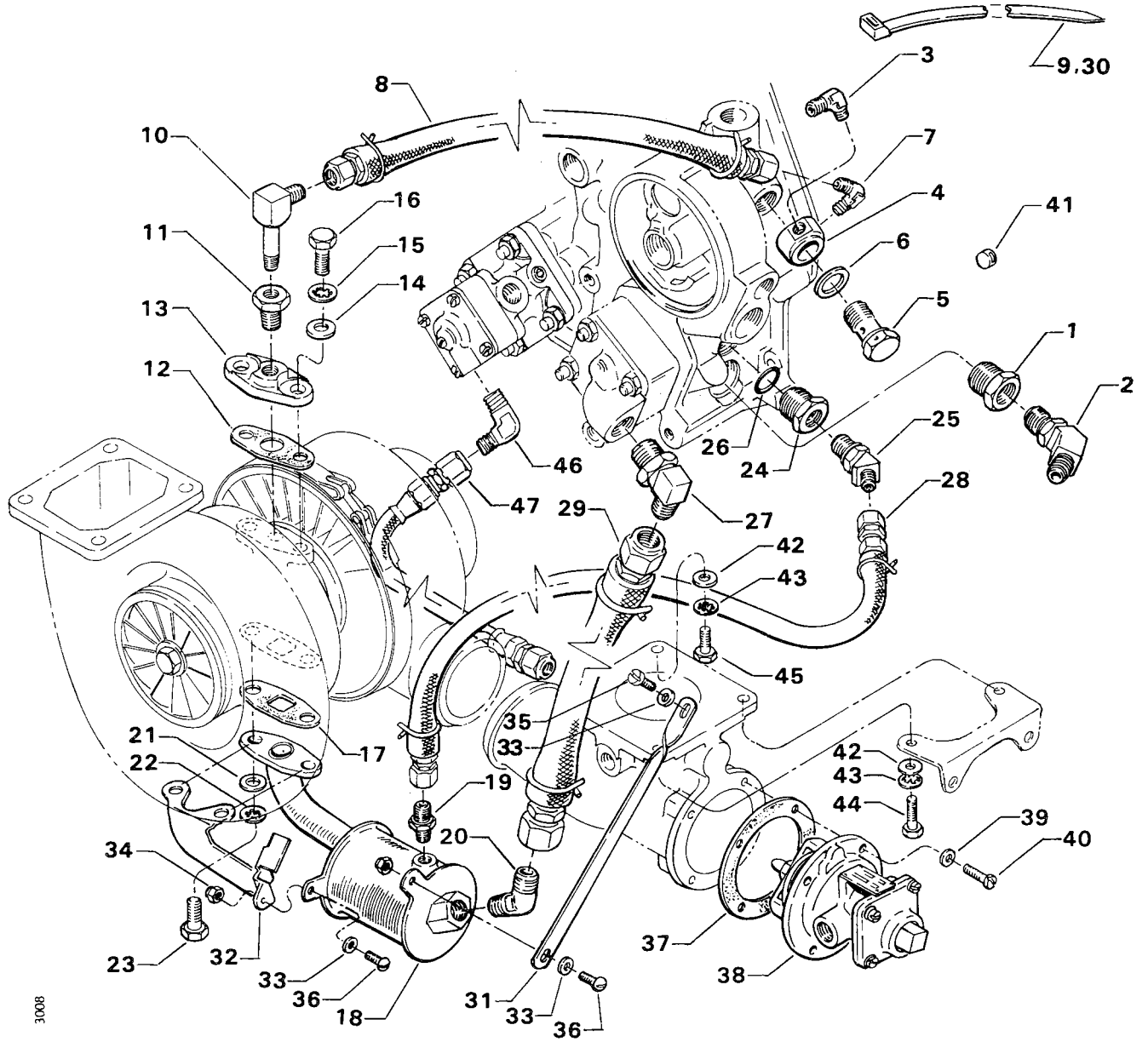


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Figure 27. TURBOCHARGER, SUPPORT AND ATTACHING PARTS

TURBOCHARGER AND EXHAUST SYSTEMS DRAIN TANK, DENSITY CONTROLLER AND RELATED PARTS

FIG. REF. 28	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	LW-11999	REDUCER, 7/8-14 to 9/16-18 (acc. hsg.-oil drain)	1
2	74070	ELBOW, 3/8 tube, 45° (acc. hsg.-oil drain)	1
3	LW-10466	ELBOW, 3/16 tube x 1/8 NPT, 90° restricted (oil press. gage)	1
4	LW-12056	SPACER, Oil pressure fitting	1
5	LW-15596	BOLT, Oil pressure fitting (turbo & wastegate oil supply)	1
6	AN901-8A	GASKET, 3/4 I.D. x 1.00 O.D. (turbo & wastegate oil supply)	1
7	MS20822-4	ELBOW, 1/4 tube x 1/8 NPT, 90°	2
8	LW-12798-4S-313	HOSE ASSY., Spacer to turbo oil inlet	1
9	76734	ZIP STRAP	1
10	LW-12690	ELBOW, 90° tube to male pipe (turbo oil inlet)	1
11	STD-949	BUSHING, 1/8 NPT to 1/4 NPT (in turbo oil inlet adapt.)	1
12	75371	GASKET, Turbo oil inlet adapter	1
13	76889	ADAPTER, Turbo oil inlet	1
14	STD-33	WASHER, 3/8 plain	2
15	STD-678	WASHER, 3/8 internal lock	2
16	LW-38-.75	BOLT, 3/8-16 x 3/4 long, hex. hd.	2
17	LW-18038	GASKET, Turbo oil drain adapter	1
18	58B19497	TANK ASSY., Turbo oil drain	1
19	AN816-4	NIPPLE, 1/4 tube x 1/8 NPT	1
20	MS20823-8	ELBOW, 1/2 tube x 3/8 NPT, 45°	1
21	STD-33	WASHER, 3/8 plain	2
22	STD-678	WASHER, 3/8 internal lock	2
23	LW-38-.88	BOLT, 3/8-16 x 7/8 long, hex. hd.	2
24	LW-11999	REDUCER, 7/8-14 to 33/64-18 (in acc. hsg. tank vent)	1
25	76304	ELBOW, 1/4 tube x 9/16-18, adjustable 45°	1
26	MS29512-8	''O'' RING, 41/64 I.D. x 3/32 wall	1
27	LW-10637	ELBOW, 1/2 tube x 3/4-16, 90° (in scavenge pump)	1
28	LW-12798-4S-274	HOSE ASSY., (Tank to acc. hsg. vent)	1
29	LW-13176-8S-220	HOSE ASSY., (Tank to scavenge pump)	1
30	76734	ZIP STRAP	1
31	LW-19346	BRACKET, Turbo oil drain tank	1
32	LW-19160	SHIELD, Heat, turbo oil drain	1
33	STD-425	WASHER, No. 10 plain	3
34	STD-670	NUT, 10-32 self locking	3
35	STD-860	SCREW, 10-32 x 5/8 long	1
36	STD-692	SCREW, 10-32 x 1/2 long, round hd.	2
37	73314	GASKET, Density controller	1
38	LW-10682	CONTROLLER, Density	1
39	STD-28	WASHER, No. 10 plain	4
40	STD-1566	SCREW, 10-24 x 3/4 long, fill. hd., dr. hd.	4
41	STD-1928	SEAL, Wire	1
42	STD-8	WASHER, 1/4 plain	4
43	STD-160	WASHER, 1/4 internal lock	4
44	STD-1204	BOLT, 1/4-20 x 15/16 long, hex. hd. (used w/diff. cont. bracket)	2
45	LW-25-.75	BOLT, 1/4-20 x 3/4 long, hex. hd.	2
46	MS20822-3	ELBOW, 1/4 tube, 90° (fuel pump vent)	1
47	LW-12786-3-250	HOSE ASSY., (Fuel pump vent to air inlet housing)	1



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Figure 28. DRAIN TANK, DENSITY CONTROLLER AND RELATED PARTS

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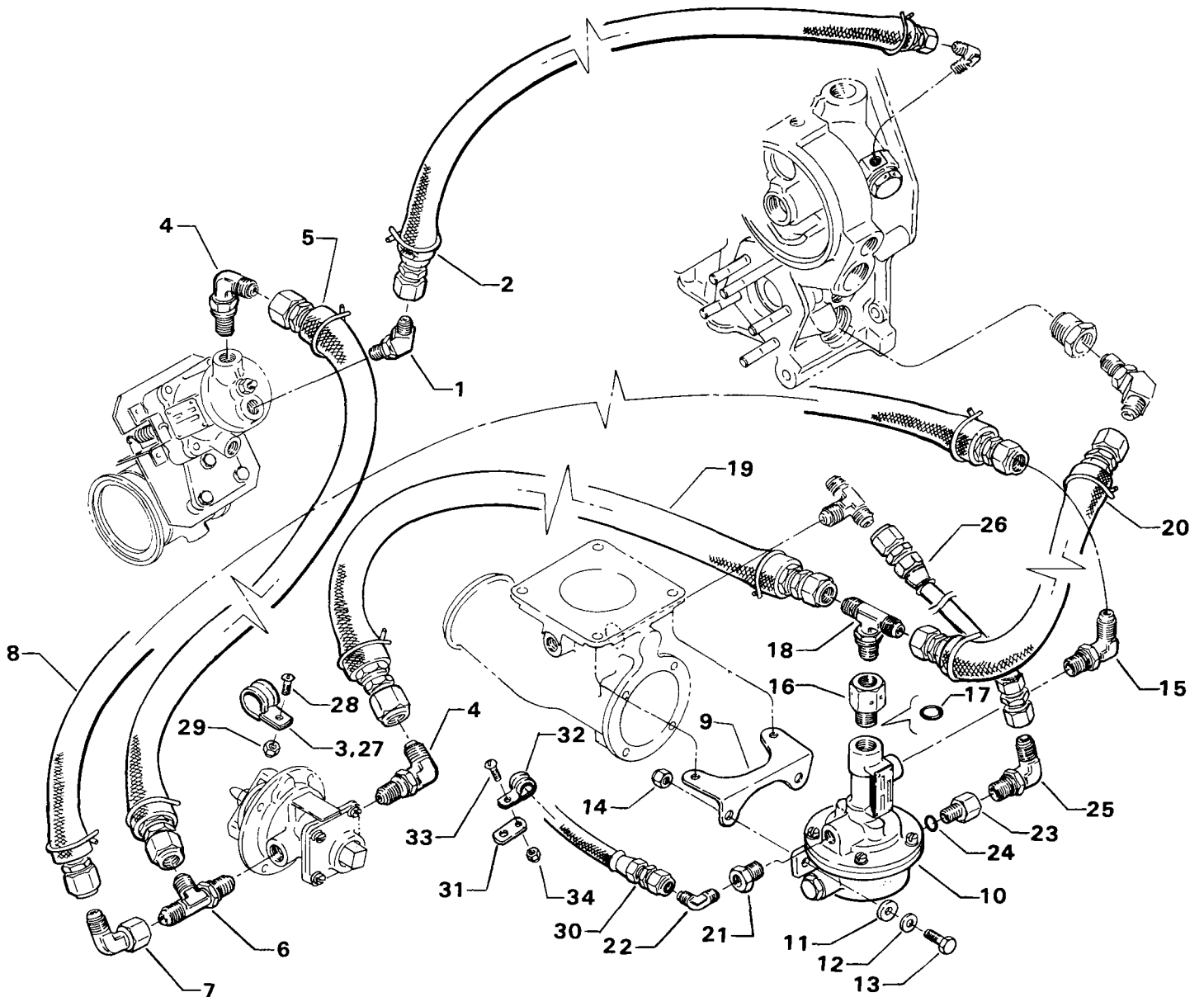
TIO-540-AB1AD PARTS CATALOG

WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

TURBOCHARGER AND EXHAUST SYSTEMS

DIFFERENTIAL PRESSURE CONTROLLER, HOSES AND RELATED PARTS

FIG. REF. 29	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY
1	73944	ELBOW, 1/4 tube, adjustable 45° (bypass valve inlet)	1
2	LW-12798-4S-242	HOSE ASSY., (Acc. housing to bypass valve inlet)	1
3	LW-16266-25-63	CLAMP, Hose (attach to sump)	1
4	72377	ELBOW, 3/8 tube, adjustable 90° (bypass valve & density outlet)	2
5	LW-12799-6S-222	HOSE ASSY., (Bypass valve outlet to density inlet)	1
6	76355	TEE, 3/8 tube, adj. st. thd. on run (density inlet)	1
7	LW-10446	ELBOW, 3/8 tube, 90° (on density inlet tee)	1
8	LW-12799-6S-082	HOSE ASSY., (Density inlet to diff. inlet)	1
9	LW-19109	BRACKET, Differential pressure controller	1
10	LW-19193	CONTROLLER, Differential pressure	1
11	LW-11201	WASHER, 11/16 O.D. x 9/32 I.D. x 1/16 thick	2
12	STD-8	WASHER, 1/4 plain	2
13	LW-25-.75	BOLT, 1/4-20 x 3/4 long, hex. hd.	2
14	STD-1685	NUT, 1/4-20 self locking	2
15	LW-11883	ELBOW, 3/8 tube, adj. 90° restricted (diff. control inlet)	1
16	AN893-12	BUSHING, Reducer, 1/2 tube to 3/8 tube (diff. cont. outlet)	1
17	MS-29512-8	SEAL, Oil, 3/32 dia. sect. x 41/64 dia. (diff. cont. outlet)	1
18	77461	TEE, 3/8 tube, adj. st. thd. on side (diff. cont. outlet)	1
19	LW-12799-6S-110	HOSE ASSY., (Differential control outlet to density outlet)	1
20	LW-12799-6S-160	HOSE ASSY., (Differential control outlet to acc. hsg.)	1
21	STD-949	BUSHING, Reducer, 1/4 to 1/8 NPT (low press. port in diff. press. cont.)	1
22	LW-10466	ELBOW, 3/16 tube, 90° (low press. port in diff. press. cont.)	1
23	AN893-2	REDUCER, 9/16 to 7/16 thread	1
24	MS29512-6	SEAL, Oil, 5/64 dia. sect. x 15/32 dia.	1
25	74200	ELBOW, 3/8 tube, adj. 90° restricted (high press. port, diff. cont.)	1
26	LW-12784-4-.000	HOSE ASSY., (High press. port to air inlet housing)	1
27	LW-16266-10-75	CLAMP, 3/4 I.D. for #10 screw (wastegate/cont., fuel/inject.)	2
28	STD-692	SCREW, 10-32 x 1/2 long, rd. hd. (wastegate/cont., fuel/inject.)	1
29	STD-670	NUT, 10-32 self locking (wastegate/cont., fuel/inject.)	1
30	LW-12799-3-250	HOSE ASSY., No. 5 cyl. to diff. press. cont.	1
31	LW-14432	BRACKET	1
32	LW-16266-10-25	CLAMP, Cushion type	1
33	STD-600	SCREW, 10-32 x 5/8 long, fill. hd.	1
34	STD-670	NUT, 10-32 self locking	1



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Figure 29. DIFFERENTIAL PRESSURE CONTROLLER, HOSES AND RELATED PARTS

SERVICE KIT SECTION

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

Part No.	Part Name	Qty.
05K19387	SEAL AND GASKET SET	1
AN-901-8A	GASKET	1
MS-16625-1081	RING, Internal retaining	1
MS-16625-1100	RING, Internal retaining	1
MS-29512-8	"O" RING	2
MS-29512-10	SEAL, Oil	2
STD-111	GASKET	1
STD-213	SEAL, Oil	1
STD-294	GASKET, Thermometer plug	1
STD-1045	GASKET	1
STD-2217	SEAL, Oil	1
8313	GASKET, Vac. pump	2
66224	GASKET, Fuel injector	1
69164	GASKET, Fuel pump adapter	1
70310	SEAL, Shroud tube	12
70455	GASKET	1
70457	GASKET, Oil filler ext.	1
71193	BOX	1
71481	RING, Oil seal	6
71973	GASKET, Int. pipe flange	6
72053	GASKET, Governor	1
72091	RING, Oil seal	2
73314	GASKET, Density cont.	1
73383	LOCKPLATE	1
73818	GASKET, Accessory housing	1
74065	"O" RING, Oil level gauge	1
75371	GASKET, Turbo inlet adapter	1
75845	GASKET, V-Band coupling	1
75906	GASKET, Rocker box cover	6
77504	GASKET, Fuel injector	1
77611	GASKET, Exh. flange	12
78084	GASKET, V-Band coupling	1
78246	GASKET, V-Band coupling	1
LW-10332	LOCKPLATE	1
LW-12272	LOCKPLATE, Shroud tube	6
LW-12681	GASKET, Magneto	1
LW-13306	GASKET, Oil sump	1
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Oil, tach. shaft	1
LW-14995	SPRING, Shroud tube	6
LW-18038	GASKET, Turbo oil drain adapter	1
LW-18661	SEAL, Shroud tube	12

SERVICE KIT SECTION

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

Part No.	Part Name	Qty.
LW-19179	CYLINDER, PISTON AND RING KIT	1
LW-10077	SEAT, Valve spring	1
LW-11775	PLUG, Piston pin	2
LW-11795	SPRING, Valve, auxiliary	2
LW-11800	SPRING, Valve, outer	2
LW-12272	LOCKPLATE, Shroud tube	1
LW-12429*	CYLINDER AND HEAD ASSEMBLY	1
LW-12733	PISTON, 3 ring	1
LW-12892	THRUST BUTTON	2
LW-13323	SEAT, Valve spring, lower exh.	1
LW-13790	SHAFT, Valve rocker	1
LW-14077	PIN, Piston	1
LW-14995	SPRING, Shroud tube	1
LW-16475	SEAT, Valve spring	1
LW-18661	SEAL, Shroud tube	2
LW-18790	ROCKER ASSEMBLY, Valve	2
LW-19001	VALVE, Exhaust	1
MS-13997-3	KEY, Valve	2
MS-13998-3	CAP, Valve stem	1
SSP-2272	TAG	1
SSP-2472	TAG	1
STD-1874	SCREW, 1/2-20 x 13/16 long	1
STD-1925	SCREW, 1/4-20 x 5/8 long	5
60009	KEY, Valve	2
60828	PLUG, Piston pin	2
61247	COVER, Rocker box	1
65441	SEAT, Valve spring, lower	1
70310	SEAL, Shroud tube	2
71195	BOX, Set up	1
71481	SEAL, Cylinder base	1
73857	RING, Oil regulator	1
73938	VALVE, Intake	1
74241	RING, Piston	2
75906	GASKET, Rocker box cover	1

* Nitrided cylinder, long reach plug.

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PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
AN500-10-16	Screw	2-9	LW-12056	Spacer	7-5
AN565B1032H5	Set Screw	1-11	LW-12093-5	Coupling	7-1
AN6-14	Bolt	5-3	LW-12093-6	Coupling	7-1
AN6-16	Bolt	5-3	LW-12098-0-170	Tube Assy.	6-5
AN6-34A	Bolt	1-15	LW-12098-0-200	Tube Assy.	6-5
AN6C-11A	Bolt	7-3	LW-12125-3	Coupling	7-3
AN6C-13A	Bolt	7-3	LW-12186	Nut	3-1
AN8-14A	Bolt	1-7	LW-12272	Lockplate	3-5
AN815-4	Nipple	6-7	LW-12429	Cylinder & Head Assy.	3-3
AN816-4	Nipple	7-5	LW-12534	Pump	2-5
AN823-3	Elbow	3-5	LW-12545	Plug	6-1
AN893-2	Bushing	6-3	LW-12589	Insert	2-1
AN893-2	Bushing	7-7	LW-12604	Nipple	6-5
AN893-12	Bushing	7-7	LW-12681	Gasket	4-1
AN901-8A	Gasket	7-5	LW-12690	Elbow	7-5
AN931-12S17	Grommet	3-7	LW-12728	Adapter	7-1
AN960C-616	Washer	7-3	LW-12733	Piston	3-1
LW-10077	Seat	3-5	LW-12784-4-.060	Hose Assy.	7-7
LW-10284	Gear	1-7	LW-12784-4-310	Hose Assy.	6-7
LW-10292	Gear Assy.	1-13	LW-12786-3-250	Hose Assy.	7-5
LW-10297	Gear Assy.	1-13	LW-12786-3-250	Hose Assy.	7-7
LW-10299	Shaft	1-13	LW-12798-4S-242	Hose Assy.	7-7
LW-10307	Gear Assy.	2-7	LW-12798-4S-274	Hose Assy.	6-5
LW-10318	Gear Assy.	2-3	LW-12798-4S-274	Hose Assy.	7-5
LW-10320	Sleeve	2-6	LW-12798-4S-313	Hose Assy.	7-5
LW-10321	Spring	2-6	LW-12799-6S-082	Hose Assy.	7-7
LW-10324	Gear Assy.	1-13	LW-12799-6S-110	Hose Assy.	7-7
LW-10325	Spacer	1-13	LW-12799-6S-160	Hose Assy.	7-7
LW-10329	Shaftgear Assy.	1-13	LW-12799-6S-222	Hose Assy.	7-7
LW-10332	Lockplate	1-7	LW-12799-6S-300	Hose Assy.	6-5
LW-10341	Insert	2-1	LW-12892	Thrust Button	3-5
LW-10344	Body Assy.	2-3	LW-13039	Bracket	5-3
LW-10442	Gear	1-11	LW-13176-8S-220	Hose Assy.	7-5
LW-10446	Elbow	7-7	LW-13306	Gasket	6-1
LW-10466	Elbow	7-5	LW-13323	Seat	3-5
LW-10466	Elbow	7-7	LW-13521	Bearing	3-1
LW-10541	Gear Assy.	1-11	LW-13641	Cushion	4-1
LW-10637	Elbow	7-5	LW-13642	Gear	4-1
LW-10682	Controller	7-5	LW-13790	Shaft	3-5
LW-10799	Spacer	2-5	LW-13792	Seal	1-5
LW-10920	Housing Assy.	2-1	LW-13807	Adapter Assy.	6-3
LW-11201	Washer	7-7	LW-13884	Bearing	1-5
LW-11485	Tube	3-5	LW-13896	Plug	1-11
LW-11713	Spring	1-5	LW-13904	Kit	2-6
LW-11750	Rod Assy.	3-1	LW-13905	Oil Filter	2-6
LW-11775	Plug	3-1	LW-13923	Bushing	3-1
LW-11795	Spring	3-5	LW-14021	Shaft	1-11
LW-11800	Spring	3-5	LW-14077	Pin	3-1
LW-11883	Elbow	7-7	LW-14260	Seal	2-3
LW-11999	Reducer	7-5	LW-14316	Alternator	5-1

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PART NO.	PART NAME	PAGE NO.	PART NO.	PART NAME	PAGE NO.
LW-14432	Bracket	7-7	LW-19114	Pipe	7-1
LW-14525	Clamp	7-1	LW-19115	Pipe	7-1
LW-14771	Gage Assy.	1-3	LW-19116	Pipe	7-1
LW-14820	Ring	1-7	LW-19160	Shield	7-5
LW-14828	Reducer	2-7	LW-19168	Sump Assy.	6-1
LW-14875	Bracket	4-1	LW-19189	Cable	7-1
LW-14995	Spring	3-5	LW-19193	Controller	7-7
LW-15550	Gerotor	2-9	LW-19239	Crossover	7-1
LW-15571	Starter	5-1	LW-19240	Bracket	6-1
LW-15592-5-04	Clamp	6-7	LW-19276	Crossover	7-1
LW-15592-5-05	Clamp	3-7	LW-19277	Shield	7-3
LW-15592-8-24	Clamp	6-3	LW-19330	Turbocharger	7-3
LW-15592-8-28	Clamp	6-3	LW-19340	Camshaft Assy.	1-9
LW-15858-62-294	Clamp	6-3	LW-19346	Bracket	7-5
LW-15996	Bolt	7-5			
LW-16266-10-13	Clamp	6-5	LW-19379	Fuel Injector	6-5
LW-16266-10-25	Clamp	7-7	LW-25-.75	Bolt	7-5
LW-16266-10-63	Clamp	6-5	LW-25-.75	Bolt	7-7
LW-16266-10-75	Clamp	4-1	LW-31-1.16	Bolt	5-1
LW-16266-10-75	Clamp	6-5	LW-31-1.25	Bolt	6-5
LW-16266-10-75	Clamp	7-7	LW-31H.75	Bolt	5-3
LW-16266-25-19	Clamp	4-1	LW-38-0.59	Bolt	6-3
LW-16266-25-25	Clamp	6-7	LW-38-.75	Bolt	7-5
LW-16266-25-31	Clamp	6-7	LW-38-.88	Bolt	7-5
LW-16266-25-63	Clamp	7-7	LW-38-2.50	Bolt	7-3
LW-16266-25-75	Clamp	6-5	LW-38-3.50	Bolt	7-3
LW-16448	Gear Assy.	2-9	LW-382698	Kit	4-1
LW-16475	Seat	3-5	LW-620026-2	Clip	4-1
LW-16711	Bearing	1-5	LW-620028-2	Clip	4-1
LW-17651	Crankshaft & Plug Assy.	1-7	LW-620029-5	Clip	4-1
LW-17680	Crankshaft Assy.	1-7	LW-620029-6	Clip	4-1
LW-18038	Gasket	7-5	LW-620032-7	Clamp	4-1
LW-18661	Seal	3-5	LW-620036-4	Clip	4-1
LW-18667	Pin	1-9	LW-620037-4	Clip	4-1
LW-18737	Hose	6-7	LW-682560-13	Magneto	4-1
LW-18790	Rocker Assy.	3-5	LW-684602-303	Harness	4-1
LW-18854	Nozzle Assy.	6-5	LW-685126-107	Magneto	4-1
LW-18861	Valve	7-3	MS124703	Insert	2-1
LW-19001	Valve	3-5	MS13997-3	Key	3-5
LW-19066	Adapter	2-9	MS13998-3	Cap	3-5
LW-19069	Adapter Assy.	2-9	MS16625-1081	Ring	1-9
LW-19068	Drive Assy.	2-9	MS16625-1100	Ring	2-6
LW-19084	Transition	7-1	MS20500-624	Nut	7-3
LW-19088	Housing	6-3	MS20822-3	Elbow	7-5
LW-19106	Bracket	7-3	MS20822-4	Elbow	7-5
LW-19107	Strut	7-3	MS20822-6	Elbow	6-6
LW-19108	Hose	6-3	MS20823-3	Elbow	6-6
LW-19109	Bracket	7-7	MS20823-4	Elbow	6-5
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LW-19112	Pipe	7-1	MS20823-6D	Elbow	3-3

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MS20823-8	Elbow	7-5	STD-475	Washer	5-1
MS29512-6	Seal	6-3	STD-475	Washer	6-5
MS29512-6	Seal	7-7	STD-514	Dowel	1-1
MS29512-8	Seal	7-5	STD-551	Plug	6-1
MS29512-8	Seal	7-7	STD-557	Dowel	1-1
MS29512-10	Seal	2-7	STD-596	Nut	1-3
STD-8	Washer	1-15	STD-596	Nut	1-15
STD-8	Washer	2-3	STD-670	Nut	4-1
STD-8	Washer	2-7	STD-670	Nut	6-5
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STD-8	Washer	4-1	STD-670	Nut	7-5
STD-8	Washer	6-1	STD-670	Nut	7-7
STD-8	Washer	6-3	STD-678	Washer	1-3
STD-8	Washer	6-6	STD-678	Washer	1-15
STD-8	Washer	7-5	STD-678	Washer	6-3
STD-8	Washer	7-7	STD-678	Washer	7-3
STD-19	Dowel	1-11	STD-678	Washer	7-5
STD-28	Washer	7-5	STD-684	Nipple	3-7
STD-33	Washer	1-3	STD-690	Washer	5-3
STD-33	Washer	1-15	STD-692	Screw	4-1
STD-33	Washer	6-3	STD-692	Screw	6-5
STD-33	Washer	7-3	STD-692	Screw	6-7
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LYCOMING

TIO-540-AB1AD PARTS CATALOG
WIDE CYLINDER FLANGE CRANKCASE MODEL ENGINE

**Intentionally
Left
Blank**