

TM 1-2R-0470-24

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

ILLUSTRATED PARTS BREAKDOWN AIRCRAFT ENGINE MODEL 0-470-15 (CONTINENTAL MOTORS CORP.)

Note. This manual replaces AF TO 2R-0-470-24, 1 January 1957,
for use within the Department of the Army.



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TM 1-2R-0470-24 is published for the use of all concerned.

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Corps	PG	7-2C	

NG: State AG; units—same as Active Army.

USAR: None.

For explanation of abbreviations used, see SR 320-50-1.

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**SECTION I
INTRODUCTION**

1. GENERAL.

a. This catalog lists and describes the parts for the O-470-15 engine, manufactured by Continental Motors Corporation, Muskegon, Michigan, U.S.A., hereafter referred to as the manufacturer, and is divided into three sections as shown in the Table of Contents.

b. The Table of Contents at the front of the catalog shows the method of grouping the parts and the sequence of the groups.

c. The Group Assembly Parts List (Section II) consists of the complete engine divided into 17 main groups as shown in the Table of Contents. Each assembly listed is followed immediately by its component parts, properly indented thereunder, to show their relationship to the assembly. Component parts of the complete engine which are not included in any assembly, but which are used in conjunction with, attach, or attach to a certain assembly, are listed either preceding the first detail or following the last detail of that assembly, consistent with the disassembly of the entire engine. Attaching parts are listed immediately after the part or assembly they attach and are labeled "(ATTACHING PARTS)". The end of a group of attaching parts is signified by the symbol "----*----" placed after the last attaching part in any particular group.

d. The Numerical Index (Section III) is compiled in

accordance with the numerical part numbering filing system described below:

(1) Part number arrangement begins on the extreme left-hand position and continues from left to right, one position at a time, until the part number numerical arrangement is determined.

(2) The order of precedence in part number numerical arrangement is as follows:

(a) First position arrangement:

Letters A through Z,
Numerals 0 through 9.

(b) Second and succeeding position arrangement:

Space (Blank column),
Diagonal (Slant),
Point (Period) .
Dash (-).
Letters A through Z,
Numerals 0 through 9.

Note: Alphabetical O's are considered as zeros.

e. In the Group Assembly Parts List the "PART NO." column lists the manufacturer's part number for all items except those which are purchased from other manufacturers, hereafter referred to as Vendors. Each vendor item is identified by the Vendor's part number. The description of vendor's items is followed by the Manufacturer's part number in parenthesis.

f. The "DESCRIPTION" column gives the nomenclature which appears on the Manufacturer's or Vendor's drawing.

g. The quantities listed in the "UNITS PER ASSY" column are, in the case of assemblies, the total quantity used per engine at the location indicated. The component parts indented under the assemblies are the quantities used per assembly. The quantities specified, therefore, are not necessarily the total per engine. Refer to the Numerical Index (Section III) for the total quantities used per engine.

h. Parts and assemblies for which the symbol "NP" appears in the "UNITS PER ASSY" column are not procurable as such. To obtain such a detail part order the smallest procurable assembly containing it. Replace "NP" assemblies with subassemblies and detail parts. "NP" assemblies in position "1" of the "DESCRIPTION" column are merely to identify the group.

2. **USABLE ON CODE.** At the date of publication of this catalog, only one model of the engine is being produced, therefore no coding is necessary and the "USABLE ON CODE" column is left blank.

3. **SOURCE CODING** - Source coding as applied to the numerical index has been assigned by Department representatives.

SOURCE CODE DEFINITIONS -

(a) **CODE "P" - PARTS UNDER INVENTORY STOCK CONTROL**

(1) CODE "P" is applied to parts which are procured in view of relatively high usage. Code "P" parts may be requisitioned and installed by any maintenance level, unless followed by the letter - "O", which restricts requisition and replacement to Depot (O&R) level only. Restricted service manufacture is considered practicable but only after an attempt has been made to procure from Supply Sources. In lieu of Procurement of "P" Coded parts, the Department may designate a Depot (O&R) level activity to manufacture supply requirements for the Program.

(2) CODE "P1" is applied to parts which are very difficult or uneconomical to manufacture. Service manufacture is considered impracticable. Code "P1" parts may be requisitioned and installed by any maintenance level, unless followed by the letter - "O" which restricts requisition and replacement to Depot (O&R) level only.

(b) **CODE "M" MANUFACTURE, PARTS NOT PROCURED**

(1) CODE "M" is applied to parts which are within the facilities of any activity to manufacture. Procurement and stocking are not justified in view of the relatively low usage, or storage and installation factors, of these parts. Needs are to be met by local manufacture as required.

(2) CODE "M1" is applied to parts which can be manufactured only by utilizing the facilities of the Depot (O&R) activity. Procurement and stocking of these parts are

not justified in view of their relatively low usage and installation factors. The needs of all activities are to be met through salvage, or by Depot (O&R) level manufacture.

(c) **CODE "A" ASSEMBLE - ASSEMBLY NOT PROCURED**

(1) CODE "A" is applied to assemblies made up of two or more units each of which carry individual part numbers and description, and which may be assembled by any Maintenance level.

(2) CODE "A1" is applied to assemblies made up of two or more parts each of which carry individual part numbers and description, and which may be assembled only by activities having Depot (O&R) facilities.

(d) **CODE "X" PARTS CONSIDERED IMPRACTICABLE FOR MANUFACTURE OR PROCUREMENT.**

(1) CODE "X" is applied to Main Structural Members or similar parts which, if required, would suggest extensive aircraft or equipment reconditioning. The need of a part, or parts, coded "X" (wing spar caps, center section structure) should normally result in a recommendation to retire the aircraft or equipment from Service.

(2) CODE "X1" is applied to parts for which procurement of the next larger assembly is justified; e.g., an integral detail part, such as welded segments, inseparable from its assembly; a part machined in a matched set; or a part of an assembly which, if required, would suggest extensive reconditioning of each assembly.

(3) CODE "X2" is applied to parts which are neither procured nor stocked. Activities requiring such parts shall attempt to obtain from salvage; if not obtainable from salvage, such parts shall be requisitioned through normal supply channels with supporting justification.

(e) **CODE * PARTS NOT PROCURED, MANUFACTURED OR STOCKED**

(1) CODE * applies to installation drawings, diagrams, instructions or field service drawings, basic drawing numbers which cannot be procured or manufactured and obsolete parts.

4. **VENDORS' CODE SYMBOLS.** Standard code symbols, placed in parenthesis after the part description, are used to designate the manufacturer of purchased items of equipment. These symbols are as follows:

CODE VENDORS' NAME AND ADDRESS

BG B. G. CORPORATION
New York, New York

BPD BENDIX PRODUCTS DIV.
Bendix Aviation Corp
South Bend, Indiana

CK CHAMPION SPARK PLUG CO
Toledo, Ohio

CODE VENDORS' NAME AND ADDRESS

ECP ECLIPSE PRODUCTS DIV
Bendix Aviation Corp
Teterboro, New Jersey

GP GARLOCK PACKING CO
Palmyra, New York

NM NATIONAL MOTOR BEARINGS CO INC
Redwood City, California

PE PESCO PRODUCTS DIV
Borg Warner Corp
Bedford, Ohio

RO ROMEC DIV
Lear Inc
Elyria, Ohio

*RW RAY WHYTE ELECTRICAL PROD
East Detroit, Michigan

SNT SCINTILLA MAGNETO DIV
Bendix Aviation Corp
Sidney, New York

TF TITFLEX INC
Newark, New Jersey

TIN TINNERMAN PRODUCTS INC
Cleveland, Ohio

UC UNITED-CARR FASTENER CORP
Cambridge, Massachusetts

VM VICTOR MFG AND GASKET CO
Chicago, Illinois

WIT WITTEK MFG CO
Chicago, Illinois

CODE VENDORS' NAME AND ADDRESS

WKI WALDES-KOHINOOR INC
Long Island City, New York

* Does not appear in Navy Code of Manufacturers' Names. Used for convenience only.

5. USE OF ILLUSTRATED PARTS BREAKDOWN.

6. HOW TO FIND THE PART NUMBER IF THE SECTION OR SYSTEM OF THE EQUIPMENT IN WHICH THE PART IS USED IS KNOWN:

a. Turn to the Table of Contents and find the page number for the Major Assembly or System in which the part is used.

b. Turn to the page determined in step 6a.

c. Locate the part and its index number on the illustration.

d. Find the index number on the Group Assembly Parts List page to determine complete description.

7. HOW TO FIND THE ILLUSTRATION FOR A PART WHEN PART NUMBER IS KNOWN:

a. Refer to Section III, the Numerical Index, and find the part number.

b. Turn to Section II and find the first figure and index number indicated in the Numerical Index for that part. If this figure shows the part in a section or system of the equipment other than the one desired, refer to the other figure numbers listed in the Numerical Index.

c. On the face of the illustration find the index number determined in step 7b.

8. AIR FORCE STOCK NUMBERS. When the Air Force Stock Number of an item does not appear, refer to the 8-00-1 Master Numerical Index.

Legend for Figure 1

Index Number		Figure Numbers
1	Accessories Group	2
2	Ignition System	3
3	Priming System	4
4	Carburetor Assembly	5
5	Fuel Pump	6
6	Induction System and Oil Return Hose Assembly	7
7	Oil Sump Installation	8
8	Accessory Case, Gears and Covers Assembly	9, 10
9	Oil Pump and Hose Assembly	11
10	Cylinders and Pushrod Assembly	12
11	Complete Piston Assembly	13
12	Crankcase Group	14
13	Camshaft and Lifters Assembly	15
14	Complete Connecting Rod Assembly	16
15	Complete Crankshaft Assembly	17

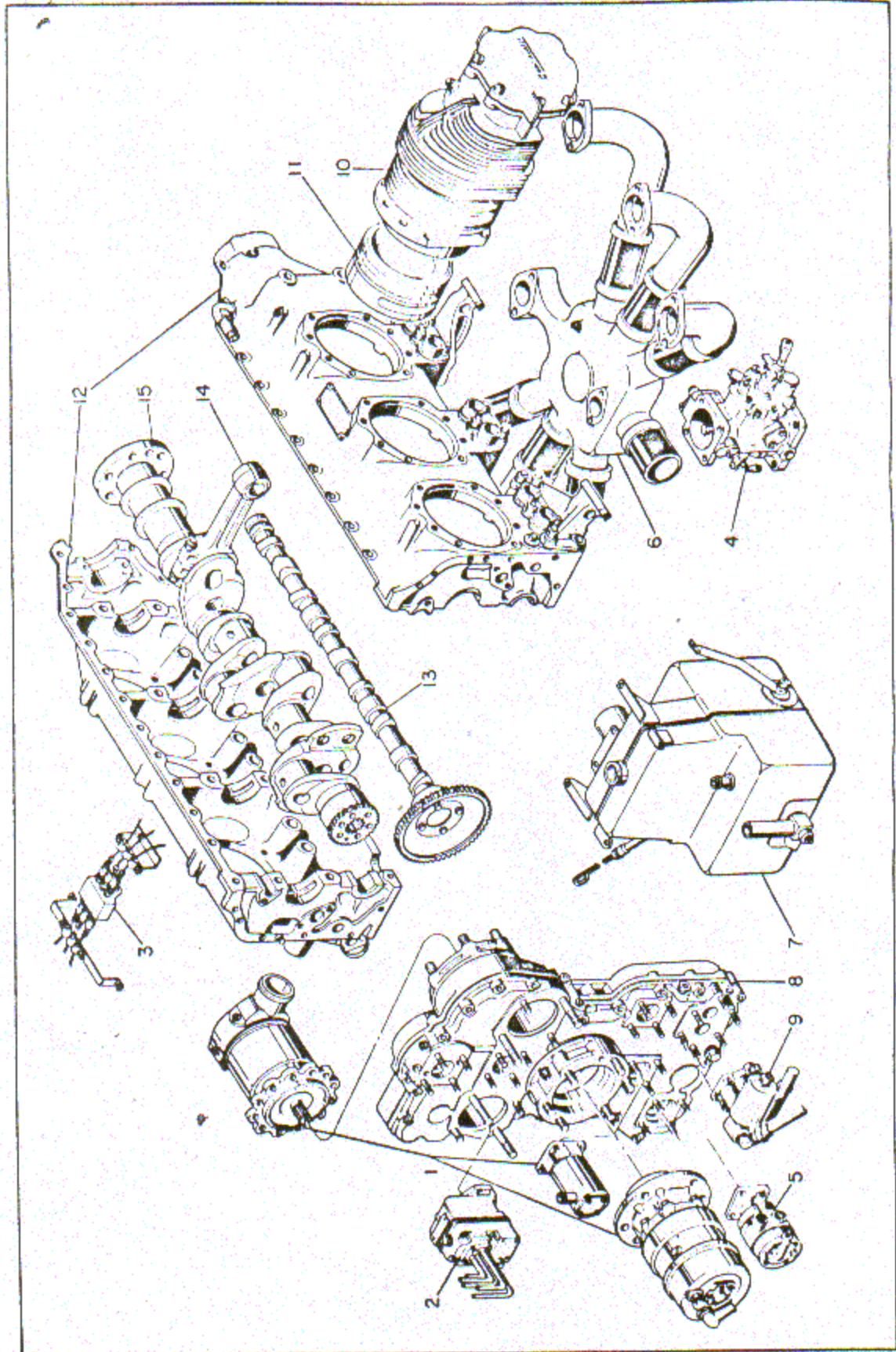


Figure 1. Continental O-470-15 Aircraft Engine

**SECTION II
GROUP ASSEMBLY PARTS LIST**

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE
		1	2	3	4	5	6	7		
2-	No Number	ACCESSORIES GROUP							NP	
-1	AN5547-2	. GENERATOR, Tachometer							1	
		(ATTACHING PARTS)								
-2	356-428	. LOCK							4	
-3	AN121502	. NUT							4	
-4	AN960-416L	. WASHER							4	
		----*----								
-5	AN4045-1	. GASKET							1	
-6	AN4116-R1	. STARTER, Direct cranking electric type 756-10 (ECP) (532197)							1	
		(ATTACHING PARTS)								
-7	356-624	. LOCK							6	
-8	AN121504	. NUT							6	
-9	AN960-616	. WASHER							6	
		----*----								
-10	AN4047-1	. GASKET							1	
-11	1345-3	. GENERATOR, Engine driven 24 v dc 50 amp (ECP) (532182)							1	
		(ATTACHING PARTS)								
-12	356-624	. LOCK							6	
-13	AN121504	. NUT							6	
-14	AN960-616	. WASHER							6	
		----*----								
-15	AN4047-1	. GASKET							1	
-16	3P-194-F	. PUMP, Vacuum (PE) (537540)							1	
		(ATTACHING PARTS)								
-17	356-428	. LOCK							4	
-18	AN121502	. NUT							4	
-19	AN960-416L	. WASHER							4	
		----*----								
-20	AN4045-1	. GASKET							1	

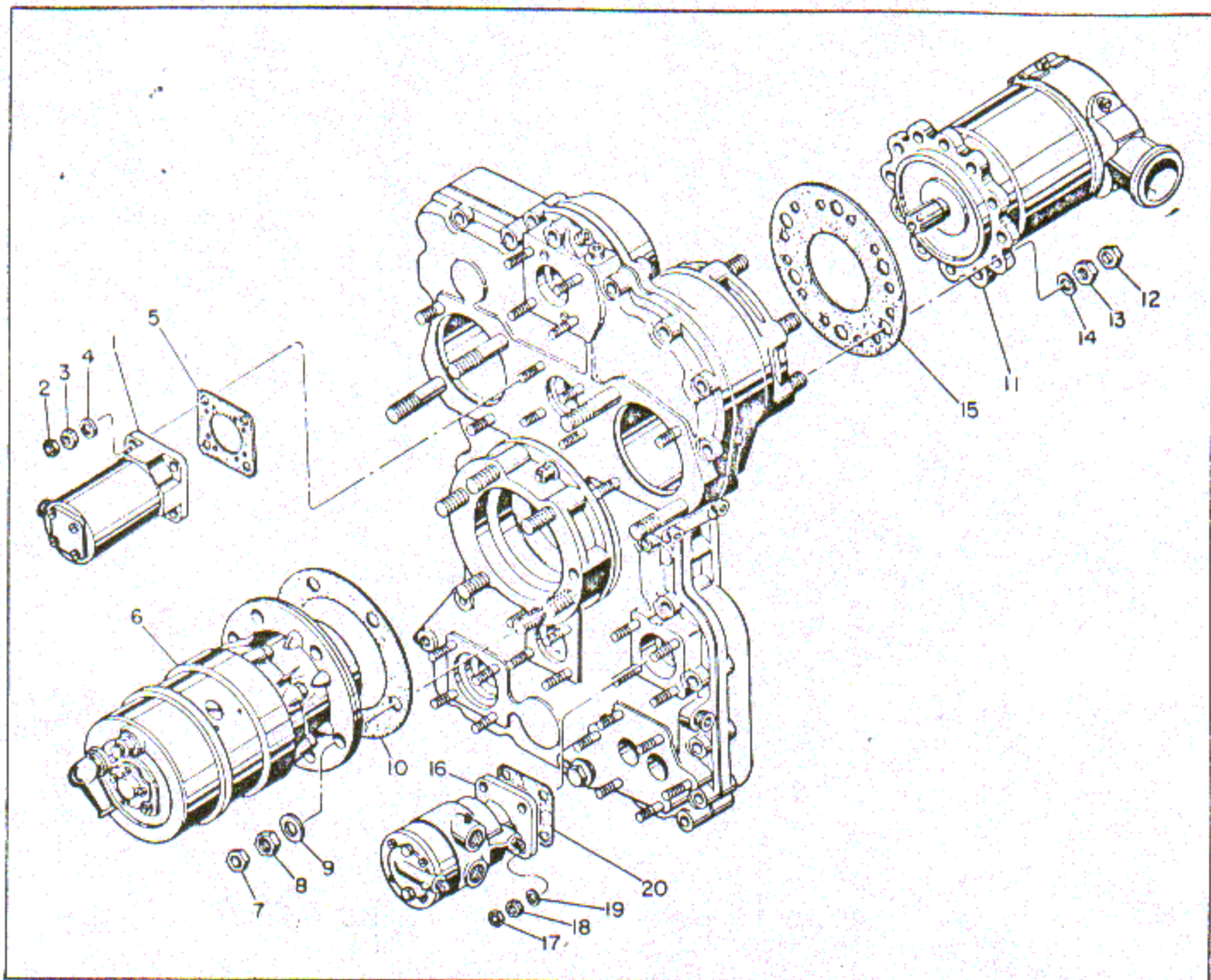


Figure 2. Accessories Group

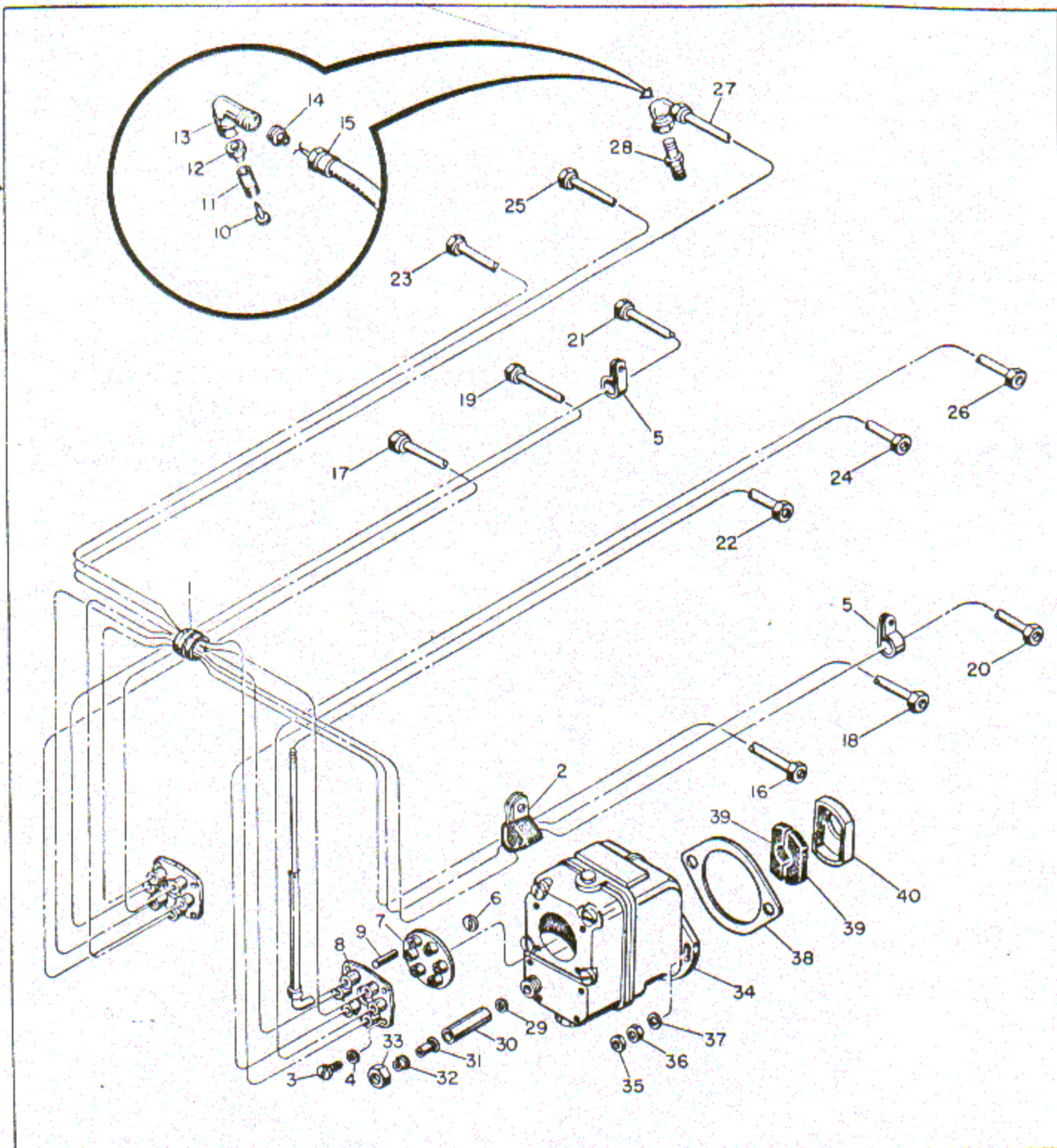


Figure 3. Ignition System

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE
		1	2	3	4	5	6	7		
3-	No Number	IGNITION SYSTEM							NP	
-1	49162	. BAND, Wire harness type B size 5 (UC) (533087) . . .							1	
-2	A25984 536043	. BRACKET, Ignition cable (TF) (537316)							2	
		. HARNESS ASSY, Radio shielded ignition.....							1	
		(ATTACHING PARTS)								
-3	AN501-10-10	. SCREW							8	

FIG. & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
3-4	AN935-10	. WASHER	8	
-5	AN742D-9C	. . CLAMP	2	
-6	10-51677	. . WASHER, High tension cable contact (SNT)	12	
-7	10-50771	. . GROMMET, Six cylinder distributor cable (SNT) (36219)	2	
-8	10-50777	. . PLATE, Six cylinder shielded cable (SNT) (25312) . .	2	
	WE1214-1	. . HARNESS ASSEMBLY, Ignition left (RW)	1	
	WE1214-2	. . HARNESS ASSEMBLY, Ignition right (RW)	1	
-9	WE1122	. . . SLEEVE, Adapter rubber (RW).....	6	
-10	AN302-20-3	. . . PIN	6	
-11	AN4164-2	. . . SLEEVE	6	
-12	WE1008	. . . BUSHING, Rubber (RW).....	6	
-13	AN3104-1	. . . ELBOW	6	
-14	WE1009	. . . SPACER ASSEMBLY (RW)	6	
-15	No Number	. . . CABLE, 5mm high tension ignition Spec MIL-C-3162, Type I, Grade "A", Class 2	AR	
-16	WE301-1-3000	. . . CONDUIT ASSY, Ignition cable No. 1 cylinder lower long elbow (RW)	1	
-17	WE301-1-2700	. . . CONDUIT ASSY, Ignition cable No. 2 cylinder lower long elbow (RW)	1	
-18	WE301-2-3600	. . . CONDUIT ASSY, Ignition cable No. 3 cylinder lower short elbow (RW)	1	
-19	WE301-2-3400	. . . CONDUIT ASSY, Ignition cable No. 4 cylinder lower short elbow (RW)	1	
-20	WE301-2-4300	. . . CONDUIT ASSY, Ignition cable No. 5 cylinder lower short elbow (RW)	1	
-21	WE301-2-4000	. . . CONDUIT ASSY, Ignition cable No. 6 cylinder lower short elbow (RW)	1	
-22	WE301-2-2200	. . . CONDUIT ASSY, Ignition cable No. 1 cylinder upper short elbow (RW)	1	
-23	WE301-2-3200	. . . CONDUIT ASSY, Ignition cable No. 2 cylinder upper short elbow (RW)	1	
-24	WE301-1-3000	. . . CONDUIT ASSY, Ignition cable No. 3 cylinder upper long elbow (RW)	1	
-25	WE301-1-3800	. . . CONDUIT ASSY, Ignition cable No. 4 cylinder upper long elbow (RW)	1	
-26	WE301-2-3600	. . . CONDUIT ASSY, Ignition cable No. 5 cylinder upper short elbow (RW)	1	
-27	WE301-2-4200	. . . CONDUIT ASSY, Ignition cable No. 6 cylinder upper short elbow (RW)	1	
-28	C27S	. PLUG, Spark (CK) (531132-1).....	12	
	RC26S	. PLUG, Spark (CK) (530892)	Opt	
	BG-706-S	. PLUG, Spark (BG) (530203)	Opt	
	10-52305	. KIT, Ground terminal (SNT) (352024).....	2	
-29	2-155	. . WASHER, Plain brass 0.1 ID x 0.313 OD x 0.02 in. thick (SNT) (25314)	1	
-30	10-37668	. . SLEEVE, Ground wire insulating 0.188 ID x 0.375 OD x 0.968 in. lg (SNT) (530455)	1	
-31	10-7029	. . FERRULE, Shielded ground wire inner (SNT) (25316)	1	
-32	10-7030	. . FERRULE, Shielded ground wire outer (SNT) (25317)	1	
-33	10-37669	. . NUT, Hex coupling 5/8-24 (SNT) (25318)	1	
-34	10-51365-17	. MAGNETO, Model S6LN-21 (SNT) (531676) (T.O. 8E2-5-2-14)	2	
		(ATTACHING PARTS)		
-35	356-524	. LOCK	4	
-36	AN121503	. NUT	4	
-37	401506	. WASHER, Plain 0.33 ID x 0.75 OD x 0.09 in. thick . . .	4	
-38	535324	. . . GASKET, Magneto	2	

FIG. & INDEX NO.	PART NO.	DESCRIPTION	UNITS PER ASSY	USABLE ON CODE
3-39	531179	. BUSHING, Magneto drive coupling	4	
-40	531178	. RETAINER, Magneto coupling	2	
4-	532656	PRIMING SYSTEM ASSEMBLY	1	
	532946	. CLAMP ASSY, Primer line right side	1	
-1	AN530-10-6	. . . SCREW	2	
-2	C1779-10Z-1	. . . NUT, Flat speed type No. 10 (TIN) (532362)	2	
-3	532945	. . . CLAMP, Primer line	2	
-4	532947	. . . BRACKET, Primer line clamp	1	
	532943	. CLAMP ASSY, Primer line left side	1	
-5	AN530-10-6	. . . SCREW	2	
-6	C1779-10Z-1	. . . NUT, Flat type speed No. 10 (TIN) (532362)	2	
-7	532945	. . . CLAMP, Primer line	1	
-8	532944	. . . BRACKET, Primer line clamp	1	
-9	532686	. TUBE ASSEMBLY, Cylinders No. 1 and 2	2	
	532685	. TUBE ASSEMBLY, Cylinders No. 3 and 4	2	
	532687	. TUBE ASSEMBLY, Cylinders No. 5 and 6	2	
-10	AN4022-1	. NIPPLE	4	
-11	AN4023-1	. ELBOW	2	

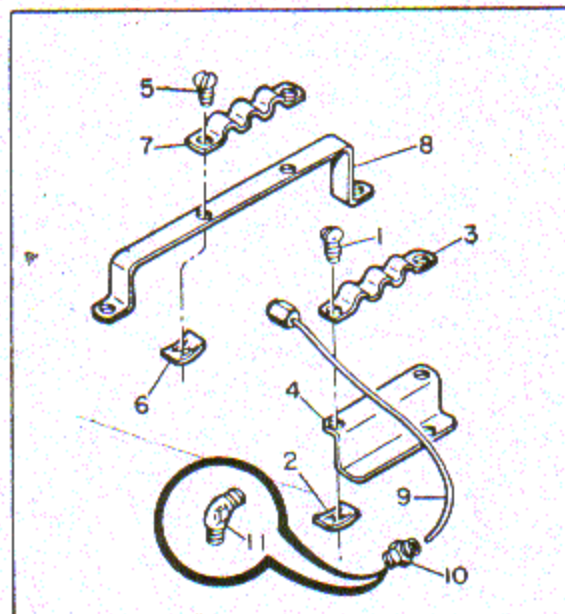


Figure 4. Priming System Assembly

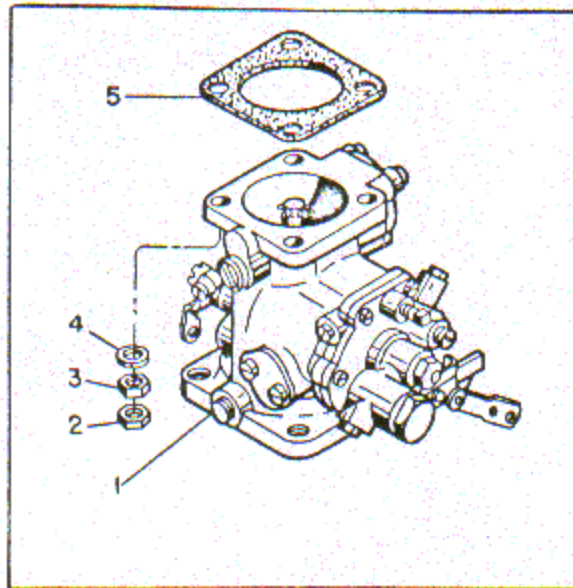


Figure 5. Carburetor Assembly

FIG. & INDEX NO.	PART NO.	DESCRIPTION	UNITS PER ASSY	USABLE ON CODE		
					1	2	3	4	5	6	7
5-	No Number	CARBURETOR ASSEMBLY	NP			
-1	391629	. CARBURETOR ASSY, Model PS-5C (BPD) (625098) (ATTACHING PARTS)	1			
-2	356-524	. LOCK	4			
-3	AN121503	. NUT	4			
-4	AN960-516L	. WASHER	4			
-5	35985	. GASKET	1			
6-1	RG-9080	PUMP, Fuel type G18 (RO) (532402)	1			
		(ATTACHING PARTS)				
-2	356-524	LOCK	4			
-3	AN121503	NUT	4			
-4	AN960-516	WASHER	4			
-5	AN4059-1	GASKET	1			

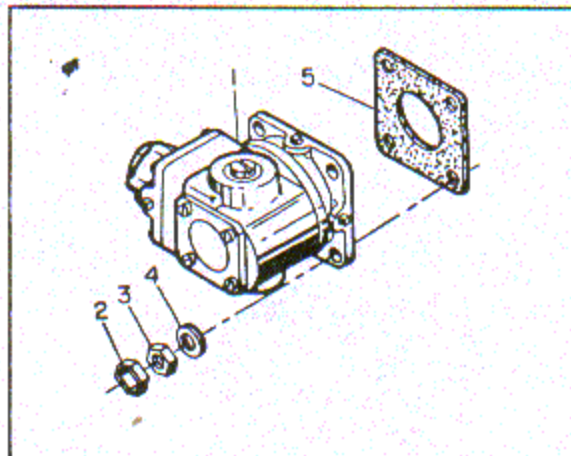


Figure 6. Fuel Pump

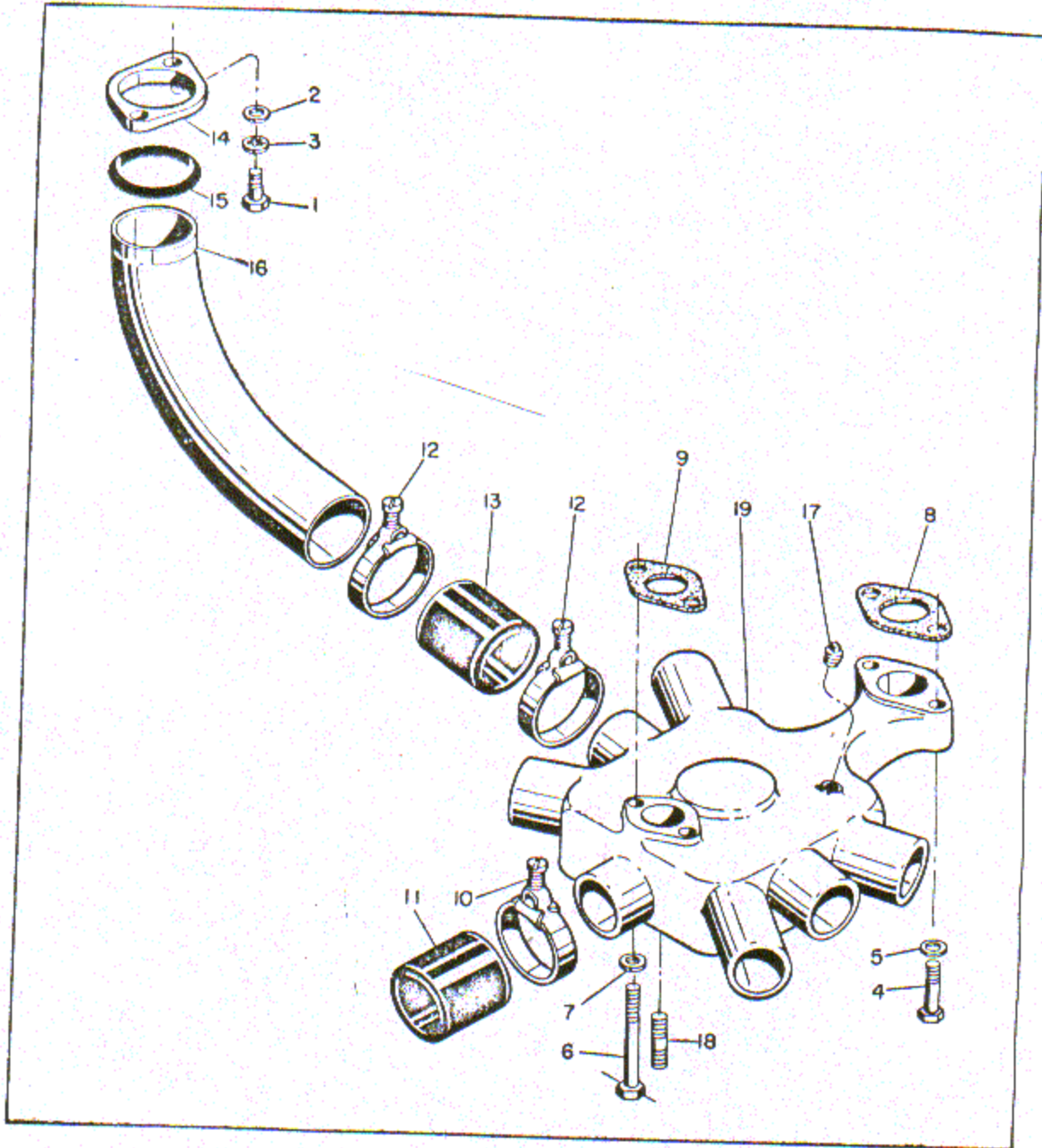


Figure 7. Induction System and Oil Return Hose Assembly

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE
		1	2	3	4	5	6	7		
7-	No Number	INDUCTION SYSTEM AND OIL RETURN HOSE ASSY . . .							NP	
		(ATTACHING PARTS)								
-1	24830	.	BOLT, Hex head drilled 1/4-20 x 0.81 in. long					12		
-2	AN960-416L	.	WASHER					12		
-3	AN936A416	.	WASHER					12		
-4	AN75A21	.	BOLT					2		
-5	AN960-516L	.	WASHER					2		
-6	538999	.	BOLT, Hex head drilled 5/16-18 x 3.82 in. long					2		
-7	AN960-516L	.	WASHER					2		
			-----*							
-8	352059	.	GASKET, Intake and oil drain manifold front					1		
-9	352060	.	GASKET, Intake and oil drain manifold rear					1		
-10	GM-2.44	.	CLAMP, Hose 2-7/16 in. ID (WIT) (36151-E)					2		
-11	24827	.	HOSE, 2 ID x 2-1/2 in. long					1		
	534204-A2	.	INDUCTION SYSTEM ASSEMBLY, Complete					1		
-12	GM-2.44	.	CLAMP, Hose 2-7/16 in. ID (WIT) (36151-E)					12		
-13	24827	.	HOSE, 2 ID x 2-1/2 in. long					6		
-14	24826	.	FLANGE, Intake manifold tube					6		
-15	8495	.	SEAL, Intake manifold (GP) (536740)					6		
-16	40640-C	.	TUBE, Intake manifold					6		
	534204-A1	.	MANIFOLD STUDDING ASSY, Intake and oil drain					1		
-17	AN913-1	.	PLUG					1		
-18	AN126300	.	BOLT STUD					4		
-19	534204	.	MANIFOLD, Intake and oil drain					NP		

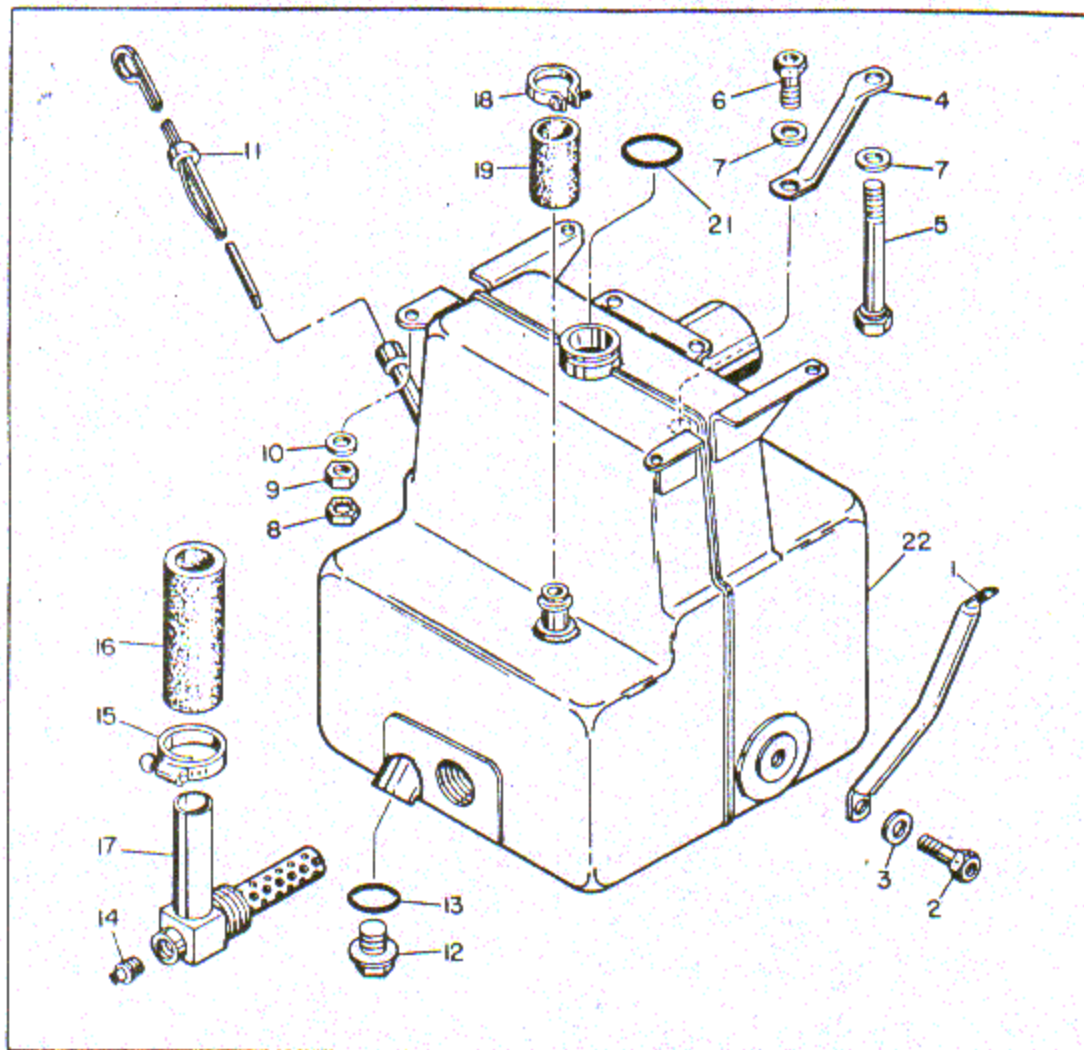


Figure 8. Oil Sump Installation

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE
		1	2	3	4	5	6	7		
8-	No Number	SUMP INSTALLATION, Oil							NP	
-1	625140	. BRACKET, Sump support 1, 3, 5 side							1	
	625109	. BRACKET, Sump support 2, 4, 6 side							1	
		(ATTACHING PARTS)								
-2	AN75-4	. BOLT							2	
-3	AN960-516L	. WASHER							2	

-4	352093	. BRACKET, Oil sump support front							1	
		(ATTACHING PARTS)								
-5	538999	. BOLT, Hex head drilled 5/16-18 x 3.62 in. long							REF	
-6	AN75-4	. BOLT							1	
-7	AN960-516L	. WASHER							1	

	532461-A1	. SUMP ASSEMBLY, Complete oil							NP	
		(ATTACHING PARTS)								
-8	356-524	. LOCK							6	
-9	AN121503	. NUT							6	
-10	AN960-516L	. WASHER							6	

-11	A36114	. ROD ASSEMBLY, Oil gauge							1	
	23888	. FELT, Oil gauge collar							1	
	23389	. COLLAR, Oil gauge dust							NP	
	36114	. ROD, Oil gauge							NP	
-12	2832	. PLUG, Hex drilled head brass 1-14							1	

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE
		1	2	3	4	5	6	7		
8-13	AN900-16	.	.	GASKET	.	.	.	.	1	
-14	AN913-1D	.	.	PLUG	.	.	.	.	1	
-15	AN745-3A	.	.	CLAMP	.	.	.	.	2	
-16	532490	.	.	HOSE, 1 ID x 4 in. long	.	.	.	.	1	
-17	532458	.	.	SCREEN ASSEMBLY, Suction oil	.	.	.	.	1	
-18	AN745-2A	.	.	CLAMP	.	.	.	.	2	
-19	20275	.	.	HOSE, 5/8 ID x 1-7/8 in. long	.	.	.	.	1	
-20	532461	.	.	SUMP ASSEMBLY, Oil	.	.	.	.	1	
-21	AN123879	.	.	SEAL	.	.	.	.	1	
9-	No Number	ACCESSORY CASE, GEARS AND COVERS ASSY							NP	
	533055	.	.	RETAINER ASSEMBLY, Oil cap	.	.	.	.	1	
-1	AN430A4-4	.	.	RIVET	.	.	.	.	1	
-2	533054	.	.	CHAIN, Oil cap retainer	.	.	.	.	1	
-3	533053	.	.	RING, Oil cap retainer	.	.	.	.	1	
	352111	.	.	CAP ASSEMBLY, Oil filter	.	.	.	.	1	
-4	533355	.	.	GASKET, Oil filler cap (furnished with 352111)	.	.	.	.	1	
-5	No Number	.	.	CAP, Oil filter	.	.	.	.	NP	
	532540	.	.	SPOUT ASSEMBLY, Oil filler	.	.	.	.	1	
		(ATTACHING PARTS)								
-6	356-428	.	.	LOCK	.	.	.	.	2	
-7	AN121502	.	.	NUT	.	.	.	.	2	
-8	AN960-416L	.	.	WASHER	.	.	.	.	2	
		----*----								
-9	AN435-5C4	.	.	RIVET	.	.	.	.	2	
-10	532613	.	.	CLIP, Spring	.	.	.	.	2	
-11	535063	.	.	NECK, Oil filler	.	.	.	.	1	
-12	532632	.	.	SPOUT, Oil filler	.	.	.	.	NP	
-13	532509	.	.	GASKET, Oil filler spout	.	.	.	.	1	
-14	36181	.	.	COVER, Governor pad	.	.	.	.	1	
		(ATTACHING PARTS)								
-15	356-524	.	.	LOCK	.	.	.	.	4	
-16	AN121503	.	.	NUT	.	.	.	.	4	
-17	AN960-516	.	.	WASHER	.	.	.	.	4	
		----*----								
-18	AN100008	.	.	GASKET, Type XX engine accessory drive	.	.	.	.	1	
-19	532532	.	.	COVER, Upper hydraulic pump pad	.	.	.	.	1	
		(ATTACHING PARTS)								
-20	356-524	.	.	LOCK	.	.	.	.	4	
-21	AN121503	.	.	NUT	.	.	.	.	4	
-22	AN960-516	.	.	WASHER	.	.	.	.	4	
		----*----								
-23	AN4044-1	.	.	GASKET	.	.	.	.	1	
-24	532139	.	.	ADAPTER, Starter	.	.	.	.	1	
		(ATTACHING PARTS)								
-25	356-428	.	.	LOCK	.	.	.	.	2	
-26	AN121502	.	.	NUT	.	.	.	.	2	
-27	AN960-416L	.	.	WASHER	.	.	.	.	2	
		----*----								
-28	532520	.	.	GASKET, Starter adapter	.	.	.	.	1	
-29	25005	.	.	COVER, Vacuum pump adapter	.	.	.	.	1	
		(ATTACHING PARTS)								
-30	356-428	.	.	LOCK	.	.	.	.	4	
-31	AN121502	.	.	NUT	.	.	.	.	4	
-32	AN960-416L	.	.	WASHER	.	.	.	.	4	
		----*----								
-33	AN4045-1	.	.	GASKET, Vacuum and hydraulic power pumps	.	.	.	.	1	
-34	20273	.	.	NIPPLE, Hose 3/4-16 NF for 5/8 in. ID Hose	.	.	.	.	1	
-35	AN900-13	.	.	GASKET	.	.	.	.	1	
-36	356-524	.	.	LOCK	.	.	.	.	19	

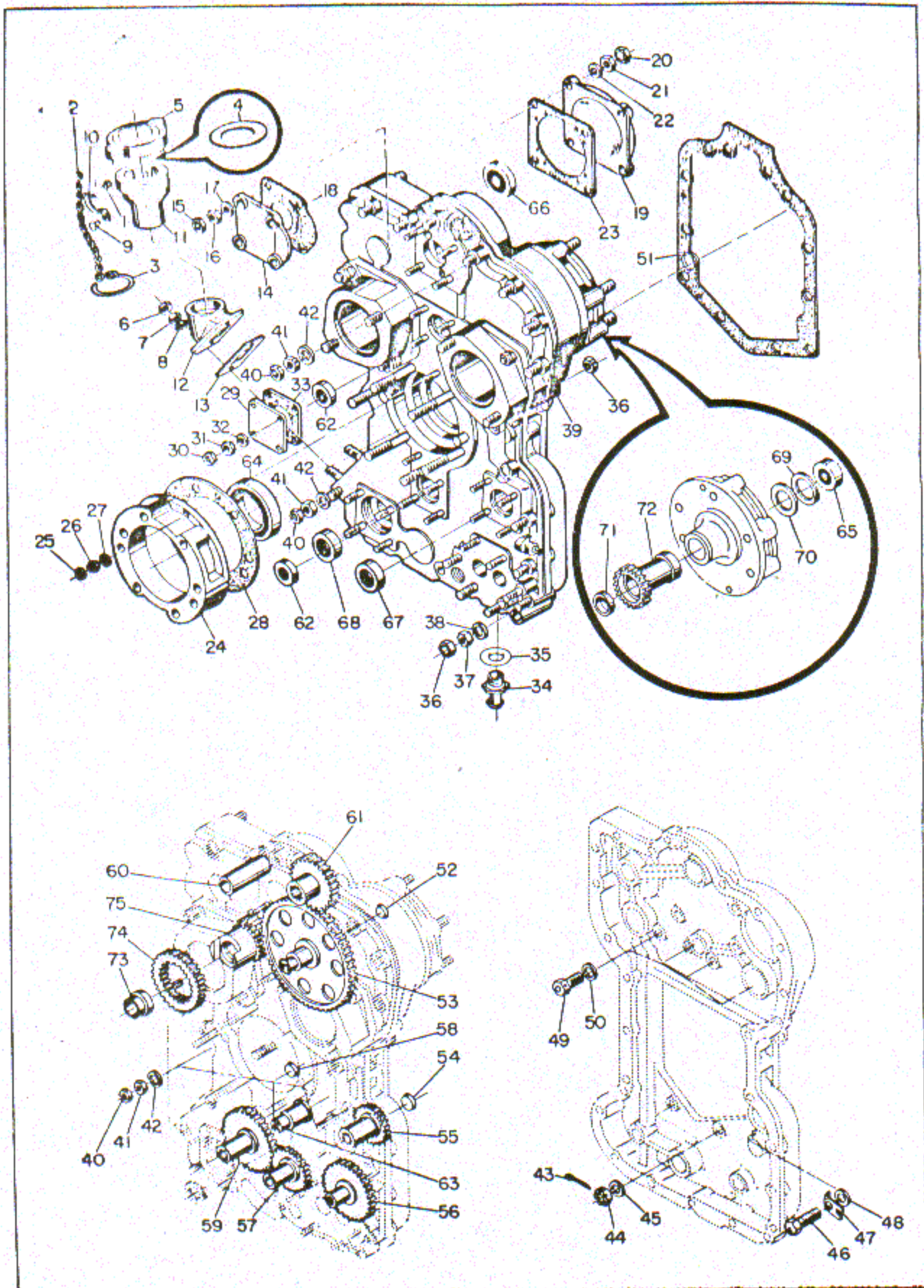


Figure 9. Accessory Case, Gears and Cover Assembly

FIG. & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
9-37	AN121503	. NUT	17	
-38	AN960-516	. WASHER	17	
-39	532820-A1	. MACHINING ASSY, Accessory case front and rear (see figure 10) (ATTACHING PARTS)	1	
-40	356-524	. LOCK	5	
-41	AN121503	. NUT	5	
-42	AN960-516	. WASHER	5	
-43	AN381-2-7	. PIN	2	
-44	AN320-4	. NUT	2	
-45	AN960-416L	. WASHER	2	
-46	AN75A17	. BOLT	1	
-47	501868	. WASHER, Tab 5/16 in.	1	
-48	AN960-516L	. WASHER	1	
-49	AN75A7	. BOLT	4	
-50	AN960-516L	. WASHER	4	
-51	532482	. GASKET, Crankcase to accessory case	1	
9-	532541	. GEAR ASSEMBLY, Tachometer drive upper	1	
-52	532199	. . PLUG, Oil 0.633 OD x 1/4 in. cup	1	
-53	532177	. . GEAR, Tachometer drive upper	NP	
	532543	. GEAR ASSEMBLY, Hydraulic pump drive lower	1	
-54	535527	. . PLUG, Oil 0.758 PD x 1/4 in. cup	1	
-55	532181	. . GEAR, Hydraulic pump drive lower	NP	
-56	532174	. GEAR, Oil pump drive	1	
-57	532178	. GEAR, Fuel pump idler	1	
	532542	. GEAR ASSEMBLY, Fuel pump drive	1	
-58	539634	. . PLUG, Oil 0.633 OD x 1/4 in. cup	1	
-59	532180	. . GEAR, Fuel pump drive	NP	
-60	533406	. PLUG, Hydraulic pump drive upper aluminum alloy 0.93 OD and 1.34 OD x 0.75 ID x 2.49 in. long	1	
-61	532179	. GEAR, Propeller governor drive	1	
-62	50021-S	. SEAL, Oil 1.379 OD for 9/16 in. dia shaft (NM) (532510)	2	
-63	538696	. SHAFT, Tachometer drive	1	
-64	49141	. SEAL, Oil 3 OD for 2-1/4 in. dia shaft (VM) (532467)	1	
-65	50045-S	. SEAL, Oil 1.83 OD for 1-1/8 in. dia shaft (NM) (532489)	1	
-66	50217-S	. SEAL, Oil 1.63 OD for 15/16 in. dia shaft (NM) (532506)	1	
-67	50184-S	. SEAL, Oil 1.503 OD for 15/16 in. dia shaft (NM) (532508)	1	
-68	50030-S	. SEAL, Oil 1.503 OD for 13/16 in. dia shaft (NM) (532534)	1	
-69	5100-112	. RING, External retaining (WKI) (532486).	1	
-70	532487	. WASHER, Thrust aluminum alloy 1.127 ID x 1.5 OD x 0.62 in.	1	
9-	532536	. GEAR ASSEMBLY, Generator drive	1	
-71	532202	. . PLUG, Oil 0.946 OD x 1/4 in. cup	1	
-72	532172	. . GEAR, Generator drive	NP	
	532479	. GEAR ASSEMBLY, Magneto cluster	2	
-73	531177	. . SLEEVE, Magneto drive gear	1	
-74	532478	. . GEAR, Magneto drive	NP	
-75	532477	. . GEAR, Magneto drive shaft	NP	
10-	532820	MACHINING ASSEMBLY, Accessory case front and rear (see figure 9-39) (For attaching parts see figure 9)	REF	
	532528	. STUDDING AND MACHINING ASSY, Accessory case front half (ATTACHING PARTS)	NP	
-1	AN121503	. NUT	2	
-2	AN960-516	. WASHER	2	

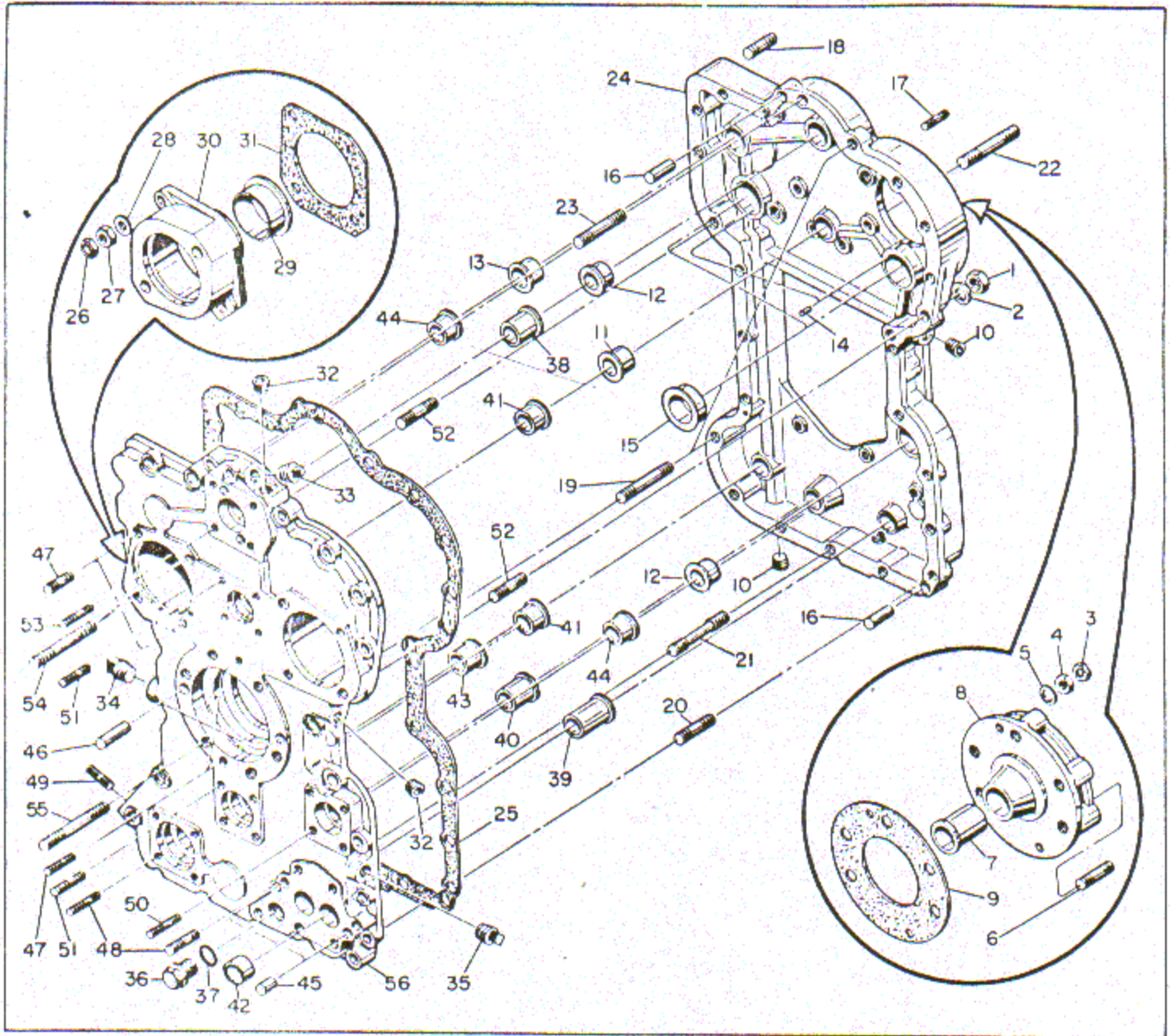


Figure 10. Front and Rear Accessory Case Machining Assembly

FIG. & INDEX NO.	PART NO.	DESCRIPTION	UNITS PER ASSY							USABLE ON CODE	
			1	2	3	4	5	6	7		
10-	532539	ADAPTER ASSEMBLY, Generator (ATTACHING PARTS)								1	
-3	356-428	LOCK, Nut 1/4-28								2	
-4	AN121502	NUT								2	
-5	AN960-416L	WASHER								2	
-6	532515	STUD, Plain 3/8-16 x 3/8-24 x 1-3/4 in.								1	
	532515P003	STUD, 3/8-16 x 3/8-24 x 1-3/4 in. 0.003 in. OS on PD								AR	
	532515P006	STUD, 3/8-16 x 3/8-24 x 1-3/4 in. 0.006 in. OS on PD								AR	
	532515P009	STUD, 3/8-16 x 3/8-24 x 1-3/4 in. 0.009 in. OS on PD								AR	
-7	532484	BUSHING, Bronze 1.12 in. ID								1	
-8	532140	ADAPTER, Generator								NP	
-9	532519	GASKET, Generator adapter								1	
-10	AN932-2	PLUG								3	

FIG. & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
10-11	532318	. . BUSHING, Upper tachometer drive front 0.795 ID x 0.81 in. long	1	
-12	532331	. . BUSHING, Propeller governor drive front 0.92 ID x 0.61 in. long	2	
-13	532481	. . BUSHING, Upper hydraulic pump drive front 0.92 ID x 0.69 in. long	1	
-14	533031	. . PIN, 0.093 dia x 0.187 in. long	2	
-15	532485	. . BUSHING, Magneto drive front 1.232 ID x 0.61 in. lg	2	
-16	532525	. . DOWEL, Steel 0.375 dia x 1.31 in. long	2	
-17	22319	. . STUD, Generator adapter pad 1/4-20 x 1/4-28 x 1-1/4 in.	2	
	22319P003	. . STUD, 1/4-20 x 1/4-28 x 1-1/4 in. 0.003 in. OS on PD .	AR	
	22319P006	. . STUD, 1/4-20 x 1/4-28 x 1-1/4 in. 0.006 in. OS on PD .	AR	
	22319P009	. . STUD, 1/4-20 x 1/4-28 x 1-1/4 in. 0.009 in. OS on PD .	AR	
-18	22325	. . STUD, Plain 5/16-18 x 5/16-24 x 1.5 in.	4	
	22325P003	. . STUD, 5/16-18 x 5/16-24 x 1.5 in. 0.003 in. OS on PD .	AR	
	22325P006	. . STUD, 5/16-18 x 5/16-24 x 1.5 in. 0.006 in. OS on PD .	AR	
	22325P009	. . STUD, 5/16-18 x 5/16-24 x 1.5 in. 0.009 in. OS on PD .	AR	
-19	532505	. . STUD, Plain 5/16-18 x 5/16-24 x 2.75 in.	2	
	532505P003	. . STUD, 5/16-18 x 5/16-24 x 2.75 in. 0.003 in. OS on PD .	AR	
	532505P006	. . STUD, 5/16-18 x 5/16-24 x 2.75 in. 0.006 in. OS on PD .	AR	
	532505P009	. . STUD, 5/16-18 x 5/16-24 x 2.75 in. 0.009 in. OS on PD .	AR	
-20	532507	. . STUD, Plain 5/16-18 x 5/16-24 x 1.88 in.	13	
	532507P003	. . STUD, 5/16-18 x 5/16-24 x 1.88 in. 0.003 in. OS on PD .	AR	
	532507P006	. . STUD, 5/16-18 x 5/16-24 x 1.88 in. 0.006 in. OS on PD .	AR	
	532507P009	. . STUD, 5/16-18 x 5/16-24 x 1.88 in. 0.009 in. OS on PD .	AR	
-21	AN126420	. . BOLT STUD	1	
-22	532514	. . STUD, Plain 3/8-16 x 3/8-24 x 2.94 in.	5	
	532514P003	. . STUD, 3/8-16 x 3/8-24 x 2.94 in. 0.003 in. OS on PD	AR	
	532514P006	. . STUD, 3/8-16 x 3/8-24 x 2.94 in. 0.006 in. OS on PD	AR	
	532514P009	. . STUD, 3/8-16 x 3/8-24 x 2.94 in. 0.009 in. OS on PD	AR	
-23	532612	. . STUD, Plain 5/16-18 x 5/16-24 x 2-1/2 in.	1	
	532612P003	. . STUD, 5/16-18 x 5/16-24 x 2-1/2 in. 0.003 in. OS on PD	AR	
	532612P006	. . STUD, 5/16-18 x 5/16-24 x 2-1/2 in. 0.006 in. OS on PD	AR	
	532612P009	. . STUD, 5/16-18 x 5/16-24 x 2-1/2 in. 0.009 in. OS on PD	AR	
-24	532350	. . CASE, Accessory front half	NP	
-25	532473	. GASKET, Accessory case front to rear	1	
	532553	. STUDDING AND MACHINING ASSY, Accessory case rear half	NP	
	532538	. . ADAPTER ASSEMBLY, Left magneto	1	
	532537	. . ADAPTER ASSEMBLY, Right magneto	1	
		(ATTACHING PARTS)		
-26	356-428	. . LOCK, Nut 1/4-28	4	
-27	AN121502	. . NUT	4	
-28	AN960-416L	. . WASHER	4	

-29	532684	. . . BUSHING, Magneto adapter bronze 1.732 ID x 0.922 in. long	1	
-30	532300	. . . ADAPTER, Left Magneto	NP	
	532299	. . . ADAPTER, Right Magneto	NP	
-31	532518	. . GASKET, Magneto adapter	2	
-32	AN932-2	. . PLUG	2	
-33	AN913-2S	. . PLUG	1	
-34	AN913-3S	. . PLUG	1	
-35	AN932C4	. . PLUG	1	
-36	537744	. . PLUG, Special hex head brass 1-18 NS	1	
-37	AN900-16	. . GASKET	1	
-38	532257	. . BUSHING, Propeller governor drive rear 0.92 ID x 1.18 in. long	1	
-39	532316	. . BUSHING, Oil pump drive 0.795 ID x 1.75 in. long . .	1	

FIG. & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
10-40	532317	. . BUSHING, Fuel pump idler 0.795 ID x 1.25 in. long . .	1	
-41	532318	. . BUSHING, Tachometer drive lower rear 0.795 ID x 0.81 in. long	2	
-42	532437	. . BUSHING, Oil pump driven gear 0.795 ID x 1.002 OD x 9/16 in. long	2	
-43	532480	. . BUSHING, Fuel pump drive 0.795 ID x 0.72 in. long	1	
-44	532481	. . BUSHING, Upper hydraulic pump drive rear 0.92 ID x 0.69 in. long	2	
-45	532683	. . DOWEL, Steel 0.25 dia x 3/4 in. long	2	
-46	532524	. . DOWEL, Steel 0.375 dia x 1-1/2 in. long	2	
-47	22319	. . STUD, Plain 1/4-20 x 1/4-28 x 1-1/4 in.	6	
	22319P003	. . STUD, 1/4-20 x 1/4-28 x 1-1/4 in. 0.003 in. OS on PD	AR	
	22319P006	. . STUD, 1/4-20 x 1/4-28 x 1-1/4 in. 0.006 in. OS on PD	AR	
	22319P009	. . STUD, 1/4-20 x 1/4-28 x 1-1/4 in. 0.009 in. OS on PD	AR	
-48	22325	. . STUD, Plain 5/16-18 x 5/16-24 x 1.5 in.	10	
	22325P003	. . STUD, 5/16-18 x 5/16-24 x 1.5 in. 0.003 in. OS on PD	AR	
	22325P006	. . STUD, 5/16-18 x 5/16-24 x 1.5 in. 0.006 in. OS on PD	AR	
	22325P009	. . STUD, 5/16-18 x 5/16-24 x 1.5 in. 0.009 in. OS on PD	AR	
-49	AN125964	. . BOLT STUD	2	
-50	25008	. . STUD, Plain 1/4-20 x 1/4-28 x 1-3/8 in.	4	
	25008P003	. . STUD, 1/4-20 x 1/4-28 x 1-3/8 in. 0.003 in. OS on PD	AR	
	25008P006	. . STUD, 1/4-20 x 1/4-28 x 1-3/8 in. 0.006 in. OS on PD	AR	
	25008P009	. . STUD, 1/4-20 x 1/4-28 x 1-3/8 in. 0.009 in. OS on PD	AR	
-51	532501	. . STUD, Plain 1/4-20 x 1/4-28 x 1-1/4 in.	8	
	532501P003	. . STUD, 1/4-20 x 1/4-28 x 1-1/4 in. 0.003 in. OS on PD	AR	
	532501P006	. . STUD, 1/4-20 x 1/4-28 x 1-1/4 in. 0.006 in. OS on PD	AR	
	532501P009	. . STUD, 1/4-20 x 1/4-28 x 1-1/4 in. 0.009 in. OS on PD	AR	
-52	532507	. . STUD, Plain 5/16-18 x 5/16-24 x 1.88 in.	2	
	532507P003	. . STUD, 5/16-18 x 5/16-24 x 1.88 in. 0.003 in. OS on PD	AR	
	532507P006	. . STUD, 5/16-18 x 5/16-24 x 1.88 in. 0.006 in. OS on PD	AR	
	532507P009	. . STUD, 5/16-18 x 5/16-24 x 1.88 in. 0.009 in. OS on PD	AR	
-53	532511	. . STUD, Plain 5/16-18 x 5/16-24 x 1.62 in.	4	
	532511P003	. . STUD, 5/16-18 x 5/16-24 x 1.62 in. 0.003 in. OS on PD	AR	
	532511P006	. . STUD, 5/16-18 x 5/16-24 x 1.62 in. 0.006 in. OS on PD	AR	
	532511P009	. . STUD, 5/16-18 x 5/16-24 x 1.62 in. 0.009 in. OS on PD	AR	
-54	532513	. . STUD, Plain 5/16-18 x 5/16-24 x 3.19 in.	4	
	532513P003	. . STUD, 5/16-18 x 5/16-24 x 3.19 in. 0.003 in. OS on PD	AR	
	532513P006	. . STUD, 5/16-18 x 5/16-24 x 3.19 in. 0.006 in. OS on PD	AR	
	532513P009	. . STUD, 5/16-18 x 5/16-24 x 3.19 in. 0.009 in. OS on PD	AR	
-55	532516	. . STUD, Plain 3/8-16 x 3/8-24 x 4 in.	6	
	532516P003	. . STUD, 3/8-16 x 3/8-24 x 4 in. 0.003 in. OS on PD . . .	AR	
	532516P006	. . STUD, 3/8-16 x 3/8-24 x 4 in. 0.006 in. OS on PD . . .	AR	
	532516P009	. . STUD, 3/8-16 x 3/8-24 x 4 in. 0.009 in. OS on PD . . .	AR	
-56	532349	3. CASE, Accessory rear half	NP	
11-	No Number	PUMP AND HOSE ASSEMBLY, Oil	NP	
-1	MS28741-10-25	. . HOSE ASSEMBLY, Hydraulic and pneumatic 25 in. long . . (ATTACHING PARTS)	1	
-2	AN365-1032	. . NUT	1	
-3	AN3-3A	. . BOLT	1	
-4	AN742-10C	. . CLAMP	1	
-5	AN742-17C	. . CLAMP	1	
-6	AN822-10B	. . ELBOW	1	
-7	AN840-16	. . ADAPTER	1	
-8	532381	. . GEAR, Oil pump driven	1	
-9	532435	. . GEAR, Oil pump driver	1	
	532502-A1	. . BODY ASSEMBLY, Complete oil pump (ATTACHING PARTS)	1	
-10	356-524	. . LOCK, Nut 5/16-24	6	

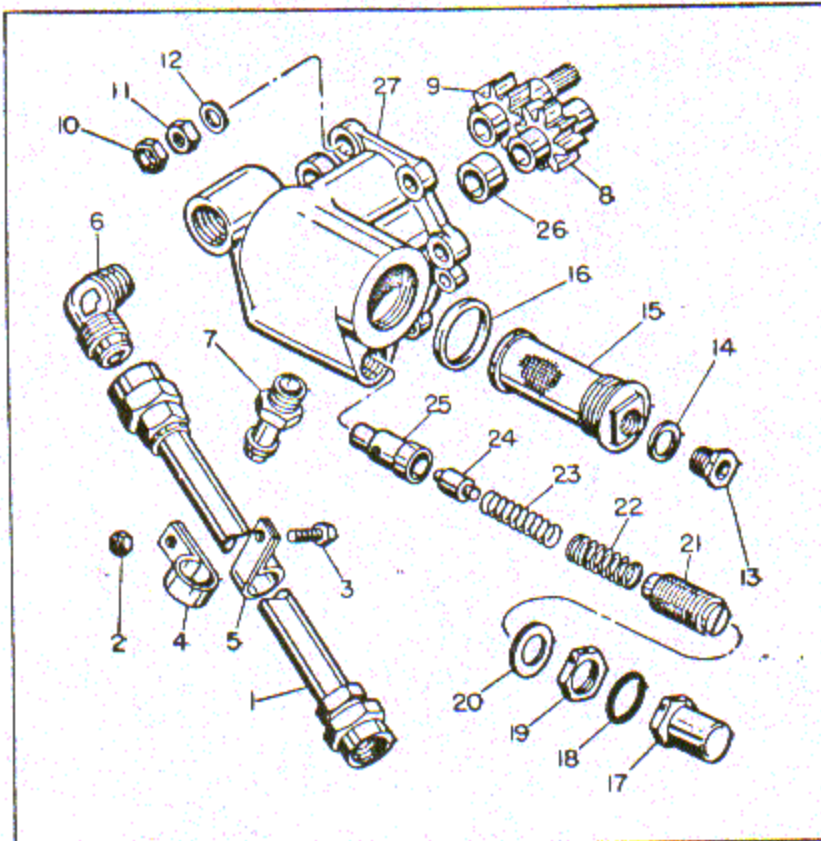


Figure 11. Oil Pump and Hose Assembly

FIG. & INDEX NO.	PART NO.	DESCRIPTION	UNITS PER ASSY							USABLE ON CODE	
			1	2	3	4	5	6	7		
11-11	AN121503	NUT								6	
-12	AN960-516	WASHER								6	
-13	532432	PLUG, Hex head drilled for locking brass 5/8-18								1	
-14	AN900-10	GASKET								1	
-15	A35996	SCREEN ASSEMBLY, Pressure oil								1	
-16	AN900-29	GASKET								1	
-17	20970	CAP, Oil pressure relief valve 1-20 NEF								1	
-18	AN900-16	GASKET								1	
-19	20968	NUT, High pressure adjusting screw lock 1-20 NEF								1	
-20	AN900-16	GASKET								1	
-21	533166	SCREW AND BUSHING ASSEMBLY, Oil pressure relief								1	
-22	533105	SPRING, Oil pressure relief valve outer								1	
-23	533106	SPRING, Oil pressure relief valve inner								1	
-24	625173	PLUNGER, Oil pressure relief valve								1	
-25	533104	SLEEVE, Oil pressure relief valve								1	
	532502	BODY AND BUSHING ASSEMBLY, Oil pump								1	
-26	532437	BUSHING, Oil pump gear bronze 0.795 ID x 1.002 OD x 9/16 in. long								2	
-27	532433	BODY, Oil pump and oil screen								1	

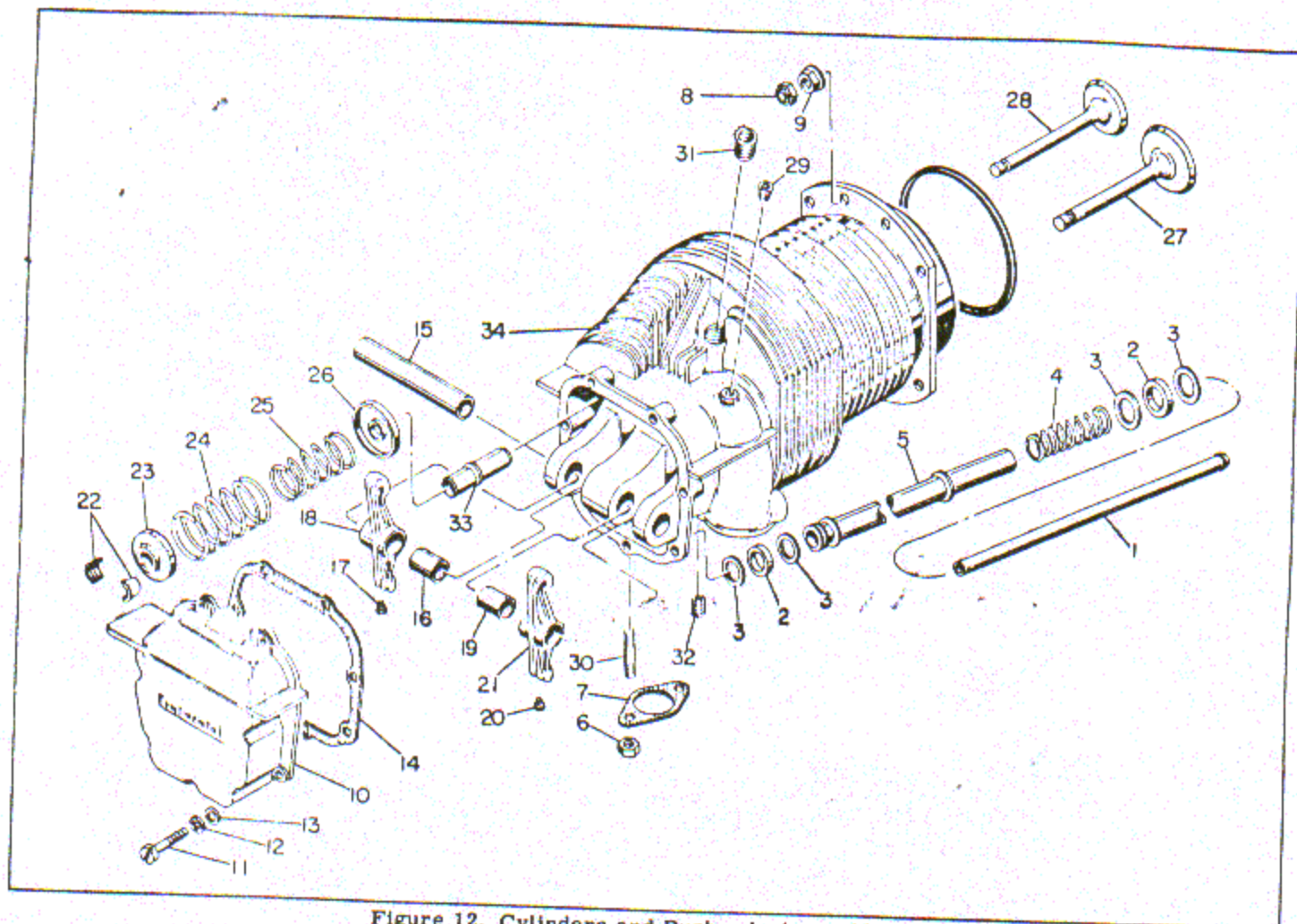


Figure 12. Cylinders and Pushrods Assembly

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE
		1	2	3	4	5	6	7		
12-	No Number	CYLINDERS AND PUSHRODS ASSEMBLY								
-1	537490	. . . . . PUSHROD ASSEMBLY							NP	
-2	536410	. . . . . PACKING, Pushrod housing							12	
-3	534609	. . . . . WASHER, Pushrod housing							24	
-4	535052	. . . . . SPRING, Pushrod housing							36	
-5	534603	. . . . . HOUSING, Pushrod removable							12	
-6	532393	. . . . . NUT, Special 5/16-24							12	
-7	21493	. . . . . GASKET, Exhaust flange							12	
	538567-A4	. . . . . CYLINDER ASSEMBLY, Complete							6	
		. . . . . (ATTACHING PARTS)							6	
-8	356-720	. . . . . LOCK							36	
-9	531001	. . . . . NUT, Flanged hex 7/16-20							38	
-10	532450	. . . . . COVER, Valve rocker							1	
		. . . . . (ATTACHING PARTS)								
-11	AN500-416-12	. . . . . SCREW							7	
-12	AN936A416	. . . . . WASHER							7	
-13	AN960-416L	. . . . . WASHER							7	
-14	532451	. . . . . GASKET							1	
-15	24797	. . . . . SHAFT, Valve rocker							1	
	24797P005	. . . . . SHAFT, Valve rocker 0.005 in. OS on OD							AR	
-16	625145	. . . . . BEARING, Valve rocker							1	
	625081	. . . . . ROCKER ASSEMBLY, Intake valve							1	
-17	AN535-2-2	. . . . . SCREW							2	
-18	625448	. . . . . ROCKER, Intake valve							1	

FIG. & INDEX NO.	PART NO.	DESCRIPTION	UNITS PER ASSY	USABLE ON CODE		
					1	2	3	4	5	6	7
12-19	625145	. . BEARING, Valve rocker	1			
	625082	. . ROCKER ASSEMBLY, Exhaust valve	1			
-20	AN535-2-2	. . . SCREW	1			
-21	625512	. . . ROCKER, Exhaust valve	1			
	538567-A3	. . . CYLINDER AND VALVE ASSEMBLY	1			
-22	24802	. . . KEY, Valve spring outer retainer	4			
-23	F.R.RA-43-A	. . . . . ROTOCAP ASSEMBLY (TP) (532067)	2		
-24	520105	. . . SPRING, Valve outer	2			
-25	520106	. . . SPRING, Valve inner	2			
-26	24799	. . . RETAINER, Valve spring inner	2			
-27	537844	. . . VALVE, Exhaust	1			
-28	532129	. . . VALVE, Intake	1			
	538567	. . . MACHINING ASSEMBLY, Cylinder	1			
-29	AN932-2	. . . . . PLUG	1		
-30	AN126288	. . . . . BOLT STUD	2		
-31	C2-52	. . . . . INSERT, Spark plug (AF) (520112)	2		
-32	MS122121	. . . . . INSERT	2		
-33	515152	. . . . . GUIDE, Valve	2		
	515152P005	. . . . . GUIDE, Valve 0.005 in. OS on OD	AR		
	515152P010	. . . . . GUIDE, Valve 0.010 in. OS on OD	AR		
	515152P015	. . . . . GUIDE, Valve 0.015 in. OS on OD	AR		
	515152P020	. . . . . GUIDE, Valve 0.020 in. OS on OD	AR		
-34	No Number	. . . . . HEAD AND BARREL ASSEMBLY	NP		
13-	539796-A1	PISTON ASSEMBLY, Complete	6			
-1	539467	. . PIN AND PLUG ASSEMBLY, Piston	1			
	539796-A2	. . PISTON AND RING ASSEMBLY	1			
-2	625147	. . RING, Compression piston 5 OD x 0.089 in. wide	2			
	625147P005	. . RING, Compression piston 5 OD x 0.089 in. wide	AR			
		0.005 in. OS on OD				
	625147P015	. . RING, Compression piston 5 OD x 0.089 in. wide	AR			
		0.015 in. OS on OD				
-3	536939	. . RING, Oil control piston 5 OD x 0.155 in. wide	1			
	536939P005	. . RING, Oil control piston 5 OD x 0.155 in. wide	AR			
		0.005 in. OS on OD				
	536939P015	. . RING, Oil control piston 5 OD x 0.155 in. wide	AR			
		0.015 in. OS on OD				
-4	539796	. . PISTON, 7:1 compression ratio forged 5 in. dia	1			
	539796P015	. . PISTON, 7:1 compression ratio forged 5 in. dia	AR			
		0.015 in. OS on OD				

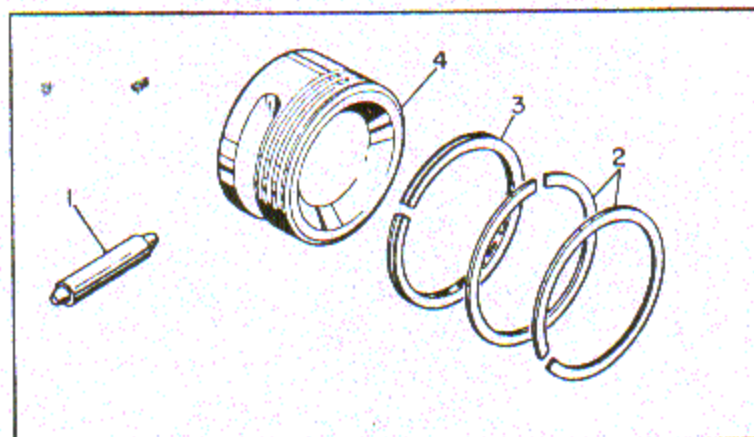


Figure 13. Complete Piston Assembly

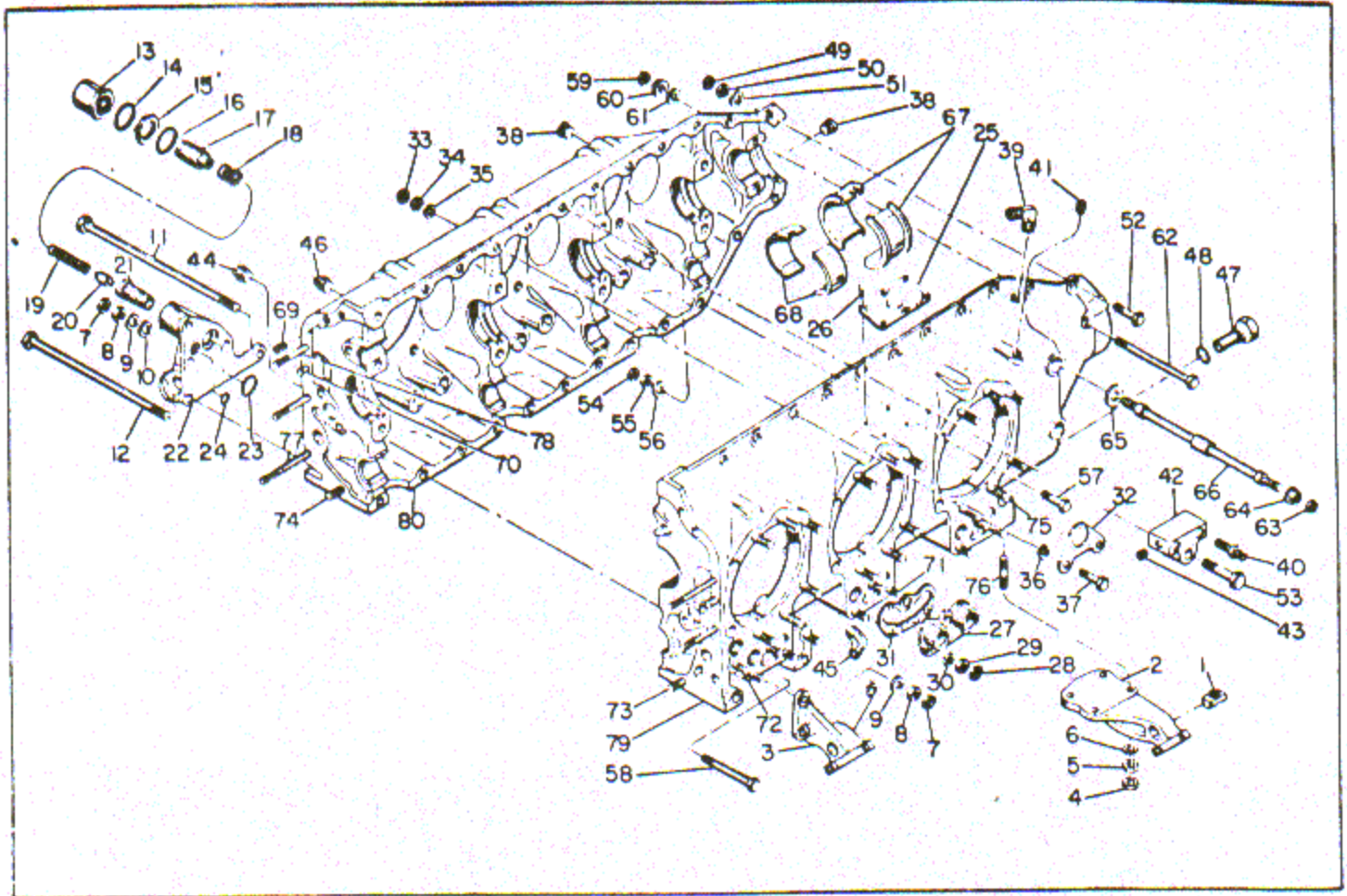


Figure 14. Crankcase Group

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE
		1	2	3	4	5	6	7		
14-	No Number	CRANKCASE GROUP							NP	
	No Number	. BRACKET AND NUT ASSEMBLY, Engine mount							NP	
-1	539911	. . NUT, Barrel 7/16-20 x 1.06 in. long							4	
-2	625077	. . BRACKET, Engine mount front right hand							1	
	625076	. . BRACKET, Engine mount front left hand							1	
-3	625079	. . BRACKET, Engine mount rear right hand.							1	
	625117	. . BRACKET AND OIL PRESSURE RELIEF ASSY							NP	
		(ATTACHING PARTS)								
-4	356-624	. . LOCK							9	
-5	AN121504	. . NUT							9	
-6	AN960-616L	. . WASHER							10	
-7	356-524	. . LOCK							5	
-8	AN121503	. . NUT							5	
-9	AN960-516L	. . WASHER							6	
-10	625449	. . SPACER, Crankcase thru bolt 0.45 ID x 0.88 OD x 0.078 in. thick							1	
-11	36007	. . BOLT, Hex head 5/16-24 x 10-9/16 in. long							1	
-12	536524	. . BOLT, Hex head 3/8-24 x 10-5/8 in. long							1	

-13	20970	. . . CAP, High pressure relief valve							1	
-14	AN900-16	. . . GASKET							1	
-15	20968	. . . NUT, High pressure adjusting screw lock							1	
-16	AN900-16	. . . GASKET							1	
-17	533166	. . . SCREW AND BUSHING ASSEMBLY, Oil pressure							1	
-18	533105	. . . SPRING, Oil pump outer							1	
-19	533106	. . . SPRING, Oil pump inner							1	

FIG. & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	UNITS PER ASSY	USABLE ON CODE
14-20	625173	. . . PISTON, Oil pressure relief	1	
-21	533104	. . . SLEEVE, Oil pressure relief	1	
-22	625078	. . . BRACKET, Engine mount rear left hand	1	
-23	AN123872	. SEAL	1	
-24	AN123866	. SEAL	1	
-25	625116	. PLATE, Identification (ATTACHING PART)	1	
-26	AN535-0-3	. SCREW	6	
	536522	. CRANKCASE ASSEMBLY, Complete	1	
-27	531186	. FLANGE, Pushrod housing (ATTACHING PARTS)	6	
-28	356-428	. . . LOCK	18	
-29	AN121502	. . . NUT	18	
-30	AN960-416L	. . . WASHER	18	
		-----*		
-31	352058	. . GASKET, Pushrod housing flange	6	
-32	530470	. . EYE, Engine lifting (ATTACHING PARTS)	1	
-33	356-428	. . . LOCK	2	
-34	AN121502	. . . NUT	2	
-35	AN960-416L	. . . WASHER	4	
-36	25164	. . . WASHER, Special 9/32 ID x 1/2 OD x 1/8 in. thick	2	
-37	AN4-13A	. . . BOLT	2	
		-----*		
-38	AN932C4	. . . PLUG	2	
-39	AN842-10	. . . ELBOW	1	
-40	AN780-2	. . . NIPPLE	6	
-41	AN932-2	. . . PLUG	1	
-42	532676	. . . DISTRIBUTOR, Primer	1	
-43	AN932-2	. . . PLUG	2	
-44	520124	. . . PLUG, Square head pipe	1	
-45	AN823-10B	. . . ELBOW	1	
-46	AN913-1S	. . . PLUG	2	
-47	531433	. . . ADAPTER, Oil gallery	1	
-48	AN900-10	. . . GASKET	1	
	625113	. . . MACHINING ASSEMBLY, Crankcase	NP	
-49	356-428	. . . LOCK	10	
-50	AN121502	. . . NUT	10	
-51	AN960-416L	. . . WASHER	20	
-52	AN4-11A	. . . BOLT	11	
-53	AN4-14A	. . . BOLT	1	
-54	356-524	. . . LOCK	8	
-55	AN121503	. . . NUT	8	
-56	AN960-516L	. . . WASHER	16	
-57	AN5-14A	. . . BOLT	7	
-58	AN5-32A	. . . BOLT	1	
-59	356-624	. . . LOCK	2	
-60	531003	. . . NUT, Hex flanged 3/8-24	2	
-61	24239	. . . WASHER, Plain 3/8 ID x 1/8 in. thick	4	
-62	AN6-47A	. . . BOLT	2	
-63	356-720	. . . LOCK	16	
-64	531001	. . . NUT, Hex flanged 7/16-20	16	
-65	25171	. . . SPACER, Crankcase through bolt 29/64 ID x 7/8 OD x 5/32 in. thick	3	
-66	531205	. . . BOLT, Crankcase through 7/16-20 x 10-11/16 in. long	8	
-67	40644	. . . BEARING, Crankshaft main thrust	2	
	40644M010	. . . BEARING, Crankshaft main thrust 0.010 in. under- size on ID	AR	
-68	530386	. . . BEARING, Crankshaft main	8	
	530386M010	. . . BEARING, Crankshaft main 0.010 in. undersize on ID	AR	
	625114	. . . STUDDING ASSEMBLY, Crankcase	1	

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE	
		1	2	3	4	5	6	7			
14-69	MS122162	.	.	.	.	.	.	.	INSERT, Heli-Coil 5/16-18 x 5/8 in. long . . .	5	
-70	21080	.	.	.	.	.	.	.	DOWEL, 1/4 dia x 9/16 in. long	2	
-71	AN125964	.	.	.	.	.	.	.	STUD	18	
-72	AN126300	.	.	.	.	.	.	.	STUD	3	
-73	21167	.	.	.	.	.	.	.	STUD, 1/4-20 x 1/4-28 x 1 in. long	2	
	21167P003	.	.	.	.	.	.	.	STUD, 1/4-20 x 1/4-28 x 1 in. long 0.003 in. OS on PD	AR	
	21167P006	.	.	.	.	.	.	.	STUD, 1/4-20 x 1/4-28 x 1 in. long 0.006 in. OS on PD	AR	
	21167P009	.	.	.	.	.	.	.	STUD, 1/4-20 x 1/4-28 x 1 in. long 0.009 in. OS on PD	AR	
-74	25030	.	.	.	.	.	.	.	STUD, Plain 5/16-18 x 5/16-24 x 1-1/16 in. lg	6	
	25030P003	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 1-1/16 in. 0.003 in. OS on PD	AR	
	25030P006	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 1-1/16 in. 0.006 in. OS on PD	AR	
	25030P009	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 1-1/16 in. 0.009 in. OS on PD	AR	
-75	531145	.	.	.	.	.	.	.	STUD, 7/16-14 x 7/16-20 x 1.86 in. long	6	
	531145P003	.	.	.	.	.	.	.	STUD, 7/16-14 x 7/16-20 x 1.86 in. 0.003 in. OS on PD	AR	
	531145P006	.	.	.	.	.	.	.	STUD, 7/16-14 x 7/16-20 x 1.86 in. 0.006 in. OS on PD	AR	
	531145P009	.	.	.	.	.	.	.	STUD, 7/16-14 x 7/16-20 x 1.86 in. 0.009 in. OS on PD	AR	
-76	532515	.	.	.	.	.	.	.	STUD, 3/8-16 x 3/8-24 x 1-3/4 in. long	8	
	532515P003	.	.	.	.	.	.	.	STUD, 3/8-16 x 3/8-24 x 1-3/4 in. 0.003 in. OS on PD	AR	
	532515P006	.	.	.	.	.	.	.	STUD, 3/8-16 x 3/8-24 x 1-3/4 in. 0.006 in. OS on PD	AR	
	532515P009	.	.	.	.	.	.	.	STUD, 3/8-16 x 3/8-24 x 1-3/4 in. 0.009 in. OS on PD	AR	
-77	532517	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 4-1/4 in. long . . .	2	
	532517P003	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 4-1/4 in. 0.003 in. OS on PD	AR	
	532517P006	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 4-1/4 in. 0.006 in. OS on PD	AR	
	532517P009	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 4-1/4 in. 0.009 in. OS on PD	AR	
-78	532522	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 3-5/16 in. long . . .	3	
	532522P003	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 3-5/16 in. 0.003 in. OS on PD	AR	
	532522P006	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 3-5/16 in. 0.006 in. OS on PD	AR	
	532522P009	.	.	.	.	.	.	.	STUD, 5/16-18 x 5/16-24 x 3-5/16 in. 0.009 in. OS on PD	AR	
-79	532367	.	.	.	.	.	.	.	CRANKCASE, Cylinders No. 1,3,5	NP	
-80	625075	.	.	.	.	.	.	.	CRANKCASE, Cylinders No. 2,4,6	NP	

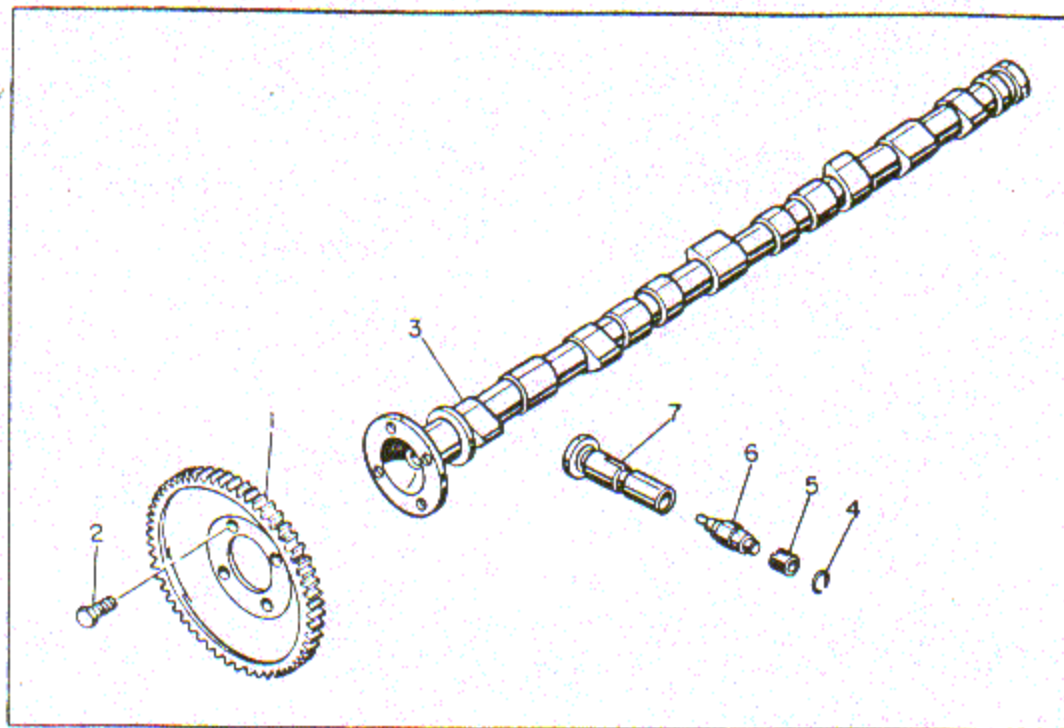


Figure 15. Camshaft and Lifters Assembly

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE
		1	2	3	4	5	6	7		
15-	No Number	CAMSHAFT AND LIFTERS ASSEMBLY							NP	
	536877-A3	. CAMSHAFT ASSEMBLY							1	
-1	538695	. . GEAR, Camshaft drive							1	
		(ATTACHING PART)								
-2	537019	. . SCREW, Drilled hex head 5/16-24 x 0.53 in. long . .							4	
		----*----								
-3	536877	. . CAMSHAFT							1	
	H-23179	. LIFTER ASSEMBLY, Hydraulic (WCX) (533400)							12	
-4	H-7397	. . RING, Snap (WCX) (530940)							1	
-5	H-7392	. . SOCKET, Pushrod (WCX) (25042)							1	
-6	H-3814	. . UNIT, Hydraulic valve tappet (WCX) (533399)							1	
-7	H-5576	. . BODY, Hydraulic lifter (WCX) (531128)							1	

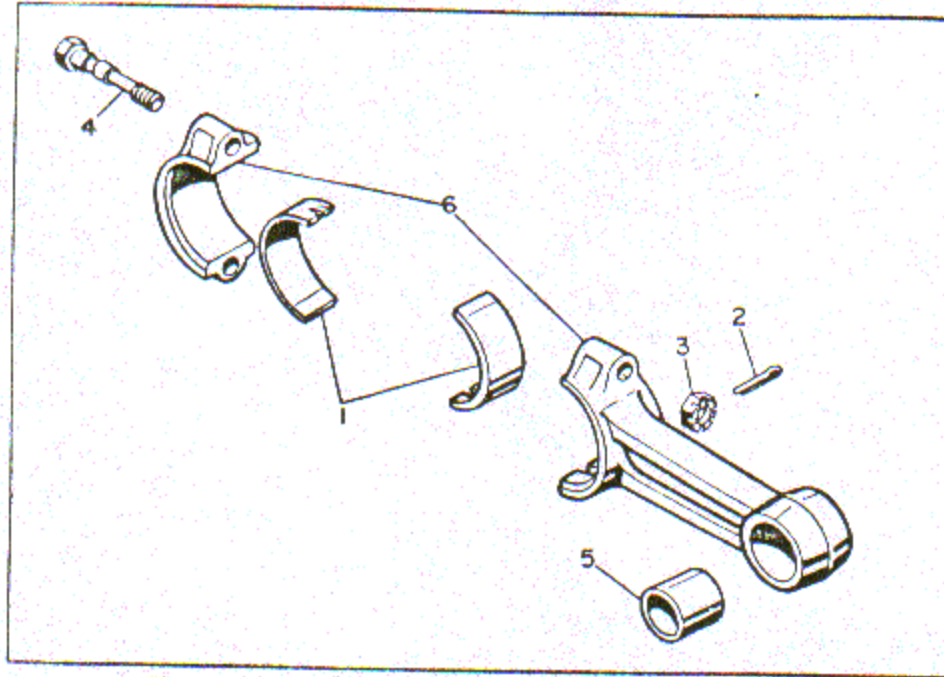


Figure 16. Complete Connecting Rod Assembly

FIG. & INDEX NO.	PART NO.	DESCRIPTION	UNITS PER ASSY							USABLE ON CODE	
			1	2	3	4	5	6	7		
16-	A36121-A2	ROD ASSEMBLY, Complete connecting	6								
-1	530383	. BEARING, Connecting rod upper and lower		2							
	530383M010	. BEARING, Connecting rod upper and lower 0.010 in. undersize on ID							AR		
	A36121	. ROD ASSEMBLY, Connecting							1		
-2	AN380-2-2	. . PIN							2		
-3	24804	. . NUT, Special hex 3/8-24 x 0.33 in. high							2		
-4	35972	. . BOLT, Connecting rod 3/8-24 x 2-1/2 in. long							2		
-5	530658	. . BUSHING, Connecting rod split							1		
-6	40744	. . ROD AND CAP, Connecting								NP	
17-	No Number	CRANKSHAFT ASSEMBLY, Complete								NP	
-1	532138	. JAW, Starter (ATTACHING PARTS)								1	
-2	AN380-3-4	. PIN							1		
-3	AN320-9	. NUT							1		
-4	AN960-916L	. WASHER							1		
-5	536375	. GEAR, Pinion (ATTACHING PART)							1		
-6	536378	. SCREW, Drilled hex head 5/16-18 x 5/16-24 x 1-3/4 in. long							6		
-7	536563	. DOWEL, 0.282 dia x 11/16 in.							1		
	536570	. SEAL ASSY, Crankshaft oil for 2-3/8 in. dia shaft							1		
-8	533261	. . SPRING, Oil seal							1		
-9	536579	. . SEAL ASSEMBLY, Rubber and felt							NP		
-10	AN123862	. PACKING							1		
-11	AN380-2-3	. PIN							2		
	535649	. COLLAR ASSEMBLY, Oil transfer							1		
-12	2456	. . NUT, Castle hex 1/4-28							2		
-13	AN960-416L	. . WASHER							2		
-14	535685	. . SCREW, Hex head cap 1/4-28 x 1-1/2 in. long							2		
-15	535651	. . TUBE, Oil transfer								NP	

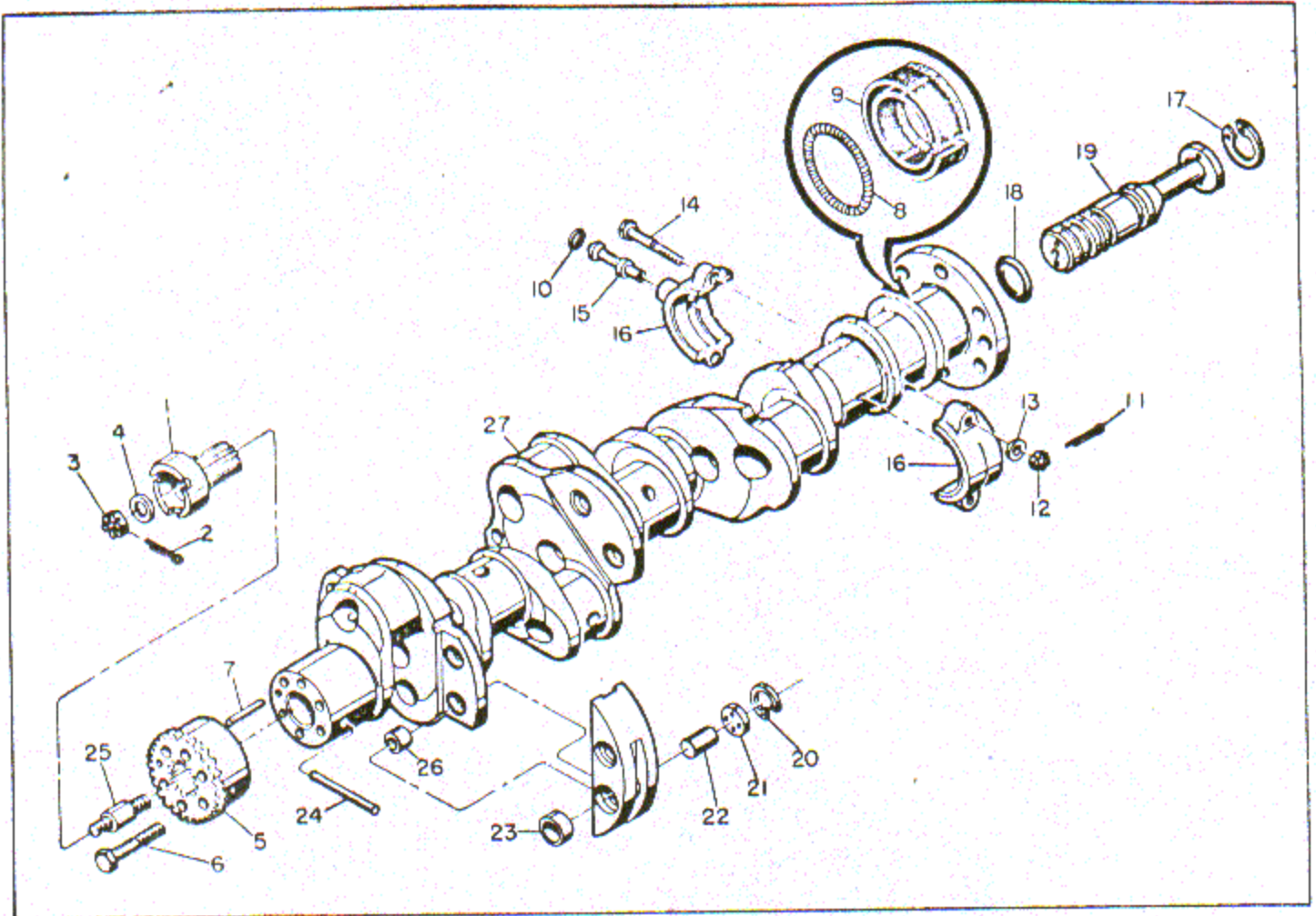


Figure 17. Complete Crankshaft Assembly

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY	USABLE ON CODE
		1	2	3	4	5	6	7		
17-16	536051	.	.	.	.	.	.	.	NP	
-17	5000-165	.	.	.	.	.	.	.	1	
-18	AN123876	.	.	.	.	.	.	.	3	
-19	537310	.	.	.	.	.	.	.	1	
	625056	.	.	.	.	.	.	.	1	
-20	5000-87	.	.	.	.	.	.	.	16	
-21	352115	.	.	.	.	.	.	.	16	
-22	350999	.	.	.	.	.	.	.	8	
	352117	.	.	.	.	.	.	.	NP	
-23	350997	.	.	.	.	.	.	.	16	
-24	23513	.	.	.	.	.	.	.	1	
-25	532303	.	.	.	.	.	.	.	1	
	535568	.	.	.	.	.	.	.	NP	
-26	350998	.	.	.	.	.	.	.	8	
-27	No Number	.	.	.	.	.	.	.	NP	

**SECTION III
NUMERICAL INDEX**

PART NO.	SOURCE CODE	FIG. AND INDEX NO.	QTY PER ARTICLE
AN100008		9-18	1
AN121502		2-3	52
AN121503		3-36	69
AN121504		2-8	21
AN123862		17-10	1
AN123866		14-24	1
AN123872		14-23	1
AN123876		17-18	3
AN123879		8-21	1
AN125964		10-49	20
AN126288		12-30	12
AN126300		7-18	7
AN126420		10-21	1
AN3-3A		11-3	1
AN302-20-3		3-10	6
AN3104-1		3-13	6
AN320-4		9-44	2
AN320-9		17-3	1
AN365-1032		11-2	1
AN380-2-2		16-2	12
AN380-2-3		17-11	2
AN380-3-4		17-2	1
AN381-2-7		9-43	2
AN4-11A		14-52	11
AN4-13A		14-37	2
AN4-14A		14-53	1
AN4022-1		4-10	4
AN4023-1		4-11	2
AN4044-1		9-23	1
AN4045-1		2-5	3
AN4047-1		2-10	2
AN4059-1		6-5	1
AN4116-R1		2-6	1
AN4164-2		3-11	6
AN430A4-4		9-1	1
AN435-5C4		9-9	2
AN5-14A		14-57	7
AN5-32A		14-58	1
AN500-416-12		12-11	42
AN501-10-10		3-3	8
AN530-10-6		4-1	4
AN535-0-3		14-26	6
AN5352-2		12-17	18
AN5547-2		2-1	1
AN6-47A		14-62	2
AN742-10C		11-4	1
AN742-17C		11-5	1
AN742D-9C		3-5	2
AN745-2A		8-18	2
AN745-3A		8-15	2
AN75-4		8-2	3
AN75A17		9-48	1
AN75A21		7-4	2

PART NO.	SOURCE CODE	FIG. AND INDEX NO.	QTY PER ARTICLE
AN75A7		9-49	4
AN780-2		14-40	6
AN822-10B		11-6	1
AN823-10B		14-45	1
AN840-16		11-7	1
AN842-10		14-39	1
AN900-10		11-14	2
AN900-13		9-35	1
AN900-16		8-13	6
AN900-29		11-16	1
AN913-1		7-17	1
AN913-1D		8-14	1
AN913-1S		14-46	2
AN913-2S		10-34	1
AN913-3S		10-33	1
AN932-2		10-10	14
AN932C4		10-35	3
AN935-10		3-4	8
AN936A416		7-3	54
AN960-416L		2-4	122
AN960-516		6-4	38
AN960-516L		5-4	44
AN960-616		2-9	12
AN960-616L		14-6	10
AN960-916L		17-4	1
A25984		3-2	2
A35996		11-15	1
A36114		8-11	1
A36121		16-	6
A36121-A2		16-	6
BG-706-S		3-	Opt
C1779-10Z-1		4-2	4
		4-6	
C2-52		12-31	12
C27S		3-28	12
F.R.RA-43-A		12-23	12
GM-2.44		7-10	14
		7-12	
H-23179		15-	12
H-3814		15-6	12
H-5576		15-7	12
H-7392		15-5	12
H-7397		15-4	12
MS122121		12-32	12
MS122162		14-69	5
MS28741-10-25		11-1	1
RC26S		3-	Opt
RG9080		6-1	1
WE1008		3-12	6
WE1009		3-14	6
WE1122		3-9	6
WE1214-1		3-	1
WE1214-2		3-	1

PART NO.	SOURCE CODE	FIG. AND INDEX NO.	QTY PER ARTICLE	PART NO.	SOURCE CODE	FIG. AND INDEX NO.	QTY PER ARTICLE
WE301-1-2700		3-17	1	25030		14-74	6
WE301-1-3000		3-16	2	25030P003		14-	AR
		3-24		25030P008		14-	AR
WE301-2-2200		3-22	1	25030P009		14-	AR
WE301-2-3200		3-23	1	25042		See H-7392	
WE301-2-3400		3-19	1	25164		14-36	2
WE301-2-3600		3-18	2	25171		14-65	3
		3-26		25312		See 10-50777	
WE301-2-3800		3-25	1	25314		See 2-155	
WE301-2-4000		3-21	1	25316		See 10-7029	
WE301-2-4200		3-27	1	25317		See 10-7030	
WE301-2-4300		3-20	1	25318		See 10-37669	
10-37668		3-30	2	2832		8-12	1
10-37669		3-33	1	3P-194-F		2-16	1
10-50771		3-7	2	350997		17-23	16
10-50777		3-8	2	350998		17-26	8
10-51365-17		3-34	2	350999		17-22	8
10-51677		3-6	12	352024		See 10-52305	
10-52305		3-	2	352058		14-31	6
10-7029		3-31	2	352059		7-8	1
10-7030		3-32	2	352080		7-9	1
1345-3		2-11	1	352083		8-4	1
2-155		3-29	2	352111		9-	1
20273		9-34	1	352115		17-21	16
20275		8-19	1	352117		17-	NP
20968		11-19	2	356-428		2-2	52
		14-15		356-524		3-35	65
20970		11-17	2	356-624		2-12	23
		14-13		356-720		12-8	52
21080		14-70	2	35972		16-4	12
21167		14-73	2	35985		5-5	1
21167P003		14-	AR	36007		14-11	1
21167P006		14-	AR	36114		8-	NP
21167P009		14-	AR	36151-E		See GM-2.44	
21493		12-7	6	36181		9-14	1
22319		10-17	8	36219		See 10-50771	
22319P003		10-	AR	391629		5-1	1
22319P006		10-	AR	401506		3-37	4
22319P009		10-	AR	40640-C		7-16	6
22325		10-18	14	40644		14-67	2
22325P003		10-	AR	40644M010		14-	AR
22325P006		10-	AR	40744		16-6	NP
22325P009		10-	AR	49141		9-64	1
23389		8-	NP	49162		3-1	1
23513		17-24	1	5000-165		17-17	1
23888		8-	1	5000-87		17-20	16
24239		14-61	4	50021-S		9-62	2
2456		17-21*	2	50030-S		9-68	1
24797		12-15	6	50045-S		9-65	1
24797P005		12-	AR	50184-S		9-67	1
24799		12-26	12	501868		9-47	1
24802		12-22	24	50217-S		9-66	1
24804		16-3	12	5100-112		9-69	1
24826		7-14	6	515152		12-33	12
24827		7-11	7	515152P005		12-	AR
24830		7-1	12	515152P010		12-	AR
25005		9-29	1	515152P015		12-	AR
25008		10-49	4	515152P020		12-	AR
25008P003		10-	AR	520105		12-24	12
25008P006		10-	AR	520106		12-25	12
25008P009		10-	AR	520112		See C2-52	

PART NO.	SOURCE CODE	FIG. AND INDEX NO.	QTY PER ARTICLE
520124		14-44	1
530455		See 10-37668	
530383		16-1	12
530383M010		16-	AR
530386		14-68	8
530386M010		14-	AR
530470		14-32	1
530658		16-5	8
530940		See H-7397	
531001		12-9	52
531003		14-60	2
531128		See H-5576	
531132-1		See C27S	
531145		14-75	6
531145P003		14-	AR
531145P006		14-	AR
531145P008		14-	AR
531177		9-73	2
531178		3-40	2
531179		3-39	4
531186		14-27	6
531205		14-66	8
531433		14-47	1
531676		See 10-51365-17	
532067		See F.R.RA-43-A	
532129		12-28	6
532138		17-1	1
532139		9-24	1
532140		10-8	NP
532172		9-72	NP
532174		9-56	1
532177		9-53	NP
532178		9-57	1
532179		9-61	1
532180		9-59	NP
532181		9-55	NP
532182		See 1345-3	
532197		See AN4116-R1	
532199		9-52	1
532202		9-71	1
532257		10-38	1
532299		10-	NP
532300		10-30	NP
532303		17-25	1
532316		10-39	1
532317		10-40	1
532318		10-11	3
		10-41	
532331		10-12	2
532349		10-56	NP
532350		10-24	NP
532362		See C1778-10Z-1	
532367		14-79	NP
532381		11-8	1
532393		12-6	12
532402		See RG9080	
532432		11-13	1
532433		11-27	1
532435		11-9	1
532437		10-41	4
		11-26	
532450		12-10	6

PART NO.	SOURCE CODE	FIG. AND INDEX NO.	QTY PER ARTICLE
532451		12-14	6
532458		8-17	1
532461		8-20	1
532461-A1		8-	NP
532467		See 30141	
532473		10-25	1
532477		9-75	NP
532478		9-74	NP
532479		9-	2
532480		10-43	1
532481		10-13	3
		10-44	
532482		9-51	1
532484		10-7	1
532485		10-15	2
532486		See 5100-112	
532487		9-70	1
532489		See 50045-S	
532490		8-16	1
532501		10-51	8
532501P003		10-	AR
532501P006		10-	AR
532501P009		10-	AR
532502		11-	1
532502-A1		11-	1
532505		10-19	2
532505P003		10-	AR
532505P006		10-	AR
532505P009		10-	AR
532506		See 50217-S	
532507		10-20	15
532507P003		10-	AR
532507P006		10-	AR
532507P009		10-	AR
532508		See 50184-S	
532509		9-13	1
532510		See 50021-S	
532511		10-53	4
532511P003		10-	AR
532511P006		10-	AR
532511P009		10-	AR
532513		10-54	4
532513P003		10-	AR
532513P006		10-	AR
532513P009		10-	AR
532514		10-22	5
532514P003		10-	AR
532514P006		10-	AR
532514P009		10-	AR
532515		10-6	9
532515P003		10-	AR
532515P006		10-	AR
532515P009		10-	AR
532516		10-54	6
532516P003		10-	AR
532516P006		10-	AR
532516P009		10-	AR
532517		14-77	2
532517P003		14-	AR
532517P006		14-	AR
532517P009		14-	AR
532518		10-31	2

PART NO.	SOURCE CODE	FIG. AND INDEX NO.	QTY PER ARTICLE
532519		10-9	1
532520		9-28	1
532522		14-78	3
532522P003		14-	AR
532522P006		14-	AR
532522P009		14-	AR
532524		10-46	2
532525		10-16	2
532528		10-	NP
532532		9-19	1
532534		See 50030-S	
532536		9-	1
532537		10-	1
532538		10-	1
532539		10-	1
532540		9-	1
532541		9-	1
532542		9-	1
532543		9-	1
532553		10-	NP
532612		10-23	1
532612P003		10-	AR
532612P006		10-	AR
532612P009		10-	AR
532613		9-10	2
532632		9-12	NP
532656		4-	1
532676		14-42	1
532683		10-45	2
532684		10-29	2
532685		4-	2
532686		4-9	2
532687		4-	2
532820		10-	REF
532820-A1		9-39	1
532943		4-	1
532944		4-8	1
532945		4-3	3
532946		4-	1
532947		4-4	1
533031		10-14	2
533053		9-3	1
533054		9-2	1
533055		9-	1
533067		See 49162	
533104		11-25	2
		14-21	
533105		11-22	2
		14-18	
533106		11-23	2
		14-19	
533166		11-21	2
		14-17	
533261		17-8	1
533355		9-4	1
533399		See H-3814	
533400		See H-23179	
533406		9-60	1
534204		7-19	NP
534204-A1		7-	1
534204-A2		7-	1

PART NO.	SOURCE CODE	FIG. AND INDEX NO.	QTY PER ARTICLE
534603		12-5	12
534609		12-3	36
535052		12-4	12
535063		9-11	1
535324		3-38	2
535527		9-45	1
535649		17-	1
535651		17-15	NP
535685		17-14	2
536043		3-	1
536051		7-16	NP
536375		17-5	1
536378		17-6	6
536410		12-2	24
536524		14-12	1
536563		17-7	1
536570		17-	1
536579		17-9	NP
536740		See 8495	
536877		15-3	1
536877-A3		15-	1
536939		13-3	6
536939P005		13-	AR
536939P015		13-	AR
537019		15-2	4
537310		17-19	1
537316		See A25984	
537490		12-1	12
537540		See 3P-194-F	
537744		10-36	1
537844		12-27	6
538567		12-	6
538567-A3		12-	6
538567-A4		12-	6
538695		15-1	1
538696		9-63	1
538999		7-6	2
539467		13-1	6
539634		9-58	1
539796		13-4	6
539796P015		13-	AR
539796-A1		13-	6
539796-A2		13-	6
539911		14-1	4
625056		17-	1
625058		17-	NP
625075		14-80	NP
625076		14-	1
625077		14-2	1
625078		14-22	1
625079		14-3	1
625081		12-	6
625082		12-	6
625098		See 391629	
625109		8-	1
625112		14-	1
625113		14-	NP
625114		14-	1
625116		14-25	1
625117		14-	1
625140		8-1	1

PART NO.	SOURCE CODE	FIG. AND INDEX NO.	QTY PER ARTICLE
625145		12-16 12-19	12
625147		13-2	12
625147P005		13-	AR
625147P015		13-	AR

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625173		11-24 11-20	2
625448		12-18	6
625449		14-10	1
625512		12-21	6
8495		7-15	6