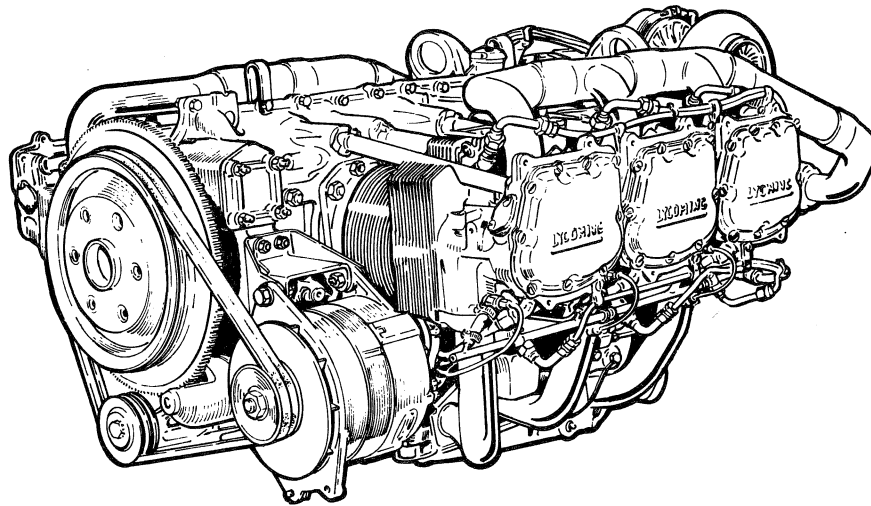


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TIO-LTIO-540 SERIES Wide Cylinder Flange Crankcase Models

PARTS CATALOG

PC-315-5



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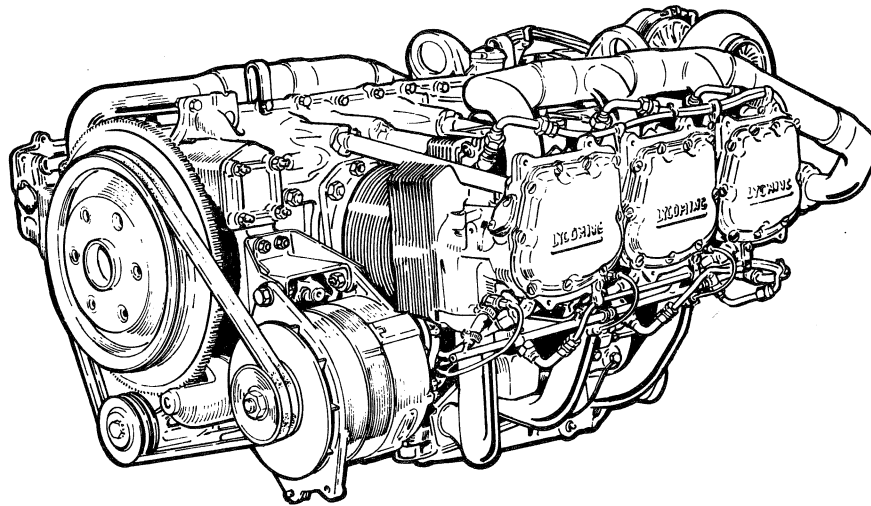
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TECHNICAL PUBLICATION REVISION

REVISION NO.	PUBLICATION	PUBLICATION NO.	PUBLICATION DATE
PC-315-5E	TIO, LTIO-540 Series Parts Catalog	PC-315-5	OCTOBER 1991

This page(s) furnished herewith are intended to replace the corresponding pages(s) of the publication indicated above.

PREVIOUS REVISIONS	CURRENT REVISION
<p>October 1992</p> <p>Pages 3-2, 3-3</p> <p>February 1995</p> <p>Added Figure 21A (TIO-540-A2C, -J2B; LTIO-540-J2BD) Slick Pressurized Magnetos Pages 4-2A, 4-2B</p> <p>Added NOTE to Figure 22 Conversion Kits for Pressurizing Dual Magnetos on TIO-540-J2BD and LTIO-540-J2BD Engines Page 4-2</p> <p>December 1996</p> <p>Pages 7-40, 7-41</p> <p>December 2000</p> <p>Page 7-27, 7-28, 7-41</p>	<p>September 2010</p> <p>Page 1-5; Pages 3-1, 3-5; Pages 5-15, 5-16; Pages 7-29, 7-30; Pages 9-1 thru 9-17, Adds Page 9-18</p>

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TECHNICAL PUBLICATION SUPPLEMENT

SUPPLEMENT No.	ENGINE MODEL	PUBLICATION No.	PUBLICATION DATE
SSP493	TIO, LTIO-540 Series (Wide Cylinder)	PC-315-5	October, 1991

This supplement is arranged in the same basic format as the original parts catalog
Insert in front of catalog for usage of subject matter.

For Parts Catalog coverage of the TIO-540-A2B wide cylinder flange engine model, use the catalog information for the TIO-540-A2C engine.

Proper density controller setting must be established in the airframe in accordance with the latest edition of Service Instruction No. 1187.

TO: PARTS MANAGER

This Parts Catalog PC-315-5 dated October, 1991 incorporates current updated information relevant to the TIO, LTIO-540 Series Wide Cylinder Flange Model Aircraft Engines.

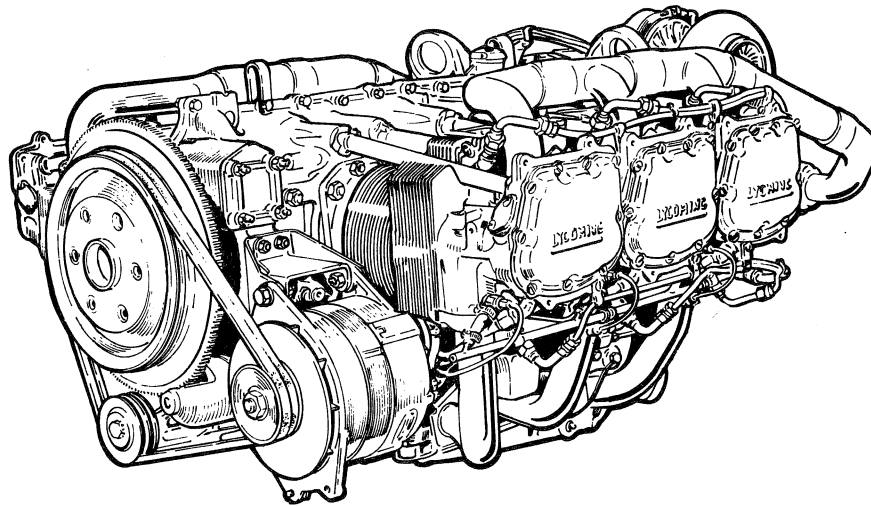
Previous to this publication, the models listed in this catalog were published in PC-315 Parts Catalog dated June, 1982 with a reprint date of May, 1985.

LYCOMING AIRCRAFT ENGINES

TIO-LTIO-540 SERIES Wide Cylinder Flange Crankcase Models

PARTS CATALOG

PC-315-5



LYCOMING

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INTRODUCTION

This illustrated parts catalog contains a complete parts listing for the Lycoming TIO, LTIO-540 Series 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 Lycoming engines may be found in the appropriate Vendor's Parts Catalog. A list of addresses of where to obtain these publications appears in the latest edition of Service Letter No. L114.

NOTE

The illustrations, pictures and drawings shown in this publication are typical of the subject matter they portray.

This catalog, when used in conjunction with the appropriate overhaul manual, shall be used for parts identification only. Under no circumstances shall this catalog be used as an assembly or installation document.

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

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SERVICE BULLETINS, INSTRUCTIONS AND LETTERS

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

HOW TO ORDER PARTS

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

- a. Always specify the model and serial number of your engine.
- b. Always specify Part Number, Nomenclature and quantity required.

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Oversize and Undersize Parts Listing

PART NO.	DESCRIPTION	OVERSIZE								UNDERSIZE		
		P02 .002	P05 .005	P10 .010	P15 .015	P20 .020	P30 .030	P40 .040	P50 .050	M03 .003	M06 .006	M10 .010
61681-S	GUIDE	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1256 FOR APPLICATION.										
66610	BUSHING		X	X								
66670	BUSHING		X	X								
66713-S	GUIDE	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1256 FOR APPLICATION.										
69260	INSERT			X								
69796	DOWEL		X									
71903-A, -B	BUSHING	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1143 FOR APPLICATION.										
72057	SEAT			X		X	X					
72058	SEAT			X		X	X					
72060-S	BUSHING		X	X	X	X						
72061-S	BUSHING		X	X	X	X						
72062-S	BUSHING		X	X	X	X						
72155-S	BUSHING		X	X	X	X						
72897-S	GUIDE	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1256 FOR APPLICATION.										
73810	BUSHING	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1142 FOR APPLICATION.										
73857	RING			X		X						
74230-S	GUIDE	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1256 FOR APPLICATION.										
74241	RING			X								
74309	BEARING			X						X*	X*	X*
75656-S	BUSHING		X	X	X	X						
78443	SEAL	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1324 FOR APPLICATION.										
79024-S	BUSHING		X	X	X	X						
LW-10647	DOWEL		X	X								
LW-11997	SEAL	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1324 FOR APPLICATION.										
LW-13521	BEARING			X						X*	X*	X*
LW-13522	BEARING									X	X	X
LW-13792	SEAL	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1324 FOR APPLICATION.										
LW-15628	SEAL	SEE LATEST EDITION OF SERVICE INSTRUCTION NO. 1324 FOR APPLICATION.										
LW-16048	BEARING			X						X*	X*	X*
LW-19042	SEAT			X		X	X					
STD-1065	DOWEL	X	X	X	X							
STD-2078	DOWEL	X	X	X	X							
16T19468	SEAT			X		X	X					
18N19391	BEARING			X						X*	X*	X*

* Also available in P10 oversize.

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

NOTE

When ordering oversize and undersize parts, be sure to specify the required oversize and undersize dimension along with the proper part number. For example, to order bearing LW-13522 in .003 undersize, order part number LW-13522-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.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																	
				TIO-540					LTIO-540												
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D					
1	11F20022-S3	CRANKCASE ASSEMBLY (See note)		1			1							1							
	11E20000-S1	CRANKCASE ASSEMBLY (See note)			1																
	11F20022-D3	CRANKCASE ASSEMBLY (See note)				1		1	1	1			1		1	1	1	1			
	11F20022-D3	CRANKCASE ASSEMBLY (See note)											1								
	11F20022-D5	CRANKCASE ASSEMBLY (See note)											1								
2	LW-13794	STUD, 5/16-18 x 1.00 long, left idler pad		1	1		1							1							
3	38-13 *	STUD, 3/8-16 x 1-5/8 long, front left, comp. pad		4		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
4	31C-12	STUD, 5/16-18 x 1-1/2 long, starter pad, rear		2																	
5	31C-13	STUD, 5/16-18 x 1-5/8 long, starter pad, front		1																	
6	38-13	STUD, 3/8-16 x 1-5/8 long, cylinder pad		24																	
7	50-15	STUD, 1/2-20 x 1-7/8 long, cylinder pad		12																	
8	38-22	STUD, 3/8-16 x 2-3/4 long, nose of case		1																	
9	38D-17	STUD, 3/8-16 x 2-1/8 long, rear, above cam		1																	
10	38-16	STUD, 3/8-16 x 2.00 long, engine mount		8																	
11	69796	DOWEL, Crankshaft, front bearing		2																	
12	STD-514	DOWEL, 5/16 dia. x 1/2 long, accessory face		2																	
13	STD-557	DOWEL, 1/2 dia. x 11/16 long, between halves		2																	
14	72158	BUSHING, Governor drive idler shaft		1																	
15	65007 **	RETAINER, Shroud tube seal		12																	
16	STD-1339	PLUG, 1/16-27 pipe, governor pad		1																	
17	1102	PLUG, 1/8 pipe x 3/8 long, oil pressure		4																	
18	31C-14 ★	STUD, 5/16-18 x 1-3/4 long, gov. pad (.96-1.00) driven																			
		height		4	4	4	4	4	4	4		4	4	4	4	4	4				
	31C-16 ●	STUD, 5/16-18 x 2.00 long, gov. pad (1.27-1.31) driven																			
		height						4	4											4	
	31C-24 ‡	STUD, 5/16-18 x 3.00 long, gov. pad (2.21-2.25) driven																			
		height						4													
19	73772	NOZZLE ASSY., Piston cooling		6																	
20	LW-10647 ■	DOWEL, Crankshaft bearing		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

* Used if York compressor is installed.

** Early crankcases used Item No. 15 Retainer, P/N 65007, installed in shroud tube bosses. Later crankcases are machined as a product improvement to accept shroud tubes without retainers. This part is a service item only.

★ Used with AN Governor.

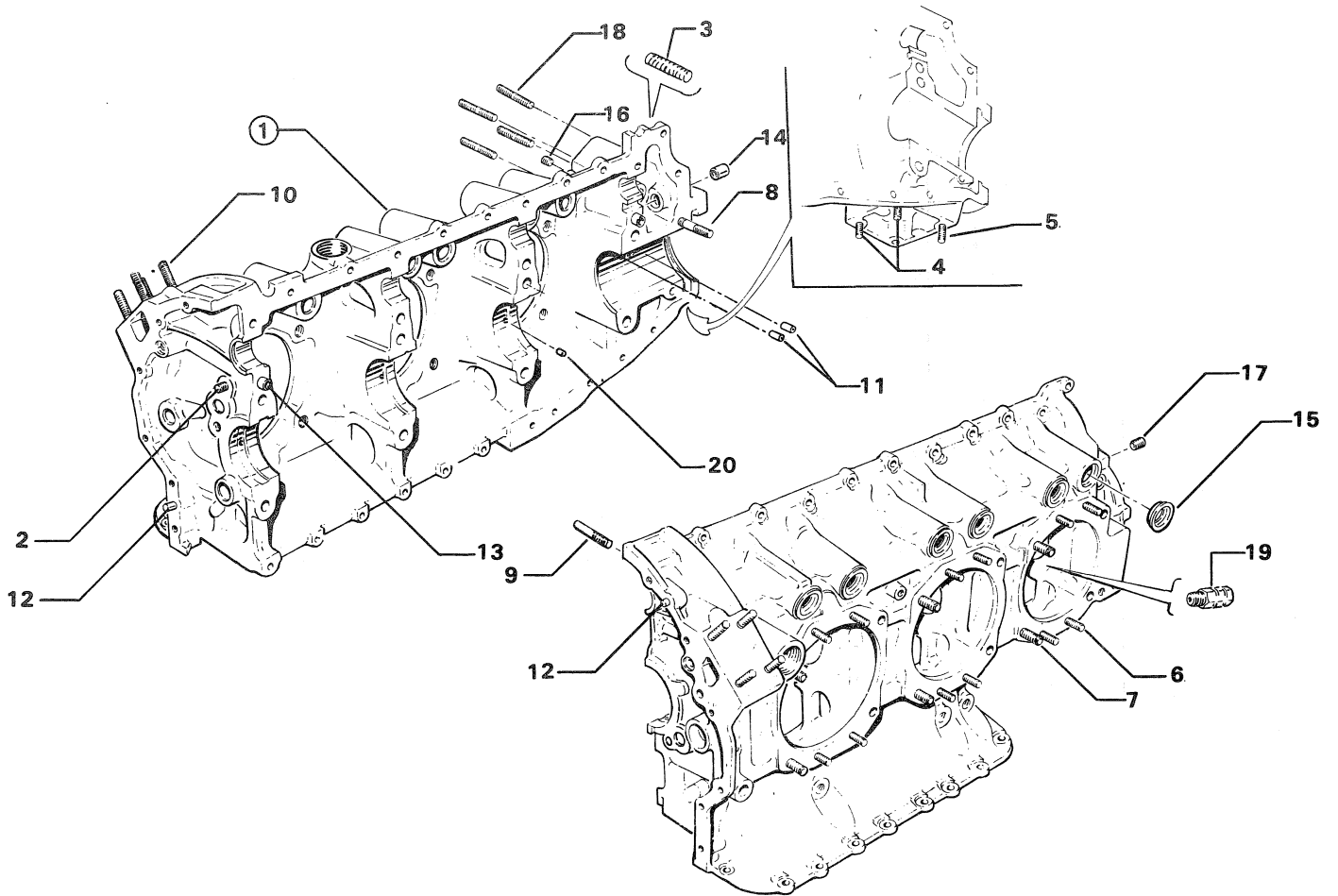
● Used with Woodward Governor.

‡ Used with Hartzell Governor.

■ Used on early crankcases incorporating thick wall bearings.

NOTE

This part not available as a service item. Refer to Service Kit Section 8 for applicable Crankcase Assy. and Thru Stud Kit part number.



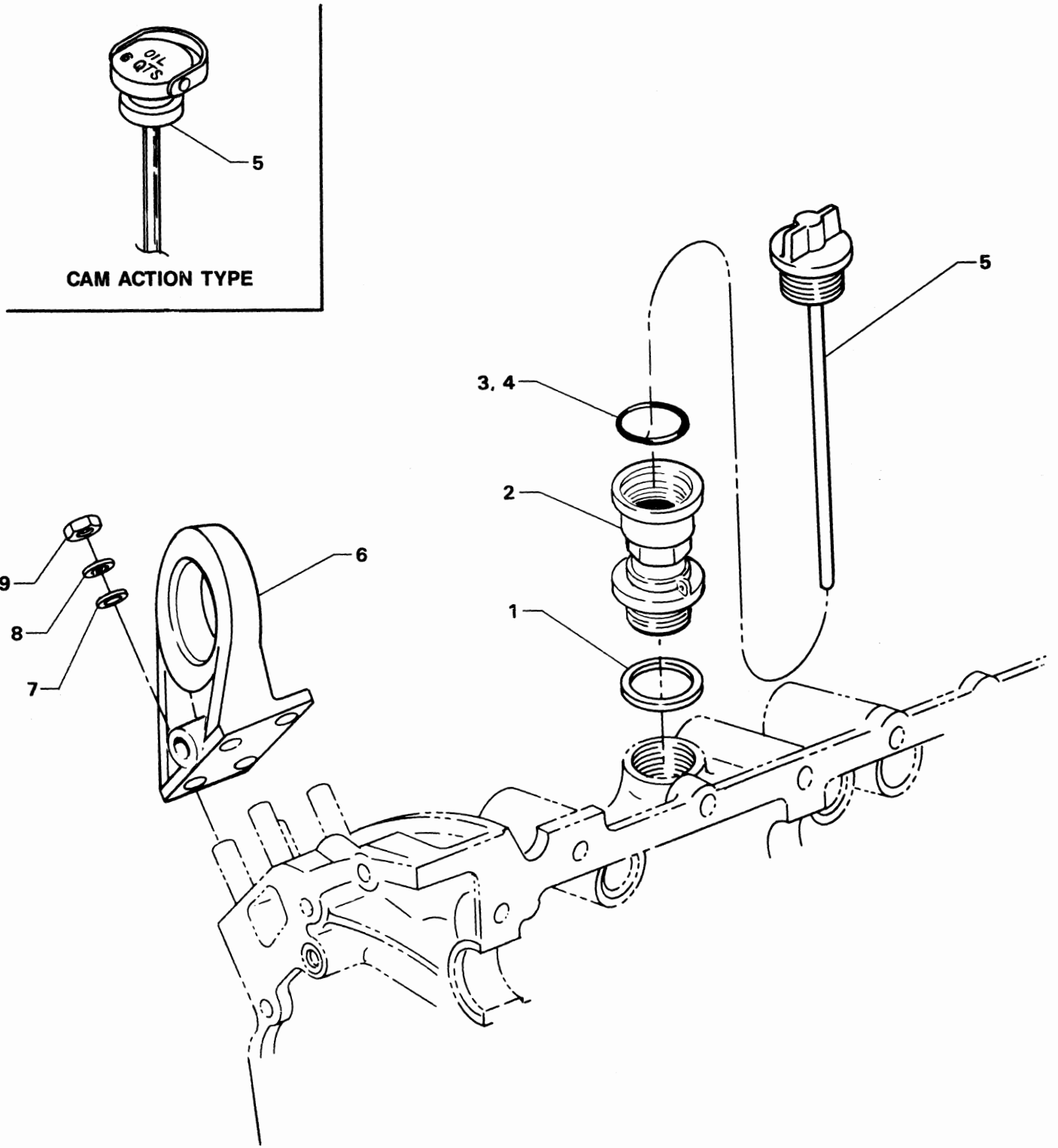
3203

Figure 1. CRANKCASE ASSEMBLY

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

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																
				TIO-540					LTIO-540											
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D				
1	70457	GASKET, Oil filler extension	1																	
2	77527	EXTENSION, Oil filler, short (cam action)	1																	
	75675	EXTENSION, Oil filler, short (threaded top)		1		1	1	1				1	1	1						
3	72312	RING, Oil seal, 1.00 I.D. x 1/8 section (cam action)	1																	
4	74065	RING, Seal, oil level gage (threaded top)		1		1	1	1				1	1	1						
5	LW-14773	GAGE ASSEMBLY, Oil level (threaded plug)		1		1	1	1				1	1	1						
	LW-14732	GAGE ASSEMBLY, Oil level (cam action)			1															
	LW-14728	GAGE ASSEMBLY, Oil level (cam action)		1		1	1	1	1	1		1	1	1	1					
	LW-14729	GAGE ASSEMBLY, Oil level (cam action)										1								
	LW-14743	GAGE ASSEMBLY, Oil level (cam action)									1								1	
6	70456	BRACKET, Engine mounting (Dynafoval)																4		
	12A19770	BRACKET, Engine mounting (Dynafoval)		3		3	3	3	3	3		3	3	3	3	3				
	12A19771	BRACKET, Engine mounting, upper left (Dynafoval)		1		1	1	1	1	1		1	1	1	1	1				
	72306	BRACKET, Engine mounting (Dynafoval)			2															
	12A19770	BRACKET, Engine mounting, lower (Dynafoval)			2															
	70456 *	BRACKET, Engine mounting, lower left (Dynafoval)										1								
	LW-12317 *	BRACKET, Engine mounting, right side (Dynafoval)										2								
	72244 *	BRACKET, Engine mounting, top left (Dynafoval)										1								
	77289	BRACKET, Engine mounting, lower left (Dynafoval)										1								
	12A19770	BRACKET, Engine mounting, right side (Dynafoval)										2								
	77291	BRACKET, Engine mounting, top left (Dynafoval)										1								
7	STD-33	WASHER, 3/8 plain	16																	
8	STD-678	WASHER, Lock, internal teeth	16																	
9	STD-596	NUT, 3/8-24 plain	16																	

* 30° angled mount with 1-3/8" dia. hole. Reference latest edition of Service Instruction No. 1408.



3305

Figure 2. OIL LEVEL GAGES AND ENGINE MOUNTING BRACKETS

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CRANKCASE RELATED PARTS

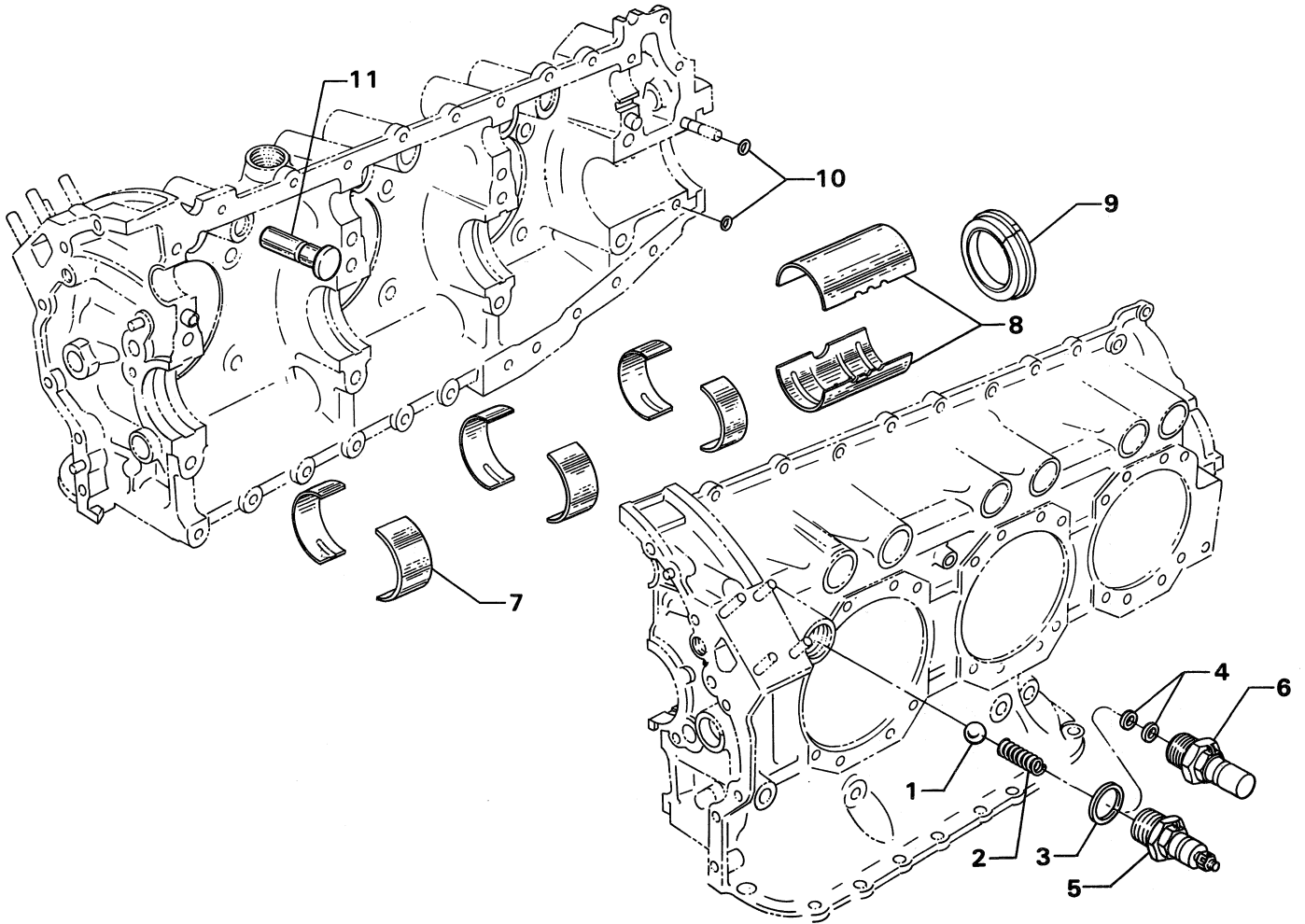
FIG. REF.	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY														
			TIO-540							LTIO-540							
			A	C	F	J	J	N	R	S	F	J	J	N	R		
3			2	1	2	2	2	2	1	2	2	2	2	2			
			1	A	B	B	B	A	A	B	2	B	B	A			
			C	D	D	D	D	D	D	D	B	D	D	D			
1	1028-B	BALL, 11/16 diameter	1	1	1	1	1	1	1	1	1	1	1	1			
2	68668*	SPRING, Oil pressure relief valve	1	1	1	1	1	1	1	1	1	1	1	1			
	61084*	SPRING, Oil pressure relief valve	1	1	1	1	1	1	1	1	1	1	1	1			
	77467*	SPRING, Oil pressure relief valve	1	1	1	1	1	1	1	1	1	1	1	1			
	LW-11713*	SPRING, Oil pressure relief valve	1	1	1	1	1	1	1	1	1	1	1	1			
	LW-18085*	SPRING, Oil pressure relief valve	1	1	1	1	1	1	1	1	1	1	1	1			
3	06E19769-1.25	GASKET, 1-1/4 I.D. x 1-1/2 O.D. x 3/32 annular	1	1	1	1	1	1	1	1	1	1	1	1			
4	STD-425	WASHER, No. 10 plain (max. 9)					AR										
5	77808	VALVE ASSEMBLY, Oil pressure relief, adjust.	1	1	1	1	1	1	1	1	1	1	1	1			
6	76529	PLUG, Oil relief valve					1										
7	18E26103**◆	BEARING, Crankshaft	6		6	6	6	6	6	6	6	6	6	6			
	LW-14830◆	BEARING, Crankshaft, thin wall	6		6	6	6		6	6	6	6					
	18D26096**◆	BEARING, Crankshaft		6													
8	18A26093◆	BEARING, Crankshaft, front		2													
	18B23885◆	BEARING, Crankshaft, front	2		2	2	2	2	2	2	2	2	2	2			
9	LW-13792†	SEAL, Crankshaft oil, solid		1													
	LW-11997†	SEAL, Crankshaft, oil, split		1													
	LW-15628†	SEAL, Crankshaft, oil, solid	1		1	1	1	1	1	1	1	1	1	1			
	78443†	SEAL, Crankshaft oil, split	1		1	1	1	1	1	1	1	1	1	1			
10	72091	RING, Oil seal, 23/64 I.D. x 7/64 diameter section	2	2	2	2	2	2	2	2	2	2	2	2			
11	15B26064	BODY, Hydraulic tappet	12	12	12	12	12	12	12	12	12	12	12	12			

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

** - Used on earlier crankcases that accept thick wall bearings.

◆ - See latest revision of Service Instruction No. 1512 for application.

† - See latest revision of Service Instruction No. 1324 for application.



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Figure 3. CRANKCASE RELATED PARTS

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKSHAFT, IDLER GEARS AND RELATED PARTS

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																		
				T10-540						LT10-540												
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D								
1	13E17676	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY			1																	
	13F17776	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY		1			1															
	13F17784	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY											1									
	13F17785	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY				1		1	1	1												
	13F17786	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY											1		1	1	1					
	13F17787	CRANKSHAFT AND COUNTERWEIGHT ASSEMBLY												1								
2	13E17648	CRANKSHAFT AND PLUG ASSEMBLY			1																	
	13F17751	CRANKSHAFT AND PLUG ASSEMBLY		1			1															
	13F17759	CRANKSHAFT AND PLUG ASSEMBLY										1										
	13F17760	CRANKSHAFT AND PLUG ASSEMBLY				1		1	1	1												
	13F17761	CRANKSHAFT AND PLUG ASSEMBLY										1		1	1	1						
	13F17762	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																	
	60945	PLUG, 1-1/4 dia.	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	72062	BUSHING, Propeller flange, long			4																	
7	72061	BUSHING, Propeller flange, short			1																	
8	72060	BUSHING, Propeller flange, indexing			1																	
9	75656	BUSHING, Propeller flange, long	4		4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4
10	72155	BUSHING, Propeller flange, short	1		1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
11	79024	BUSHING, Propeller flange, long, indexing	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	STD-1065	DOWEL, Stepped, 5/16 & 1/4 dia. x 35/64 long	1	1		1							1									
	STD-2078	DOWEL, Stepped, 3/8 O.D. x 1/2 long				1		1	1	1	1	1		1	1	1	1					
13	LW-19227 **	COUNTERWEIGHT ASSEMBLY			2																	
	LW-19210 **	COUNTERWEIGHT ASSEMBLY		2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	71903 *	BUSHING, Dynamic counterweight	8																			
15	72797 **	ROLLER, Dynamic counterweight, 6.3 order			2																	
	76788 **	ROLLER, Dynamic counterweight, 6.3 order		2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	72965 **	ROLLER, Dynamic counterweight, 5.1 order			2																	
	73648 **	ROLLER, Dynamic counterweight, 5.1 order		2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	LW-14820	RING, Internal retaining	8																			
18	71907	WASHER, Dynamic counterweight	8																			
19	13S19648 ●	GEAR, Crankshaft		1	1		1						1									
	13S19649 ●	GEAR, Crankshaft				1		1	1	1	1	1	1		1	1	1	1				
20	LW-18638	LOCKPLATE, Crankshaft gear		1	1		1						1									
	LW-10332	LOCKPLATE, Crankshaft gear				1		1	1	1	1	1		1	1	1	1					
21	STD-2209	BOLT, 5/16-24 x 1-3/4 long, hex. hd.		1	1		1						1									
	AN8-14A	BOLT, 1/2-20 x 1-19/32 long, hex. hd.				1		1	1	1	1	1	1		1	1	1	1				

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP

CRANKSHAFT, IDLER GEARS AND RELATED PARTS (Continued)

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																			
				TIO-540						LTIO-540													
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D								
22	77579‡	SUPPORT ASSY., Starter ring gear, 12/14 pitch		1	1	1	1	1	1	1	1												
	78771■	SUPPORT ASSY., Starter ring gear, 12/14 pitch		1																			
	74977§	SUPPORT ASSY., Starter ring gear, 12/14 pitch										1											
	LW-12227▶	SUPPORT ASSY., Starter ring gear, 12/14 pitch		1				1		1													
	LW-12226▶	SUPPORT ASSY., Starter ring gear, 3.25:1 ratio				1							1	1	1								
	72245◀	SUPPORT ASSY., Starter ring gear, 12/14 pitch											1										
	LW-11519‡‡	SUPPORT ASSY., Starter ring gear, 12/14 pitch																	1	1	1		
	LW-14167‡‡	SUPPORT ASSY., Starter ring gear, 12/14 pitch											1										
	LW-15712☆	SUPPORT ASSY., Starter ring gear, 12/14 pitch																					1
23	72566	GEAR, Starter ring, 12/14 pitch		1	1	1	1	1	1	1	1												
	LW-10551	GEAR, Starter ring, 12/14 pitch (L.H. rotation)																	1	1	1	1	1

- * See latest edition of Service Instruction No. 1142 for application. § Provision for 3.1:1 drive for Lear Seigler 24V.-90 amp. generator.
- ** See latest edition of Service Instruction No. 1012 for application. ▶ Provision for alternator and compressor drive.
- ★ See latest edition of Service Instruction No. 1143 for application. ◀ Provision for 2.50:1 alternator drive.
- See latest edition of Service Bulletin No. 475 for application.
- ‡ Provision for 3.20:1 drive for alternator with no prop. de-icing. ‡‡ Provision for 3.20:1 alternator drive.
- Provision for 3.20:1 drive for alternator and prop. de-icing. ☆ Provision for 3.20:1 drive for 24V.-100 amp. alternator with dual belt.

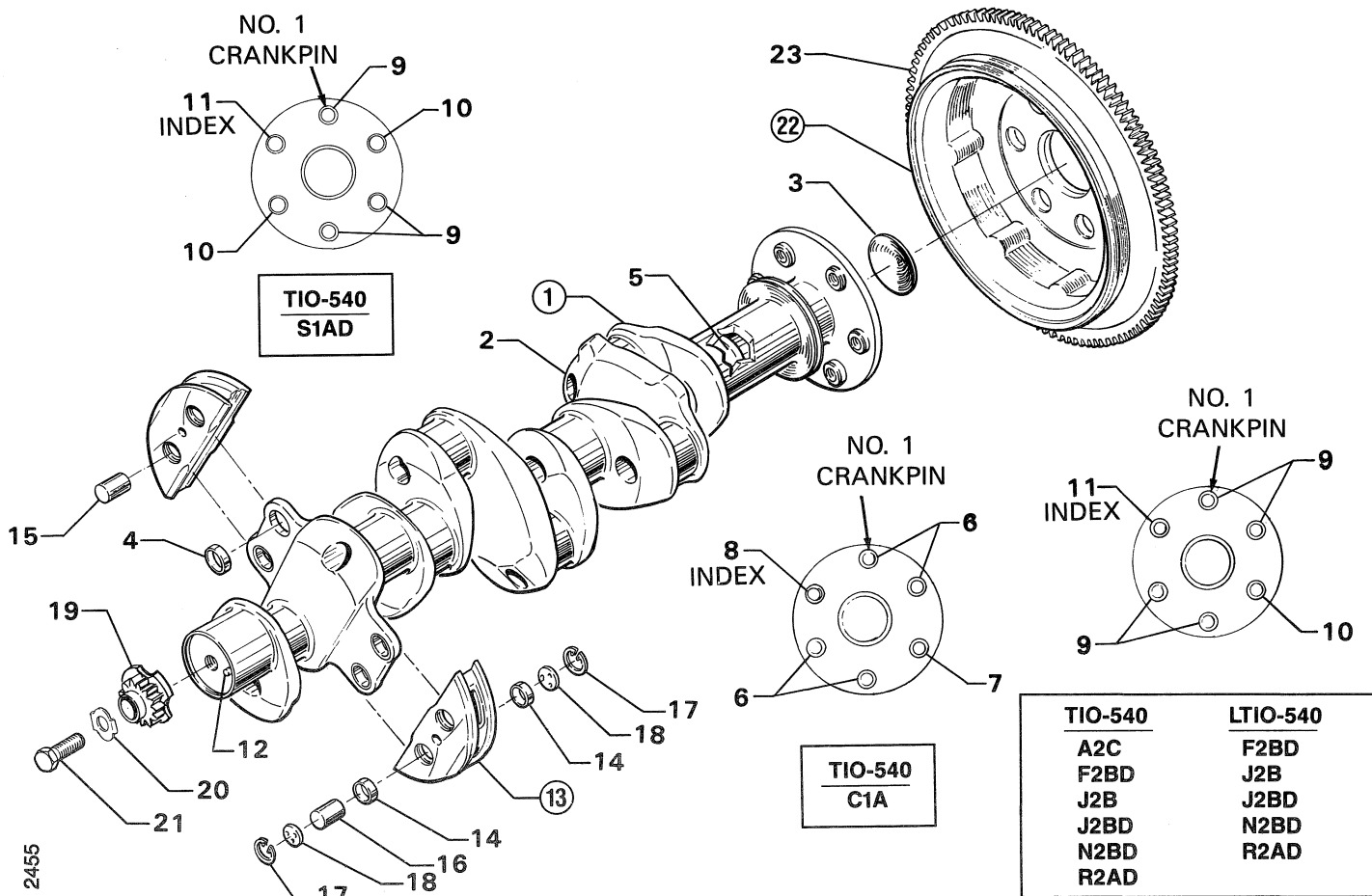
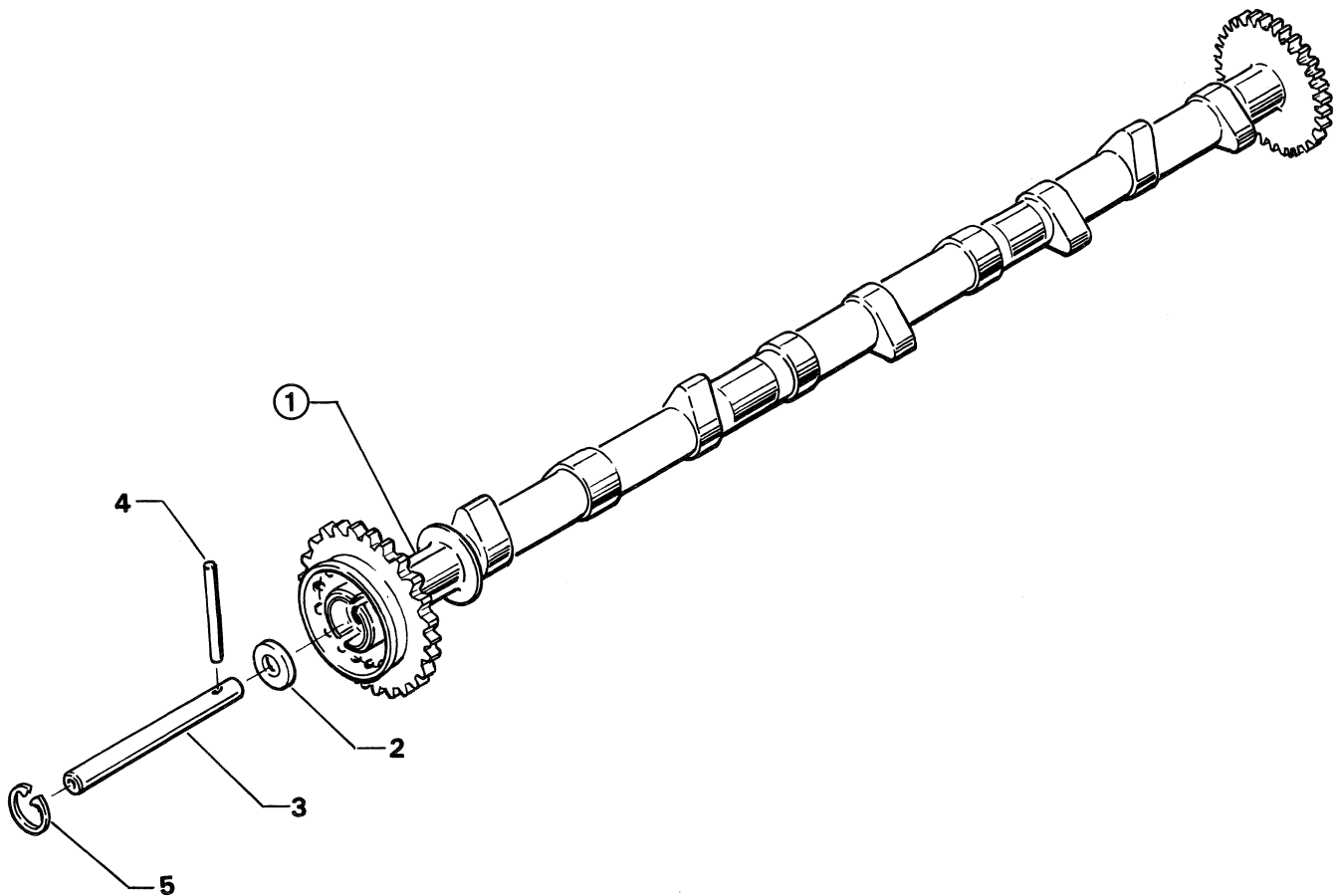


Figure 4. CRANKSHAFT, IDLER GEARS AND RELATED PARTS

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CAMSHAFT AND RELATED PARTS

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																	
				TIO-540					LTIO-540												
				A 2 C	C 1 A	F 2 D	J 2 B	J 2 B	N 2 B	R 2 A	S 1 D	F 2 D	J 2 B	J 2 B	N 2 B	R 2 A					
1	LW-19340	CAMSHAFT ASSEMBLY		1	1	1	1	1	1	1	1										
	LW-19341	CAMSHAFT ASSEMBLY												1	1	1	1	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	STD-2231	RING, Internal retaining	1																		



3095

Figure 5. CAMSHAFT AND RELATED PARTS

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
PROPELLER GOVERNOR DRIVE ASSEMBLY

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																			
				T10-540						LT10-540													
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D									
1	LW-10442	GEAR, Propeller governor drive	1																				
2	LW-14021	SHAFT, Propeller governor idler gear	1																				
3	LW-10541	GEAR ASSY., Prop. governor idler	1																				
4	77872	BUSHING, Prop. 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																				
	01L21418	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																				
11	72053	GASKET, Governor	1																				
12	72378	COVER, Governor drive	1																				
13	LW-16583	SPACER, 1/2 O.D. x 21/64 I.D. x 1-29/64 long						4															
14	STD-35	WASHER, 5/16 plain, Woodward governor	20																				
	STD-35	WASHER, 5/16 plain, AN governor	4																				
15	STD-475	WASHER, 5/16 lock, internal teeth	4																				
16	STD-1410	NUT, 5/16-18 plain	4																				

* Refer to latest edition of Service Instruction No. 1343 for application.

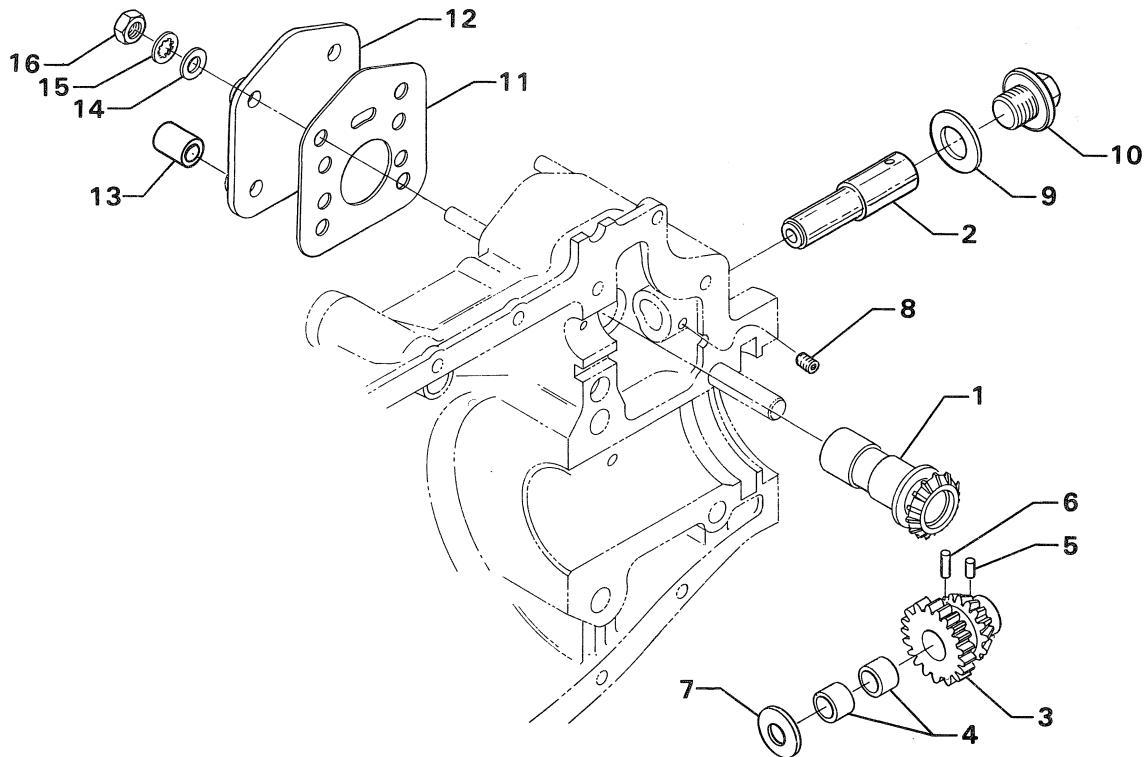


Figure 6. PROPELLER GOVERNOR DRIVE ASSEMBLY

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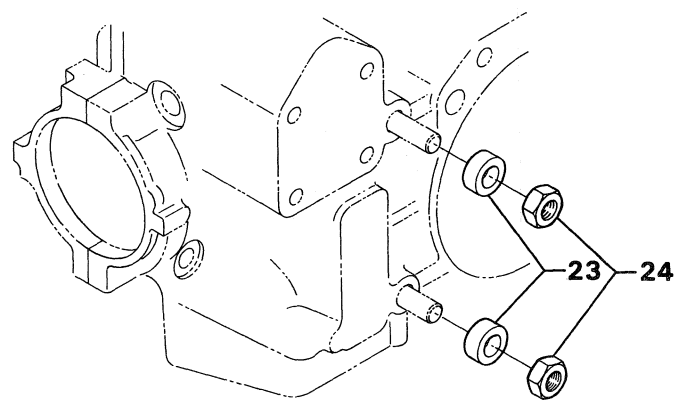
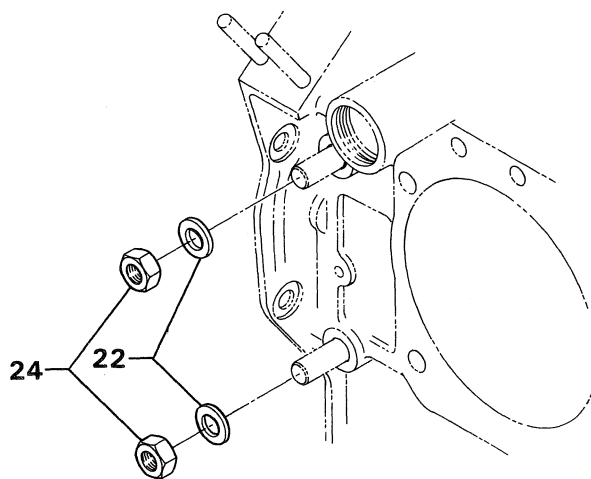
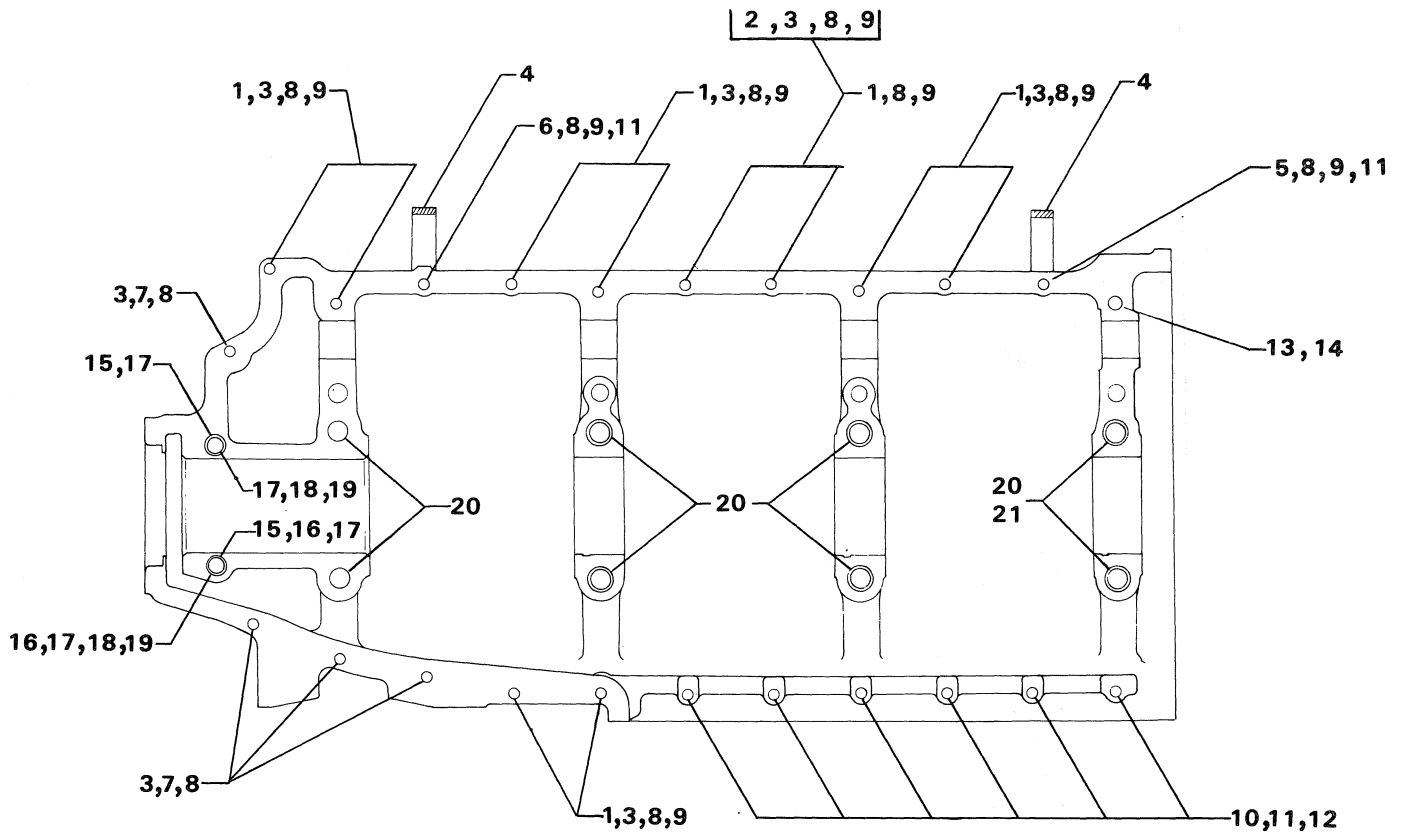
CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP
CRANKSHAFT AND FUEL PUMP IDLER GEARS

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				TIO-540						LTIO-540							
				A 2 C	C 1 A	F 2 D	J 2 B	J 2 B	N 2 B	R 2 A	S 1 A	F 2 D	J 2 B	J 2 B	N 2 B	R 2 A	
1	LW-13795	SHAFT, Crankshaft idler gear		2	2		2							2			
2	STD-2167	SCREW, 5/16-18 x 7/8 long, hex. head dr.		3	3		3							3			
3	STD-2168	NUT, 5/16-18 NC-3, slotted shear		1	1		1							1			
4	72246	SHAFT, Fuel pump idler gear		1	1		1							1			
5	71667	LOCKPLATE, 1/4 bolt x 1-3/4 spacing (offset)		1	1		1							1			
6	LW-25-0.63	SCREW, 1/4-20 x 5/8 long, hex. hd.		2	2		2							2			
7	71664	GEAR ASSY., Fuel pump idler		1	1		1							1			
8	77309	BUSHING, Crankshaft idler gear		1	1		1							1			
9	70474	WASHER, Fuel pump thrust		1	1		1							1			
10	STD-1737	RING, 37/64 dia. x 3/64 thick, external retaining		1	1		1							1			
11	71668	GEAR ASSY., Crankshaft idler, plain		2	2		2							2			
12	67530	BUSHING, Crankshaft idler gear		2	2		2							2			
13	72972	SHAFTGEAR ASSY., Fuel pump drive		1	1		1							1			
14	72962	THRUST BUTTON		1	1		1							1			
15	69164	GASKET, Fuel pump adapter	1														
16	69159	ADAPTER ASSY., Fuel pump drive	1														
17	STD-1774	PIN, 1/8 dia. x 1/4 long	1														
18	STD-213	SEAL, Oil, 3/4 I.D. x 1-3/8 O.D.	1														
19	LW-10292	GEAR ASSY., Crankshaft idler, plain				1		1	1	1	1	1	1		1	1	1
20	LW-10299	SHAFT, Crankshaft idler gear				1		1	1	1	1	1	1		1	1	1
21	LW-10297	GEAR ASSY., Crankshaft idler (heavy)				1		1	1	1	1	1	1		1	1	1
22	LW-10325	SPACER, Idler gear				1		1	1	1	1	1	1		1	1	1
23	LW-10324	GEAR ASSY., Fuel pump idler				1		1	1	1	1	1	1		1	1	1
24	LW-10299	SHAFT, Crankshaft idler gear				1		1	1	1	1	1	1		1	1	1
25	LW-10325	SPACER, Idler gear				1		1	1	1	1	1	1		1	1	1
26	LW-10329	SHAFTGEAR ASSY., Fuel pump drive				1		1	1	1	1	1	1		1	1	1
27	61166	THRUST BUTTON				1		1	1	1	1	1	1		1	1	1

CRANKCASE, CRANKSHAFT AND CAMSHAFT GROUP CRANKCASE ATTACHING PARTS

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				TIO-540							LTIO-540						
				A 2 C	C 1 A	F 2 D	J 2 B	J 2 B	N 2 B	R 2 A	S 1 A	F 2 D	J 2 B	J 2 B	N 2 B	R 2 A	
1	LW-25-1.50	BOLT, 1/4-20 x 1-1/2 long, hex. hd.		11	8	11	11	11	11	11	10	11	11	11	11		
2	LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. hd. (fuel manifold bracket)			2												
3	STD-8	WASHER, 1/4 plain		27	24	27	27	27	27	27	27	27	27	27	27		
4	60803	STRAP, Lifting	2														
5	LW-25-1.88	BOLT, 1/4-20 x 1-7/8 long, hex. hd.		2		2	2	2	2	2	1	2	2	2	2		
6	LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. hd.			2						1						
7	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. hd.	4														
8	STD-160	WASHER, 1/4 lock, internal teeth	16														
9	STD-1411	NUT, 1/4-20 plain	12														
10	LW-25S1.50	BOLT, 1/4-20 x 1-1/2 long, hex. hd. dr. end	6														
11	STD-8	WASHER, 1/4 plain (max. 6)		AR		AR	AR	AR	AR	AR		AR	AR	AR	AR		
	STD-8	WASHER, 1/4 plain (max. 18)			AR					AR							
12	STD-1409	NUT, 1/4-20 slotted shear	6														
13	STD-33	WASHER, 3/8 plain	1														
14	STD-872	NUT, 3/8-24 slotted	1														
15	LW-11866 *	NUT, Spacer (compressor)		2		2	2	2	2	2	2	2	2	2	2		
16	AN6-34A	BOLT, 3/8-24 x 3-37/64 long, hex. hd.	1														
17	STD-33	WASHER, 3/8 plain		3	3			3		3					3		
	STD-33	WASHER, 3/8 plain (2 required under head of AN6-34A)		4		4	4	4	4	4	4	4	4	4	4		
18	STD-678	WASHER, 3/8 lock, internal teeth		2	2			2		2					2		
19	STD-596	NUT, 3/8-24 plain		2	2			2		2					2		
20	76220	STUD, 1/2-20 x 10-45/64 long		8	8	8	8	8	8	8	8	8	8	8	8		
	76220	STUD, 1/2-20 x 10-45/64 long									6						
21	74888	STUD, 1/2-20 x 11-1/2 long									2						
22	77906	SPACER, 33/64 I.D. x 7/8 O.D. x 1/8 thick		2	2	2	2	2	2	2		2	2	2	2		
23	74887	SPACER, 33/64 I.D. x 7/8 O.D. x 3/8 thick	2														
24	STD-2090	NUT, 1/2-20 plain	4														

* Install at front main bearing holes on right crankcase side.



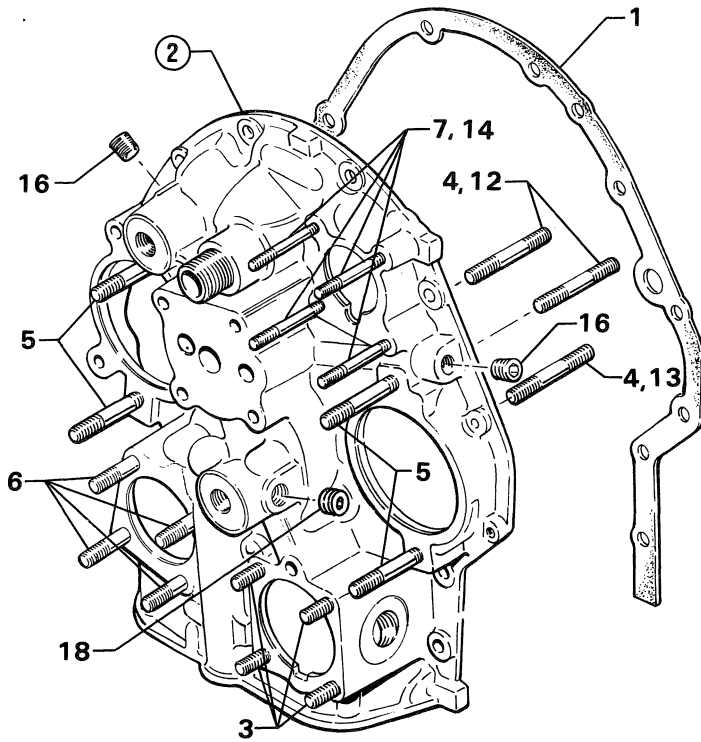
3307

Figure 8. CRANKCASE ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS ACCESSORY HOUSING ASSEMBLY

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																	
				TIO-540					LTIO-540												
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D					
1	73818	GASKET, Accessory housing	1																		
2	78494 *	HOUSING ASSEMBLY, Accessory		1			1														
	78207 *	HOUSING ASSEMBLY, Accessory			1																
	21D21608-01 **	HOUSING ASSEMBLY, Accessory				1		1	1	1											
	21D21609-01 **	HOUSING ASSEMBLY, Accessory											1		1	1	1				
	21D21608-02 **	HOUSING ASSEMBLY, Accessory										1									
	LW-18455 *	HOUSING ASSEMBLY, Accessory												1							
	LW-18670 ★	HOUSING ASSEMBLY, Accessory		1			1														
	LW-18669 ★	HOUSING ASSEMBLY, Accessory												1							
	21D21608-04 ●	HOUSING ASSEMBLY, Accessory				1		1													
	21D21609-02 ●	HOUSING ASSEMBLY, Accessory											1		1						
3	31C-12	STUD, 5/16-18 x 1-1/2 long		4	4		4							4							
4	31CD-20	STUD, 5/16-18 x 2-1/2 long, drilled		3	3	3	3	3	3	3	3										
5	31C-21	STUD, 5/16-18 x 2-5/8 long		4	4		4							4							
6	31C-19	STUD, 5/16-18 x 2-3/8 long	4																		
7	25C-21	STUD, 1/4-20 x 2-5/8 long		4	4		4							4							
8	25C-12	STUD, 1/4-20 x 1-1/2 long				8		8	8	8			8		8	8	8				
	25C-12	STUD, 1/4-20 x 1-1/2 long				4		4				4	4		4						
9	31C-13	STUD, 5/16-18 x 1-5/8 long (magneto pad)				2		2	2	2	2	2	2		2	2	2				
10	25C-39	STUD, 1/4-20 x 4-7/8 long										1									
11	25C-19	STUD, 1/4-20 x 2-3/8 long										3									
12	31CD-19	STUD, 5/16-18 x 2-21/64 long												2							
13	31CD-24	STUD, 5/16-18 x 3.00 long												1							
14	25C-20	STUD, 1/4-20 x 2-1/2 long		4			4							4							
15	25C-11	STUD, 1/4-20 x 1-3/8 long				4		4					4		4						
16	1102	PLUG, 1/8 pipe x 3/8 long, socket		2	2		2							2							
17	STD-1339	PLUG, 1/16 NPT, Allen head				1		1	1	1	1	1	1		1	1	1				
18	STD-783	PLUG, 1/4-18 NPT												1							
19	LW-10341	INSERT, 1.00-14 Heli-coil x 3/8 long				1		1	1	1	1	1	1		1	1	1				
20	MS-124703	INSERT, 3/4-16 Heli-coil x 1-1/8 long				1		1	1	1	1	1	1		1	1	1				
21	LW-12589	INSERT, 5/8-18 Heli-coil x 3/8 long				1		1	1	1	1	1	1		1	1	1				

- * Provision for single magnetos and "AN" fuel pump.
- ** Provision for dual magneto and "AN" fuel pump.
- ★ Provision for single magnetos, "AN" fuel pump and short studs at vacuum pump pad.
- Provision for dual magneto, "AN" fuel pump and short studs at vacuum pump pad.



TIO-540
A2C
C1A
J2B
LTIO-540
J2B

TIO-540
F2BD
J2BD
N2BD
R2AD
S1AD
LTIO-540
F2BD
J2BD
N2BD
R2AD

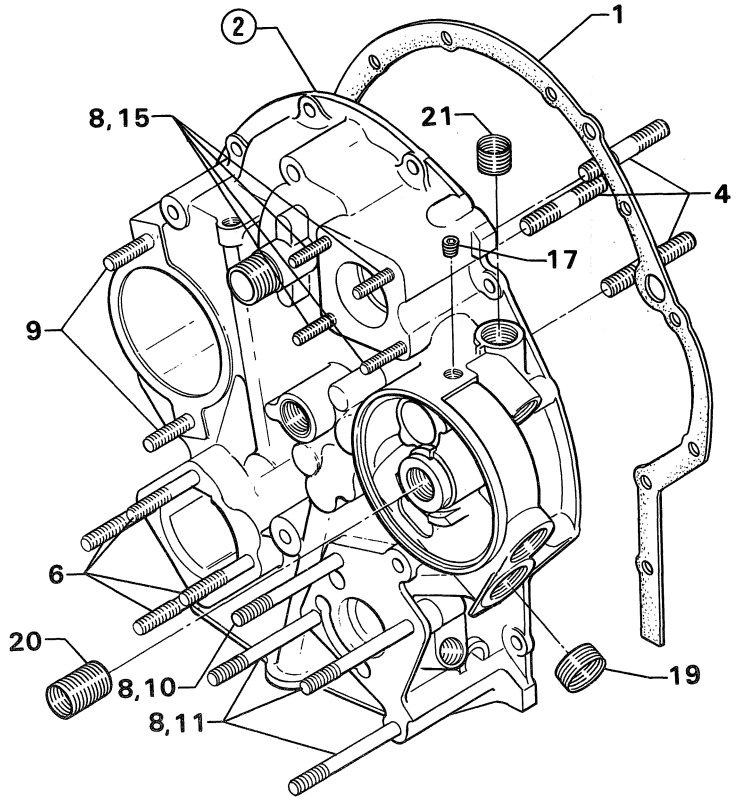
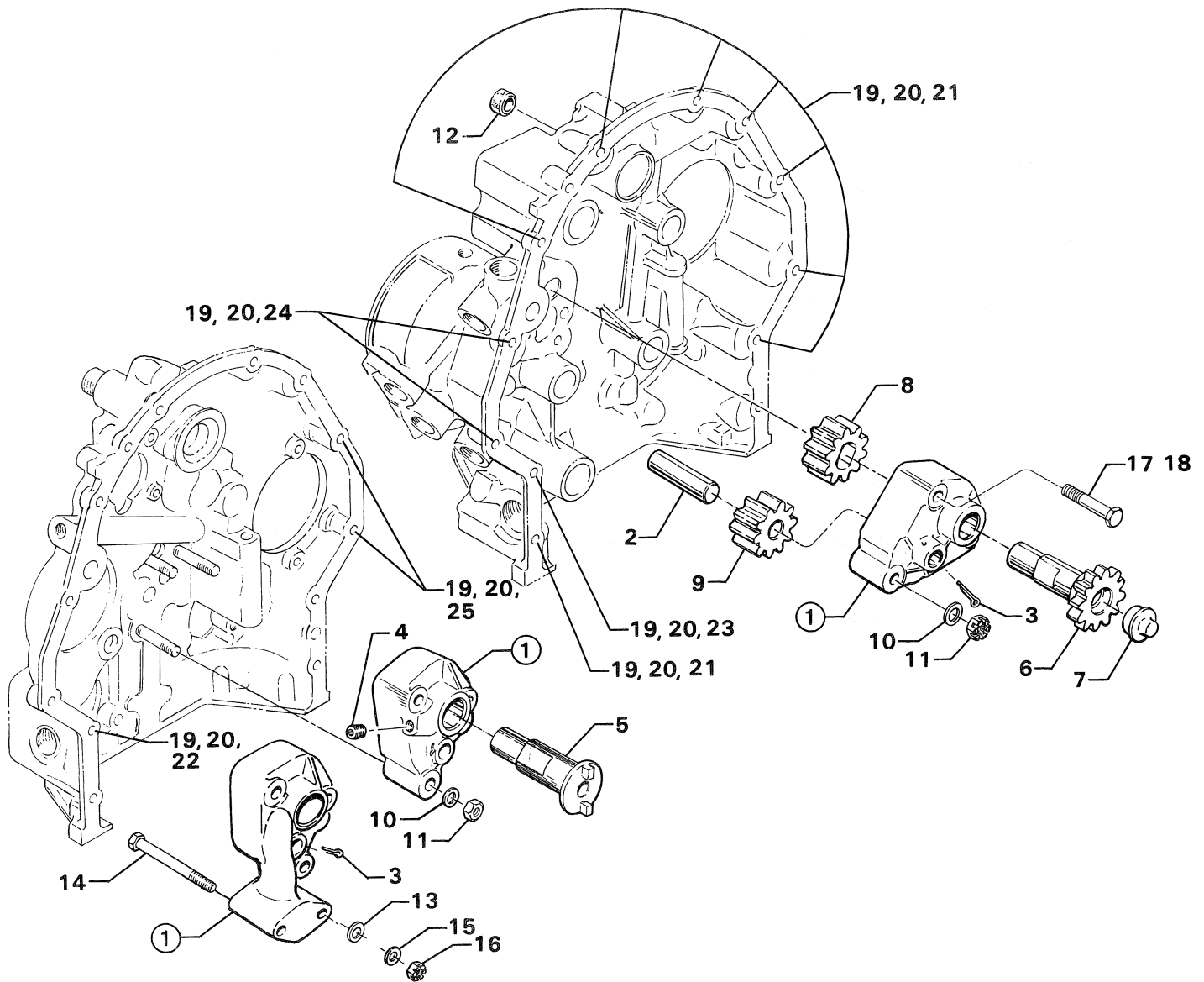


Figure 9. ACCESSORY HOUSING ASSEMBLY

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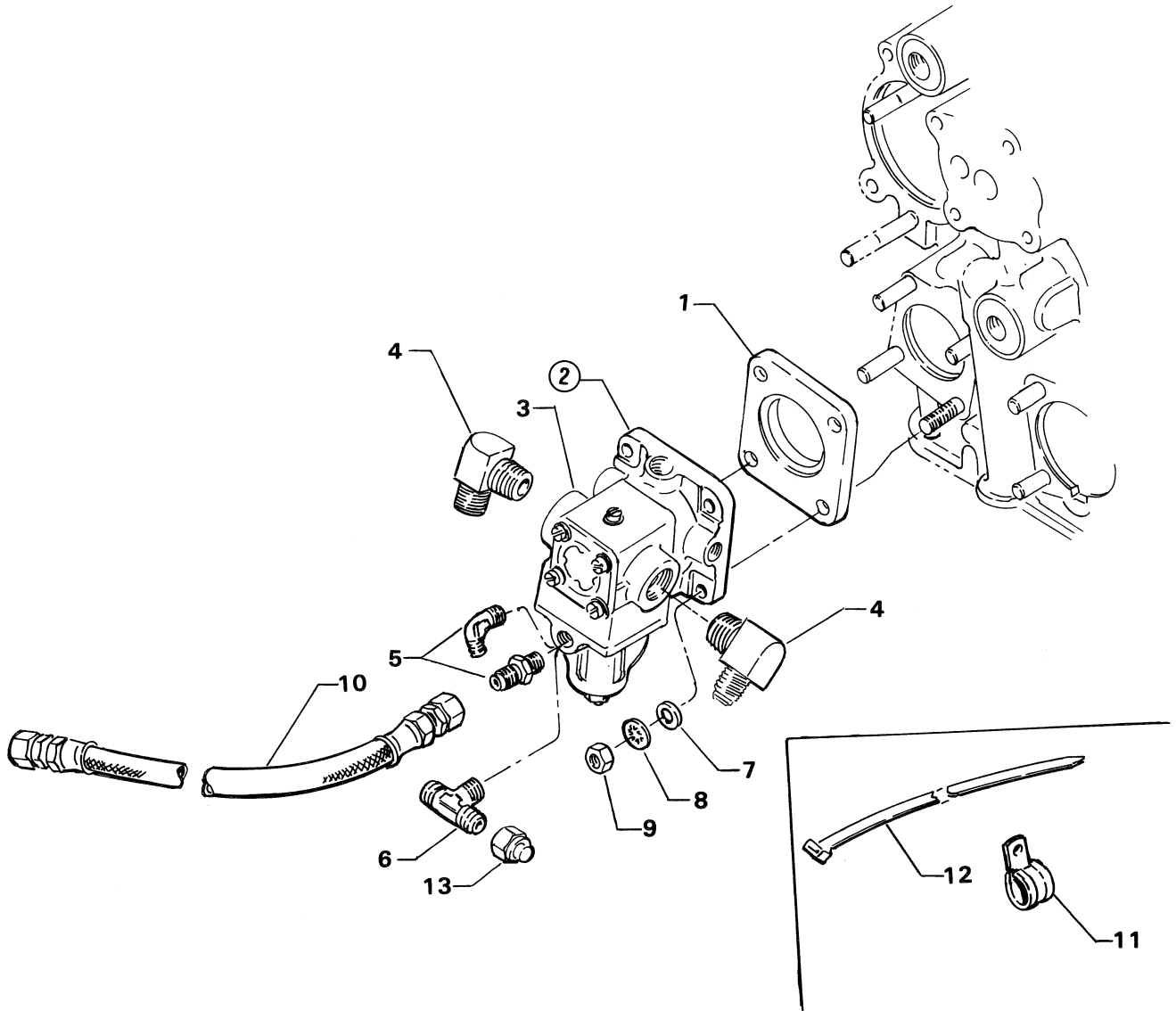


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Figure 10. OIL PUMP ASSEMBLY AND ACCESSORY HOUSING ATTACHING PARTS

ACCESSORY HOUSING AND RELATED PARTS FUEL PUMP ASSEMBLIES

FIG. REF. 11	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																		
				TIO-540						LTIO-540												
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D								
1	LW-10799	SPACER, Fuel pump, insulating	1																			
2	LW-13917	PUMP ASSEMBLY, Fuel (clockwise rotation)		1			1															
	LW-13921	PUMP ASSEMBLY, Fuel (counterclockwise rotation)				1		1	1	1												
	LW-13918	PUMP ASSEMBLY, Fuel (clockwise rotation)											1		1	1	1					
	LW-18461	PUMP ASSEMBLY, Fuel (counterclockwise rotation)											1									
3	78993	PUMP, Fuel (RG-17980) (clockwise rotation)			1																	
	LW-13909	PUMP, Fuel (RG-9080-J4A) (clockwise rotation)		1			1						1		1	1	1					
	LW-13920	PUMP, Fuel (RG-9080-J7A) (counterclockwise rotation)				1		1	1	1												
	LW-19012	PUMP, Fuel (RG-9570-P) (counterclockwise rotation)										1										
	LW-14444	PUMP, Fuel (RG-9080-J6A) (counterclockwise rotation)												1								
4	76422	ELBOW, Fuel pump, 90°, inlet		1		1	1						1	1	1	1	1					
	LW-11882	ELBOW, Tube to male pipe, inlet				1		1	1	1												
	MS20822-6-8	ELBOW, 3/8 tube x 1/2 NPT, 90°, outlet		1		1	1	1	1	1				1								
	MS20822-6-8	ELBOW, 3/8 tube x 1/2 NPT, 90°, inlet & outlet										2										
	78523	ELBOW, 3/8 tube x 1/2 NPT, 90°, outlet				1							1		1	1	1					
5	02A21377	ELBOW, 3/16 tube x 1/8 NPT w/restricted end (.014-.017)				1		1	1	1			1		1	1	1					
	02A21382	NIPPLE, Fuel pump, vent, restricted (.014-.017)		1			1							1								
6	02A21381	TEE, 3/16 tube x 1/8 NPT w/restricted end (.014-.017)										1										
7	STD-35	WASHER, 5/16 plain	4																			
8	STD-475	WASHER, 5/16 lock, internal teeth	4																			
9	STD-1410	NUT, 5/16-18 plain	4																			
10	LW-12786-3-314	HOSE ASSEMBLY, Fuel pump vent											1									
11	LW-16266-10-25	CLAMP											1									
12	76734	ZIP STRAP											2									
13	AN929-3	CAP ASSY., 3/16 flared tube fitting											1									



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Figure 11. FUEL PUMP ASSEMBLIES

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

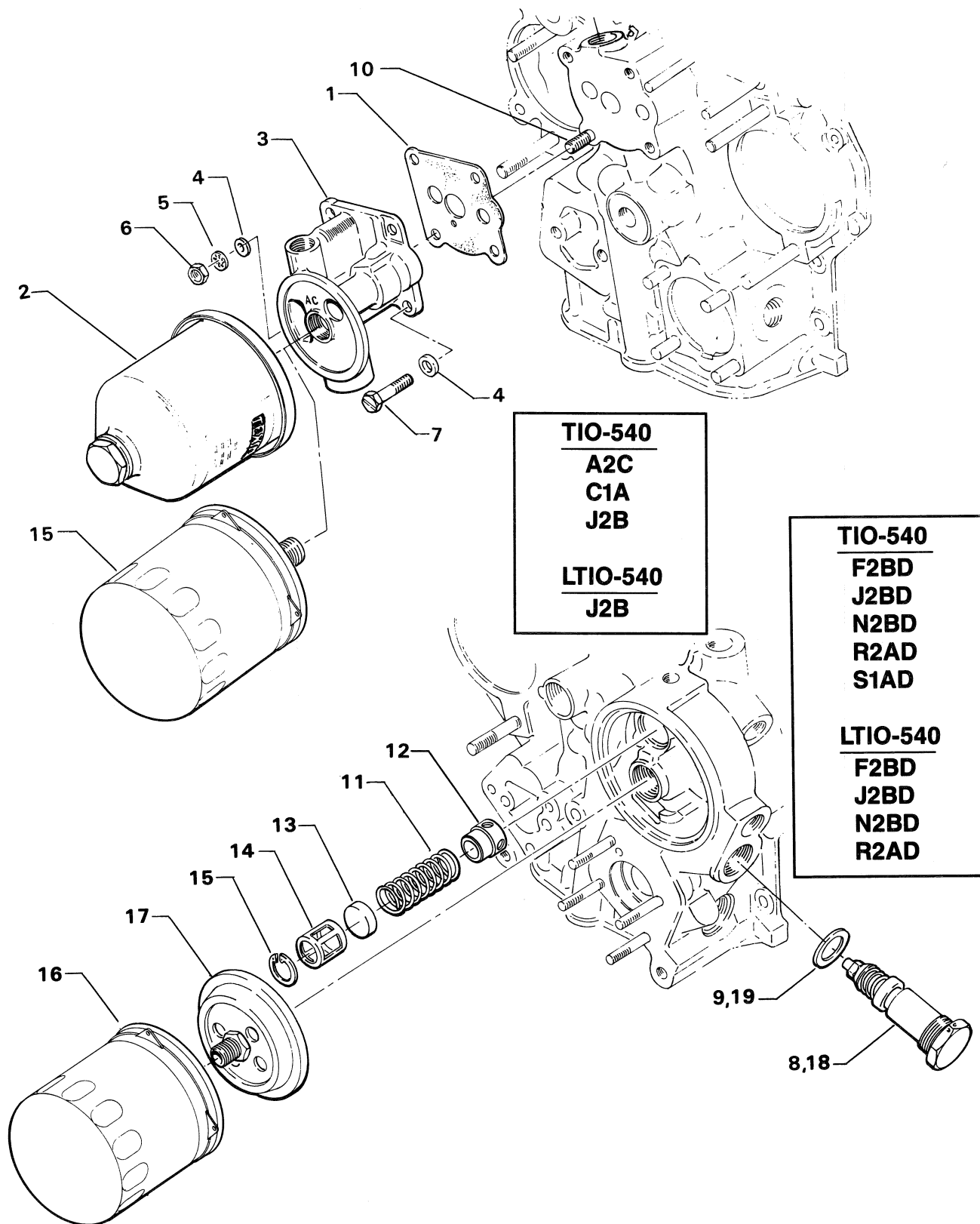
FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				TIO-540						LTIO-540							
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D			
1	LW-12795	GASKET, Oil filter adapter (See note)		1	1		1							1			
2	77853	OIL FILTER HOUSING ASSY. (See note)		1	1		1							1			
3	77852	OIL FILTER BASE ASSY. (See note)		1	1		1							1			
4	STD-8	WASHER, 1/4 plain		4	4		4							4			
5	STD-160	WASHER, 1/4 lock, internal teeth		1	1		1							1			
6	STD-1411	NUT, 1/4-20 plain		1	1		1							1			
7	STD-1856	SCREW, 1/4-20 x 1.00 long, hex. hd., self-locking		3	3		3							3			
8	53E19600	VALVE ASSY., Temp. control, oil cooler bypass		1	1		1							1			
9	76510	GASKET, Valve assembly		1	1		1							1			
10	25C-10	STUD, 1/4-20 x 1-1/4 long		1	1		1							1			
11	55C21021	SPRING, Oil filter bypass valve				1		1	1	1	1	1	1		1	1	1
12	55K21022	SPACER, Oil pressure bypass valve				1		1	1	1	1	1	1		1	1	1
13	76539	SEAT, Oil relief valve				1		1	1	1	1	1	1		1	1	1
14	LW-10320	SLEEVE, Oil filter bypass valve				1		1	1	1	1	1	1		1	1	1
15	MS16625-1100	RING, Internal retaining				1		1	1	1	1	1	1		1	1	1
16	54D19625	OIL FILTER, (short with stud) (See note)		1	1		1							1			
	54D19626 *	OIL FILTER, (long with stud) (See note)		1	1		1							1			
	54D19627	OIL FILTER, (short, no stud) (See note)				1		1	1	1	1	1	1		1	1	1
	54D19628 *	OIL FILTER, (long, no stud) (See note)				1		1	1	1	1	1	1		1	1	1
17	LW-13904 **	KIT, Converter plate, oil filter (See note)				1		1	1	1	1	1	1		1	1	
18	54E19600	VALVE ASSY., Temp. control, oil cooler bypass				1		1	1	1	1	1	1		1	1	1
19	76510	GASKET, Valve Assembly				1		1	1	1	1	1	1		1	1	1

* Long filter is used where engine airframe clearance permits.

** Refer to latest edition of Service Instruction No. 1453 for Service application.

NOTE

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



3310

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	O N A L L	QUANTITY PER ASSEMBLY														
				TIO-540							LTIO-540							
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D		
1	61183	GASKET, Accessory adapter		1	1		1								1			
2	67536	ADAPTER ASSY., Vacuum pump		1	1		1								1			
3	STD-1774	DOWEL, 1/8 dia. x 1/4 long		1	1		1								1			
4	06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide		1	1		1								1			
5	72974	GEAR ASSY., Vacuum pump driven		1	1		1								1			
6	LW-10307	GEAR ASSY., Accessory driven				1		1	1	1	1	1	1	1		1	1	1
7	61166	THRUST BUTTON				1		1	1	1	1	1	1	1		1	1	1
8	71596	WASHER, Accessory driven gear	1															
9	06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide				1		1	1	1	1	1	1	1		1	1	1
10	8313	GASKET, Vacuum pump	1															
11	60430	COVER, Vacuum pump	1															
12	STD-8	WASHER, 1/4 plain	4															
13	STD-160	WASHER, 1/4 lock, internal	4															
14	STD-1411	NUT, 1/4-20 plain	4															
15	MS20823-8D	ELBOW, 1/2 flared tube & 3/8 NPT, 45°		1			1								1			
16	06E19769-0.63	GASKET, 7/8 O.D. x 5/8 I.D. x 3/32 annular		1	1		1								1			
17	62417	PLUG, Oil cooler bypass		1	1		1								1			
18	STD-784	PLUG, 3/8-18 NPT, Allen		2	2		2								2			
19	STD-355	PLUG, 3/4-14 socket head		1	1	1	1	1	1					1	1	1	1	
20	71651	FITTING, Breather		1	1					1								1
21	72996	FITTING, Breather								1								
22	AN919-15	REDUCER, External 5/8 flared to 1/2 flared				2		2	2					2		2	2	
23	MS29512-10	SEAL, Oil, 3/4 O.D. x 7/64 section				2		2	2	2	1	2		2		2	2	2
24	AN815-10	UNION, 7/8-14 x 5/8 tube (oil cooler in & out)								2								2
25	AN814-10L	PLUG, 7/8-14 thd. (upper boss) acc. oil return									1							

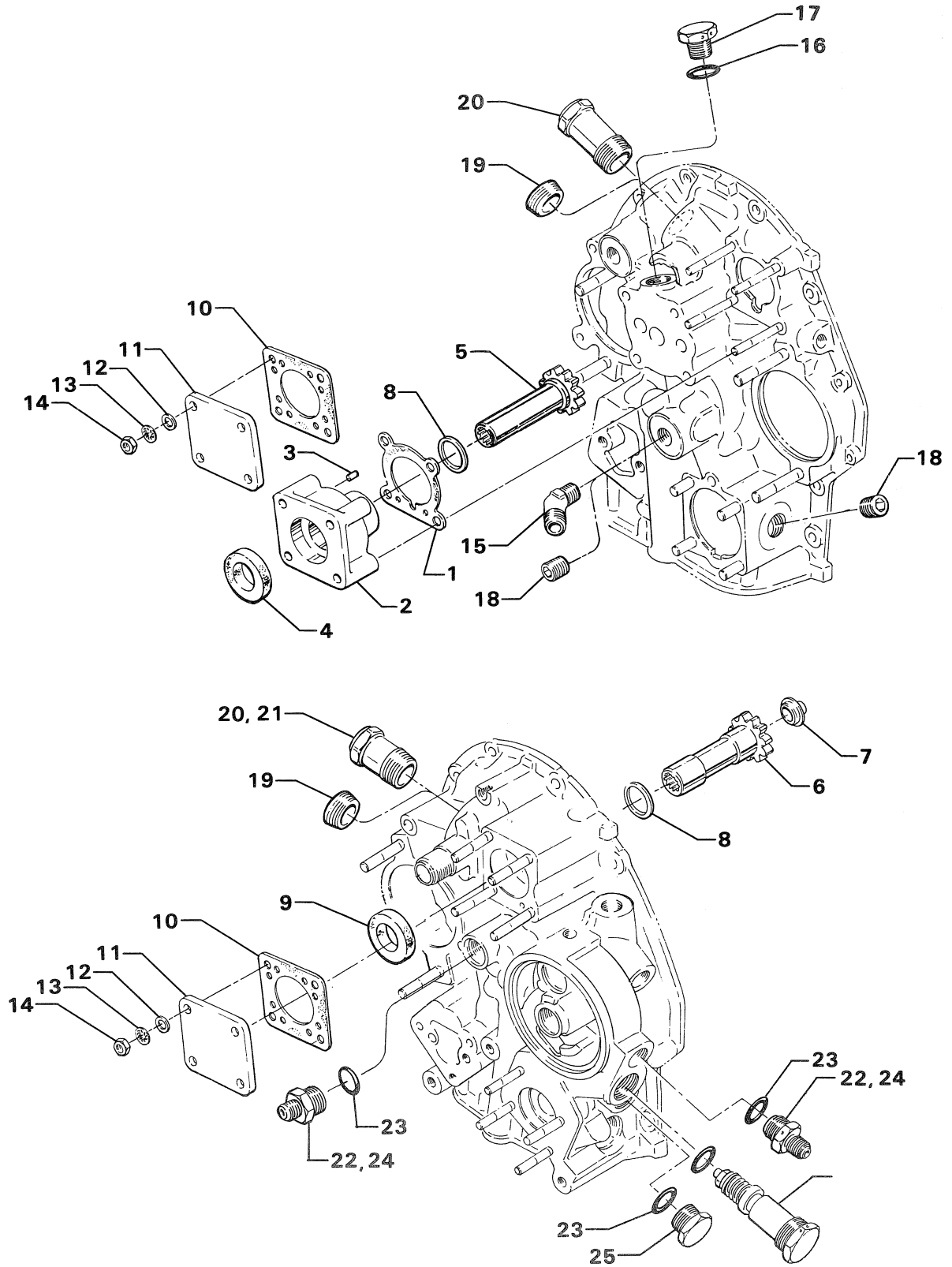
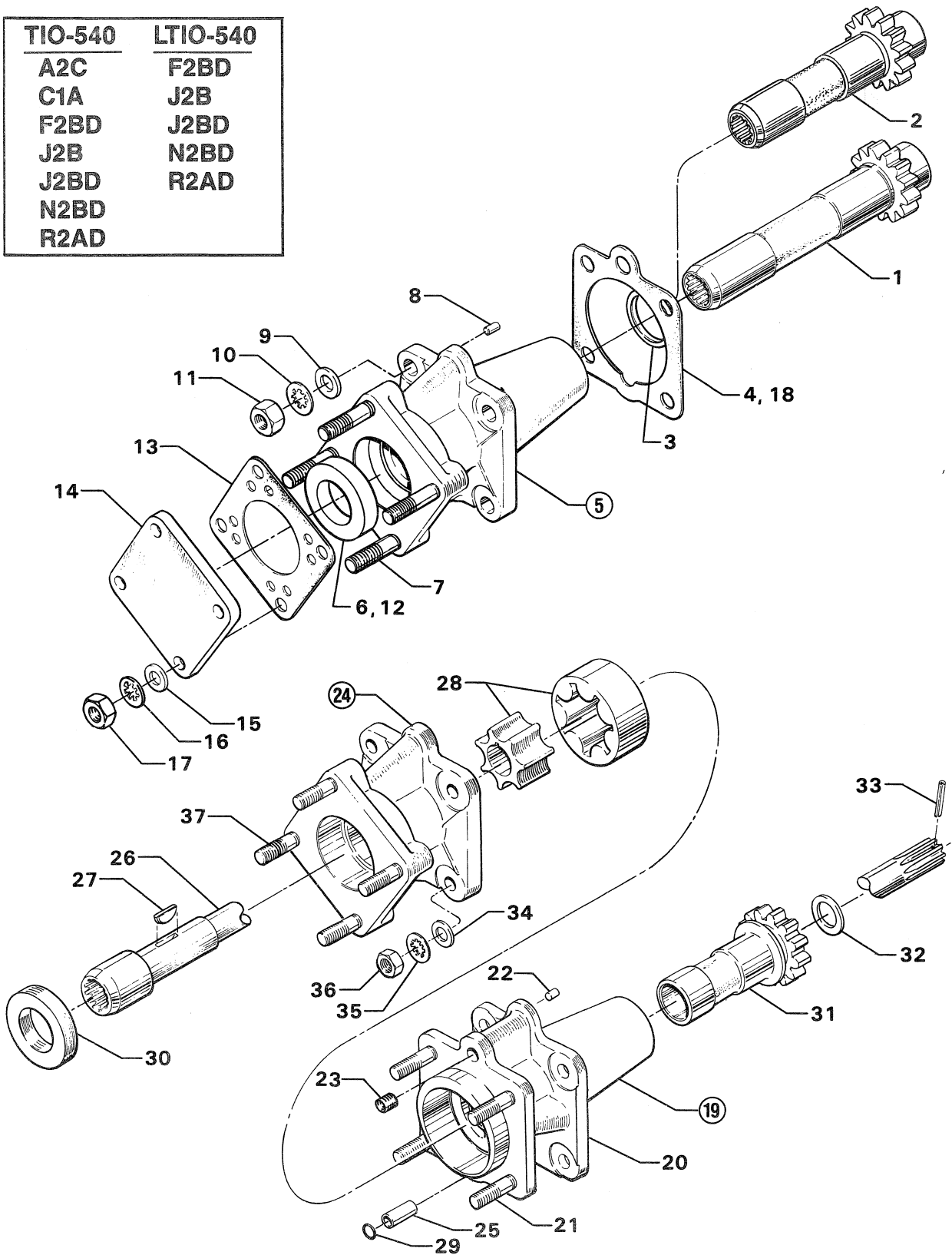


Figure 13. VACUUM PUMP DRIVE, OIL COOLER AND BREATHER FITTINGS

ACCESSORY HOUSING AND RELATED PARTS
TURBO SCAVENGE PUMP AND HYDRAULIC PUMP DRIVES AND COVERS

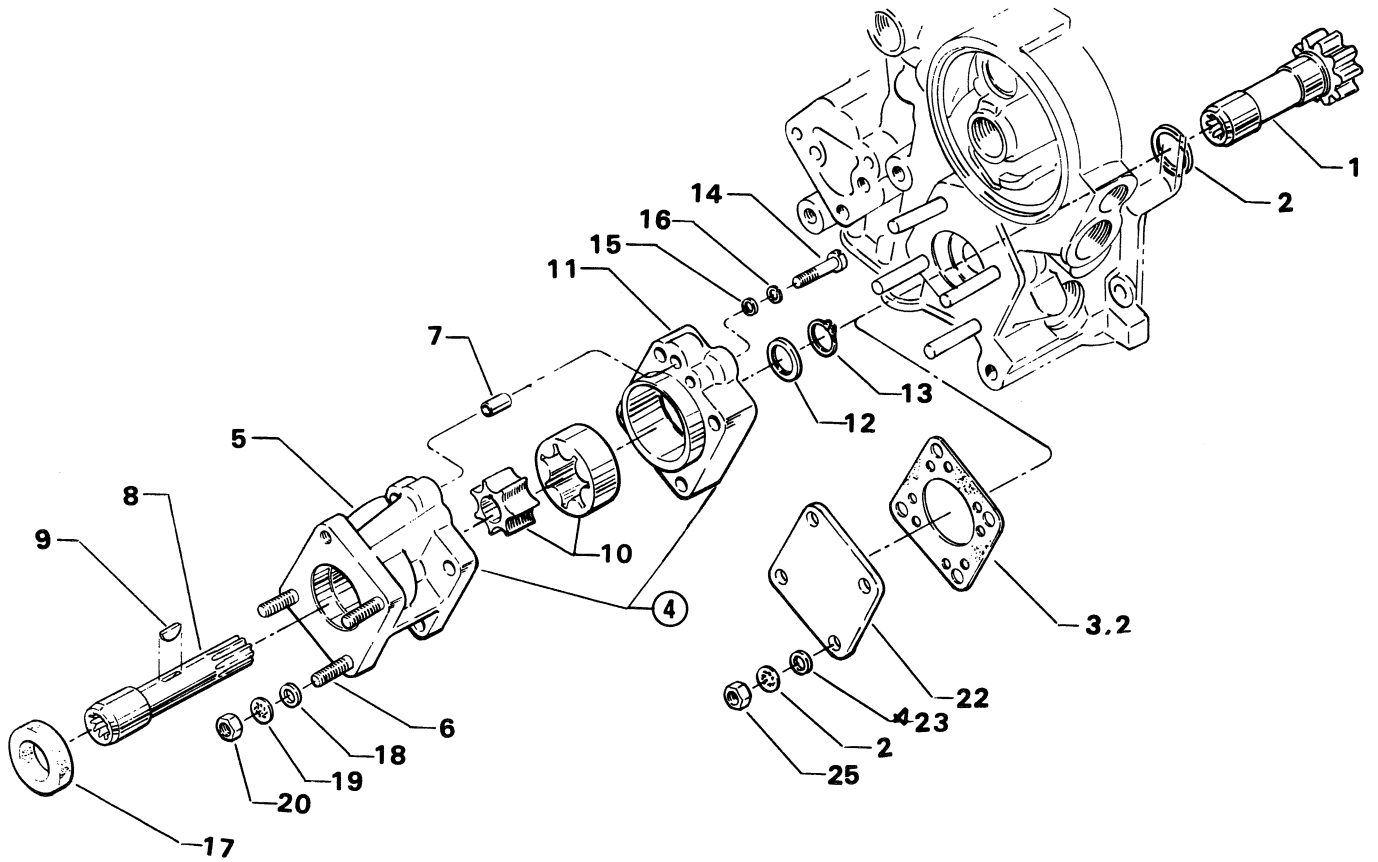
FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY															
				TIO-540								LTIO-540							
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D					
1	72964	GEAR ASSY., Hydraulic pump driven	1			1								1					
2	LW-10313	GEAR ASSY., Accessory driven			1		1	1	1				1		1	1	1		
3	71596	WASHER, Accessory drive gear	1		1	1	1	1	1				1	1	1	1	1		
4	68315	GASKET, Accessory drive adapter	1		1								1						
5	71675	ADAPTER ASSY., Hydraulic pump	1		1								1						
6	STD-2217	OIL SEAL, 7/8 I.D. x 1-1/2 x 5/16 wide	1		1								1						
7	25C-12	STUD, 1/4-20 x 1-1/2 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								4						
10	STD-475	WASHER, 5/16 lock internal teeth	4	4	4								4						
11	STD-1410	NUT, 5/16-18 plain	4	4	4								4						
12	06A19956	OIL SEAL, 7/8 I.D. x 1-1/2 x 5/16 wide			1		1	1	1				1		1	1	1		
13	8313	GASKET, Pump	1	1	1	1	1	1	1				1	1	1	1	1		
14	60430	COVER, Pump	1	1	1	1	1	1	1				1	1	1	1	1		
15	STD-8	WASHER, 1/4 plain	4	4	4	4	4	4	4				4	4	4	4	4		
16	STD-160	WASHER, 1/4 lock, internal teeth	4	4	4	4	4	4	4				4	4	4	4	4		
17	STD-1411	NUT, 1/4-20 plain	4	4	4	4	4	4	4				4	4	4	4	4		
18	68315	GASKET, Accessory drive adapter		1															
19	LW-19083	DRIVE ASSY., Turbo scavenge & hydraulic pump		1															
20	LW-19082	ADAPTER ASSY., Turbo scavenge pump		1															
21	25C-11	STUD, 1/4-20 x 1-3/8 long		4															
22	STD-1774	PIN, 1/8 dia. x 1/4 long		1															
23	01N19833-218	PLUG, Pin, adapter		1															
24	LW-19080	ADAPTER ASSY., Hydraulic pump		1															
25	STD-1003	DOWEL, Oil, 3/16 I.D. x 1/2 long		1															
26	LW-15853	SHAFT, Hydraulic drive		1															
27	STD-95	KEY, 1/8 x 1/2 woodruff		1															
28	LW-15550	PUMP, Gerotor		1															
29	MS9068-009	RING, Oil seal, 7/32 I.D. x 1/16 dia.		1															
30	STD-2217	OIL SEAL, 7/8 I.D. x 1-1/2 O.D. x 5/16 wide		1															
31	77825	SHAFT, Gear, hydraulic pump drive		1															
32	77708	WASHER, Retaining shaft gear		1															
33	MS16562-28	PIN, Spring, 3/32 dia. x 3/4 long		1															
34	STD-8	WASHER, 1/4 plain		4															
35	STD-160	WASHER, 1/4 internal lock		4															
36	STD-1411	NUT, 1/4-20 plain		4															
37	25C-12	STUD, 1/4-20 National form, 1-1/2 long		4															

TIO-540	LTIO-540
A2C	F2BD
C1A	J2B
F2BD	J2BD
J2B	N2BD
J2BD	R2AD
N2BD	
R2AD	



3312

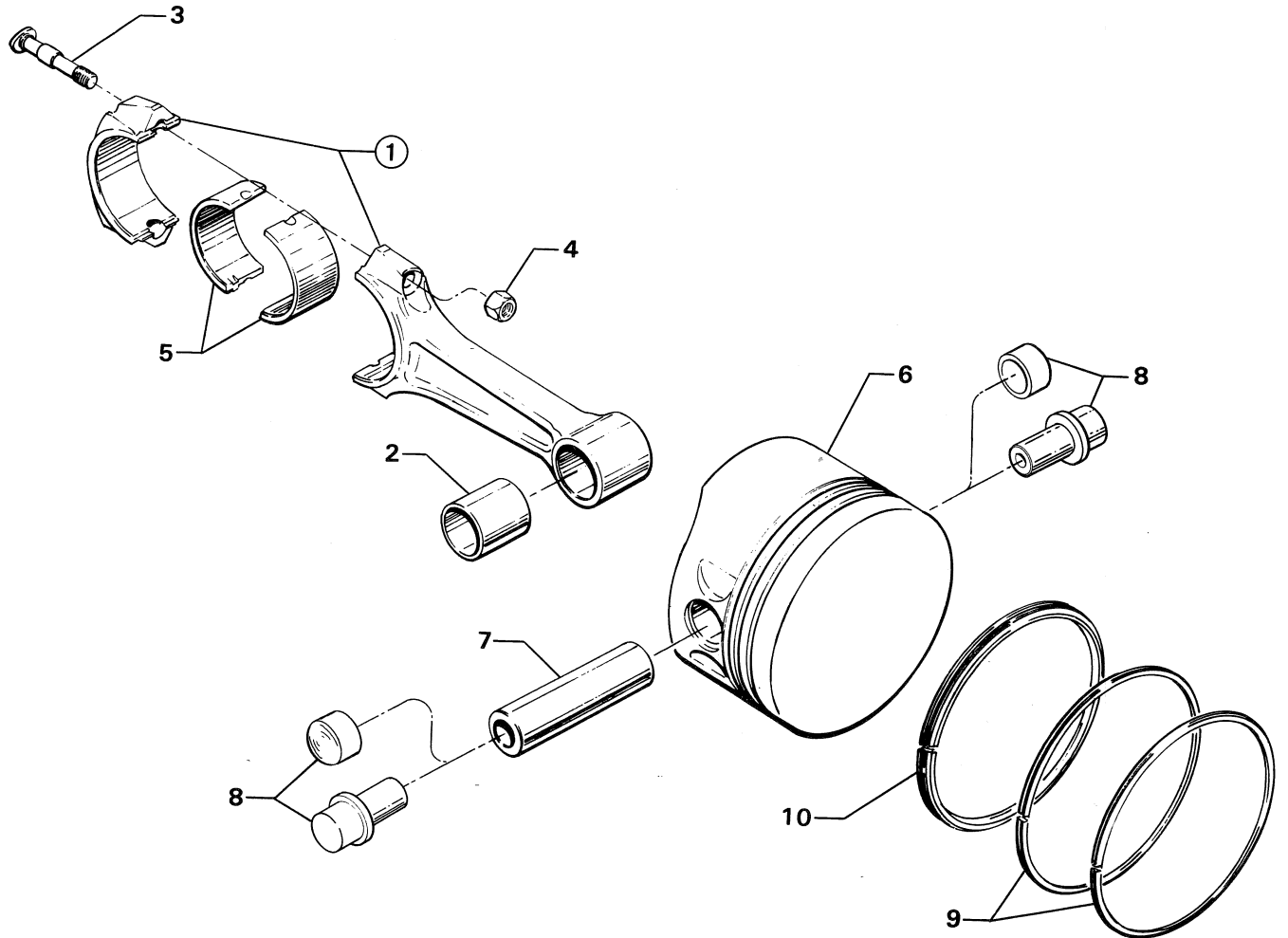
Figure 14. TURBO SCAVENGE PUMP AND HYDRAULIC PUMP DRIVES AND COVERS



T10-540
S1AD

2472

Figure 15. TURBO SCAVENGE, VACUUM PUMP DRIVE & COVERS



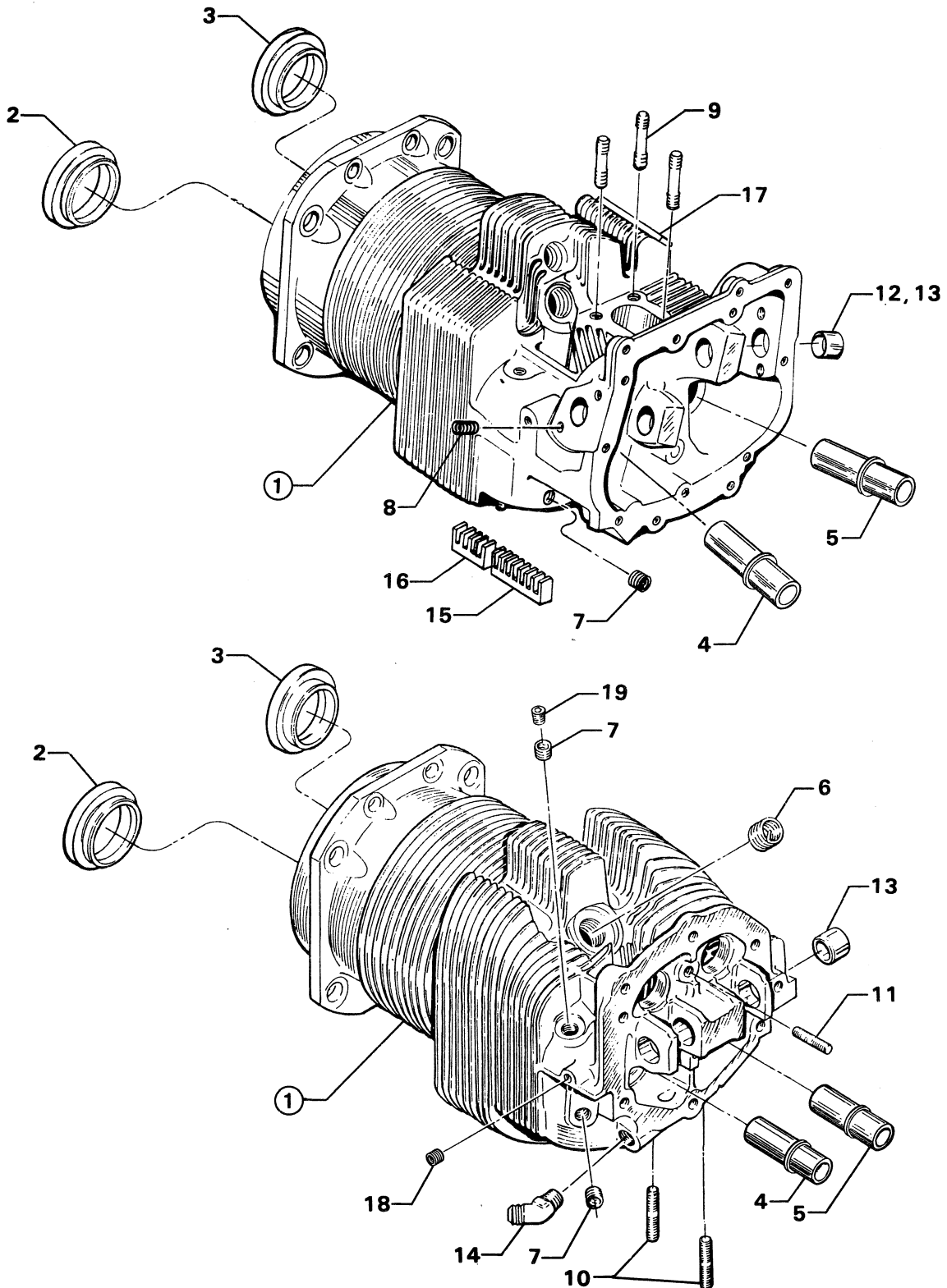
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Figure 16. CONNECTING RODS, PISTONS & RING ASSEMBLIES

CYLINDER, PISTON AND VALVE TRAIN CYLINDER ASSEMBLY

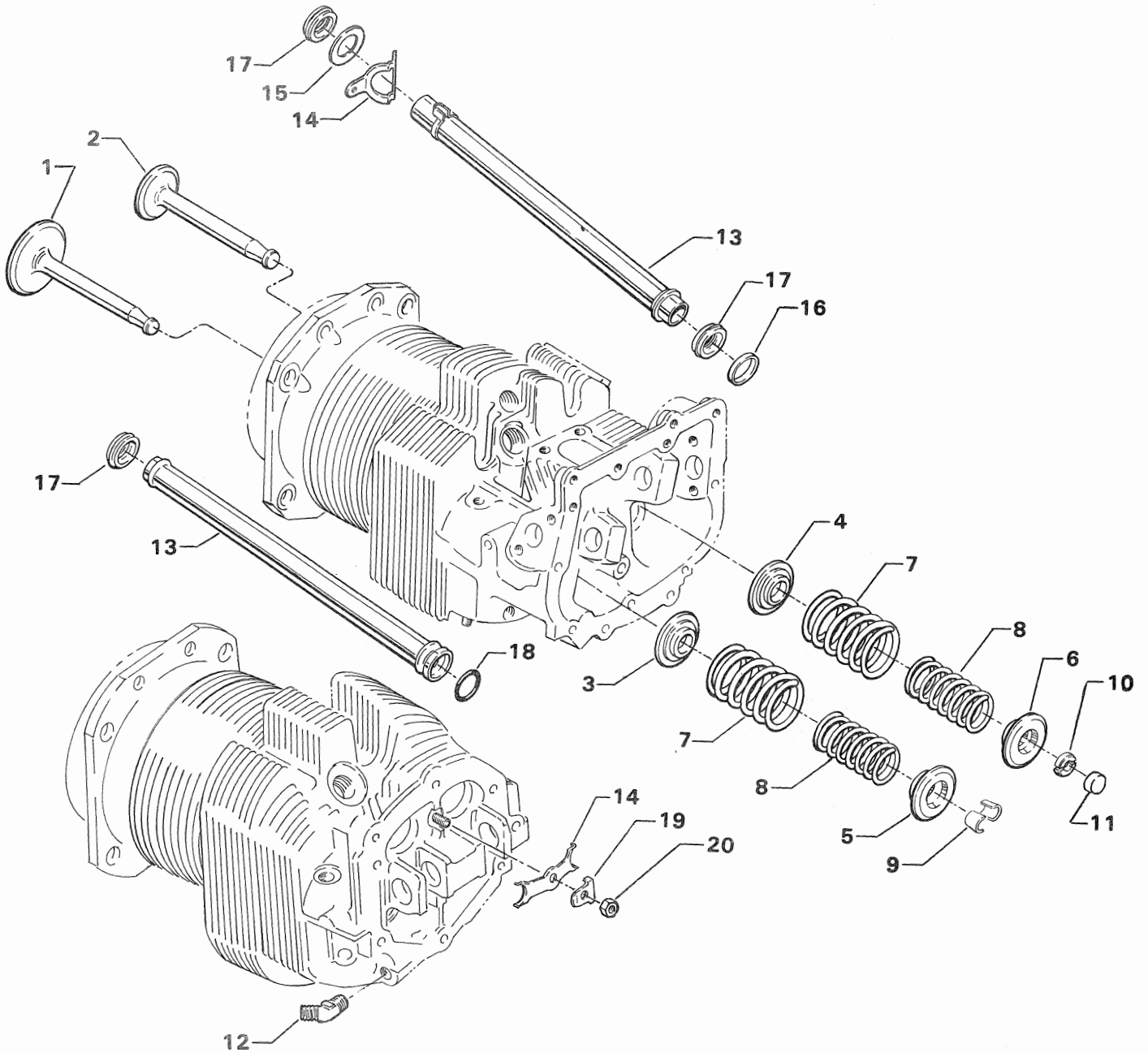
FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY														
				TIO-540						LTIO-540								
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D		
1	LW-12966	CYLINDER AND HEAD ASSEMBLY, Nitrided		6		6	6	6	6	6	6	6	6	6	6	6	6	6
	LW-12429	CYLINDER AND HEAD ASSEMBLY, Nitrided			6													
2	LW-19042	SEAT, Intake valve		6		6	6	6	6	6	6	6	6	6	6	6	6	6
	72057	SEAT, Intake valve			6													
3	16T19468	SEAT, Exhaust valve		6		6	6	6	6	6	6	6	6	6	6	6	6	6
	72058	SEAT, Exhaust valve			6													
4	66713	GUIDE, Valve intake		6		6	6	6	6	6	6	6	6	6	6	6	6	6
	61681	GUIDE, Valve intake			6													
5	75838	GUIDE, Valve exhaust		6		6	6	6	6	6	6	6	6	6	6	6	6	6
	74230	GUIDE, Valve exhaust			6													
6	69260	INSERT, Spark plug, .18-1.5 MM (long reach)	12															
7	STD-1872	INSERT, 1/8-27 Heli-coil taper pipe thread	6															
8	72706	INSERT, Heli-coil, 1/4-20 NC x 3/8 long, self-locking		24		24	24	24	24	24	24	24	24	24	24	24	24	24
9	31C-10	STUD, 5/16-18 x 1-1/4 long		18		18	18	18	18	18	18	18	18	18	18	18	18	18
10	31C-12	STUD, 5/16-18 x 1-1/2 long			12													
11	25C-9	STUD, 1/4-20 x 1-1/8 long			6													
12	66670	BUSHING, Rocker shaft		18		18	18	18	18	18	18	18	18	18	18	18	18	18
13	66610	BUSHING, Rocker shaft		6	24	6	6	6	6	6	6	6	6	6	6	6	6	6
14	MS20823-6D	ELBOW, 3/8 flared tube, 45°	6															
15	75151	STABILIZER, Cylinder head fins (11 teeth)		6		6	6	6	6	6	6	6	6	6	6	6	6	6
16	75152	STABILIZER, Cylinder head fins (8 teeth)		6		6	6	6	6	6	6	6	6	6	6	6	6	6
17	75164	STABILIZER, Cylinder head fins (13 teeth)		6		6	6	6	6	6	6	6	6	6	6	6	6	6
18	STD-1353	INSERT, Heli-coil, 10/24 x 3/8 long			6													
19	1102 *	PLUG, 1/8-27 NPT, Allen	6															

* Assemble in cylinder head.



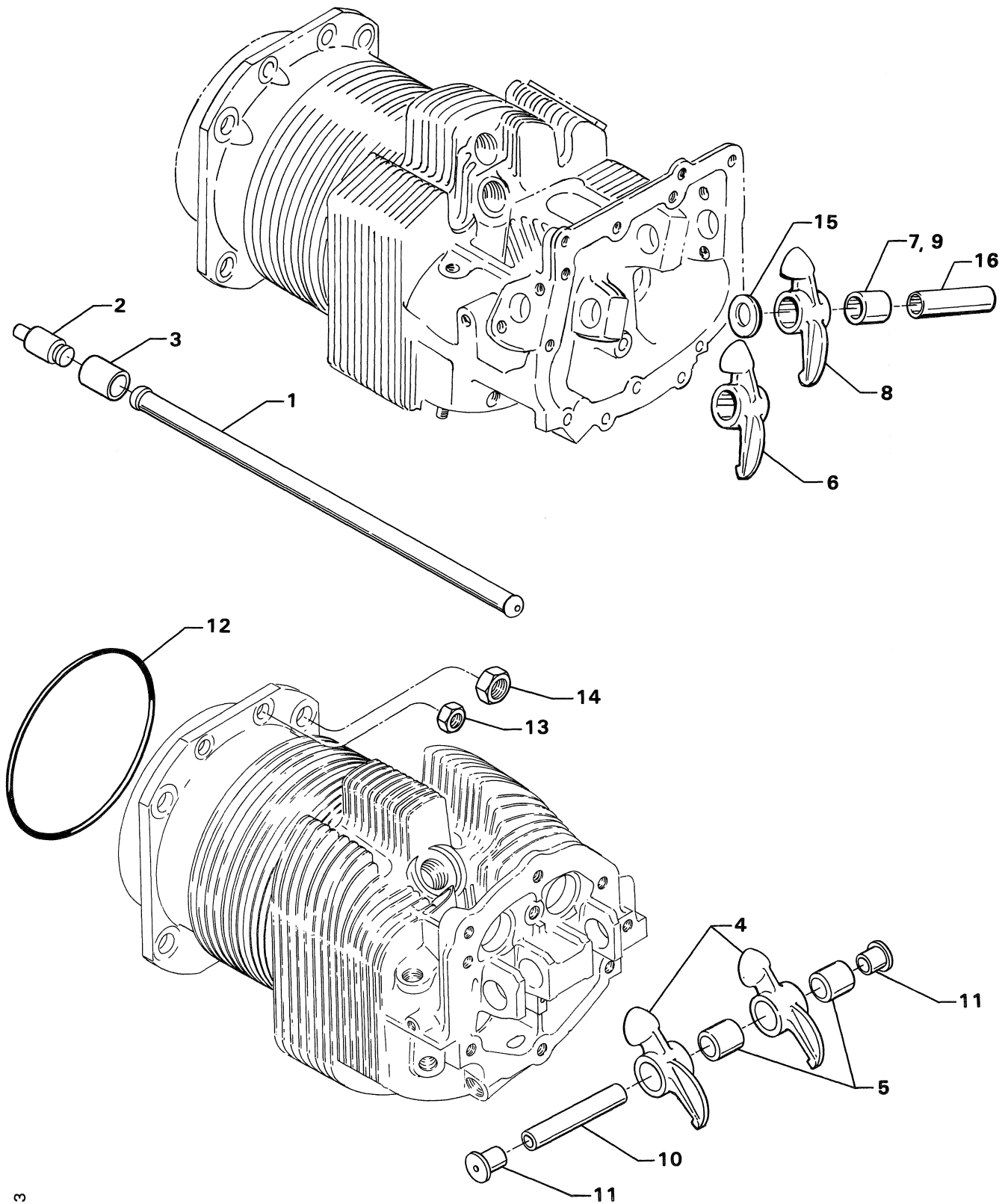
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Figure 17. CYLINDER ASSEMBLY



2481

Figure 18. VALVE ASSEMBLY

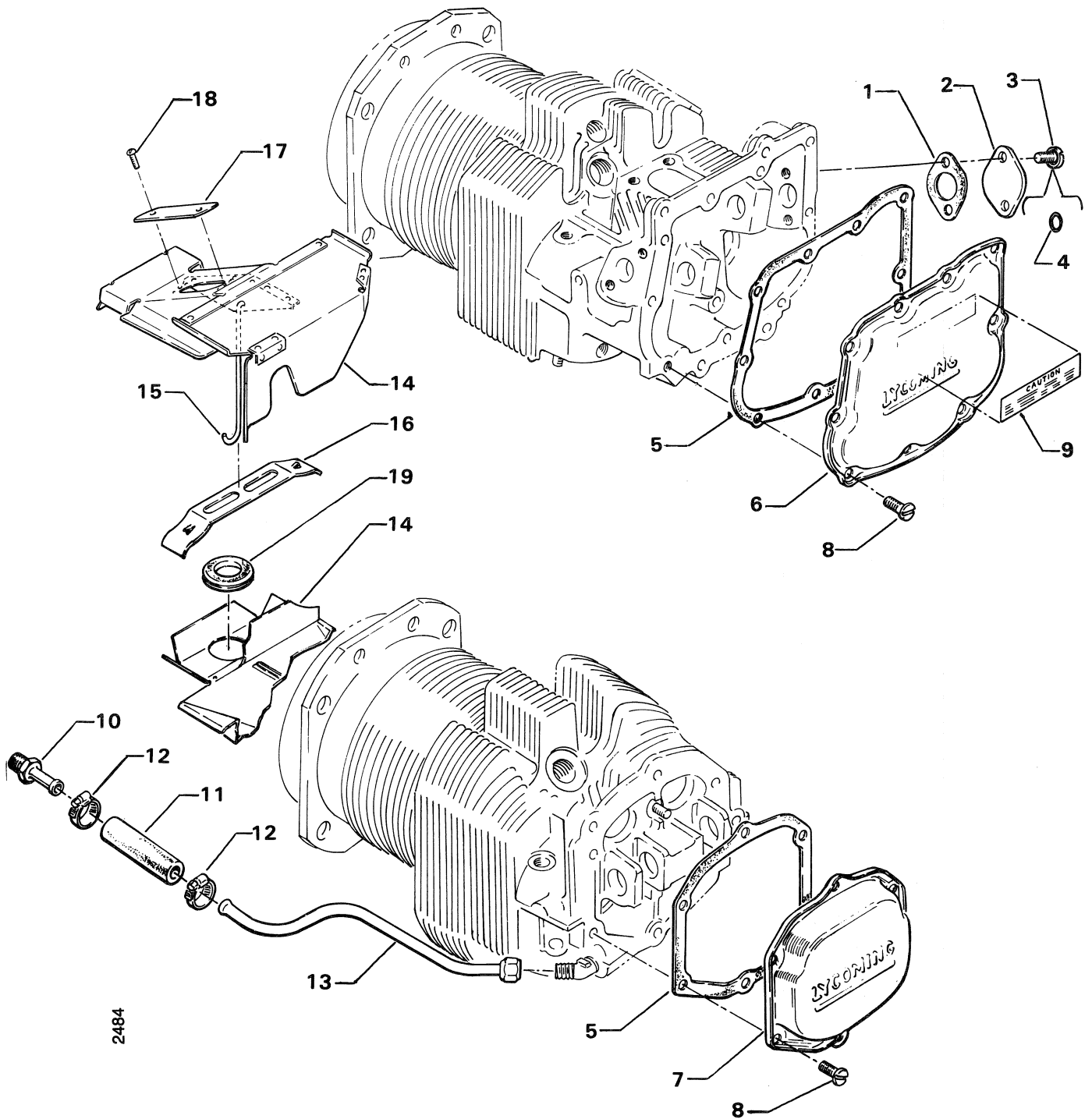


3313

Figure 19. CYLINDER RELATED PARTS

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

FIG. REF. 20	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																				
				TIO-540								LTIO-540												
				A 2 C	C 1 A	F 2 D	J 2 B	J 2 B	N 2 B	R 2 A	S 1 A	F 2 D	J 2 B	J 2 B	N 2 B	R 2 A								
1	66732	GASKET, Cover, valve rocker shaft		12		12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
2	72710	COVER, Valve rocker shaft		12		12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
3	72709	SCREW, 1/4-20 x 5/8 long (self-sealing)		24		24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
4	75233	"O" RING		24		24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
5	71450	GASKET, Rocker box cover		6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	75906	GASKET, Rocker box cover			6																			
6	72242	COVER ASSY., Rocker box		6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	61247	COVER, Rocker box			6																			
8	STD-1925	SCREW, 1/4-20 x 5/8 long, pan hd., self-locking		54	31	54	54	54	54	54	54	42	54	54	54	54	54	54	54	54	54	54	54	54
	STD-1874	SCREW, 1/4-20 x 13/16 long, fill. hd., self-locking			7																			
9	74494	PLATE, Caution, spark plug reach		6																				
10	STD-684	NIPPLE, Straight, 3/8 I.D. hose		6																				
11	STD-1821	HOSE, 3/8 I.D. x 2-1/2 long			6																			
	STD-2180	HOSE, 3/8 I.D. x 1-13/16 long		6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
12	LW-15592-5-05	CLAMP, Hose		12																				
13	68759	TUBE ASSY., Cyl. head oil drain, cyl. no. 1			1																			
	71737	TUBE ASSY., Cyl. head oil drain, cyl. no. 2			1																			
	68761	TUBE ASSY., Cyl. head oil drain, cyl. nos. 3, 4, 5, 6			4																			
	72702	TUBE ASSY., Cyl. head oil drain, cyl. no. 1		1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	72703	TUBE ASSY., Cyl. head oil drain, cyl. no. 2						1				1												
	73027	TUBE ASSY., Cyl. head oil drain, cyl. nos. 3, 4, 5, 6		4		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	LW-11935	TUBE ASSY., Cyl. head oil drain, cyl. no. 2		1		1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1
14	LW-18106	BAFFLE ASSY., Intercylinder		4		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	75339	BAFFLE ASSY., Intercylinder			3																			
	LW-13389	BAFFLE ASSY., Intercylinder			1																			
	LW-18106	BAFFLE ASSY., Intercylinder, cyl. nos. 1 & 3, 4 & 6											2											
	LW-18107	BAFFLE ASSY., Intercylinder, cyl. nos. 2 & 4, 3 & 5											2											
15	71610	HOOK, Intercylinder baffle retainer		4																				
16	71611	RETAINER, Intercylinder baffle		4																				
17	72834	COVER, Baffle ignition hole		4		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
18	STD-692	SCREW, No. 10-32 x 1/2 long, rd. hd.		8		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
19	AN931-12S17	GROMMET, 3/4 I.D. x 1-3/8 O.D. x 3/8 thick			1																			



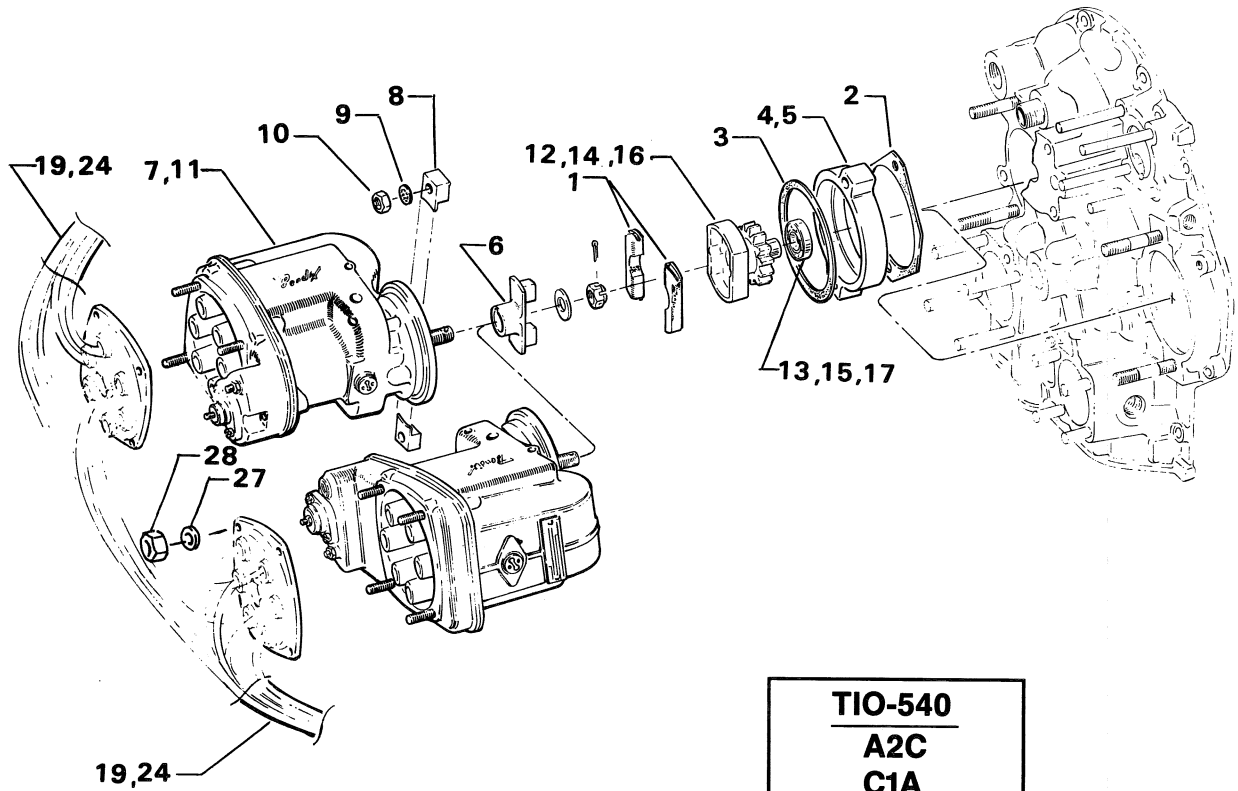
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Figure 20. CYLINDER HEAD DRAIN TUBES, INTERCYLINDER COOLING BAFFLES AND RELATED PARTS

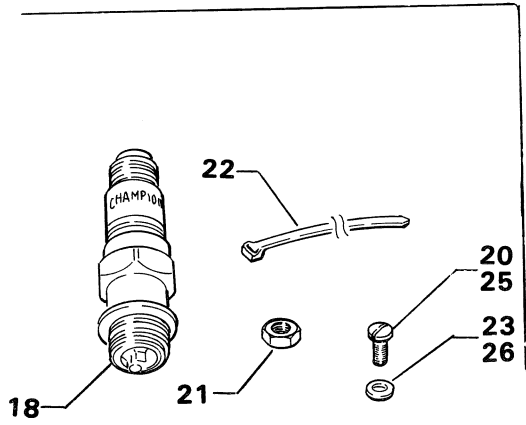
IGNITION SYSTEM SINGLE MAGNETOS, MAGNETO DRIVES AND SPARK PLUGS

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY										
				TIO-540					LTIO-540					
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D
1	LW-13641	CUSHION, Magneto drive		4	4	4						4		
2	62224	GASKET, Magneto adapter		2	2	2						2		
3	LW-12681	GASKET, Magneto		2	2	2						2		
4	LW-12707	ADAPTER, Magneto		2	2	2						2		
5	LW-13926	ADAPTER, Magneto (for turbo drain tank vent line)			1									
	LW-12707	ADAPTER, Magneto			1									
6	73000	COUPLING, Magneto drive		1	1	1						1		
	73013	COUPLING, Magneto drive (retard)			1	2						1		
	73636	COUPLING, Magneto drive (right)		1										
7	LW-349290-1	MAGNETO, S6LN-1208 (37-1/2° retard)		1	1	1								
	LW-349310-1	MAGNETO, S6LN-1209		1	1	1								
8	66M19385	CLAMP, Magneto		4	4	4						4		
9	STD-475	WASHER, 5/16 lock, internal lock		4	4	4						4		
10	STD-1410	NUT, 5/16-18 plain		4	4	4						4		
11	LW-349290-17	MAGNETO, S6RN-1208, 37°-30' retard										1		
	LW-349310-14	MAGNETO, S6RN-1209										1		
12	LW-19096	GEAR RETAINER ASSY.		1	2	2								
13	67542	BEARING, Ball		1	2	2								
14	LW-19102	GEAR RETAINER ASSY.		1										
15	67542	BEARING, Ball		1										
16	LW-18194	GEAR RETAINER ASSY.										2		
17	67542	BEARING, Ball										2		
18	1182-N4 *	SPARK PLUG, (Champion REB-37E)			12									
	1182-Q6 *	SPARK PLUG, (Champion RHB-36S) Iridium		12										
	1182-W5 *	SPARK PLUG, (Champion RHB-37E)		12		12						12		
19	LW-720465-2	HARNESS ASSY., Ignition		1		1						1		
20	STD-1925	SCREW, 1/4 x 5/8 long, plain hd., self-locking		12		12						12		
21	MS25082-6	NUT, 3/8-24, thin		2		2						2		
22	76734	ZIP STRAP		2		2						2		
23	STD-696	WASHER, 1/4 plain, thin		AR		AR						AR		
24	LW-720470-5	HARNESS ASSY., Ignition			1									
25	STD-1874	SCREW, 1/4-20 x 13/16 long, fill. hd., self-locking			6									
26	STD-696	WASHER, 1/4 plain, thin			AR									
27	10-92879-43	LOCKWASHER, Cover		8	8	8						8		
28	10-92873-302	NUT, Cover		8	8	8						8		

* Item No. 18 spark plug is used in current production only. Additional spark plugs are available for this engine. See latest edition of Service Instruction No. 1042 for complete listing of all approved spark plugs.



TIO-540
A2C
C1A
J2B
LTIO-540
J2B



3207

Figure 21. SINGLE MAGNETOS, MAGNETO DRIVES AND SPARK PLUGS

IGNITION SYSTEM

PRESSURIZED MAGNETOS (SLICK), MAGNETO DRIVES, HARNESSSES AND SPARK PLUGS
TIO-540-A2C, -J2B; LTIO-540-J2B ENGINES

FIG. REF. 21A	PART NUMBER	DESCRIPTION	QTY. PER ASSY.	
			TIO	LTIO
1	73000	COUPLING, Magneto drive	2	2
2	LW-13641	CUSHION, Magneto drive	4	4
3	LW-19096	GEAR RETAINER ASSY. (A2C)	2	
	LW-19096	GEAR RETAINER ASSY. (J2B)	1	
	LW-19102	GEAR RETAINER ASSY. (J2B)	1	
	LW-19098	GEAR RETAINER ASSY.		2
4	67542	BEARING, Ball	2	2
5	62224	GASKET, Magneto adapter	2	2
6	LW-12707	ADAPTER, Magneto	2	2
7	MS20822-4	ELBOW, 1/4 tube, 90°		2
8	LW-12681	GASKET, Magneto	2	2
9	66LP-0SCNP	MAGNETO, Right, Slick Model No. 6360	1	
	66LP-0RCNP	MAGNETO, Right, Slick Model No. 6340		1
10	66LR30SCNP	MAGNETO, Left, (Retard), Slick Model No. 6363	1	
	66LR30RCNP	MAGNETO, Left, (Retard), Slick Model No. 6394		1
11	67J20614-P	HARNESS ASSY., Right, Slick P/N M-6059	1	1
12	67J20615-P	HARNESS ASSY., Left, Slick P/N M-6058	1	1
13	66M21195	CLAMP, Magneto	4	4
14	STD-475	WASHER, 5/16 lock, internal teeth	4	4
15	STD-1410	NUT, 5/16-18 plain	4	4
16	STD-713	COTTER PIN, 3/32 dia. x 3/4 long	2	2
17	STD-2007	WASHER, 3/8 dia. seal	1	1
18	STD-33	WASHER, 3/8 plain	1	1
19	LW-13227	ADAPTER, Magneto pressurization	1	1
20	LW-13226	NUT, 3/8-16 NC, plain	1	1
21	AN826-4	TEE, 1/4 tube	1	1
22	LW-12798-4S111	HOSE, Right magneto to tee	1	1
23	LW-12798-4S204	HOSE, Left magneto to tee	1	1
24	66N21020	VALVE ASSY., Relief	1	1
25	MS29512-04	"O" RING	1	1
26	MS20822-4	ELBOW, 1/4 tube to 1/8 NPT	2	2
27	1182-L7*	SPARK PLUG, Champion (RHB36S) or Auburn (281) (J2B)	12	12
	1182-H7*	SPARK PLUG, Champion (RHB37E) or Auburn (273) (A2C)	12	
	01P19762-7-47	BAG, Magneto attaching parts	1	1

* Item No. 27 spark plugs are used in current production. See latest edition of Service Instruction No. 1042 for complete listing of all approved spark plugs.

Lycoming

P/N 01P19762-7-47

Part No.	Part Name	Qty.
LW-16266-25-25	CLIP, One wire for 1/4 screw	4
LW-14060	CLIP, Two wire for 1/4 screw	4
LW-16266-25-44	CLAMP, Three wire	9
LW-16266-10-75	CLAMP, Six wire	2
LW-16266-38-75	CLIP, Six wire for 3/8 screw	2
72815	BRACKET, Twist	1
STD-696	WASHER, 1/4 thin	12
STD-1874	SCREW, 1/4 lock	12
STD-692	SCREW, No. 10	1
STD-670	NUT, No. 10	1
MS25082-6	NUT, 3/8-24, thin	2
76734	ZIP STRAP	18
LW-M-2376	PLATE, 3 wire	2
STD-8	WASHER, 1/4 plain	24

ATTACHING HARDWARE

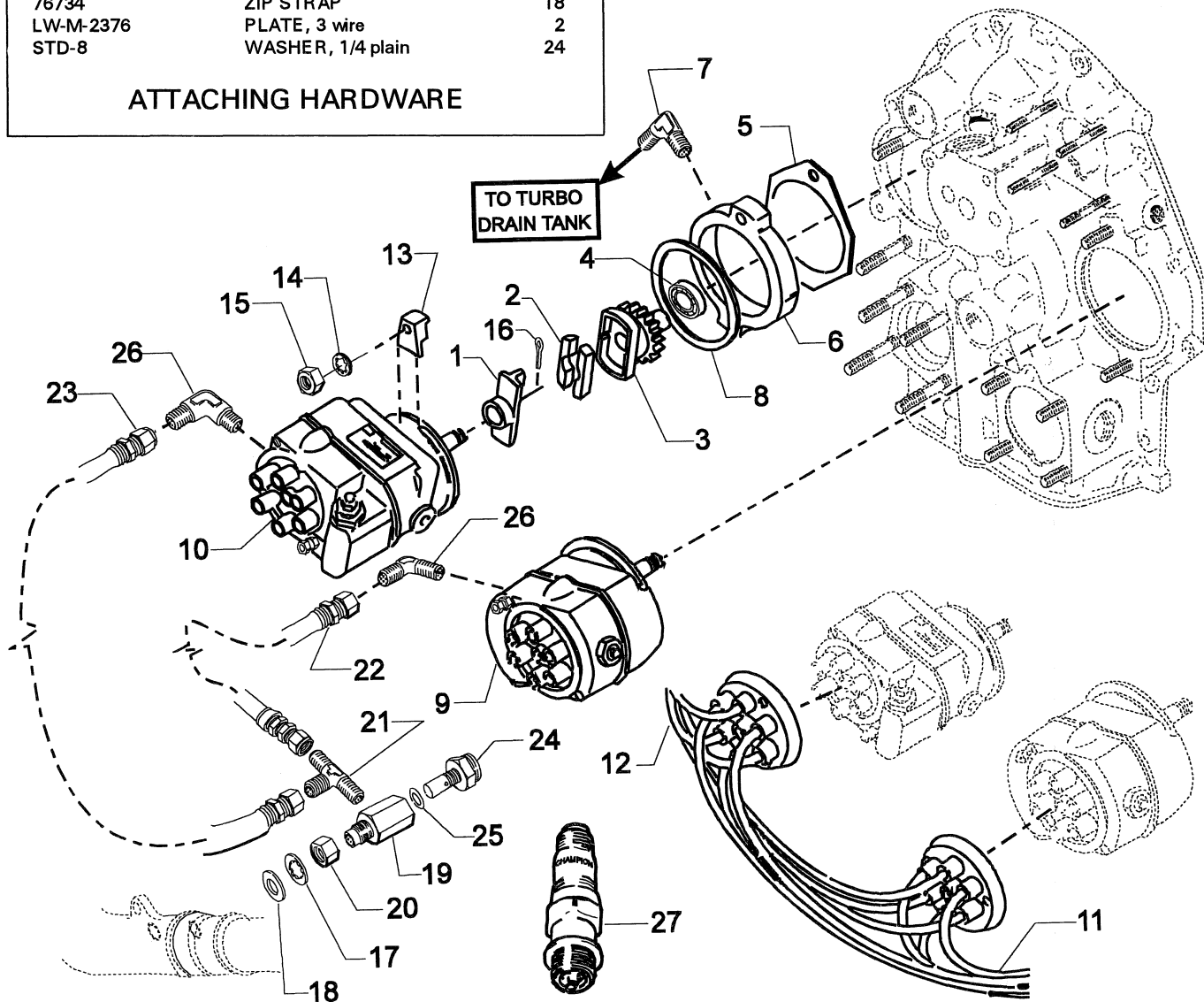


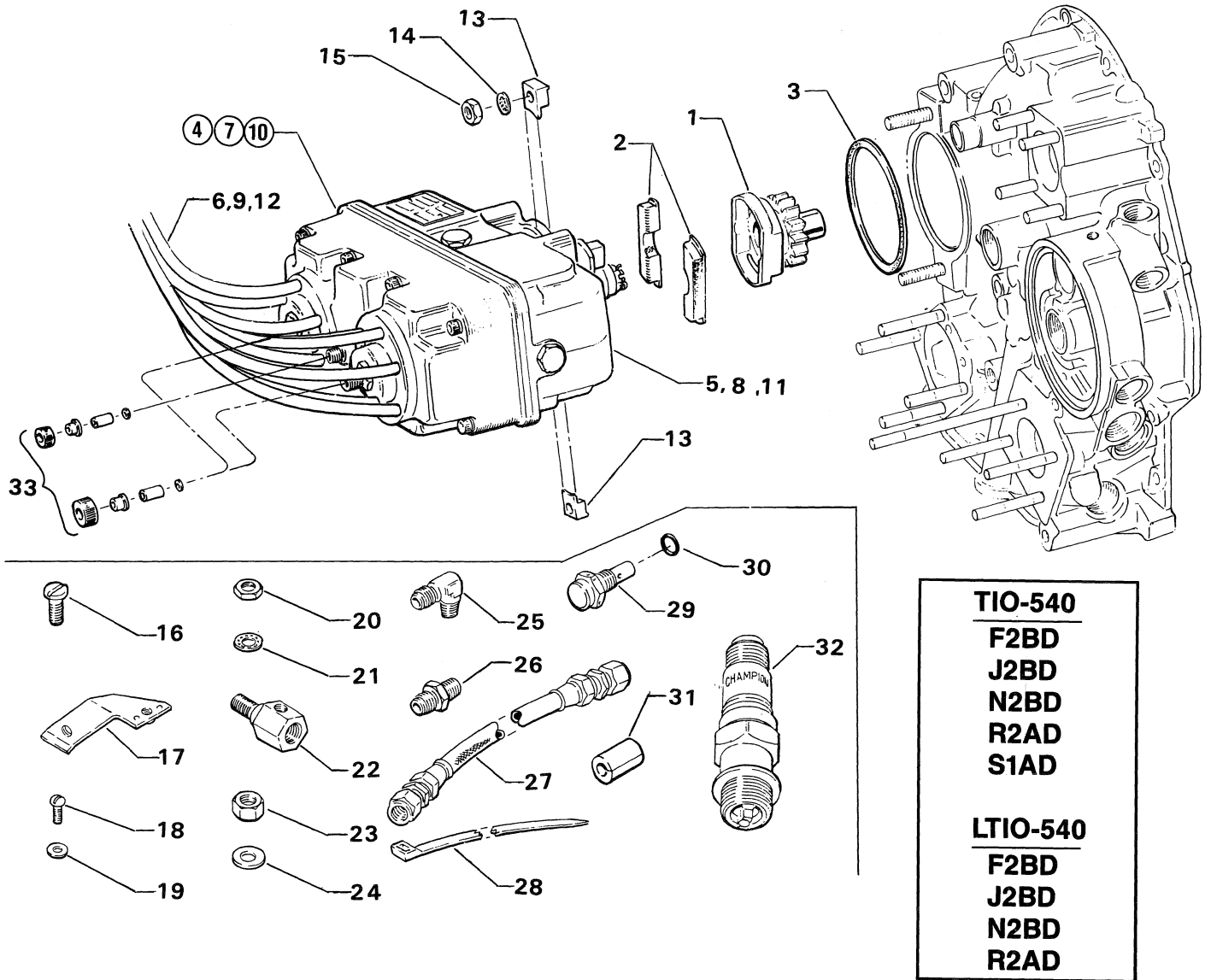
Figure 21A. PRESSURIZED MAGNETOS (SLICK), MAGNETO DRIVES, HARNESSSES AND SPARK PLUGS --- TIO-540-A2C, -J2B; LTIO-540-J2B ENGINES

IGNITION SYSTEM DUAL MAGNETOS, MAGNETO DRIVES AND SPARK PLUGS

FIG. REF. 22	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																	
				TIO-540					LTIO-540												
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D					
1	LW-13899	GEAR, Retainer, magneto drive				1		1	1	1	1	1	1				1		1	1	1
2	LW-13641	CUSHION, Magneto drive				2		2	2	2	2	2	2				2		2	2	2
3	LW-12681	GASKET, Magneto				1		1	1	1	1	1	1				1		1	1	1
4	LW-685046-109	MAGNETO, Ignition system (D6LN-3200)				1		1	1	1											
5	LW-682910-13	MAGNETO				1		1	1	1											
6	LW-684604-126	HARNESS, Ignition				1		1	1	1											
7	LW-685046-110	MAGNETO, Ignition system (D6RN-3200)															1		1	1	1
8	LW-682910-18	MAGNETO															1		1	1	1
9	LW-684604-126	HARNESS, Ignition															1		1	1	1
10	LW-685126-111	MAGNETO, Ignition system (D6LN-3000)															1				
11	LW-682560-13	MAGNETO															1				
12	LW-684607-102	HARNESS, Ignition															1				
13	66M19385	CLAMP, Magneto				2		2	2	2	2	2	2				2		2	2	2
14	STD-475	WASHER, 5/16 internal lock				2		2	2	2	2	2	2				2		2	2	2
15	STD-1410	NUT, 5/16-18 plain				2		2	2	2	2	2	2				2		2	2	2
16	STD-1925	SCREW, 1/4-20 x 5/8 long, pan hd., self-locking				8		8	8	8							8		8	8	8
	STD-2081	SCREW, 1/4-20 x 7/8 long, pan hd., self-locking															10				
17	76505	BRACKET, Support, ignition harness				1		1	1	1							1		1	1	1
18	STD-692	SCREW, No. 10-32 x 1/2 long, rd. hd.				1		1	1	1							1		1	1	1
19	STD-28	WASHER, No. 10 plain				1		1	1	1							1		1	1	1
20	MS25082-6	NUT, 3/8-24 UNF-2B (thin)				2		2	2	2							2		2	2	2
21	STD-2007	WASHER, 3/8 dia. seal				1		1	1	1							1		1	1	1
22	LW-13227	ADAPTER, Magneto pressurization				1		1	1	1							1		1	1	1
23	LW-13226	NUT, 3/8-16 plain				1		1	1	1							1		1	1	1
24	STD-33	WASHER, 3/8 plain				1		1	1	1							1		1	1	1
25	MS20822-4	ELBOW, 1/4 flared tube, 1/8 NPT, 90°				1		1	1	1							1		1	1	1
26	AN816-4	NIPPLE, 1/4 flared tube, 1/8 NPT				1		1	1	1							1		1	1	1
27	LW-12784-4-160	HOSE, Magneto to magneto pressure adapter				1		1	1	1							1		1	1	1
28	76734	ZIP STRAP				1		1	1	1							1		1	1	1
29	LW-13134	VALVE ASSY., Relief				1		1	1	1							1		1	1	1
30	MS29512-04	SEAL, Oil, 5/64 dia. sect. x 23/64 I.D.				1		1	1	1							1		1	1	1
31	02M19799	HOSE, Split				1		1	1	1							1		1	1	1
32	1182-Q6 *	SPARK PLUG, (Champion RHB-36S) Iridium				12		12	12	12							12		12	12	12
	1182-W5 *	SPARK PLUG, (Champion RHB-37E)				12		12		12	12						12		12	12	
33	LW-382698	KIT, Magneto ground terminal				2		2	2	2							2		2	2	2
	LW-382813	KIT, Magneto retard terminal				1		1	1	1							1		1	1	1

* Item No. 32 spark plugs are used in current production only. Additional spark plugs are available for these engines. See latest edition of Service Instruction No. 1042 for complete listing of all approved spark plugs.

NOTE ... Slick does not supply pressurized dual magnetos, however, Lycoming has available conversion kits, P/N LW-13631 and LW-13632 to convert engine models TIO-540-J2BD and LTIO-540-J2BD, respectively. Refer to the latest edition of Lycoming Service Instruction No. 1291.



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Figure 22. DUAL MAGNETOS, MAGNETO DRIVES AND SPARK PLUGS

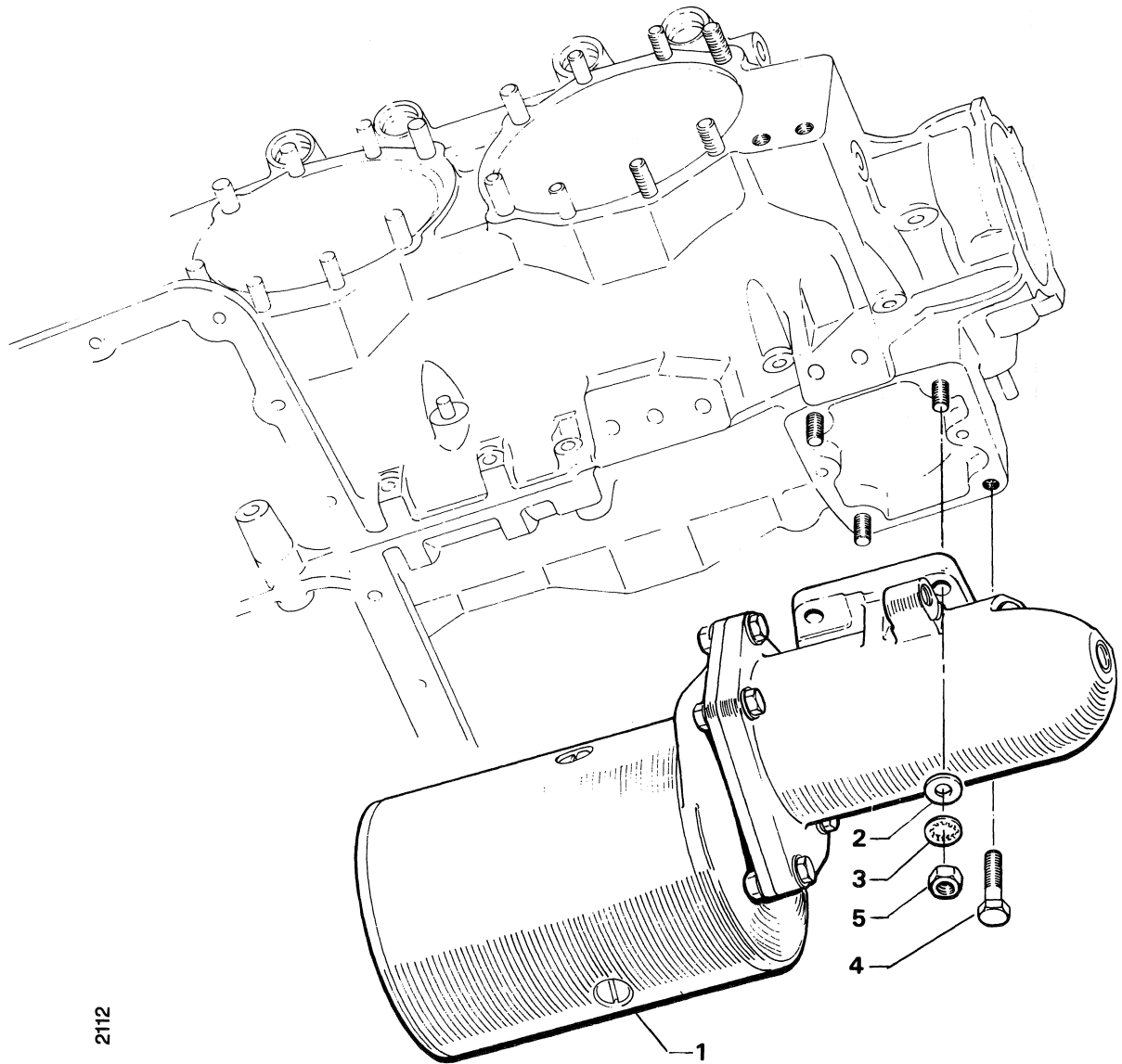


Figure 24. PRESTOLITE STARTER MOTOR AND ATTACHING PARTS

ELECTRICAL COMPONENTS LYCOMING LIGHT WEIGHT STARTER KIT

FIG. REF. 24A	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																
				TIO-540					LTIO-540											
				A 2 C	C 1 A	F 2 D	J 2 B	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 D	J 2 B	J 2 B D	N 2 B D	R 2 A D				
1	05K21302-2 *	KIT, Light Weight Starter, 12/14 pitch, 24 volt	1																	
	05K21302-1 *	KIT, Light Weight Starter, 12/14 pitch, 12 volt	1																	
2	LW-16152	SPACER, Starter/crankcase	1																	
3	05K21194 **	KIT Shim, light weight starter	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. head	1																	
7	STD-1410	NUT, 5/16-18 plain	3																	

- * Refer to latest edition of Starter Maintenance Manual SSP-490 for complete parts breakdown.
- ** Refer to latest edition of Service Instruction No. 1447 for shim application.

NOTE

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

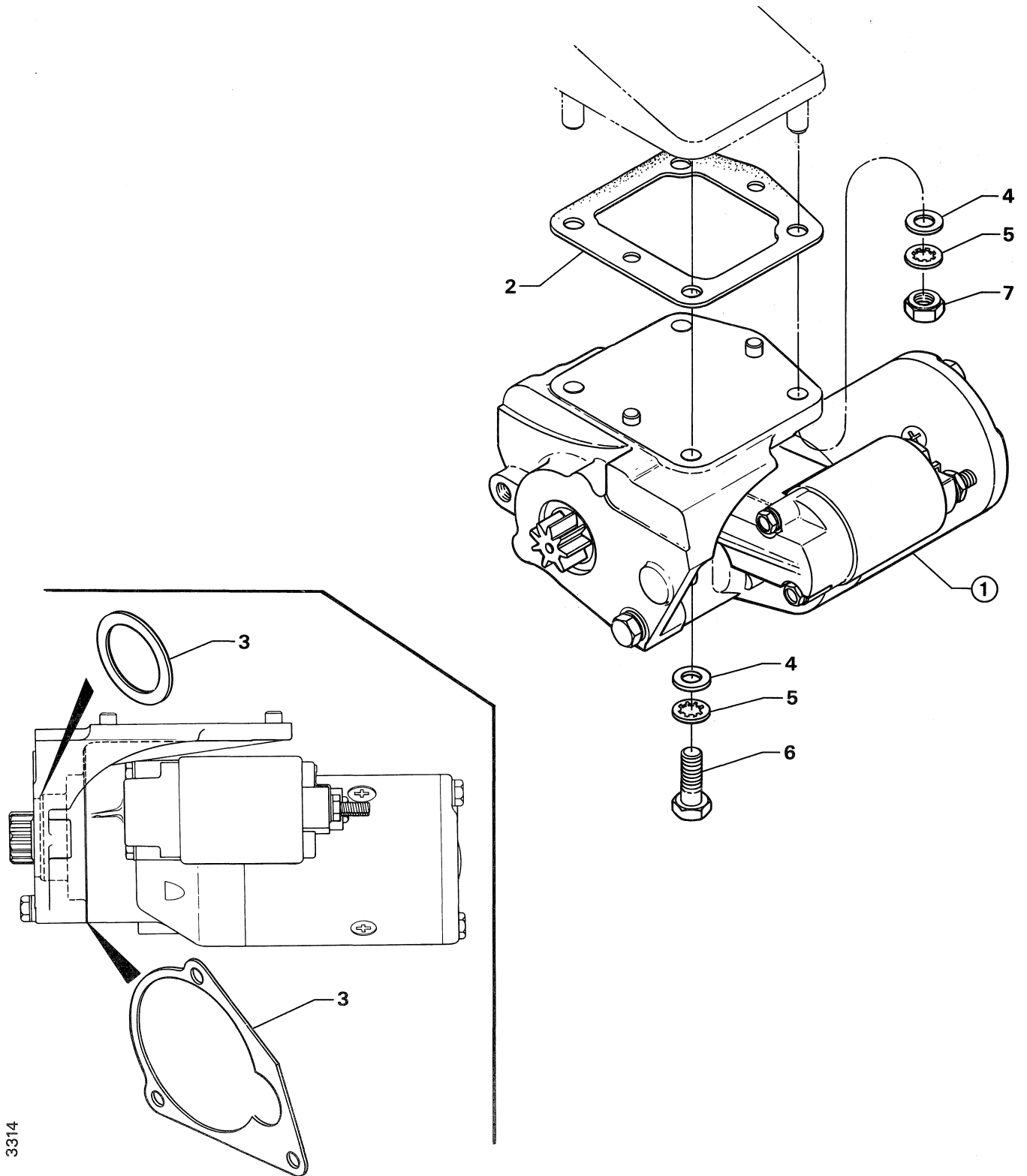


Figure 24A.

LYCOMING LIGHT WEIGHT STARTER KIT

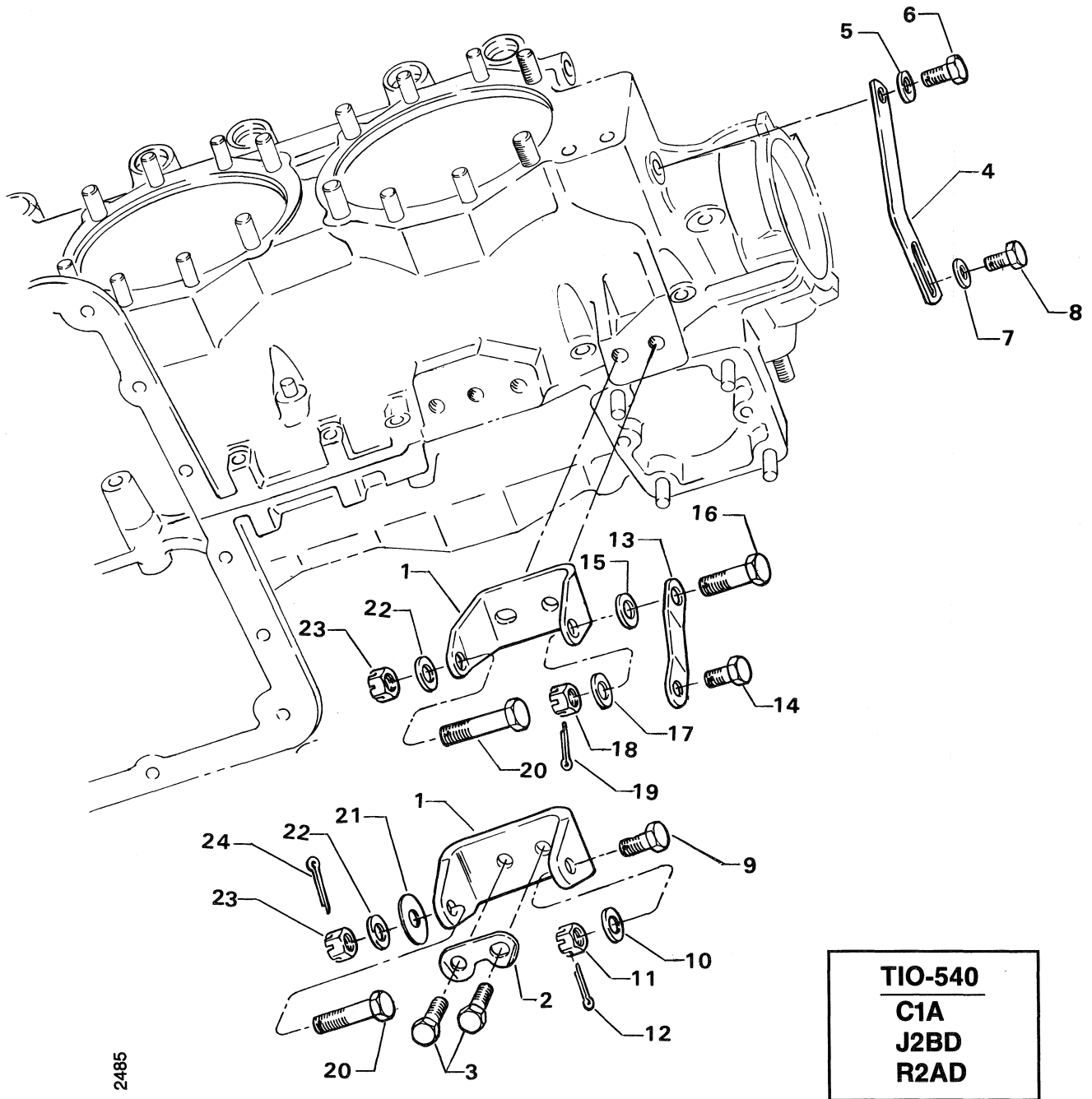
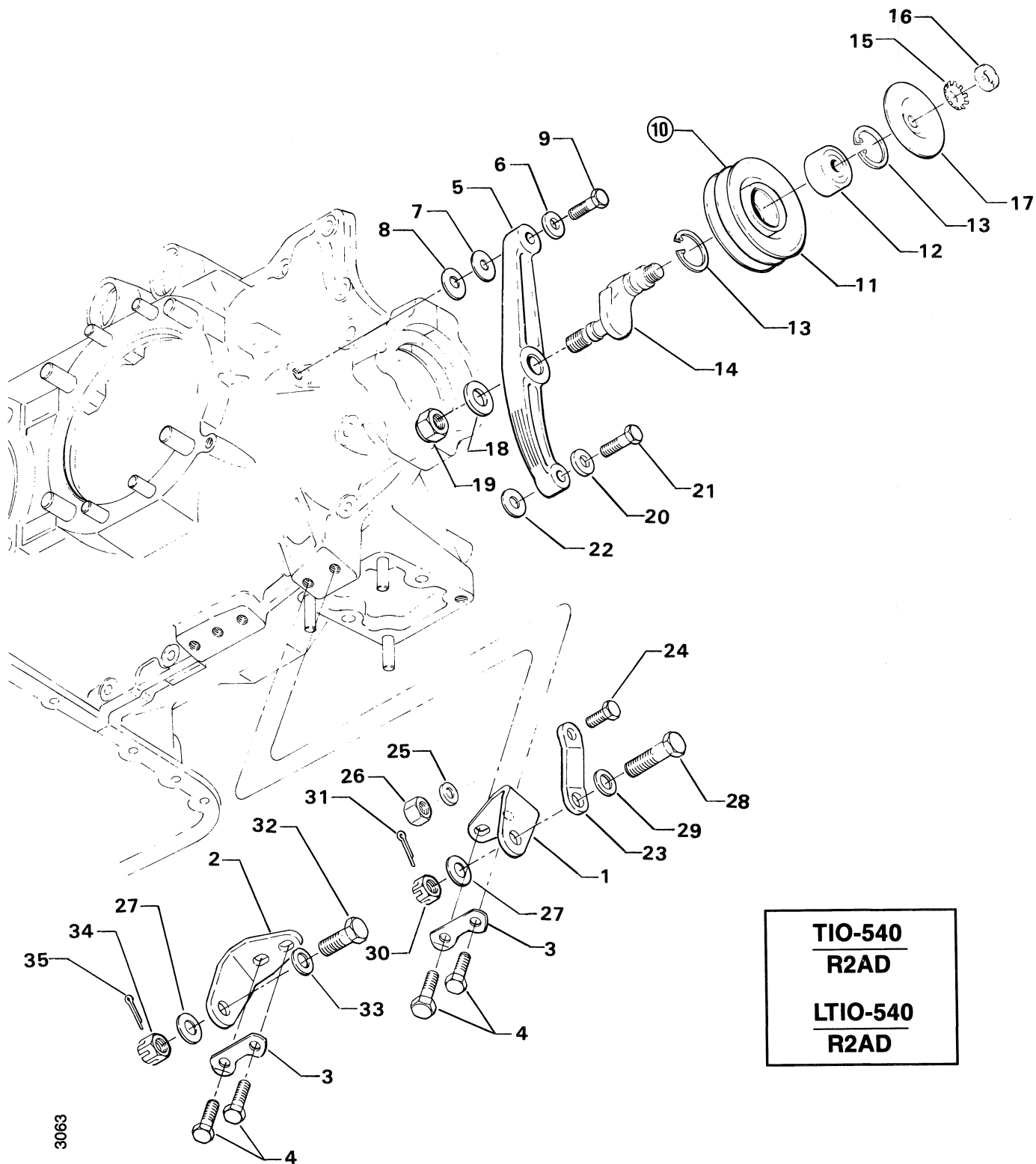


Figure 25. ALTERNATOR MOUNTING AND ATTACHING PARTS

ELECTRICAL COMPONENTS ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																		
				TIO-540						LTIO-540												
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D								
1	LW-14141	BRACKET, Alternator, front										1										1
2	LW-14142	BRACKET, Alternator, rear										1										1
3	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing										2										2
4	LW-31-0.94	BOLT, 5/16-18 x 15/16 long, hex. hd.										4										4
5	LW-11147	BRACKET, Alternator belt adjusting										1										1
6	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick										1										1
7	LW-14637 *	SHIM, 13/16 O.D. x 11/32 I.D. x .005 thick										AR										AR
8	LW-14649 *	SHIM, 13/16 O.D. x 11/32 I.D. x .010 thick										AR										AR
9	LW-31H1.22	BOLT, 5/16-18 x 1-7/32 long, hex. hd. drilled										1										1
10	LW-19265	PULLEY & SHAFT ASSY., Alternator dual belt, adjusting										1										1
11	76420	PULLEY, Alternator idler, dual										1										1
12	78629	BALL BEARING, Double row, alternator idler pulley										1										1
13	MS16625-1125	RING, Internal retaining, 1-1/4 dia.										2										2
14	LW-19238	SHAFT, Alternator dual belt idler										1										1
15	76768	LOCKWASHER, Alternator idler pulley bearing										1										1
16	76769	LOCKNUT, Alternator idler pulley bearing										1										1
17	LW-11635	SHIELD, Idler shaft										1										1
18	STD-669	WASHER, 33/64 I.D. x 1.00 O.D. x 1/8 thick										1										1
19	STD-2221	NUT, 1/2-20 self-locking										1										1
20	STD-1727	WASHER, Plain 3/4 O.D. x 11/32 I.D. x 1/8 thick										1										1
21	LW-31H1.22	BOLT, 5/16-18 x 1-1/2 long, hex. hd.										1										1
22	LW-14637 *	SHIM, 13/16 O.D. x 11/32 I.D. x .005 thick										AR										AR
23	LW-10970	STRUT, Alternator support										1										1
24	LW-31-1.50	BOLT, 5/16-18 x 1-1/2 long, hex. hd.										1										1
25	STD-35	WASHER, 5/16 plain										1										1
26	STD-1815	NUT, 5/16-18 self-locking										1										1
27	LW-14650 *	SHIM, 7/8 O.D. x 15/32 I.D. x .005 thick										AR										AR
28	AN7-14	BOLT, 7/16-20 UNF-3A x 1-19/32 long, drilled end										1										1
29	STD-632	WASHER, 7/16 plain										AR										AR
30	AN310-7	NUT, 7/16-20 plain, slotted										1										1
31	STD-761	PIN, Cotter, 3/32 dia. x 1.00 long										1										1
32	AN7-12	BOLT, 7/16-20 UNF-3A x 1-11/32 long, drilled end										1										1
33	STD-632	WASHER, 7/16 plain										AR										AR
34	AN310-7	NUT, 7/16-20 plain, slotted										1										1
35	STD-761	PIN, Cotter, 3/32 dia. x 1.00 long										1										1

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



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Figure 26. ALTERNATOR MOUNTING AND ATTACHING PARTS

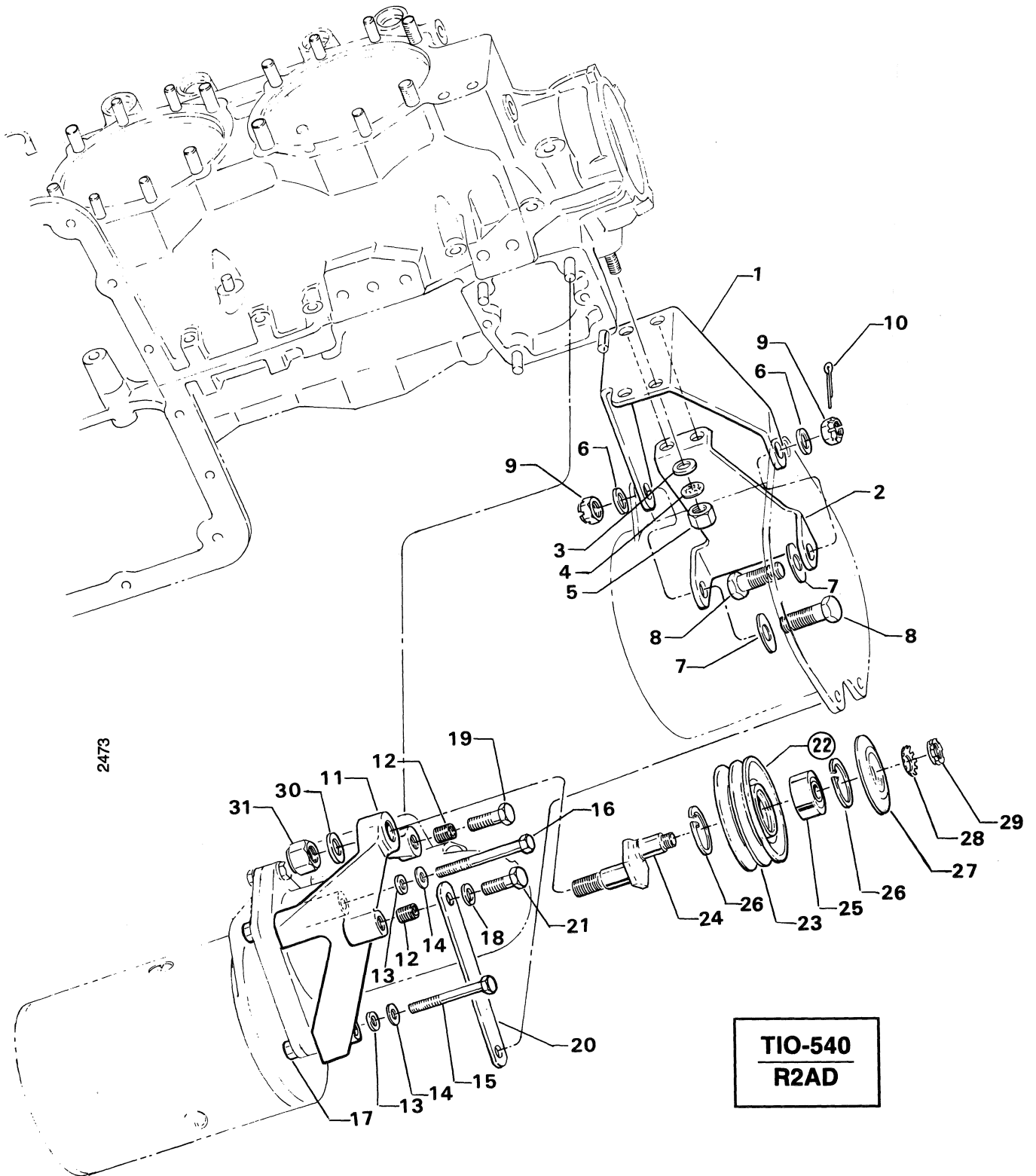
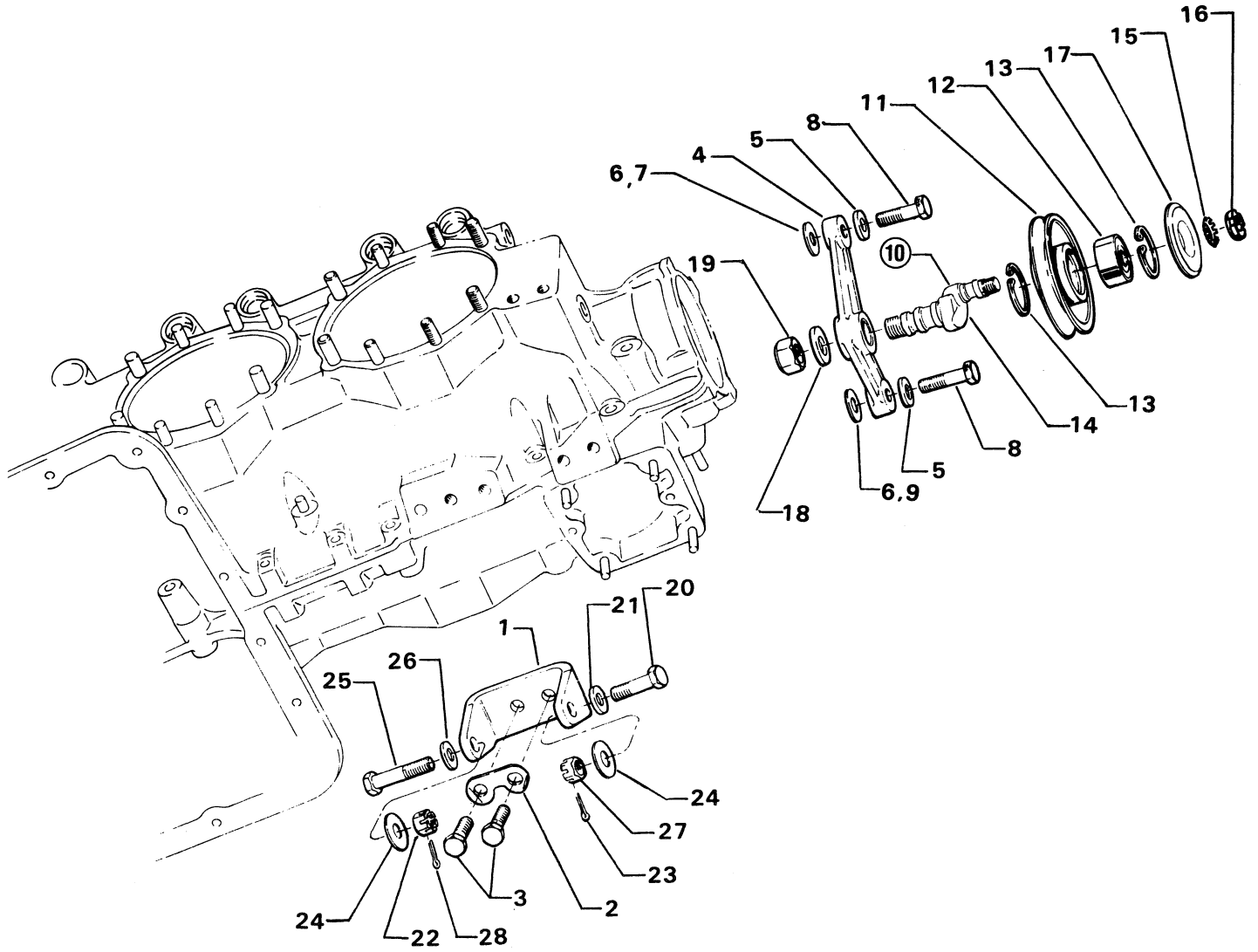


Figure 27. ALTERNATOR MOUNTING AND ATTACHING PARTS

ELECTRICAL COMPONENTS
ALTERNATOR MOUNTING AND ATTACHING PARTS

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				TIO-540						LTIO-540							
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	
1	77756	BRACKET, Alternator		1		1	1	1	1	1					1	1	1
2	73383	LOCKPLATE, 5/16 bolt x 1.00 spacing		1		1	1	1	1	1					1	1	1
3	STD-1838	BOLT, 5/16-18 x 15/16 long, hex. hd.		2		2	2	2	2	2					2	2	2
4	LW-18759	BRACKET, Alternator belt adjusting		1		1	1	1	1	1					1	1	1
5	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick		2		2	2	2	2	2					2	2	2
6	LW-14637*	SHIM, 13/16 O.D. x 11/32 I.D. x .005 thick		AR		AR	AR	AR	AR	AR					AR	AR	AR
7	LW-14649*	SHIM, 13/16 O.D. x 11/32 I.D. x .010 thick		AR		AR	AR	AR	AR	AR					AR	AR	AR
8	LW-31H1.31	BOLT, 5/16-18 x 1-5/16 long, hex. head drilled		2		2	2	2	2	2					2	2	2
9	LW-10952*	SHIM, 13/16 O.D. x 13/32 I.D. x .005 thick		AR		AR	AR	AR	AR	AR					AR	AR	AR
10	LW-19262	PULLEY & SHAFT ASSY., Alternator belt adjusting		1		1	1	1	1	1					1	1	1
11	78614	PULLEY, Alternator belt adjusting		1		1	1	1	1	1					1	1	1
12	78629	BEARING, Ball, alternator idler pulley		1		1	1	1	1	1					1	1	1
13	MS16625-1125	RING, Internal retaining, 1-1/4 diameter		2		2	2	2	2	2					2	2	2
14	LW-19237	SHAFT, Idler, alternator belt adjusting		1		1	1	1	1	1					1	1	1
15	76768	WASHER, Lock, alternator idler pulley bearing		1		1	1	1	1	1					1	1	1
16	76769	LOCKNUT, Alternator idler pulley bearing		1		1	1	1	1	1					1	1	1
17	LW-11635	SHIELD, Idler shaft		1		1	1	1	1	1					1	1	1
18	STD-669	WASHER, 33/64 I.D. x 1.00 O.D. x 1/8 thick		1		1	1	1	1	1					1	1	1
19	STD-2221	NUT, 1/2-20 self-locking		1		1	1	1	1	1					1	1	1
20	AN6-12	BOLT, 3/8-24 x 1-21/64 long, hex. head, drilled end		1		1	1	1	1	1					1	1	1
21	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
22	STD-872	NUT, 3/8-24 slotted		1		1	1	1	1	1					1	1	1
23	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long		1		1	1	1	1	1					1	1	1
24	76534	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick		AR		AR	AR	AR	AR	AR					AR	AR	AR
25	AN6-16	BOLT, 3/8-24 x 1-53/64 long, hex. hd., drilled end		1		1	1	1	1	1					1	1	1
26	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
27	STD-872	NUT, 3/8-24 slotted		1		1	1	1	1	1					1	1	1
28	STD-713	PIN, Cotter, 3/32 dia. x 3/4 long		1		1	1	1	1	1					1	1	1

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



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Figure 28. ALTERNATOR MOUNTING AND ATTACHING PARTS

ELECTRICAL COMPONENTS ALTERNATOR AND COMPRESSOR MOUNTING BRACKETS

FIG. REF.	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY												
			TIO-540					LTIO-540							
			A 2 C	C 1 A	F 2 D	J 2 B	N 2 D	R 2 A D	S 1 A D	F 2 D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	
1	LW-13434	BRACKET, Alternator	1		1		1		1		1	1	1		
2	LW-13435	SUPPORT, Alternator bracket	1		1		1		1		1	1	1		
3	STD-690	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	4		4		4		4		4	4	4		
4	STD-678	WASHER, 3/8 lock, internal teeth	4		4		4		4		4	4	4		
5	STD-596	NUT, 3/8-24 plain	4		4		4		4		4	4	4		
6	LW-12237	BRACKET ASSY., Alternator belt adjusting	1		1		1		1		1	1	1		
7	STD-1373	INSERT, 5/16-18 x 15/32 long, Heli-coil	1		1		1		1		1	1	1		
8	STD-1727	WASHER, Plain, 3/4 O.D. x 11/32 I.D. x 1/8 thick	2		2		2		2		2	2	2		
9	LW-14637*	SHIM, 13/16 O.D. x 11/32 I.D. x .005 thick	3		3		3		3		3	3	3		
10	LW-14649*	SHIM, 13/16 O.D. x 11/32 I.D. x .010 thick	3		3		3		3		3	3	3		
11	LW-31H1.31	BOLT, 5/16-18 x 5/16 long, drilled head	2		2		2		2		2	2	2		
12	LW-19261	PULLEY & SHAFT ASSY., Alternator belt adj.	1		1		1		1		1	1	1		
13	LW-12233	PULLEY, Alternator belt adj. (11MM)	1		1		1		1		1	1	1		
14	78629	BALL BEARING, Alternator idler pulley	1		1		1		1		1	1	1		
15	MS16625-1125	RING, Internal retaining, 1-1/4 diameter	2		2		2		2		2	2	2		
16	LW-19237	IDLER SHAFT, Alternator adjusting	1		1		1		1		1	1	1		
17	LW-11635	SHIELD, Alternator idler pulley bearing	1		1		1		1		1	1	1		
18	76768	LOCKWASHER, Alternator idler pulley bearing	1		1		1		1		1	1	1		
19	76769	LOCKNUT, Alternator idler pulley bearing	1		1		1		1		1	1	1		
20	STD-2221	NUT, 1/2-20 self-locking, 39/64 thick	1		1		1		1		1	1	1		
21	LW-10952*	SHIM, 13/16 O.D. x 13/32 I.D. x .005 thick	3		3		3		3		3	3	3		
22	76534*	SHIM, 1-1/8 O.D. x 13/32 I.D. x .005 thick	3		3		3		3		3	3	3		
23	AN6-12	BOLT, 3/8-24 x 1-21/64 long, drilled end	1		1		1		1		1				
	AN6-13	BOLT, 3/8-24 x 1-7/16 long, drilled end										1	1		
24	AN6-17	BOLT, 3/8-24 x 1-61/64 long, drilled end	1		1		1		1		1	1	1		
25	STD-690*	WASHER, 13/16 O.D. x 25/64 I.D. x 1/16 thick	1		1		1		1		1	1	1		
26	STD-872	NUT, 3/8-24 slotted	2		2		2		2		2	2	2		
27	STD-713	PIN, Cotter, 3/32 x 3/4 long	2		2		2		2		2	2	2		
28	LW-12232	SHIM, 9/16 O.D. x 9/32 I.D. x .005 thick	3		3		3		3		3	3	3		
29	LW-12231	BRACE, Alternator belt adjusting bracket	1		1		1		1		1	1	1		
30	STD-8	WASHER, 1/4 plain	1		1		1		1		1	1	1		
31	LW-25-1.75	BOLT, 1/4-20 x 1-3/4 long, hex. head	1		1		1		1		1	1	1		
32	LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. head										1	1		
33	STD-1685	NUT, 1/4-20 self-locking	1		1		1		1		1	1	1		
34	LW-10952	SHIM, 13/16 O.D. x 13/32 I.D. x .005 thick	3		3		3		3		3	3	3		
35	LW-15429	SHIM, 13/16 O.D. x 13/32 I.D. x .015 thick	3		3		3		3		3	3	3		
36	LW-11459	BRACKET, Compressor	1		1		1		1		1	1	1		
37	STD-33	WASHER, 3/8 plain	2		2		2		2		2	2	2		
38	STD-678	WASHER, 3/8 lock, internal teeth	2		2		2		2		2	2	2		
39	AN6-30A	BOLT, 3/8-24 x 3-13/64 long, hex. head	2		2		2		2		2	2	2		
40	STD-35	WASHER, 5/16 plain	4		4		4		4		4	4	4		
41	STD-475	WASHER, 5/16 lock, internal teeth	4		4		4		4		4	4	4		
42	LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head	4		4		4		4		4	4	4		
43	STD-1342	WASHER, 25/64 I.D. x 7/8 O.D. x 1/8 thick	8		8		8		8		8	8	8		
44	STD-2045	NUT, 3/8-24 self-locking	4		4		4		4		4	4	4		
45	37B19774-412	BELT, Compressor drive (1/2 wide)	1		1		1		1		1	1	1		

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

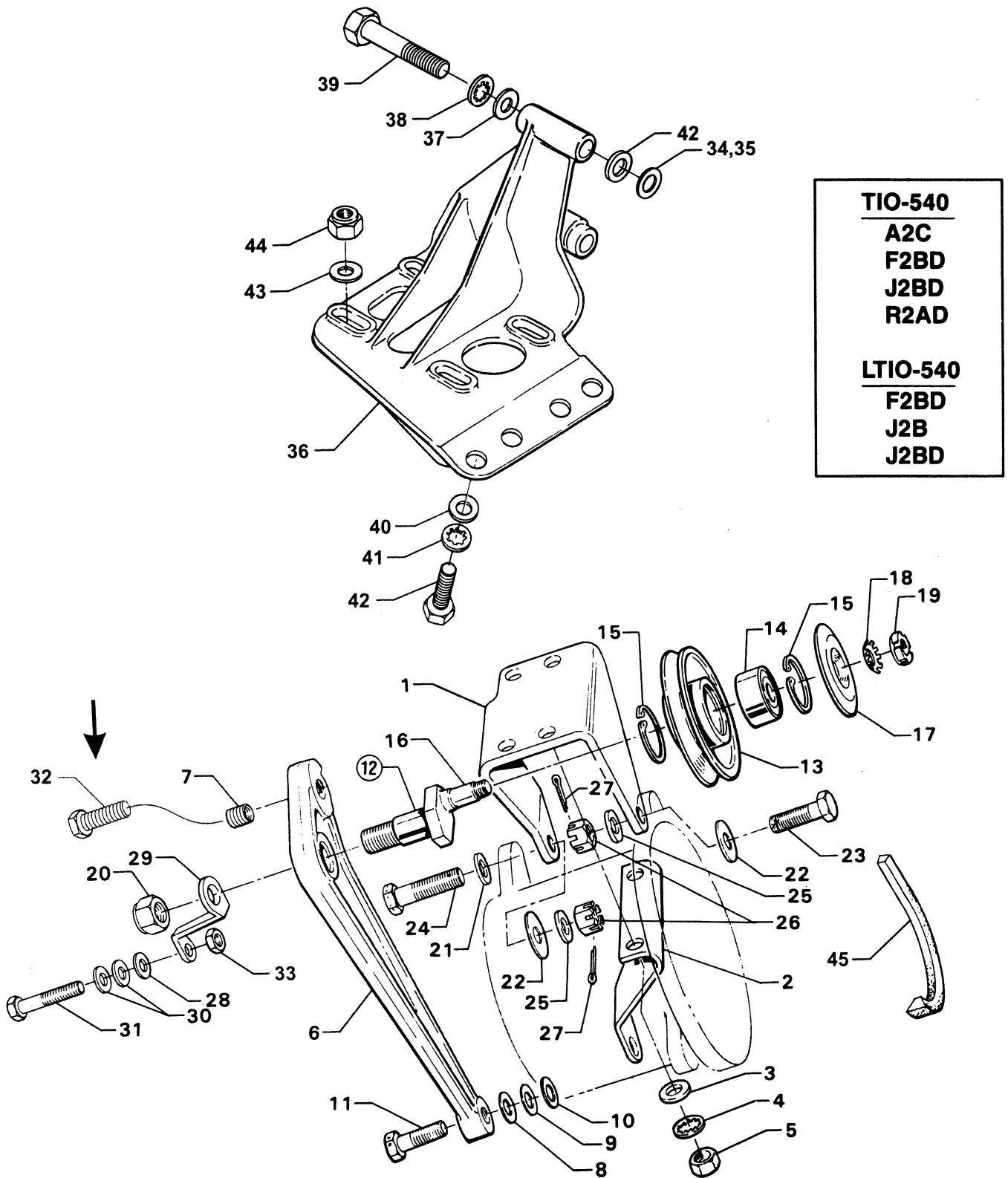
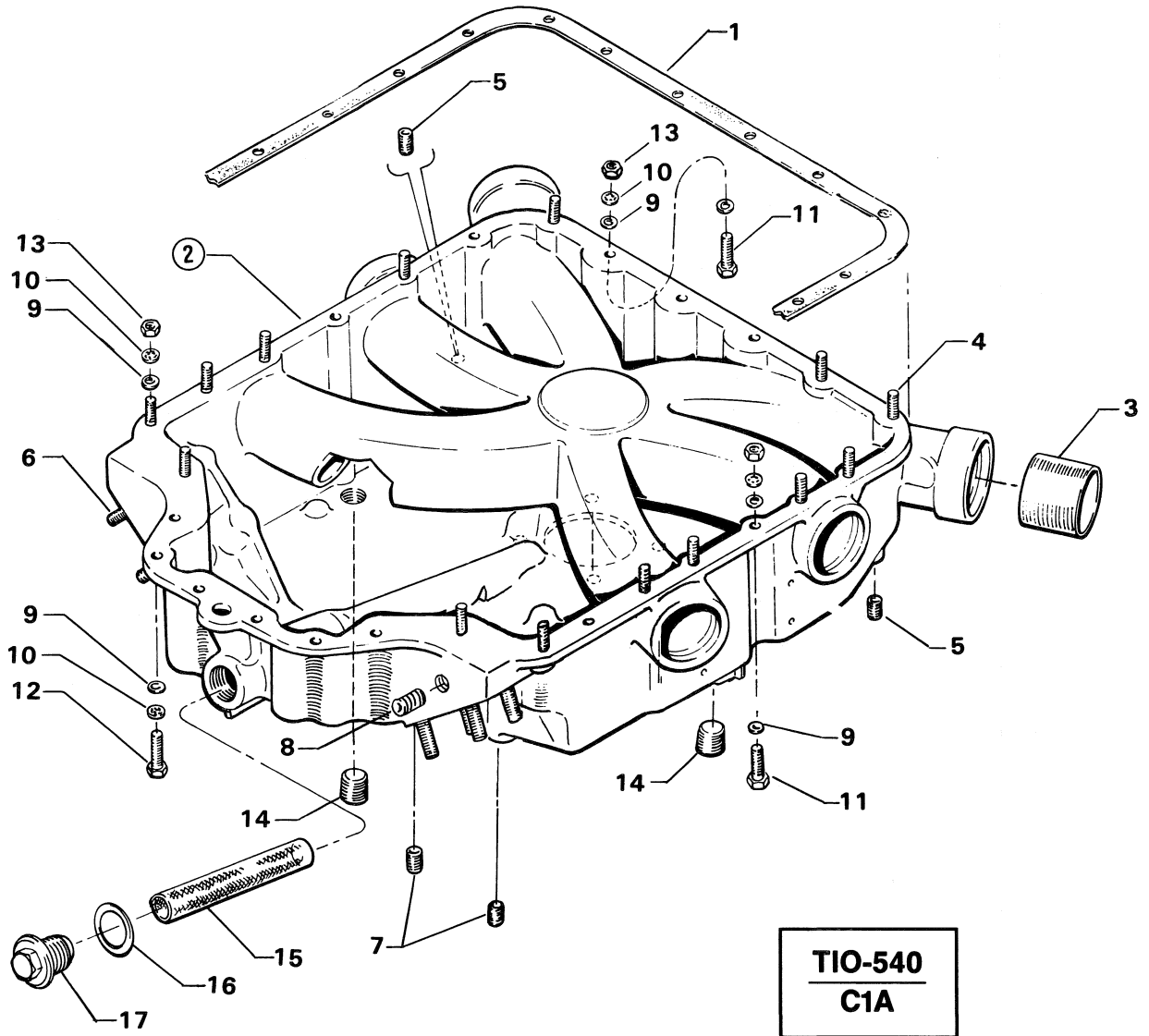


FIGURE 29. ALTERNATOR AND COMPRESSOR MOUNTING BRACKETS



2550

Figure 30. OIL SUMP ASSEMBLY AND OIL SUCTION SCREEN

OIL SUMP AND INDUCTION SYSTEM
 OIL SUMP AND INDUCTION HOUSING ASSEMBLY

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				TIO-540					LTIO-540								
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D			
1	LW-13383	BAFFLE, Oil sump	1			1	1	1	1	1	1		1	1	1	1	1
2	LW-13384	SUPPORT, Oil sump baffle	4			4	4	4	4	4	4		4	4	4	4	4
3	LW-13385	SUPPORT, Oil sump baffle	2			2	2	2	2	2	2		2	2	2	2	2
4	STD-425	WASHER, 7/16 O.D. x 13/64 I.D. x 1/16 thick	6			6	6	6	6	6	6		6	6	6	6	6
5	STD-1686	SCREW, No. 10-32 x 7/16 long, fill. hd.	6			6	6	6	6	6	6		6	6	6	6	6
6	06B21326	GASKET, Oil sump	1			1	1	1	1	1	1		1	1	1	1	1
7	LW-13233	HOUSING ASSY., Oil sump and induction	1		1								1				
	LW-13232	HOUSING ASSY., Oil sump and induction			1	1	1	1	1	1			1	1	1	1	1
8	STD-514	DOWEL, 5/16 dia. x 1/2 long	2			2	2	2	2	2	2		2	2	2	2	2
9	72179	STUD, Intake pipe extension	3			3	3	3	3	3	3		3	3	3	3	3
10	72167	PIPE, Extension, intake cylinder nos. 1 & 2					2	2	2	2			2	2	2	2	2
	72168	PIPE, Extension, intake cylinder nos. 3 & 4					2	2	2	2			2	2	2	2	2
	72169	PIPE, Extension, intake cylinder nos. 5 & 6					2	2	2	2			2	2	2	2	2
11	LW-11273	CLAMP, Intake pipe extension					3	3	3	3			3	3	3	3	3
12	25C-9	STUD, 1/4-20 N. form x 1-1/8 long	4			4	4	4	4	4	4		4	4	4	4	4
13	25C-11	STUD, 1/4-20 x 1-3/8 long	15			15	15	15	15	15	15		15	15	15	15	15
14	38-15	STUD, 3/8-16 x 1-7/8 long	8			8	8	8	8	8	8		8	8	8	8	8
15	72706	INSERT, Heli-coil, 1/4-20 x 3/8 long, self-lock	14			14	14	14	14	14	14		14	14	14	14	14
16	1102	PLUG, 1/8 NPT, Allen head	2			2							2				
17	STD-91	PLUG, 1/2-14 NPT, Allen head	1			1	1	1	1	1	1		1	1	1	1	1
18	1102	PLUG, 1/8 NPT, Allen head	3			3	5	5	5	5	5		3	5	5	5	5
19	STD-784	PLUG, 3/8-18 NPT, Allen head	2			2	1	1	1	1	1		2	1	1	1	1
20	STD-355	PLUG, 3/4-14 NPT, Allen head	2			2	2	2	2	2	2		2	2	2	2	2
21	STD-8	WASHER, 1/4 plain	29			29	29	29	29	29	29		29	29	29	29	29
22	STD-160	WASHER, Lock, internal teeth	23			23	23	23	23	23	23		23	23	23	23	23
23	LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. head	2			2	2	2	2	2	2		2	2	2	2	2
24	LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	10			10	10	10	10	10	10		10	10	10	10	10
25	STD-1411	NUT, 1/4 plain	13			13	13	13	13	13	13		13	13	13	13	13
26	06E19769-0.91	GASKET, Annular 1-1/8 O.D. x 29/32 I.D. x 1/16	1			1	1	1	1	1	1		1	1	1	1	1
27	72960	PLUG, 7/8-14 x 5/8 hex. head	1			1	1	1	1	1	1		1	1	1	1	1
28	LW-25-0.81	BOLT, 1/4-20 x 13/16 long	4			4	4	4	4	4	4		4	4	4	4	4
29	STD-8	WASHER, 1/4 plain	37			37	37	37	37	37	37		37	37	37	37	37
30	STD-160	WASHER, Lock, internal teeth	23			23	23	23	23	23	23		23	23	23	23	23
31	LW-25-1.13	BOLT, 1/4-20 x 1-1/8 long, hex. head	6			6	6	6	6	6	6		6	6	6	6	6
32	LW-25-1.00	BOLT, 1/4-20 x 1.00 long, hex. head	8			8	8	8	8	8	8		8	8	8	8	8
33	STD-1411	NUT, 1/4-20 plain	25			25	25	25	25	25	25		25	25	25	25	25
34	STD-551	PLUG, 1/2-14 NPT sq. head, drilled	2			2	2	2	2	2	2		2	2	2	2	2
35	60422	SCREEN, Oil suction	1			1	1	1	1	1	1		1	1	1	1	1
36	06E19769-1.00	GASKET, 1.00 I.D. x 1-1/4 O.D. x 3/32 thick	1			1	1	1	1	1	1		1	1	1	1	1
37	LW-12545	PLUG, 5/8 hex. head x 1.00-20 thd.	1			1	1	1	1	1	1		1	1	1	1	1

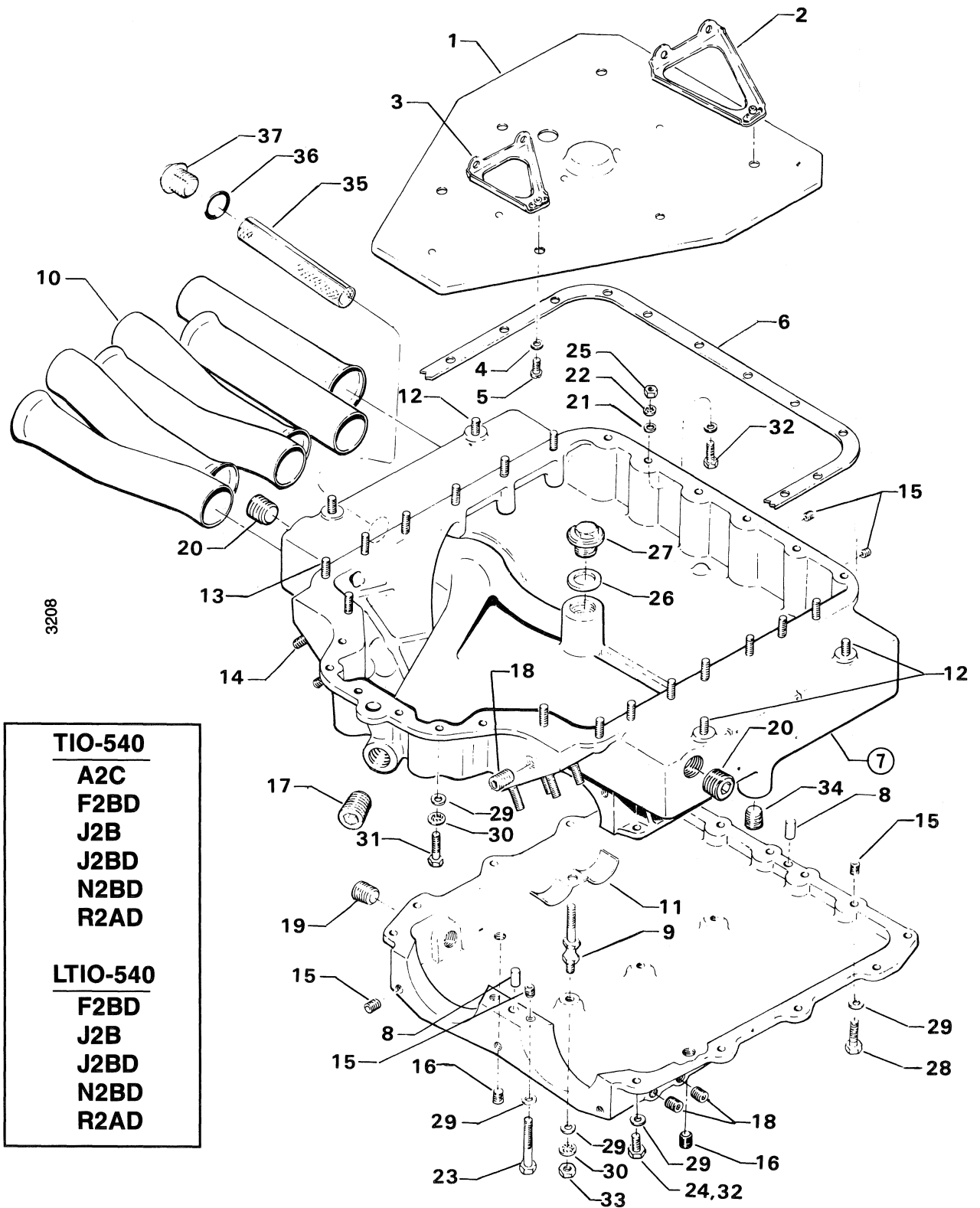


Figure 31. OIL SUMP AND INDUCTION HOUSING ASSEMBLY

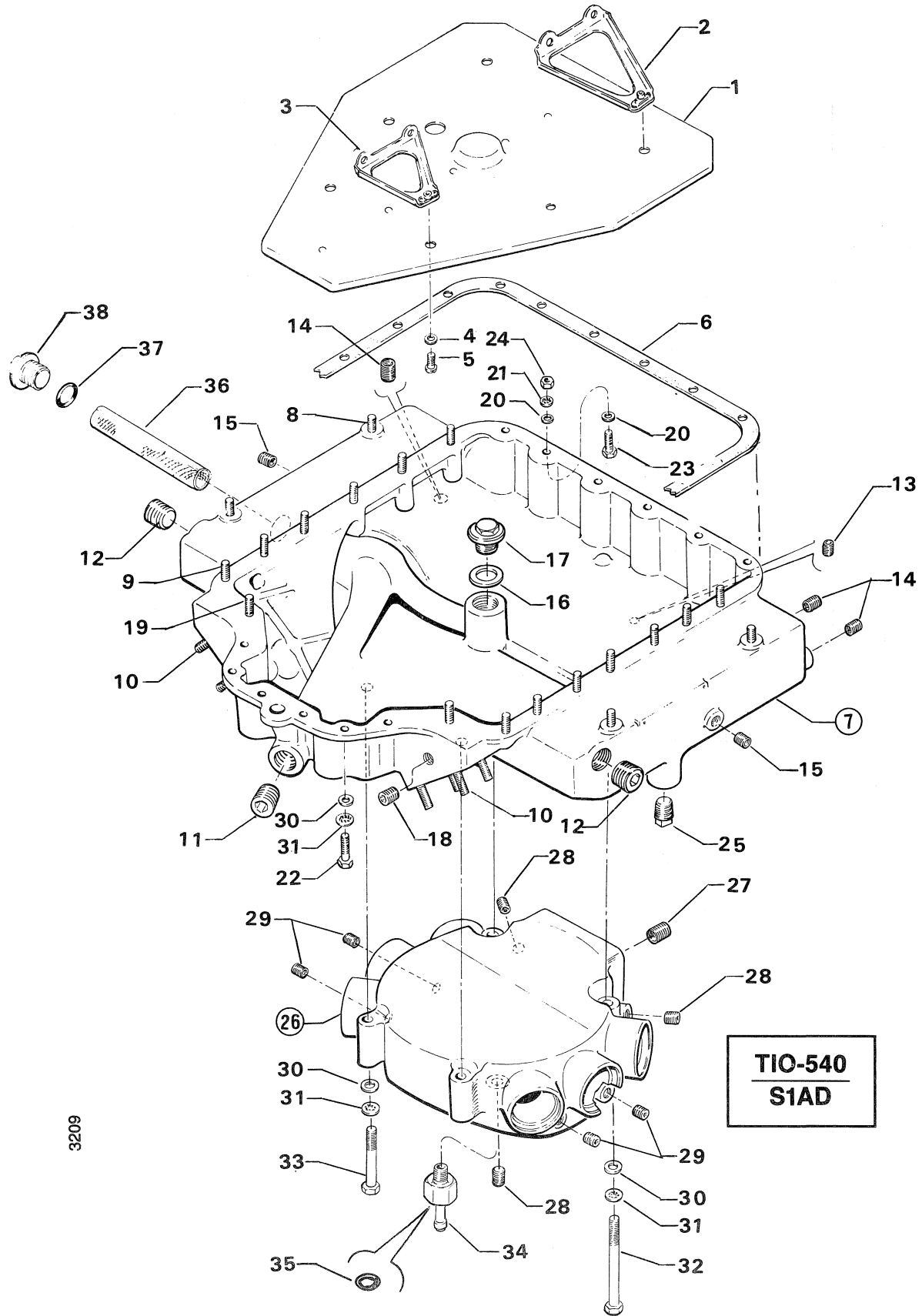
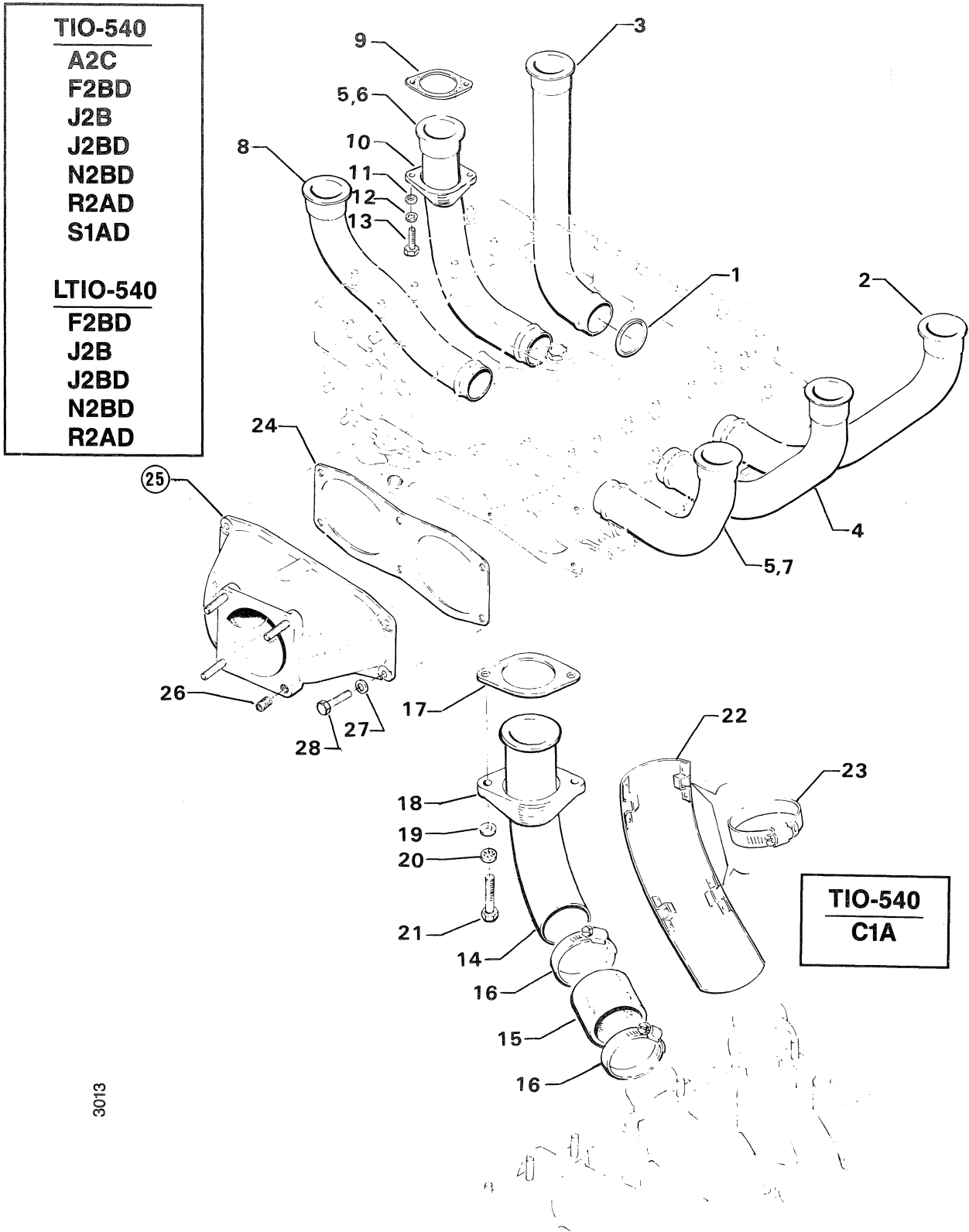


Figure 32. OIL SUMP AND INDUCTION HOUSING ASSEMBLY

OIL SUMP AND INDUCTION SYSTEM
INTAKE PIPES AND AIR INLET HOUSING

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY														
				TIO-540					LTIO-540									
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D		
1	72711	RING, Seal, intake pipes		6		6	6	6	6	6	6	6	6	6	6	6	6	6
2	LW-12191	PIPE, Intake, cylinder no. 1		1		1	1	1	1	1			1	1	1	1	1	1
	LW-16706	PIPE, Intake, cylinder no. 1											1					
3	LW-12192	PIPE, Intake, cylinder no. 2		1		1	1	1	1	1			1	1	1	1	1	1
	76708	PIPE, Intake, cylinder no. 2											1					
4	LW-12193	PIPE, Intake, cylinder no. 3		1		1	1	1	1	1			1	1	1	1	1	1
	LW-16487	PIPE, Intake, cylinder no. 3											1					
5	LW-12194	PIPE, Intake, cylinder nos. 4 & 5		2		2	2	2	2	2			2	2	2	2	2	2
6	76707	PIPE, Intake, cylinder no. 4											1					
7	LW-14449	PIPE, Intake, cylinder no. 5											1					
8	LW-12195	PIPE, Intake, cylinder no. 6		1		1	1	1	1	1			1	1	1	1	1	1
	76706	PIPE, Intake, cylinder no. 6											1					
9	71973	GASKET, 2 bolt flange, 1-7/8 I.D.		6		6	6	6	6	6	6	6	6	6	6	6	6	6
10	74360	FLANGE, Intake pipe, upper		6		6	6	6	6	6	6	6	6	6	6	6	6	6
11	STD-8	WASHER, 1/4 plain		12		12	12	12	12	12	12	12	12	12	12	12	12	12
12	STD-160	WASHER, 1/4 lock, internal teeth		12		12	12	12	12	12	12	12	12	12	12	12	12	12
13	LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. hd.		12		12	12	12	12	12	12	12	12	12	12	12	12	12
14	70485	PIPE, Intake			6													
15	69603	HOSE, 1-3/4 I.D. x 2-3/16 O.D. x 1-3/4 long			6													
16	LW-15592-8-28	CLAMP, Hose			12													
17	71973	GASKET, 2 bolt flange, 1-7/8 I.D.			6													
18	73346	FLANGE, Intake pipe, upper			6													
19	STD-8	WASHER, 1/4 plain			12													
20	STD-160	WASHER, 1/4 lock, internal teeth			12													
21	LW-25-1.25	BOLT, 1/4-20 x 1-1/4 long, hex. hd.			12													
22	78366	HEAT SHIELD, No. 1 & 2 pipes			2													
23	LW-15592-8-24	CLAMP, 1-13/16 dia. x 9/16 wide			4													
24	72210	GASKET, Air throttle housing		1		1	1	1	1	1			1	1	1	1	1	1
25	77998	HOUSING ASSY., Air inlet		1		1	1	1	1	1			1	1	1	1	1	1
26	STD-1164	INSERT, 5/16-18 Heli-coil, 5/8 long		4		4	4	4	4	4			4	4	4	4	4	4
27	STD-8	WASHER, 1/4 plain		6		6	6	6	6	6			6	6	6	6	6	6
28	LW-25-0.81	BOLT, 1/4-20 x 13/16 long, hex. hd.		6		6	6	6	6	6			6	6	6	6	6	6



3013

Figure 33. INTAKE PIPES AND AIR INLET HOUSING

OIL SUMP AND INDUCTION SYSTEM FUEL INJECTORS, FUEL MANIFOLDS AND INJECTION NOZZLES

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				TIO-540						LTIO-540							
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D			
1	73032	GASKET, Air inlet housing				1	1	1	1	1			1	1	1	1	1
2	LW-14522	FUEL INJECTOR ASSEMBLY				1	1	1	1				1	1	1	1	
3	LW-11507	FUEL INJECTOR (2524500-9)				1	1	1	1				1	1	1	1	
4	AN893-2	BUSHING, Reducer (outlet)				1	1	1	1				1	1	1	1	
5	MS29512-06	SEAL, Oil, 5/64 dia. sect. x 15/32 dia. (outlet)				1	1	1	1				1	1	1	1	
6	75948	TEE, 1/4 tube x 7/16 thread (outlet)				1	1	1	1				1	1	1	1	
7	MS29512-06	SEAL, Oil, 5/64 dia. sect. x 15/32 dia.				1	1	1	1				1	1	1	1	
8	AN924-6	NUT, Flared tube, bulkhead fitting				1	1	1	1				1	1	1	1	
9	76779	ELBOW, 9/16 male to 1/8 NPT, female				1	1	1	1				1	1	1	1	
10	75447	NIPPLE, 3/16 tube x 1/8 NPT, restricted				1	1	1	1				1	1	1	1	
11	LW-13527	FUEL INJECTOR (2524649-10)								1							1
12	AN893-2	BUSHING, Reducer (outlet)								1							1
13	MS29512-06	SEAL, Oil, 5/64 dia. sect. x 15/32 dia. (outlet)								1							1
14	75948	TEE, 1/4 tube x 7/16 thread (outlet)								1							1
15	MS29512-06	SEAL, Oil 5/64 dia. sect. x 15/32 dia. (outlet)								1							1
16	AN924-6	NUT, Flared tube, bulkhead fitting (outlet)								1							1
17	76779	ELBOW, 9/16 male to 1/8 NPT, female								1							1
18	02A21382	NIPPLE, 3/16 tube x 1/8 NPT, restricted								1							1
19	STD-475	WASHER, 5/16 internal lock				4	4	4	4	4			4	4	4	4	4
20	STD-35	WASHER, 5/16 plain				2	2	2	2	2			2	2	2	2	2
21	LW-31-1.31	BOLT, 5/16-18 x 1-5/16 long, hex. head				4	4	4	4	4			4	4	4	4	4
22	STD-1727	WASHER, Plain, 3/4 O.D. x 21/64 I.D. x 1/8 thick				2	2	2	2	2			2	2	2	2	2
23	AN929-3	CAP ASSY., 3/16 tube fitting				1	1	1	1	1			1	1	1	1	1
24	LW-12877-6S142	HOSE, Fuel pump to injector				1	1	1	1	1			1	1	1	1	1
25	LW-18853	NOZZLE, Injection (2524923)				6	6	6	6	6			6	6	6	6	6
26	951391	"O" RING				12	12	12	12	12			12	12	12	12	12
27	75414	BRACKET, Fuel manifold				2	2	2	2	2			2	2	2	2	2
28	STD-160	WASHER, 1/4 internal lock				2	2	2	2	2			2	2	2	2	2
29	STD-1411	NUT, 1/4-20 plain				2	2	2	2	2			2	2	2	2	2
30	76778	MANIFOLD ASSY., Fuel, right				1	1	1	1	1			1	1	1	1	1
31	STD-148	NIPPLE, Union, 1/8 tube				2	2	2	2	2			2	2	2	2	2
32	MS20822-4	ELBOW, 1/4 tube x 1/8 NPT, 90°				1	1	1	1	1			1	1	1	1	1
33	STD-2166	ELBOW, Union				1	1	1	1	1			1	1	1	1	1
34	76777	MANIFOLD ASSY., Fuel, left				1	1	1	1	1			1	1	1	1	1
35	STD-148	NIPPLE, Union, 1/8 tube				1	1	1	1	1			1	1	1	1	1
36	MS20822-4	ELBOW, 1/4 tube x 1/8 NPT, 90°				1	1	1	1	1			1	1	1	1	1
37	STD-2166	ELBOW, Union				1	1	1	1	1			1	1	1	1	1
38	AN791-2	ELBOW, Union, 1/8 NPT, 45°				1	1	1	1	1			1	1	1	1	1
39	LW-25-0.75	BOLT, 1/4-20 x 3/4 long, hex. hd.				2	2	2	2	2			2	2	2	2	2
40	STD-8	WASHER, 1/4 plain				2	2	2	2	2			2	2	2	2	2
41	STD-160	WASHER, 1/4 internal lock				2	2	2	2	2			2	2	2	2	2
42	STD-1411	NUT, 1/4-20 plain				2	2	2	2	2			2	2	2	2	2
43	LW-13778	ROD, Connecting, injector linkage								1							1
44	STD-63	NUT, No. 10-32 plain								2							2
45	05R19950	ROD END, Injector controller rod								2							2
46	LW-11353	SPACER, Linkage, injector throttle								2							2

OIL SUMP AND INDUCTION SYSTEM
FUEL INJECTORS, FUEL MANIFOLDS AND INJECTION NOZZLES (Continued)

FIG. REF.	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY																			
			TIO-540						LTIO-540													
			A	C	F	J	N	R	F	J	N	R										
34																						
47	STD-122	WASHER, 7/32 I.D. x 5/16 O.D. x 1/32 thick							AR													AR
48	AN3-10	BOLT, No. 10-32 x 1-1/32 long, dr. end							2													2
49	STD-303	NUT, No. 10-32 slotted shear							2													2
50	STD-68	PIN, 1/16 x 1/2 long							2													2

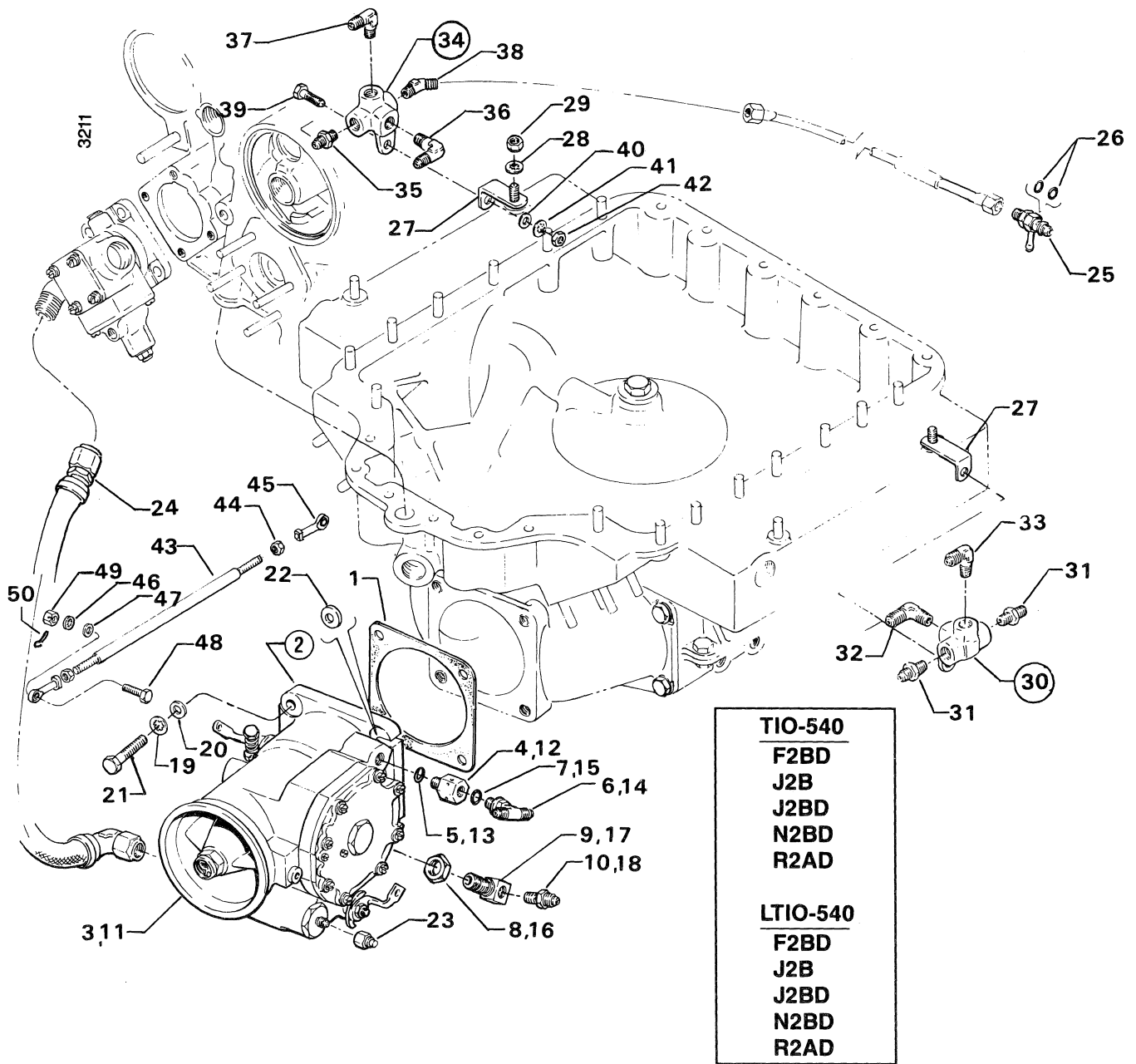
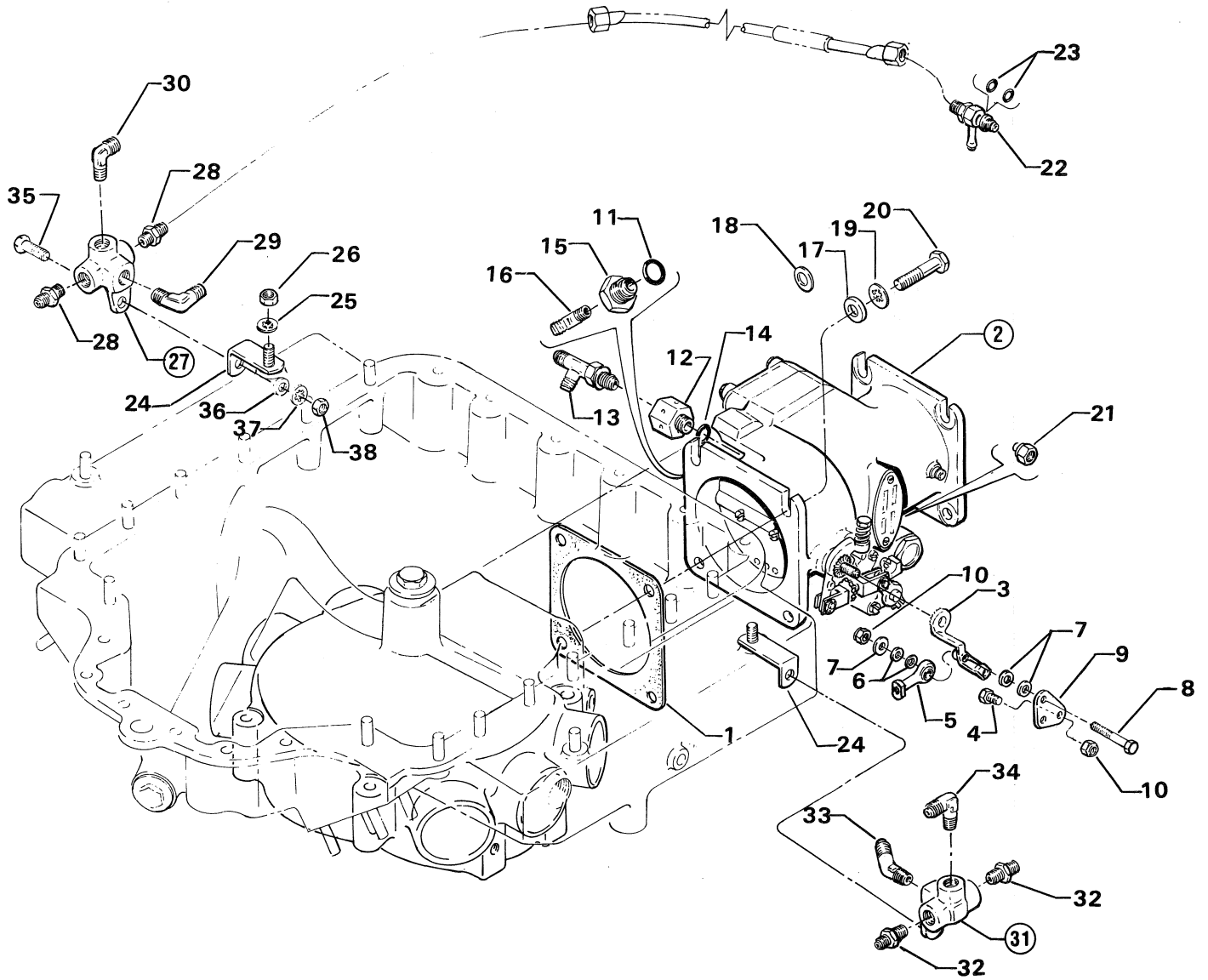


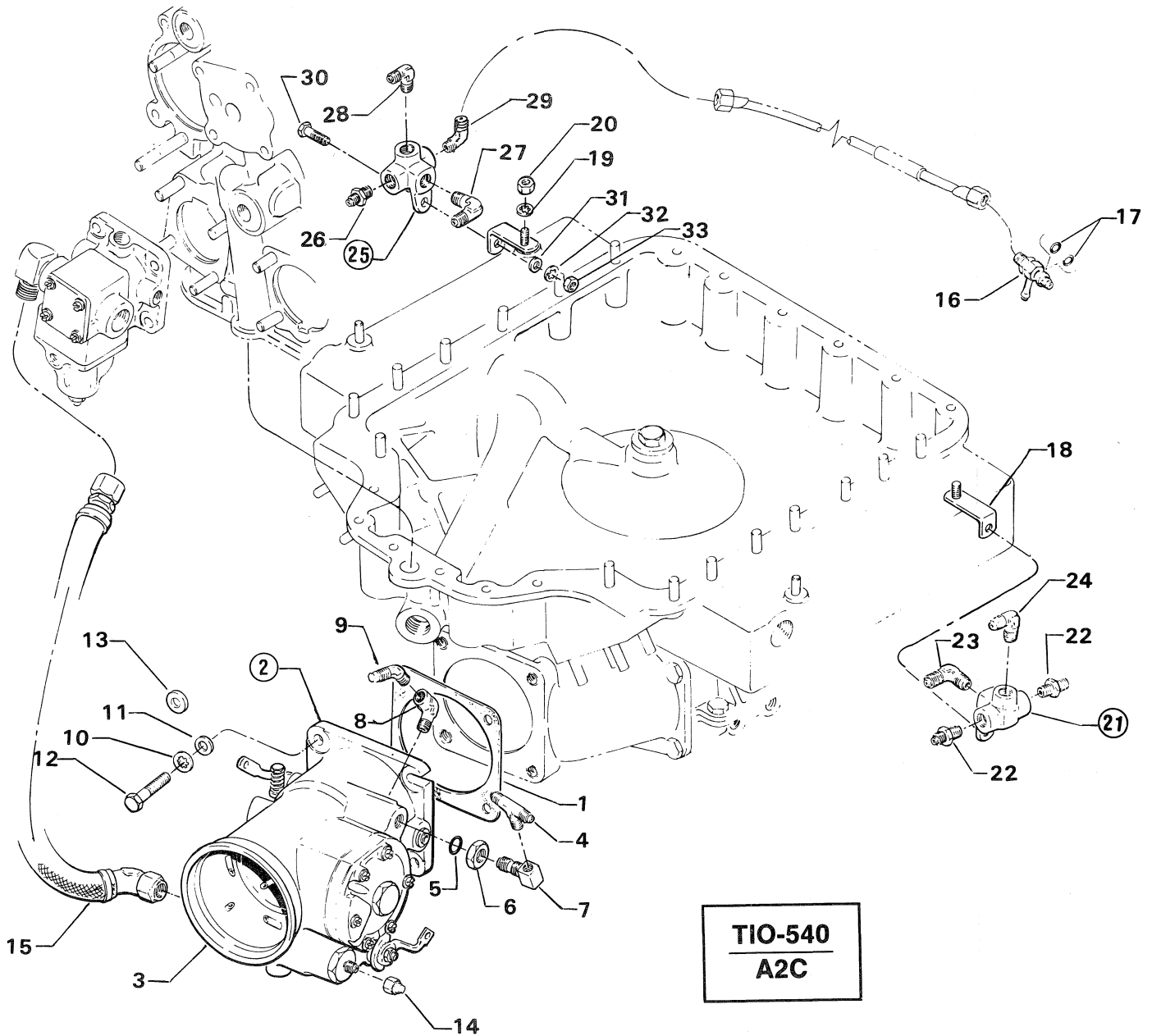
Figure 34. FUEL INJECTORS, FUEL MANIFOLDS AND INJECTION NOZZLES



3212

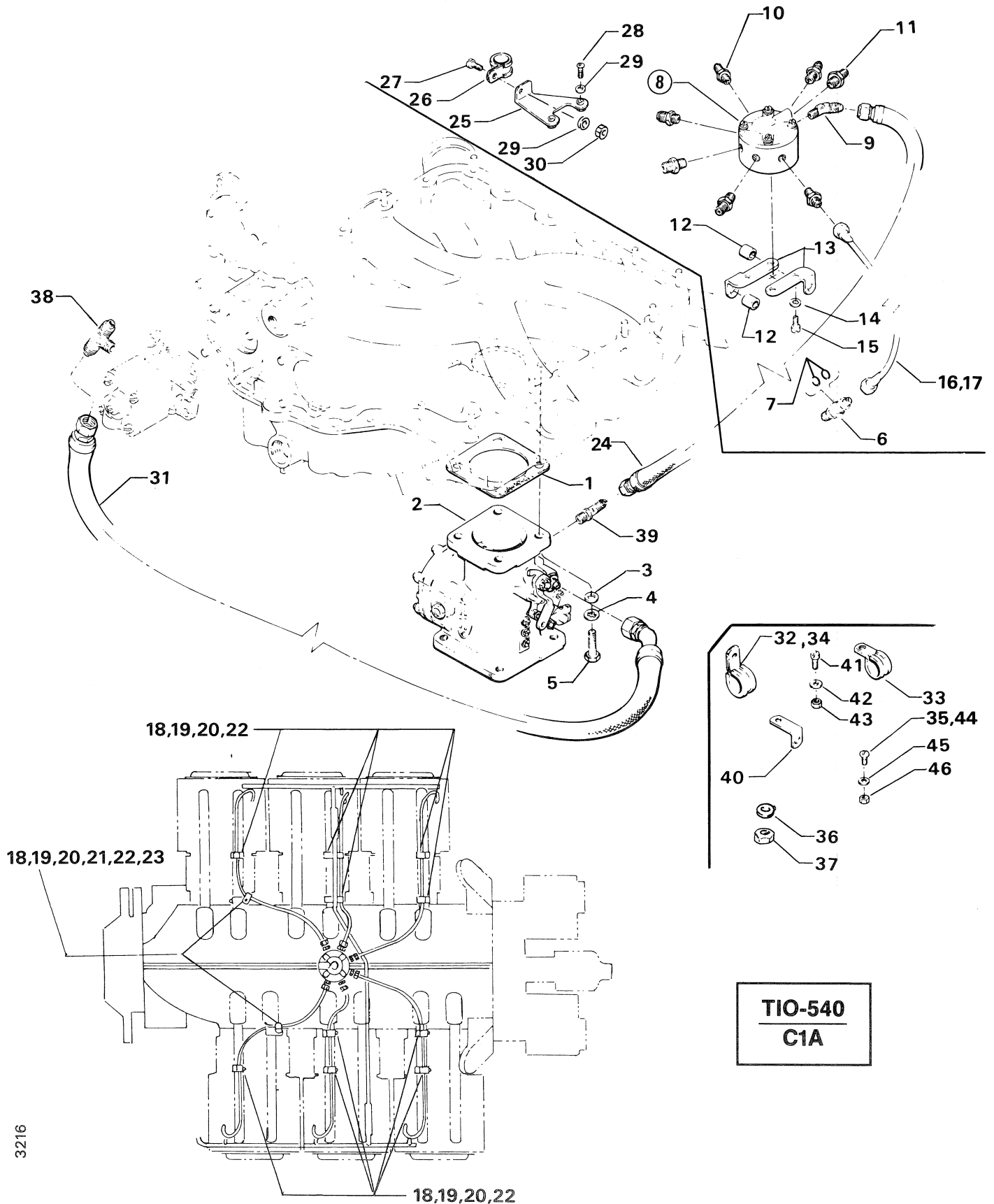
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Figure 35. FUEL INJECTOR, FUEL MANIFOLDS AND INJECTION NOZZLES



3213

Figure 36. FUEL INJECTOR, FUEL MANIFOLDS AND INJECTION NOZZLES



3216

Figure 37. FUEL INJECTOR, FUEL MANIFOLD, INJECTION NOZZLES, HOSES AND ATTACHMENTS

OIL SUMP AND INDUCTION SYSTEM
FUEL HOSES AND ATTACHING PARTS

FIG. REF. 38	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																		
				TIO-540					LTIO-540													
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D							
1	LW-12878-4S176	HOSE, Fuel injector to fuel manifold, right		1																		
	LW-12876-4S172	HOSE, Fuel injector to fuel manifold, right				1	1	1	1	1			1	1	1	1	1					
2	LW-12798-4S242	HOSE, Fuel injector to fuel manifold, left		1																		
	LW-12876-4S250	HOSE, Fuel injector to fuel manifold, left				1	1	1	1	1			1	1	1	1	1					
3	LW-16266-25-63	CLAMP		2		1	1	1	1	1			1	1	1	1	1					
4	STD-8	WASHER, 1/4 plain		2		1	1	1	1	1			1	1	1	1	1					
5	LW-16266-25-63	CLAMP, (Attach to sump flange)				1	1	1	1	1	1		1	1	1	1	1					
6	STD-160	WASHER, 1/4 lock, internal teeth		2		1	1	1	1	1			1	1	1	1	1					
7	STD-1411	NUT, 1/4-20 plain		2		1	1	1	1	1			1	1	1	1	1					
8	LW-12098-0-100	TUBE ASSY., Fuel manifold to nozzle, cyls. 1, 3, 4 & 6		4		4	4	4	4	4	4		4	4	4	4	4					
9	LW-12098-0-170	TUBE ASSY., Fuel manifold to nozzle, cyls. 2 & 5		2		2	2	2	2	2	2		2	2	2	2	2					
10	73152	BRACKET, Support clamp		1		1	1	1	1	1	1		1	1	1	1	1					
11	LW-16266-10-13	CLAMP		1		1	1	1	1	1	1		1	1	1	1	1					
12	STD-692	SCREW, No. 10-32 x 1/2 long, rd. hd.		1									1									
13	STD-860	SCREW, No. 10-32 x 5/8 long, fill. hd.				1	1	1	1	1			1	1	1	1	1					
14	STD-670	NUT, No. 10-32, self-locking		1		1	1	1	1	1	1		1	1	1	1	1					
15	LW-16266-10-38	CLAMP		1		1	1	1	1	1			1	1	1	1	1					
16	LW-16266-10-13	CLAMP		1		1	1	1	1	1	1		1	1	1	1	1					
17	STD-692	SCREW, No. 10-32 x 1/2 long, rd. hd.		1		1	1	1	1	1	1		1	1	1	1	1					
18	STD-670	NUT, No. 10-32, self-locking		1		1	1	1	1	1	1		1	1	1	1	1					
19	LW-16266-10-13	CLAMP, Nozzle line		5		5	5	5	5	5	4		5	5	5	5	5					
20	LW-16266-10-38	CLAMP, Nozzle vent lines		5		5	5	5	5	5	4		5	5	5	5	5					
21	STD-692	SCREW, No. 10-32 x 1/2 long, rd. hd.		5		5	5	5	5	5			5	5	5	5	5					
22	STD-670	NUT, No. 10-32 self-locking		5		5	5	5	5	5			5	5	5	5	5					
23	73136	BRACKET, Extension, angle											1									
24	STD-692	SCREW, No. 10-32 x 1/2 long, rd. hd.											4									
25	STD-670	NUT, No. 10-32 self-locking											4									
26	LW-12799-6S322	HOSE ASSY., Fuel pump to injector											1									
27	STD-8	WASHER, 1/4 plain											1									
28	STD-160	WASHER, 1/4 lock, internal teeth											1									
29	STD-9	NUT, 1/4-28 plain											1									
30	LW-12798-4S111	HOSE ASSY., Fuel injector to fuel manifold, left											1									
31	LW-12878-4S170	HOSE ASSY., Fuel injector to fuel manifold, right (45°)											1									

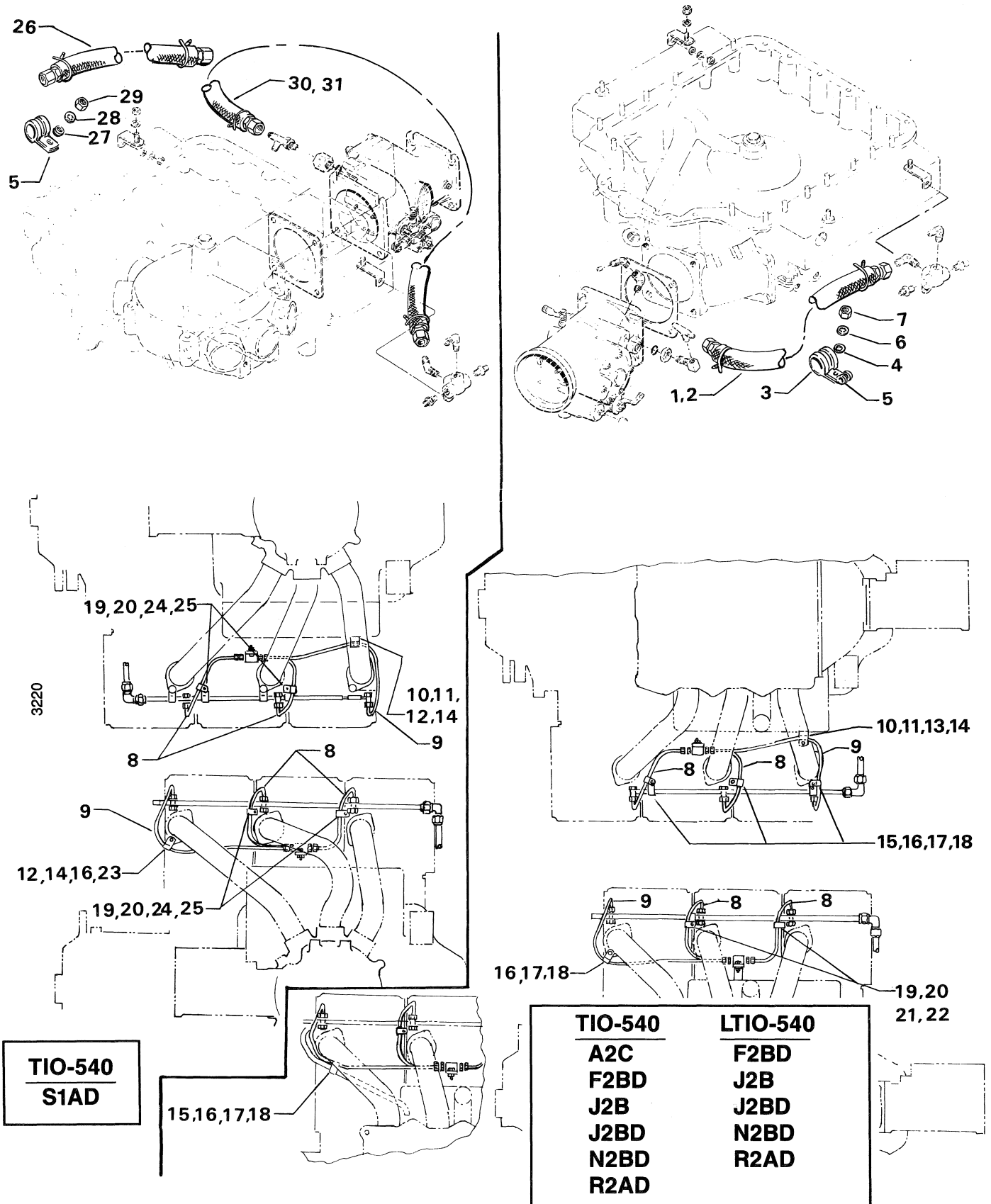


Figure 38. FUEL HOSES AND ATTACHING PARTS

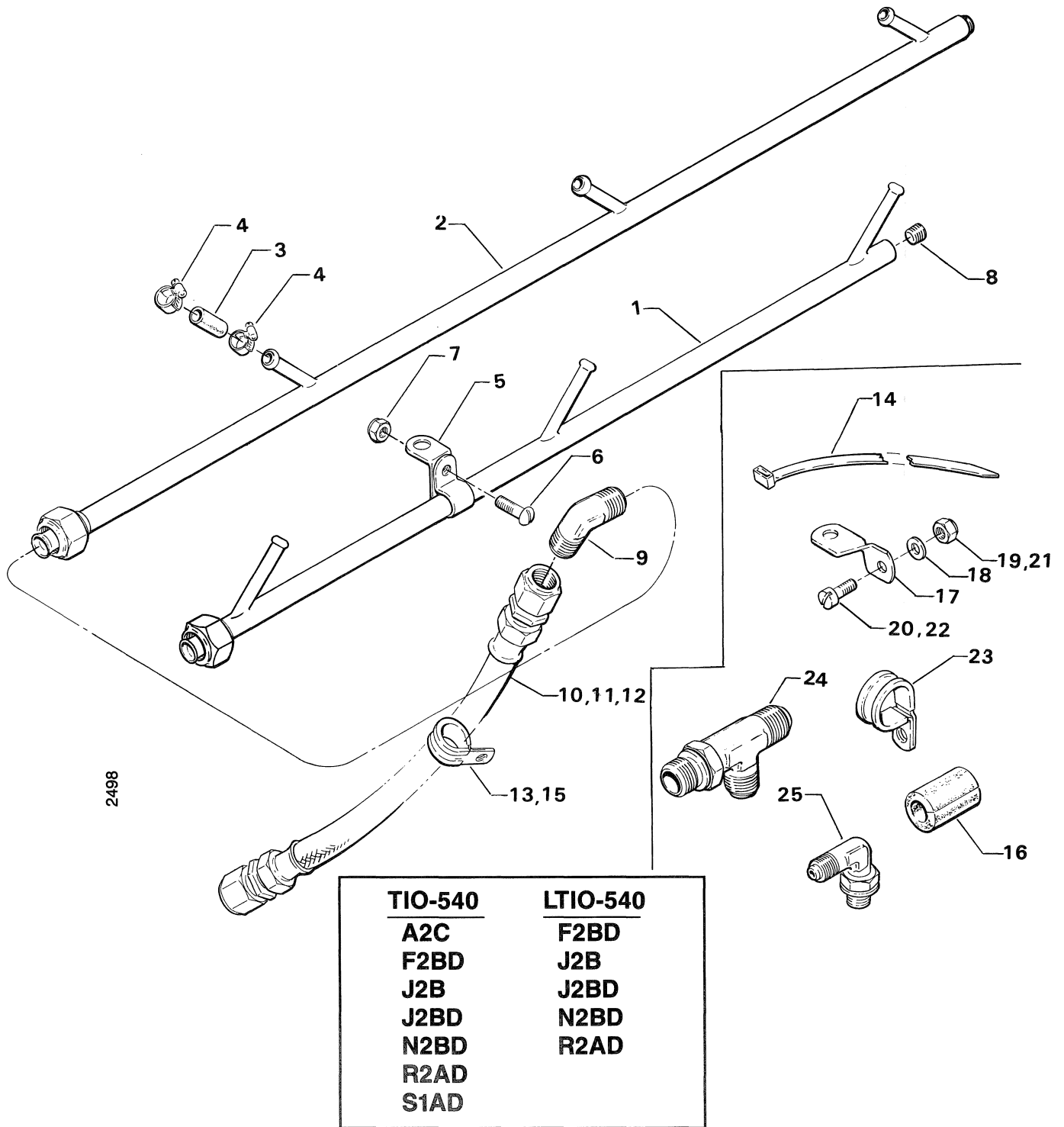
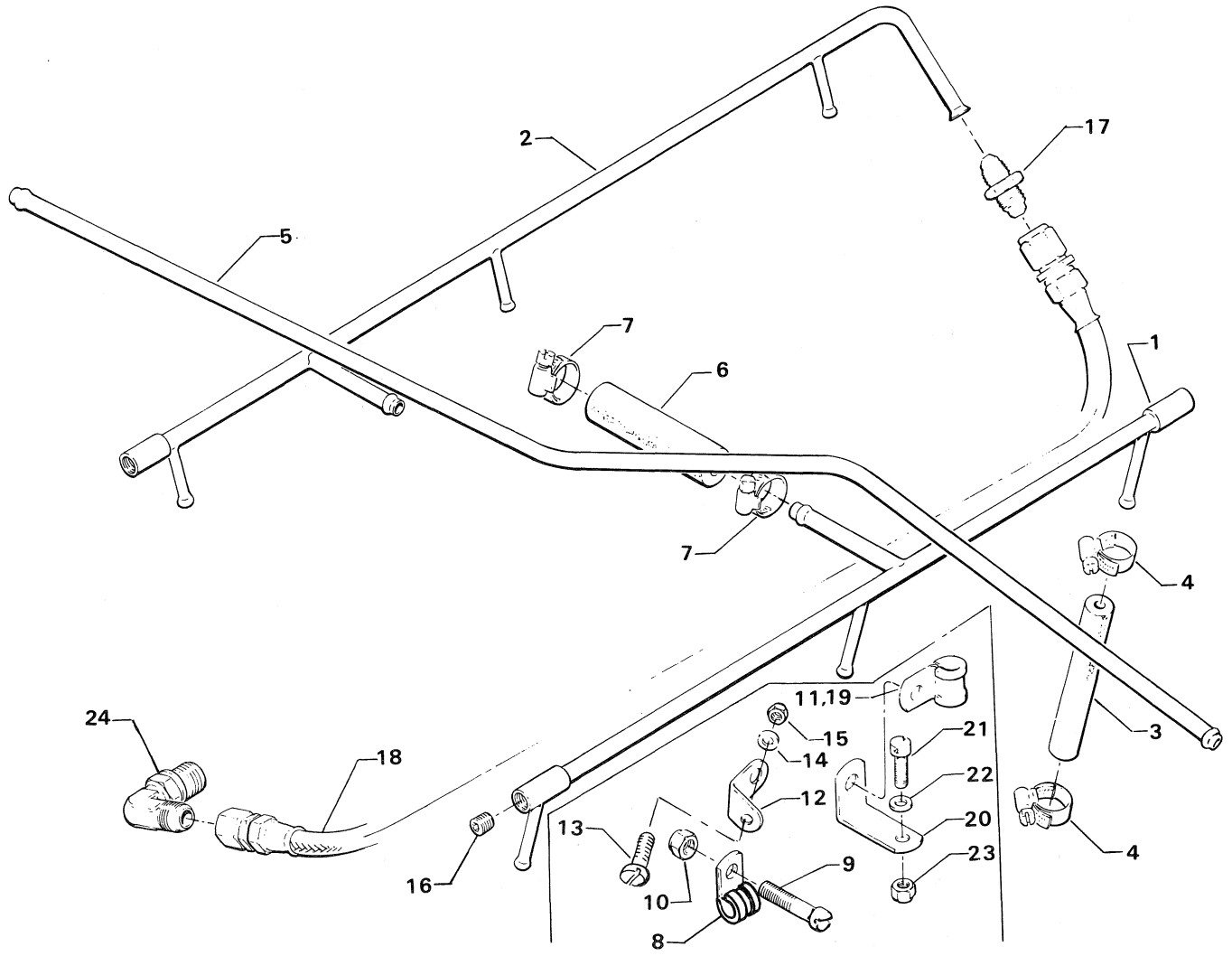


Figure 39. INJECTOR NOZZLE VENT MANIFOLDS, HOSES AND ATTACHMENTS



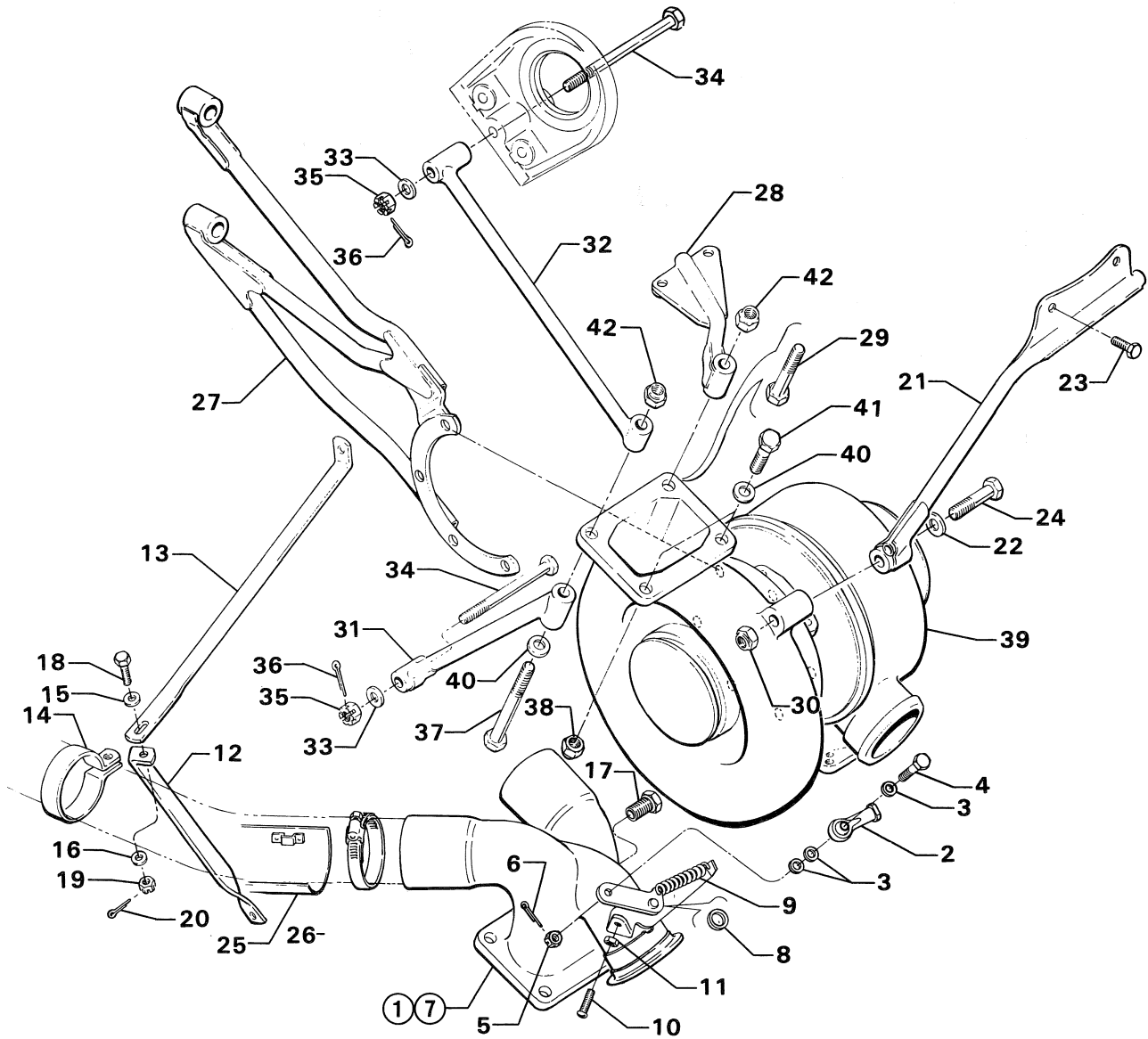
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T10-540
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Figure 40. INJECTOR NOZZLE VENT MANIFOLDS, HOSES AND ATTACHMENTS

TURBOCHARGER AND EXHAUST SYSTEMS EXHAUST MANIFOLDS AND ATTACHMENTS

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY														
				TIO-540					LTIO-540									
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D		
1	LW-15619	GASKET, Exhaust flange		12		12	12	12	12	12	12	12	12	12	12	12	12	12
2	LW-16825	MANIFOLD ASSY., Exhaust, right						1		1						1		1
	LW-16794	MANIFOLD ASSY., Exhaust, right		1		1								1				
	LW-16922	MANIFOLD ASSY., Exhaust, right							1								1	
3	LW-10159	PIPE, Exhaust, cyl. no. 1		1		1	1	1	1	1			1	1	1	1	1	1
4	LW-10160	PIPE, Exhaust, cyl. no. 3		1		1	1	1	1	1			1	1	1	1	1	1
5	LW-10161	PIPE, Exhaust, cyl. no. 5		1		1	1	1	1	1			1	1	1	1	1	1
6	LW-15850	PIPE, Exhaust, right		1		1							1					
7	LW-15849	PIPE, Exhaust, right					1	1		1				1	1		1	
8	LW-16792	PIPE, Exhaust, right rear, intermediate		1		1							1					
9	LW-16621	PIPE, Exhaust, right rear, intermediate					1	1	1	1				1	1	1	1	1
10	LW-16793	PIPE, Exhaust, right		1		1							1					
11	LW-13299	PIPE, Exhaust, right intermediate							1								1	
12	LW-16620	PIPE, Exhaust, right					1	1	1	1				1	1	1	1	1
13	LW-15806	PIPE, Exhaust, right intermediate											1					
14	LW-16791	MANIFOLD ASSY., Exhaust, left		1		1							1					
	LW-16826	MANIFOLD ASSY., Exhaust, left					1	1		1				1	1		1	
	LW-16923	MANIFOLD ASSY., Exhaust, left							1								1	
15	LW-10164	PIPE, Exhaust, cylinder no. 2		1		1	1	1	1	1			1	1	1	1	1	1
16	LW-10163	PIPE, Exhaust, cylinder no. 4		1		1	1	1	1	1			1	1	1	1	1	1
17	LW-10162	PIPE, Exhaust, cylinder no. 6		1		1	1	1	1	1			1	1	1	1	1	1
18	LW-15849	PIPE, Exhaust, left intermediate		1		1	1	1		1			1	1	1		1	
19	LW-16789	PIPE, Exhaust, left rear, intermediate		1		1							1					
20	LW-16790	PIPE, Exhaust, left rear		1		1							1					
21	LW-16696	PIPE, Exhaust, left rear, intermediate					1	1	1	1				1	1	1	1	1
22	LW-16697	PIPE, Exhaust, left rear					1	1	1	1				1	1	1	1	1
23	LW-13300	PIPE, Exhaust, left intermediate							1								1	
24	STD-2218	NUT, 5/16-18 self-locking		18		18	18	18	18	18	18	18	18	18	18	18	18	18
25	LW-16102 *	PIPE, Exhaust crossover, right											1					
26	78083	GASKET, V-band coupling, 2.00 O.D. tube		2		2	2	2	2	2			2	2	2	2	2	2
	78084	GASKET, V-band coupling, 2.00 O.D. tube											1					
27	LW-12093-5	COUPLING, V-band, 2.00 O.D. tube		2		2	2	2	2	2	1		2	2	2	2	2	2
28	78189	FLANGE, Exhaust manifold (underneath exhaust pipe)											1					
29	LW-16406	HEAT SHIELD, Magneto, left					1							1				
30	LW-18591	HEAT SHIELD, Magneto, right					1							1				
31	LW-16457	CLAMP, Hose					4							4				
32	LW-10159 *	PIPE, Exhaust, cyl. no. 1											1					
33	LW-10160 *	PIPE, Exhaust, cyl. no. 3											1					
34	LW-15805 *	PIPE, Exhaust, cyl. no. 5											1					
35	LW-10164 *	PIPE, Exhaust, cyl. no. 2											1					
36	LW-10163 *	PIPE, Exhaust, cyl. no. 4											1					
37	40B21375 *	PIPE, Exhaust, cyl. no. 6											1					
38	LW-16103 *	PIPE, Exhaust crossover, left											1					
39	LW-15437 *	CABLE, Exhaust manifold retainer											1					
40	STD-2178 *	WASHER, 1/4 plain											2					
41	LW-25SS0.94 *	BOLT, 1/4-20 x 15/16 long											2					



2505

TIO-540
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Figure 42. TRANSITION ASSEMBLY, TURBOCHARGER AND ATTACHING PARTS

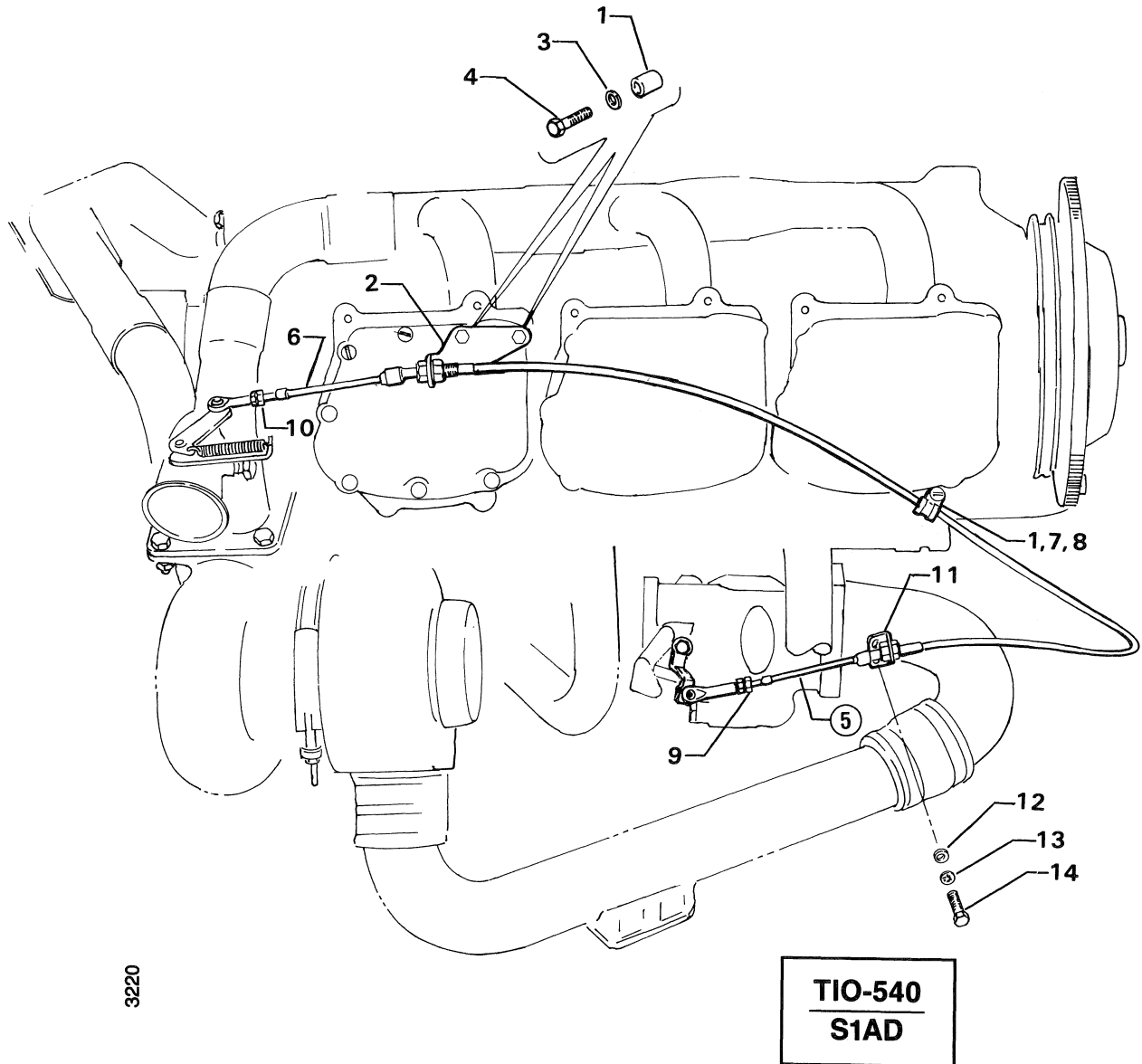
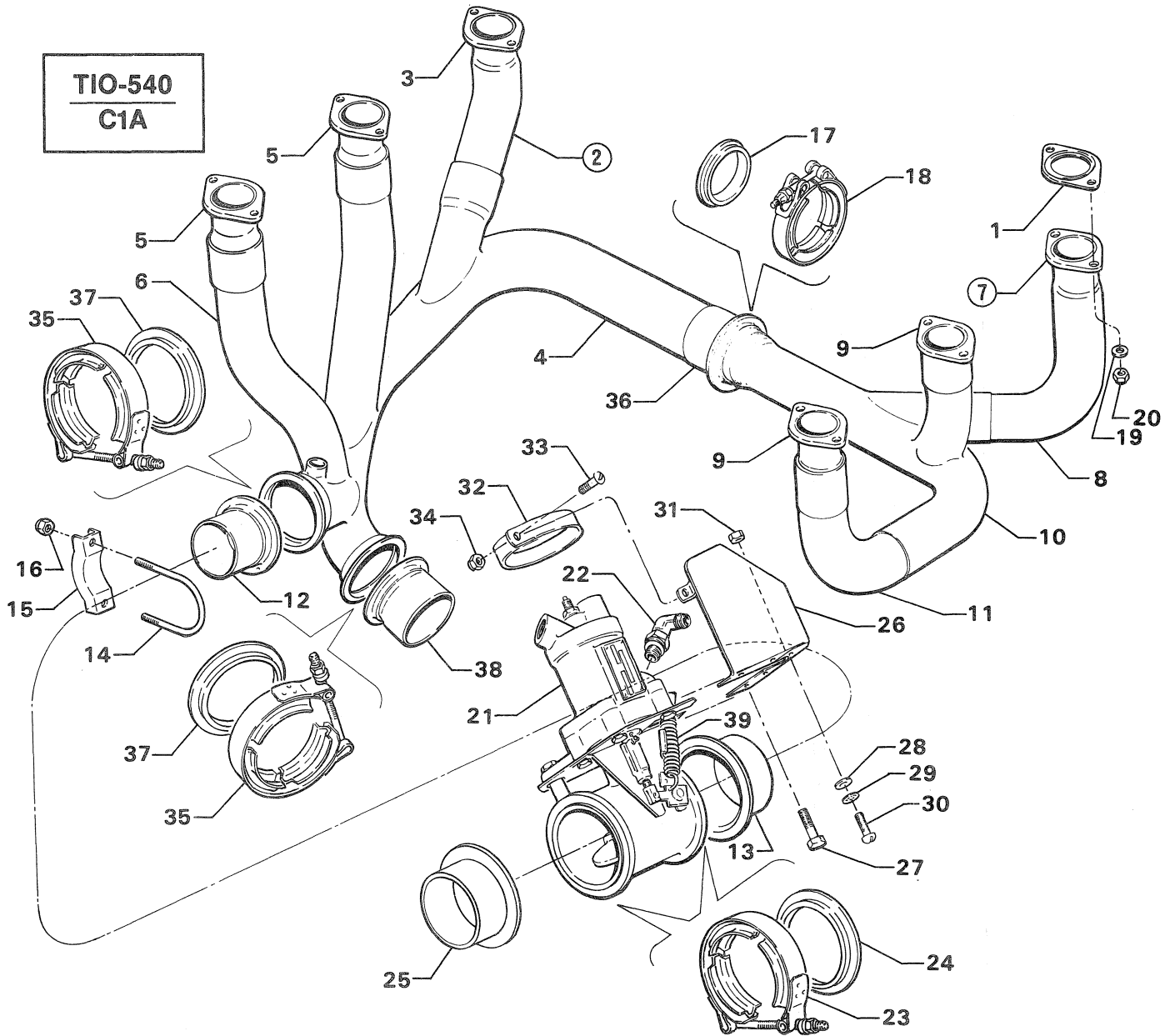


Figure 43. FUEL INJECTOR TO TRANSITION ASSY. LINKAGE



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Figure 44. EXHAUST MANIFOLDS, BYPASS VALVE AND ATTACHING PARTS

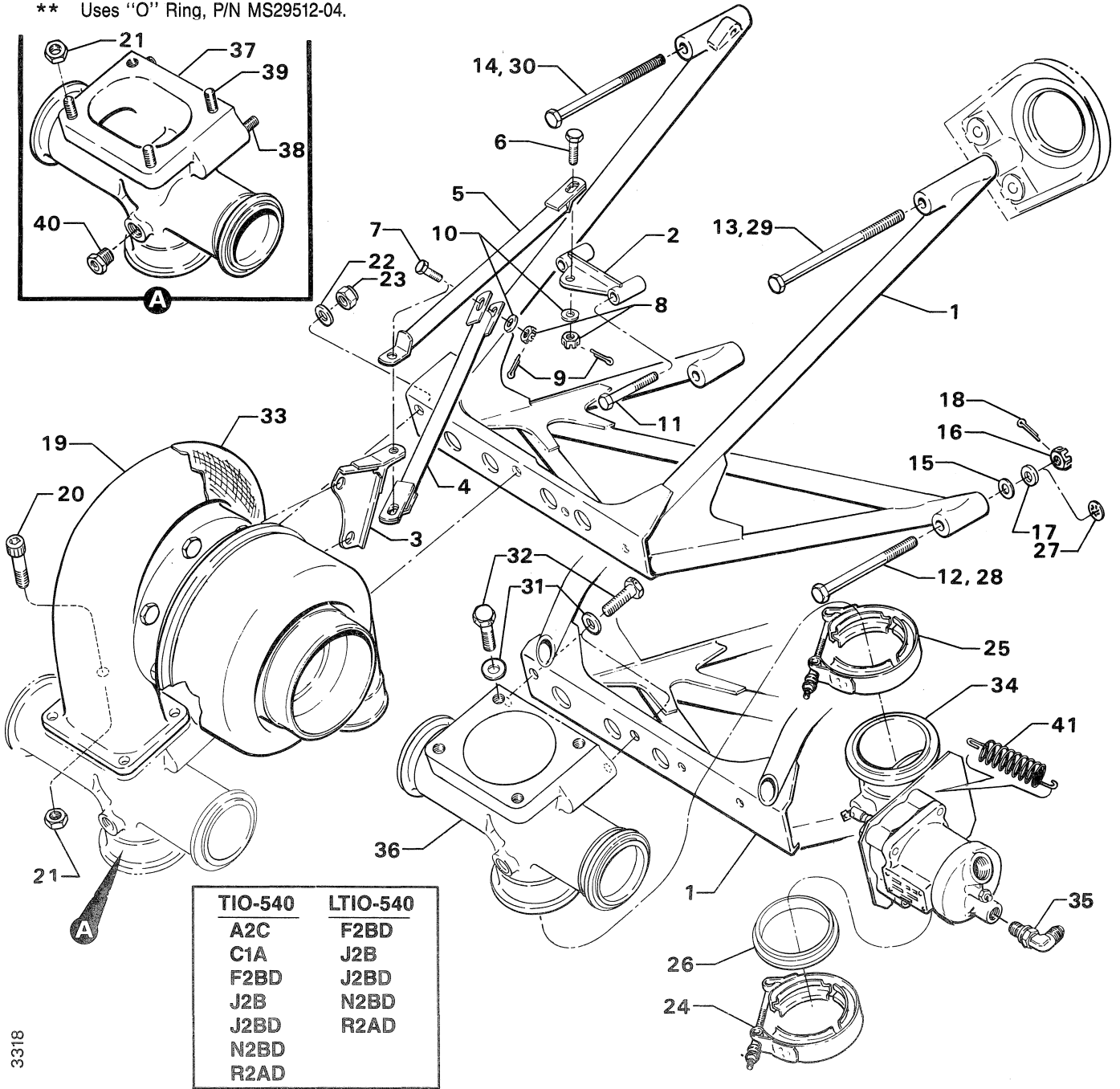
TURBOCHARGER AND EXHAUST SYSTEMS TURBOCHARGER, SUPPORT ASSEMBLY AND EXHAUST BYPASS VALVE

FIG. REF. 45	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																	
				TIO-540					LTIO-540												
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 B D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 B D					
1	LW-15952	SUPPORT ASSY., Turbocharger	1																		
	LW-18302	SUPPORT ASSY., Turbocharger					1	1		1				1	1						1
	LW-13302	SUPPORT ASSY., Turbocharger								1											1
2	76770	BRACKET, Support rod	1																		
	LW-18459	BRACKET, Support rod					1	1	1	1				1	1	1	1				1
3	LW-10119	PLATE, Top support	1																		
	LW-12435	PLATE, Top support					1	1	1	1				1	1	1	1				1
4	LW-16965	ROD, Top support, left	1				1	1	1	1				1	1	1	1				1
5	LW-18248	ROD, Top support, right	1				1	1	1	1				1	1	1	1				1
6	LW-25S0.77	BOLT, 1/4-20 x 49/64 long, drilled end	1				1	1	1	1				1	1	1	1				1
7	LW-25S1.14	BOLT, 1/4-20 x 1-9/64 long, drilled end	2				2	2	2	2				2	2	2	2				2
8	STD-1864	NUT, 1/4-20 slotted	3				3	3	3	3				3	3	3	3				3
9	STD-68	PIN, Cotter, 1/16 dia. x 1/2 long	3				3	3	3	3				3	3	3	3				3
10	STD-8	WASHER, 1/4 plain	3				2	2	2	2				2	2	2	2				2
11	LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. hd.	2				2	2	2	2				2	2	2	2				2
12	LW-31S4.10	BOLT, Turbocharger, bottom	2																		
13	LW-31S5.31	BOLT, Turbocharger, top right	1																		
14	LW-31S4.72	BOLT, Turbocharger, support, top left	1																		
15	STD-2205	WASHER, 5/16 plain, thin	AR				4	4	4	4				4	4	4	4				4
16	STD-1420	NUT, 5/16-18 slotted	4				4	4	4	4				4	4	4	4				4
17	STD-2197	WASHER, 7/16 plain x 13/16 O.D.	4				4	4	4	4				4	4	4	4				4
18	STD-68	PIN, Cotter, 1/16 dia. x 1/2 long					4	4	4	4				4	4	4	4				4
19	LW-12689	TURBOCHARGER (TE-0659)	1																		
	LW-12463	TURBOCHARGER (TH08A60) (409170-1)					1	1	1					1	1	1					
	LW-13897	TURBOCHARGER (TH08A69) (465680-1)								1											1
20	STD-2154	BOLT, 3/8-24 x 1-3/4 long, Allen head	1																		
21	MS20500-624	NUT, 3/8-24 self-lock	4																		
22	AN960C516	WASHER, 5/16 plain	2																		
23	STD-2043	NUT, 5/16-18, self-locking	2																		
24	LW-12093-6	COUPLING, V-band, 2-1/4 O.D., bottom of exh. byp. valve	1				1	1	1	1				1	1	1	1				1
25	LW-12125-3	COUPLING, V-band, 2-1/4 O.D., bypass valve to transition	1				1	1	1	1				1	1	1	1				1
26	75845	GASKET, V-band coupling, 2-1/4 O.D. tube	1				1	1	1	1				1	1	1	1				1
27	STD-160	WASHER, 1/4 lock, internal tooth					2	2	2	2				2	2	2	2				2
28	LW-31S4.44	BOLT, 5/16-18 hex. head dr. end, bottom					2	2	2	2				2	2	2	2				2
29	LW-31S5.44	BOLT, 5/16-18 hex. head dr. end, top right					1	1	1	1				1	1	1	1				1
30	LW-31S5.31	BOLT, 5/16-18 hex. head dr. end, top left					1	1	1	1				1	1	1	1				1
31	AN960C-616	WASHER, 3/8 plain					6	6	6	6				6	6	6	6				6
32	STD-2145	BOLT, 3/8-16 x 1-3/16 long, hex. hd. dr. hd.					6	6	6	6				6	6	6	6				6
33	LW-16720 *	BLANKET, Turbocharger							1												
34	LW-12778	VALVE, Exhaust bypass	1				1	1	1					1	1	1					
	LW-16311	VALVE ASSY., Exhaust bypass								1											1
35	72376 **	ELBOW, 1/4 tube, 90°								1											1
36	LW-12437	TRANSITION, Turbocharger					1	1	1	1				1	1	1	1				1
37	LW-12127	TRANSITION ASSY., Turbocharger	1				1							1							
38	LW-12167	STUD, 5/16-18 x 1-1/4 long	2				2							2							
39	77823	STUD, 3/8-16 x 1-3/8	3				3							3							

TURBOCHARGER AND EXHAUST SYSTEMS
TURBOCHARGER, SUPPORT ASSEMBLY AND EXHAUST BYPASS VALVE (Continued)

FIG. REF.	PART NUMBER	DESCRIPTION	QUANTITY PER ASSEMBLY																			
			T10-540						LT10-540													
			A	C	F	J	N	R	S	F	J	N	R									
45			2	1	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2
40	STD-1932	BUSHING, 1/4 to 1/8 NPT	1	1	1	1	1	1	1			1	1	1	1	1	1	1	1	1	1	1
41	477312	SPRING, Exhaust valve	1				1	1	1	1			1	1	1	1	1	1	1	1	1	1

* Used with transition incorporating rear discharge wastegate.
** Uses "O" Ring, P/N MS29512-04.

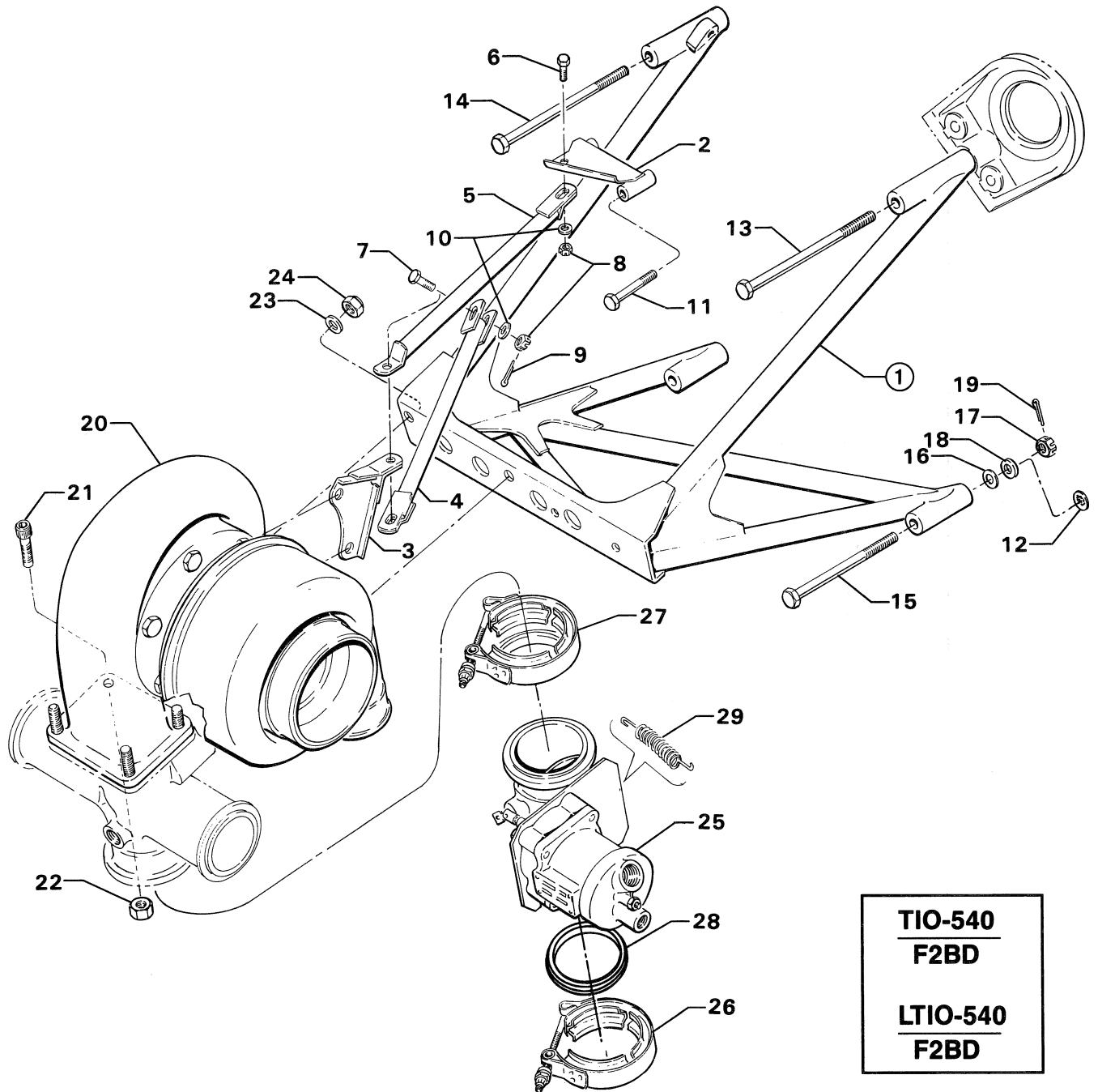


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Figure 45. TURBOCHARGER, SUPPORT ASSEMBLY AND EXHAUST BYPASS VALVE

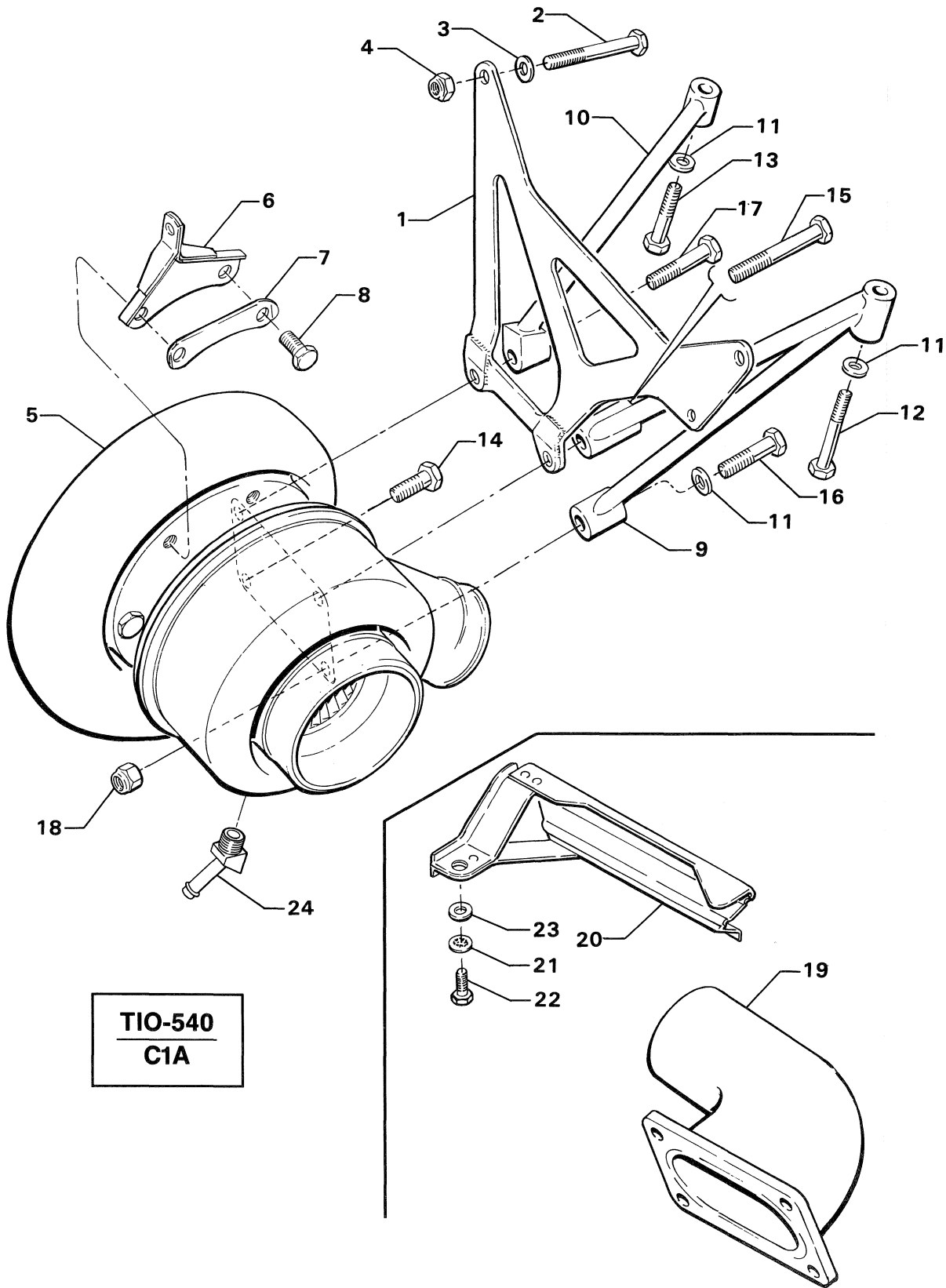
TURBOCHARGER AND EXHAUST SYSTEMS TURBOCHARGER, SUPPORT ASSEMBLY AND EXHAUST BYPASS VALVE

FIG. REF. 46	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																
				TIO-540					LTIO-540											
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D				
1	LW-12339	SUPPORT ASSY., Turbocharger				1								1						
2	LW-18459	BRACKET, Support rod				1								1						
3	LW-10119	PLATE, Top support				1								1						
4	LW-16965	ROD, Top support, left				1								1						
5	LW-18248	ROD, Top support, right				1								1						
6	LW-25S0.77	BOLT, 1/4-20 x 49/64 long, drilled end				1								1						
7	LW-25S1.14	BOLT, 1/4-20 x 1-9/64 long, drilled end				2								2						
8	STD-1864	NUT, 1/4-20 slotted				3								3						
9	STD-68	PIN, Cotter, 1/16 dia. x 1/2 long				3								3						
10	STD-8	WASHER, 1/4 plain				3								3						
11	LW-25-2.00	BOLT, 1/4-20 x 2.00 long, hex. head				2								2						
12	STD-160	WASHER, 1/4 lock, internal teeth				2								2						
13	LW-31S5.56	BOLT, 5/16-18 hex. head, top right				1								1						
14	LW-31S5.44	BOLT, 5/16-18 hex. head, drilled end, top left				1								1						
15	STD-2100	BOLT, Turbo mounting bracket, bottom				2								2						
16	STD-2205	WASHER, 5/16 plain				4								4						
17	STD-1420	NUT, 5/16-18, slotted				4								4						
18	STD-2197	WASHER, 5/16 plain x 13/16 O.D.				4								4						
19	STD-68	PIN, Cotter, 1/16 x 1/2 long				4								4						
20	LW-12689	TURBOCHARGER (TE-0659)				1								1						
21	STD-2154	BOLT, 3/8-24 x 1-3/4 long, Allen head				1								1						
22	MS20500-624	NUT, 3/8-24 self-locking				4								4						
23	AN960C516	WASHER, 5/16 plain				2								2						
24	STD-2043	NUT, 5/16-18 self-locking				2								2						
25	LW-14283	VALVE, Exhaust bypass				1								1						
26	LW-12093-6	COUPLING, V-band, 2-1/4 O.D., bottom of exh. byp. valve				1								1						
27	LW-12125-3	COUPLING, V-band, 2-1/4 O.D., bypass valve to transition				1								1						
28	75845	GASKET, V-band coupling, 2-1/4 O.D. tube				1								1						
29	477312	SPRING, Exhaust valve				1								1						



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Figure 46. TURBOCHARGER, SUPPORT ASSEMBLY AND EXHAUST BYPASS VALVE



T10-540
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Figure 47. TURBOCHARGER, SUPPORTS, BRACKETS AND RELATED PARTS

TURBOCHARGER AND EXHAUST SYSTEMS TURBOCHARGER RELATED AND ATTACHING PARTS

FIG. REF. 48	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY															
				TIO-540					LTIO-540										
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D			
1	75330	HOSE, Air box, 2-1/2 I.D.		1		1								1					
2	LW-15858-62-294	CLAMP, T-Bolt		2		2								2					
3	LW-15569	HOSE, Fuel injector inlet, 3-7/8 I.D.				1								1					
	75324	HOSE, Fuel injector inlet, 3-7/8 I.D.		1															
4	LW-15570	CLAMP, T-Bolt, 4-3/8 dia.				1								1					
	LW-15858-62-443	CLAMP, T-Bolt		2		1								1					
5	LW-13437	VALVE ASSY., Air				1								1					
	LW-10468	VALVE ASSY., Air		1															
6	LW-13436	BOX, Air inlet				1								1					
	LW-10453	BOX, Air inlet		1															
7	77723	GASKET, Turbo bypass door		1		1								1					
8	LW-10959	DOOR ASSY., Turbo bypass		1		1								1					
9	77722	GASKET, Turbo bypass retainer		1		1								1					
10	77721	RETAINER, Turbo bypass door		1		1								1					
11	LW-38-0.59	BOLT, 3/8-16 x 19/32 long, hex. head		1		1								1					
12	STD-33	WASHER, 3/8 plain		1		1								1					
13	STD-678	WASHER, 3/8 lock, internal teeth		1		1								1					
14	STD-28	WASHER, No. 10 plain		4		4								4					
15	STD-1896	SCREW, No. 10-24 x 7/8 long, fill. hd. dr. hd.		6		6								6					
16	78162	BRACKET, Magnetic catch		1		1								1					
17	78164	MAGNETIC CATCH & SUPPORT ASSY., Turbo bypass door		1		1								1					
18	STD-860	SCREW, No. 10-32		2		2								2					
19	STD-670	NUT, No. 10-32, self-locking		2		2								2					
20	78167	WASHER, 3/4 long x 1/2 wide x 1/16 thick		2		2								2					
21	MS29512-04	SEAL, Oil, 5/64 dia. sect. x 23/64 I.D.		2		2								2					
22	AN814-4L	PLUG, 7/16-20 thread		2		2								2					
23	MS29512-03	SEAL, Oil, 1/16 dia. x 5/16 I.D.		1		1								1					
24	AN833-3	ELBOW, 3/16 flared tube, bulkhead, 90°		1		1								1					
25	AN924-3	NUT, Flared tube, bulkhead fitting		1		1								1					
26	77461 *	TEE, Flared tube with st. thread on side		1		1								1					
27	74070 *	ELBOW, Flared tube & bulkhead, 45°		1		1								1					
28	1102	PLUG, 1/8-27 NPT, Allen		1		1								1					
29	76791	BAFFLE, Transition turbocharger		1		1								1					
30	STD-110	SCREW, No. 10-24 x 1/2 long, fill. head		2		2								2					
31	STD-251	WASHER, No. 10, lock, internal teeth		2		2								2					
32	STD-420	NUT, No. 10-24 plain		2		2								2					
33	LW-12786-3-073	HOSE, Fuel pump vent		1		1								1					

* Uses "O" Ring, P/N MS29512-06.

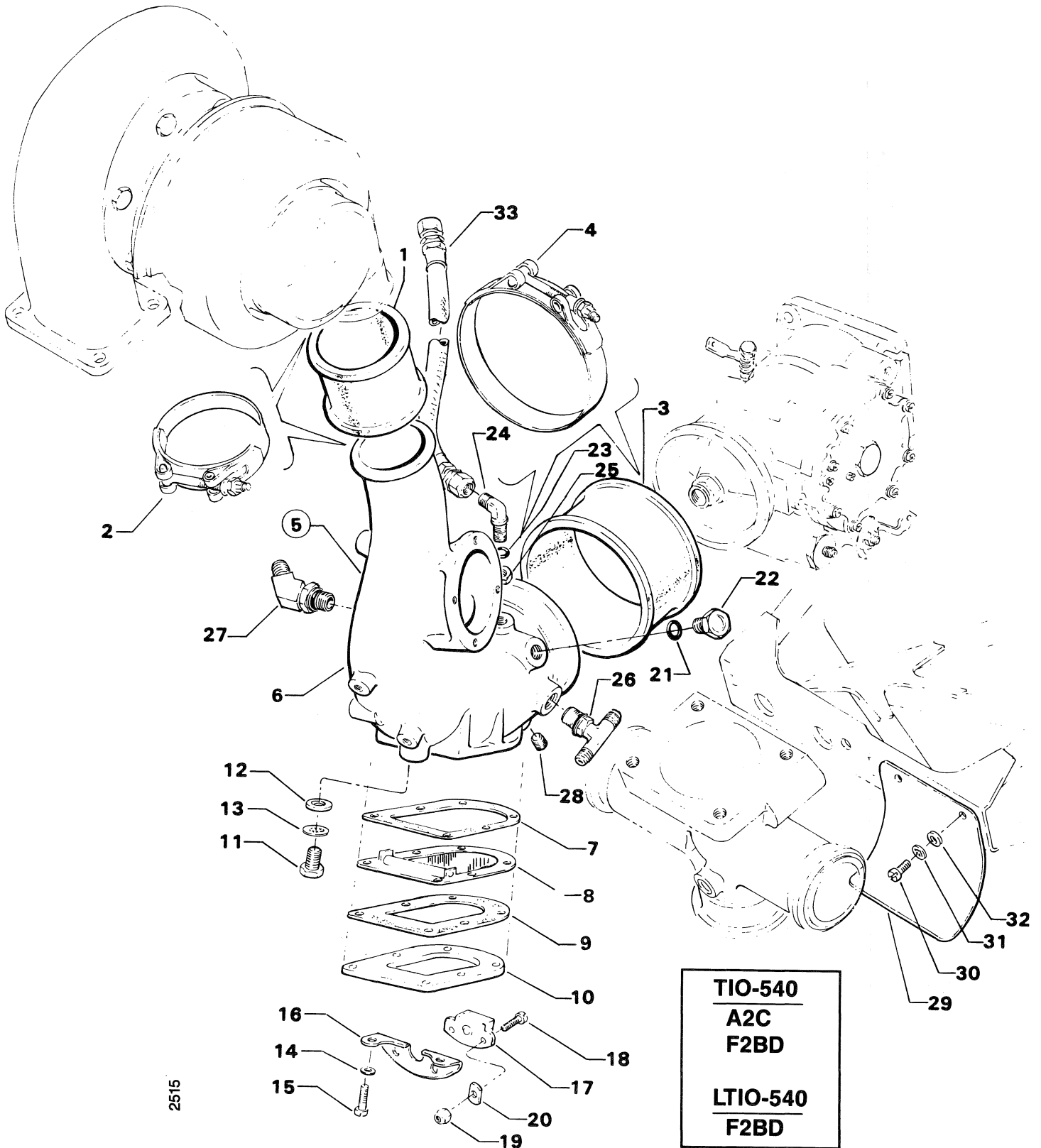
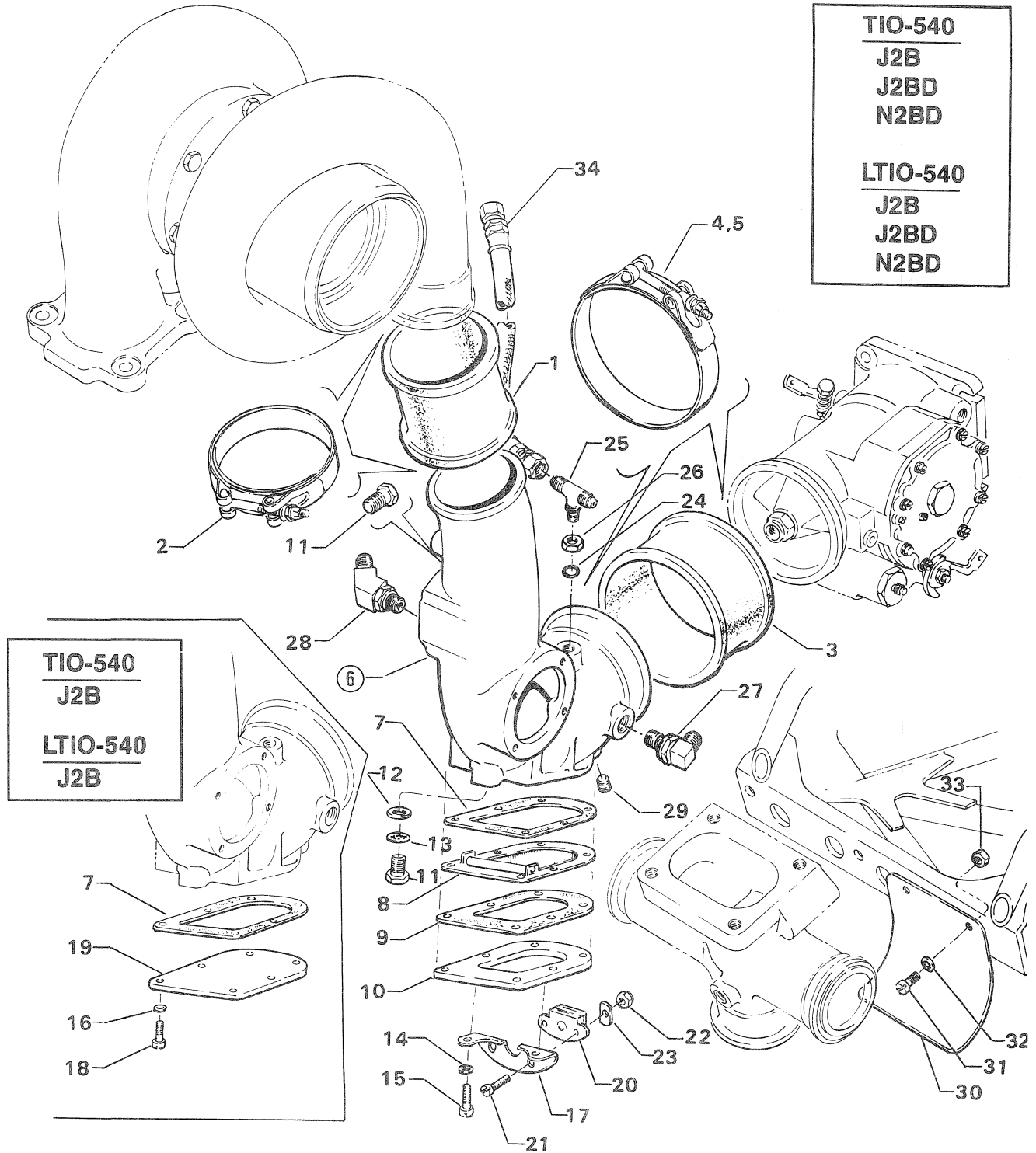


Figure 48. TURBOCHARGER RELATED AND ATTACHING PARTS

TURBOCHARGER AND EXHAUST SYSTEMS TURBOCHARGER RELATED AND ATTACHING PARTS

FIG. REF.	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY														
				TIO-540					LTIO-540									
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D		
1	LW-12434	HOSE, Air box, 3.00 I.D.					1	1	1					1	1	1		
2	LW-15858-62-350	CLAMP, T-Bolt					2	2	2					2	2	2		
3	LW-15569	HOSE, Fuel injector inlet, 3-7/8 I.D.					1	1	1					1	1	1		
4	LW-15570	CLAMP, T-Bolt, 4-3/8 dia.					1	1	1					1	1	1		
5	LW-15858-62-443	CLAMP, T-Bolt					1	1	1					1	1	1		
6	LW-12473	VALVE ASSY., Air						1	1						1	1		
	LW-18359	VALVE ASSY., Air					1							1				
7	77723	GASKET, Turbo bypass door					1	1	1					1	1	1		
8	LW-10959	DOOR ASSY., Turbo bypass						1	1						1	1		
9	77722	GASKET, Turbo bypass retainer						1	1						1	1		
10	77721	RETAINER, Turbo bypass door						1	1						1	1		
11	LW-38-059	BOLT, 3/8-16 x 19/32 long, hex. head					2	1	1					2	1	1		
12	STD-33	WASHER, 3/8 plain					2	1	1					2	1	1		
13	STD-678	WASHER, 3/8 internal lock					2	1	1					2	1	1		
14	STD-28	WASHER, No. 10 plain					6	4	4					6	4	4		
15	STD-1896	SCREW, No. 10-24 x 7/8 long, fill. hd. dr. hd.						6	6						6	6		
16	STD-251	WASHER, No. 10 lock					6							6				
17	78162	BRACKET, Magnetic catch						1	1						1	1		
18	STD-1501	SCREW, No. 10-24 x 3/4 long, fill. hd.					6							6				
19	LW-18357	COVER, Turbo bypass door					1							1				
20	78164	MAGNETIC CATCH & SUPPORT ASSY., Turbo bypass door																
								1	1						1	1		
21	STD-860	SCREW, No. 10-32 x 5/8 long, fill. hd.						2	2						2	2		
22	STD-670	NUT, No. 10-32 self-locking						2	2						2	2		
23	78167	WASHER, 3/4 long x 1/2 wide x 1/16 thick						2	2						2	2		
24	MS29512-03	SEAL, Oil, 1/16 dia. x 19/64 I.D.					1	1	1					1	1	1		
25	AN834-3	TEE, 3/16 tube, bulkhead, 90°					1	1	1					1	1	1		
26	AN924-3	NUT, Flared tube, bulkhead fitting					1	1	1					1	1	1		
27	72377 *	ELBOW, 3/8 tubing, adjustable 90°					1	1	1					1	1	1		
28	74070 *	ELBOW, Flared tube & bulkhead, 45°					1	1	1					1	1	1		
29	1102	PLUG, 1/8-27 NPT, Allen head					1	1	1					1	1	1		
30	76791	BAFFLE, Transition, turbocharger					1	1	1					1	1	1		
31	STD-110	SCREW, No. 10-24 x 1/2 long, fill. head					2	2	2					2	2	2		
32	STD-251	WASHER, No. 10 internal lock					2	2	2					2	2	2		
33	STD-420	NUT, No. 10-24 plain					2	2	2					2	2	2		
34	LW-12786-3-073	HOSE, Fuel pump vent					1	1	1					1	1	1		

* Uses "O" Ring, P/N MS29512-06.



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Figure 49. TURBOCHARGER RELATED AND ATTACHING PARTS

TURBOCHARGER AND EXHAUST SYSTEMS TURBOCHARGER RELATED AND ATTACHING PARTS

FIG. REF. 50	PART NUMBER	DESCRIPTION	O	QUANTITY PER ASSEMBLY													
				TIO-540							LTIO-540						
				A	C	F	J	J	N	R	S	F	J	J	N	R	
2	1	2	2	2	2	2	1	2	2	2	2	2					
L	C	A	D	B	D	D	A	D	D	B	B	D	B	A			
1	LW-12434	HOSE, Air box, 3.00 I.D.						1						1			
2	LW-15858-62-350	CLAMP, T-Bolt						2						2			
3	LW-15569	HOSE, Fuel injector inlet, 3-7/8 I.D.						1						1			
4	LW-15570	CLAMP, T-Bolt, 4-3/8 dia.						1						1			
5	LW-15858-62-443	CLAMP, T-Bolt						1						1			
6	LW-13777	VALVE ASSY., Air						1						1			
7	LW-38-059	BOLT, 3/8-16 x 19/32 long, hex. head						1						1			
8	STD-33	WASHER, 3/8 plain						1						1			
9	STD-678	WASHER, 3/8 internal lock						1						1			
10	MS29512-03	SEAL, Oil, 1/16 dia. x 19/64 I.D.						1						1			
11	AN834-3	TEE, 3/16 tube, 90°						1						1			
12	AN924-3	NUT, Flared tube, 90°						1						1			
13	77461 *	TEE, 3/8 tube x 9/16 thd. adj. (nozzle vent)						1						1			
14	1102	PLUG, 1/8-27 NPT, Allen head						1						1			
15	76791	BAFFLE, Transition, turbocharger						1						1			
16	STD-110	SCREW, No. 10-24 x 1/2 long, fill. head						2						2			
17	STD-251	WASHER, No. 10 internal lock						2						2			
18	STD-420	NUT, No. 10-24 plain						2						2			
19	LW-12786-3-073	HOSE, Fuel pump vent						1						1			
20	75993	GASKET, Sonic nozzle						1						1			
21	LW-14041	NOZZLE, Sonic						1						1			
22	LW-14036	HEAT SHIELD, Sonic nozzle						1						1			
23	STD-8	WASHER, 1/4 plain						3						3			
24	STD-160	WASHER, 1/4 internal lock						3						3			
25	LW-25-0.81	BOLT, 1/4-20 x 13/16 long, hex. head						3						3			

* Uses "O" Ring, P/N MS29512-06.

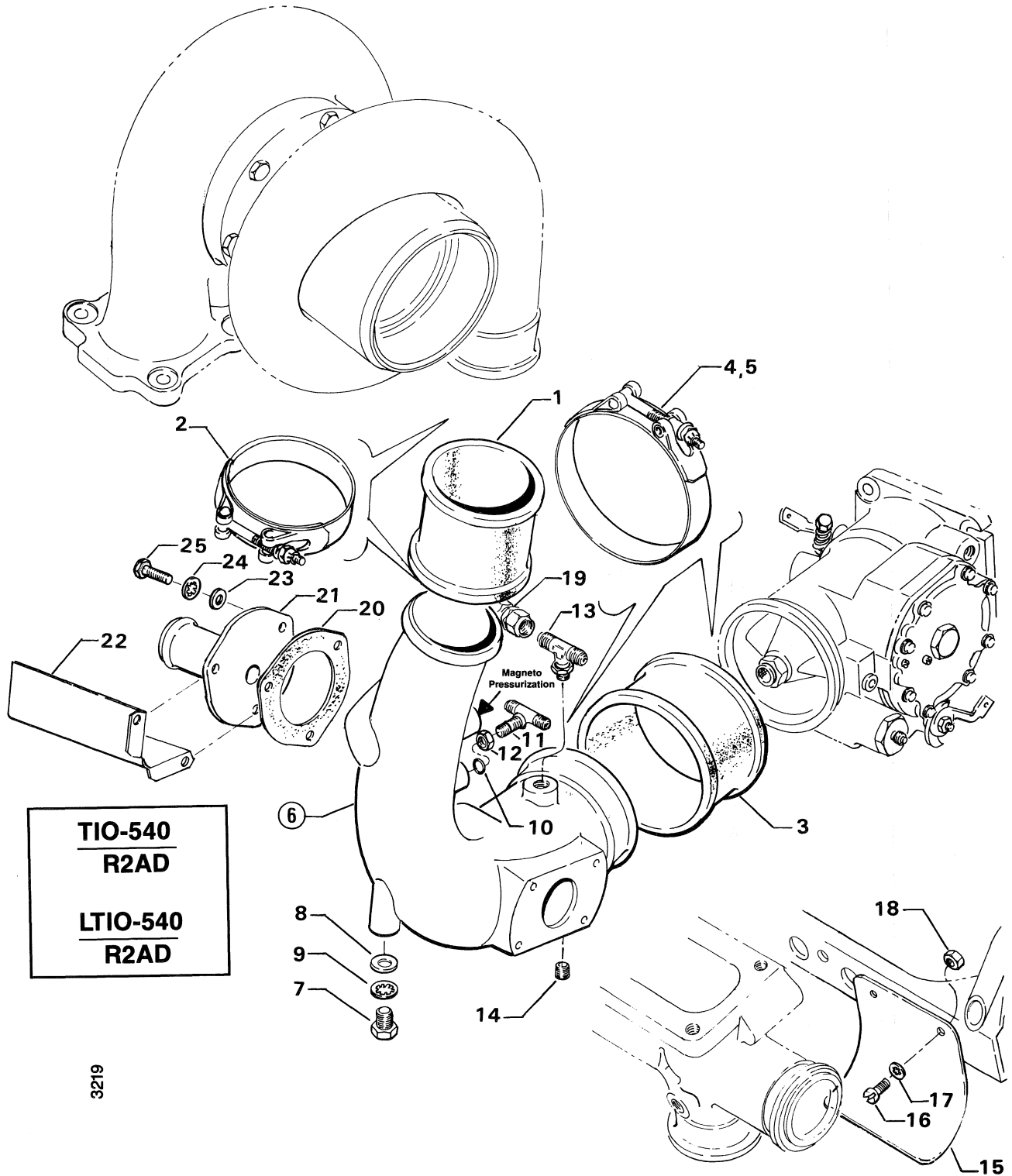


Figure 50. TURBOCHARGER RELATED AND ATTACHING PARTS

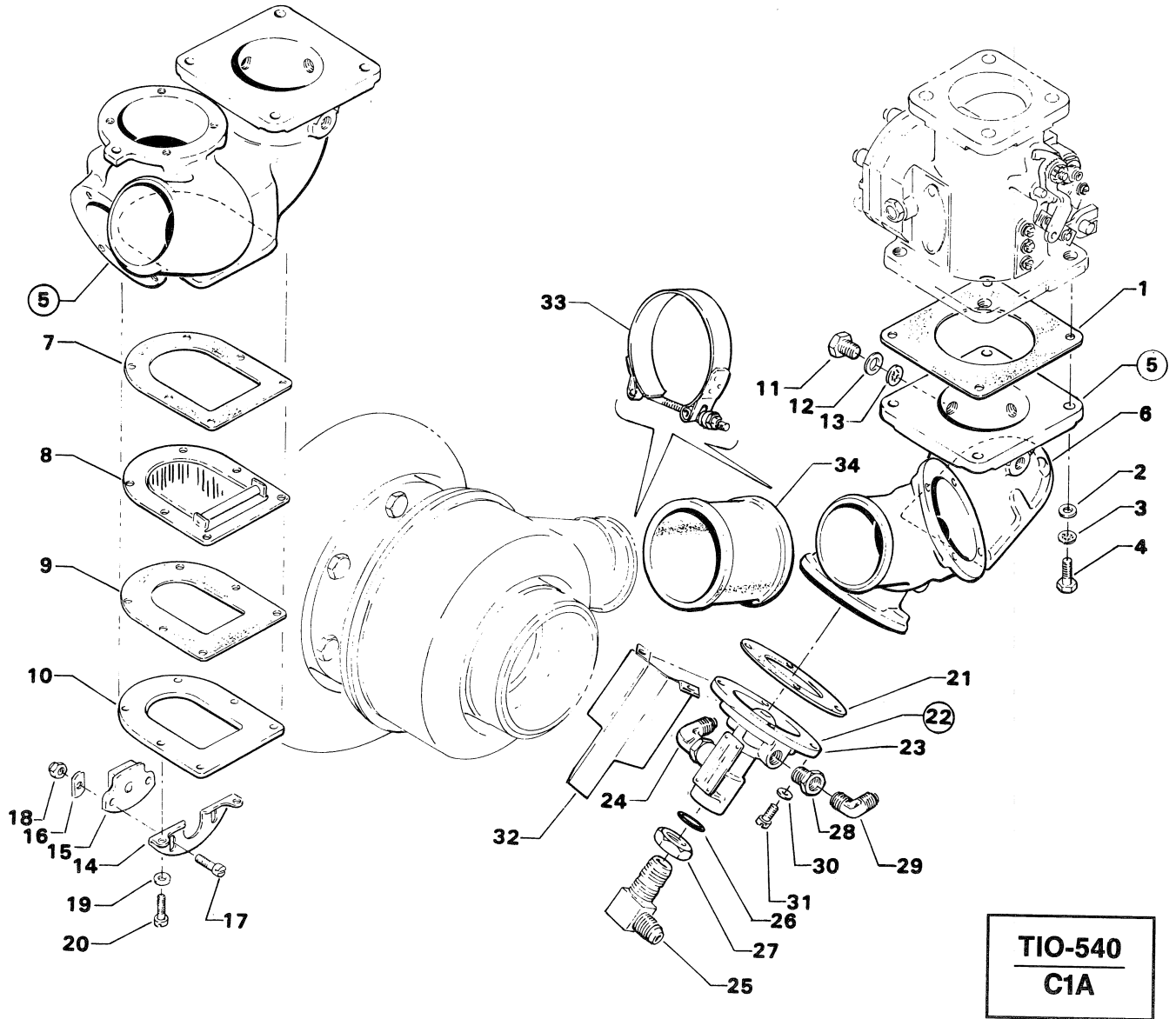


Figure 51. TURBOCHARGER RELATED AND ATTACHING PARTS

TURBOCHARGER AND EXHAUST SYSTEMS

TURBOCHARGER RELATED AND ATTACHING PARTS

FIG. REF. 52	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY																				
				T10-540						LT10-540														
				A 2 C	C 1 A	F 2 B D	J 2 B	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B	J 2 B D	N 2 B D	R 2 A D								
1	74944	GASKET, Fuel injector												1										
2	LW-14461	DUCT, Air inlet												1										
3	LW-38-0.59	BOLT, 3/8-16 x 19/32 long, hex. hd.												1										
4	STD-35	WASHER, 5/16 plain												4										
5	STD-1727	WASHER, 11/32 I.D. x 1/8 thick												4										
6	STD-475	WASHER, 5/16 internal lock												4										
7	LW-31-1.16	BOLT, 5/16-18 x 1-5/32 long, hex. head												4										
8	STD-1410	NUT, 5/16-18 plain												4										
9	LW-15643	PIPE ASSY., Fuel injector air inlet												1										
10	77723	GASKET, Turbo bypass												1										
11	LW-10959	DOOR ASSY., Turbo bypass												1										
12	77722	GASKET, Turbo bypass retainer												1										
13	77721	RETAINER, Turbo bypass door												1										
14	STD-28	WASHER, No. plain												4										
15	STD-1896	SCREW, No. 10-24 x 7/8 long, fill. hd., dr. hd.												6										
16	78162	BRACKET, Magnetic catch												1										
17	78164	MAGNETIC CATCH & SUPPORT ASSY.												1										
18	STD-860	SCREW, No. 10-32												2										
19	STD-670	NUT, No. 10-32 self-locking												2										
20	78167	WASHER, 3/4 long x 1/2 wide x 1/16 thick												2										
21	LW-14467	HOSE, 2-1/2 dia. to 2-3/4 dia.												1										
22	AN737TW-98	CLAMP, Hose, 2-5/8 to 3-1/16 dia. x 9/16 wide												1										
23	AN737TW-107	CLAMP, Hose, 2-29/32 to 3-11/32 dia. x 9/16 wide												1										
24	75330	HOSE, 2-1/2 I.D. x 2-7/8 O.D. x 2-1/4 long												1										
25	LW-15858-62-294	CLAMP, T-Bolt												2										
26	LW-15750	BRACKET, Carburetor air inlet pipe												1										
27	STD-8	WASHER, 1/4 plain												1										
28	STD-160	WASHER, 1/4 internal lock												1										
29	LW-25-0.63	BOLT, 1/4-20 x 5/8 long, hex. head												1										
30	MS29513-138	SEAL, "O" Ring, 2-7/64 I.D. x 7/64 sect.												1										
31	LW-14445-10	VALVE ASSY., Absolute pressure relief												1										
32	STD-28	WASHER, No. 10 plain												4										
33	STD-251	WASHER, No. 10 internal lock												4										
34	STD-1501	SCREW, No. 10-24 x 3/4 long, fill. head												4										

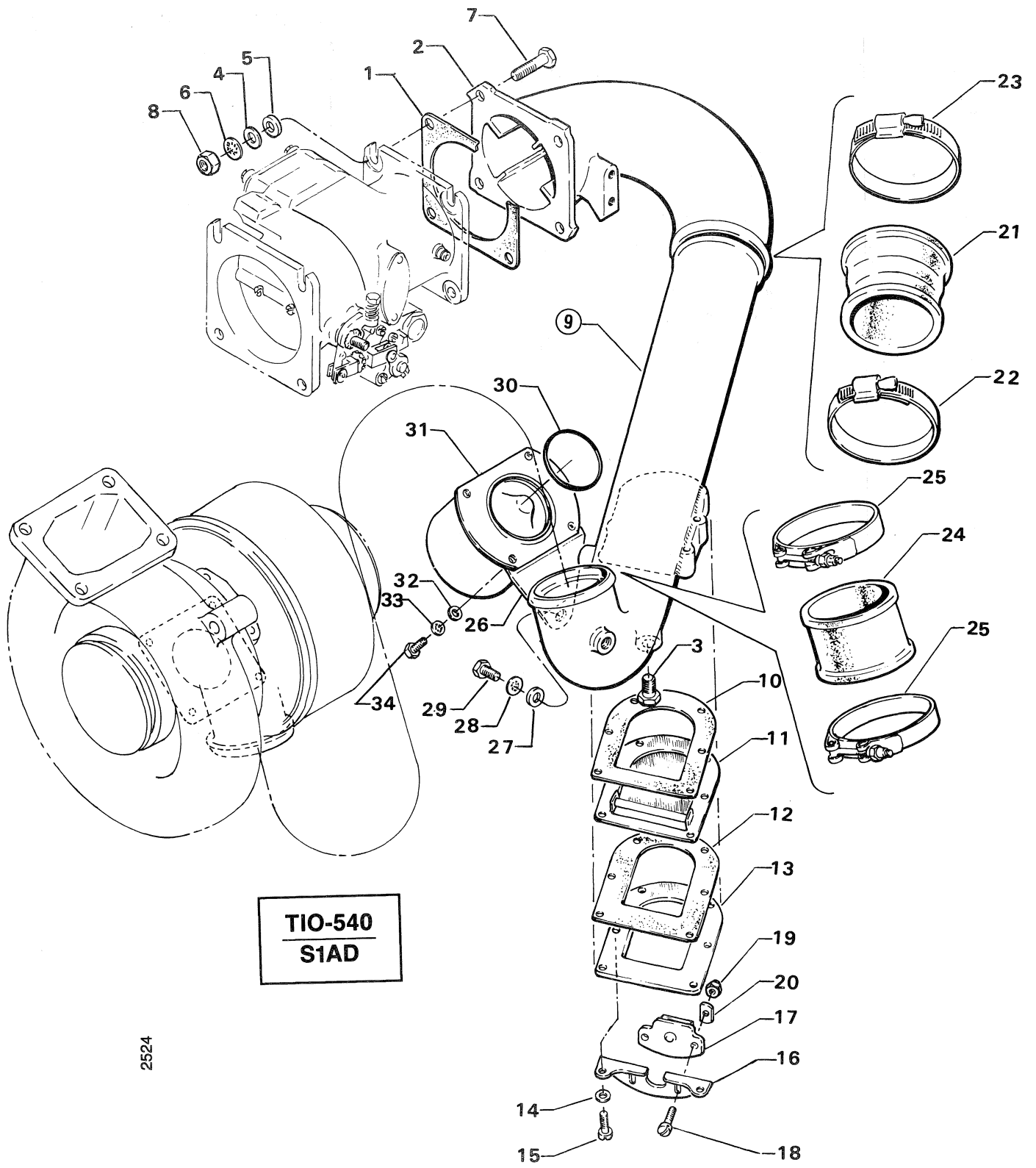


Figure 52. TURBOCHARGER RELATED AND ATTACHING PARTS

TURBOCHARGER AND EXHAUST SYSTEMS
DENSITY CONTROLLERS AND RELATED PARTS

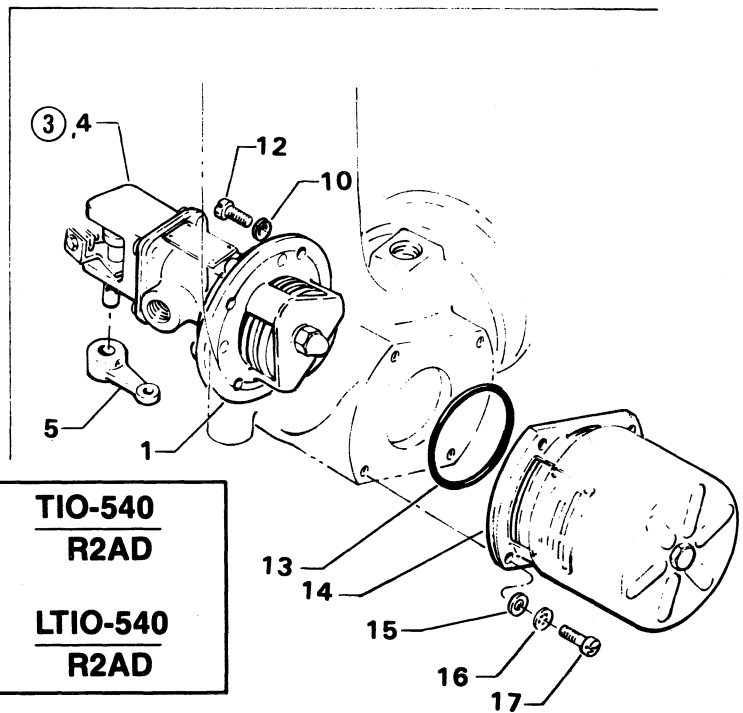
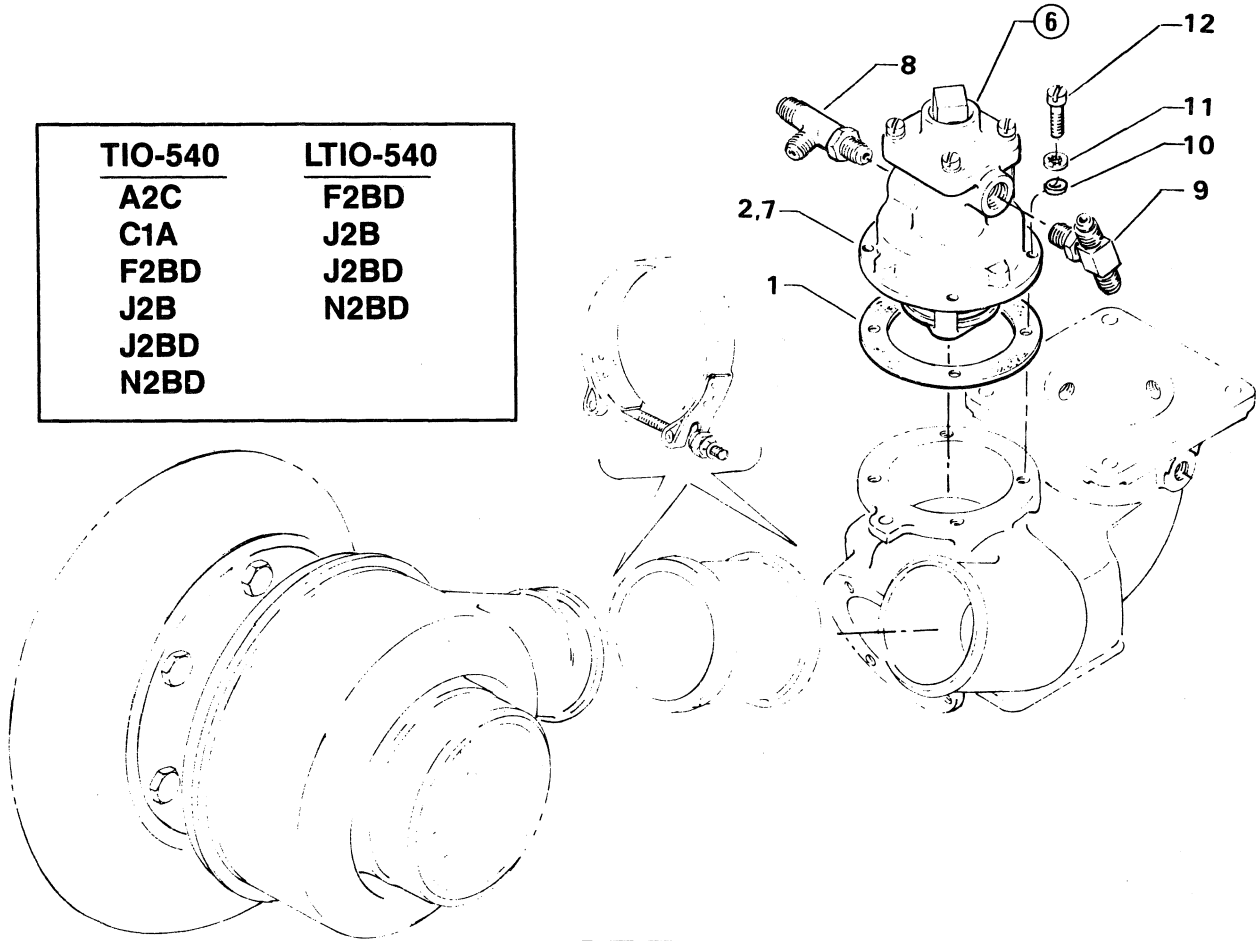
FIG. REF.	PART NUMBER	DESCRIPTION	O	QUANTITY PER ASSEMBLY																									
				N	TIO-540						LTIO-540																		
					A	C	F	J	J	N	R	S	F	J	J	N	R												
53			A	2	1	C	1	F	2	J	2	J	2	N	2	R	2	S	1	F	2	J	2	J	2	N	2	R	2
1	73314	GASKET, Density controller	L	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	LW-10682	CONTROLLER, Density		1		1														1									
	LW-16840	CONTROLLER, Density					1	1	1												1	1	1	1	1	1	1	1	1
3	LW-16061	CONTROLLER ASSY., Density (adj. absolute pressure)																	1										1
4	LW-16060	CONTROLLER, Density (adj. absolute pressure)																	1										1
5	LW-12773	LEVER, Controller (See Note)																	1										1
6	LW-16070	CONTROLLER ASSY., Density				1																							
7	LW-10682	CONTROLLER, Density				1																							
8	76355 *	TEE, 3/8 tubing, adjustable (inlet)				1																							
9	77461 *	TEE, 3/8 tube, adjustable (outlet)				1																							
10	STD-28	WASHER, No. 10 plain		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
11	STD-251	WASHER, No. 10 lock			4																								
12	STD-1566	SCREW, No. 10-24 x 3/4 long, fill. hd. dr. hd.		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
13	74382	RING, Oil seal, 3/32 dia. x 2.00 I.D.																	1										1
14	LW-14445-6	VALVE ASSY., Absolute pressure relief																	1										1
15	STD-28	WASHER, No. 10 plain																	4										4
16	STD-251	WASHER, No. 10 internal lock																	4										4
17	STD-375	SCREW, No. 10-24 x 5/8 long, fill. hd.																	4										4

* Uses "O" Ring, P/N MS29512-06.

NOTE

This lever is attached with a Roll Pin P/N STD-2099 (1/8 x 3/4 long).

<u>TIO-540</u>	<u>LTIO-540</u>
A2C	F2BD
C1A	J2B
F2BD	J2BD
J2B	N2BD
J2BD	
N2BD	



<u>TIO-540</u>
R2AD
<u>LTIO-540</u>
R2AD

2523

Figure 53. DENSITY CONTROLLERS AND RELATED PARTS

TURBOCHARGER AND EXHAUST SYSTEMS
TURBOCHARGER HOSES, FITTINGS & RELATED PARTS

FIG. REF. 54	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY														
				TIO-540										LTIO-540				
				A	C	F	J	J	N	R	S	F	J	J	N	R		
				2	1	B	2	B	B	A	A	B	2	B	B	B	A	
1	LW-16266-10-63	CLIP, Turbo oil in hose to bracket					1									1		
2	LW-16266-10-75	CLIP, Turbo oil in bracket to hose					1									1		
3	STD-860	SCREW, No. 10-32 x 5/8 long					1									1		
4	STD-670	NUT, No. 10-32 self-locking					1									1		
5	76734	ZIP STRAP (Hose to bracket)					1									1		
6	LW-12798-4S190	HOSE ASSY., Tee to turbo oil inlet					1									1		
7	76734	ZIP STRAP (Turbo oil inlet hose to turbo support)					1									1		
8	LW-12690	ELBOW, 90° tube to male pipe (turbo oil inlet)					1									1		
9	STD-1932	BUSHING, 1/8 NPT to 1/4 NPT, (turbo oil inlet adapter)					1									1		
10	75371	GASKET, Turbo oil inlet adapter					1									1		
11	LW-14465	ADAPTER, Turbo oil inlet					1									1		
12	STD-33	WASHER, 3/8 plain					2									2		
13	STD-678	WASHER, 3/8 internal lock					2									2		
14	LW-38-0.75	BOLT, 3/8-16 x 3/4 long, hex. head					2									2		
15	78903	GASKET, Turbo oil drain					1									1		
16	LW-18385	TUBE ASSY., Turbo oil drain					1									1		
17	STD-33	WASHER, 3/8 plain					2									2		
18	STD-678	WASHER, 3/8 internal lock					2									2		
19	LW-38-0.75	BOLT, 3/8-16 x 3/4 long, hex. head					2									2		
20	LW-11373	HOSE, Turbo oil drain					1									1		
21	LW-15592-8-16	CLAMP, Hose					2									2		
22	AN840-16D	NIPPLE, Turbo oil drain					1									1		
23	LW-16977*	ELBOW, Turbo oil drain					1									1		
24	MS-20822-6	ELBOW, Density drain					1									1		

* Assemble in accessory housing.

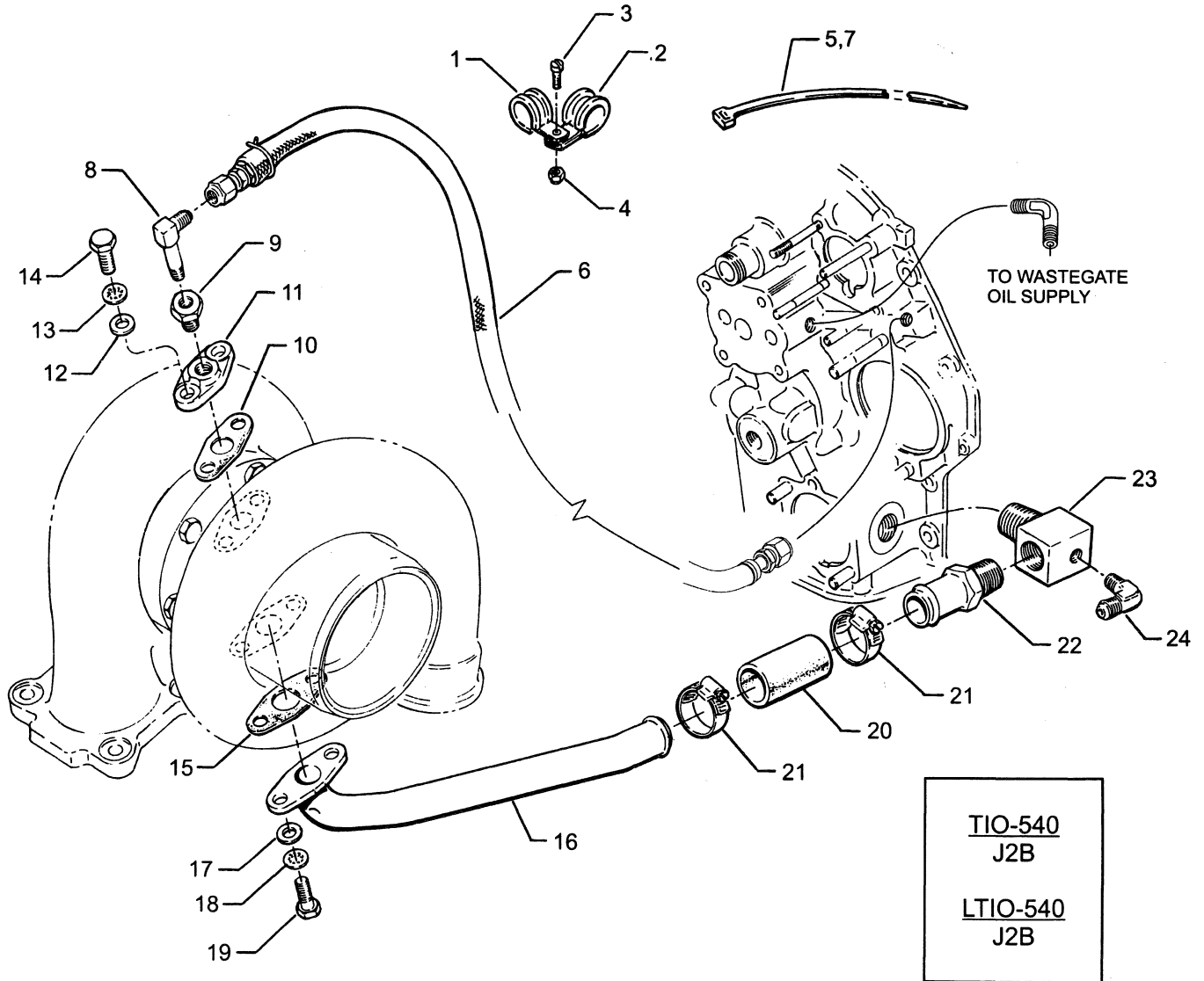


FIGURE 54. TURBOCHARGER HOSES, FITTINGS & RELATED PARTS

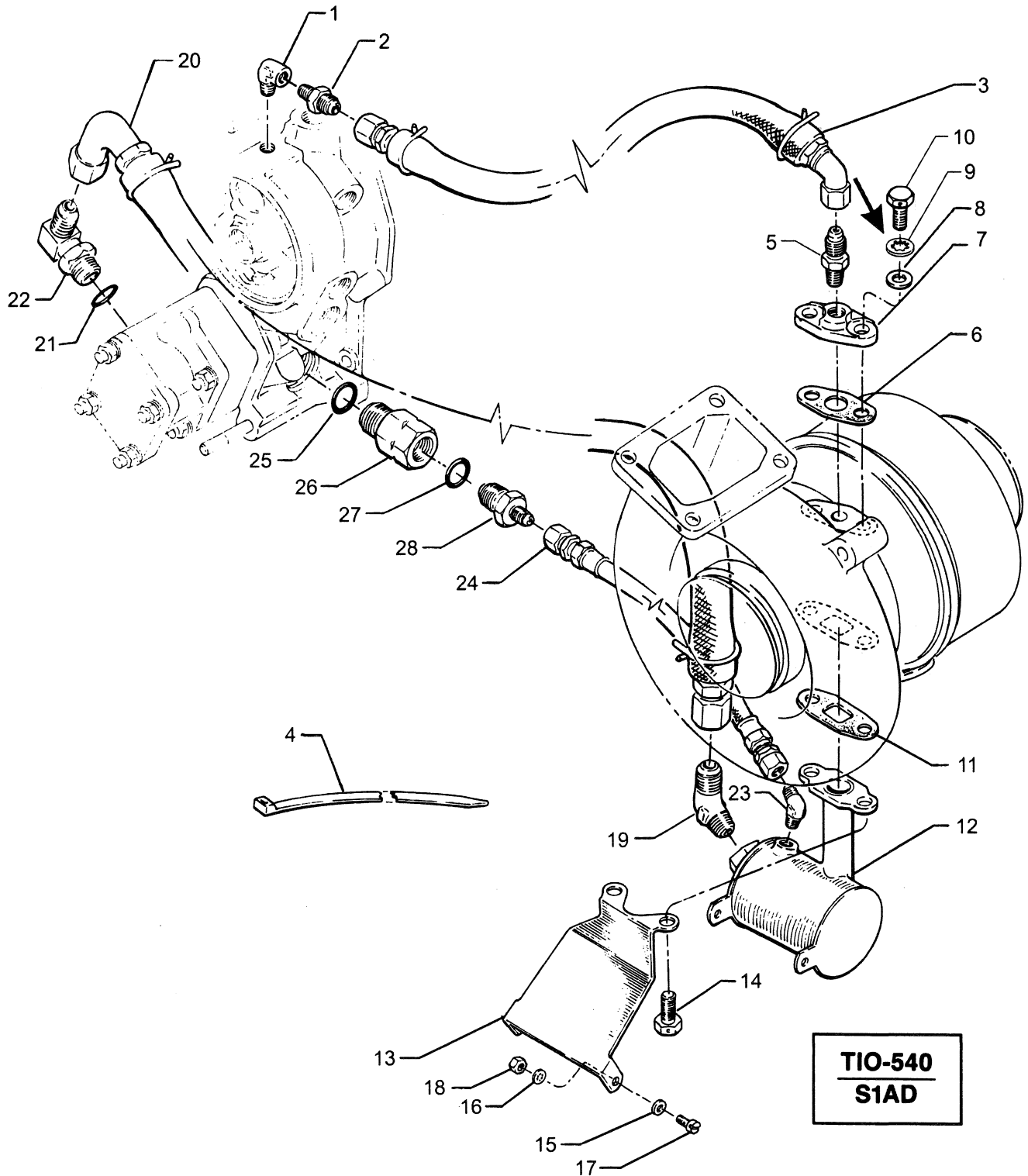


FIGURE 55. TURBOCHARGER HOSES, FITTINGS AND RELATED PARTS

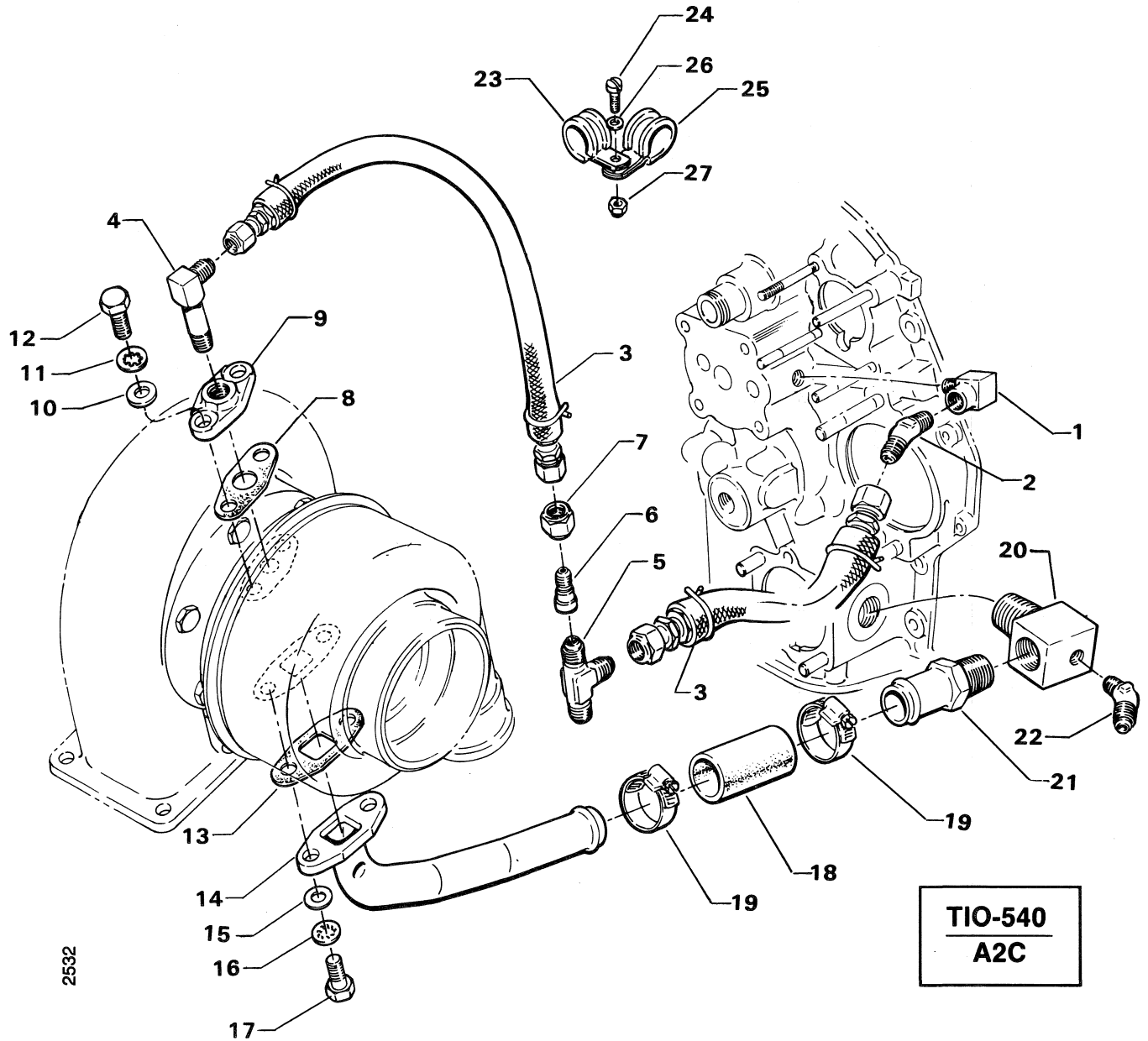
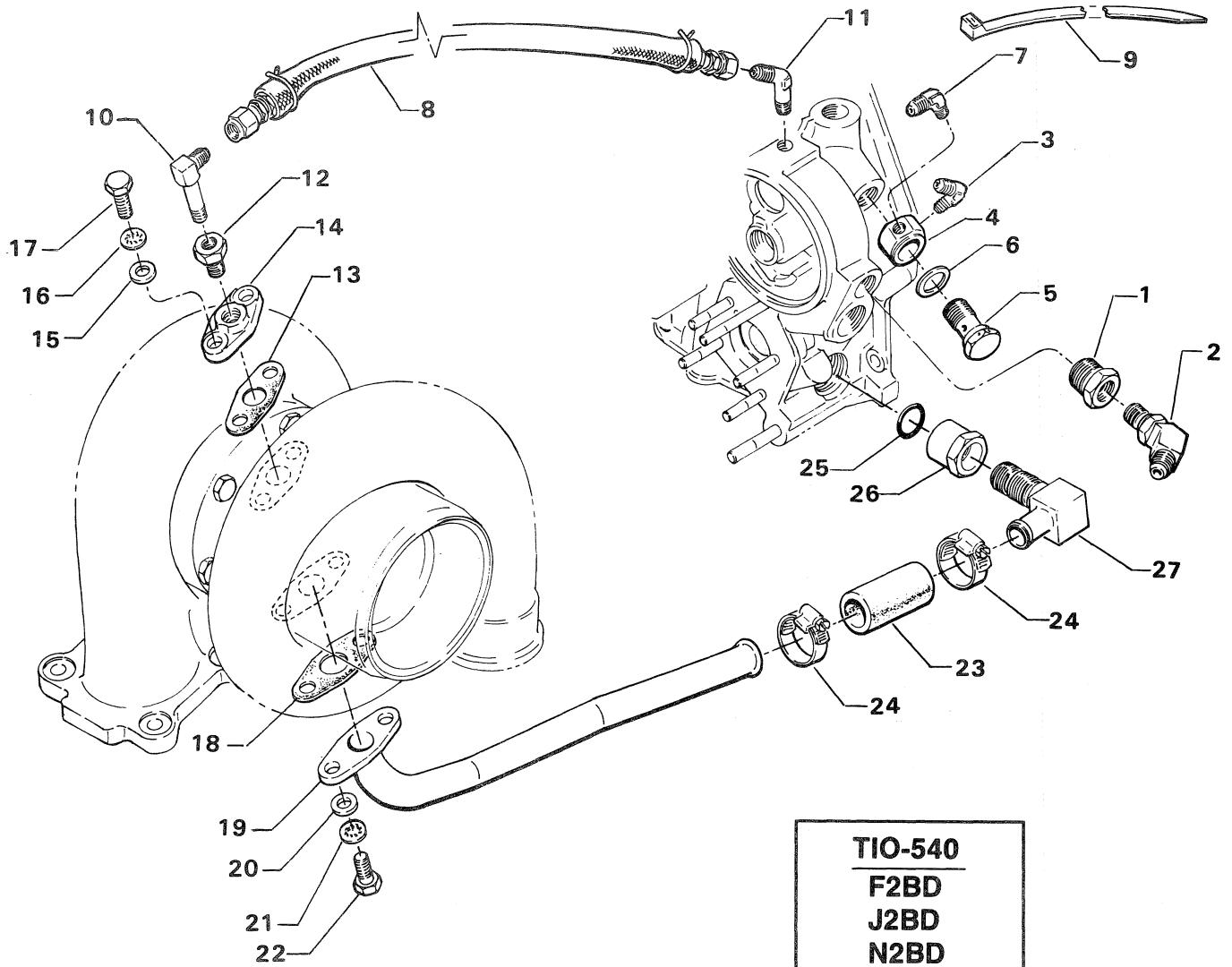


Figure 56. TURBOCHARGER HOSES, FITTINGS & RELATED PARTS

TURBOCHARGER AND EXHAUST SYSTEMS TURBOCHARGER HOSES, FITTINGS & RELATED PARTS

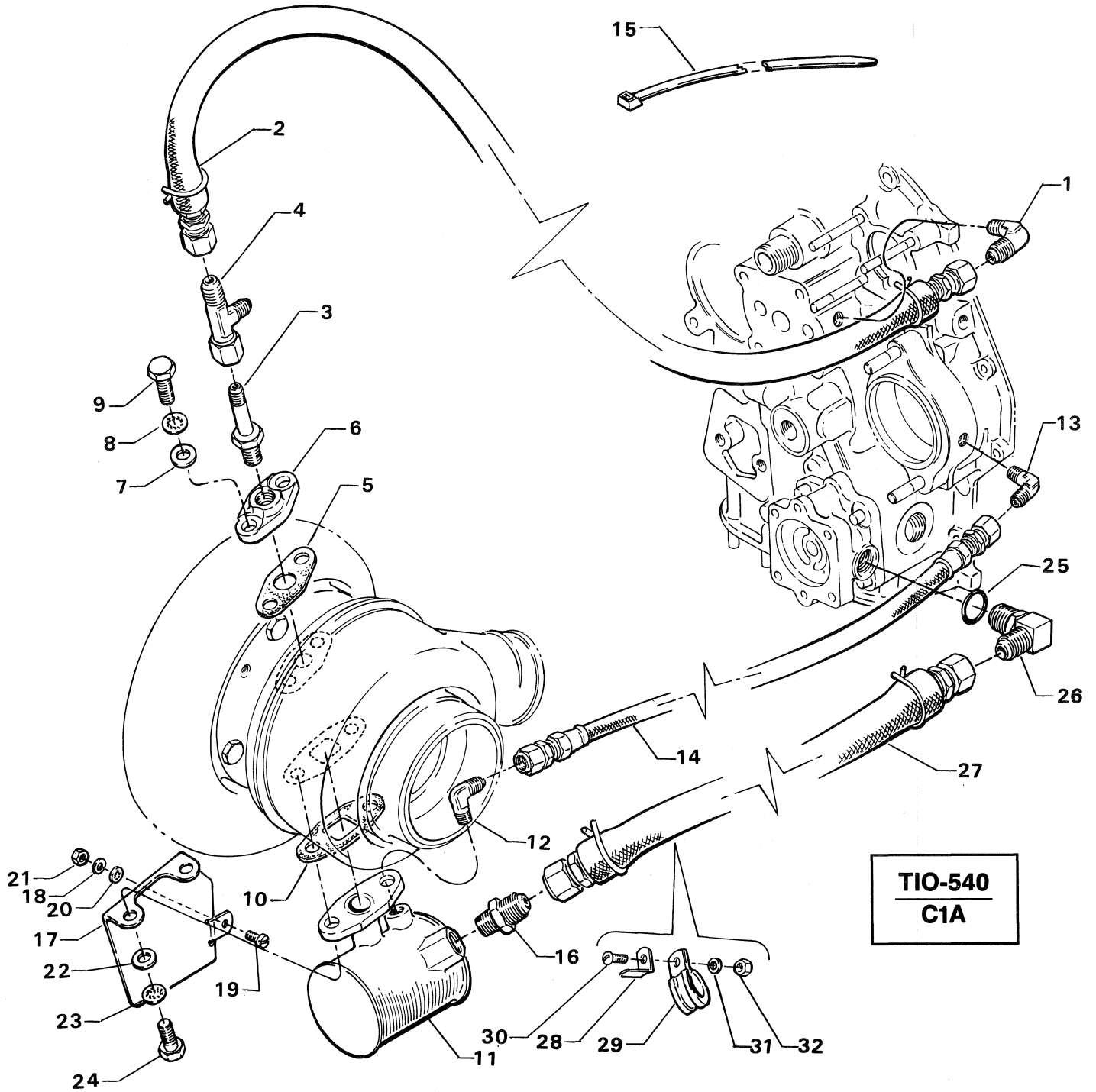
FIG. REF. 57	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY													
				TIO-540					LTIO-540								
				A 2 C	C 1 A	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	J 2 B D	N 2 B D	R 2 A D	
1	LW-11999	REDUCER, 7/8-14 to 9/16-18				1		1	1	1			1		1	1	1
2	74070	ELBOW, 3/8 tube, 45°				1		1	1				1		1	1	
	72377	ELBOW, 3/8 tube, 90°															1
3	LW-10466	ELBOW, 3/16 tube x 1/8 NPT, 90° restricted (oil pressure)				1		1	1	1			1		1	1	1
4	LW-12056	SPACER, Oil pressure fitting				1		1	1	1			1		1	1	1
5	LW-15996	BOLT, Oil pressure fitting				1		1	1	1			1		1	1	1
6	AN901-8A	GASKET, 3/4 I.D. x 1.00 O.D.				1		1	1	1			1		1	1	1
7	MS20822-4	ELBOW, 1/4 tube x 1/8 NPT, 90°				1		1	1	1			1		1	1	1
8	LW-12798-4S190	HOSE ASSY., (Elbow to turbo oil inlet)				1		1	1	1			1		1	1	1
9	76734	ZIP STRAP, (Turbo oil inlet hose to turbo support)				1		1	1	1			1		1	1	1
10	LW-12690	ELBOW, 90° tube to male pipe (turbo oil inlet)				1		1	1	1			1		1	1	1
11	LW-13128	ELBOW, 1/4 flared tube & 1/8 pipe thread, 45°				1		1	1	1			1		1	1	1
12	STD-1932	BUSHING, 1/8 NPT to 1/4 NPT				1		1	1	1			1		1	1	1
13	75731	GASKET, Turbo oil inlet adapter				1		1	1	1			1		1	1	1
14	76889	ADAPTER, Turbo oil inlet				1		1	1	1			1		1	1	1
15	STD-33	WASHER, 3/8 plain				2		2	2	2			2		2	2	2
16	STD-678	WASHER, 3/8 internal lock				2		2	2	2			2		2	2	2
17	LW-38-0.75	BOLT, 3/8-16 x 3/4 long, hex. head				2		2	2	2			2		2	2	2
18	LW-18038	GASKET, Turbo oil drain adapter				1							1				
	78903	GASKET, Turbo oil drain adapter						1	1	1					1	1	1
19	LW-18306	TUBE ASSY., Turbo oil drain				1							1				
	LW-18307	TUBE ASSY., Turbo oil drain						1	1	1					1	1	1
20	STD-33	WASHER, 3/8 plain				2		2	2	2			2		2	2	2
21	STD-678	WASHER, 3/8 internal lock				2		2	2	2			2		2	2	2
22	LW-38-0.75	BOLT, 3/8-16 x 3/4 long, hex. head				2		2	2	2			2		2	2	2
23	73781	HOSE, Turbo oil drain				1		1	1	1			1		1	1	1
24	LW-15592-8-12	CLAMP, Hose				2		2	2	2			2		2	2	2
25	MS29512-10	SEAL, Oil, 7/64 dia. sect. x 3/4 I.D.				1		1	1	1			1		1	1	1
26	LW-13487	NUT, Turbo oil drain				1		1	1	1			1		1	1	1
27	LW-18231	ELBOW, Hose to universal, 90°				1		1	1	1			1		1	1	1



2533

TIO-540
F2BD
J2BD
N2BD
R2AD
LTIO-540
F2BD
J2BD
N2BD
R2AD

Figure 57. TURBOCHARGER HOSES, FITTINGS & RELATED PARTS



2534

Figure 58. TURBOCHARGER HOSES, TANK ASSEMBLY AND RELATED PARTS

TURBOCHARGER AND EXHAUST SYSTEMS TURBOCHARGER HOSES, CONTROLLER AND RELATED PARTS

FIG. REF. 59	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY										
				TIO-540					LTIO-540					
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D
1	LW-12798-4S204	HOSE, Tee (acc. hsg. to bypass valve, oil inlet)			1				1	1				1
2	76734	ZIP STRAP			1				2	1				2
3	72376	ELBOW, 1/4 tube, 90° adjustable (bypass valve inlet)			1					1				
4	MS29512-04	"O" RING			1					1				
5	LW-12879-6S060	HOSE ASSY., (Bypass valve to density controller inlet)			1					1				
	LW-12799-6S180	HOSE ASSY., (Bypass valve to variable controller inlet)							1					1
6	72377	ELBOW, 3/8 tube, adj. 90°, (bypass valve outlet & var. cont. inlet)								2				2
7	MS29512-06	"O" RING							2					2
8	76355 *	TEE, 3/8 tube, adj. st. thd. on run, (density cont. inlet)			1					1				
9	LW-12799-6S160	HOSE ASSY., (Variable controller to acc. hsg.)							1					1
10	72377	ELBOW, 3/8 tube, adjustable 90°			1				1	1				1
11	MS29512-06	"O" RING			1				1	1				1
12	76355 *	TEE, 3/8 tube, adj. st. thd. on run, (cont. outlet)			1					1				
13	LW-12879-6S082	HOSE ASSY., Density controller to acc. hsg.			1					1				
14	LW-10644	CONTROLLER, Differential pressure (470912-1)			1					1				
15	STD-160	WASHER, 1/4 internal lock			2					2				
16	STD-8	WASHER, 1/4 plain			2					2				
17	LW-25H1.00	BOLT, 1/4-20 x 1.00 long, hex. hd. dr. hd.			2					2				
18	STD-1932	BUSHING, Reducer, 1/4 to 1/8 NPT			1					1				
19	MS20822-4	ELBOW, 1/4 tube x 1/8 NPT, 90°			1					1				
20	AN929-4	CAP ASSY., 1/4 tube			1					1				
21	LW-12799-6S090	HOSE, Differential press. outlet to den. cont. outlet tee			1					1				
22	AN893-12	BUSHING, Reducer, 1/2 to 3/8 tube			1					1				
23	MS29512-08	SEAL, Oil, 5/64 dia. sect. x 41/64 dia.			1					1				
24	72377	ELBOW, 3/8 tube, adj. 90°			1					1				
25	MS29512-06	"O" RING			1					1				
26	LW-12799-6S100	HOSE, Density cont. inlet to diff. press. inlet			1					1				
27	LW-11883 *	ELBOW, 3/8 tube, adj. 90° restricted (diff. press. inlet)			1					1				
28	LW-12799-6S116	HOSE, High press. port, diff. cont., to airbox tee			1					1				
29	72377	ELBOW, 3/8 flared tube, adj. 90°			1					1				
30	MS29512-06	"O" RING			1					1				

* Uses "O" Ring, P/N MS29512-06.

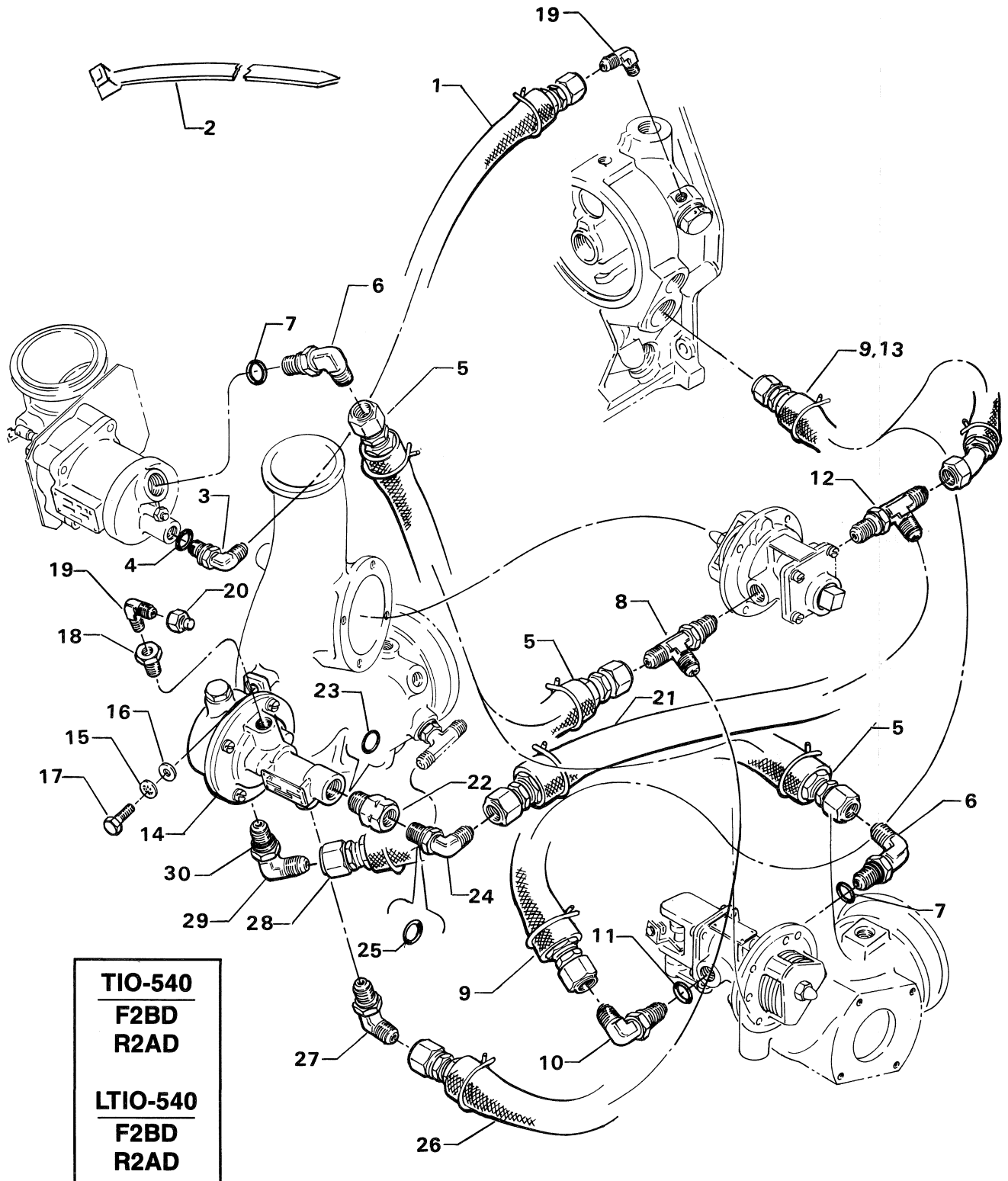
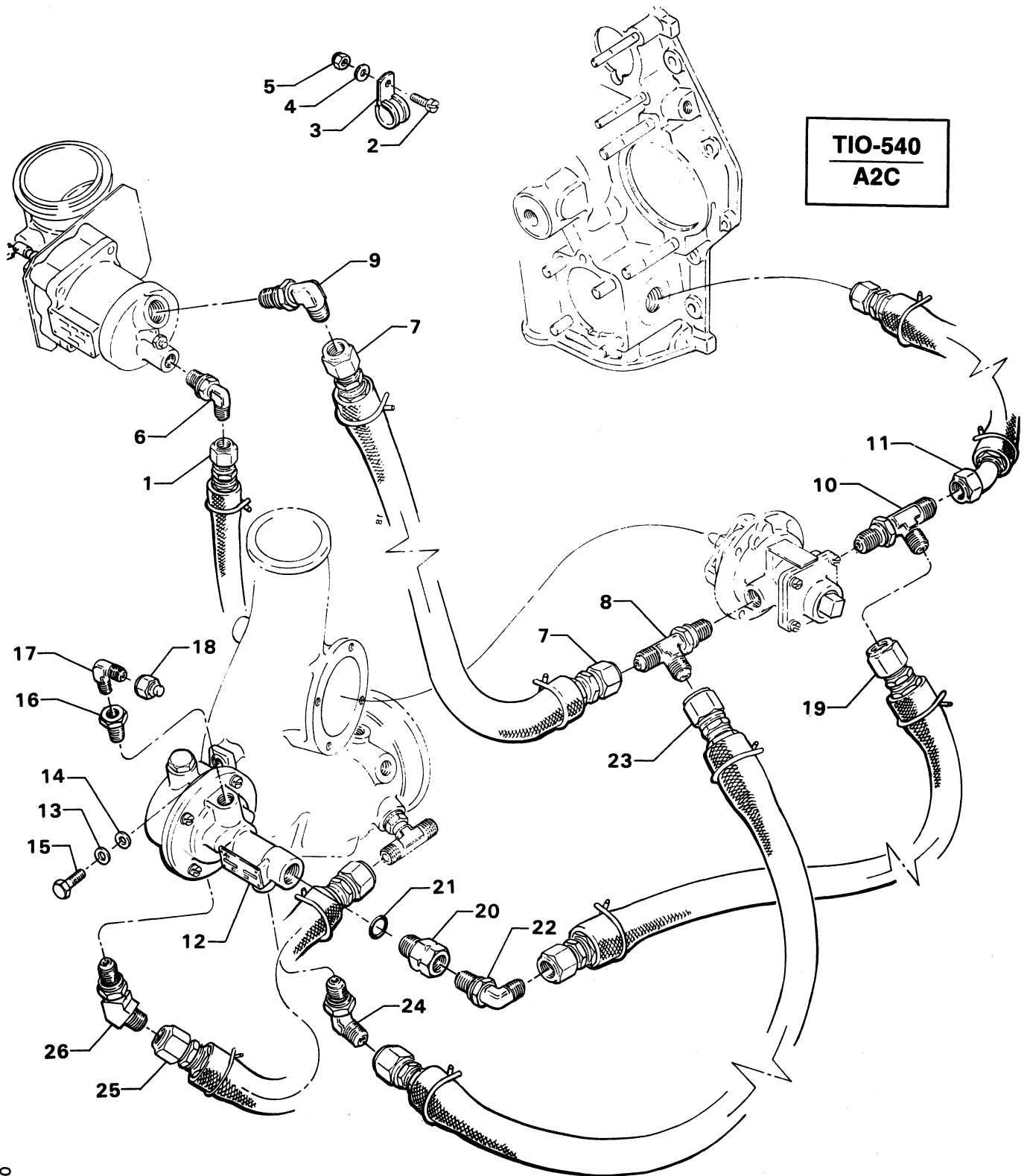


Figure 59. TURBOCHARGER HOSES, CONTROLLER AND RELATED PARTS



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Figure 60. TURBOCHARGER HOSES, CONTROLLER AND RELATED PARTS

TURBOCHARGER AND EXHAUST SYSTEMS TURBOCHARGER HOSES, CONTROLLER AND RELATED PARTS

FIG. REF. 61	PART NUMBER	DESCRIPTION	O N A L L	QUANTITY PER ASSEMBLY												
				TIO-540						LTIO-540						
				A 2 C	C 1 A	F 2 B D	J 2 B D	N 2 B D	R 2 A D	S 1 A D	F 2 B D	J 2 B D	N 2 B D	R 2 A D		
1	LW-12878-4S222	HOSE, Tee to bypass valve (oil-in)				1							1			
	LW-12798-4S204	HOSE, Tee, accy. hsg. to bypass valve (oil-in)					1	1						1	1	
2	76734	ZIP STRAP, Hose to turbo bracket				2	1	1					2	1	1	
3	72376*	ELBOW, 1/4 tube, 90° adj. (bypass valve in)				1	1	1					1	1	1	
4	LW-12879-6S060	HOSE ASSY., Bypass valve to density controller inlet				1	1	1					1	1	1	
5	77461**	TEE, 3/8 tube, adj. st. thd. on run (density cont. inlet)				1	1	1					1	1	1	
6	72377**	ELBOW, 3/8 tube, 90° adj. (bypass valve outlet)				1	1	1					1	1	1	
7	76355**	TEE, 3/8 tube, adj. st. thd. on run (cont. outlet)				1	1	1					1	1	1	
8	LW-12877-6S161	HOSE ASSY., Dens. cont. to accy. hsg.				1	1	1					1	1	1	
9	73314	GASKET, Density controller				1	1	1					1	1	1	
10	LW-10098	CONTROLLER, Differential pressure				1	1	1					1	1	1	
11	STD-28	WASHER, No. 10 plain				4	4	4					4	4	4	
12	STD-1566	SCREW, No. 10-24 x 3/4 long, fill. hd. dr.				4	4	4					4	4	4	
13	STD-1932	BUSHING, Reducer, 1/4 to 1/8 NPT				1	1	1					1	1	1	
14	MS20822-4	ELBOW, 1/4 tube x 1/8 NPT, 90°				1	1	1					1	1	1	
15	AM929-4	CAP ASSY., 1/4 tube				1	1	1					1	1	1	
16	LW-12486	TUBE ASSY., Diff. press. outlet to den. cont. outlet				1	1	1					1	1	1	
17	AN893-12	BUSHING, Reducer, 1/2 to 3/8 tube				1	1	1					1	1	1	
18	MS29512-08	SEAL, Oil, 5/64 dia. sect. x 41/64 dia.				1	1	1					1	1	1	
19	72377	ELBOW, 3/8 tube, adj. 90°				1	1	1					1	1	1	
20	LW-12485	TUBE ASSY., Density cont. inlet to diff. press. Inlet				1	1	1					1	1	1	
21	LW-12483	NIPPLE, 3/8 tube, adj. restricted, diff. press. inlet				1	1	1					1	1	1	
22	MS29512-06	"O" RING				1	1	1					1	1	1	

* Uses "O" Ring, P/N MS29512-04.

** Uses "O" Ring, P/N MS29512-06.

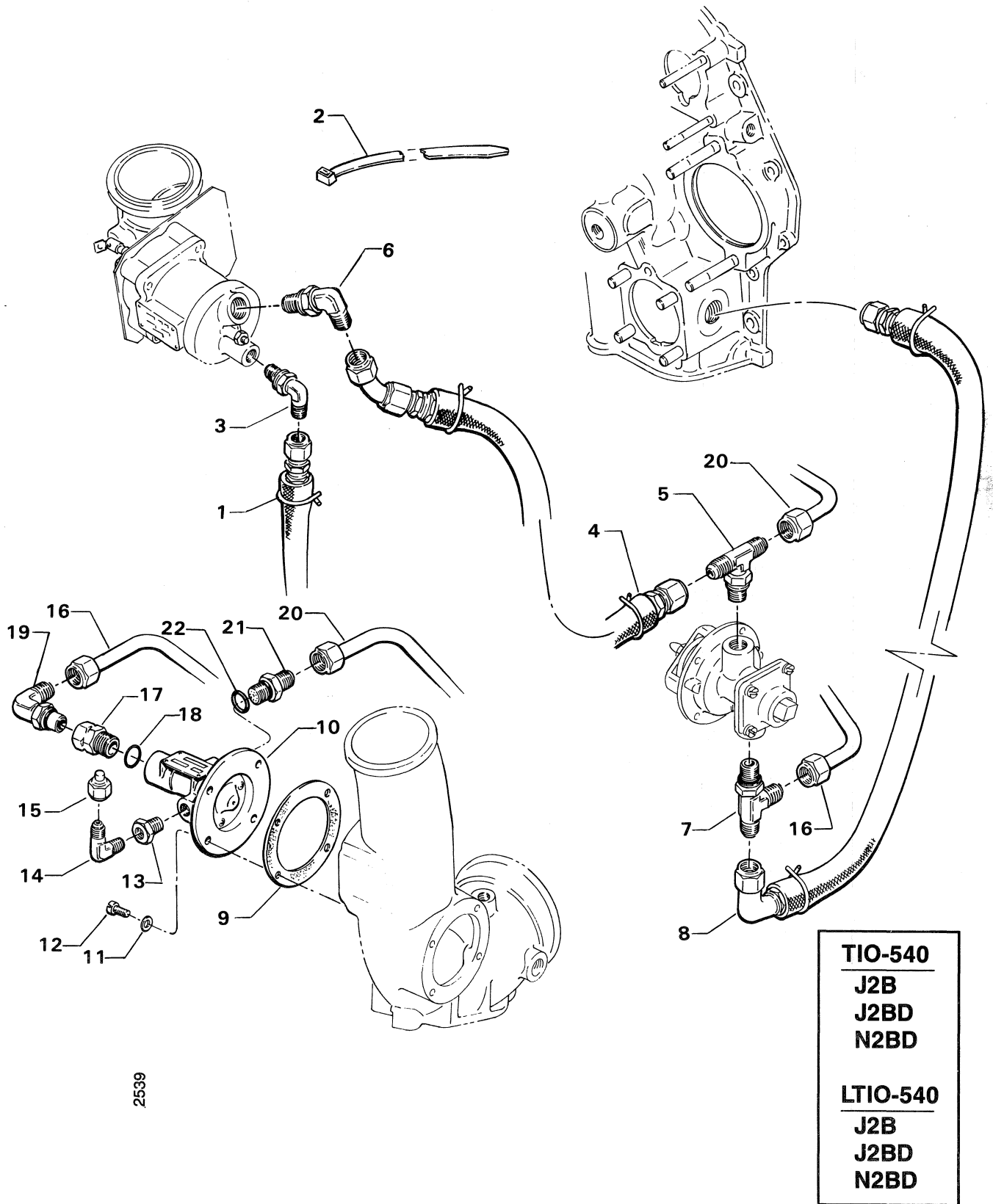


Figure 61. TURBOCHARGER HOSES, CONTROLLER AND RELATED PARTS

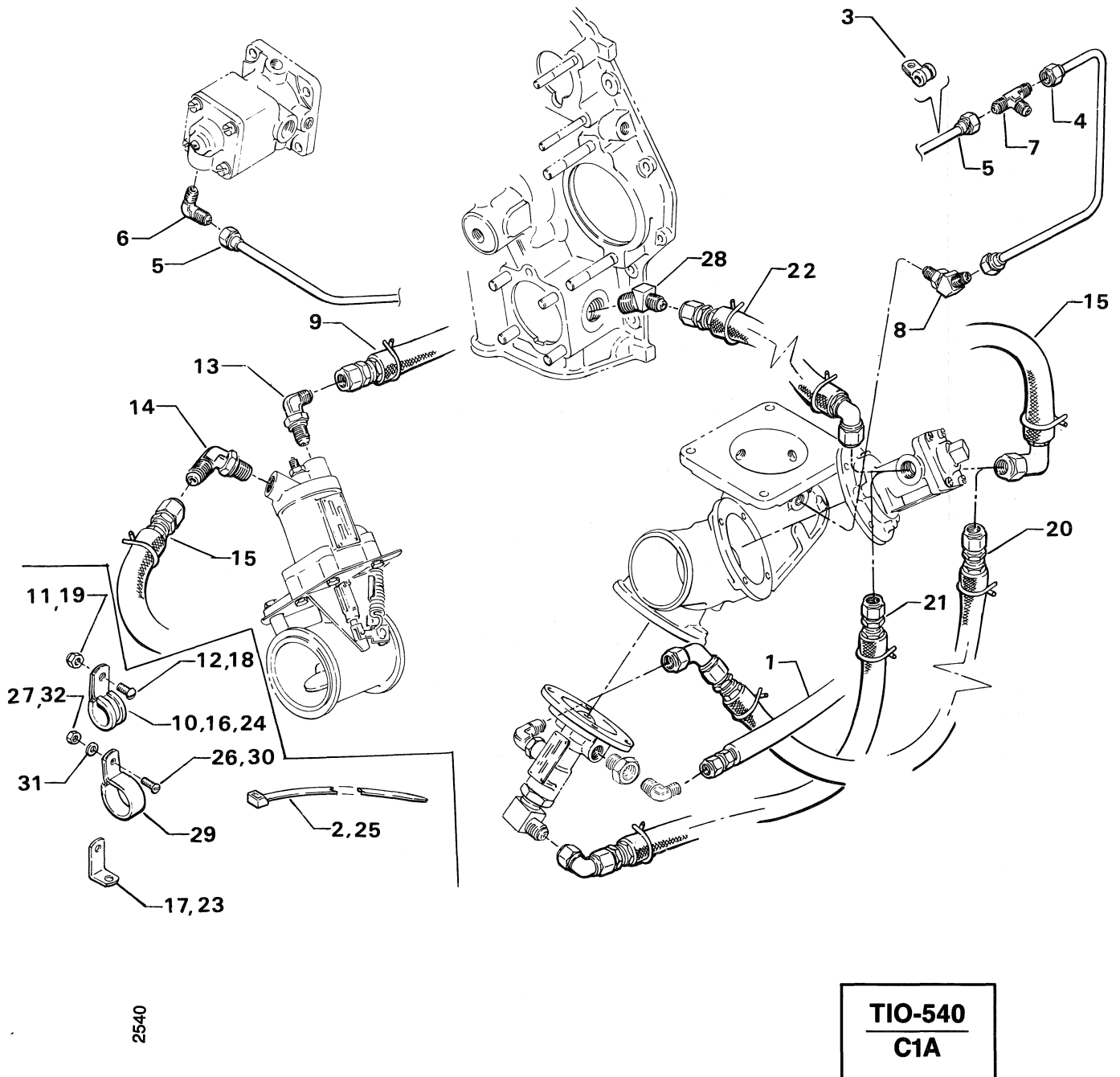


Figure 62. TURBOCHARGER HOSES, TUBES AND ATTACHING PARTS

SERVICE KIT SECTION

SEAL AND GASKET SET

TIO-540-A2C

Part No.	Part Name	Qty.
77175-1	SEAL AND GASKET SET	1
LW-12681	GASKET, Magneto	2
LW-12795	GASKET, Oil filter adapter	1
06B21326	GASKET, Oil sump	1
LW-14260	SEAL, Tachometer drive	1
LW-15619	GASKET, Exhaust flange	12
LW-15628	SEAL, Crankshaft	1
LW-18038	GASKET, Turbo oil drain	1
LW-18638	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	24
MS29512-3	SEAL, Oil	1
MS29512-4	SEAL, Oil	2
MS29512-8	SEAL, Oil ring	1
06E19769-1.00	GASKET, Oil suction screen	1
06A19956	SEAL, Vac. & Hyd. pump adapters	2
STD-213	SEAL, Fuel pump adapter	1
06E19769-0.63	GASKET, Oil cooler bypass plug	1
06E19769-0.91	GASKET, Annular	1
06E19769-1.25	GASKET, Oil pressure relief valve (2 max.)	1
STD-1737	RING, External retaining	1
8313	GASKET, Vac. & Hyd. pump	2
61183	GASKET, Vacuum pump adapter	1
62224	GASKET, Magneto adapter	2
66732	GASKET, Valve rocker shaft cover	12
68315	GASKET, Accessory drive adapter	1
69164	GASKET, Fuel pump adapter	1
70455	GASKET, Prop. drive gear plug	1
70457	GASKET, Oil filler extension	1
71450	GASKET, Rocker box cover	6
71481	RING, Cylinder base seal	6
71667	LOCKPLATE, Fuel pump idler gear shaft	1
71973	GASKET, Intake pipe flange	6
72053	GASKET, Governor	1
72075	SEAL, Oil	4
72078	LOCKPLATE, Camshaft gear	2
72091	RING, Oil seal	2
72210	GASKET, Air throttle housing	1
72312	RING, Oil seal, oil level gage	1
72711	RING, Oil seal, intake pipe	6
73032	GASKET, Air inlet housing	1
73314	GASKET, Density	1
73383	LOCKPLATE, Alternator bracket	1
73818	GASKET, Accessory housing	1
74065	GASKET	1
74305	SEAL, Crankshaft oil	1
75233	"O" RING	24
75371	GASKET, Turbo oil inlet adapter	1
75845	GASKET, V-Band coupling	2
76510	GASKET	1
77439	GASKET	1
78083	GASKET, V-Band	2
78084	GASKET, V-Band coup., 2.00 O.D. tube	2

SERVICE KIT SECTION SEAL AND GASKET SET TIO-540-C1A

Part No.	Part Name	Qty.
LW-10683	SEAL AND GASKET SET	1
LW-10332	LOCKPLATE	1
LW-12272	LOCKPLATE, Shroud tube	6
LW-12681	GASKET, Magneto	2
LW-12795	GASKET, Oil filter adapter	1
06B21326	GASKET, Oil sump	1
LW-13792	SEAL, Crankshaft oil	1
LW-14260	SEAL, Tachometer drive	1
LW-14995	SPRING	6
LW-18038	GASKET, Turbo oil drain	1
LW-18638	LOCKPLATE, Crankshaft gear	1
LW-18661	SEAL, Shroud tube	12
MS9068-009	RING, Oil seal	2
MS16625-1081	RING	1
MS29512-8	SEAL, Oil ring	2
MS29512-10	SEAL	2
06E19769-1.00	GASKET, Oil suction screen	1
STD-213	SEAL, Fuel pump adapter	1
06E19769-0.63	GASKET, Oil cooler bypass plug	1
STD-589	GASKET, Annular	1
06E19769-1.25	GASKET, Oil press. relief valve (2 max.)	1
06A19956	SEAL, Vac. & Hyd. pump adapter	2
8313	GASKET, Vacuum & hydraulic pump	2
61183	GASKET, Vacuum pump adapter	1
62224	GASKET, Magneto adapter	2
66224	GASKET, Fuel injector	1
68315	GASKET, Accessory drive adapter	1
69164	GASKET, Fuel pump adapter	1
69345	SPACER	6
70310	SEAL, Shroud tube	12
70455	GASKET, Prop. drive gear plug	1
70457	GASKET, Oil filler extension	1
71481	RING, Seal (cylinder base)	6
71667	LOCKPLATE, Fuel pump idler gear shaft	1
71973	GASKET, Intake pipe flange	6
72053	GASKET, Governor	1
72075	SEAL, Oil	4
72091	RING, Oil seal	2
72312	RING, Oil seal, oil level gage	1
73314	GASKET, Density controller	1
73383	LOCKPLATE, Alternator bracket	1
73818	GASKET, Accessory housing	1
74065	“O” RING	1
74068	“O” RING	1
75118	GASKET, Exhaust flange	12
75371	GASKET, Turbo oil inlet adapter	1
75845	GASKET, V-Band coupling	2
75906	GASKET, Rocker box cover	6
76940	SEAL, Crankshaft oil	1
77504	GASKET, Fuel injector	1
77722	GASKET, Turbo bypass retainer	1
77723	GASKET, Turbo bypass door	1
78246	GASKET, V-Band coupling	2

SERVICE KIT SECTION

SEAL AND GASKET SET

TIO-540-R2AD

Part No.	Part Name	Qty.
LW-15381	SEAL AND GASKET SET	1
AN901-8A	GASKET	1
MS16625-1081	RING, Internal retaining	1
MS29512-3	SEAL	1
MS29512-4	SEAL	1
MS29512-6	SEAL	1
MS29512-10	SEAL	3
06E19769-1.00	GASKET, Oil suction screen	1
06A19956	SEAL, Vac. & Hydraulic pump adapter	2
STD-213	SEAL, Fuel pump adapter	1
STD-589	GASKET, Annular	1
06E19769-1.25	GASKET, Oil pressure relief valve	2
8313	GASKET, Vacuum & hydraulic pump	2
LW-10332	LOCKPLATE, Crankshaft gear	1
LW-12681	GASKET, Magneto	2
06B21326	GASKET, Oil sump	1
LW-14260	SEAL, Tachometer drive	1
LW-18661	SEAL, Shroud tube	24
66732	GASKET, Rocker shaft cover	12
69164	GASKET, Fuel pump adapter	1
70455	GASKET, Prop. drive gear plug	1
70457	GASKET, Oil filler extension	1
71450	GASKET, Rocker box cover	6
71481	RING, Cylinder base seal	6
71973	GASKET, Intake pipe flange	6
72053	GASKET, Governor	1
72091	RING, Oil seal	2
72210	GASKET, Air throttle housing	1
72312	RING, Oil seal, oil level gage	1
72711	RING, Oil seal, intake pipe	6
73032	GASKET, Air inlet housing	1
73314	GASKET, Density controller	1
73818	GASKET, Accessory housing	1
74382	RING, Oil seal	1
LW-15619	GASKET, Exhaust flange	12
75371	GASKET, Turbo oil inlet adapter	1
75845	GASKET, V-Band coupling	2
75993	GASKET, Sonic nozzle	1
78083	GASKET, V-Band	2
LW-15628	SEAL, Crankshaft	1
78903	GASKET, Turbo oil drain	1

SERVICE KIT SECTION

SEAL AND GASKET SET

TIO/LTIO-540-J2B

Part No.	Part Name	Qty.
LW-18656	SEAL AND GASKET SET	1
MS16625-1081	RING, Internal retaining	1
MS16625-1125	RING, Internal retaining	2
MS29512-06	SEAL, Oil	2
MS29512-08	SEAL, Oil	1
MS29512-03	SEAL, Oil	1
06E19769-1.00	GASKET	2
06A19956	SEAL, Oil	2
STD-213	SEAL, Oil, fuel pump drive	1
06E19769-0.63	GASKET	2
06E19769-0.91	GASKET	1
06E19769-1.25	GASKET	1
STD-1737	RING	1
8313	GASKET, Vacuum pump	2
61183	GASKET, Accessory adapter	1
62224	GASKET, Magneto	2
LW-18661	SEAL, Shroud tube	24
66732	GASKET, Rocker shaft cover	12
LW-18638	LOCKPLATE, Crankshaft gear	1
68315	GASKET, Accessory drive adapter	1
69164	GASKET, Fuel pump adapter	1
70455	GASKET	1
70457	GASKET	1
71450	GASKET, Rocker box	6
71481	RING, Oil seal	6
71667	LOCKPLATE, Crankshaft idler gear	2
71973	GASKET, Intake flange	6
72053	GASKET, Governor drive pad	1
72091	RING, Oil seal	2
72210	GASKET	1
74065	GASKET, Oil level gage	1
72711	RING, Oil seal, intake pipe	6
73032	RING, Air inlet housing	1
73314	GASKET, Density controller	1
73818	GASKET, Accessory housing	1
75371	GASKET, Turbo inlet adapter	1
75845	GASKET, V-Band	1
78083	GASKET, V-Band	2
78903	GASKET, Turbo drain	1
LW-12681	GASKET, Magneto	2
LW-12795	GASKET	1
06B21326	GASKET, Oil sump	1
LW-14260	SEAL, Tachometer	1
LW-15619	GASKET, Exhaust flange	12
LW-15628	SEAL, Crankshaft	1

SERVICE KIT SECTION

SEAL AND GASKET SET

TIO/LTIO-540-F2BD, -J2BD, -N2BD

Part No.	Part Name	Qty.
LW-12956	SEAL AND GASKET SET	1
AN901-8A	GASKET	1
LW-10332	LOCKPLATE, Crankshaft gear	1
LW-12681	GASKET, Magneto	2
06B21326	GASKET, Oil sump	1
LW-14260	SEAL, Tachometer drive	1
LW-15619	GASKET, Exhaust flange	12
LW-15628	SEAL, Crankshaft	1
LW-18038	GASKET	1
LW-18661	SEAL, Shroud tube	24
MS16625-1081	RING, Retaining	1
MS29512-3	SEAL, Oil	1
MS29512-6	SEAL, Oil	2
MS29512-8	SEAL, Oil	1
MS29512-10	SEAL, Oil	2
06E19769-1.00	Gasket, Oil suction screen	1
STD-213	SEAL, Fuel pump adapter	1
06E19769-1.25	GASKET, Oil pressure relief valve (max. 2)	1
06A19956	SEAL, Hyd. & vacuum pump adapter	2
8313	GASKET, Hyd. & vacuum pump	2
66732	GASKET, Valve rocker shaft cover	12
69164	GASKET, Fuel pump adapter	1
70455	GASKET, Prop. drive gear plug	1
70457	GASKET, Oil filler extension	1
71450	GASKET, Rocker box cover	6
71481	RING, Cylinder base seal	6
71973	GASKET, Intake pipe flange	6
72053	GASKET, Governor	1
72091	RING, Oil seal	2
72210	GASKET, Air throttle housing	2
72312	RING, Oil seal, oil level gage	1
72711	RING, Oil seal, intake pipe	6
73032	GASKET, Air inlet housing	1
73314	GASKET, Density controller	2
73383	LOCKPLATE, Alternator bracket	1
73818	GASKET, Accessory housing	1
74065	GASKET	1
75233	"O" RING	24
75371	GASKET, Turbo oil inlet adapter	1
75845	GASKET, V-Band coupling	2
78083	GASKET, V-Band coupling	2
78903	GASKET, Turbo oil drain	1

SERVICE KIT SECTION

SEAL AND GASKET SET

TIO-540-S1AD

Part No.	Part Name	Qty.
LW-15903	SEAL AND GASKET SET	1
MS9068-009	RING, Oil seal	1
MS29512-8	SEAL	1
MS16625-1081	RING, Internal retaining	1
MS29512-6	SEAL	1
MS29512-10	SEAL	3
06E19769-1.00	GASKET, Oil suction screen	1
06A19956	SEAL, Vac. & hyd. pump adapter	2
STD-213	SEAL, Fuel pump adapter	1
06E19769-0.91	GASKET, Annular	1
06E19769-1.25	GASKET, Oil pressure relief valve	2
8313	GASKET, Vac. and hyd. pump	3
LW-10332	LOCKPLATE, Crankshaft gear	1
LW-12681	GASKET, Magneto	2
06B21326	GASKET, Oil sump	1
LW-14260	SEAL, Tachometer drive	1
LW-15628	SEAL, Crankshaft	1
LW-18661	SEAL, Shroud tube	24
66732	GASKET, Rocker shaft cover	12
69164	GASKET, Fuel pump adapter	1
70455	GASKET, Prop. drive gear plug	1
70457	GASKET, Oil filler extension	1
71450	GASKET, Rocker box cover	6
71481	RING, Cylinder base seal	6
71973	GASKET, Intake pipe flange	6
72053	GASKET, Governor	1
72091	RING, Oil seal	2
72312	RING, Oil seal, oil level gage	1
72711	RING, Oil seal, intake pipe	6
73032	GASKET, Air inlet housing	1
73818	GASKET, Accessory housing	1
LW-15619	GASKET, Exhaust flange	12
74944	GASKET, Fuel injector	1
LW-18038	GASKET, Turbo oil drain	1
75371	GASKET, Turbo oil inlet adapter	1
78084	GASKET, V-Band	2

SERVICE KIT SECTION

CYLINDER, PISTON AND RING ASSEMBLY

TIO-540-C1A

Part No.	Part Name	Qty.
05K21107	KIT - CYLINDER, PISTON AND RING ASSEMBLY	1
LW-12429*	CYLINDER AND HEAD ASSEMBLY	1
LW-19001	VALVE, Exhaust	1
73938	VALVE, Intake	1
LW-11800	SPRING, Valve, outer	2
LW-11795	SPRING, Valve, inner	2
LW-10077	SEAT, Valve spring, upper, intake	1
LW-16475	SEAT, Valve spring, upper, exhaust	1
LW-13323	SEAT, Valve spring, lower, exhaust	1
60009	KEY, Valve, intake	2
17C21191	KEY, Valve, exhaust	2
17C19386	CAP, Valve stem, exhaust	1
75413	PISTON	1
74241	RING, Piston, compression	2
73857	RING, Piston, oil regulating	1
LW-14077	PIN, Piston	1
LW-11775	PLUG, Piston pin	2
60828	PLUG, Piston pin	2
71481	RING, Cylinder base seal	1
LW-18661	SEAL, Shroud tube	2
70310	SEAL, Shroud tube	2
75906	GASKET, Rocker box cover	1
SSP-2272	TAG	1
SSP-2472	TAG	1
65441	SEAT, Valve spring, lower intake	1

* Requires long reach spark plugs.

NOTE

Nitrided cylinder assembly. Low compression piston employing half wedge rings.

SERVICE KIT SECTION

CYLINDER, PISTON AND RING ASSEMBLY

TIO-LTIO-540-J2B, -F2BD, -J2BD, -N2BD, -R2AD & TIO-540-A2C, -S1AD

Part No.	Part Name	Qty.
05K21108	KIT - CYLINDER, PISTON AND RING ASSEMBLY	1
LW-12966*	CYLINDER AND HEAD ASSEMBLY	1
LW-16740	VALVE, Exhaust	1
LW-13622	VALVE, Intake	1
LW-11796	SPRING, Valve, outer	2
LW-11797	SPRING, Valve, inner	2
69532	SEAT, Valve spring, upper, intake	1
LW-16475	SEAT, Valve spring, upper, exhaust	1
LW-13322	SEAT, Valve spring, lower, exhaust	1
71481	RING, Cylinder base seal	1
72050	KEY, Valve, intake	2
17C21191	KEY, Valve, exhaust	2
62388	CAP, Valve stem, intake	1
17C19386	CAP, Valve stem, exhaust	1
LW-10545-S	PISTON	1
74241	RING, Piston, compression	2
73857	RING, Piston, oil regulating	1
LW-13446 or LW-14077	PIN, Piston	1
60828	PLUG, Piston pin	2
LW-11775	PLUG, Piston pin	2
66732	GASKET, Valve rocker shaft cover	2
71450	GASKET, Rocker box cover	1
LW-18661	SEAL, Shroud tube	4
LW-13321	SEAT, Valve spring, lower intake	1
SSP-2272	TAG	1

* Requires long reach spark plugs.

NOTE

Nitrided cylinder assembly. 3 ring piston half wedge rings. Small intake valve.

SERVICE KIT SECTION

CRANKCASE ASSY. AND THRU STUD KIT

TIO-540-A2C, -J2B; LTIO-540-J2B

Part No.	Part Name	Qty.
11F20022-S3-S	CRANKCASE ASSY. AND THRU STUD KIT	1
11F20022-S3*	CRANKCASE ASSEMBLY	1
76220	THRU STUD	8
31C-14	STUD (AN Governor)	4
31C-16	STUD (Woodward Governor)	4
STD-1339	PLUG	7
AN565-B-1032-H4	SET SCREW	1
AN565-B-1032-H5	SET SCREW	1
SSP-272	TAG, Piston cooling nozzles	1
SSP-582	TAG, Thin wall bearings	1
SSP-1576	TAG, Governor drive idler shaft	1
SSP-1769	TAG, Governor drive pad studs	1
1102	PLUG, 1/8 pipe (oil pressure)	4

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

SERVICE KIT SECTION

CRANKCASE ASSY. AND THRU STUD KIT

TIO-540-C1A

Part No.	Part Name	Qty.
11E20000-S1-S	CRANKCASE ASSY. AND THRU STUD KIT	1
11E20000-S1*	CRANKCASE ASSEMBLY	1
76220	THRU STUD	8
31C-14	STUD (AN Governor)	4
31C-16	STUD (Woodward Governor)	4
STD-1339	PLUG	7
AN565-B-1032-H4	SET SCREW	1
AN565-B-1032-H5	SET SCREW	1
SSP-272	TAG, Piston cooling nozzles	1
SSP-582	TAG, Thin wall bearings	1
SSP-1576	TAG, Governor drive idler shaft	1
SSP-1769	TAG, Governor drive pad studs	1
1102	PLUG, 1/8 pipe (oil pressure)	4

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

SERVICE KIT SECTION

CRANKCASE ASSY. AND THRU STUD KIT
TIO/LTIO-540-F2BD, -J2BD, -N2BD, -R2AD

Part No.	Part Name	Qty.
11F20022-D3-S	CRANKCASE ASSY. AND THRU STUD KIT	1
11F20022-D3*	CRANKCASE ASSEMBLY	1
76220	THRU STUD	8
31C-14	STUD (AN Governor)	4
31C-16	STUD (Woodward Governor)	4
STD-1339	PLUG	7
AN565-B-1032-H4	SET SCREW	1
AN565-B-1032-H5	SET SCREW	1
SSP-272	TAG, Piston cooling nozzles	1
SSP-582	TAG, Thin wall bearings	1
SSP-1576	TAG, Governor drive idler shaft	1
SSP-1769	TAG, Governor drive pad studs	1
1102	PLUG, 1/8 pipe (oil pressure)	4
LW-11866	SPACER, Compressor nut	2

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

SERVICE KIT SECTION

CRANKCASE ASSY. AND THRU STUD KIT

TIO-540-S1AD

Part No.	Part Name	Qty.
11F20022-D3-S-1	CRANKCASE ASSY AND THRU STUD KIT	1
11F20022-D3*	CRANKCASE ASSEMBLY	1
76220	THRU STUD	6
74888	THRU STUD	2
LW-11866	SPACER, Compressor nut	2
31C-14	STUD (AN Governor)	4
31C-16	STUD (Woodward Governor)	4
STD-1339	PLUG	7
AN565-B-1032-H4	SET SCREW	1
AN565-B-1032-H5	SET SCREW	1
SSP-272	TAG, Piston cooling nozzles	1
SSP-582	TAG, Thin wall bearings	1
SSP-1576	TAG, Governor drive idler shaft	1
SSP-1769	TAG, Governor drive pad studs	1
1102	PLUG, 1/8 pipe (oil pressure)	4

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

SERVICE KIT SECTION
CRANKCASE ASSY. AND THRU STUD KIT
TIO-540-R2AD

Part No.	Part Name	Qty.
11F20022-D5-S	CRANKCASE ASSY. AND THRU STUD KIT	1
11F20022-D5*	CRANKCASE ASSEMBLY	1
76220	THRU STUD	8
31C-14	STUD (AN Governor)	4
31C-16	STUD (Woodward Governor)	4
STD-1339	PLUG	7
AN565-B-1032-H4	SET SCREW	1
AN565-B-1032-H5	SET SCREW	1
SSP-272	TAG, Piston cooling nozzles	1
SSP-582	TAG, Thin wall bearings	1
SSP-1576	TAG, Governor drive idler shaft	1
SSP-1769	TAG, Governor drive pad studs	1
1102	PLUG, 1/8 pipe (oil pressure)	4

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

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