

CATALOG NO.  
**CA0040**  
JANUARY 2010



# **DETROIT DIESEL TWO-CYCLE ENGINES**

**Replacement Parts Catalog**

**GLOBAL TECHNOLOGY** behind every part

 **FEDERAL  
MOGUL**

# **RELY ON US TO PROTECT YOUR INVESTMENT.**



**Maximizing your equipment investment means finding the best replacement components. That's why OTR fleets choose FP Diesel®**

FP Diesel components and kits help fleets of all sizes maximize their capital investment by rebuilding rather than replacing their hardest-working engines. They're designed using the latest in computer-aided design (CAD) and computer-aided engineering (CAE) technology, and are thoroughly researched to meet the most demanding specifications. And they're proven to perform.

With FP Diesel you're getting a better solution in the form of premium technologies engineered to address the unique demands and operating environments of each engine. It's an investment you can make with confidence.



Complete Overhaul and In-frame kits | Cylinder kits | Pistons  
Piston rings | Cylinder liners | Gaskets | Engine bearings  
Crankshafts | Camshafts | Water pumps | Thermostats  
Oil pumps | Fuel pumps | Fuel injectors | Valves  
Valvetrain components

***Call us today for the complete range of  
FP Diesel replacement engine components!***





# Table of Contents

*Global Technology Behind Every Part*

## Using the Catalog

|   |          |
|---|----------|
| Table of Contents.....                  | i        |
| How To Use This Catalog.....            | ii       |
| Abbreviations.....                      | xii-xiii |
| Conversion Tables.....                  | 472      |
| General CA0040 Catalog Information..... | ii       |
| Catalog Index.....                      | 1        |

## Coverage / Products..... v

## FP Diesel Philosophy..... iii

## Manufacturing / Customer Service..... iv

## Warranty.....xiv-xvi

## Product Information

|                             |        |
|-----------------------------|--------|
| Engine Bearings.....        | vii-ix |
| Engine Kits.....            | vi     |
| Engine Plastigage.....      | viii   |
| Pistons - Heavy Duty.....   | x      |
| Sleeves and Assemblies..... | xi     |

## Detroit Diesel Two-Cycle Engines

|                      |         |
|----------------------|---------|
| 53 & 53V Series..... | 2-75    |
| 71 Series.....       | 76-163  |
| 71V Series.....      | 164-275 |
| 92 Series.....       | 276-375 |
| 149 Series.....      | 376-425 |

## In-Frame Engine Kits.....426

## Overhaul Engine Kits.....448





## How To Use This Catalog

### *Global Technology Behind Every Part*

The header for each block listed is designed to help you identify the correct engine application. Special information regarding a specific part is located to the right of the part number listing. Also included for help in finding the correct parts are engine illustrations that include reference numbers corresponding to the reference numbers located next to the part number listings. If available, ENGINE KIT listings are located at the back of the catalog.

#### **Engine components are grouped in the following order:**

- 1st. Engine Block and Parts
- 2nd. Cylinder Head and Parts
- 3rd. Crankshaft/Oil Pump and Related Parts
- 4th. Cylinder Components (incl. Rod Bearings, Cylinder Sleeves, Pistons, Piston Rings)
- 5th. Camshaft Group
- 6th. Valve Train Components
- 7th. Fuel System, Fuel Injectors, Governors and Parts
- 8th. Intake & Exhaust Manifolds incl. Blowers and Parts
- 9th. Oil Pump and Related Parts
- 10th. Cooling System incl. Raw, Fresh Water Pumps and Parts
- 11th. Intake & Exhaust Manifolds

The catalog is sorted by ENGINE SERIES with serial number identification charts in front of each section. Many of the part descriptions will include serial numbers listings to provide absolute assurance that the correct part is being used.

## General Information

This catalog is designed to identify the major components, assemblies and kits used in Detroit Diesel 2-cycle engines including the 53, 71, 71V, 92 and 149 Series engines and their respective variants.

The catalog includes all of the parts and kits available from FP Diesel for the Detroit Diesel 2-cycle engines. For reference purposes, the illustrations and tables in this catalog may also include parts and assemblies not currently available from FP Diesel, so that you can identify other parts as needed.

The catalog is organized by engine model. Each section is subdivided into groups that coincide the various engine assemblies and components.

FP Diesel uses a part numbering system similar to Detroit Diesel's OEM number. In most instances, the number is the same except that the suffix of the Detroit Diesel number is omitted (when it serves no applicable purpose). For example:

**Detroit Diesel OEM Part Number 5109409**

**FP Diesel Part Number FP-5109409**

All manufacturers numbers, names, symbols and descriptions are used for reference purposes only. It is not implied that any part listed is the product of any specific manufacturer.

All information contained in this catalog is based on the latest data available at the time of printing. Although care has been taken to ensure the accuracy of the data compiled in this catalog, Federal Mogul does not assume liability for errors or omissions.

#### **IMPORTANT NOTICE**

This catalog does not replace the Detroit Diesel parts catalogs or service materials. If in doubt, reference your Detroit Diesel OEM publications.





## FP Diesel Philosophy

*Global Technology Behind Every Part*

FP Diesel – part of the Federal-Mogul Engine Systems group – is the industry's leading brand of premium heavy-duty replacement engine parts and gaskets, providing total engine system solutions for such well-known brands as Case®, Caterpillar®, Cummins®, Detroit Diesel®, International®, John Deere®, Komatsu®, Mack®, Waukesha® and White Superior®.

Federal-Mogul maintains a steadfast commitment to unsurpassed product quality and customer service. We serve construction, marine, agricultural, mining, gas compression, trucking and industrial markets around the globe. As the global leader in heavy-duty powertrain systems, Federal-Mogul is instrumental in the development of every new generation of gasoline and diesel engine technology. When you choose FP Diesel, you get unparalleled global engineering and manufacturing resources built into every product.

Today's heavy duty market demands performance. Performance means precision-engineered parts that meet your demanding specifications; and are backed by a team of knowledgeable customer service representatives who can provide technical information and assistance; computerized order and inventory tracking for fast and accurate order fill; unprecedented warranty programs and a company-wide commitment to customer satisfaction.



**Construction**



**Agriculture**



**On-Highway**



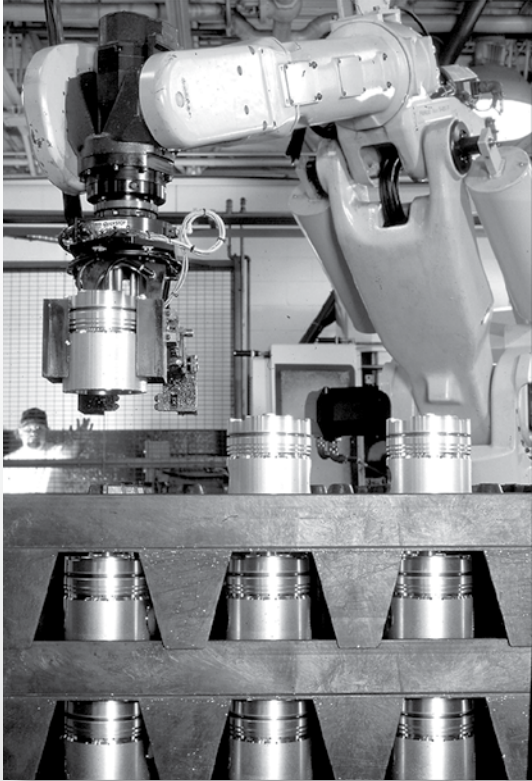
**Marine**

©2010 Federal-Mogul Corporation. FP Diesel and their respective designs are registered trademarks of Federal-Mogul Corporation. Case® is the registered trademark of Case Corporation, Inc.; Cat® and Caterpillar® are the registered trademarks of the Caterpillar, Inc.; Cummins® is the registered trademark of Cummins Engine Company; Detroit Diesel® is the registered trademark of Detroit Diesel Corporation; International® is the registered trademark of International Truck and Engine Corporation; John Deere® is the registered trademark of Deere & Company; Komatsu® is the registered trademark of Komatsu Limited, Inc.; Mack® is the registered trademark of Mack Trucks, Inc.; Waukesha® is the registered trademark of the Waukesha Engine Division of Dresser Industries, Inc.; White Superior® is the registered trademark of White Superior Corporation, Inc. Jacobs® is a registered trademark of Jacobs Vehicle Systems. All rights reserved.



## Manufacturing

### Global Technology Behind Every Part



Precise manufacturing and fabricating techniques, rigorous quality control procedures, utilization of the latest CAD technology and innovative solutions to industry challenges – coupled with Federal-Mogul's global manufacturing capabilities – have established FP Diesel as the industry leader in the heavy duty market.

FP Diesel applies stringent quality control procedures with expertly skilled technicians supervising the manufacturing process in all phases to ensure that our parts will perform and last.

FP Diesel is a military approved supplier for the 53 Series Detroit Diesel engine. But the parts we supply for the 53 aren't the only ones that go through government testing. Every FP Diesel part must pass through high-level quality control. Plus, every part is tracked throughout the entire distribution process.

## Customer service

FP Diesel customer service representatives are among the most experienced and knowledgeable in the industry, with hands-on heavy-duty experience and in-depth knowledge of engine parts and applications. With one call to your representative you'll have answers to any product, technical,

order processing, billing, warranty, pricing, order tracking or availability questions you may have. Customer service that goes the extra mile also means you not only get the parts you need, but expert assistance from a person who knows the heavy duty market.

Plus, our computerized inventory system allows us to ship your order promptly anywhere in the world, while our easy-to-use cataloging system makes ordering FP Diesel parts fast and simple. For the parts and information you need, count on FP Diesel to go the extra mile.





## Coverage

The FP Diesel product offering is a comprehensive line of diesel and natural gas engine replacement parts that provides all the coverage necessary to meet your heavy-duty engine rebuilding needs. FP Diesel also offers a full line of gaskets and elastomeric products. For more specific information, please refer to our full-line catalogs, which are engine and machine specific and follow OEM format. To ensure exact part number replacement, these catalogs reference OEM part numbers and features technical information related to the specific engine being serviced.



## Products

### Caterpillar

Replacement Caterpillar products cover 3200, 3300, 3400, 3500, D Series and G Series engines. This coverage extends from cylinder heads, fuel injection, cam and crankshafts, cylinder kits, valvetrain and electrical to engine bearings, transmission, hydraulic gasket sets and more. Refer to FP Diesel catalog No. CA0010 (parts) and CA0020 (gaskets).

### Cummins

FP Diesel provides replacement parts coverage for V378, V504, V555, Small Vee Engines, V/VT 903, 855 Series, N14, L10, B Series, C Series, V/VT1710, N743 and K/KTA 18-, 38- and 50-liter engines, as well as components for Jacobs® brakes. Refer to FP Diesel catalog No. CA0030.

### Detroit Diesel

FP Diesel offers the most complete coverage in the replacement parts industry for Detroit Diesel, with an extensive line of components and kits for the 8.2-liter, 53 Series, 60 Series, 71 Series, 92 Series and 149 Series engines. Refer to FP Diesel catalog No. CA0040 for 2-cycle engines or FP Diesel catalog No. CA0045 for 4-cycle engines.

### John Deere

FP Diesel offers a broad range of in-frame and complete overhaul kits and related components for 300 Series, 400 Series, 500 Series and Powertech engines is available from FP Diesel. Refer to FP Diesel catalog No. CA0085.

### Komatsu

Extensive coverage for Komatsu S6D 155 and SA6D155 engines, as well as a full line of replacement parts for Komatsu machines using Cummins N743, KT/KTA 19-, 38- and 50-liter engines, and the Cummins 855. Refer to FP Diesel catalog No. CA0085.

### Mack

FP Diesel has a broad line for Mack, early ENDT 675 and 676 engines, as well as parts for later EM6 with both two- and four-valve head configurations. Refer to FP Diesel catalog No. CA0060

### International

International coverage extends from the 6.9 and 7.3 liter, DT-360 and DT-466 through the 9.0 liter engine. Refer to FP Diesel catalog No. CA0050. For agricultural applications, FP Diesel also services the DT-414 and DT-436 Case/I.H. engines. For industrial and agricultural applications, refer to FP Diesel catalog No. SP188.

### Case

FP Diesel has a complete range of kits and components for the 188, 207, 301, 366, 451 and 504-Case engines along with the 4-390 & 4T-390, 6-590 & 6T-590, 6T-830 & 6TA-830, LTA 10 and NTA 855 B/C III Cummins engines. Refer to FP Diesel catalog No. CA0095.

### Commercial, Ag, Industrial Engines

The FP Diesel SP188 catalog contains all the engine manufacturers that are not covered in the other FP Diesel name-plate specific catalogs listed. These engine manufacturers include Allis-Chalmers, Bedford, Bendix-Westinghouse, Briggs & Stratton, Buda, Case Tractor, Chevrolet MD Truck, Climax, Continental, Dodge MD Truck, Ford Tractor, GMC MD Truck, Hercules, IHC Tractor, Isuzu Forklift, KHD, Kohler, LeRoi, Massey Ferguson, Mercedes, Mazda Forklift, Minneapolis-Moline, Mitsubishi, Novo, Oliver, Perkins, Superior, Thermo-King, Volvo, Waukesha, White and Wisconsin. All of the replacement engine components offered for each of these manufacturers is included in this catalog.





## Engine Kits


**Global Technology Behind Every Part**

The FP Diesel Engine Kit program allows you to select a kit tailored to the job at hand. Whether performing a complete overhaul, or in-frame repair, our engine kits contain all the necessary components to complete the rebuild job. This comprehensive program provides you with the following:

- Concise application information
- One price look-up
- A full complement of oversizes and undersizes
- Master kits that include full gasket sets

Engine kits are listed at the back of this catalog and under the In-Frame and Overhaul specific sections.

### How To Specify FP Diesel Engine Kits



Many FP Diesel engine kits have several variations in components that are available depending on the specific engine. Overhaul Kits are designed to contain all the parts necessary to rebuild a particular engine. To assure that the kit is correct and complete, all that is necessary is for you to supply the engine information located on the Data Plate on the side of the engine block. In some cases the block casting number and the connecting rod number are also required. This information enables your FP Diesel service representative to configure the Engine Kit to your particular requirements insuring that everything is properly accounted for. In cases where there are no variable components, we have pre-configured the kits to include all the necessary parts for that application.





## Engine Bearings

*Global Technology Behind Every Part*

### Engine Bearing Material Selection

When selecting engine bearings, most rebuilders concentrate on getting the proper clearances and maintaining adequate oil pressure. Durability is expected from any bearing chosen, and the advantages of different bearing materials may not be considered. If engine operating conditions are considered and bearing materials chosen accordingly, the likelihood of engine longevity is greater. No single material can be correct for every application. FP Diesel engine bearings are equal to or better than the

original equipment specifications for material and design. We also provide alternatives to address unique problems and special needs.

In heavy duty applications there are a number of materials that will do an excellent job. Each alloy has advantages in terms of resistance to corrosion, rate of wear and fatigue strength. The latter characteristic is critical in engines that operate under high loads, generate considerable heat and may be subjected to occasional detonation.

#### **Bi-Metal Aluminum Alloys – Plated and Unplated**

Diesel fuels, moisture, and engine “blow-by” introduce many contaminants into the crankcase. Aluminum engine bearing materials provide outstanding resistance to the corrosive effects of these substances, and are the product of choice for most current original equipment vehicle manufacturers. The modern bi-metal aluminum engine bearing contains silicon. As a result of using silicon, the alloy resists seizure and dramatically

reduces or eliminates bearing wear. This contributes to today’s extended engine life. Aluminum is often the best material for a daily driven vehicle. Adding an overplate to an aluminum engine bearing will further enhance embedability and conformability. Continued efforts to remove lead from our environment guarantee that aluminum will become the preferred engine bearing material for most applications.





# Engine Bearings

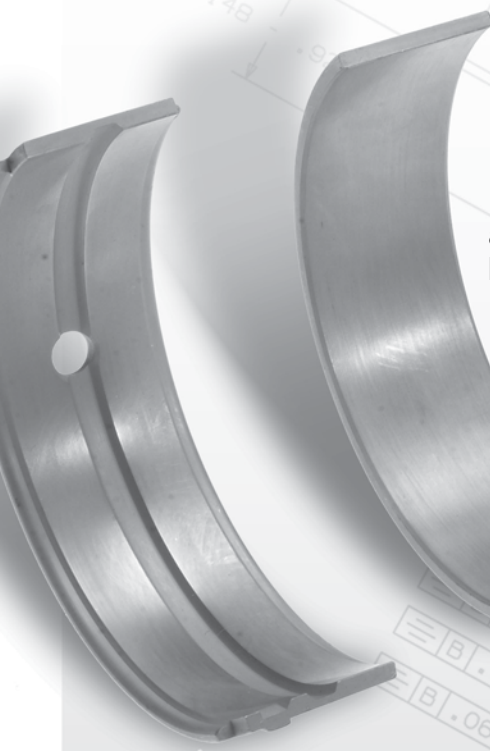
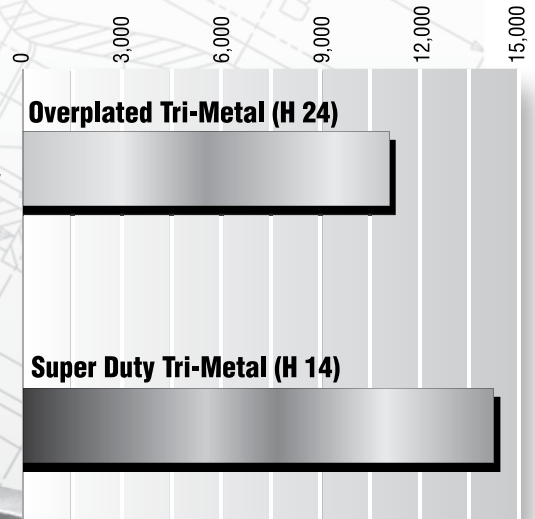
*Global Technology Behind Every Part*

## Tri-Metal Alloys

Tri-Metal engine bearings, such as our H-14 and H-24 alloys, have excellent fatigue resistance, but are less resistant to corrosion damage than aluminum bearings. These bearing materials are accepted by engine builders worldwide, and are proven to be reliable in a wide range of uses. While OE manufacturers are moving to aluminum for their needs, many rebuilders still specify the tri-metal bearings for older engines.

## Typical Commercial Engine

Maximum Peak Load (PSI)



## PLASTIGAGE

Sealed Power PLASTIGAGE® for High Performance Precision

**A Quick and Accurate Method for Measuring Main and Connecting Rod Bearing Clearances.**

Federal-Mogul offers Sealed Power Plastigage. It ends the guessing game when measuring clearances of main and connecting rod bearings. Specially formulated and oil soluble, Plastigage strips flatten precisely for accurate reading. Plastigage strips are available in four size ranges, packaged 12 to a carton, (enough to do 12 engines). Part number SPG-1 cartons contain strips in the .001-.003 inch range. Part number SPR-1 cartons hold strips in the .002-.006 inch range. SPB-1 cartons include strips in the .004-.009 inch range. SPY-1 cartons contain strips in the .009-.020 inch range. This complete range of sizes will fit every heavy duty engine.



- SPG-1 .001-.003 in.
- SPR-1 .002-.006 in.
- SPB-1 .004-.009 in.
- SPY-1 .009-.020 in.

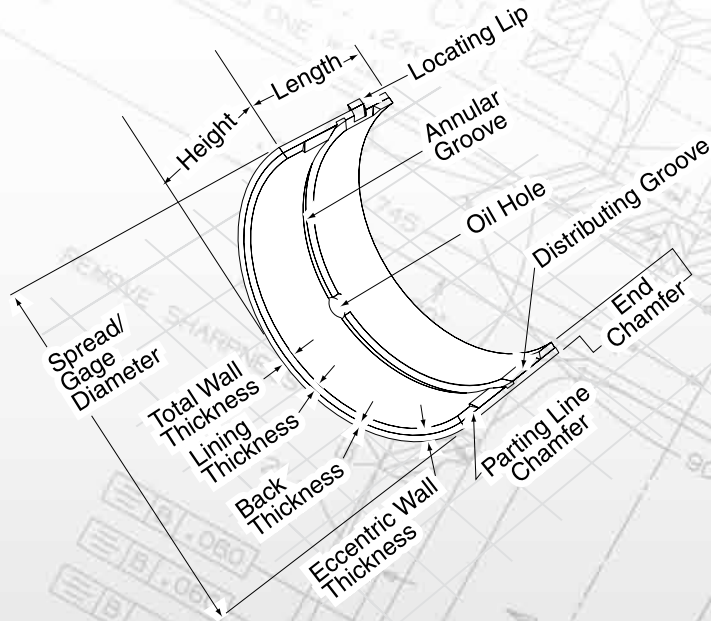




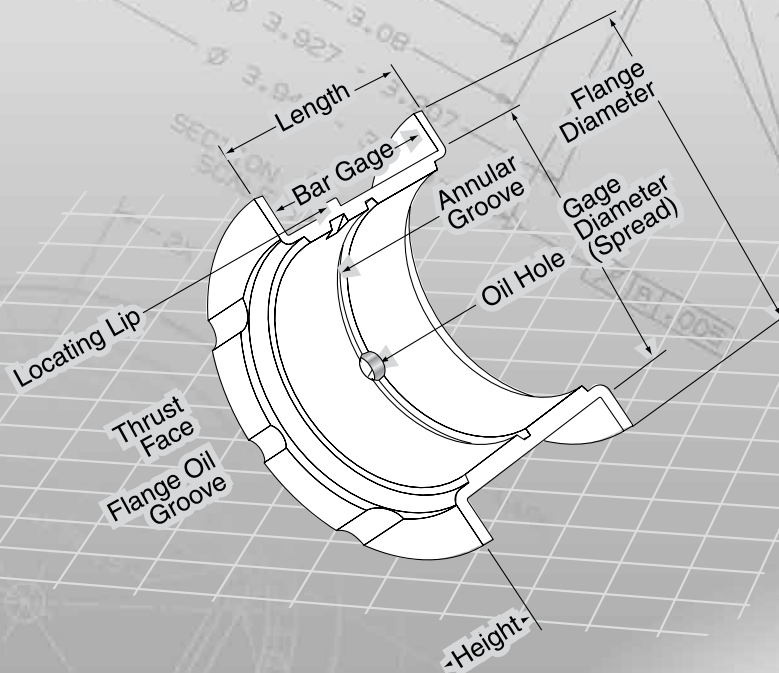
# Engine Bearings

Global Technology Behind Every Part

## Rod and Main Bearing



## Thrust Bearing





## Heavy Duty Pistons

*Global Technology Behind Every Part*

FP Diesel heavy duty pistons are designed and produced for severe operating conditions. Federal-Mogul is one of the world's leading manufacturers of heavy duty pistons offering one and two-piece designs including aluminum articulated, cast iron and steel materials. For severe and high load applications, FP Diesel pistons include a metallurgically bonded NI-resist insert in the top and in some cases, the second ring groove. The NI-resist insert minimizes groove wear and reduces pound-out from the compression ring. Anodized heads and graphite-coated skirts offer additional durability in severe applications. Federal-Mogul also utilizes an in-house, patented magnesium-phosphate coating to reduce the piston

corrosion caused by high-sulfate diesel fuels and break-in wear on problematic applications.

We design our heavy duty pistons using the latest in computer aided design (CAD) software. Each application is thoroughly researched to ensure the proper dimensional and metallurgical requirements. And since we also design and manufacture cylinder liners and piston rings, our engineers can make sure each piston we develop provides optimum performance as part of the "power-cylinder" system.





## Sleeves and Assemblies

*Global Technology Behind Every Part*

Cylinder sleeves are produced by Federal-Mogul in a QS9000 registered facility complete with casting, induction hardening, machining, measurement and design capabilities. We start with raw castings produced on a state-of-the-art molding line specifically designed for the manufacture of static cast cylinder liners. The static castings produced by our foundry have a very consistent microstructure and superior scuffing resistance.

Certain applications are induction hardened or thru-hardened to enhance the wear characteristics and strength of the liner. Hardened liners are typically used in engines highly susceptible to dirt contamination, such as construction or agricultural applications.

Machining is performed on modern CNC equipment to ensure dimensional stability and exacting tolerances. Cylinder liners are typically finish honed to generate a plateau finish. The plateau finish promotes rapid ring seating

during break-in while providing a long-wearing sealing surface.

FP Diesel offers sleeves for wet, dry and repair applications. Sleeve assemblies or kits include the sleeve, piston, piston pin and lock rings, piston rings and sealing rings.





# Abbreviations Used

*Global Technology Behind Every Part*

| ABBREVIATION ..... | DESCRIPTION               |
|--------------------|---------------------------|
| & .....            | And                       |
| 2WD .....          | Two Wheel Drive           |
| 4WD .....          | Four Wheel Drive          |
| A.I.R. ....        | Air Injector Reactor      |
| A/C .....          | Air Conditioning          |
| A/R .....          | As Required               |
| A/T .....          | Automatic Transmission    |
| ABS .....          | Anti-lock Brake System    |
| AC .....           | Alternating Current       |
| Acc. ....          | Accessory                 |
| Adj. ....          | Adjustable                |
| Adv. ....          | Advance                   |
| Aft. ....          | After                     |
| Alt. ....          | Altitude                  |
| Alum. ....         | Aluminum                  |
| Amp. ....          | Ampere                    |
| AOD .....          | Automatic Overdrive       |
| Appl. ....         | Application               |
| Approx. ....       | Approximately             |
| Asst. ....         | Assist                    |
| Assy. ....         | Assembly                  |
| ATV .....          | All Terrain Vehicle       |
| Auto. ....         | Automatic                 |
| Auto. Trans. ....  | Automatic Transmission    |
| Aux. ....          | Auxiliary                 |
| Avail. ....        | Available                 |
| Avg. ....          | Average                   |
| AWD .....          | All Wheel Drive           |
| Bal. ....          | Balance                   |
| Batt. ....         | Battery                   |
| Bbl. ....          | Barrel                    |
| Bbl. Carb. ....    | Barrel Carburetor         |
| Bef. ....          | Before                    |
| Brg. ....          | Bearing                   |
| Brkt. ....         | Bracket                   |
| C .....            | Celsius                   |
| C.I. ....          | Cast Iron                 |
| C.R. ....          | Compression Ratio         |
| C/L .....          | Centerline                |
| Calib. ....        | Calibration               |
| Calif. ....        | California                |
| Cam. ....          | Camshaft                  |
| Can. ....          | Canada                    |
| Carb. ....         | Carburetor                |
| Cat. ....          | Catalytic                 |
| cc .....           | Cubic Centimeter          |
| CCW .....          | Counter Clockwise         |
| CD .....           | Compression Distance      |
| CFFI .....         | Cross Fire Injection      |
| CFI .....          | Central Fuel Injection    |
| CFM .....          | Cubic Feet per Minute     |
| CID .....          | Cubic Inch (Displacement) |
| Cld. ....          | Cooled                    |
| Clg. ....          | Cooling                   |
| Clr. ....          | Cooler                    |
| cm .....           | Centimeter                |

| ABBREVIATION ..... | DESCRIPTION                 |
|--------------------|-----------------------------|
| Cntr. Bore .....   | Counter Bore                |
| Compl. ....        | Complete                    |
| Con. Rod .....     | Connecting Rod              |
| Cruise .....       | Cruise Control              |
| Ctr. ....          | Center                      |
| CW .....           | Clockwise                   |
| Cyl. ....          | Cylinder                    |
| Cyl. Hd. ....      | Cylinder Head               |
| DC .....           | Direct Current              |
| Deg. ....          | Degree                      |
| DFI .....          | Digital Fuel Injection      |
| DI .....           | Direct Injection            |
| Dia. ....          | Diameter                    |
| Dim. ....          | Dimension                   |
| Dir. Inj. ....     | Direct Injection            |
| Disc. ....         | Discontinued                |
| Dist. ....         | Distributor                 |
| DOHC .....         | Dual Overhead Camshaft      |
| Dr. ....           | Door or Drive               |
| E.E.C. ....        | Electronic Engine Control   |
| E.I.S. ....        | Electronic Ignition System  |
| Ea. ....           | Each                        |
| Ecc. ....          | Eccentric                   |
| ECM .....          | Electronic Computer Module  |
| ECM .....          | Electronic Control Module   |
| ECM .....          | Engine Control Module       |
| Econ. ....         | Economy                     |
| ECS .....          | Electronic Controlled Spark |
| EFI .....          | Electronic Fuel Injection   |
| Elec. ....         | Electric                    |
| Emis. ....         | Emission                    |
| Eng. ....          | Engine                      |
| Equip. ....        | Equipment                   |
| Etc. ....          | Et Cetera                   |
| Exc. ....          | Except                      |
| Exh. ....          | Exhaust                     |
| Exp. ....          | Export                      |
| Ext. ....          | Exterior                    |
| Ext. ....          | External                    |
| F .....            | Fahrenheit                  |
| Fed. ....          | Federal                     |
| FI .....           | Fuel Injection              |
| Flex. ....         | Flexible                    |
| Flg. ....          | Flange                      |
| Flwr. ....         | Follower                    |
| Frg. ....          | Forged or Forging           |
| Frt. ....          | Front                       |
| FWD .....          | Front Wheel Drive           |
| Gal. ....          | Gallon                      |
| Gas .....          | Gasoline                    |
| GPH .....          | Gallons Per Hour            |
| GPM .....          | Gallons Per Minute          |
| Grv(s) .....       | Groove(s)                   |
| Gskt. ....         | Gasket                      |
| GVW .....          | Gross Vehicle Weight        |
| H/D .....          | Heavy Duty                  |
| Hd. ....           | Head                        |
| HEI .....          | High Energy Ignition        |
| Hi .....           | High                        |





# Abbreviations Used

*Global Technology Behind Every Part*

| <b>ABBREVIATION</b> | <b>DESCRIPTION</b>              |
|---------------------|---------------------------------|
| Hi Alt.             | High Altitude                   |
| Hi-Perf.            | High Performance                |
| Hi-Temp.            | High Temperature                |
| HO                  | High Output                     |
| Horiz.              | Horizontal                      |
| HP                  | Horsepower                      |
| HSC                 | High Swirl Combustion           |
| Hyd.                | Hydraulic                       |
| I/C                 | Intercooler                     |
| I.D.                | Identification                  |
| ID                  | Inside Diameter                 |
| IDI                 | Indirect Injection              |
| In. Frm.            | In Frame                        |
| in.                 | Inch                            |
| Incl.               | Includes                        |
| Ind.                | Industrial                      |
| Inj.                | Injection                       |
| Int.                | Intake                          |
| Inter.              | Intermediate                    |
| L                   | Liter                           |
| L.H.                | Left Hand                       |
| L/D                 | Light Duty                      |
| Lgth.               | Length                          |
| LPG                 | Liquid Propane Gas              |
| M/D                 | Medium Duty                     |
| M/T                 | Manual Transmission             |
| Man.                | Manual                          |
| Man. Trans.         | Manual Transmission             |
| Max.                | Maximum                         |
| Mech.               | Mechanical                      |
| MFI                 | Multi-Port Fuel Injection       |
| Min.                | Minimum                         |
| mm                  | Millimeters                     |
| MPH                 | Miles Per Hour                  |
| Mtl.                | Material                        |
| N/A                 | Not Available                   |
| N/R                 | Not Required                    |
| Nat.                | Natural                         |
| Nat. Asp.           | Naturally Aspirated             |
| Neg.                | Negative                        |
| Neut.               | Neutral                         |
| No.                 | Number                          |
| Nom.                | Nominal                         |
| Norm.               | Normal                          |
| O.A.L.              | Overall Length                  |
| O.E.                | Original Equipment              |
| O/D                 | Overdrive                       |
| O/S                 | Oversize                        |
| Obs.                | Obsolete                        |
| OD                  | Outside Diameter                |
| OEM                 | Original Equipment Manufacturer |
| OHC                 | Overhead Cam                    |
| OHV                 | Overhead Valve                  |
| Opt.                | Optional                        |
| Orig.               | Original                        |
| oz.                 | Ounce                           |
| P. T.O.             | Power Take Off                  |
| P/S                 | Power Steering                  |
| Pass.               | Passenger                       |

| <b>ABBREVIATION</b> | <b>DESCRIPTION</b>             |
|---------------------|--------------------------------|
| Pc(s)               | Piece(s)                       |
| PCV                 | Positive Crankcase Ventilation |
| Perf.               | Performance                    |
| Pkg.                | Package                        |
| Pos.                | Positive                       |
| Prem.               | Premium                        |
| Pri.                | Primary                        |
| PSI                 | Pound Per Square Inch          |
| Pwr.                | Power                          |
| Qtr.                | Quarter                        |
| Qty.                | Quantity                       |
| R.B.P.              | Ring Below Pin                 |
| R.H.                | Right Hand                     |
| Ref.                | Reference                      |
| Reg.                | Regular                        |
| Reman.              | Remanufactured                 |
| Req'd               | Required                       |
| Rev.                | Revision                       |
| Rev. Rot.           | Reverse Rotation               |
| Rlr.                | Roller                         |
| RMB                 | Rear Main Bearing              |
| Rot.                | Rotatiovn                      |
| RPM                 | Revolutions Per Minute         |
| Rr.                 | Rear                           |
| RWD                 | Rear Wheel Drive               |
| S/C                 | Supercharged                   |
| Seal. Rings         | Sealing Rings                  |
| Ser.                | Serial or Series               |
| Ser. No.            | Serial Number                  |
| SFI                 | Sequential Fuel Injection      |
| Slv.                | Sleeve                         |
| SOHC                | Single Overhead Cam            |
| Spd.                | Speed                          |
| Spec.               | Special                        |
| Sta.                | Station                        |
| Std.                | Standard                       |
| Sys.                | System                         |
| T/C                 | Turbocharged                   |
| Tach.               | Tachometer                     |
| TBI                 | Throttle Body Injection        |
| Temp.               | Temperature                    |
| TPI                 | Tuned Port Injection           |
| Trans.              | Transmission                   |
| Trk.                | Truck                          |
| TTY                 | Torque-to-Yield                |
| TURBO               | Turbocharged                   |
| U/S                 | Under Size                     |
| Veh.                | Vehicle                        |
| VIN                 | Vehicle Identification Number  |
| VIV                 | Valve                          |
| VSS                 | Valve Stem Seal                |
| w/                  | With                           |
| w/o                 | Without                        |
| Wagon               | Station Wagon                  |
| Wt.                 | Weight                         |





## **Global Technology Behind Every Part**

The products listed in this catalog are warranted to be free from defects in material and workmanship, under normal use and service, for two years from date of installation in an engine, without mileage or hour qualification in accordance with the following limited warranty. This warranty is the sole and exclusive warranty for failure of the above parts. This exclusive remedy shall not be deemed to have failed of its essential purpose so long as Federal-Mogul is willing and able to provide the remedy provided below.

### **WARRANTY LIMITATIONS**

Federal-Mogul agrees to only pay for parts and labor needed to repair engine damages that result from the defined warranty failure. The costs are limited to parts and labor necessary for restoring the engine to its condition immediately prior to the failure. Labor costs are determined by current published rates and standards in the geographic area in which repairs are performed. Overtime or holiday rate charges are not allowed. We will also pay for maintenance products such as oil, antifreeze, belts, hoses and filter elements that are damaged because of a defined warranty failure.

Federal-Mogul is not responsible for engine failure resulting from owner, operator or third party neglect or abuse, improper installation or repair procedures, alteration or misapplication of parts, failure to properly service or maintain the engine and vehicle in accordance with applicable OEM operation and maintenance manuals or use in engine modified for competition purposes or used in competition.

OTHER THAN AS EXPRESSLY PROVIDED HEREBY, FEDERAL-MOGUL SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, DAMAGE OR LOSS OF OTHER PROPERTY OR EQUIPMENT, LOSS OF PROFITS OR REVENUE, TRANSPORTATION AND TOWING COSTS, COST OF PURCHASED OR REPLACED GOOD, OR CLAIMS OF CUSTOMERS OF THE PURCHASER, WHICH MAY ARISE OR RESULT FROM THE SALE, INSTALLATION, OR USE OF THESE PARTS. Some jurisdictions do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the limitations or exclusions contained herein may or may not apply to you. This warranty gives you specific legal rights. You may also have other rights depending on the state or province in which you reside.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS AND/OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE AND THEY ARE EXCLUDED TO THE EXTENT THEY EXCEED THE WARRANTY COVERAGE DESCRIBED BY THIS WARRANTY.

This warranty and remedy apply to new FP Diesel engine parts from Federal-Mogul sold directly to our authorized aftermarket customers as evidenced by completed claim documentation.

No agent or sales representative of Federal-Mogul Corporation has the authority to modify this warranty. Other Federal-Mogul parts may carry different warranties.

### **CLAIM PROCEDURES**

Federal-Mogul must be notified by the customer: (i) before filing a warranty claim, (ii) within one year of the date that the claim accrues, and (iii) before any work has been performed. All claims must be submitted in writing and Federal-Mogul reserves the right to examine all parts, systems and related information associated with the claim. (Note all shipping charges are the responsibility of the end-user or distributor, Federal-Mogul will not accept collect shipments). See your sales representative for detailed claim submission procedures and forms.

### **WARNING**

Use parts only for applications and interchanges in this catalog.

Failure to heed this warning could result in reduced life or failure of the part. All parts listed in this catalog are not for use in space program, atomic energy/nuclear reactor equipment, medical or aircraft applications. Federal-Mogul reserves the right to make product improvements/changes, with respect to similar products previously manufactured, without notice and without incurring liability.







## **Global Technology Behind Every Part**

Les produits indiqués dans ce catalogue sont garantis contre toute défectuosité de matériel et de fabrication, dans des conditions d'utilisation et d'entretien normales, sur une période de deux ans à partir de la date d'installation dans un moteur, sans qualification de kilométrage ou horaire, conformément à la garantie limitée suivante.

Cette garantie est la garantie unique et exclusive pour la défaillance des pièces précitées.  
Ce recours exclusif ne doit pas être présumé comme ayant échoué à son objectif essentiel, tant que Federal-Mogul approuve et est capable de fournir le recours fourni ci-dessous.

### **LIMITATIONS DE GARANTIE**

Federal-Mogul accepte uniquement de payer les pièces et la main-d'œuvre nécessaires pour réparer les dommages de moteur qui résultent de la défaillance de la garantie définie. Les coûts sont limités aux pièces et à la main-d'œuvre nécessaires pour la restauration du moteur à l'état auquel il se trouvait juste avant la défaillance.

Les frais de main-d'œuvre sont déterminés par les prix et normes publiés à l'heure actuelle dans la zone géographique dans laquelle les réparations sont effectuées. Les heures supplémentaires ou les frais de jours fériés ne sont pas permis. Nous payons également les produits d'entretien, tels que l'huile, l'antigel, les courroies, les tuyaux et les éléments de filtre qui sont endommagés en raison d'une défaillance de garantie définie.

Federal-Mogul décline toute responsabilité pour une défaillance de moteur découlant d'une négligence ou d'un abus infligés par le propriétaire, l'opérateur ou une tierce partie, de procédures d'installation ou de réparations incorrectes, de l'altération ou d'une application incorrecte de pièces, d'un manque de réparation ou d'entretien adéquat du moteur et du véhicule conformément aux manuels d'utilisation et d'entretien OEM applicables, ou de l'utilisation dans un moteur modifié à des fins de compétition ou utilisé en compétition.

**SAUF SUR SPÉCIFICATION EXPRESSE DANS LA PRÉSENTE, FEDERAL-MOGUL NE SERA RESPONSABLE, EN AUCUNE CIRCONSTANCE, POUR DES DOMMAGES SPÉCIAUX, INDIRECTS, ACCESSOIRES OU CONSÉCUTIFS, Y COMPRIS, SANS S'Y LIMITER, DES DOMMAGES OU LA PERTE D'UNE AUTRE PROPRIÉTÉ OU D'UN AUTRE ÉQUIPEMENT, LA PERTE DE PROFITS OU DE REVENUS, LES FRAIS DE TRANSPORT ET DE REMORQUAGE, LES FRAIS DE BIENS ACHETÉS OU REMPLACÉS, OU LES DEMANDES DE CLIENTS DE L'ACHETEUR, QUI PEUVENT SE PRÉSENTER OU RÉSULTER DE LA VENTE, DE L'INSTALLATION OU DE L'UTILISATION DE CES PIÈCES.**

Certaines juridictions ne permettent pas les limites sur la durée d'une garantie implicite, ni l'exclusion ou la limitation de dommages accessoires ou consécutifs, et, par conséquent, les limitations ou exclusions ci-incluses peuvent s'appliquer ou non pour votre cas. Cette garantie vous octroie des droits légaux spécifiques.

Vous disposez également d'autres droits en fonction de l'état ou de la province de votre résidence.

**LA PRÉSENTE GARANTIE REMPLACE TOUTES AUTRES GARANTIES, EXPRESSES ET/OU IMPLICITES, Y COMPRIS, SANS S'Y LIMITER, LES GARANTIES DE QUALITÉ MARCHANDE OU D'ADAPTATION À UN USAGE PARTICULIER, ET ELLES SONT EXCLUES SI ELLES DEVAIENT DÉPASSER LA COUVERTURE DE GARANTIE DÉCRITE PAR LA PRÉSENTE GARANTIE.**

Cette garantie et le recours s'appliquent aux nouvelles pièces du moteur diesel FP de Federal-Mogul vendu directement à nos clients de pièces de rechange autorisés, tel qu'attesté par les documents de demande dûment remplis. Aucun agent ou représentant de ventes de Federal-Mogul Corporation ne dispose du droit de modifier la présente garantie. D'autres pièces de Federal-Mogul peuvent être couvertes par des garanties différentes.

### **PROCÉDURES DE DEMANDE**

Le client doit notifier Federal-Mogul : (i) avant de remplir une demande au titre de la garantie, (ii) en l'espace d'un an à partir de la date à laquelle la demande est exercée, et (iii) avant l'exécution d'un travail quelconque.

Toutes les demandes doivent être soumises par écrit et Federal-Mogul se réserve le droit d'examiner toutes les pièces, tous les systèmes et toutes les informations associées à la demande.

(Veuillez noter que l'utilisateur final ou le distributeur est responsable pour tous les frais d'expédition; Federal-Mogul n'accepte aucun envoi en port-dû). Veuillez consulter votre représentant des ventes pour les formulaires et les procédures de soumission de demande détaillés.

### **AVERTISSEMENT**

Utilisez uniquement les pièces pour les applications et les échanges de ce catalogue.

Un manque de respect de cet avertissement pourrait résulter en une durée de vie réduite ou une défaillance de la pièce. Aucune des pièces indiquées dans ce catalogue n'est destinée à être utilisée dans un programme d'espace, pour du matériel de réacteur nucléaire/d'énergie atomique, ou des applications médicales ou d'aéronefs.

Federal-Mogul se réserve le droit d'effectuer des améliorations/changements de produits, en ce qui concerne des produits similaires fabriqués auparavant, sans avis et sans assumer de responsabilité.



## **Global Technology Behind Every Part**

Se garantiza que todos los productos presentados en este catálogo no presentaran defecto alguno, ya sea en su material ni en su fabricación, bajo condiciones de uso y servicio normales. La garantía es de dos años de la fecha de la instalación en el motor, sin límites en el kilometraje o en las horas de funcionamiento. Esta es la única y exclusiva garantía si alguna de las partes listadas fuese a fallar. Este recurso exclusivo no se tomará como una falta, siempre y cuando Federal Mogul pueda remediarlo con las provisiones enumeradas mas abajo.

### **LIMITACIONES DE LA GARANTIA**

Federal-Mogul pagará solo por las partes y la mano de obra necesarias para reparar daños al motor que resulten de una falla definida sobre la parte vendida. Los costos quedarán limitados a las partes y la mano de obra necesarias para restaurar el motor a la condición en la cual se encontraba inmediatamente antes de la falla. Los costos de la mano de obra se determinarán por medio de precios publicados y estándares del área geográfica en la cual las reparaciones se lleven a cabo. No se permitirá agregar costos de tiempo extra ni por trabajo durante días festivos. Pagaremos por productos de mantenimiento tales como aceite, anti-congelantes, correas, mangueras y filtros dañados debido a alguna falla definida del producto vendido.

Federal-Mogul no se hará responsable por una falla de motor causada por el dueño, operador o un tercero, ya sea por su propia negligencia, abuso o instalación inadecuada o procedimientos de reparación inadecuados, por alteración o aplicación incorrecta de las partes, falta de servicio necesario o mantenimiento del motor o de el vehículo de acuerdo a los manuales de operación y mantenimiento de acuerdo fabricante original, o por la modificación de un motor para su uso en competencias o por haber sido usado en competencias.

FEDERAL-MOGUL NO SERÁ RESPONSABLE, BAJO NINGUNA CIRCUMSTANCIA, OTRO QUE NO SEA LO QUE SE HA MENCIONADO EXPLÍCITAMENTE EN ÉSTA GARANTÍA, POR CUALQUIER DAÑO INDIRECTO, ESPECIAL, ACCIDENTAL O CÓMO CONSECUENCIA DE OTROS DAÑOS, INCLUYENDO, PERO SIN QUE QUÉDE LIMITADO A DAÑOS O PÉRDIDAS DE BIENES O DE EQUIPO, PÉRDIDA DE GANANCIAS O INGRESOS, COSTOS DE GRÚA O TRANSPORTACIÓN, DE PARTES REEMPLAZADAS, O RECLAMOS DE CLIENTES DEL COMPRADOR, QUE PUEDAN RESULTAR DE LA VENTA, INSTALACIÓN, O USO DE ÉSTAS PARTES.

Algunas jurisdicciones no permiten limitaciones con respecto a la duración de garantías implícitas, o a la exclusión o limitación de daños accidentales, por lo tanto puede que las limitaciones o exclusiones contenidas en el presente no le apliquen a Ud. Esta garantía le ofrece derechos específicos. Ud. puede gozar de derechos adicionales dependiendo del estado o provincia en la cual viva.

ÉSTA GARANTIA REEMPLAZARA CUALQUIER Y TODA OTRA GARANTÍA, YA SEA EXPLÍCITA U IMPLÍCITA, INCLUYENDO, PERO NO LIMITANDOSE A GARANTÍAS PARA LA MERCANCÍA Y USO DE LA MISMA CON UN PROPÓSITO EN PARTICULAR, Y ESAS MISMAS QUEDARAN EXCLUIDAS SI EXCEDEN LA COBERTURA DESCRITA EN ÉSTA GARANTÍA.

Ésta garantía y recurso aplican a partes nuevas de motores de FP Diésel, vendidas directamente a nuestros clientes autorizados del mercado de reposición, lo cual será corroborado por medio de documentación usada en el reclamo.

Ningún agente o representante de la empresa Federal-Mogul tiene autoridad para modificar ésta garantía.

Otras partes de Federal-Mogul pueden tener garantías diferentes.

### **PROCEDIMIENTO PARA PRESENTAR UN RECLAMO**

Federal-Mogul debe ser notificado por el cliente: (i) antes de presentar un reclamo cubierto en la garantía, (ii) dentro del plazo de un año de ocurrida la falla, y (iii) antes de que se haya hecho algún trabajo.

Todo reclamo debe ser entregado por escrito y Federal-Mogul reserva el derecho a examinar todas las partes, sistemas e información relacionados y asociados al reclamo. (Todo cargo de envío será responsabilidad del usuario final o distribuidor, Federal-Mogul no aceptará envíos a cobrar). Contacte a su representante de ventas para conseguir el formulario de reclamos con el procedimiento detallado.

### **ADVERTENCIA**

Las partes deben ser usadas sólo para las aplicaciones mencionadas en éste catálogo. El no seguir ésta advertencia puede que resulte en que le falle la parte o a que su vida quede reducida. Todas las partes listadas en éste catálogo no están hechas para el uso en programas espaciales, para equipos de energía atómica, o reactores nucleares, o para aplicaciones médicas ni en naves aéreas. Federal-Mogul se reserva el derecho de hacerle mejoras y cambios a los productos, con respecto a productos similares que se hayan fabricado previamente, sin notificación o responsabilidad legal alguna.





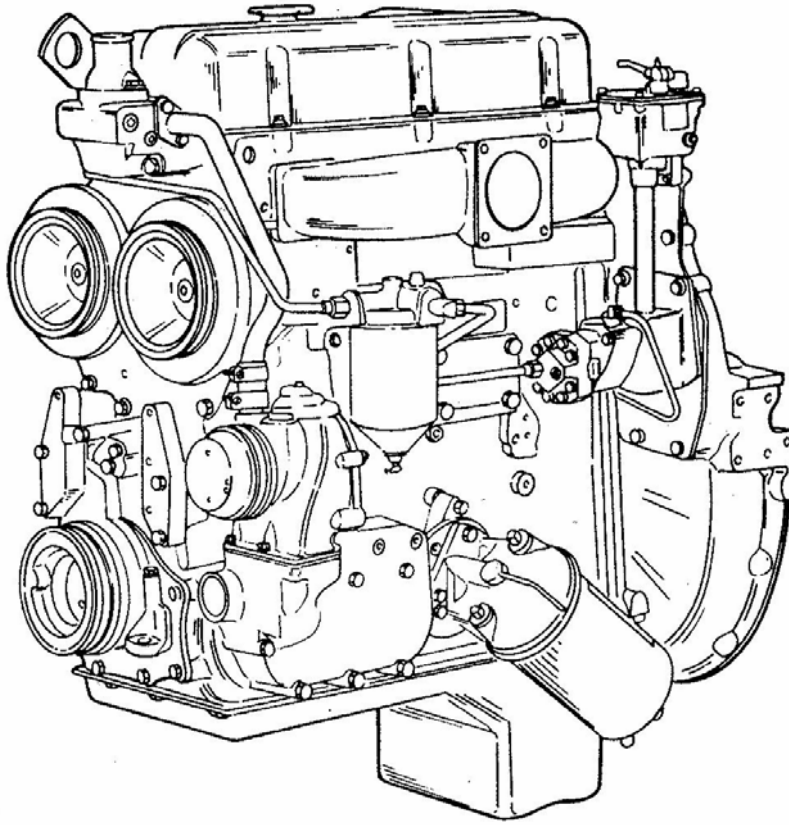
# Detroit Diesel Two Cycle Engine Catalog Index

*Global Technology Behind Every Part*

|                                  |                |
|----------------------------------|----------------|
| <b>53 &amp; 53V SERIES</b> ..... | <b>2-75</b>    |
| Model Description .....          | 2-5            |
| Engine.....                      | 6-31           |
| Fuel System.....                 | 32-49          |
| Air System .....                 | 50-57          |
| Lubricating System .....         | 58-65          |
| Cooling System.....              | 66-75          |
| <br>                             |                |
| <b>71 SERIES</b> .....           | <b>76-163</b>  |
| Model Description .....          | 76-77          |
| Engine.....                      | 78-107         |
| Fuel System.....                 | 108-123        |
| Air System .....                 | 124-131        |
| Lubricating System .....         | 132-139        |
| Cooling System.....              | 140-163        |
| <br>                             |                |
| <b>71V SERIES</b> .....          | <b>164-275</b> |
| Model Description .....          | 164-165        |
| Engine.....                      | 166-201        |
| Fuel System.....                 | 202-217        |
| Air System .....                 | 218-231        |
| Lubricating System .....         | 232-251        |
| Cooling System.....              | 252-275        |
| <br>                             |                |
| <b>92 SERIES</b> .....           | <b>276-375</b> |
| Model Description .....          | 276-277        |
| Engine.....                      | 278-305        |
| Fuel System.....                 | 306-325        |
| Air System .....                 | 326-335        |
| Lubricating System .....         | 336-351        |
| Cooling System.....              | 352-375        |
| <br>                             |                |
| <b>149 SERIES</b> .....          | <b>376-425</b> |
| Model Description .....          | 376-377        |
| Engine.....                      | 378-395        |
| Fuel System.....                 | 396-403        |
| Air System .....                 | 404-409        |
| Lubricating System .....         | 410-415        |
| Cooling System.....              | 416-425        |



## 53 IL SERIES ENGINE



# 53 IL SERIES ENGINE

## Model Description Chart

Application, Rotation Design Variations

|           |                     |                                     |                                      |   |                              |                       |   |   |
|-----------|---------------------|-------------------------------------|--------------------------------------|---|------------------------------|-----------------------|---|---|
| 5         | 0                   | 4                                   | 3                                    | - | 5                            | 1                     | 0 | 0 |
| Series 53 | Number of Cylinders | Application Designation (see below) | Basic Engine Arrangement (see below) |   | Design Variation (see below) | Specific Model Number |   |   |

**APPLICATION DESIGNATION:**

5042 - 5100 Marine  
 5043 - 5100 Fan to F/W-Industrial  
 5044 - 5100 Power Base  
 5045 - 5100 Generator

**DESIGN VARIATION:**

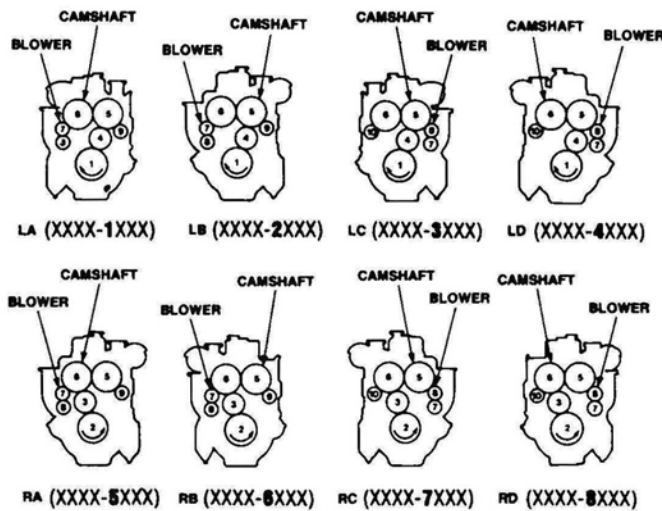
5043 - 5000 "N" ENGINE  
 5043 - 5100 2 VALVE HEAD  
 5043 - 5200 4 VALVE HEAD  
 5043 - 2302 TURBOCHARGED

**SPECIFIC MODEL NUMBER:**

If last digit is an odd number: Starter is located opposite blower.  
 If last digit is even number: Starter located on same side of engine.

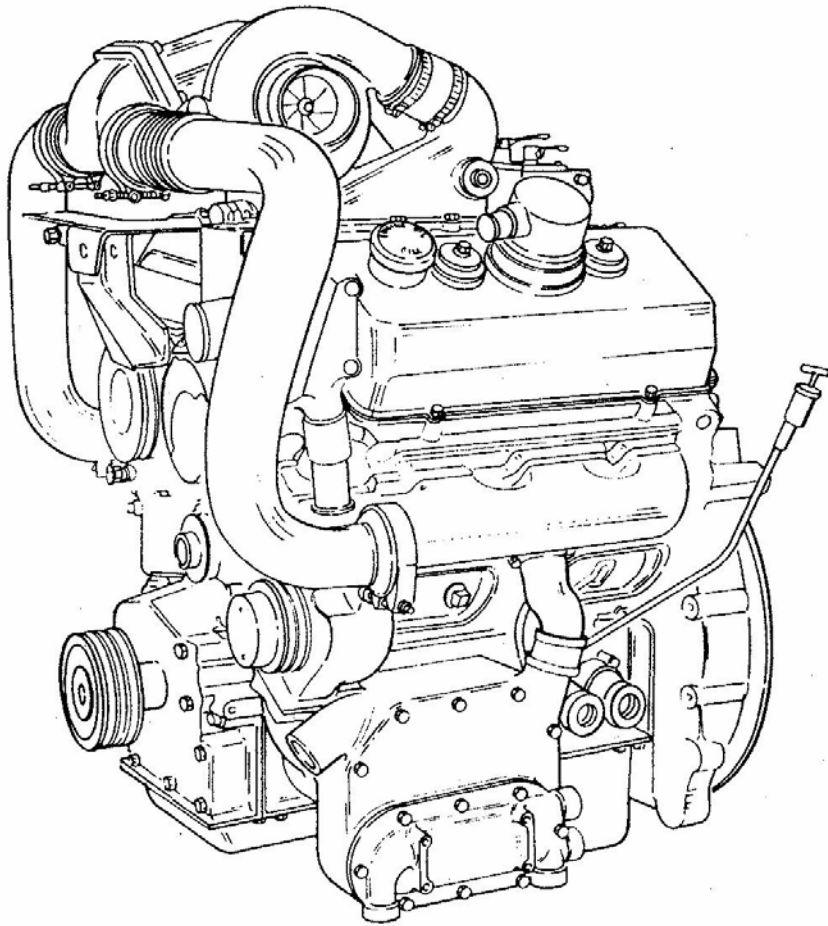
Basic Engine Arrangements

Rotation: R (right) and L (left) designates rotation as viewed from the front end of the engine (not the flywheel end)  
 Type: A-B-C-D designates location of exhaust manifold and blower as viewed from the flywheel end of the engine.



ALL VIEWS FROM REAR (FLYWHEEL) END OF ENGINE

## 53V SERIES ENGINE





# 53V SERIES ENGINE

## Model Description Chart

Application, Rotation Design Variations

|           |                     |                                     |                                      |                              |                       |   |   |   |
|-----------|---------------------|-------------------------------------|--------------------------------------|------------------------------|-----------------------|---|---|---|
| 5         | 0                   | 6                                   | 2                                    | -                            | 7                     | 2 | 0 | 0 |
| Series 53 | Number of Cylinders | Application Designation (see below) | Basic Engine Arrangement (see below) | Design Variation (see below) | Specific Model Number |   |   |   |

**APPLICATION DESIGNATION:**

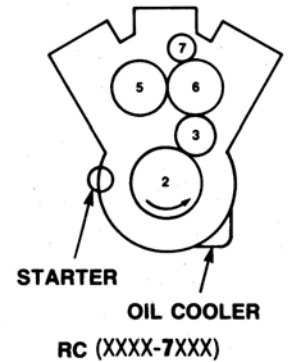
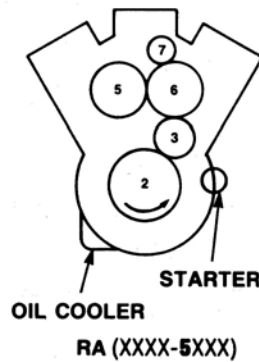
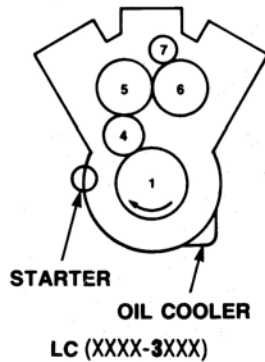
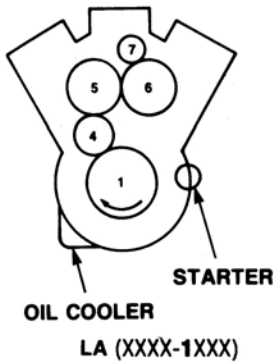
- 5062 - 7200 Marine
- 5063 - 7200 Fan to F/W-Industrial
- 5064 - 7200 Power Base
- 5065 - 7200 Generator
- 5067 - 7200 Fan to F/W Automotive
- 5069 - 7200 Special

**DESIGN VARIATION:**

- 5062 - 7000 "N" Engine
- 5062 - 7200 4 V Head
- 5043 - 7300 4 Turbocharged
- 5067 - 7500 Customer Spec. Engine

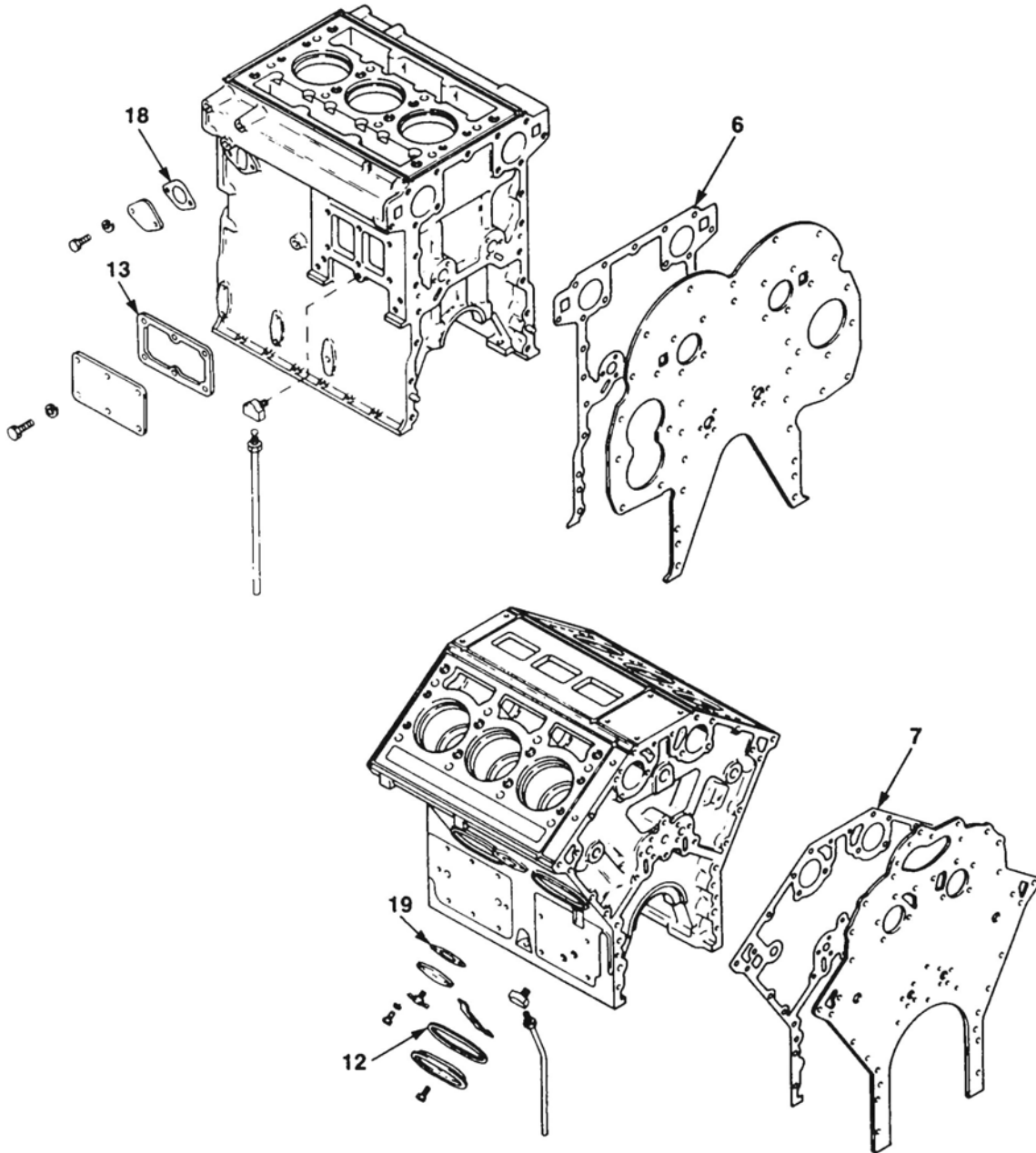
### Basic Engine Arrangements

Rotation: R (right) and L (left) designates rotation as viewed from the front end of the engine (not the flywheel end)  
 Type: A and D designates location of starter and oil cooler as viewed from the rear (flywheel) end.  
 Cylinder Bank: Left and right cylinder banks are determined from rear of engine (from flywheel end).



# Cylinder Block

(Figure 1.1)







# Cylinder Block

(Figure 1.1)

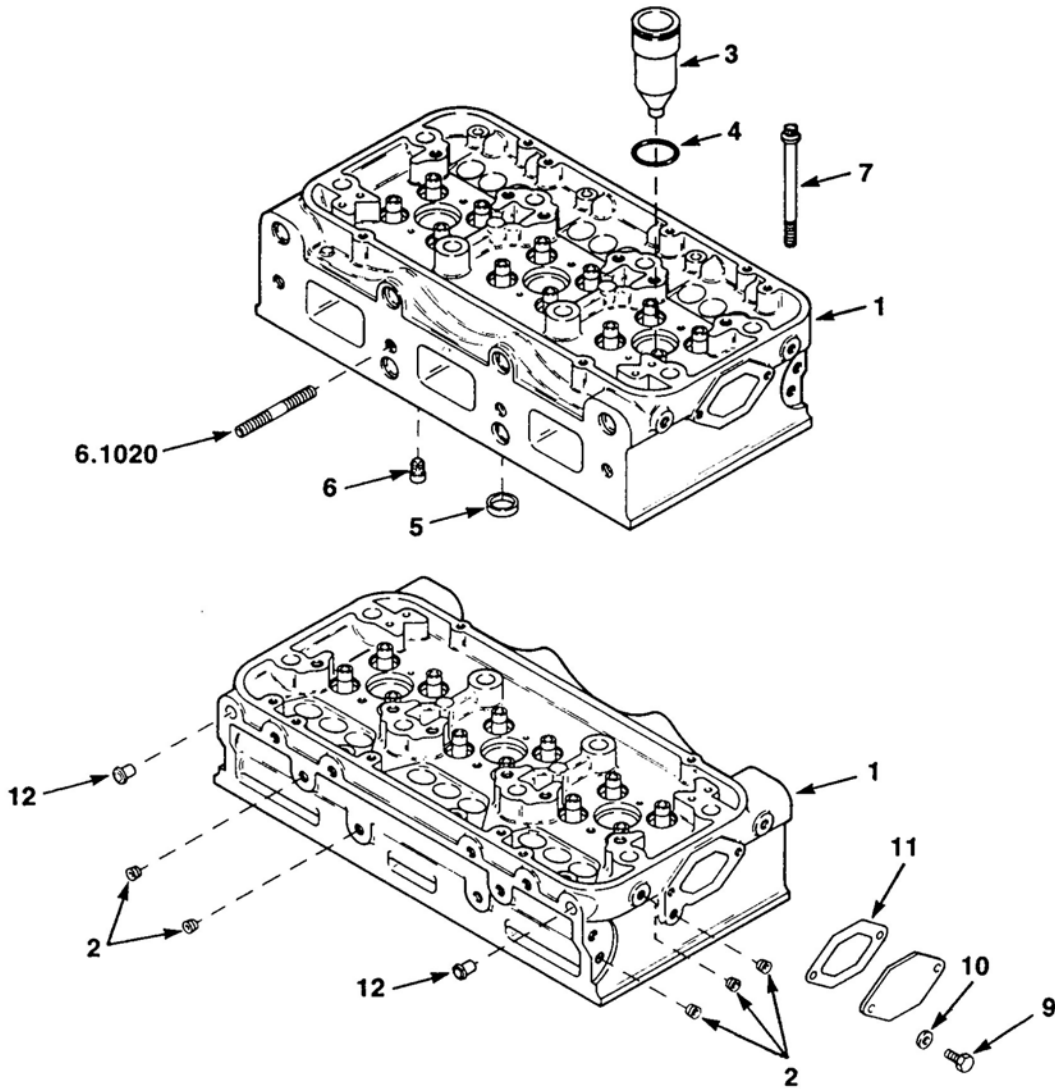
Groups:

1.1001 - 1.1155

| Group  | Ref | Part No.      | Description   | 2l | 3l | 4l | 6l |
|--------|-----|---------------|---|----|----|----|----|
| 1.1001 | 0   | FP-5133981    | Washer, Crankshaft Main Bearing Cap Bolt                            | 6  | 8  | 10 | 10 |
| 1.1001 | 0   | FP-8924380    | Plug, 1/8" Pipe (w/Seal), (12.9550)                                 | 4  | 8  | 8  | 10 |
| 1.1001 | 0   | FP-5135547    | Sleeve, Cylinder Block (.434)                                       | 2  | 3  | 4  | 6  |
| 1.1001 | 0   | FP-5135548    | Insert, Cylinder Block (.800)                                       | 2  | 3  | 4  | 6  |
| 1.1001 | 0   | FP-5135662    | Sleeve, Cylinder Block (.299)                                       | 2  | 3  | 4  | 6  |
| 1.1001 | 0   | FP-5135663    | Insert, Cylinder Block (.455)                                       | 2  | 3  | 4  | 6  |
| 1.1001 | 0   | FP-5121182    | Plug, 1/4" Pipe (2.4015)  | 1  | 2  | 2  | 1  |
| 1.1001 | 0   | FP-141346     | Pin, 3/16" x 1/2" Dowel (12.9290)                                   | -  | 4  | 4  | 4  |
| 1.1002 | 0   | FP-23517625   | Gasket Set, Engine Overhaul   | 1  | -  | -  | -  |
| 1.1002 | 0   | FP-23517625WS | Gasket Set, Engine Overhaul (w/Front & Rear Seals)                  | 1  | -  | -  | -  |
| 1.1002 | 0   | FP-23517623   | Gasket Set, Engine Overhaul   | -  | 1  | -  | -  |
| 1.1002 | 0   | FP-23517623WS | Gasket Set, Engine Overhaul (w/Front & Rear Seals)                  | -  | 1  | -  | -  |
| 1.1002 | 0   | FP-23517624   | Gasket Set, Engine Overhaul   | -  | -  | 1  | -  |
| 1.1002 | 0   | FP-23517624WS | Gasket Set, Engine Overhaul (w/Front & Rear Seals)                  | -  | -  | 1  | -  |
| 1.1002 | 0   | FP-23512690   | Gasket Set, Engine Overhaul   | -  | -  | -  | 1  |
| 1.1002 | 0   | FP-23512690WS | Gasket Set, Engine Overhaul (w/Front & Rear Seals)                  | -  | -  | -  | 1  |
| 1.1002 | 0   | FP-5199816    | Gasket Set, Engine Overhaul (Aluminum)                              | -  | -  | -  | 1  |
| 1.1002 | 0   | FP-8927743    | Gasket Set, Engine Overhaul (Military), (CIB)                       | -  | -  | -  | 1  |
| 1.1020 | 0   | FP-103321     | Lockwasher, 3/8" (12.9200)  | 13 | 15 | 15 | 10 |
| 1.1020 | 0   | FP-5152148    | Washer, 3/8" Seal (Copper), (Fuel Stand Pipe), (12.9001)            | -  | 6  | 8  | 12 |
| 1.1020 | 0   | FP-8927581    | Bolt, 3/8" -16 x 1" (w/Seal Patch), (12.9001)                       | -  | -  | -  | 10 |
| 1.1030 | 0   | FP-5116336    | Gasket, Cylinder Block End Plate (Front), (Governor Hole), (2.7010) | 1  | 1  | 1  | -  |
| 1.1030 | 6   | FP-5116354    | Gasket, Cylinder Block End Plate (Front)                            | 1  | 1  | 1  | -  |
| 1.1030 | 7   | FP-5133397    | Gasket, Cylinder Block End Plate (Front)                            | -  | -  | -  | 1  |
| 1.1040 | 0   | FP-23505525   | Gasket, 3/8" Copper (12.9360)                                       | -  | -  | -  | 4  |
| 1.1050 | 0   | FP-5116379    | Gasket, Cylinder Block Hand Hole Cover                              | 1  | -  | -  | -  |
| 1.1050 | 13  | FP-5106629    | Gasket, Cylinder Block Hand Hole Cover (Turbo)                      | -  | 1  | -  | -  |
| 1.1050 | 13  | FP-5116380    | Gasket, Cylinder Block Hand Hole Cover                              | -  | 1  | -  | -  |
| 1.1050 | 0   | FP-5116381    | Gasket, Cylinder Block Hand Hole Cover                              | -  | -  | 1  | -  |
| 1.1050 | 12  | FP-5132117    | Gasket, Cylinder Block Hand Hole Cover                              | -  | -  | -  | 4  |
| 1.1050 | 12  | FP-8923792    | Gasket, Cylinder Block Hand Hole Cover                              | -  | -  | -  | 4  |
| 1.1070 | 18  | FP-5116357    | Gasket, Cylinder Block Water Hole                                   | 1  | 1  | 1  | 1  |
| 1.1070 | 19  | FP-5132474    | Gasket, Cylinder Block Water Hole                                   | -  | -  | -  | 1  |
| 1.1155 | 0   | FP-5181415    | Clip, Rocker Cover Drain Hose (1 1/8" Tube - 7/16" Bolt)            | 1  | 1  | 1  | 1  |

# Cylinder Head

(Figure 2.1)





# Cylinder Head

(Figure 2.1)

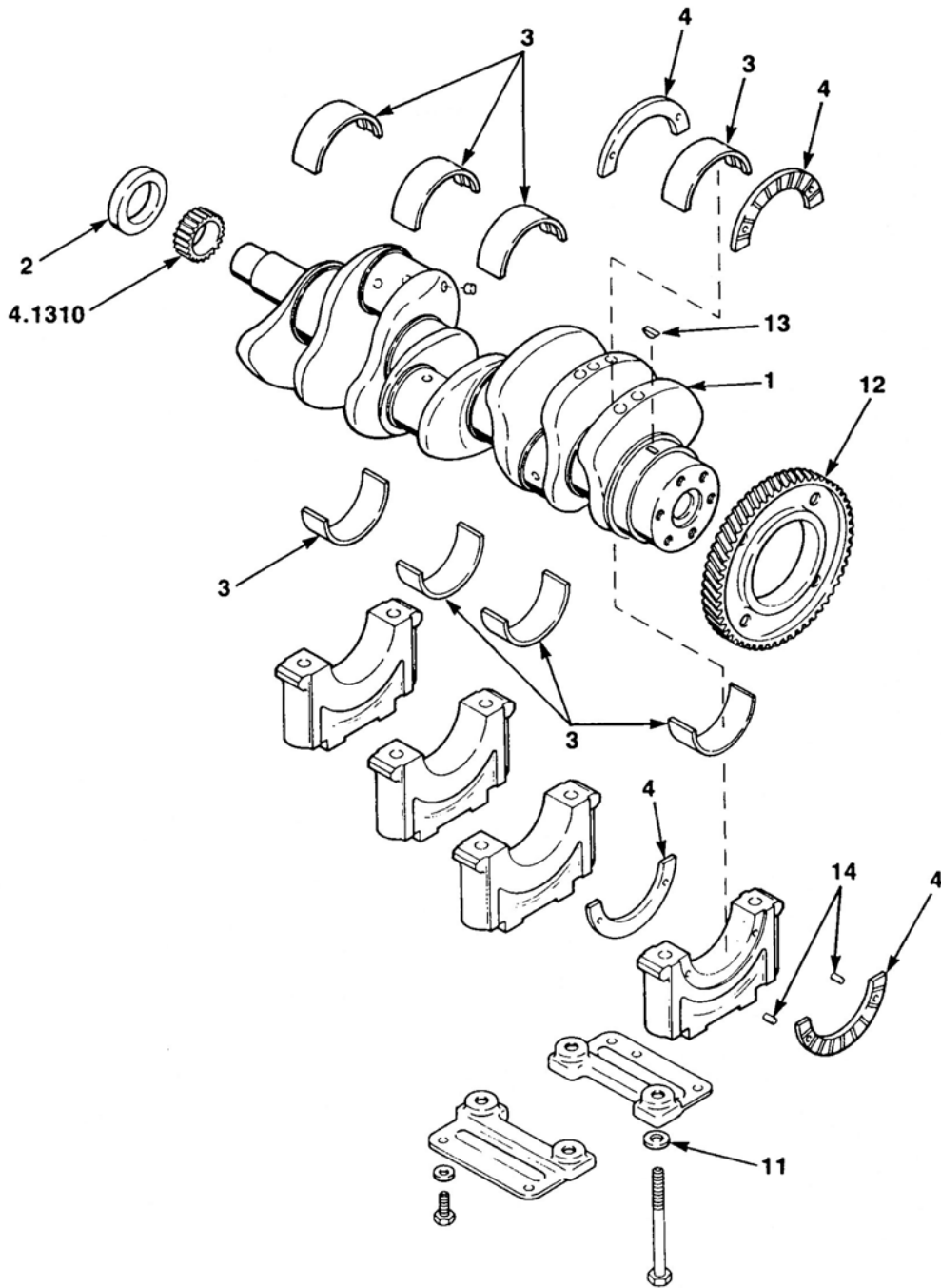
Groups:

1.2001 - 1.2920

| Group  | Ref | Part No.   | Description   | 2l | 3l | 4l | 6l |
|--------|-----|------------|---|----|----|----|----|
| 1.2001 | 0   | FP-5121182 | Plug, 1/4" Pipe   | 5  | 6  | 6  | 6  |
| 1.2001 | 2   | FP-8923847 | Plug, 1/4" Pipe (4.7001)                                  | 5  | 6  | 6  | 6  |
| 1.2001 | 0   | FP-5154453 | Plug, 3/8"-16 Cylinder Head                               | 3  | 4  | 3  | 4  |
| 1.2001 | 0   | FP-5151449 | Plug, 13/16" Cup  | 3  | 3  | 3  | 3  |
| 1.2001 | 4   | FP-5104701 | Ring, Seal, Injector Hole Tube (Viton)                    | 2  | 3  | 4  | 6  |
| 1.2001 | 3   | FP-8925981 | Tube Kit, Injector Hole (w/Viton Seal Ring), (1.2045)     | 2  | 3  | 4  | 6  |
| 1.2001 | 0   | FP-8924380 | Plug, 1/8"-27 (12.9550)                                   | 1  | 2  | 2  | 2  |
| 1.2001 | 12  | FP-5116262 | Adapter, Cylinder Head To Governor (2.7830)               | 1  | 1  | 1  | 1  |
| 1.2001 | 12  | FP-5121252 | Adapter, Cylinder Head To Governor (2.7830)               | 1  | 1  | 1  | 1  |
| 1.2001 | 0   | FP-5144425 | Plug, Adapter Fuse  | 1  | 1  | 1  | 1  |
| 1.2001 | 0   | FP-5111467 | Seat, Valve Spring (1.8360)                               | -  | 6  | 8  | 8  |
| 1.2001 | 0   | FP-5131961 | Guide, Exhaust Valve (4 Valve Head), (1.8320)             | -  | 6  | 8  | 6  |
| 1.2001 | 5   | FP-8921501 | Insert, Exhaust Valve (30°), (N/A), (1.8330)              | -  | 6  | 8  | 6  |
| 1.2001 | 5   | FP-8921502 | Insert, Exhaust Valve (30°), (Turbo), (1.8330)            | -  | 6  | 8  | 6  |
| 1.2001 | 0   | FP-5139997 | Plug, 7/8" Diameter Cup Head                              | -  | 3  | 5  | 3  |
| 1.2001 | 0   | FP-8926347 | Plug, Fuse Cylinder Head                                  | -  | 1  | 1  | 1  |
| 1.2002 | 0   | FP-5199809 | Gasket Set, Cylinder Head (Services One Head)             | 1  | -  | -  | -  |
| 1.2002 | 0   | FP-5199811 | Gasket Set, Cylinder Head (Services One Head)             | -  | 1  | -  | 2  |
| 1.2002 | 0   | FP-5199820 | Gasket Set, Cylinder Head (Services One Head), (Military) | -  | 1  | -  | 2  |
| 1.2002 | 0   | FP-5199812 | Gasket Set, Cylinder Head (Services One Head)             | -  | -  | 1  | -  |
| 1.2005 | 6   | FP-5119293 | Nozzle, Cylinder Head Water                               | -  | 4  | 6  | 8  |
| 1.2010 | 0   | FP-5121254 | Gasket, Cylinder Head Compression                         | 2  | 3  | 4  | 6  |
| 1.2020 | 0   | FP-5116290 | Ring End, Water Hole Seal                                 | 4  | 4  | 4  | 8  |
| 1.2020 | 0   | FP-5121207 | Ring, Center Water Hole Seal                              | 2  | 4  | 6  | 8  |
| 1.2020 | 0   | FP-5116122 | Ring, Oil Hole Seal                                       | 1  | 2  | 2  | 4  |
| 1.2022 | 0   | FP-5116291 | Cylinder Head Sealing Ring                                | 1  | -  | -  | -  |
| 1.2022 | 0   | FP-5116292 | Cylinder Head Sealing Ring                                | -  | 1  | -  | 2  |
| 1.2022 | 0   | FP-5116293 | Cylinder Head Sealing Ring                                | -  | -  | 1  | -  |
| 1.2030 | 7   | FP-5121263 | Bolt, 5/8"-11 x 6 1/4" (12 Pt. Hd.)                       | 6  | 8  | 10 | 16 |
| 1.2040 | 0   | FP-5150013 | Nut, 5/8"-018 Cylinder Head Water (Option Type #62)       | -  | 4  | -  | -  |
| 1.2043 | 9   | FP-8927580 | Bolt, 3/8" -16 x 7/8"                                     | 2  | 2  | 2  | 4  |
| 1.2043 | 9   | FP-8927581 | Bolt, 3/8" -16 x 1"                                       | 2  | 2  | 2  | 4  |
| 1.2044 | 11  | FP-5116242 | Gasket, Cover   | 1  | 1  | 1  | 2  |
| 1.2920 | 10  | FP-103321  | Lockwasher  | 2  | 2  | 2  | 4  |

# Crankshaft

(Figure 3.1)





# Crankshaft

(Figure 3.1)

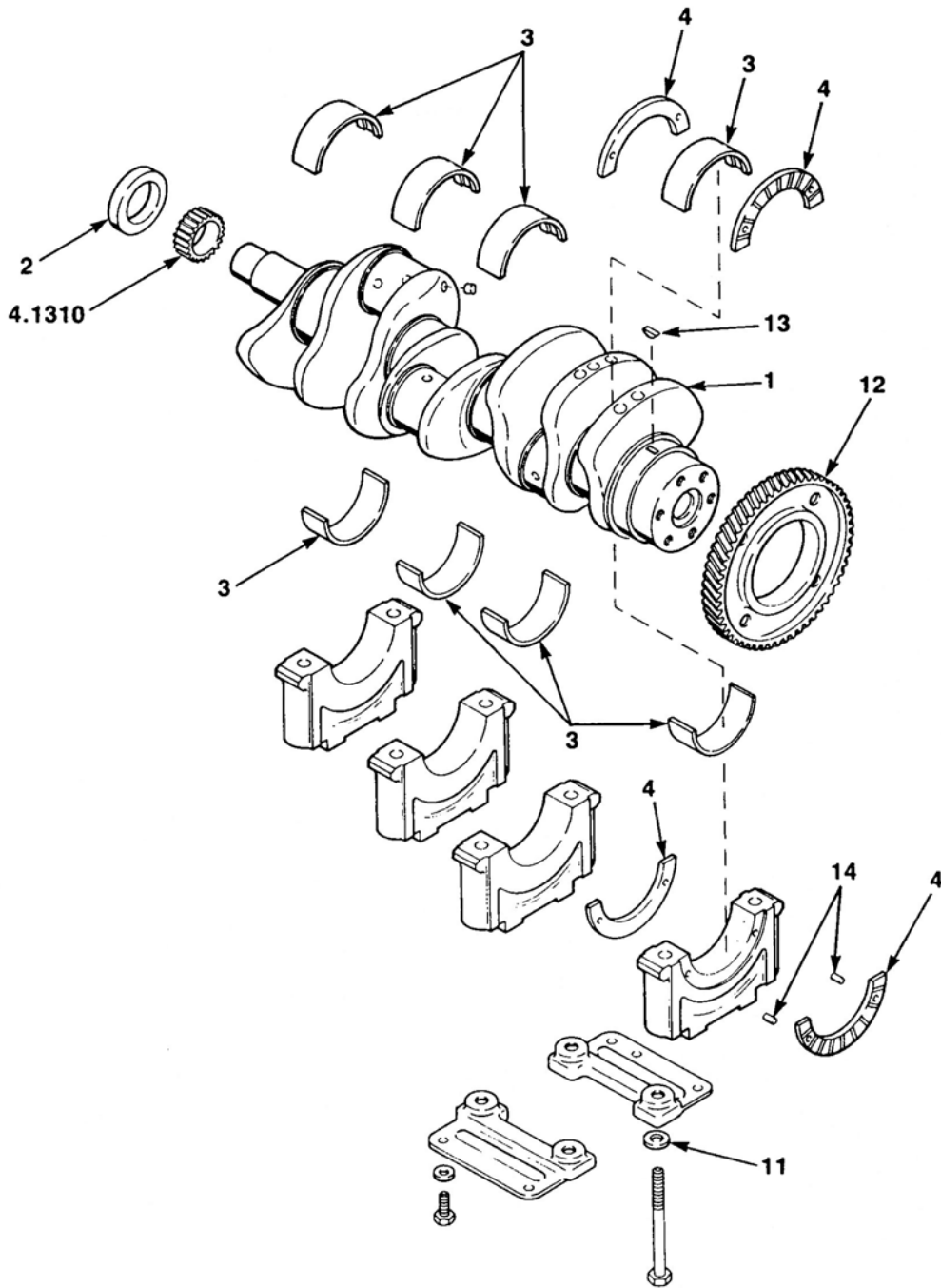
Groups:

1.3040 - 1.3090

| Group  | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------|--|----|----|----|----|
| 1.3040 | 2   | FP-5198503  | Seal, Crankshaft Oil (Front), (Single Lip O.S.)                            | 1  | 1  | 1  | 1  |
| 1.3040 | 2   | FP-5148314  | Seal, Crankshaft Oil (Front), (w/Excluder Lip)                             | -  | 1  | 1  | -  |
| 1.3040 | 2   | FP-5115454  | Seal, Crankshaft Oil (Front), (8V53)                                       | -  | -  | -  | -  |
| 1.3040 | 2   | FP-5116224  | Seal, Crankshaft Oil (Front)   | -  | -  | -  | -  |
| 1.3040 | 2   | FP-5138796  | Seal, Crankshaft Oil (Front)   | -  | -  | -  | 1  |
| 1.3040 | 2   | FP-5198289  | Seal, Crankshaft Oil (Front), (8V53), (Use w/5138945 Sleeve)               | -  | -  | -  | -  |
| 1.3056 | 0   | FP-5198502  | Sleeve, Crankshaft Front Seal (Use w/Seal FP-5198503)                      | 1  | 1  | 1  | 1  |
| 1.3060 | 0   | FP-5116229  | Seal, Crankshaft Oil (Rear)  | 1  | 1  | 1  | 1  |
| 1.3060 | 0   | FP-5127821  | Seal, Crankshaft Oil (Rear), (8V53 Only), (Double Lip), (Std.)             | 1  | 1  | 1  | 1  |
| 1.3060 | 0   | FP-5128917  | Seal, Crankshaft Oil (Rear), (Double Lip), (Wet Only)                      | 1  | 1  | 1  | 1  |
| 1.3060 | 0   | FP-5196852  | Seal, Crankshaft Oil (Rear), (Single Lip O.S.)                             | 1  | 1  | 1  | 1  |
| 1.3060 | 0   | FP-8924374  | Seal, Crankshaft Oil (Rear), (Single Lip O.S.), (Use w/Sleeve FP-23516636) | 1  | 1  | 1  | 1  |
| 1.3060 | 0   | FP-5114335  | Seal, Crankshaft Oil (Rear), (8V53 Only)                                   | -  | -  | -  | -  |
| 1.3060 | 0   | FP-5197860  | Seal, Crankshaft Oil (Rear), (Single Lip O.S.), (8V53 Only)                | -  | -  | -  | -  |
| 1.3060 | 0   | FP-8926902  | Seal & Sleeve Kit, Crankshaft (Rear), (R.H.. Rotation Only), (Teflon)      | -  | -  | -  | 1  |
| 1.3065 | 0   | FP-5192496  | Spacer, Crankshaft (Rear), (w/Single Lip Seal Only), (8V53 Only)           | -  | -  | -  | -  |
| 1.3066 | 0   | FP-23516636 | Sleeve, Rear Oil Seal (Use w/O.S. Oil Seals Only)                          | 1  | 1  | 1  | 1  |
| 1.3066 | 0   | FP-5198908  | Sleeve, Rear Oil Seal (Use w/O.S. Oil Seals Only), (8V53 Only)             | -  | -  | -  | -  |
| 1.3090 | 3   | FP-8924357  | Shell Set, Crankshaft Main Bearing (IL), (Std.), (Naturally Aspirated)     | 3  | 4  | 5  | -  |
| 1.3090 | 3   | FP-8924358  | Shell Set, Crankshaft Main Bearing (IL), (.002), (Naturally Aspirated)     | 3  | 4  | 5  | -  |
| 1.3090 | 3   | FP-8924359  | Shell Set, Crankshaft Main Bearing (IL), (.010), (Naturally Aspirated)     | 3  | 4  | 5  | -  |
| 1.3090 | 3   | FP-8924360  | Shell Set, Crankshaft Main Bearing (IL), (.020), (Naturally Aspirated)     | 3  | 4  | 5  | -  |
| 1.3090 | 3   | FP-8924361  | Shell Set, Crankshaft Main Bearing (IL), (.030), (Naturally Aspirated)     | 3  | 4  | 5  | -  |
| 1.3090 | 3   | FP-5149447  | Shell Set, Crankshaft Main Bearing (IL), (Std.), (Turbo)                   | -  | 4  | 5  | -  |
| 1.3090 | 3   | FP-5149449  | Shell Set, Crankshaft Main Bearing (IL), (.010), (Turbo)                   | -  | 4  | 5  | -  |
| 1.3090 | 3   | FP-5149450  | Shell Set, Crankshaft Main Bearing (IL), (.020), (Turbo)                   | -  | 4  | 5  | -  |
| 1.3090 | 3   | FP-5149451  | Shell Set, Crankshaft Main Bearing (IL), (.030), (Turbo)                   | -  | 4  | 5  | -  |
| 1.3090 | 0   | FP-5195927  | Shell Set, Crankshaft Main Bearing (V), (Std.), (1 Hole Upper)             | -  | -  | -  | 4  |
| 1.3090 | 0   | FP-5196685  | Shell Set, Crankshaft Main Bearing (V), (.010), (1 Hole Upper)             | -  | -  | -  | 4  |
| 1.3090 | 0   | FP-5196686  | Shell Set, Crankshaft Main Bearing (V), (.020), (1 Hole Upper)             | -  | -  | -  | 4  |
| 1.3090 | 0   | FP-5196687  | Shell Set, Crankshaft Main Bearing (V), (.030), (1 Hole Upper)             | -  | -  | -  | 4  |
| 1.3090 | 3   | FP-5198410  | Shell Set, Crankshaft Main Bearing (V), (Std.), (7 Hole Upper)             | -  | -  | -  | 4  |
| 1.3090 | 3   | FP-5198410S | Shell Set, Crankshaft Main Bearing (V), (Std.), (1 Hole Upper), (Set of 4) | -  | -  | -  | 1  |
| 1.3090 | 3   | FP-5198411  | Shell Set, Crankshaft Main Bearing (V), (.002), (7 Hole Upper)             | -  | -  | -  | 4  |
| 1.3090 | 3   | FP-5198412  | Shell Set, Crankshaft Main Bearing (V), (.010), (7 Hole Upper)             | -  | -  | -  | 4  |
| 1.3090 | 3   | FP-5198412S | Shell Set, Crankshaft Main Bearing (V), (.010), (1 Hole Upper), (Set of 4) | -  | -  | -  | 1  |
| 1.3090 | 3   | FP-5198413  | Shell Set, Crankshaft Main Bearing (V), (.020), (7 Hole Upper)             | -  | -  | -  | 4  |
| 1.3090 | 3   | FP-5198414  | Shell Set, Crankshaft Main Bearing (V), (.030), (7 Hole Upper)             | -  | -  | -  | 4  |

# Crankshaft

(Figure 3.2)





# Crankshaft

(Figure 3.2)

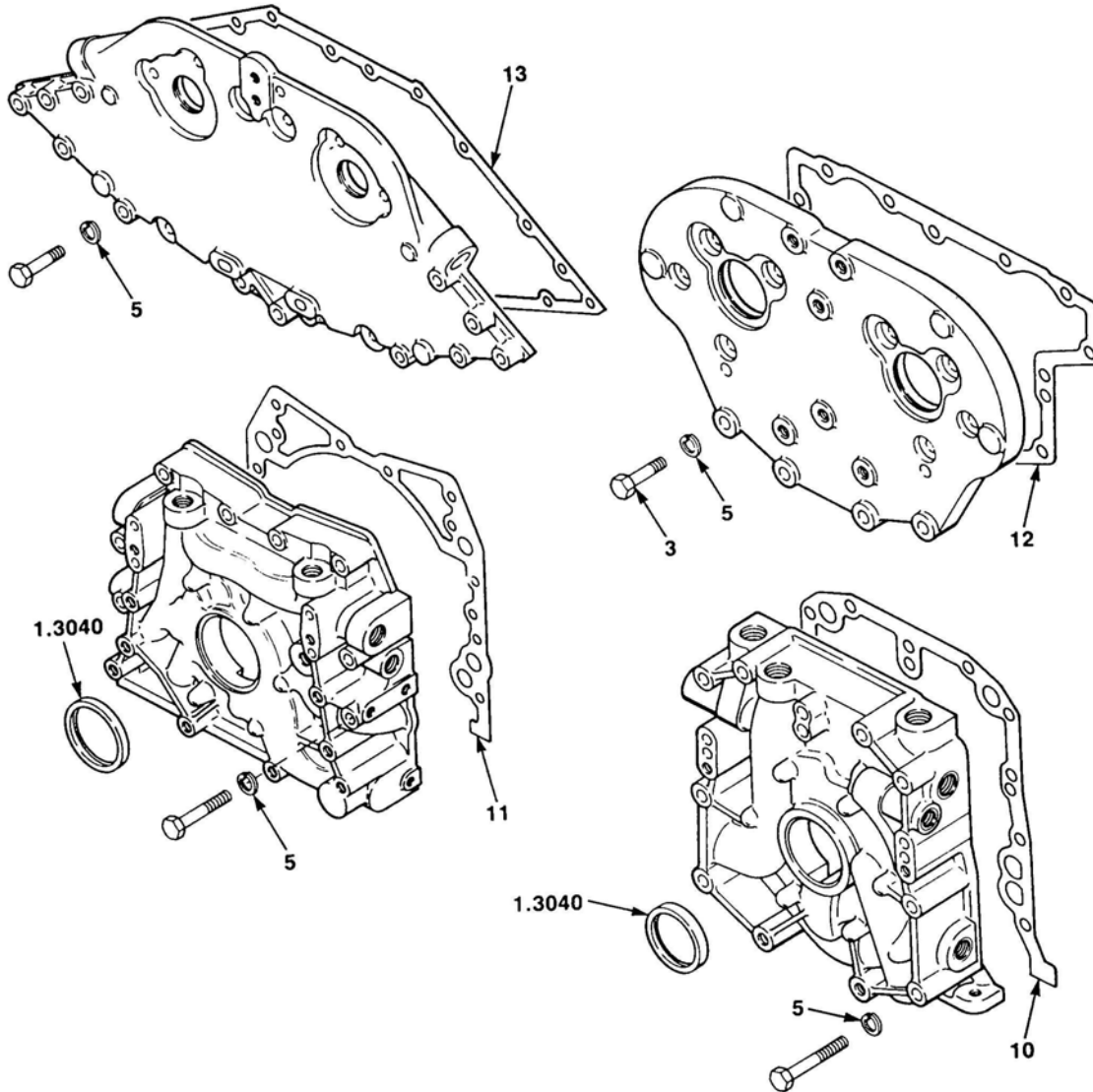
Groups:

1.3100 - 1.3165

| Group  | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------|--|----|----|----|----|
| 1.3100 | 14  | FP-141346   | Pin, 3/16" x 1/2" Dowel                              | 4  | 4  | 4  | 4  |
| 1.3100 | 4   | FP-5116197  | Washer, Main Bearing Thrust (IL), (Std.)             | 4  | 4  | 4  | -  |
| 1.3100 | 4   | FP-5196755  | Washer, Main Bearing Thrust (IL), (.005")            | 4  | 4  | 4  | -  |
| 1.3100 | 4   | FP-5196756  | Washer, Main Bearing Thrust (IL), (.010".)           | 4  | 4  | 4  | -  |
| 1.3100 | 4   | FP-5116197S | Washer, Main Bearing Thrust (IL), (Std.), (Set of 4) | 1  | 1  | 1  | -  |
| 1.3100 | 0   | FP-5159353  | Washer, Main Bearing Thrust (V), (Std.)              | -  | -  | -  | 4  |
| 1.3100 | 0   | FP-5159353S | Washer, Main Bearing Thrust (V), (Std.), (Set of 4)  | -  | -  | -  | 1  |
| 1.3100 | 0   | FP-5160542  | Washer, Main Bearing Thrust (V), (.005")             | -  | -  | -  | 4  |
| 1.3100 | 0   | FP-5192111  | Washer, Main Bearing Thrust (V), (.010".)            | -  | -  | -  | 4  |
| 1.3140 | 11  | FP-5133981  | Washer, Crankshaft Main Bearing Cap Bolt             | -  | 8  | -  | 8  |
| 1.3145 | 13  | FP-8926247  | Key, 1/4" x 3/4" Woodruff                            | 1  | 1  | 1  | 1  |
| 1.3161 | 0   | FP-103321   | Lockwasher, 3/8"                                     | 13 | 13 | 13 | 23 |
| 1.3165 | 0   | FP-5136097  | Bearing, Front Crankshaft Support                    | -  | -  | -  | 1  |

# Crankshaft Front Cover

(Figure 3.3)







## Crankshaft Front Cover

(Figure 3.3)

Groups:  
1.3170 - 1.5010

| Group               | Ref | Part No.    | Description   | 2l | 3l | 4l | 6l |
|---------------------|-----|-------------|---|----|----|----|----|
| 1.3170              | 10  | FP-5116386  | Gasket, Lower Front Cover   | 1  | 1  | 1  | -  |
| 1.3170              | 12  | FP-5121082  | Gasket, Upper Front Cover   | 1  | 1  | 1  | -  |
| 1.3170              | 11  | FP-5119368  | Gasket, Lower Front Cover   | -  | -  | -  | 1  |
| 1.3170              | 13  | FP-5124055  | Gasket, Upper Front Cover   | -  | -  | -  | 1  |
| 1.3172              | 0   | FP-5109496  | Gasket, Crankshaft Front Cover Plate                                  | -  | -  | -  | 1  |
| 1.3210              | 0   | FP-8922491  | Damper, Vibration (Heavy Viscous), (8V53 Only)                        | -  | -  | -  | -  |
| 1.3240              | 0   | FP-5134917  | Cone, Vibration Damper Front (.531"), (8V53 Only)                     | -  | -  | -  | -  |
| 1.3290              | 0   | FP-5180629  | Bolt, Crank Pulley (3/4" - 16x1.74")                                  | 8  | 8  | 8  | 8  |
| 1.4040              | 0   | FP-23503707 | Bearing, Clutch Pilot   | -  | 1  | 1  | 1  |
| 1.4040              | 0   | FP-23504892 | Bearing, Clutch Pilot (FP-904983)                                     | -  | 1  | 1  | 1  |
| 1.4040              | 0   | FP-23503709 | Bearing, Clutch Pilot (8V53 Only)                                     | -  | -  | -  | -  |
| 1.4060              | 0   | FP-5133530  | Coupling, Engine Drive Shaft  | -  | -  | -  | 1  |
| 1.4075              | 0   | FP-8927580  | Bolt, 3/8" - 16 x 7/8"  | -  | -  | 8  | -  |
| <b>Rear Housing</b> |     |             |   |    |    |    |    |
| 1.5002              | 0   | FP-5123802  | Gasket Shim, Flywheel Housing To End Plate (2.38" Dia. x .015" Thick) | -  | -  | -  | 1  |
| 1.5010              | 0   | FP-23506158 | Gasket, Flywheel Housing  | 1  | 1  | 1  | -  |
| 1.5010              | 0   | FP-5121234  | Gasket, Flywheel Housing  | 1  | -  | -  | -  |
| 1.5010              | 0   | FP-23506082 | Gasket, Flywheel Housing (0.40 x 0.88 x 0.015 Thick)                  | -  | -  | -  | 1  |
| 1.5010              | 0   | FP-5137470  | Gasket, Flywheel Housing  | -  | -  | -  | 1  |



# Cylinder Kits

| Cylinder Kit       | Description                               | C/R    | Option Type Numbers                  | Piston     |
|--------------------|---|--------|--------------------------------------|------------|
| <b>53IL Series</b> |   |        |                                      |            |
| FP-5149315         | Turbo, Trunk Type                         | 17.5:1 | 110,181,205                          | FP-5198572 |
| FP-5149315 10      | Turbo, Trunk Type .010 OS                 | 17.5:1 | 110,181,205                          | FP-5198572 |
| FP-5149315 20      | Turbo, Trunk Type .020 OS                 | 17.5:1 | 110,181,205                          | FP-5198572 |
| FP-5149734         | Turbo, Trunk Type, 1.5" Pin Diameter      | 18.7:1 | 204,206,207                          | FP-8920717 |
| FP-5149734 10      | Turbo, Trunk Type, 1.5" Pin Diameter .010 | 18.7:1 | 204,206,207                          | FP-8920717 |
| FP-5149734 20      | Turbo, Trunk Type, 1.5" Pin Diameter .020 | 18.7:1 | 204,206,207                          | FP-8920717 |
| FP-5198903         | Non Turbo, Trunk Type                     | 17:01  | 25,26,27,29,35,60,83                 | FP-5195931 |
| FP-5198903 10      | Non Turbo, Trunk Type .010 OS             | 17:01  | 25,26,27,29,35,60,83                 | FP-5195931 |
| FP-5198903 20      | Non Turbo, Trunk Type .020 OS             | 17:01  | 25,26,27,29,35,60,83                 | FP-5195931 |
| FP-23503810        | Turbo, Cross-Head                         | 18:01  | 268                                  |            |
| FP-23503810 10     | Turbo, Cross-Head .010 OS                 | 18:01  | 268                                  |            |
| FP-23503810 20     | Turbo, Cross-Head .020 OS                 | 18:01  | 268                                  |            |
| FP-5198904         | Non Turbo, Trunk Type                     | 21:01  | 53,56,65,66,77,236,249               | FP-5198877 |
| FP-5198904 10      | Non Turbo, Trunk Type .010 OS             | 21:01  | 53,56,65,66,77,236,249               | FP-5198877 |
| FP-5198904 20      | Non Turbo, Trunk Type .020 OS             | 21:01  | 53,56,65,66,77,236,249               | FP-5198877 |
| FP-5198899         | Non Turbo, Trunk Type                     | 21:01  | 61,62,64,68,96,97,98,118,238,241     | FP-5198877 |
| FP-5198899 10      | Non Turbo, Trunk Type .010 OS             | 21:01  | 61,62,64,68,96,97,98,118,238,241     | FP-5198877 |
| FP-5198899 20      | Non Turbo, Trunk Type .020 OS             | 21:01  | 61,62,64,68,96,97,98,118,238,241     | FP-5198877 |
| FP-23501863        | Non Turbo, Trunk Type                     | 21.0:1 | Non Turbo, Trunk Type                | FP-5198877 |
| FP-LCK-8899        | Linerless Cylinder Kit                    | 21:01  | Non Turbo, Trunk Type                | FP-5198877 |
| FP-LCK-8903        | Linerless Cylinder Kit                    | 17:01  | Non Turbo, Trunk Type                | FP-5195931 |
| FP-LCK-8904        | Linerless Cylinder Kit                    | 21:01  | Non Turbo, Trunk Type                | FP-5198877 |
| FP-LCK-9116        | Linerless Cylinder Kit                    | 21:01  | Non Turbo, Trunk Type, Military      | FP-5198877 |
| FP-LCK-9315        | Linerless Cylinder Kit                    | 18.7:1 | Turbo, Trunk Type                    | FP-5198572 |
| FP-LCK-9734        | Linerless Cylinder Kit                    | 18.7:1 | Turbo, Trunk Type, 1.5" Pin Diameter | FP-8920717 |
| <b>53V Series</b>  |   |        |                                      |            |
| FP-23503811        | Turbo, Cross-Head                         | 18:01  |                                      |            |
| FP-23503811 10     | Turbo, Cross-Head .010 OS                 | 18:01  |                                      |            |
| FP-23503811 20     | Turbo, Cross-Head .020 OS                 | 18:01  |                                      |            |
| FP-23512732        | Turbo, Cross-Head                         | 18.0:1 |                                      |            |
| FP-5149734         | Turbo, Trunk Type, 1.5" Pin Diameter      | 18.7:1 | 204,206,207                          | FP-8920717 |
| FP-5149734 10      | Turbo, Trunk Type, 1.5" Pin Diameter .010 | 18.7:1 | 204,206,207                          | FP-8920717 |
| FP-5149734 20      | Turbo, Trunk Type, 1.5" Pin Diameter .020 | 18.7:1 | 204,206,207                          | FP-8920717 |
| FP-5198903         | Non Turbo, Trunk Type                     | 17:01  | 25,26,27,29,35,60,83                 | FP-5195931 |
| FP-5198903 10      | Non Turbo, Trunk Type .010 OS             | 17:01  | 25,26,27,29,35,60,83                 | FP-5195931 |
| FP-5198903 20      | Non Turbo, Trunk Type .020 OS             | 17:01  | 25,26,27,29,35,60,83                 | FP-5195931 |
| FP-23503778        | Turbo, Cross-Head                         | 18:01  | 269,270                              |            |
| FP-23503778 10     | Turbo, Cross-Head .010 OS                 | 18:01  | 269,270                              |            |
| FP-23503778 20     | Turbo, Cross-Head .020 OS                 | 18:01  | 269,270                              |            |
| FP-5198904         | Non Turbo, Trunk Type                     | 21:01  | 53,56,65,66,77,236,249               | FP-5198877 |
| FP-5198904 10      | Non Turbo, Trunk Type .010 OS             | 21:01  | 53,56,65,66,77,236,249               | FP-5198877 |
| FP-5198904 20      | Non Turbo, Trunk Type .020 OS             | 21:01  | 53,56,65,66,77,236,249               | FP-5198877 |
| FP-5198899         | Non Turbo, Trunk Type                     | 21:01  | 61,62,64,68,96,97,98,118,238,241     | FP-5198877 |
| FP-5198899 10      | Non Turbo, Trunk Type .010 OS             | 21:01  | 61,62,64,68,96,97,98,118,238,241     | FP-5198877 |
| FP-5198899 20      | Non Turbo, Trunk Type .020 OS             | 21:01  | 61,62,64,68,96,97,98,118,238,241     | FP-5198877 |
| FP-5199116         | Non Turbo, Trunk Type, Military           | 21:01  | 63,67                                | FP-5198877 |
| FP-5199116 10      | Non Turbo, Trunk Type, Military .010      | 21:01  | 63,67                                | FP-5198877 |
| FP-5199116 20      | Non Turbo, Trunk Type, Military .020      | 21:01  | 63,67                                | FP-5198877 |
| FP-23501863        | Non Turbo, Trunk Type                     | 21.0:1 | Non Turbo, Trunk Type                | FP-5198877 |
| FP-LCK3810         | Linerless Cylinder Kit                    | 18.0:1 | Turbo, Cross-Head                    |            |

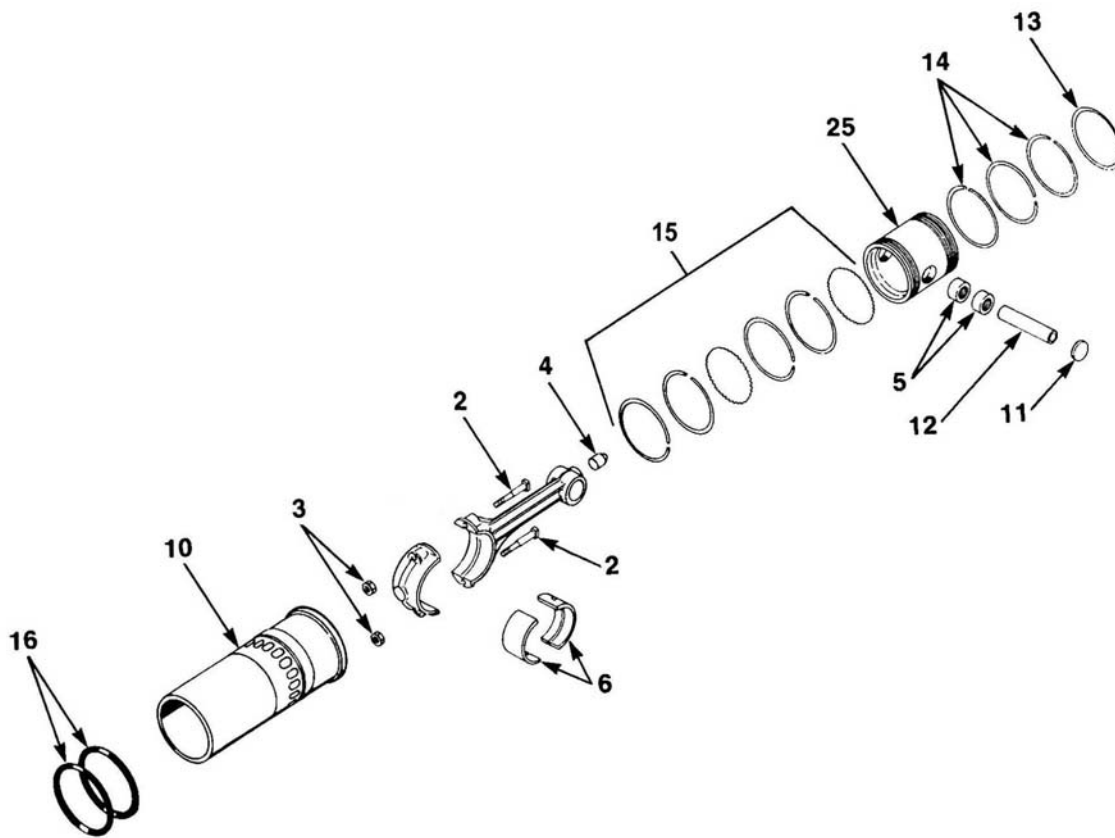


# Cylinder Kits

| Dome               | Seal, Dome | Skirt      | Slipper Brg | Liner      | Port Ht | Ring Set    | Pin        | Retainer   |
|--------------------|------------|------------|-------------|------------|---------|-------------|------------|------------|
| <b>53IL Series</b> |            |            |             |            |         |             |            |            |
|                    |            |            |             | FP-5132803 | .84"    | FP-5149314  | FP-5104651 | FP-5108131 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5149314  | FP-5104651 | FP-5108131 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5149314  | FP-5104651 | FP-5108131 |
|                    |            |            |             | FP-5132803 | .84"    | FP-5149359  | FP-5106902 | FP-5108175 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5149359  | FP-5106902 | FP-5108175 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5149359  | FP-5106902 | FP-5108175 |
|                    |            |            |             | FP-5132803 | .84"    | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5149942  | FP-5116189 | FP-5108131 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-8926088 | .74"    | FP-8927223  | FP-8924735 | FP-8924731 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-8926089 | .74"    | FP-8927223  | FP-8924735 | FP-8924731 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-8926090 | .74"    | FP-8927223  | FP-8924735 | FP-8924731 |
|                    |            |            |             | FP-5132803 | .84"    | FP-5198902  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5198902  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5149942  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5132803 | .84"    | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5149942  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5132803 | .84"    | FP-23501520 | FP-5116189 | FP-5108131 |
|                    |            |            |             |            |         | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             |            |         | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             |            |         | FP-5198902  | FP-5116189 | FP-5108131 |
|                    |            |            |             |            |         | FP-5198902  | FP-5116189 | FP-5108131 |
|                    |            |            |             |            |         | FP-5149314  | FP-5104651 | FP-5108131 |
|                    |            |            |             |            |         | FP-5149359  | FP-5106902 | FP-5108175 |
| <b>53V Series</b>  |            |            |             |            |         |             |            |            |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-5132803 | .84"    | FP-8927223  | FP-8924735 | FP-8924731 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-5101016 | .84"    | FP-8927223  | FP-8924735 | FP-8924731 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-5149944 | .84"    | FP-8927223  | FP-8924735 | FP-8924731 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-5132803 | .84"    | FP-23512731 | FP-8924735 | FP-8924731 |
|                    |            |            |             | FP-5132803 | .84"    | FP-5149359  | FP-5106902 | FP-5108175 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5149359  | FP-5106902 | FP-5108175 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5149359  | FP-5106902 | FP-5108175 |
|                    |            |            |             | FP-5132803 | .84"    | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5149942  | FP-5116189 | FP-5108131 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-5132803 | .84"    | FP-23503780 | FP-8924735 | FP-8924731 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-5101016 | .84"    | FP-23503780 | FP-8924735 | FP-8924731 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 | FP-5149944 | .84"    | FP-23503780 | FP-8924735 | FP-8924731 |
|                    |            |            |             | FP-5132803 | .84"    | FP-5198902  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5198902  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5149942  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5132803 | .84"    | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5198822  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5149942  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5132803 | .84"    | FP-5198901  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5101016 | .84"    | FP-5198901  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5149944 | .84"    | FP-5198901  | FP-5116189 | FP-5108131 |
|                    |            |            |             | FP-5132803 | .84"    | FP-23501520 | FP-5116189 | FP-5108131 |
| FP-23503948        | FP-8924733 | FP-8924002 | FP-23504946 |            |         | FP-8927223  | FP-8924735 | FP-8924731 |

# Connecting Rod & Piston

(Figure 4.1)





# Connecting Rod & Piston

(Figure 4.1)

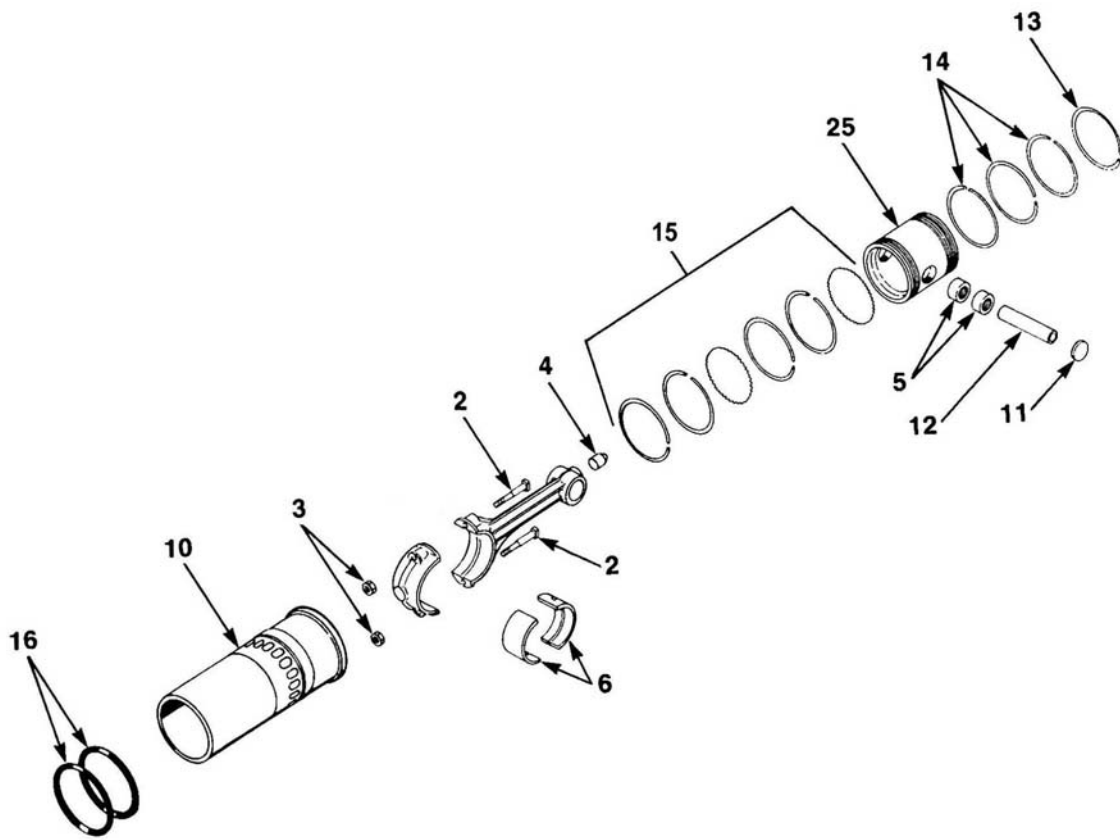
Groups:

1.6001 - 1.6140

| Group  | Ref | Part No.     | Description   | 2l | 3l | 4l | 6l |
|--------|-----|--------------|---|----|----|----|----|
| 1.6001 | 2   | FP-5197852   | Bolt, Connecting Rod Cap (3/8" x 24 x 2.76")        | 4  | 6  | 8  | 12 |
| 1.6001 | 3   | FP-839103    | Nut, Connecting Rod Cap (3/8" x 24)                 | 4  | 6  | 8  | 12 |
| 1.6100 | 6   | FP-5149452   | Shell Set, Connecting Rod Bearing (Std.)            | 2  | 3  | 4  | -  |
| 1.6100 | 6   | FP-514945240 | Shell Set, Connecting Rod Bearing (.040" U.S.)      | 2  | 3  | 4  | -  |
| 1.6100 | 6   | FP-5149454   | Shell Set, Connecting Rod Bearing (.010" U.S.)      | 2  | 3  | 4  | -  |
| 1.6100 | 6   | FP-5149455   | Shell Set, Connecting Rod Bearing (.020" U.S.)      | 2  | 3  | 4  | -  |
| 1.6100 | 6   | FP-5149456   | Shell Set, Connecting Rod Bearing (.030" U.S.)      | 2  | 3  | 4  | -  |
| 1.6100 | 6   | FP-5197975   | Shell Set, Connecting Rod Bearing (Std.), (V)       | -  | -  | -  | 6  |
| 1.6100 | 6   | FP-5197976   | Shell Set, Connecting Rod Bearing (.002" U.S.), (V) | -  | -  | -  | 6  |
| 1.6100 | 6   | FP-5197977   | Shell Set, Connecting Rod Bearing (.010" U.S.), (V) | -  | -  | -  | 6  |
| 1.6100 | 6   | FP-5197978   | Shell Set, Connecting Rod Bearing (.020" U.S.), (V) | -  | -  | -  | 6  |
| 1.6100 | 6   | FP-5197979   | Shell Set, Connecting Rod Bearing (.030" U.S.), (V) | -  | -  | -  | 6  |
| 1.6140 | 5   | FP-5116181   | Bushing, Piston Pin (Trunk Type)                    | 4  | 6  | 8  | 12 |

# Connecting Rod & Piston

(Figure 4.2)





# Connecting Rod & Piston

(Figure 4.2)

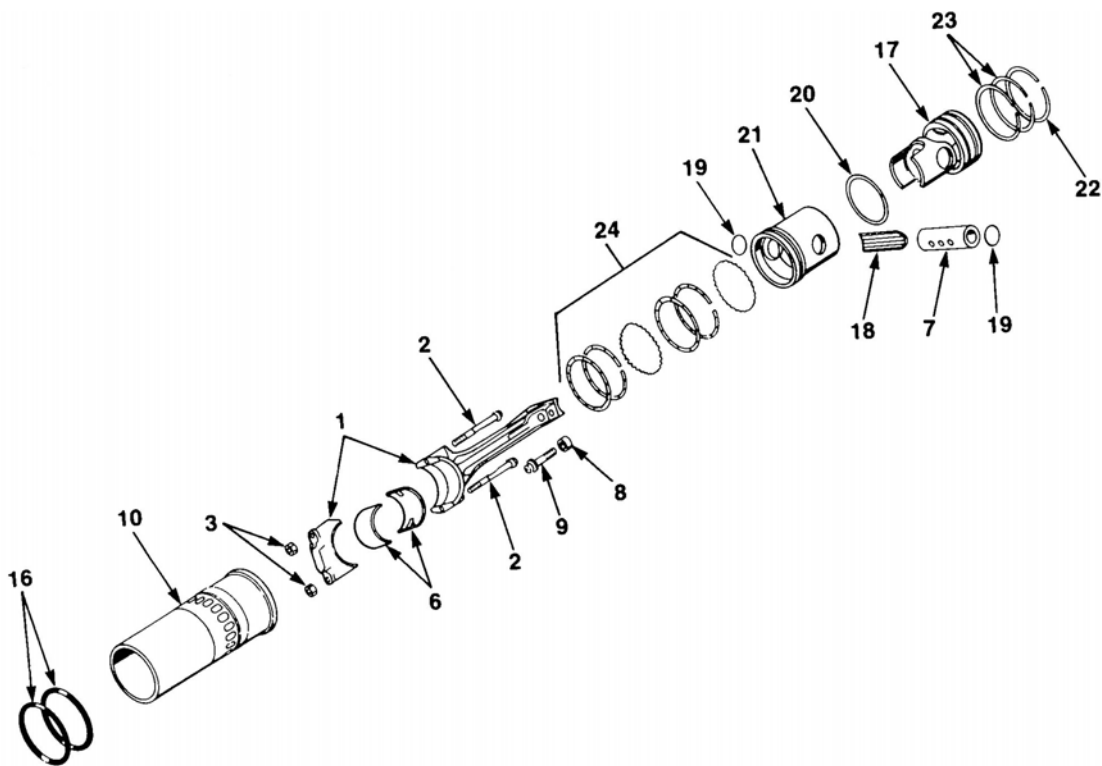
Groups:

1.6110 - 1.6150

| Group  | Ref | Part No.          | Description   | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|---|----|----|----|----|
| 1.6110 | 0   | FP-5195931        | Piston Assembly, Std. (2 Valve Head)                            | 2  | 3  | 4  | 6  |
| 1.6110 | 25  | FP-5198877        | Piston Assembly, Naturally Aspirated (4 Valve Head)             | -  | 3  | 4  | 6  |
| 1.6110 | 0   | FP-5198572        | Piston Assembly, Turbo Trunk (Drilled 1.38" Diameter Pin)       | -  | -  | 4  | -  |
| 1.6110 | 25  | FP-8920717        | Piston Assembly, Turbo Trunk                                    | -  | -  | 4  | 6  |
| 1.6110 | 25  | FP-5198877        | Piston Assembly, Naturally Aspirated (4 Valve Head), (Military) | -  | -  | -  | 6  |
| 1.6140 | 12  | FP-5116189        | Pin, Piston (Naturally Aspirated Trunk)                         | 2  | 3  | 4  | 6  |
| 1.6140 | 0   | FP-5104651        | Pin, Piston (Turbo Trunk), (Drilled 1.38" Diameter)             | -  | -  | 4  | -  |
| 1.6140 | 12  | FP-5106902        | Pin, Piston (Turbo Trunk), (Drilled 1.50" Diameter)             | -  | -  | 4  | 6  |
| 1.6150 | 11  | FP-5108131        | Retainer, Piston Pin (1.38" Diameter)                           | 2  | 3  | 8  | 6  |
| 1.6150 | 11  | FP-5108175        | Retainer, Piston Pin (1.50" Diameter)                           | -  | -  | 8  | 12 |
| 1.6115 | 0   | <b>FP-5149314</b> | <b>Ring Set, Turbo</b>  | -  | -  | 4  | -  |
| 1.6120 | 13  | FP-5103382        | Ring, Compression (Top Fire)                                    | -  | -  | 4  | -  |
| 1.6120 | 14  | FP-5116184        | Ring, Compression (2nd, 3rd & 4th Grooves)                      | -  | -  | 12 | -  |
| 1.6130 | 15  | FP-5149313        | Ring Set, Oil Control (For One Piston)                          | -  | -  | 4  | -  |
| 1.6115 | 0   | <b>FP-5149359</b> | <b>Ring Set, Turbo Trunk</b>                                    | -  | -  | 4  | 6  |
| 1.6120 | 13  | FP-5103382        | Ring, Compression (Top Fire)                                    | -  | -  | 4  | 6  |
| 1.6120 | 14  | FP-5116184        | Ring, Compression (2nd, 3rd & 4th Grooves)                      | -  | -  | 12 | 18 |
| 1.6130 | 15  | FP-5149378        | Ring Set, Oil Control (For One Piston)                          | -  | -  | 4  | 6  |
| 1.6115 | 0   | <b>FP-5149942</b> | <b>Ring Set, Naturally Aspirated (4 Valve Head)</b>             | -  | 3  | 4  | 6  |
| 1.6120 | 13  | FP-8923328        | Ring, Compression (Top Fire)                                    | -  | 3  | 4  | 6  |
| 1.6120 | 14  | FP-5116184        | Ring, Compression (2nd, 3rd & 4th Grooves)                      | -  | 9  | 12 | 18 |
| 1.6130 | 15  | FP-5195933        | Ring Set, Oil Control (For One Groove)                          | -  | 6  | 8  | 12 |
| 1.6115 | 0   | <b>FP-5198822</b> | <b>Ring Set, Naturally Aspirated</b>                            | 2  | 3  | 4  | 6  |
| 1.6120 | 13  | FP-5103382        | Ring, Compression (Top Fire)                                    | 2  | 3  | 4  | 6  |
| 1.6120 | 14  | FP-5116184        | Ring, Compression (2nd, 3rd & 4th Grooves)                      | 6  | 9  | 12 | 18 |
| 1.6130 | 15  | FP-5195933        | Ring Set, Oil Control (For One Groove)                          | 4  | 6  | 8  | 12 |
| 1.6110 | 25  | <b>FP-5198877</b> | <b>Piston Assembly, Naturally Aspirated (4 Valve Head)</b>      | -  | 3  | 4  | 6  |
| 1.6140 | 12  | FP-5116189        | Pin, Piston (Naturally Aspirated Trunk)                         | -  | 3  | 4  | 6  |
| 1.6150 | 11  | FP-5108131        | Retainer, Piston Pin (1.38" Diameter)                           | -  | 6  | 8  | 12 |
| 1.6115 | 0   | <b>FP-5198901</b> | <b>Ring Set, Naturally Aspirated (Military)</b>                 | -  | -  | -  | 6  |
| 1.6120 | 13  | FP-5103382        | Ring, Compression (Top Fire)                                    | -  | -  | -  | 6  |
| 1.6120 | 14  | FP-5116184        | Ring, Compression (2nd, 3rd & 4th Grooves)                      | -  | -  | -  | 18 |
| 1.6130 | 15  | FP-5198092        | Ring Set, Oil Control (For One Piston)                          | -  | -  | -  | 6  |
| 1.6115 | 0   | <b>FP-5198902</b> | <b>Ring Set, Naturally Aspirated</b>                            | -  | 3  | 4  | 6  |
| 1.6120 | 13  | FP-5103382        | Ring, Compression (Top Fire)                                    | -  | 3  | 4  | 6  |
| 1.6120 | 14  | FP-5116184        | Ring, Compression (2nd Groove)                                  | -  | 9  | 12 | 18 |
| 1.6120 | 14  | FP-5127147        | Ring, Compression (3rd & 4th Grooves)                           | -  | 6  | 8  | 12 |
| 1.6130 | 15  | FP-5195933        | Ring Set, Oil Control (For One Groove)                          | -  | 6  | 8  | 12 |

# Connecting Rod & Piston

(Figure 4.3)







# Connecting Rod & Piston

(Figure 4.3)

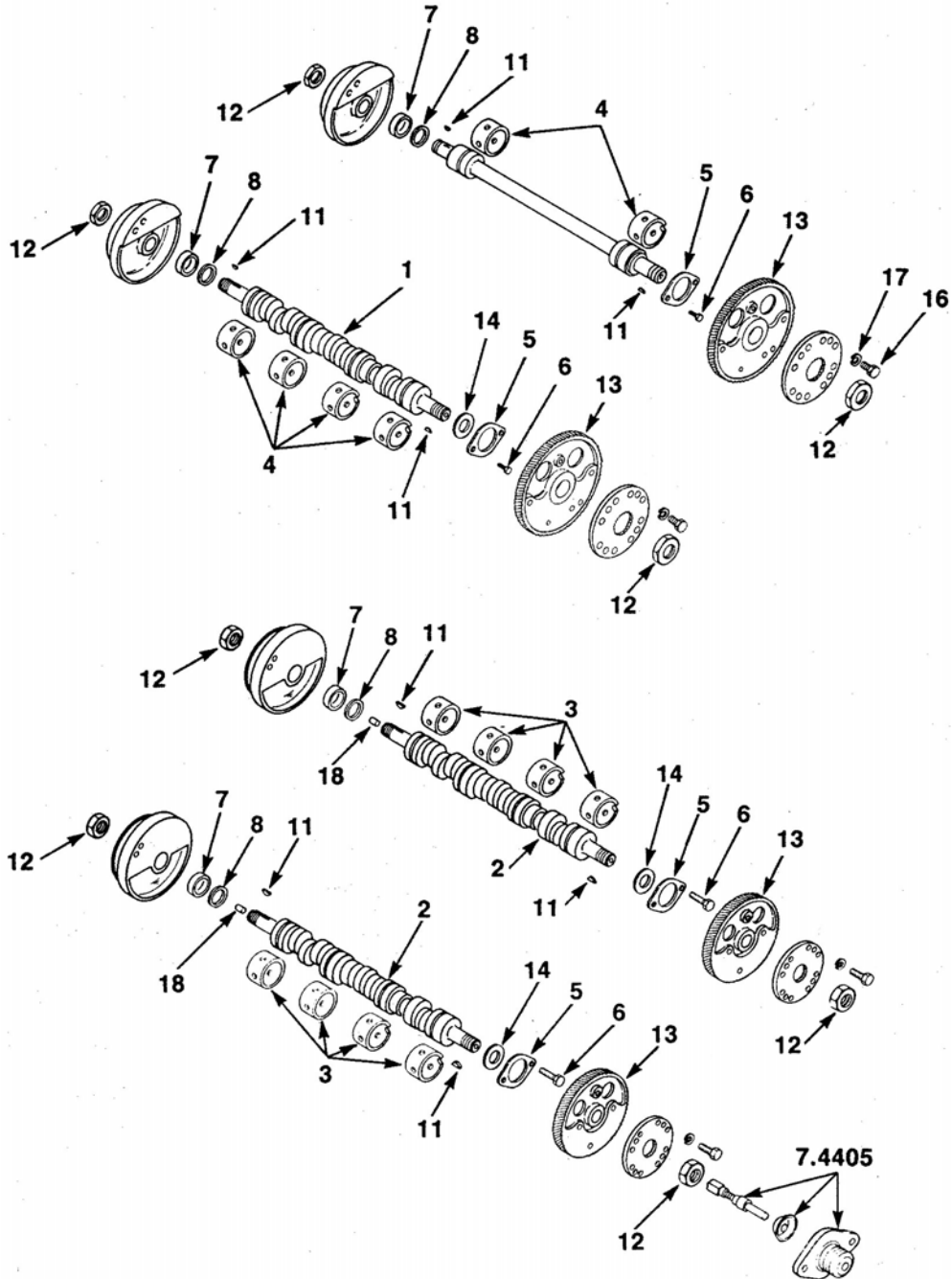
Groups:

1.6106 - 1.6190

| Group  | Ref | Part No.           | Description  | 2l | 3l | 4l | 6l |
|--------|-----|--------------------|--|----|----|----|----|
| 1.6110 | 21  | FP-8924002         | Skirt, All   | -  | 3  | 4  | 6  |
| 1.6140 | 8   | FP-8924732         | Spacer, Piston Pin Bolt (Crosshead)  | -  | 6  | 8  | 12 |
| 1.6180 | 10  | FP-5101016         | Liner, Cylinder (.84" Port Height), (.010)                                     | 2  | 3  | 4  | 6  |
| 1.6180 | 10  | FP-5132803         | Liner, Cylinder (.84" Port Height), (Std.)                                     | 2  | 3  | 4  | 6  |
| 1.6180 | 10  | FP-5132803WS       | Liner Cylinder (.84" Port Height), (Std.), (Kit w/Liner Seals)                 | 2  | 3  | 4  | 6  |
| 1.6180 | 10  | FP-5149944         | Liner, Cylinder (.84" Port Height), (.020)                                     | 2  | 3  | 4  | 6  |
| 1.6180 | 10  | FP-8926088         | Liner, Cylinder (.74" Port Height), (Std.)                                     | -  | 3  | 4  | 6  |
| 1.6180 | 10  | FP-8926090         | Liner, Cylinder (.74" Port Height), (.020 O.S.)                                | -  | 3  | 4  | 6  |
| 1.6185 | 0   | FP-29610           | Shim, Cylinder Liner .001"   | 2  | 3  | 4  | 6  |
| 1.6185 | 0   | FP-29611           | Shim, Cylinder Liner .002"   | 2  | 3  | 4  | 6  |
| 1.6190 | 16  | FP-5121256         | Seal Ring, Cylinder Liner (Std.), (.010 O.S.)                                  | 4  | 6  | 8  | 12 |
| 1.6190 | 16  | FP-5149945         | Seal Ring, Cylinder Liner (.020 O.S.)  | 4  | 6  | 8  | 12 |
| 1.6115 | 0   | <b>FP-23501520</b> | <b>Ring Set, Naturally Aspirated (High Sulfur), (Trunk Piston)</b>             | 2  | 3  | 4  | 6  |
| 1.6120 | 13  | FP-8923328         | Ring, Compression (Top Fire)   | 2  | 3  | 4  | 6  |
| 1.6120 | 14  | FP-8925779         | Ring, Compression (2nd, 3rd & 4th Grooves)                                     | 6  | 9  | 12 | 18 |
| 1.6130 | 15  | FP-5116188         | Ring, Oil Control  | 4  | 6  | 8  | 12 |
| 1.6130 | 15  | FP-8925781         | Ring, Expander   | 4  | 6  | 8  | 16 |
| 1.6115 | 0   | <b>FP-23501521</b> | <b>Ring Set, Naturally Aspirated &amp; Turbo (High Sulfur), (Trunk Piston)</b> | -  | 3  | 4  | 6  |
| 1.6120 | 13  | FP-5103382         | Ring, Compression (Top Fire)   | -  | 3  | 4  | 6  |
| 1.6120 | 14  | FP-8925779         | Ring, Compression (2nd, 3rd & 4th Grooves)                                     | -  | 9  | 12 | 18 |
| 1.6130 | 15  | FP-5103765         | Ring, Oil Control  | -  | 6  | 8  | 12 |
| 1.6130 | 15  | FP-5116188         | Ring, Oil Control  | -  | 6  | 8  | 12 |
| 1.6130 | 15  | FP-8925781         | Ring, Expander   | -  | 6  | 8  | 12 |
| 1.6110 | 0   | <b>FP-23503779</b> | <b>Dome Kit, 18:1 (Turbo), (All Crosshead)</b>                                 | -  | 3  | 4  | 6  |
| 1.6110 | 17  | FP-23503948        | Crown, Piston 18:1   | -  | 3  | 4  | 6  |
| 1.6150 | 19  | FP-8924731         | Retainer, Piston Pin (Crosshead)   | -  | 6  | 8  | 12 |
| 1.6106 | 20  | FP-8924733         | Seal Ring, Piston Crown & Skirt  | -  | 3  | 4  | 6  |
| 1.6140 | 7   | FP-8924735         | Pin, Piston (Crosshead)  | -  | 3  | 4  | 6  |
| 1.6142 | 18  | FP-23504946        | Bearing, Piston Pin (Slipper Type)   | -  | 3  | 4  | 6  |
| 1.6115 | 0   | <b>FP-23503780</b> | <b>Ring Set, Crosshead (Turbo), (Military)</b>                                 | -  | -  | -  | 6  |
| 1.6120 | 13  | FP-23503718        | Ring, Compression (Top Fire), (Wide Gap)                                       | -  | -  | -  | 6  |
| 1.6120 | 14  | FP-8925779         | Ring, Compression (2nd & 3rd Grooves)  | -  | -  | -  | 18 |
| 1.6130 | 15  | FP-8927224         | Ring Set, Oil Control (For One Piston)   | -  | -  | -  | 6  |
| 1.6115 | 0   | <b>FP-23512731</b> | <b>Ring Set, Crosshead (Turbo)</b>   | 2  | 3  | 4  | 6  |
| 1.6120 | 22  | FP-23512730        | Ring, Compression (Barrel Face)  | 4  | 6  | 8  | 12 |
| 1.6120 | 23  | FP-8925780         | Ring, Compression  | 2  | 3  | 4  | 6  |
| 1.6130 | 24  | FP-5116188         | Ring, Oil Control  | 4  | 6  | 8  | 12 |
| 1.6130 | 24  | FP-8925831         | Ring, Oil Control  | 2  | 3  | 4  | 6  |
| 1.6130 | 24  | FP-8925781         | Ring, Expander   | 4  | 6  | 8  | 12 |
| 1.6115 | 0   | <b>FP-8927223</b>  | <b>Ring Set, Crosshead (Turbo)</b>   | -  | 3  | 4  | 6  |
| 1.6120 | 22  | FP-8925780         | Ring, Compression (Top Fire)   | -  | 3  | 4  | 6  |
| 1.6120 | 23  | FP-8925779         | Ring, Compression (2nd & 3rd Grooves)  | -  | 6  | 8  | 12 |
| 1.6130 | 24  | FP-8927224         | Ring Set, Oil Control (For One Piston)   | -  | 3  | 4  | 6  |

# Camshaft

(Figure 5.1)





# Camshaft

(Figure 5.1)

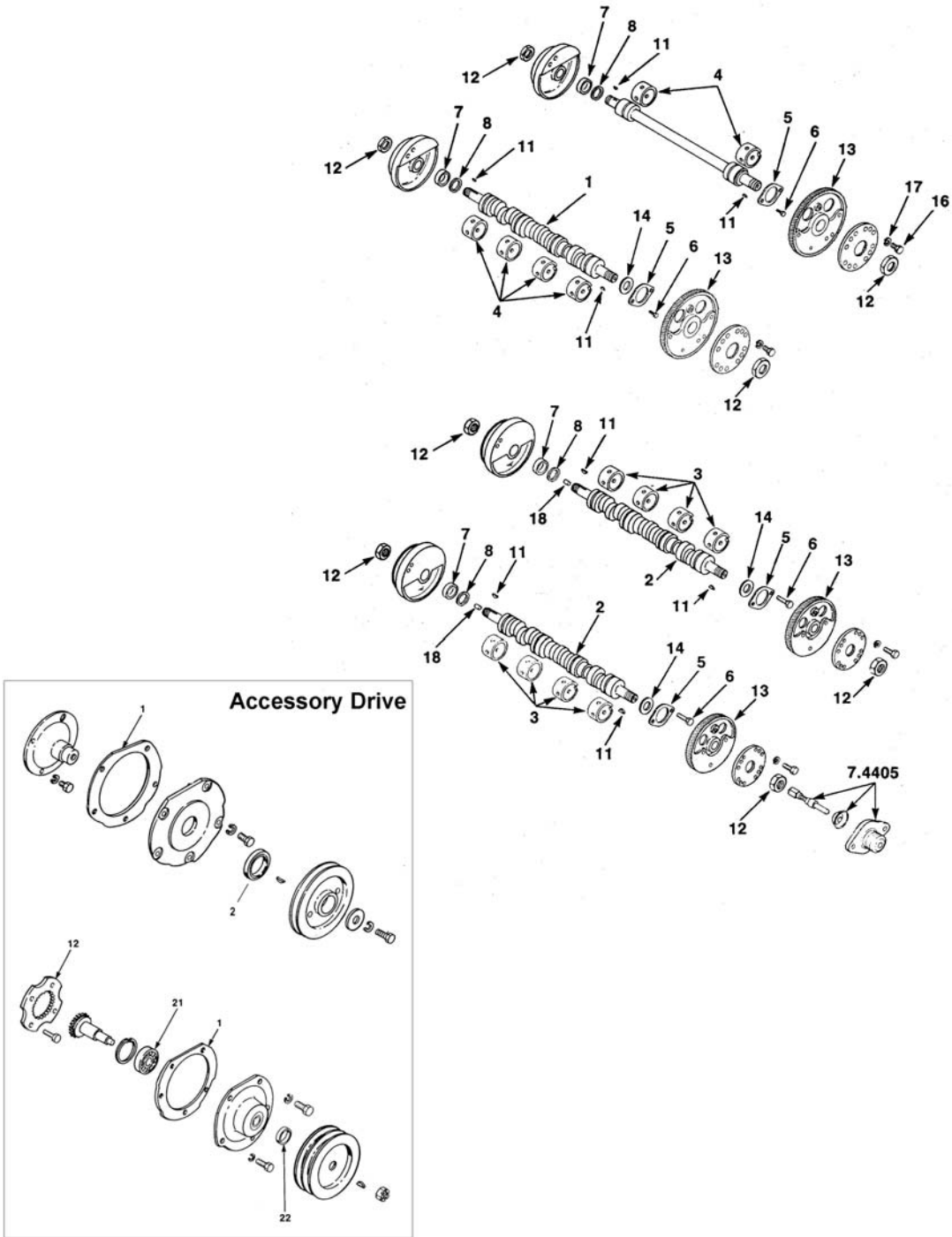
Groups:

1.7001 - 1.7060

| Group  | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------|--|----|----|----|----|
| 1.7001 | 18  | FP-5151277  | Plug, Camshaft (1/2" Drive)  | 2  | 2  | 2  | 2  |
| 1.7001 | 1   | FP-5126929  | Camshaft (RB,RC,LA,LD), (Stamped FP-5126745; V7), (Use w/FP-5144019 Spring On 4 Valve Head), (Types 31,50,57,96,266,278)   | -  | 1  | -  | -  |
| 1.7001 | 1   | FP-5149093  | Camshaft (RA,RD,LB,LC), (Stamped FP-5101272; V7L), (3-53T), (Types 150,152,252,267,280,281,387,415)  | -  | 1  | -  | -  |
| 1.7001 | 1   | FP-5126932  | Camshaft (RA,RB,RC,RD), (Stamped FP-5126748; V7), (Use w/FP-5144019 Spring On 4 Valve Head), (Types 34,51,55,77,78,85,272)   | -  | -  | 1  | -  |
| 1.7001 | 1   | FP-5149095  | Camshaft (RA,RB,RC,RD), (Stamped FP-5101273; V7L), (Use w/FP-5147424 Spring 4 Valve Head), (Types 137,138,139,140,140,141,153,182,219,269,270,271,274,275,308,309,311,427,556) | -  | -  | 1  | -  |
| 1.7001 | 2   | FP-5126934  | Camshaft (R.Bank, R.H.. Engine/ L.Bank, L.H.. Engine), (Stamped FP-5126834; V7), (Use w/FP-5144019 Spring), (Types 60,277,297,299)   | -  | -  | -  | 1  |
| 1.7010 | 4   | FP-5198431  | Bearing Set, Camshaft (Std.)   | 1  | -  | -  | -  |
| 1.7010 | 4   | FP-5198468  | Bearing Set, Camshaft (.010" U.S.I.D.)   | 1  | -  | -  | -  |
| 1.7010 | 4   | FP-5198469  | Bearing Set, Camshaft (.020" U.S.I.D.)   | 1  | -  | -  | -  |
| 1.7010 | 4   | FP-5198209  | Bearing Set, Camshaft (Std.)   | -  | 1  | -  | -  |
| 1.7010 | 4   | FP-5198470  | Bearing Set, Camshaft (.010" U.S.I.D.)   | -  | 1  | -  | -  |
| 1.7010 | 4   | FP-5198471  | Bearing Set, Camshaft (.020" U.S.I.D.)   | -  | 1  | -  | -  |
| 1.7010 | 4   | FP-5198978  | Bearing Set, Camshaft (.010" U.S.I.D.)   | -  | -  | 1  | -  |
| 1.7010 | 4   | FP-5198981  | Bearing Set, Camshaft (.020" U.S.I.D.)   | -  | -  | 1  | -  |
| 1.7010 | 4   | FP-5198984  | Bearing Set, Camshaft (Std.)   | -  | -  | 1  | -  |
| 1.7010 | 0   | FP-5197930  | Bearing Set, Camshaft (Std.), (8V53 Only)  | -  | -  | -  | -  |
| 1.7010 | 0   | FP-5197931  | Bearing Set, Camshaft (.010" U.S.I.D.), (8V53 Only)  | -  | -  | -  | -  |
| 1.7010 | 3   | FP-5197944  | Bearing Set, Camshaft (Std.)   | -  | -  | -  | 1  |
| 1.7010 | 3   | FP-5197945  | Bearing Set, Camshaft (.010" U.S.I.D.)   | -  | -  | -  | 1  |
| 1.7010 | 3   | FP-5197946  | Bearing Set, Camshaft (.020" U.S.I.D.)   | -  | -  | -  | 1  |
| 1.7030 | 5   | FP-5116198  | Washer, Camshaft End Bearing Thrust  | 2  | 2  | 2  | 2  |
| 1.7060 | 7   | FP-23516871 | Seal, Camshaft Front Oil   | 2  | 2  | 2  | 2  |

# Camshaft

(Figure 5.2)





# Camshaft

(Figure 5.2)

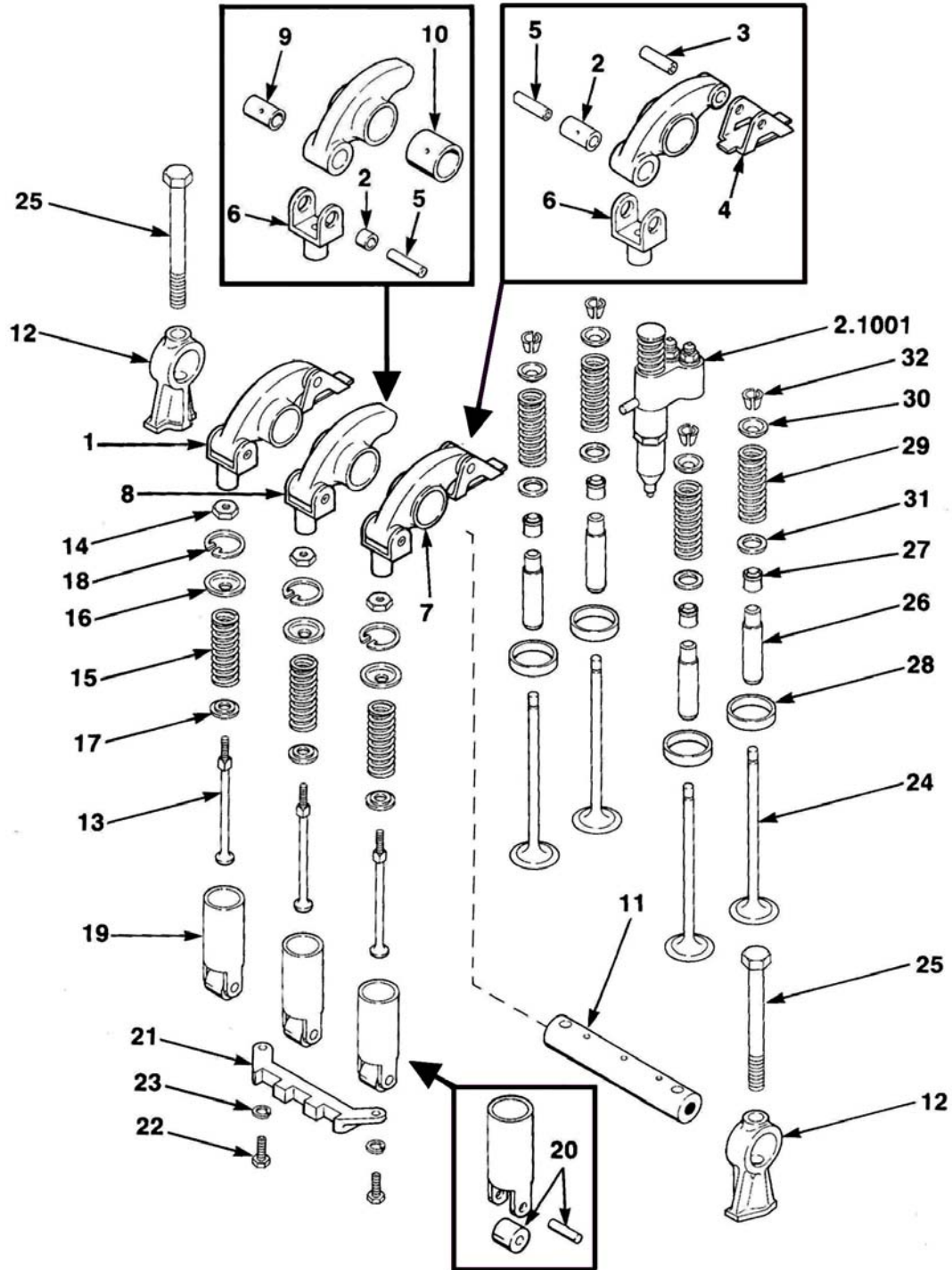
Groups:

1.7062 - 1.7700

| Group                  | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|------------------------|-----|-------------|--|----|----|----|----|
| 1.7062                 | 8   | FP-5106360  | Spacer, Camshaft Pulley (Front)                                  | 2  | 2  | 2  | 2  |
| 1.7062                 | 8   | FP-5121071  | Spacer, Camshaft Pulley (Front)                                  | 2  | 2  | 2  | 2  |
| 1.7130                 | 11  | FP-8926248  | Key, 3/16" x 5/8" Woodruff                                       | 2  | 2  | 2  | 2  |
| 1.7200                 | 13  | FP-5107073  | Gear, Camshaft & Balance Shaft (L.H. Helix), (111 Teeth)         | 1  | 1  | 1  | 1  |
| 1.7202                 | 0   | FP-5132504  | Washer, Thrust Idler Gear  | 2  | 2  | 2  | 2  |
| 1.7202                 | 0   | FP-5196793  | Bearing, Idler Gear  | 1  | 1  | 1  | 1  |
| 1.7250                 | 0   | FP-5124458  | Hub Assembly, Idler Gear   | 1  | 1  | 1  | 1  |
| <b>Accessory Drive</b> |     |             |  |    |    |    |    |
| 1.7604                 | 1   | FP-23515145 | Gasket, Accessory Drive (FP-5104506)                             | 1  | 1  | 1  | 1  |
| 1.7623                 | 1   | FP-23515145 | Gasket, Accessory Drive Adapter To Flywheel Housing (FP-5104506) | -  | -  | 1  | -  |
| 1.7623                 | 0   | FP-5188755  | Gasket, Hydraulic Pump To Adapter                                | -  | -  | 1  | -  |
| 1.7627                 | 0   | FP-5150568  | Washer, 7/16"  | -  | 1  | 1  | -  |
| 1.7630                 | 12  | FP-5170450  | Plate, Accessory Drive   | -  | 1  | 1  | 2  |
| 1.7635                 | 0   | FP-5102257  | Fork, Accessory Drive Coupling                                   | -  | 1  | 1  | -  |
| 1.7640                 | 0   | FP-103320   | Lockwasher, 5/16"  | -  | 3  | 3  | 3  |
| 1.7645                 | 21  | FP-23504528 | Bearing, Accessory Drive (FP-23503726), (FP-907191)              | 1  | 1  | 1  | 1  |
| 1.7645                 | 22  | FP-5131131  | Spacer, Accessory Drive Seal                                     | 1  | 1  | 1  | 1  |
| 1.7645                 | 2   | FP-5131329  | Seal, Accessory Drive  | 1  | 1  | 1  | 1  |
| 1.7700                 | 0   | FP-5150193  | Gasket, Fuel Pump To Engine                                      | -  | 1  | -  | -  |

# Valve Train

(Figure 6.1)





# Valve Train

(Figure 6.1)

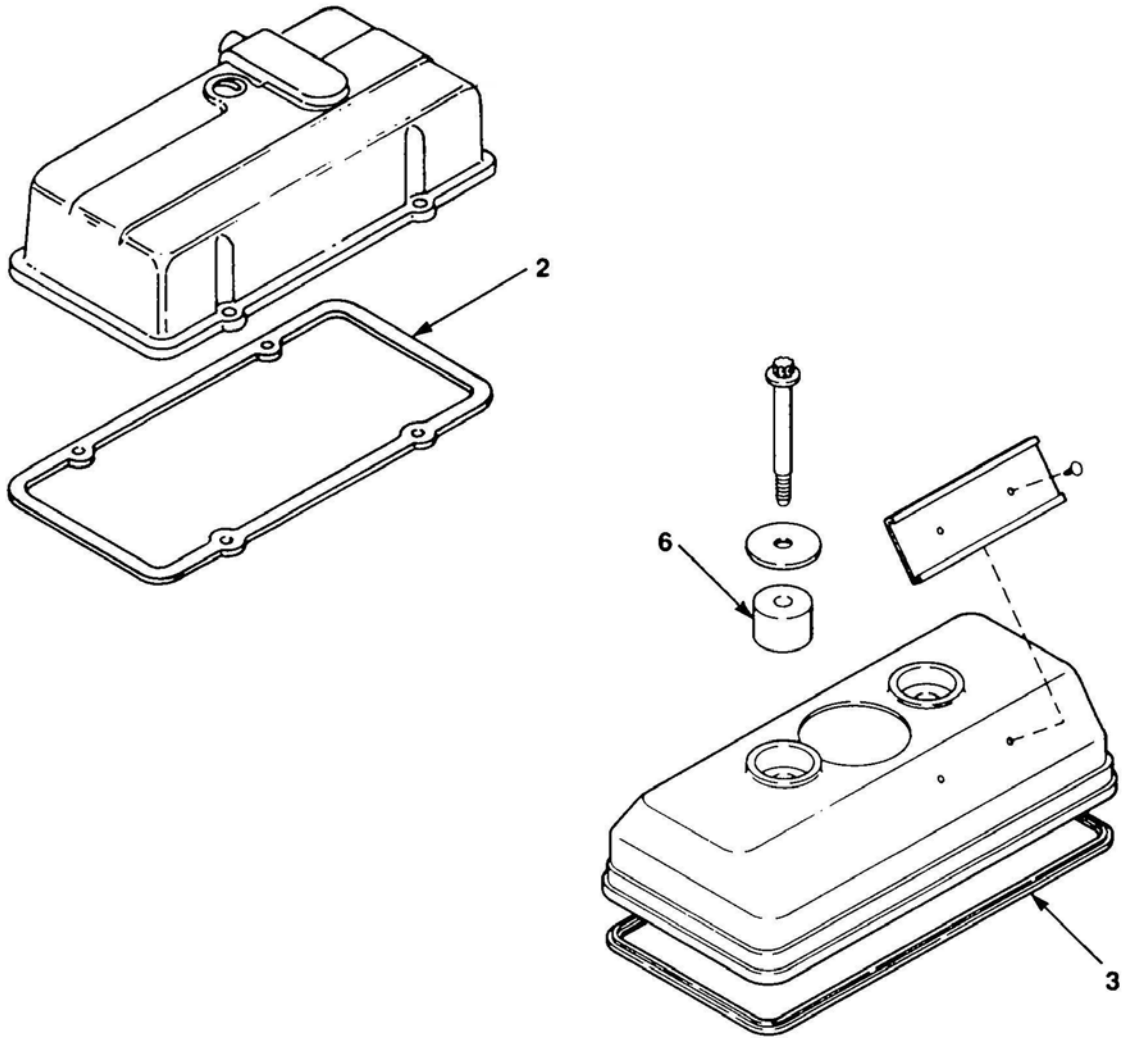
Groups:

1.8060 - 1.8370

| Group  | Ref | Part No.          | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|--|----|----|----|----|
| 1.8060 | 6   | FP-5150312        | Clevis, Rocker Arm   | 6  | 9  | 12 | 18 |
| 1.8060 | 5   | FP-5150314        | Pin, Rocker Arm Clevis   | 6  | 9  | 12 | 18 |
| 1.8060 | 3   | FP-5123711        | Pin, Push Rod Clevis   | -  | 6  | 8  | 12 |
| 1.8060 | 4   | FP-5135262        | Bridge, Exhaust Valve  | -  | 6  | 8  | 12 |
| 1.8060 | 1   | FP-5135267        | Arm Assembly, Exhaust Rocker (Left), (4 Valve Head)                    | -  | 3  | 4  | 6  |
| 1.8060 | 7   | FP-5135268        | Arm Assembly, Exhaust Rocker (Right), (4 Valve Head)                   | -  | 3  | 4  | 6  |
| 1.8060 | 2   | FP-5123700        | Bushing, Rocker Arm Clevis   | -  | 15 | 20 | 30 |
| 1.8080 | 8   | FP-8923554        | Arm Assembly, Injector Rocker (4 Valve Head)                           | 2  | 3  | 4  | 6  |
| 1.8080 | 9   | FP-8924354        | Bushing, Injector Rocker Arm (Small)                                   | 2  | 3  | 4  | 6  |
| 1.8080 | 10  | FP-8924355        | Bushing, Injector Rocker Arm (Large)                                   | 2  | 3  | 4  | 6  |
| 1.8160 | 11  | FP-5116072        | Shaft, Rocker Arm  | 2  | 3  | 4  | 6  |
| 1.8170 | 12  | FP-5116128        | Bracket, Rocker Arm Shaft  | 4  | 6  | 8  | 12 |
| 1.8180 | 13  | FP-5128640        | Rod, Push  | 6  | 9  | 12 | 18 |
| 1.8180 | 14  | FP-5151601        | Nut, Push Rod  | 6  | 9  | 12 | 18 |
| 1.8190 | 15  | FP-5108918        | Spring, Push Rod (.192 W.D.), (2 Orange Stripes)                       | 6  | 9  | 12 | 18 |
| 1.8190 | 15  | FP-5186858        | Spring, Push Rod (.177 W.D.), (Valve & Injector)                       | 6  | 9  | 12 | 18 |
| 1.8200 | 16  | FP-5108919        | Seat, Push Rod Spring Upper  | 6  | 9  | 12 | 18 |
| 1.8200 | 16  | FP-5150302        | Seat, Push Rod Spring Upper  | 6  | 9  | 12 | 18 |
| 1.8210 | 17  | FP-5123250        | Seat, Push Rod Spring Lower  | 6  | 9  | 12 | 18 |
| 1.8250 | 18  | FP-5150303        | Retainer, Push Rod (Naturally Aspirated Ring)                          | 6  | 9  | 12 | 18 |
| 1.8260 | 19  | FP-8924439        | Follower Assembly, Camshaft  | 6  | 9  | 12 | 18 |
| 1.8265 | 20  | FP-8923814        | Roller Set, Follower Assembly  | 6  | 9  | 12 | 18 |
| 1.8300 | 23  | FP-103319         | Lockwasher, 1/4"   | 4  | 6  | 8  | 12 |
| 1.8300 | 22  | FP-443603         | Bolt, 1/4"(-20 x 3/4")   | 4  | 6  | 8  | 12 |
| 1.8300 | 21  | FP-5116125        | Guide, Camshaft Follower   | 2  | 3  | 4  | 6  |
| 1.8310 | 0   | FP-5195948        | Valve Kit, Exhaust (30°), (2 Valve Head)                               | 4  | 6  | 8  | 12 |
| 1.8310 | 24  | FP-5197176        | Valve Kit, Exhaust (30°), (4 Valve Head), (Turbo)                      | -  | 12 | 16 | 24 |
| 1.8310 | 24  | FP-5199323        | Valve Kit, Exhaust (30°), (4 Valve Head), (Naturally Aspirated)        | -  | 12 | 16 | 24 |
| 1.8320 | 27  | FP-8921209        | Seal, Exhaust Valve Guide (2 Valve Head)                               | 4  | 6  | 8  | -  |
| 1.8320 | 26  | FP-5129919        | Guide, Exhaust Valve (2 Valve Head)                                    | 4  | 12 | 16 | 24 |
| 1.8330 | 28  | FP-5116196        | Insert, Exhaust Valve Seat (30°), (2 Valve Head), (Std.)               | 4  | 6  | 8  | -  |
| 1.8330 | 28  | FP-5196752        | Insert, Exhaust Valve Seat (30°), (4 Valve Head), (.010 O.S.)          | -  | 12 | 16 | 24 |
| 1.8330 | 28  | FP-8921501        | Insert, Exhaust Valve Seat (30°), (4 Valve Head), (Std.)               | -  | 12 | 16 | 24 |
| 1.8330 | 28  | FP-8921502        | Insert, Exhaust Valve Seat (30°), (Turbo), (Std.)                      | -  | -  | 16 | -  |
| 1.8340 | 29  | FP-5116140        | Spring, Exhaust Valve (2 Valve Head)                                   | 4  | 6  | 8  | -  |
| 1.8340 | 29  | FP-5144019        | Spring, Exhaust Valve (4 Valve Head), (.135" W.D.)                     | -  | 12 | 16 | 24 |
| 1.8340 | 29  | FP-5147424        | Spring, Exhaust Valve (4 Valve Head), (.148" W.D.), (Red Paint), (V7L) | -  | 12 | 16 | 24 |
| 1.8343 | 4   | FP-5135262        | Bridge, Exhaust Valve  | -  | 6  | 8  | 12 |
| 1.8350 | 30  | FP-5123330        | Cap, Exhaust Valve Spring (4 Valve Head)                               | -  | 12 | 16 | 24 |
| 1.8360 | 31  | FP-5111467        | Seat, Exhaust Valve Spring (.063" Thick), (4 Valve Head)               | -  | 12 | 16 | 24 |
| 1.8370 | 32  | FP-5111337        | Lock Half, Exhaust Valve (2 Valve Head)                                | 8  | 12 | 16 | -  |
| 1.8370 | 32  | FP-5116341        | Lock Half, Exhaust Valve (4 Valve Head)                                | -  | 24 | 32 | 48 |
| 1.8320 | 0   | <b>FP-5198529</b> | <b>Kit, Valve Guide &amp; Seal</b>                                     | -  | 12 | 16 | 24 |
| 1.8320 | 26  | FP-5131961        | Guide, Exhaust Valve (4 Valve Head)                                    | -  | 6  | 12 | -  |
| 1.8320 | 27  | FP-8921741        | Seal, Exhaust Valve Guide (4 Valve Head)                               | -  | 12 | 16 | 24 |

# Rocker Cover

(Figure 6.2)







# Rocker Cover

(Figure 6.2)

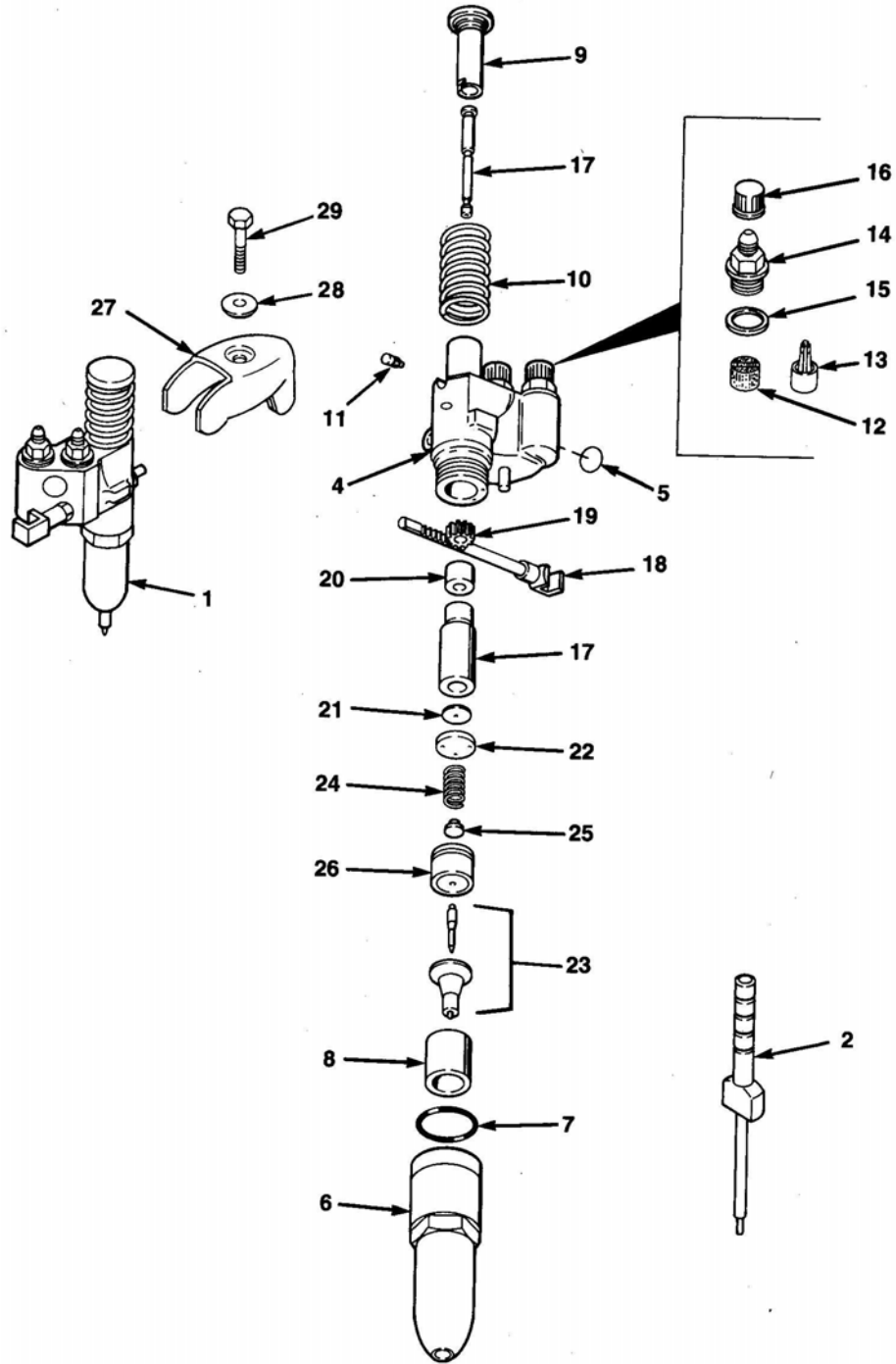
Groups:

1.8455 - 1.8461

| Group  | Ref | Part No.   | Description                          | 2l | 3l | 4l | 6l |
|--------|-----|------------|--------------------------------------|----|----|----|----|
| 1.8455 | 0   | FP-5147993 | Gasket, Rocker Cover                 | 1  | -  | -  | -  |
| 1.8455 | 2   | FP-5147994 | Gasket, Rocker Cover (Stamped Steel) | -  | 1  | -  | 2  |
| 1.8455 | 3   | FP-8925273 | Gasket, Rocker Cover (Cast Aluminum) | -  | 1  | -  | 2  |
| 1.8455 | 2   | FP-5147506 | Gasket, Rocker Cover (Stamped Steel) | -  | -  | 1  | -  |
| 1.8455 | 3   | FP-8925274 | Gasket, Rocker Cover (Cast Aluminum) | -  | -  | 1  | -  |
| 1.8460 | 0   | FP-5104514 | Washer, .47" x 2.00" x .20"          | -  | 2  | 2  | 4  |
| 1.8461 | 6   | FP-5104515 | Isolator, Rocker Cover Bolt          | -  | 2  | 2  | 4  |

# Fuel Injector

(Figure 7.1)





# Fuel Injector

(Figure 7.1)

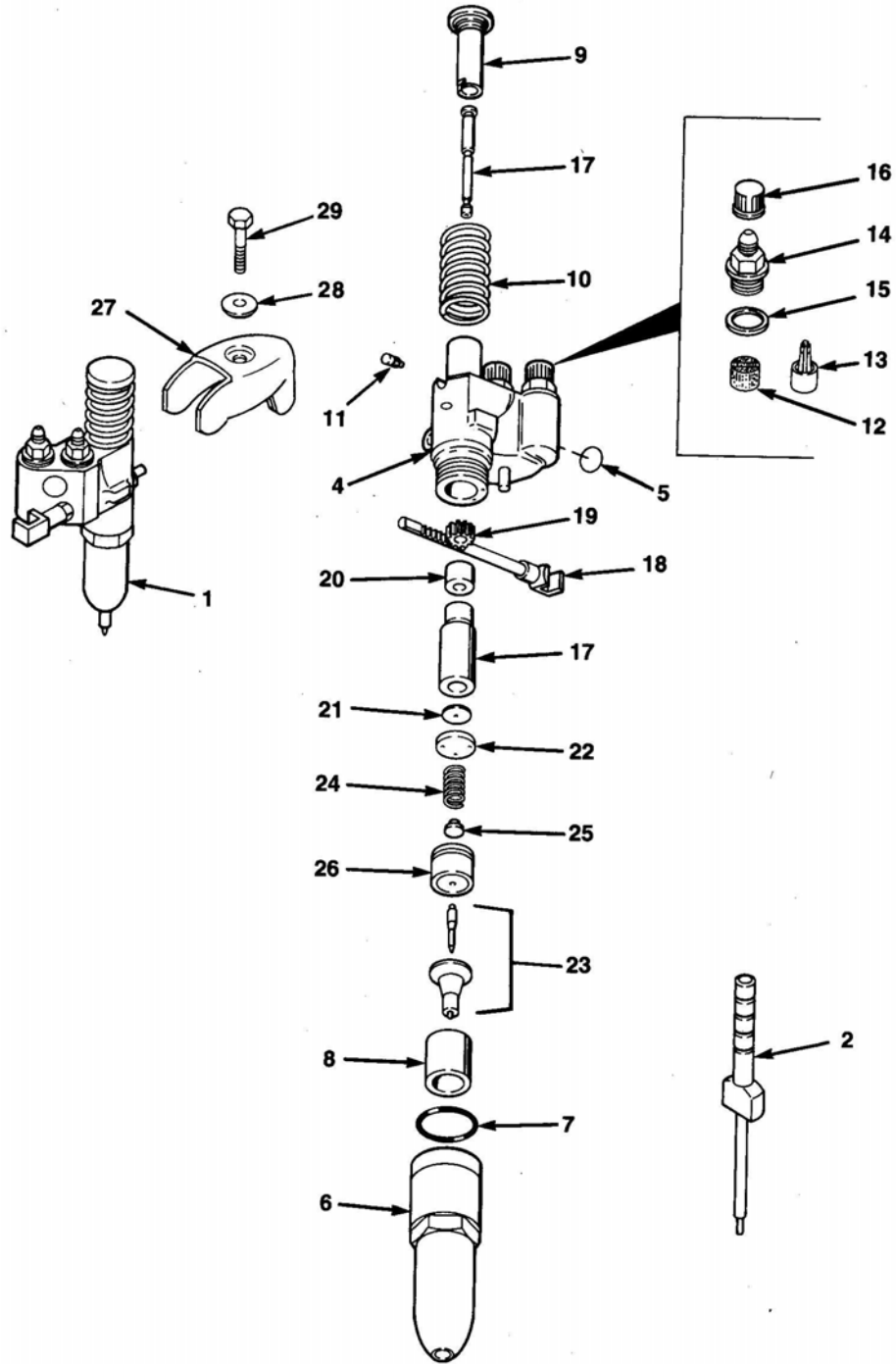
Groups:

2.1001 - 2.1220

| Group  | Ref | Part No.          | Description                           | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|---------------------------------------|----|----|----|----|
| 2.1001 | 1   | FP-5229345        | Injector Assembly C45                 | 2  | 3  | 4  | 6  |
| 2.1020 | 4   | FP-5228583        | Body Assembly, Injector               | 2  | 3  | 4  | 6  |
| 2.1020 | 5   | FP-5229191        | Tag, Blank Injector                   | 2  | 3  | 4  | 6  |
| 2.1030 | 6   | FP-5228601        | Nut, Injector (NV)                    | 2  | 3  | 4  | 6  |
| 2.1050 | 8   | FP-5228109        | Deflector, Injector Spill             | 2  | 3  | 4  | 6  |
| 2.1060 | 9   | FP-5228104        | Follower, Injector                    | 2  | 3  | 4  | 6  |
| 2.1080 | 10  | FP-5229518        | Spring, Injector Follower             | 2  | 3  | 4  | 6  |
| 2.1100 | 11  | FP-5228608        | Pin, Injector Stop                    | 2  | 3  | 4  | 6  |
| 2.1110 | 12  | FP-5228587        | Element, Injector Filter              | 2  | 3  | 4  | 6  |
| 2.1130 | 14  | FP-5228588        | Cap, Injector Filter                  | 2  | 3  | 4  | 6  |
| 2.1132 | 0   | FP-5228882        | Kit, Filter Conversion                | 2  | 3  | 4  | 6  |
| 2.1140 | 15  | FP-5226186        | Gasket, Injector Filter               | 2  | 3  | 4  | 6  |
| 2.1150 | 16  | FP-5226414        | Cap, Injector Shipping                | 2  | 3  | 4  | 6  |
| 2.1170 | 18  | FP-5226719        | Rack, Injector                        | 2  | 3  | 4  | 6  |
| 2.1180 | 19  | FP-5226400        | Gear, Injector                        | 2  | 3  | 4  | 6  |
| 2.1190 | 20  | FP-5228586        | Retainer, Injector Gear               | 2  | 3  | 4  | 6  |
| 2.1200 | 21  | FP-5226411        | Valve, Injector Check                 | 2  | 3  | 4  | 6  |
| 2.1200 | 21  | FP-5228694        | Valve, Injector Check                 | 2  | 3  | 4  | 6  |
| 2.1205 | 22  | FP-5228696        | Valve, Gage & Check                   | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5228491        | Tip Kit, Injector Spray (S45,S50,S60) | 2  | 3  | 4  | 6  |
| 2.1002 | 0   | <b>FP-5229649</b> | <b>Service Kit, Injector</b>          | 2  | 3  | 4  | 6  |
| 2.1002 | 15  | FP-5226186        | Gasket, Injector Filter               | 2  | 3  | 4  | 6  |
| 2.1002 | 16  | FP-5226414        | Cap, Injector Shipping                | 2  | 3  | 4  | 6  |
| 2.1002 | 12  | FP-5228587        | Element, Injector Filter              | 2  | 3  | 4  | 6  |
| 2.1002 | 7   | FP-5234281        | Ring, Injector Seal                   | 2  | 3  | 4  | 6  |

# Fuel Injector

(Figure 7.2)





# Fuel Injector

(Figure 7.2)

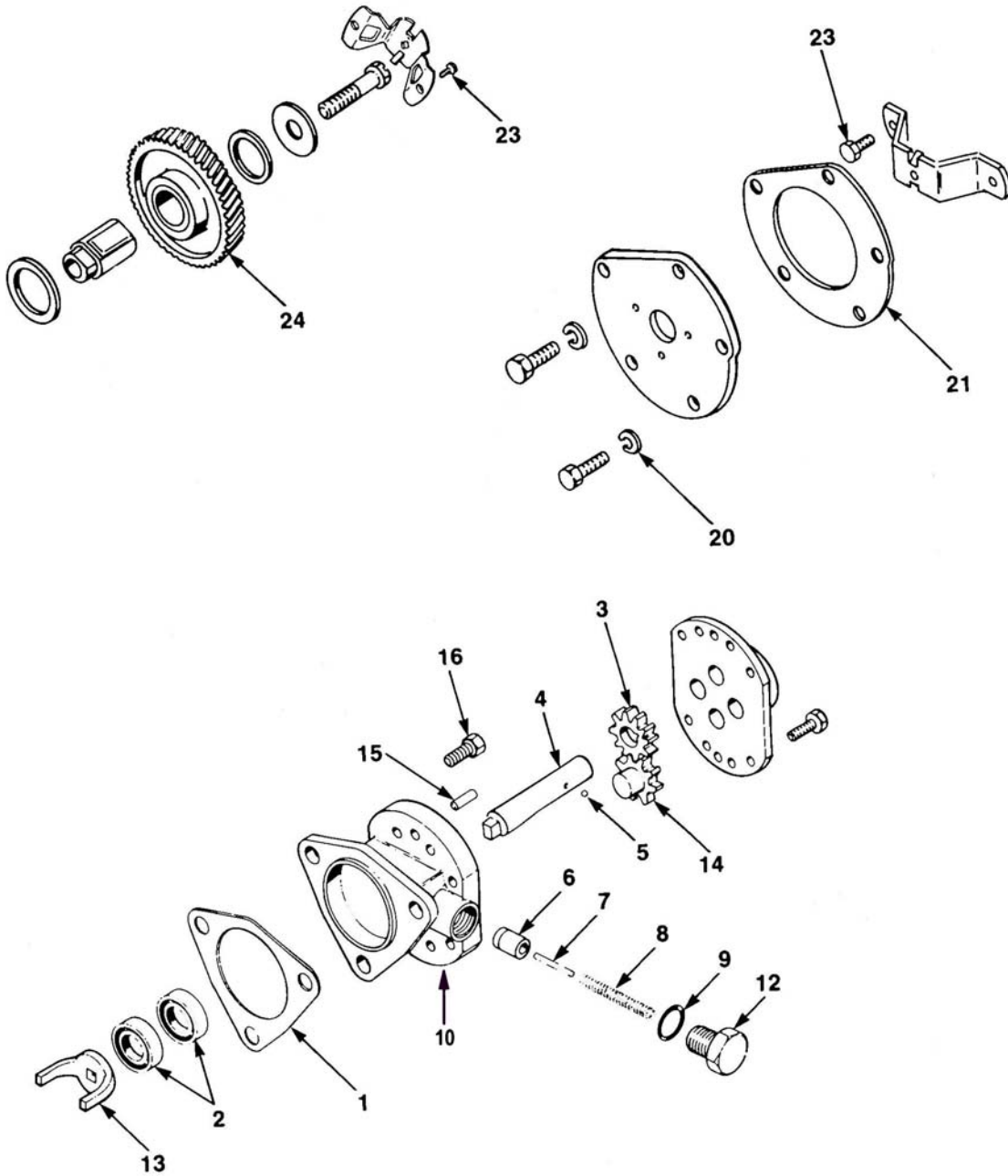
Groups:

2.1160 - 2.1270

| Group  | Ref | Part No.          | Description                    | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|--------------------------------|----|----|----|----|
| 2.1160 | 17  | FP-5228495        | Plunger & Barrel (S45)         | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228656        | Plunger & Barrel (5A60)        | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228684        | Plunger & Barrel (N45), (5N45) | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228749        | Plunger & Barrel (N50)         | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229342        | Plunger & Barrel (C40)         | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229346        | Plunger & Barrel (C45)         | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229354        | Plunger & Barrel (C50)         | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229026        | Spray Tip (5N45)               | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229030        | Spray Tip (5A50)               | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229030        | Spray Tip (5A55)               | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229030        | Spray Tip (5A60)               | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229034        | Spray Tip (C40)                | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229034        | Spray Tip (N45)                | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229034        | Spray Tip (N50)                | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229034        | Spray Tip (N40)                | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229034        | Spray Tip (C45)                | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229034        | Spray Tip (C50)                | 2  | 3  | 4  | 6  |
| 2.1235 | 23  | FP-5229034        | Spray Tip (N35)                | 2  | 3  | 4  | 6  |
| 2.1250 | 0   | FP-5228676        | Spring, Valve Injector         | 2  | 3  | 4  | 6  |
| 2.1270 | 27  | FP-5121259        | Clamp, Injector Hold Down      | 2  | 3  | 4  | 6  |
| 2.1270 | 28  | FP-5150250        | Washer, Injector Hold Down     | 2  | 3  | 4  | 6  |
| 2.1238 | 0   | <b>FP-5228313</b> | <b>Kit, Injector Valve</b>     | 2  | 3  | 4  | 6  |
| 2.1238 | 24  | FP-5227210        | Spring, Injector               | 2  | 3  | 4  | 6  |
| 2.1238 | 0   | FP-5228308        | Valve, Injector                | 2  | 3  | 4  | 6  |
| 2.1238 | 0   | <b>FP-5228769</b> | <b>Kit, Injector Valve</b>     | 2  | 3  | 4  | 6  |
| 2.1238 | 24  | FP-5228596        | Spring, Injector Valve         | 2  | 3  | 4  | 6  |
| 2.1238 | 25  | FP-5228766        | Seat, Injector                 | 2  | 3  | 4  | 6  |

# Fuel Pump

(Figure 8.1)





# Fuel Pump

(Figure 8.1)

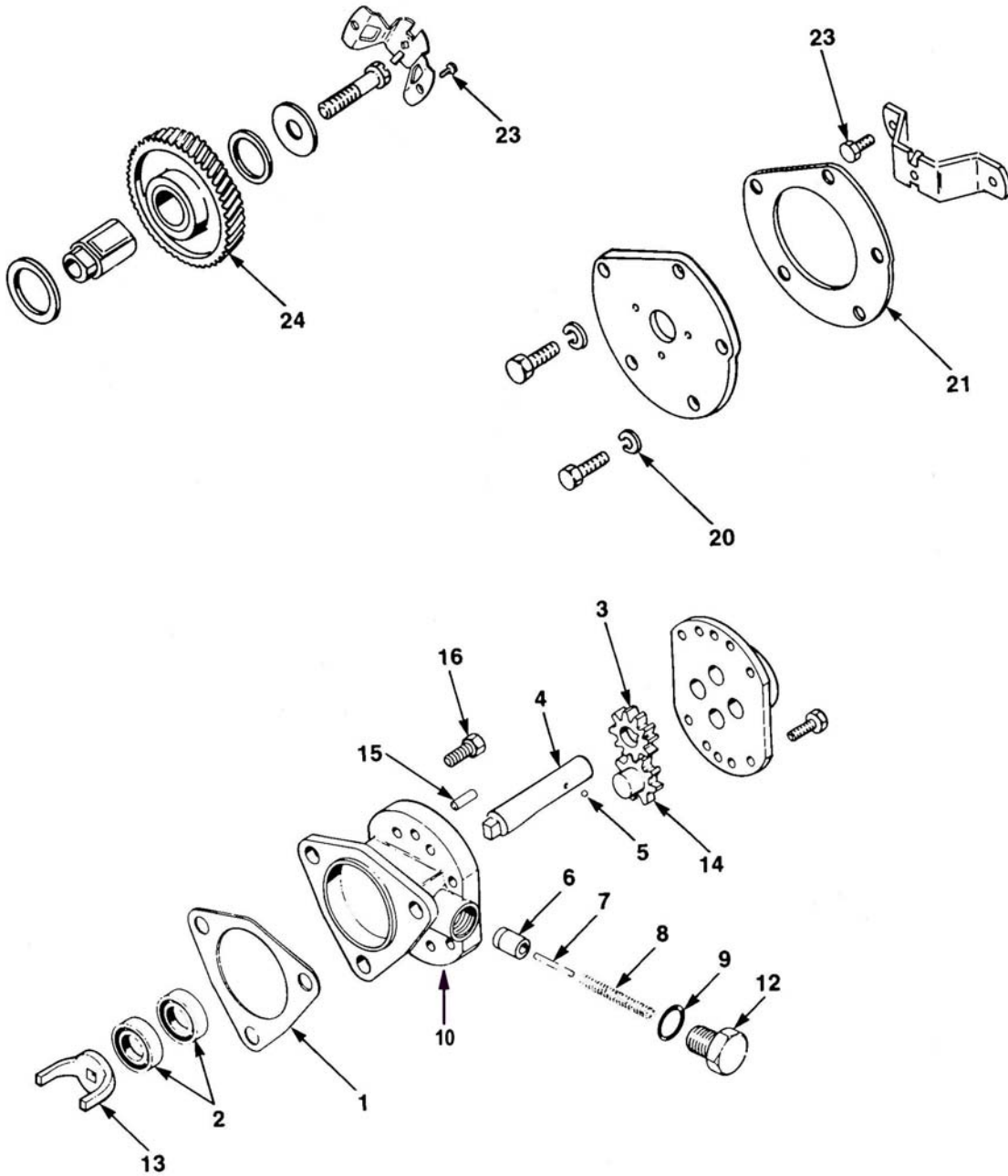
Groups:

2.2001 - 2.2004

| Group  | Ref | Part No.          | Description   | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|---|----|----|----|----|
| 2.2001 | 16  | FP-8925603        | Bolt, Fuel Pump Mounting (5/16" - 18 x 3/4"), (FP-5131685)        | 3  | 3  | 3  | 3  |
| 2.2001 | 0   | FP-8924380        | Plug, Pipe 1/8" - 27  | 2  | 2  | 2  | 2  |
| 2.2001 | 0   | FP-5198558        | Bushing, 3/8" x 1/4"  | 1  | 1  | 1  | 1  |
| 2.2001 | 0   | FP-5199560        | Kit, Fuel Pump (Standard Output L.H..)                            | 1  | 1  | 1  | 1  |
| 2.2001 | 0   | FP-5199561        | Kit, Fuel Pump (Standard Output R.H..)                            | 1  | 1  | 1  | 1  |
| 2.2001 | 0   | FP-5199734        | Kit, Fuel Pump (High Output R.H..)                                | 1  | 1  | 1  | 1  |
| 2.2001 | 0   | FP-5199735        | Kit, Fuel Pump (High Output L.H..)                                | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | <b>FP-5100313</b> | <b>Shaft Assembly, Fuel Pump Driven (.963"L), (High Output)</b>   | 1  | 1  | 1  | 1  |
| 2.2004 | 14  | FP-5100312        | Shaft, Fuel Pump Driven (.963"L), (High Output)                   | 1  | 1  | 1  | 1  |
| 2.2004 | 3   | FP-5118915        | Gear, Fuel Pump Drive (.374" W.), (High Output)                   | 1  | 1  | 1  | 1  |
| 2.2004 | 5   | FP-147481         | Ball, 1/8" Steel  | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | <b>FP-5146705</b> | <b>Shaft Assembly, Fuel Pump Driven (3.09" L), (High Output)</b>  | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5178700        | Shaft, Fuel Pump Drive (3.09" L), (High Output)                   | 1  | 1  | 1  | 1  |
| 2.2004 | 3   | FP-5128217        | Gear, Fuel Pump Drive (.374" W.), (High Output)                   | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | <b>FP-5149599</b> | <b>Overhaul Kit, High Output Fuel Pump</b>                        | 1  | 1  | 1  | 1  |
| 2.2004 | 7   | FP-103709         | Pin, 5/32" x 1" Straight  | 1  | 1  | 1  | 1  |
| 2.2001 | 1   | FP-5150193        | Gasket, Fuel Pump Mounting  | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | FP-5136240        | Plug, Cap Fuel Pump Body 1/4"                                     | 2  | 2  | 2  | 2  |
| 2.2004 | 0   | FP-5136241        | Plug, Cap Fuel Pump Body 3/8"                                     | 1  | 1  | 1  | 1  |
| 2.2004 | 6   | FP-5174973        | Valve, Fuel Pump  | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5146705        | Shaft Assembly, Fuel Pump Drive (3.09" L), (High Output)          | 1  | 1  | 1  | 1  |
| 2.2004 | 14  | FP-5100313        | Shaft Assembly, Fuel Pump Driven (.963"L), (High Output)          | 1  | 1  | 1  | 1  |
| 2.2004 | 2   | FP-23512243       | Seal, Fuel Pump Oil (FP-5107223)                                  | 2  | 2  | 2  | 2  |
| 2.2004 | 8   | FP-5184530        | Spring, Fuel Pump Valve Retaining                                 | 1  | 1  | 1  | 1  |
| 2.2004 | 9   | FP-5161003        | Gasket, Fuel Pump Valve Plug                                      | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | <b>FP-5181746</b> | <b>Shaft &amp; Gear, Fuel Pump Drive (3.09"L), (Std. Output)</b>  | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5178700        | Shaft, Fuel Pump Drive (3.09" L), (Std. Output)                   | 1  | 1  | 1  | 1  |
| 2.2004 | 3   | FP-5174975        | Gear, Fuel Pump Drive (.294" W.), (Std. Output)                   | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | <b>FP-5181747</b> | <b>Shaft &amp; Gear, Fuel Pump Drive (.838" L), (Std. Output)</b> | 1  | 1  | 1  | 1  |
| 2.2004 | 14  | FP-5181749        | Shaft, Fuel Pump Driven (.838" L), (Std. Output)                  | 1  | 1  | 1  | 1  |
| 2.2004 | 3   | FP-5181748        | Gear, Fuel Pump Driven (.294" W.)                                 | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | <b>FP-5195078</b> | <b>Overhaul Kit, Standard Output Fuel Pump</b>                    | 1  | 1  | 1  | 1  |
| 2.2004 | 7   | FP-103709         | Pin, 5/32" x 1" Straight  | 1  | 1  | 1  | 1  |
| 2.2001 | 1   | FP-5150193        | Gasket, Fuel Pump Mounting  | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | FP-5136240        | Plug, Cap Fuel Pump Body 1/4"                                     | 2  | 2  | 2  | 2  |
| 2.2004 | 0   | FP-5136241        | Plug, Cap Fuel Pump Body 3/8"                                     | 1  | 1  | 1  | 1  |
| 2.2004 | 6   | FP-5174973        | Valve, Fuel Pump  | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5181746        | Shaft & Gear, Fuel Pump Drive (3.09"L), (Std. Output)             | 1  | 1  | 1  | 1  |
| 2.2004 | 14  | FP-5181747        | Shaft & Gear, Fuel Pump Driven (.838" L), (Std. Output)           | 1  | 1  | 1  | 1  |
| 2.2004 | 2   | FP-23512243       | Seal, Fuel Pump Oil (FP-5107223)                                  | 2  | 2  | 2  | 2  |
| 2.2004 | 8   | FP-5184530        | Spring, Fuel Pump Valve Retaining                                 | 1  | 1  | 1  | 1  |
| 2.2004 | 9   | FP-5161003        | Gasket, Fuel Pump Valve Plug                                      | 1  | 1  | 1  | 1  |

# Fuel Pump

(Figure 8.2)







## Fuel Pump

(Figure 8.2)

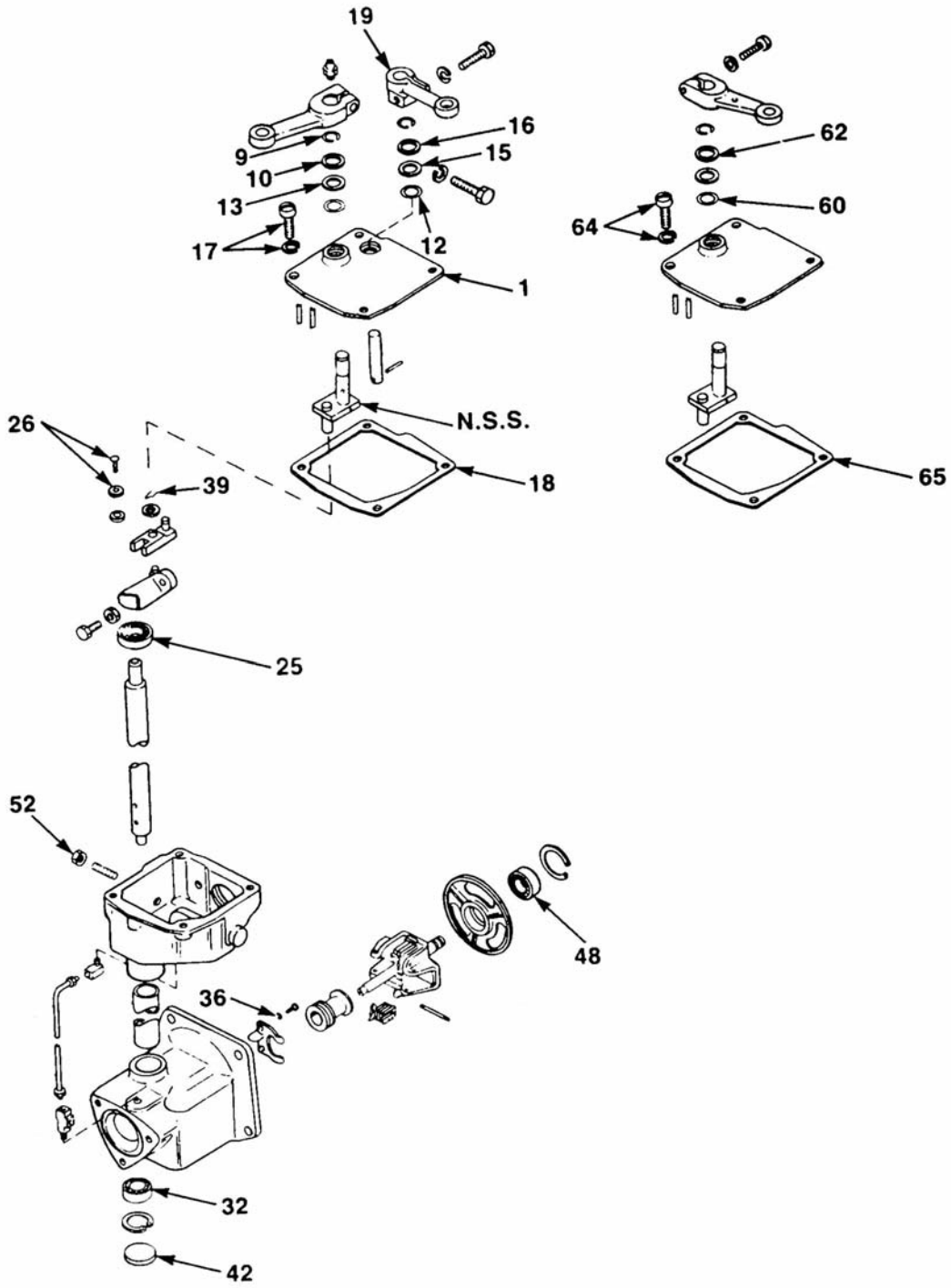
Groups:

2.2170 - 2.6090

| Group  | Ref | Part No.    | Description   | 2l | 3l | 4l | 6l |
|--------|-----|-------------|---|----|----|----|----|
| 2.2170 | 12  | FP-5174971  | Plug, 1/2"-20 Fuel Pump Valve                                   | 1  | 1  | 1  | 1  |
| 2.2237 | 21  | FP-23515145 | Gasket, FP Mounting Plate                                       | 1  | 1  | 1  | 1  |
| 2.2290 | 24  | FP-5107088  | Gear, Fuel Pump Drive (L.H.. Helix)                             | 1  | 1  | 1  | 1  |
| 2.3310 | 0   | FP-5136207  | Bracket, Fuel Filter Support                                    | 1  | 1  | 1  | 1  |
| 2.4015 | 0   | FP-5121182  | Plug, 1/4" Pipe   | 1  | 1  | 1  | 1  |
| 2.4020 | 0   | FP-23511852 | Fuel Pipe Assembly, Injector To Stand Pipe (FP-5116204)         | 4  | 6  | 8  | 12 |
| 2.4030 | 0   | FP-8925644  | Washer, Fuel Pipe Connector                                     | 4  | 6  | 8  | 12 |
| 2.4030 | 0   | FP-8926992  | Connector, Fuel Pipe  | 4  | 6  | 8  | 12 |
| 2.4050 | 0   | FP-5150568  | Washer, 7/16" x 3/4" x 1/16"                                    | 4  | 6  | 8  | 12 |
| 2.4050 | 0   | FP-5152148  | Washer, 25/64" x 9/16" x 1/16"                                  | 4  | 6  | 8  | 12 |
| 2.4225 | 0   | FP-5179232  | Seal Ring, .424" x .103" (2.7045)                               | 1  | 1  | 1  | 1  |
| 2.5006 | 0   | FP-5135308  | Valve, Fuel Check 3/8" (Swing Type)                             | 1  | 1  | 1  | 1  |
| 2.5006 | 0   | FP-5174924  | Valve, Fuel Check 1/4" (Swing Type)                             | 1  | 1  | 1  | 1  |
| 2.5210 | 0   | FP-8924195  | Connector, .080" Restrictor                                     | -  | -  | -  | 1  |
| 2.5215 | 0   | FP-8925325  | Bushing, Fuel Drain Hose (Pipe Red - 3/8" PTF - 1/4 Zinc)       | 1  | 1  | 1  | 1  |
| 2.6005 | 0   | FP-8925325  | Bushing, Fuel Tank Hose (Pipe Red - 3/8" PTF - 1/4 Zinc)        | 1  | 1  | 1  | 1  |
| 2.6090 | 0   | FP-8925325  | Bushing, Fuel Tank Check Valve (Pipe Red - 3/8" PTF - 1/4 Zinc) | 1  | 1  | 1  | 1  |

# Limiting Speed Governor

(Figure 9.1)





# Limiting Speed Governor

(Figure 9.1)

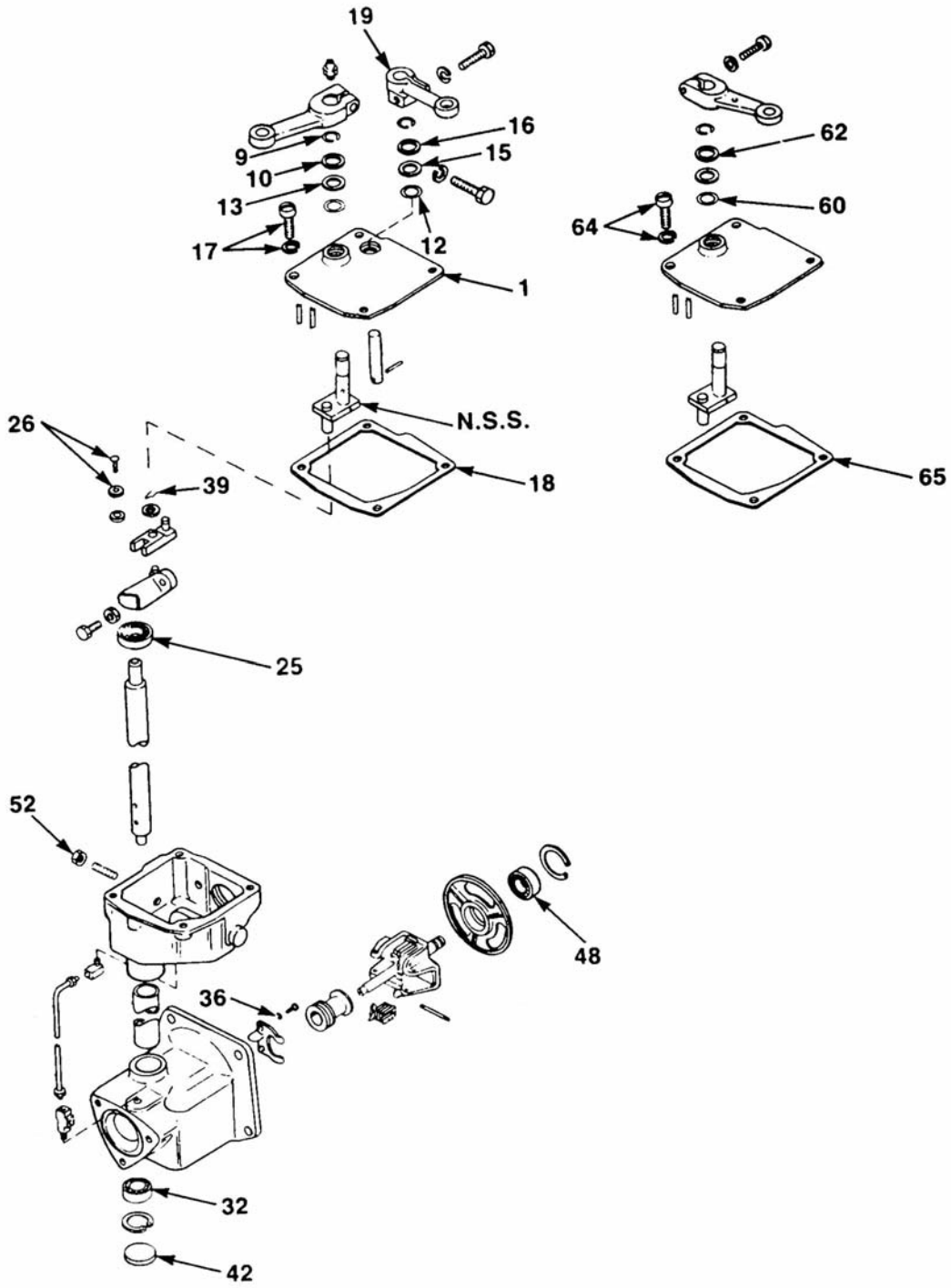
Groups:

2.7010 - 2.7819

| Group  | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------|--|----|----|----|----|
| 2.7010 | 0   | FP-5116336  | Gasket, Governor To Engine                           | 1  | 1  | 1  | -  |
| 2.7010 | 0   | FP-5121315  | Gasket, Governor To Engine                           | 1  | -  | -  | -  |
| 2.7045 | 17  | FP-9417926  | Screw, 1/4" - 20 x 3/4" Phillips Hd.                 | 4  | 4  | 4  | -  |
| 2.7045 | 10  | FP-5153060  | Retainer, Governor Throttle Shaft (2.7150)           | 3  | 3  | 3  | -  |
| 2.7045 | 0   | FP-5179232  | Ring, .424" x .106" Seal (2.7130), ( 2.7140)         | 3  | 3  | 3  | -  |
| 2.7045 | 13  | FP-5144177  | Retainer, Governor Throttle Shaft (2.7150)           | 2  | 2  | 2  | -  |
| 2.7045 | 15  | FP-5144178  | Retainer, Governor Cover Shutdown Shaft (2.7155)     | 2  | 2  | 2  | -  |
| 2.7045 | 16  | FP-5151487  | Washer, (2.7155)                                     | 2  | 2  | 2  | -  |
| 2.7045 | 14  | FP-5178581  | Ring, Retainer (2.7155)                              | 2  | 2  | 2  | -  |
| 2.7045 | 12  | FP-5101691  | Ring, .362" x .113" Seal                             | 1  | 1  | 1  | -  |
| 2.7045 | 9   | FP-5174429  | Ring, Governor Throttle Retaining                    | 1  | 1  | 1  | -  |
| 2.7045 | 12  | FP-5176557  | Ring, Governor Throttle Shaft Packing Seal (2.7140)  | 1  | 1  | 1  | -  |
| 2.7051 | 18  | FP-5122742  | Gasket, Governor Cover                               | 1  | 1  | 1  | -  |
| 2.7230 | 0   | FP-5116262  | Adapter, Injector Control Link Boot (2.7830)         | 1  | 1  | 1  | -  |
| 2.7230 | 0   | FP-8924380  | Plug, 1/8" - 27 Pipe                                 | 1  | 1  | 1  | -  |
| 2.7230 | 25  | FP-9431894  | Bearing, Governor Operating Shaft (Upper), (2.7260)  | 1  | 1  | 1  | -  |
| 2.7260 | 25  | FP-9431895  | Bearing, Governor Operating Shaft (Upper)            | 1  | 1  | 1  | -  |
| 2.7270 | 32  | FP-9431887  | Bearing, Governor Operating Shaft (Lower)            | 1  | 1  | 1  | -  |
| 2.7310 | 39  | FP-142583   | Retainer, 3/16" Governor Differential Lever (Spring) | 1  | 1  | 1  | -  |
| 2.7340 | 42  | FP-9428477  | Plug, 15/16" Cup Pipe                                | 1  | 1  | 1  | -  |
| 2.7470 | 48  | FP-23506244 | Bearing, Governor Weight Carrier Shaft (FP-907045)   | 1  | 1  | 1  | -  |
| 2.7520 | 0   | FP-103320   | Lockwasher, 5/16"                                    | 3  | 3  | 3  | -  |
| 2.7530 | 0   | FP-5150193  | Gasket, Fuel Pump Mounting                           | 1  | 1  | 1  | -  |
| 2.7580 | 0   | FP-5103975  | Cap, Governor Low Speed Spring (2.7590)              | 1  | 1  | 1  | -  |
| 2.7650 | 0   | FP-8922593  | Gasket, Governor High Speed Spring Cover             | 1  | 1  | 1  | -  |
| 2.7655 | 0   | FP-5156768  | Gasket, 21/32" (Copper)                              | 1  | 1  | 1  | -  |
| 2.7819 | 0   | FP-142583   | Retainer, 3/16" Spring                               | 1  | 1  | 1  | -  |
| 2.7819 | 0   | FP-5122798  | Link, Governor To Injector                           | 1  | 1  | 1  | -  |

# Variable Speed Governor

(Figure 9.2)





## Variable Speed Governor

(Figure 9.2)

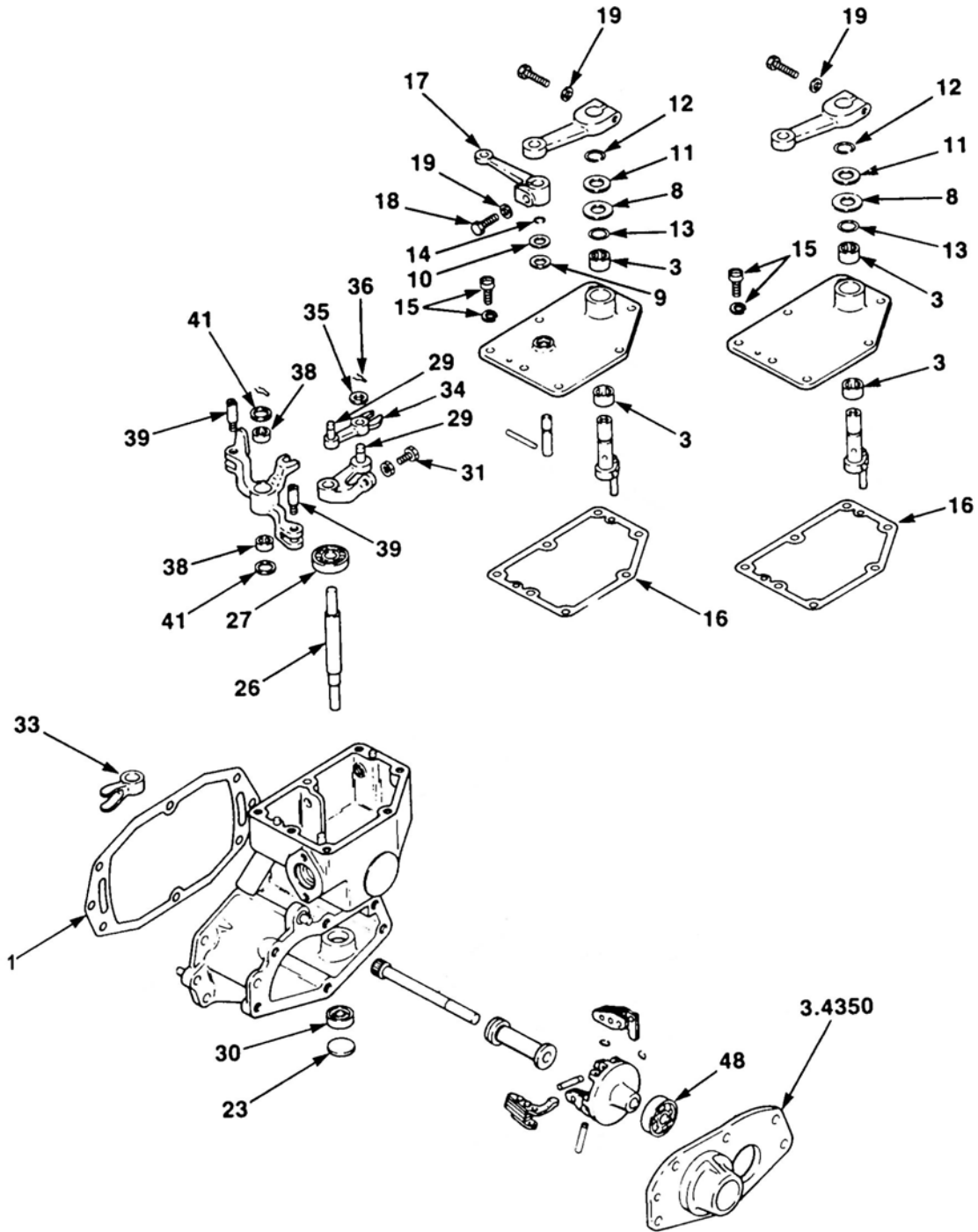
Groups:

2.7010 - 2.7834

| Group  | Ref | Part No.   | Description   | 2l | 3l | 4l | 6l |
|--------|-----|------------|---|----|----|----|----|
| 2.7010 | 0   | FP-5116336 | Gasket, Governor to Engine                                    | 1  | 1  | 1  | -  |
| 2.7045 | 64  | FP-9417926 | Screw, 1/4" - 20 x 3/4" Phillips. Head                        | 4  | 4  | 4  | -  |
| 2.7045 | 60  | FP-5179232 | Ring, Governor Throttle Shaft Seal (2.7140)                   | 1  | 1  | 1  | -  |
| 2.7051 | 65  | FP-5122742 | Gasket, Governor Cover  | 1  | 1  | 1  | -  |
| 2.7230 | 0   | FP-5116262 | Adapter, Injector Control Link Boot (2.7830)                  | 1  | 1  | 1  | -  |
| 2.7230 | 25  | FP-9431894 | Bearing, Governor Operating Shaft (Upper), (2.7260)           | 1  | 1  | 1  | -  |
| 2.7270 | 0   | FP-9428477 | Plug, Governor Operating Shaft Bearing Retaining Cup (2.7340) | 1  | 1  | 1  | -  |
| 2.7270 | 32  | FP-9431887 | Bearing, Governor Operating Shaft (Lower)                     | 1  | 1  | 1  | -  |
| 2.7650 | 0   | FP-8922593 | Gasket, Governor High Speed Spring Cover                      | 1  | 1  | 1  | -  |
| 2.7800 | 0   | FP-5136590 | Shim, Governor Variable Speed Spring (.010")                  | 6  | 6  | 6  | -  |
| 2.7800 | 0   | FP-5136591 | Shim, Governor Variable Speed Spring (.078")                  | 3  | 3  | 3  | -  |
| 2.7810 | 0   | FP-5155596 | Washer, Copper  | 2  | 2  | 2  | -  |
| 2.7810 | 52  | FP-5174286 | Nut, 3/8" -24   | 1  | 1  | 1  | -  |
| 2.7819 | 0   | FP-142583  | Retainer, Governor To Injector Link Spring                    | 1  | 1  | 1  | -  |
| 2.7819 | 0   | FP-5122798 | Link, Governor To Injector (B&D Engine)                       | 1  | 1  | 1  | -  |
| 2.7830 | 0   | FP-5116262 | Adapter, Cylinder Head Governor Control Link                  | 1  | 1  | 1  | -  |
| 2.7830 | 0   | FP-5121252 | Adapter, Cylinder Head Governor Control Link                  | 1  | 1  | 1  | -  |
| 2.7834 | 0   | FP-5129705 | Hose, 7/8" I.D. x .75" L. (B & D Engine)                      | 1  | 1  | 1  | -  |
| 2.7834 | 0   | FP-5129707 | Hose, 7/8" I.D. x 1.26" L. (A & C Engine)                     | 1  | 1  | 1  | -  |
| 2.7834 | 0   | FP-5186840 | Clamp, 1 3/16" Diameter Hose                                  | 1  | 1  | 1  | -  |

# Limiting Speed Governor

(Figure 9.3)





# Limiting Speed Governor

(Figure 9.3)

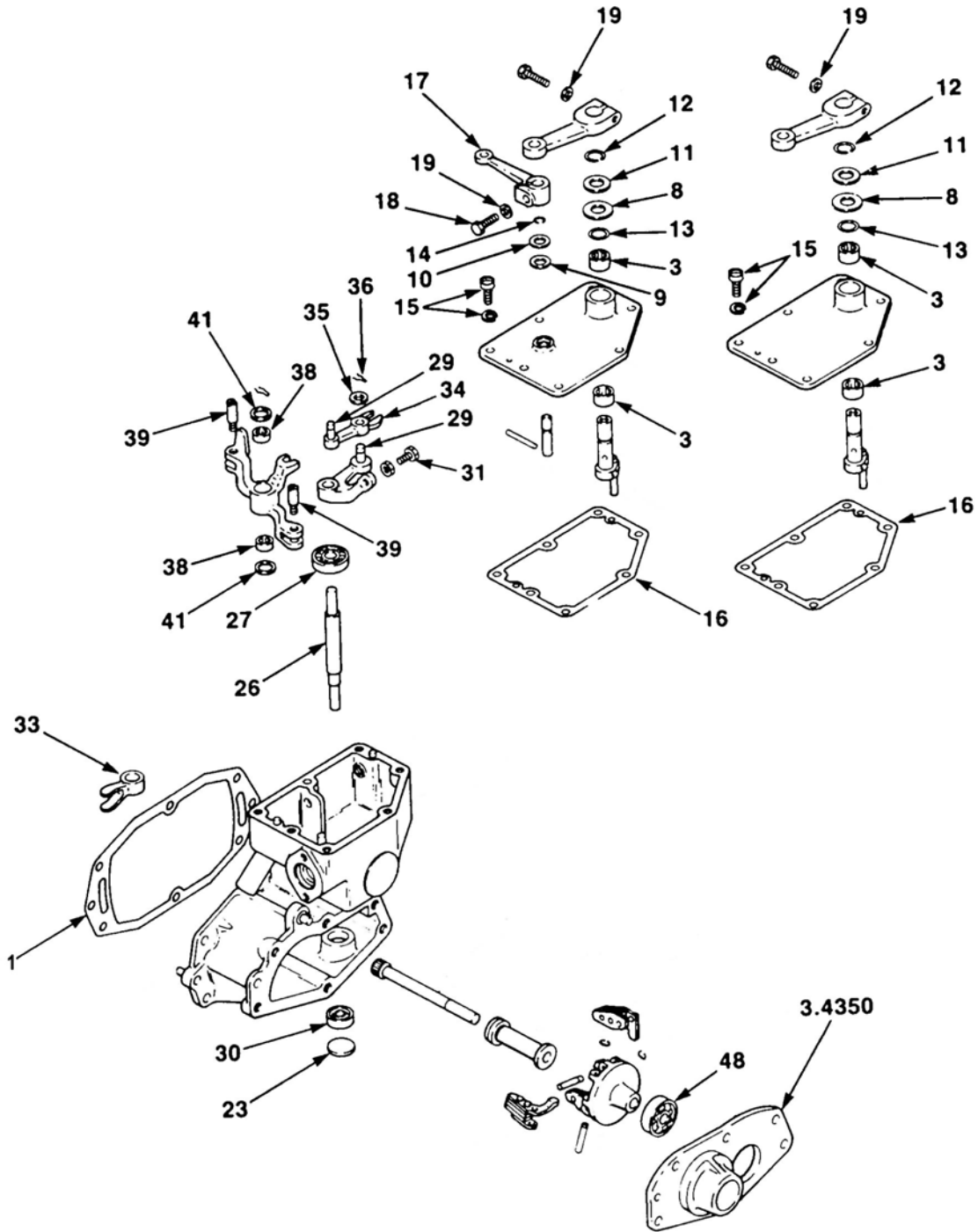
Groups:

2.7010 - 2.7580

| Group  | Ref | Part No.   | Description  | 2l | 3l | 4l | 6l |
|--------|-----|------------|--|----|----|----|----|
| 2.7010 | 1   | FP-5121345 | Gasket, Governor To Engine (To End Plate)              | -  | -  | -  | 1  |
| 2.7045 | 0   | FP-5101691 | Washer, Governor Throttle Shaft                        | -  | -  | -  | 1  |
| 2.7045 | 8   | FP-5144177 | Retainer, Governor Throttle                            | -  | -  | -  | 1  |
| 2.7045 | 9   | FP-5144178 | Retainer, Governor Shutdown                            | -  | -  | -  | 1  |
| 2.7045 | 10  | FP-5151487 | Washer, 3/8" x 11/16" .033" (2.7430)                   | -  | -  | -  | 1  |
| 2.7045 | 11  | FP-5153060 | Retainer, Governor Throttle                            | -  | -  | -  | 1  |
| 2.7045 | 12  | FP-5174429 | Retainer, Governor Throttle                            | -  | -  | -  | 1  |
| 2.7045 | 13  | FP-5176557 | Washer, Governor Throttle Shaft                        | -  | -  | -  | 1  |
| 2.7045 | 14  | FP-5178581 | Retainer, Governor Shutdown                            | -  | -  | -  | 1  |
| 2.7045 | 3   | FP-8921472 | Bushing, Governor Throttle                             | -  | -  | -  | 2  |
| 2.7045 | 15  | FP-9417926 | Screw, 1/4" - 20 x 3/4" Phillips. Head                 | -  | -  | -  | 6  |
| 2.7050 | 3   | FP-8921472 | Bushing, Governor Throttle Shaft (2.7100)              | -  | -  | -  | 2  |
| 2.7051 | 16  | FP-5121342 | Gasket, Governor Cover                                 | -  | -  | -  | 1  |
| 2.7140 | 0   | FP-5101691 | Ring, Governor Throttle Shaft Seal                     | -  | -  | -  | 1  |
| 2.7140 | 13  | FP-5176557 | Ring, Governor Throttle Shaft Seal                     | -  | -  | -  | 1  |
| 2.7150 | 8   | FP-5144177 | Ring, Governor Throttle Shaft Packing Retaining        | -  | -  | -  | 1  |
| 2.7150 | 11  | FP-5153060 | Retainer, Governor Throttle Shaft Packing              | -  | -  | -  | 1  |
| 2.7155 | 9   | FP-5144178 | Ring, Governor Shutdown Shaft Packing Retainer         | -  | -  | -  | 1  |
| 2.7155 | 10  | FP-5151487 | Washer, Governor Shutdown Shaft Packing Retainer       | -  | -  | -  | 1  |
| 2.7155 | 14  | FP-5178581 | Ring, Governor Shutdown Shaft Packing Retainer         | -  | -  | -  | 1  |
| 2.7165 | 19  | FP-103319  | Lockwasher, 1/4" (2.7170)                              | -  | -  | -  | 1  |
| 2.7165 | 18  | FP-443603  | Bolt, 1/4" - 20 x 3/4"                                 | -  | -  | -  | 1  |
| 2.7230 | 23  | FP-116337  | Plug, 1 1/16" Expansion                                | -  | -  | -  | 1  |
| 2.7230 | 0   | FP-5116262 | Adapter, Injector Control Link Boot                    | -  | -  | -  | 2  |
| 2.7250 | 26  | FP-5121339 | Shaft, Governor Operating (2.7255)                     | -  | -  | -  | 2  |
| 2.7250 | 29  | FP-5150943 | Pin, Governor Operating Shaft (2.7280)                 | -  | -  | -  | 2  |
| 2.7250 | 27  | FP-9431894 | Bearing Governor Operating Shaft (2.7260)              | -  | -  | -  | 2  |
| 2.7270 | 30  | FP-9436682 | Bearing, Governor Operating Shaft (Lower)              | -  | -  | -  | 1  |
| 2.7280 | 31  | FP-5132962 | Screw, Governor Operating Shaft (Gap Adjusting)        | -  | -  | -  | 1  |
| 2.7300 | 29  | FP-5150943 | Pin, Governor Operating Shaft (2.7310), (2.7315)       | -  | -  | -  | 3  |
| 2.7310 | 36  | FP-142583  | Retainer, Governor Differential Lever Spring           | -  | -  | -  | 1  |
| 2.7317 | 38  | FP-447196  | Bearing, Governor Control Operating Link Needle        | -  | -  | -  | 4  |
| 2.7317 | 41  | FP-5151487 | Washer, Governor Control Operating Link Lever Assembly | -  | -  | -  | 3  |
| 2.7470 | 48  | FP-9424121 | Bearing, Governor Weight Carrier Shaft                 | -  | -  | -  | 1  |
| 2.7580 | 0   | FP-5103975 | Cap, Governor Low Speed Spring                         | -  | -  | -  | 1  |

# Variable Speed Governor

(Figure 9.4)







# Variable Speed Governor

(Figure 9.4)

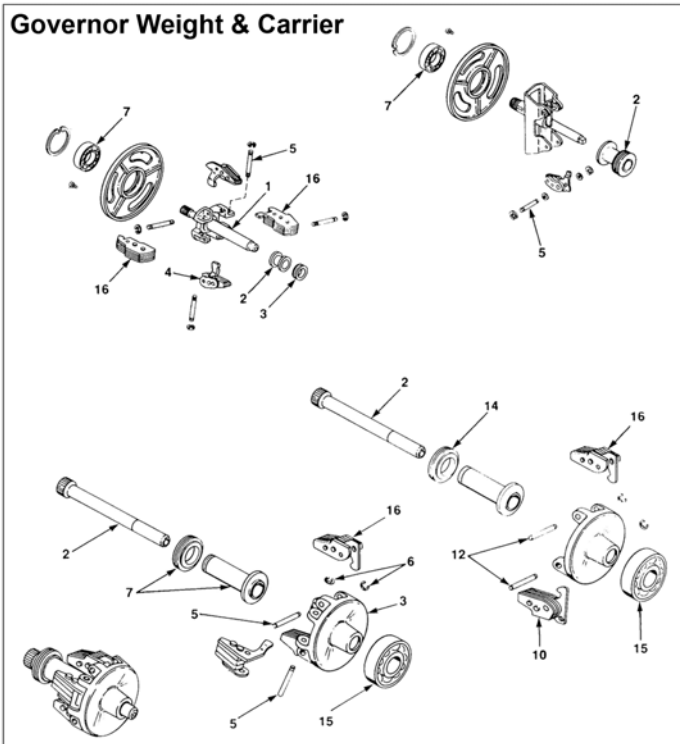
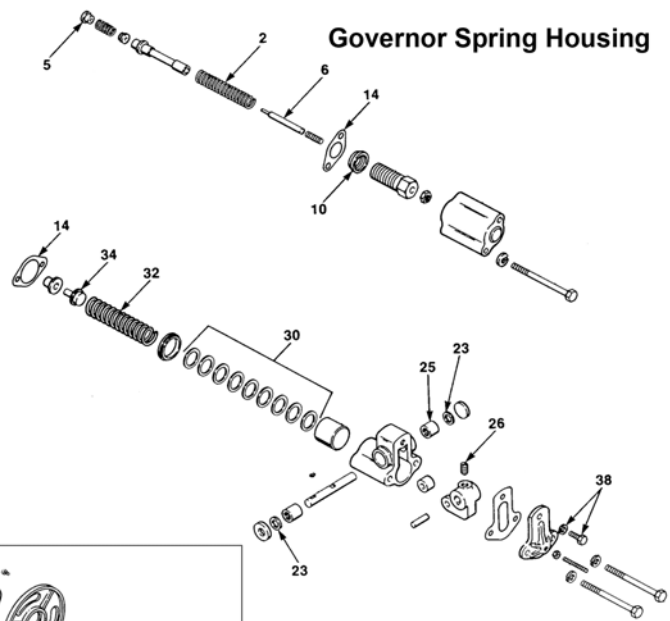
Groups:

2.7050 - 2.7834

| Group  | Ref | Part No.   | Description  | 2I | 3I | 4I | 6I |
|--------|-----|------------|--|----|----|----|----|
| 2.7050 | 29  | FP-5150943 | Pin, Governor Operating Shaft (2.7300) (2.7315)                      | -  | -  | -  | 3  |
| 2.7051 | 16  | FP-5121342 | Gasket, Governor Cover   | -  | -  | -  | 1  |
| 2.7080 | 31  | FP-5132962 | Screw, Governor Operating Shaft (Gap Adjusting)                      | -  | -  | -  | 1  |
| 2.7230 | 23  | FP-116337  | Plug, 1 1/16" Expansion  | -  | -  | -  | 1  |
| 2.7230 | 31  | FP-5132962 | Screw, Governor Gap Adjusting  | -  | -  | -  | 1  |
| 2.7230 | 29  | FP-5150943 | Bearing Governor Operating Shaft (2.7230) (2.7310)                   | -  | -  | -  | 2  |
| 2.7230 | 27  | FP-9431894 | Bearing Governor Operating Shaft (Upper)                             | -  | -  | -  | 1  |
| 2.7230 | 30  | FP-9436682 | Bearing, Governor Operating Shaft                                    | -  | -  | -  | 1  |
| 2.7310 | 36  | FP-142583  | Retainer, Governor Differential Lever Spring (13/64")                | -  | -  | -  | 1  |
| 2.7317 | 38  | FP-447196  | Bearing, Needle  | -  | -  | -  | 2  |
| 2.7317 | 39  | FP-5117693 | Pin, Governor Control Operation Link (1")                            | -  | -  | -  | 2  |
| 2.7317 | 10  | FP-5151487 | Washer, Governor Control Operation Link                              | -  | -  | -  | 2  |
| 2.7470 | 48  | FP-9424121 | Bearing, Governor Weight Carrier & Shaft                             | -  | -  | -  | 1  |
| 2.7590 | 0   | FP-5102270 | Screw, Governor Low Speed Spring Adjusting                           | -  | -  | -  | 1  |
| 2.7630 | 0   | FP-5155596 | Washer, 5/16" Copper   | -  | -  | -  | 2  |
| 2.7650 | 0   | FP-8922593 | Gasket, Governor High Speed Spring                                   | -  | -  | -  | 1  |
| 2.7810 | 0   | FP-5172383 | Screw Assembly, Governor Buffer (Includes Spring)                    | -  | -  | -  | 1  |
| 2.7810 | 0   | FP-5174286 | Nut, 3/8" - 24   | -  | -  | -  | 1  |
| 2.7819 | 0   | FP-5122797 | Link, Governor To Injector   | 1  | 1  | 1  | -  |
| 2.7819 | 0   | FP-142583  | Retainer, Governor To Injector Spring                                | -  | -  | -  | 1  |
| 2.7819 | 0   | FP-5121472 | Link, Governor To Injector (Lower)                                   | -  | -  | -  | 2  |
| 2.7819 | 0   | FP-5150941 | Washer, 21/64"   | -  | -  | -  | 2  |
| 2.7830 | 0   | FP-5116262 | Adapter, Cylinder Head Governor Control Link (In Head), (Plain End)  | -  | -  | -  | 2  |
| 2.7830 | 0   | FP-5116262 | Adapter, Cylinder Head Governor Control Link (In Head), (Plain End)  | -  | -  | -  | 1  |
| 2.7834 | 0   | FP-5129705 | Hose, Governor To Injector Link (7/8" I.D. x .75" L.), (Left Bank)   | -  | -  | -  | 2  |
| 2.7834 | 0   | FP-5129706 | Hose, Governor To Injector Link (7/8" I.D. x 1.62" L.), (Right Bank) | -  | -  | -  | 1  |
| 2.7834 | 0   | FP-5186840 | Clamp, Hose (1 3/16")  | -  | -  | -  | 4  |
| 2.7834 | 0   | FP-5186840 | Clamp, Hose (1 3/16")  | -  | -  | -  | 1  |

# Governor

(Figure 9.5)





# Governor

(Figure 9.5)

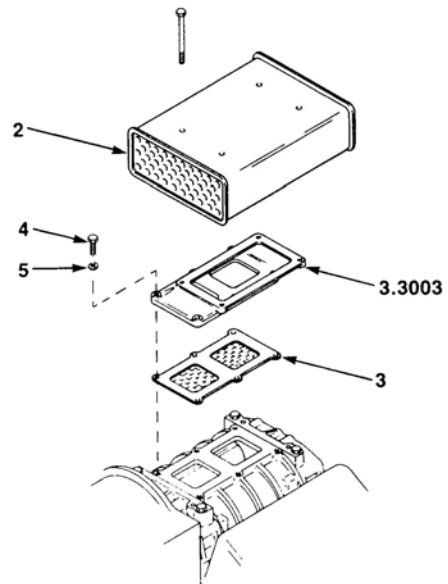
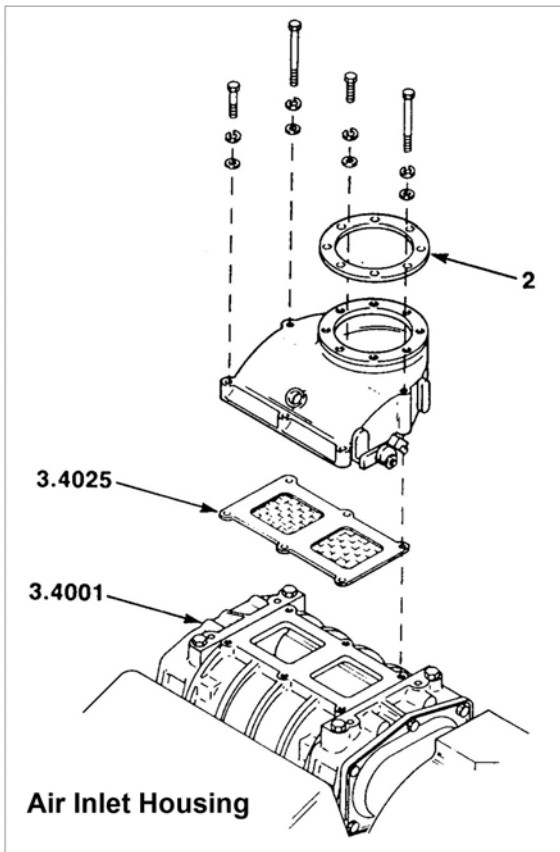
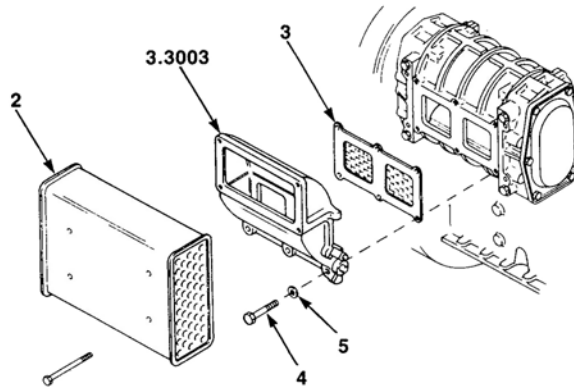
Groups:

2.7350 - 2.9410

| Group                       | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|-----------------------------|-----|-------------|--|----|----|----|----|
| <b>Spring Housing</b>       |     |             |  |    |    |    |    |
| 2.7540                      | 1   | FP-5122165  | Spring, Governor Low Speed (1 Blue Stripe)   | 1  | 1  | 1  | 1  |
| 2.7540                      | 1   | FP-5183704  | Spring, Governor Low Speed (2 Yellow Stripes)  | 1  | 1  | 1  | 1  |
| 2.7580                      | 5   | FP-5103975  | Cap, Governor Low Speed Spring   | 1  | 1  | 1  | 1  |
| 2.7630                      | 0   | FP-103320   | Lockwasher, 5/16"  | 2  | 2  | 2  | 2  |
| 2.7630                      | 0   | FP-5155596  | Washer, 5/16" Copper   | 2  | 2  | 2  | 2  |
| 2.7650                      | 14  | FP-8922593  | Gasket, Governor High Speed Spring Cover   | 1  | 1  | 1  | 1  |
| 2.7680                      | 23  | FP-5176557  | Seal Ring, Viton (.477" x .113")   | 2  | 2  | 2  | 2  |
| 2.7680                      | 38  | FP-9417926  | Screw & Lockwasher Assembly (1/4" -20 x 3/4" Hex Head)   | 1  | 1  | 1  | 1  |
| 2.7680                      | 0   | FP-9425166  | Needle Bearing, Variable Speed Spring Lever  | 1  | 1  | 1  | 1  |
| 2.7690                      | 0   | FP-123390   | Nut, 1/4" -20  | 1  | 1  | 1  | 1  |
| 2.7690                      | 0   | FP-5121182  | Plug, Pipe (1/4" -18)  | 1  | 1  | 1  | 1  |
| 2.7712                      | 25  | FP-148402   | Bearing, Governor Variable Speed Spring  | 2  | 2  | 2  | 2  |
| 2.7735                      | 30  | FP-5136590  | Shim, Governor Variable Speed Spring (.010")   | -  | -  | -  | -  |
| 2.7735                      | 30  | FP-5136591  | Shim, Governor Variable Speed Spring (.078")   | -  | -  | -  | -  |
| 2.7750                      | 23  | FP-5176557  | Seal Ring, Governor Variable Speed Spring Lever Shaft  | 2  | 2  | 2  | 2  |
| 2.7760                      | 32  | FP-5122270  | Spring, Governor Variable Speed (2 Red Stripes)  | 1  | 1  | 1  | 1  |
| 2.7770                      | 14  | FP-8922593  | Gasket, Governor High Speed Spring Cover   | 1  | 1  | 1  | 1  |
| <b>Weight &amp; Carrier</b> |     |             |  |    |    |    |    |
| 2.7350                      | 7   | FP-23506244 | Bearing, Governor Weight Riser Thrust (2.7460)   | 1  | 1  | 1  | -  |
| 2.7350                      | 2   | FP-5109544  | Riser, Assembly Governor (Small Flange)  | 1  | 1  | 1  | 1  |
| 2.7350                      | 3   | FP-9437108  | Bearing, Governor Weight Riser Thrust (2.7460)   | 1  | 1  | 1  | -  |
| 2.7350                      | 7   | FP-5125367  | Riser Assembly, Governor (Small Flange)  | -  | -  | -  | 1  |
| 2.7350                      | 16  | FP-5133662  | Weight Assembly, Governor Low Speed  | -  | -  | -  | 2  |
| 2.7350                      | 3   | FP-5133707  | Carrier, Governor Weight   | -  | -  | -  | 1  |
| 2.7350                      | 14  | FP-9438907  | Bearing, Governor Weight Riser Thrust (2.7460)   | -  | -  | -  | 1  |
| 2.8030                      | 0   | FP-5194069  | Washer, Governor 1/4" Copper (5108290)   | 2  | 2  | 2  | 2  |
| 2.8030                      | 0   | FP-5197065  | Seal, Governor Shaft (For These Governors Only - 5108290, 5108291, 5136998, 5141046, 5142346, 5143657, 5143957, 5146121) | 1  | 1  | 1  | 1  |
| 2.8260                      | 0   | FP-3249110  | Hydraulic, Governor Assy Gasket  | 1  | 1  | 1  | 1  |
| 2.8410                      | 0   | FP-5194069  | Washer, Governor 1/4" Copper (5108291)   | 2  | 2  | 2  | 2  |
| 2.9003                      | 0   | FP-5116264  | Bracket, Injector Control Tube   | 1  | 1  | 1  | 1  |
| 2.9011                      | 0   | FP-5147407  | Spring, Injector Control Tube Throttle (L.H. Helix)  | 1  | 1  | 1  | 1  |
| 2.9012                      | 0   | FP-5116265  | Spring, Injector Control Tube (L.H. Helix)   | 1  | 1  | 1  | 1  |
| 2.9012                      | 0   | FP-5138737  | Spring, Injector Control Tube (R.H. Helix)   | 1  | 1  | 1  | 1  |
| 2.9410                      | 0   | FP-5176810  | Clevis Pin, Governor Control Lever (1/4" x 1 1/4")   | 1  | 1  | 1  | 1  |

# Silencer & Air Intake

(Figure 10.1)





# Silencer & Air Intake

(Figure 10.1)

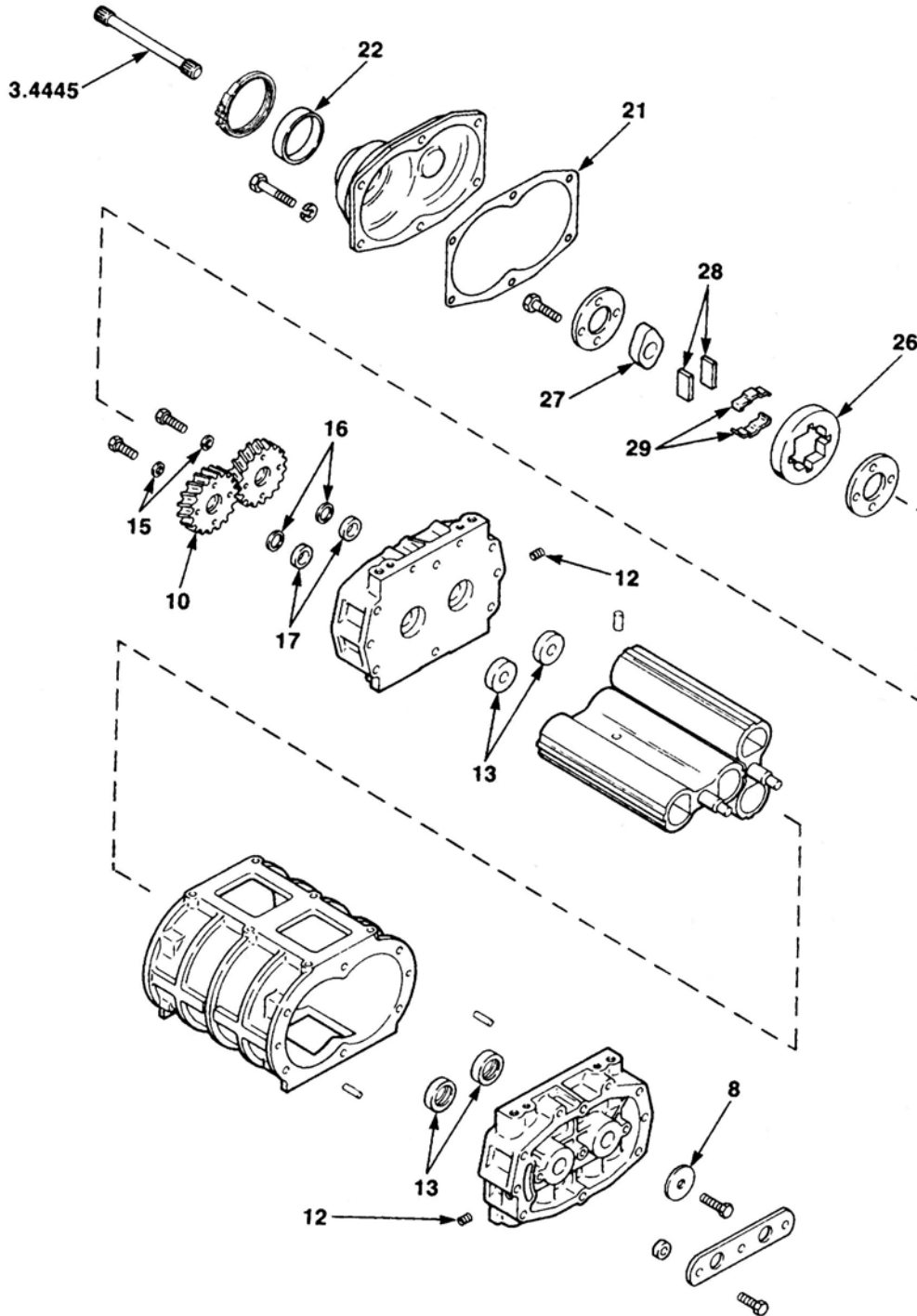
Groups:

3.2001 - 3.3280

| Group                    | Ref | Part No.   | Description                                  | 2l | 3l | 4l | 6l |
|--------------------------|-----|------------|--|----|----|----|----|
| 3.2010                   | 0   | FP-103320  | Lockwasher, 5/16"                            | -  | -  | 2  | -  |
| 3.2010                   | 0   | FP-5159714 | Washer, 11/16" - 24 Lock                     | -  | -  | 2  | -  |
| 3.2012                   | 3   | FP-5196053 | Gasket, Air Silencer                         | -  | 1  | -  | -  |
| 3.2015                   | 5   | FP-103321  | Lockwasher, 3/8"                             | -  | -  | 1  | -  |
| 3.2015                   | 4   | FP-8927581 | Bolt, 3/8" - 16 x 1"                         | -  | -  | -  | 6  |
| <b>Air Inlet Housing</b> |     |            |  |    |    |    |    |
| 3.3001                   | 0   | FP-103321  | Lockwasher, 3/8"                             | 4  | 4  | 4  | 6  |
| 3.3007                   | 2   | FP-5124405 | Gasket, Air Inlet Housing                    | -  | 1  | 1  | 1  |
| 3.3007                   | 2   | FP-5127247 | Gasket, Air Inlet Housing                    | -  | -  | -  | 2  |
| 3.3010                   | 2   | FP-5123703 | Gasket, Air Inlet Housing                    | -  | -  | -  | 1  |
| 3.3010                   | 2   | FP-8924563 | Gasket, Air Inlet Housing                    | -  | -  | -  | 1  |
| 3.3055                   | 0   | FP-5182977 | Seal, Air Inlet Housing Shutdown Valve Shaft | 2  | 2  | 2  | 2  |
| 3.3115                   | 0   | FP-142583  | Retainer, Spring                             | 1  | 1  | 1  | -  |
| 3.3127                   | 0   | FP-5103534 | Bolt, 5/16" - 24 x 1/2"                      | -  | 1  | 1  | -  |
| 3.3127                   | 0   | FP-103320  | Lockwasher, 5/16"                            | -  | -  | 1  | -  |
| 3.3280                   | 0   | FP-103319  | Lockwasher, 1/4" (3.3270)                    | 1  | 1  | 2  | -  |

# Blower

(Figure 10.2)





# Blower

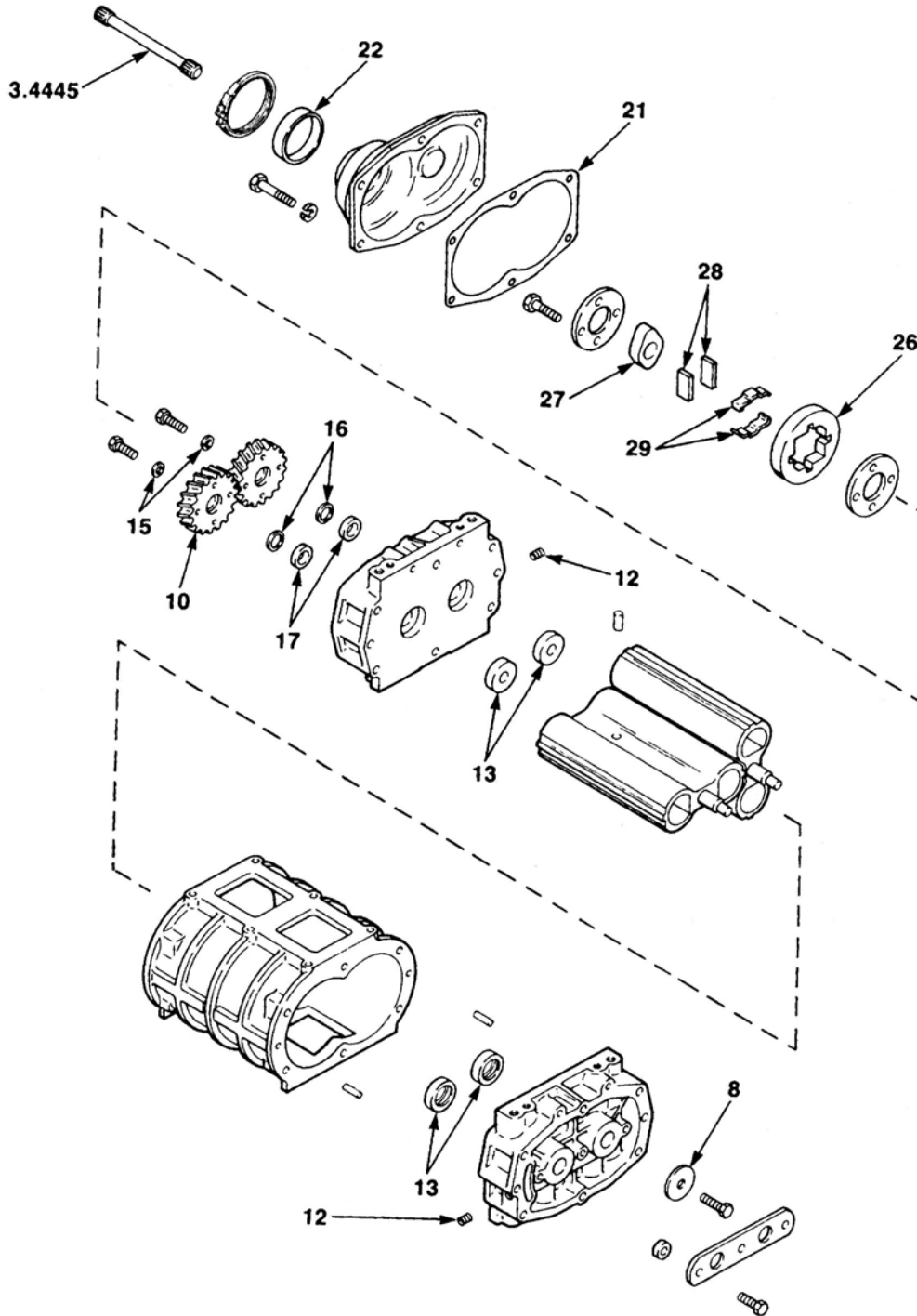
(Figure 10.2)

Groups:  
3.4001 - 3.4277

| Group  | Ref | Part No.          | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|--|----|----|----|----|
| 3.4001 | 0   | FP-5136323        | Bolt, Blower (7/16" - 14 x 7")                                 | 6  | 6  | 6  | 6  |
| 3.4003 | 0   | FP-5197857        | Gasket Kit, Blower Installation                                | 1  | -  | -  | -  |
| 3.4003 | 0   | FP-5198041        | Gasket Kit, Blower Installation                                | -  | 1  | -  | -  |
| 3.4003 | 0   | FP-5198042        | Gasket Kit, Blower Installation                                | -  | -  | 1  | -  |
| 3.4003 | 0   | FP-5198043        | Gasket Kit, Blower Installation                                | -  | -  | -  | 1  |
| 3.4010 | 21  | FP-5119433        | Gasket, Blower To End Plate (3.4190)                           | 1  | 1  | -  | -  |
| 3.4010 | 0   | FP-5116294        | Gasket, Blower To Engine                                       | 1  | -  | -  | -  |
| 3.4010 | 0   | FP-5116295        | Gasket, Blower To Engine                                       | -  | 1  | -  | -  |
| 3.4010 | 0   | FP-5116296        | Gasket, Blower To Engine                                       | -  | -  | 1  | -  |
| 3.4010 | 0   | FP-5119438        | Gasket, Blower To Engine                                       | -  | -  | -  | 1  |
| 3.4010 | 0   | FP-5127963        | Ring, Seal To 6V53 Block                                       | -  | -  | -  | 1  |
| 3.4010 | 0   | FP-8923566        | Gasket, Blower To Engine                                       | -  | -  | -  | 2  |
| 3.4025 | 0   | FP-5196052        | Screen, Blower   | 1  | -  | -  | -  |
| 3.4025 | 0   | FP-5196053        | Screen, Blower   | -  | 1  | -  | -  |
| 3.4025 | 0   | FP-5196054        | Screen, Blower   | -  | -  | 1  | -  |
| 3.4025 | 0   | FP-5122610        | Screen, Blower   | -  | -  | -  | 1  |
| 3.4036 | 8   | FP-5127077        | Washer, Thrust Blower Shaft                                    | 2  | 2  | 2  | 2  |
| 3.4040 | 0   | FP-23518811       | Bearing, Blower Front (8V53), (2)                              | -  | -  | -  | -  |
| 3.4080 | 15  | FP-5121403        | Washer, Blower Rotor Gear                                      | 2  | 2  | -  | -  |
| 3.4080 | 15  | FP-5116316        | Washer, Blower Rotor Gear                                      | -  | -  | 1  | -  |
| 3.4082 | 0   | FP-5132799        | Blower Drive Cam Pilot (8V53 Only)                             | -  | -  | -  | -  |
| 3.4090 | 0   | FP-5154226        | Shim, Blower Rotor Gear (.002" Thick)                          | 1  | 1  | 1  | 1  |
| 3.4090 | 0   | FP-5154227        | Shim, Blower Rotor Gear (.005" Thick)                          | 1  | 1  | 1  | 1  |
| 3.4090 | 0   | FP-5154228        | Shim, Blower Rotor Gear (.010" Thick)                          | 1  | 1  | 1  | 1  |
| 3.4140 | 12  | FP-8924380        | Plug, Pipe (1/8" -27)  | 2  | 2  | 2  | 2  |
| 3.4160 | 13  | FP-5142266        | Seal, Blower End Plate (Use w/New Counterbored End Plates)     | 4  | 4  | 4  | 4  |
| 3.4160 | 13  | FP-5138710        | Seal, Blower End Plate   | -  | -  | -  | 4  |
| 3.4190 | 21  | FP-8924554        | Gasket, Blower Housing End Plate Cover (Mini By-Pass)          | -  | 1  | 1  | -  |
| 3.4220 | 22  | FP-8926647        | Seal, Blower Drive Cover                                       | -  | -  | 1  | -  |
| 3.4227 | 0   | FP-5144768        | Clamp, Blower Drive Cover (3")                                 | 1  | 1  | 1  | 1  |
| 3.4277 | 0   | FP-451220         | Clamp, Blower Drive Packing Cover (2 1/2")                     | 1  | 1  | 1  | 1  |
| 3.4005 | 0   | <b>FP-5198683</b> | <b>Kit, Blower Repair (Turbo &amp; Non-Turbo)</b>              | -  | 1  | 1  | 1  |
| 3.4005 | 16  | FP-5116164        | Shim, Blower Rotor Gear (.002"), (3.4090)                      | 3  | 3  | 3  | 3  |
| 3.4005 | 16  | FP-5116165        | Shim, Blower Rotor Gear (.003"), (3.4090)                      | 3  | 3  | 3  | 3  |
| 3.4005 | 16  | FP-5116166        | Shim, Blower Rotor Gear (.004"), (3.4090)                      | 3  | 3  | 3  | 3  |
| 3.4005 | 16  | FP-5116167        | Shim, Blower Rotor Gear (.005"), (3.4090)                      | 3  | 3  | 3  | 3  |
| 3.4005 | 15  | FP-5116316        | Washer, Blower Rotor Gear                                      | 1  | 1  | 1  | 1  |
| 3.4005 | 0   | FP-5119285        | Washer, Blower Drive Thrust                                    | 1  | 1  | 1  | 1  |
| 3.4005 | 15  | FP-5121403        | Washer, Blower Rotor Gear                                      | 2  | 2  | 2  | 2  |
| 3.4005 | 0   | FP-5126236        | Pilot, Blower Drive Gear                                       | 2  | 2  | 2  | 2  |
| 3.4005 | 0   | FP-5126237        | Spacer, Blower Drive   | 1  | 1  | 1  | 1  |
| 3.4005 | 13  | FP-5199366        | Seal, Blower End Plate (Lip Type), (O.S.), (Use w/FP-5199368)  | 4  | 4  | 4  | 4  |
| 3.4005 | 0   | FP-5199368        | Sleeve, Blower Rotor Shaft Oil Seal (O.S.), (Use w/FP-5199366) | 4  | 4  | 4  | 4  |
| 3.4005 | 0   | FP-8923959        | Seal, Blower By-Pass Valve (3.4145)                            | 1  | 1  | 1  | 1  |
| 3.4005 | 17  | FP-8928695        | Spacer, Blower Rotor   | 2  | 2  | 2  | 2  |
| 3.4005 | 0   | FP-9411765        | Ring, Blower Drive Retaining                                   | 1  | 1  | 1  | 1  |

# Blower

(Figure 10.3)







## Blower

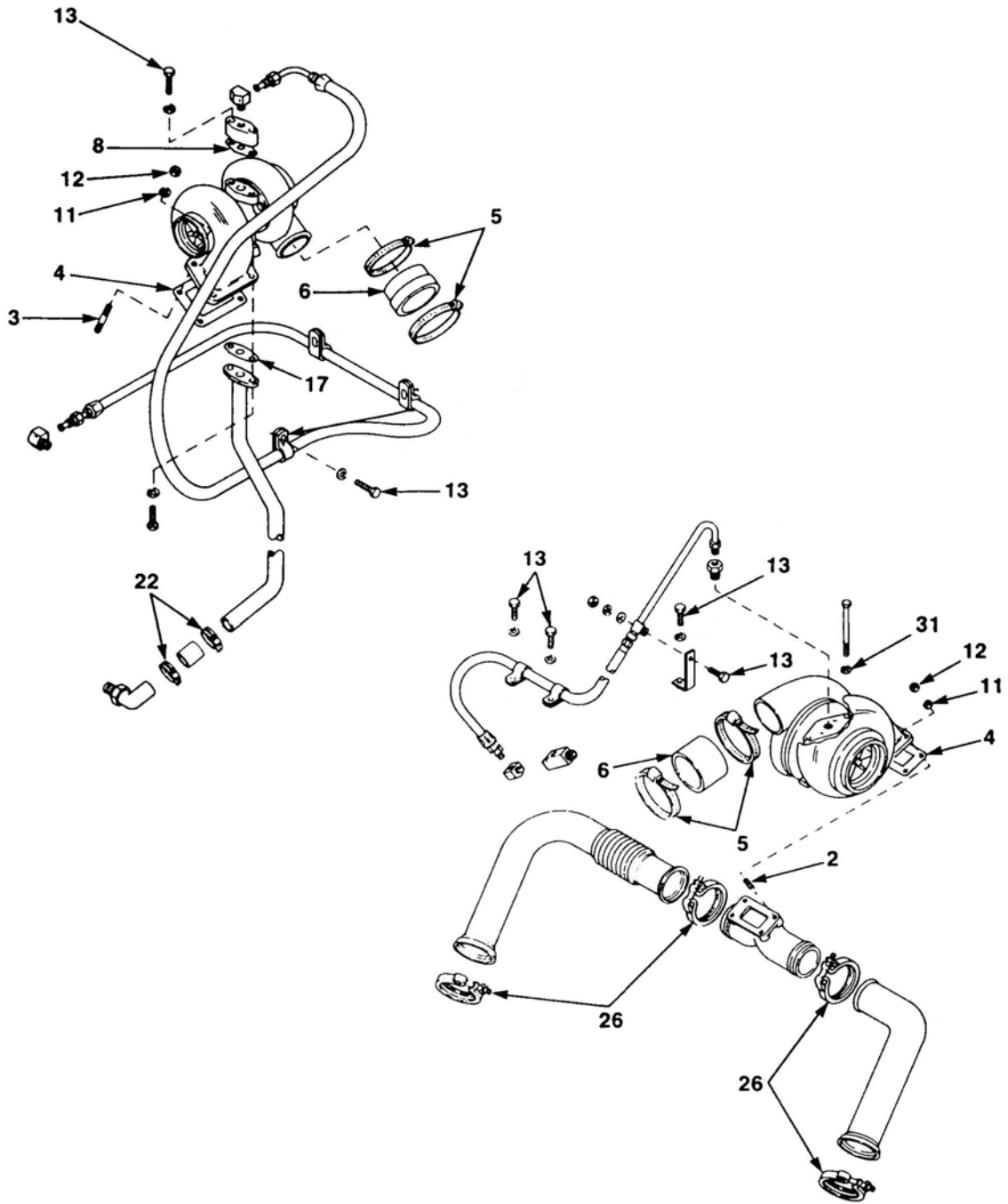
(Figure 10.3)

Groups:  
3.4300 - 3.4446

| Group  | Ref | Part No.          | Description  | 2I | 3I | 4I | 6I |
|--------|-----|-------------------|--|----|----|----|----|
| 3.4300 | 0   | FP-124546         | Key, Woodruff (5/32" x 5/8")                                   | -  | -  | 1  | 1  |
| 3.4300 | 0   | FP-5107079        | Gear, Blower Drive (R.H.. Helix), (45 Teeth)                   | -  | -  | 1  | -  |
| 3.4310 | 0   | FP-5119284        | Shaft, Hub Blower Gear Drive                                   | -  | -  | 1  | -  |
| 3.4310 | 0   | FP-5116418        | Shaft, Hub Blower Gear Drive                                   | -  | -  | -  | 1  |
| 3.4320 | 0   | FP-5119285        | Washer, Blower Drive Thrust                                    | -  | -  | 1  | 1  |
| 3.4320 | 0   | FP-9414847        | Ring, Blower Drive Retaining                                   | -  | -  | 1  | 1  |
| 3.4350 | 0   | FP-103321         | Lockwasher, 3/8"   | -  | -  | 2  | -  |
| 3.4350 | 0   | FP-5152148        | Washer, 3/8" Copper  | -  | -  | 2  | -  |
| 3.4350 | 0   | FP-5124519        | Ring, Blower Seal (8V53)                                       | -  | -  | -  | -  |
| 3.4360 | 0   | FP-5116336        | Gasket, Blower Drive Gear Hub Support                          | -  | -  | 1  | -  |
| 3.4360 | 0   | FP-5103474        | Gasket, Blower Drive Gear Hub Support                          | -  | -  | -  | 1  |
| 3.4360 | 0   | FP-5121344        | Gasket, Blower Drive Gear Hub Support                          | -  | -  | -  | 1  |
| 3.4445 | 0   | FP-5135876        | Shaft, Blower Drive (6.43" L.), (Heavy Duty)                   | -  | -  | -  | 1  |
| 3.4445 | 0   | FP-8922967        | Shaft, Blower Drive (6.43" L.), (Heavy Duty), (.500" Diameter) | -  | -  | -  | 1  |
| 3.4446 | 0   | FP-9414044        | Ring, Blower Drive   | -  | -  | 1  | 3  |
| 3.4370 | 0   | <b>FP-8922969</b> | <b>Coupling, Blower Drive</b>                                  | -  | -  | 1  | 1  |
| 3.4370 | 26  | FP-5119412        | Support, Blower Drive Coupling                                 | -  | -  | 1  | 1  |
| 3.4370 | 27  | FP-8922970        | Cam, Blower Drive Coupling                                     | -  | -  | 1  | 1  |
| 3.4370 | 0   | FP-5126237        | Spacer, Blower Drive   | -  | -  | 1  | 1  |
| 3.4370 | 0   | FP-5196614        | Spring Pack, Blower Drive Coupling                             | -  | -  | 1  | 1  |
| 3.4370 | 28  | FP-5180322        | Spring, Blower Drive Coupling                                  | -  | -  | 30 | 30 |
| 3.4370 | 29  | FP-5180321        | Seat, Blower Drive Coupling                                    | -  | -  | 2  | 2  |

# Turbocharger

(Figure 11.1)





# Turbocharger

(Figure 11.1)

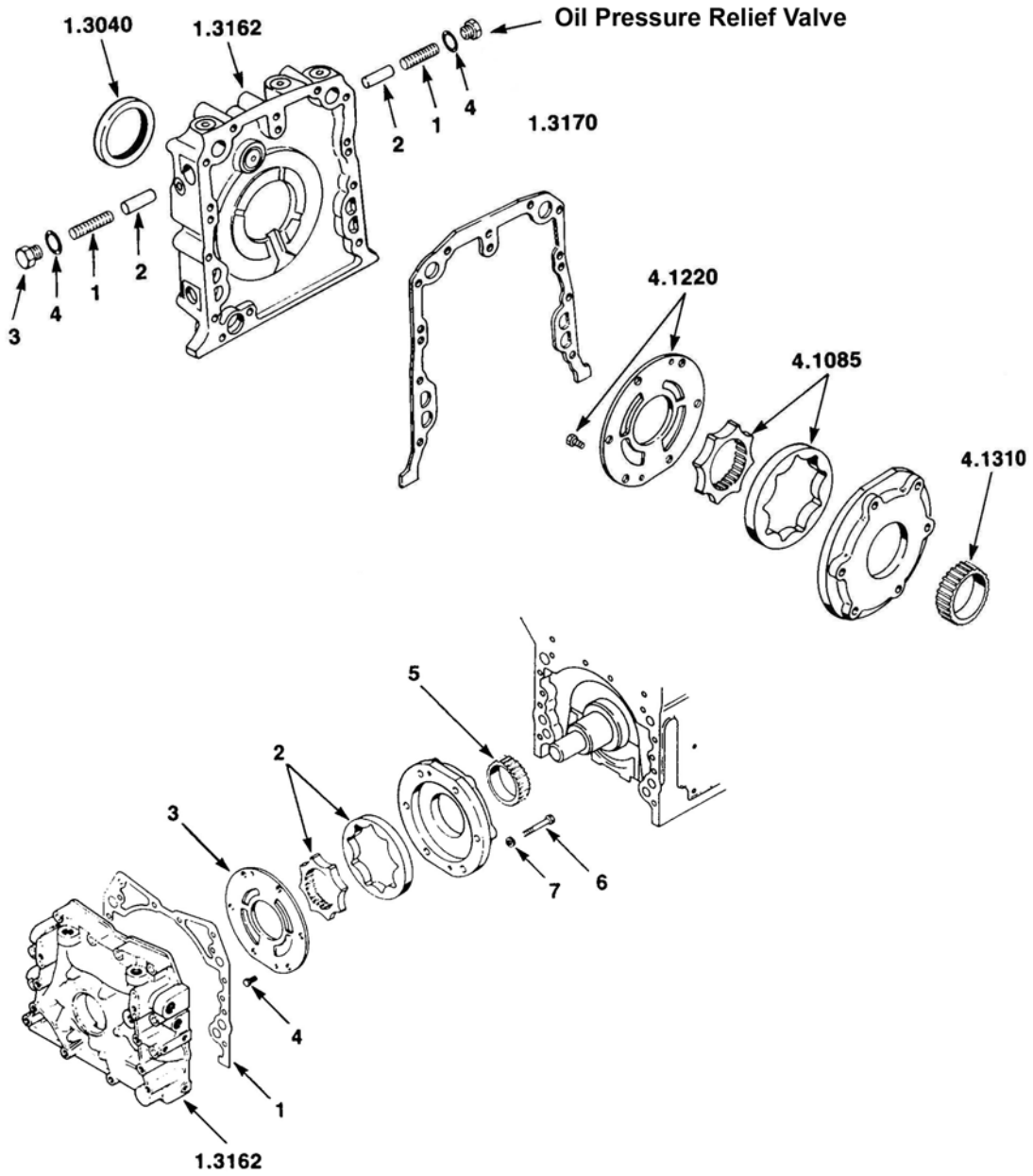
Groups:

3.5001 - 3.5505

| Group  | Ref | Part No.   | Description   | 2l | 3l | 4l | 6l |
|--------|-----|------------|---|----|----|----|----|
| 3.5001 | 4   | FP-5149158 | Plate, Turbocharger Bolt Locking  | 1  | 1  | 1  | 1  |
| 3.5001 | 0   | FP-5198227 | Seal Ring, Turbo Charger (3.5022), (Fits Turbochargers 5132530, 5141322, 5143099) | 1  | 1  | 1  | -  |
| 3.5001 | 3   | FP-8927270 | Stud, 3/8" -16/24 x 1 5/8"  | -  | 4  | 4  | 8  |
| 3.5001 | 0   | FP-5104978 | Ring, Turbocharger Seal   | -  | -  | -  | 1  |
| 3.5300 | 12  | FP-103026  | Nut, 3/8" - 24  | -  | -  | 4  | 8  |
| 3.5300 | 11  | FP-103321  | Lockwasher, 3/8"  | -  | -  | 4  | 8  |
| 3.5300 | 0   | FP-5175882 | Spacer, Turbocharger Mounting Bracket (8V53 Only)                                 | -  | -  | -  | -  |
| 3.5305 | 26  | FP-5137620 | Clamp, 3.82"  | -  | 4  | 4  | 4  |
| 3.5307 | 4   | FP-8929529 | Gasket, Turbocharger Exhaust Inlet  | -  | -  | -  | 1  |
| 3.5417 | 0   | FP-103320  | Lockwasher, 5/16"   | -  | -  | 4  | -  |
| 3.5417 | 0   | FP-5124405 | Gasket, Turbocharger Air Outlet   | -  | -  | 1  | -  |
| 3.5420 | 5   | FP-5147912 | Clamp, Hose (3.50" Diameter)  | -  | -  | 4  | 4  |
| 3.5420 | 6   | FP-5162888 | Hose, Turbocharger Air Outlet (3.5" I.D. x 2 3/4" L.)                             | -  | -  | 1  | 1  |
| 3.5425 | 0   | FP-8927580 | Bolt, 3/8" - 16 x 7/8"  | -  | -  | 2  | -  |
| 3.5500 | 0   | FP-8924380 | Plug, Pipe (1/8")   | -  | 1  | 1  | 1  |
| 3.5500 | 13  | FP-8927581 | Bolt, 3/8" -16 x 1"   | -  | 1  | 1  | 1  |
| 3.5500 | 8   | FP-5170466 | Gasket, Turbocharger Oil Supply   | -  | -  | 1  | 1  |
| 3.5500 | 8   | FP-5133425 | Gasket, Turbocharger Oil Supply (Aluminum Eng.)                                   | -  | -  | -  | 1  |
| 3.5505 | 22  | FP-5186840 | Clamp, Hose (1")  | -  | 2  | 2  | 2  |
| 3.5505 | 17  | FP-5170468 | Gasket, Turbocharger Oil Return   | -  | -  | -  | 1  |

# Oil Pump

(Figure 12.1)





# Oil Pump

(Figure 12.1)

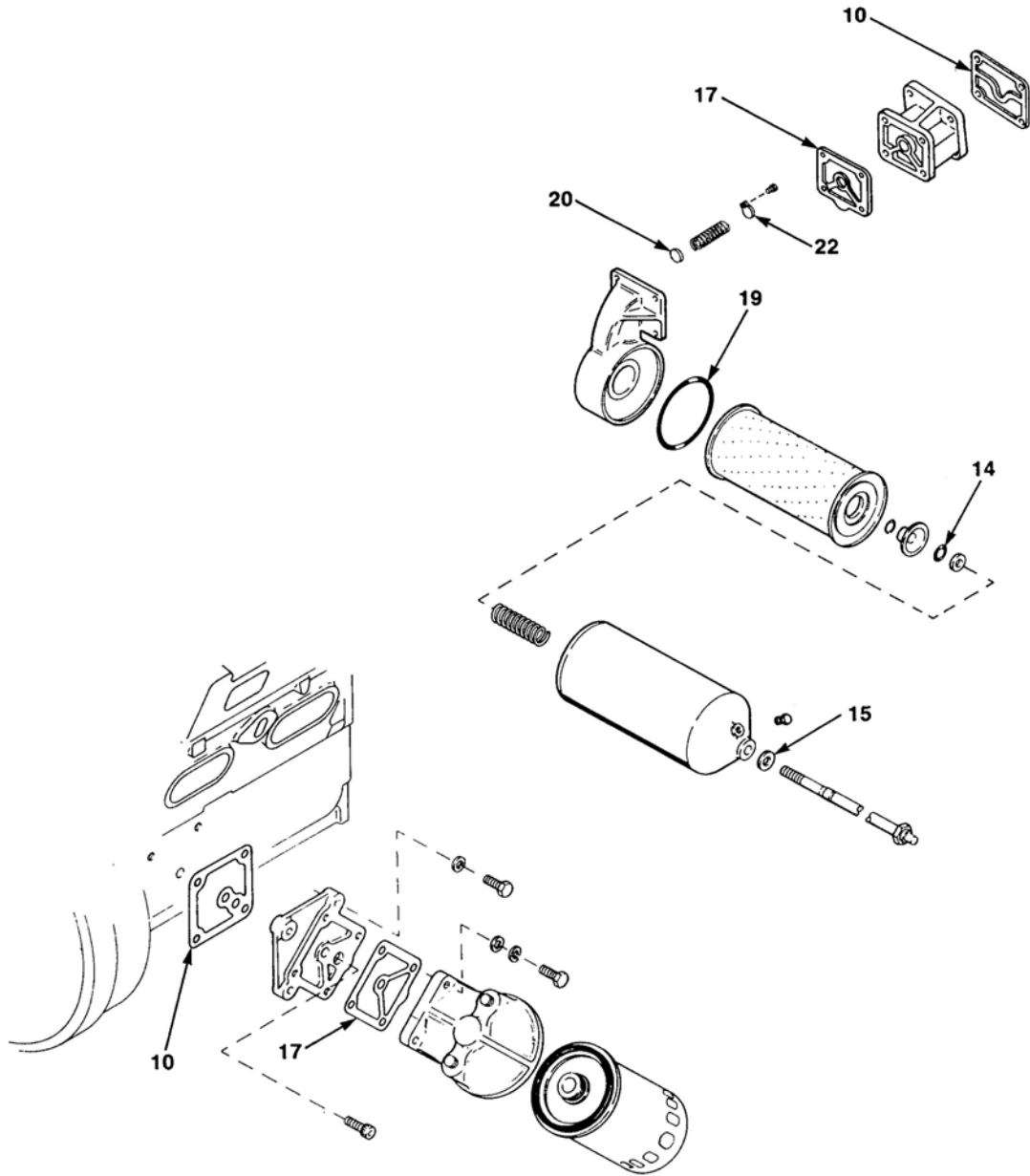
Groups:

4.1001 - 4.1720

| Group                            | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|----------------------------------|-----|-------------|--|----|----|----|----|
| 4.1001                           | 7   | FP-103320   | Lockwasher, 5/16"                                      | 6  | 6  | 6  | 6  |
| 4.1001                           | 0   | FP-5121042  | Pump Assembly, Oil (Option Type 50,52,170,171,172,173) | -  | 1  | 1  | -  |
| 4.1001                           | 0   | FP-5116110  | Pump Assembly, Oil (Option Type 49,166,167,168,169)    | -  | 1  | -  | -  |
| 4.1001                           | 0   | FP-5116070  | Pump Assembly, Oil (Option Type 51,163,164,165,174)    | -  | -  | -  | 1  |
| 4.1007                           | 1   | FP-5116386  | Gasket, Oil Pump To Block                              | 1  | 1  | 1  | -  |
| 4.1007                           | 0   | FP-5115454  | Seal, Oil Pump to Block                                | -  | 1  | -  | -  |
| 4.1007                           | 1   | FP-5119368  | Gasket, Oil Pump To Block                              | -  | -  | -  | 1  |
| 4.1050                           | 0   | FP-5153147  | Bushing, Oil Pump Body                                 | 1  | 1  | 1  | 1  |
| 4.1070                           | 0   | FP-5153309  | Shaft, Oil Pump Drive                                  | 1  | 1  | 1  | 1  |
| 4.1080                           | 0   | FP-5153146  | Shaft, Oil Pump Driven Gear                            | 1  | 1  | 1  | 1  |
| 4.1080                           | 0   | FP-5153310  | Shaft, Oil Pump Driven Gear                            | 1  | 1  | 1  | 1  |
| 4.1085                           | 2   | FP-5134968  | Rotor Assembly, Oil Pump (w/FP-5135032 Pump)           | 1  | -  | -  | -  |
| 4.1085                           | 2   | FP-5195714  | Rotor Assembly, Oil Pump (w/FP-5116110 Pump)           | -  | 1  | -  | -  |
| 4.1085                           | 2   | FP-5103900  | Rotor Assembly, Oil Pump (w/FP-5103847 Pump), (4-53T)  | -  | -  | 1  | -  |
| 4.1085                           | 2   | FP-5195957  | Rotor Assembly, Oil Pump (w/FP-5121042 Pump)           | -  | -  | 1  | -  |
| 4.1085                           | 2   | FP-5195687  | Rotor Assembly, Oil Pump (w/FP-5116070 Pump)           | -  | -  | -  | 1  |
| 4.1090                           | 0   | FP-5153260  | Gear, Oil Pump Drive (8V-53)                           | -  | -  | -  | -  |
| 4.1200                           | 0   | FP-5153617  | Gear, Oil Pump Driven (6V & 8V-53)                     | -  | -  | -  | 1  |
| 4.1210                           | 0   | FP-5166840  | Bushing, Oil Pump Driven Gear                          | 1  | 1  | 1  | 1  |
| 4.1210                           | 0   | FP-5153154  | Bushing, Oil Pump Driven Gear (8V-53)                  | -  | -  | -  | -  |
| 4.1220                           | 4   | FP-145067   | Screw, #6 x 3/8"                                       | 2  | 2  | 2  | 2  |
| 4.1220                           | 3   | FP-5195685  | Cover, Oil Pump  | 1  | 1  | 1  | 1  |
| 4.1227                           | 0   | FP-8927581  | Bolt, 3/8" -16 x 1"                                    | -  | 1  | -  | -  |
| 4.1230                           | 0   | FP-5142712  | Gasket, Oil Pump Drive Support (Cover Plate)           | -  | 1  | -  | -  |
| 4.1240                           | 0   | FP-5136097  | Bushing, Oil Pump Cover                                | -  | -  | -  | 1  |
| 4.1250                           | 0   | FP-5177777  | Valve, Oil Pump Relief                                 | -  | 2  | -  | -  |
| 4.1260                           | 0   | FP-5126436  | Spring, Oil Pump Relief Valve                          | -  | 2  | -  | -  |
| 4.1260                           | 0   | FP-5155765  | Spring, Oil Pump Relief Valve                          | -  | 1  | -  | -  |
| 4.1280                           | 0   | FP-5177773  | Gasket, Oil Pump Relief Valve                          | -  | 2  | -  | -  |
| 4.1310                           | 5   | FP-8921172  | Gear, Oil Pump Drive (On Crankshaft)                   | 1  | 1  | 1  | 1  |
| 4.1380                           | 0   | FP-8928540  | Key, Woodruff (1/8" x 5/8")                            | 1  | 1  | 1  | 1  |
| 4.1510                           | 3   | FP-5127175  | Seal Ring, Oil Pump Inlet                              | 1  | 1  | 1  | -  |
| 4.1510                           | 7   | FP-103320   | Lockwasher, 5/16"                                      | -  | -  | 2  | -  |
| 4.1510                           | 0   | FP-5126492  | Seal Ring, Oil Pump Inlet                              | -  | -  | -  | 1  |
| 4.1512                           | 0   | FP-103321   | Lockwasher, 3/8"                                       | -  | -  | 2  | -  |
| 4.1512                           | 0   | FP-5138619  | Washer, 25/64"   | -  | -  | -  | 4  |
| 4.1520                           | 0   | FP-23504449 | Gasket, Oil Pump Inlet Pipe (Elbow To Pump)            | 1  | 1  | 1  | -  |
| 4.1520                           | 0   | FP-5180273  | Gasket, Oil Pump Inlet Pipe                            | 1  | 1  | 1  | -  |
| 4.1520                           | 0   | FP-5153902  | Gasket, Oil Pump Intake                                | 1  | -  | -  | -  |
| 4.1520                           | 0   | FP-5126473  | Gasket, Oil Pump Inlet Pipe (Elbow To Pump)            | -  | -  | -  | 1  |
| 4.1520                           | 0   | FP-5135877  | Gasket, Oil Pump Inlet Tube (6V53T Only)               | -  | -  | -  | 1  |
| 4.1530                           | 0   | FP-103319   | Lockwasher, 1/4"                                       | -  | -  | -  | 2  |
| 4.1530                           | 0   | FP-5155830  | Screen, Oil Pump Inlet                                 | -  | -  | -  | 1  |
| <b>Oil Pressure Relief Valve</b> |     |             |  |    |    |    |    |
| 4.1690                           | 1   | FP-5126436  | Spring, Oil Pressure Regulator (Orange Stripe)         | 2  | 2  | 2  | 2  |
| 4.1700                           | 2   | FP-5177777  | Valve, Oil Pressure Regulator (Types 8,9,12,15,29)     | 2  | 2  | 2  | 2  |
| 4.1720                           | 4   | FP-5177773  | Gasket, Oil Pressure Regulator                         | 2  | 2  | 2  | 2  |

# Oil Filter

(Figure 12.2)





## Oil Filter

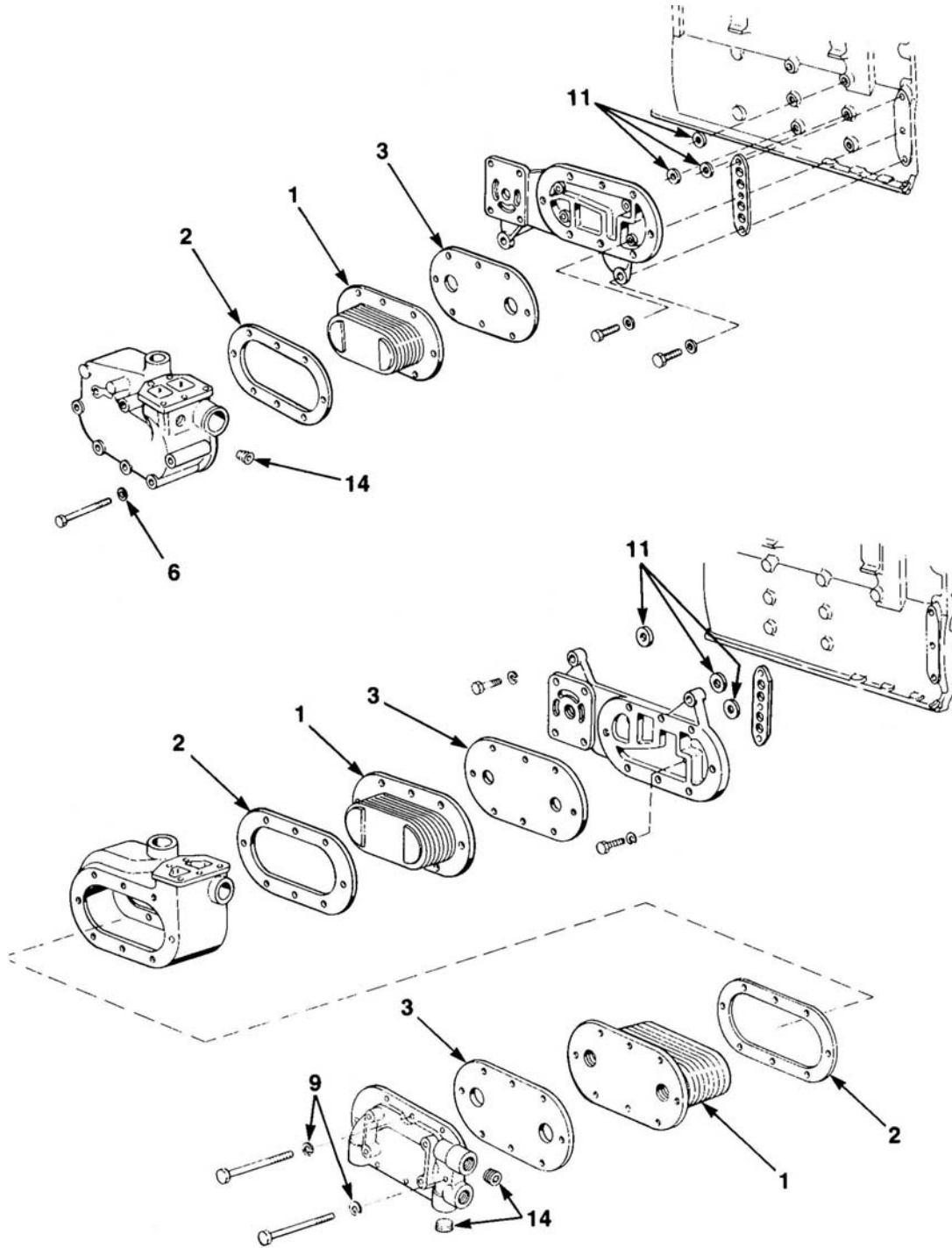
(Figure 12.2)

Groups:  
4.2290 - 4.3045

| Group  | Ref | Part No.   | Description                                      | 2l | 3l | 4l | 6l |
|--------|-----|------------|--|----|----|----|----|
| 4.2290 | 0   | FP-103321  | Lockwasher, 3/8"                                 | -  | 4  | -  | -  |
| 4.2290 | 0   | FP-5121182 | Plug, Pipe (1/4")                                | -  | 1  | -  | -  |
| 4.2293 | 10  | FP-5121205 | Gasket, Oil Filter Cover Adapter                 | 1  | 1  | 1  | 1  |
| 4.2293 | 0   | FP-5133263 | Gasket, Oil Filter Adapter To Oil Cooler Adapter | 1  | 1  | 1  | -  |
| 4.2293 | 0   | FP-5108828 | Gasket, Oil Filter Adapter To Oil Cooler Adapter | -  | -  | -  | 1  |
| 4.2293 | 10  | FP-5128486 | Gasket, Oil Filter Cover Adapter                 | -  | -  | -  | 1  |
| 4.2300 | 19  | FP-1595620 | Gasket, Oil Filter Cover                         | -  | 1  | -  | -  |
| 4.2315 | 0   | FP-114498  | Nut, 5/8" -18 Hex                                | -  | 1  | 1  | 1  |
| 4.2330 | 14  | FP-5187310 | Gasket, Oil Filter Cover Nut Retainer            | 1  | 1  | 1  | 1  |
| 4.2330 | 15  | FP-6437298 | Gasket, Oil Filter Cover Nut                     | -  | 1  | 1  | 1  |
| 4.2350 | 17  | FP-5104866 | Gasket, Oil Filter Adapter                       | 1  | 1  | 1  | -  |
| 4.2350 | 17  | FP-5121205 | Gasket, Oil Filter Adapter                       | 1  | 1  | 1  | 1  |
| 4.2350 | 17  | FP-5128439 | Gasket, Oil Filter Adapter                       | 1  | -  | -  | 1  |
| 4.2350 | 17  | FP-8924412 | Gasket, Oil Filter Adapter                       | -  | 1  | 1  | 1  |
| 4.2350 | 17  | FP-5128039 | Gasket, Oil Filter Adapter                       | -  | -  | -  | 1  |
| 4.2485 | 20  | FP-5133431 | Valve, Oil Filter By-Pass                        | -  | 1  | 1  | 1  |
| 4.3027 | 0   | FP-5137549 | Gasket, Oil Filter Adapter                       | -  | -  | -  | 1  |
| 4.3045 | 0   | FP-5181415 | Clip, Oil Filter Line (1 1/8" Tube - 7/16" Bolt) | 1  | 1  | 1  | 1  |

# Oil Cooler

(Figure 13.1)







# Oil Cooler

(Figure 13.1)

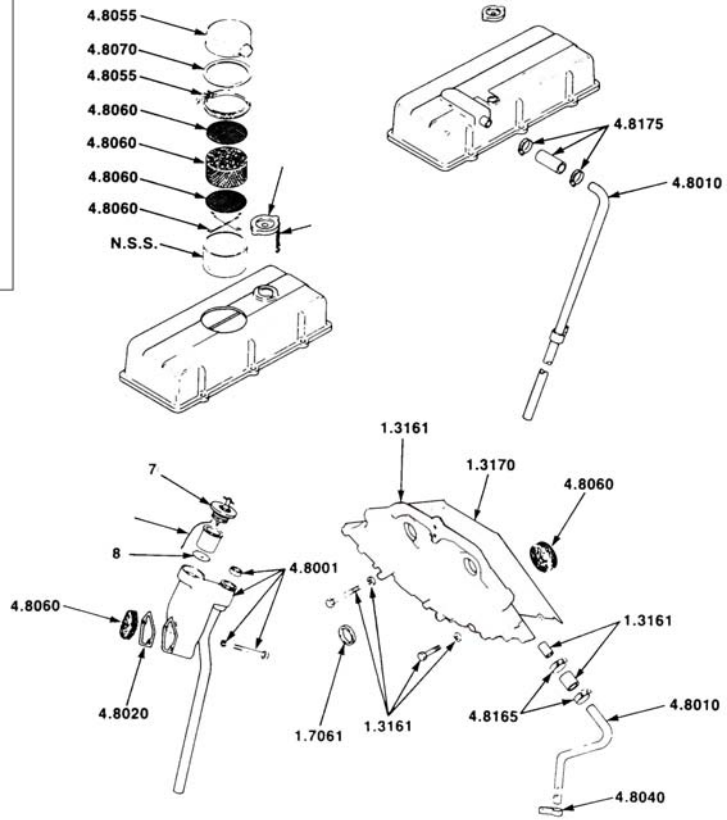
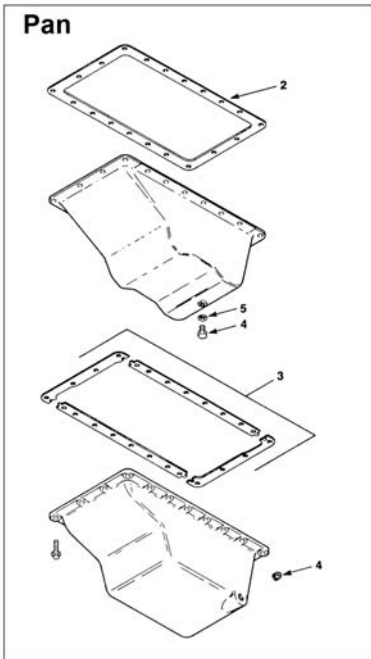
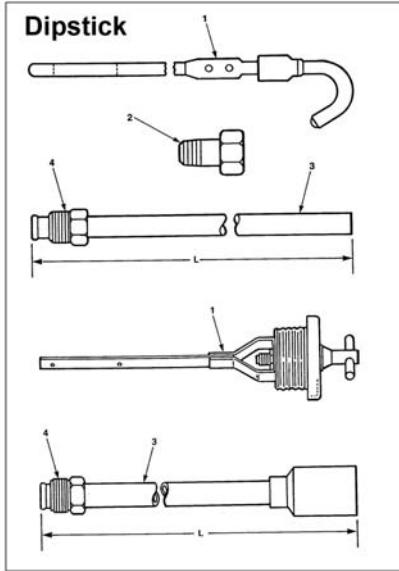
Groups:

4.2350 - 4.4244

| Group  | Ref | Part No.           | Description                                  | 2l | 3l | 4l | 6l |
|--------|-----|--------------------|--|----|----|----|----|
| 4.4000 | 0   | FP-5121205         | Gasket, Oil Cooler Adapter (4.2350)          | 1  | 1  | 1  | -  |
| 4.4001 | 1   | FP-8547194         | Core Assembly, Oil Cooler (4 Plate)          | 1  | 1  | 1  | -  |
| 4.4001 | 1   | FP-8547563         | Core Assembly, Oil Cooler (8 Plate)          | -  | 1  | 1  | 1  |
| 4.4001 | 1   | FP-8547548         | Core Assembly, Oil Cooler (6 Plate)          | -  | 1  | -  | 1  |
| 4.4001 | 1   | FP-8547236         | Core Assembly, Oil Cooler (13 Plate)         | -  | -  | 1  | 1  |
| 4.4001 | 1   | FP-8547581         | Core Assembly, Oil Cooler (13 Plate)         | -  | -  | 1  | 1  |
| 4.4001 | 1   | FP-8547547         | Core Assembly, Oil Cooler (16 Plate)         | -  | -  | -  | 1  |
| 4.4001 | 1   | FP-8547551         | Core Assembly, Oil Cooler (8 Plate), (8V-53) | -  | -  | -  | -  |
| 4.4030 | 0   | FP-5104868         | Gasket, Oil Cooler Core - Inner              | 1  | 1  | 1  | 1  |
| 4.4030 | 0   | FP-5104881         | Gasket, Oil Cooler Core - Inner              | 1  | 1  | 1  | 1  |
| 4.4030 | 2   | FP-23501591        | Gasket, Oil Cooler Inlet                     | -  | -  | -  | 1  |
| 4.4030 | 2   | FP-5133619         | Gasket, Oil Cooler Inlet                     | -  | -  | -  | 1  |
| 4.4040 | 0   | FP-5104868         | Gasket, Oil Cooler Core - Outer              | 1  | 1  | 1  | 1  |
| 4.4040 | 3   | FP-8923223         | Gasket, Oil Cooler Outlet                    | -  | 1  | 2  | 2  |
| 4.4040 | 3   | FP-5133537         | Gasket, Oil Cooler Outlet                    | -  | -  | -  | 1  |
| 4.4040 | 3   | FP-5134818         | Gasket, Oil Cooler Outlet                    | -  | -  | -  | 1  |
| 4.4050 | 6   | FP-103320          | Lockwasher 5/16"                             | 7  | 7  | 8  | 8  |
| 4.4050 | 14  | FP-5121182         | Plug, 1/4" Socket Head (4.4050)              | 2  | 2  | 2  | 2  |
| 4.4050 | 14  | FP-5142549         | Plug, 3/4" Socket Head Pipe                  | 2  | 2  | 2  | 2  |
| 4.4055 | 0   | FP-5116357         | Gasket, Oil Cooler Housing To Block          | 1  | 1  | 1  | 1  |
| 4.4060 | 6   | FP-103320          | Lockwasher, 5/16"                            | -  | 8  | 8  | 12 |
| 4.4110 | 0   | FP-103321          | Lockwasher, 3/8"                             | 4  | 4  | 4  | -  |
| 4.4110 | 0   | FP-8927581         | Bolt, 3/8" -16 x 1"                          | 4  | 4  | 4  | -  |
| 4.4115 | 0   | FP-5116416         | Gasket, Oil Cooler Adapter                   | 1  | 1  | -  | -  |
| 4.4115 | 0   | FP-5119329         | Gasket, Oil Cooler Adapter To Cylinder Block | 1  | -  | -  | -  |
| 4.4115 | 0   | FP-8923738         | Gasket, Oil Cooler Adapter To Block          | -  | 1  | 1  | -  |
| 4.4115 | 0   | FP-5104846         | Gasket, Oil Cooler Adapter                   | -  | -  | -  | 1  |
| 4.4001 | 0   | <b>FP-PG3453OC</b> | <b>Installation Kit, Oil Cooler</b>          | -  | 1  | 1  | -  |
| 4.4030 | 2   | FP-5150155         | Gasket, Oil Cooler Inlet                     | 1  | 1  | 1  | 2  |
| 4.4040 | 3   | FP-5102506         | Gasket, Oil Cooler Outlet                    | 1  | 2  | 2  | 2  |
| 4.4115 | 11  | FP-5175882         | Gasket, Oil Cooler Adapter                   | 2  | 3  | 4  | -  |
| 4.4115 | 15  | FP-5103906         | Gasket, Oil Cooler Adapter                   | 1  | 1  | 1  | -  |
| 4.2350 | 0   | FP-5121205         | Gasket, Oil Filter                           | 1  | 1  | 1  | -  |

# Pan, Filler & Dipstick

(Figure 13.2)





# Pan, Filler & Dipstick

(Figure 13.2)

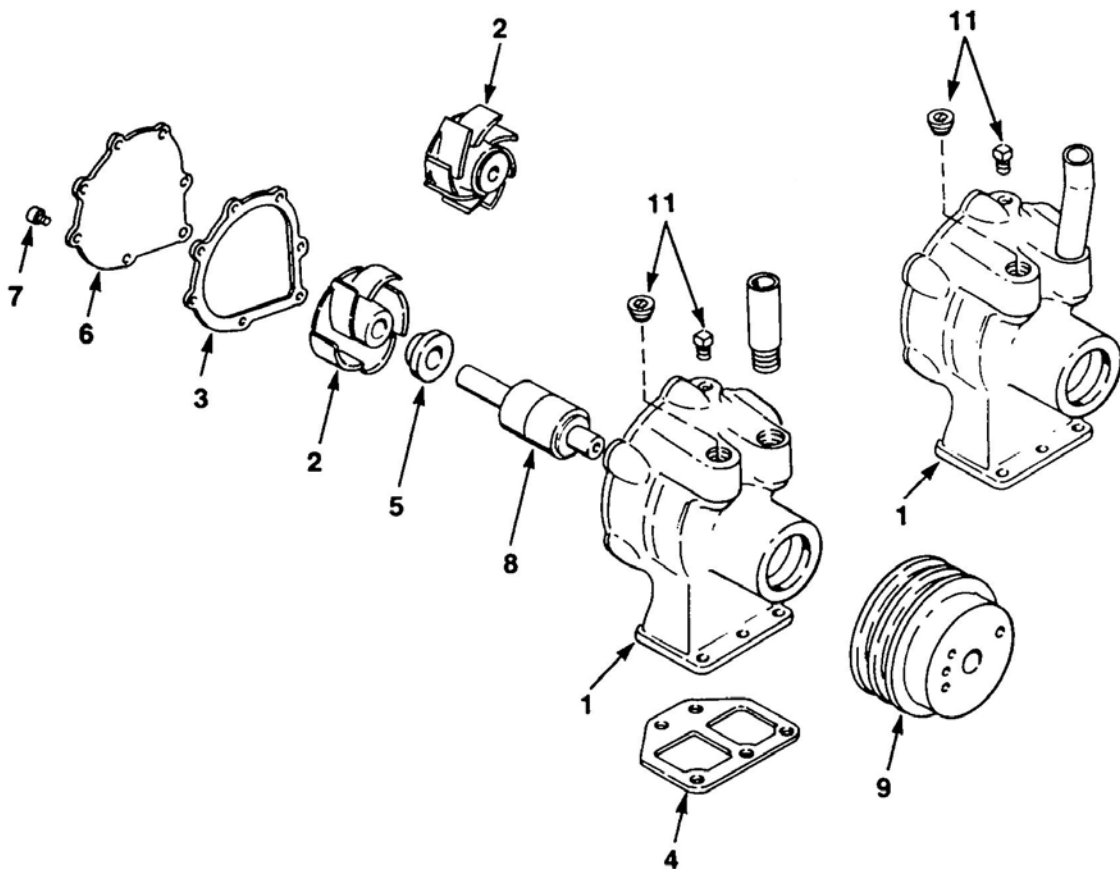
Groups:

4.5010 - 4.8180

| Group           | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|-----------------|-----|-------------|--|----|----|----|----|
| <b>Dipstick</b> |     |             |  |    |    |    |    |
| 4.6001          | 1   | FP-5146679  | Dipstick, Unmarked   | 1  | 1  | 1  | 1  |
| 4.6001          | 1   | FP-5146680  | Dipstick, Unmarked   | 1  | 1  | 1  | 1  |
| 4.6001          | 6   | FP-5151430  | Guide, Dipstick (1.50" L.)                                       | 1  | 1  | 1  | 1  |
| <b>Filler</b>   |     |             |  |    |    |    |    |
| 4.5010          | 0   | FP-5107106  | Cap Assembly, Oil Filler Tube (1.50" Diameter), (Expansion Type) | 1  | 1  | 1  | 1  |
| 4.5010          | 7   | FP-5108474  | Cap Assembly, Oil Filler Tube (Twist Type)                       | 1  | 1  | 1  | 1  |
| 4.5010          | 7   | FP-5120098  | Cap Assembly, Oil Filler (1.75" Diameter)                        | 1  | 1  | 1  | -  |
| 4.5010          | 7   | FP-5117362  | Cap Assembly, Oil Filler (2" Diameter)                           | -  | 1  | -  | 1  |
| 4.5010          | 11  | FP-5140259  | Cap Assembly, Oil Filler Tube (w/Chain & Hook)                   | -  | 1  | -  | 1  |
| 4.5020          | 8   | FP-5150147  | Strainer, Oil Filler Tube  | 1  | 1  | 1  | -  |
| 4.5030          | 0   | FP-23515145 | Gasket, Oil Filler Tube  | 1  | 1  | 1  | 1  |
| 4.5030          | 0   | FP-5116391  | Gasket, Oil Filler Tube  | 1  | 1  | 1  | 1  |
| <b>Pan</b>      |     |             |  |    |    |    |    |
| 4.7030          | 2   | FP-5116255  | Gasket, Oil Pan (Stamped)  | 1  | -  | -  | -  |
| 4.7030          | 3   | FP-5196058  | Gasket, Oil Pan (Cast Iron)                                      | 1  | -  | -  | -  |
| 4.7030          | 2   | FP-5116256  | Gasket, Oil Pan (Stamped)  | -  | 1  | -  | -  |
| 4.7030          | 0   | FP-5143271  | Gasket, Oil Pan (Aluminum Eng.)                                  | -  | 1  | -  | -  |
| 4.7030          | 3   | FP-5196059  | Gasket, Oil Pan (Cast Iron)                                      | -  | 1  | -  | -  |
| 4.7030          | 2   | FP-5116257  | Gasket, Oil Pan (Stamped)  | -  | -  | 1  | -  |
| 4.7030          | 3   | FP-5196060  | Gasket, Oil Pan (Cast Iron)                                      | -  | -  | 1  | -  |
| 4.7030          | 2   | FP-5119266  | Gasket, Oil Pan (Stamped)  | -  | -  | -  | 1  |
| 4.7030          | 0   | FP-5137847  | Gasket, Oil Pan (Aluminum Eng.)                                  | -  | -  | -  | 1  |
| 4.7030          | 3   | FP-5196061  | Gasket, Oil Pan (Cast Iron)                                      | -  | -  | -  | 1  |
| 4.7080          | 4   | FP-5115214  | Plug, 1/2" Pipe Square Head                                      | 3  | 3  | 5  | 5  |
| 4.7080          | 0   | FP-5121182  | Plug, 1/4" Pipe  | 2  | 2  | 2  | 2  |
| 4.7080          | 4   | FP-5142549  | Plug, 3/4" Pipe Square Head                                      | 1  | 1  | 1  | 1  |
| 4.7080          | 5   | FP-840277   | Washer, 18mm   | -  | 1  | 1  | 1  |
| 4.7120          | 0   | FP-5155596  | Gasket, 5/16" Copper   | -  | 2  | 2  | 2  |
| 4.8180          | 0   | FP-5181415  | Clip, Breather Extension Pipe Hose (1 1/8" Tube - 7/16" Bolt)    | 1  | 1  | 1  | 1  |

# Fresh Water Pump

(Figure 14.1)





# Fresh Water Pump

(Figure 14.1)

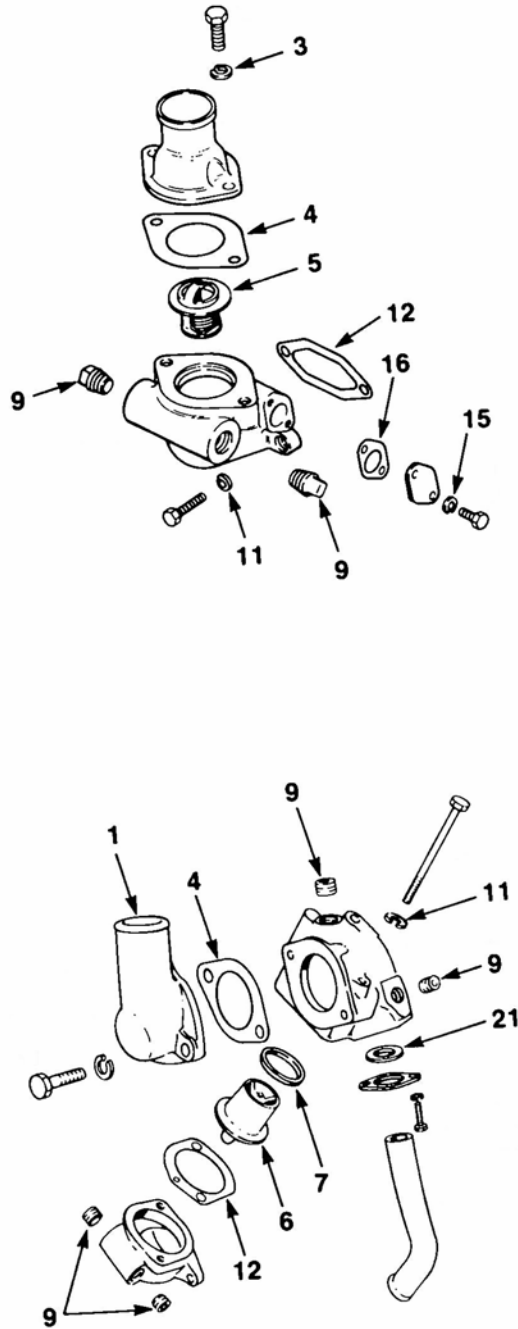
Groups:

5.1001 - 5.1214

| Group  | Ref | Part No.           | Description   | 2l | 3l | 4l | 6l |
|--------|-----|--------------------|---|----|----|----|----|
| 5.1001 | 0   | FP-23506003        | Pump Assembly, Water (L.H.), (FP-5144685)                   | 1  | 1  | 1  | 1  |
| 5.1001 | 0   | FP-23506007        | Pump Assembly, Water (R.H.), (FP-5144686)                   | 1  | 1  | 1  | 1  |
| 5.1001 | 0   | FP-23506009        | Pump Assembly, Water (R.H.), (FP-8920868)                   | 1  | 1  | 1  | -  |
| 5.1001 | 0   | FP-23506011        | Pump Assembly, Water (L.H.), (Aluminum Housing), (Military) | -  | -  | -  | 1  |
| 5.1006 | 0   | FP-5119329         | Gasket, Water Pump Adapter                                  | 1  | -  | -  | -  |
| 5.1030 | 11  | FP-5115214         | Plug, 1/2" Pipe   | 1  | 1  | 1  | 1  |
| 5.1030 | 1   | FP-5144688         | Body, Fresh Water Pump                                      | 1  | 1  | 1  | -  |
| 5.1030 | 1   | FP-5144689         | Body, Fresh Water Pump                                      | 1  | 1  | 1  | 1  |
| 5.1030 | 11  | FP-8924380         | Plug, 1/8" Pipe   | 1  | 1  | 1  | 1  |
| 5.1030 | 1   | FP-5104391         | Body, Fresh Water Pump (Aluminum), (Military)               | -  | -  | -  | 1  |
| 5.1031 | 7   | FP-5104293         | Bolt, 5/16" - 8 x 3/4" (Std.)                               | 7  | 7  | 7  | 7  |
| 5.1031 | 7   | FP-8925603         | Bolt, 5/16" (Vibratite)                                     | 7  | 7  | 7  | 7  |
| 5.1031 | 6   | FP-5119283         | Cover, Fresh Water Pump                                     | 1  | 1  | 1  | 1  |
| 5.1200 | 9   | FP-5139237         | Pulley Assembly, Fresh Water Pump Idler                     | 1  | 1  | 1  | 1  |
| 5.1202 | 0   | FP-907394          | Bearing, Idler Pulley                                       | 1  | 1  | 1  | 1  |
| 5.1207 | 0   | FP-5108219         | Seal, Idler Pulley Shaft                                    | -  | 1  | -  | -  |
| 5.1214 | 9   | FP-5144503         | Pulley Assembly, Fresh Water Pump                           | 1  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-23506863</b> | <b>Repair Kit, Fresh Water Pump (L.H.)</b>                  | 1  | 1  | 1  | 1  |
| 5.1002 | 8   | FP-904827          | Shaft & Bearing   | 1  | 1  | 1  | 1  |
| 5.1002 | 2   | FP-23506605        | Impeller, Fresh Water Pump                                  | 1  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5119282         | Gasket, Fresh Water Pump                                    | 1  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5133107         | Gasket, Fresh Water Pump                                    | 1  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-23506248        | Seal, Fresh Water Pump                                      | 1  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-23506864</b> | <b>Repair Kit, Fresh Water Pump (R.H.)</b>                  | 1  | 1  | 1  | 1  |
| 5.1002 | 8   | FP-904827          | Shaft & Bearing   | 1  | 1  | 1  | 1  |
| 5.1002 | 2   | FP-23506606        | Impeller, Fresh Water Pump                                  | 1  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5119282         | Gasket, Fresh Water Pump                                    | 1  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5133107         | Gasket, Fresh Water Pump                                    | 1  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-23506248        | Seal, Fresh Water Pump                                      | 1  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-23506865</b> | <b>Repair Kit, Fresh Water Pump (R.H.)</b>                  | 1  | 1  | 1  | 1  |
| 5.1002 | 8   | FP-904827          | Shaft & Bearing   | 1  | 1  | 1  | 1  |
| 5.1002 | 2   | FP-23505994        | Impeller, Fresh Water Pump                                  | 1  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5119282         | Gasket, Fresh Water Pump                                    | 1  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5133107         | Gasket, Fresh Water Pump                                    | 1  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-23506248        | Seal, Fresh Water Pump                                      | 1  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-23506869</b> | <b>Repair Kit, Fresh Water Pump (L.H.)</b>                  | 1  | 1  | 1  | 1  |
| 5.1002 | 8   | FP-904827          | Shaft & Bearing   | 1  | 1  | 1  | 1  |
| 5.1002 | 2   | FP-23505993        | Impeller, Fresh Water Pump                                  | 1  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5119282         | Gasket, Fresh Water Pump                                    | 1  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5133107         | Gasket, Fresh Water Pump                                    | 1  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-23506248        | Seal, Fresh Water Pump                                      | 1  | 1  | 1  | 1  |
| 5.1115 | 0   | <b>FP-5197279</b>  | <b>Insert Kit, Ceramic Seal</b>                             | 1  | 1  | 1  | 1  |
| 5.1115 | 0   | FP-5117342         | Insert, Ceramic Seal  | 1  | 1  | 1  | 1  |
| 5.1115 | 0   | FP-5197310         | Washer, Adhesive  | 2  | 2  | 2  | 2  |

# Thermostat

(Figure 15.1)





# Thermostat

(Figure 15.1)

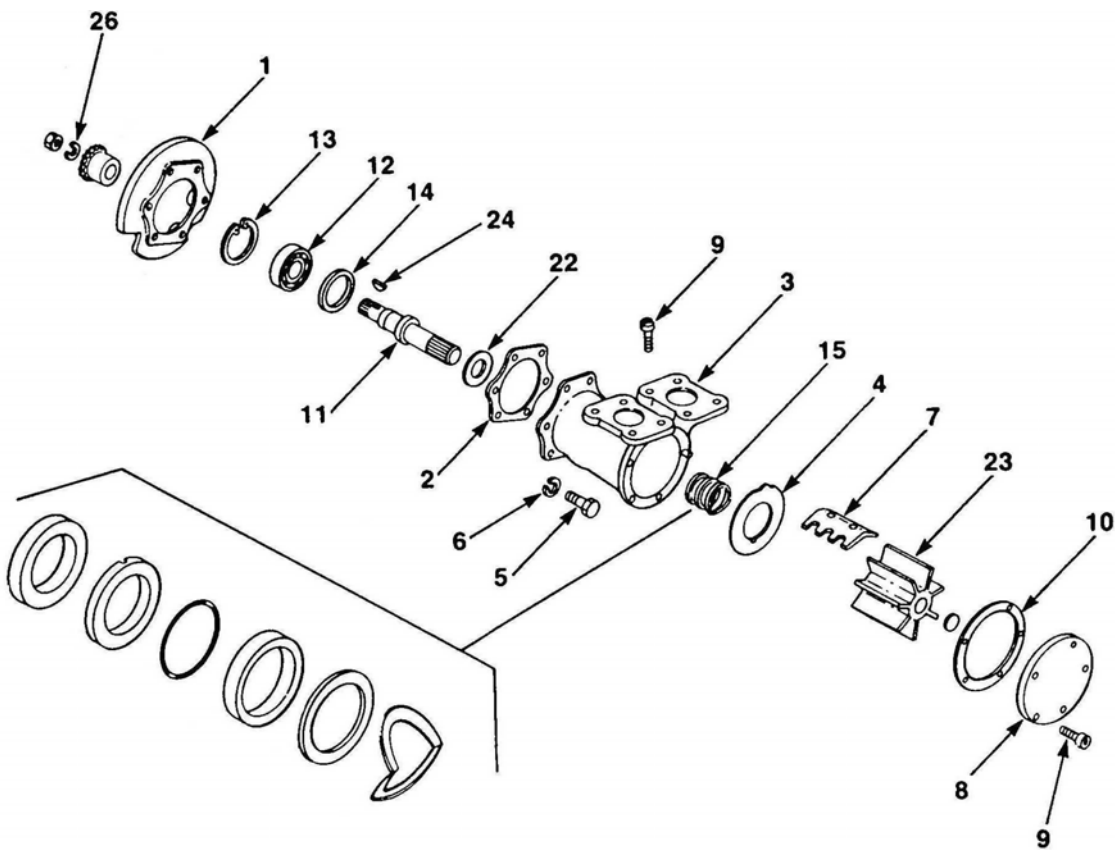
Groups:

5.2037 - 5.4170

| Group  | Ref | Part No.    | Description   | 2l | 3l | 4l | 6l |
|--------|-----|-------------|---|----|----|----|----|
| 5.2037 | 4   | FP-5116092  | Gasket, Water Outlet Elbow                                  | 2  | 2  | 2  | 4  |
| 5.2037 | 4   | FP-5116242  | Gasket, Water Outlet Elbow                                  | 1  | 1  | 1  | 2  |
| 5.2037 | 0   | FP-5121257  | Gasket, Water Outlet Manifold Elbow                         | 1  | -  | -  | -  |
| 5.2037 | 4   | FP-2206783  | Gasket, Water Outlet Elbow                                  | -  | 1  | -  | -  |
| 5.2050 | 5   | FP-8927465  | Thermostat Assembly, 170°                                   | 1  | 1  | 1  | -  |
| 5.2050 | 5   | FP-8927466  | Thermostat Assembly, 180° (w/Rapid Start Up)                | 1  | 1  | 1  | -  |
| 5.2050 | 5   | FP-5143210  | Thermostat Assembly, 170°                                   | -  | 1  | 1  | 2  |
| 5.2050 | 6   | FP-23503828 | Thermostat Assembly, 165° (Weir Type), (8V-53)              | -  | -  | -  | 2  |
| 5.2050 | 5   | FP-3041379  | Thermostat Assembly, 170°                                   | -  | -  | -  | 1  |
| 5.2050 | 5   | FP-5104462  | Thermostat Assembly, 180°                                   | -  | -  | -  | 2  |
| 5.2050 | 5   | FP-5124872  | Thermostat Assembly, 175°                                   | -  | -  | -  | 2  |
| 5.2060 | 7   | FP-5132155  | Seal, Thermostat (8V53)                                     | -  | -  | -  | 1  |
| 5.2060 | 7   | FP-5134269  | Seal, Thermostat (8V53)                                     | -  | -  | -  | 2  |
| 5.2090 | 9   | FP-5115214  | Plug, 1/2" Pipe   | 2  | 3  | 3  | 6  |
| 5.2090 | 11  | FP-103321   | Lockwasher, 3/8"  | 2  | 2  | 2  | 4  |
| 5.2090 | 9   | FP-8923847  | Plug, 1/4" Pipe   | 2  | 2  | 2  | 4  |
| 5.2090 | 9   | FP-8924517  | Plug, 3/8" Pipe   | 2  | 2  | 2  | 2  |
| 5.2090 | 9   | FP-8924380  | Plug, 1/8" Pipe   | -  | 1  | -  | -  |
| 5.2093 | 0   | FP-5117786  | Seal, Thermostat Housing Outlet Elbow                       | -  | -  | -  | 1  |
| 5.2110 | 12  | FP-5124997  | Gasket, Thermostat Housing (To Base)                        | -  | -  | -  | 2  |
| 5.2120 | 15  | FP-103320   | Lockwasher, 5/16"   | 2  | 2  | 2  | 4  |
| 5.2130 | 16  | FP-5126473  | Gasket, Thermostat Housing Cover (5.2170)                   | 1  | 1  | 1  | 1  |
| 5.2130 | 16  | FP-5117786  | Gasket, Thermostat Housing Cover (8V53)                     | -  | -  | -  | 1  |
| 5.2130 | 16  | FP-5125024  | Gasket, Thermostat Housing Cover (5.2170)                   | -  | -  | -  | 1  |
| 5.2130 | 16  | FP-5133450  | Gasket, Thermostat Housing Cover (8V53)                     | -  | -  | -  | 1  |
| 5.2160 | 0   | FP-5181415  | Clip, Water By-Pass Tube (1 1/8" Tube - 7/16" Bolt)         | 1  | 1  | 1  | 1  |
| 5.2160 | 0   | FP-5184301  | Seal Ring, Water By-Pass Tube                               | 1  | 1  | 1  | -  |
| 5.2160 | 21  | FP-5125150  | Seal Ring, Water By-Pass Tube                               | -  | -  | -  | 3  |
| 5.2170 | 0   | FP-5116357  | Gasket, Water By-Pass Tube                                  | -  | 1  | 1  | 1  |
| 5.3120 | 0   | FP-5197822  | Radiator Cap  | 1  | 1  | 1  | -  |
| 5.3283 | 0   | FP-8925325  | Bushing, De-Aeration Hose (Piper Red - 3/8" PTF - 1/4 Zinc) | 1  | 1  | 1  | 1  |
| 5.3322 | 0   | FP-5165808  | Gasket, Expansion Tank Inlet Connection                     | 1  | -  | -  | -  |
| 5.4025 | 0   | FP-103321   | Lockwasher, 3/8"  | 4  | 4  | 4  | 2  |
| 5.4025 | 0   | FP-8927581  | Bolt, 3.8" -16 x 1"   | 4  | 4  | 4  | -  |
| 5.4100 | 0   | FP-8922500  | Shaft & Bearing Assembly, Fan                               | 1  | 1  | 1  | 1  |
| 5.4100 | 0   | FP-23503727 | Bearing, Fan Shaft Outer                                    | -  | -  | -  | 1  |
| 5.4110 | 0   | FP-7450630  | Bearing, Inner Fan Shaft (Rear)                             | 1  | 1  | 1  | 1  |
| 5.4110 | 0   | FP-23503535 | Bearing, Outer Fan Shaft                                    | -  | 1  | 1  | 1  |
| 5.4110 | 0   | FP-9415132  | Bearing, Outer Fan Shaft (Front)                            | -  | 1  | 1  | 1  |
| 5.4110 | 0   | FP-23503796 | Bearing, Inner Fan Shaft                                    | -  | -  | 1  | 1  |
| 5.4140 | 0   | FP-274746   | Ring, Fan Shaft Bearing Retainer Lock                       | 1  | 1  | 1  | 1  |
| 5.4140 | 0   | FP-9409060  | Bolt, 1/2" -20 x 1 1/2"                                     | 1  | 1  | 1  | 1  |
| 5.4150 | 0   | FP-5100408  | Seal, Fan Shaft   | 1  | 1  | 1  | 1  |
| 5.4150 | 0   | FP-5103951  | Seal, Fan Shaft   | 1  | 1  | 1  | 1  |
| 5.4150 | 0   | FP-5108219  | Seal, Fan Shaft   | 1  | 1  | 1  | 1  |
| 5.4170 | 0   | FP-5131122  | Spacer, Fan Shaft Bearing                                   | 1  | 1  | 1  | 1  |

# Raw Water Pump

(Figure 16.1)







# Raw Water Pump

(Figure 16.1)

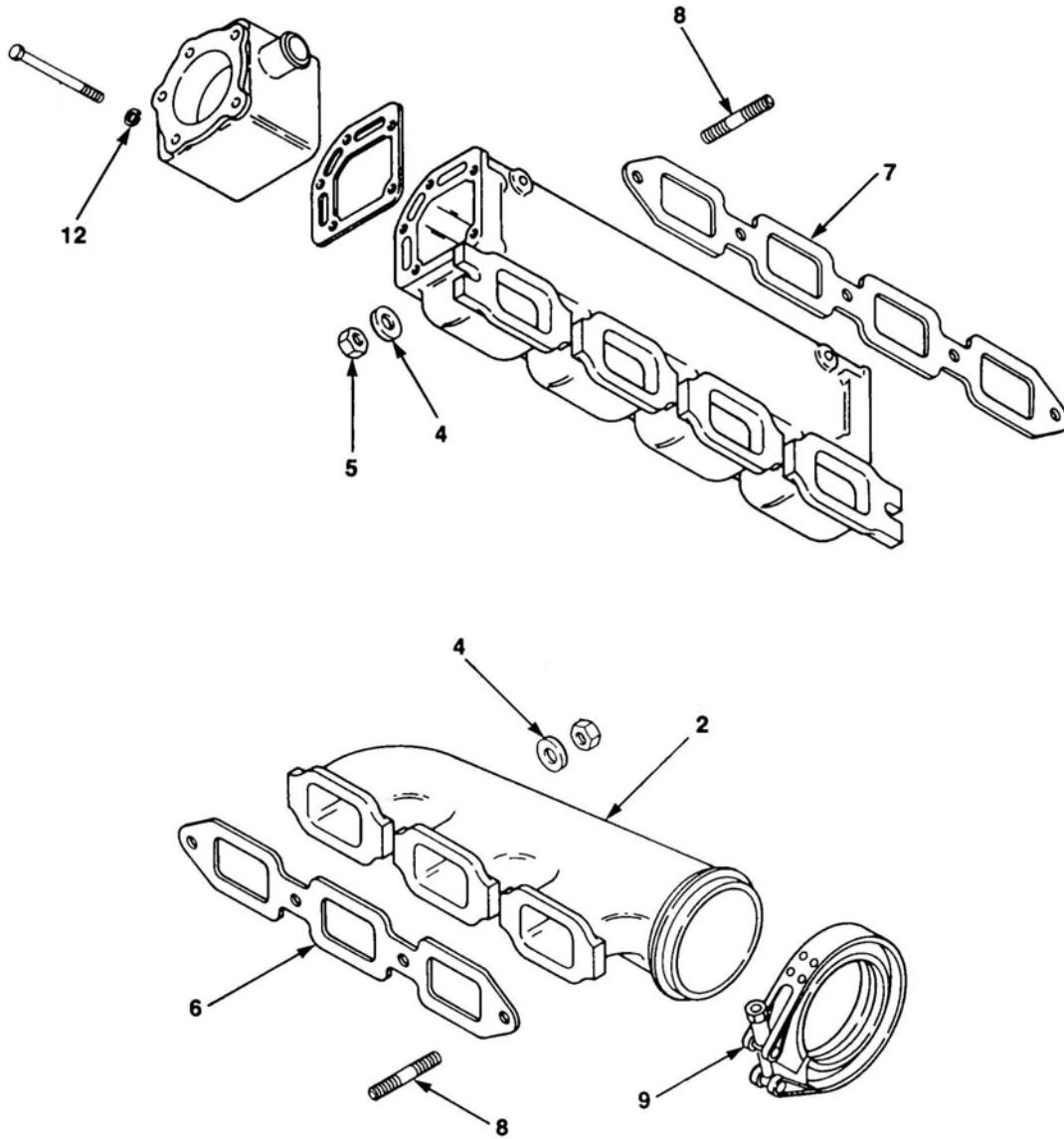
Groups:

5.5050 - 5.7100

| Group  | Ref | Part No.           | Description  | 2l | 3l | 4l | 6l |
|--------|-----|--------------------|--|----|----|----|----|
| 5.5050 | 0   | FP-5156147         | Gasket, Heat Exchanger Cover                                       | 1  | -  | -  | -  |
| 5.5460 | 0   | FP-5153902         | Gasket, Heat Exchanger Raw Water Pump Inlet Tube                   | 1  | -  | -  | -  |
| 5.6001 | 0   | FP-23507971        | Pump Assembly, Raw Water (Options 40,48,54,55,74)                  | -  | -  | 1  | 1  |
| 5.6001 | 0   | FP-5195198         | Seal, Raw Water Pump Spline (1.06 Dia Spline)                      | -  | -  | -  | 1  |
| 5.6010 | 1   | FP-5193551         | Adapter, Raw Water Pump Drive Flange                               | -  | -  | 1  | 1  |
| 5.6010 | 0   | FP-23501660        | Screw, 3/8" - 16 x 1"  | -  | -  | -  | -  |
| 5.6012 | 2   | FP-5196513         | Gasket, Raw Water Pump Adapter                                     | 1  | 1  | 1  | 1  |
| 5.6020 | 0   | FP-5197597         | Pin, 3/16" x 5/16" Dowel   | -  | -  | -  | -  |
| 5.6025 | 23  | FP-5193602         | Impeller, Raw Water Pump (Synthetic)                               | 1  | 1  | 1  | 1  |
| 5.6025 | 0   | FP-5197597         | Pin, Dowel .183" x 11/32"  | 1  | 1  | 1  | 1  |
| 5.6320 | 26  | FP-103325          | Lockwasher, 5/8"   | 1  | 1  | 1  | 1  |
| 5.6320 | 22  | FP-5193576         | Gear, Raw Water Pump Drive   | 1  | 1  | 1  | 1  |
| 5.6350 | 0   | FP-23515145        | Gasket, Raw Water Pump   | 1  | 1  | 1  | 1  |
| 5.6410 | 0   | FP-5145092         | Bolt, 3/8" - 24 x 1.20"  | 4  | 4  | 4  | 4  |
| 5.6410 | 0   | FP-5170450         | Plate, Raw Water Pump Drive (21 Teeth), (1.7630)                   | 1  | 1  | 1  | 1  |
| 5.6500 | 0   | FP-103320          | Lockwasher, 5/16"  | 2  | 2  | 2  | 2  |
| 5.6500 | 0   | FP-103321          | Lockwasher, 3/8"   | 2  | 2  | 2  | 2  |
| 5.6500 | 0   | FP-8517473         | Electrode Assembly (1 1/4")  | 1  | 1  | 1  | 1  |
| 5.6510 | 0   | FP-5115395         | Gasket, Raw Water Pump Inlet Connection                            | -  | -  | 1  | 1  |
| 5.7090 | 0   | FP-8925325         | Bushing, Water Filter Inlet Hose (Pipe Red - 3/8" PTF - 1/4 Zinc)  | 1  | 1  | 1  | 1  |
| 5.7100 | 0   | FP-8925325         | Bushing, Water Filter Outlet Hose (Pipe Red - 3/8" PTF - 1/4 Zinc) | 1  | 1  | 1  | 1  |
| 5.6025 | 0   | <b>FP-23504615</b> | <b>Minor Water Pump Repair Kit (For Pump # 23501083)</b>           | -  | -  | -  | 1  |
| 5.6025 | 10  | FP-5193562         | Components Pickup Description Above                                | -  | -  | -  | 1  |
| 5.6025 | 23  | FP-8924838         | Components Pickup Description Above                                | -  | -  | -  | 1  |
| 5.6025 | 15  | FP-5198419         | Components Pickup Description Above                                | -  | -  | -  | 1  |
| 5.6025 | 0   | FP-23504236        | Components Pickup Description Above                                | -  | -  | -  | 5  |
| 5.6220 | 0   | <b>FP-5194860</b>  | <b>Kit, Impeller &amp; Seal Raw Water Pump</b>                     | -  | -  | -  | 1  |
| 5.6025 | 10  | FP-5193562         | Gasket, Raw Water Pump Cover                                       | -  | -  | -  | 1  |
| 5.6025 | 15  | FP-5198419         | Seal Assembly, Raw Water Pump Shaft                                | -  | -  | -  | 1  |
| 5.6025 | 23  | FP-8924838         | Impeller, Raw Water Pump (5.6220)                                  | -  | -  | -  | 1  |
| 5.6025 | 0   | <b>FP-5197224</b>  | <b>Repair Kit, Raw Water Pump</b>                                  | -  | -  | -  | 1  |
| 5.6025 | 9   | FP-114366          | Screw, 1/4" - 20 x 1/2"  | -  | -  | -  | 6  |
| 5.6025 | 24  | FP-5161024         | Key, 5/32" x 7/8"  | -  | -  | -  | 1  |
| 5.6025 | 11  | FP-5193552         | Shaft, Raw Water Pump  | -  | -  | -  | 1  |
| 5.6025 | 7   | FP-5193554         | Cam, Raw Water Pump (5.6035)                                       | -  | -  | -  | 1  |
| 5.6025 | 8   | FP-5193555         | Cover, Raw Water Pump End  | -  | -  | -  | 1  |
| 5.6025 | 4   | FP-5193556         | Plate, Wear (5.6025)   | -  | -  | 1  | 1  |
| 5.6025 | 10  | FP-5193562         | Gasket, Raw Water Pump Cover                                       | -  | -  | -  | 1  |
| 5.6025 | 13  | FP-5193569         | Ring, Raw Water Pump Bearing Retainer                              | -  | -  | -  | 1  |
| 5.6025 | 22  | FP-5193676         | Slinger, Raw Water Pump Shaft                                      | -  | -  | -  | 1  |
| 5.6025 | 14  | FP-5195101         | Seal, Raw Water Pump Bearing                                       | -  | -  | -  | 1  |
| 5.6025 | 15  | FP-5198419         | Seal Assembly, Raw Water Pump Shaft                                | -  | -  | -  | 1  |
| 5.6025 | 23  | FP-8924838         | Impeller, Raw Water Pump (5.6220)                                  | -  | -  | -  | 1  |
| 5.6025 | 2   | FP-23501662        | Gasket, Raw Water Pump Adapter                                     | -  | -  | 1  | 1  |
| 5.6025 | 0   | FP-23504236        | Screw, Hex   | -  | -  | -  | 5  |
| 5.6025 | 12  | FP-23504426        | Bearing, Raw Water Pump  | -  | -  | -  | 1  |
| 5.6025 | 0   | FP-9415285         | Ring, Retaining  | -  | -  | -  | 1  |

# Exhaust Manifold

(Figure 17.1)





# Exhaust Manifold

(Figure 17.1)

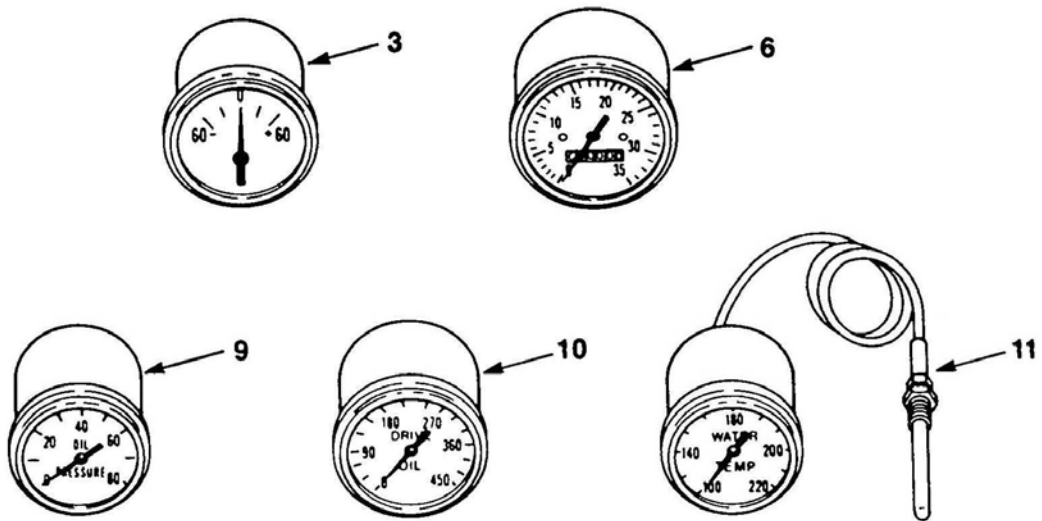
Groups:

6.1001 - 6.2105

| Group  | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------|--|----|----|----|----|
| 6.1001 | 4   | FP-5104439  | Washer, 7/16"  | 3  | 4  | 5  | 8  |
| 6.1001 | 0   | FP-5121182  | Plug, 1/4" Pipe  | 2  | 2  | 2  | 4  |
| 6.1001 | 0   | FP-8924380  | Plug, 1/8" Pipe  | 1  | 1  | 1  | -  |
| 6.1001 | 0   | FP-5135016  | Exhaust Manifold   | -  | -  | -  | 2  |
| 6.1010 | 0   | FP-5116306  | Gasket, Exhaust Manifold                                 | 1  | -  | -  | -  |
| 6.1010 | 6   | FP-5116205  | Gasket, Exhaust Manifold                                 | -  | 1  | -  | 2  |
| 6.1010 | 7   | FP-5119006  | Gasket, Exhaust Manifold                                 | -  | -  | 1  | -  |
| 6.1020 | 8   | FP-8925804  | Stud, 7/16" -14/20 x 2 3/32"                             | 1  | 1  | 1  | -  |
| 6.1110 | 0   | FP-5113412  | Gasket, Exhaust Manifold Cover Plate                     | 1  | 1  | 1  | -  |
| 6.2085 | 12  | FP-103321   | Lockwasher, 3/8"   | -  | 5  | 5  | 10 |
| 6.2085 | 9   | FP-23506306 | Clamp, Exhaust Manifold (4.55" Diameter)                 | -  | 1  | 1  | 2  |
| 6.2085 | 0   | FP-5164146  | Flange, Exhaust Manifold (4" Pipe Thread w/ 5 3/8" B.C.) | -  | 1  | 1  | 1  |
| 6.2085 | 9   | FP-5137620  | Clamp, Exhaust Manifold (3.66" Diameter)                 | -  | -  | -  | 2  |
| 6.2085 | 9   | FP-5146165  | Clamp, Exhaust Manifold (3.88" Diameter)                 | -  | -  | -  | 2  |
| 6.2105 | 0   | FP-3221863  | Gasket, Exhaust Outlet (3 1/4" Diameter Opening)         | 1  | 1  | 1  | 1  |
| 6.2105 | 0   | FP-5108377  | Gasket, Exhaust Outlet                                   | 1  | 1  | 1  | 4  |
| 6.2105 | 0   | FP-5100147  | Gasket, Exhaust Outlet                                   | -  | 1  | 1  | -  |

# Instruments

(Figure 18.1)





# Instruments

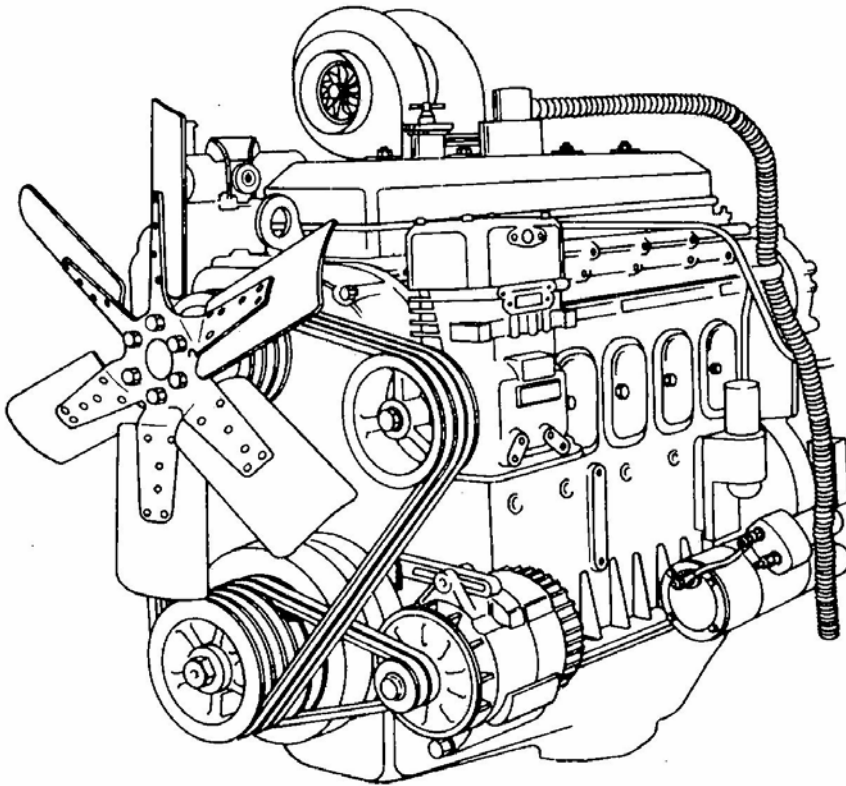
(Figure 18.1)

Groups:

7.3001 - 12.6860

| Group   | Ref | Part No.    | Description   | 2I | 3I | 4I | 6I |
|---------|-----|-------------|---|----|----|----|----|
| 7.3001  | 0   | FP-9418228  | Bolt, Starter Mounting (12 Point), (5/8" - 11 x 1 3/4")   | 3  | 3  | 3  | 3  |
| 7.4015  | 3   | FP-6474479  | Ammeter, (60 Amp)   | 1  | 1  | 1  | 1  |
| 7.4077  | 0   | FP-6490569  | Gage, Oil Temperature (4' Capillary)  | 1  | 1  | 1  | 1  |
| 7.4080  | 11  | FP-6490565  | Gage, Water Temperature (10' Capillary)   | 1  | 1  | 1  | 1  |
| 7.4080  | 11  | FP-8993092  | Gage, Water Temperature (4' Capillary)  | 1  | 1  | 1  | 1  |
| 7.4080  | 11  | FP-8993093  | Gage, Water Temperature (6' Capillary)  | 1  | 1  | 1  | 1  |
| 7.4080  | 11  | FP-8993253  | Gage, Water Temperature (15' Capillary)   | 1  | 1  | 1  | 1  |
| 7.4435  | 0   | FP-3224992  | Shaft, Tachometer Drive (.061" Key)   | -  | 1  | 1  | 1  |
| 7.4445  | 0   | FP-5150568  | Washer, 7/16" Copper  | 1  | 1  | 1  | 1  |
| 7.4450  | 0   | FP-3202615  | Seal, Tachometer Drive Cover  | 1  | 1  | 1  | 1  |
| 7.4455  | 0   | FP-23515145 | Gasket, Tachometer Drive  | 1  | 1  | 1  | 1  |
| 7.4455  | 0   | FP-5116391  | Gasket, Tachometer Drive  | 1  | 1  | 1  | 1  |
| 7.4455  | 0   | FP-5135935  | Gasket, Tachometer Drive  | 1  | 1  | 1  | 1  |
| 7.4457  | 0   | FP-103320   | Lockwasher, 5/16"   | 2  | 2  | 2  | 2  |
| 7.4457  | 0   | FP-5107931  | Washer, Adapter Cap   | 1  | 1  | 1  | 1  |
| 7.4458  | 0   | FP-5135820  | Seal, Tachometer Drive Adapter  | -  | 1  | 1  | 1  |
| 7.4505  | 0   | FP-103320   | Lockwasher, 5/16"   | 2  | 2  | 2  | -  |
| 7.4505  | 0   | FP-5146080  | Water Temperature Switch  | 1  | 1  | 1  | 1  |
| 7.4505  | 0   | FP-5163830  | Gasket, Water Temperature Switch  | 1  | 1  | 1  | -  |
| 7.4505  | 0   | FP-5121182  | Plug, 1/4" Pipe   | -  | 1  | 1  | 1  |
| 7.4510  | 0   | FP-5113412  | Gasket, Water Temperature Switch Adapter  | 1  | 1  | 1  | -  |
| 7.4519  | 0   | FP-23504196 | Fuel Solenoid 12V (Supersede 1118128)   | 1  | 1  | 1  | 1  |
| 7.4525  | 0   | FP-103319   | Lockwasher, 1/4"  | 2  | 2  | 2  | -  |
| 7.4525  | 0   | FP-103320   | Lockwasher, 3/8 "   | 2  | 2  | 2  | -  |
| 7.4598  | 9   | FP-23520023 | Switch, Oil Pressure (#5 Break)   | 1  | 1  | 1  | 1  |
| 7.4598  | 9   | FP-23520024 | Switch, Oil Pressure (#10 Break)  | 1  | 1  | 1  | 1  |
| 7.4598  | 9   | FP-23520025 | Switch, Oil Pressure (#20 Make)   | 1  | 1  | 1  | 1  |
| 7.4598  | 9   | FP-23520026 | Switch, Oil Pressure (#27 Make/ Break)  | 1  | 1  | 1  | 1  |
| 7.4699  | 0   | FP-8925325  | Bushing, Exhaust Manifold Water Outlet Tube (Pipe Red - 3/8" PTF - 1/4 Zinc)                      | 1  | 1  | 1  | 1  |
| 7.8040  | 0   | FP-5109496  | Gasket, Air Heater  | 1  | 1  | 1  | 1  |
| 7.8040  | 0   | FP-5109517  | Seal, Air Heater (1 3/4")   | 1  | 1  | 1  | 1  |
| 7.8090  | 0   | FP-5136207  | Bracket Air Heater Coil   | 1  | 1  | 1  | 1  |
| 7.8110  | 0   | FP-5142056  | Air Heater Coil High Tension Lead   | 1  | 1  | 1  | 1  |
| 7.8110  | 0   | FP-5142328  | Air Heater Coil High Tension Lead   | 1  | 1  | 1  | 1  |
| 7.8110  | 0   | FP-5147163  | Air Heater Coil High Tension Lead (14" Long)  | 1  | 1  | 1  | 1  |
| 7.8310  | 0   | FP-5139965  | Solenoid To Air Heater Inlet Tube (5.58" Dev.L.)  | 1  | 1  | 1  | 1  |
| 9.1001  | 0   | FP-9421745  | Plug, Hydraulic Gear Assy (1/2" Cup Type)   | 1  | 1  | 1  | 1  |
| 9.1430  | 0   | FP-9421745  | Plug, Propeller Drive Flange (1/2" Cup Type)  | 1  | 1  | 1  | 1  |
| 9.1553  | 0   | FP-5145282  | Coupling, Hydraulic Pump Drive  | 1  | 1  | 1  | 1  |
| 11.1094 | 0   | FP-5166864  | Ring Cushion, Front Trunnion Support  | 1  | 1  | 1  | 1  |
| 12.3005 | 0   | FP-5131939  | Gasket, Vacuum Pump   | 1  | 1  | 1  | 1  |
| 12.4005 | 0   | FP-5131939  | Gasket, Air Compressor Mounting   | 1  | 1  | 1  | 1  |
| 12.4025 | 0   | FP-5131939  | Gasket, Air Compressor Adapter  | 1  | 1  | 1  | 1  |
| 12.4090 | 0   | FP-8925325  | Bushing, Air Compressor Water Outlet (Pipe Red - 3/8" PTF - 1/4 Zinc)                             | 1  | 1  | 1  | 1  |
| 12.6827 | 0   | FP-8925325  | Bushing, Hydraulic Starter Hose (Pipe Red - 3/8" PTF - 1/4 Zinc)                                  | 1  | 1  | 1  | 1  |
| 12.6860 | 0   | FP-8925325  | Bushing, Hydraulic Starter To Hydraulic Starter Accumulator Hose (Pipe Red - 3/8" PTF - 1/4 Zinc) | 1  | 1  | 1  | 1  |

## 71 IL SERIES ENGINE



# 71 IL SERIES ENGINE

## Model Description Chart

Application, Rotation Design Variations

|              |                           |   |  |                                    |                             |     |
|--------------|---------------------------|---|--|------------------------------------|-----------------------------|-----|
| 1            | 0 6                       | 5   | —  | 7                                  | 0                           | 0 1 |
| SERIES<br>71 | NUMBER<br>OF<br>CYLINDERS | APPLICATION<br>DESIGNATION<br>(see below) | BASIC ENGINE<br>ARRANGEMENT<br>(see below) | DESIGN<br>VARIATION<br>(see below) | SPECIFIC<br>MODEL<br>NUMBER |     |

**APPLICATION DESIGNATION:**

- 1062 - 7001 MARINE
- 1063 - 7001 INDUSTRIAL F-F
- 1064 - 7001 POWER-BASE
- 1065 - 7001 GENERATOR
- 1067 - 7001 VEHICLE F-F
- 1068 - 7001 SPECIAL

**CRANKSHAFT ROTATION:**

- 1062 - 3001 LEFT-HAND
- 1062 - 7001 RIGHT-HAND

**DESIGN VARIATIONS:**

- 1062 - 7001 4 VALVE HEAD ("N" ENGINE)
- 1062 - 7101 2 VALVE HEAD ENGINE
- 1062 - 7201 4 VALVE HEAD ("E" ENGINE)
- 1062 - 7301 TURBOCHARGED ENGINE
- 1062 - 7501 CUSTOMER SPECIAL ENGINE
- 1067 - 8601 TURBO AFTERCOOLED
- 1067 - 8701 CONSTANT HORSEPOWER TURBOCHARGED
- 1067 - 8901 CONSTANT HORSEPOWER TURBOCHARGED AFTERCOOLED

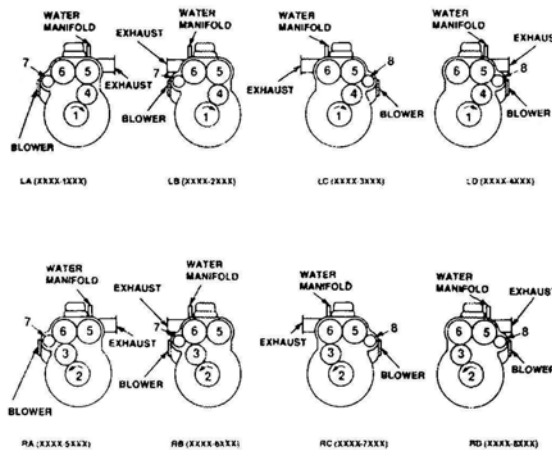
### Basic Engine Arrangements

Rotation: L (left) and R (right) designates rotation viewed from the front of the engine (not flywheel end).

Type: A - B - C - D designates location of starter and oil cooler as viewed from the rear (flywheel) end.

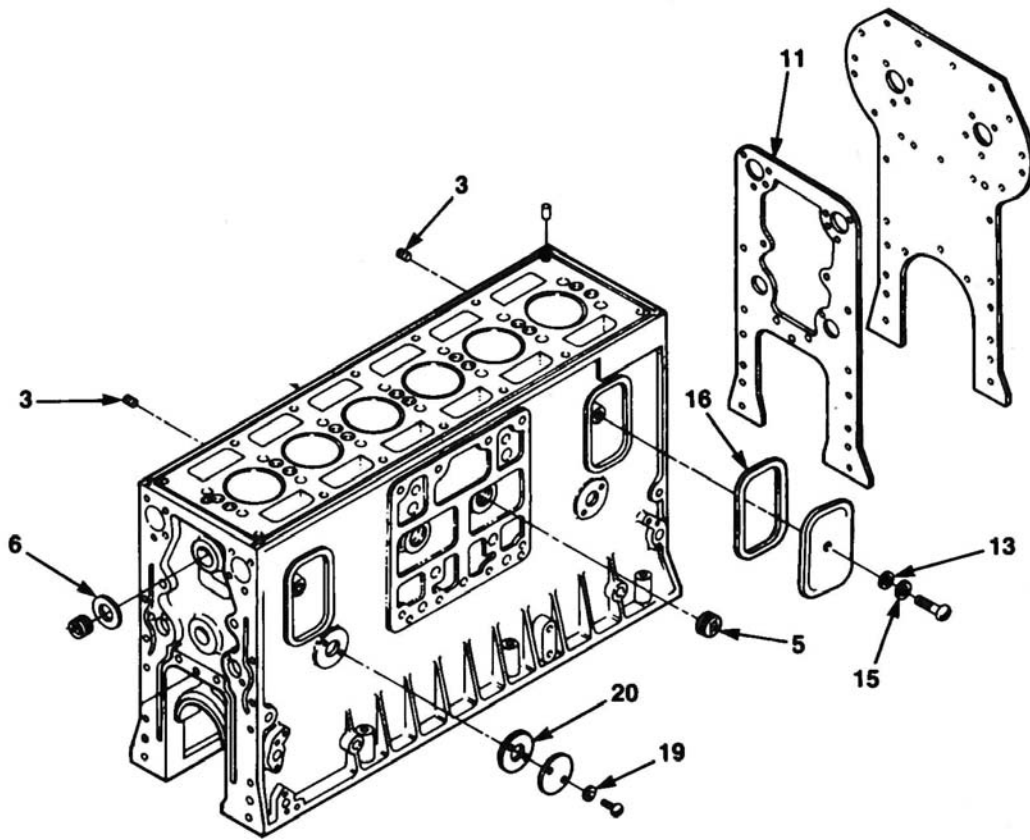
Cylinder Bank: left and right cylinder banks are determined from rear of engine (flywheel end).

**ALL BELOW VIEWS FROM REAR OF ENGINE**



# Cylinder Block

(Figure 1.1)







# Cylinder Block

(Figure 1.1)

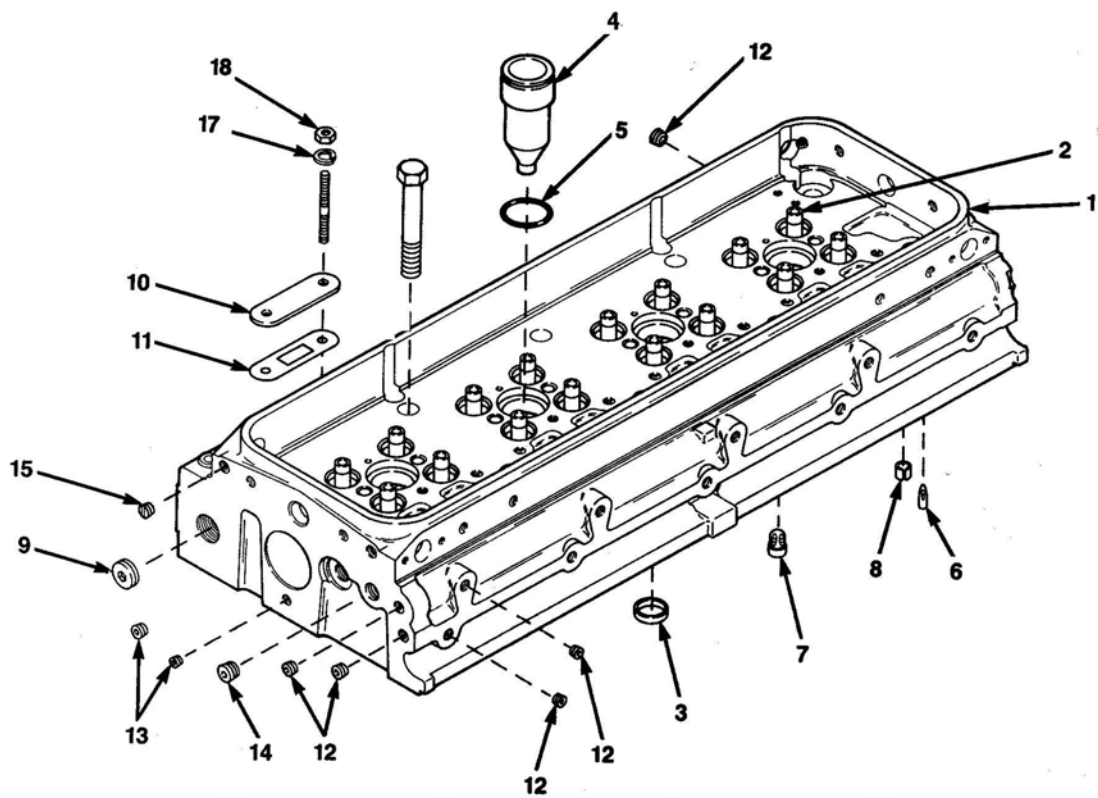
Groups:

1.1001 - 1.1100

| Group  | Ref | Part No.      | Description  | 2l | 3l | 4l | 6l |
|--------|-----|---------------|--|----|----|----|----|
| 1.1001 | 0   | FP-5115214    | Plug, 1/2" Pipe  | 2  | 2  | 2  | 2  |
| 1.1001 | 6   | FP-5178997    | Seal Ring, Cylinder Block Core Plug                                | -  | 4  | 4  | 4  |
| 1.1001 | 3   | FP-8924380    | Plug, 1/8" - 27 Pipe   | -  | 2  | 4  | 9  |
| 1.1001 | 5   | FP-5142549    | Plug, 3/4" Pipe  | -  | -  | 2  | 2  |
| 1.1001 | 0   | FP-5121182    | Plug, 1/4" Pipe  | -  | -  | -  | 8  |
| 1.1002 | 0   | FP-5192434    | Gasket Set, Engine Overhaul (Low Block)                            | 1  | -  | -  | -  |
| 1.1002 | 0   | FP-5192434WS  | Gasket Set, Engine Overhaul (Low Block), (w/Seals)                 | 1  | -  | -  | -  |
| 1.1002 | 0   | FP-23512674   | Gasket Set, Engine Overhaul (High Block)                           | -  | 1  | -  | -  |
| 1.1002 | 0   | FP-23512674WS | Gasket Set, Engine Overhaul (High Block), (w/Seals)                | -  | 1  | -  | -  |
| 1.1002 | 0   | FP-5192921    | Gasket Set, Engine Overhaul (Low Block)                            | -  | 1  | -  | -  |
| 1.1002 | 0   | FP-23512675   | Gasket Set, Engine Overhaul (High Block)                           | -  | -  | 1  | -  |
| 1.1002 | 0   | FP-23512675WS | Gasket Set, Engine Overhaul (High Block), (w/Seals)                | -  | -  | 1  | -  |
| 1.1002 | 0   | FP-5192922    | Gasket Set, Engine Overhaul (Low Block)                            | -  | -  | 1  | -  |
| 1.1002 | 0   | FP-23512676   | Gasket Set, Engine Overhaul (High Block)                           | -  | -  | -  | 1  |
| 1.1002 | 0   | FP-23512676WS | Gasket Set, Engine Overhaul (High Block), (w/Seals)                | -  | -  | -  | 1  |
| 1.1002 | 0   | FP-5192923    | Gasket Set, Engine Overhaul (Low Block)                            | -  | -  | -  | 1  |
| 1.1002 | 0   | FP-5194807    | Gasket Set (64HN9 Supplemental), (Marine Only)                     | -  | -  | -  | 1  |
| 1.1010 | 0   | FP-103321     | Lockwasher, 3/8"   | -  | 6  | 6  | 6  |
| 1.1010 | 0   | FP-8927581    | Bolt, 3/8" - 16 x 1" (w/Seal Patch)                                | -  | 6  | 6  | 6  |
| 1.1030 | 11  | FP-23505518   | Gasket, Cyl. Block End Plate (Front & Rear)                        | -  | 2  | 2  | 2  |
| 1.1040 | 13  | FP-23505525   | Gasket, 3/8" Copper  | 4  | 4  | 4  | 8  |
| 1.1040 | 15  | FP-5152148    | Washer, 3/8" Flat  | -  | 6  | 8  | 12 |
| 1.1050 | 16  | FP-5152288    | Gasket, Cylinder Block Hand Hole Cover                             | 2  | -  | -  | -  |
| 1.1050 | 16  | FP-5132117    | Gasket, Cyl. Block Water Hole Cover                                | -  | 4  | 4  | 4  |
| 1.1060 | 19  | FP-103320     | Bolt, 5/16" - 18 x 3/4" (w/Lockwasher)                             | -  | 2  | 2  | 2  |
| 1.1060 | 0   | FP-5148436    | Bolt, Cyl. Block Water Hole Cover 5/16" - 18 x 3/4" (w/Lockwasher) | -  | 2  | 2  | 2  |
| 1.1070 | 20  | FP-5116357    | Gasket, Cyl. Block Water Hole Cover                                | -  | 1  | 1  | 1  |
| 1.1100 | 0   | FP-5121182    | Plug, 1/4" Pipe  | 1  | 1  | 1  | 1  |

# Cylinder Head

(Figure 2.1)





# Cylinder Head

(Figure 2.1)

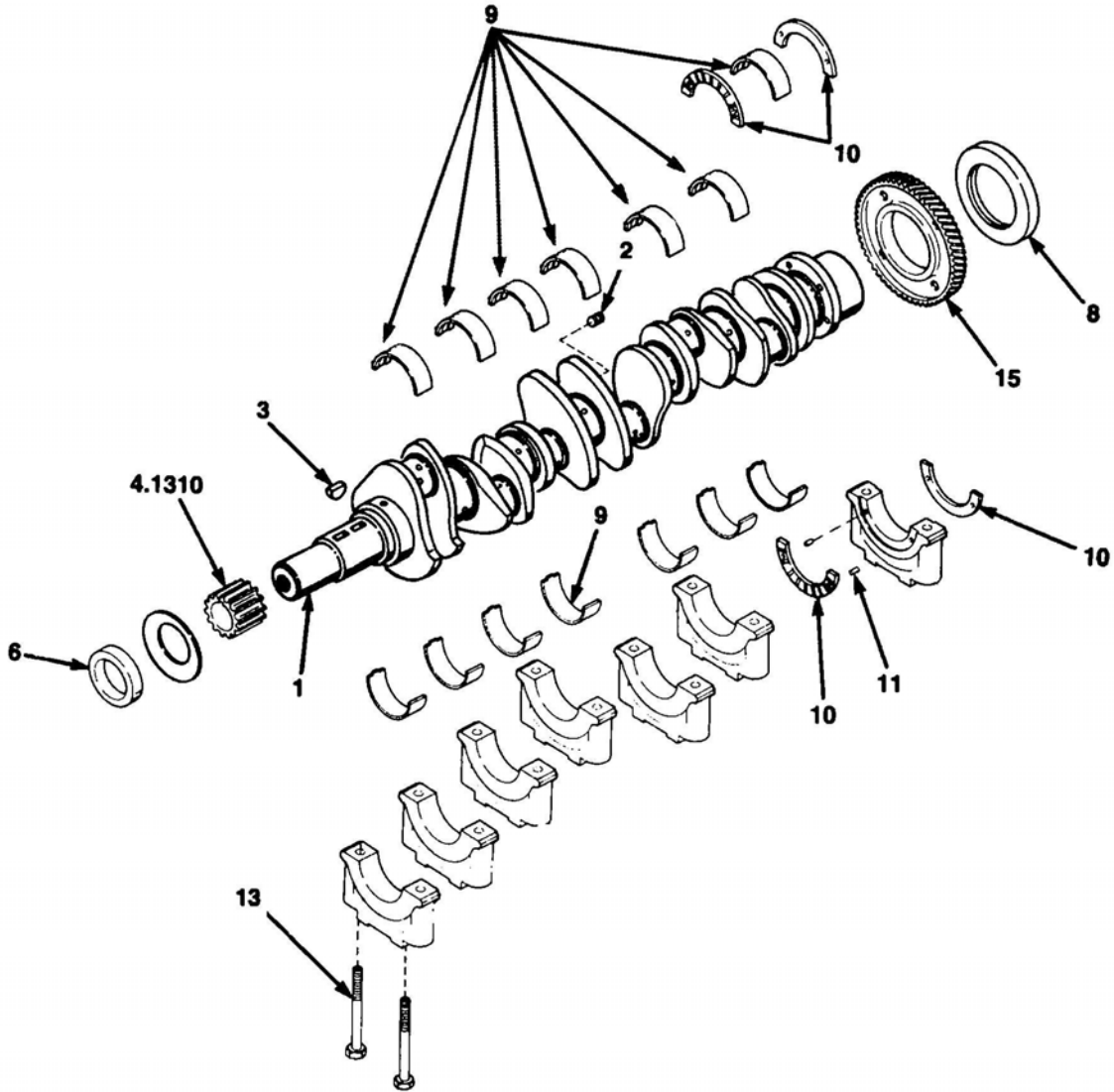
Groups:

1.2001 - 1.2090

| Group  | Ref | Part No.    | Description   | 2l | 3l | 4l | 6l |
|--------|-----|-------------|---|----|----|----|----|
| 1.2001 | 0   | FP-5120930  | Guide, Exhaust Valve (2 Valve Head), (1.8320)               | 4  | 6  | 8  | 12 |
| 1.2001 | 0   | FP-8927920  | Insert, Exhaust Valve Seat (Std.), (2 Valve Head), (1.8330) | 4  | 6  | 8  | 12 |
| 1.2001 | 5   | FP-5104701  | Seal Ring, Injector Hole Tube (Viton)                       | 2  | 3  | 4  | 6  |
| 1.2001 | 4   | FP-8925981  | Tube Kit, Injector Hole (w/Seal Ring), (Viton)              | 2  | 3  | 4  | 6  |
| 1.2001 | 0   | FP-5121182  | Plug, 1/4" Pipe   | -  | 7  | 9  | 13 |
| 1.2001 | 18  | FP-103026   | Nut, 3/8" Hex   | -  | 6  | 8  | 12 |
| 1.2001 | 17  | FP-103321   | Lockwasher, 3/8"  | -  | 6  | 8  | 12 |
| 1.2001 | 0   | FP-5117564  | Guide, Exhaust Valve Bridge                                 | -  | 6  | 8  | 12 |
| 1.2001 | 0   | FP-5125108  | Washer, Fuel Stand (.443" x .75" x .060")                   | -  | 6  | 8  | 12 |
| 1.2001 | 0   | FP-8927270  | Stud, 3/8" - 16 x 1 11/16" Water Manifold                   | -  | 6  | 8  | 12 |
| 1.2001 | 12  | FP-8923847  | Plug, 1/4" Hex Socket Head                                  | -  | 5  | 5  | 5  |
| 1.2001 | 7   | FP-5111332  | Nozzle, Water (Dual Outlet)                                 | -  | 4  | 6  | 10 |
| 1.2001 | 0   | FP-8925804  | Stud, 7/16" - 14 x 2 3/32" Exhaust Manifold                 | -  | 4  | 5  | 7  |
| 1.2001 | 13  | FP-5154453  | Plug, 3/8" - 16 Headless Special                            | -  | 4  | 4  | 4  |
| 1.2001 | 6   | FP-5172874  | Nozzle, Water (Single Outlet)                               | -  | 4  | 4  | 4  |
| 1.2001 | 15  | FP-5178976  | Plug, 7/16" - 14 Special                                    | -  | 4  | 4  | 4  |
| 1.2001 | 11  | FP-23506469 | Gasket, Water Outlet Cover Plate                            | -  | 3  | 4  | -  |
| 1.2001 | 10  | FP-5117344  | Plate, Water Outlet Cover                                   | -  | 3  | 4  | -  |
| 1.2001 | 8   | FP-5113773  | Sleeve, Pilot .70" L  | -  | 2  | 2  | 2  |
| 1.2001 | 9   | FP-5142549  | Plug, 3/4" Pipe   | -  | 2  | 2  | 4  |
| 1.2001 | 0   | FP-5150132  | Plug, 3/4" Diameter Cup                                     | -  | 2  | 2  | 2  |
| 1.2001 | 3   | FP-5101101  | Insert, Exhaust Valve Seat (Std.), (2 Valve Head), (1.8330) | -  | 12 | 16 | 24 |
| 1.2001 | 0   | FP-5117562  | Washer, Exhaust Valve Spring Seat                           | -  | 12 | 16 | 24 |
| 1.2001 | 2   | FP-5129919  | Guide, Exhaust Valve (1.8320)                               | -  | 12 | 16 | 24 |
| 1.2001 | 14  | FP-8924517  | Plug, 3/8" Hex Socket Head                                  | -  | 1  | 2  | 3  |
| 1.2001 | 0   | FP-8926993  | Plug, Cylinder Head Fuse 1/4"                               | -  | 1  | 1  | 1  |
| 1.2001 | 0   | FP-5117186  | Plug, 2" Diameter Cup Stainless                             | -  | -  | 2  | 2  |
| 1.2002 | 0   | FP-5192432  | Gasket Set, Cylinder Head Oil (Low Block)                   | 1  | -  | -  | -  |
| 1.2002 | 0   | FP-5192433  | Gasket Set, Cylinder Head Overhaul (Low Block)              | 1  | -  | -  | -  |
| 1.2002 | 0   | FP-5192918  | Gasket Set, Cylinder Head Oil (Low Block)                   | -  | 1  | -  | -  |
| 1.2002 | 0   | FP-5192924  | Gasket Set, Cylinder Head Overhaul (Low Block)              | -  | 1  | -  | -  |
| 1.2002 | 0   | FP-5192919  | Gasket Set, Cylinder Head Oil (Low Block)                   | -  | -  | 1  | -  |
| 1.2002 | 0   | FP-5192925  | Gasket Set, Cylinder Head Overhaul (Low Block)              | -  | -  | 1  | -  |
| 1.2002 | 0   | FP-5193116  | Gasket Set, Cylinder Head Overhaul                          | -  | -  | 1  | -  |
| 1.2002 | 0   | FP-5198676  | Gasket Set, Cylinder Head                                   | -  | -  | 1  | -  |
| 1.2002 | 0   | FP-5192920  | Gasket Set, Cylinder Head Oil (Low Block)                   | -  | -  | -  | 1  |
| 1.2002 | 0   | FP-5192926  | Gasket Set, Cylinder Head Overhaul (Low Block)              | -  | -  | -  | 1  |
| 1.2002 | 0   | FP-5195742  | Gasket Set, Cylinder Head Overhaul (Metal Clad)             | -  | -  | -  | 1  |
| 1.2010 | 0   | FP-5174782  | Gasket, Cylinder Head (1.2020)                              | 1  | -  | -  | -  |
| 1.2010 | 0   | FP-5150043  | Gasket, Cylinder Head                                       | -  | 1  | -  | -  |
| 1.2010 | 0   | FP-5150044  | Gasket, Cylinder Head                                       | -  | -  | 1  | -  |
| 1.2010 | 0   | FP-5150045  | Gasket, Cylinder Head                                       | -  | -  | -  | 1  |
| 1.2090 | 0   | FP-5154290  | Gasket, Engine Lifter Bracket                               | 1  | -  | -  | -  |
| 1.2090 | 0   | FP-5150052  | Gasket, Engine Lifter Bracket                               | -  | 1  | 1  | 1  |

# Crankshaft

(Figure 3.1)





# Crankshaft

(Figure 3.1)

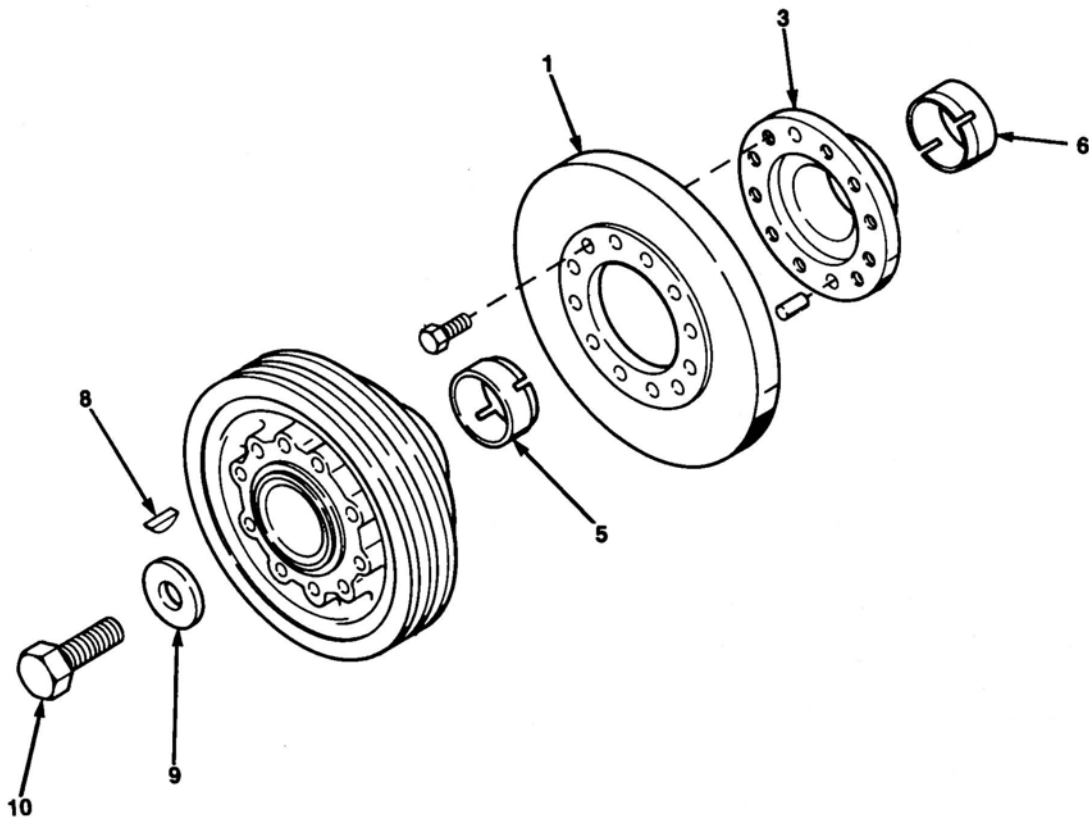
Groups:

1.3040 - 1.3170

| Group              | Ref | Part No.    | Description   | 2l | 3l | 4l | 6l |
|--------------------|-----|-------------|---|----|----|----|----|
| 1.3040             | 6   | FP-5154314  | Seal, Crankshaft Oil (Front), (Single Lip), (2-71 Only)                     | 1  | -  | -  | -  |
| 1.3040             | 6   | FP-5115454  | Seal, Crankshaft Oil (Front), (Single Lip)                                  | -  | 1  | 1  | 1  |
| 1.3040             | 6   | FP-5143108  | Seal, Crankshaft Oil (Front), (Submersible)                                 | -  | -  | 1  | 1  |
| 1.3040             | 6   | FP-5103071  | Seal, Crankshaft Oil (Front), (Gray Marine)                                 | -  | -  | -  | 1  |
| 1.3060             | 0   | FP-23507225 | Sleeve, Wear Rear Crankshaft Seal (O.S. Only), (FP-5197159)                 | 1  | 1  | 1  | 1  |
| 1.3090             | 9   | FP-5192874  | Shell Set, Crankshaft Main Bearing (Std.)                                   | 3  | 4  | 5  | 7  |
| 1.3090             | 9   | FP-5192875  | Shell Set, Crankshaft Main Bearing (.002")                                  | 3  | 4  | 5  | 7  |
| 1.3090             | 9   | FP-5192876  | Shell Set, Crankshaft Main Bearing (.010")                                  | 3  | 4  | 5  | 7  |
| 1.3090             | 9   | FP-5192877  | Shell Set, Crankshaft Main Bearing (.020")                                  | 3  | 4  | 5  | 7  |
| 1.3090             | 9   | FP-5192878  | Shell Set, Crankshaft Main Bearing (.030")                                  | 3  | 4  | 5  | 7  |
| 1.3090             | 9   | FP-5193738  | Shell Set, Crankshaft Main Bearing (.040")                                  | 3  | 4  | 5  | 7  |
| 1.3090             | 9   | FP-5193739  | Shell Set, Crankshaft Main Bearing (.050")                                  | 3  | 4  | 5  | 7  |
| 1.3100             | 11  | FP-141346   | Pin, Dowel 3/16" x 1/2" (12.9290)   | 4  | 4  | 4  | 4  |
| 1.3100             | 10  | FP-5159353  | Washer, Crankshaft Main Bearing Thrust (Std.)                               | 4  | 4  | 4  | 4  |
| 1.3100             | 10  | FP-5160542  | Washer, Crankshaft Main Bearing Thrust (.005" O.S.)                         | 4  | 4  | 4  | 4  |
| 1.3100             | 10  | FP-5192111  | Washer, Crankshaft Main Bearing Thrust (.010" O.S.)                         | 4  | 4  | 4  | 4  |
| 1.3140             | 0   | FP-103325   | Lockwasher 5/8"   | 6  | 8  | 10 | 14 |
| 1.3145             | 0   | FP-103321   | Lockwasher 3/8"   | -  | 6  | 6  | 6  |
| 1.3160             | 8   | FP-23504821 | Seal, Crankshaft Oil (Rear), (Double Lip O.S.), (Uni Directional), (1.5004) | 1  | 1  | 1  | 1  |
| 1.3160             | 8   | FP-23507411 | Seal, Crankshaft Oil (Rear), (Double Lip Std.), (Uni Directional), (1.5004) | 1  | 1  | 1  | 1  |
| 1.3160             | 8   | FP-5114335  | Seal, Crankshaft Oil (Rear), (Single Lip), (Std.)                           | 1  | 1  | 1  | 1  |
| 1.3160             | 0   | FP-5192496  | Spacer, Crankshaft Rear Oil Seal (Not For Double Lip Seal)                  | 1  | 1  | 1  | 1  |
| 1.3160             | 8   | FP-5197860  | Seal, Crankshaft Oil (Rear), (Single Lip O.S.)                              | 1  | 1  | 1  | 1  |
| 1.3160             | 0   | FP-5154316  | Spacer, Crankshaft Oil Seal (Front), (1-11/32" L)                           | 1  | -  | -  | -  |
| 1.3160             | 0   | FP-5157930  | Retainer, Crankshaft Cap  | 1  | -  | -  | -  |
| 1.3160             | 8   | FP-5127821  | Seal, Crankshaft Oil (Rear), (Double Lip Std.)                              | -  | 1  | 1  | 1  |
| 1.3160             | 8   | FP-5196927  | Seal, Crankshaft Oil (Rear), (Double Lip O.S.)                              | -  | 1  | 1  | 1  |
| 1.3160             | 6   | FP-23503769 | Seal, Front Crankshaft Spacer   | -  | -  | 1  | 1  |
| 1.3160             | 0   | FP-23507306 | Spacer, Crankshaft Oil Seal (Front), (2-13/16" L)                           | -  | -  | 1  | 1  |
| <b>Front Cover</b> |     |             |   |    |    |    |    |
| 1.3170             | 0   | FP-5156192  | Gasket, Front Cover   | 1  | -  | -  | -  |
| 1.3170             | 0   | FP-5150181  | Gasket, Crankshaft Front Cover  | -  | 1  | 1  | 1  |
| 1.3170             | 0   | FP-5112641  | Gasket, Front Cover   | -  | -  | -  | 1  |

# Damper

(Figure 3.2)





## Damper

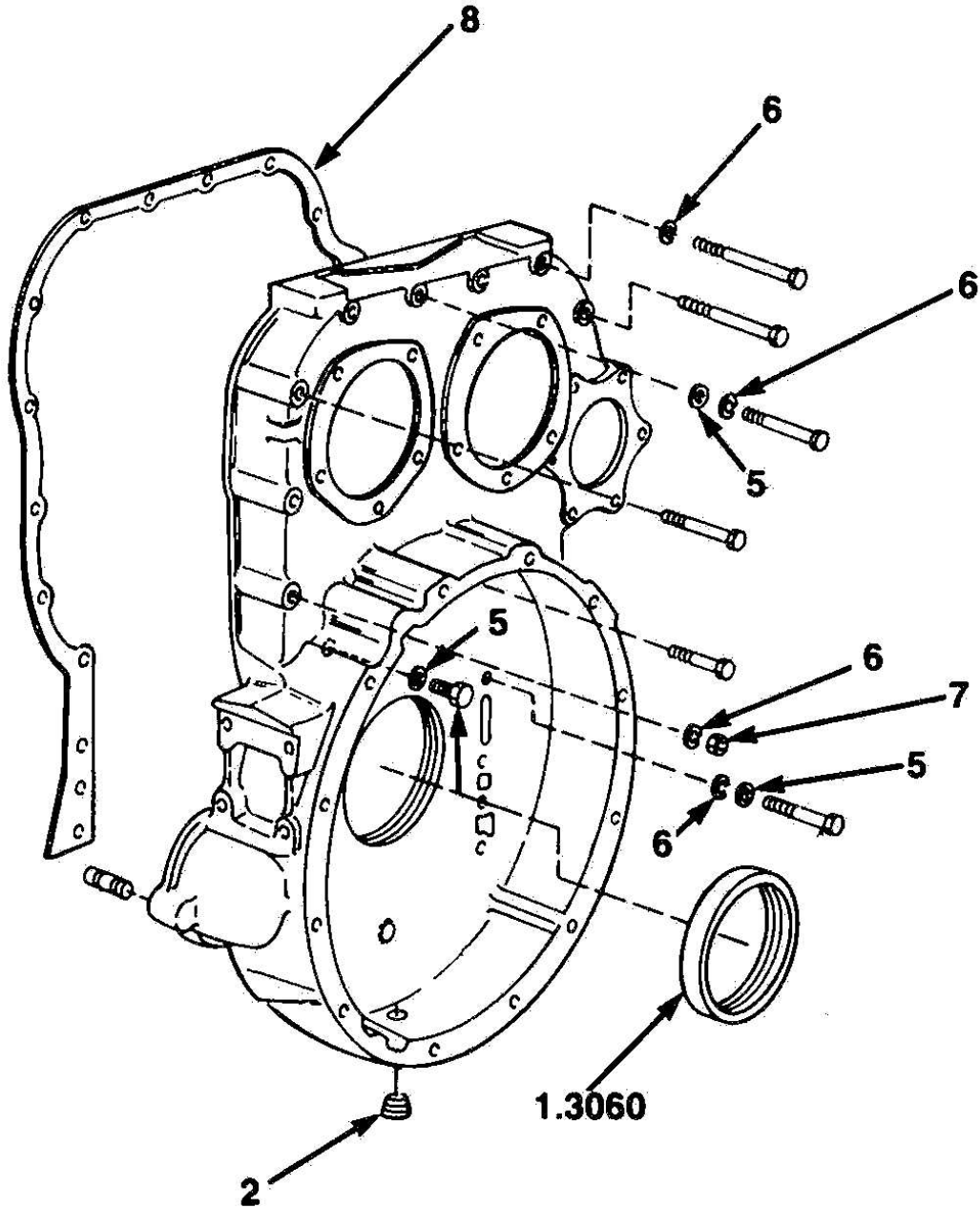
(Figure 3.2)

Groups:  
1.3210 - 1.3310

| Group  | Ref | Part No.    | Description                                  | 2l | 3l | 4l | 6l |
|--------|-----|-------------|--|----|----|----|----|
| 1.3210 | 1   | FP-5100553  | Damper, Vibration (Light Rubber)             | -  | -  | 1  | -  |
| 1.3210 | 1   | FP-5177763  | Damper, Vibration (Light Viscous)            | -  | -  | 1  | 1  |
| 1.3210 | 1   | FP-8922491  | Damper, Vibration (Heavy Viscous)            | -  | -  | 1  | 1  |
| 1.3210 | 1   | FP-8928951  | Damper, Vibration (Heavy Viscous), (12 Inch) | -  | -  | 1  | 1  |
| 1.3210 | 1   | FP-5100421  | Damper, Vibration (Heavy Rubber)             | -  | -  | -  | 1  |
| 1.3240 | 6   | FP-23502705 | Cone, Vibration Damper Rear (2.12")          | -  | -  | 1  | 1  |
| 1.3240 | 0   | FP-23503769 | Seal, Front Crankshaft Spacer                | -  | -  | 1  | 1  |
| 1.3240 | 5   | FP-23506876 | Cone, Vibration Damper Front (1.40")         | -  | -  | 1  | 1  |
| 1.3240 | 5   | FP-5134917  | Cone, Vibration Damper Front (.531")         | -  | -  | 1  | 1  |
| 1.3240 | 5   | FP-5151344  | Cone, Vibration Damper Front (.687")         | -  | -  | 1  | 1  |
| 1.3240 | 6   | FP-23507296 | Cone, Vibration Damper Rear (3.094")         | -  | -  | -  | 1  |
| 1.3240 | 6   | FP-8928674  | Cone, Vibration Damper Rear (2.43")          | -  | -  | -  | 1  |
| 1.3280 | 8   | FP-5131724  | Key, Front Crankshaft Pulley (3/8" x 1 1/4") | 2  | 2  | 2  | 2  |
| 1.3290 | 10  | FP-23501143 | Bolt, 1" - 14 x 2 3/4" (1 1/2" Hex Head)     | 1  | 1  | 1  | 1  |
| 1.3290 | 9   | FP-5157930  | Retainer, Crankshaft Pulley (2 3/8" O.D.)    | 1  | 1  | 1  | 1  |
| 1.3310 | 0   | FP-5131724  | Key, 3/8" x 1" Woodruff                      | -  | 2  | 2  | 2  |

# Bell Housing

(Figure 3.3)







# Bell Housing

(Figure 3.3)

Groups:

1.4001 - 1.5120

| Group  | Ref | Part No.    | Description                               | 2l | 3l | 4l | 6l |
|--------|-----|-------------|---|----|----|----|----|
| 1.4001 | 0   | FP-5103250  | Bolt, 9/16" - 18 x 2.75" (B/H)            | 6  | 6  | 6  | 6  |
| 1.4001 | 0   | FP-9410925  | Bolt, 9/16" - 18 x 2 1/4"                 | 6  | 6  | 6  | 6  |
| 1.4001 | 0   | FP-9412015  | Bolt, 9/16" - 18 x 2 1/2"                 | 6  | 6  | 6  | 6  |
| 1.4008 | 0   | FP-5173384  | Seal, Flywheel (1 3/8")                   | -  | -  | -  | 1  |
| 1.4040 | 5   | FP-23503707 | Bearing, Clutch Pilot                     | -  | 1  | 1  | 1  |
| 1.4040 | 5   | FP-23503709 | Bearing, Clutch Pilot                     | -  | 1  | 1  | 1  |
| 1.4040 | 5   | FP-23504892 | Bearing, Clutch Pilot                     | -  | 1  | 1  | 1  |
| 1.5001 | 7   | FP-103026   | Lockwasher, 7/16"                         | 11 | -  | -  | -  |
| 1.5001 | 0   | FP-5115214  | Plug, 1/2" Pipe                           | 1  | 2  | 2  | 2  |
| 1.5001 | 5   | FP-5131755  | Washer, 17/32" x .88" x .1345"            | 1  | 1  | 1  | 1  |
| 1.5001 | 2   | FP-5142549  | Plug, 3/4" Pipe                           | 1  | 1  | 1  | 1  |
| 1.5001 | 5   | FP-5138619  | Washer, 25/64" x 3/4" x .086"             | -  | 6  | 6  | 6  |
| 1.5001 | 0   | FP-8927581  | Bolt, 3/8" - 16 x 1"                      | -  | 6  | 6  | 6  |
| 1.5001 | 6   | FP-103321   | Lockwasher, 3/8"                          | -  | 16 | 16 | 16 |
| 1.5001 | 5   | FP-5131978  | Washer, .53" I.D. x 1" O.D.               | -  | -  | -  | 6  |
| 1.5010 | 8   | FP-5152525  | Gasket, Flywheel Housing                  | 1  | -  | -  | -  |
| 1.5010 | 8   | FP-5150055  | Gasket, Flywheel Housing                  | -  | 2  | 2  | 2  |
| 1.5010 | 8   | FP-8928967  | Gasket, Flywheel Housing                  | -  | 1  | 1  | 1  |
| 1.5030 | 0   | FP-5125108  | Washer, 7/16" x 3/4"                      | -  | 2  | 2  | 2  |
| 1.5040 | 0   | FP-23515145 | Gasket, Flywheel Housing Large Hole Cover | -  | 2  | 2  | 2  |
| 1.5050 | 0   | FP-5152148  | Washer, 3/8" x 9/16" Copper               | 2  | 2  | 2  | 2  |
| 1.5050 | 0   | FP-8927580  | Bolt, 3/8" - 16 x 7/8"                    | -  | 2  | 2  | 2  |
| 1.5060 | 0   | FP-5104507  | Gasket, Flywheel Housing Small Hole Cover | -  | 1  | 1  | 1  |
| 1.5075 | 0   | FP-5130995  | Gasket, Starting Motor Hole Cover         | -  | 1  | 1  | 1  |
| 1.5090 | 0   | FP-5170895  | Gasket, Flywheel Housing Inspection Cover | -  | 1  | 1  | 1  |
| 1.5115 | 0   | FP-103319   | Lockwasher, 1/4"                          | -  | -  | -  | 2  |
| 1.5116 | 0   | FP-5123812  | Gasket, Flywheel Housing Vent Cover       | -  | -  | -  | 1  |
| 1.5120 | 0   | FP-5158741  | Gasket, Flywheel Housing Water Hole Cover | -  | 2  | 2  | 2  |



## Cylinder Kits

| Cylinder Kit                       | Description                         | C/R    | Option Type Numbers                         | Piston     |
|------------------------------------|-------------------------------------|--------|---|------------|
| <b>71IL Series Trunk Type Only</b> |                                     |        |   |            |
| FP-20014                           | Non-Turbo, Trunk 2V Hd #1 Bore      | 17.5:1 | 1,2,3,4,14,15,135                           | FP-5189054 |
| FP-23505308                        | Non-Turbo, Trunk 2V Hd #2 Bore      | 17.5:1 | 1,2,3,4,14,15,135                           | FP-5189054 |
| FP-23505309                        | Non-Turbo, Trunk 2V Hd #3 Bore      | 17.5:1 | 1,2,3,4,14,15,135                           | FP-5189054 |
| FP-23505309 1                      | Non-Turbo, Trunk 2V Hd #4 Bore      | 17.5:1 | 1,2,3,4,14,15,135                           | FP-5189054 |
| FP-23505309 10                     | Non-Turbo, Trunk 2V Hd .010 OS      | 17.5:1 | 1,2,3,4,14,15,135                           | FP-5189054 |
| FP-23505309 20                     | Non-Turbo, Trunk 2V Hd .020 OS      | 17.5:1 | 1,2,3,4,14,15,135                           | FP-5189054 |
| FP-23505309 30                     | Non-Turbo, Trunk 2V Hd .030 OS      | 17.5:1 | 1,2,3,4,14,15,135                           | FP-5189054 |
| FP-23505309 5                      | Non-Turbo, Trunk 2V Hd .005 OS      | 17.5:1 | 1,2,3,4,14,15,135                           | FP-5189054 |
| FP-20012                           | Turbo, Trunk, 4V Hd #1 Bore         | 17.1   | 18,19,37,71,75,93                           | FP-5149236 |
| FP-20013                           | Turbo, Trunk, 4V Hd #2 Bore         | 17.1   | 18,19,37,71,75,93                           | FP-5149236 |
| FP-23505307                        | Turbo, Trunk, 4V Hd #3 Bore         | 17.1   | 18,19,37,71,75,93                           | FP-5149236 |
| FP-23505307 1                      | Turbo, Trunk, 4V Hd #4 Bore         | 17.1   | 18,19,37,71,75,93                           | FP-5149236 |
| FP-23505307 10                     | Turbo, Trunk, 4V Hd .010 OS         | 17.1   | 18,19,37,71,75,93                           | FP-5149236 |
| FP-23505307 20                     | Turbo, Trunk, 4V Hd .020 OS         | 17.1   | 18,19,37,71,75,93                           | FP-5149236 |
| FP-23505307 30                     | Turbo, Trunk, 4V Hd .030 OS         | 17.1   | 18,19,37,71,75,93                           | FP-5149236 |
| FP-23505307 5                      | Turbo, Trunk, 4V Hd .005 OS         | 17.1   | 18,19,37,71,75,93                           | FP-5149236 |
| FP-20011                           | Non-Turbo, Trunk 4V Hd #1 Bore      | 18.7:1 | 20,43,46,47,48,69,72,74,85,87,89,90,101,103 | FP-5149234 |
| FP-23505305                        | Non-Turbo, Trunk 4V Hd #2 Bore      | 18.7:1 | 20,43,46,47,48,69,72,74,85,87,89,90,101,103 | FP-5149234 |
| FP-23505306                        | Non-Turbo, Trunk 4V Hd #3 Bore      | 18.7:1 | 20,43,46,47,48,69,72,74,85,87,89,90,101,103 | FP-5149234 |
| FP-23505306 30                     | Non-Turbo, Trunk 4V Hd .030 OS      | 18.7:1 | 20,43,46,47,48,69,72,74,85,87,89,90,101,103 | FP-5149234 |
| FP-23505306 5                      | Non-Turbo, Trunk 4V Hd .005 OS      | 18.7:1 | 20,43,46,47,48,69,72,74,85,87,89,90,101,103 | FP-5149234 |
| FP-5149261                         | Non-Turbo, Trunk 4V Hd #4 Bore      | 18.7:1 | 20,43,46,47,48,69,72,74,85,87,89,90,101,103 | FP-5149234 |
| FP-5149263                         | Non-Turbo, Trunk 4V Hd .010 OS      | 18.7:1 | 20,43,46,47,48,69,72,74,85,87,89,90,101,103 | FP-5149234 |
| FP-5149264                         | Non-Turbo, Trunk 4V Hd .020 OS      | 18.7:1 | 20,43,46,47,48,69,72,74,85,87,89,90,101,103 | FP-5149234 |
| FP-LCK-5309                        | Linerless Cylinder Kit, N/A 2V Head | 17.5:1 | Trunk Piston (2V)                           | FP-5189054 |
| FP-LCK-5306                        | Linerless Cylinder Kit, Non-Turbo   | 18.7:1 | Trunk Piston (4V)                           | FP-5149234 |
| FP-LCK-5307                        | Linerless Cylinder Kit, Turbo       | 17.1   | Trunk Piston (4V)                           | FP-5149236 |



# Cylinder Kits

| Dome                               | Seal, Dome | Skirt | Slipper Brg | Liner       | Port Ht | Ring Set    | Pin        | Retainer   |
|------------------------------------|------------|-------|-------------|-------------|---------|-------------|------------|------------|
| <b>71IL Series Trunk Type Only</b> |            |       |             |             |         |             |            |            |
|                                    |            |       |             | FP-23504931 | .81"    | FP-5193477  | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-23504932 | .81"    | FP-5193477  | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-23504933 | .81"    | FP-5193477  | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-23504934 | .81"    | FP-5193477  | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-5102317  | .81"    | FP-5193477  | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-5102318  | .81"    | FP-5193477  | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-5102319  | .81"    | FP-5193477  | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-5102316  | .81"    | FP-5193477  | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-23502020 | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                    |            |       |             | FP-23502021 | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                    |            |       |             | FP-23502022 | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                    |            |       |             | FP-23504936 | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                    |            |       |             | FP-5193733  | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                    |            |       |             | FP-5193734  | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                    |            |       |             | FP-5193735  | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                    |            |       |             | FP-5193732  | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                    |            |       |             | FP-23502020 | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-23502021 | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-23502022 | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-5193735  | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-5193732  | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-23504936 | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-5193733  | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                    |            |       |             | FP-5193734  | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                    |            |       |             |             |         | FP-5193477  | FP-5188406 | FP-5188405 |
|                                    |            |       |             |             |         | FP-23514970 | FP-5188406 | FP-5188405 |
|                                    |            |       |             |             |         | FP-23514971 | FP-5144495 | FP-5188405 |



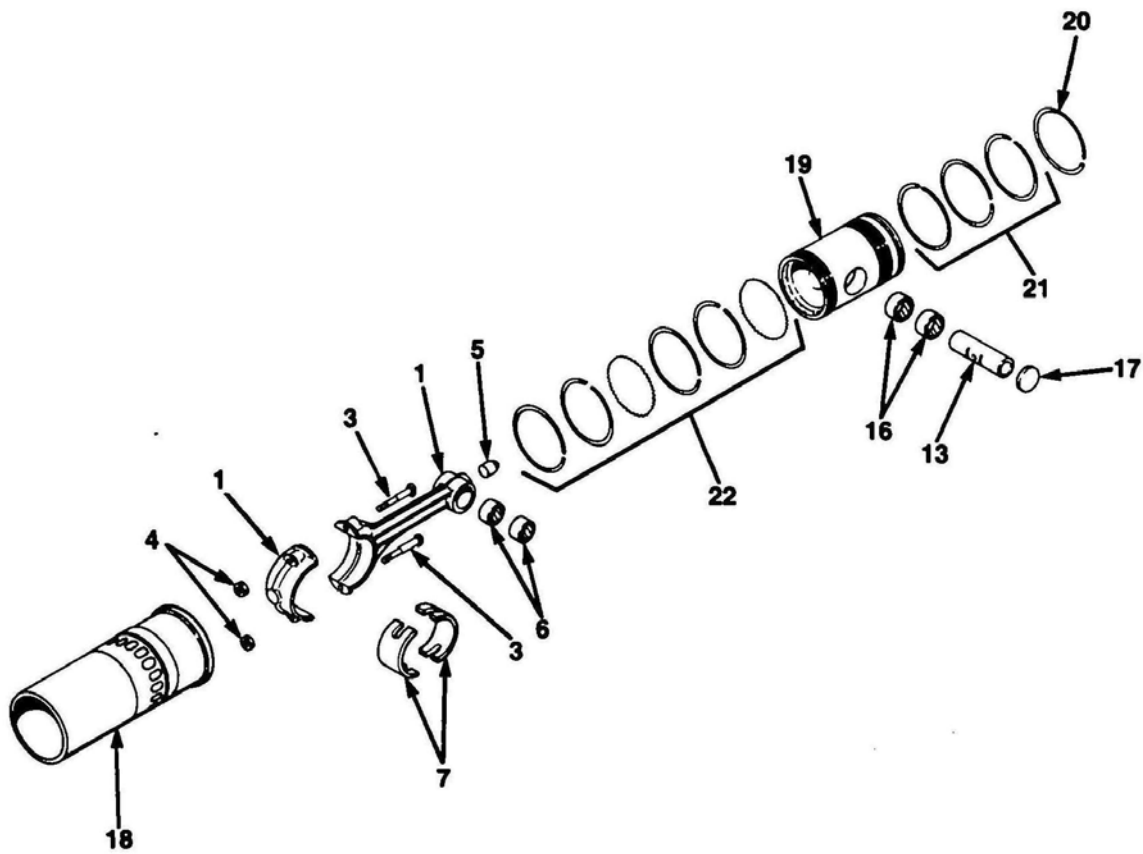
# Cylinder Kits

| Cylinder Kit                            | Description                                   | C/R    | Option Type Numbers                                       |
|---|---|--------|---|
| <b>71IL Series Cross-Head Type Only</b> |   |        |   |
| FP-23522946                             | Turbo, Cross-Head #3                          | 18.7:1 |   |
| FP-23522948                             | Turbo, Cross-Head #2                          | 18.7:1 |   |
| FP-23522950                             | Turbo, Cross-Head .010                        | 18.7:1 |   |
| FP-23522949                             | Non-Turbo, Cross-Head #2 Bore                 | 18.7:1 | 139,141,234,235,'360 Original P/N (23505312), (5199822)   |
| FP-23522947                             | Non-Turbo, Cross-Head #3 Bore                 | 18.7:1 | 139,141,234,235,'360 Original P/N (23505313)              |
| FP-23522951                             | Non-Turbo, Cross-Head .010 OS                 | 18.7:1 | 139,141,234,235,360 Original P/N (5149300)                |
| FP-23522525                             | Non-Turbo, Cross-Head .020 OS                 | 18.7:1 | 139,141,234,235,360 Original P/N (5149301)                |
| FP-23522949 5                           | Non-Turbo, Cross-Head .005 OS                 | 18.7:1 | 139,141,234,235,360 Original P/N (5199822-005)            |
| FP-23522949 30                          | Non-Turbo, Cross-Head .030 OS                 | 18.7:1 | 139,141,234,235,360 Original P/N (5199822-030)            |
| FP-23522521                             | Non-Turbo, Cross-Head #4 Bore                 | 18.7:1 | 139,141,234,235,360 Original P/N (5199956)                |
| FP-20022                                | Non-Turbo, Cross-Head #1 Bore                 | 18.7:1 | 139,141,234,235,'360 Original P/N (23505312), (5199822)   |
| FP-23522473 30                          | TA, X-Hd .030 N75 & Above, High Output Marine | 17.1   | 191,282   |
| FP-23522473 5                           | TA, X-Hd .005 N75 & Above, High Output Marine | 17.1   | 191,282   |
| FP-23522479                             | TA, X-Hd #4 N75 & Above, High Output Marine   | 17.1   | 191,282   |
| FP-23522481                             | TA, X-Hd .010 N75 & Above, High Output Marine | 17.1   | 191,282   |
| FP-23522483                             | TA, X-Hd .020 N75 & Above, High Output Marine | 17.1   | 191,282   |
| FP-20019                                | TA, X-Hd #1 N75 & Above, High Output Marine   | 17.1   | 191,282 (23505425)  |
| FP-23522473                             | TA, X-Hd #2 N75 & Above, High Output Marine   | 17.1   | 191,282 (23505425)  |
| FP-23522477                             | TA, X-Hd #3 N75 & Above, High Output Marine   | 17.1   | 191,282 (23505426)  |
| FP-20021                                | TA, Cross-Head #1 Bore Auto & City Coach      | 18.7:1 | 256,290,327   |
| FP-23522507                             | TA, Cross-Head #2 Bore Auto & City Coach      | 18.7:1 | 256,290,327   |
| FP-23522507 5                           | TA, Cross-Head .005 Bore Auto & City Coach    | 18.7:1 | 256,290,327   |
| FP-23522509                             | TA, Cross-Head #3 Bore Auto & City Coach      | 18.7:1 | 256,290,327   |
| FP-23522511                             | TA, Cross-Head #4 Bore Auto & City Coach      | 18.7:1 | 256,290,327   |
| FP-23522513                             | TA, Cross-Head .010 OS Auto & City Coach      | 18.7:1 | 256,290,327   |
| FP-23522515                             | TA, Cross-Head .020 OS Auto & City Coach      | 18.7:1 | 256,290,327   |
| FP-20020                                | TA, Cross-Head #1 Bore N75 & Below            | 17.1   | 28,124,140,175,289,292,'294,301,305,326,359 (23505314)    |
| FP-23522485                             | TA, Cross-Head #2 Bore N75 & Below            | 17.1   | 28,124,140,175,289,292,'294,301,305,326,359 (23505314)    |
| FP-23522953                             | TA, Cross-Head #3 Bore N75 & Below            | 17.1   | 28,124,140,175,289,292,'294,301,305,326,359 (23505315)    |
| FP-23522485 5                           | TA, Cross-Head .005 OS N75 & Below            | 17.1   | 28,124,140,175,289,292,'294,301,305,326,359 (8927766-005) |
| FP-23522485 30                          | TA, Cross-Head .030 OS N75 & Below            | 17.1   | 28,124,140,175,289,292,'294,301,305,326,359 (8927766-030) |
| FP-23522489                             | TA, Cross-Head #4 Bore N75 & Below            | 17.1   | 28,124,140,175,289,292,'294,301,305,326,359 (8927767)     |
| FP-23522491                             | TA, Cross-Head .010 OS N75 & Below            | 17.1   | 28,124,140,175,289,292,'294,301,305,326,359 (8927768)     |
| FP-23522493                             | TA, Cross-Head .020 OS N75 & Below            | 17.1   | 28,124,140,175,289,292,'294,301,305,326,359 (8927769)     |
| FP-23522952                             | Turbo, Cross-Head #3                          | 17.1   | N80 Injector & Above (23505424)                           |
| FP-LCK-22507                            | Linerless Cylinder Kit                        | 18.7:1 | Non-Turbo Cross-Head                                      |
| FP-LCK-22949                            | Linerless Cylinder Kit                        | 18.7:1 | Non-Turbo Cross-Head                                      |
| FP-LCK-22473                            | Linerless Cylinder Kit                        | 17.1   | Turbo A/C Cross-Head                                      |
| FP-LCK-22485                            | Linerless Cylinder Kit                        | 17.1   | Turbo A/C Cross-Head                                      |



# Connecting Rod & Piston

(Figure 4.1)





# Connecting Rod & Piston

(Figure 4.1)

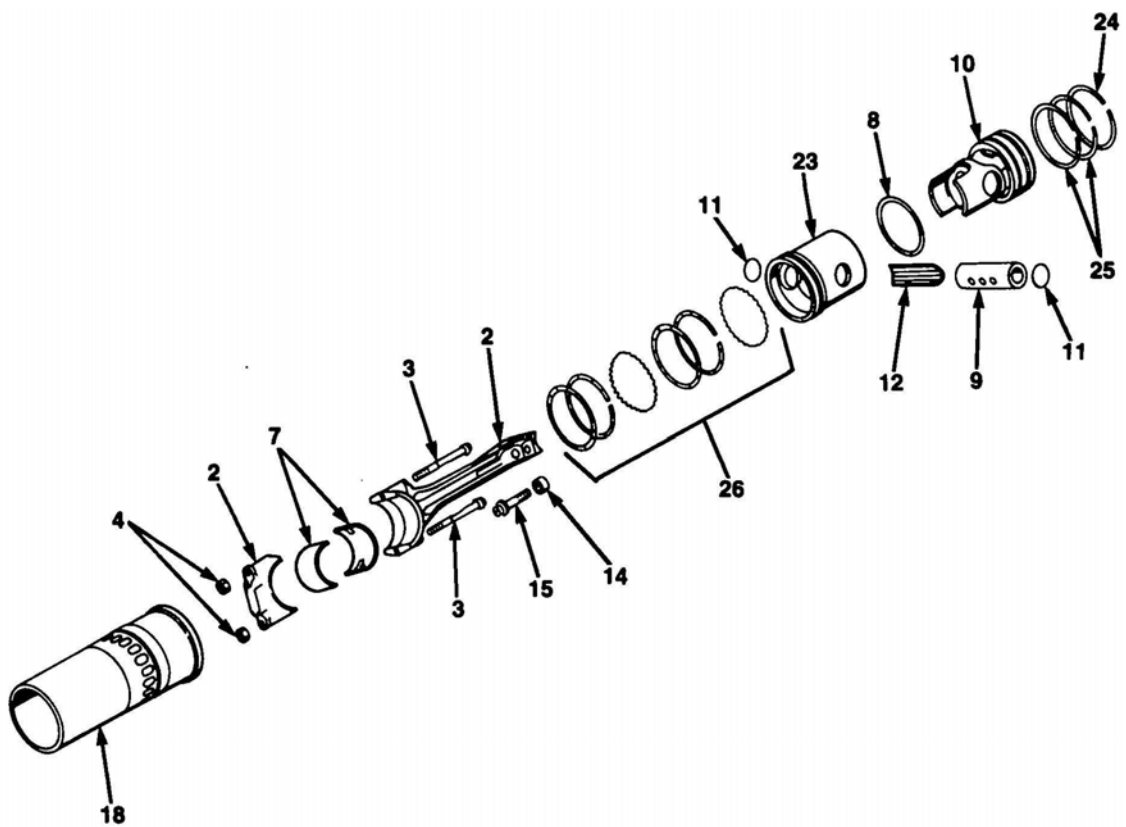
Groups:

1.6001 - 1.6182

| Group  | Ref | Part No.           | Description   | 2l | 3l | 4l | 6l |
|--------|-----|--------------------|---|----|----|----|----|
| 1.6001 | 4   | FP-5117629         | Nut, Rod Bolt 7/16" x 20                                    | 4  | 6  | 8  | 12 |
| 1.6001 | 3   | FP-5132383         | Bolt, C/R 7/16" 20 x 3.52"                                  | 4  | 6  | 8  | 12 |
| 1.6040 | 6   | FP-5157274         | Bushing, Connecting Rod Piston Pin                          | 4  | 6  | 8  | 12 |
| 1.6100 | 7   | FP-23511129        | Shell Set, Connecting Rod (Standard)                        | 2  | 3  | 4  | 6  |
| 1.6100 | 7   | FP-23511131        | Shell Set, Connecting Rod (.002 U.S.)                       | 2  | 3  | 4  | 6  |
| 1.6100 | 7   | FP-23511133        | Shell Set, Connecting Rod (.010 U.S.)                       | 2  | 3  | 4  | 6  |
| 1.6100 | 7   | FP-23511135        | Shell Set, Connecting Rod (.020 U.S.)                       | 2  | 3  | 4  | 6  |
| 1.6100 | 7   | FP-23511137        | Shell Set, Connecting Rod (.030 U.S.)                       | 2  | 3  | 4  | 6  |
| 1.6100 | 7   | FP-5193741         | Shell Set, Connecting Rod (.040 U.S.)                       | 2  | 3  | 4  | 6  |
| 1.6106 | 0   | FP-23501676        | Ring Seal, Crosshead Piston (Former Style)                  | -  | 3  | 4  | 6  |
| 1.6130 | 0   | FP-23514967        | Ring Set, Oil Control (Set For One Piston)                  | -  | 2  | 3  | 6  |
| 1.6145 | 16  | FP-5155839         | Bushing, Piston Pin (Trunk Type), (In Piston)               | -  | 6  | 8  | 12 |
| 1.6182 | 17  | FP-5188405         | Retainer, Piston Pin (1.6150)                               | 4  | 6  | 8  | 12 |
| 1.6182 | 13  | FP-5188406         | Pin, Piston Trunk (1.6140), (Non-Turbo)                     | 2  | 3  | 4  | 6  |
| 1.6182 | 19  | FP-5189054         | Piston Assembly (17.5:1), (Trunk), (2 Valve Head)           | 2  | 3  | 4  | 6  |
| 1.6182 | 13  | FP-5130881         | Pin, Piston Trunk (Turbo Non-Drilled), (Military), (1.6140) | -  | 3  | 4  | 6  |
| 1.6182 | 13  | FP-5144495         | Pin, Piston Trunk (Drilled), (1.6140)                       | -  | 3  | 4  | 6  |
| 1.6182 | 0   | FP-5149234         | Piston Assembly (Trunk), (4 Valve Head), (18.7:1)           | -  | 3  | 4  | 6  |
| 1.6182 | 0   | FP-5149236         | Piston Assembly, Trunk Turbo (17:1)                         | -  | 3  | 4  | 6  |
| 1.6115 | 0   | <b>FP-23514970</b> | <b>Ring Set (Trunk), (Non-Turbo), (4 Valve Head)</b>        | -  | 3  | 4  | 6  |
| 1.6120 | 20  | FP-5102648         | Ring, Fire & Compression (First 4 Grooves)                  | -  | 9  | 12 | 18 |
| 1.6130 | 22  | FP-23514965        | Ring Set, Oil Control (Set For One Piston)                  | -  | 3  | 4  | 6  |
| 1.6115 | 0   | <b>FP-23514971</b> | <b>Ring Set (Trunk), (Turbo), (4 Valve Head)</b>            | -  | 3  | 4  | 6  |
| 1.6120 | 20  | FP-5102648         | Ring (Top Groove, Fire)                                     | -  | 3  | 4  | 6  |
| 1.6120 | 21  | FP-5185325         | Ring, Compression (2nd, 3rd & 4th Grooves)                  | -  | 9  | 12 | 18 |
| 1.6130 | 22  | FP-23514968        | Ring Set, Oil Control (Set For One Piston)                  | -  | 2  | 3  | 6  |
| 1.6115 | 0   | <b>FP-5193477</b>  | <b>Ring Set (Trunk), (2 Valve Head)</b>                     | 2  | 3  | 4  | 6  |
| 1.6120 | 20  | FP-5185325         | Ring, Compression (Top 4 Grooves)                           | 8  | 12 | 16 | 24 |
| 1.6130 | 22  | FP-5179824         | Ring, Oil Control   | 8  | 12 | 16 | 24 |
| 1.6130 | 22  | FP-5130780         | Ring, Expander  | 4  | 6  | 8  | 12 |

# Connecting Rod & Piston

(Figure 4.2)







# Connecting Rod & Piston

(Figure 4.2)

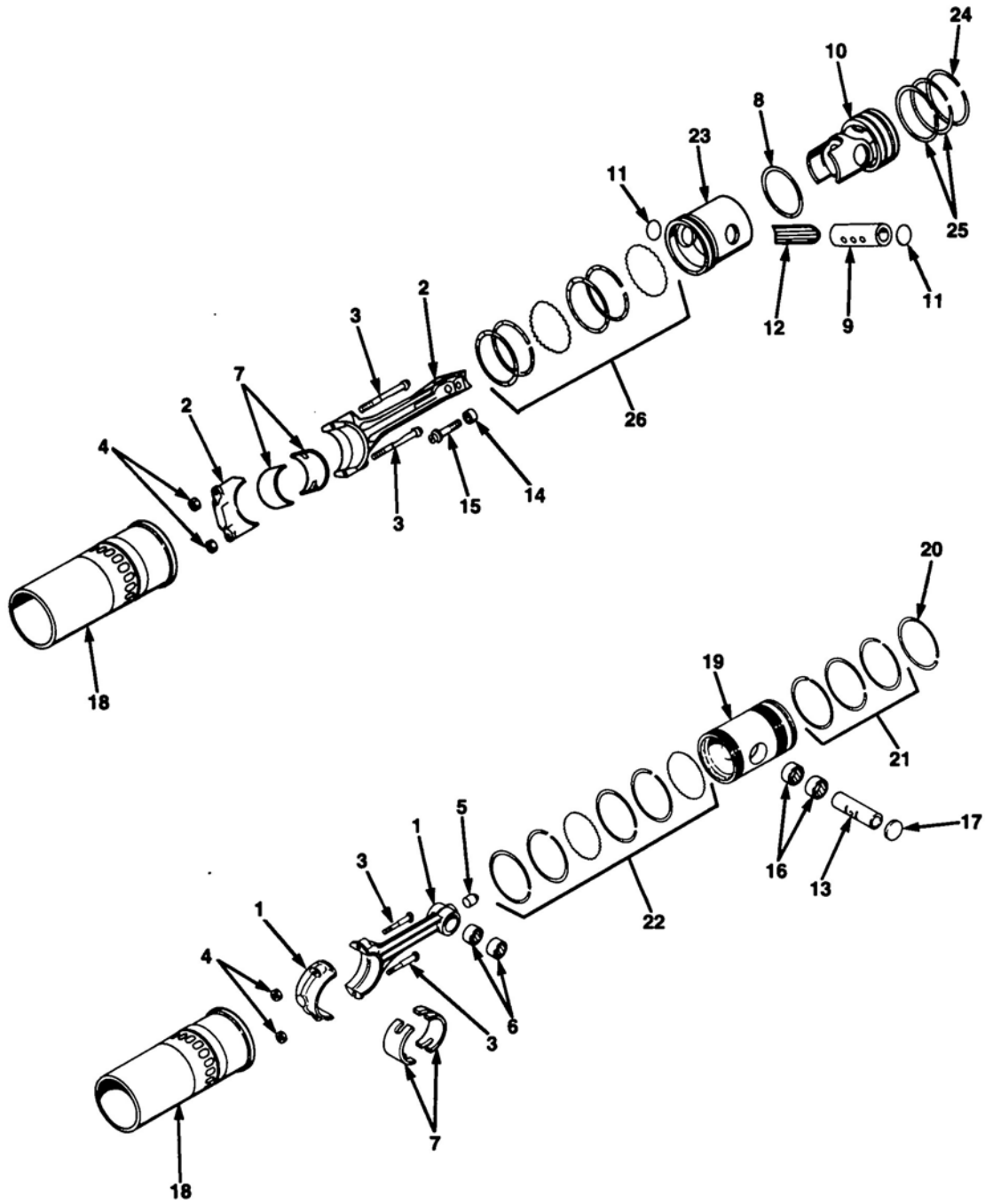
Groups:

1.6110 - 1.6150

| Group  | Ref | Part No.           | Description  | 2l | 3l | 4l | 6l |
|--------|-----|--------------------|--|----|----|----|----|
| 1.6140 | 14  | FP-5144846         | Spacer, Piston Pin Bolt (Crosshead)                | -  | 6  | 8  | 12 |
| 1.6140 | 15  | FP-5148373         | Bolt, 7/16" 20 x 2.00" L (Connecting Rod To Pin)   | -  | 6  | 8  | 12 |
| 1.6140 | 9   | FP-5101120         | Pin, Piston Crosshead (Turbo, Solid)               | -  | 3  | 4  | 6  |
| 1.6140 | 9   | FP-5144744         | Pin, Piston Crosshead (Nut Plate Type)             | -  | 3  | 4  | 6  |
| 1.6142 | 12  | FP-23501687        | Bearing, Piston Pin (Slipper Type)                 | -  | 3  | 4  | 6  |
| 1.6150 | 11  | FP-5180250         | Retainer, Piston Pin Crosshead                     | -  | 6  | 8  | 12 |
| 1.6110 | 0   | <b>FP-23522475</b> | <b>Dome Kit, Piston</b>                            | -  | 3  | 4  | 6  |
| 1.6110 | 10  | FP-23521992        | Coupling, Raw Water Pump Drive (21 External Teeth) | -  | 3  | 4  | 6  |
| 1.6110 | 12  | FP-23501687        | Bearing, Piston Pin (Slipper Type)                 | -  | 3  | 4  | 6  |
| 1.6110 | 8   | FP-8922221         | Ring, Seal Crosshead Piston                        | -  | 3  | 4  | 6  |
| 1.6110 | 9   | FP-5101120         | Pin, Piston  | -  | 3  | 4  | 6  |
| 1.6110 | 11  | FP-5180250         | Retainer, Piston Pin                               | -  | 3  | 4  | 6  |
| 1.6110 | 23  | FP-23522070        | Skirt, Piston Crosshead (All)                      | -  | 3  | 4  | 6  |
| 1.6110 | 0   | <b>FP-23522535</b> | <b>Dome Kit, Piston</b>                            | -  | 3  | 4  | 6  |
| 1.6110 | 10  | FP-23522026        | Crown, Piston (18.7:1)                             | -  | 3  | 4  | 6  |
| 1.6110 | 12  | FP-23501687        | Bearing, Piston Pin, (Slipper Type)                | -  | 3  | 4  | 6  |
| 1.6110 | 8   | FP-8922221         | Ring, Seal Crosshead Piston                        | -  | 3  | 4  | 6  |
| 1.6110 | 9   | FP-5101120         | Pin, Piston  | -  | 3  | 4  | 6  |
| 1.6110 | 11  | FP-5180250         | Retainer, Piston Pin                               | -  | 3  | 4  | 6  |
| 1.6115 | 0   | <b>FP-23522954</b> | <b>Ring Set, Crosshead (Wide Gap Fire Ring)</b>    | -  | 3  | 4  | 6  |
| 1.6120 | 24  | FP-8924083         | Ring (Top Groove, Fire)                            | -  | 3  | 4  | 6  |
| 1.6120 | 25  | FP-8926351         | Ring, Compression (2nd & 3rd Grooves)              | -  | 6  | 8  | 12 |
| 1.6130 | 26  | FP-23522534        | Ring Set, Oil Control (For One Groove)             | -  | 6  | 8  | 12 |
| 1.6115 | 0   | <b>FP-23522955</b> | <b>Ring Set, Crosshead (Std. Gap Fire Ring)</b>    | -  | 3  | 4  | 6  |
| 1.6120 | 24  | FP-8924084         | Ring (Top Groove, Fire)                            | -  | 3  | 4  | 6  |
| 1.6120 | 25  | FP-8926351         | Ring, Compression (2nd & 3rd Grooves)              | -  | 6  | 8  | 12 |
| 1.6130 | 26  | FP-23522534        | Ring Set, Oil Control (For One Groove)             | -  | 6  | 8  | 12 |

# Connecting Rod & Piston

(Figure 4.3)





# Connecting Rod & Piston

(Figure 4.3)

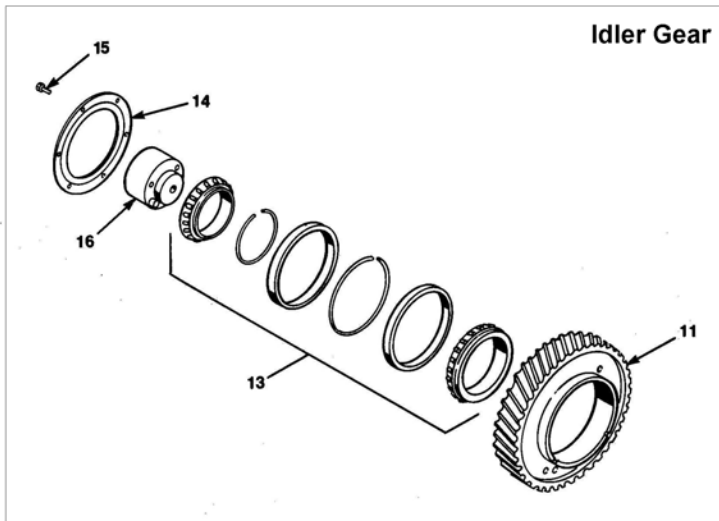
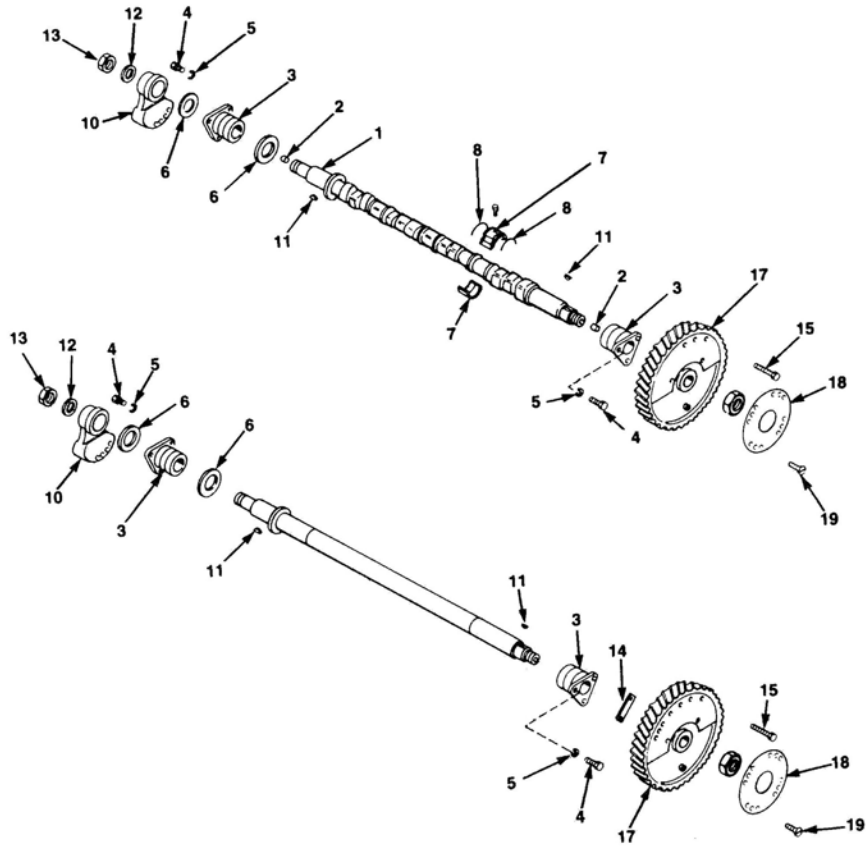
Groups:

1.6180 - 1.6187

| Group  | Ref | Part No.    | Description  | 2I | 3I | 4I | 6I |
|--------|-----|-------------|--|----|----|----|----|
| 1.6180 | 18  | FP-23504931 | Liner, Cylinder (.81" Port Ht.), (#1 Bore)                                     | 2  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23504932 | Liner, Cylinder (.81" Port Ht.), (#2 Bore)                                     | 2  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23504933 | Liner, Cylinder (.81" Port Ht.), (#3 Bore)                                     | 2  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23504934 | Liner, Cylinder (.81" Port Ht.), (#4 Bore)                                     | 2  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5102316  | Liner, Cylinder (.81" Port Ht.), (.005" O.S.)                                  | 2  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5102317  | Liner, Cylinder (.81" Port Ht.), (.010" O.S.)                                  | 2  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5102318  | Liner, Cylinder (.81" Port Ht.), (.020" O.S.)                                  | 2  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5102319  | Liner, Cylinder (.81" Port Ht.), (.030" O.S.)                                  | 2  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23502020 | Liner, Cylinder (1.05" Port Ht.), (#1 Bore)                                    | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23502021 | Liner, Cylinder (1.05" Port Ht.), (#2 Bore)                                    | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23502022 | Liner, Cylinder (1.05" Port Ht.), (#3 Bore)                                    | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23502023 | Liner, Cylinder (.95" Port Ht.), (#1 Bore)                                     | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23502024 | Liner, Cylinder (.95" Port Ht.), (#2 Bore)                                     | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23502025 | Liner, Cylinder (.95" Port Ht.), (#3 Bore)                                     | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23504935 | Liner, Cylinder (.95" Port Ht.), (#4 Bore)                                     | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-23504936 | Liner, Cylinder (1.05" Port Ht.), (#4 Bore)                                    | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5107448  | Liner, Cylinder (.95" Port Ht.), (.005" O.S.)                                  | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5107449  | Liner, Cylinder (.95" Port Ht.), (.010" O.S.)                                  | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5107450  | Liner, Cylinder (.95" Port Ht.), (.020" O.S.)                                  | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5193732  | Liner, Cylinder (1.05" Port Ht.), (.005" O.S.)                                 | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5193733  | Liner, Cylinder (1.05" Port Ht.), (.010" O.S.)                                 | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5193734  | Liner, Cylinder (1.05" Port Ht.), (.020" O.S.)                                 | -  | 3  | 4  | 6  |
| 1.6180 | 18  | FP-5193735  | Liner, Cylinder (1.05" Port Ht.), (.030" O.S.)                                 | -  | 3  | 4  | 6  |
| 1.6185 | 0   | FP-2190595  | Shim, Cyl Liner .002" Thick (Low Block)  | 2  | 3  | 4  | 6  |
| 1.6185 | 0   | FP-5192226  | Shim, Cyl Liner .003" Thick (Low Block)  | 2  | 3  | 4  | 6  |
| 1.6185 | 0   | FP-5199569  | Shim, Cyl Liner .002" Thick (High Block)                                       | -  | 3  | 4  | 6  |
| 1.6187 | 0   | FP-5148399  | Insert, Cyl Liner (.1810"-.1815" Thick For Std. Through .005" O.S. Liner)      | 2  | 3  | 4  | 6  |
| 1.6187 | 0   | FP-5184484  | Insert, Cyl Liner (.1795"-.1800" Thick For Std. Through .005" O.S. Liner)      | 2  | 3  | 4  | 6  |
| 1.6187 | 0   | FP-5193316  | Insert, Cyl Liner (.1795"-.1800" Thick For .010",.020",.030 O.S. O.D.Liner)    | 2  | 3  | 4  | 6  |
| 1.6187 | 0   | FP-5199871  | Insert, Cyl Liner (.1810"-.1815" Thick For .010,.020,.030 O.S. O.D. Liner)     | 2  | 3  | 4  | 6  |
| 1.6187 | 0   | FP-5148440  | Insert, Cyl Liner (.1780"-.1785" Thick For Std. Through .005" O.S. Liner)      | -  | 3  | 4  | 6  |
| 1.6187 | 0   | FP-5194073  | Insert, Cyl Liner (.1760"-.1755" Thick For Std. Through .005" O.S. O.D. Liner) | -  | 3  | 4  | 6  |
| 1.6187 | 0   | FP-5194163  | Insert, Cyl Liner (.1755"-.1760" Thick For .010,.020,.030 O.S. O.D. Liner)     | -  | 3  | 4  | 6  |
| 1.6187 | 0   | FP-5194164  | Insert, Cyl Liner (.1715"-.1720" Thick For .010,.020,.030 O.S. O.D. Liner)     | -  | 3  | 4  | 6  |

# Camshaft

(Figure 5.1)





# Camshaft

(Figure 5.1)

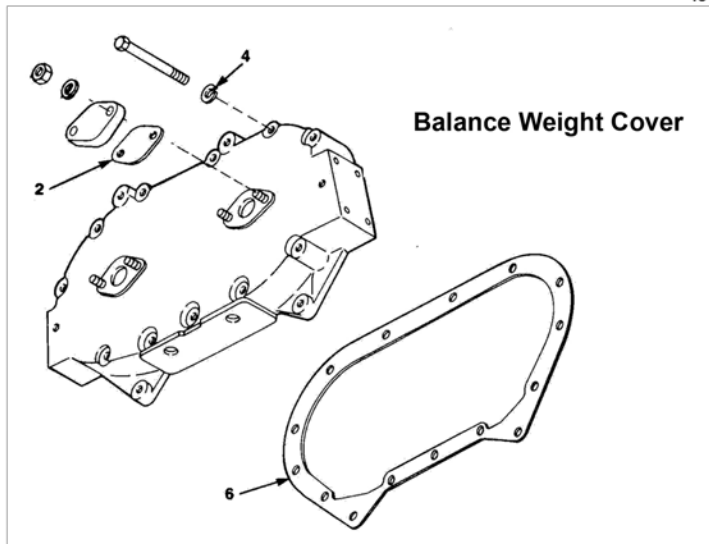
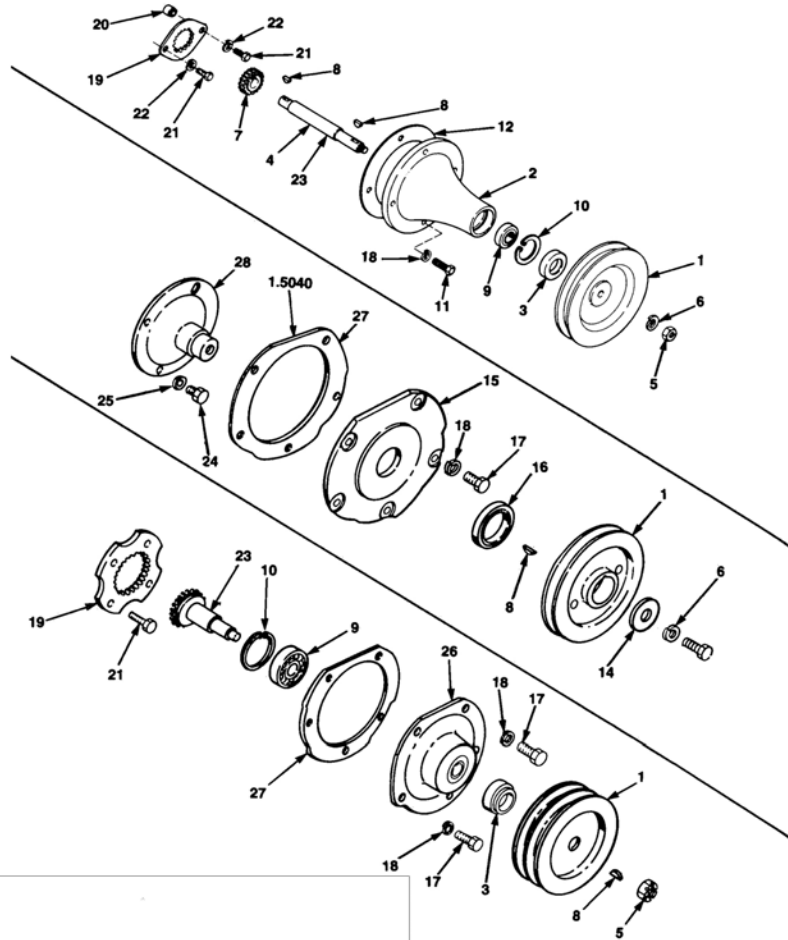
Groups:

1.7001 - 1.7260

| Group  | Ref | Part No.   | Description  | 2l | 3l | 4l | 6l |
|--------|-----|------------|--|----|----|----|----|
| 1.7001 | 2   | FP-5151277 | Plug, Camshaft (15/32" x 1/2")   | -  | 2  | 2  | 2  |
| 1.7001 | 1   | FP-5149391 | Camshaft Assembly, R.H.. Rot. Adv. Timing (Stamped 5102663), (4l), (Type 16,28,45,48,71,432,489,492,499,500,522,530,531,567) | -  | -  | 1  | -  |
| 1.7001 | 1   | FP-5149393 | Camshaft Assembly, R.H.. Rot. Adv. Timing (Stamped 5102665), (6l), (Type 17,27,93,166,193,399,463,532,552,558,565)           | -  | -  | -  | 1  |
| 1.7010 | 0   | FP-5194609 | Bearing, Camshaft & Balance Shaft (Std.), (1.52" Wide)   | 5  | -  | -  | -  |
| 1.7010 | 0   | FP-5111423 | Bushing, Camshaft & Balance Shaft (Grooved)  | -  | 8  | 8  | 8  |
| 1.7010 | 3   | FP-5111422 | Bearing, Camshaft (Std.)   | -  | 4  | 4  | 4  |
| 1.7010 | 3   | FP-5194858 | Bearing, Camshaft (.010" U.S. I.D.)  | -  | 4  | 4  | 4  |
| 1.7010 | 5   | FP-103321  | Lockwasher, 3/8"   | -  | 12 | 12 | 12 |
| 1.7015 | 0   | FP-5194825 | Bushing, Camshaft & Balance Shaft (Grooved), (.020" U.S. Unfinished)   | -  | 8  | 8  | 8  |
| 1.7030 | 6   | FP-5111424 | Washer, Camshaft & Balance Shaft End Bearing Thrust (Std.)   | -  | 4  | 4  | 4  |
| 1.7030 | 6   | FP-5194826 | Washer, Camshaft & Balance Shaft End Bearing Thrust (.005" O.S.)   | -  | 4  | 4  | 4  |
| 1.7030 | 6   | FP-5194827 | Washer, Camshaft & Balance Shaft End Bearing Thrust (.010" O.S.)   | -  | 4  | 4  | 4  |
| 1.7040 | 7   | FP-5196022 | Bearing, Camshaft (diameter), (Std.)   | -  | 2  | 3  | 5  |
| 1.7040 | 7   | FP-5196023 | Bearing, Camshaft (diameter), (.010" U.S. I.D.)  | -  | 2  | 3  | 5  |
| 1.7040 | 7   | FP-5196024 | Bearing, Camshaft (diameter), (.020" U.S. I.D.)  | -  | 2  | 3  | 5  |
| 1.7040 | 7   | FP-5196026 | Bearing, Camshaft (diameter), (Std.), (Aluminum Blocks Only)   | -  | -  | -  | 5  |
| 1.7040 | 7   | FP-5196027 | Bearing, Camshaft (diameter), (.010" U.S. I.D.), (Aluminum Blocks Only)  | -  | -  | -  | 5  |
| 1.7050 | 8   | FP-5115572 | Ring, Camshaft diameter Bearing Lock   | -  | 4  | 6  | 10 |
| 1.7050 | 20  | FP-5123383 | Bolt, Camshaft Bearing Lock 1/4" - 28 x 45/64"   | -  | 2  | 3  | 5  |
| 1.7140 | 12  | FP-5177769 | Lockwasher, Front Balance Weight   | 2  | 2  | 2  | 2  |
| 1.7225 | 13  | FP-7451948 | Bearing, Idler Gear  | -  | 1  | 1  | 1  |
| 1.7227 | 15  | FP-5103534 | Bolt, 5/16" - 24 x 1/2" (Vibrate Coated)   | -  | 6  | 6  | 6  |
| 1.7227 | 14  | FP-5176998 | Retainer, Idler Gear Bearing   | -  | 1  | 1  | 1  |
| 1.7250 | 7   | FP-454992  | Bolt, 1/2" - 13 x 2 1/2"   | -  | 1  | 1  | 1  |
| 1.7250 | 16  | FP-5130135 | Hub Assembly Idler Gear  | -  | 1  | 1  | 1  |
| 1.7250 | 8   | FP-5167714 | Washer, 17/32" x 7/8" x 3/32"  | -  | 1  | 1  | 1  |
| 1.7260 | 0   | FP-5101150 | Spacer, Idler Gear Hole (w/Integral Dowel)   | -  | 1  | 1  | 1  |

# Camshaft Accessory Drive

(Figure 5.2)





# Camshaft Accessory Drive

(Figure 5.2)

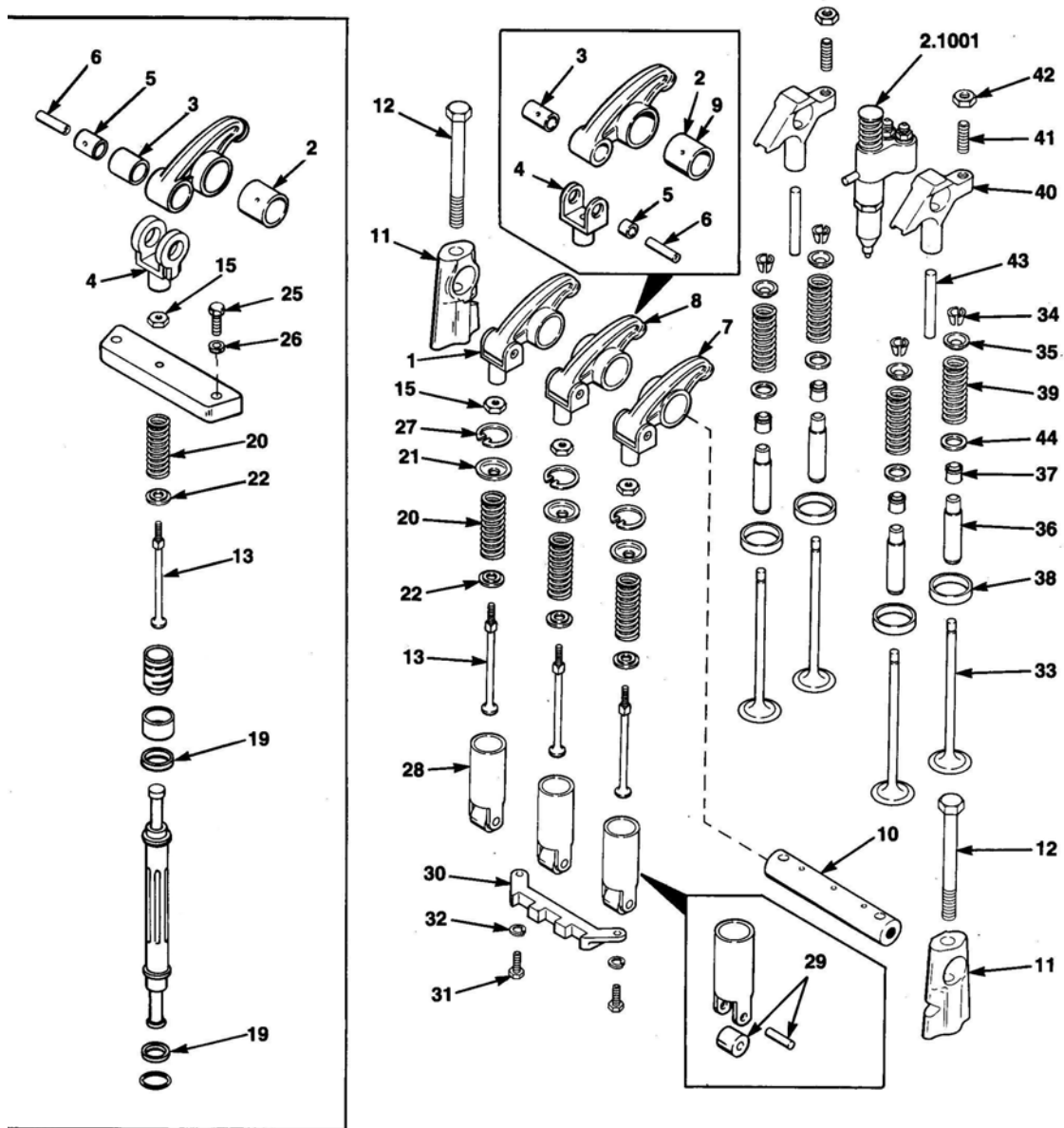
Groups:

1.7470 - 1.7750

| Group   | Ref | Part No.    | Description                                     | 2l | 3l | 4l | 6l |
|---|-----|-------------|---|----|----|----|----|
| <b>Balance Weight Cover</b>                               |     |             |   |    |    |    |    |
| 1.7470  | 0   | FP-103026   | Nut, 3/8" - 24 Hex                              | -  | 20 | 20 | 23 |
| 1.7480  | 6   | FP-5121753  | Gasket, Balance Weight Cover (All Option Types) | -  | 1  | 1  | 1  |
| 1.7490  | 0   | FP-103320   | Lockwasher, 5/16"                               | -  | 20 | 20 | 23 |
| 1.7490  | 4   | FP-103321   | Lockwasher, 3/8"                                | -  | 2  | 2  | 2  |
| 1.7500  | 2   | FP-5135935  | Gasket, Balance Weight Hole Cover               | -  | 2  | 2  | 2  |
| 1.7510  | 0   | FP-8925804  | Stud, 7/16" - 14/20 x 2 3/32"                   | -  | 4  | 4  | 4  |
| <b>Coupling, Raw Water Pump Drive (21 External Teeth)</b> |     |             |   |    |    |    |    |
| 1.7600  | 11  | FP-8927581  | Bolt, 3/8" - 16 x 1" (w/Seal Patch)             | 4  | 3  | 3  | 3  |
| 1.7600  | 0   | FP-103026   | Nut, 3/8" - 24                                  | 14 | 13 | 13 | 13 |
| 1.7600  | 1   | FP-103321   | Lockwasher, 3/8"                                | 14 | 13 | 13 | 13 |
| 1.7600  | 0   | FP-5152148  | Washer, 3/8" Copper                             | 14 | 13 | 13 | 13 |
| 1.7600  | 17  | FP-8927580  | Bolt, 3/8" - 16 x 7/8" (w/Seal Patch)           | 10 | 10 | 10 | 10 |
| 1.7602  | 0   | FP-5133682  | Spacer, Accessory Drive Oil Seal (1.7665)       | -  | 1  | 1  | 1  |
| 1.7602  | 0   | FP-5198174  | Sleeve, Accessory Drive Oil Seal                | -  | 1  | 1  | 1  |
| 1.7602  | 0   | FP-5198175  | Seal Kit, Accessory Drive (Type 123,143)        | -  | 1  | 1  | 1  |
| 1.7610  | 0   | FP-5144866  | Hub, Drive Pulley                               | -  | 1  | 1  | 1  |
| 1.7615  | 0   | FP-5150568  | Washer, 7/16" Copper                            | 5  | 5  | 5  | 5  |
| 1.7615  | 16  | FP-5102456  | Seal, Drive Pulley Hub Oil                      | -  | -  | 1  | 1  |
| 1.7620  | 16  | FP-5102456  | Seal, Drive Pulley Hub Oil                      | -  | -  | 1  | 1  |
| 1.7622  | 0   | FP-103026   | Nut, 3/8" -24                                   | 1  | 1  | 1  | 1  |
| 1.7622  | 0   | FP-5121182  | Plug, 1/4" Pipe                                 | 1  | 1  | 1  | 1  |
| 1.7622  | 0   | FP-8927270  | Stud, 3/8" - 16/24 x 1 9/16"                    | 1  | 1  | 1  | 1  |
| 1.7623  | 27  | FP-23515145 | Gasket, Accessory Drive (Adapter To Housing)    | -  | 1  | 1  | 1  |
| 1.7623  | 0   | FP-5188755  | Gasket, Accessory Drive (Pump To Adapter)       | -  | 1  | 1  | 1  |
| 1.7630  | 22  | FP-103321   | Lockwasher, 3/8"                                | -  | 4  | 4  | 4  |
| 1.7630  | 21  | FP-5145092  | Bolt, 3/8" - 24 x 1.20" Self Locking            | -  | 4  | 4  | 4  |
| 1.7630  | 19  | FP-5170450  | Plate, Accessory Drive                          | -  | 1  | 1  | 1  |
| 1.7635  | 0   | FP-5139545  | Coupling, Accessory Drive (Fiber w/o Hole)      | -  | 1  | 1  | 1  |
| 1.7635  | 0   | FP-5141773  | Coupling, Accessory Drive                       | -  | 1  | 1  | 1  |
| 1.7640  | 25  | FP-103320   | Lockwasher 5/16"                                | -  | 4  | 4  | 4  |
| 1.7645  | 9   | FP-23504528 | Bearing, Accessory Drive                        | -  | 1  | 2  | 1  |
| 1.7645  | 0   | FP-5131131  | Spacer, Accessory Drive Oil Seal                | -  | 1  | 1  | 1  |
| 1.7645  | 3   | FP-5131329  | Seal, Accessory Drive Oil                       | -  | 1  | 1  | 1  |
| 1.7645  | 10  | FP-9415285  | Lockring, Accessory Drive (1.7650)              | -  | 1  | 1  | 1  |
| 1.7655  | 9   | FP-23506244 | Bearing, Accessory Drive                        | 1  | -  | -  | -  |
| 1.7655  | 9   | FP-23504528 | Bearing, Accessory (23503726)                   | -  | 1  | 2  | 1  |
| 1.7655  | 9   | FP-23503727 | Bearing, Accessory Drive                        | -  | 1  | 1  | 1  |
| 1.7660  | 3   | FP-5131329  | Seal, Accessory Drive Oil                       | -  | 1  | 1  | 1  |
| 1.7660  | 0   | FP-5138710  | Seal, Accessory Drive Oil                       | -  | 1  | 1  | 1  |
| 1.7665  | 0   | FP-5131131  | Spacer, Accessory Drive Seal                    | -  | 1  | 1  | 1  |
| 1.7665  | 0   | FP-5133682  | Spacer, Accessory Drive Seal                    | -  | 1  | 1  | 1  |
| 1.7750  | 0   | FP-5185793  | Screw, Internal Gear Mount                      | -  | -  | -  | 6  |

# Valve Train

(Figure 6.1)







## Valve Train

(Figure 6.1)

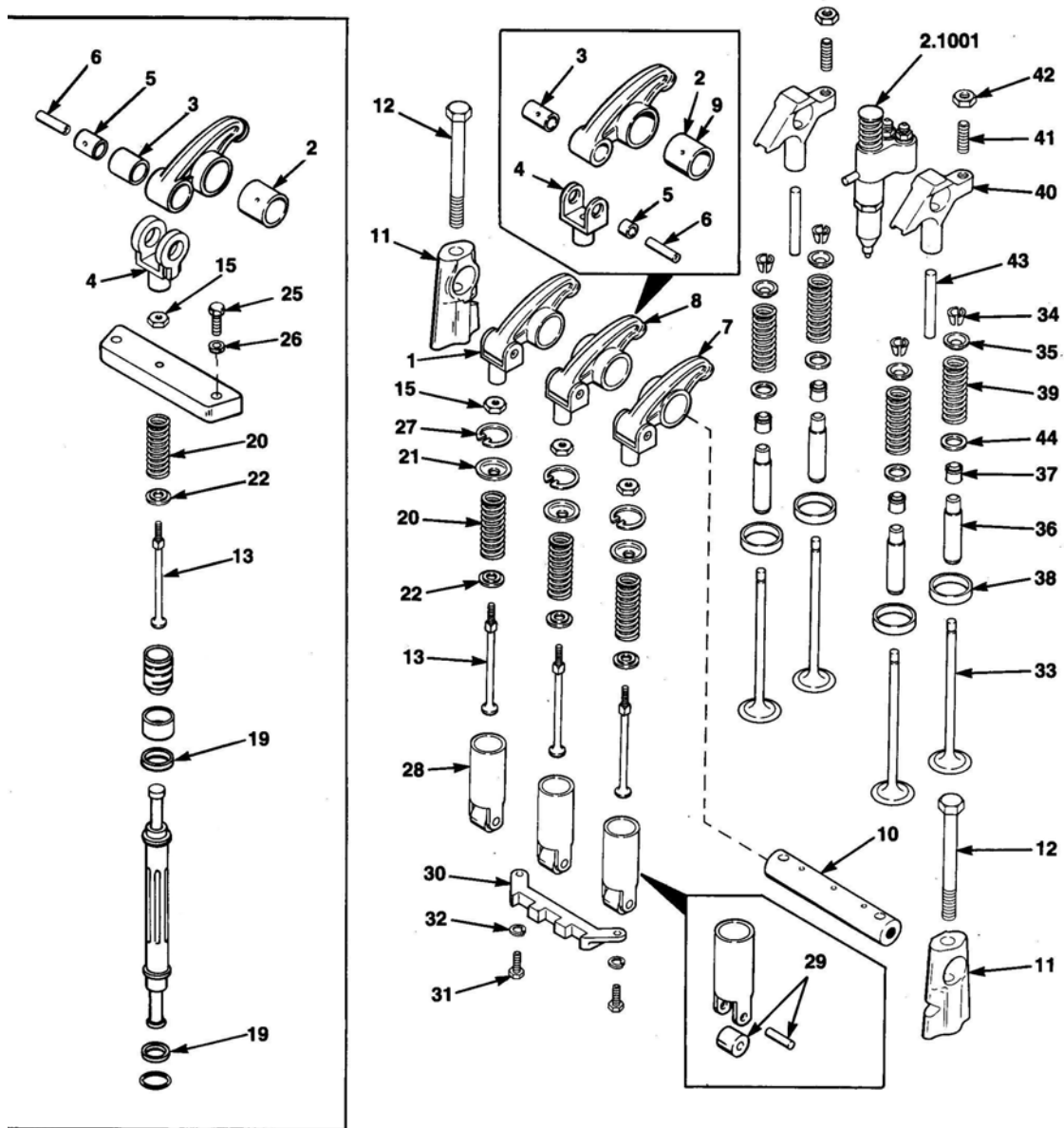
Groups:

1.8060 - 1.8360

| Group  | Ref | Part No.    | Description   | 2l | 3l | 4l | 6l |
|--------|-----|-------------|---|----|----|----|----|
| 1.8060 | 1   | FP-5148472  | Rocker Arm Assembly, Exhaust Valve L.H..                    | -  | 3  | 4  | 6  |
| 1.8060 | 7   | FP-5148475  | Rocker Arm Assembly, Exhaust Valve R.H..                    | -  | 3  | 4  | 6  |
| 1.8060 | 8   | FP-8923554  | Racker Arm Assembly, Injector (Unbushed Clevis)             | -  | 3  | 4  | 6  |
| 1.8110 | 2   | FP-23517217 | Bushing, Rocker Arm Exhaust Valve (Large)                   | -  | 6  | 8  | 12 |
| 1.8110 | 9   | FP-8924355  | Bushing, Rocker Arm Injector (Large)                        | -  | 3  | 4  | 6  |
| 1.8120 | 3   | FP-8924354  | Bushing, Rocker Arm Exhaust Valve (Small)                   | -  | 6  | 8  | 12 |
| 1.8120 | 3   | FP-8924354  | Bushing, Rocker Arm (Small)                                 | -  | 3  | 4  | 6  |
| 1.8130 | 4   | FP-5150312  | Clevis, Rocker Arm Exhaust Valve                            | -  | 6  | 8  | 12 |
| 1.8130 | 4   | FP-5150312  | Clevis, Rocker Arm, Injector                                | -  | 3  | 4  | 6  |
| 1.8140 | 5   | FP-5123700  | Bushing, Rocker Arm Exhaust Valve Clevis                    | -  | 6  | 8  | 12 |
| 1.8140 | 5   | FP-5123700  | Bushing, Clevis .5625" O.D.                                 | -  | 3  | 4  | 6  |
| 1.8150 | 6   | FP-5150314  | Pin, Clevis, Rocker Arm                                     | -  | 6  | 8  | 12 |
| 1.8150 | 6   | FP-5150314  | Pin, Clevis, Rocker Arm                                     | -  | 3  | 4  | 6  |
| 1.8160 | 10  | FP-23500714 | Shaft Assembly, Rocker (FP-5150322)                         | 2  | 3  | 4  | 6  |
| 1.8170 | 11  | FP-5103903  | Bracket, Rocker Shaft                                       | 4  | 6  | 8  | 12 |
| 1.8170 | 12  | FP-5150325  | Bolt, Rocker Shaft Bracket                                  | 4  | 6  | 8  | 12 |
| 1.8180 | 13  | FP-5128640  | Rod, Push   | 6  | 9  | 12 | 18 |
| 1.8180 | 15  | FP-5151601  | Nut, Push Rod 5/16" -24 Lock                                | 6  | 9  | 12 | 18 |
| 1.8183 | 19  | FP-5154472  | Seal, Push Rod  | 6  | -  | -  | -  |
| 1.8190 | 20  | FP-5186858  | Spring, Push Rod  | 6  | 9  | 12 | 18 |
| 1.8200 | 21  | FP-5150302  | Seat, Push Rod Spring (Upper)                               | 6  | 9  | 12 | 18 |
| 1.8210 | 22  | FP-5123250  | Seat, Push Rod Spring (Lower)                               | 6  | 9  | 12 | 18 |
| 1.8240 | 26  | FP-103321   | Lockwasher 3/8"   | 4  | -  | -  | -  |
| 1.8240 | 25  | FP-8927580  | Bolt, 3/8" - 16 x 1   | 4  | -  | -  | -  |
| 1.8250 | 27  | FP-5150303  | Retainer, Push Rod  | 6  | 9  | 12 | 18 |
| 1.8260 | 29  | FP-8923814  | Pin & Roller, Follower Assembly                             | 6  | 9  | 12 | 18 |
| 1.8260 | 28  | FP-8924439  | Follower Assembly, Camshaft                                 | 6  | 9  | 12 | 18 |
| 1.8300 | 32  | FP-103319   | Lockwasher 1/4"   | 4  | 6  | 8  | 12 |
| 1.8300 | 0   | FP-103320   | Lockwasher 5/16"  | 4  | 6  | 8  | 12 |
| 1.8300 | 31  | FP-443603   | Bolt, 1/4" - 20 x 3/4"                                      | 4  | 6  | 8  | 12 |
| 1.8310 | 34  | FP-23507238 | Lock, Valve (2 Valve Head)                                  | 8  | 12 | 16 | 24 |
| 1.8310 | 0   | FP-5192718  | Valve Kit (45°), (2 Valve Head), (w/Locks)                  | 4  | 6  | 8  | 12 |
| 1.8310 | 0   | FP-5193197  | Valve Kit (30°), (2 Valve Head), (w/Locks)                  | 4  | 6  | 8  | 12 |
| 1.8310 | 0   | FP-5193666  | Valve Kit (30°), (2 Valve Head), (Jet Blade), (w/Locks)     | 4  | 6  | 8  | 12 |
| 1.8310 | 0   | FP-5194829  | Valve Kit (45°), (2 Valve Head), (Jet Blade), (w/Locks)     | 4  | 6  | 8  | 12 |
| 1.8310 | 34  | FP-5111337  | Lock, Valve (4 Valve Head)                                  | -  | 24 | 32 | 48 |
| 1.8310 | 33  | FP-23500501 | Valve Kit, Exhaust (w/Locks), (4 V Hd), (N & T)             | -  | 12 | 16 | 24 |
| 1.8310 | 33  | FP-5149386  | Valve Kit, Exhaust (w/Locks), (4 V Hd), (Hi-Output)         | -  | 12 | 16 | 24 |
| 1.8320 | 37  | FP-23500480 | Seal, Exhaust Valve (2 Valve Head)                          | 4  | 6  | 8  | 12 |
| 1.8320 | 36  | FP-5120930  | Guide, Exhaust Valve (2 Valve Head)                         | 4  | 6  | 8  | 12 |
| 1.8320 | 36  | FP-5192717  | Guide, Exhaust Valve (2 Valve Head), (.016" O.S.O.D.)       | 4  | 6  | 8  | 12 |
| 1.8320 | 0   | FP-5199914  | Installer, Exhaust Valve Seal (Clear), (2 Valve)            | 4  | 6  | 8  | 12 |
| 1.8320 | 36  | FP-5129919  | Guide, Exhaust Valve (4 Valve Head)                         | -  | 12 | 16 | 24 |
| 1.8320 | 0   | FP-5199913  | Installer, Exhaust Valve Seal (Green Stripe), (4 Valve)     | -  | 12 | 16 | 24 |
| 1.8320 | 37  | FP-8921209  | Seal, Exhaust Valve (4 Valve Head)                          | -  | 12 | 16 | 24 |
| 1.8330 | 38  | FP-5198230  | Insert, Exhaust Valve (.010 O.S. 30°), (2 Valve)            | 4  | 6  | 8  | 12 |
| 1.8330 | 38  | FP-8927920  | Insert, Exhaust Valve (Std. 30°), (2 Valve)                 | 4  | 6  | 8  | 12 |
| 1.8330 | 38  | FP-5101101  | Insert, Exhaust Valve (Std. 30°), (4 Valve)                 | -  | 12 | 16 | 24 |
| 1.8330 | 38  | FP-5197167  | Insert, Exhaust Valve (.010 O.S. 30°), (4 Valve)            | -  | 12 | 16 | 24 |
| 1.8340 | 39  | FP-5150289  | Spring, Exhaust Valve (2 Valve Head), (.177" Wire Diameter) | 4  | 6  | 8  | 12 |
| 1.8340 | 39  | FP-5111339  | Spring, Exhaust Valve (4 Valve Head), (.135" Wire Diameter) | -  | 12 | 16 | 24 |

# Valve Train

(Figure 6.1)





## Valve Train

(Figure 6.1)

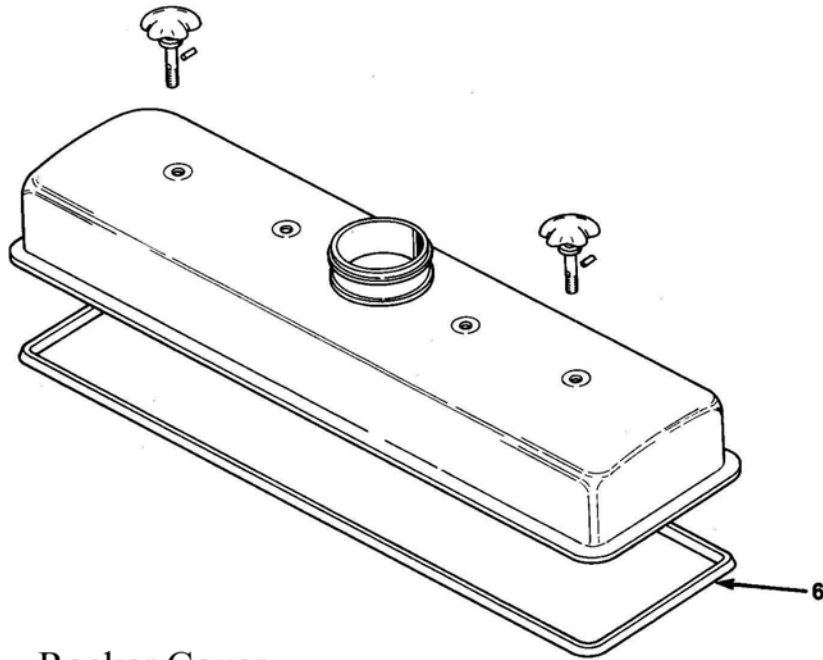
Groups:

1.8060 - 1.8360

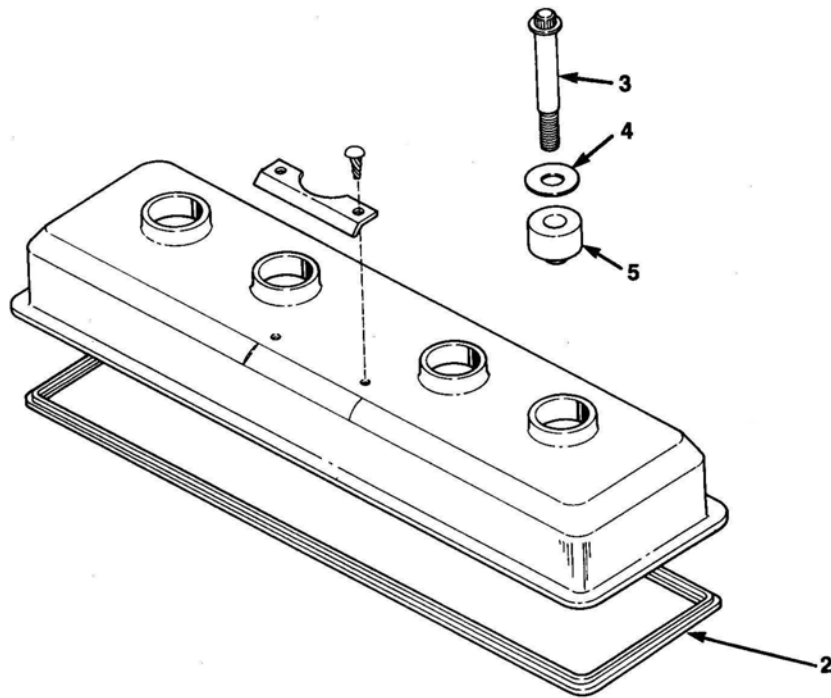
| Group  | Ref | Part No.          | Description   | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|---|----|----|----|----|
| 1.8340 | 39  | FP-5147347        | Spring, Exhaust Valve (4 Valve Head), (.148" Wire Diameter) | -  | 12 | 16 | 24 |
| 1.8343 | 40  | FP-5117565        | Bridge, Exhaust Valve                                       | -  | 6  | 8  | 12 |
| 1.8343 | 41  | FP-5129101        | Screw, 5/16" - 24 x 1                                       | -  | 6  | 8  | 12 |
| 1.8343 | 42  | FP-5151601        | Nut, 5/16" - 24   | -  | 6  | 8  | 12 |
| 1.8345 | 43  | FP-5117564        | Guide, Exhaust Valve Bridge (Press Fit)                     | -  | 6  | 8  | 12 |
| 1.8345 | 43  | FP-51175646       | Guide, Exhaust Valve Bridge .006 O.S. (Press Fit)           | -  | 6  | 8  | 12 |
| 1.8345 | 43  | FP-5196843        | Guide, Exhaust Valve Bridge (Threaded Type)                 | -  | 6  | 8  | 12 |
| 1.8350 | 35  | FP-5150291        | Cap, Exhaust Valve Spring (2 Valve Head)                    | 4  | 6  | 8  | 12 |
| 1.8350 | 35  | FP-5117563        | Cap, Exhaust Valve Spring (4 Valve Head)                    | -  | 12 | 16 | 24 |
| 1.8360 | 44  | FP-5150292        | Seat, Exhaust Valve Spring (2 Valve Head)                   | 4  | 6  | 8  | 12 |
| 1.8360 | 0   | FP-5111467        | Washer, Exhaust Valve Spring                                | -  | 6  | 16 | 24 |
| 1.8360 | 44  | FP-5117562        | Seat, Exhaust Valve Spring (4 Valve Head)                   | -  | 12 | 16 | 24 |
| 1.8343 | 0   | <b>FP-5103099</b> | <b>Valve Bridge Kit (Exhaust)</b>                           | -  | 6  | 8  | 12 |
| 1.8343 | 40  | FP-5117565        | Bridge, Exhaust Valve                                       | -  | 6  | 8  | 12 |
| 1.8343 | 41  | FP-5129101        | Scron, 5/10" - 24 x 1                                       | -  | 6  | 8  | 12 |
| 1.8343 | 42  | FP-5151601        | Nut, 5/16 - 24  | -  | 6  | 8  | 12 |

# Rocker Cover

(Figure 6.2)



Rocker Cover





# Rocker Cover

(Figure 6.2)

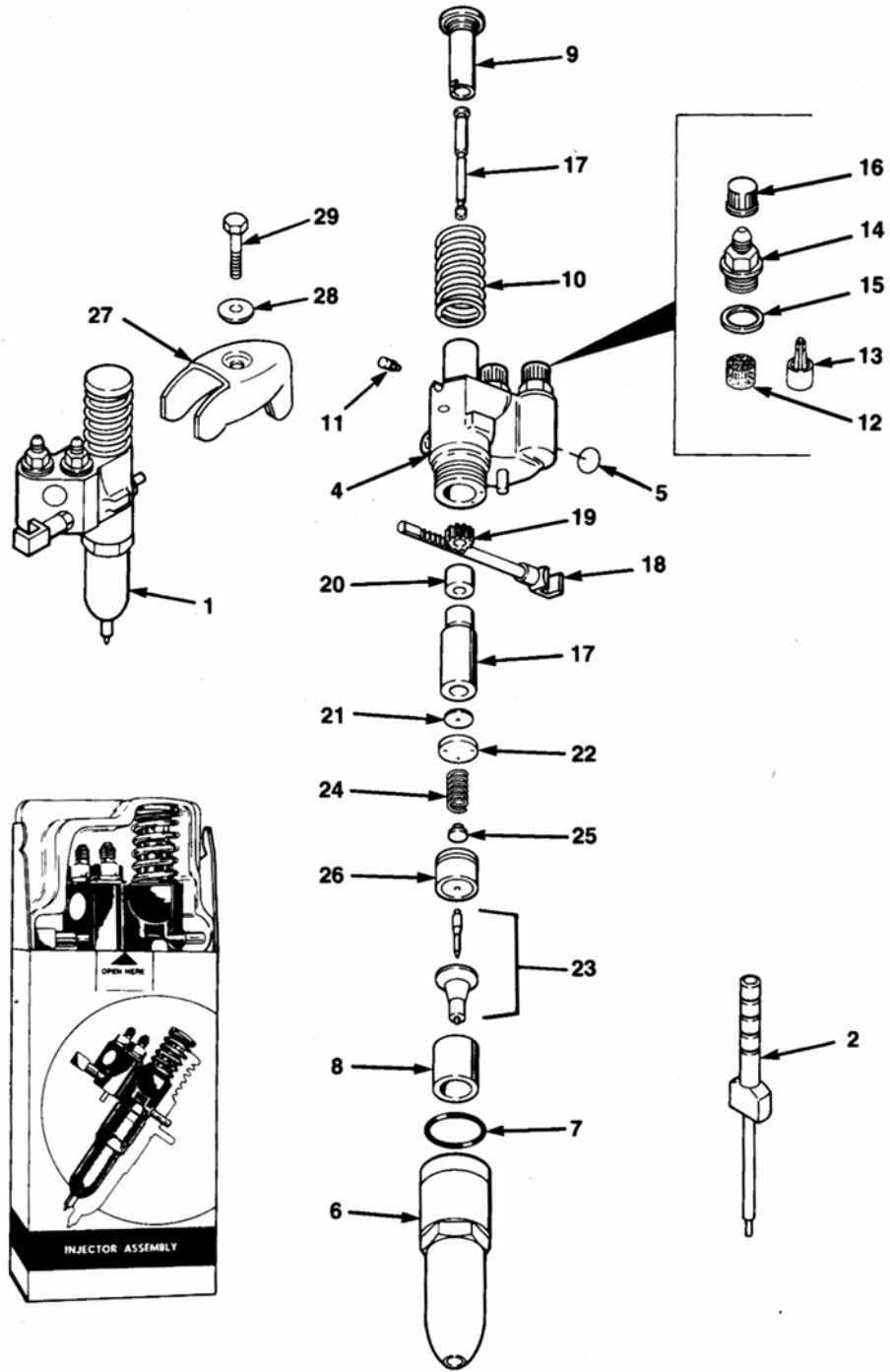
Groups:

1.8451 - 3.8455

| Group  | Ref | Part No.   | Description                                  | 2l | 3l | 4l | 6l |
|--------|-----|------------|--|----|----|----|----|
| 1.8451 | 3   | FP-5104015 | Bolt, Rocker Cover 3/8" - 16 x 6.57" L 12 Pt | -  | 2  | 2  | 4  |
| 1.8451 | 5   | FP-5104515 | Isolator, Rocker Cover Bolt                  | -  | 2  | 2  | 4  |
| 1.8451 | 0   | FP-5103635 | Bolt, Throttle Delay 3/8" - 16 x 2.90"       | -  | 1  | 1  | 1  |
| 1.8451 | 0   | FP-5149510 | Installation Kit, Aluminum Rocker Cover      | -  | 1  | -  | -  |
| 1.8451 | 0   | FP-5149511 | Installation Kit, Aluminum Rocker Cover      | -  | -  | 1  | -  |
| 1.8451 | 0   | FP-5149512 | Installation Kit, Aluminum Rocker Cover      | -  | -  | -  | 1  |
| 1.8455 | 2   | FP-5104018 | Gasket, Silicone, Aluminum Rocker Cover      | -  | 1  | -  | -  |
| 1.8455 | 2   | FP-5104081 | Gasket, Silicone, Aluminum Rocker Cover      | -  | -  | 1  | -  |
| 1.8455 | 2   | FP-5104019 | Gasket, Silicone, Aluminum Rocker Cover      | -  | -  | -  | 1  |
| 1.8475 | 0   | FP-5148504 | Stud, 3/8" - 16 x 4.32" L Rocker Cover       | -  | 2  | 2  | 4  |
| 2.8455 | 6   | FP-5144484 | Gasket, Rocker Cover, Stamped                | 1  | -  | -  | -  |
| 3.8455 | 6   | FP-5143405 | Gasket, Neoprene, Stamped Rocker Cover       | -  | 1  | -  | -  |
| 3.8455 | 6   | FP-5143406 | Gasket, Neoprene, Stamped Rocker Cover       | -  | -  | 1  | -  |
| 3.8455 | 6   | FP-5143407 | Gasket, Neoprene, Stamped Rocker Cover       | -  | -  | -  | 1  |

# Fuel Injector

(Figure 7.1)





# Fuel Injector

(Figure 7.1)

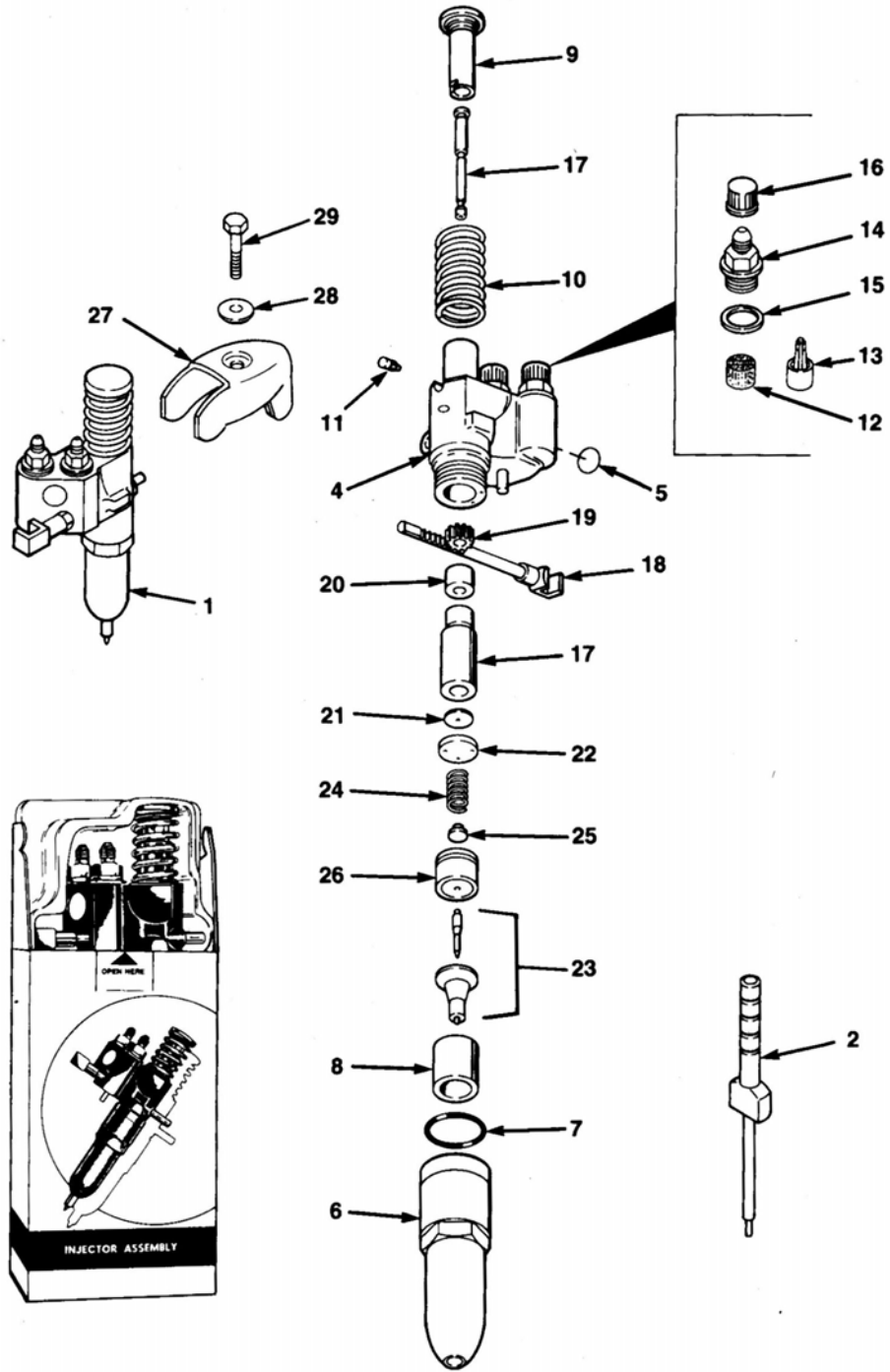
Groups:

1.1080 - 2.1180

| Group  | Ref | Part No.          | Description                                   | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|---|----|----|----|----|
| 1.1080 | 10  | FP-5229518        | Spring, Injector Plunger                      | 2  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5226440        | Injector Assembly, 7N65 (Option Type 242)     | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5227015        | Injector Assembly, M95 (Option Type 155)      | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5228760        | Injector Assembly, N60 (Option Type 53,78)    | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5228770        | Injector Assembly, N70 (Option Type 57,80)    | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5228777        | Injector Assembly, N75 (Option Type 81)       | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5228780        | Injector Assembly, N80 (Option Type 14,54,82) | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5228785        | Injector Assembly, N55 (Option Type 60,77)    | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5228900        | Injector Assembly, N65 (Option Type 97) BT    | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5229355        | Injector Assembly, C55 (Option Type 111)      | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5229360        | Injector Assembly, C60 (Option Type 113)      | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5229365        | Injector Assembly, C65 (Option Type 115)      | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5229695        | Injector Assembly, 7C75 (Option Type 153)     | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5229790        | Injector Assembly, 7E55 (Option Type 163)     | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5229795        | Injector Assembly, 7E60 (Option Type 164)     | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5229800        | Injector Assembly, 7E65 (Option Type 165)     | -  | 3  | 4  | 6  |
| 2.1001 | 1   | FP-5229895        | Injector Assembly, 7G65 (Option Type 180)     | -  | 3  | 4  | 6  |
| 2.1007 | 0   | FP-5228333        | Conversion Kit, Injector - High Valve (70)    | -  | 3  | 4  | 6  |
| 2.1020 | 5   | FP-5229191        | Tag, Injector Blank                           | 2  | 3  | 4  | 6  |
| 2.1020 | 4   | FP-5227279        | Fuel Injector Body (Tag # 90)                 | -  | 3  | 4  | 6  |
| 2.1020 | 4   | FP-5228298        | Fuel Injector Body (Tag # HV6)                | -  | 3  | 4  | 6  |
| 2.1020 | 4   | FP-5228299        | Fuel Injector Body (Tag # HV7)                | -  | 3  | 4  | 6  |
| 2.1020 | 4   | FP-5228583        | Body Assembly, Injector NV Offset             | -  | 3  | 4  | 6  |
| 2.1020 | 4   | FP-5228787        | Fuel Injector Body (Tag # N80)                | -  | 3  | 4  | 6  |
| 2.1030 | 6   | FP-5228601        | Nut, Injector Valve, NV                       | -  | 3  | 4  | 6  |
| 2.1050 | 8   | FP-5228109        | Deflector, Injector Spill                     | 2  | 3  | 4  | 6  |
| 2.1060 | 9   | FP-5228104        | Follower, Injector, All                       | 2  | 3  | 4  | 6  |
| 2.1100 | 11  | FP-5228608        | Pin, Injector Stop                            | 2  | 3  | 4  | 6  |
| 2.1130 | 14  | FP-5228588        | Cap, Injector Filter                          | 4  | 6  | 8  | 12 |
| 2.1170 | 18  | FP-5226719        | Rack, Injector                                | 2  | 3  | 4  | 6  |
| 2.1180 | 19  | FP-5226400        | Gear, Injector                                | 2  | 3  | 4  | 6  |
| 2.1180 | 19  | FP-5228802        | Gear, M95 Injector                            | 2  | 3  | 4  | 6  |
| 2.1002 | 0   | <b>FP-5229649</b> | <b>Service Kit, Injector</b>                  | 4  | 6  | 8  | 12 |
| 2.1002 | 15  | FP-5226186        | Gasket, Injector Filter                       | 4  | 6  | 8  | 12 |
| 2.1002 | 16  | FP-5226414        | Cap, Injector Shipping                        | 4  | 6  | 8  | 12 |
| 2.1002 | 12  | FP-5228587        | Element, Injector Filter                      | 4  | 6  | 8  | 12 |
| 2.1002 | 7   | FP-5234281        | Ring, Injector Seal                           | 2  | 3  | 4  | 6  |

# Fuel Injector

(Figure 7.2)







# Fuel Injector

(Figure 7.2)

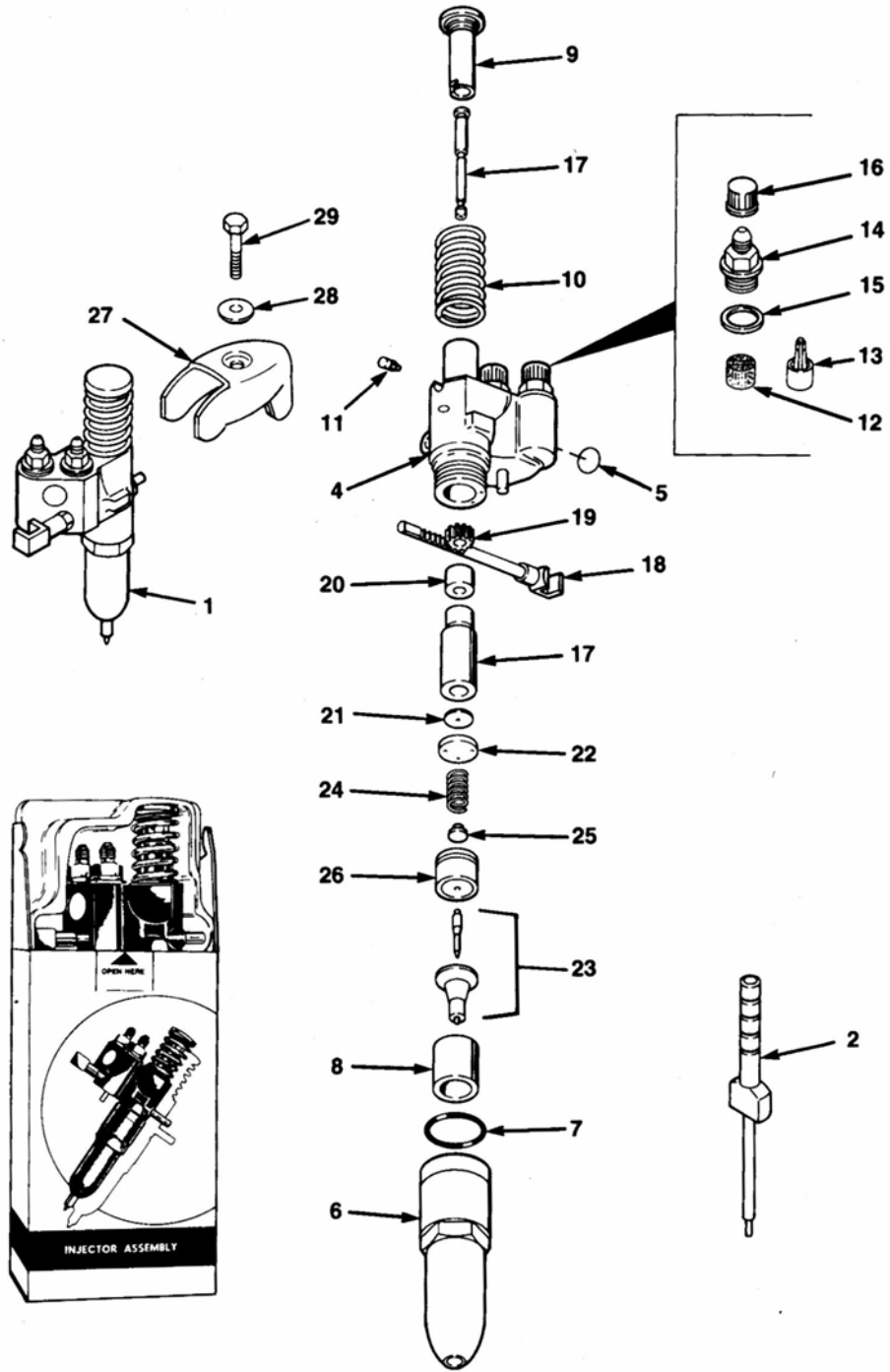
Groups:

2.1160 - 3.1238

| Group  | Ref | Part No.          | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|--|----|----|----|----|
| 2.1160 | 17  | FP-5228304        | Plunger & Bushing, HV7                                   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228306        | Plunger & Bushing, HV6                                   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5226338        | Plunger & Bushing Assy (S235655 Inj.)                    | -  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228656        | Plunger & Bushing, N60                                   | -  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228658        | Plunger & Bushing, N65 WT                                | -  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228658        | Plunger & Bushing, N75                                   | -  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228661        | Plunger & Bushing, N80                                   | -  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228668        | Plunger & Bushing, N55                                   | -  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228682        | Plunger & Bushing, N70                                   | -  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228928        | Plunger & Bushing, N65 BT                                | -  | 3  | 4  | 6  |
| 2.1190 | 20  | FP-5228586        | Retainer, Injector Gear                                  | 2  | 3  | 4  | 6  |
| 2.1200 | 21  | FP-5226411        | Valve, Injector Check                                    | 2  | 3  | 4  | 6  |
| 2.1200 | 21  | FP-5228694        | Valve, Injector Check                                    | 2  | 3  | 4  | 6  |
| 2.1205 | 22  | FP-5228696        | Cage, Injector Check Valve                               | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5228554        | Tip, Injector Spray, HV8                                 | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5228554        | Tip, Injector Spray, HV9                                 | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5228554        | Tip, Injector Spray, HV7, S70, S80                       | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5228301        | Tip Kit, Injector Spray (HV6 & HV55), (5235655 Inj.)     | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229026        | Tip, Injector Spray, N60                                 | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229026        | Tip, Injector Spray, N65 WT                              | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229026        | Tip, Injector Spray, N55                                 | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229030        | Tip, Injector Spray, N65BT                               | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229192        | Tip, Injector Spray, N70                                 | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229192        | Tip, Injector Spray, N75                                 | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229256        | Tip, Injector Spray, N80                                 | -  | 3  | 4  | 6  |
| 2.1230 | 23  | FP-5227321        | Tip, Fuel Injector Spray (Tag # 60)                      | -  | 3  | 4  | 6  |
| 2.1230 | 23  | FP-5228296        | Tip, Fuel Injector Spray (HV6 & HV55)                    | -  | 3  | 4  | 6  |
| 2.1238 | 0   | FP-5228769        | Valve Kit, Injector                                      | 2  | 3  | 4  | 6  |
| 2.1245 | 0   | FP-5227319        | Valve, Fuel Injector                                     | -  | 3  | 4  | 6  |
| 2.1248 | 0   | FP-5228321        | Guide, Fuel Injector Valve Seat                          | -  | 3  | 4  | 6  |
| 2.1250 | 24  | FP-5228596        | Spring, Injector Valve                                   | 2  | 3  | 4  | 6  |
| 2.1255 | 25  | FP-5228766        | Seat, Injector Spring                                    | 2  | 3  | 4  | 6  |
| 2.1257 | 26  | FP-5228594        | Cage, Injector Spring                                    | 2  | 3  | 4  | 6  |
| 2.1270 | 27  | FP-5121259        | Clamp, Injector Hold Down (Low Crab)                     | 2  | 3  | 4  | 6  |
| 3.1238 | 0   | FP-5228313        | Valve Kit, Injector                                      | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | <b>FP-5228312</b> | <b>Tip Kit, Injector Spray (HV7,HV8,HV9,S70,S80,S90)</b> | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5227210        | Spring, Injector Valve                                   | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5227318        | Stop, Injector Valve                                     | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5228308        | Valve, Injector  | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5228554        | Tip, Injector  | 2  | 3  | 4  | 6  |
| 2.1220 | 0   | <b>FP-5228491</b> | <b>Tip Kit, Injector Spray (S55,S60,S65)</b>             | -  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5227210        | Spring, Injector Valve                                   | -  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5227318        | Stop, Injector Valve                                     | -  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5228308        | Valve, Injector  | -  | 3  | 4  | 6  |
| 2.1220 | 0   | FP-5228473        | Tip, Injector  | -  | 3  | 4  | 6  |

# Fuel Injector

(Figure 7.3)





# Fuel Injector

(Figure 7.3)

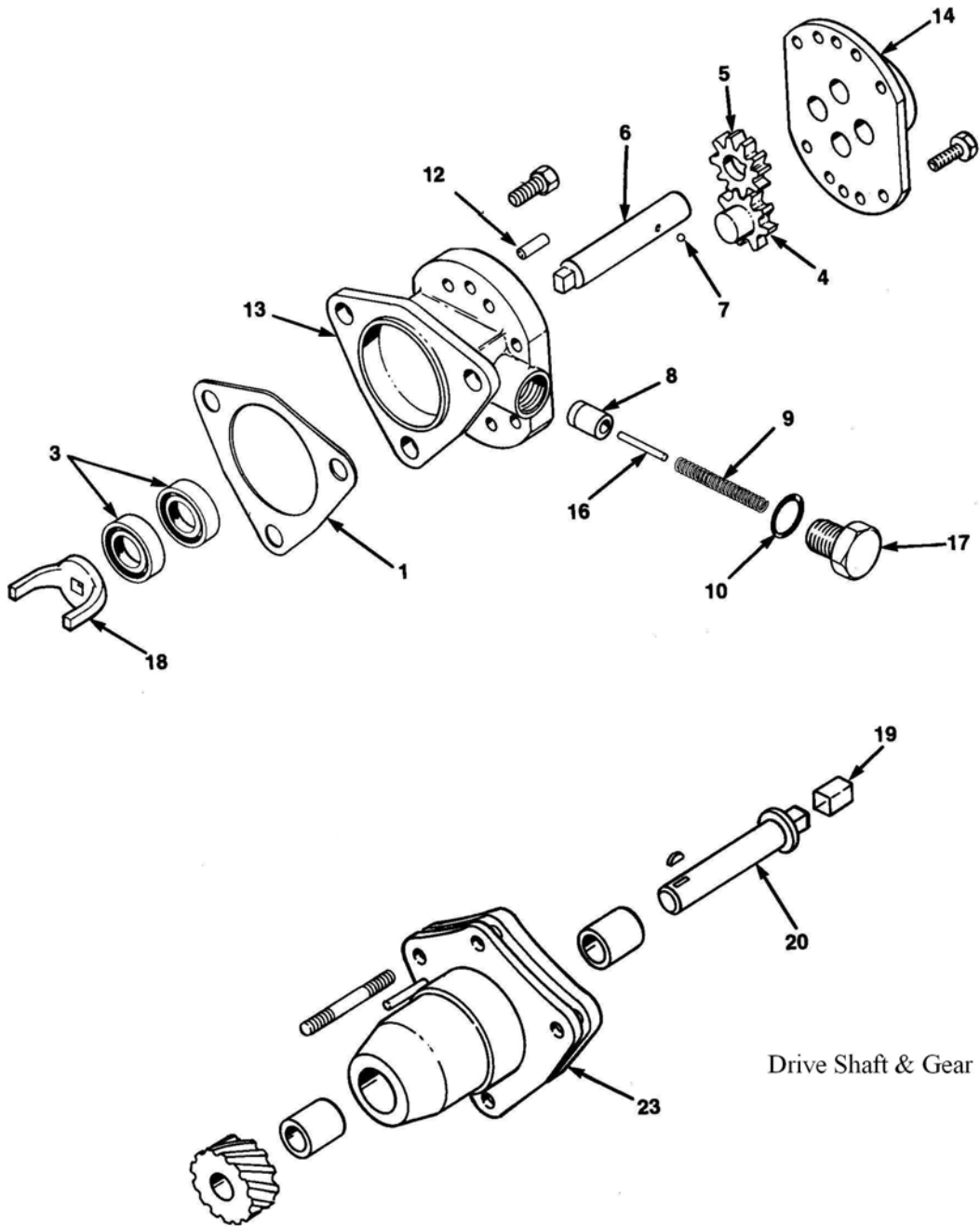
Groups:

2.1160 - 2.1220

| Group  | Ref | Part No.   | Description               | 2l | 3l | 4l | 6l |
|--------|-----|------------|---------------------------|----|----|----|----|
| 2.1160 | 17  | FP-5228658 | Plunger & Bushing, 7C75   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228682 | Plunger & Bushing, 7C70   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228804 | Plunger & Bushing, M95    | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229354 | Plunger & Bushing, 71C5   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229366 | Plunger & Bushing, C65    | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229372 | Plunger & Bushing, C70    | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229808 | Plunger & Bushing, 7G75   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229808 | Plunger & Bushing, 7E75   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229814 | Plunger & Bushing, 7E60   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229823 | Plunger & Bushing, 7E55   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229912 | Plunger & Bushing, 7G70   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229916 | Plunger & Bushing, 7G65   | 2  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5228878 | Plunger & Bushing, N90    | -  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229356 | Plunger & Bushing, C55    | -  | 3  | 4  | 6  |
| 2.1160 | 17  | FP-5229362 | Plunger & Bushing, C60    | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, 7E60 | 2  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, 71C5 | 2  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, 7E55 | 2  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229030 | Tip, Injector Spray, 7E65 | 2  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229192 | Tip, Injector Spray, C65  | 2  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229192 | Tip, Injector Spray, C70  | 2  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229192 | Tip, Injector Spray, 7N65 | 2  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229256 | Tip, Injector Spray, M95  | 2  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, C55  | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, C60  | -  | 3  | 4  | 6  |
| 2.1220 | 23  | FP-5229256 | Tip, Injector Spray, N90  | -  | 3  | 4  | 6  |

# Fuel Pump

(Figure 8.1)





# Fuel Pump

(Figure 8.1)

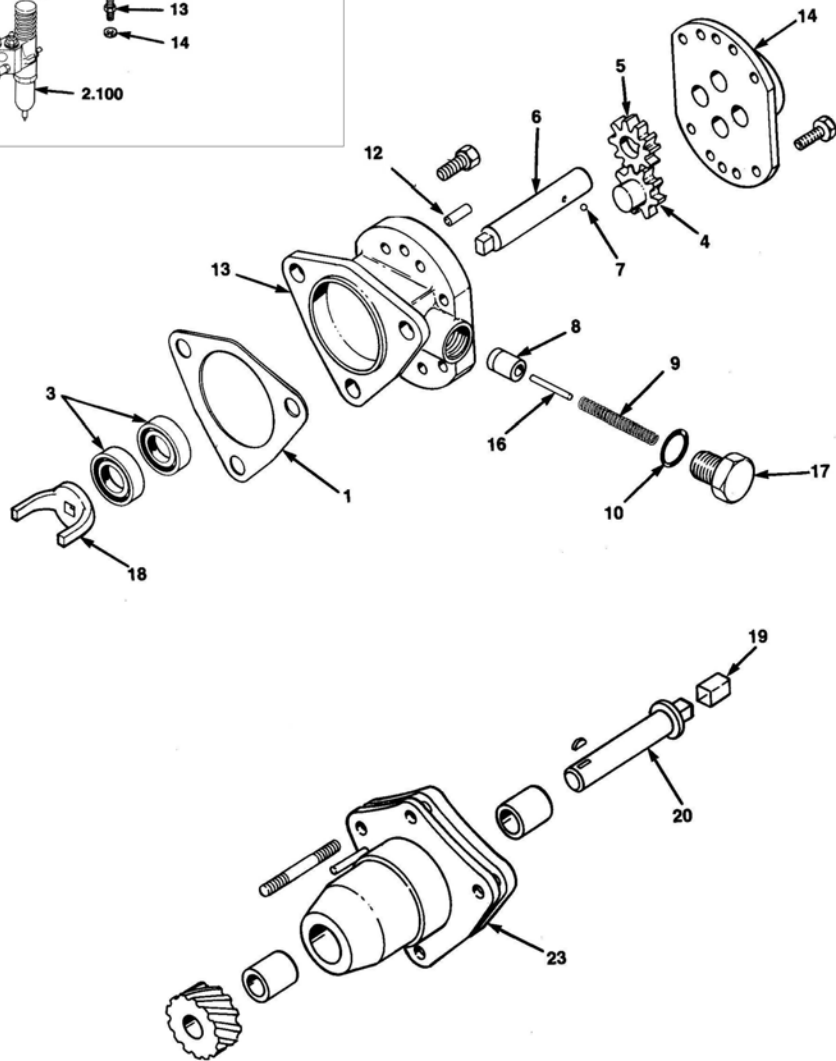
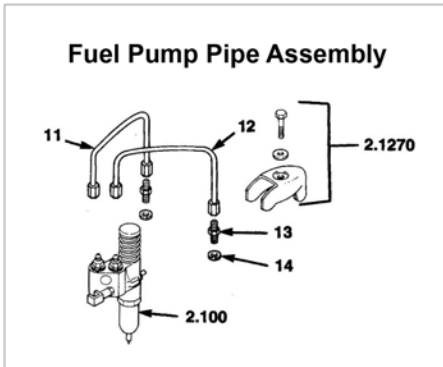
Groups:

2.2001 - 2.2004

| Group  | Ref | Part No.          | Description   | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|---|----|----|----|----|
| 2.2001 | 0   | FP-5199560        | Kit, Fuel Pump (Standard Output L.H..)                  | 1  | 1  | 1  | 1  |
| 2.2001 | 0   | FP-5199561        | Kit, Fuel Pump (Standard Output R.H..)                  | 1  | 1  | 1  | 1  |
| 2.2001 | 0   | FP-5199734        | Kit, Fuel Pump (High Output R.H..)                      | 1  | 1  | 1  | 1  |
| 2.2001 | 0   | FP-5199735        | Kit, Fuel Pump (High Output L.H..)                      | 1  | 1  | 1  | 1  |
| 2.2004 | 7   | FP-147481         | Ball, 1/8" Steel  | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5100312        | Shaft, Fuel Pump Driven (.963"L), (High Output)         | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | FP-5100313        | Shaft Assembly Fuel Pump Driven (.963"L), (High Output) | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5118915        | Gear, Fuel Pump Driven (.374" W.), (High Output)        | 1  | 1  | 1  | 1  |
| 2.2004 | 5   | FP-5128217        | Gear, Fuel Pump Drive (.374" W.), (High Output)         | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | FP-5146705        | Shaft Assembly Fuel Pump Drive (3.09" L), (High Output) | 1  | 1  | 1  | 1  |
| 2.2004 | 5   | FP-5174975        | Gear, Fuel Pump Drive (.294" W.), (Std. Output)         | 1  | 1  | 1  | 1  |
| 2.2004 | 6   | FP-5178700        | Shaft, Fuel Pump Drive (3.09" L), (High. Output)        | 1  | 1  | 1  | 1  |
| 2.2004 | 6   | FP-5178700        | Shaft, Fuel Pump Drive (3.09" L), (Std. Output)         | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | FP-5181746        | Shaft & Gear, Fuel Pump Drive (.309"L), (Std. Output)   | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5181747        | Shaft & Gear, Fuel Pump Driven (.838" L), (Std. Output) | 1  | 1  | 1  | 1  |
| 2.2004 | 3   | FP-5181748        | Gear, Fuel Pump Driven (.294" W.)                       | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5181749        | Shaft, Fuel Pump Driven (.838" L), (Std. Output)        | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | <b>FP-5149599</b> | <b>Overhaul Kit, High Output Fuel Pump</b>              | 1  | 1  | 1  | 1  |
| 2.2004 | 12  | FP-103709         | Pin, 5/32" x 1" Straight                                | 1  | 1  | 1  | 1  |
| 2.2004 | 1   | FP-5150193        | Gasket, Fuel Pump Mounting                              | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | FP-5136240        | Plug, Cap Fuel Pump Body 1/4"                           | 2  | 2  | 2  | 2  |
| 2.2004 | 0   | FP-5136241        | Plug, Cap Fuel Pump Body 3/8"                           | 1  | 1  | 1  | 1  |
| 2.2004 | 8   | FP-5174973        | Valve, Fuel Pump  | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5146705        | Shaft Assembly Fuel Pump Drive (3.09" L), (High Output) | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5100313        | Shaft Assembly Fuel Pump Driven (.963"L), (High Output) | 1  | 1  | 1  | 1  |
| 2.2004 | 3   | FP-23512243       | Seal, Fuel Pump Oil (FP-5107223)                        | 2  | 2  | 2  | 2  |
| 2.2004 | 9   | FP-5184530        | Spring, Fuel Pump Valve Retaining                       | 1  | 1  | 1  | 1  |
| 2.2004 | 10  | FP-5161003        | Gasket, Fuel Pump Valve Plug                            | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | <b>FP-5195078</b> | <b>Overhaul Kit, Standard Output Fuel Pump</b>          | 1  | 1  | 1  | 1  |
| 2.2004 | 7   | FP-103709         | Pin, 5/32" x 1" Straight                                | 1  | 1  | 1  | 1  |
| 2.2004 | 1   | FP-5150193        | Gasket, Fuel Pump Mounting                              | 1  | 1  | 1  | 1  |
| 2.2004 | 0   | FP-5136240        | Plug, Cap Fuel Pump Body 1/4"                           | 2  | 2  | 2  | 2  |
| 2.2004 | 0   | FP-5136241        | Plug, Cap Fuel Pump Body 3/8"                           | 1  | 1  | 1  | 1  |
| 2.2004 | 8   | FP-5174973        | Valve, Fuel Pump  | 1  | 1  | 1  | 1  |
| 2.2004 | 4   | FP-5181746        | Shaft & Gear, Fuel Pump Drive (.309"L), (Std. Output)   | 1  | 1  | 1  | 1  |
| 2.2004 | 14  | FP-5181747        | Shaft & Gear, Fuel Pump Driven (.838" L), (Std. Output) | 1  | 1  | 1  | 1  |
| 2.2004 | 3   | FP-23512243       | Seal, Fuel Pump Oil (5107223)                           | 2  | 2  | 2  | 2  |
| 2.2004 | 9   | FP-5184530        | Spring, Fuel Pump Valve Retaining                       | 1  | 1  | 1  | 1  |
| 2.2004 | 10  | FP-5161003        | Gasket, Fuel Pump Valve Plug                            | 1  | 1  | 1  | 1  |

# Fuel Pump

(Figure 8.2)





# Fuel Pump

(Figure 8.2)

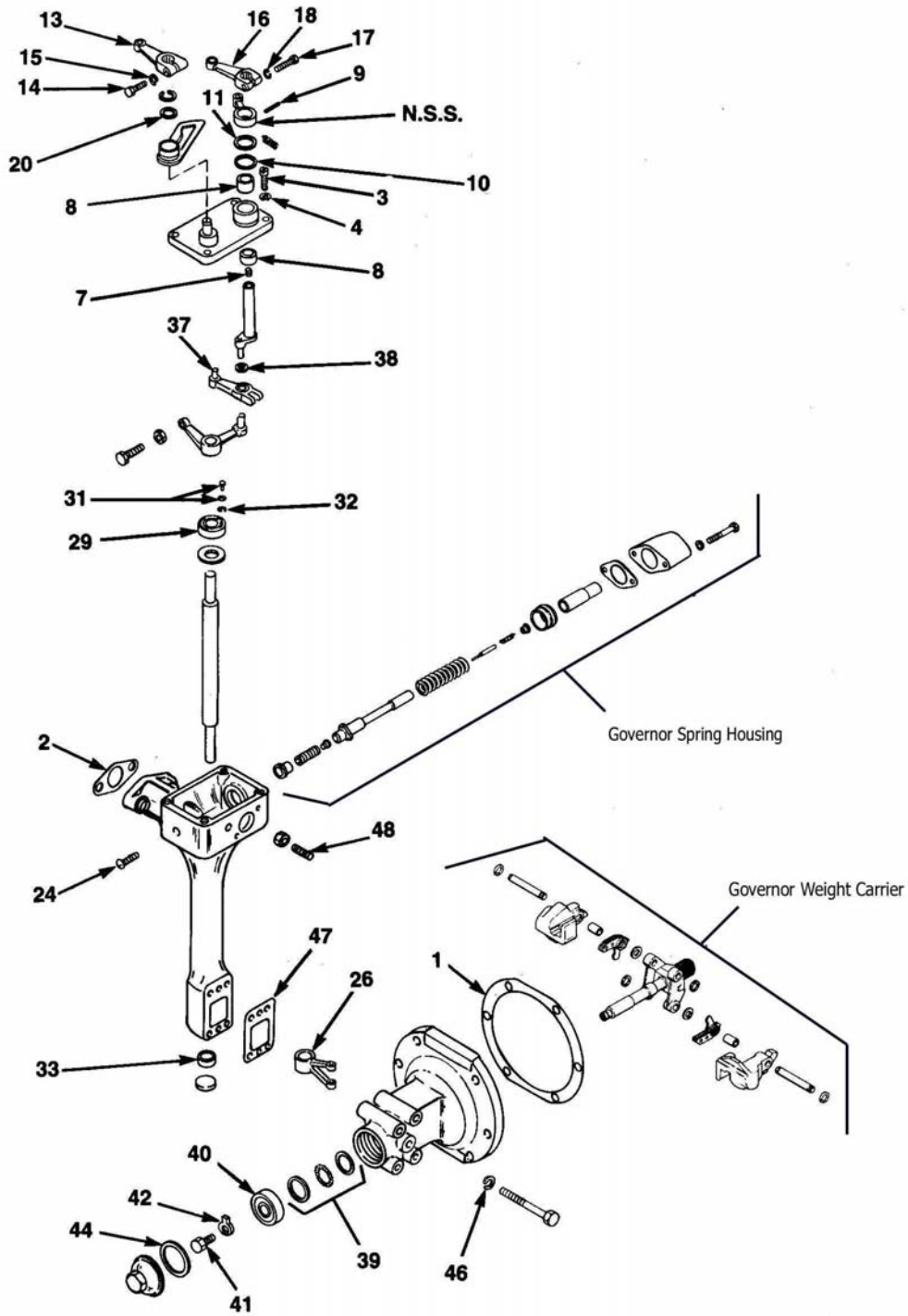
Groups:

2.2170 - 2.5006

| Group  | Ref | Part No.    | Description  | 2I | 3I | 4I | 6I |
|--------|-----|-------------|--|----|----|----|----|
| 2.2170 | 17  | FP-5174971  | Plug, 1/2" - 20 Fuel Pump Valve                                  | 1  | 1  | 1  | 1  |
| 2.2220 | 18  | FP-5102257  | Fork, Fuel Pump Coupling   | -  | 1  | 1  | 1  |
| 2.2230 | 11  | FP-5154216  | Coupling, Fuel Pump Drive  | 1  | -  | -  | -  |
| 2.2237 | 0   | FP-23515145 | Gasket, Fuel Pump Mounting Plate                                 | -  | -  | -  | 1  |
| 2.2280 | 23  | FP-5152122  | Gasket, Fuel Pump Drive Adapter                                  | 1  | -  | -  | -  |
| 2.4015 | 0   | FP-5121182  | Plug, 1/4" Pipe  | 1  | 1  | 1  | 1  |
| 2.4020 | 11  | FP-23511850 | Fuel Pipe Assembly, Injector To Stand Pipe (Short)               | 6  | 8  | 12 | 16 |
| 2.4020 | 12  | FP-23511851 | Fuel Pipe Assembly, Injector To Stand Pipe (Long)                | 6  | 8  | 12 | 16 |
| 2.4020 | 0   | FP-23511854 | Tube Assy, Cylinder Head To Injector                             | 6  | 8  | 12 | 16 |
| 2.4020 | 12  | FP-23511856 | Fuel Pipe Assembly, Injector To Stand Pipe (Std. Body Injectors) | 6  | 8  | 12 | 16 |
| 2.4030 | 13  | FP-8926992  | Connector, Fuel Pipe   | 4  | -  | -  | -  |
| 2.4030 | 13  | FP-5117369  | Connector, Fuel Pipe   | -  | 6  | 8  | 12 |
| 2.4050 | 0   | FP-5152148  | Washer, 25/64" x 9/16" x 1/16"                                   | 4  | -  | -  | -  |
| 2.4050 | 0   | FP-5125108  | Washer, 7/16" x 3/4" x 1/16"                                     | -  | 6  | 8  | 12 |
| 2.5006 | 0   | FP-8925325  | Bushing Pipe, Fuel Supply Check Valve (3/8" PTF - 1/4" Zinc)     | AR | AR | AR | AR |
| 2.5006 | 0   | FP-5135308  | Valve, Fuel Check 3/8" (Swing Type)                              | 1  | 1  | 1  | 1  |
| 2.5006 | 0   | FP-5174924  | Valve, Fuel Check 1/4" (Swing Type)                              | 1  | 1  | 1  | 1  |
| 2.5006 | 0   | FP-5179938  | Seal Ring, 3/8" Sealastic  | -  | -  | 1  | 1  |

# Limiting Speed Governor

(Figure 9.1)







# Limiting Speed Governor

(Figure 9.1)

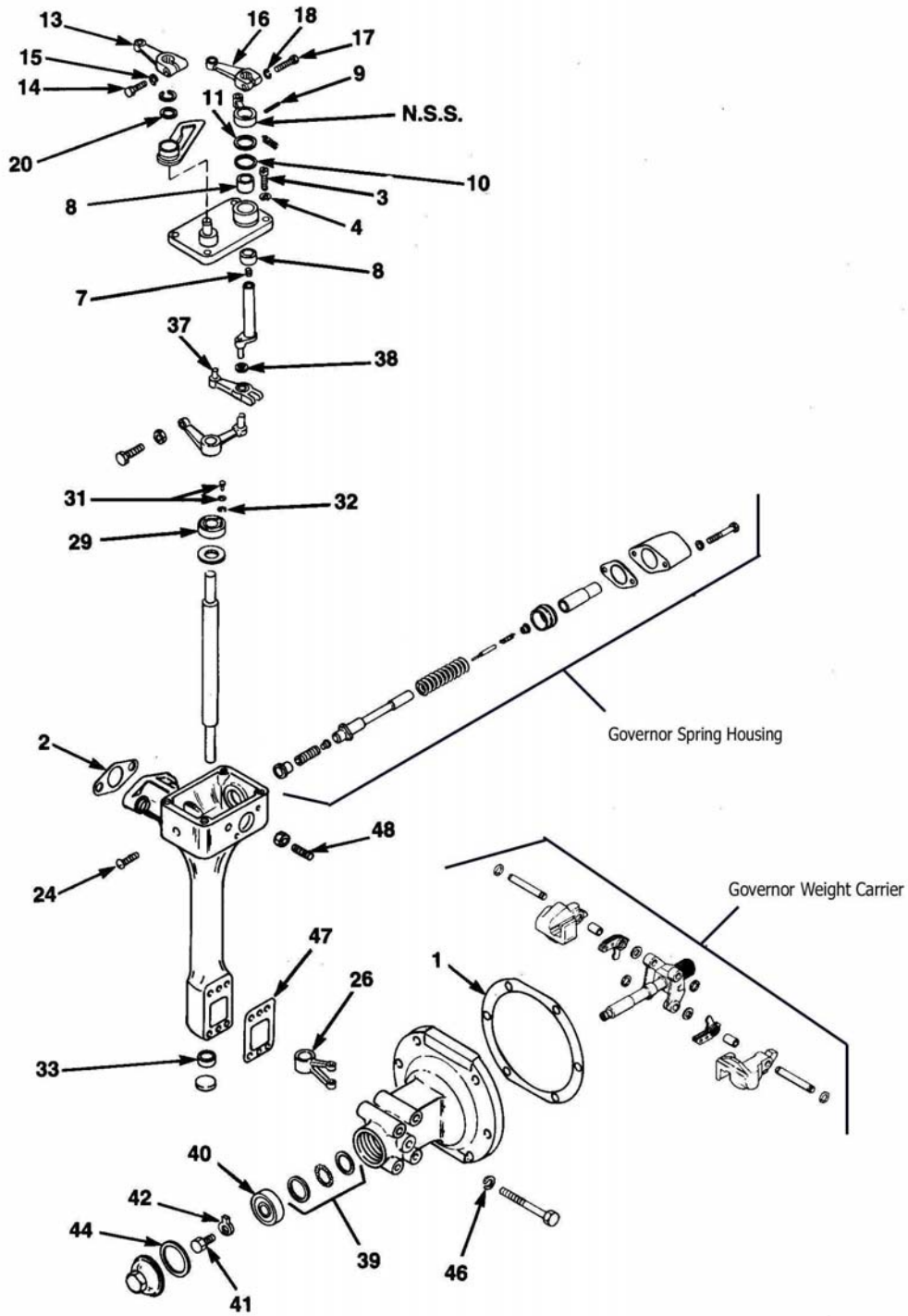
Groups:

2.7001 - 2.7650

| Group  | Ref | Part No.   | Description  | 2I | 3I | 4I | 6I |
|--------|-----|------------|--|----|----|----|----|
| 2.7001 | 0   | FP-5155596 | Washer, 5/16" (Copper)   | 3  | 3  | 3  | 3  |
| 2.7001 | 0   | FP-5179709 | Washer, 1/4" (Copper)  | 3  | 3  | 3  | 3  |
| 2.7001 | 0   | FP-5179709 | Washer, 1/4" (Copper)  | -  | 2  | 2  | 2  |
| 2.7001 | 0   | FP-5155596 | Washer, 5/16" (Copper)   | -  | 1  | 1  | 1  |
| 2.7006 | 0   | FP-5150900 | Gasket, Governor Breather Hole Cover                                     | -  | 1  | 1  | 1  |
| 2.7010 | 8   | FP-148402  | Bearing, 1/2" x 1/2" Diameter Needle                                     | 2  | 2  | 2  | 2  |
| 2.7010 | 1   | FP-5152465 | Gasket, Governor To Blower   | 1  | -  | -  | -  |
| 2.7010 | 1   | FP-5150246 | Gasket, Governor To Blower   | -  | 1  | 1  | 1  |
| 2.7020 | 2   | FP-5152464 | Gasket, Governor To Cylinder Head  | 1  | -  | -  | -  |
| 2.7020 | 2   | FP-5123812 | Gasket, Governor To Cylinder Head  | -  | 1  | 1  | 1  |
| 2.7045 | 4   | FP-103319  | Lockwasher, 1/4"   | 3  | 3  | 3  | 3  |
| 2.7045 | 0   | FP-9417926 | Bolt Assembly, 1/4" -20 x 3/4", Governor Cover                           | 3  | 3  | 3  | 3  |
| 2.7051 | 0   | FP-5150889 | Gasket, Governor Cover   | 1  | 1  | 1  | 1  |
| 2.7051 | 0   | FP-5183693 | Gasket, Governor Cover   | -  | -  | 1  | 1  |
| 2.7095 | 7   | FP-8924380 | Plug, 1/8" -27   | 1  | 1  | 1  | 1  |
| 2.7120 | 9   | FP-141195  | Pin, 1/4" x 5/8"   | 1  | 1  | 1  | 1  |
| 2.7140 | 10  | FP-5176557 | Seal Ring, .477" ID x .113" Thick  | 1  | 1  | 1  | 1  |
| 2.7140 | 0   | FP-5182977 | Seal Ring, Governor Cover Throttle Shaft                                 | 1  | 1  | 1  | 1  |
| 2.7150 | 0   | FP-5153060 | Retainer, Governor Cover Throttle Shaft Seal Ring                        | 1  | 1  | 1  | 1  |
| 2.7150 | 11  | FP-5144177 | Retainer, Governor Cover Throttle Shaft Seal Ring                        | -  | 2  | 2  | 2  |
| 2.7150 | 11  | FP-5174429 | Retainer, Governor Cover Throttle Shaft Seal Ring                        | -  | 1  | 1  | 1  |
| 2.7165 | 0   | FP-5150894 | Pin, Governor Shut Down Shaft  | -  | 1  | 1  | 1  |
| 2.7170 | 0   | FP-103319  | Lockwasher, 1/4"   | 1  | 1  | 1  | 1  |
| 2.7170 | 0   | FP-142583  | Retainer, 13/64" Spring  | 1  | 1  | 1  | 1  |
| 2.7170 | 0   | FP-5167714 | Washer, Flat   | -  | 1  | 1  | 1  |
| 2.7175 | 20  | FP-5151487 | Washer, Governor Cover   | -  | 1  | 1  | 1  |
| 2.7175 | 0   | FP-5178581 | Ring, Retainer   | -  | 1  | 1  | 1  |
| 2.7250 | 28  | FP-5150943 | Pin, Governor Operating Shaft Lever                                      | -  | 1  | 1  | 1  |
| 2.7250 | 29  | FP-9431894 | Bearing, Governor Operating Shaft (Upper)                                | -  | 1  | 1  | 1  |
| 2.7270 | 33  | FP-148402  | Bearing, Governor Operating Shaft (Lower), (1/2" Wide)                   | 1  | 1  | 1  | 1  |
| 2.7270 | 33  | FP-148403  | Bearing, Governor Operating Shaft (Lower), (3/4" Wide)                   | -  | 1  | 1  | 1  |
| 2.7310 | 0   | FP-5150990 | Link, Throttle Control To Governor (A, C Engines), (Mechanical Governor) | 1  | 1  | 1  | 1  |
| 2.7460 | 39  | FP-9437108 | Bearing, .354" W., Governor Weight Riser Thrust                          | -  | 1  | 1  | 1  |
| 2.7470 | 40  | FP-9424121 | Bearing, Governor Weight Shaft End                                       | -  | 1  | 1  | 1  |
| 2.7515 | 44  | FP-5165221 | Gasket, Governor Weight Housing  | -  | 1  | 1  | 1  |
| 2.7520 | 46  | FP-103319  | Lockwasher, 1/4"   | -  | 4  | 4  | 4  |
| 2.7590 | 0   | FP-5102270 | Screw, 1/4" - 28 x 1"  | 1  | 1  | 1  | 1  |
| 2.7630 | 0   | FP-103320  | Lockwasher, 5/16"  | 2  | 2  | 2  | 2  |
| 2.7635 | 0   | FP-5155596 | Washer, 5/16" Copper   | -  | 2  | 2  | 2  |
| 2.7650 | 0   | FP-8922593 | Gasket, Governor High Speed Spring Adjusting                             | 1  | 1  | 1  | 1  |

# Limiting Speed Governor

(Figure 9.2)





# Limiting Speed Governor

(Figure 9.2)

Groups:

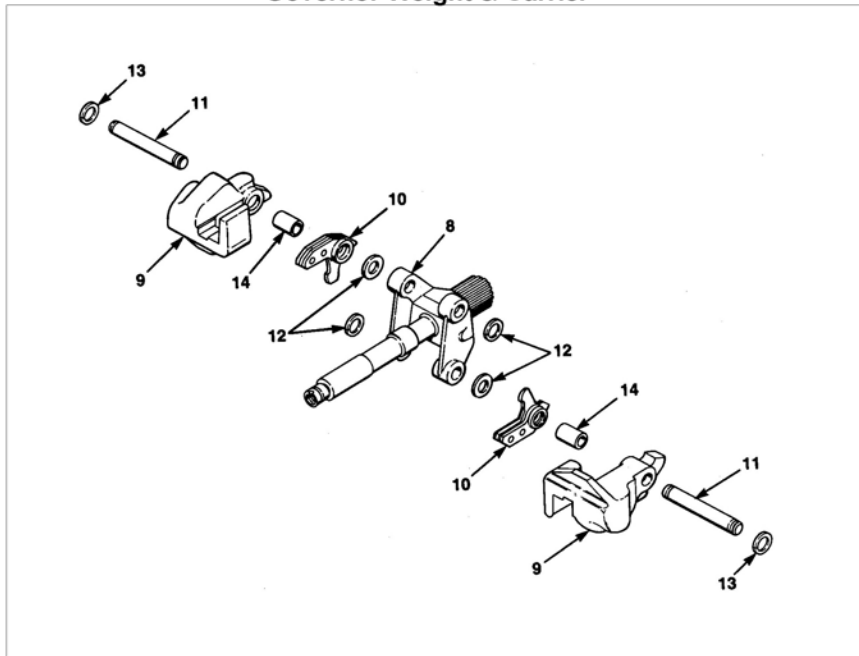
2.7006 - 2.7910

| Group  | Ref | Part No.    | Description  | 2I | 3I | 4I | 6I |
|--------|-----|-------------|--|----|----|----|----|
| 2.7006 | 0   | FP-5150900  | Gasket, Governor Breather Hole Cover                   | -  | 1  | 1  | 1  |
| 2.7010 | 1   | FP-5152465  | Gasket, Governor To Blower                             | 1  | -  | -  | -  |
| 2.7010 | 1   | FP-5150246  | Gasket, Governor To Blower                             | -  | 1  | 1  | 1  |
| 2.7020 | 2   | FP-5152464  | Gasket, Governor To Cylinder Head                      | 1  | -  | -  | -  |
| 2.7020 | 2   | FP-5123812  | Gasket, Governor To Cylinder Head                      | -  | 1  | 1  | 1  |
| 2.7045 | 3   | FP-9417926  | Bolt Assembly, Governor Cover (1/4" -20 x 3/4")        | 3  | 3  | 3  | 3  |
| 2.7051 | 0   | FP-5150889  | Gasket, Governor Cover                                 | 1  | 1  | 1  | 1  |
| 2.7100 | 6   | FP-148402   | Bearing, Needle (1/2" x 1/2" Diameter)                 | 2  | 2  | 2  | 2  |
| 2.7140 | 8   | FP-5176557  | Seal Ring (.477" ID x .113" Thick)                     | 1  | 1  | 1  | 1  |
| 2.7150 | 0   | FP-5153060  | Retainer, Governor Cover Throttle Shaft Seal Ring      | 1  | 1  | 1  | 1  |
| 2.7150 | 9   | FP-5144177  | Retainer, Governor Cover Throttle Shaft Seal Ring      | -  | 2  | 2  | 2  |
| 2.7150 | 10  | FP-5174429  | Retainer, Governor Cover Throttle Shaft Seal Ring      | -  | 1  | 1  | 1  |
| 2.7170 | 13  | FP-103319   | Lockwasher, 1/4"                                       | 1  | 1  | 1  | 1  |
| 2.7170 | 0   | FP-142583   | Retainer, 13/64" Spring                                | 1  | 1  | 1  | 1  |
| 2.7260 | 18  | FP-9431894  | Bearing, Governor Operating Shaft (Upper)              | -  | 1  | 1  | 1  |
| 2.7270 | 22  | FP-148402   | Bearing, Governor Operating Shaft (Lower), (1/2" Wide) | 1  | 1  | 1  | 1  |
| 2.7270 | 22  | FP-148403   | Bearing, Governor Operating Shaft (Lower), (3/4" Wide) | -  | 1  | 1  | 1  |
| 2.7305 | 0   | FP-23504196 | Solenoid, Mechanical Governor Operating (12V)          | 1  | 1  | 1  | 1  |
| 2.7305 | 0   | FP-103319   | Lockwasher, 1/4"                                       | -  | 4  | 4  | 4  |
| 2.7310 | 0   | FP-142583   | Retainer, 13/64" Spring                                | 1  | 1  | 1  | 1  |
| 2.7310 | 29  | FP-5150894  | Pin, Governor Differential (25/32" L.)                 | 1  | 1  | 1  | 1  |
| 2.7315 | 29  | FP-5150894  | Pin, Governor Differential (25/32" L.)                 | 1  | 1  | 1  | 1  |
| 2.7460 | 31  | FP-9437108  | Bearing, Governor Weight Riser Thrust (.354" W.)       | -  | 1  | 1  | 1  |
| 2.7470 | 32  | FP-9424121  | Bearing, Governor Weight Shaft End                     | -  | 1  | 1  | 1  |
| 2.7515 | 36  | FP-5165221  | Gasket, Governor Weight Housing                        | -  | 1  | 1  | 1  |
| 2.7520 | 38  | FP-103319   | Lockwasher, 1/4"                                       | 1  | 1  | 1  | 1  |
| 2.7530 | 47  | FP-5150890  | Gasket, Governor Weight Housing Cover                  | -  | 1  | 1  | 1  |
| 2.7580 | 0   | FP-5103975  | Cap, Governor Low Speed Spring                         | -  | 1  | 1  | 1  |
| 2.7590 | 0   | FP-5102270  | Screw, Governor Low Speed Spring Adjusting             | -  | 1  | 1  | 1  |
| 2.7650 | 0   | FP-8922593  | Gasket, Governor High Speed Spring Adjusting           | 1  | 1  | 1  | 1  |
| 2.7740 | 0   | FP-103319   | Lockwasher, 1/4"                                       | 1  | 1  | 1  | 1  |
| 2.7800 | 0   | FP-5136590  | Shim, Governor Variable Speed Spring (.010")           | -  | -  | -  | -  |
| 2.7800 | 1   | FP-5136591  | Shim, Governor Variable Speed Spring (.078")           | -  | -  | -  | -  |

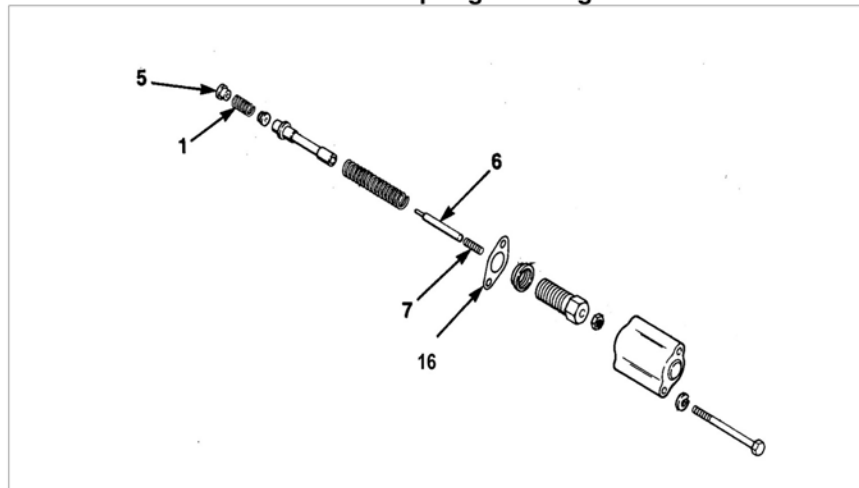
# Limiting Speed Governor

(Figure 9.3)

## Governor Weight & Carrier



## Governor Spring Housing





# Limiting Speed Governor

(Figure 9.3)

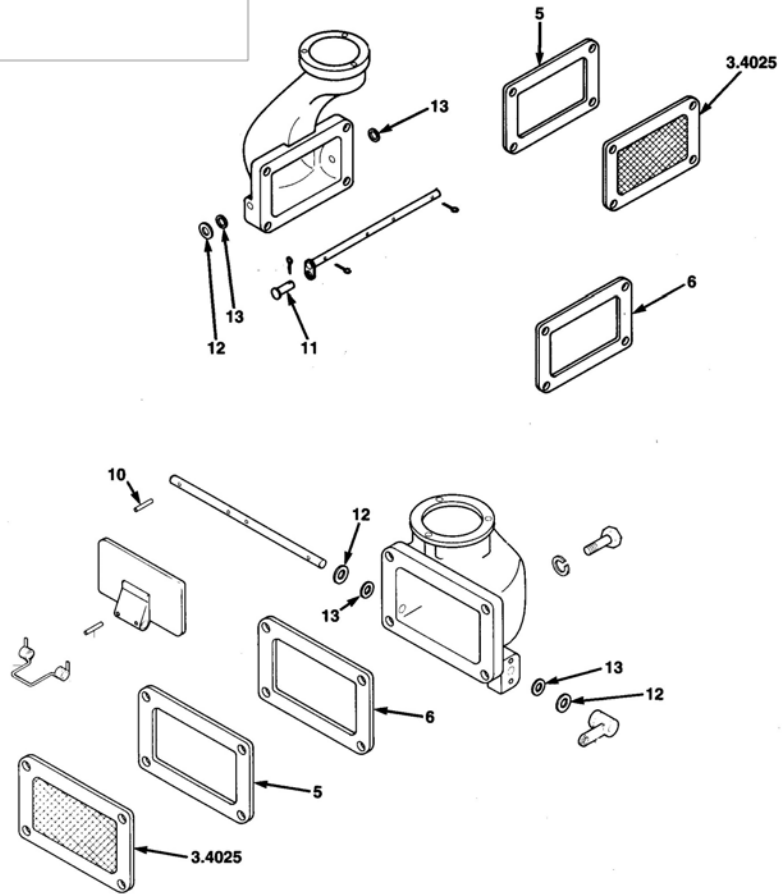
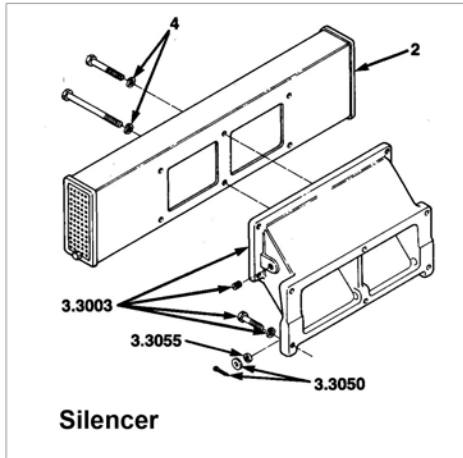
Groups:

2.7330 - 2.9361

| Group                       | Ref | Part No.    | Description   | 2I | 3I | 4I | 6I |
|-----------------------------|-----|-------------|---|----|----|----|----|
| <b>Spring Housing</b>       |     |             |   |    |    |    |    |
| 2.7540                      | 1   | FP-5122165  | Spring, Governor Low Speed (One Blue Stripe)                            | 1  | 1  | 1  | 1  |
| 2.7540                      | 1   | FP-5183704  | Spring, Governor Low Speed (Two Yellow Stripes)                         | 1  | 1  | 1  | 1  |
| 2.7580                      | 5   | FP-5102968  | Cap, Governor Low Speed Spring  | 1  | 1  | 1  | 1  |
| 2.7580                      | 5   | FP-5103975  | Cap, Governor Low Speed Spring  | 1  | 1  | 1  | 1  |
| 2.7590                      | 7   | FP-5102270  | Screw, 1/4" -28 x 1" (Hex Socket )                                      | 1  | 1  | 1  | 1  |
| 2.7612                      | 0   | FP-5126623  | Ring, Governor Speed Adjusting Piston Seal                              | 1  | 1  | 1  | 1  |
| 2.7635                      | 1   | FP-103320   | Lockwasher, 5/16"   | 1  | 1  | 1  | 1  |
| 2.7635                      | 0   | FP-5155596  | Washer, 5/15" Copper  | 1  | 1  | 1  | 1  |
| 2.7650                      | 16  | FP-8922593  | Gasket, Governor High Speed Spring Adj. Cover                           | 1  | 1  | 1  | 1  |
| 2.8030                      | 0   | FP-5197065  | Seal, Governor Assy   | 1  | 1  | 1  | 1  |
| 2.8040                      | 0   | FP-5194069  | Washer, Governor Cover (1/4" Copper)                                    | AR | AR | AR | AR |
| 2.8795                      | 0   | FP-23503717 | Bearing, Governor Drive Shaft   | 1  | 1  | 1  | 1  |
| 2.8830                      | 0   | FP-23503717 | Bearing, Governor Drive Thrust  | 1  | 1  | 1  | 1  |
| 2.9012                      | 0   | FP-5115923  | Spring, Injector Control Tube (Blue Stripe)                             | 1  | 1  | 1  | 1  |
| 2.9022                      | 0   | FP-5154414  | link, Injector Control Tube To Governor (Mechanical Governor)           | 1  | -  | -  | -  |
| 2.9022                      | 0   | FP-5150990  | Link, Throttle Control To Governor (A, C Engine), (Mechanical Governor) | -  | 1  | 1  | 1  |
| 2.9022                      | 0   | FP-5150996  | Link, Throttle Control To Governor (D Engine), (Mechanical Governor)    | -  | 1  | 1  | 1  |
| 2.9063                      | 0   | FP-5122266  | Gasket, Shut Off Solenoid Adapter (7.1597)                              | 1  | 1  | 1  | 1  |
| 2.9353                      | 0   | FP-3249110  | Gasket, Hydraulic Governor Assy   | 1  | 1  | 1  | 1  |
| 2.9355                      | 0   | FP-23504196 | Solenoid, Throttle Control (12V)  | 1  | 1  | 1  | 1  |
| 2.9357                      | 0   | FP-5122266  | Gasket, Throttle Control Solenoid                                       | 1  | 1  | 1  | 1  |
| 2.9361                      | 0   | FP-5176810  | Clevis Pin, Governor Control Shaft (1/4" x 1 1/4")                      | 1  | 1  | 1  | 1  |
| <b>Weight &amp; Carrier</b> |     |             |   |    |    |    |    |
| 2.7330                      | 13  | FP-5151487  | Washer, Governor Weight Shaft (2.7430)                                  | 8  | 12 | 20 | 24 |
| 2.7330                      | 12  | FP-5178581  | Retaining Ring, Governor Weight (2.7430)                                | 4  | 8  | 8  | 16 |
| 2.7330                      | 0   | FP-447196   | Bearing, Governor Weight (2.7440)                                       | 4  | 4  | 4  | 4  |
| 2.7330                      | 11  | FP-5185153  | Shaft, Governor Weight (2.7430)   | 2  | 2  | 2  | 2  |
| 2.7330                      | 0   | FP-9424121  | Bearing Assembly, Governor Weight Shaft End (2.7470)                    | 1  | -  | -  | -  |
| 2.7330                      | 0   | FP-9437108  | Bearing Assembly, Governor Weight Riser Thrust (2.7460)                 | 1  | -  | -  | -  |
| 2.7330                      | 9   | FP-5154613  | Weight Assembly, Governor (High Speed), (2.7390)                        | -  | 4  | 4  | 4  |
| 2.7330                      | 11  | FP-5185154  | Shaft, Governor Weight (2.7430)   | -  | 4  | 4  | 4  |
| 2.7330                      | 0   | FP-5150923  | Shaft, Governor Weight Carrier (2.7360)                                 | -  | 3  | -  | -  |
| 2.7330                      | 14  | FP-5147866  | Bushing, .520" L. Governor Weight (2.7390)                              | -  | 2  | 2  | 4  |
| 2.7330                      | 0   | FP-5150885  | Washer, Governor Weight Pin (2.7430)                                    | -  | 2  | 2  | 4  |
| 2.7330                      | 10  | FP-5154614  | Weight Assembly, Governor (Low Speed), (2.7400)                         | -  | 2  | 2  | 2  |
| 2.7330                      | 0   | FP-5150932  | Carrier, Governor Weight Shaft (2.7370)                                 | -  | 1  | 1  | 1  |
| 2.7330                      | 8   | FP-5183624  | Shaft & Carrier Assembly (2.7350)                                       | -  | 1  | -  | -  |

# Silencer & Air Intake

(Figure 10.1)





# Silencer & Air Intake

(Figure 10.1)

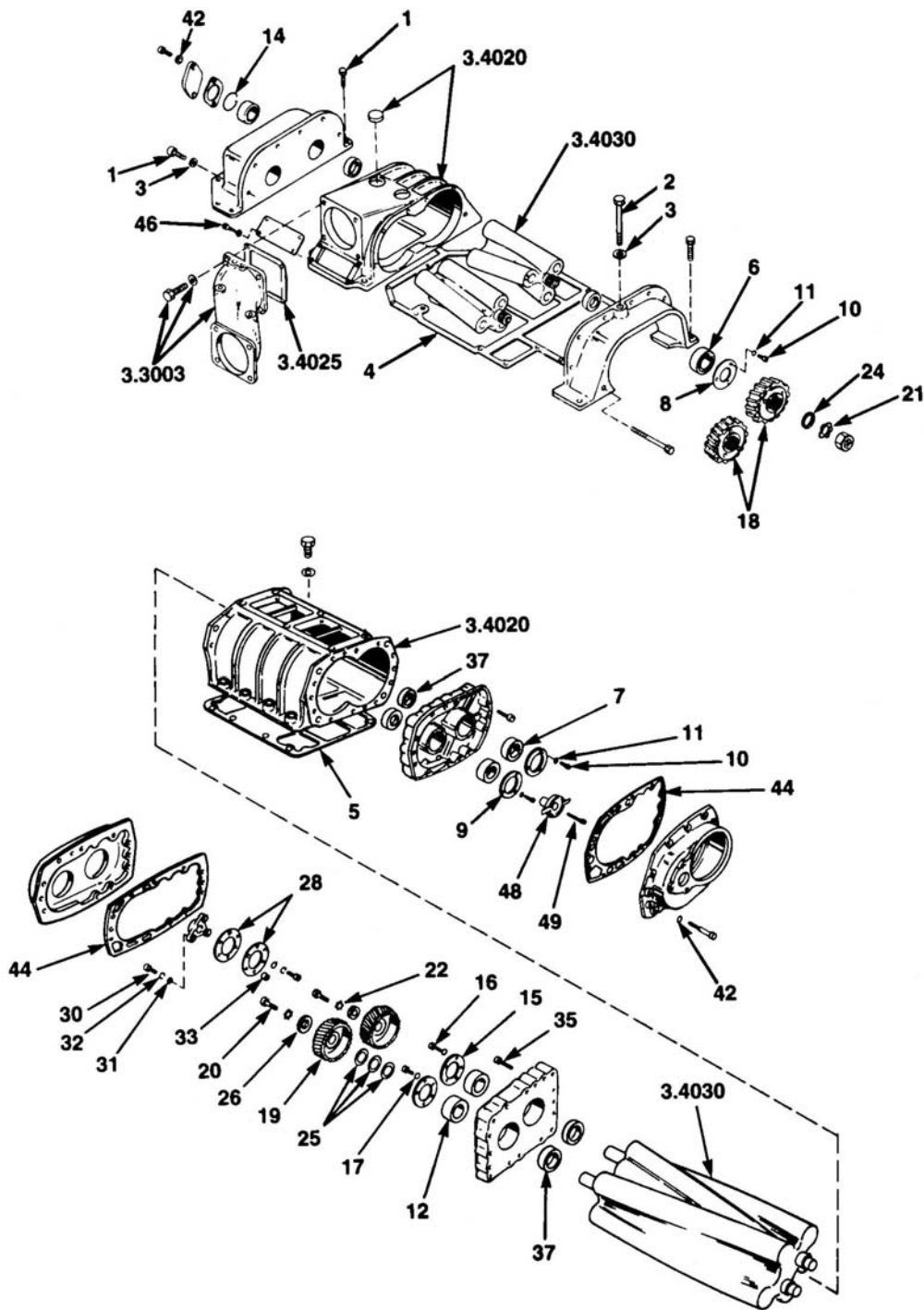
Groups:

3.2001 - 3.3086

| Group                    | Ref | Part No.   | Description                                    | 2l | 3l | 4l | 6l |
|--------------------------|-----|------------|--|----|----|----|----|
| 3.2001                   | 0   | FP-103321  | Lockwasher, 3/8"                               | -  | 4  | 4  | 4  |
| 3.2001                   | 2   | FP-5189848 | Silencer, Air (Option Type #1)                 | -  | 1  | -  | -  |
| 3.2001                   | 0   | FP-5187177 | Silencer, Air (Option Type #2)                 | -  | -  | 1  | -  |
| 3.2014                   | 0   | FP-103320  | Lockwasher, 5/16"                              | -  | -  | -  | 1  |
| <b>Air Inlet Housing</b> |     |            |  |    |    |    |    |
| 3.3007                   | 0   | FP-5124405 | Gasket, Air Cleaner Mounting                   | -  | 2  | 2  | 2  |
| 3.3030                   | 6   | FP-3290577 | Gasket, Air Inlet Housing Striker Plate        | -  | 1  | -  | -  |
| 3.3030                   | 6   | FP-3290612 | Gasket, Air Inlet Housing Striker Plate        | -  | -  | 1  | -  |
| 3.3030                   | 6   | FP-3290572 | Gasket, Air Inlet Housing Striker Plate        | -  | -  | -  | 1  |
| 3.3055                   | 13  | FP-5182977 | Seal, Air Inlet Housing Shutdown Valve         | 2  | 2  | 2  | 2  |
| 3.3055                   | 13  | FP-5179232 | Seal, Air Inlet Housing Shutdown Valve         | -  | -  | -  | 2  |
| 3.3086                   | 0   | FP-8926938 | Gasket, Air Inlet Housing By-Pass Blower Cover | -  | 1  | 1  | 1  |

# Blower

(Figure 10.2)







# Blower

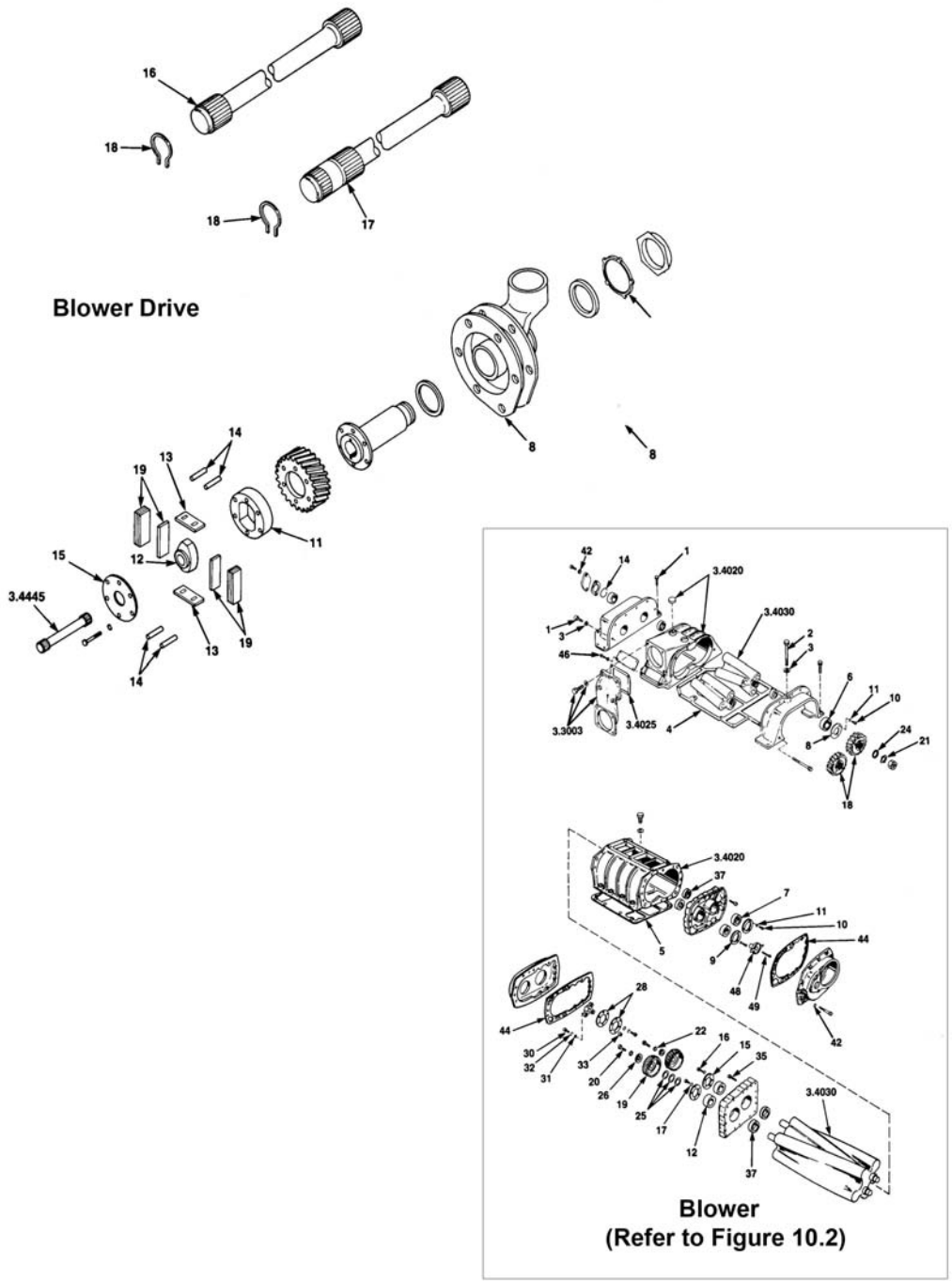
(Figure 10.2)

Groups:  
3.4003 - 3.4025

| Group  | Ref | Part No.           | Description                                    | 2l | 3l | 4l | 6l |
|--------|-----|--------------------|--|----|----|----|----|
| 3.4003 | 0   | FP-5192320         | Gasket Kit, Blower Installation                | 1  | -  | -  | -  |
| 3.4003 | 0   | FP-5192752         | Gasket Kit, Blower Installation                | -  | 1  | -  | -  |
| 3.4003 | 0   | FP-5192753         | Gasket Kit, Blower Installation                | -  | -  | 1  | -  |
| 3.4003 | 0   | FP-23514286        | Kit, Blower Installation By-Pass (6-71TA)      | -  | -  | -  | 1  |
| 3.4003 | 0   | FP-5192754         | Gasket Kit, Blower Installation                | -  | -  | -  | 1  |
| 3.4010 | 4   | FP-5154133         | Gasket, Blower To Block                        | 1  | -  | -  | -  |
| 3.4010 | 0   | FP-23520019        | Gasket, Blower Housing                         | -  | 1  | 1  | 1  |
| 3.4010 | 5   | FP-5150235         | Gasket, Blower To Block                        | -  | 1  | -  | -  |
| 3.4010 | 5   | FP-5115657         | Gasket, Blower To Block                        | -  | -  | 1  | -  |
| 3.4010 | 5   | FP-23505517        | Gasket, Blower To Block (8926341)              | -  | -  | -  | 1  |
| 3.4010 | 0   | FP-23505529        | Gasket, Adapter To Blower Housing (8926337)    | -  | -  | -  | 1  |
| 3.4010 | 5   | FP-5115656         | Gasket, Blower To Block                        | -  | -  | -  | 1  |
| 3.4025 | 0   | FP-5103557         | Gasket, Blower Screen                          | 1  | -  | -  | -  |
| 3.4025 | 0   | FP-5103558         | Gasket, Blower Screen                          | -  | 1  | -  | -  |
| 3.4005 | 0   | <b>FP-23514204</b> | <b>Kit, Blower Repair, Small Bearing Turbo</b> | -  | 1  | 1  | 1  |
| 3.4005 | 25  | FP-5150372         | Shim, Blower Rotor Gear (.002")                | -  | 1  | 1  | 1  |
| 3.4005 | 25  | FP-5153938         | Shim, Blower Rotor Gear (.003")                | -  | 1  | 1  | 1  |
| 3.4005 | 25  | FP-5150855         | Shim, Blower Rotor Gear (.005")                | -  | 1  | 1  | 1  |
| 3.4005 | 25  | FP-5150856         | Shim, Blower Rotor Gear (.010")                | -  | 1  | 1  | 1  |
| 3.4005 | 22  | FP-5154398         | Lockwasher, 1/2" Special                       | -  | 2  | 2  | 2  |
| 3.4005 | 37  | FP-5192439         | Sleeve, Blower End Plate Seal                  | -  | 4  | 4  | 4  |
| 3.4005 | 37  | FP-8924453         | Seal Assembly, Blower Rotor                    | -  | 4  | 4  | 4  |
| 3.4005 | 0   | FP-23503539        | Bearing, Blower Rotor Reduction Gear           | -  | 1  | 1  | 1  |
| 3.4005 | 7   | FP-23503543        | Bearing, Blower Rotor (Front)                  | -  | 2  | 2  | 2  |
| 3.4005 | 12  | FP-23504305        | Bearing, Blower Rotor (Rear)                   | -  | 2  | 2  | 2  |
| 3.4005 | 0   | <b>FP-5108120</b>  | <b>Kit, Blower Repair (N/A)</b>                | -  | 1  | 1  | 1  |
| 3.4005 | 44  | FP-5114726         | Gasket, Blower End Plate                       | -  | 2  | 2  | 2  |
| 3.4005 | 44  | FP-5150234         | Gasket, Blower End Plate                       | -  | 2  | 2  | 2  |
| 3.4005 | 25  | FP-5150372         | Shim, Blower Rotor Gear (.002")                | -  | 1  | 1  | 1  |
| 3.4005 | 25  | FP-5150855         | Shim, Blower Rotor Gear (.005")                | -  | 1  | 1  | 1  |
| 3.4005 | 25  | FP-5150856         | Shim, Blower Rotor Gear (.010")                | -  | 1  | 1  | 1  |
| 3.4005 | 25  | FP-5153938         | Shim, Blower Rotor Gear (.003")                | -  | 1  | 1  | 1  |
| 3.4005 | 22  | FP-5154398         | Lockwasher, 1/2" Special                       | -  | 2  | 2  | 2  |
| 3.4005 | 37  | FP-5192438         | Seal, Blower End Plate O.S.                    | -  | 4  | 4  | 4  |
| 3.4005 | 0   | FP-5192439         | Sleeve, Blower End Plate Seal                  | -  | 4  | 4  | 4  |
| 3.4005 | 44  | FP-8924266         | Gasket, Blower End Plate                       | -  | 2  | 2  | 2  |
| 3.4005 | 12  | FP-23504305        | Bearing, Blower Rotor (Rear)                   | -  | 2  | 2  | 2  |
| 3.4005 | 7   | FP-23503543        | Bearing, Blower Rotor (Front)                  | -  | 2  | 2  | 2  |
| 3.4005 | 0   | <b>FP-5192324</b>  | <b>Kit, Blower Repair</b>                      | 1  | -  | -  | -  |
| 3.4005 | 6   | FP-23518811        | Bearing, Blower (Front)                        | 2  | -  | -  | -  |
| 3.4005 | 0   | FP-5103557         | Screen Assembly, Blower                        | 1  | -  | -  | -  |
| 3.4005 | 0   | FP-5152438         | Gasket, Blower Pad                             | 1  | -  | -  | -  |
| 3.4005 | 21  | FP-5154115         | Lockwasher, Blower Gear (11/16")               | 2  | -  | -  | -  |
| 3.4005 | 43  | FP-5154223         | Gasket, Blower End Plate                       | 1  | -  | -  | -  |
| 3.4005 | 43  | FP-5154226         | Shim, Blower Rotor Gear (.002")                | 4  | -  | -  | -  |
| 3.4005 | 24  | FP-5154227         | Shim, Blower Rotor Gear (.005")                | 2  | -  | -  | -  |
| 3.4005 | 24  | FP-5154228         | Shim, Blower Rotor Gear (.010")                | 6  | -  | -  | -  |
| 3.4005 | 36  | FP-5125427         | Seal, Blower End Plate O.S.                    | 4  | -  | -  | -  |
| 3.4005 | 0   | FP-5125428         | Sleeve, Blower End Plate Sleeve                | 4  | -  | -  | -  |
| 3.4005 | 13  | FP-23503687        | Bearing, Blower Rotor (Rear)                   | 2  | -  | -  | -  |

# Blower

(Figure 10.3)





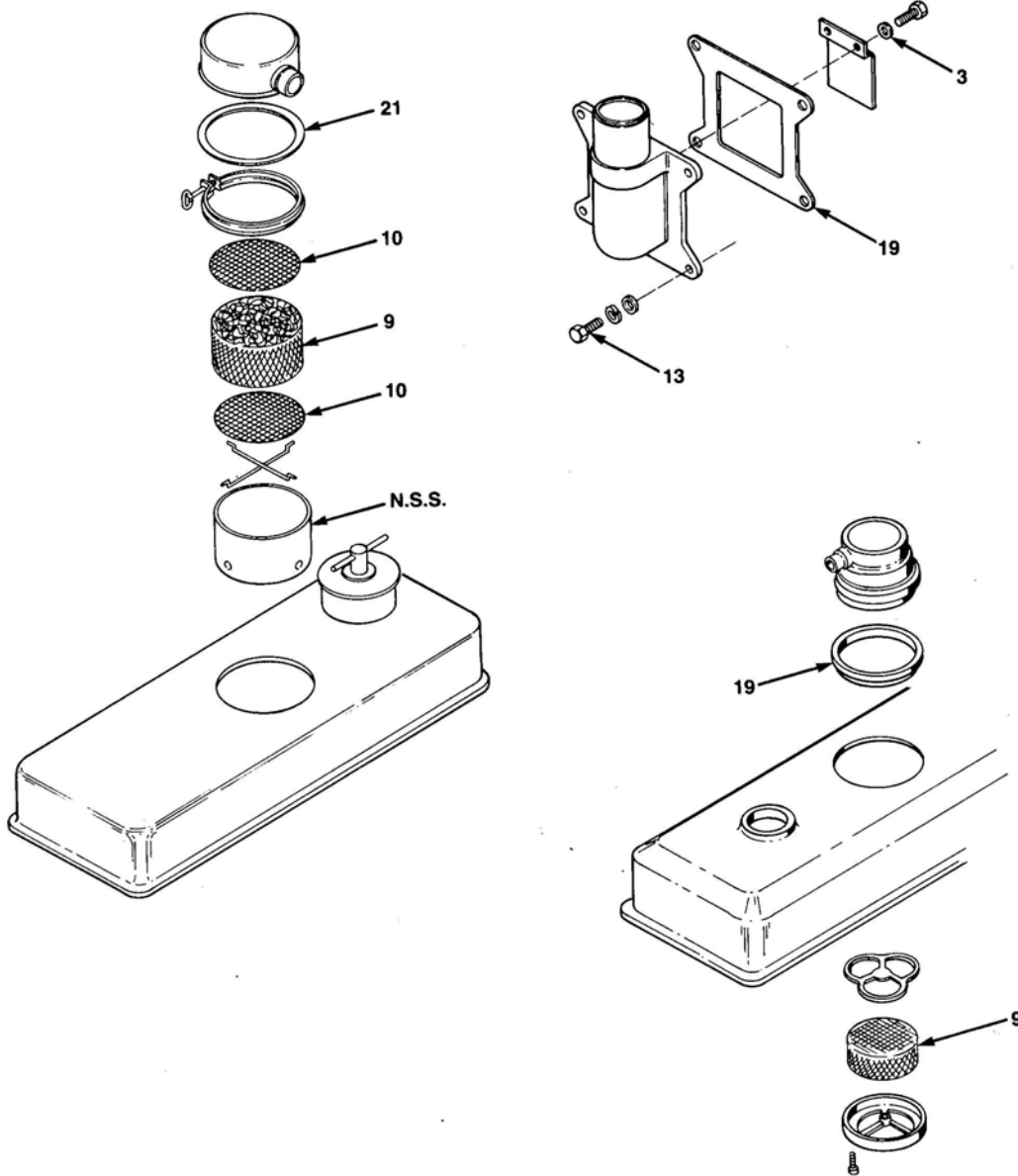
## Blower (Figure 10.3)

Groups:  
3.4025 - 12.7150

| Group               | Ref | Part No.    | Description   | 2l | 3l | 4l | 6l |
|---------------------|-----|-------------|---|----|----|----|----|
| 3.4025              | 0   | FP-5103557  | Blower Screen   | 1  | -  | -  | -  |
| 3.4025              | 0   | FP-5103558  | Blower Screen   | -  | 1  | -  | -  |
| 3.4025              | 0   | FP-5103559  | Blower Screen   | -  | -  | 1  | -  |
| 3.4025              | 0   | FP-5103601  | Blower Screen   | -  | -  | -  | 1  |
| 3.4050              | 46  | FP-443603   | Bolt, 1/4" - 20 x 3/4"                                | 6  | 6  | 6  | 6  |
| 3.4137              | 33  | FP-5173364  | Spacer, Rotor Gear Hub                                | -  | 3  | 3  | 3  |
| 3.4160              | 37  | FP-5192439  | Sleeve, Blower Rotor Seal                             | -  | 4  | 4  | 4  |
| 3.4160              | 37  | FP-8924453  | Seal, Blower Rotor                                    | -  | 4  | 4  | 4  |
| 3.4160              | 0   | FP-23500533 | Seal Kit, Blower End Plate                            | -  | 1  | 1  | 1  |
| 3.4180              | 42  | FP-103320   | Lockwasher 5/16"                                      | 2  | 20 | 20 | 20 |
| 3.4290              | 48  | FP-5122069  | Coupling, Blower to Water Pump Drive                  | -  | 1  | 1  | 1  |
| <b>Blower Drive</b> |     |             |   |    |    |    |    |
| 3.4210              | 0   | FP-5150246  | Gasket, Blower Drive Cover                            | -  | 1  | 1  | 1  |
| 3.4220              | 0   | FP-23515630 | Seal, Blower Drive Cover (w/Flanged & Strut Covers)   | -  | 1  | 2  | 2  |
| 3.4220              | 0   | FP-5172864  | Seal, Blower Drive Cover (w/Sand Cast Covers)         | -  | 1  | 1  | 1  |
| 3.4220              | 0   | FP-5115375  | Seal, Blower Drive Cover                              | -  | -  | 2  | -  |
| 3.4225              | 0   | FP-5192248  | Seal Kit, Blower Drive Cover                          | -  | 1  | 1  | 1  |
| 3.4240              | 0   | FP-5152438  | Gasket, Blower Housing Air Heater Pad Cover           | 1  | -  | -  | -  |
| 3.4320              | 0   | FP-8926293  | Washer, Blower Drive Gear Hub Thrust                  | -  | 1  | 1  | 1  |
| 3.4340              | 5   | FP-8926285  | Lockwasher, Blower Drive Gear Hub Thrust              | -  | 1  | 1  | 1  |
| 3.4340              | 5   | FP-8926286  | Lockwasher, Blower Drive Gear (17/32 External Teeth)  | -  | 1  | 1  | 1  |
| 3.4350              | 0   | FP-8924380  | Plug, 1/8" - 27 Pipe                                  | -  | 1  | 1  | 1  |
| 3.4360              | 8   | FP-5148810  | Gasket, Blower Drive Gear Hub Support                 | -  | 1  | 1  | 1  |
| 3.4370              | 0   | FP-5103377  | Coupling, Blower Drive                                | -  | 1  | 1  | 1  |
| 3.4380              | 11  | FP-5150345  | Support, Blower Drive Coupling                        | -  | 1  | 1  | 1  |
| 3.4390              | 12  | FP-5103365  | Cam, Blower Drive Coupling                            | -  | 1  | 1  | 1  |
| 3.4400              | 0   | FP-5123859  | Spring, Blower Drive Coupling                         | -  | 42 | 42 | 42 |
| 3.4400              | 13  | FP-5123860  | Seat, Blower Drive Coupling                           | -  | 2  | 2  | 2  |
| 3.4400              | 19  | FP-5196314  | Spring Pack, Blower Drive Coupling (Includes Ref #13) | -  | 1  | 1  | 1  |
| 3.4410              | 14  | FP-5150346  | Seat, Blower Drive Coupling Spring (Pin Half)         | -  | 4  | 4  | 4  |
| 3.4420              | 15  | FP-5150349  | Retainer, Blower Drive Coupling                       | -  | 1  | 1  | 1  |
| 3.4445              | 17  | FP-5168129  | Shaft, Blower Drive (7 1/16" L.), (Long)              | -  | 1  | 1  | 1  |
| 3.4445              | 16  | FP-5154638  | Shaft, Blower Drive (6 3/16" L.), (Short)             | -  | 1  | -  | -  |
| 3.4445              | 16  | FP-5154639  | Shaft, Blower Drive (7 13/16" L.), (Short)            | -  | -  | 1  | -  |
| 3.4445              | 17  | FP-5168130  | Shaft, Blower Drive (8 11/16" L.), (Long)             | -  | -  | 1  | -  |
| 3.4445              | 17  | FP-5110799  | Shaft, Blower Drive (10 13/16" L.), (Long)            | -  | -  | -  | 1  |
| 3.4445              | 16  | FP-5154640  | Shaft, Blower Drive (11 1/16" L.), (Short)            | -  | -  | -  | 1  |
| 3.4445              | 17  | FP-5193476  | Shaft, Blower Drive (11 15/16" L.), (Long)            | -  | -  | -  | 1  |
| 3.4446              | 18  | FP-5154637  | Ring, Blower Drive Shaft Retaining                    | -  | 1  | 1  | 1  |
| 4.4350              | 0   | FP-103321   | Lockwasher, 3/8"                                      | -  | 2  | 2  | 2  |
| <b>Turbocharger</b> |     |             |   |    |    |    |    |
| 3.5001              | 0   | FP-5149158  | Lock Plate, Turbo Charger Bolt                        | -  | 4  | 4  | 4  |
| 3.5001              | 0   | FP-5198257  | Ring Seal, Turbocharger (3.5022)                      | -  | 1  | 1  | 1  |
| 3.5001              | 0   | FP-5199622  | Spacer, Turbocharger (.5165" L)                       | -  | 1  | 1  | 1  |
| 3.5307              | 0   | FP-5118793  | Gasket, Turbo Charger Exhaust Inlet Connection        | -  | 2  | 2  | 2  |
| 3.5500              | 0   | FP-5128964  | Gasket, Cover To Turbocharger                         | -  | AR | AR | AR |
| 12.7150             | 0   | FP-5149460  | Bearing Kit, Turbocharger                             | -  | AR | AR | AR |

# Breathers

(Figure 11.1)





# Breathers

(Figure 11.1)

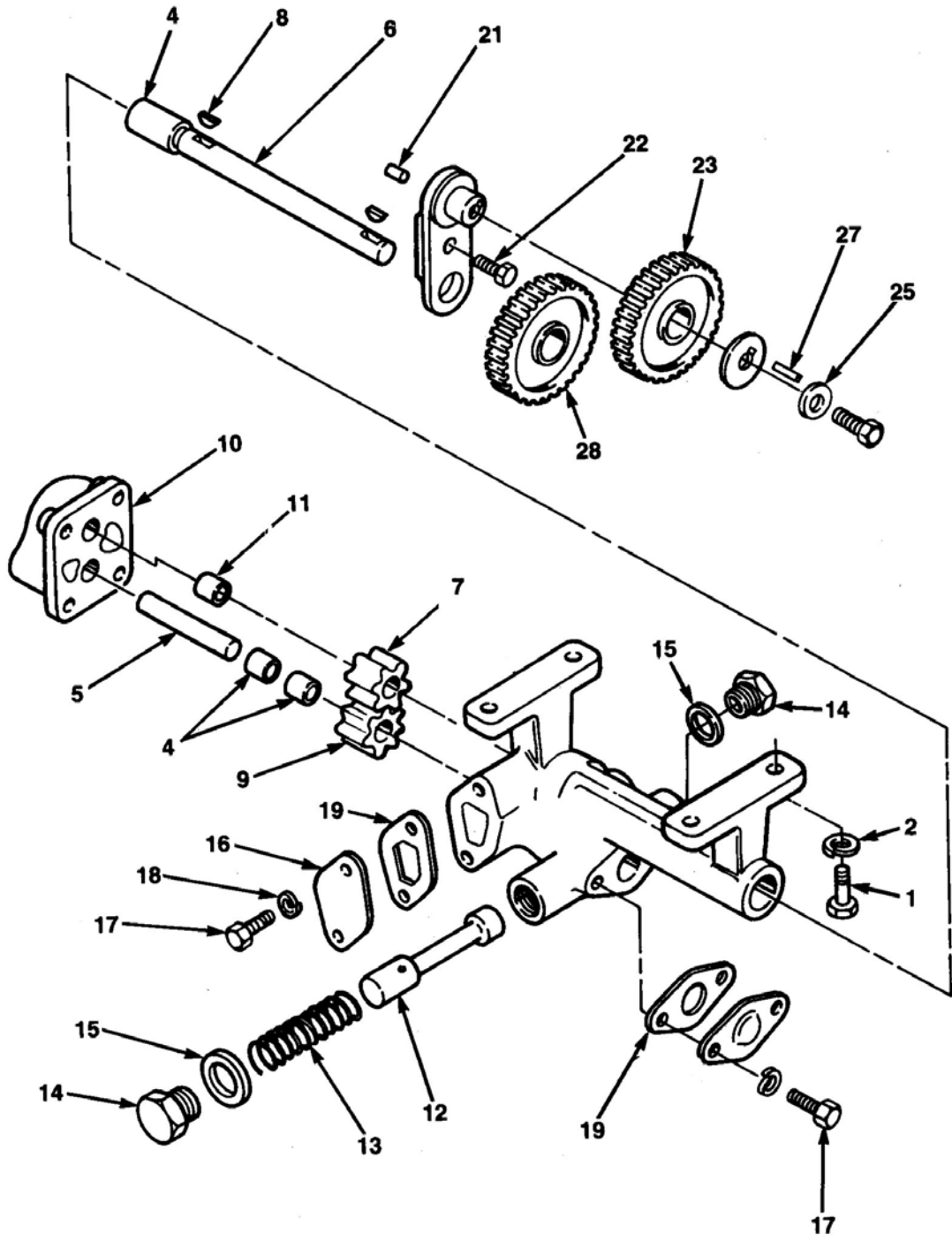
Groups:

4.8001 - 4.8193

| Group  | Ref | Part No.    | Description                                       | 2l | 3l | 4l | 6l |
|--------|-----|-------------|---|----|----|----|----|
| 4.8001 | 0   | FP-103319   | Lockwasher, 1/4"                                  | 2  | -  | -  | -  |
| 4.8001 | 0   | FP-179803   | Bolt, 1/4" - 20 x 1 3/4"                          | 2  | -  | -  | -  |
| 4.8001 | 0   | FP-103320   | Lockwasher, 5/16"                                 | -  | 2  | 2  | 2  |
| 4.8020 | 0   | FP-5150900  | Gasket, Breather Pipe (At Governor)               | 1  | 1  | 1  | 1  |
| 4.8020 | 0   | FP-5123812  | Gasket, Breather Pipe                             | -  | 1  | 1  | 1  |
| 4.8025 | 3   | FP-103320   | Lockwasher, 5/16"                                 | -  | -  | 2  | 2  |
| 4.8040 | 0   | FP-5181415  | Clip, Oil Breather Tube (1 1/8" Tube, 7/16" Bolt) | 1  | 1  | 1  | 1  |
| 4.8040 | 0   | FP-103321   | Lockwasher, 3/8"                                  | -  | 1  | 1  | 2  |
| 4.8040 | 0   | FP-8927580  | Bolt, 3/8" - 16 x 7/8"                            | -  | 1  | 1  | 1  |
| 4.8042 | 0   | FP-103320   | Lockwasher, 5/16"                                 | -  | 1  | 1  | 1  |
| 4.8045 | 13  | FP-179803   | Bolt, 1/4" - 20 x 1 3/4"                          | 2  | -  | -  | -  |
| 4.8045 | 10  | FP-5132042  | Screen, Breather Oil Separator Filter Unit        | 1  | 2  | -  | -  |
| 4.8045 | 9   | FP-5101760  | Element, Breather Oil Separator Filter Unit       | 1  | 1  | 1  | 1  |
| 4.8045 | 0   | FP-5150900  | Gasket, Breather Pipe                             | 1  | -  | -  | -  |
| 4.8045 | 0   | FP-5130349  | Gasket, Breather Pipe                             | -  | 1  | 1  | 1  |
| 4.8045 | 0   | FP-5110393  | Gasket, Breather Pipe                             | -  | -  | -  | 1  |
| 4.8045 | 0   | FP-5173482  | Gasket, Breather Pipe                             | -  | -  | -  | 1  |
| 4.8050 | 0   | FP-5150568  | Washer, 7/16" Copper                              | -  | 1  | 1  | 1  |
| 4.8050 | 0   | FP-103321   | Lockwasher, 3/8"                                  | -  | -  | 4  | 4  |
| 4.8055 | 0   | FP-5103642  | Screw, #10 - 24 x .375" Lock                      | -  | 1  | 1  | 1  |
| 4.8057 | 19  | FP-5173482  | Gasket, Breather Shell Cover                      | -  | 1  | 1  | 2  |
| 4.8060 | 0   | FP-5132042  | Screen, Breather Oil Separator Filter Unit        | 1  | 2  | -  | -  |
| 4.8060 | 9   | FP-5101760  | Element, Breather Oil Separator Filter Unit       | 1  | 1  | 1  | 1  |
| 4.8060 | 0   | FP-5130750  | Pad, Breather Oil Separator                       | -  | 1  | 1  | 1  |
| 4.8070 | 21  | FP-5144038  | Gasket, Breather Body Or Separator                | 1  | 1  | 1  | 1  |
| 4.8070 | 21  | FP-5130349  | Gasket, Breather Body Or Separator (To Block)     | -  | 1  | 1  | 1  |
| 4.8070 | 21  | FP-23515145 | Gasket, Breather Body Or Separator                | -  | -  | 1  | 1  |
| 4.8070 | 21  | FP-5173482  | Gasket, Breather Body Or Separator                | -  | -  | 1  | 1  |
| 4.8175 | 0   | FP-5186840  | Clamp, 1 5/8" Diameter Hose                       | -  | 1  | 1  | 1  |
| 4.8193 | 0   | FP-5104507  | Gasket, Breather Hole Cover                       | -  | 1  | 1  | 1  |

# Oil Pump

(Figure 12.1)





# Oil Pump

(Figure 12.1)

Groups:

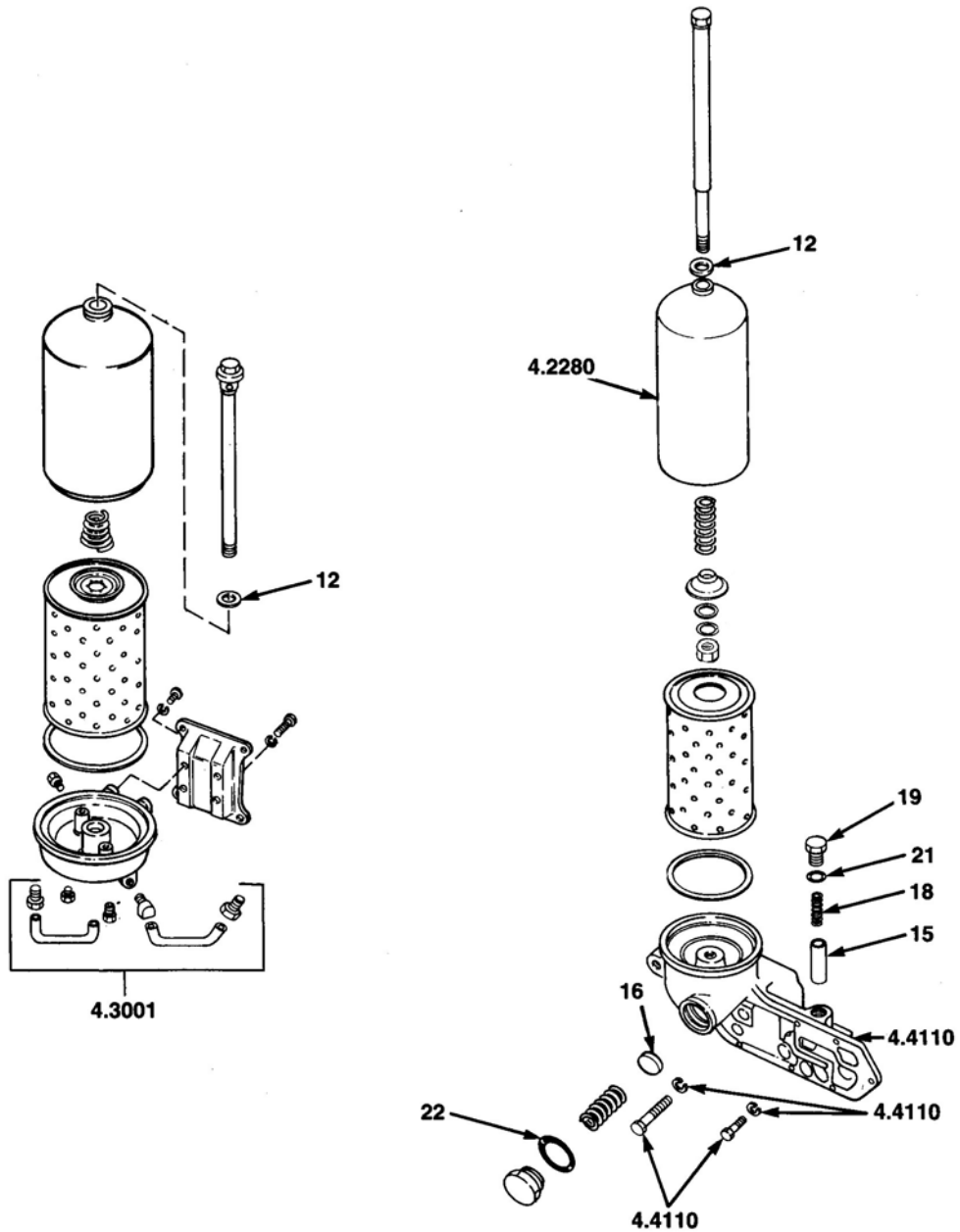
4.1001 - 5.1090

| Group                            | Ref | Part No.    | Description                                     | 2l | 3l | 4l | 6l |
|----------------------------------|-----|-------------|---|----|----|----|----|
| 4.1001                           | 2   | FP-103320   | Lockwasher, 5/16"                               | 4  | 4  | 4  | 4  |
| 4.1001                           | 2   | FP-103321   | Lockwasher, 3/8"                                | -  | 4  | 4  | 4  |
| 4.1002                           | 0   | FP-5192106  | Gasket Set, Oil Pump Overhaul                   | -  | 1  | -  | -  |
| 4.1002                           | 0   | FP-5192107  | Gasket Set, Oil Pump Overhaul                   | -  | -  | 1  | -  |
| 4.1002                           | 0   | FP-5192108  | Gasket Set, Oil Pump Overhaul                   | -  | -  | -  | 1  |
| 4.1003                           | 0   | FP-5194800  | Kit, Lube Oil Pump Overhaul                     | -  | 1  | 1  | -  |
| 4.1003                           | 1   | FP-5194801  | Kit, Lube Oil Pump Overhaul                     | -  | -  | -  | 1  |
| 4.1050                           | 4   | FP-5153154  | Bushing, Oil Pump Shaft & Gear                  | 1  | 1  | 1  | 1  |
| 4.1050                           | 4   | FP-5153147  | Bushing, Oil Pump Body                          | -  | 2  | 2  | 2  |
| 4.1070                           | 6   | FP-5153309  | Shaft, Oil Pump Drive (8 31/32" L.)             | -  | 1  | 1  | 1  |
| 4.1080                           | 5   | FP-5153310  | Shaft, Oil Pump Driven Gear (3 7/32" L.)        | -  | 1  | 1  | 1  |
| 4.1080                           | 5   | FP-5153146# | Shaft, Oil Pump Driven Gear (5 5/32" L.)        | -  | -  | -  | 1  |
| 4.1090                           | 7   | FP-5166650  | Gear, Oil Pump Drive (1 1/4" Wide), (Pressure)  | -  | 1  | 1  | -  |
| 4.1090                           | 7   | FP-5153260  | Gear, Oil Pump Drive                            | -  | -  | -  | 1  |
| 4.1090                           | 7   | FP-5153260# | Gear, Oil Pump Drive (1 3/4" Wide)              | -  | -  | -  | 2  |
| 4.1200                           | 9   | FP-5166649  | Gear, Oil Pump Driven (1 1/4" Wide), (Pressure) | -  | 1  | 1  | -  |
| 4.1200                           | 9   | FP-5153617  | Gear, Oil Pump Driven                           | -  | -  | -  | 1  |
| 4.1200                           | 9   | FP-5153617# | Gear, Oil Pump Driven (1 3/4" Wide)             | -  | -  | -  | 2  |
| 4.1210                           | 4   | FP-5153154  | Bushing, Oil Pump Body                          | 1  | 4  | 4  | 4  |
| 4.1210                           | 4   | FP-5166840  | Bushing, Oil Pump Driven Gear                   | -  | 2  | 2  | 2  |
| 5.1090                           | 8   | FP-8928540  | Key, 1/8" x 5/8" Woodruff                       | -  | 3  | 3  | 3  |
| <b>Oil Pressure Relief Valve</b> |     |             |   |    |    |    |    |
| 4.1250                           | 12  | FP-5153247  | Valve, Oil Pump Relief                          | -  | 1  | 1  | 1  |
| 4.1260                           | 13  | FP-5155765  | Spring, Oil Pump Relief Valve                   | -  | 1  | 1  | 1  |
| 4.1280                           | 15  | FP-105456   | Gasket, 7/8" Copper                             | -  | 2  | 2  | 2  |
| 4.1290                           | 17  | FP-5148436  | Bolt, 5/16" x 3/4"                              | -  | 2  | 2  | 2  |
| 4.1300                           | 19  | FP-5151370  | Gasket, Oil Pump Pad Cover (1 7/8" B.C.)        | -  | 1  | 1  | 1  |
| 4.1300                           | 19  | FP-5153313  | Gasket, Oil Pump Pad Cover (2 1/8" B.C.)        | -  | 1  | 1  | 1  |
| 4.1310                           | 0   | FP-8928540  | Key, 1/8" x 5/8" Woodruff                       | -  | -  | -  | 1  |
| 4.1340                           | 25  | FP-5175944  | Washer, Oil Pump Idler (Small)                  | -  | 1  | 1  | 1  |
| 4.1460                           | 0   | FP-5153310  | Shaft, Oil Pump Drive (Support)                 | -  | -  | 1  | 1  |
| 4.1520                           | 0   | FP-5150144  | Gasket, Oil Pump Inlet Pipe                     | 1  | -  | -  | -  |
| 4.1590                           | 19  | FP-5156922  | Gasket, Oil Pump Outlet Pipe (2 5/64" B.C.)     | -  | -  | -  | 1  |
| 4.1620                           | 0   | FP-5156815  | Spring, Oil Pump Outlet Pipe By-Pass Valve      | 1  | 1  | 1  | 1  |

# Indicates for Pumps FP-5177349, FP-5175987, FP-5175988 only.

# Oil Filter

(Figure 12.2)







# Oil Filter

(Figure 12.2)

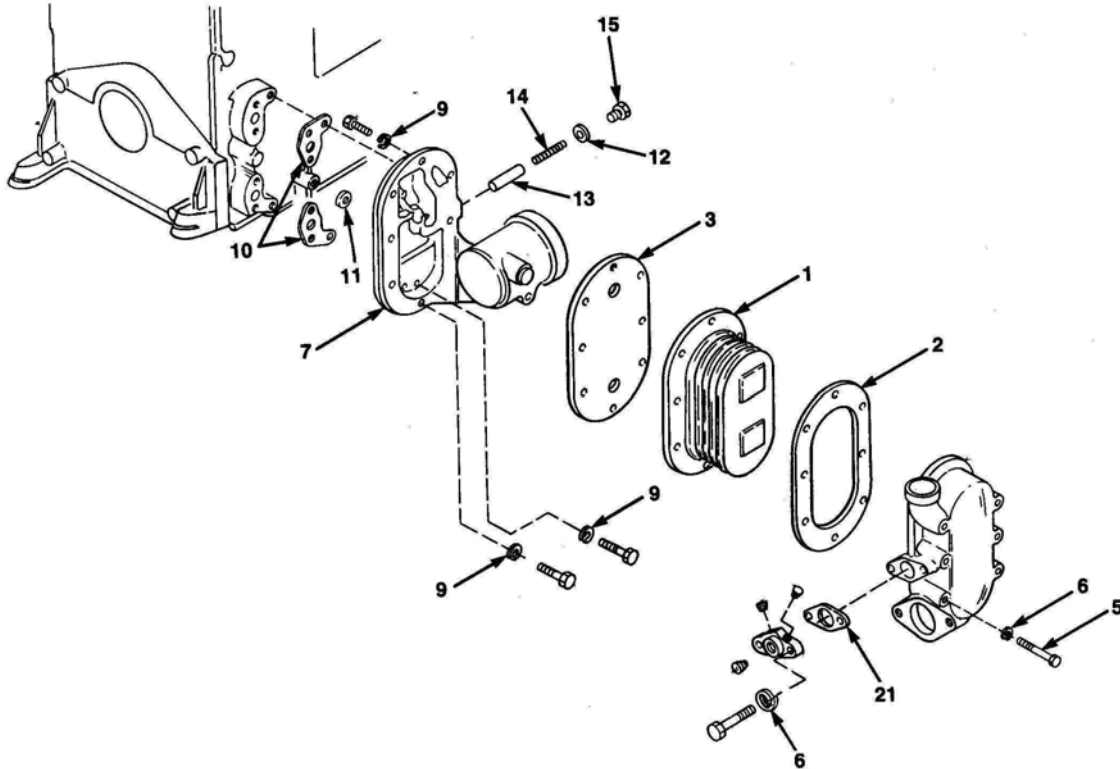
Groups:

4.1520 - 4.4320

| Group  | Ref | Part No.   | Description  | 2l | 3l | 4l | 6l |
|--------|-----|------------|--|----|----|----|----|
| 4.1520 | 8   | FP-5150144 | Gasket, Oil Pump Inlet Pipe  | 2  | -  | -  | -  |
| 4.1520 | 4   | FP-5153627 | Gasket, Oil Pump Inlet Pipe (At Pump), (2 9/16" B.C.), (1 3/16" x 15/32" Dia.) | -  | 1  | 1  | 1  |
| 4.1520 | 7   | FP-5153313 | Gasket, Oil Pump Inlet Pipe (2 1/8" B.C.)                                      | -  | -  | -  | 4  |
| 4.1520 | 4   | FP-5153902 | Gasket, Oil Pump Inlet Pipe (2 1/4" B.C.)                                      | -  | -  | -  | 2  |
| 4.1520 | 6   | FP-5167380 | Gasket, Oil Pump Inlet Pipe (At Pump), (2 9/16" B.C.)                          | -  | -  | -  | 1  |
| 4.1550 | 12  | FP-5118302 | Cover, Oil Pump Inlet Screen   | -  | 1  | 1  | 2  |
| 4.1590 | 4   | FP-5151370 | Gasket, Oil Pump Outlet Pipe (1 7/8" B.C.)                                     | -  | 1  | 1  | 1  |
| 4.1590 | 4   | FP-5153313 | Gasket, Oil Pump Outlet Pipe (2 1/8" B.C.)                                     | -  | 1  | 1  | 2  |
| 4.1590 | 4   | FP-5156922 | Gasket, Oil Pump Outlet Pipe (2 5/64" B.C.)                                    | -  | -  | -  | 1  |
| 4.1641 | 0   | FP-5123812 | Gasket, Cyl. HD. Oil Drain Tube (Inclined Engines)                             | -  | -  | -  | 2  |
| 4.1642 | 0   | FP-5179709 | Washer, 1/4" Copper  | -  | 1  | 1  | -  |
| 4.1660 | 18  | FP-8925732 | Pipe, Blower Drive Bearing Oil (10.53" L)                                      | -  | 1  | 1  | 1  |
| 4.1670 | 6   | FP-103320  | Washer, 5/16"  | -  | 2  | 2  | 2  |
| 4.1690 | 2   | FP-5156815 | Spring, Oil Pressure Regulator   | -  | 1  | 1  | 1  |
| 4.1730 | 7   | FP-5104381 | Gasket, Oil Pressure Regulator Body (Type # 1,2,21), (5154199)                 | -  | 1  | 1  | 1  |
| 4.1730 | 7   | FP-5104381 | Gasket, Oil Pressure Regulator Body (Type # 23)                                | -  | 1  | 1  | 1  |
| 4.1730 | 7   | FP-5156831 | Gasket, Oil Pressure Regulator Body (Type # 3)                                 | -  | 1  | 1  | 1  |
| 4.2040 | 0   | FP-64444   | Gasket, Lube Oil Strainer Cover  | -  | 1  | 1  | 1  |
| 4.2100 | 0   | FP-5150568 | Gasket, Lube Oil Strainer Center Stud  | -  | 1  | 1  | 1  |
| 4.2100 | 0   | FP-64446   | Gasket, Lube Oil Strainer Center Stud  | -  | 1  | 1  | 1  |
| 4.2240 | 0   | FP-103321  | Lockwasher, 3/8"   | 4  | 4  | 4  | 4  |
| 4.2240 | 0   | FP-8927580 | Bolt, 3/8"- 16 x 7/8"  | -  | 4  | 4  | 4  |
| 4.2240 | 0   | FP-5121182 | Plug, 1/4" Pipe (2.4015)   | -  | 2  | 2  | 2  |
| 4.2240 | 0   | FP-8927581 | Bolt, 3/8"- 16 x 1"  | -  | -  | 4  | 4  |
| 4.2250 | 0   | FP-1595620 | Gasket, Oil Filter (Rectangular Section)                                       | 1  | 1  | 1  | 1  |
| 4.2293 | 0   | FP-5152413 | Gasket, Oil Filter Adapter To Oil Cooler Adapter                               | 1  | 1  | 1  | 1  |
| 4.2293 | 0   | FP-5188028 | Gasket, Oil Filter Adapter To Oil Cooler Adapter                               | -  | 2  | 1  | 1  |
| 4.2315 | 10  | FP-114498  | Nut, 5/8" - 18 Jam   | 1  | 1  | 1  | 1  |
| 4.2330 | 11  | FP-5187310 | Gasket (Seal), Oil Filter Cover Stud   | 1  | 1  | 1  | 1  |
| 4.2330 | 12  | FP-6437298 | Gasket, Oil Filter Cover Nut   | 1  | 1  | 1  | 1  |
| 4.2485 | 15  | FP-5177777 | Valve, Oil Filter By-pass  | 1  | 1  | 1  | 1  |
| 4.2485 | 16  | FP-5133431 | Valve, Oil Filter By-pass  | -  | 1  | 1  | 1  |
| 4.2486 | 18  | FP-5177778 | Spring, Oil Filter By-pass Valve   | 1  | 1  | 1  | 1  |
| 4.2489 | 21  | FP-5177773 | Gasket, Oil Filter By-pass Valve Plug  | 1  | 1  | 1  | 1  |
| 4.2489 | 22  | FP-5187316 | Gasket, Oil Filter By-pass Valve Plug  | -  | 1  | 1  | 1  |
| 4.2489 | 22  | FP-5575086 | Gasket, Oil Filter By-pass Valve Plug  | -  | 1  | 1  | 1  |
| 4.3045 | 0   | FP-5181415 | Clip, Oil Filter Line (1 1/8" Tube, 7/16 Bolt)                                 | 1  | 1  | 1  | 1  |
| 4.4212 | 0   | FP-5167762 | Gasket, Oil Cooler Water Inlet   | -  | -  | 1  | 1  |
| 4.4212 | 0   | FP-5163760 | Gasket, Oil Cooler Water Inlet (5.5390)  | -  | -  | -  | 1  |
| 4.4320 | 17  | FP-8924517 | Plug, 3/8" Pipe  | -  | 2  | 2  | 2  |
| 4.4320 | 18  | FP-5115214 | Plug, 1/2" Square Socket Head Pipe   | -  | 1  | 1  | 1  |

# Oil Cooler

(Figure 13.1)





# Oil Cooler

(Figure 13.1)

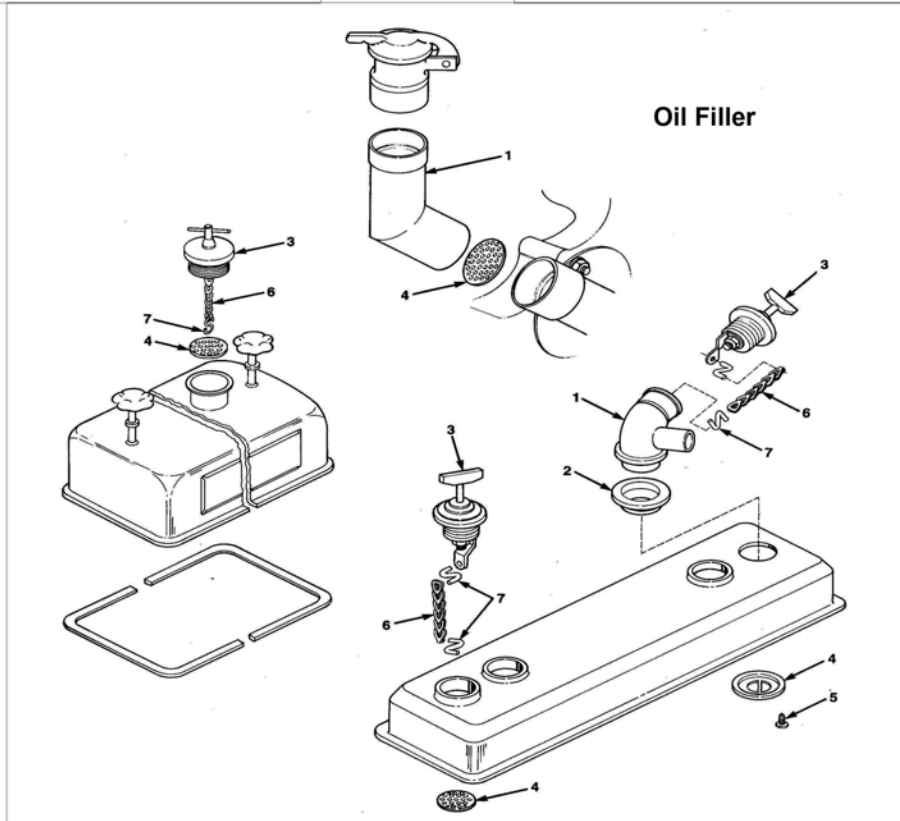
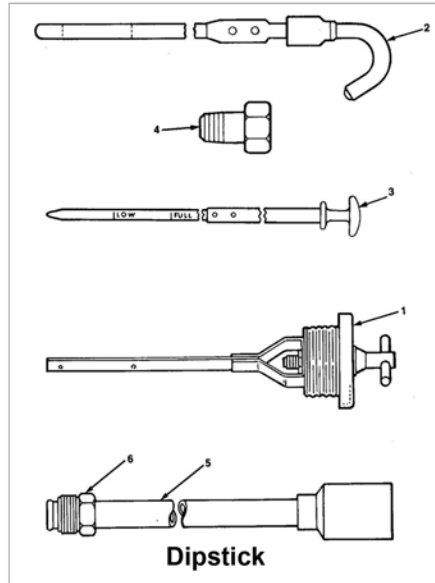
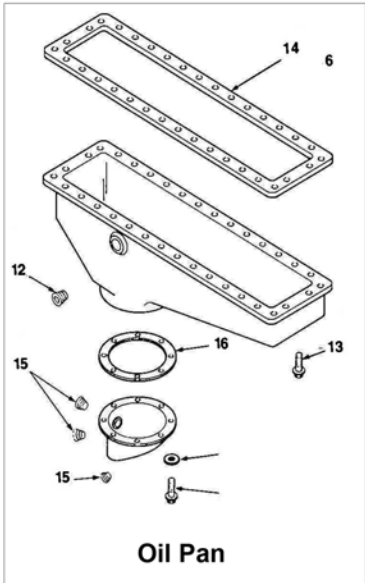
Groups:

4.4001 - 4.4211

| Group  | Ref | Part No.    | Description                                      | 2l | 3l | 4l | 6l |
|--------|-----|-------------|--|----|----|----|----|
| 4.4001 | 1   | FP-8547563  | Core Assembly, Oil Cooler-Engine (8 Plate)       | -  | 1  | 1  | 1  |
| 4.4001 | 1   | FP-8547581  | Core Assembly, Oil Cooler-Engine (13 Plate)      | -  | 1  | 1  | 1  |
| 4.4001 | 1   | FP-8547548  | Core Assembly, Oil Cooler-Engine (6 Plate)       | -  | 1  | -  | -  |
| 4.4001 | 1   | FP-8547236  | Core Assembly, Oil Cooler-Engine (13 Plate)      | -  | -  | 1  | 1  |
| 4.4001 | 1   | FP-8547551  | Core Assembly, Oil Cooler-Engine (8 Plate)       | -  | -  | 1  | -  |
| 4.4030 | 2   | FP-5154214  | Gasket, Oil Cooler Core Inner (H E Cooling)      | 1  | -  | -  | -  |
| 4.4030 | 2   | FP-5165803  | Gasket, Oil Cooler Core Inner (Diameter Cooling) | 1  | -  | -  | -  |
| 4.4030 | 2   | FP-5150155  | Gasket, Oil Cooler Core Inner                    | -  | 1  | 1  | 1  |
| 4.4030 | 2   | FP-8926782  | Gasket, Oil Cooler Core Inner                    | -  | 1  | 1  | 1  |
| 4.4040 | 3   | FP-5154208  | Gasket, Oil Cooler Core Outer (H E Cooling)      | 1  | -  | -  | -  |
| 4.4040 | 3   | FP-5165801  | Gasket, Oil Cooler Core Outer (Diameter Cooling) | 1  | -  | -  | -  |
| 4.4040 | 3   | FP-23501589 | Gasket, Oil Cooler Core Outer                    | -  | 1  | 1  | 1  |
| 4.4040 | 3   | FP-5102506  | Gasket, Oil Cooler Core Outer                    | -  | 1  | 1  | 1  |
| 4.4040 | 3   | FP-8923223  | Gasket, Oil Cooler Core Outer                    | -  | 1  | 1  | 1  |
| 4.4050 | 0   | FP-5150052  | Gasket, Oil Cooler Housing                       | 1  | 1  | 1  | 1  |
| 4.4050 | 6   | FP-103320   | Lockwasher, 5/16"                                | -  | 2  | 2  | 4  |
| 4.4050 | 0   | FP-5155596  | Washer, 5/16" Copper                             | -  | 2  | 2  | 4  |
| 4.4050 | 0   | FP-5121182  | Plug, 1/4" Pipe (2.4015)                         | -  | 1  | 1  | 1  |
| 4.4055 | 0   | FP-5154213  | Gasket, Oil Cooler Housing To Block              | 1  | -  | -  | -  |
| 4.4060 | 0   | FP-5155596  | Washer, 5/16" Copper                             | -  | 8  | 8  | 16 |
| 4.4060 | 0   | FP-8924517  | Plug, 3/8" Pipe                                  | -  | 2  | 2  | 8  |
| 4.4060 | 0   | FP-5121182  | Plug, 1/4" Pipe (2.4015)                         | -  | 1  | 1  | 1  |
| 4.4060 | 0   | FP-8923847  | Plug, 1/4" Pipe (1.2001)                         | -  | 1  | 1  | 1  |
| 4.4090 | 0   | FP-5112401  | Gasket, Oil Cooler Housing Pad Cover (4.4200)    | -  | 1  | 1  | -  |
| 4.4090 | 21  | FP-5153902  | Gasket, Oil Cooler Housing Pad Cover (4.1520)    | -  | 1  | 1  | 1  |
| 4.4090 | 0   | FP-5151190  | Gasket, Oil Cooler Housing Pad Cover             | -  | 1  | -  | -  |
| 4.4100 | 9   | FP-103321   | Lockwasher, 3/8"                                 | -  | 1  | 1  | 1  |
| 4.4110 | 0   | FP-5152148  | Washer, 3/8" Copper                              | -  | 1  | 1  | 1  |
| 4.4115 | 0   | FP-5112401  | Gasket, Oil Cooler Adapter To Block (4.4200)     | -  | 2  | 2  | 2  |
| 4.4115 | 10  | FP-5150154  | Gasket, Oil Cooler Adapter To Block              | -  | 2  | 2  | 2  |
| 4.4115 | 0   | FP-5159430  | Gasket, Oil Cooler Adapter To Block (4.4180)     | -  | 1  | 1  | 1  |
| 4.4115 | 11  | FP-5175882  | Gasket, Oil Cooler Adapter To Block (Spacer)     | -  | 1  | 1  | 1  |
| 4.4140 | 13  | FP-5133431  | Valve, Oil Cooler By-pass (Oil Filter Relief)    | -  | 1  | 1  | 1  |
| 4.4140 | 13  | FP-5177777  | Valve, Oil Cooler By-pass                        | -  | 1  | 1  | 1  |
| 4.4140 | 14  | FP-5177778  | Spring, Oil Cooler By-pass Valve (4.1260)        | -  | 1  | 1  | 1  |
| 4.4170 | 0   | FP-105456   | Gasket, Oil Cooler By-Pass Valve Plug            | 1  | 1  | 1  | 1  |
| 4.4170 | 12  | FP-5156768  | Gasket, Oil Cooler By-pass Plug                  | -  | 1  | 1  | 1  |
| 4.4170 | 12  | FP-5575086  | Gasket, Oil Cooler By-pass Plug (4.2489)         | -  | 1  | 1  | 1  |
| 4.4180 | 0   | FP-5153945  | Gasket, Oil Cooler By-Pass Tube                  | 1  | -  | -  | -  |
| 4.4180 | 0   | FP-5159430  | Gasket, Oil Cooler By-pass Tube                  | -  | 1  | 1  | 1  |
| 4.4200 | 0   | FP-5159447  | Gasket, Oil Cooler Inlet & Outlet Tube           | -  | 1  | 1  | 1  |
| 4.4211 | 0   | FP-8927581  | Bolt, 3/8" - 16 x 1"                             | -  | 4  | 4  | 4  |
| 4.4211 | 0   | FP-5115214  | Plug, 1/2" Pipe                                  | -  | 1  | 1  | 1  |
| 4.4211 | 0   | FP-8923313  | Plug, 3/4" Pipe                                  | -  | 1  | 1  | 1  |

# Oil filler, Dipstick & Pan

(Figure 13.2)





# Oil filler, Dipstick & Pan

(Figure 13.2)

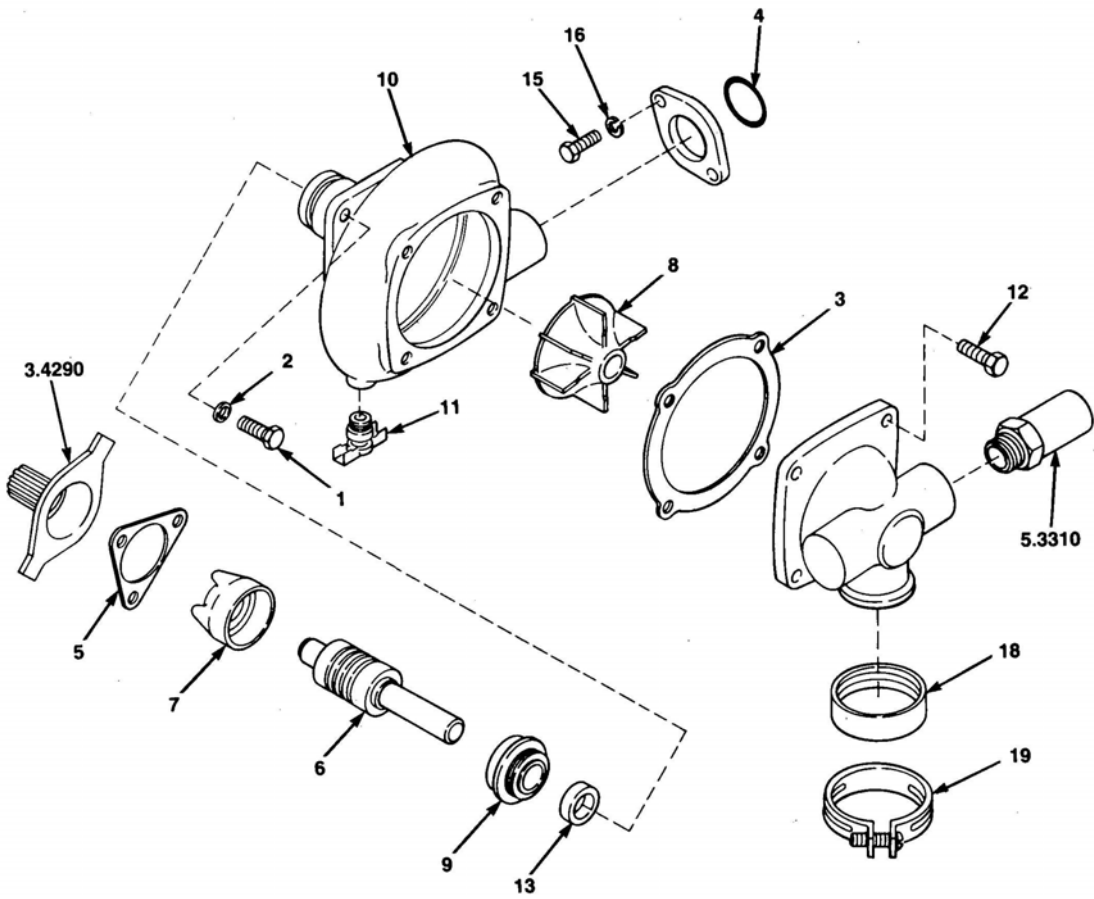
Groups:

4.5001 - 4.8250

| Group               | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|---------------------|-----|-------------|--|----|----|----|----|
| 4.5001              | 9   | FP-5145087  | Tube, Oil Filler                                     | 1  | 1  | 1  | 1  |
| 4.5001              | 10  | FP-5150147  | Strainer, Oil Filler Tube                            | 1  | 1  | 1  | 1  |
| 4.5001              | 0   | FP-5103534  | Bolt, 5/16" - 24 x 1/2"                              | -  | 1  | 1  | 1  |
| 4.5001              | 8   | FP-5117362  | Cap, Oil Filler (2" Diameter), (Thermos Bottle Type) | -  | 1  | 1  | 1  |
| 4.5001              | 0   | FP-5155596  | Washer, 5/16" Flat                                   | -  | 1  | 1  | 1  |
| 4.5005              | 0   | FP-8923847  | Plug, 1/4" Pipe                                      | 1  | 1  | 1  | 1  |
| 4.5005              | 0   | FP-103321   | Lockwasher, 3/8"                                     | -  | 2  | 2  | 2  |
| 4.5007              | 0   | FP-5173482  | Gasket, Oil Filler Tube Adapter                      | -  | -  | 1  | 1  |
| 4.5020              | 5   | FP-5103642  | Screw, #10 - 24 x 3.75" Lock (4.8055)                | -  | 3  | 3  | 3  |
| 4.5050              | 0   | FP-5117636  | Gasket, Oil Filler Tube (4.8020)                     | -  | 1  | 1  | 1  |
| <b>Oil Dipstick</b> |     |             |  |    |    |    |    |
| 4.6001              | 3   | FP-5101884  | Dipstick, Oil (24 Y 1.38)                            | 1  | 1  | 1  | 1  |
| 4.6001              | 3   | FP-5108895  | Dipstick, Oil (X 26.32 Y 1.46)                       | 1  | 1  | 1  | 1  |
| 4.6001              | 3   | FP-5115162  | Dipstick, Oil 18.88" Long                            | 1  | 1  | 1  | 1  |
| 4.6001              | 1   | FP-5146679  | Dipstick, Oil 61" Long                               | 1  | 1  | 1  | 1  |
| 4.6001              | 2   | FP-5146680  | Dipstick, Oil 72" Long                               | 1  | 1  | 1  | 1  |
| 4.6001              | 3   | FP-5147080  | Dipstick, Oil (x 44.25"), (Unmarked)                 | 1  | 1  | 1  | 1  |
| 4.6010              | 0   | FP-5150475  | Gasket, Dipstick                                     | 1  | 1  | 1  | 1  |
| 4.6020              | 4   | FP-5151430  | Guide, Dipstick (1 1/2" L)                           | -  | 1  | 1  | 1  |
| <b>Oil Pan</b>      |     |             |  |    |    |    |    |
| 4.7001              | 13  | FP-5148436  | Bolt, 5/16" -18 x 3/4" (w/Lock Washer)               | 20 | 22 | 26 | 34 |
| 4.7001              | 12  | FP-5115214  | Plug, Oil Pan 1/2" Pipe                              | 1  | 1  | 1  | 1  |
| 4.7001              | 12  | FP-5121182  | Plug, Oil Pan 1/4" Pipe                              | 1  | 1  | 1  | 1  |
| 4.7001              | 12  | FP-5142549  | Plug, Oil Pan 3/4" Pipe                              | 1  | 1  | 1  | 1  |
| 4.7001              | 13  | FP-8923313  | Plug, Oil Pan 3/4" Pipe                              | 1  | 1  | 1  | 1  |
| 4.7010              | 0   | FP-103320   | Lockwasher, 5/16"                                    | 20 | 22 | 26 | 34 |
| 4.7030              | 14  | FP-5154198  | Gasket, Oil Pan To Block (Stamped Pan)               | 1  | -  | -  | -  |
| 4.7030              | 14  | FP-5150115  | Gasket, Oil Pan To Block                             | -  | 1  | -  | -  |
| 4.7030              | 14  | FP-5150116  | Gasket, Oil Pan To Block                             | -  | -  | 1  | -  |
| 4.7030              | 14  | FP-5150117  | Gasket, Oil Pan To Block                             | -  | -  | -  | 1  |
| 4.7040              | 0   | FP-5153256  | Gasket, Lower Oil Pan                                | -  | -  | 1  | 1  |
| 4.7080              | 15  | FP-5115214  | Plug, Oil Pan Drain 1/2" Pipe                        | 1  | 1  | 1  | 1  |
| 4.7080              | 15  | FP-5121182  | Plug, Oil Pan Drain 1/4" Pipe                        | 1  | 1  | 1  | 1  |
| 4.7080              | 15  | FP-5142549  | Plug, Oil Pan Drain 3/4" Pipe                        | 1  | 1  | 1  | 1  |
| 4.7080              | 15  | FP-8924517  | Plug, Oil Pan Drain 3/8" Pipe                        | 1  | 1  | 1  | 1  |
| 4.7090              | 0   | FP-840277   | Gasket, Oil Pan Drain Plug (18 MM., Nylon)           | 1  | 1  | 1  | 1  |
| 4.7100              | 15  | FP-8924517  | Plug, Oil Pan 3/8" Pipe                              | 1  | 1  | 1  | 1  |
| 4.7101              | 0   | FP-5181415  | Clip, Oil Pan Drain Tube (1 1/8" Tube, 7/16" Bolt)   | 1  | 1  | 1  | 1  |
| 4.7130              | 0   | FP-5153788  | Gasket, Oil Pan Cover                                | -  | 1  | 1  | 1  |
| 4.7130              | 0   | FP-5120540  | Gasket, Oil Pan Cover                                | -  | -  | 1  | -  |
| 4.7140              | 15  | FP-5115214  | Plug, Oil Pan Sump 1/2" Pipe                         | -  | -  | 2  | 2  |
| 4.7150              | 19  | FP-5153986  | Gasket, Oil Pan Sump                                 | -  | -  | 1  | 1  |
| 4.8020              | 0   | FP-5150900  | Gasket, Oil Breather Tube                            | 1  | 1  | 1  | 1  |
| 4.8250              | 0   | FP-10019739 | Clamp, Vent Collector (Snap Type)                    | 1  | 1  | 1  | 1  |

# Fresh Water Pump

(Figure 14.1)





# Fresh Water Pump

(Figure 14.1)

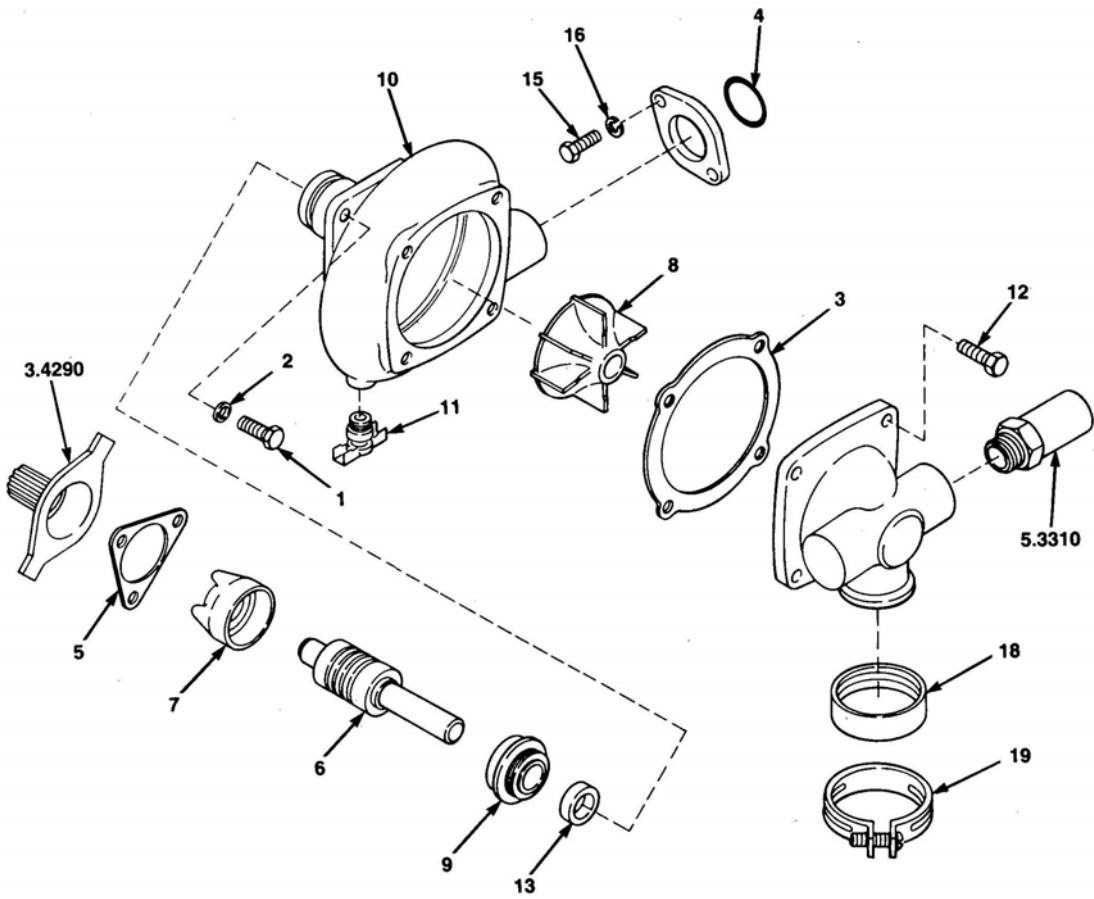
Groups:

5.1001 - 5.1002

| Group  | Ref | Part No.           | Description  | 2l | 3l | 4l | 6l |
|--------|-----|--------------------|--|----|----|----|----|
| 5.1001 | 0   | FP-23506704        | Pump Assembly, Fresh Water (L.H.. Hi-Capacity)                           | -  | 1  | 1  | 1  |
| 5.1001 | 0   | FP-23506711        | Pump Assembly, Fresh Water (R.H.. Hi-Capacity)                           | -  | 1  | 1  | 1  |
| 5.1001 | 0   | FP-23506723        | Pump Assembly, Fresh Water (L.H..)                                       | -  | 1  | 1  | 1  |
| 5.1001 | 0   | FP-23506735        | Pump Assembly, Fresh Water (R.H..)                                       | -  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-23506851</b> | <b>Kit, Fresh Water Pump Reconditioning (Std.), (Old No. FP-5149985)</b> | -  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5150188         | Gasket, Fresh Water Pump Body Cover (5.1032)                             | -  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5150191         | Packing, Fresh Water Pump Outlet (5.1220)                                | -  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-5150193         | Gasket, Fresh Water Pump (Pump To Engine)                                | -  | 1  | 1  | 1  |
| 5.1002 | 6   | FP-908337          | Shaft & Bearing Assembly, Fresh Water Pump (5.1050)                      | -  | 1  | 1  | 1  |
| 5.1002 | 7   | FP-5114011         | Thrower, Fresh Water Pump (5.1210)                                       | -  | 1  | 1  | 1  |
| 5.1002 | 0   | FP-23505997        | Impeller Assembly, Fresh Water Pump (5.1110)                             | -  | 1  | 1  | 1  |
| 5.1002 | 9   | FP-23506248        | Seal, Fresh Water Pump (5.1130)  | -  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-23506870</b> | <b>Kit, Fresh Water Pump Reconditioning (Hi-Capacity)</b>                | -  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5178273         | Gasket, Fresh Water Pump (Hi-Capacity), (5.1236)                         | -  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5150191         | Packing, Fresh Water Pump Outlet (5.1220)                                | -  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-5150193         | Gasket, Fresh Water Pump (Pump To Engine), (5.1010)                      | -  | 1  | 1  | 1  |
| 5.1002 | 6   | FP-908337          | Shaft & Bearing Assembly, Fresh Water Pump (5.1050)                      | -  | 1  | 1  | 1  |
| 5.1002 | 7   | FP-5114011         | Thrower, Fresh Water Pump (5.1210)                                       | -  | 1  | 1  | 1  |
| 5.1002 | 8   | FP-23505998        | Impeller Assembly, Fresh Water Pump (5.1110)                             | -  | 1  | 1  | 1  |
| 5.1002 | 9   | FP-23506248        | Seal, Fresh Water Pump (5.1130)  | -  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-5149918</b>  | <b>Kit, Fresh Water Pump Seals &amp; Bearing</b>                         | -  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5178273         | Gasket, Fresh Water Pump (Hi-Capacity), (5.1236)                         | -  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5150188         | Gasket, Fresh Water Pump Body Cover (5.1032)                             | -  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5150191         | Packing, Fresh Water Pump Outlet (5.1220)                                | -  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-5150193         | Gasket, Fresh Water Pump (Pump To Engine), (5.1010)                      | -  | 1  | 1  | 1  |
| 5.1002 | 6   | FP-908337          | Shaft & Bearing Assembly, Fresh Water Pump (5.1050)                      | -  | 1  | 1  | 1  |
| 5.1002 | 0   | FP-5117342         | Ceramic Insert, Fresh Water Pump (5.1115)                                | -  | 1  | 1  | 1  |
| 5.1002 | 0   | FP-5197310         | Washer, Adhesive Ceramic Insert Fresh Water Pump (5.1115)                | -  | 2  | 2  | 2  |
| 5.1002 | 9   | FP-23506248        | Seal, Fresh Water Pump (5.1130)  | -  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-5196935</b>  | <b>Kit, Fresh Water Pump Reconditioning</b>                              | 1  | -  | -  | -  |
| 5.1002 | 0   | FP-23503819        | Bearing, Fresh Water Pump (5.4332)                                       | 2  | -  | -  | -  |
| 5.1002 | 0   | FP-2082031         | Ring, Fresh Water Pump Bearing (5.1070)                                  | 2  | -  | -  | -  |
| 5.1002 | 0   | FP-2104593         | Ring, Fresh Water Pump Bearing (5.1070)                                  | 1  | -  | -  | -  |
| 5.1002 | 0   | FP-5151227         | Spacer, Fresh Water Pump Bearing (5.1060)                                | 1  | -  | -  | -  |
| 5.1002 | 0   | FP-5170626         | Impeller Assembly, Fresh Water Pump (5.1110)                             | 1  | -  | -  | -  |
| 5.1002 | 0   | FP-5151226         | Shaft, Fresh Water Pump (5.1080)   | 1  | -  | -  | -  |
| 5.1002 | 0   | FP-2082032         | Slinger, Fresh Water Pump Shaft (5.1090)                                 | 1  | -  | -  | -  |
| 5.1002 | 0   | FP-23505397        | Nut, 9/16" - 1" Hex  | 1  | -  | -  | -  |
| 5.1002 | 0   | FP-5178319         | Insert, Seal (5.1035)  | 1  | -  | -  | -  |
| 5.1002 | 0   | FP-5166130         | Gasket, Fresh Water Pump Body Cover (5.1032)                             | 1  | -  | -  | -  |

# Fresh Water Pump

(Figure 14.2)







# Fresh Water Pump

(Figure 14.2)

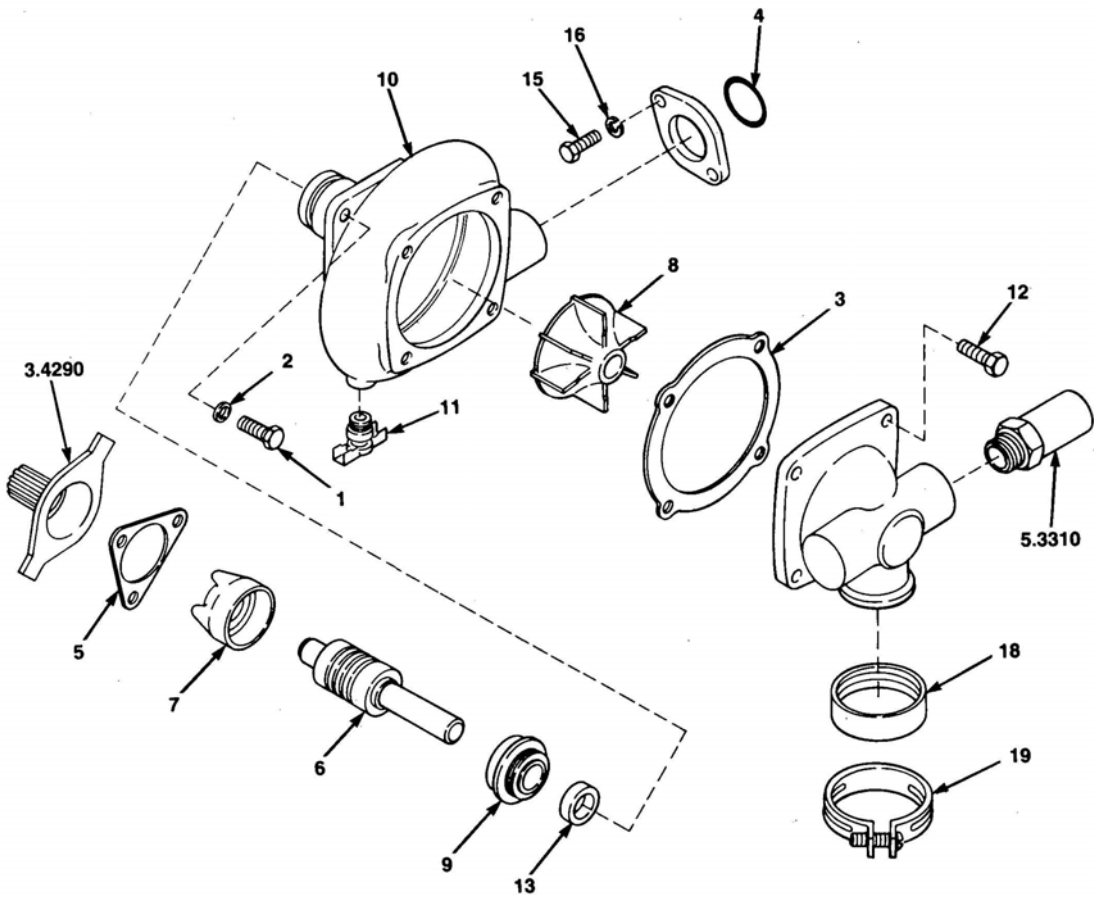
Groups:

5.1002 - 5.1110

| Group  | Ref | Part No.           | Description   | 2l | 3l | 4l | 6l |
|--------|-----|--------------------|---|----|----|----|----|
| 5.1010 | 0   | FP-5153898         | Gasket, Fresh Water Pump (Tank Cooling)                         | 1  | -  | -  | -  |
| 5.1030 | 10  | FP-8920915         | Body, Fresh Water Pump (FP-23506704)                            | -  | 1  | 1  | 1  |
| 5.1030 | 10  | FP-8920916         | Body, Fresh Water Pump (FP-23506711)                            | -  | 1  | 1  | 1  |
| 5.1030 | 10  | FP-8920924         | Body, Fresh Water Pump (FP-23506723)                            | -  | 1  | 1  | 1  |
| 5.1030 | 10  | FP-8920925         | Body, Fresh Water Pump (FP-23506735)                            | -  | 1  | 1  | 1  |
| 5.1031 | 0   | FP-5179709         | Lockwasher, 5/16"   | 6  | -  | -  | -  |
| 5.1032 | 0   | FP-5166130         | Gasket, Fresh Water Pump Body Cover                             | 6  | -  | -  | -  |
| 5.1040 | 12  | FP-8921930         | Bolt, Fresh Water Pump Body (1/4" -20 x 3/4")                   | -  | 4  | 4  | 4  |
| 5.1110 | 0   | FP-5118468         | Pin, 3/16" x 7/8" Groove  | -  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-23506851</b> | <b>Ceramic Seal Kit, Fresh Water Pump Reconditioning (Std.)</b> | -  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5150188         | Gasket, Fresh Water Pump Body Cover (5.1032)                    | -  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5150191         | Packing, Fresh Water Pump Outlet (5.1220)                       | -  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-5150193         | Gasket, Fresh Water Pump Mounting (5.1010)                      | -  | 1  | 1  | 1  |
| 5.1002 | 6   | FP-908337          | Shaft & Bearing Assembly, Fresh Water Pump (5.1050)             | -  | 1  | 1  | 1  |
| 5.1002 | 7   | FP-5114011         | Thrower, Fresh Water Pump (5.1210)                              | -  | 1  | 1  | 1  |
| 5.1002 | 7   | FP-23505997        | Impeller Assembly, Fresh Water Pump (5.1110)                    | -  | 1  | 1  | 1  |
| 5.1002 | 9   | FP-23506248        | Seal, Fresh Water Pump (5.1130)                                 | -  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-23506858</b> | <b>Kit, Fresh Water Pump Seals &amp; Bearing</b>                | -  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5150188         | Gasket, Fresh Water Pump Body Cover (5.1032)                    | -  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5150191         | Packing, Fresh Water Pump Outlet (5.1220)                       | -  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-5150193         | Gasket, Fresh Water Pump Mounting (5.1010)                      | -  | 1  | 1  | 1  |
| 5.1002 | 6   | FP-908337          | Shaft & Bearing Assembly, Fresh Water Pump (5.1050)             | -  | 1  | 1  | 1  |
| 5.1002 | 9   | FP-23506248        | Seal, Fresh Water Pump (5.1130)                                 | -  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5178273         | Gasket, Fresh Water Pump (Hi-Capacity), (5.1236)                | -  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-23506870</b> | <b>Kit, Fresh Water Pump Reconditioning (Hi-Cap)</b>            | -  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5150191         | Packing, Fresh Water Pump Outlet (5.1220)                       | -  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-5150193         | Gasket, Fresh Water Pump Mounting (5.1010)                      | -  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5178273         | Gasket, Fresh Water Pump (Pump To Engine)                       | -  | 1  | 1  | 1  |
| 5.1002 | 6   | FP-908337          | Shaft & Bearing Assembly, Fresh Water Pump (5.1050)             | -  | 1  | 1  | 1  |
| 5.1002 | 7   | FP-5114011         | Thrower, Fresh Water Pump (5.1210)                              | -  | 1  | 1  | 1  |
| 5.1002 | 8   | FP-23505998        | Impeller Assembly, Fresh Water Pump (5.1110)                    | -  | 1  | 1  | 1  |
| 5.1002 | 9   | FP-23506248        | Seal, Fresh Water Pump (5.1130)                                 | -  | 1  | 1  | 1  |
| 5.1002 | 0   | <b>FP-5198307</b>  | <b>Kit, Fresh Water Pump Reconditioning (Std.)</b>              | -  | 1  | 1  | 1  |
| 5.1002 | 3   | FP-5150188         | Gasket, Fresh Water Pump Body Cover (5.1032)                    | -  | 1  | 1  | 1  |
| 5.1002 | 4   | FP-5150191         | Packing, Fresh Water Pump Outlet (5.1220)                       | -  | 1  | 1  | 1  |
| 5.1002 | 5   | FP-5150193         | Gasket, Fresh Water Pump Mounting (5.1010)                      | -  | 1  | 1  | 1  |
| 5.1002 | 6   | FP-5136671         | Shaft & Bearing Assembly, Fresh Water Pump (5.1050)             | -  | 1  | 1  | 1  |
| 5.1002 | 7   | FP-5114011         | Thrower, Fresh Water Pump (5.1210)                              | -  | 1  | 1  | 1  |
| 5.1002 | 8   | FP-5126911         | Impeller, Fresh Water Pump (5.1110)                             | -  | 1  | 1  | 1  |
| 5.1002 | 0   | FP-5186571         | Seal & Spring, Fresh Water Pump                                 | -  | 1  | 1  | 1  |
| 5.1002 | 0   | FP-5186572         | Insert, Fresh Water Pump Body (5.1035)                          | -  | 1  | 1  | 1  |

# Fresh Water Pump

(Figure 14.3)





# Fresh Water Pump

(Figure 14.3)

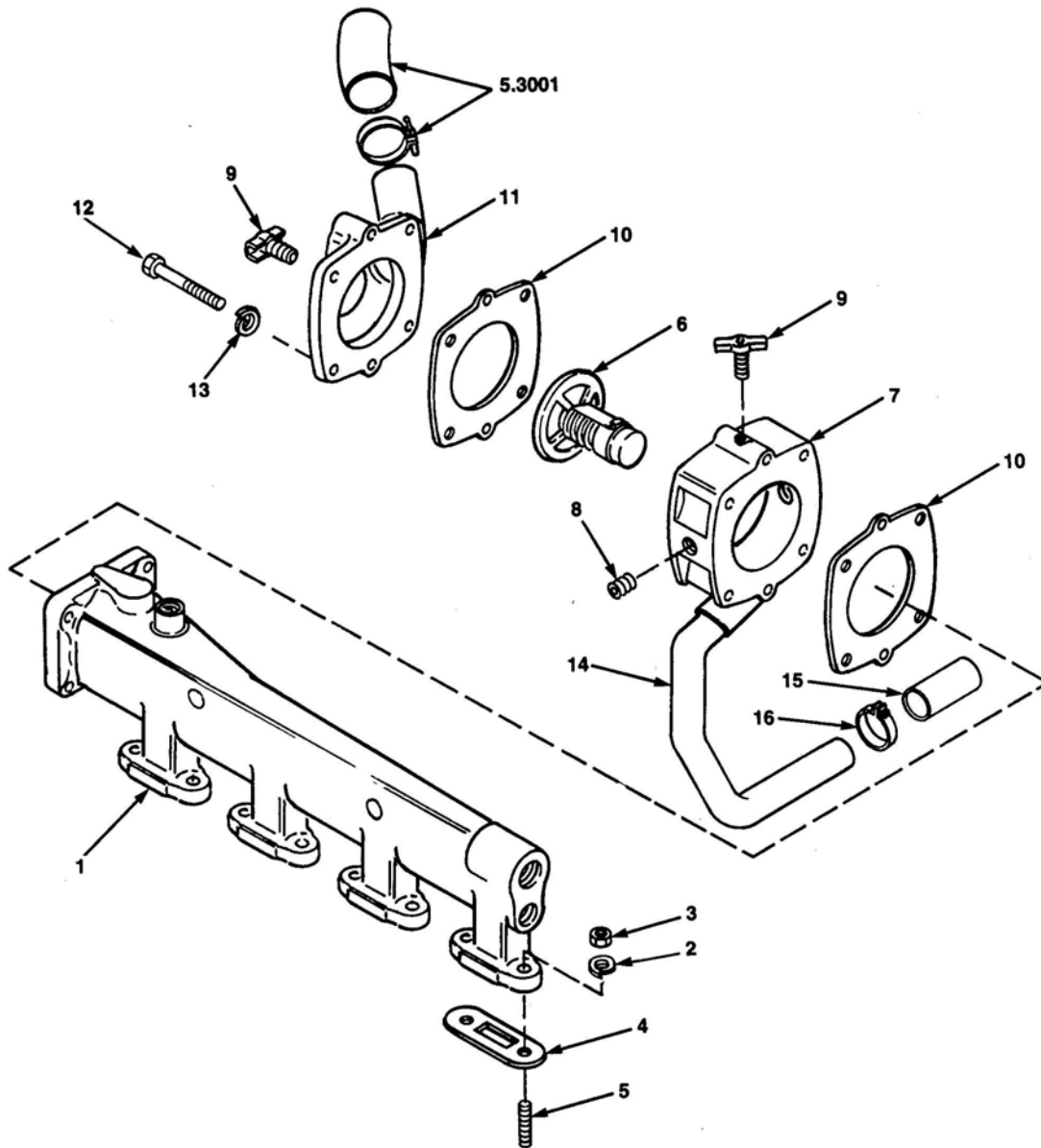
Groups:

5.1001 - 5.2165

| Group  | Ref | Part No.          | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|--|----|----|----|----|
| 5.1001 | 2   | FP-5155596        | Washer, 5/16" Water Pump Mounting                        | -  | 3  | 3  | 3  |
| 5.1070 | 0   | FP-2082031        | Ring, Fresh Water Pump Bearing Shoulder                  | 1  | 1  | 1  | 1  |
| 5.1070 | 0   | FP-2104593        | Snap Ring, Fresh Water Pump Bearing                      | 1  | 1  | 1  | 1  |
| 5.1070 | 0   | FP-23503819       | Bearing, Fresh Water Pump (Single Row Ball Bearing)      | 1  | 1  | 1  | 1  |
| 5.1090 | 0   | FP-2082032        | Slinger, Fresh Water Pump Shaft                          | 1  | -  | -  | -  |
| 5.1090 | 0   | FP-5189041        | Slinger, Fresh Water Pump Shaft                          | -  | 1  | 1  | 1  |
| 5.1115 | 0   | FP-5193605        | Fresh Water Pump Seal Seat Replacement Kit               | -  | 1  | 1  | 1  |
| 5.1130 | 0   | FP-1307479        | Seal, Fresh Water Pump                                   | 1  | -  | -  | -  |
| 5.1130 | 0   | FP-5186571        | Seal Assy, Fresh Water Pump (Includes FP-5186570 Spring) | -  | 1  | 1  | 1  |
| 5.1140 | 0   | FP-1307480        | Spring, Fresh Water Pump                                 | 1  | -  | -  | -  |
| 5.1140 | 0   | FP-5186570        | Spring, Fresh Water Pump Seal                            | -  | 1  | 1  | 1  |
| 5.1150 | 0   | FP-1307481        | Guide, Fresh Water Pump Seal Spring                      | 1  | -  | -  | -  |
| 5.1160 | 0   | FP-2007105        | Ring, Fresh Water Pump Seal Retaining                    | 1  | -  | -  | -  |
| 5.1175 | 0   | FP-1307368        | Retainer, Fresh Water Pump Seal                          | 1  | -  | -  | -  |
| 5.1180 | 0   | FP-5155555        | Washer, Fresh Water Pump Seal                            | 1  | -  | -  | -  |
| 5.1220 | 0   | FP-23508431       | Seal Ring, Fresh Water Pump (1.475" I.D. x .21")         | -  | 1  | 1  | 1  |
| 5.1235 | 0   | FP-8925325        | Bushing Pipe, Water Pump Cover (3/8" PTF - 1/4" Zinc)    | AR | AR | AR | AR |
| 5.1235 | 0   | FP-5142549        | Plug, 3/4" Pipe  | -  | 1  | 1  | 1  |
| 5.1235 | 0   | FP-8924517        | Plug, 3/8" Pipe  | -  | 1  | 1  | 1  |
| 5.1235 | 0   | FP-5121182        | Plug, 1/4" Pipe  | -  | -  | -  | 1  |
| 5.1236 | 3   | FP-5153902        | Gasket, Water Pump Cover                                 | -  | -  | -  | 1  |
| 5.1240 | 18  | FP-5153560        | Seal, Water Pump Inlet (2 3/16" O.D.)                    | -  | 1  | 1  | 1  |
| 5.1240 | 18  | FP-5159457        | Seal, Water Pump Inlet (2 1/2" O.D.)                     | -  | 1  | 1  | -  |
| 5.1240 | 18  | FP-5156770        | Seal, Water Pump Inlet (2 3/4" O.D.)                     | -  | -  | 1  | 1  |
| 5.1250 | 19  | FP-5188036        | Clamp, Water Pump Inlet Seal (2 3/4" Diameter Hose)      | -  | -  | 1  | 2  |
| 5.1270 | 0   | FP-5186840        | Clamp, Water By-pass Tube Connecting Hose                | -  | 2  | 2  | 2  |
| 5.2165 | 0   | FP-23512684R1     | Water Pump Gasket Kit                                    | -  | -  | -  | 1  |
| 5.1115 | 0   | <b>FP-5197279</b> | <b>Replacement Kit, Water Pump Ceramic Seal</b>          | -  | 1  | 1  | 1  |
| 5.1115 | 0   | FP-5197310        | Adhesive Washer, Fresh Water Pump Ceramic Insert         | -  | 2  | 2  | 2  |
| 5.1115 | 13  | FP-5117342        | Ceramic Insert, Fresh Water Pump                         | -  | 1  | 1  | 1  |

# Thermostat

(Figure 15.1)





# Thermostat

(Figure 15.1)

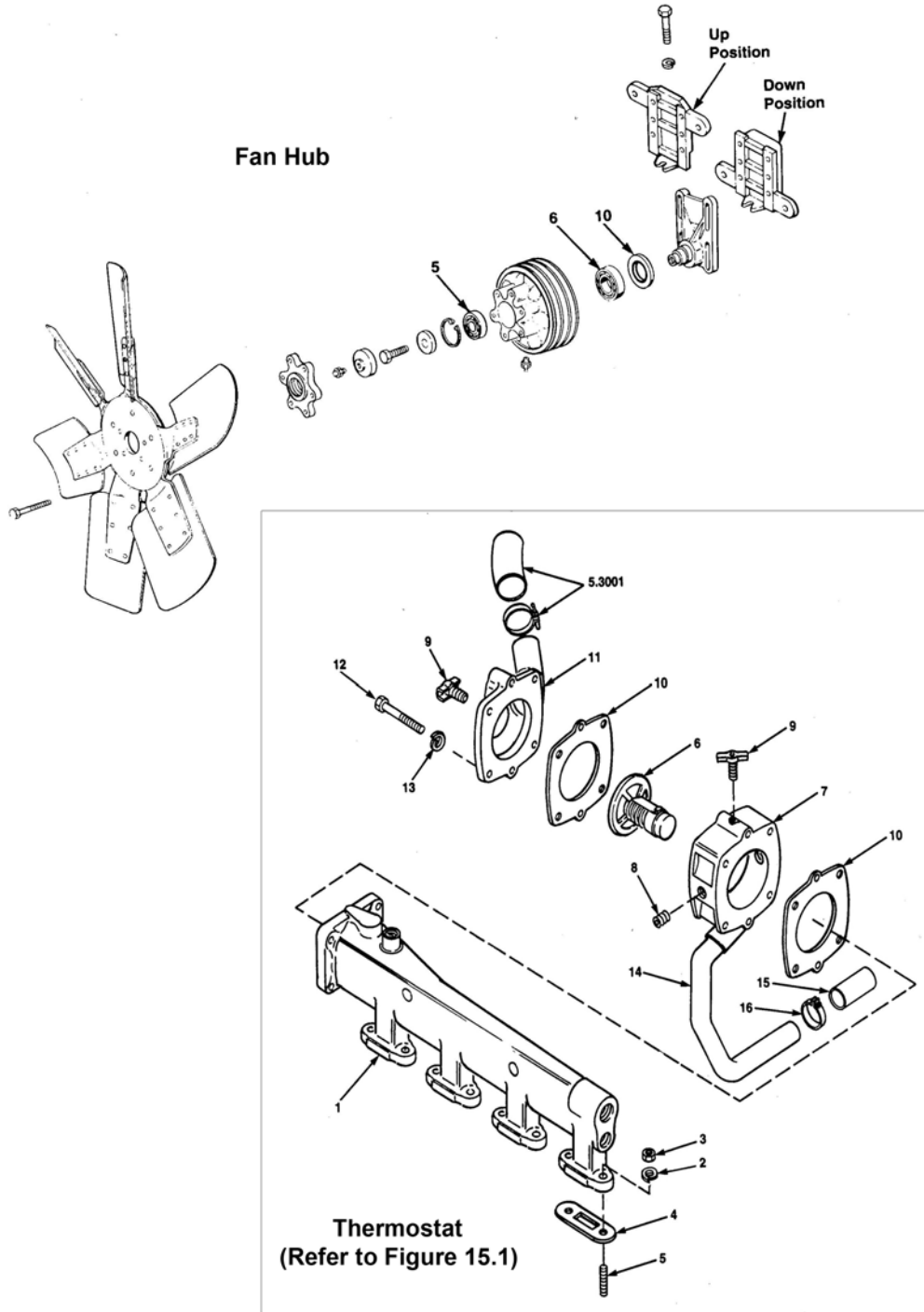
Groups:

5.2001 - 5.2161

| Group  | Ref | Part No.    | Description   | 2l | 3l | 4l | 6l |
|--------|-----|-------------|---|----|----|----|----|
| 5.2001 | 2   | FP-103321   | Lockwasher, 3/8"                                      | -  | 6  | 8  | 12 |
| 5.2001 | 0   | FP-5115214  | Plug, 1/2" Pipe                                       | -  | 1  | 1  | 1  |
| 5.2001 | 0   | FP-5142549  | Plug, 3/4" Pipe                                       | -  | 1  | 1  | 1  |
| 5.2020 | 5   | FP-8927270  | Stud, Water Outlet Manifold (3/8" - 16/24 x 1 11/16") | -  | 6  | 8  | 12 |
| 5.2030 | 0   | FP-103320   | Lockwasher, 5/16"                                     | -  | 2  | 2  | 2  |
| 5.2030 | 0   | FP-5121182  | Plug, 1/4" Pipe                                       | -  | 1  | 1  | 1  |
| 5.2037 | 0   | FP-5169478  | Gasket, Water Outlet Manifold Elbow                   | -  | -  | -  | 1  |
| 5.2043 | 0   | FP-5156770  | Seal, Water Outlet Manifold                           | -  | 1  | 1  | 1  |
| 5.2043 | 0   | FP-5188036  | Clamp, Water Outlet Manifold (2 9/16" - 3 1/2")       | -  | 1  | 1  | 1  |
| 5.2043 | 0   | FP-9139809  | Clamp, Water Outlet Manifold (3")                     | -  | 1  | 1  | 1  |
| 5.2050 | 6   | FP-5149423  | Thermostat Assy (180° - 197°)                         | 1  | 1  | 1  | 2  |
| 5.2050 | 6   | FP-3041379  | Thermostat Assembly (170°), (Vent Hole)               | 1  | 1  | -  | -  |
| 5.2050 | 6   | FP-23503826 | Thermostat Assembly (170°)                            | -  | 1  | 1  | 2  |
| 5.2050 | 6   | FP-23503827 | Thermostat Assembly (160°)                            | -  | 1  | 1  | 2  |
| 5.2050 | 6   | FP-5172141  | Thermostat Assembly (170°), (Ford Applications)       | -  | 1  | 1  | 2  |
| 5.2050 | 6   | FP-5184475  | Thermostat Assembly (173°), (Ford Applications)       | -  | -  | 1  | 1  |
| 5.2050 | 6   | FP-5186383  | Thermostat Assembly (173°), (Vented)                  | -  | -  | 1  | -  |
| 5.2050 | 6   | FP-23503828 | Thermostat Assembly (165°), (Weir Type)               | -  | -  | -  | 2  |
| 5.2050 | 6   | FP-5104238  | Thermostat Assembly (173°), (Choke & Shield)          | -  | -  | -  | 1  |
| 5.2050 | 6   | FP-5133357  | Thermostat Assy (180°)                                | -  | -  | -  | 2  |
| 5.2060 | 0   | FP-5132155  | Seal, Thermostat                                      | 1  | 1  | 1  | 2  |
| 5.2090 | 8   | FP-8924517  | Plug, 3/8" Pipe                                       | 1  | -  | -  | -  |
| 5.2090 | 8   | FP-5115214  | Plug, 1/2" Pipe                                       | -  | 1  | 1  | 1  |
| 5.2090 | 8   | FP-5121182  | Plug, 1/4" Pipe                                       | -  | 1  | 1  | 1  |
| 5.2090 | 8   | FP-5142549  | Plug, 3/4" Pipe                                       | -  | 1  | 1  | 1  |
| 5.2090 | 8   | FP-8924380  | Plug, 1/8" Pipe                                       | -  | 1  | 1  | 1  |
| 5.2092 | 0   | FP-103320   | Lockwasher, 5/16"                                     | -  | -  | 4  | 4  |
| 5.2092 | 0   | FP-103321   | Lockwasher, 3/8"                                      | -  | -  | 4  | 4  |
| 5.2092 | 0   | FP-8927581  | Bolt, 3/8" - 16 x 1"                                  | -  | -  | 4  | 4  |
| 5.2092 | 0   | FP-5159457  | Seal, Thermostat Housing Outlet Elbow                 | -  | -  | 1  | 1  |
| 5.2093 | 0   | FP-9139809  | Clamp, Water Outlet Manifold (3")                     | -  | -  | 1  | 1  |
| 5.2110 | 10  | FP-5154271  | Gasket, Thermostat Housing                            | 1  | -  | -  | -  |
| 5.2110 | 10  | FP-5167761  | Gasket, Thermostat Housing (At Expansion Tank)        | -  | 1  | 1  | 1  |
| 5.2110 | 10  | FP-5169478  | Gasket, Thermostat Housing                            | -  | -  | 1  | 1  |
| 5.2120 | 0   | FP-5121182  | Plug, 1/4" Pipe                                       | -  | 1  | 1  | 1  |
| 5.2120 | 0   | FP-5142549  | Plug, 3/4" Pipe                                       | -  | 1  | 1  | 1  |
| 5.2130 | 10  | FP-5135935  | Gasket, Thermostat Housing Cover                      | -  | 1  | 1  | -  |
| 5.2130 | 10  | FP-5175989  | Gasket, Thermostat Housing Cover                      | -  | -  | -  | 1  |
| 5.2130 | 10  | FP-8922593  | Gasket, Thermostat Housing Cover                      | -  | -  | -  | 1  |
| 5.2160 | 6   | FP-5149422  | Thermostat Assy (170°)                                | 1  | 1  | 1  | 2  |
| 5.2160 | 0   | FP-8924517  | Plug, 3/8" Pipe                                       | -  | 2  | 2  | 2  |
| 5.2161 | 0   | FP-5186840  | Clamp, Hose (13/16" x 1 1/2")                         | 2  | 2  | 2  | 2  |

# Thermostat & Fan Hub

(Figure 15.2)





# Thermostat & Fan Hub

(Figure 15.2)

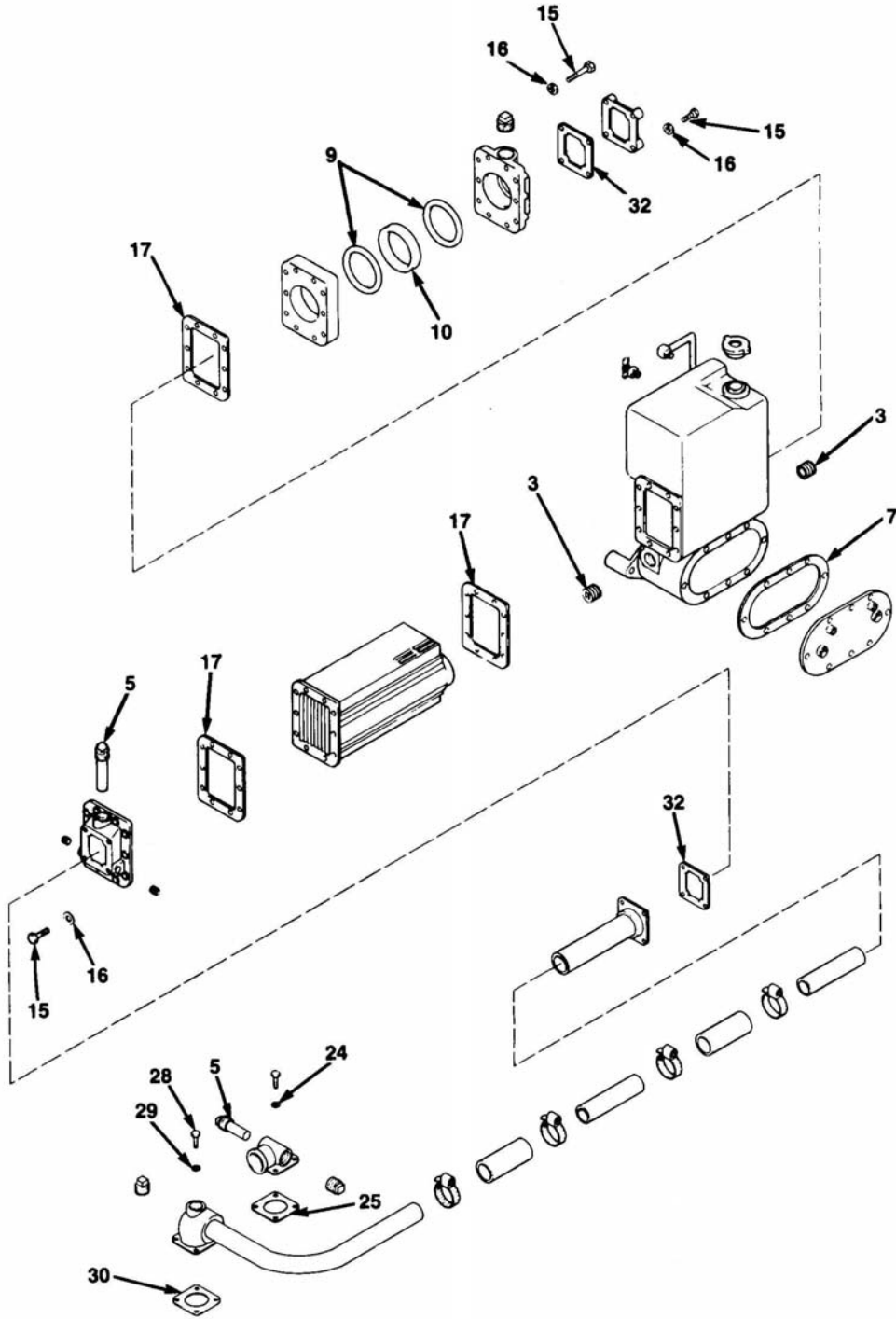
Groups:

5.2163 - 5.4341

| Group          | Ref | Part No.    | Description   | 2l | 3l | 4l | 6l |
|----------------|-----|-------------|---|----|----|----|----|
| 5.2163         | 0   | FP-5156319  | Gasket, Water By-pass Tube To Exhaust Manifold          | 2  | 2  | 2  | 2  |
| 5.2165         | 0   | FP-5186840  | Clamp, Hose (13/16" x 1 1/2")                           | -  | 2  | 2  | 2  |
| 5.2170         | 10  | FP-5169478  | Gasket, Thermostat Housing (Upper)                      | -  | 2  | 2  | 2  |
| 5.2180         | 0   | FP-5151190  | Gasket, Water By-pass Tube (Lower), (To Cooler Housing) | -  | 1  | 1  | 1  |
| 5.2180         | 0   | FP-5153902  | Gasket, Water By-pass Tube (Lower)                      | -  | 1  | 1  | 1  |
| 5.2210         | 0   | FP-5121182  | Plug, 1/4" Pipe   | -  | -  | 1  | 1  |
| 5.2215         | 0   | FP-5169478  | Gasket, Water By-pass Tube Elbow                        | -  | 2  | 2  | 2  |
| 5.2240         | 0   | FP-8924517  | Plug, 3/8" Pipe   | -  | -  | 2  | 1  |
| <b>Fan Hub</b> |     |             |   |    |    |    |    |
| 5.4025         | 0   | FP-103320   | Lockwasher, 3/8"  | -  | 3  | 3  | 3  |
| 5.4025         | 0   | FP-8927581  | Bolt, 3/8" - 16 x 1"                                    | -  | 3  | 3  | 3  |
| 5.4025         | 0   | FP-454992   | Bolt, 1/2" - 13 x 2 1/2"                                | -  | 1  | 1  | 1  |
| 5.4025         | 0   | FP-103026   | Nut, 3/8" - 24 Hex                                      | -  | -  | -  | 2  |
| 5.4025         | 0   | FP-5131978  | Spacer, Fan Mounting Support                            | -  | -  | -  | 1  |
| 5.4110         | 5   | FP-23503535 | Bearing, Fan Shaft (Outer)                              | -  | 1  | 1  | 1  |
| 5.4110         | 6   | FP-23503821 | Bearing, Fan Shaft (Inner)                              | -  | 1  | 1  | 1  |
| 5.4110         | 6   | FP-903205   | Bearing, Fan Shaft (Inner)                              | -  | 1  | 1  | 1  |
| 5.4110         | 6   | FP-9415132  | Bearing, Fan Shaft (Inner)                              | -  | 1  | 1  | 1  |
| 5.4110         | 5   | FP-7450630  | Bearing, Fan Shaft (Outer)                              | -  | -  | 1  | 1  |
| 5.4150         | 10  | FP-5103951  | Seal, Fan Shaft   | -  | 1  | 1  | 1  |
| 5.4150         | 10  | FP-5108219  | Seal, Fan Shaft (Felt)                                  | -  | 1  | 1  | 1  |
| 5.4150         | 10  | FP-5100408  | Seal, Fan Shaft (Rubber Lip)                            | -  | -  | 1  | 1  |
| 5.4170         | 0   | FP-5131122  | Spacer, Fan Shaft Bearing                               | -  | 1  | 1  | 1  |
| 5.4235         | 0   | FP-8924380  | Plug, 1/8" - 27 Pipe                                    | -  | 1  | 1  | 1  |
| 5.4341         | 0   | FP-908337   | Shaft Assembly, Fan Belt Idler Pulley                   | 1  | -  | -  | -  |

# Heat Exchanger

(Figure 16.1)







# Heat Exchanger

(Figure 16.1)

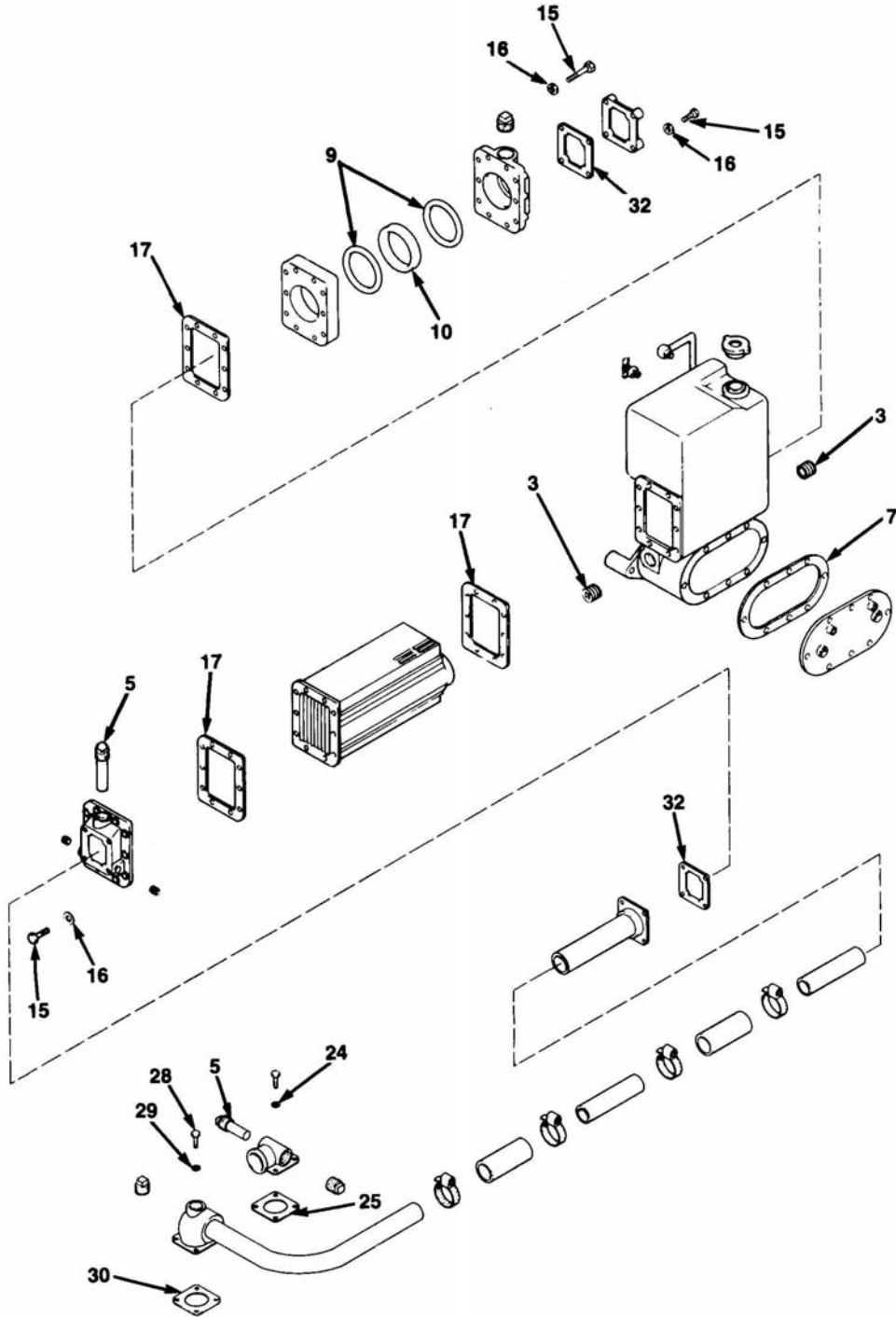
Groups:

5.5001 - 5.5377

| Group  | Ref | Part No.    | Description                                   | 2l | 3l | 4l | 6l |
|--------|-----|-------------|---|----|----|----|----|
| 5.5001 | 3   | FP-5142549  | Plug, 3/4" Pipe                               | -  | 2  | 2  | 2  |
| 5.5001 | 0   | FP-454992   | Bolt, 1/2" - 13 x 2 1/2"                      | -  | 1  | 1  | 1  |
| 5.5001 | 0   | FP-5117186  | Plug, 2" Cup                                  | -  | 1  | 1  | 1  |
| 5.5001 | 0   | FP-5121182  | Plug, 1/4" Pipe                               | -  | 1  | 1  | 1  |
| 5.5001 | 0   | FP-8924380  | Plug, 1/8" Pipe                               | -  | 1  | 1  | 1  |
| 5.5001 | 0   | FP-103321   | Lockwasher, 3/8"                              | -  | -  | -  | 2  |
| 5.5005 | 5   | FP-8517479  | Electrode Assembly, Heat Exchanger (1 1/4" L) | 2  | -  | -  | -  |
| 5.5005 | 17  | FP-5167764  | Gasket, Heat Exchanger                        | -  | 3  | 3  | 3  |
| 5.5005 | 0   | FP-5112401  | Gasket, Oil Cooler                            | -  | 2  | 2  | 2  |
| 5.5005 | 5   | FP-8515850  | Electrode Assembly, Heat Exchanger (3.375" L) | -  | 2  | 2  | 2  |
| 5.5005 | 7   | FP-23501591 | Gasket, Oil Cooler                            | -  | 1  | 1  | 1  |
| 5.5005 | 0   | FP-5102506  | Gasket, Oil Cooler Outlet                     | -  | 1  | 1  | 1  |
| 5.5005 | 0   | FP-5156319  | Gasket, Cover Plate                           | -  | 1  | 1  | 1  |
| 5.5005 | 0   | FP-5156768  | Gasket, Oil Cooler Valve                      | -  | 1  | 1  | 1  |
| 5.5005 | 30  | FP-5158741  | Gasket, Water Flange                          | -  | 1  | 1  | 1  |
| 5.5005 | 32  | FP-5158747  | Gasket, Heat Exchanger Water Inlet            | -  | 1  | 1  | 1  |
| 5.5005 | 0   | FP-5159430  | Gasket, Oil Cooler By-pass                    | -  | 1  | 1  | 1  |
| 5.5005 | 0   | FP-5159447  | Gasket, Oil Cooler                            | -  | 1  | 1  | 1  |
| 5.5005 | 10  | FP-5167745  | Gland, Heat Exchanger Seal Retainer           | -  | 1  | 1  | 1  |
| 5.5005 | 0   | FP-5167761  | Gasket, Thermostat                            | -  | 1  | 1  | 1  |
| 5.5005 | 0   | FP-5167762  | Gasket, Oil Cooler Water                      | -  | 1  | 1  | 1  |
| 5.5005 | 0   | FP-5192637  | Gasket Kit, Heat Exchanger Overhaul           | -  | 1  | 1  | 1  |
| 5.5017 | 0   | FP-443603   | Bolt, 1/4" - 20 x 3/4" Hex                    | -  | 4  | 4  | 4  |
| 5.5020 | 0   | FP-103321   | Lockwasher, 3/8"                              | 8  | -  | -  | -  |
| 5.5020 | 0   | FP-103026   | Nut, 3/8" -24 Hex                             | 4  | -  | -  | -  |
| 5.5020 | 0   | FP-8927581  | Bolt, 3/8" - 16 x 1"                          | 4  | -  | -  | -  |
| 5.5020 | 0   | FP-103320   | Lockwasher, 5/16"                             | -  | 8  | -  | -  |
| 5.5020 | 0   | FP-5115214  | Plug, 12" Pipe                                | -  | 2  | -  | -  |
| 5.5021 | 9   | FP-5167746  | Seal, Heat Exchanger                          | -  | 2  | 2  | 2  |
| 5.5021 | 7   | FP-23501591 | Gasket, Expansion Tank Cover                  | -  | 1  | 1  | 1  |
| 5.5021 | 10  | FP-5167745  | Gland, Heat Exchanger Seal Retainer           | -  | 1  | 1  | 1  |
| 5.5021 | 7   | FP-5150155  | Gasket, Expansion Tank Cover                  | -  | 1  | -  | -  |
| 5.5030 | 16  | FP-103320   | Lockwasher, 5/16"                             | -  | 20 | 20 | 20 |
| 5.5030 | 16  | FP-103321   | Lockwasher, 3/8"                              | -  | -  | -  | 2  |
| 5.5030 | 15  | FP-8927581  | Bolt, 3/8" - 16 x 1"                          | -  | -  | -  | 2  |
| 5.5050 | 17  | FP-5156147  | Gasket, Heat Exchanger (Tank To Water Pump)   | 2  | -  | -  | -  |
| 5.5050 | 17  | FP-5123660  | Gasket, Heat Exchanger Cover                  | -  | -  | -  | 1  |
| 5.5050 | 17  | FP-5167764  | Gasket, Heat Exchanger Cover                  | -  | -  | -  | 2  |
| 5.5070 | 0   | FP-5131978  | Washer, .53" x .177"                          | -  | -  | -  | 2  |
| 5.5090 | 0   | FP-103320   | Lockwasher, 5/16"                             | 8  | -  | -  | -  |
| 5.5090 | 0   | FP-5142549  | Plug, 3/4" Pipe                               | 1  | -  | -  | -  |
| 5.5200 | 0   | FP-443603   | Bolt, 1/4" - 20 x 3/4"                        | 2  | -  | -  | -  |
| 5.5200 | 0   | FP-103321   | Lockwasher, 3/8"                              | -  | 1  | 1  | 1  |
| 5.5377 | 0   | FP-8927580  | Bolt, 3/8" - 16 x 7/8"                        | 2  | 2  | 2  | 2  |

# Heat Exchanger

(Figure 16.2)





# Heat Exchanger

(Figure 16.2)

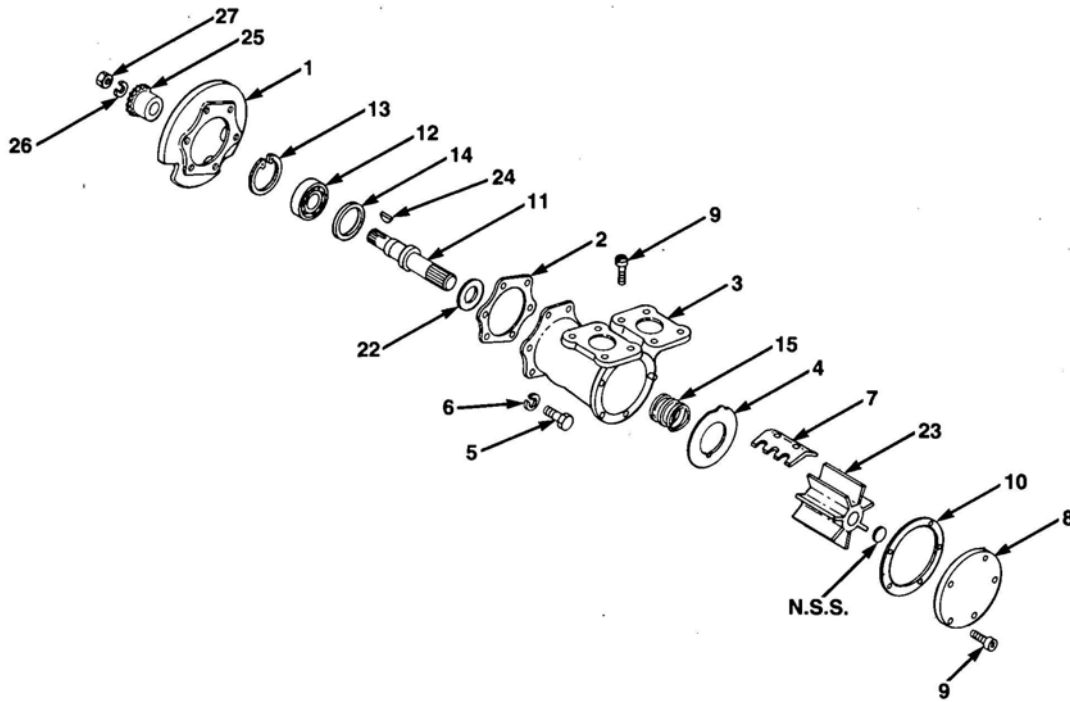
Groups:

5.5377 - 5.5685

| Group  | Ref | Part No.   | Description                                      | 2l | 3l | 4l | 6l |
|--------|-----|------------|--|----|----|----|----|
| 5.5377 | 24  | FP-103321  | Lockwasher, 3/8"                                 | -  | -  | 2  | 2  |
| 5.5378 | 0   | FP-5156319 | Gasket, Water Flange At Gear &/or Raw Water Pump | 1  | -  | -  | -  |
| 5.5378 | 25  | FP-5158741 | Gasket, Water Flange At Gear &/or Raw Water Pump | -  | 1  | 1  | 1  |
| 5.5378 | 25  | FP-5115395 | Gasket, Water Flange At Gear &/or Raw Water Pump | -  | -  | 2  | 1  |
| 5.5378 | 25  | FP-5112143 | Gasket, Water Flange At Gear &/or Raw Water Pump | -  | -  | -  | 2  |
| 5.5380 | 28  | FP-8927580 | Bolt, 3/8" - 16 x 7/8"                           | 2  | 2  | 2  | 2  |
| 5.5380 | 29  | FP-103320  | Lockwasher, 5/16"                                | 2  | -  | -  | -  |
| 5.5380 | 0   | FP-103321  | Lockwasher, 3/8"                                 | -  | -  | 2  | 2  |
| 5.5380 | 28  | FP-8927581 | Bolt, 3/8" - 16 x 1"                             | -  | -  | 2  | 1  |
| 5.5410 | 30  | FP-5156319 | Gasket, Raw Water Flange                         | 1  | -  | -  | -  |
| 5.5410 | 30  | FP-5112143 | Gasket, Raw Water Flange                         | -  | 1  | 1  | 1  |
| 5.5410 | 30  | FP-5115395 | Gasket, Raw Water Flange                         | -  | 1  | 1  | 1  |
| 5.5410 | 30  | FP-5158741 | Gasket, Raw Water Flange                         | -  | 1  | 1  | 1  |
| 5.5427 | 0   | FP-103320  | Lockwasher, 5/16"                                | -  | -  | -  | 8  |
| 5.5428 | 0   | FP-5102506 | Gasket, Oil Cooler Outlet                        | -  | 1  | 1  | 1  |
| 5.5460 | 0   | FP-5158747 | Gasket, Heat Exchanger Raw Water Inlet Tube      | -  | 1  | 1  | 1  |
| 5.5460 | 0   | FP-5167764 | Gasket, Heat Exchanger Raw Water Inlet Tube      | -  | -  | -  | 1  |
| 5.5470 | 0   | FP-9139809 | Clamp, Heat Exchanger Raw Water Inlet Tube Hose  | -  | -  | 6  | 6  |
| 5.5470 | 0   | FP-5186841 | Clamp, Heat Exchanger Raw Water Inlet Tube Hose  | -  | -  | -  | 4  |
| 5.5570 | 32  | FP-5158747 | Gasket, Heat Exchanger Raw Water Outlet Tube     | -  | 1  | 1  | 1  |
| 5.5610 | 0   | FP-5156319 | Gasket, Exhaust Manifold Flange & Plate          | 2  | 2  | 2  | 2  |
| 5.5685 | 0   | FP-103320  | Lockwasher, 5/16"                                | -  | 10 | 10 | 10 |

# Raw Water Pump

(Figure 17.1)





# Raw Water Pump

(Figure 17.1)

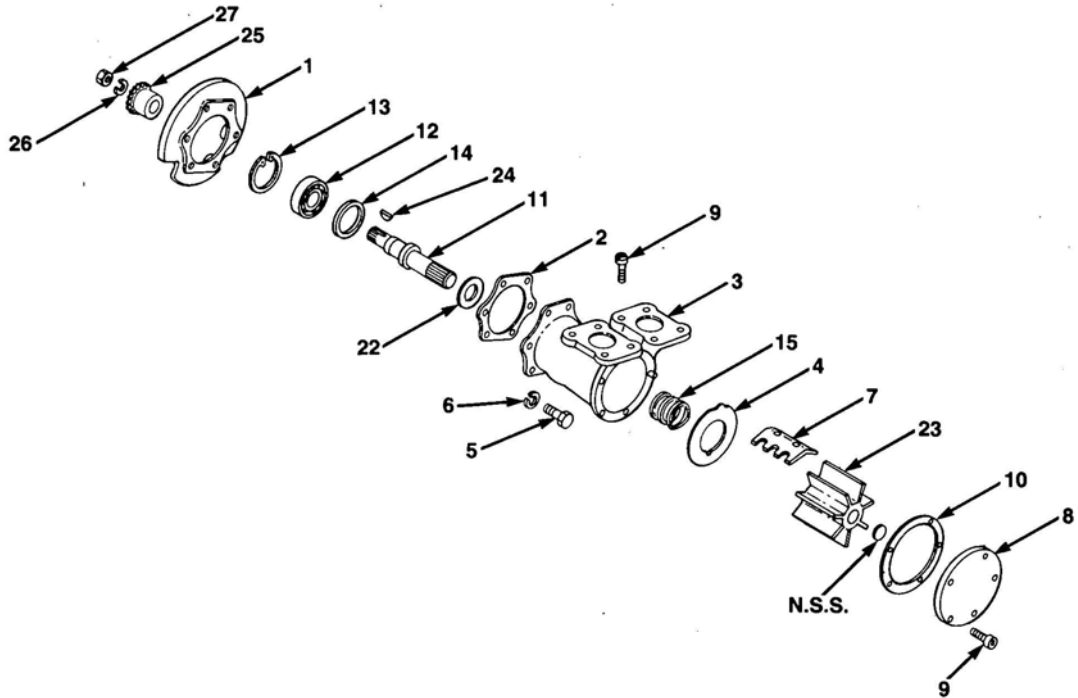
Groups:

5.6001 - 5.6320

| Group  | Ref | Part No.          | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|--|----|----|----|----|
| 5.6001 | 0   | FP-23507971       | Pump Assembly, Raw Water (Option Types: 1,2,3,28, 31,62,69,70,71,72,73,75,76,77,78,80,83), (Old No. 5122599) | -  | 1  | 1  | 1  |
| 5.6001 | 0   | FP-5186250        | Pump Assembly, Raw Water (Option Type 13)  | -  | 1  | 1  | 1  |
| 5.6001 | 0   | FP-23507972       | Pump Assembly, Raw Water (Option Types 49,50,51,82), (Old No. 5115396)                                       | -  | -  | -  | 1  |
| 5.6001 | 0   | FP-5195198        | Seal, Raw Water Pump (1.06" Dia. Spline - JABSCO), (For 23507972 Pump)                                       | -  | -  | -  | 1  |
| 5.6010 | 1   | FP-5193551        | Adapter, Raw Water Pump Body   | -  | 1  | 1  | 1  |
| 5.6020 | 0   | FP-5197597        | Pin, 3/16" x 5/16" Dowel (Wearplate Locating)  | -  | 1  | 1  | 1  |
| 5.6080 | 0   | FP-5161020        | Gasket Set, Raw Water Pump Housing Outer   | -  | 1  | 1  | 1  |
| 5.6200 | 22  | FP-5161026        | Slinger, Raw Water Pump Shaft  | 1  | -  | -  | -  |
| 5.6230 | 0   | FP-5193602        | Impeller (Synthetic), (Option Type 14), (Obsolete Pump)  | -  | 1  | 1  | 1  |
| 5.6220 | 0   | <b>FP-5194860</b> | <b>Impeller &amp; Seal Kit For Pumps FP-5115396, FP-5186250</b>  | -  | 1  | 1  | 1  |
| 5.6230 | 23  | FP-8924838        | Impeller, Raw Water Pump   | -  | 1  | 1  | 1  |
| 5.6170 | 15  | FP-5198419        | Seal Assembly Raw Water Pump Shaft   | -  | 1  | 1  | 1  |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover   | -  | 1  | 1  | 1  |
| 5.6220 | 0   | <b>FP-5196846</b> | <b>Impeller &amp; Seal Kit For Pump FP-5122599, 23507972</b>   | -  | 1  | 1  | 1  |
| 5.6230 | 23  | FP-8924839        | Impeller, Raw Water Pump   | -  | 1  | 1  | 1  |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft  | -  | 1  | 1  | 1  |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover   | -  | 1  | 1  | 1  |
| 5.6025 | 0   | <b>FP-5197222</b> | <b>Reconditioning Kit For Pump FP-5122599, 23507972</b>  | -  | -  | -  | 1  |
| 5.6012 | 0   | FP-23514265       | Seal Ring  | -  | 1  | 1  | 1  |
| 5.6012 | 2   | FP-23501662       | Gasket, Raw Water Pump Body To Adapter   | -  | 1  | 1  | 1  |
| 5.6020 | 4   | FP-5193556        | Plate, Wear  | -  | 1  | 1  | 1  |
| 5.6025 | 9   | FP-114366         | Screw, 1/4" - 20 x 1/2" Raw Water Pump Cam (Brass)   | -  | 1  | 1  | 1  |
| 5.6035 | 7   | FP-5196167        | Cam, Raw Water Pump Body Offset  | -  | 1  | 1  | 1  |
| 5.6090 | 8   | FP-5193555        | Cover, Raw Water Pump (End)  | -  | 1  | 1  | 1  |
| 5.6090 | 9   | FP-23504236       | Screw, 1/4" - 20 x 1/2" Raw Water Pump Cover (Stainless)   | -  | 5  | 5  | 5  |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover   | -  | 1  | 1  | 1  |
| 5.6120 | 11  | FP-5196169        | Shaft, Raw Water Pump  | -  | 1  | 1  | 1  |
| 5.6130 | 12  | FP-23505479       | Bearing, Raw Water Pump  | -  | 1  | 1  | 1  |
| 5.6140 | 13  | FP-5196171        | Ring, Raw Water Pump Bearing Retainer  | -  | 1  | 1  | 1  |
| 5.6160 | 14  | FP-5195101        | Seal, Raw Water Pump Bearing   | -  | 1  | 1  | 1  |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft  | -  | 1  | 1  | 1  |
| 5.6200 | 22  | FP-5193676        | Slinger, Raw Water Pump Shaft  | -  | 1  | 1  | 1  |
| 5.6230 | 23  | FP-8924839        | Impeller, Raw Water Pump   | -  | 1  | 1  | 1  |
| 5.6320 | 24  | FP-103462         | Key, Woodruff Raw Water Pump Shaft   | -  | 1  | 1  | 1  |

# Raw Water Pump

(Figure 17.2)





# Raw Water Pump

(Figure 17.2)

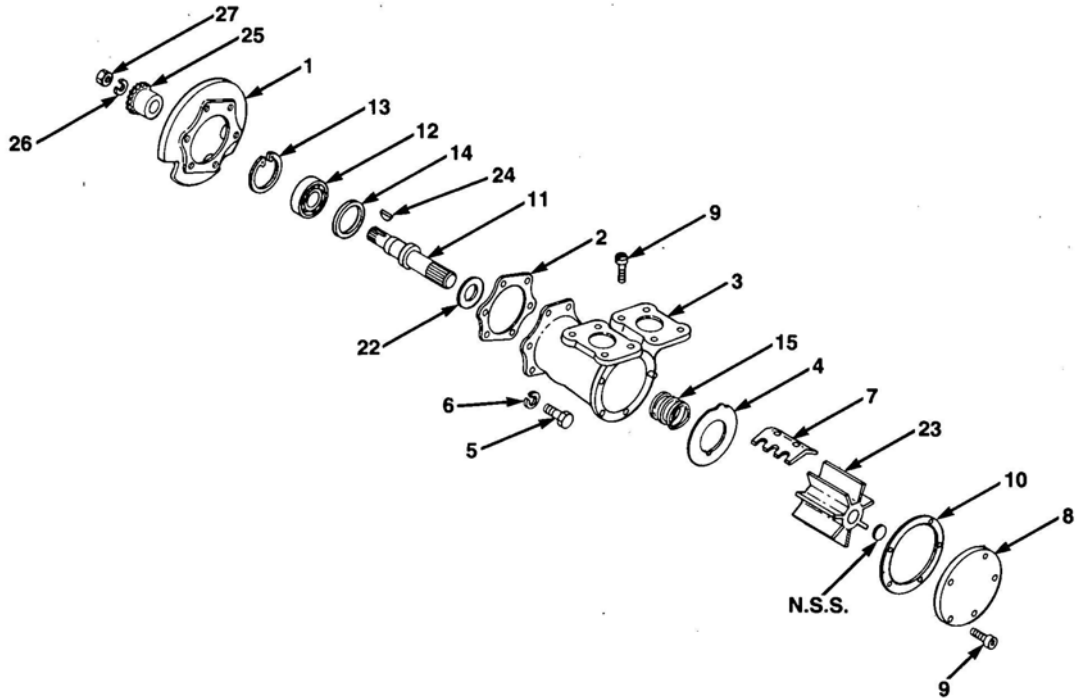
Groups:

5.6012 - 6.6025

| Group  | Ref | Part No.          | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------------|--|----|----|----|----|
| 5.6025 | 0   | <b>FP-5197223</b> | <b>Reconditioning Kit (For Pumps FP-5115800, FP-5115396, FP-5187140)</b> | -  | 1  | 1  | 1  |
| 5.6090 | 8   | FP-5193555        | Cover, Raw Water Pump (End)  | -  | 1  | 1  | 1  |
| 5.6090 | 9   | FP-23504236       | Screw, 1/4" - 20 x 1/2" Raw Water Pump Cover (Stainless)                 | -  | 5  | 5  | 5  |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover   | -  | 1  | 1  | 1  |
| 5.6120 | 11  | FP-5193552        | Shaft, Raw Water Pump  | -  | 1  | 1  | 1  |
| 5.6130 | 12  | FP-23504426       | Bearing, Raw Water Pump  | -  | 1  | 1  | 1  |
| 5.6140 | 13  | FP-9415285        | Ring, Raw Water Pump Bearing Retainer (Large)                            | -  | 1  | 1  | 1  |
| 5.6140 | 13  | FP-5193569        | Ring, Raw Water Pump Bearing Retainer (Small)                            | -  | 1  | 1  | 1  |
| 5.6160 | 14  | FP-5195101        | Seal, Raw Water Pump Bearing   | -  | 1  | 1  | 1  |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                                      | -  | 1  | 1  | 1  |
| 5.6200 | 22  | FP-5193676        | Slinger, Raw Water Pump Shaft  | -  | 1  | 1  | 1  |
| 5.6230 | 23  | FP-8924838        | Impeller, Raw Water Pump   | -  | 1  | 1  | 1  |
| 5.6320 | 24  | FP-5161024        | Key, Woodruff Raw Water Pump Shaft                                       | -  | 1  | 1  | 1  |
| 5.6012 | 2   | FP-23501662       | Gasket, Raw Water Pump Body To Adapter                                   | -  | 1  | 1  | 1  |
| 5.6020 | 4   | FP-5193556        | Plate, Wear  | -  | 1  | 1  | 1  |
| 6.6025 | 0   | FP-23514265       | Seal Ring,   | -  | 1  | 1  | 1  |
| 5.6025 | 0   | FP-5193684        | Seal, Raw Water Pump (Outboard)  | -  | 1  | 1  | 1  |
| 5.6035 | 9   | FP-114366         | Screw, 1/4" - 20 x 1/2" Raw Water Pump Cam (Brass)                       | -  | 1  | 1  | 1  |
| 5.6035 | 7   | FP-5193554        | Cam, Raw Water Pump Body Offset  | -  | 1  | 1  | 1  |
| 5.6025 | 0   | <b>FP-5197224</b> | <b>Reconditioning Kit For Pump FP-5186250</b>                            | -  | 1  | 1  | 1  |
| 5.6012 | 2   | FP-23501662       | Gasket, Raw Water Pump Body To Adapter                                   | -  | 1  | 1  | 1  |
| 5.6020 | 4   | FP-5193556        | Plate, Wear  | -  | 1  | 1  | 1  |
| 5.6025 | 9   | FP-114366         | Screw, 1/4" - 20 x 1/2" Raw Water Pump Cam (Brass)                       | -  | 1  | 1  | 1  |
| 6.6025 | 9   | FP-23504236       | Screw, 1/4" - 20 x 1/2" Raw Water Pump Cover (Stainless)                 | -  | 5  | 5  | 5  |
| 5.6025 | 0   | FP-23514265       | Seal Ring,   | -  | 1  | 1  | 1  |
| 5.6035 | 7   | FP-5193554        | Cam, Raw Water Pump Body   | -  | 1  | 1  | 1  |
| 5.6090 | 8   | FP-5193555        | Cover, Raw Water Pump (End)  | -  | 1  | 1  | 1  |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover   | -  | 1  | 1  | 1  |
| 5.6120 | 11  | FP-5193552        | Shaft, Raw Water Pump  | -  | 1  | 1  | 1  |
| 5.6130 | 12  | FP-23504426       | Bearing, Raw Water Pump  | -  | 1  | 1  | 1  |
| 5.6140 | 13  | FP-5193569        | Ring, Raw Water Pump Bearing Retainer (Small)                            | -  | 1  | 1  | 1  |
| 5.6140 | 13  | FP-9415285        | Ring, Raw Water Pump Bearing Retainer                                    | -  | 1  | 1  | 1  |
| 5.6160 | 14  | FP-5195101        | Seal, Raw Water Pump Bearing   | -  | 1  | 1  | 1  |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                                      | -  | 1  | 1  | 1  |
| 5.6200 | 22  | FP-5193676        | Slinger, Raw Water Pump Shaft  | -  | 1  | 1  | 1  |
| 5.6230 | 23  | FP-8924838        | Impeller, Raw Water Pump   | -  | 1  | 1  | 1  |
| 5.6320 | 24  | FP-5161024        | Key, Woodruff, Raw Water Pump Shaft                                      | -  | 1  | 1  | 1  |

# Raw Water Pump

(Figure 17.3)







# Raw Water Pump

(Figure 17.3)

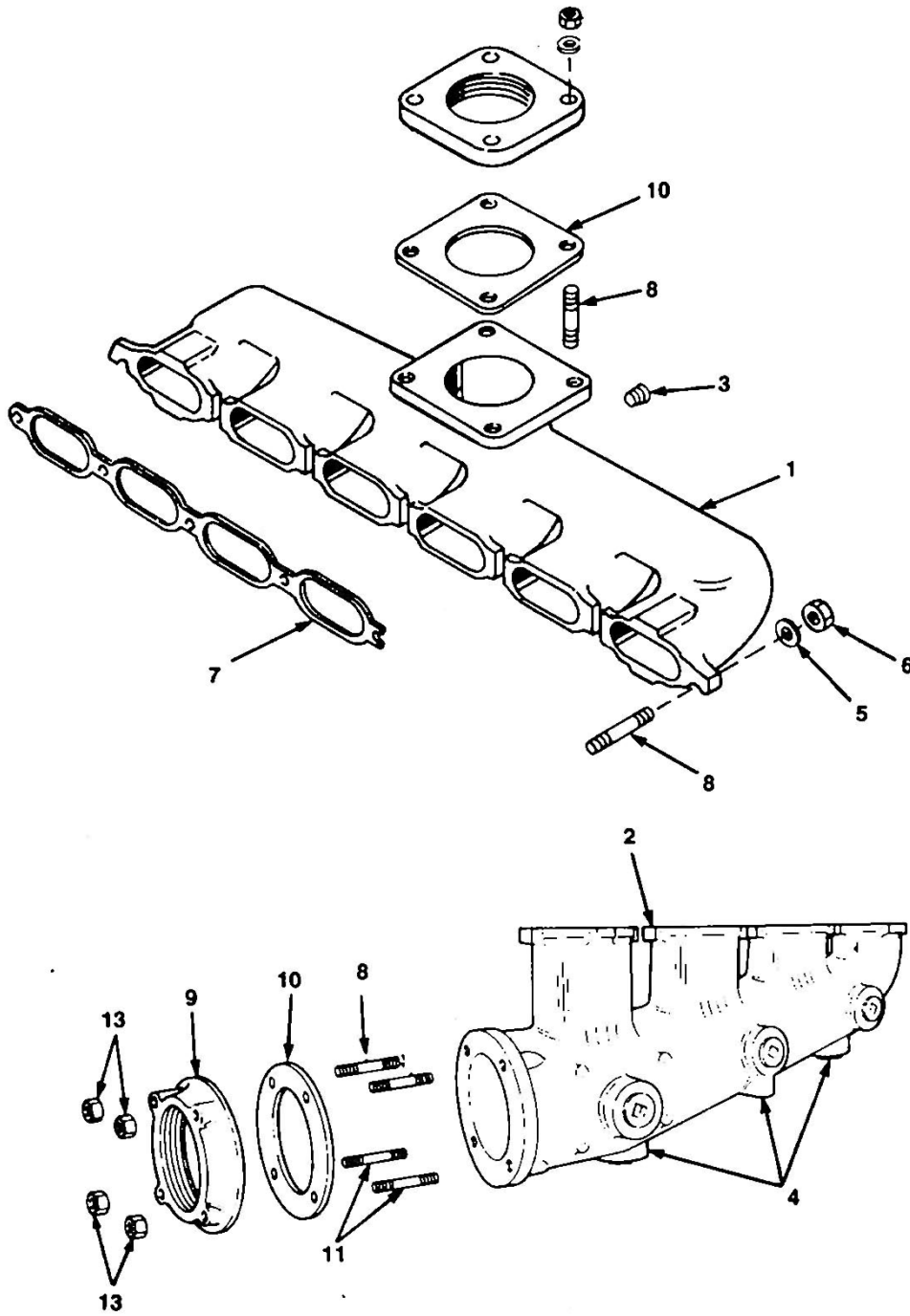
Groups:

5.6320 - 5.6587

| Group  | Ref | Part No.    | Description                                    | 2l | 3l | 4l | 6l |
|--------|-----|-------------|--|----|----|----|----|
| 5.6320 | 26  | FP-103325   | Lockwasher, 5/8"                               | 1  | 1  | 1  | 1  |
| 5.6320 | 25  | FP-5193576  | Gear, Raw Water Pump Drive                     | 1  | 1  | 1  | 1  |
| 5.6350 | 0   | FP-23515145 | Gasket, Raw Water Pump                         | -  | 1  | 1  | 1  |
| 5.6350 | 0   | FP-5150057  | Gasket, Raw Water Pump                         | -  | 1  | 1  | 1  |
| 5.6410 | 0   | FP-5145092  | Bolt, 3/8" - 24 x 1.20"                        | -  | 4  | 4  | 4  |
| 5.6410 | 0   | FP-5170450  | Plate, Raw Water Pump Drive (21 Teeth)         | -  | 1  | 1  | 1  |
| 5.6574 | 0   | FP-5115395  | Gasket, Raw Water Pump Inlet Elbow             | -  | 1  | 1  | 1  |
| 5.6574 | 0   | FP-5158741  | Gasket, Raw Water Pump Inlet Elbow             | -  | -  | -  | 1  |
| 5.6575 | 0   | FP-8517479  | Electrode Assembly, Raw Water Pump (2 1/8" L.) | -  | -  | -  | 1  |
| 5.6581 | 0   | FP-5115395  | Gasket, Raw Water Pump Outlet Tube             | -  | 1  | 1  | 1  |
| 5.6581 | 0   | FP-5158741  | Gasket, Raw Water Pump Outlet Tube             | -  | -  | -  | 1  |
| 5.6586 | 0   | FP-5186841  | Clamp, Heat Exchanger Raw Water Inlet Tube     | -  | 4  | 4  | 4  |
| 5.6587 | 0   | FP-5158747  | Gasket, Heat Exchanger Inlet Tube              | -  | 1  | 1  | 1  |

# Exhaust Manifold

(Figure 18.1)





# Exhaust Manifold

(Figure 18.1)

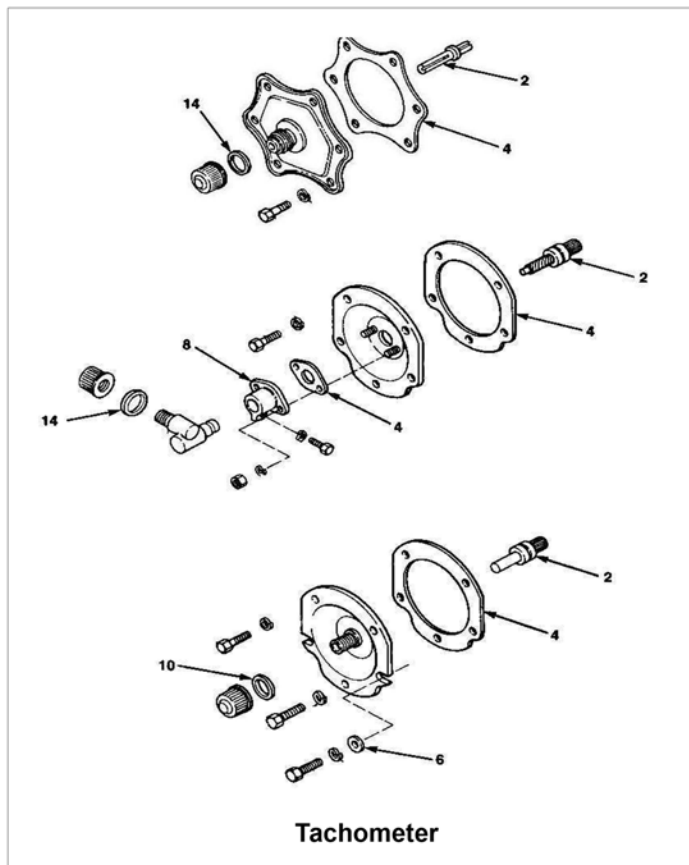
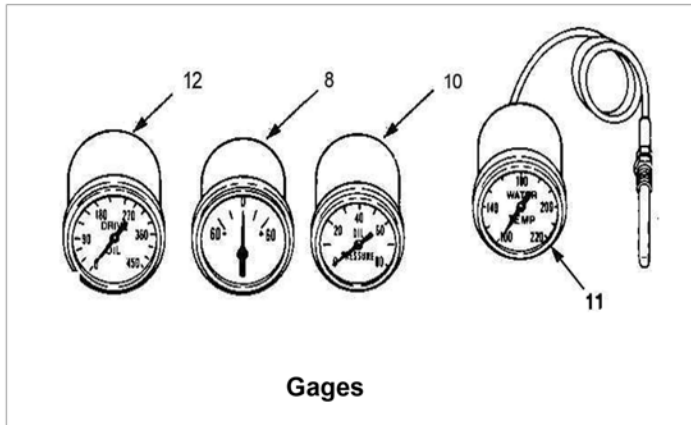
Groups:

6.1001 - 6.2105

| Group  | Ref | Part No.    | Description  | 2l | 3l | 4l | 6l |
|--------|-----|-------------|--|----|----|----|----|
| 6.1001 | 0   | FP-5115214  | Plug, 1/2" Pipe  | 1  | -  | -  | 1  |
| 6.1001 | 6   | FP-23505398 | Nut, 7/16" - 20 Lock                                     | -  | 4  | 5  | 7  |
| 6.1001 | 5   | FP-5104439  | Washer, 7/16" x 1 1/4"                                   | -  | 4  | 5  | 7  |
| 6.1001 | 2   | FP-8921706  | Manifold Assembly, Exhaust (Water Cooled)                | -  | -  | 1  | -  |
| 6.1001 | 0   | FP-5137618  | Clamp, Exhaust Manifold                                  | -  | -  | -  | 1  |
| 6.1001 | 2   | FP-8921704  | Manifold Assembly, Exhaust (Water Cooled)                | -  | -  | -  | 1  |
| 6.1010 | 7   | FP-5154210  | Gasket, Exhaust Manifold                                 | 1  | -  | -  | -  |
| 6.1010 | 7   | FP-5150194  | Gasket, Exhaust Manifold                                 | -  | 1  | -  | -  |
| 6.1010 | 7   | FP-5120224  | Gasket, Exhaust Manifold (Ends)                          | -  | -  | 2  | 2  |
| 6.1010 | 7   | FP-5150195  | Gasket, Exhaust Manifold (Ends)                          | -  | -  | 2  | 2  |
| 6.1010 | 7   | FP-5113954  | Gasket, Exhaust Manifold                                 | -  | -  | 1  | -  |
| 6.1010 | 7   | FP-5120223  | Gasket, Exhaust Manifold (Diameter)                      | -  | -  | 1  | 1  |
| 6.1010 | 7   | FP-5150196  | Gasket, Exhaust Manifold (Diameter)                      | -  | -  | -  | 1  |
| 6.1020 | 8   | FP-8927270  | Stud, Exhaust Manifold to Head (3/8" - 16/24 x 1 11/16") | 6  | 4  | 4  | 4  |
| 6.1020 | 8   | FP-8925804  | Stud, Exhaust Manifold to Head (7/16" - 14/20 x 2 3/32") | -  | 4  | 5  | 7  |
| 6.1100 | 0   | FP-103320   | Lockwasher, 5/16"  | 1  | 4  | 4  | 4  |
| 6.1100 | 0   | FP-5156319  | Gasket, Exhaust Manifold Cover Plate                     | 1  | 4  | 4  | 4  |
| 6.1100 | 0   | FP-5113412  | Gasket, Exhaust Manifold Cover Plate                     | -  | -  | -  | 1  |
| 6.1130 | 0   | FP-8925325  | Bushing Pipe, Exhaust Manifold (3/8" PTF - 1/4" Zinc)    | AR | AR | AR | AR |
| 6.1150 | 0   | FP-5156319  | Gasket, Exhaust Manifold Water Outlet Flange             | -  | 1  | 1  | 1  |
| 6.2085 | 9   | FP-5164146  | Flange, Exhaust (4" P.T., 4 3/8" B.C.)                   | -  | 1  | 1  | 1  |
| 6.2085 | 0   | FP-103321   | Lockwasher, 3/8"   | -  | -  | 4  | 4  |
| 6.2085 | 0   | FP-5132650  | Clamp, Exhaust Flange (5.25" Diameter)                   | -  | -  | 1  | 1  |
| 6.2105 | 10  | FP-3221863  | Gasket, Exhaust Outlet                                   | -  | 3  | 3  | -  |
| 6.2105 | 10  | FP-5108377  | Gasket, Exhaust Outlet                                   | -  | 1  | 1  | 1  |
| 6.2105 | 10  | FP-5163811  | Gasket, Exhaust Outlet                                   | -  | 1  | 1  | 1  |
| 6.2105 | 10  | FP-5166486  | Gasket, Exhaust Outlet (4 3/8" B.C.)                     | -  | 1  | 1  | -  |
| 6.2105 | 10  | FP-5145238  | Gasket, Exhaust Outlet                                   | -  | -  | 1  | -  |
| 6.2105 | 10  | FP-5108989  | Gasket, Exhaust Outlet                                   | -  | -  | -  | 3  |

# Instruments

(Figure 19.1)





# Instruments

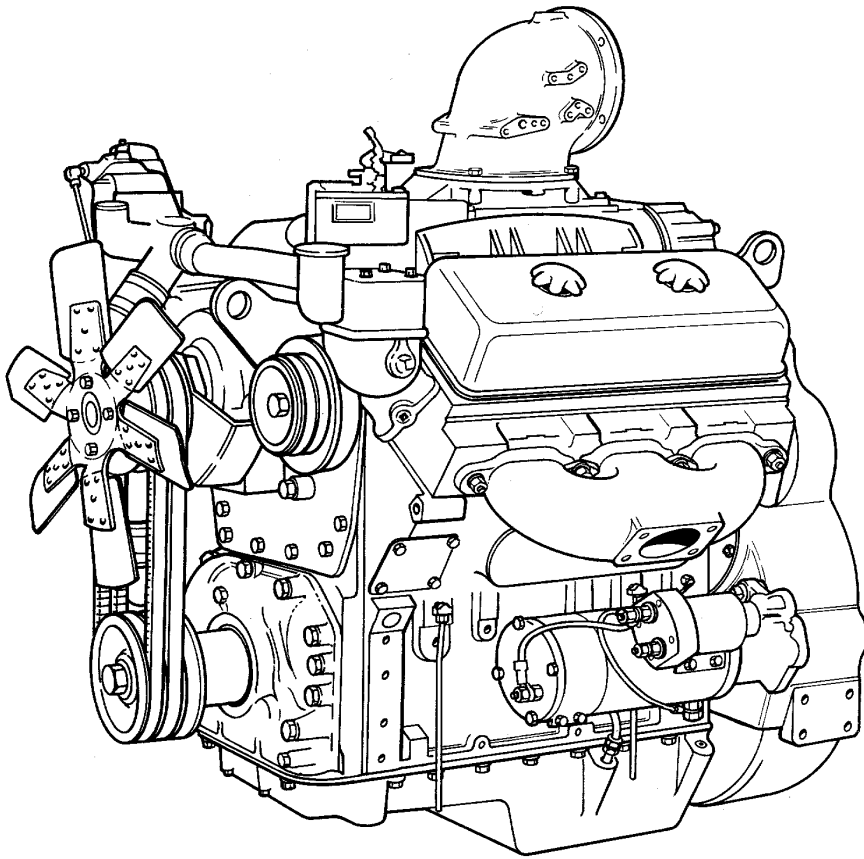
(Figure 19.1)

Groups:

7.1589 - 12.4005

| Group                      | Ref | Part No.    | Description  | 2I | 3I | 4I | 6I |
|----------------------------|-----|-------------|--|----|----|----|----|
| 7.1589                     | 0   | FP-5150057  | Gasket, Flange Mounted Alternator Adapter                    | 1  | 1  | 1  | 1  |
| 7.1597                     | 0   | FP-5122266  | Gasket, Generator Mounting Bracket                           | 1  | 1  | 1  | 1  |
| 7.3001                     | 0   | FP-9418228  | Bolt, Starter Motor Mounting (5/8" - 11 x 1 3/4" - 12 Point) | 2  | 2  | 2  | 2  |
| 7.4015                     | 8   | FP-6474479  | Ammeter ( 60 Amp)  | 1  | 1  | 1  | 1  |
| 7.4071                     | 10  | FP-6462554  | Gage, Oil Pressure 400 PSI                                   | 1  | 1  | 1  | 1  |
| 7.4077                     | 12  | FP-6490569  | Gage, Oil Temperature (4' Capillary)                         | 1  | 1  | 1  | 1  |
| 7.4080                     | 11  | FP-6490565  | Gage, Water Temperature (10' Capillary)                      | 1  | 1  | 1  | 1  |
| 7.4080                     | 11  | FP-8993092  | Gage, Water Temperature ( 4' Capillary)                      | 1  | 1  | 1  | 1  |
| 7.4080                     | 11  | FP-8993093  | Gage, Water Temperature ( 6' Capillary)                      | 1  | 1  | 1  | 1  |
| 7.4080                     | 11  | FP-8993253  | Gage, Water Temperature (15' Capillary)                      | 1  | 1  | 1  | 1  |
| 7.4435                     | 2   | FP-3224992  | Shaft, Tachometer Drive (.061" Key)                          | -  | 1  | 1  | 1  |
| 7.4435                     | 2   | FP-5135936  | Shaft, Tachometer Drive                                      | -  | 1  | 1  | 1  |
| 7.4445                     | 6   | FP-5150568  | Washer, 7/16" Copper   | 1  | 1  | 1  | 1  |
| 7.4445                     | 4   | FP-23515145 | Gasket, Tachometer Drive Cover Assembly,                     | -  | 1  | 1  | 1  |
| 7.4445                     | 4   | FP-5104507  | Gasket, Tachometer Drive Cover Assembly                      | -  | 1  | 1  | 1  |
| 7.4445                     | 5   | FP-8927580  | Bolt, 3/8" - 16 x 7/8"                                       | -  | -  | 2  | 2  |
| 7.4450                     | 0   | FP-3202615  | Seal, Tachometer Drive Cover                                 | -  | 2  | 2  | 2  |
| 7.4455                     | 4   | FP-5135935  | Gasket, Tachometer Drive Cover Adapter                       | 1  | 1  | 1  | 1  |
| 7.4455                     | 4   | FP-5104507  | Gasket, Tachometer Drive Cover Adapter                       | -  | 1  | 1  | 1  |
| 7.4455                     | 4   | FP-23515145 | Gasket, Tachometer Drive Cover Adapter                       | -  | -  | -  | 1  |
| 7.4457                     | 0   | FP-103320   | Lockwasher, 5/16"  | 2  | 2  | 2  | 2  |
| 7.4457                     | 0   | FP-103319   | Lockwasher, 1/4"   | 1  | 1  | 1  | 1  |
| 7.4457                     | 14  | FP-5107931  | Gasket, Tachometer Drive Cover Cap                           | 1  | 1  | 1  | 1  |
| 7.4457                     | 0   | FP-8924380  | Plug, 1/8" Pipe  | -  | -  | -  | 1  |
| 7.4458                     | 0   | FP-5135820  | Seal, Tachometer Drive Adapter                               | -  | 1  | 1  | 1  |
| 7.4505                     | 0   | FP-5146080  | Switch, Water Temperature                                    | AR | AR | AR | AR |
| 7.4505                     | 0   | FP-103320   | Lockwasher, 5/16"  | 2  | 2  | 2  | 2  |
| 7.4505                     | 0   | FP-5163830  | Gasket, Water Temperature Switch                             | 1  | 1  | 1  | 1  |
| 7.4505                     | 0   | FP-5179913  | Switch, Water Temperature (Option Type 90,140,224,547)       | 1  | -  | 1  | -  |
| 7.4505                     | 0   | FP-5186948  | Switch, Water Temperature (Option Type 237,314)              | -  | 1  | -  | -  |
| 7.4505                     | 0   | FP-5121665  | Switch, Water Temperature (Option Type 436,711,830)          | -  | -  | 1  | 1  |
| 7.4509                     | 0   | FP-5166486  | Gasket, Manifold Flange                                      | 2  | 2  | 2  | 2  |
| 7.4509                     | 0   | FP-8923847  | Plug, 1/4" Pipe  | 2  | 2  | 2  | 2  |
| 7.4509                     | 0   | FP-5121182  | Plug, 1/4" Pipe  | 1  | 1  | 1  | 1  |
| 7.4510                     | 0   | FP-5113412  | Gasket, Water Temperature Switch                             | 1  | 1  | 1  | 1  |
| 7.4519                     | 0   | FP-103319   | Lockwasher, 1/4"   | 4  | 4  | 4  | 4  |
| 7.4519                     | 0   | FP-179803   | Bolt, 1/4" - 20 x 1 3/4"                                     | 1  | 1  | 1  | 1  |
| 7.4519                     | 0   | FP-23504196 | Solenoid, Air Shut Off (12V)                                 | 1  | 1  | 1  | 1  |
| 7.4519                     | 0   | FP-443603   | Bolt, 1/4" - 20 x 3/4"                                       | 1  | 1  | 1  | 1  |
| 7.4593                     | 0   | FP-5118527  | Switch, Oil Temperature (7.4586)                             | 1  | 1  | 1  | 1  |
| 7.4598                     | 0   | FP-23520023 | Switch, Oil Pressure (# 5 Break)                             | 1  | 1  | 1  | 1  |
| 7.4598                     | 0   | FP-23520024 | Switch, Oil Pressure (# 10 Break)                            | 1  | 1  | 1  | 1  |
| 7.4598                     | 0   | FP-23520025 | Switch, Oil Pressure (# 20 Make)                             | 1  | 1  | 1  | 1  |
| 7.4598                     | 0   | FP-23520026 | Switch, Oil Pressure (# 27 Make / Break)                     | 1  | 1  | 1  | 1  |
| <b>Miscellaneous Parts</b> |     |             |  |    |    |    |    |
| 8.3820                     | 0   | FP-5140881  | Gasket, Converter Tank To Pump Tube                          | AR | AR | AR | AR |
| 9.1001                     | 0   | FP-23010125 | Plate, Hydraulic Gear Assy (Marine)                          | AR | AR | AR | AR |
| 9.1001                     | 0   | FP-6700157  | Seal, Hydraulic Marine Gear Assy                             | AR | AR | AR | AR |
| 9.1235                     | 0   | FP-5101603  | Plate Assy, Forward Clutch - 14", 510HP                      | -  | -  | AR | AR |
| 9.1580                     | 0   | FP-5112401  | Gasket, Hydraulic Pump Oil Inlet Tube                        | -  | 2  | 2  | 2  |
| 12.4005                    | 0   | FP-5131939  | Gasket, Air Compressor Mounting                              | AR | AR | AR | AR |

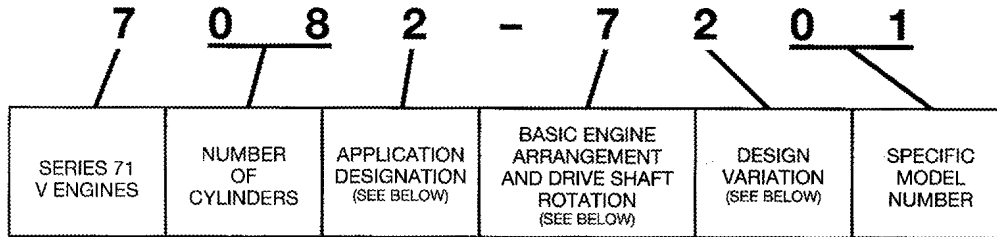
## 71V SERIES ENGINE



# 71V SERIES ENGINE

## Model Description Chart

### Application, Rotation Design Variations



#### APPLICATION DESIGNATION:

7082 - 7200 MARINE  
7083 - 7200 INDUSTRIAL F-F  
7084 - 7200 POWER-BASE  
7085 - 7200 GENERATOR  
7087 - 7200 AUTOMOTIVE F-F  
7088 - 7200 SPECIAL

#### DESIGN VARIATION:

7082 - 7000 V-71 "N" ENGINE  
7082 - 7100 2 VALVE HEAD  
7082 - 7200 4 VALVE HEAD  
7082 - 7300 TURBOCHARGER  
7082 - 7400 TURBOCHARGER  
AFTERCOOLED  
7082 - 7500 CUSTOMER SPEC.  
7087 - 7800 CONSTANT HORSEPOWER  
ECONOMY (TAE) (CA CERT.)  
7087 - 7700 CONSTANT HRSEPWR. (TI)  
7087 - 7800 CONSTANT HRSEPWR. (TTA)  
(CALIFORNIA CERTIFIED)  
7087 - 7900 CONSTANT HRSEPWR. ECON.  
(TTAE) (CALIF. CERTIFIED)

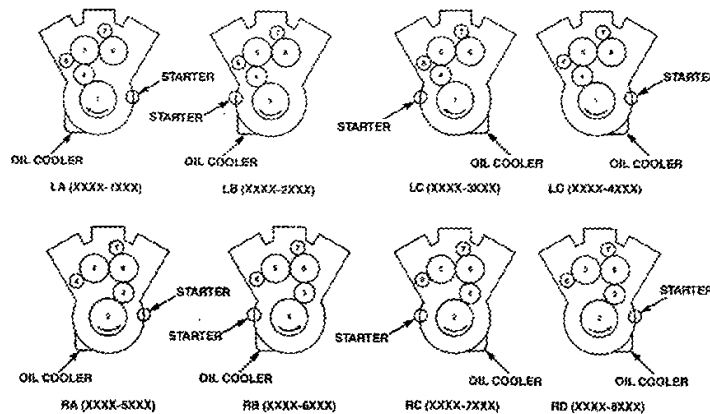
#### DRIVESHAFT ROTATION:

7242 - 0200 LEFT-HAND  
7242 - 9200 RIGHT-HAND  
Driveshaft rotation: shaft rotation  
on multiple units is determined  
from the rear of the unit.

### Basic Engine Arrangements

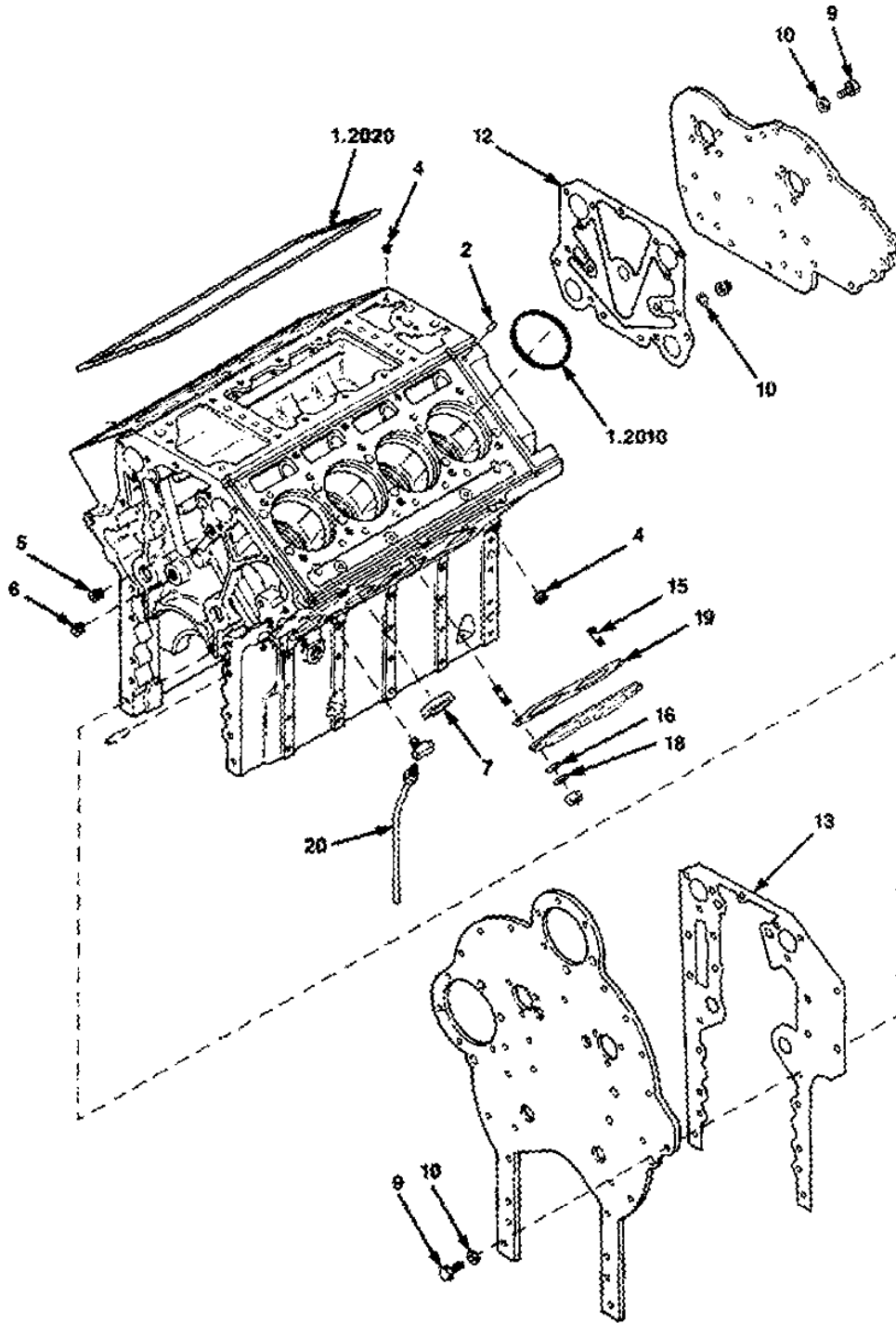
Rotation: L (left) and R (right) designates rotation viewed from the front of the engine (not flywheel end).  
Type: A - B - C - D designates location of starter and oil cooler as viewed from the rear (flywheel) end.  
Cylinder Bank: left and right cylinder banks are determined from rear of engine (flywheel end).

#### ALL BELOW VIEWS FROM REAR OF ENGINE



# Cylinder Block

(Figure 1.1)







# Cylinder Block

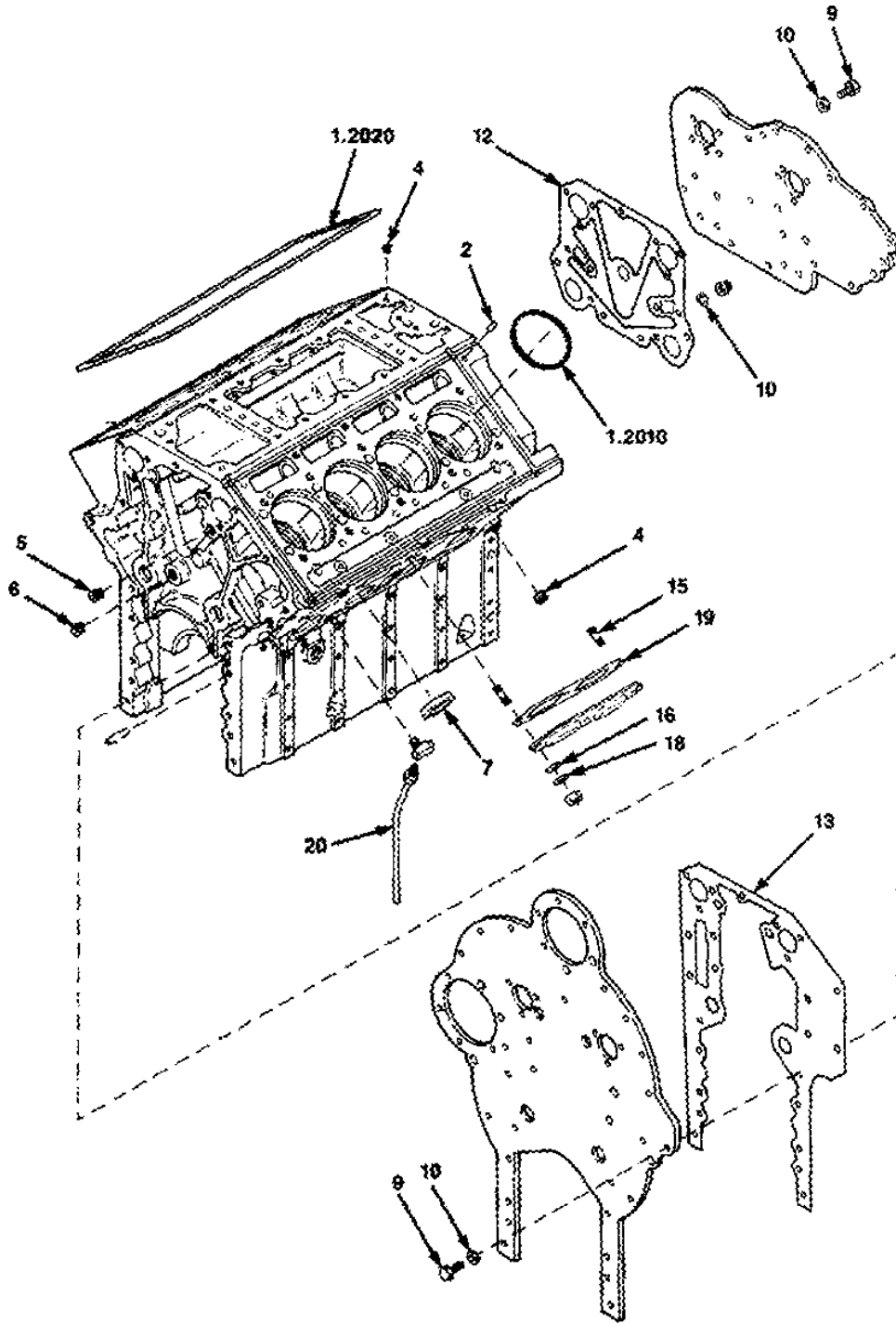
(Figure 1.1)

Groups:  
1.1001 - 1.1060

| Group  | Ref | Part No.      | Description   | 6V | 8V | 12V | 16V |
|--------|-----|---------------|---|----|----|-----|-----|
| 1.1001 | 0   | FP-5133981    | Washer, Main Bearing Bolt                           | 8  | 10 | 14  | 20  |
| 1.1001 | 5   | FP-5115214    | Plug, 3/4" Pipe                                     | 6  | 6  | 12  | 12  |
| 1.1001 | 2   | FP-141346     | Pin, 3/16" X 1/2"                                   | 4  | 4  | 4   | -   |
| 1.1001 | 6   | FP-5142549    | Plug, 1/2" Pipe                                     | 3  | 4  | 8   | 6   |
| 1.1001 | 0   | FP-5138659    | Gasket, Cylinder Block Plug                         | 3  | 2  | 4   | 4   |
| 1.1001 | 0   | FP-8923847    | Plug, 1/4" Pipe                                     | 3  | 2  | -   | -   |
| 1.1001 | 0   | FP-5101033    | Plug, 2 1/2" Cup (Special), (Aftercooler Plug)      | 2  | 2  | 4   | 4   |
| 1.1001 | 0   | FP-5130750    | Pad, Breather                                       | 2  | 2  | 2   | 4   |
| 1.1001 | 7   | FP-5132410    | Plug, 1 5/8" Cup (Stainless Steel)                  | 2  | 2  | 2   | 4   |
| 1.1001 | 0   | FP-8924380    | Plug, 1/8" - 27 Pipe                                | 2  | 2  | 4   | 18  |
| 1.1001 | 4   | FP-5121182    | Plug, 1/4" Pipe                                     | -  | -  | 2   | 10  |
| 1.1002 | 0   | FP-5196376    | Gasket Kit, Supplement (Marine)                     | 1  | 1  | -   | -   |
| 1.1002 | 0   | FP-23512677   | Gasket Kit, Engine Overhaul (Coach)                 | 1  | -  | -   | -   |
| 1.1002 | 0   | FP-23512678   | Gasket Kit, Engine Overhaul                         | 1  | -  | -   | -   |
| 1.1002 | 0   | FP-23512678WS | Gasket Kit, Engine Overhaul (w/Seals)               | 1  | -  | -   | -   |
| 1.1002 | 0   | FP-23512679   | Gasket Kit, Engine Overhaul (Coach)                 | -  | 1  | -   | -   |
| 1.1002 | 0   | FP-23512680   | Gasket Kit, Engine Overhaul                         | -  | 1  | -   | -   |
| 1.1002 | 0   | FP-23512680WS | Gasket Kit, Engine Overhaul (w/Seals)               | -  | 1  | -   | -   |
| 1.1002 | 0   | FP-23512681   | Gasket Kit, Engine Overhaul                         | -  | -  | 1   | -   |
| 1.1002 | 0   | FP-23512681WS | Gasket Kit, Engine Overhaul (w/Seals)               | -  | -  | 1   | -   |
| 1.1002 | 0   | FP-23512682   | Gasket Kit, Engine Overhaul                         | -  | -  | -   | 1   |
| 1.1002 | 0   | FP-23512682WS | Gasket Kit, Engine Overhaul (w/Seals)               | -  | -  | -   | 1   |
| 1.1002 | 0   | FP-5109346    | Seal Ring, Inter-Block                              | -  | -  | 1   | 1   |
| 1.1002 | 0   | FP-5186579    | Seal Ring   | -  | -  | 2   | 2   |
| 1.1002 | 0   | FP-5196378    | Gasket Kit, Supplement (Marine)                     | -  | -  | 1   | -   |
| 1.1002 | 0   | FP-5196379    | Gasket Kit, Supplement (Industrial)                 | -  | -  | 1   | -   |
| 1.1003 | 0   | FP-5146433    | Seal Ring (.147" x 1.143")                          | AR | AR | AR  | AR  |
| 1.1010 | 10  | FP-103320     | Lockwasher, 3/8"                                    | 5  | 5  | 8   | 8   |
| 1.1010 | 9   | FP-8927581    | Bolt, 3/8" - 16 X 1"                                | 5  | 5  | 8   | 8   |
| 1.1020 | 0   | FP-5152148    | Washer, 3/8" X 9/16" (Copper)                       | 2  | 2  | 2   | 2   |
| 1.1030 | 12  | FP-5121835    | Gasket, Cylinder Block End Plate (Front)            | 1  | 1  | 1   | -   |
| 1.1030 | 12  | FP-5144901    | Gasket, Cylinder Block End Plate (Front)            | 1  | 1  | 1   | -   |
| 1.1032 | 12  | FP-5104507    | Gasket, Cylinder Block End Plate (Small Hole Cover) | 1  | 1  | 1   | 1   |
| 1.1032 | 13  | FP-5102551    | Gasket, Cylinder Block End Plate (Rear)             | -  | -  | -   | 1   |
| 1.1040 | 0   | FP-5155596    | Gasket, 5/16" Copper (Dry Block Only)               | 4  | 8  | 12  | 16  |
| 1.1040 | 0   | FP-8924380    | Plug, 1/8" Pipe (W.B.P.)                            | 2  | 3  | -   | -   |
| 1.1040 | 15  | FP-5152121    | Stud, 5/16" - 18 X 1 1/2"                           | 10 | 14 | 22  | 28  |
| 1.1050 | 19  | FP-5117016    | Gasket, Cylinder Block Hand Hole Cover (Non-Turbo)  | 2  | 4  | 6   | 8   |
| 1.1050 | 19  | FP-8923792    | Gasket, Cylinder Block Hand Hole Cover (Small)      | 2  | 4  | 8   | 4   |
| 1.1050 | 19  | FP-8923791    | Gasket, Cylinder Block Hand Hole Cover (Large)      | 2  | 2  | 4   | -   |
| 1.1050 | 19  | FP-5108401    | Gasket, Cylinder Block Hand Hole Cover (Turbo)      | -  | -  | 6   | 6   |
| 1.1060 | 0   | FP-8927580    | Bolt, 3/8"-16 X 7/8"                                | 4  | 4  | 4   | 4   |
| 1.1060 | 0   | FP-8927581    | Bolt, 3/8"-16 X 1"                                  | 4  | -  | -   | 8   |
| 1.1060 | 0   | FP-5152148    | Washer, 3/8" X 9/16" (Copper)                       | -  | -  | -   | 2   |

# Cylinder Block

(Figure 1.2)





# Cylinder Block

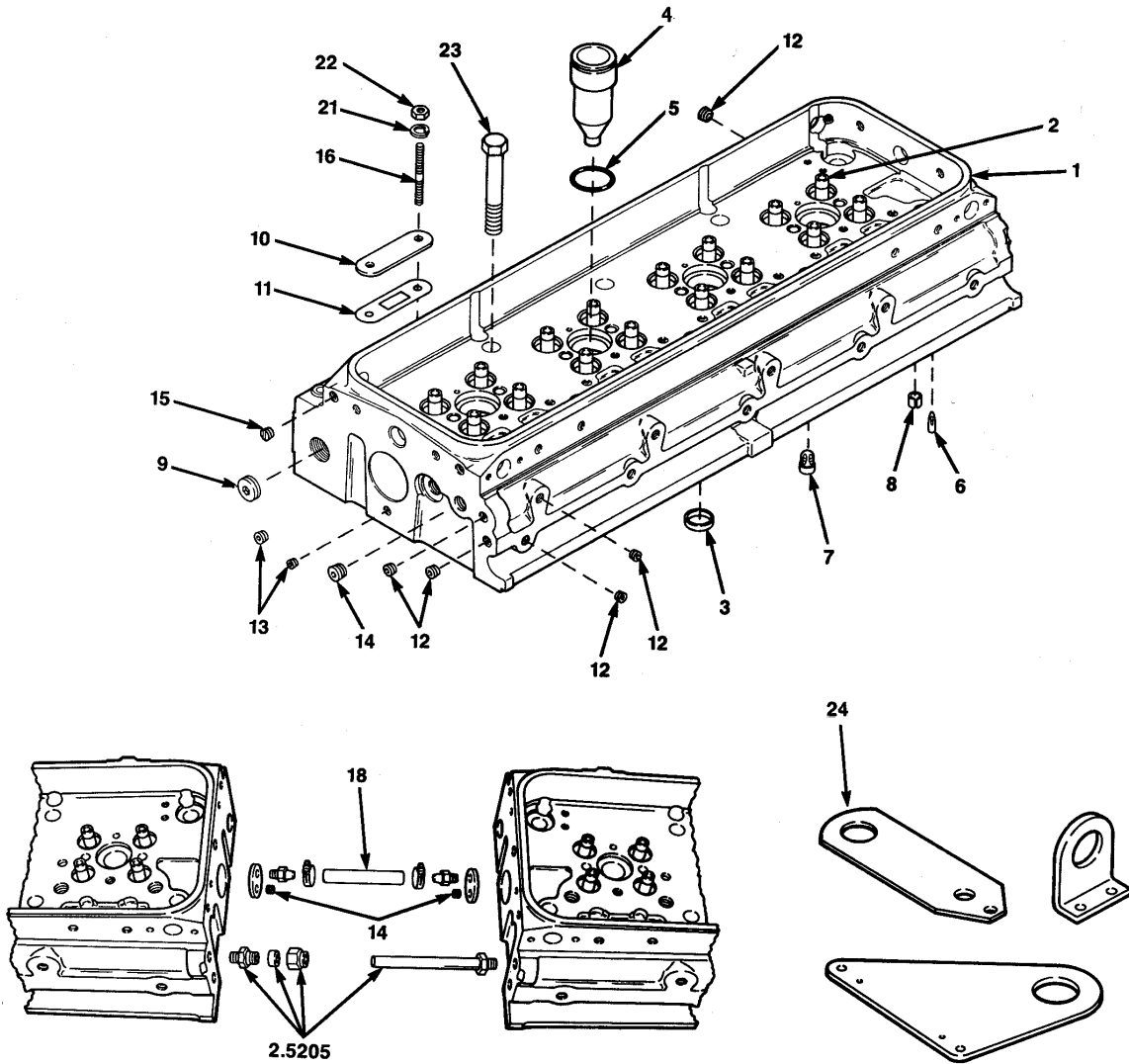
(Figure 1.2)

Groups:  
1.1065 - 1.1100

| Group  | Ref | Part No.   | Description                             | 6V | 8V | 12V | 16V |
|--------|-----|------------|---|----|----|-----|-----|
| 1.1065 | 0   | FP-5117535 | Gasket, Cylinder Block Oil Hole Cover   | -  | -  | -   | 2   |
| 1.1070 | 0   | FP-5117254 | Gasket, Cylinder Block Water Hole Cover | 1  | 1  | 1   | 1   |
| 1.1070 | 0   | FP-5117734 | Gasket, Cylinder Block Water Hole Cover | 1  | 1  | 1   | 1   |
| 1.1070 | 0   | FP-103321  | Lockwasher, 3/8"                        | -  | -  | -   | 4   |
| 1.1100 | 20  | FP-5117907 | Tube, Air Box Drain (10.76"L)           | 1  | 1  | 1   | 1   |
| 1.1100 | 4   | FP-5121182 | Plug, 1/4" Pipe                         | 1  | 1  | 1   | 1   |
| 1.1100 | 20  | FP-5144327 | Tube, Air Box Drain (15.60"L)           | 1  | 1  | 1   | 1   |
| 1.1100 | 20  | FP-5144772 | Tube, Air Box Drain (19.25"L)           | 1  | 1  | 1   | 1   |

# Cylinder Head

(Figure 2.1)





# Cylinder Head

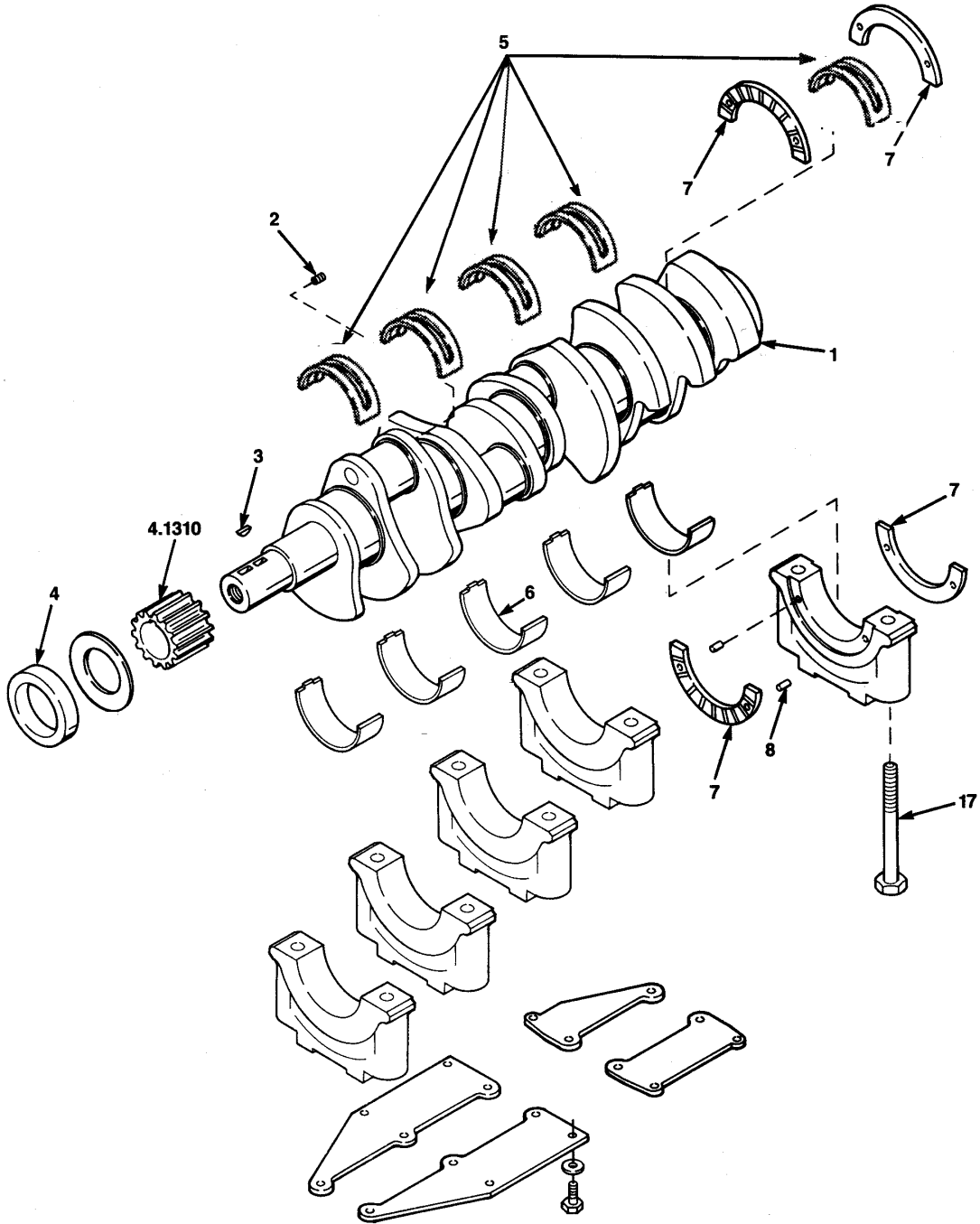
(Figure 2.1)

Groups:  
1.2001 - 1.2090

| Group  | Ref | Part No.    | Description                                       | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 1.2001 | 0   | FP-8924809  | Fuse Plug, 1/8" Pipe, Slotted Head (Early Units)  | AR | AR | AR  | AR  |
| 1.2001 | 0   | FP-5121182  | Plug, 1/4" Pipe                                   | 7  | 9  | 7   | 9   |
| 1.2001 | 22  | FP-103026   | Nut, 3/8" -24                                     | 6  | 8  | 6   | 8   |
| 1.2001 | 21  | FP-103321   | Lockwasher, 3/8"                                  | 6  | 8  | 6   | 8   |
| 1.2001 | 5   | FP-5104701  | Seal Ring, Injector Hole Tube (Viton)             | 6  | 8  | 12  | 16  |
| 1.2001 | 0   | FP-5117564  | Guide, Exhaust Valve Bridge                       | 6  | 8  | 6   | 8   |
| 1.2001 | 0   | FP-5125108  | Washer, Fuel Stand Pipe .443" X .75" X .060"      | 6  | 8  | 6   | 8   |
| 1.2001 | 4   | FP-8925981  | Tube Kit, Injector Hole (w/Seal Ring)             | 6  | 8  | 12  | 16  |
| 1.2001 | 0   | FP-8927270  | Stud, 3/8" -16/24 X 1 11/16" (Water Manifold)     | 6  | 8  | 12  | 16  |
| 1.2001 | 0   | FP-8927580  | Bolt, 3/8" -16 X 7/8"                             | 6  | 8  | 6   | 8   |
| 1.2001 | 13  | FP-5154453  | Plug, 3/8" -16 Headless Special                   | 6  | 6  | 6   | 6   |
| 1.2001 | 7   | FP-5111332  | Nozzle, Water (Dual Outlet)                       | 4  | 6  | 4   | 6   |
| 1.2001 | 16  | FP-8925804  | Stud, 7/16" -14 X 2 3/32" (Exhaust Manifold)      | 4  | 5  | 4   | 5   |
| 1.2001 | 0   | FP-5150132  | Plug, 3/4" Dia. Cup                               | 4  | 4  | 4   | 8   |
| 1.2001 | 15  | FP-5178976  | Plug, 7/16" -14 Special                           | 4  | 4  | 4   | 4   |
| 1.2001 | 11  | FP-23506469 | Gasket, Water Outlet Cover Plate                  | 3  | 4  | 3   | 4   |
| 1.2001 | 10  | FP-5117344  | Plate, Water Outlet Cover                         | 3  | 4  | 3   | 4   |
| 1.2001 | 14  | FP-8924517  | Plug, 3/8" Hex Socket Head                        | 3  | 3  | 3   | 3   |
| 1.2001 | 3   | FP-5101101  | Insert, Exhaust Valve Std.                        | 24 | 32 | 48  | 64  |
| 1.2001 | 2   | FP-5129919  | Guide, Exhaust Valve                              | 24 | 32 | 48  | 64  |
| 1.2001 | 8   | FP-5113773  | Sleeve, Pilot .70" L                              | 2  | 2  | 2   | 2   |
| 1.2001 | 9   | FP-5142549  | Plug, 3/4" Pipe                                   | 2  | 2  | 2   | 2   |
| 1.2001 | 6   | FP-5172874  | Nozzle, Water (Single Outlet)                     | 2  | 2  | 2   | 2   |
| 1.2001 | 12  | FP-8923847  | Plug, 1/4" Hex Socket Head                        | 15 | 17 | 15  | 17  |
| 1.2001 | 0   | FP-5117562  | Washer, Exhaust Valve Spring Seat                 | 12 | 16 | 12  | 16  |
| 1.2001 | 0   | FP-5117186  | Plug, 2" Dia. Cup Stainless                       | 1  | 1  | 1   | 1   |
| 1.2001 | 18  | FP-5127843  | Hose, 3/8" ID X 1.48"                             | -  | -  | -   | 2   |
| 1.2001 | 0   | FP-5152148  | Washer, 3/8" X 9/16" Copper                       | -  | -  | -   | -   |
| 1.2002 | 0   | FP-5196380  | Gasket Set, Cylinder Head (Accommodates One Head) | 2  | -  | -   | -   |
| 1.2002 | 0   | FP-5196381  | Gasket Set, Cylinder Head (Accommodates One Head) | -  | 2  | -   | 4   |
| 1.2002 | 0   | FP-5196382  | Gasket Set, Cylinder Head (Accommodates One Head) | -  | -  | 2   | -   |
| 1.2010 | 0   | FP-5103659  | Gasket, Cylinder Head Compression                 | 6  | 8  | 12  | 16  |
| 1.2020 | 0   | FP-5186579  | Ring, Cylinder Head Oil Seal (Water Seal)         | 8  | 12 | 20  | 24  |
| 1.2020 | 0   | FP-5186577  | Ring, Cylinder Head Oil Seal (End Water Seal)     | 6  | 6  | 6   | 12  |
| 1.2020 | 0   | FP-5119972  | Ring, Cylinder Head Oil Seal (Head To Block)      | 2  | -  | -   | -   |
| 1.2020 | 0   | FP-5119973  | Ring, Cylinder Head Oil Seal (Head To Block)      | -  | 2  | -   | 4   |
| 1.2020 | 0   | FP-5119974  | Ring, Cylinder Head Oil Seal (Head To Block)      | -  | -  | 2   | -   |
| 1.2022 | 0   | FP-5183305  | Gasket, Cylinder Head Water & Oil (Figure 8)      | 2  | 2  | 2   | 4   |
| 1.2030 | 23  | FP-5117003  | Bolt, 5/8" -X 5 3/8" (Cylinder Head)              | 10 | 14 | 22  | 28  |
| 1.2040 | 0   | FP-5150013  | Nut, Cylinder Head Stud (5/8" -18)                | 6  | 6  | 6   | 12  |
| 1.2060 | 0   | FP-5123812  | Gasket, Cylinder Head Governor Hole Cover         | 6  | 6  | 6   | 12  |
| 1.2090 | 0   | FP-5117332  | Gasket, Engine Lifting Bracket                    | 2  | 2  | 2   | -   |
| 1.2090 | 0   | FP-5175882  | Spacer, Engine Lifting Bracket                    | -  | -  | -   | 6   |

# Crankshaft

(Figure 3.1)





# Crankshaft

(Figure 3.1)

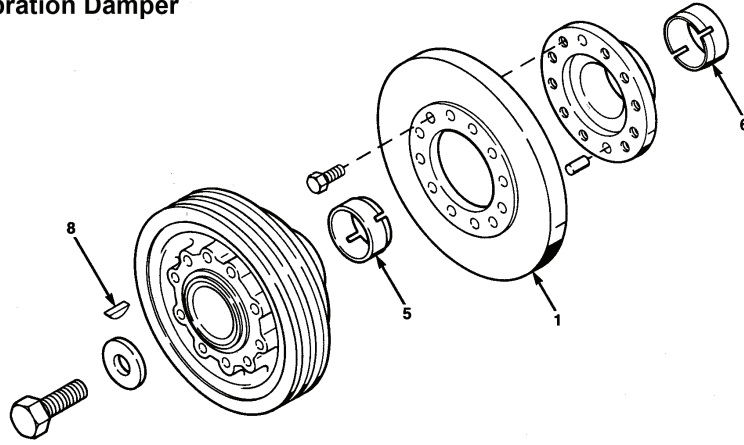
Groups:  
1.3001 - 1.5004

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 1.3001 | 2   | FP-8924380  | Plug, 1/8" Pipe (12.9550)  | 3  | 4  | 6   | 8   |
| 1.3001 | 3   | FP-8928545  | Key, 3/16" x 7/8" (12.9350)  | 2  | 2  | 2   | 2   |
| 1.3001 | 1   | FP-5146733  | Crankshaft Assembly  | 1  | -  | -   | -   |
| 1.3001 | 1   | FP-5103264  | Crankshaft Assembly  | -  | 1  | -   | -   |
| 1.3001 | 1   | FP-23502165 | Crankshaft Assy  | -  | -  | 1   | -   |
| 1.3040 | 4   | FP-5115454  | Seal, Crankshaft Oil (Front), (Single Lip), (Std.)                                 | 1  | 1  | 1   | -   |
| 1.3040 | 4   | FP-8922045  | Seal, Crankshaft Oil (Front), (LH Rotation), (-25 Degree F)                        | 1  | 1  | -   | -   |
| 1.3040 | 4   | FP-5143108  | Seal, Crankshaft Oil (Front), (Submersible)  | -  | 1  | -   | -   |
| 1.3040 | 4   | FP-5114335  | Seal, Crankshaft Oil (Front), (Single Lip), (Std.)                                 | -  | -  | -   | 1   |
| 1.3040 | 4   | FP-5197860  | Seal, Oil (Front), (Single Lip O.S.), (Use w/Front Trunnion Mount)                 | -  | -  | 1   | 1   |
| 1.3055 | 0   | FP-23503766 | Spacer, Crankshaft 2.5" I.D. X 2" (Front)  | 1  | 1  | 1   | 1   |
| 1.3055 | 0   | FP-23503767 | Spacer, Crankshaft 2.5" I.D. X 2.55" (Front)                                       | 1  | 1  | 1   | 1   |
| 1.3055 | 0   | FP-23503769 | Seal, Crankshaft (Front), (Use With Above Spacers)                                 | 1  | 1  | 1   | 1   |
| 1.3055 | 0   | FP-23507306 | Spacer, Crankshaft 2.5" I.D. X 2.81" (Front)                                       | 1  | 1  | 1   | 1   |
| 1.3060 | 0   | FP-23501545 | Seal, Crankshaft Oil (Rear), (Double Lip O.S.), (L/H Engine)                       | 1  | 1  | 1   | 1   |
| 1.3060 | 0   | FP-23501610 | Seal, Crankshaft Oil (Rear), (Double Lip Std.), (L/H Engine)                       | 1  | 1  | 1   | 1   |
| 1.3060 | 0   | FP-5114335  | Seal, Crankshaft Oil (Rear), (Single Lip Std.), (Non Directional)                  | 1  | 1  | 1   | -   |
| 1.3060 | 0   | FP-5127821  | Seal, Crankshaft Oil (Rear), (Double Lip Std.), (Non Directional)                  | 1  | 1  | 1   | -   |
| 1.3060 | 0   | FP-5194462  | Seal, Crankshaft Oil (Rear), (Single Lip O.S.), (L/H Engine)                       | 1  | 1  | 1   | 1   |
| 1.3060 | 0   | FP-5196927  | Seal, Crankshaft Oil (Rear), (Double Lip O.S.), (Non Directional)                  | 1  | 1  | 1   | -   |
| 1.3060 | 0   | FP-5197860  | Seal, Crankshaft Oil (Rear), (Single Lip O.S.), (Non Directional)                  | 1  | 1  | 1   | -   |
| 1.3060 | 0   | FP-8926761  | Seal, Crankshaft Oil (Rear), (Single Lip Std.), (R/H Engine)                       | 1  | 1  | 1   | 1   |
| 1.3060 | 0   | FP-8926762  | Seal, Crankshaft Oil (Rear), (Single Lip Std.), (L/H Engine)                       | 1  | 1  | 1   | 1   |
| 1.3060 | 0   | FP-5106329  | Seal, Crankshaft Oil (Rear), (Double Lip Std.), (Non Directional)                  | -  | -  | -   | 1   |
| 1.3060 | 0   | FP-5198159  | Seal, Crankshaft Oil (Rear), (Double Lip O.S.), (Non Directional)                  | -  | -  | -   | 1   |
| 1.3060 | 0   | FP-8923654  | Seal, Crankshaft Oil (Rear), (Single Lip O.S.), (R/H Engine)                       | -  | -  | -   | 1   |
| 1.3065 | 0   | FP-5192496  | Spacer, Crankshaft Rear Oil Seal (Single Lip Seals Only)                           | 1  | 1  | 1   | -   |
| 1.3066 | 0   | FP-23507225 | Sleeve, Crankshaft Oil Seal (Rear), (Use w/O.S. Seals)                             | 1  | 1  | 1   | -   |
| 1.3066 | 0   | FP-23507226 | Sleeve, Crankshaft Oil Seal (Rear), (Use w/O.S. Seals)                             | -  | -  | -   | 1   |
| 1.3066 | 0   | FP-5198908  | Sleeve, Crankshaft Oil Seal (Use w/FP-5197860), (Front Trunnion Mount)             | -  | -  | 1   | 1   |
| 1.5004 | 0   | FP-23504821 | Seal, Crankshaft Oil (Rear), (Double Lip O.S.), (Non Directional)                  | 1  | 1  | 1   | 1   |
| 1.5004 | 0   | FP-8926135  | Seal, Crankshaft Oil (Rear), (Single Lip .500" Wide - Use w/8926134 Sleeve)        | 1  | 1  | 1   | 1   |
| 1.5004 | 4   | FP-8927746  | Seal, Crankshaft Oil (Front), (1 Dust Lip), (1 Seal Lip Teflon), (R/H Engine)      | 1  | 1  | 1   | -   |
| 1.5004 | 4   | FP-8927746  | Seal, Crankshaft Oil (Rear), (Double Lip Std. Teflon), (R/H Engine)                | 1  | 1  | 1   | 1   |
| 1.5004 | 4   | FP-8927747  | Seal, Crankshaft Oil (Rear), (Double Lip Std. Teflon), (L/H Engine)                | 1  | 1  | 1   | 1   |
| 1.5004 | 4   | FP-8927747  | Seal, Crankshaft Oil, (Front), (1 Dust Lip), (1 Seal Lip Teflon), (L/H Engine)     | 1  | 1  | 1   | -   |
| 1.5004 | 4   | FP-8927748  | Seal, Crankshaft Oil (Front), (1 Dust Lip), (1 Seal Lip O.S. Teflon), (R/H Engine) | 1  | 1  | 1   | -   |
| 1.5004 | 4   | FP-8927748  | Seal, Crankshaft Oil (Rear), (Double Lip O.S. Teflon), (R/H Engine)                | 1  | 1  | 1   | 1   |
| 1.5004 | 4   | FP-8927749  | Seal, Crankshaft Oil (Front), (1 Dust Lip), (1 Seal Lip O.S. Teflon), (L/H Engine) | 1  | 1  | 1   | -   |
| 1.5004 | 4   | FP-8927749  | Seal, Crankshaft Oil (Rear), (Double Lip O.S. Teflon), (L/H Engine)                | 1  | 1  | 1   | 1   |
| 1.5004 | 0   | FP-8929750  | Seal Crankshaft Oil (Rear), (Teflon)   | 1  | 1  | 1   | 1   |

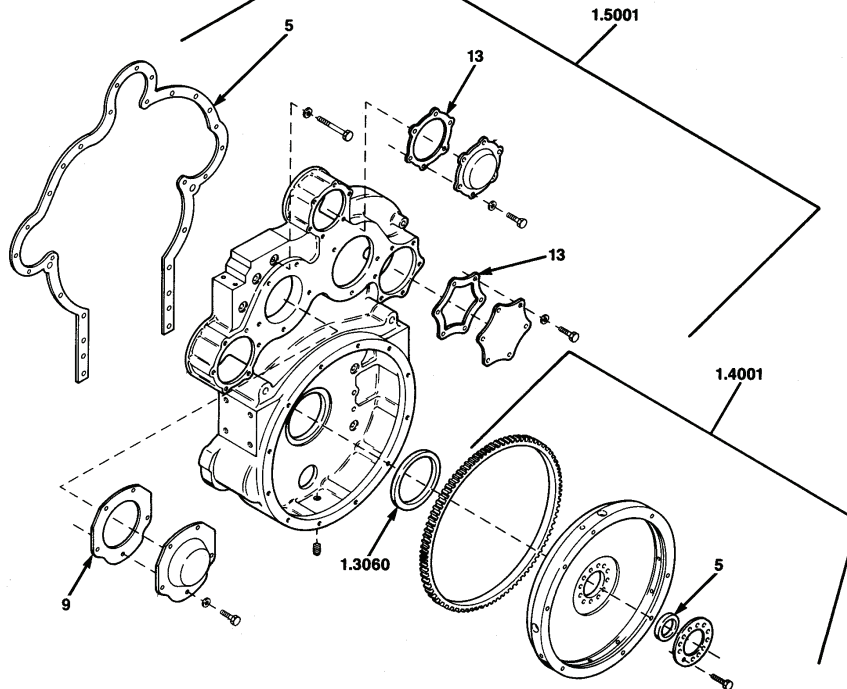
# Damper & Flywheel Housing

(Figure 3.2)

## Vibration Damper



## Flywheel Housing







# Damper & Flywheel Housing

(Figure 3.2)

Groups:  
1.3090 - 1.5090

| Group                   | Ref | Part No.     | Description   | 6V | 8V | 12V | 16V |
|-------------------------|-----|--------------|---|----|----|-----|-----|
| 1.3090                  | 6   | FP-5149556   | Shell Set, Crankshaft Main (Std.), (Non-Slotted Upper)            | 4  | 5  | 7   | 10  |
| 1.3090                  | 6   | FP-5149557   | Shell Set, Crankshaft Main (.002"), (Non-Slotted Upper)           | 4  | 5  | 7   | 10  |
| 1.3090                  | 6   | FP-5149559   | Shell Set, Crankshaft Main (.010"), (Non-Slotted Upper)           | 4  | 5  | 7   | 10  |
| 1.3090                  | 6   | FP-5149561   | Shell Set, Crankshaft Main (.020"), (Non-Slotted Upper)           | 4  | 5  | 7   | 10  |
| 1.3090                  | 6   | FP-5149563   | Shell Set, Crankshaft Main (.030"), (Non-Slotted Upper)           | 4  | 5  | 7   | 10  |
| 1.3090                  | 5   | FP-5149565   | Shell Set, Crankshaft Main (Std.), (Slotted Upper), (Turbo)       | 4  | 5  | 7   | 10  |
| 1.3090                  | 5   | FP-5149566   | Shell Set, Crankshaft Main (.002"), (Slotted Upper), (Turbo)      | 4  | 5  | 7   | 10  |
| 1.3090                  | 5   | FP-5149567   | Shell Set, Crankshaft Main (.010"), (Slotted Upper), (Turbo)      | 4  | 5  | 7   | 10  |
| 1.3090                  | 5   | FP-5149568   | Shell Set, Crankshaft Main (.020"), (Slotted Upper), (Turbo)      | 4  | 5  | 7   | 10  |
| 1.3090                  | 5   | FP-8922118   | Shell Set, Crankshaft Main (.030"), (Slotted Upper), (Turbo)      | 4  | 5  | 7   | 10  |
| 1.3100                  | 8   | FP-141346    | Pin, 3/16" X 1/2" Dowel   | 4  | 4  | 4   | 4   |
| 1.3100                  | 7   | FP-5117005   | Washer, Crankshaft Main Bearing Thrust (Std.)                     | 4  | 4  | 4   | 4   |
| 1.3100                  | 7   | FP-5196753   | Washer, Crankshaft Main Bearing Thrust (.005)                     | 4  | 4  | 4   | 4   |
| 1.3100                  | 7   | FP-5196754   | Washer, Crankshaft Main Bearing Thrust (.010)                     | 4  | 4  | 4   | 4   |
| 1.3140                  | 0   | FP-5102373   | Washer, .694" ID X 1.125" O.D. X .180" Thick                      | 8  | 10 | 14  | 20  |
| 1.3140                  | 17  | FP-5102374   | Bolt, 5/8" - 11 X 6.60" Main Bearing Cap                          | 8  | 10 | 14  | 8   |
| 1.3140                  | 17  | FP-5116353   | Bolt, 5/8" - 11 X 6.00" Main Bearing Cap                          | 8  | 10 | 14  | 20  |
| 1.3145                  | 0   | FP-8926631   | Gear, Crankshaft Timing (R.H. Helix, R.H. Engine), (Rear on 16V)  | 1  | 1  | 1   | 1   |
| <b>Flywheel Housing</b> |     |              |   |    |    |     |     |
| 1.4001                  | 0   | FP-5103248   | Bolt, Flywheel (9/16 - 18 x 2.00"), (12.9001)                     | AR | AR | AR  | AR  |
| 1.4001                  | 0   | FP-5103250   | Bolt, Flywheel (B/H Flywheel), (9/16 - 18 x 2.75")                | AR | AR | AR  | AR  |
| 1.4040                  | 5   | FP-23503706  | Bearing, Clutch Pilot   | 1  | 1  | 1   | 1   |
| 1.4040                  | 5   | FP-23503707  | Bearing, Clutch Pilot   | 1  | 1  | 1   | 1   |
| 1.4040                  | 5   | FP-23503709  | Bearing, Clutch Pilot   | 1  | 1  | 1   | 1   |
| 1.5010                  | 5   | FP-5144875   | Gasket, Flywheel Housing  | 1  | 1  | 1   | 1   |
| 1.5010                  | 5   | FP-5144875R1 | Gasket, Flywheel Housing  | 1  | 1  | 1   | 1   |
| 1.5010                  | 5   | FP-5147246   | Gasket, Flywheel Housing  | 1  | 1  | 1   | 1   |
| 1.5040                  | 9   | FP-23515145  | Gasket, Flywheel Housing Large Hole Cover (5104506)               | 2  | 2  | 2   | 2   |
| 1.5060                  | 13  | FP-5104507   | Gasket, Flywheel Housing Small Hole Cover                         | 3  | 3  | 3   | 3   |
| 1.5075                  | 0   | FP-5130995   | Gasket, Starting Motor Hole Cover                                 | 1  | 1  | 1   | 1   |
| 1.5090                  | 0   | FP-5170895   | Gasket, Flywheel Housing Inspection Hole Cover (9.1610)           | 1  | 1  | 1   | 1   |
| <b>Vibration Damper</b> |     |              |   |    |    |     |     |
| 1.3210                  | 1   | FP-5100421   | Damper, Vibration (Heavy, Rubber)                                 | AR | AR | AR  | AR  |
| 1.3210                  | 1   | FP-5147600   | Damper, Vibration (Heavy, Viscous)                                | AR | AR | AR  | AR  |
| 1.3210                  | 0   | FP-23512418  | Seal, Pulley Drive Shaft (Camshaft Damper), (2.8810)              | -  | 1  | -   | -   |
| 1.3210                  | 1   | FP-5106222   | Damper, Vibration (Heavy Viscous), (15")                          | -  | 1  | 1   | 1   |
| 1.3210                  | 1   | FP-8922491   | Damper, Vibration (Heavy Viscous), (12.3" Dia.)                   | -  | 1  | 1   | -   |
| 1.3210                  | 1   | FP-8922492   | Damper, Vibration (Heavy Viscous), (12.3" Dia.)                   | -  | 1  | 1   | 1   |
| 1.3210                  | 1   | FP-8928951   | Damper, Vibration (Heavy Viscous), (12.3"), (Use w/8925443 Crank) | -  | 1  | 1   | 1   |
| 1.3240                  | 5   | FP-5102957   | Cone, Vibration Damper Front (.937")                              | -  | 1  | 1   | 1   |
| 1.3240                  | 6   | FP-5104475   | Cone, Vibration Damper Rear (1.701"), (w/Seal Groove)             | -  | 1  | 1   | 1   |
| 1.3240                  | 5   | FP-5134917   | Cone, Vibration Damper Front (.531")                              | -  | 1  | 1   | 1   |
| 1.3240                  | 5   | FP-23502705  | Cone, Vibration Damper Front (.212")                              | -  | -  | 1   | -   |
| 1.3240                  | 6   | FP-23507296  | Cone, Vibration Damper Rear (3.094"), (w/Front PTO Only)          | -  | -  | 1   | -   |
| 1.3240                  | 6   | FP-23507297  | Cone, Vibration Damper Rear (2.22")                               | -  | -  | 1   | -   |
| 1.3250                  | 0   | FP-23503769  | Seal O-Ring, Vibration Damper Rear Cone (5104471)                 | -  | 1  | 1   | 1   |
| 1.3250                  | 6   | FP-23506876  | Cone, Vibration Damper Rear (1.40"), (5153144)                    | -  | 1  | 1   | 1   |
| 1.3250                  | 6   | FP-23507299  | Cone, Vibration Damper Rear (.531")                               | -  | -  | 1   | -   |
| 1.3250                  | 6   | FP-8928674   | Cone, Vibration Damper Rear (2.43")                               | -  | -  | 1   | -   |



## Cylinder Kits

| Cylinder Kit                      | Description                       | C/R    | Option Type Numbers                                | Piston     |
|-----------------------------------|-----------------------------------|--------|--|------------|
| <b>71V Series Trunk Type Only</b> |                                   |        |  |            |
| FP-20011                          | Non-Turbo, Trunk 4V Hd #1 Bore    | 18.7:1 | 30,31,32,36,40,42,45,50,52,78,81,88,92,112,164,171 | FP-5149234 |
| FP-23505305                       | Non-Turbo, Trunk 4V Hd #2 Bore    | 18.7:1 | 30,31,32,36,40,42,45,50,52,78,81,88,92,112,164,171 | FP-5149234 |
| FP-23505306                       | Non-Turbo, Trunk 4V Hd #3 Bore    | 18.7:1 | 30,31,32,36,40,42,45,50,52,78,81,88,92,112,164,171 | FP-5149234 |
| FP-23505306 30                    | Non-Turbo, Trunk 4V Hd .030 OS    | 18.7:1 | 30,31,32,36,40,42,45,50,52,78,81,88,92,112,164,171 | FP-5149234 |
| FP-23505306 5                     | Non-Turbo, Trunk 4V Hd .005 OS    | 18.7:1 | 30,31,32,36,40,42,45,50,52,78,81,88,92,112,164,171 | FP-5149234 |
| FP-5149261                        | Non-Turbo, Trunk 4V Hd #4 Bore    | 18.7:1 | 30,31,32,36,40,42,45,50,52,78,81,88,92,112,164,171 | FP-5149234 |
| FP-5149263                        | Non-Turbo, Trunk 4V Hd .010 OS    | 18.7:1 | 30,31,32,36,40,42,45,50,52,78,81,88,92,112,164,171 | FP-5149234 |
| FP-5149264                        | Non-Turbo, Trunk 4V Hd .020 OS    | 18.7:1 | 30,31,32,36,40,42,45,50,52,78,81,88,92,112,164,171 | FP-5149234 |
| FP-20012                          | Turbo, Trunk, 4V Hd #1 Bore       | 17:1   | 38,51,111  | FP-5149236 |
| FP-20013                          | Turbo, Trunk, 4V Hd #2 Bore       | 17:1   | 38,51,111  | FP-5149236 |
| FP-23505307                       | Turbo, Trunk, 4V Hd #3 Bore       | 17:1   | 38,51,111  | FP-5149236 |
| FP-23505307 1                     | Turbo, Trunk, 4V Hd #4 Bore       | 17:1   | 38,51,111  | FP-5149236 |
| FP-23505307 10                    | Turbo, Trunk, 4V Hd .010 OS       | 17:1   | 38,51,111  | FP-5149236 |
| FP-23505307 20                    | Turbo, Trunk, 4V Hd .020 OS       | 17:1   | 38,51,111  | FP-5149236 |
| FP-23505307 30                    | Turbo, Trunk, 4V Hd .030 OS       | 17:1   | 38,51,111  | FP-5149236 |
| FP-23505307 5                     | Turbo, Trunk, 4V Hd .005 OS       | 17:1   | 38,51,111  | FP-5149236 |
| FP-LCK-5306                       | Linerless Cylinder Kit, Non-Turbo | 18.7:1 | Trunk Piston (4V)                                  | FP-5149234 |
| FP-LCK-5307                       | Linerless Cylinder Kit, Turbo     | 17:1   | Trunk Piston (4V)                                  | FP-5149236 |



# Cylinder Kits

| Dome                              | Seal, Dome | Skirt | Slipper Brg | Liner       | Port Ht | Ring Set    | Pin        | Retainer   |
|-----------------------------------|------------|-------|-------------|-------------|---------|-------------|------------|------------|
| <b>71V Series Trunk Type Only</b> |            |       |             |             |         |             |            |            |
|                                   |            |       |             | FP-23502020 | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                   |            |       |             | FP-23502021 | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                   |            |       |             | FP-23502022 | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                   |            |       |             | FP-5193735  | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                   |            |       |             | FP-5193732  | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                   |            |       |             | FP-23504936 | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                   |            |       |             | FP-5193733  | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                   |            |       |             | FP-5193734  | 1.05"   | FP-23514970 | FP-5188406 | FP-5188405 |
|                                   |            |       |             | FP-23502020 | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                   |            |       |             | FP-23502021 | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                   |            |       |             | FP-23502022 | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                   |            |       |             | FP-23504936 | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                   |            |       |             | FP-5193733  | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                   |            |       |             | FP-5193734  | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                   |            |       |             | FP-5193735  | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                   |            |       |             | FP-5193732  | 1.05"   | FP-23514971 | FP-5144495 | FP-5188405 |
|                                   |            |       |             |             |         | FP-23514970 | FP-5188406 | FP-5188405 |
|                                   |            |       |             |             |         | FP-23514971 | FP-5144495 | FP-5188405 |



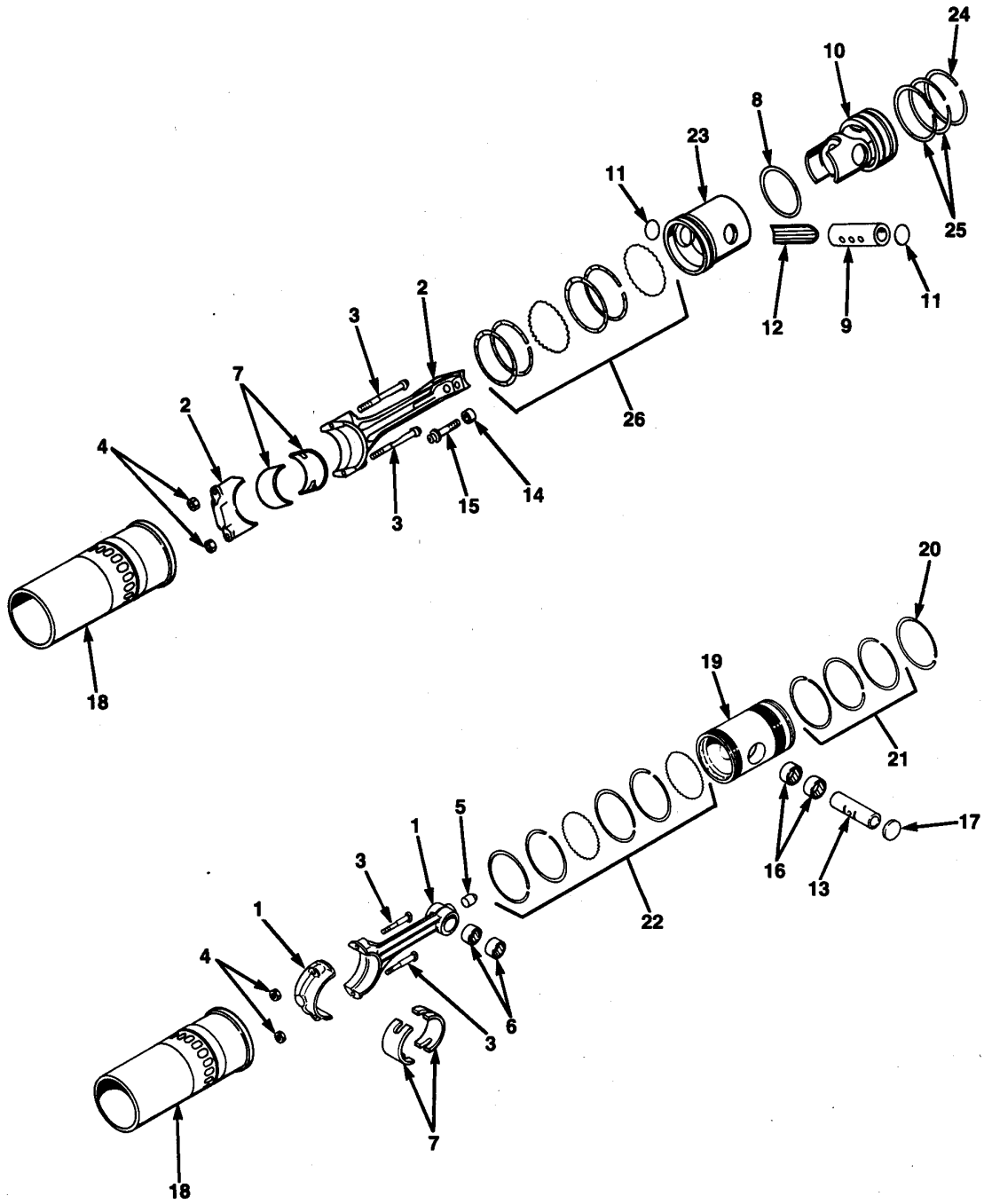
# Cylinder Kits

| Cylinder Kit                           | Description                                  | C/R    | Option Type Numbers                                       |
|--|--|--------|---|
| <b>71V Series Cross-Head Type Only</b> |  |        |   |
| FP-23522946                            | Turbo, Cross-Head #3                         | 18.7:1 |   |
| FP-23522948                            | Turbo, Cross-Head #2                         | 18.7:1 |   |
| FP-23522950                            | Turbo, Cross-Head .010 OS                    | 18.7:1 |   |
| FP-23522952                            | Turbo, Cross-Head #3                         | 17:1   | (Original Part Number FP-23505424)                        |
| FP-20022                               | Non-Turbo, Cross-Head #1 Bore                | 18.7:1 | 129,137,167,169,'170,173,219,353 (23505312) (5199822)     |
| FP-23522949                            | Non-Turbo, Cross-Head #2 Bore                | 18.7:1 | 129,137,167,169,'170,173,219,353 (23505312) (5199822)     |
| FP-23522947                            | Non-Turbo, Cross-Head #3 Bore                | 18.7:1 | 129,137,167,169,'170,173,219,353 (23505313)               |
| FP-23522951                            | Non-Turbo, Cross-Head .010 OS                | 18.7:1 | 129,137,167,169,'170,173,219,353 (5149300)                |
| FP-23522525                            | Non-Turbo, Cross-Head .020 OS                | 18.7:1 | 129,137,167,169,'170,173,219,353 (5149301)                |
| FP-23522949 5                          | Non-Turbo, Cross-Head .005 OS                | 18.7:1 | 129,137,167,169,'170,173,219,353 (5199822-005)            |
| FP-23522949 30                         | Non-Turbo, Cross-Head .030 OS                | 18.7:1 | 129,137,167,169,'170,173,219,353 (5199822-030)            |
| FP-23522521                            | Non-Turbo, Cross-Head #4 Bore                | 18.7:1 | 129,137,167,169,'170,173,219,353 (5199956)                |
| FP-20020                               | TA, Cross-Head #1 Bore N75 & Below           | 17:1   | 138,143,174,186,201,210,211,212,213,214,286 (23505314)    |
| FP-23522485                            | TA, Cross-Head #2 Bore N75 & Below           | 17:1   | 138,143,174,186,201,210,211,212,213,214,286 (23505314)    |
| FP-23522953                            | TA, Cross-Head #3 Bore N75 & Below           | 17:1   | 138,143,174,186,201,210,211,212,213,214,286 (23505315)    |
| FP-23522485 5                          | TA, Cross-Head .005 OS N75 & Below           | 17:1   | 138,143,174,186,201,210,211,212,213,214,286 (8927766-005) |
| FP-23522485 30                         | TA, Cross-Head .030 OS N75 & Below           | 17:1   | 138,143,174,186,201,210,211,212,213,214,286 (8927766-030) |
| FP-23522489                            | TA, Cross-Head #4 Bore N75 & Below           | 17:1   | 138,143,174,186,201,210,211,212,213,214,286 (8927767)     |
| FP-23522491                            | TA, Cross-Head .010 OS N75 & Below           | 17:1   | 138,143,174,186,201,210,211,212,213,214,286 (8927768)     |
| FP-23522493                            | TA, Cross-Head .020 OS N75 & Below           | 17:1   | 138,143,174,186,201,210,211,212,213,214,286 (8927769)     |
| FP-23522473 30                         | TA, X-Hd .030 N75 & Above Wide Gap Fire Ring | 17:1   | 177,287,297,307,308                                       |
| FP-23522473 5                          | TA, X-Hd .005 N75 & Above Wide Gap Fire Ring | 17:1   | 177,287,297,307,308                                       |
| FP-23522479                            | TA, X-Hd #4 N75 & Above Wide Gap Fire Ring   | 17:1   | 177,287,297,307,308                                       |
| FP-23522481                            | TA, X-Hd .010 N75 & Above Wide Gap Fire Ring | 17:1   | 177,287,297,307,308                                       |
| FP-23522483                            | TA, X-Hd .020 N75 & Above Wide Gap Fire Ring | 17:1   | 177,287,297,307,308                                       |
| FP-20019                               | TA, X-Hd #1 N75 & Above High Output Marine   | 17:1   | 177,287,297,307,308 (23505425)                            |
| FP-23522473                            | TA, X-Hd #2 N75 & Above High Output Marine   | 17:1   | 177,287,297,307,308 (23505425)                            |
| FP-23522477                            | TA, X-Hd #3 N75 & Above High Output Marine   | 17:1   | 177,287,297,307,308 (23505426)                            |
| FP-20021                               | TA, TAB Cross-Head #1 Bore Auto & City Coach | 18.7:1 | 285   |
| FP-23522507                            | TA, TAB Cross-Head #2 Bore Auto & City Coach | 18.7:1 | 285   |
| FP-23522509                            | TA, TAB Cross-Head #3 Bore Auto & City Coach | 18.7:1 | 285   |
| FP-23522511                            | TA, TAB Cross-Head #4 Bore Auto & City Coach | 18.7:1 | 285   |
| FP-23522513                            | TA, TAB Cross-Head .010 OS Auto & City Coach | 18.7:1 | 285   |
| FP-23522515                            | TA, TAB Cross-Head .020 OS Auto & City Coach | 18.7:1 | 285   |
| FP-LCK-22507                           | Linerless Cylinder Kit                       | 18.7:1 | Non-Turbo Cross-Head                                      |
| FP-LCK-22949                           | Linerless Cylinder Kit                       | 18.7:1 | Non-Turbo Cross-Head                                      |
| FP-LCK-22473                           | Linerless Cylinder Kit                       | 17:1   | Turbo A/C Cross-Head                                      |
| FP-LCK-22485                           | Linerless Cylinder Kit                       | 17:1   | Turbo A/C Cross-Head                                      |



# Connecting Rod & Piston

(Figure 4.1)





# Connecting Rod & Piston

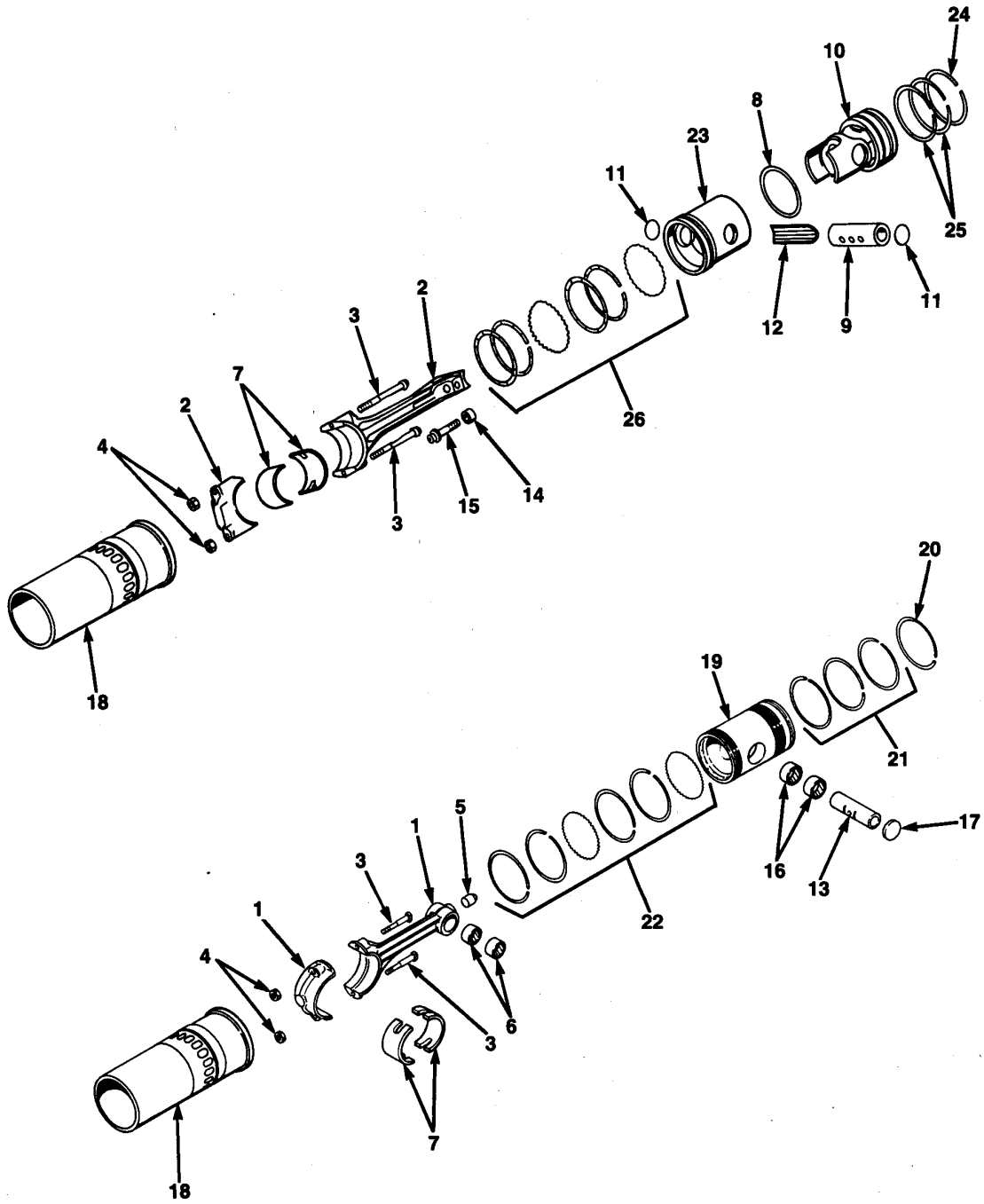
(Figure 4.1)

Groups:  
1.6001 - 1.6182

| Group  | Ref | Part No.             | Description  | 6V | 8V | 12V | 16V |
|--------|-----|----------------------|--|----|----|-----|-----|
| 1.6001 | 3   | FP-5117629           | Nut, Rod Bolt 7/16"x 20  | 12 | 16 | 24  | 32  |
| 1.6001 | 2   | FP-5132383           | Bolt, C/R 7/16" 20x3.52"   | 12 | 16 | 24  | 32  |
| 1.6040 | 0   | FP-5157274           | Bushing, Connecting Rod Piston Pin                                 | 12 | 16 | 24  | 32  |
| 1.6100 | 5   | FP-23501026          | Shell Set, Connecting Rod (.002 U.S.), (Air/Air & ALCC)            | 6  | 8  | 12  | 16  |
| 1.6100 | 5   | FP-23501029          | Shell Set, Connecting Rod (.030 U.S.), (Air/Air & ALCC)            | 6  | 8  | 12  | 16  |
| 1.6100 | 5   | FP-5149572           | Shell Set, Connecting Rod (Std.)                                   | 6  | 8  | 12  | 16  |
| 1.6100 | 5   | FP-5149573           | Shell Set, Connecting Rod (.002 U.S.)                              | 6  | 8  | 12  | 16  |
| 1.6100 | 5   | FP-5149575           | Shell Set, Connecting Rod (.010 U.S.)                              | 6  | 8  | 12  | 16  |
| 1.6100 | 5   | FP-5149577           | Shell Set, Connecting Rod (.020 U.S.)                              | 6  | 8  | 12  | 16  |
| 1.6100 | 5   | FP-5149579           | Shell Set, Connecting Rod (.030 U.S.)                              | 6  | 8  | 12  | 16  |
| 1.6106 | 8   | FP-23501676          | Ring Seal, Crosshead Piston (Former Style)                         | 6  | 8  | 12  | 16  |
| 1.6110 | 10  | FP-23501687          | Bearing, Piston Pin (Slipper Type)                                 | 6  | 8  | 12  | 16  |
| 1.6130 | 16  | FP-23514967          | Ring Set, Oil Control (For One Piston), (Chrome), (V71T & TA Only) | 6  | 8  | 12  | 16  |
| 1.6182 | 7   | FP-5130881           | Pin, Piston Trunk (Turbo), (Non-Drilled), (Military)               | 6  | 8  | 12  | 16  |
| 1.6182 | 7   | FP-5144495           | Pin, Piston Trunk (Drilled), (1.6140)                              | 6  | 8  | 12  | 16  |
| 1.6182 | 12  | FP-5149234           | Piston Assembly (18.7:1), (Trunk N/A), (4 Valve Head )             | 6  | 8  | 12  | 16  |
| 1.6182 | 12  | FP-5149236           | Piston Assembly (17:1), (Trunk Turbo)                              | 6  | 8  | 12  | 16  |
| 1.6182 | 7   | FP-5188406           | Pin, Piston Trunk (Non-Turbo), (1.6140)                            | 6  | 8  | 12  | 16  |
| 1.6182 | 11  | FP-5188405           | Retainer, Piston Pin (1.6150)                                      | 12 | 16 | 24  | 32  |
| 1.6115 | 0   | <b>FP-23514970</b>   | <b>Ring Set (Trunk Non-Turbo), (4 Valve Head)</b>                  | 6  | 8  | 12  | 16  |
| 1.6120 | 14  | FP-5102648           | Ring, Fire & Compression (First 4 Grooves)                         | 24 | 32 | 48  | 64  |
| 1.6130 | 16  | FP-23514965          | Ring Set, Oil Control (For One Piston)                             | 6  | 8  | 12  | 16  |
| 1.6115 | 0   | <b>FP-23514971</b>   | <b>Ring Set (Trunk Turbo), (4 Valve Head)</b>                      | 6  | 8  | 12  | 16  |
| 1.6120 | 14  | FP-5102648           | Ring, Fire (Top Groove)  | 6  | 8  | 12  | 16  |
| 1.6120 | 15  | FP-5185325           | Ring, Compression (2nd, 3rd & 4th Grooves)                         | 18 | 24 | 36  | 48  |
| 1.6130 | 16  | FP-23514968          | Ring Set, Oil Control (For One Piston)                             | 6  | 8  | 12  | 16  |
| 1.6110 | 0   | <b>FP-23522497</b>   | <b>Dome Kit, Piston</b>  | 6  | 8  | 12  | 16  |
| 1.6110 | 18  | FP-23522026          | Dome, Piston (18.7:1), (Crosshead)                                 | 6  | 8  | 12  | 16  |
| 1.6110 | 10  | FP-23501687          | Bearing, Piston Pin (Slipper Type)                                 | 6  | 8  | 12  | 16  |
| 1.6110 | 6   | FP-8922221           | Ring, Seal Crosshead Piston  | 6  | 8  | 12  | 16  |
| 1.6110 | 7   | FP-5101120           | Pin, Piston  | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-5180250           | Retainer, Piston Pin   | 12 | 16 | 24  | 32  |
| 1.6110 | 19  | FP-23522070          | Skirt, Piston Crosshead (All)                                      | 6  | 8  | 12  | 16  |
| 1.6110 | 0   | <b>FP-23522497NP</b> | <b>Dome Kit, Piston (Without Pin)</b>                              | 6  | 8  | 12  | 16  |
| 1.6110 | 18  | FP-23522026          | Dome, Piston (18.7:1), (Crosshead)                                 | 6  | 8  | 12  | 16  |
| 1.6110 | 10  | FP-23501687          | Bearing, Piston Pin (Slipper Type)                                 | 6  | 8  | 12  | 16  |
| 1.6110 | 6   | FP-8922221           | Ring, Seal Crosshead Piston  | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-5180250           | Retainer, Piston Pin   | 12 | 16 | 24  | 32  |
| 1.6110 | 19  | FP-23522070          | Skirt, Piston Crosshead (All)                                      | 6  | 8  | 12  | 16  |
| 1.6110 | 0   | <b>FP-23522535</b>   | <b>Dome Kit, Piston</b>  | 6  | 8  | 12  | 16  |
| 1.6110 | 18  | FP-23522026          | Dome, Piston (18.7:1), (Crosshead)                                 | 6  | 8  | 12  | 16  |
| 1.6110 | 10  | FP-23501687          | Bearing, Piston Pin (Slipper Type)                                 | 6  | 8  | 12  | 16  |
| 1.6110 | 6   | FP-8922221           | Ring, Seal Crosshead Piston  | 6  | 8  | 12  | 16  |
| 1.6110 | 7   | FP-5101120           | Pin, Piston  | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-5180250           | Retainer, Piston Pin   | 12 | 16 | 24  | 32  |

# Connecting Rod & Piston

(Figure 4.2)







# Connecting Rod & Piston

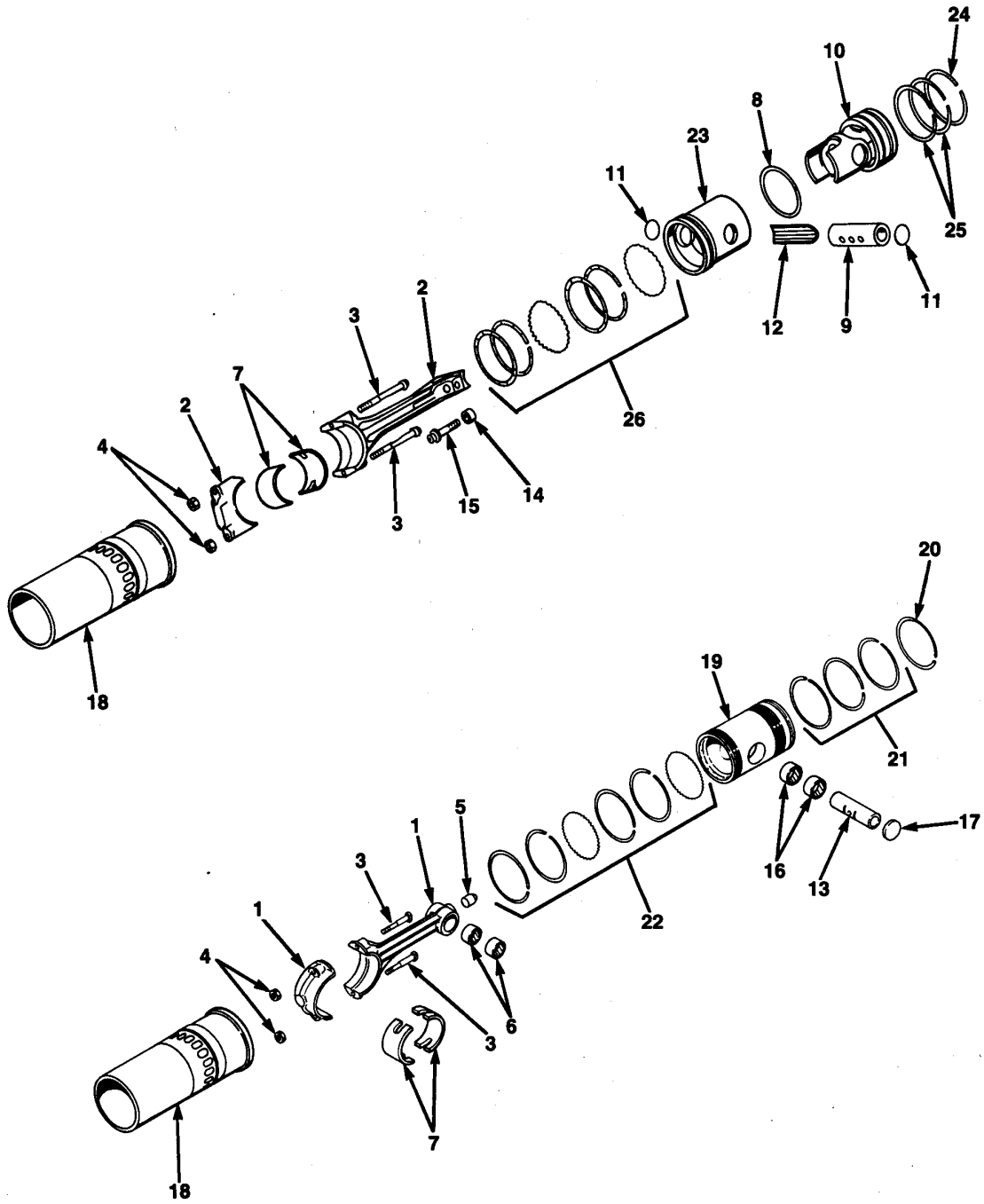
(Figure 4.2)

Groups:  
1.6110 - 1.6110

| Group  | Ref | Part No.           | Description                        | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|------------------------------------|----|----|-----|-----|
| 1.6110 | 0   | <b>FP-23522475</b> | <b>Dome Kit, Piston</b>            | 6  | 8  | 12  | 16  |
| 1.6110 | 18  | FP-23521992        | Dome, Piston (17:1), (Crosshead)   | 6  | 8  | 12  | 16  |
| 1.6110 | 10  | FP-23501687        | Bearing, Piston Pin (Slipper Type) | 6  | 8  | 12  | 16  |
| 1.6110 | 6   | FP-8922221         | Ring, Seal Crosshead Piston        | 6  | 8  | 12  | 16  |
| 1.6110 | 7   | FP-5101120         | Pin, Piston                        | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-5180250         | Retainer, Piston Pin               | 12 | 16 | 24  | 32  |
| 1.6110 | 10  | FP-23501687        | Bearing, Piston Pin (Slipper Type) | 6  | 8  | 12  | 16  |
| 1.6110 | 6   | FP-8922221         | Ring, Seal Crosshead Piston        | 6  | 8  | 12  | 16  |
| 1.6110 | 7   | FP-5101120         | Pin, Piston                        | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-5180250         | Retainer, Piston Pin               | 12 | 16 | 24  | 32  |
| 1.6110 | 0   | <b>FP-23522495</b> | <b>Piston Kit</b>                  | 6  | 8  | 12  | 16  |
| 1.6110 | 18  | FP-23521992        | Dome, Piston (17:1), (Crosshead)   | 6  | 8  | 12  | 16  |
| 1.6110 | 10  | FP-23501687        | Bearing, Piston Pin (Slipper Type) | 6  | 8  | 12  | 16  |
| 1.6110 | 6   | FP-8922221         | Ring, Seal Crosshead Piston        | 6  | 8  | 12  | 16  |
| 1.6110 | 7   | FP-5101120         | Pin, Piston                        | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-5180250         | Retainer, Piston Pin               | 12 | 16 | 24  | 32  |
| 1.6110 | 19  | FP-23522070        | Skirt, Piston Crosshead, All       | 6  | 8  | 12  | 16  |
| 1.6110 | 10  | FP-23501687        | Bearing, Piston Pin (Slipper Type) | 6  | 8  | 12  | 16  |
| 1.6110 | 6   | FP-8922221         | Ring, Seal Crosshead Piston        | 6  | 8  | 12  | 16  |
| 1.6110 | 7   | FP-5101120         | Pin, Piston                        | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-5180250         | Retainer, Piston Pin               | 12 | 16 | 24  | 32  |
| 1.6110 | 19  | FP-23522070        | Skirt, Piston Crosshead, All       | 6  | 8  | 12  | 16  |
| 1.6110 | 10  | FP-23501687        | Bearing, Piston Pin (Slipper Type) | 6  | 8  | 12  | 16  |
| 1.6110 | 6   | FP-8922221         | Ring, Seal Crosshead Piston        | 6  | 8  | 12  | 16  |
| 1.6110 | 7   | FP-5101120         | Pin, Piston                        | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-5180250         | Retainer, Piston Pin               | 12 | 16 | 24  | 32  |
| 1.6110 | 19  | FP-23522070        | Skirt, Piston Crosshead (All)      | 6  | 8  | 12  | 16  |
| 1.6110 | 10  | FP-23501687        | Bearing, Piston Pin (Slipper Type) | 6  | 8  | 12  | 16  |
| 1.6110 | 6   | FP-8922221         | Ring, Seal Crosshead Piston        | 6  | 8  | 12  | 16  |
| 1.6110 | 7   | FP-5101120         | Pin, Piston                        | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-5180250         | Retainer, Piston Pin               | 12 | 16 | 24  | 32  |

# Connecting Rod & Piston

(Figure 4.3)





# Connecting Rod & Piston

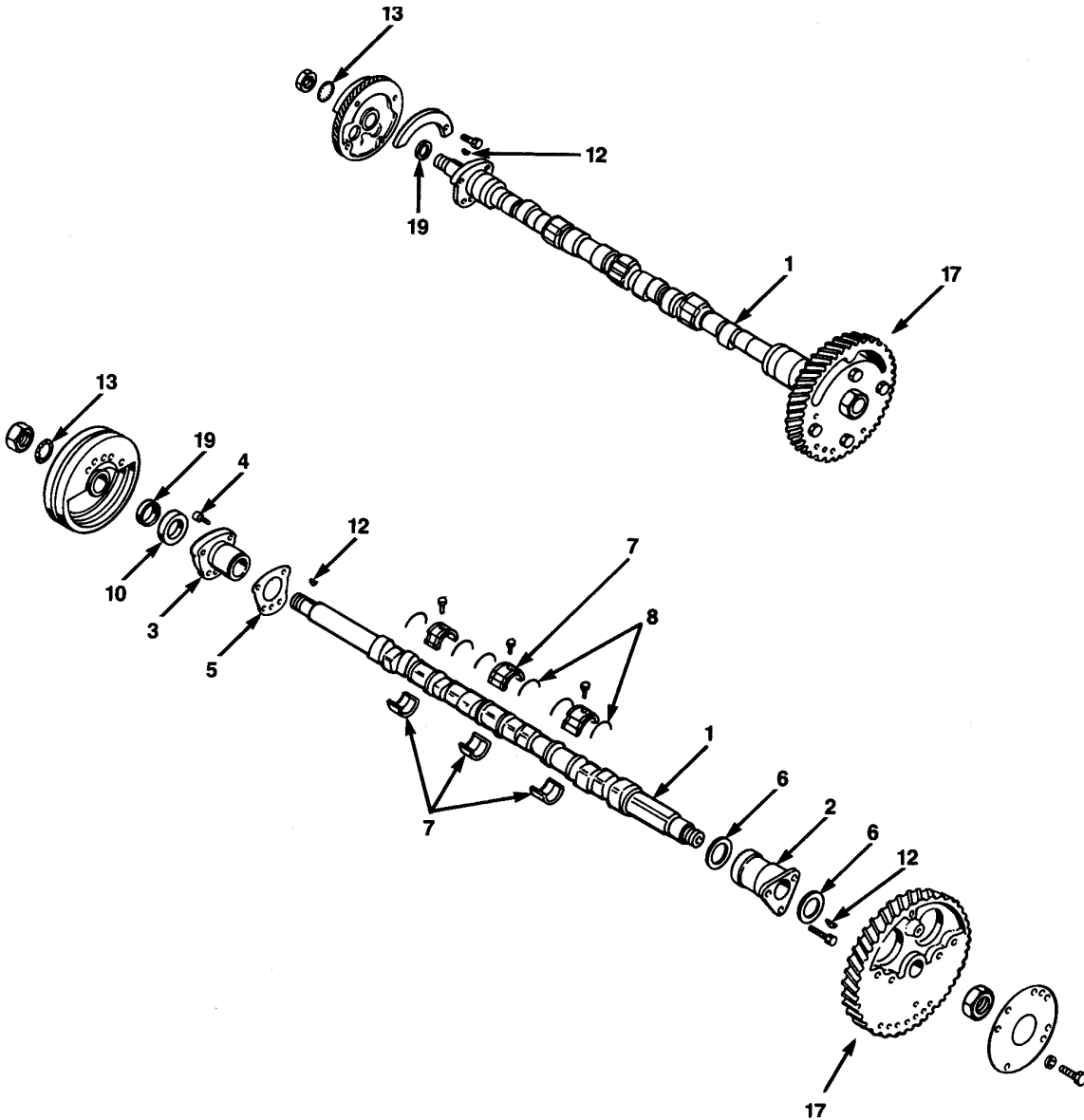
(Figure 4.3)

Groups:  
1.6115 - 1.6187

| Group  | Ref | Part No.           | Description  | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|--|----|----|-----|-----|
| 1.6140 | 7   | FP-5101120         | Pin, Piston Crosshead (Turbo, Solid)   | 6  | 8  | 12  | 16  |
| 1.6140 | 7   | FP-5144744         | Pin, Piston Crosshead (Nut Plate Type)   | 6  | 8  | 12  | 16  |
| 1.6140 | 8   | FP-5144846         | Spacer, Piston Pin Bolt (Crosshead)  | 12 | 16 | 24  | 32  |
| 1.6140 | 9   | FP-5148373         | Bolt, Piston Pin 7/16" 20 x 2.00" L  | 12 | 16 | 24  | 32  |
| 1.6142 | 10  | FP-23501687        | Bearing, Piston Pin (Slipper)  | 6  | 8  | 12  | 16  |
| 1.6145 | 13  | FP-5155839         | Bushing, Piston Pin (Trunk Type), (In Piston)                                    | 12 | 16 | 24  | 32  |
| 1.6180 | 23  | FP-23502020        | Liner, Cylinder (1.05" Port Ht.), (#1 Bore)                                      | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-23502021        | Liner, Cylinder (1.05" Port Ht.), (#2 Bore)                                      | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-23502022        | Liner, Cylinder (1.05" Port Ht.), (#3 Bore)                                      | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-23502023        | Liner, Cylinder (.95" Port Ht.), (#1 Bore)                                       | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-23502024        | Liner, Cylinder (.95" Port Ht.), (#2 Bore)                                       | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-23502025        | Liner, Cylinder (.95" Port Ht.), (#3 Bore)                                       | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-23504935        | Liner, Cylinder (.95" Port Ht.), (#4 Bore), (.001")                              | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-23504936        | Liner, Cylinder (1.05" Port Ht.), (#4 Bore), (.001")                             | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-5107448         | Liner, Cylinder (.95" Port Ht.), (.005" O.S.)                                    | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-5107449         | Liner, Cylinder (.95" Port Ht.), (.010" O.S.)                                    | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-5107450         | Liner, Cylinder (.95" Port Ht.), (.020" O.S.)                                    | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-5193732         | Liner, Cylinder (1.05" Port Ht.), (.005" O.S.)                                   | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-5193733         | Liner, Cylinder (1.05" Port Ht.), (.010" O.S.)                                   | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-5193734         | Liner, Cylinder (1.05" Port Ht.), (.020" O.S.)                                   | 6  | 8  | 12  | 16  |
| 1.6180 | 23  | FP-5193735         | Liner, Cylinder (1.05" Port Ht.), (.030" O.S.)                                   | 6  | 8  | 12  | 16  |
| 1.6185 | 0   | FP-5199569         | Shim, Cylinder Liner .002" Thick   | 6  | 8  | 12  | 16  |
| 1.6187 | 0   | FP-5148399         | Insert, Cylinder Liner (.1810"-.1815" Thick For Std. Thru .005" O.S. Liner)      | 6  | 8  | 12  | 16  |
| 1.6187 | 0   | FP-5148440         | Insert, Cylinder Liner (.1780"-.1785" Thick For Std. Thru .005" O.S. Liner)      | 6  | 8  | 12  | 16  |
| 1.6187 | 0   | FP-5184484         | Insert, Cylinder Liner (.1795"-.1800" Thick For Std. Thru .005" O.S. Liner)      | 6  | 8  | 12  | 16  |
| 1.6187 | 0   | FP-5193316         | Insert, Cylinder Liner (.1795"-.1800" Thick For .010",.020",.030 O.S. O.D.Liner) | 6  | 8  | 12  | 16  |
| 1.6187 | 0   | FP-5194073         | Insert, Cylinder Liner (.1760"-.1755" Thick For Std. Thru .005" O.S. O.D.Liner)  | 6  | 8  | 12  | 16  |
| 1.6187 | 0   | FP-5194163         | Insert, Cylinder Liner (.1755"-.1760" Thick For .010,.020,.030 O.S. O.D.Liner)   | 6  | 8  | 12  | 16  |
| 1.6187 | 0   | FP-5194164         | Insert, Cylinder Liner (.1715"-.1720" Thick For .010,.020,.030 O.S. O.D.Liner)   | 6  | 8  | 12  | 16  |
| 1.6187 | 0   | FP-5199871         | Insert, Cylinder Liner (.1810"-.1815" Thick For .010,.020,.030 O.S. O.D.Liner)   | 6  | 8  | 12  | 16  |
| 1.6115 | 0   | <b>FP-23522954</b> | <b>Ring Set, Crosshead (Wide Gap Fire Ring)</b>                                  | 6  | 8  | 12  | 16  |
| 1.6120 | 20  | FP-8924083         | Ring (Top Fire)  | 6  | 8  | 12  | 16  |
| 1.6120 | 21  | FP-8926351         | Ring, Compression (2nd & 3rd Grooves)  | 12 | 16 | 24  | 32  |
| 1.6130 | 22  | FP-23522534        | Ring Set, Oil Control (For One Groove)   | 12 | 16 | 24  | 32  |
| 1.6115 | 0   | <b>FP-23522955</b> | <b>Ring Set, Crosshead (Std. Gap Fire Ring)</b>                                  | 6  | 8  | 12  | 16  |
| 1.6120 | 20  | FP-8924084         | Ring, (Top Fire)   | 6  | 8  | 12  | 16  |
| 1.6120 | 21  | FP-8926351         | Ring, Compression (2nd & 3rd Grooves)  | 12 | 16 | 24  | 32  |
| 1.6130 | 22  | FP-23522534        | Ring Set, Oil Control (For One Groove)   | 12 | 16 | 24  | 32  |

# Camshaft

(Figure 5.1)





# Camshaft

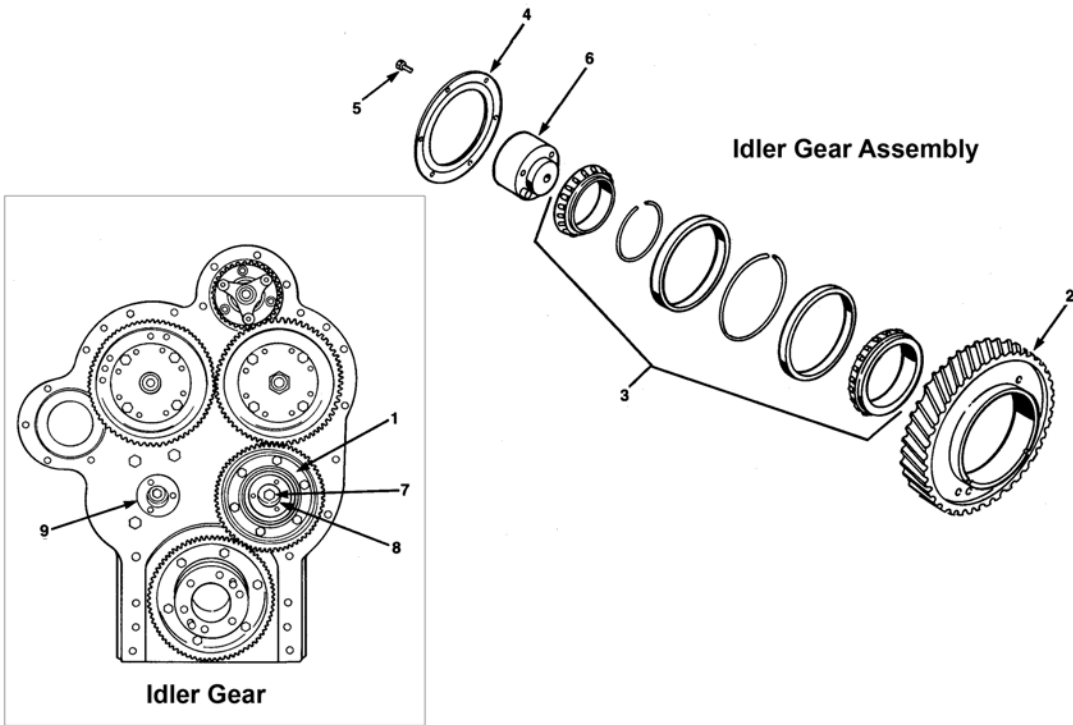
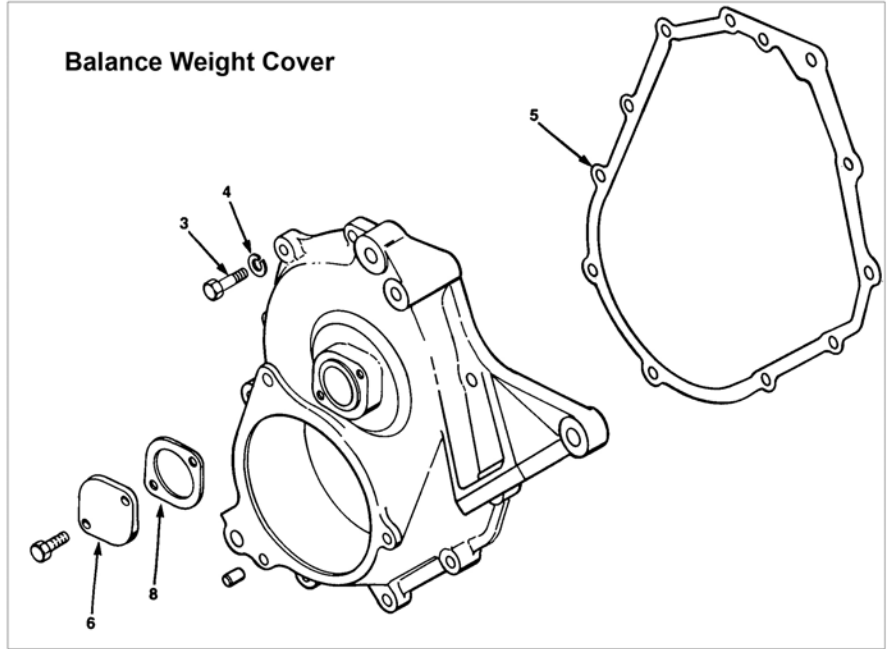
(Figure 5.1)

Groups:  
1.7001 - 1.7207

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 1.7001 | 0   | FP-9421745  | Plug, Cup Type (1/2")   | AR | AR | AR  | AR  |
| 1.7001 | 0   | FP-5151277  | Plug, Camshaft (15/32" X 1/2")  | 4  | 4  | 4   | 8   |
| 1.7001 | 1   | FP-5108111  | Camshaft Assembly, Left Bank R/H Rot. (Stamped 5108113), (Type 407,419)   | 1  | -  | -   | -   |
| 1.7001 | 1   | FP-5117853  | Camshaft Assembly, Rt Bank R/H Rot. (Stamped 5117872) (Types 40,59,90,92,100,101,135,142,180,184,264,417,421,424,425,428,430,516,563,619) | -  | 1  | -   | -   |
| 1.7010 | 2   | FP-5111422  | Bearing, Camshaft Rear (Std.)   | 2  | 2  | 2   | 4   |
| 1.7010 | 3   | FP-5117984  | Bearing, Camshaft Front (Std.)  | 2  | 2  | 2   | -   |
| 1.7010 | 2   | FP-5194858  | Bearing, Camshaft Rear (.010" U.S.I.D.)   | 2  | 2  | 2   | 4   |
| 1.7010 | 3   | FP-5197569  | Bearing, Camshaft Front (.010" U.S.I.D.)  | 2  | 2  | 2   | -   |
| 1.7012 | 5   | FP-5117243  | Gasket, Camshaft Front End Bearing  | 1  | 1  | 1   | -   |
| 1.7015 | 0   | FP-5111423  | Bushing, Camshaft End Bearings  | 8  | 8  | 8   | 8   |
| 1.7015 | 0   | FP-5194825  | Bushing, Camshaft End Bearings (.020" U.S. Unfinished)  | 8  | 8  | 8   | 8   |
| 1.7030 | 6   | FP-5111424  | Washer, Camshaft Thrust (Std.)  | 4  | 4  | 4   | 8   |
| 1.7030 | 6   | FP-5194826  | Washer, Camshaft Thrust (.005".)  | 4  | 4  | 4   | 8   |
| 1.7030 | 6   | FP-5194827  | Washer, Camshaft Thrust (.010".)  | 4  | 4  | 4   | 8   |
| 1.7040 | 7   | FP-5196026  | Bearing, Camshaft Intermediate (Std.)   | 4  | 6  | 10  | 12  |
| 1.7040 | 7   | FP-5196027  | Bearing, Camshaft Intermediate (.010" U.S.I.D.)   | 4  | 6  | 10  | 12  |
| 1.7050 | 8   | FP-5115572  | Ring, Camshaft Intermediate Bearing Lock  | 8  | 12 | 20  | 24  |
| 1.7060 | 10  | FP-23516871 | Seal, Camshaft Oil (Front Left Bank)  | 1  | 1  | 1   | -   |
| 1.7130 | 13  | FP-5177769  | Lockwasher, 1 1/8"  | 1  | 1  | 1   | -   |
| 1.7130 | 12  | FP-8926247  | Key, 1/4" X 3/4" Woodruff   | 1  | 1  | 1   | -   |
| 1.7190 | 0   | FP-5145092  | Bolt, 3/8" -24 X 1.20" Self Lock  | -  | 4  | -   | -   |
| 1.7200 | 12  | FP-8926247  | Key, 1/4" X 3/4" Woodruff   | 3  | 3  | 4   | 4   |
| 1.7200 | 13  | FP-5177769  | Lockwasher, 1 1/8"  | 1  | 1  | -   | -   |
| 1.7200 | 0   | FP-9412015  | Bolt, 9/16" -18 X 2 1/2" (For Cam's FP-5146163 & FP-5146074)  | 1  | 1  | 1   | 1   |
| 1.7202 | 19  | FP-5116485  | Spacer, (.64" L Front) Camshaft Gear  | 2  | 2  | 2   | -   |
| 1.7207 | 22  | FP-103321   | Lockwasher, 3/8"  | 8  | 8  | 8   | 16  |

# Camshaft

(Figure 5.2)





# Camshaft

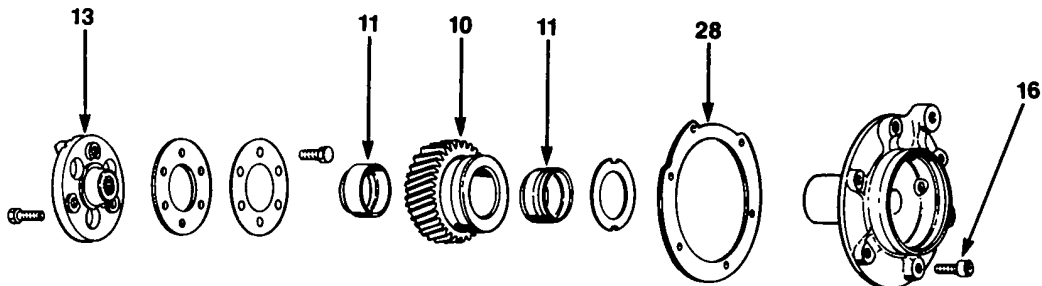
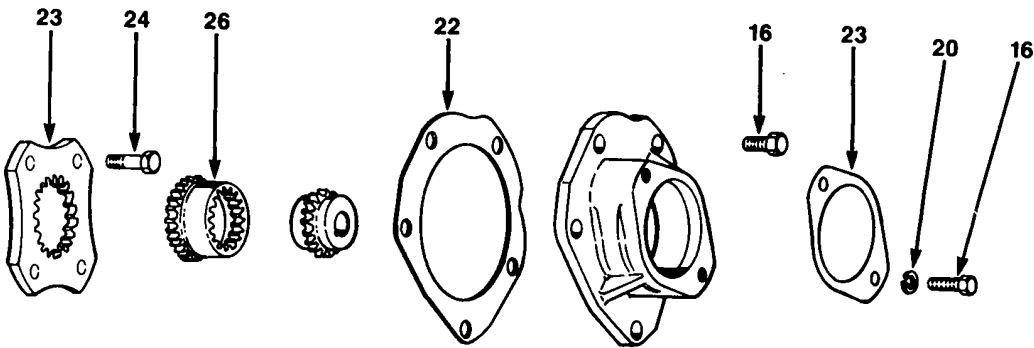
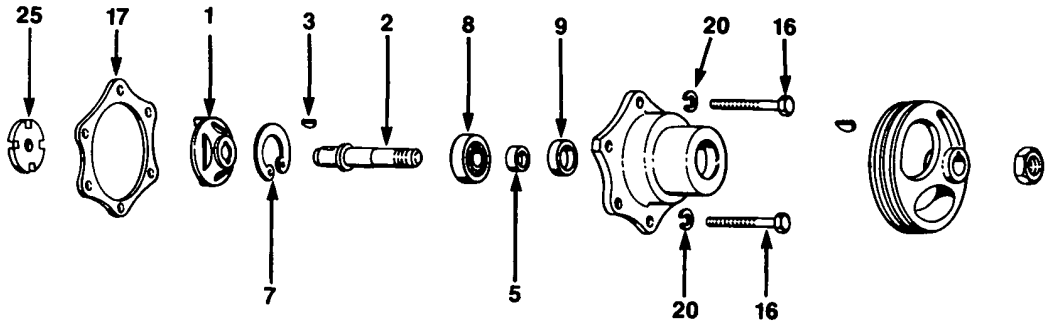
(Figure 5.2)

Groups:  
1.7250 - 1.7500

| Group                       | Ref | Part No.   | Description  | 6V | 8V | 12V | 16V |
|-----------------------------|-----|------------|--|----|----|-----|-----|
| <b>Balance Weight Cover</b> |     |            |  |    |    |     |     |
| 1.7470                      | 0   | FP-103026  | Nut, 3/8"-24   | -  | -  | -   | -   |
| 1.7470                      | 4   | FP-103321  | Lockwasher, 3/8"   | -  | -  | -   | -   |
| 1.7480                      | 5   | FP-5117905 | Gasket, Balance Weight Cover (Type 18,19,20)             | 1  | 1  | 1   | -   |
| 1.7480                      | 5   | FP-5123638 | Gasket, Balance Weight Cover (Type 27,28,44,45)          | 1  | 1  | 1   | -   |
| 1.7480                      | 5   | FP-5123639 | Gasket, Balance Weight Cover (Type 29,49)                | 1  | 1  | 1   | -   |
| 1.7500                      | 8   | FP-5123123 | Gasket, Balance Weight Cover Hole (Type 19,27,44,45,49,) | 1  | 1  | 1   | -   |
| <b>Idler Gear</b>           |     |            |  |    |    |     |     |
| 1.7225                      | 13  | FP-7451948 | Bearing, Idler Gear                                      | 1  | 1  | 1   | 2   |
| 1.7227                      | 15  | FP-5103534 | Bolt, 5/16" - 24 x 1/2" (Vibrate Coated)                 | 6  | 6  | 6   | 6   |
| 1.7227                      | 14  | FP-5176998 | Retainer, Idler Gear Bearing                             | 1  | 1  | 1   | 1   |
| 1.7250                      | 7   | FP-454992  | Bolt, 1/2" -13 X 2 1/2"                                  | 2  | 2  | 4   | 4   |
| 1.7250                      | 16  | FP-5130135 | Hub Assembly Idler Gear                                  | 1  | 1  | 1   | 1   |
| 1.7250                      | 8   | FP-5167714 | Washer, 17/32" X 7/8" X 3/32"                            | 1  | 1  | 2   | 2   |
| 1.7260                      | 9   | FP-5101150 | Spacer, Idler Gear Hole                                  | 1  | 1  | 2   | 2   |

# Accessory Drive

(Figure 5.3)







# Accessory Drive

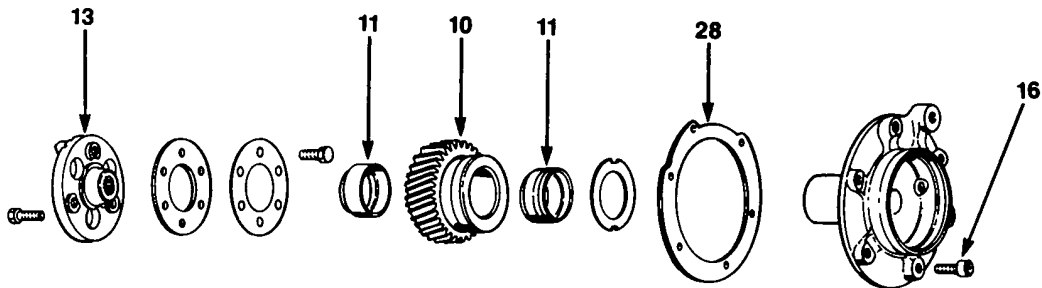
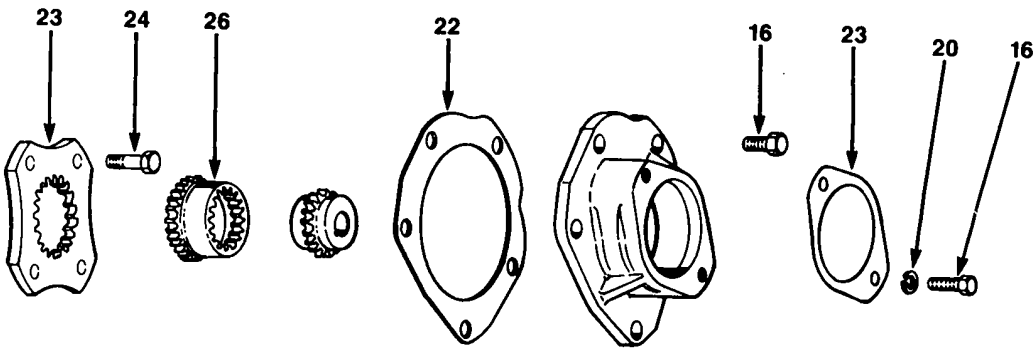
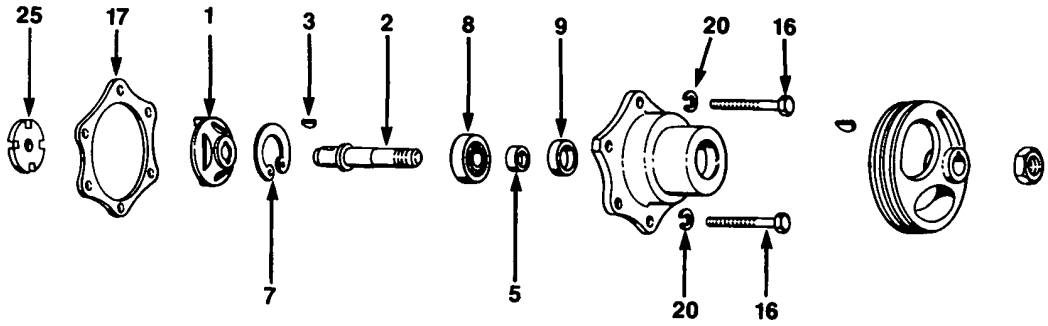
(Figure 5.3)

Groups:  
1.7600 - 1.7635

| Group  | Ref | Part No.          | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--|----|----|-----|-----|
| 1.7600 | 0   | FP-8927580        | Bolt, 3/8" -16 X 7/8"  | 6  | 6  | 6   | 6   |
| 1.7600 | 0   | FP-103026         | Nut, 3/8" -24  | 4  | 4  | 4   | 6   |
| 1.7600 | 11  | FP-5120501        | Bushing, Accessory Drive Gear  | 2  | 2  | 2   | 2   |
| 1.7600 | 0   | FP-8920764        | Plate, Blower Drive Gear Hub Spring  | 2  | 2  | 4   | 4   |
| 1.7600 | 0   | FP-8926293        | Washer, Accessory & Blower Drive Gear Thrust   | 2  | 2  | 2   | 2   |
| 1.7600 | 16  | FP-8927581        | Bolt, 3/8" -16 X 1"  | 14 | 14 | 14  | 14  |
| 1.7600 | 0   | FP-5198174        | Sleeve, Accessory Drive Oil Seal   | 1  | 1  | 1   | 1   |
| 1.7600 | 0   | FP-8926285        | Lockwasher, Accessory & Blower Drive Gear  | 1  | 1  | 1   | 1   |
| 1.7604 | 22  | FP-23515145       | Gasket, Accessory Drive (Type 9,40,47,55,59,62,64,66,68,70,71,77,144,229,230,232,236,237,265,273,276,284,288)                | 1  | 1  | 1   | 1   |
| 1.7604 | 17  | FP-5104507        | Gasket, Accessory Drive (Type 45,46,84,89,90,91,102,121,130,143,164,281,296,344,366)   | 1  | 1  | 1   | 1   |
| 1.7604 | 28  | FP-5148810        | Gasket, Accessory Drive (Type 35,39,44,83,115,122,135,154,155,254,278,297,300,302,348,360,367), (1.7623)                     | 1  | 1  | 1   | 1   |
| 1.7610 | 1   | FP-5144866        | Hub, Drive Pulley (Type 229,230,232,236,237, 283)  | 1  | 1  | 1   | 1   |
| 1.7615 | 0   | FP-5102456        | Seal, Drive Pulley Hub Oil (Type 1,69)   | 1  | 1  | 1   | 1   |
| 1.7622 | 0   | FP-103026         | Nut, 3/8" -24  | 2  | 2  | 2   | 2   |
| 1.7622 | 0   | FP-8927270        | Stud, 3/8" -16/24 X 1 9/16"  | 2  | 2  | 2   | 2   |
| 1.7622 | 0   | FP-5121182        | Plug, 1/4" Pipe  | 1  | 1  | 1   | 1   |
| 1.7623 | 0   | FP-5124926        | Gasket, Accessory Drive Adapter (Type 135)   | 1  | 1  | 1   | 1   |
| 1.7623 | 0   | FP-5188755        | Gasket, Accessory Drive Adapter (Type 136,144,166,167,171,172,179,180,254,255,284,289,331)                                   | 1  | 1  | 1   | 1   |
| 1.7623 | 0   | FP-5196962        | Gasket, Accessory Drive Adapter (Type 99,122,153,297,300,302,336)  | 1  | 1  | 1   | 1   |
| 1.7630 | 24  | FP-5145092        | Bolt, 3/8" -24 X 1.20"   | 4  | 4  | 4   | 4   |
| 1.7630 | 11  | FP-5120501        | Bushing, Accessory Drive Gear  | 2  | 2  | 2   | 2   |
| 1.7630 | 23  | FP-5170450        | Plate, Accessory Drive (21 Teeth)  | 1  | 1  | 1   | 1   |
| 1.7630 | 10  | FP-5193576        | Gear, Accessory Drive (Type 108)   | 1  | 1  | 1   | 1   |
| 1.7635 | 0   | FP-5139545        | Coupling, Accessory Drive (Type 44,45,46,84,85,90,91,96,100,102,105,121,130,143,164,195,232,280,281,310,312,344,348,366,367) | 1  | 1  | 1   | 1   |
| 1.7635 | 0   | FP-5141773        | Coupling, Accessory Drive Compressor Drive   | 1  | 1  | 1   | 1   |
| 1.7635 | 26  | FP-5144866        | Hub, Accessory Drive (Type 183,229,230)  | 1  | 1  | 1   | 1   |
| 1.7635 | 25  | FP-5145282        | Coupling, Accessory Drive (Type 89,254,349)  | 1  | 1  | 1   | 1   |
| 1.7602 | 0   | <b>FP-5198175</b> | <b>Kit, Accessory Drive Seal &amp; Bearing</b>   | 1  | 1  | 1   | 1   |
| 1.7600 | 8   | FP-23503727       | Bearing, Accessory Drive (1.7655)  | 1  | 1  | 1   | 1   |
| 1.7600 | 5   | FP-5133682        | Spacer, Accessory Drive Oil Seal (1.7660)  | 1  | 1  | 1   | 1   |
| 1.7600 | 9   | FP-5138710        | Seal, Accessory Drive Oil (1.7660)   | 1  | 1  | 1   | 1   |

# Accessory Drive

(Figure 5.4)





# Accessory Drive

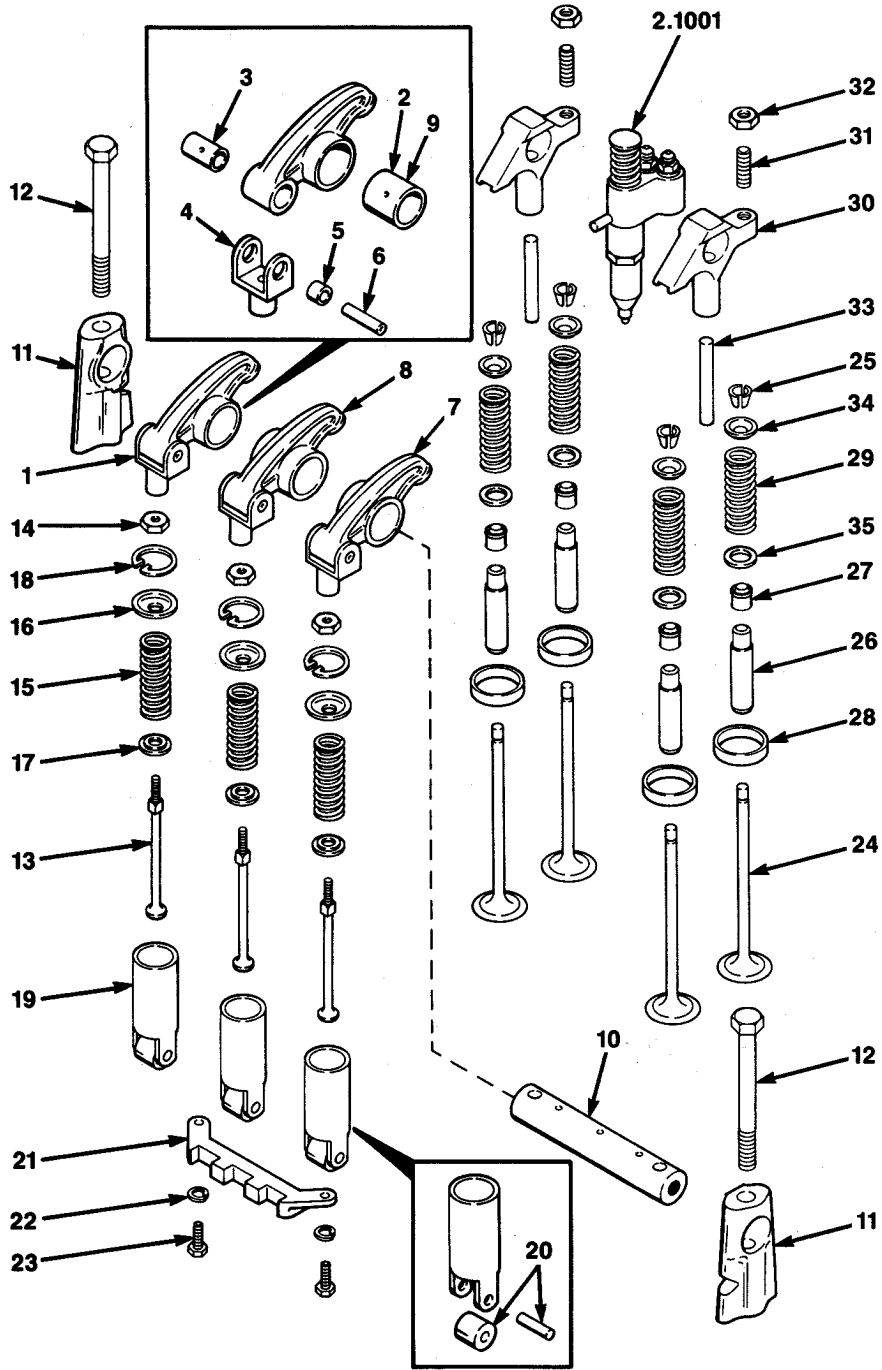
(Figure 5.4)

Groups:  
1.7643 - 1.7750

| Group  | Ref | Part No.   | Description  | 6V | 8V | 12V | 16V |
|--------|-----|------------|--|----|----|-----|-----|
| 1.7643 | 13  | FP-5123081 | Hub, Accessory Drive Gear (Type 96)  | 1  | 1  | 1   | 1   |
| 1.7645 | 5   | FP-5131131 | Spacer, Accessory Drive Seal   | 1  | 1  | 1   | 1   |
| 1.7645 | 9   | FP-5131329 | Seal, Accessory Drive  | 1  | 1  | 1   | 1   |
| 1.7645 | 0   | FP-5152148 | Washer, 3/8" X 9/16" Copper  | 1  | 1  | 1   | 1   |
| 1.7645 | 7   | FP-9415285 | Lockring, Accessory Drive Retainer Bearing   | 1  | 1  | 1   | 1   |
| 1.7645 | 0   | FP-9428477 | Plug, 15/16" Cup   | 1  | 1  | 1   | 1   |
| 1.7647 | 0   | FP-8924380 | Plug, 1/8" Pipe  | 1  | 1  | 1   | 1   |
| 1.7650 | 7   | FP-9415285 | Lockring, Accessory Drive  | 1  | 1  | 1   | 1   |
| 1.7700 | 0   | FP-5124926 | Gasket, Accessory Drive Adapter Cover (Type 122,153,154,297,300,302,336,348,349,381,384) | 1  | 1  | 1   | 1   |
| 1.7750 | 0   | FP-5185793 | Screw, Internal Gear Mount   | 6  | 6  | 6   | 6   |

# Valve Train

(Figure 6.1)





# Valve Train

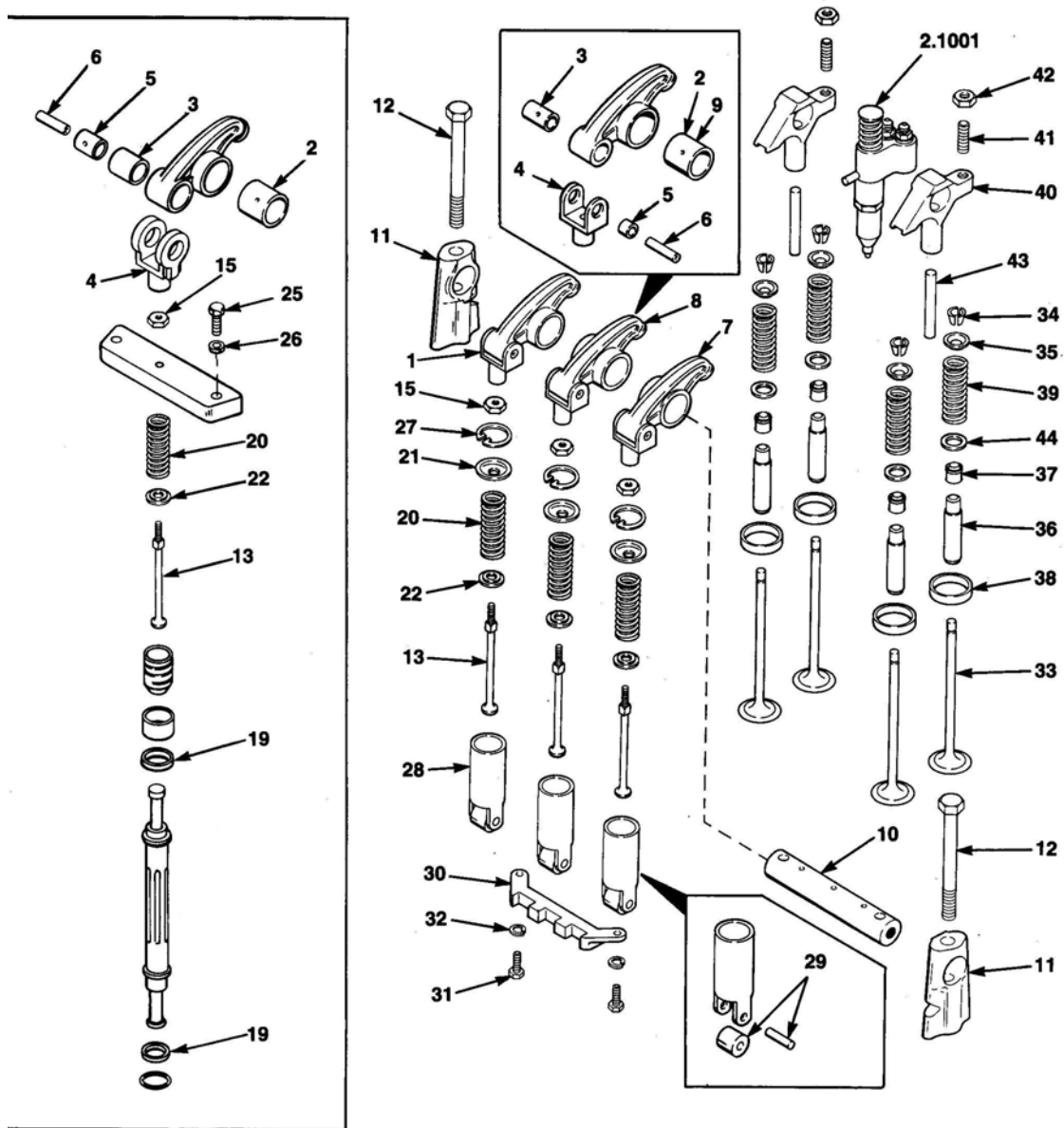
(Figure 6.1)

Groups:  
1.8060 - 1.8360

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 1.8060 | 8   | FP-23502616 | Arm Assembly, Injector (DDEC COACH), (Blue Paint)       | 6  | 8  | -   | -   |
| 1.8060 | 1   | FP-5148472  | Rocker Arm Assembly (Exhaust Valve L.H.)                | 6  | 8  | 12  | 16  |
| 1.8060 | 7   | FP-5148475  | Rocker Arm Assembly (Exhaust Valve R.H.)                | 6  | 8  | 12  | 16  |
| 1.8060 | 8   | FP-8923554  | Arm Assembly, Injector (Unbushed Clevis), (Orange Ink)  | 6  | 8  | 12  | 16  |
| 1.8060 | 11  | FP-5103903  | Bracket, Rocker Shaft                                   | 12 | 16 | 24  | 32  |
| 1.8060 | 12  | FP-5150325  | Bolt, Rocker Shaft Bracket                              | 12 | 16 | 24  | 32  |
| 1.8110 | 9   | FP-8924355  | Bushing, Rocker Arm (Large)                             | 6  | 8  | 12  | 16  |
| 1.8110 | 9   | FP-8924355  | Bushing, Rocker Arm (Large)                             | 6  | 8  | 12  | 16  |
| 1.8110 | 2   | FP-23517217 | Bushing, Rocker Arm Exhaust Valve (Large)               | 12 | 16 | 24  | 32  |
| 1.8120 | 3   | FP-8924354  | Bushing, Rocker Arm (Small)                             | 6  | 8  | 12  | 16  |
| 1.8120 | 3   | FP-8924354  | Bushing, Rocker Arm (Small)                             | 6  | 8  | 12  | 16  |
| 1.8120 | 3   | FP-8924354  | Bushing, Rocker Arm Exhaust Valve (Small)               | 12 | 16 | 24  | 32  |
| 1.8130 | 4   | FP-5150312  | Clevis, Rocker Arm                                      | 6  | 8  | 12  | 16  |
| 1.8130 | 4   | FP-5150312  | Clevis, Rocker Arm Exhaust Valve                        | 12 | 16 | 24  | 32  |
| 1.8130 | 4   | FP-5150312  | Clevis, Rocker Arm                                      | -  | -  | -   | -   |
| 1.8140 | 5   | FP-23502615 | Bushing, Clevis .6295" O.D.                             | 6  | 8  | 12  | 16  |
| 1.8140 | 5   | FP-5123700  | Bushing, Clevis .5625" O.D.                             | 6  | 8  | 12  | 16  |
| 1.8140 | 5   | FP-5123700  | Bushing, Rocker Arm Exhaust Valve Clevis                | 12 | 16 | 24  | 32  |
| 1.8150 | 6   | FP-5150314  | Pin, Clevis, Rocker Arm                                 | 6  | 8  | 12  | 16  |
| 1.8150 | 6   | FP-5150314  | Pin, Clevis, Rocker Arm                                 | 6  | 8  | 12  | 16  |
| 1.8150 | 6   | FP-5150314  | Pin, Clevis, Rocker Arm                                 | 12 | 16 | 24  | 32  |
| 1.8160 | 10  | FP-23500714 | Shaft Assembly, Rocker (FP-5150322)                     | 6  | 8  | 12  | 16  |
| 1.8180 | 13  | FP-5128640  | Rod, Push   | 18 | 24 | 36  | 48  |
| 1.8180 | 15  | FP-5151601  | Nut, Push Rod 5/16" -24 Lock                            | 18 | 24 | 36  | 48  |
| 1.8190 | 20  | FP-5186858  | Spring, Push Rod  | 18 | 24 | 36  | 48  |
| 1.8200 | 21  | FP-5150302  | Seat, Push Rod Spring-Upper                             | 18 | 24 | 36  | 48  |
| 1.8210 | 22  | FP-5123250  | Seat, Push Rod Spring-Lower                             | 18 | 24 | 36  | 48  |
| 1.8250 | 27  | FP-5150303  | Retainer, Push Rod                                      | 18 | 24 | 36  | 48  |
| 1.8260 | 29  | FP-8923814  | Pin & Roller, Follower Assembly                         | 18 | 24 | 36  | 48  |
| 1.8260 | 28  | FP-8924439  | Follower Assembly, Camshaft                             | 18 | 24 | 36  | 48  |
| 1.8300 | 32  | FP-103319   | Lockwasher 1/4"   | 12 | 16 | 24  | 32  |
| 1.8300 | 31  | FP-443603   | Bolt, 1/4" -20 X 3/4"                                   | 12 | 16 | 24  | 32  |
| 1.8320 | 36  | FP-5129919  | Guide, Exhaust Valve (4 Valve Head)                     | 24 | 32 | 48  | 64  |
| 1.8320 | 0   | FP-5199913  | Installer, Exhaust Valve Seal (Green Stripe), (4 Valve) | 24 | 32 | 48  | 64  |
| 1.8320 | 37  | FP-8921209  | Seal, Exhaust Valve (4 Valve Head)                      | 24 | 32 | 48  | 64  |
| 1.8320 | 37  | FP-23500480 | Seal, Exhaust Valve (2 Valve Head)                      | 12 | 16 | 24  | 32  |
| 1.8320 | 36  | FP-5120930  | Guide, Exhaust Valve (2 Valve Head)                     | 12 | 16 | 24  | 32  |
| 1.8320 | 36  | FP-5192717  | Guide, Exhaust Valve (2 Valve Head), (.016" O.S.O.D.)   | 12 | 16 | 24  | 32  |
| 1.8320 | 0   | FP-5199914  | Installer, Exhaust Valve Seal (Clear), (2 Valve)        | 12 | 16 | 24  | 32  |
| 1.8330 | 38  | FP-5101101  | Insert, Exhaust Valve (Std.), (30°), (4 Valve)          | 24 | 32 | 48  | 64  |
| 1.8330 | 38  | FP-5197167  | Insert, Exhaust Valve (.010 O.S. 30°), (4 Valve)        | 24 | 32 | 48  | 64  |
| 1.8330 | 38  | FP-5198230  | Insert, Exhaust Valve (.010 O.S. 30°), (2 Valve)        | 12 | 16 | 24  | 32  |
| 1.8330 | 38  | FP-8927920  | Insert, Exhaust Valve (Std. 30°), (2 Valve)             | 12 | 16 | 24  | 32  |
| 1.8340 | 39  | FP-5111339  | Spring, Exhaust Valve (4 Valve Head), (.135" Wire Dia.) | 24 | 32 | 48  | 64  |
| 1.8340 | 39  | FP-5147347  | Spring, Exhaust Valve (4 Valve Head), (.148" Wire Dia.) | 24 | 32 | 48  | 64  |
| 1.8340 | 39  | FP-5150289  | Spring, Exhaust Valve (2 Valve Head), (.177" Wire Dia.) | 12 | 16 | 24  | 32  |
| 1.8343 | 0   | FP-5103099  | Bridge Assy, Exhaust Valve                              | 12 | 16 | 24  | 32  |
| 1.8343 | 40  | FP-5117565  | Bridge, Exhaust Valve                                   | 12 | 16 | 24  | 32  |
| 1.8343 | 41  | FP-5129101  | Screw, 5/16" -24 X 1                                    | 12 | 16 | 24  | 32  |
| 1.8343 | 42  | FP-5151601  | Nut, 5/16" -24  | 12 | 16 | 24  | 32  |
| 1.8345 | 43  | FP-5117564  | Guide, Exhaust Valve Bridge (Press Fit)                 | 12 | 16 | 24  | 32  |

# Valve Train

(Figure 6.1)





# Valve Train

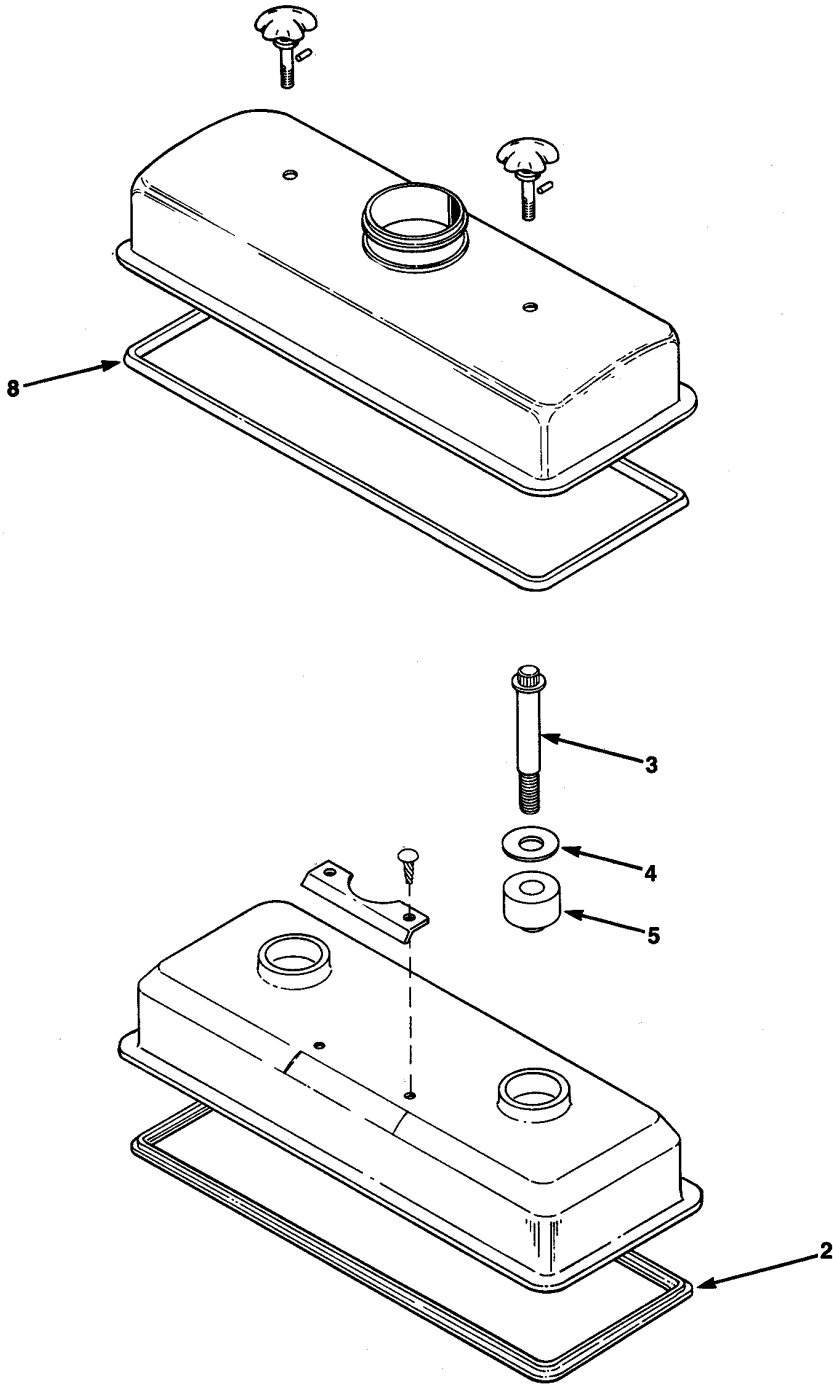
(Figure 6.1)

Groups:  
1.8060 - 1.8360

| Group  | Ref | Part No.           | Description   | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|---|----|----|-----|-----|
| 1.8345 | 43  | FP-51175646        | Guide, Exhaust Valve Bridge .006 O.S. (Press Fit)                 | 12 | 16 | 24  | 32  |
| 1.8345 | 43  | FP-5196843         | Guide, Exhaust Valve Bridge (Threaded Type)                       | 12 | 16 | 24  | 32  |
| 1.8350 | 35  | FP-5117563         | Cap, Exhaust Valve Spring (4 Valve Head)                          | 24 | 32 | 48  | 64  |
| 1.8350 | 35  | FP-5150291         | Cap, Exhaust Valve Spring (2 Valve Head)                          | 12 | 16 | 24  | 32  |
| 1.8360 | 0   | FP-5111467         | Washer, Exhaust Valve Spring                                      | 24 | 32 | 48  | 64  |
| 1.8360 | 44  | FP-5117562         | Seat, Exhaust Valve Spring (4 Valve Head)                         | 24 | 32 | 48  | 64  |
| 1.8360 | 44  | FP-5150292         | Seat, Exhaust Valve Spring (2 Valve Head)                         | 12 | 16 | 24  | 32  |
| 1.8310 | 0   | <b>FP-23500501</b> | <b>Valve Kit, Exhaust (w/Locks), (4 V Hd), (N &amp; T)</b>        | 24 | 32 | 48  | 64  |
| 1.8310 | 34  | FP-5111337         | Lock, Valve (4 Valve Head)  | 48 | 64 | 96  | 128 |
| 1.8310 | 24  | FP-8922516         | Valve, Exhaust (Code U, Pyromet 31), (4V Hd), (N & T)             | 24 | 32 | 48  | 64  |
| 1.8310 | 0   | <b>FP-5149386</b>  | <b>Valve Kit, Exhaust (w/Locks), (4 V Hd), (High Output)</b>      | 24 | 32 | 48  | 64  |
| 1.8310 | 34  | FP-5111337         | Lock, Valve (4 Valve Head)  | 48 | 64 | 96  | 128 |
| 1.8310 | 0   | <b>FP-5193666</b>  | <b>Valve Kit (30 Deg), (2 Valve Head), (Jet Blade), (w/Locks)</b> | 12 | 16 | 24  | 32  |
| 1.8310 | 34  | FP-23507238        | Lock, Valve (2 Valve Head)  | 24 | 32 | 48  | 64  |

# Valve Train

(Figure 6.2)







# Valve Train

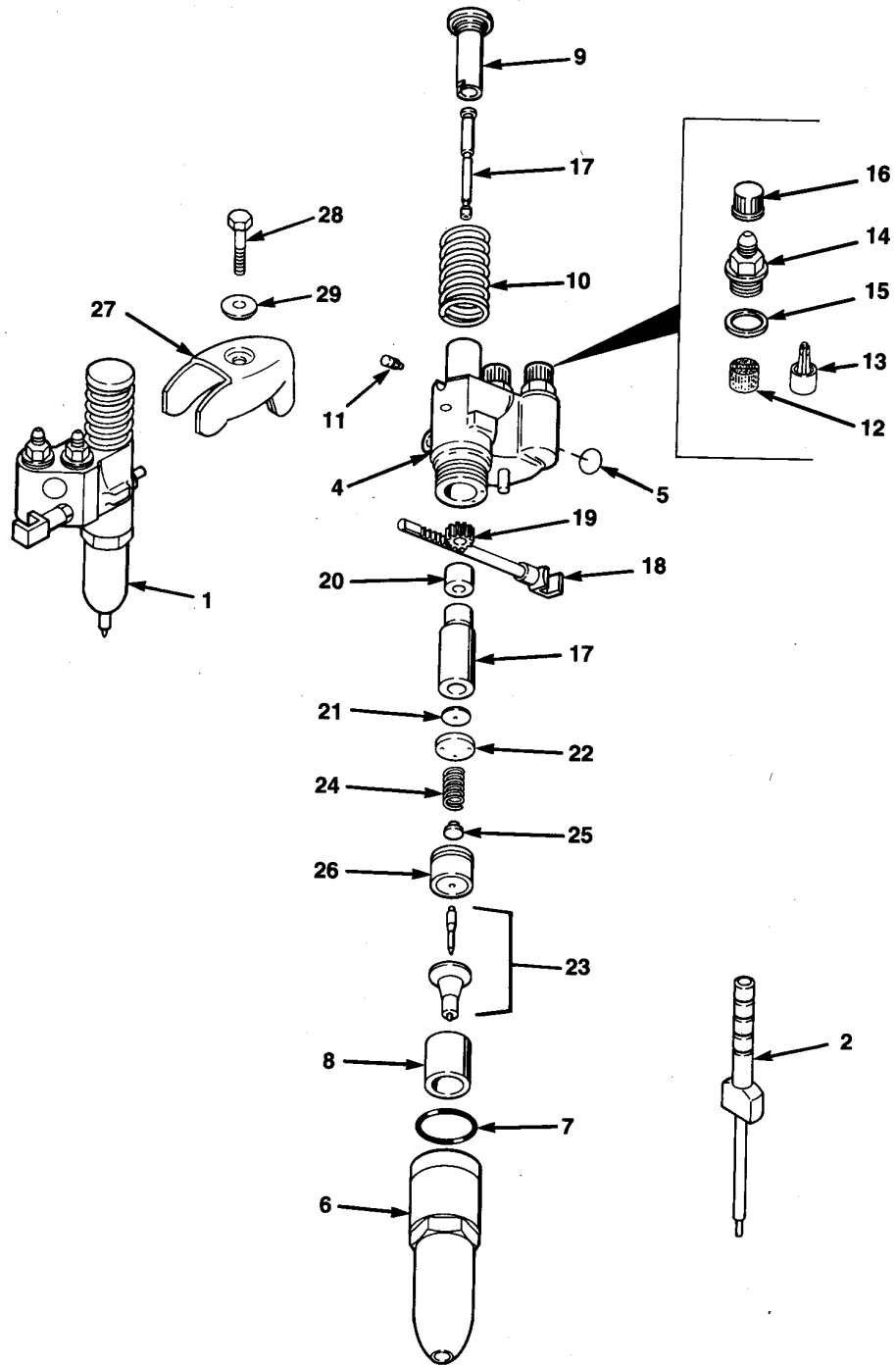
(Figure 6.2)

Groups:  
1.8451 - 1.8475

| Group               | Ref | Part No.   | Description                                     | 6V | 8V | 12V | 16V |
|---------------------|-----|------------|---|----|----|-----|-----|
| <b>Rocker Cover</b> |     |            |   |    |    |     |     |
| 1.8451              | 3   | FP-5104015 | Bolt, Rocker Cover 3/8" -16 X 6.57" L 12 Pt     | 4  | 4  | 4   | 16  |
| 1.8451              | 4   | FP-5104514 | Washer, Isolator .47" X 2.00"                   | 4  | 4  | 4   | 8   |
| 1.8451              | 5   | FP-5104515 | Isolator, Rocker Cover Bolt                     | 4  | 4  | 4   | 8   |
| 1.8451              | 0   | FP-5149510 | Installation Kit, Aluminum Rocker Cover         | 2  | -  | -   | -   |
| 1.8451              | 0   | FP-5103635 | Bolt, Throttle Delay 3/8" -16 X 2.90"           | 1  | 1  | 1   | 1   |
| 1.8451              | 0   | FP-5149511 | Installation Kit, Aluminum Rocker Cover         | -  | 2  | -   | 4   |
| 1.8451              | 0   | FP-5149512 | Installation Kit, Aluminum Rocker Cover         | -  | -  | 2   | -   |
| 1.8455              | 2   | FP-5104018 | Gasket, Silicone, Aluminum Rocker Cover (3 Cyl) | 2  | -  | -   | -   |
| 1.8455              | 8   | FP-5143405 | Gasket, Neoprene, Stamped Rocker Cover (3 Cyl)  | 2  | -  | -   | -   |
| 1.8455              | 2   | FP-5104081 | Gasket, Silicone, Aluminum Rocker Cover (4 Cyl) | -  | 2  | -   | 4   |
| 1.8455              | 8   | FP-5143406 | Gasket, Neoprene, Stamped Rocker Cover (4 Cyl)  | -  | 2  | -   | 4   |
| 1.8455              | 2   | FP-5104019 | Gasket, Silicone, Aluminum Rocker Cover (6 Cyl) | -  | -  | 2   | -   |
| 1.8455              | 8   | FP-5143407 | Gasket, Neoprene, Stamped Rocker Cover (6 Cyl)  | -  | -  | 2   | -   |
| 1.8475              | 0   | FP-5148504 | Stud, 17/32"                                    | -  | 4  | 4   | 4   |

# Fuel Injector

(Figure 7.1)





# Fuel Injector

(Figure 7.1)

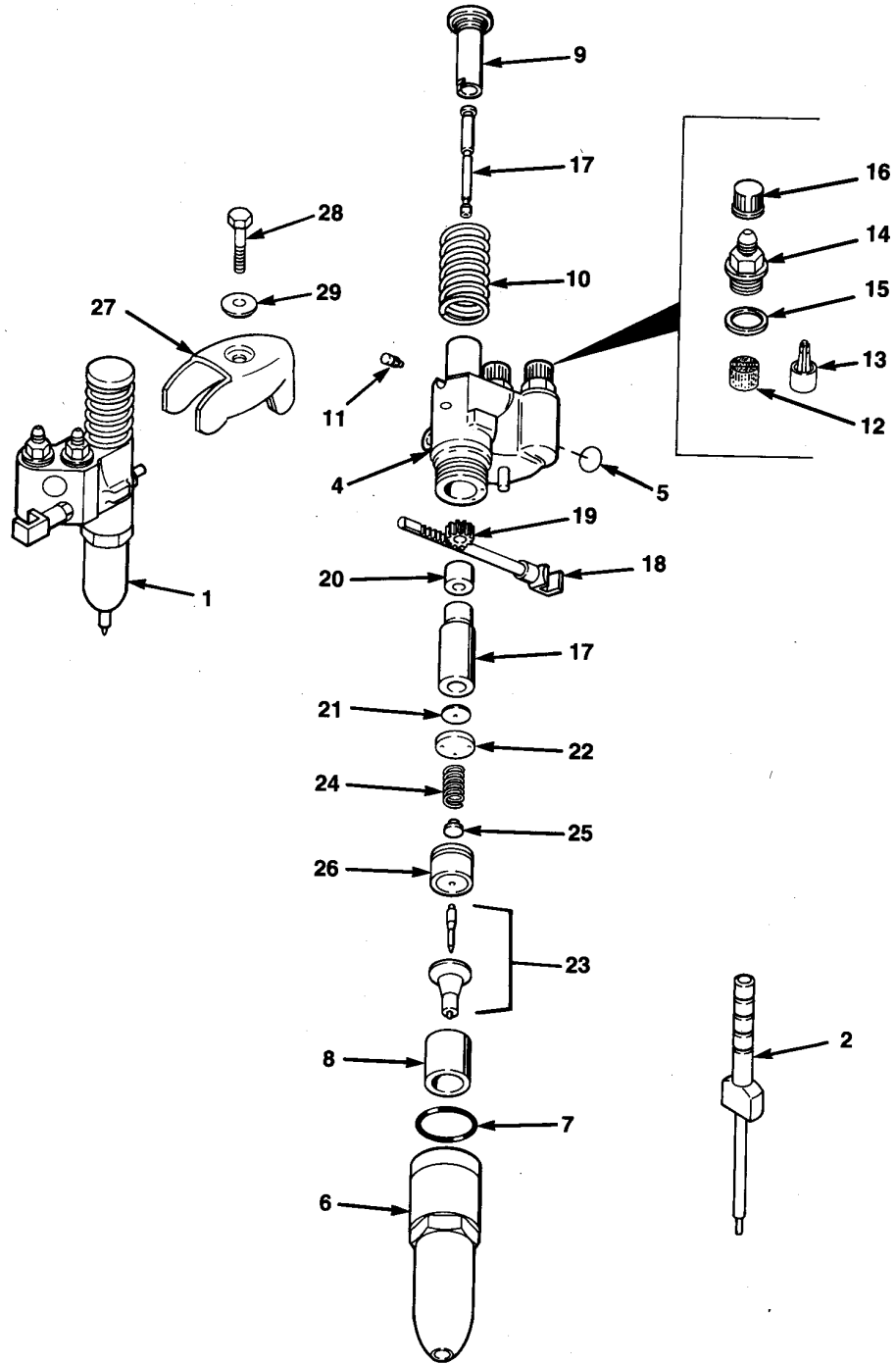
Groups:  
2.1001 - 2.1220

| Group  | Ref | Part No.   | Description                                       | 6V | 8V | 12V | 16V |
|--------|-----|------------|---|----|----|-----|-----|
| 2.1001 | 0   | FP-5226272 | Tip Assy, Injector (For 5227425, 5227495 Inj.)    | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5226440 | Injector Assembly, 7N65 (Option Types 242,247)    | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5227015 | Injector Assembly, M95 (Option Type 64)           | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5228760 | Injector Assembly, N60 (Option Types 53,78)       | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5228770 | Injector Assembly, N70 (Option Types 57,71,80,83) | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5228777 | Injector Assembly, N75 (Option Types 73, 81)      | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5228780 | Injector Assembly, N80 (Option Type 82)           | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5228785 | Injector Assembly, N55 (Option Types 60,77)       | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5228900 | Injector Assembly, N65 BT (Option Type 97)        | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229355 | Injector Assembly, C55 (Option Type 111)          | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229360 | Injector Assembly, C60 (Option Type 113)          | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229365 | Injector Assembly, C65 (Option Types 115,192)     | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229695 | Injector Assembly, 7C75 (Option Types 153,199)    | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229715 | Injector Assy, 9215                               | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229790 | Injector Assembly, 7E55 (Option Type 163)         | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229795 | Injector Assembly, 7E60 (Option Type 164)         | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229800 | Injector Assembly, 7E65 (Option Type 165)         | 6  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229895 | Injector Assembly, 7G65 (Option Type 246)         | 6  | 8  | 12  | 16  |
| 2.1020 | 0   | FP-5228787 | Number Tag, Fuel Injector (N80)                   | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228304 | Plunger & Bushing (S70)                           | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228306 | Plunger & Bushing (S60, 658)                      | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228656 | Plunger & Bushing, N60                            | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228658 | Plunger & Bushing, N65 WT                         | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228658 | Plunger & Bushing, N75                            | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228661 | Plunger & Bushing, N80                            | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228668 | Plunger & Bushing, N55                            | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228682 | Plunger & Bushing, N70                            | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228928 | Plunger & Bushing, N65 BT                         | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229513 | Plunger & Bushing (140)                           | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5228312 | Tip, Injector Spray                               | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, N55                          | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, N60                          | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, N65 WT                       | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229030 | Tip, Injector Spray, N65 BT                       | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229192 | Tip, Injector Spray, N70                          | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229192 | Tip, Injector Spray, N75                          | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229256 | Tip, Injector Spray, N80                          | 6  | 8  | 12  | 16  |

\* Injectors are available in rebuilt exchange by using the suffix 'R'. Refer to Section II of FP Diesel's Distributor Price List for core charges.

# Fuel Injector

(Figure 7.2)





# Fuel Injector

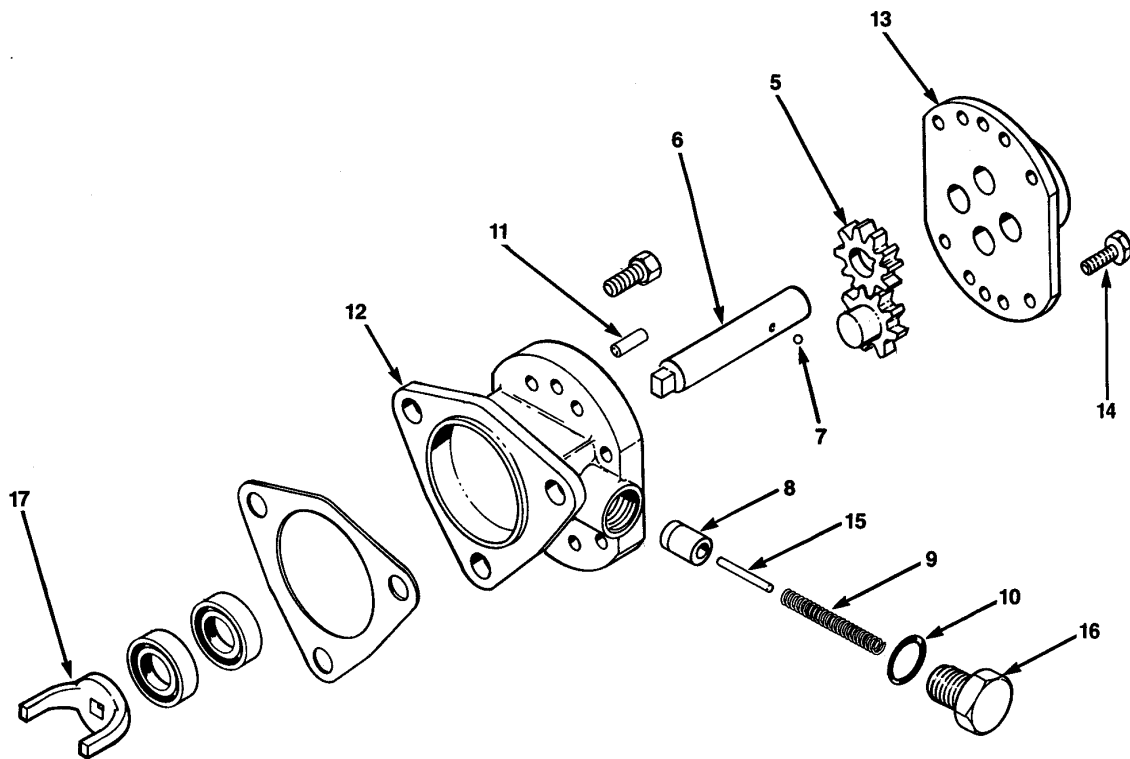
(Figure 7.2)

Groups:  
2.1160 - 2.2130

| Group  | Ref | Part No.   | Description  | 6V | 8V | 12V | 16V |
|--------|-----|------------|--|----|----|-----|-----|
| 2.1160 | 17  | FP-5228658 | Plunger & Bushing, 7C75                              | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228682 | Plunger & Bushing, 7C70                              | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228804 | Plunger & Bushing, M95                               | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5228878 | Plunger & Bushing, N90                               | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229354 | Plunger & Bushing, 71C5                              | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229356 | Plunger & Bushing, C55                               | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229362 | Plunger & Bushing, C60                               | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229366 | Plunger & Bushing, C65                               | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229372 | Plunger & Bushing, C70                               | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229808 | Plunger & Bushing, 7E75                              | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229808 | Plunger & Bushing, 7G75                              | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229814 | Plunger & Bushing, 7E60                              | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229823 | Plunger & Bushing, 7E55                              | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229912 | Plunger & Bushing, 7G70                              | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229916 | Plunger & Bushing, 7G65                              | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, 71C5                            | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, 7E55                            | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, 7E60                            | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, C55                             | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229026 | Tip, Injector Spray, C60                             | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229030 | Tip, Injector Spray, 7E65                            | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229192 | Tip, Injector Spray, 7N65                            | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229192 | Tip, Injector Spray, C65                             | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229192 | Tip, Injector Spray, C70                             | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229256 | Tip, Injector Spray, M95                             | 6  | 8  | 12  | 16  |
| 2.1220 | 23  | FP-5229256 | Tip, Injector Spray, N90                             | 6  | 8  | 12  | 16  |
| 2.1600 | 0   | FP-8925325 | Bushing, Pipe - Fuel System (Red 3/8 PTF, 1/4" Zinc) | AR | AR | AR  | AR  |
| 2.2001 | 0   | FP-5199560 | Kit, Fuel Pump Standard Output L.H.                  | 1  | 1  | 1   | 1   |
| 2.2001 | 0   | FP-5199561 | Kit, Fuel Pump Standard Output R.H.                  | 1  | 1  | 1   | 1   |
| 2.2001 | 0   | FP-5199734 | Kit, Fuel Pump (High Output R.H.)                    | 1  | 1  | 1   | 1   |
| 2.2001 | 0   | FP-5199735 | Kit, Fuel Pump (High Output L.H.)                    | 1  | 1  | 1   | 1   |
| 2.2130 | 23  | FP-5228554 | Tip, Injector Spray (S70, S80)                       | 6  | 8  | 12  | 16  |

# Fuel Pump

(Figure 8.1)





# Fuel Pump

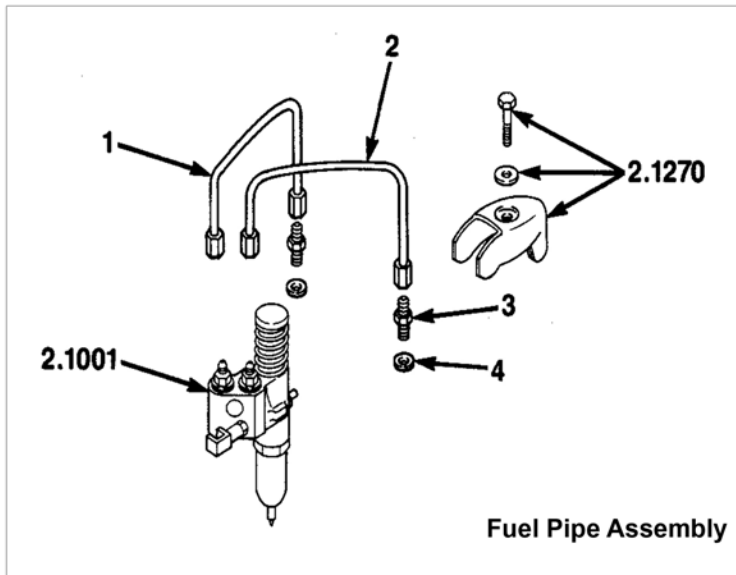
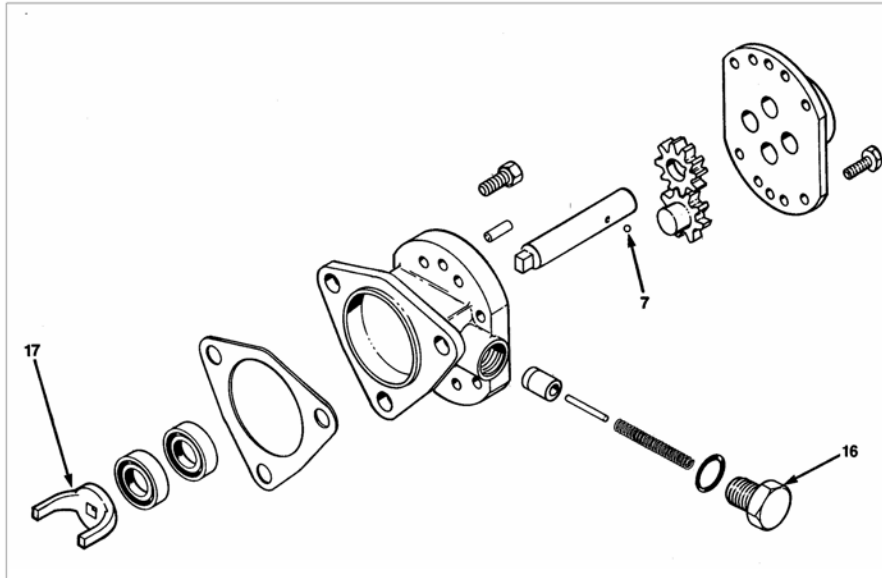
(Figure 8.1)

Groups:  
2.2001 - 2.2180

| Group  | Ref | Part No.          | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--|----|----|-----|-----|
| 2.2001 | 0   | FP-5199560        | Kit, Fuel Pump (Standard Output L.H.)                              | 1  | 1  | 1   | 1   |
| 2.2001 | 0   | FP-5199561        | Kit, Fuel Pump (Standard Output R.H.)                              | 1  | 1  | 1   | 1   |
| 2.2001 | 0   | FP-5199734        | Kit, Fuel Pump (High Output R.H.)                                  | 1  | 1  | 1   | 1   |
| 2.2001 | 0   | FP-5199735        | Kit, Fuel Pump (High Output L.H.)                                  | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5100313</b> | <b>Shaft Assembly Fuel Pump Driven (.963"L), (High Output)</b>     | 1  | 1  | 1   | 1   |
| 2.2004 | 4   | FP-5100312        | Shaft, Fuel Pump Driven (.963"L), (High Output)                    | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | FP-5118915        | Gear, Fuel Pump Driven (.374" W.), (High Output)                   | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5146705</b> | <b>Shaft Assembly Fuel Pump Drive (3.09" L), (High Output)</b>     | 1  | 1  | 1   | 1   |
| 2.2004 | 6   | FP-5178700        | Shaft, Fuel Pump Drive (3.09" L), (High. Output)                   | 1  | 1  | 1   | 1   |
| 2.2004 | 5   | FP-5128217        | Gear, Fuel Pump Drive (.374" W.), (High Output)                    | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5149599</b> | <b>Overhaul Kit, Fuel Pump (High Output)</b>                       | 1  | 1  | 1   | 1   |
| 2.2007 | 1   | FP-5150193        | Gasket, Fuel Pump Mounting   | 1  | 1  | 1   | 1   |
| 2.2010 | 0   | FP-5136240        | Plug, Cap Fuel Pump Body 1/4"                                      | 1  | 1  | 1   | 1   |
| 2.2010 | 0   | FP-5136241        | Plug, Cap Fuel Pump Body 3/8"                                      | 2  | 2  | 2   | 2   |
| 2.2070 | 3   | FP-23512243       | Seal, Fuel Pump Oil (5107223)                                      | 1  | 1  | 1   | 1   |
| 2.2093 | 6   | FP-5146705        | Shaft Assembly Fuel Pump Drive (3.09" L), (High Output)            | 1  | 1  | 1   | 1   |
| 2.2093 | 4   | FP-5100313        | Shaft Assembly Fuel Pump Driven (.963"L), (High Output)            | 1  | 1  | 1   | 1   |
| 2.2130 | 8   | FP-5174973        | Valve, Fuel Pump   | 1  | 1  | 1   | 1   |
| 2.2130 | 11  | FP-103709         | Pin, 5/32" X 1" Straight   | 2  | 2  | 2   | 2   |
| 2.2160 | 9   | FP-5184530        | Spring, Fuel Pump Valve Retaining                                  | 1  | 1  | 1   | 1   |
| 2.2180 | 10  | FP-5161003        | Gasket, Fuel Pump Valve Plug                                       | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5181746</b> | <b>Shaft &amp; Gear, Fuel Pump Drive (.3.09"L), (Std. Output)</b>  | 1  | 1  | 1   | 1   |
| 2.2004 | 6   | FP-5178700        | Shaft, Fuel Pump Drive (3.09" L), (Std. Output)                    | 1  | 1  | 1   | 1   |
| 2.2004 | 5   | FP-5174975        | Gear, Fuel Pump Drive (.294" W.), (Std. Output)                    | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5181747</b> | <b>Shaft &amp; Gear, Fuel Pump Driven (.838" L), (Std. Output)</b> | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | FP-5181749        | Shaft, Fuel Pump Driven (.838" L), (Std. Output)                   | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | FP-5181748        | Gear, Fuel Pump Driven (.294" W.)                                  | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5195078</b> | <b>Overhaul Kit, Fuel Pump (Standard Output)</b>                   | 1  | 1  | 1   | 1   |
| 2.2007 | 1   | FP-5150193        | Gasket, Fuel Pump Mounting   | 1  | 1  | 1   | 1   |
| 2.2010 | 0   | FP-5136240        | Plug, Cap (.420" Dia., Outlet)                                     | 2  | 2  | 2   | 2   |
| 2.2010 | 0   | FP-5136241        | Plug, Cap (.580" Dia., Outlet)                                     | 1  | 1  | 1   | 1   |
| 2.2070 | 3   | FP-23512243       | Seal, Fuel Pump Oil (FP-5107223)                                   | 2  | 2  | 2   | 2   |
| 2.2093 | 6   | FP-5181746        | Shaft & Gear, Fuel Pump Drive (3.09"L), (Std. Output)              | 1  | 1  | 1   | 1   |
| 2.2093 | 4   | FP-5181747        | Shaft & Gear, Fuel Pump Driven (.838" L), (Std. Output)            | 1  | 1  | 1   | 1   |
| 2.2130 | 11  | FP-103709         | Pin, 5/32" X 1" Straight   | 1  | 1  | 1   | 1   |
| 2.2130 | 8   | FP-5174973        | Valve, Fuel Pump   | 1  | 1  | 1   | 1   |
| 2.2160 | 9   | FP-5184530        | Spring, Fuel Pump Valve Retaining                                  | 1  | 1  | 1   | 1   |
| 2.2180 | 10  | FP-5161003        | Gasket, Fuel Pump Valve Plug                                       | 1  | 1  | 1   | 1   |

# Fuel Pump

(Figure 8.2)







# Fuel Pump

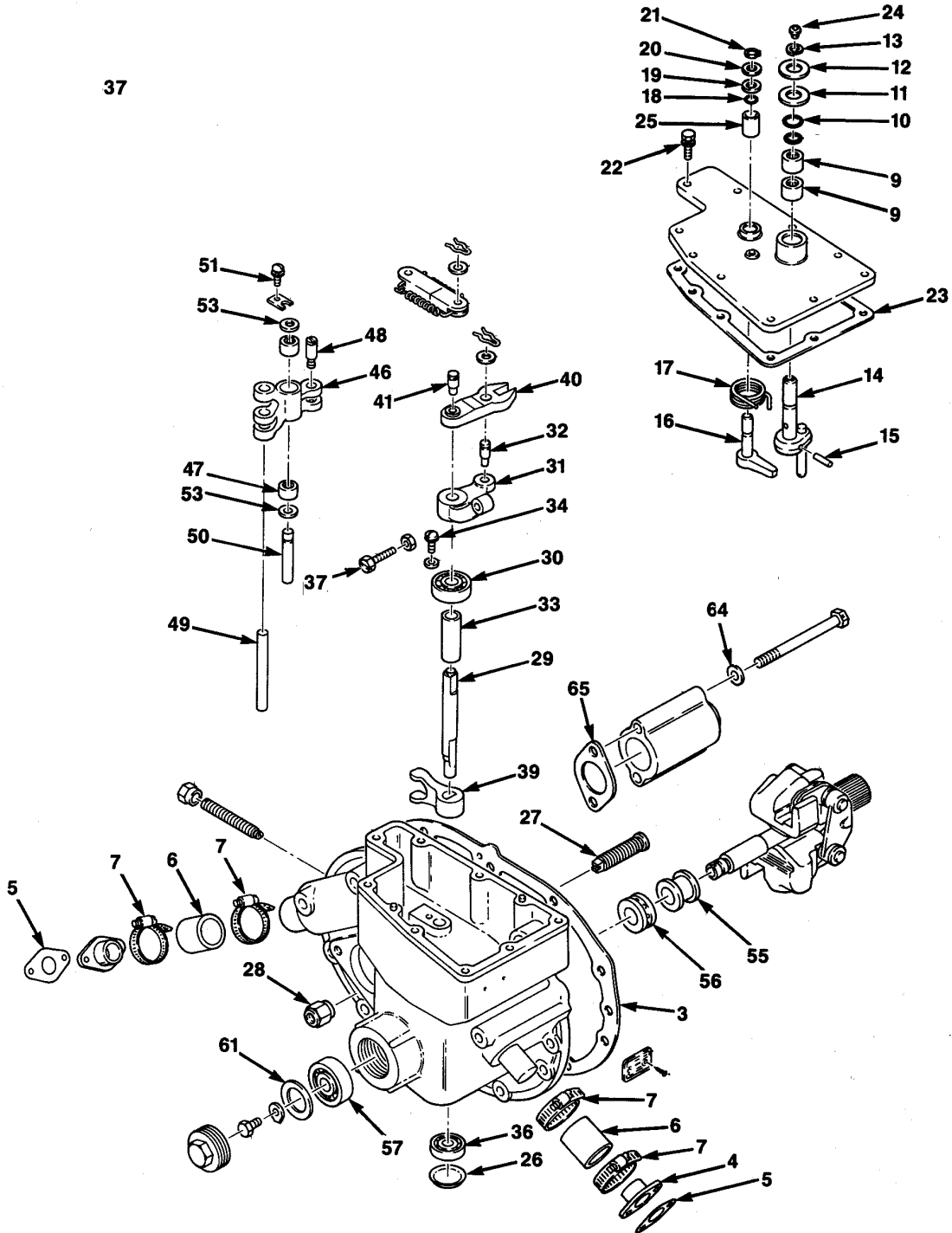
(Figure 8.2)

Groups:  
2.2004 - 4.4020

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 2.2004 | 7   | FP-147481   | Ball, 1/8" Steel                                       | 1  | 1  | 1   | 1   |
| 2.2170 | 16  | FP-5174971  | Plug, 1/2" -20 Fuel Pump Valve                         | 1  | 1  | 1   | 1   |
| 2.2220 | 17  | FP-5102257  | Fork, Fuel Pump Coupling                               | -  | 1  | 1   | 1   |
| 2.2230 | 0   | FP-5154216  | Coupling, Fuel Pump Drive                              | 1  | -  | -   | -   |
| 2.2237 | 0   | FP-23515145 | Gasket, Fuel Pump Mounting Plate                       | -  | -  | -   | 1   |
| 2.2280 | 0   | FP-5152122  | Gasket, Fuel Pump Drive Adapter                        | 1  | -  | -   | -   |
| 2.4015 | 0   | FP-5121182  | Plug, 1/4" Pipe  | 1  | 1  | 1   | 1   |
| 2.4020 | 11  | FP-23511850 | Fuel Pipe Assembly, Injector To Stand Pipe (Short)     | 6  | 8  | 12  | 16  |
| 2.4030 | 13  | FP-8926992  | Connector, Fuel Pipe                                   | 4  | -  | -   | -   |
| 2.4030 | 13  | FP-5117369  | Connector, Fuel Pipe                                   | -  | 6  | 8   | 12  |
| 2.4050 | 0   | FP-5152148  | Washer, 25/64" X 9/16" X 1/16"                         | 4  | -  | -   | -   |
| 2.4050 | 0   | FP-5125108  | Washer, 7/16" X 3/4" X 1/16"                           | -  | 6  | 8   | 12  |
| 2.5006 | 0   | FP-5135308  | Valve, Fuel Check 3/8" (Swing Type)                    | 1  | 1  | 1   | 1   |
| 2.5006 | 0   | FP-5174924  | Valve, Fuel Check 1/4" (Swing Type)                    | 1  | 1  | 1   | 1   |
| 2.5006 | 0   | FP-5179938  | Seal Ring, 3/8" Sealastic                              | -  | -  | 1   | 1   |
| 3.4020 | 12  | FP-23511851 | Fuel Pipe Assembly, Injector To Stand Pipe (Long)      | 6  | 8  | 12  | 16  |
| 4.4020 | 0   | FP-23511856 | Fuel Pipe Assembly, Injector To Stand Pipe (Std. Body) | 6  | 8  | 12  | 16  |

# Governor

(Figure 9.1)





# Governor

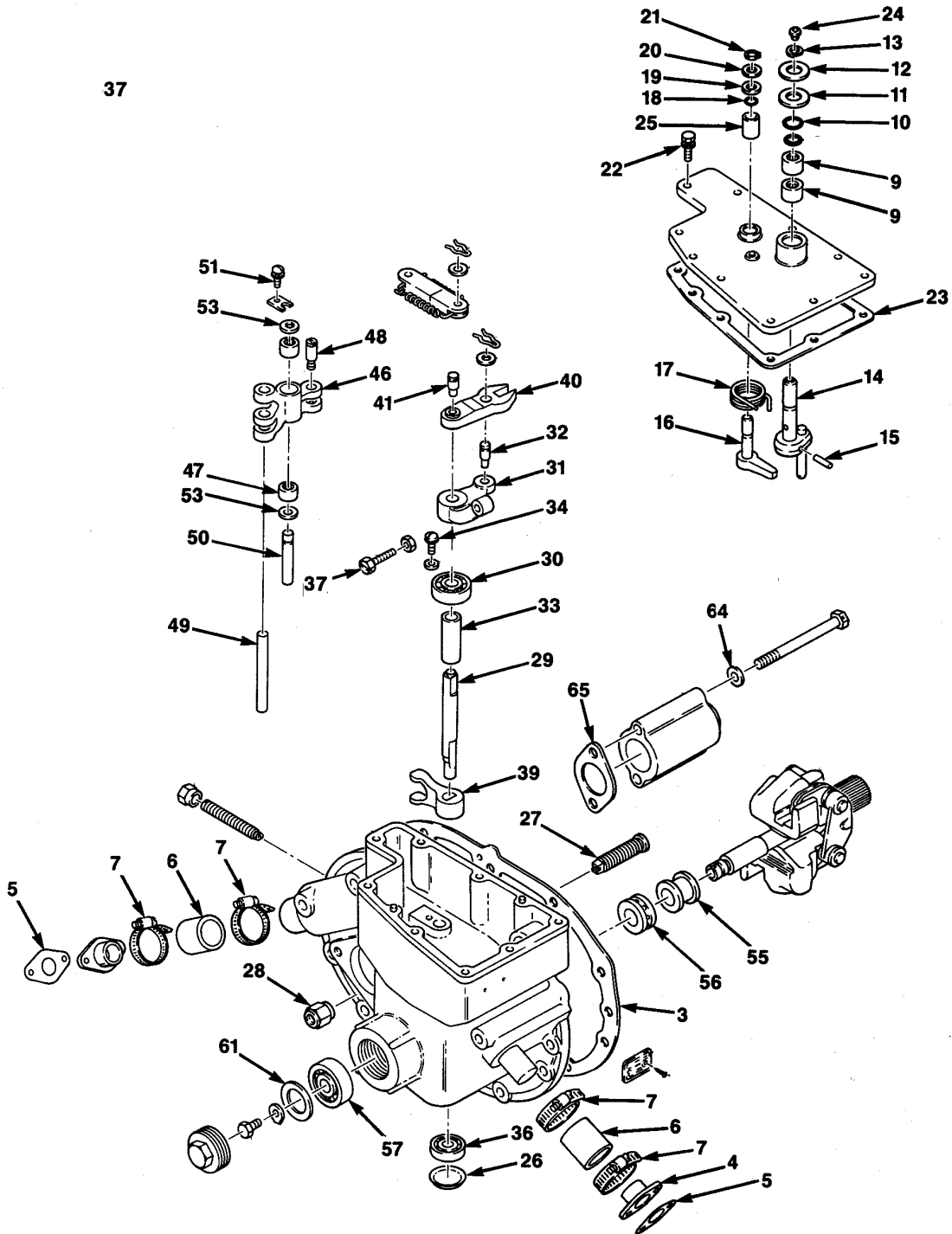
(Figure 9.1)

Groups:  
2.7001 - 2.7045

| Group  | Ref | Part No.        | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-----------------|--|----|----|-----|-----|
| 2.6545 | 0   | FP-8927412      | Gasket, Governor Actuator Control Housing Mounting                 | 1  | 1  | 1   | 1   |
| 2.6561 | 0   | FP-10019739     | Clamp, Governor Actuator Tube (Snap Type)                          | AR | AR | AR  | AR  |
| 2.7001 | 49  | FP-5127375      | Pin, .309" Dia. X 3.12" (L. Control Link Lever), (2.7317)          | 1  | 1  | 2   | 2   |
| 2.7001 | 0   | FP-5155596      | Washer, 5/16" (Copper)   | 1  | 1  | 1   | 2   |
| 2.7001 | 0   | FP-5179709      | Washer, 1/4" (Copper)  | 1  | 1  | 1   | 2   |
| 2.7010 | 0   | FP-5152465      | Gasket, Governor To Blower, Governor Drive                         | 1  | 1  | 1   | 1   |
| 2.7020 | 0   | FP-5152464      | Gasket, Governor To Cylinder Head                                  | 1  | 1  | 1   | 1   |
| 2.7030 | 0   | FP-8921930      | Bolt, 1/4" -20 X 3/4" Governor Fuel Rod Cover                      | 8  | 8  | 16  | 16  |
| 2.7030 | 7   | FP-5104592      | Clamp, Governor Fuel Rod To Cylinder Head Hose                     | 4  | 4  | 8   | 8   |
| 2.7030 | 5   | FP-5123812      | Gasket, Governor Fuel Rod Cover                                    | 2  | 2  | 4   | 4   |
| 2.7030 | 6   | FP-8924267      | Hose, Governor Fuel Rod Cover To Cylinder Head                     | 2  | 2  | 4   | 4   |
| 2.7030 | 0   | FP-443603       | Bolt, 1/4" -20 X 3/4" Steel  | 1  | 1  | 1   | 1   |
| 2.7045 | 9   | FP-8921472      | Bushing, Throttle Shaft (Split), (2.7100)                          | 2  | 2  | 4   | 4   |
| 2.7045 | 18  | FP-5101691      | Seal Ring, Governor Shutdown Shaft (2.7145)                        | 1  | 1  | 2   | 2   |
| 2.7045 | 17  | FP-5127213      | Spring, Governor Shutdown Shaft (2.7117)                           | 1  | 1  | 2   | 2   |
| 2.7045 | 11  | FP-5144177      | Retainer, Throttle Shaft Seal Ring (2.7150)                        | 1  | 1  | 2   | 2   |
| 2.7045 | 12  | FP-5153060      | Retainer, Throttle Shaft Seal Ring (Flat), (2.7150)                | 1  | 1  | 2   | 2   |
| 2.7045 | 13  | FP-5174429      | Retainer Ring, Throttle Shaft Seal Ring (2.7150)                   | 1  | 1  | 2   | 2   |
| 2.7045 | 10  | FP-5176557      | Seal Ring, .477" ID x .113" Thk. Throttle Shaft (Yellow), (2.7140) | 1  | 1  | 2   | 2   |
| 2.7001 | 0   | <b>FP-20001</b> | <b>Kit, Rebuild, Mechanical Governor</b>                           | -  | -  | -   | -   |
| 2.7001 | 26  | FP-116337       | Plug, Expansion, Operating Shaft                                   | 1  | 1  | 1   | 1   |
| 2.7001 | 0   | FP-148402       | Bearing, 1/2"X1/2" Dia. Needle Cover Throttle Shaft                | 2  | 2  | 4   | 4   |
| 2.7001 | 47  | FP-447196       | Bearing, Shutdown and Control Lever Shafts                         | 4  | 4  | 4   | 4   |
| 2.7001 | 48  | FP-5117693      | Pin, 5/16" X 1" (Governor Control Link Lever), (2.7317)            | 1  | 1  | 2   | 2   |
| 2.7001 | 49  | FP-5127375      | Pin, Governor Control Link Lever                                   | 1  | 1  | 1   | 1   |
| 2.7001 | 50  | FP-5143866      | Pin, .375" Dia. X 2" (L. Control Link Lever), (2.7317)             | 1  | 1  | 2   | 2   |
| 2.7001 | 18  | FP-5101691      | Seal Ring, Shutdown Shaft  | 1  | 1  | 1   | 1   |
| 2.7001 | 11  | FP-5144177      | Retainer, Throttle Shaft Seal Ring                                 | 1  | 1  | 1   | 1   |
| 2.7001 | 19  | FP-5144178      | Retainer, Shutdown Shaft Seal                                      | 1  | 1  | 1   | 1   |
| 2.7001 | 0   | FP-5147866      | Bushing, High Speed Weight   | 2  | 2  | 2   | 2   |
| 2.7001 | 53  | FP-5150885      | Washer, Governor Weight Pin  | 2  | 2  | 2   | 2   |
| 2.7001 | 10  | FP-5176557      | Seal Ring, Throttle Shaft  | 1  | 1  | 1   | 1   |
| 2.7001 | 12  | FP-5153060      | Retainer, Throttle Shaft Seal Ring                                 | 1  | 1  | 1   | 1   |
| 2.7001 | 13  | FP-5174429      | Ring Retainer, Throttle Shaft                                      | 1  | 1  | 1   | 1   |
| 2.7001 | 28  | FP-5174286      | Nut, Buffer Screw Seal (2.7230)                                    | 1  | 1  | 1   | 1   |
| 2.7001 | 61  | FP-5165221      | Gasket, Weight Shaft End Cap                                       | 1  | 1  | 1   | 1   |
| 2.7001 | 20  | FP-5151487      | Retainer Washer, Shutdown Shaft & Weight Pin                       | 3  | 3  | 3   | 3   |
| 2.7001 | 21  | FP-5178581      | Ring Retainer, Shutdown Shaft & Weight Pin                         | 5  | 5  | 5   | 5   |
| 2.7001 | 0   | FP-5185153      | Pin, Governor Weight   | 2  | 2  | 2   | 2   |
| 2.7001 | 65  | FP-8922593      | Gasket, High Speed Spring Cover                                    | 1  | 1  | 1   | 1   |
| 2.7001 | 23  | FP-8924869      | Gasket, Governor Cover   | 1  | 1  | 1   | 1   |
| 2.7001 | 30  | FP-9431896      | Bearing, Operating Shaft (Upper)                                   | 1  | 1  | 1   | 1   |
| 2.7001 | 36  | FP-9436682      | Bearing, Operating Shaft (Lower)                                   | 1  | 1  | 1   | 1   |
| 2.7001 | 56  | FP-9437108      | Bearing, Weight Riser Thrust                                       | 1  | 1  | 1   | 1   |
| 2.7001 | 57  | FP-9424121      | Bearing, Weight Shaft End  | 1  | 1  | 1   | 1   |
| 2.7001 | 3   | FP-8924266      | Gasket, Governor To Blower   | 1  | 1  | 1   | 1   |

# Governor

(Figure 9.2)





# Governor

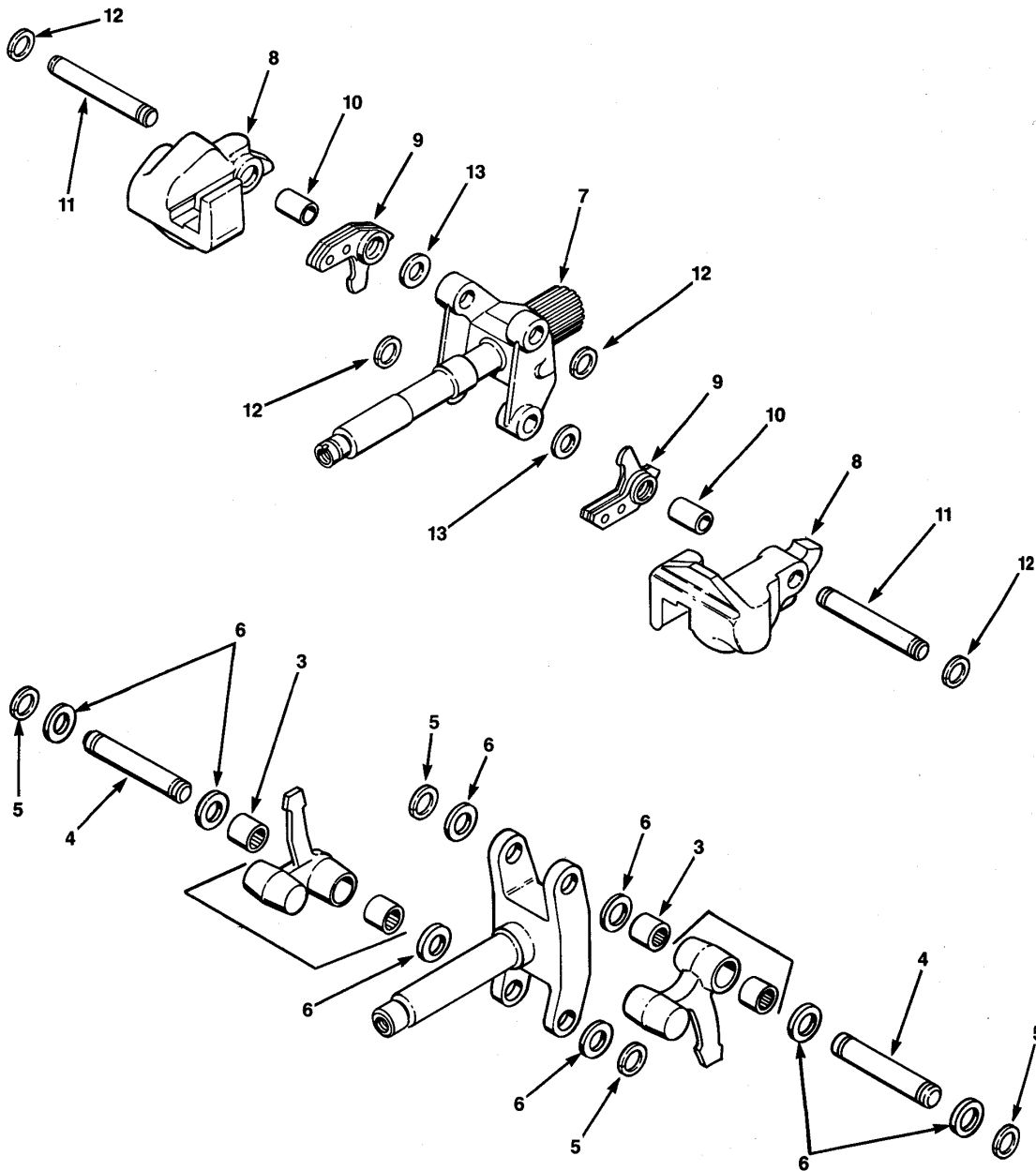
(Figure 9.2)

Groups:  
2.7045 - 2.9355

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 2.7045 | 0   | FP-103319   | Lockwasher, 1/4"  | 8  | 8  | 16  | 16  |
| 2.7045 | 22  | FP-9417926  | Bolt Assembly, 1/4" -20 X 3/4" Governor Cover                       | 8  | 8  | 16  | 16  |
| 2.7045 | 19  | FP-5144178  | Retainer, Governor Shutdown Shaft Seal Ring                         | 1  | 1  | 1   | 1   |
| 2.7045 | 20  | FP-5151487  | Retainer, Throttle Shaft Seal Ring (Flat), (2.7145)                 | 1  | 1  | 2   | 2   |
| 2.7045 | 21  | FP-5178581  | Retainer Ring, Governor Shutdown Shaft Seal                         | 1  | 1  | 1   | 1   |
| 2.7051 | 23  | FP-5150889  | Gasket, Governor Cover  | 1  | 1  | 2   | 2   |
| 2.7051 | 23  | FP-8924869  | Gasket, Governor Cover  | 1  | 1  | 2   | 2   |
| 2.7095 | 14  | FP-5117928  | Shaft Assembly, Governor Cover Throttle                             | 1  | 1  | 1   | 1   |
| 2.7095 | 24  | FP-8924380  | Plug, 1/8" -27 Pipe   | 1  | 1  | 1   | 1   |
| 2.7100 | 0   | FP-8921472  | Bushing, Bearing Governor Throttle Shaft (Split)                    | 2  | 2  | 2   | 2   |
| 2.7111 | 25  | FP-5127267  | Bushing Split, Governor Cover Shutdown Shaft                        | 1  | 1  | 2   | 2   |
| 2.7117 | 0   | FP-5127213  | Spring, Governor Shutdown Shaft                                     | 1  | 1  | 2   | 2   |
| 2.7117 | 17  | FP-5131368  | Spring, 3 3/4" Coils R/H Helix .077" Wire Dia. (Red)                | 1  | 1  | 2   | 2   |
| 2.7140 | 18  | FP-5101691  | Seal Ring, .362" ID X .113" Thk. (Green)                            | 1  | 1  | 2   | 2   |
| 2.7145 | 0   | FP-5151487  | Washer, Governor Shutdown Shaft                                     | 1  | 1  | 1   | 1   |
| 2.7145 | 0   | FP-5182977  | Seal Ring, 3/32" X 3/8" X 3/8" Thk.                                 | 1  | 1  | 2   | 2   |
| 2.7165 | 0   | FP-142583   | Retainer, 13/64" Spring   | 1  | 1  | 2   | 2   |
| 2.7210 | 0   | FP-5108775  | Spring, Governor Lever Retracting                                   | 1  | 1  | 2   | 2   |
| 2.7230 | 26  | FP-116337   | Plug Expansion, Governor Operating Shaft Bearing (1 1/16"), (Lower) | 1  | 1  | 2   | 2   |
| 2.7230 | 28  | FP-5174286  | Nut, Lock Governor Starting Aid Screw (3/8" -24 Hex.)               | 1  | 1  | 2   | 2   |
| 2.7250 | 31  | FP-5132747  | Lever, Governor Operating Shaft                                     | 1  | 1  | 1   | 1   |
| 2.7250 | 29  | FP-5133680  | Shaft, Governor Operating (2.7255)                                  | 1  | 1  | 1   | 1   |
| 2.7250 | 0   | FP-5133795  | Shaft Assembly, Governor Operating                                  | 1  | 1  | 1   | 1   |
| 2.7250 | 32  | FP-5150943  | Pin, Governor Operating Shaft Lever (2.7300)                        | 1  | 1  | 1   | 2   |
| 2.7250 | 30  | FP-9431896  | Bearing, Governor Operating Shaft (Upper)                           | 1  | 1  | 1   | 1   |
| 2.7255 | 30  | FP-9431894  | Bearing, Governor Operating Shaft (Upper)                           | 1  | 1  | 1   | 2   |
| 2.7260 | 30  | FP-9431896  | Bearing, Governor Operating Shaft (Upper)                           | 1  | 1  | 1   | 1   |
| 2.7270 | 36  | FP-9436682  | Bearing, Governor Operating Shaft (Lower)                           | 1  | 1  | 1   | 2   |
| 2.7280 | 0   | FP-5132747  | Lever, Governor Operating Shaft                                     | 1  | 1  | 1   | 2   |
| 2.7280 | 37  | FP-5132962  | Screw, Governor Operating Shaft Lever (Gap Adjusting)               | 1  | 1  | 1   | 2   |
| 2.7290 | 0   | FP-5159714  | Washer, Governor Fork   | 1  | 1  | 1   | 2   |
| 2.7300 | 0   | FP-5150943  | Pin, Governor Operating Shaft Lever                                 | 1  | 1  | 1   | 2   |
| 2.7310 | 0   | FP-142583   | Retainer, 13/64"  | 1  | 1  | 1   | 1   |
| 2.7310 | 41  | FP-5150894  | Pin, L. Governor Differential (25/32"), (2.7315)                    | 1  | 1  | 1   | 2   |
| 2.7317 | 53  | FP-5150885  | Washer, Governor Control Link Lever Pin (2.7340)                    | 2  | 2  | 2   | 2   |
| 2.7317 | 46  | FP-5127373  | Lever Assembly, Governor Control Link Operating                     | 1  | 1  | 1   | 2   |
| 2.7317 | 0   | FP-5127375  | Pin, .309" X 3.12" L  | -  | -  | -   | -   |
| 2.8035 | 3   | FP-5150246  | Gasket, Governor To Blower  | 1  | 1  | 1   | 1   |
| 2.8810 | 0   | FP-23503717 | Bearing, Governor Driven Shaft                                      | AR | AR | AR  | AR  |
| 2.8830 | 0   | FP-23503717 | Bearing, Governor Drive Shaft                                       | AR | AR | AR  | AR  |
| 2.8973 | 0   | FP-5197065  | Seal, Governor Operating Shaft Hub                                  | 1  | 1  | 1   | 1   |
| 2.8976 | 0   | FP-5131232  | Gasket, Governor Plate(2.7051)                                      | AR | AR | AR  | AR  |
| 2.9355 | 0   | FP-23504196 | Solenoid, Throttle Control (12V)                                    | 1  | 1  | 1   | 1   |

# Governor Weight & Carrier

(Figure 9.3)





## Governor Weight & Carrier

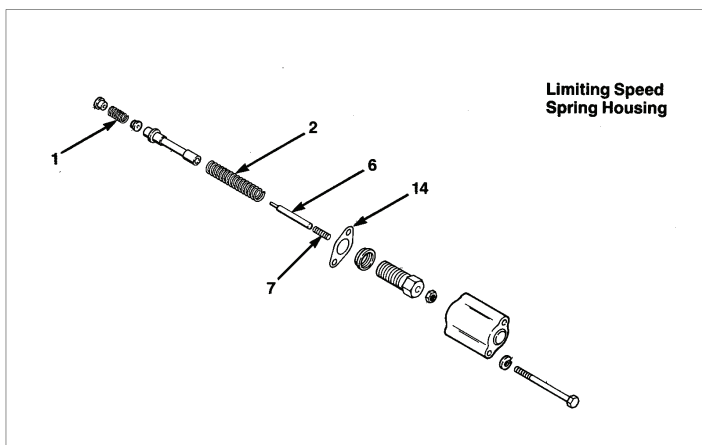
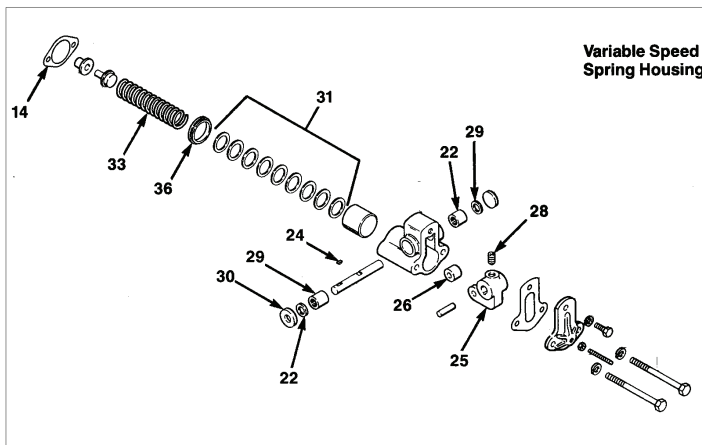
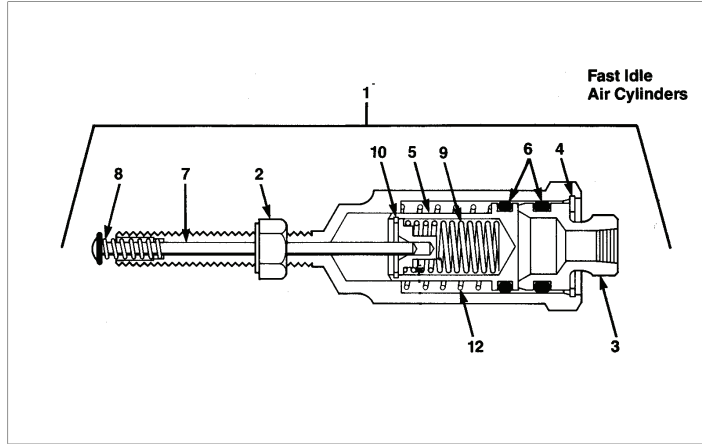
(Figure 9.3)

Groups:  
2.7380 - 2.7635

| Group  | Ref | Part No.   | Description  | 6V | 8V | 12V | 16V |
|--------|-----|------------|--|----|----|-----|-----|
| 2.7380 | 55  | FP-5117193 | Riser 1.062" L. Governor Weight Bearing                | 1  | 1  | 1   | 1   |
| 2.7380 | 55  | FP-5147910 | Riser 1.865" L. Governor Weight Bearing                | 1  | 1  | 1   | 1   |
| 2.7430 | 11  | FP-5183632 | Pin, Governor Weight (Drilled For Set Screw)           | 2  | 2  | 2   | 2   |
| 2.7430 | 4   | FP-5185154 | Pin, Governor Weight (Ring Groove)                     | 2  | 2  | 2   | 2   |
| 2.7440 | 3   | FP-447196  | Bearing, Governor Weight                               | 4  | 4  | 4   | 4   |
| 2.7460 | 56  | FP-9437108 | Bearing, .352" -.356" W., Governor Weight Riser Thrust | 1  | 1  | 1   | 1   |
| 2.7460 | 56  | FP-9438907 | Bearing, .551" W., Governor Weight Riser Thrust        | 1  | 1  | 1   | 1   |
| 2.7470 | 57  | FP-9424121 | Bearing, Governor Weight Shaft End                     | 1  | 1  | 1   | 1   |
| 2.7515 | 61  | FP-5165221 | Gasket, Governor Weight Housing Cap                    | 1  | 1  | 1   | 1   |
| 2.7540 | 1   | FP-5122165 | Spring, Governor Low Speed (One Blue Stripe)           | 1  | 1  | 1   | 1   |
| 2.7550 | 2   | FP-5136160 | Spring, Governor High Speed (Two Pink Stripes)         | 1  | 1  | 1   | 1   |
| 2.7580 | 0   | FP-5102968 | Cap, Governor Low Speed Spring                         | 1  | 1  | 2   | 2   |
| 2.7590 | 7   | FP-5102270 | Screw, 1/4" -28 X 1"                                   | 1  | 1  | 2   | 2   |
| 2.7620 | 0   | FP-5126623 | Ring, Governor Spring Guide                            | 1  | 1  | 1   | 2   |
| 2.7635 | 0   | FP-5155596 | Washer, 5/16" Copper                                   | 2  | 2  | 2   | 4   |
| 2.7635 | 14  | FP-8922593 | Gasket, Governor High Speed Spring Adjusting Cover     | 1  | 1  | 1   | 1   |

# Governor Spring Housing

(Figure 9.4 )







# Governor Spring Housing

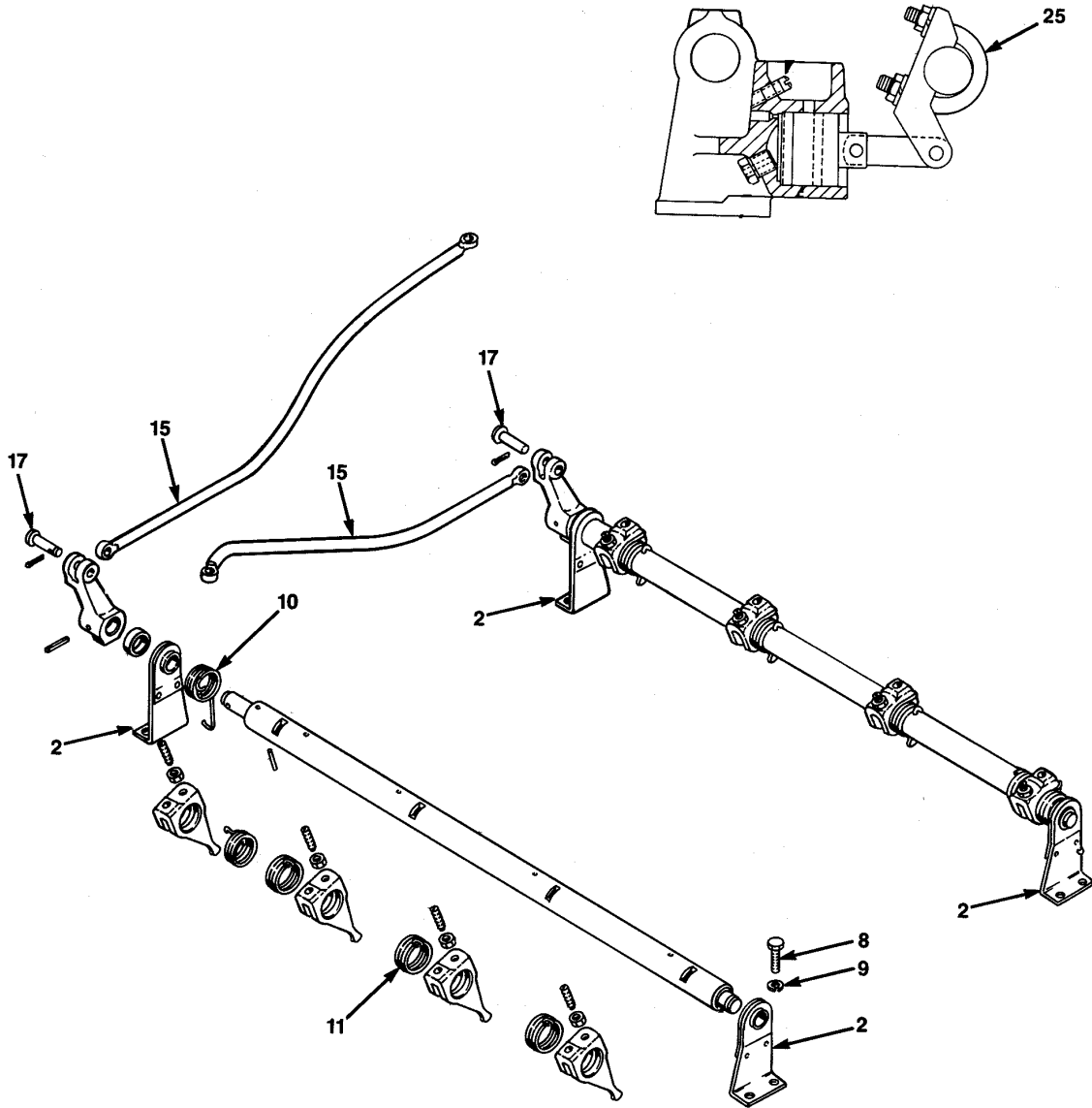
(Figure 9.4)

Groups:  
2.7690 - 2.8030

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 2.7690 | 0   | FP-5121182  | Plug, 1/4" Pipe  | 1  | 1  | 1   | 1   |
| 2.7690 | 0   | FP-9417926  | Bolt Assembly 1/4" -20 X 3/4"                                | 1  | 1  | 1   | 1   |
| 2.7694 | 0   | FP-5101710  | Ring Seal .070" X .114" I.D.                                 | 1  | 1  | 1   | 1   |
| 2.7700 | 14  | FP-8922593  | Gasket, Governor Variable Speed Spring Housing               | 1  | 1  | 1   | 2   |
| 2.7712 | 22  | FP-148402   | Bearing 1/2" X 1/2" Dia. Governor Variable Speed Spring      | 2  | 2  | 2   | 2   |
| 2.7735 | 31  | FP-5136590  | Shim, .010" Governor Variable Speed Spring                   | 6  | 6  | 6   | 12  |
| 2.7735 | 31  | FP-5136591  | Shim, .078" Governor Variable Speed Spring                   | 3  | 3  | 3   | 6   |
| 2.7736 | 0   | FP-5101711  | Ring, .139" X .859"  | 1  | 1  | 1   | 1   |
| 2.7741 | 0   | FP-5101710  | Seal Ring, .070" X .114" I.D.                                | 1  | 1  | 1   | 1   |
| 2.7750 | 29  | FP-5176557  | Seal O-Ring, Governor Variable Speed Spring                  | 1  | 1  | 1   | 2   |
| 2.7760 | 33  | FP-5122270  | Spring, (Two Red Stripes) Governor Variable Speed Spring     | 1  | 1  | 1   | 2   |
| 2.7800 | 31  | FP-5136590  | Shim, .010" Governor Variable Speed Spring                   | 6  | 6  | 6   | 6   |
| 2.7800 | 31  | FP-5136591  | Shim, .078" Governor Variable Speed Spring                   | 3  | 3  | 3   | 3   |
| 2.7810 | 0   | FP-5117952  | Screw Assembly, Governor Buffer                              | 1  | 1  | 1   | 1   |
| 2.7810 | 0   | FP-5152929  | Spring, Governor Buffer                                      | 1  | 1  | 1   | 1   |
| 2.7810 | 0   | FP-5174286  | Nut, 3/8" -24 Lock   | 1  | 1  | 1   | 1   |
| 2.7810 | 0   | FP-8925664  | Button, Buffer Screw   | 1  | 1  | 1   | 1   |
| 2.7829 | 0   | FP-5104556  | Hose, Governor Housing (1" I.D. x .56" L)                    | AR | AR | AR  | AR  |
| 2.7850 | 1   | FP-5129010  | Cylinder Assembly, Fast Idle Air                             | 1  | 1  | -   | -   |
| 2.7850 | 1   | FP-5131807  | Cylinder Assembly, Fast Idle Air                             | 1  | 1  | -   | -   |
| 2.7850 | 2   | FP-5174286  | Nut Assembly, 3/8" -24                                       | 1  | 1  | -   | -   |
| 2.7860 | 6   | FP-5103072  | Seal Ring, Fast Idle Air Cylinder Piston                     | 2  | 2  | -   | -   |
| 2.7860 | 0   | FP-5101419  | Ring Seal, Fast Idle Air Cylinder                            | 1  | 1  | 1   | 1   |
| 2.7865 | 8   | FP-5152929  | Spring, Fast Idle Air Cylinder Plunger                       | 1  | 1  | -   | -   |
| 2.7870 | 12  | FP-5112908  | Spring (Outer) Fast Idle Air Cylinder                        | 1  | 1  | -   | -   |
| 2.7870 | 9   | FP-5129009  | Spring, (Inner) Fast Idle Air Cylinder (FP-5129010 Assembly) | 1  | 1  | -   | -   |
| 2.7892 | 0   | FP-443603   | Bolt, 1/4" -20 X 3/4" Governor Control Link                  | 8  | 4  | -   | -   |
| 2.7892 | 0   | FP-23507896 | Clamp, 1" Hose   | 1  | 1  | 1   | 1   |
| 2.7892 | 0   | FP-5123812  | Gasket, Governor Housing Control Link                        | 1  | 1  | 1   | 1   |
| 2.7892 | 7   | FP-5104592  | Clamp, 1 1/2" L. Hose, Governor Fuel Rod Cover               | -  | -  | 4   | 4   |
| 2.7892 | 6   | FP-8924267  | Hose, 1" X 1.16" L. Governor Fuel Rod Cover                  | -  | -  | 2   | 2   |
| 2.7898 | 22  | FP-9417926  | Bolt Assembly, 1/4" -20 X 3/4" Link Housing Cover            | 1  | 1  | 1   | 2   |
| 2.7900 | 0   | FP-5133698  | Gasket, Governor Control Link Housing Cover                  | -  | -  | -   | -   |
| 2.8030 | 0   | FP-3249110  | Gasket, Hydraulic Governor Assy                              | AR | AR | AR  | AR  |
| 2.8030 | 0   | FP-5194069  | Washer, Governor Assy (1/4 Copper)                           | 1  | 1  | 1   | 2   |

# Injector Control

(Figure 9.5)





# Injector Control

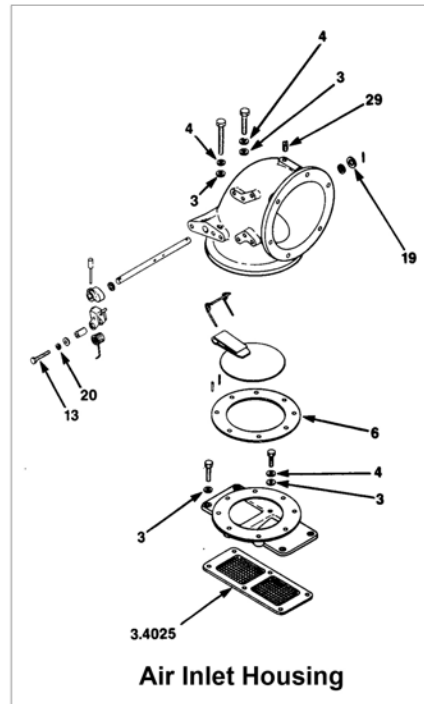
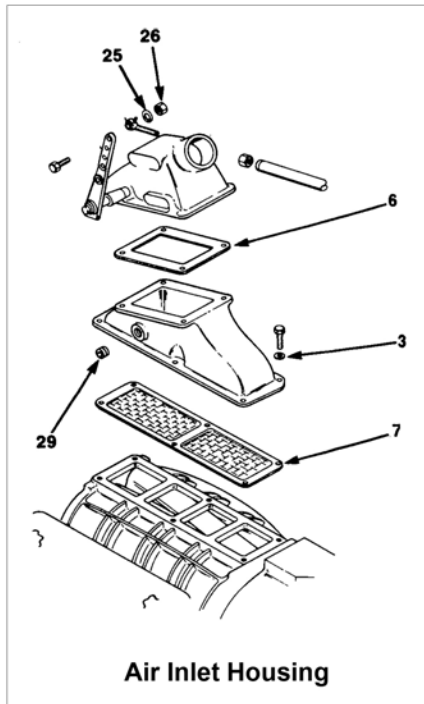
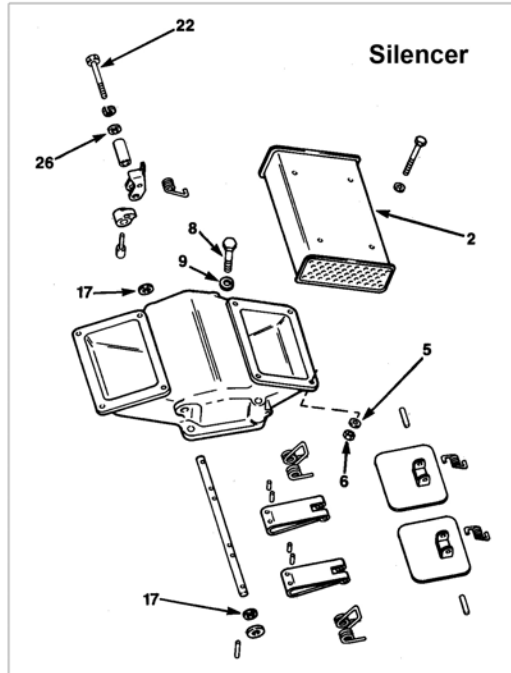
(Figure 9.5)

Groups:  
2.9001 - 2.9360

| Group  | Ref | Part No.   | Description  | 6V | 8V | 12V | 16V |
|--------|-----|------------|--|----|----|-----|-----|
| 2.9001 | 2   | FP-5130509 | Bracket, Injector Control Tube   | 4  | 4  | 8   | 8   |
| 2.9003 | 9   | FP-103319  | Lockwasher, 1/4"   | 4  | 4  | 8   | 8   |
| 2.9003 | 8   | FP-9422203 | Bolt, 1/4" -20 X 5/8"  | 4  | 4  | 8   | 8   |
| 2.9012 | 11  | FP-5101258 | Spring, Injector Control Tube (L.H. Helix)   | 2  | 2  | 2   | 2   |
| 2.9012 | 10  | FP-5124142 | Spring, Injector Control Tube Return (Green)   | 2  | 2  | 2   | 2   |
| 2.9022 | 15  | FP-5117942 | Link, Injector Control Tube To Governor (Long), (R/Bank) (R/Bank Rear On 16V), (Type # 95,96,137,150,215,216,218,233,234,244,246,251,253,288,292,295,296,298,299,308,311,312,314,315,324,325)  | 4  | 4  | 8   | 8   |
| 2.9022 | 0   | FP-142583  | Retainer, 13/64" Plain Spring  | 2  | 2  | 4   | 4   |
| 2.9022 | 15  | FP-5117191 | Link, Injector Control Tube To Governor (Short), (L/Bank) (Type # 95,96,216,218,233,234,241,244,246,251,288,292,295,296,298,299,308,309,310,311,312,326,327,328,329,330,331,332,333,334,335,336,337,338,341,344,353,362,363,370,371,383,386) | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5127415 | Link, Injector Control Tube To Governor (Long), (L/Bank) (Left Bank Rear on 16V), (Type # 116,117,119,241,243,289,313)   | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5127417 | Link, Injector Control Tube To Governor (Short), (R/Bank Rear) (Type # 116,117,119,241,243,289,313)  | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5133699 | Link, Injector Control Tube To Governor (Long), (R/Bank Front) (Type # 137,150,215,253,314,315,379,388)  | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5133700 | Link, Injector Control Tube To Governor (Short), (L/Bank Rear) (Type # 137,150,215,253,314,315,379,388,)   | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5134026 | Link, Injector Control Tube To Governor (Short), (L/Bank Front) (Type # 137,150,215,253,314,315,379,388)   | 1  | 1  | 1   | 1   |
| 2.9030 | 0   | FP-5150325 | Bolt, 1/2" -13 X 4 1/4"  | 1  | 1  | 1   | 1   |
| 2.9030 | 25  | FP-5180116 | Bolt, "U" 1/4" -20   | 1  | 1  | 1   | 1   |
| 2.9087 | 0   | FP-5131433 | Washer, .41" X .81" X .1345"   | 1  | 1  | 1   | 1   |
| 2.9087 | 0   | FP-8927580 | Bolt, 3/8" X 7/8"  | 1  | 1  | 1   | 1   |
| 2.9090 | 0   | FP-5103635 | Bolt, 3/8" -16 X 2.70"   | 2  | 2  | 2   | 2   |
| 2.9230 | 0   | FP-148403  | Bearing, Governor Control Shaft  | AR | AR | AR  | AR  |
| 2.9360 | 0   | FP-5122797 | Link, Throttle Control Shaft (Engine To Governor)  | AR | AR | AR  | AR  |

# Silencer & Air Intake

(Figure 10.1)





## Silencer & Air Intake

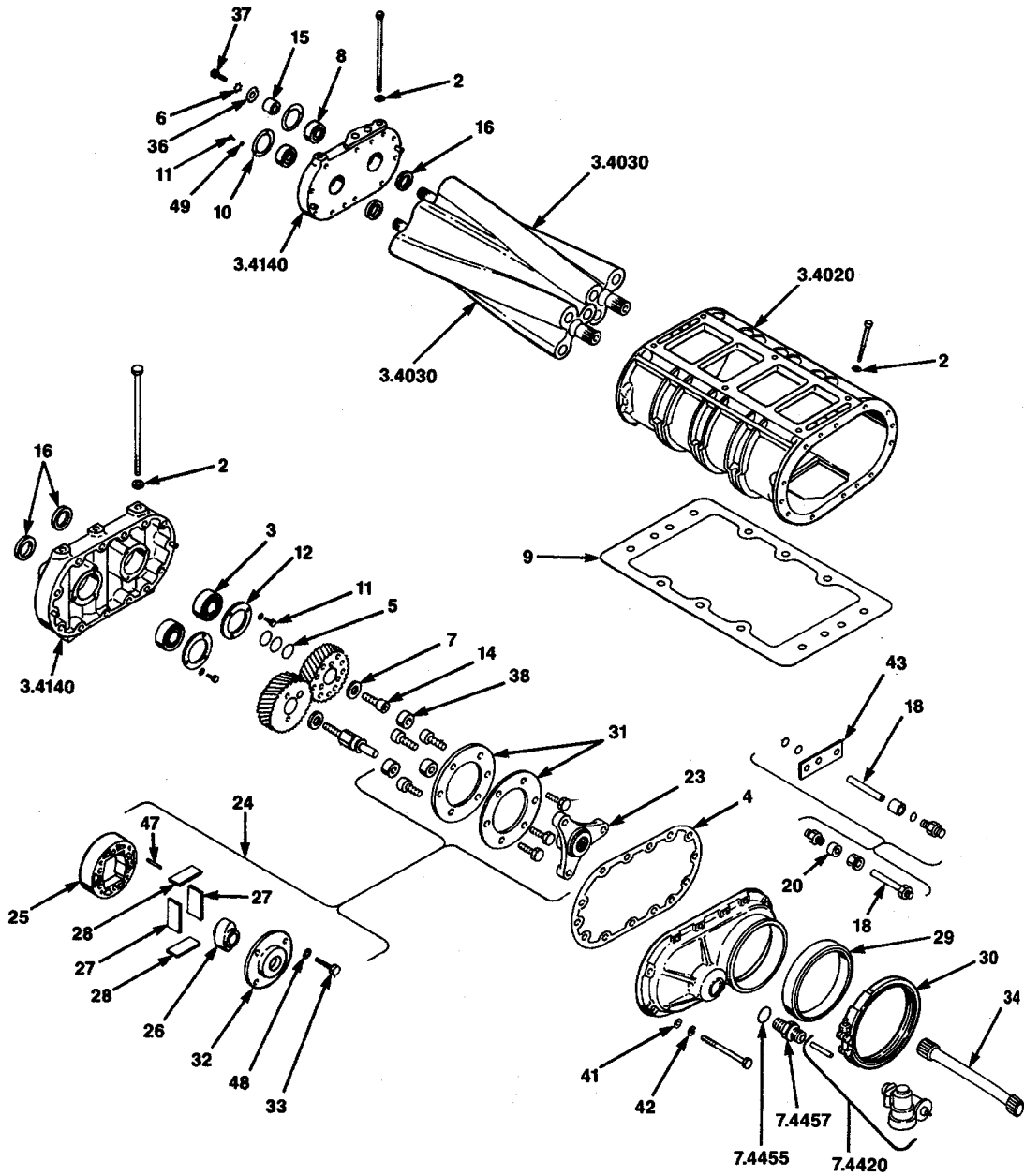
(Figure 10.1)

Groups:  
3.1087 - 3.3095

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 3.1087 | 0   | FP-5123750  | Gasket, Air Cleaner Mounting Adapter                         | AR | AR | AR  | AR  |
| 3.1261 | 0   | FP-5123750  | Gasket, Air Cleaner To Inlet Housing Pipe                    | AR | AR | AR  | AR  |
| 3.2001 | 5   | FP-103320   | Lockwasher, 5/16"  | 8  | 8  | 8   | 8   |
| 3.2001 | 2   | FP-5189848  | Silencer, Air (Option # 21,24,26)                            | 2  | -  | 4   | -   |
| 3.2001 | 2   | FP-5187177  | Silencer, Air (Option # 22,25,36)                            | -  | 2  | -   | 4   |
| 3.3001 | 0   | FP-23506396 | Ring Seal, Blower By-Pass Valve                              | 2  | 2  | 2   | 2   |
| 3.3003 | 9   | FP-103321   | Lockwasher, 3/8"   | 8  | 8  | 8   | 16  |
| 3.3003 | 8   | FP-8927580  | Bolt, 3/8" -16 X 7/8"  | 8  | 8  | 8   | 16  |
| 3.3003 | 0   | FP-5142549  | Plug, 3/4" Pipe  | 1  | 1  | 1   | 2   |
| 3.3004 | 29  | FP-5115214  | Plug, 1/2" Pipe  | 1  | 1  | 1   | 2   |
| 3.3004 | 29  | FP-5121182  | Plug, 1/4" Pipe  | 1  | 1  | 1   | 2   |
| 3.3004 | 29  | FP-5142549  | Plug, 3/4" Pipe  | 1  | 1  | 1   | 2   |
| 3.3004 | 29  | FP-8923847  | Plug, 1/4" Pipe  | 1  | 1  | 1   | 2   |
| 3.3010 | 0   | FP-5101408  | Gasket, Air Inlet Housing (15.48" I.D. w/Ten 15/32" Holes)   | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5101412  | Gasket, Air Inlet Housing (11.60" I.D. w/Eight 15/32" Holes) | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5103515  | Gasket, Air Inlet Housing (w/Screen)                         | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5103602  | Gasket, Air Inlet Housing (w/Screen)                         | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5122692  | Gasket, Air Inlet Housing (7.88" I.D. w/Eight 13/32" Holes)  | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5123703  | Gasket, Air Inlet Housing (5.68" I.D. w/Eight 13/32" Holes)  | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5134838  | Gasket, Air Inlet Housing (8" L. w/Four 13/32" Holes)        | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5145086  | Gasket, Air Inlet Housing                                    | 2  | 2  | 2   | 4   |
| 3.3010 | 6   | FP-5101408  | Gasket, Air Inlet Housing (15.48" I.D. w/Ten 15/32" Holes)   | 1  | 1  | 1   | 2   |
| 3.3010 | 6   | FP-5101412  | Gasket, Air Inlet Housing (11.60" I.D. w/Eight 15/32" Holes) | 1  | 1  | 1   | 2   |
| 3.3010 | 7   | FP-5103515  | Gasket, Air Inlet Housing (w/Screen)                         | 1  | 1  | 1   | 2   |
| 3.3010 | 6   | FP-5103602  | Gasket, Air Inlet Housing (8" L. w/Four 13/32" Holes)        | 1  | 1  | 1   | 2   |
| 3.3010 | 6   | FP-5122692  | Gasket, Air Inlet Housing (7.88" I.D. w/Eight 13/32" Holes)  | 1  | 1  | 1   | 2   |
| 3.3010 | 6   | FP-5123703  | Gasket, Air Inlet Housing (5.68" I.D. w/Eight 13/32" Holes)  | 1  | 1  | 1   | 2   |
| 3.3010 | 6   | FP-5134838  | Gasket, Air Inlet Housing                                    | 1  | 1  | 1   | 2   |
| 3.3010 | 7   | FP-5145086  | Gasket, Air Inlet Housing (w/Screen)                         | 1  | 1  | 1   | 2   |
| 3.3030 | 0   | FP-3290572  | Gasket, Air Inlet Housing                                    | AR | AR | AR  | AR  |
| 3.3030 | 0   | FP-5145086  | Gasket, Air Inlet Housing Striker Plate                      | 2  | 2  | 2   | 4   |
| 3.3030 | 0   | FP-5145235  | Gasket, Air Inlet Housing Striker Plate                      | 2  | 2  | 2   | 4   |
| 3.3030 | 0   | FP-5145086  | Gasket, Air Inlet Housing Striker Plate                      | 1  | 1  | 1   | 2   |
| 3.3030 | 0   | FP-5145235  | Gasket, Air Inlet Housing Striker Plate                      | 1  | 1  | 1   | 2   |
| 3.3035 | 13  | FP-179803   | Bolt, 1/4" -20 X 1 3/4"                                      | 1  | 1  | 1   | 2   |
| 3.3035 | 26  | FP-5159714  | Washer, 11/16" X 1/8"  | 1  | 1  | 2   | 2   |
| 3.3055 | 17  | FP-5179232  | Seal, Air Inlet Housing Shutdown Valve                       | 2  | 2  | 4   | 4   |
| 3.3055 | 19  | FP-5179232  | Seal, Air Inlet Housing Shutdown Valve                       | 1  | 1  | 1   | 2   |
| 3.3070 | 22  | FP-179803   | Bolt, 1/4" -20 X1 3/4"                                       | 2  | 2  | 4   | 4   |
| 3.3090 | 26  | FP-5159714  | Washer, 11/16" X 1/8"  | 1  | 1  | 2   | 2   |
| 3.3095 | 26  | FP-103026   | Nut, 3/8" -24  | 1  | 1  | 1   | 2   |
| 3.3095 | 25  | FP-103320   | Lockwasher, 5/16"  | 1  | 1  | 1   | 2   |

# Blower

(Figure 10.2)





# Blower

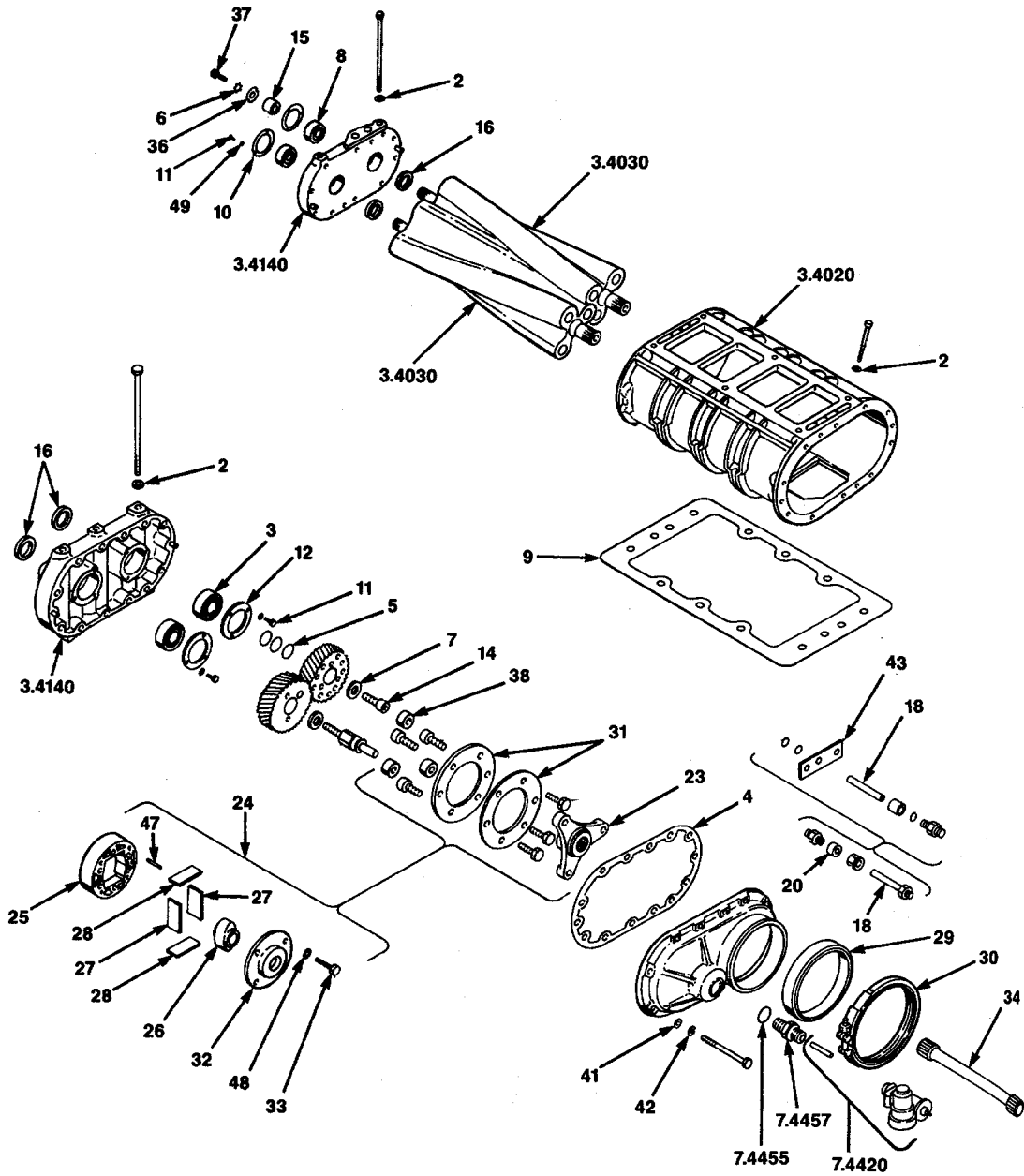
(Figure 10.2)

Groups:  
3.4001 - 3.4010

| Group  | Ref | Part No.           | Description   | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|---|----|----|-----|-----|
| 3.4001 | 0   | FP-5101419         | Seal Ring, Round .139" X .734" I.D.                     | 2  | 2  | 4   | 4   |
| 3.4001 | 2   | FP-5121905         | Washer, 15/32" I.D. X 7/8" O.D. X 5/32" L               | 2  | 2  | 4   | 4   |
| 3.4003 | 0   | FP-5149641         | Gasket Kit, Blower Installation (Turbo)                 | 1  | -  | -   | -   |
| 3.4003 | 0   | FP-5149646         | Gasket Kit, Blower Installation (N/A)                   | 1  | -  | -   | -   |
| 3.4003 | 0   | FP-5149643         | Gasket Kit, Blower Installation (Turbo)                 | -  | 1  | -   | -   |
| 3.4003 | 0   | FP-5149644         | Gasket Kit, Blower Installation (N/A)                   | -  | 1  | -   | -   |
| 3.4003 | 0   | FP-5149642         | Gasket Kit, Blower Installation (N/A), (Turbo)          | -  | -  | 2   | -   |
| 3.4003 | 0   | FP-5149645         | Gasket Kit, Blower Installation (N/A), (Turbo)          | -  | -  | -   | 2   |
| 3.4010 | 0   | FP-5115656         | Gasket, Blower  | AR | -  | -   | -   |
| 3.4010 | 9   | FP-23520019        | Gasket, Blower To Block (Supersedes 23513179)           | 1  | -  | 2   | -   |
| 3.4010 | 9   | FP-5145235         | Gasket, Blower To Block (Less Screen)                   | 1  | -  | 2   | -   |
| 3.4010 | 9   | FP-23520012        | Gasket, Blower To Block                                 | -  | 1  | -   | 2   |
| 3.4010 | 9   | FP-5145086         | Gasket, Blower To Block (Less Screen)                   | -  | 1  | -   | 2   |
| 3.4005 | 0   | <b>FP-23514202</b> | <b>Kit, Blower Repair (Large Bearing), (Turbo)</b>      | 1  | 1  | 2   | 2   |
| 3.4005 | 5   | FP-5150372         | Shim, Blower Rotor Gear (.002")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5153938         | Shim, Blower Rotor Gear (.003")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150855         | Shim, Blower Rotor Gear (.005")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150856         | Shim, Blower Rotor Gear (.010")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 6   | FP-5154398         | Lockwasher, 1/2" Special                                | 2  | 2  | 2   | 2   |
| 3.4005 | 0   | FP-5192439         | Sleeve, Blower End Plate Seal                           | 4  | 4  | 4   | 4   |
| 3.4005 | 16  | FP-8924453         | Seal Assembly, Blower Rotor                             | 4  | 4  | 4   | 4   |
| 3.4005 | 3   | FP-23504304        | Bearing, Roller, Blower Rotor (Rear)                    | 2  | 2  | 2   | 2   |
| 3.4005 | 8   | FP-23503542        | Bearing, Ball, Blower Rotor (Front)                     | 2  | 2  | 2   | 2   |
| 3.4005 | 0   | <b>FP-23514203</b> | <b>Kit, Blower Repair (Small Bearing), (Turbo)</b>      | 1  | 1  | 2   | 2   |
| 3.4005 | 5   | FP-5150372         | Shim, Blower Rotor Gear (.002")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5153938         | Shim, Blower Rotor Gear (.003")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150855         | Shim, Blower Rotor Gear (.005")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150856         | Shim, Blower Rotor Gear (.010")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 6   | FP-5154398         | Lockwasher, 1/2" Special                                | 1  | 1  | 1   | 1   |
| 3.4005 | 0   | FP-5192439         | Sleeve, Blower End Plate Seal                           | 4  | 4  | 4   | 4   |
| 3.4005 | 16  | FP-8924453         | Seal Assembly, Blower Rotor                             | 4  | 4  | 4   | 4   |
| 3.4005 | 3   | FP-23504305        | Bearing, Roller, Blower Rotor (Rear)                    | 1  | 1  | 2   | 2   |
| 3.4005 | 8   | FP-23503543        | Bearing, Ball, Blower Rotor (Front)                     | 2  | 2  | 4   | 4   |
| 3.4005 | 0   | <b>FP-23514204</b> | <b>Kit, Blower Repair (w/Reduction Blower Gear Set)</b> | 1  | 1  | 2   | 2   |
| 3.4005 | 5   | FP-5150372         | Shim, Blower Rotor Gear (.002")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5153938         | Shim, Blower Rotor Gear (.003")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150855         | Shim, Blower Rotor Gear (.005")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150856         | Shim, Blower Rotor Gear (.010")                         | 1  | 1  | 1   | 1   |
| 3.4005 | 6   | FP-5154398         | Lockwasher, 1/2" Special                                | 2  | 2  | 4   | 4   |
| 3.4005 | 0   | FP-5192439         | Sleeve, Blower End Plate Seal                           | 4  | 4  | 8   | 8   |
| 3.4005 | 16  | FP-8924453         | Seal Assembly, Blower Rotor                             | 4  | 4  | 8   | 8   |
| 3.4005 | 3   | FP-23504305        | Bearing, Roller, Blower Rotor (Rear)                    | 2  | 2  | 4   | 4   |
| 3.4005 | 8   | FP-23503543        | Bearing, Ball, Blower Rotor (Front)                     | 2  | 2  | 4   | 4   |

# Blower

(Figure 10.2)







## Blower

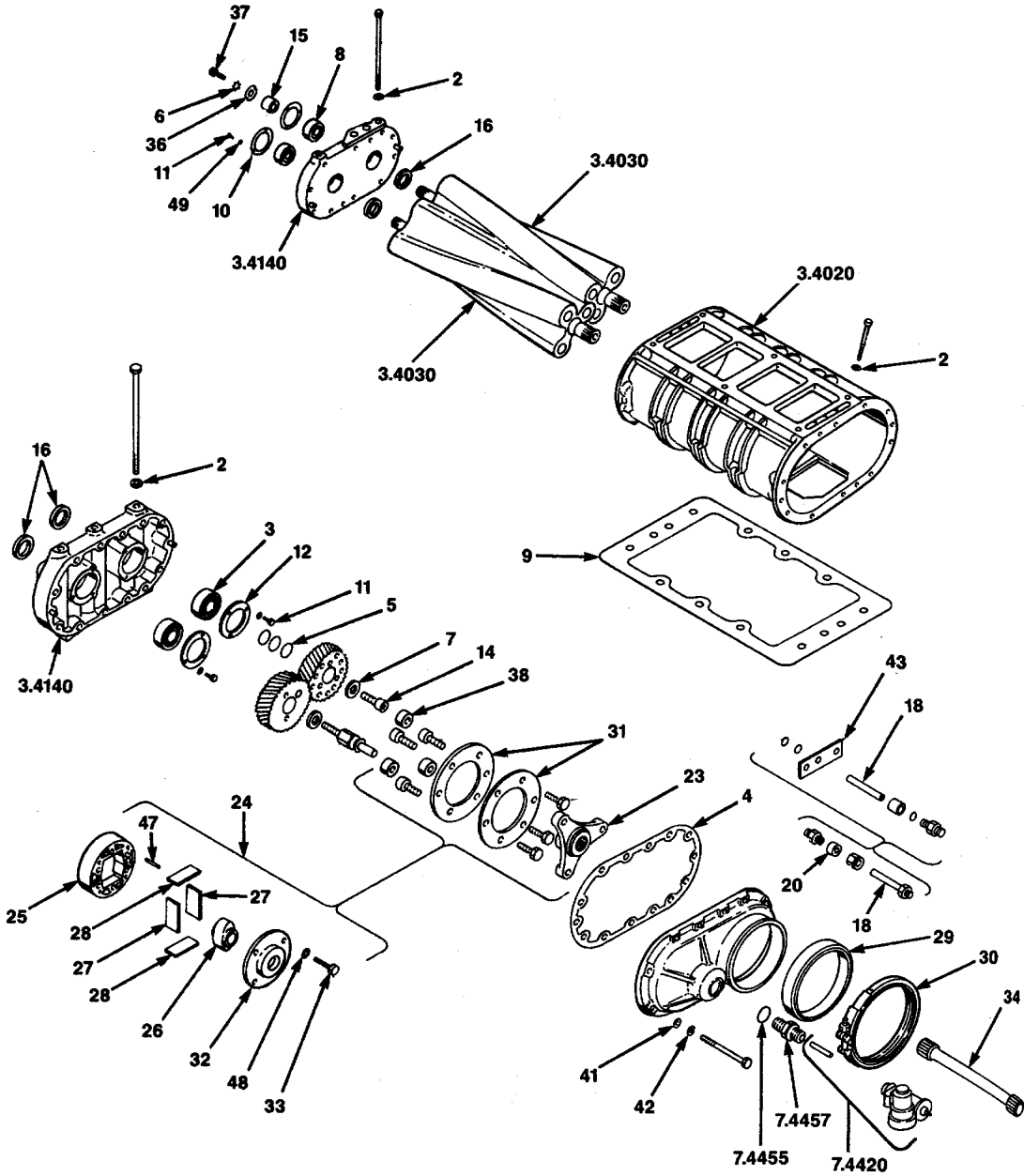
(Figure 10.2)

Groups:  
3.4001 - 3.4010

| Group  | Ref | Part No.          | Description                                      | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--|----|----|-----|-----|
| 3.4005 | 0   | <b>FP-5108120</b> | <b>Kit, Blower Repair (Small Bearing), (N/A)</b> | 1  | 1  | 1   | 1   |
| 3.4005 | 4   | FP-5114726        | Gasket, Blower End Plate                         | 2  | 2  | 2   | 2   |
| 3.4005 | 4   | FP-5150234        | Gasket, Blower End Plate                         | 2  | 2  | 2   | 2   |
| 3.4005 | 5   | FP-5150372        | Shim, Blower Rotor Gear (.002")                  | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5153938        | Shim, Blower Rotor Gear (.003")                  | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150855        | Shim, Blower Rotor Gear (.005")                  | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150856        | Shim, Blower Rotor Gear (.010")                  | 1  | 1  | 1   | 1   |
| 3.4005 | 6   | FP-5154398        | Lockwasher, 1/2" Special                         | 1  | 1  | 1   | 1   |
| 3.4005 | 0   | FP-5192439        | Sleeve, Blower End Plate Seal                    | 4  | 4  | 4   | 4   |
| 3.4005 | 16  | FP-5192438        | Seal, Blower End Plate O.S.                      | 4  | 4  | 4   | 4   |
| 3.4005 | 4   | FP-8924266        | Gasket, Blower End Plate                         | 2  | 2  | 2   | 2   |
| 3.4005 | 3   | FP-23504305       | Bearing, Roller, Blower Rotor (Rear)             | 2  | 2  | 2   | 2   |
| 3.4005 | 8   | FP-23503543       | Bearing, Ball, Blower Rotor (Front)              | 2  | 2  | 2   | 2   |

# Blower & Blower Drive

(Figure 10.3)





# Blower & Blower Drive

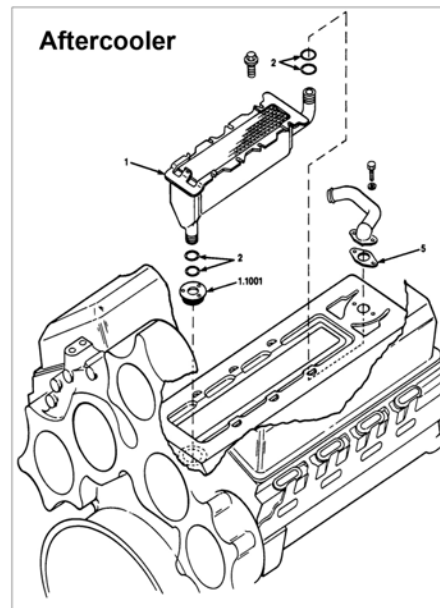
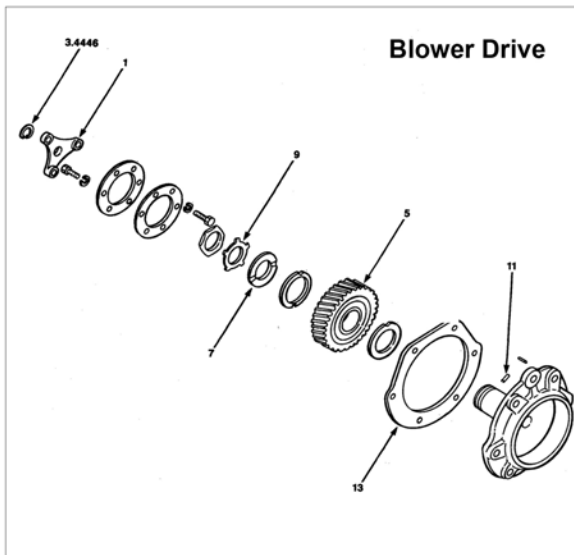
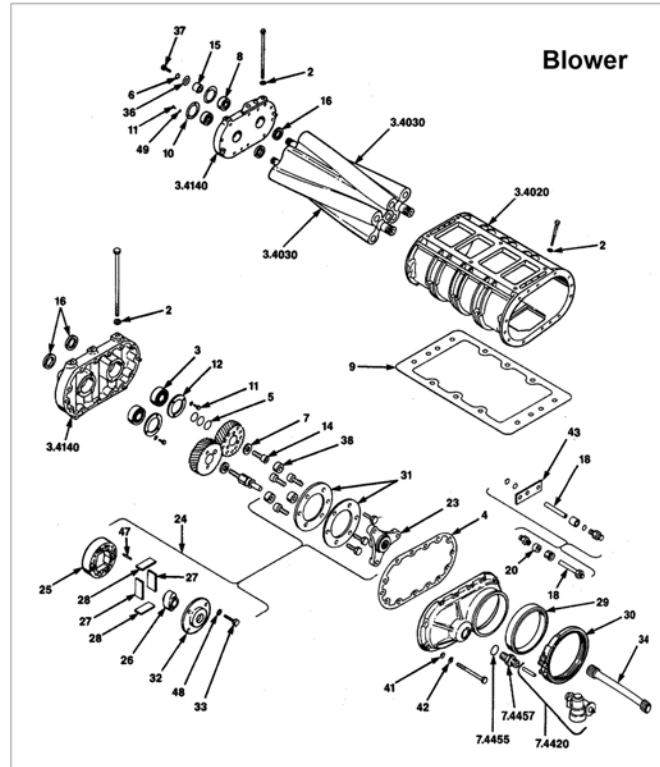
(Figure 10.3)

Groups:  
3.4025 - 3.4390

| Group  | Ref | Part No.           | Description                                       | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|---|----|----|-----|-----|
| 3.4025 | 0   | FP-5103515         | Gasket, Blower (w/Screen)                         | 1  | -  | 2   | -   |
| 3.4025 | 0   | FP-5103602         | Gasket, Blower (w/Screen)                         | -  | 1  | -   | 2   |
| 3.4025 | 0   | FP-5102062         | Gasket, Blower                                    | -  | -  | -   | -   |
| 3.4050 | 49  | FP-103319          | Lockwasher, 1/4"                                  | 6  | 6  | 12  | 12  |
| 3.4050 | 11  | FP-5148794         | Bolt, 1/4" -20 X 5/8"                             | 12 | 12 | 24  | 24  |
| 3.4080 | 6   | FP-5154398         | Lockwasher, Special 1/2"                          | 1  | 1  | 1   | 1   |
| 3.4080 | 14  | FP-9409060         | Bolt, 1/2" -20 X 1 1/2" Lock                      | 1  | 1  | 1   | 1   |
| 3.4080 | 0   | FP-5103364         | Bolt, 1/2" -20 X 1.10" 12 Pt Head                 | -  | -  | 3   | -   |
| 3.4107 | 0   | FP-5117091         | Chain, Blower Rotor Gear Sprocket Coupling        | -  | -  | 1   | -   |
| 3.4135 | 31  | FP-8920764         | Plate, Rotor Gear Hub (Rear of Front Blower)      | 2  | 2  | 4   | 4   |
| 3.4135 | 31  | FP-8920765         | Plate, Rotor Gear Hub (Front of Rear Blower)      | -  | -  | 2   | 2   |
| 3.4137 | 0   | FP-8920763         | Spacer, Blower Gear Hub                           | 3  | 3  | 3   | 3   |
| 3.4137 | 38  | FP-5173364         | Spacer, Blower Gear                               | -  | -  | 3   | 3   |
| 3.4160 | 16  | FP-5138710         | Seal, Blower End Plate (Std.)                     | 4  | 4  | 8   | 8   |
| 3.4180 | 42  | FP-103320          | Lockwasher, 5/16"                                 | 28 | 28 | 56  | 56  |
| 3.4180 | 41  | FP-5159714         | Washer, 11/16" X 1/8"                             | 28 | 28 | 56  | 56  |
| 3.4180 | 0   | FP-105456          | Gasket, Blower Housing End Plate                  | 1  | 1  | 2   | 2   |
| 3.4190 | 4   | FP-8924266         | Gasket, Blower End Plate Cover                    | 1  | 1  | 2   | 2   |
| 3.4192 | 18  | FP-5117717         | Tube, Blower Oil Supply 5/16" X 4.20"             | 1  | 1  | 1   | 1   |
| 3.4192 | 43  | FP-5124519         | O-Ring, Blower Oil Supply Tube                    | 1  | 1  | 1   | 1   |
| 3.4192 | 20  | FP-5144424         | Seal Ring, 5/16" Tube                             | 1  | 1  | 1   | 1   |
| 3.4192 | 0   | FP-8927414         | Ring Seal, Blower Oil Supply (1/4" I.D.)          | 1  | 1  | 1   | 1   |
| 3.4200 | 0   | FP-5103601         | Screen, Blower Cover Drive                        | 1  | -  | -   | -   |
| 3.4220 | 29  | FP-23515630        | Seal Ring, Blower Drive Cover                     | AR | AR | AR  | AR  |
| 3.4220 | 29  | FP-8922140         | Seal, Blower Drive Cover (4.32" X 4.88" X .77")   | 1  | 1  | 1   | 1   |
| 3.4220 | 29  | FP-5146040         | Seal, Blower Drive Cover (4.32" X 5.091" X 2.86") | -  | 1  | -   | 2   |
| 3.4227 | 30  | FP-5106219         | Clamp, Blower Drive Cover Seal                    | 1  | 1  | 1   | 1   |
| 3.4370 | 23  | FP-5141473         | Coupling, Blower Drive (48 Spline), (Spider)      | 1  | 1  | 1   | 1   |
| 3.4370 | 23  | FP-8922517         | Coupling, Blower Drive (29 Spline), (Spider)      | 1  | 1  | 1   | 1   |
| 3.4160 | 0   | <b>FP-23500533</b> | <b>Seal Kit, Blower End Plate</b>                 | 1  | 1  | 2   | 2   |
| 3.4160 | 16  | FP-8924453         | Seal, Blower End Plate                            | 4  | 4  | 8   | 8   |
| 3.4160 | 0   | FP-5192439         | Sleeve, Blower End Plate Seal                     | 4  | 4  | 8   | 8   |
| 3.4370 | 24  | <b>FP-5103377</b>  | <b>Coupling, Blower Drive</b>                     | 1  | 1  | 1   | 1   |
| 3.4370 | 25  | FP-5150345         | Support, Blower Drive Coupling                    | 1  | 1  | 1   | 1   |
| 3.4370 | 26  | FP-5103365         | Cam, Blower Drive Coupling                        | 1  | 1  | 1   | 1   |
| 3.4370 | 0   | <b>FP-5196314</b>  | <b>Spring Pack, Blower Drive Coupling</b>         | 1  | 1  | 1   | 1   |
| 3.4370 | 27  | FP-5123859         | Spring, Blower Drive Coupling                     | 42 | 42 | 42  | 42  |
| 3.4370 | 28  | FP-5123860         | Seat, Blower Drive Coupling                       | 2  | 2  | 2   | 2   |
| 3.4370 | 32  | FP-5150349         | Retainer, Blower Drive Coupling                   | 1  | 1  | 1   | 1   |
| 3.4370 | 47  | FP-5150346         | Seat, Blower Drive Coupling Spring (Pin Half)     | 2  | 2  | 2   | 2   |

# Blower Drive & Aftercooler

(Figure 10.4)





# Blower Drive & Aftercooler

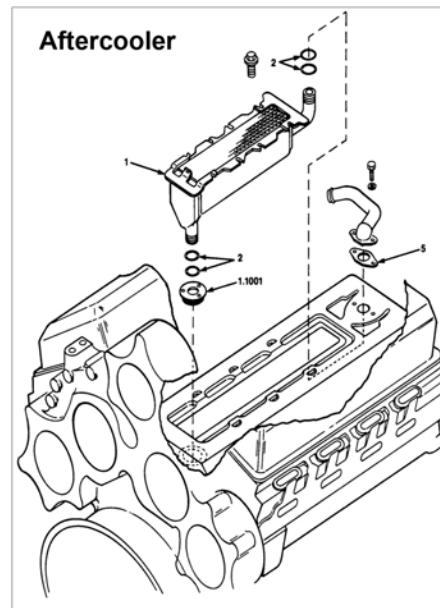
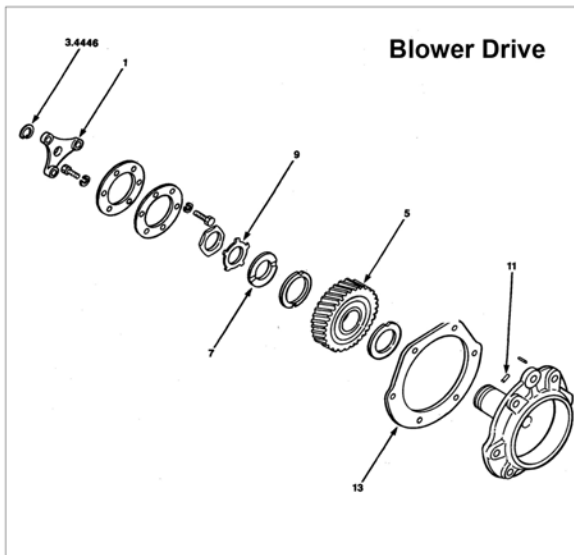
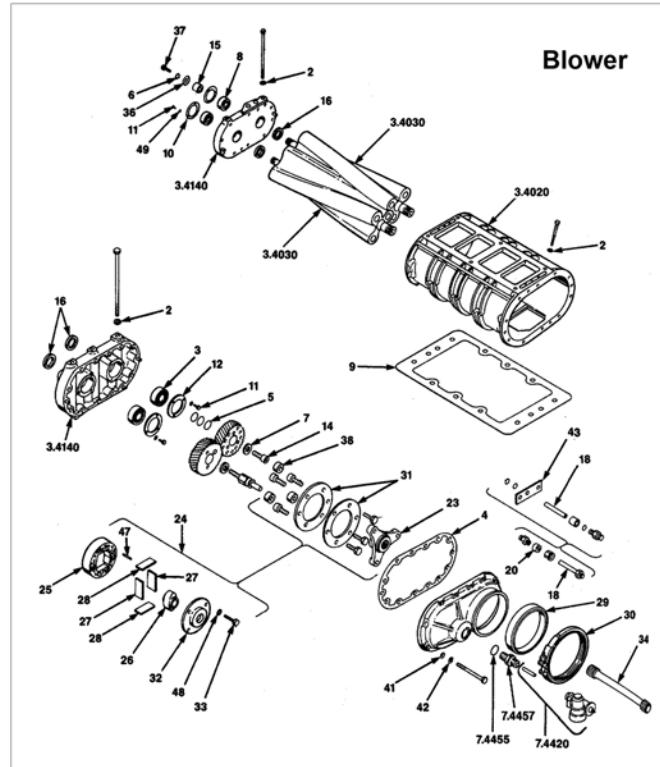
(Figure 10.4)

Groups:  
3.4130 - 3.5505

| Group              | Ref | Part No.           | Description   | 6V | 8V | 12V | 16V |
|--------------------|-----|--------------------|---|----|----|-----|-----|
| 3.4130             | 1   | FP-5122914         | Hub, Blower Drive (48 Spline), (w/o Lugs)                           | 1  | 1  | 1   | 1   |
| 3.4130             | 1   | FP-5123081         | Hub, Blower Drive (48 Spline), (w/ Lugs)                            | 1  | 1  | 1   | 1   |
| 3.4130             | 1   | FP-8922518         | Hub, Blower Drive (29 Spline), (w/o Lugs)                           | 1  | 1  | 1   | 1   |
| 3.4130             | 1   | FP-8922519         | Hub, Blower Drive (29 Spline), (w/ Lugs)                            | 1  | 1  | 1   | 1   |
| 3.4300             | 0   | FP-5120501         | Bushing, Blower Drive Gear  | 1  | 1  | 1   | 1   |
| 3.4300             | 5   | FP-5122920         | Gear, Blower Drive Assembly (L.H. Helix 40 Teeth)                   | 1  | 1  | 1   | 1   |
| 3.4320             | 7   | FP-8926293         | Washer, Blower Drive Gear Thrust                                    | 1  | 1  | 1   | 1   |
| 3.4340             | 9   | FP-8926285         | Lockwasher  | 1  | 1  | -   | -   |
| 3.4350             | 0   | FP-5152148         | Washer, 3/8" X 9/16"  | 2  | 2  | 4   | 4   |
| 3.4355             | 0   | FP-5120501         | Bushing, Blower Drive Gear  | 2  | 2  | 4   | 4   |
| 3.4360             | 13  | FP-5148810         | Gasket, Blower Drive Support  | 1  | 1  | 2   | 2   |
| 3.4370             | 0   | FP-5103364         | Bolt, 1/2" -20 X 1.10" 12 Pt Head                                   | 3  | 3  | 3   | 3   |
| 3.4370             | 0   | FP-5173364         | Spacer, Blower Drive Coupling                                       | 3  | 3  | 3   | 3   |
| 3.4370             | 0   | FP-8920763         | Spacer, Blower Drive Coupling                                       | 3  | 3  | 3   | 3   |
| 3.4420             | 48  | FP-103320          | Washer, 5/16"   | 3  | 3  | 3   | 3   |
| 3.4420             | 33  | FP-9409077         | Bolt, 5/16" -24 X 1 5/8"  | 3  | 3  | 3   | 3   |
| 3.4420             | 32  | FP-5150349         | Retainer, Blower Drive Coupling                                     | 1  | 1  | 1   | 1   |
| 3.4445             | 34  | FP-5117724         | Shaft, Blower Drive (5.22" L)                                       | 1  | 1  | -   | -   |
| 3.4445             | 34  | FP-5162860         | Shaft, Blower Drive (5.22" L)                                       | 1  | -  | -   | -   |
| 3.4445             | 34  | FP-8922634         | Shaft, Blower Drive (6.67" L), (29 Spline)                          | 1  | -  | 1   | -   |
| 3.4445             | 34  | FP-8922666         | Shaft & Spring, Blower Drive (4.89" L), (29 Spline)                 | 1  | -  | 1   | -   |
| 3.4445             | 34  | FP-5117725         | Shaft, Blower Drive (7" L)  | -  | 1  | -   | 1   |
| 3.4445             | 34  | FP-5124095         | Shaft, Blower Drive (7.86" L)                                       | -  | 1  | -   | 2   |
| 3.4445             | 34  | FP-8923053         | Shaft & Spring, Blower Drive (6.67" L), (48 Spline), (Carbonitride) | -  | 1  | -   | 2   |
| 3.4445             | 34  | FP-5130295         | Shaft, Blower Drive (7" L)  | -  | -  | 1   | -   |
| 3.4445             | 34  | FP-5148253         | Shaft, Blower Drive (5" L), (Nitrided)                              | -  | -  | 1   | -   |
| 3.4445             | 34  | FP-5148255         | Shaft, Blower Drive (5.86" L), (Nitrided)                           | -  | -  | 1   | -   |
| 3.4446             | 0   | FP-5154637         | Ring, Blower Drive Shaft Retaining                                  | 1  | 1  | 1   | 1   |
| 3.4370             | 0   | <b>FP-23503682</b> | <b>Assembly, Blower Drive Coupling</b>                              | 1  | 1  | 1   | 1   |
| 3.4370             | 25  | FP-5150345         | Support, Blower Drive Coupling                                      | 1  | 1  | 1   | 1   |
| 3.4370             | 26  | FP-23503681        | Cam, Blower Drive Coupling  | 1  | 1  | 1   | 1   |
| 3.4370             | 27  | FP-5123859         | Spring, Blower Drive Coupling                                       | 42 | 42 | 42  | 42  |
| 3.4370             | 28  | FP-5123860         | Seat, Blower Drive Coupling   | 2  | 2  | 2   | 2   |
| 3.4370             | 47  | FP-5150346         | Seat, Blower Drive Coupling Spring (Pin Half)                       | 4  | 4  | 4   | 4   |
| <b>Aftercooler</b> |     |                    |   |    |    |     |     |
| 3.5436             | 2   | FP-5101138         | Seal Ring, .984" X .139"  | 4  | 4  | 8   | 8   |
| 3.5437             | 0   | FP-5186840         | Clamp, 13/16" X 1 1/2"  | 4  | 4  | 8   | 8   |
| 3.5438             | 0   | FP-103320          | Lockwasher, 5/16"   | 1  | 1  | 2   | 2   |
| 3.5438             | 5   | FP-5145581         | Gasket, Aftercooler Water Outlet                                    | 1  | 1  | 2   | 2   |

# Blower Drive & Aftercooler

(Figure 10.4)





## Blower Drive & Aftercooler

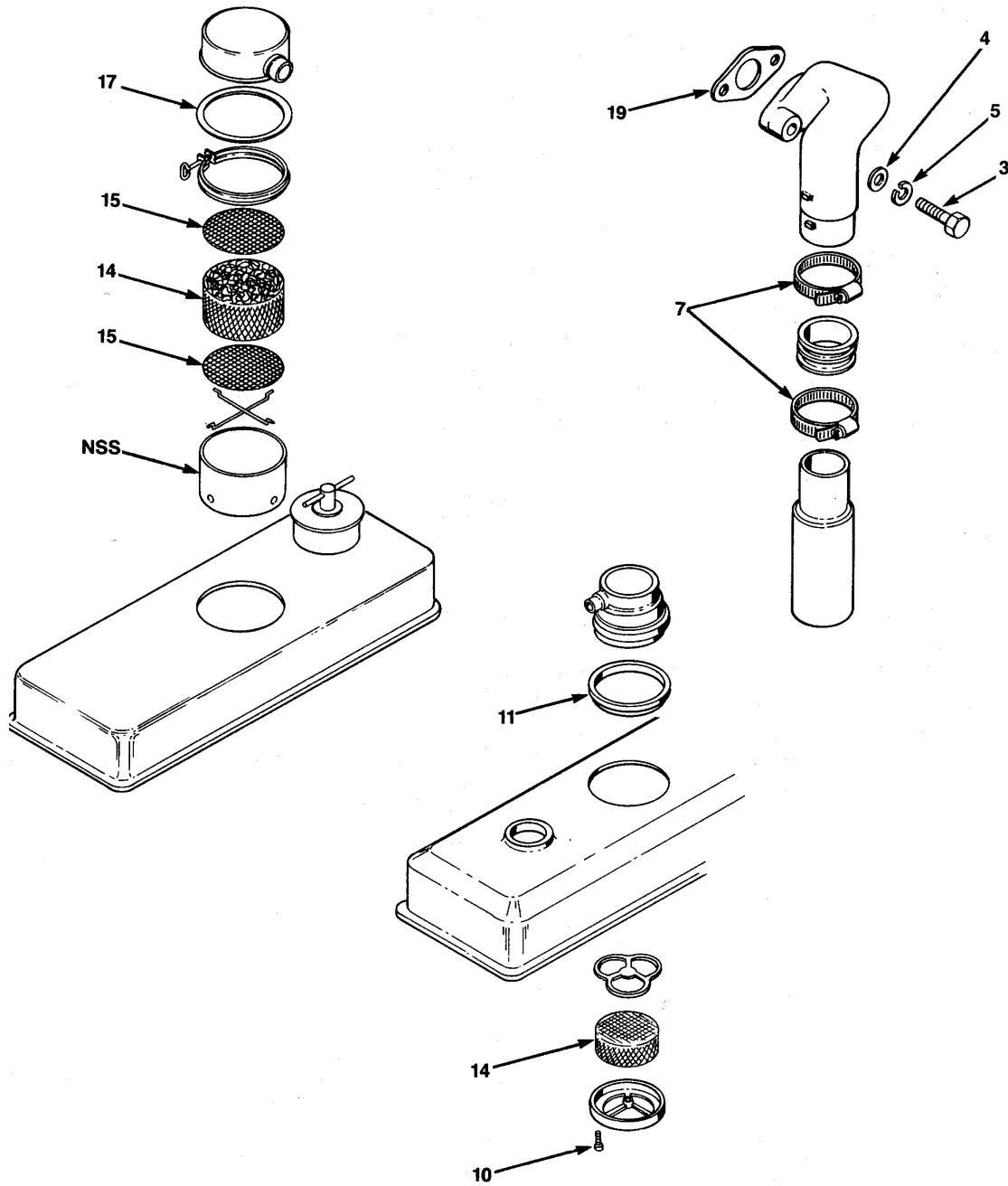
(Figure 10.4)

Groups:  
3.4130 - 3.5505

| Group               | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|---------------------|-----|-------------|--|----|----|-----|-----|
| <b>Turbocharger</b> |     |             |  |    |    |     |     |
| 3.5001              | 0   | FP-5198257  | Seal Ring, Turbocharger (3.5022)                                 | AR | AR | AR  | AR  |
| 3.5001              | 0   | FP-5198988  | Spacer, Turbocharger (.665" x .975" x .18")                      | 2  | 2  | 2   | 2   |
| 3.5305              | 0   | FP-5108715  | Seal, Turbo Charger Exhaust Inlet (3.62" I.D. x 4.08" O.D.)      | AR | AR | AR  | AR  |
| 3.5307              | 0   | FP-23511492 | Gasket, Turbocharger Exhaust Inlet Connection                    | AR | AR | AR  | AR  |
| 3.5307              | 0   | FP-23512114 | Gasket, Turbocharger Exhaust Inlet Connection                    | AR | AR | AR  | AR  |
| 3.5307              | 0   | FP-5118793  | Gasket, Turbo Charger Exhaust Inlet Connection                   | AR | AR | AR  | AR  |
| 3.5307              | 0   | FP-5181415  | Clip, Turbo Charger Oil Return Tube (1 1/8" Tube, 7/16" Bolt)    | AR | AR | AR  | AR  |
| 3.5325              | 0   | FP-23512114 | Gasket, Turbocharger Exhaust Outlet                              | AR | AR | AR  | AR  |
| 3.5418              | 0   | FP-23511492 | Gasket, Turbocharger Air Outlet Elbow                            | AR | AR | AR  | AR  |
| 3.5418              | 0   | FP-5123750  | Gasket, Turbo Charger Air Outlet Elbow                           | AR | AR | AR  | AR  |
| 3.5500              | 0   | FP-5128964  | Gasket, Cover To Turbo Charger                                   | AR | AR | AR  | AR  |
| 3.5500              | 0   | FP-5133425  | Gasket, Turbo Charger Oil Supply Tube                            | AR | AR | AR  | AR  |
| 3.5505              | 0   | FP-5143618  | Hose, Turbo Charger Oil Return (#16 x 31.00")                    | AR | AR | AR  | AR  |
| 3.5505              | 0   | FP-5176532  | Seal Ring, Turbo Charger Oil Return Tube (7/8" Tube - Sealastic) | AR | AR | AR  | AR  |
| 3.5705              | 0   | FP-5109635  | Gasket, Turbocharger Pressure Controller                         | AR | AR | AR  | AR  |

# Breather

(Figure11.1)







# Breather

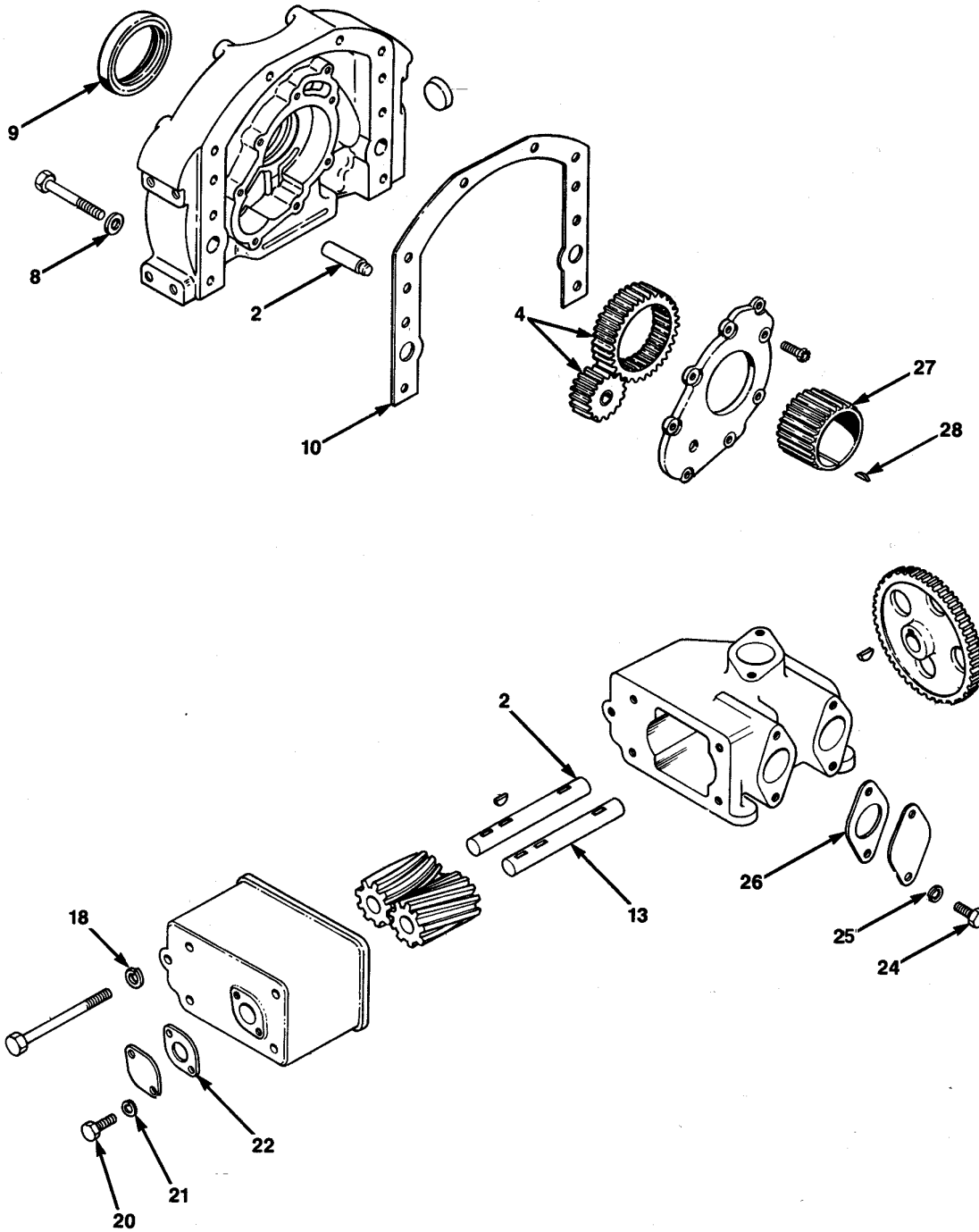
(Figure 11.1)

Groups:  
4.8001 - 4.8170

| Group  | Ref | Part No.    | Description                                     | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 4.8001 | 5   | FP-103319   | Lockwasher, 1/4"                                | 2  | 2  | 2   | 2   |
| 4.8001 | 5   | FP-103321   | Lockwasher, 3/8"                                | 2  | 2  | 2   | 2   |
| 4.8001 | 0   | FP-443603   | Bolt, 1/4" -20 X 3/4"                           | 2  | 2  | 2   | 2   |
| 4.8001 | 19  | FP-5123812  | Gasket, Breather Elbow                          | 2  | 2  | 4   | 4   |
| 4.8001 | 0   | FP-5180314  | Seal Ring, Breather                             | 2  | 2  | 4   | 4   |
| 4.8001 | 0   | FP-8921930  | Bolt, 1/4" -20 X 1.25"                          | 2  | 2  | 4   | 4   |
| 4.8001 | 3   | FP-8927581  | Bolt, 3/8" -16 X 1"                             | 2  | 2  | 2   | 2   |
| 4.8010 | 7   | FP-10019739 | Clamp, Breather Tube (Snap Type)                | AR | AR | AR  | AR  |
| 4.8010 | 7   | FP-5104592  | Clamp, Breather (2 1/2" Dia. Hose)              | 2  | 2  | 2   | 2   |
| 4.8010 | 7   | FP-5186840  | Clamp, Breather (13/16" -1 1/2" Clamping Range) | 2  | 2  | 2   | 2   |
| 4.8013 | 3   | FP-8927581  | Bolt, 3/8" -16 X 1"                             | 2  | 2  | 2   | 2   |
| 4.8020 | 0   | FP-5117636  | Gasket, Breather Pipe                           | 1  | 1  | 1   | 1   |
| 4.8020 | 0   | FP-5132331  | Gasket, Breather Pipe                           | 1  | 1  | 1   | -   |
| 4.8040 | 0   | FP-5186840  | Clamp, Breather (13/16" -1 1/2" Clamping Range) | 2  | 2  | 2   | 2   |
| 4.8040 | 0   | FP-103321   | Lockwasher, 3/8"                                | 1  | 1  | 1   | 1   |
| 4.8040 | 0   | FP-106261   | Washer, 5/16" X 3/4"                            | 1  | 1  | 1   | 1   |
| 4.8040 | 0   | FP-5131433  | Washer, .41" X .81" X .1345"                    | 1  | 1  | 1   | 1   |
| 4.8040 | 0   | FP-8927580  | Bolt, 3/8" -16 X 7/8"                           | 1  | 1  | 1   | 1   |
| 4.8040 | 0   | FP-8927581  | Bolt, 3/8" -16 X 1"                             | 1  | 1  | 1   | 1   |
| 4.8042 | 0   | FP-103319   | Lockwasher, 1/4"                                | 1  | 1  | 1   | 1   |
| 4.8043 | 11  | FP-5103646  | Gasket, Breather Hole Plug                      | 1  | 1  | 1   | 1   |
| 4.8045 | 15  | FP-5132042  | Screen, Filter Unit Breather                    | 2  | 2  | 2   | 2   |
| 4.8045 | 14  | FP-5101760  | Element, Breather Oil Separator Filter Unit     | 1  | 1  | 1   | 1   |
| 4.8045 | 0   | FP-5110393  | Gasket, Breather Pipe                           | 1  | 1  | 1   | 1   |
| 4.8045 | 0   | FP-5130349  | Gasket, Breather Pipe                           | 1  | 1  | 1   | 1   |
| 4.8055 | 10  | FP-5103642  | Screw, # 10 -24 X .375" Lock                    | 1  | 1  | 1   | 1   |
| 4.8057 | 11  | FP-5103646  | Gasket, Breather Shell Cover                    | 1  | 1  | 1   | 1   |
| 4.8060 | 15  | FP-5132042  | Screen, Filter Unit Breather                    | 2  | 2  | 2   | 2   |
| 4.8060 | 14  | FP-5101760  | Element, Breather Oil Separator Filter Unit     | 1  | 1  | 1   | 1   |
| 4.8070 | 17  | FP-5144038  | Gasket, Breather Body Or Separator              | 2  | 2  | 2   | 2   |
| 4.8070 | 17  | FP-5130349  | Gasket, Breather Body Or Separator              | 1  | 1  | 1   | 1   |
| 4.8120 | 0   | FP-5180273  | Gasket, Cylinder Head Air Inlet Tube            | 1  | 1  | 1   | 1   |
| 4.8170 | 0   | FP-103320   | Lockwasher, 5/16"                               | 1  | 1  | 1   | 1   |

# Oil Pump

(Figure 12.1)





# Oil Pump

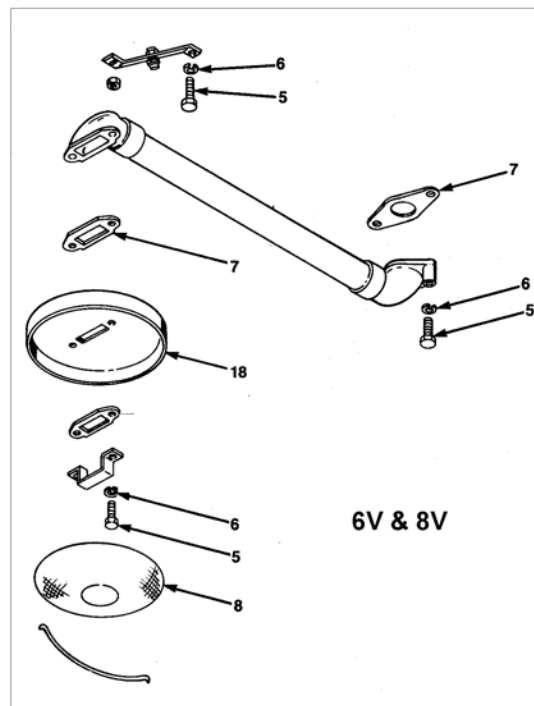
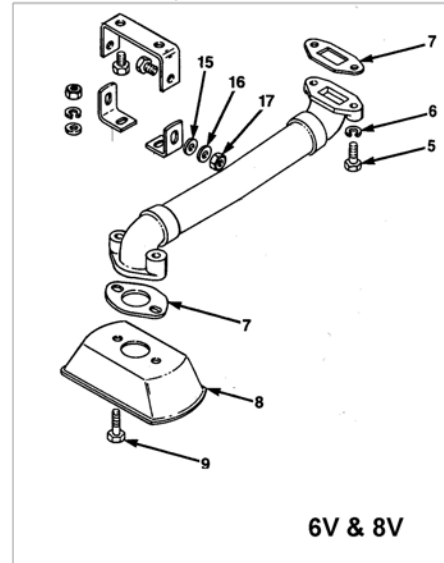
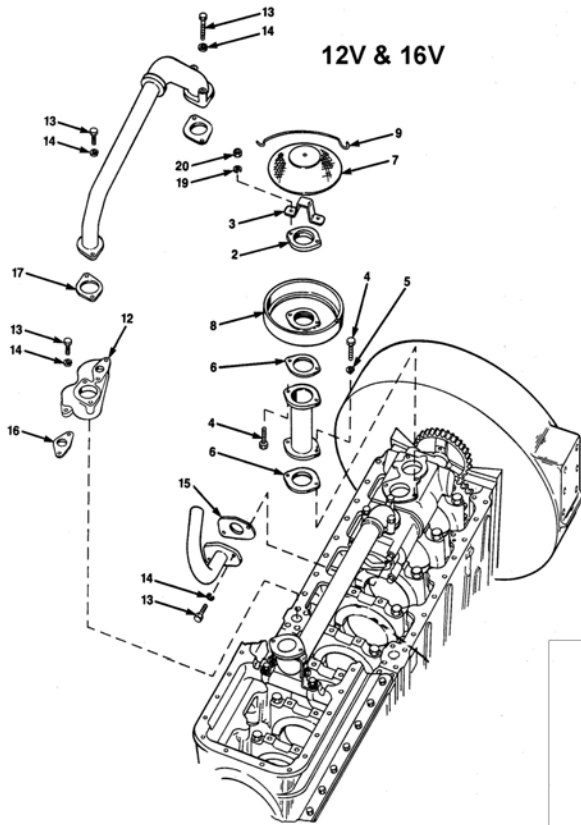
(Figure 12.1)

Groups:  
4.1001 - 4.1380

| Group  | Ref | Part No.          | Description                                   | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|---|----|----|-----|-----|
| 4.1001 | 8   | FP-103321         | Lockwasher, 3/8"                              | 2  | 2  | 4   | 4   |
| 4.1001 | 0   | FP-5136240        | Plug Cap, .420" Dia.                          | 1  | 1  | 1   | 1   |
| 4.1001 | 0   | FP-5115214        | Plug, 1/2" Pipe                               | 1  | -  | -   | -   |
| 4.1001 | 0   | FP-103026         | Nut, 3/8" -24                                 | -  | -  | 4   | 4   |
| 4.1001 | 0   | FP-8927270        | Stud, 3/8" -16/24 X 1 11/16"                  | -  | -  | -   | -   |
| 4.1004 | 9   | FP-5115454        | Seal, Crankshaft Oil (Front), (Single Lip)    | 1  | 1  | -   | -   |
| 4.1007 | 10  | FP-5121714        | Gasket, Oil Pump To Cylinder Block            | 1  | 1  | -   | -   |
| 4.1080 | 2   | FP-5126350        | Shaft, Oil Pump Driven Gear (4.1070)          | 1  | 1  | 1   | 1   |
| 4.1200 | 0   | FP-5123303        | Bushing, Oil Pump Driven Gear                 | 1  | 1  | 1   | 1   |
| 4.1220 | 0   | FP-8924517        | Plug, 3/8" Pipe                               | 1  | 1  | 1   | 1   |
| 4.1220 | 18  | FP-103321         | Lockwasher, 3/8"                              | -  | -  | 4   | 4   |
| 4.1220 | 0   | FP-8927581        | Bolt, 3/8" -16 X 1"                           | -  | -  | 4   | 4   |
| 4.1222 | 21  | FP-103321         | Lockwasher, 3/8"                              | 2  | 2  | 2   | 2   |
| 4.1222 | 20  | FP-8927580        | Bolt, 3/8" -16 X 1"                           | 2  | 2  | 2   | 2   |
| 4.1232 | 22  | FP-29503153       | Gasket, Oil Pump Cover Flange (2.40" B.C.)    | 1  | 1  | 1   | 1   |
| 4.1232 | 22  | FP-5123235        | Gasket, Oil Pump Cover Flange (2.44" B.C.)    | 1  | 1  | 1   | 1   |
| 4.1290 | 25  | FP-103321         | Lockwasher, 3/8"                              | 2  | 2  | 2   | 2   |
| 4.1290 | 24  | FP-8927580        | Bolt, 3/8" -16 X 1"                           | 2  | 2  | 2   | 2   |
| 4.1300 | 26  | FP-29503153       | Gasket, Oil Pump Cover Flange (2.40" B.C.)    | 2  | 2  | 2   | 2   |
| 4.1300 | 26  | FP-5123241        | Gasket, Oil Pump Pad Cover (2.88" B.C.)       | 2  | 2  | 2   | 2   |
| 4.1300 | 26  | FP-5123660        | Gasket, Oil Pump Pad Cover (2.76" B.C.)       | 2  | 2  | 2   | 2   |
| 4.1310 | 28  | FP-8928545        | Key, 3/16" X 7/8" Woodruff                    | 1  | 1  | 1   | 1   |
| 4.1310 | 27  | FP-8927135        | Gear, Oil Pump Drive (On Crankshaft 37 Teeth) | 1  | -  | 1   | 1   |
| 4.1380 | 0   | FP-5104439        | Washer, (Dished 1 1/4" O.D.)                  | 1  | 1  | 1   | 1   |
| 4.1001 | 4   | <b>FP-5196602</b> | <b>Gear Set, Oil Pump (1.302" Wide)</b>       | 1  | 1  | -   | -   |
| 4.1001 | 0   | FP-5117587        | Gear, Oil Pump Drive (1.302" Wide), (4.1090)  | 1  | 1  | -   | -   |
| 4.1001 | 0   | FP-5117588        | Gear, Oil Pump Driven (1.302" Wide), (4.1200) | 1  | 1  | -   | -   |

# Oil Distribution

(Figure 12.2)





# Oil Distribution

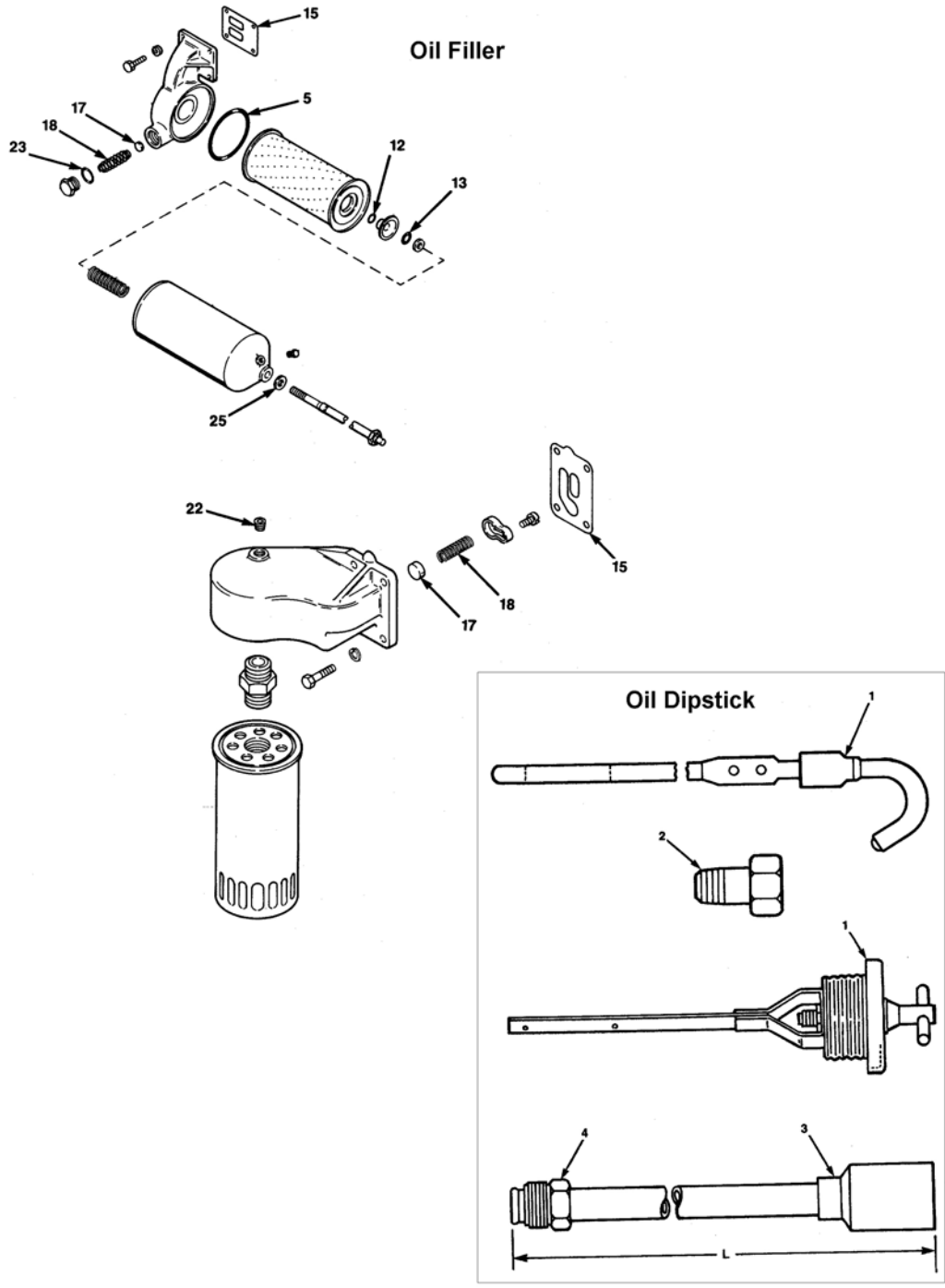
(Figure 12.2)

Groups:  
4.1510 - 4.1597

| Group                    | Ref | Part No.   | Description  | 6V | 8V | 12V | 16V |
|--------------------------|-----|------------|--|----|----|-----|-----|
| <b>6V71 &amp; 8V71</b>   |     |            |  |    |    |     |     |
| 4.1510                   | 6   | FP-103321  | Lockwasher, 3/8"   | 6  | 6  | -   | -   |
| 4.1510                   | 6   | FP-103320  | Lockwasher, 5/16"  | 2  | 2  | -   | -   |
| 4.1520                   | 7   | FP-5117242 | Gasket, Oil Pump Inlet Pipe (At Pump), (3" B.C.)           | 1  | 1  | -   | -   |
| 4.1520                   | 7   | FP-5126160 | Gasket, Oil Pump Inlet Pipe (1.80" B.C.)                   | 1  | 1  | -   | -   |
| 4.1540                   | 16  | FP-103321  | Lockwasher, 3/8"   | 2  | 2  | -   | -   |
| 4.1540                   | 0   | FP-5148436 | Bolt, 5/16" -18 X 3/4"                                     | 2  | 2  | -   | -   |
| 4.1540                   | 0   | FP-8927581 | Bolt, 3/8"-16 X 1"   | 2  | 2  | -   | -   |
| 4.1540                   | 0   | FP-8927580 | Bolt, 3/8"-16 X 7/8"                                       | 1  | 1  | -   | -   |
| 4.1550                   | 18  | FP-5118302 | Cover, Oil Pump Inlet Pipe Screen                          | 1  | 1  | -   | -   |
| <b>12V71 &amp; 16V71</b> |     |            |  |    |    |     |     |
| 4.1510                   | 20  | FP-103026  | Nut, 3/8" -24  | -  | -  | 2   | 2   |
| 4.1510                   | 19  | FP-103321  | Lockwasher, 3/8"   | -  | -  | 4   | 4   |
| 4.1510                   | 4   | FP-8927580 | Bolt, 3/8"-16 X 7/8"                                       | -  | -  | 4   | 4   |
| 4.1520                   | 6   | FP-5128891 | Gasket, Oil Pump Inlet Pipe (Pump To Screen), (2.88" B.C.) | -  | -  | -   | 3   |
| 4.1521                   | 6   | FP-5128875 | Gasket, Oil Pump Inlet Pipe (Scavenging Pump), (3 Hole)    | -  | -  | 1   | 1   |
| 4.1522                   | 6   | FP-5123241 | Gasket, Oil Pump Inlet Pipe (At Pump)                      | -  | -  | 1   | -   |
| 4.1523                   | 6   | FP-5167380 | Gasket, Oil Pump Inlet Pipe (At Screen Cover)              | -  | -  | 2   | -   |
| 4.1524                   | 6   | FP-5123660 | Gasket, Oil Pump Inlet Pipe (4.1300)                       | -  | -  | 2   | -   |
| 4.1525                   | 6   | FP-5124798 | Gasket, Oil Pump Inlet Pipe (4.4184)                       | -  | -  | 1   | -   |
| 4.1526                   | 6   | FP-5123235 | Gasket, Oil Pump Inlet Pipe (4.1232)                       | -  | -  | 2   | -   |
| 4.1550                   | 8   | FP-5118302 | Cover, Oil Pump Inlet Screen                               | -  | -  | 2   | -   |
| 4.1550                   | 8   | FP-5128886 | Cover, Oil Pump Inlet Screen                               | -  | -  | -   | 2   |
| 4.1580                   | 14  | FP-103321  | Lockwasher, 3/8"   | -  | -  | 8   | 8   |
| 4.1580                   | 0   | FP-5121182 | Plug, 1/2" Pipe  | -  | -  | -   | -   |
| 4.1580                   | 0   | FP-8924380 | Plug, 1/8" -27 Pipe  | -  | -  | 1   | 1   |
| 4.1580                   | 13  | FP-8927581 | Bolt, 3/8" -16 X 1" (4.1540)                               | -  | -  | 8   | 8   |
| 4.1581                   | 0   | FP-8923847 | Plug, 1/4" Pipe  | -  | -  | 1   | 1   |
| 4.1581                   | 0   | FP-8924380 | Plug, 1/8" -27 Pipe  | -  | -  | 1   | 1   |
| 4.1590                   | 0   | FP-5112401 | Gasket, Oil Pump Outlet Pipe (Oil Cooler)                  | AR | AR | AR  | AR  |
| 4.1590                   | 17  | FP-2206783 | Gasket, Oil Pump Outlet Pipe (Junction Outlet)             | -  | -  | 1   | 1   |
| 4.1590                   | 16  | FP-5117269 | Gasket, Oil Pump Outlet Pipe (Junction Block)              | -  | -  | 2   | 2   |
| 4.1597                   | 0   | FP-5121182 | Plug, 1/4" Pipe  | -  | -  | 1   | 1   |
| 4.1597                   | 0   | FP-8923847 | Plug, 1/4" Pipe  | -  | -  | 1   | 1   |

# Lubrication

(Figure 12.3)





# Lubrication

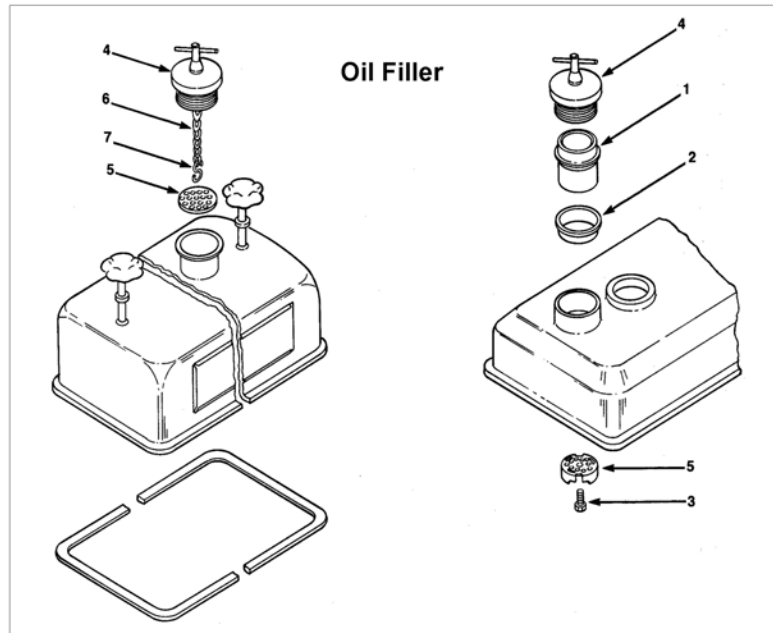
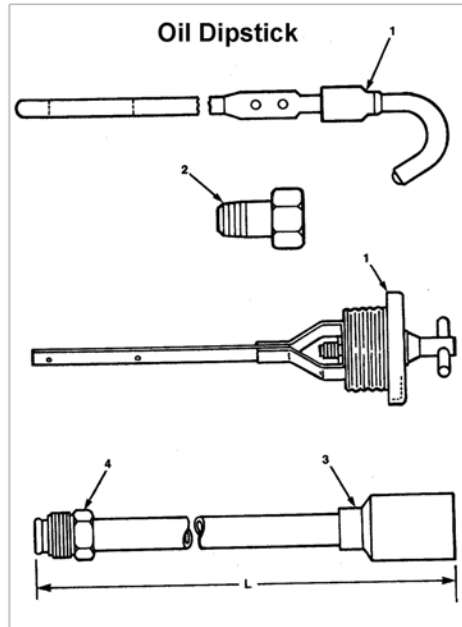
(Figure 12.3)

Groups:  
4.1232 - 4.3020

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--|-----|-------------|--|----|----|-----|-----|
| <b>Oil Filter</b>                                |     |             |  |    |    |     |     |
| 4.2250   | 5   | FP-1595620  | Gasket, Oil Filter (Rectangular Section), (4.2300)             | 1  | 1  | 1   | 1   |
| 4.2250   | 0   | FP-5142549  | Plug, 3/4" Pipe (4.2291)                                       | 1  | 1  | 1   | 1   |
| 4.2290   | 0   | FP-5155596  | Washer, 5/16" Copper (4.2291)                                  | 4  | 4  | 4   | 4   |
| 4.2290   | 0   | FP-5121182  | Plug, 1/4" Pipe (4.2488)                                       | 1  | 1  | 1   | 1   |
| 4.2291   | 0   | FP-103320   | Lockwasher, 5/16"  | 4  | 4  | 4   | 4   |
| 4.2291   | 0   | FP-103321   | Lockwasher, 3/8"   | 4  | 4  | 4   | 4   |
| 4.2291   | 0   | FP-8923391  | Bolt, 3/8" -16 X 1.88"   | 4  | 4  | 4   | 4   |
| 4.2291   | 22  | FP-8923847  | Plug, 1/4" Pipe (4.2488)                                       | 1  | 1  | 1   | 1   |
| 4.2315   | 12  | FP-114498   | Nut, 5/8" -18 Jam  | 1  | 1  | 1   | 1   |
| 4.2330   | 13  | FP-5187310  | Gasket, (Seal) Oil Filter Cover Stud                           | 1  | 1  | 1   | 1   |
| 4.2330   | 25  | FP-6437298  | Gasket, Oil Filter Cover Nut                                   | 1  | 1  | 1   | 1   |
| 4.2350   | 15  | FP-23501590 | Gasket, Oil Filter Adaptor                                     | 1  | 1  | 1   | 1   |
| 4.2350   | 15  | FP-5121205  | Gasket, Oil Filter Adaptor (4.2389)                            | 1  | 1  | 1   | 1   |
| 4.2350   | 15  | FP-5122533  | Gasket, Oil Filter Adaptor                                     | 1  | 1  | 1   | 1   |
| 4.2350   | 15  | FP-5136701  | Gasket, Oil Filter Adaptor                                     | 1  | 1  | 1   | 1   |
| 4.2389   | 15  | FP-8924412  | Gasket, Oil Filter By-Pass Valve Housing                       | 1  | 1  | 1   | 1   |
| 4.2389   | 15  | FP-8924413  | Gasket, Oil Filter By-Pass Valve Housing (4.2350)              | 1  | 1  | 1   | 1   |
| 4.2485   | 17  | FP-5133431  | Valve, Oil Filter By-Pass (Disc)                               | 1  | 1  | 1   | 1   |
| 4.2485   | 17  | FP-5136358  | Valve, Oil Filter By-Pass                                      | 1  | 1  | 1   | 1   |
| 4.2489   | 23  | FP-5187316  | Gasket, Oil Filter By-Pass Valve Plug                          | 1  | 1  | 1   | 1   |
| 4.2489   | 23  | FP-5575086  | Gasket, Oil Filter By-Pass Valve Plug                          | 1  | 1  | 1   | 1   |
| 4.3001   | 0   | FP-5176532  | Seal Ring, Oil Filter Inlet Tube (7/8" Tube - Sealastic)       | AR | AR | AR  | AR  |
| 4.3020   | 0   | FP-5176532  | Seal Ring, Oil Filter Outlet Tube (7/8" Tube - Sealastic)      | AR | AR | AR  | AR  |
| <b>Oil Pressure Relief &amp; Regulator Valve</b> |     |             |  |    |    |     |     |
| 4.1232   | 0   | FP-29503153 | Gasket, Relief Valve To Oil Pump                               | -  | -  | 1   | -   |
| 4.1670   | 2   | FP-5126327  | Spring, Oil Pressure Regulator (.790" Dia., 2.96" L), (4.1690) | 2  | 2  | 2   | 3   |
| 4.1670   | 0   | FP-5131433  | Washer, .41" X .81" X .14" (1.5001)                            | 2  | 2  | 2   | 2   |
| 4.1670   | 12  | FP-8927580  | Bolt, 3/8" -16 X 7/8"  | 2  | 2  | 2   | 2   |
| 4.1670   | 12  | FP-8927581  | Bolt, 3/8" -16 X 1"  | 2  | 2  | 2   | 2   |
| 4.1670   | 5   | FP-457008   | Pin, 3/16" X 1 1/2" Spring                                     | 1  | 1  | 1   | 1   |
| 4.1670   | 7   | FP-5126326  | Spring, Oil Pressure Regulator (.520" Dia., 2.57" L), (4.1690) | 1  | 1  | 1   | 1   |
| 4.1670   | 3   | FP-8922740  | Valve, Oil Pressure Regulator (4.1700)                         | 1  | 1  | 1   | 1   |
| 4.1730   | 14  | FP-5117269  | Gasket, Oil Pressure Regulator Body                            | 2  | 2  | 3   | 3   |
| 4.1730   | 14  | FP-5125497  | Gasket, Oil Pressure Regulator Body                            | 1  | 1  | -   | -   |

# Oil Filler & Dipstick

(Figure 12.4)







# Oil Filler & Dipstick

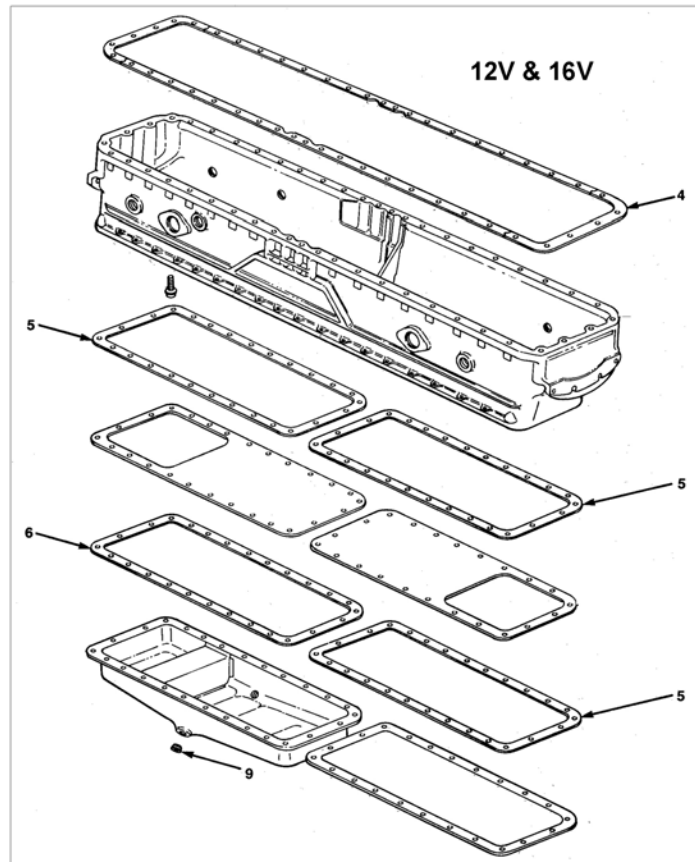
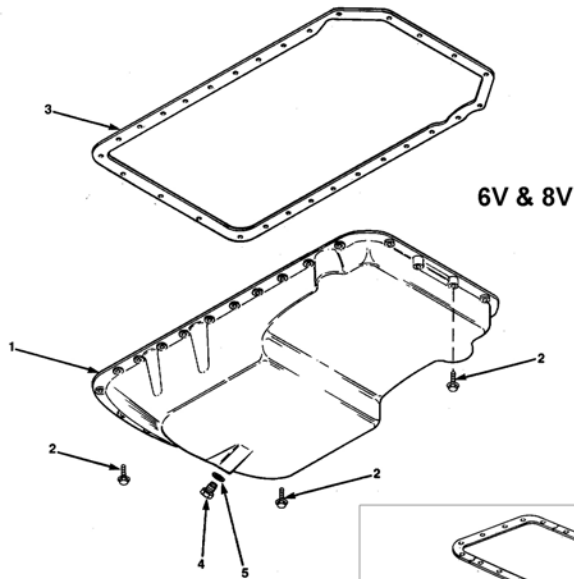
(Figure 12.4)

Groups:  
4.5001 - 4.8020

| Group             | Ref | Part No.    | Description                                 | 6V | 8V | 12V | 16V |
|-------------------|-----|-------------|---|----|----|-----|-----|
| <b>Dipstick</b>   |     |             |   |    |    |     |     |
| 4.6001            | 1   | FP-5101885  | Dipstick, Marked                            | 1  | 1  | 1   | 1   |
| 4.6001            | 1   | FP-5102092  | Dipstick, Marked                            | 1  | 1  | 1   | 1   |
| 4.6001            | 1   | FP-5115162  | Dipstick (18 7/8" L), (8921991)             | 1  | 1  | 1   | 1   |
| 4.6001            | 1   | FP-5146679  | Kit, Unmarked Dipstick                      | 1  | 1  | 1   | 1   |
| 4.6001            | 1   | FP-5146680  | Dipstick, Unmarked                          | 1  | 1  | 1   | 1   |
| 4.6001            | 1   | FP-5147080  | Dipstick, Unmarked (44.25")                 | 1  | 1  | 1   | 1   |
| 4.6001            | 1   | FP-5147185  | Dipstick, Marked                            | 1  | 1  | 1   | 1   |
| 4.6001            | 1   | FP-5162667  | Dipstick, Marked                            | 1  | 1  | 1   | 1   |
| 4.6020            | 2   | FP-5121182  | Plug, 1/4" Pipe                             | 1  | 1  | 1   | 1   |
| 4.6020            | 2   | FP-5151430  | Guide, Dipstick (1 1/2" L.)                 | 1  | 1  | 1   | 1   |
| 4.6040            | 0   | FP-103319   | Lockwasher, 1/4"                            | 2  | 2  | 2   | 2   |
| 4.6040            | 0   | FP-5152148  | Washer, 3/8" Copper Seal                    | 2  | 2  | 2   | 2   |
| 4.6040            | 0   | FP-8927581  | Bolt, 3/8" -16 X 1"                         | 2  | 2  | 2   | 2   |
| 4.6040            | 0   | FP-103026   | Nut, 3/8" -24                               | 1  | 1  | -   | -   |
| 4.6040            | 0   | FP-103320   | Lockwasher, 5/16"                           | 1  | 1  | -   | -   |
| 4.6040            | 0   | FP-103321   | Lockwasher, 3/8"                            | -  | -  | 1   | -   |
| 4.6040            | 0   | FP-106261   | Washer, 5/16"                               | -  | -  | -   | -   |
| 4.8020            | 0   | FP-23507249 | Gasket, Breather Tube                       | AR | AR | AR  | AR  |
| <b>Oil Filler</b> |     |             |   |    |    |     |     |
| 4.5001            | 0   | FP-103321   | Lockwasher, 3/8"                            | 2  | 2  | 2   | 2   |
| 4.5001            | 3   | FP-5103642  | Screw, # 10 -24 X 3.75" Lock                | 2  | 2  | 2   | 2   |
| 4.5001            | 0   | FP-5117362  | Cap, Oil Filler (Squeeze Type)              | 1  | 1  | 1   | 1   |
| 4.5005            | 0   | FP-103321   | Lockwasher, 3/8"                            | 1  | 1  | 1   | 1   |
| 4.5005            | 0   | FP-8923847  | Plug, 1/4" Pipe                             | 1  | 1  | 1   | 1   |
| 4.5005            | 0   | FP-8927581  | Bolt, 3/8" -16 X1"                          | 1  | 1  | 1   | 1   |
| 4.5007            | 0   | FP-23515145 | Gasket, Oil Filler Tube Adaptor             | 1  | 1  | 2   | 2   |
| 4.5007            | 0   | FP-5104507  | Gasket, Oil filler Tube Adaptor             | 1  | 1  | 2   | 2   |
| 4.5007            | 0   | FP-5120540  | Gasket, Oil filler Tube Adaptor             | 1  | 1  | 2   | 2   |
| 4.5010            | 4   | FP-5107106  | Cap, Oil Filler (1.50" Dia.), (Bottle Type) | 1  | 1  | 2   | 2   |
| 4.5010            | 4   | FP-5117362  | Cap, Oil Filler (2" Dia.), (Bottle Type)    | 1  | 1  | 2   | 2   |
| 4.5020            | 3   | FP-5103642  | Screw, #10 -24 X 3.75" Lock                 | 1  | 1  | 2   | 2   |
| 4.5020            | 5   | FP-5150147  | Strainer, Oil Filler Tube                   | 1  | 1  | 2   | 2   |
| 4.5050            | 0   | FP-5117636  | Gasket, Oil Filler Tube                     | 1  | 1  | 2   | 2   |

# Oil Pan

(Figure 12.5)





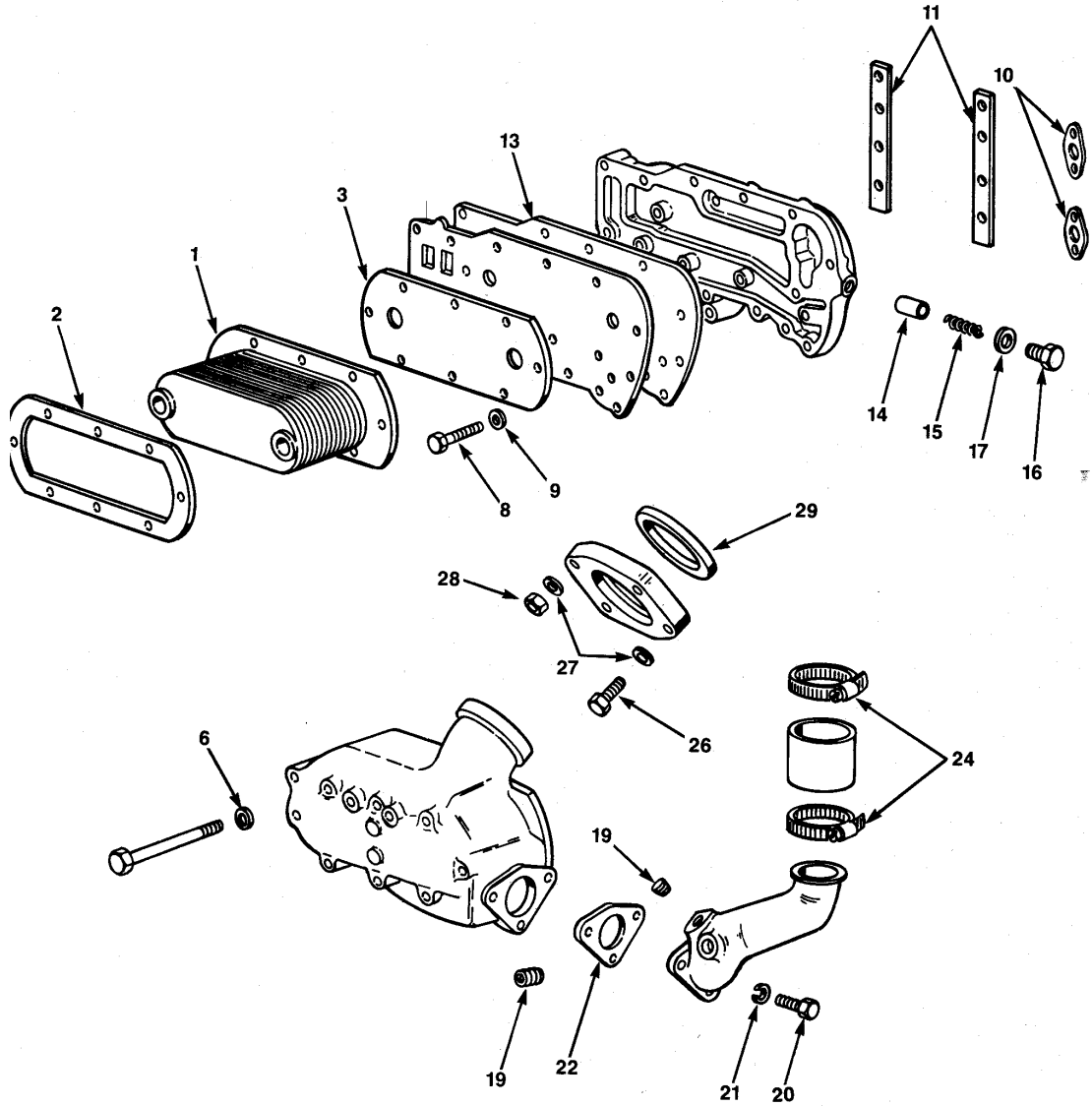
## Oil Pan (Figure 12.5)

Groups:  
4.7001 - 7.7040

| Group                | Ref | Part No.    | Description                              | 6V | 8V | 12V | 16V |
|----------------------|-----|-------------|--|----|----|-----|-----|
| <b>6V &amp; 8V</b>   |     |             |  |    |    |     |     |
| 4.7001               | 2   | FP-8927581  | Bolt, 3/8" -16 X 1"                      | 24 | 28 | -   | -   |
| 4.7001               | 0   | FP-5115214  | Plug, Oil Pan 1/2" Pipe                  | 1  | 1  | -   | -   |
| 4.7001               | 0   | FP-5121182  | Plug, Oil Pan 1/4" Pipe                  | 1  | -  | -   | -   |
| 4.7001               | 4   | FP-8923313  | Plug, Oil Pan 3/4" Pipe (4.7010)         | 1  | -  | -   | -   |
| 4.7001               | 4   | FP-5142549  | Plug, Oil Pan 3/4" Pipe (4.7010)         | -  | 1  | -   | -   |
| 4.7020               | 0   | FP-5148436  | Bolt, 5/16" -18 X 3/4"                   | 24 | 28 | -   | -   |
| 4.7030               | 3   | FP-23503588 | Gasket, Oil Pan To Block (Stamped Pan)   | 1  | -  | -   | -   |
| 4.7030               | 3   | FP-5117231  | Gasket, Oil Pan To Block (Stamped Pan)   | -  | 1  | -   | -   |
| 4.7040               | 0   | FP-5124796  | Gasket, Lower Oil Pan                    | 1  | 1  | -   | -   |
| 4.7040               | 0   | FP-5150115  | Gasket, Lower Oil Pan                    | 1  | 1  | -   | -   |
| 4.7040               | 0   | FP-5150116  | Gasket, Lower Oil Pan                    | 1  | 1  | -   | -   |
| 4.7040               | 0   | FP-8920557  | Gasket, Lower Oil Pan                    | 1  | -  | -   | -   |
| 4.7040               | 0   | FP-5153256  | Gasket, Lower Oil Pan                    | -  | 1  | -   | -   |
| 4.7080               | 4   | FP-5115214  | Plug, Oil Pan Drain (1/2" Pipe)          | 1  | 1  | -   | -   |
| 4.7080               | 4   | FP-5121182  | Plug, Oil Pan Drain (1/4" Pipe)          | 1  | 1  | -   | -   |
| 4.7080               | 4   | FP-8923847  | Plug, Oil Pan Drain (1/4" Pipe)          | 1  | 1  | -   | -   |
| 4.7080               | 4   | FP-8924517  | Plug, Oil Pan Drain (3/8" Pipe)          | 1  | 1  | -   | -   |
| 4.7090               | 5   | FP-840277   | Gasket, Oil Drain Plug (18MM., Nylon)    | 1  | 1  | -   | -   |
| 4.7100               | 0   | FP-8924517  | Plug, 3/8" Pipe                          | 1  | -  | -   | -   |
| 4.7120               | 0   | FP-5194069  | Washer, Oil Pan Cover Bolt (1/4" Copper) | AR | AR | -   | -   |
| 4.7130               | 0   | FP-5170049  | Gasket, Oil Pan Cover                    | 1  | 1  | -   | -   |
| 4.7130               | 0   | FP-5139862  | Gasket, Oil Pan Cover                    | -  | 1  | -   | -   |
| 4.7140               | 0   | FP-5115214  | Plug, Oil Pan Sump (1/2" Pipe)           | 1  | 1  | -   | -   |
| <b>12V &amp; 16V</b> |     |             |  |    |    |     |     |
| 4.7010               | 0   | FP-103321   | Lockwasher, 3/8"                         | -  | -  | 40  | 56  |
| 4.7010               | 0   | FP-5142549  | Plug, Oil Pan 3/4" Pipe (4.7010)         | -  | -  | -   | 2   |
| 4.7010               | 0   | FP-8923313  | Plug, Oil Pan 3/4" Pipe (4.7010)         | -  | -  | 2   | -   |
| 4.7020               | 0   | FP-5148436  | Bolt, 5/16" -18 X 3/4"                   | -  | -  | 40  | 56  |
| 4.7021               | 0   | FP-103320   | Lockwasher 5/16"                         | -  | -  | 40  | 56  |
| 4.7030               | 4   | FP-5109915  | Gasket, Oil Pan To Block                 | -  | -  | 1   | -   |
| 4.7030               | 4   | FP-5126562  | Gasket, Oil Pan To Block                 | -  | -  | -   | 1   |
| 4.7030               | 4   | FP-5150115  | Gasket, Lower Oil Pan (Front Pan)        | -  | -  | -   | 1   |
| 4.7030               | 4   | FP-8926461  | Gasket, Oil Pan To Block                 | -  | -  | 1   | -   |
| 4.7080               | 9   | FP-5115214  | Plug, Oil Pan Drain (1/2" Pipe)          | -  | -  | -   | 1   |
| 4.7120               | 0   | FP-5142549  | Plug, Oil Pan (3/4" Pipe)                | -  | -  | 1   | 1   |
| 4.7120               | 0   | FP-5148436  | Bolt, 5/16" -18 X 3/4"                   | -  | -  | -   | 21  |
| 4.7120               | 0   | FP-8923313  | Plug, Oil Pan (3/4" Pipe)                | -  | -  | 1   | 1   |
| 4.7130               | 0   | FP-5139862  | Gasket, Oil Pan Cover                    | -  | -  | -   | 1   |
| 4.7130               | 0   | FP-5150115  | Gasket, Oil Pan Cover                    | -  | -  | 1   | -   |
| 4.7140               | 0   | FP-5115214  | Plug, Oil Pan Sump (1/2" Pipe)           | -  | -  | -   | 1   |
| 7.7040               | 5   | FP-5125635  | Gasket, Lower Oil Pan                    | -  | -  | 1   | -   |
| 7.7040               | 6   | FP-5150116  | Gasket, Lower Oil Pan (Rear Pan)         | -  | -  | -   | 1   |
| 7.7040               | 5   | FP-5153256  | Gasket, Lower Oil Pan                    | -  | -  | 1   | -   |
| 7.7040               | 5   | FP-8920557  | Gasket, Lower Oil Pan                    | -  | -  | 1   | -   |

# Oil Cooler - Single

(Figure 13.1)





# Oil Cooler - Single

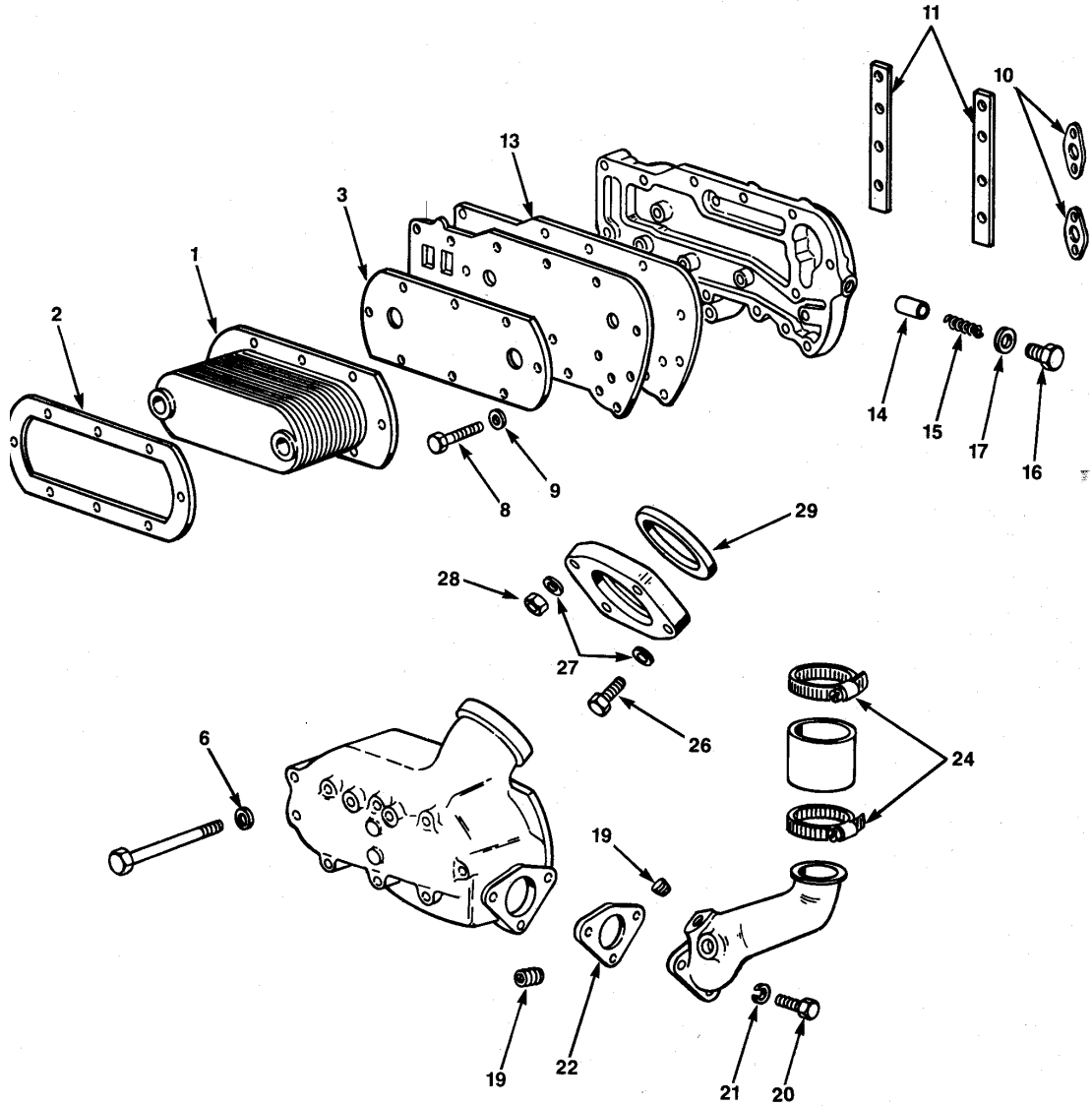
(Figure 13.1)

Groups:  
4.4001 - 4.4150

| Group  | Ref | Part No.   | Description   | 6V | 8V | 12V | 16V |
|--------|-----|------------|---|----|----|-----|-----|
| 4.4001 | 1   | FP-8547236 | Core Assembly, Oil Cooler, Engine (13 Plate)                            | 1  | 1  | 1   | -   |
| 4.4001 | 1   | FP-8547547 | Core Assembly, Oil Cooler, Engine (16 Plate)                            | 1  | 1  | -   | -   |
| 4.4001 | 1   | FP-8547551 | Core Assembly, Oil Cooler, Engine (8 Plate)                             | 1  | 1  | 1   | -   |
| 4.4001 | 1   | FP-8547581 | Core Assembly, Oil Cooler, Engine (13 Plate)                            | 1  | -  | 1   | -   |
| 4.4001 | 1   | FP-8547195 | Core Assembly, Oil Cooler, Engine (18 Plate)                            | -  | 1  | -   | -   |
| 4.4030 | 2   | FP-5150155 | Gasket, Oil Cooler Core Inner   | 1  | 1  | 1   | -   |
| 4.4040 | 3   | FP-5102506 | Gasket, Oil Cooler Core Outer   | 1  | 1  | -   | -   |
| 4.4040 | 3   | FP-8923223 | Gasket, Oil Cooler Core Outer   | 1  | 1  | -   | -   |
| 4.4050 | 6   | FP-103320  | Lockwasher, 5/16"   | 6  | 6  | 6   | 8   |
| 4.4050 | 0   | FP-5155596 | Washer, 5/16" Copper  | 6  | 6  | 6   | 8   |
| 4.4050 | 0   | FP-5142549 | Plug, 3/4" Pipe   | 1  | 1  | 1   | 2   |
| 4.4050 | 0   | FP-8923313 | Plug, 1/4" Pipe (w/Seal)  | 1  | 1  | 1   | 2   |
| 4.4050 | 0   | FP-8923847 | Plug, 1/4" Pipe   | 1  | 1  | 1   | 2   |
| 4.4060 | 0   | FP-8927580 | Bolt, 3/8" -16 X 7/8"   | 12 | 12 | 12  | 16  |
| 4.4060 | 0   | FP-5155596 | Washer, 5/16" Copper  | 10 | 10 | 10  | 12  |
| 4.4060 | 0   | FP-5121182 | Plug, 1/4" Pipe   | 1  | 1  | 1   | 2   |
| 4.4060 | 0   | FP-5133431 | Valve, Oil Cooler Housing   | 1  | 1  | 1   | 1   |
| 4.4060 | 0   | FP-5575086 | Gasket, Oil Cooler Housing  | 1  | 1  | 1   | 2   |
| 4.4060 | 0   | FP-8923847 | Plug, 1/4" Pipe   | 1  | 1  | 1   | 2   |
| 4.4060 | 0   | FP-8924517 | Plug, 3/8" Pipe   | 1  | 1  | 1   | 2   |
| 4.4061 | 0   | FP-5117734 | Gasket, Oil Cooler Housing Cover  | 1  | 1  | 1   | 2   |
| 4.4061 | 0   | FP-5150155 | Gasket, Oil Cooler Housing Cover  | 1  | 1  | 1   | 2   |
| 4.4110 | 8   | FP-8923391 | Bolt, 3/8" -16 X 1.88"  | 6  | 6  | 6   | 8   |
| 4.4110 | 0   | FP-8927581 | Bolt, 3/8" -16 X 1"   | 6  | 6  | 6   | 8   |
| 4.4110 | 0   | FP-5152148 | Washer, 3/8" Copper   | 12 | 12 | 12  | 16  |
| 4.4110 | 0   | FP-103320  | Lockwasher, 5/16"   | 10 | 10 | 10  | 12  |
| 4.4110 | 0   | FP-5131433 | Washer, .41" X .81" X .1345" (1.5001)                                   | 1  | 1  | 1   | 2   |
| 4.4115 | 11  | FP-8920763 | Gasket, Oil Cooler Adaptor To Block (.385" I.D. x 1" O.D. x .013" Thk.) | 3  | 3  | -   | -   |
| 4.4115 | 11  | FP-5102793 | Spacer, Oil cooler Adaptor To Block (5.70" X 1" X .012" L)              | 2  | 2  | 2   | 2   |
| 4.4115 | 10  | FP-5117535 | Gasket, Oil Cooler Adaptor To Block                                     | 2  | 2  | -   | -   |
| 4.4115 | 11  | FP-5126280 | Spacer, Oil cooler Adaptor To Block (8.20" L)                           | 2  | 2  | -   | -   |
| 4.4115 | 10  | FP-8923512 | Gasket, Oil Cooler Adaptor To Block                                     | 2  | 2  | -   | -   |
| 4.4117 | 0   | FP-5131433 | Washer, Oil Cooler Adaptor  | 2  | 2  | -   | -   |
| 4.4117 | 0   | FP-8923391 | Bolt, 3/8" -16 X 1 7/8"   | 2  | 2  | -   | -   |
| 4.4117 | 0   | FP-5149946 | Gasket Set, Oil Cooler Adaptor Cover                                    | 1  | 1  | 1   | 2   |
| 4.4117 | 0   | FP-5150155 | Gasket, Oil Cooler Core-Inner   | 1  | 1  | -   | -   |
| 4.4117 | 13  | FP-8923222 | Gasket, Oil Cooler Plate  | 1  | 1  | -   | -   |
| 4.4117 | 0   | FP-8923223 | Gasket, Oil Cooler Core-Outer   | 1  | 1  | -   | -   |
| 4.4117 | 13  | FP-8923512 | Gasket, Oil Cooler Adaptor Cover  | 1  | 1  | 1   | 2   |
| 4.4117 | 0   | FP-8924412 | Gasket, Oil Filter Adaptor  | 1  | 1  | -   | -   |
| 4.4140 | 14  | FP-5133431 | Valve, Oil Cooler By-Pass   | 1  | 1  | -   | -   |
| 4.4140 | 14  | FP-5177777 | Valve, Oil Cooler By-Pass   | 1  | 1  | -   | -   |
| 4.4150 | 15  | FP-5177778 | Spring, Oil Cooler By-Pass Valve  | 1  | 1  | -   | -   |

# Oil Cooler - Single

(Figure 13.2)





# Oil Cooler - Single

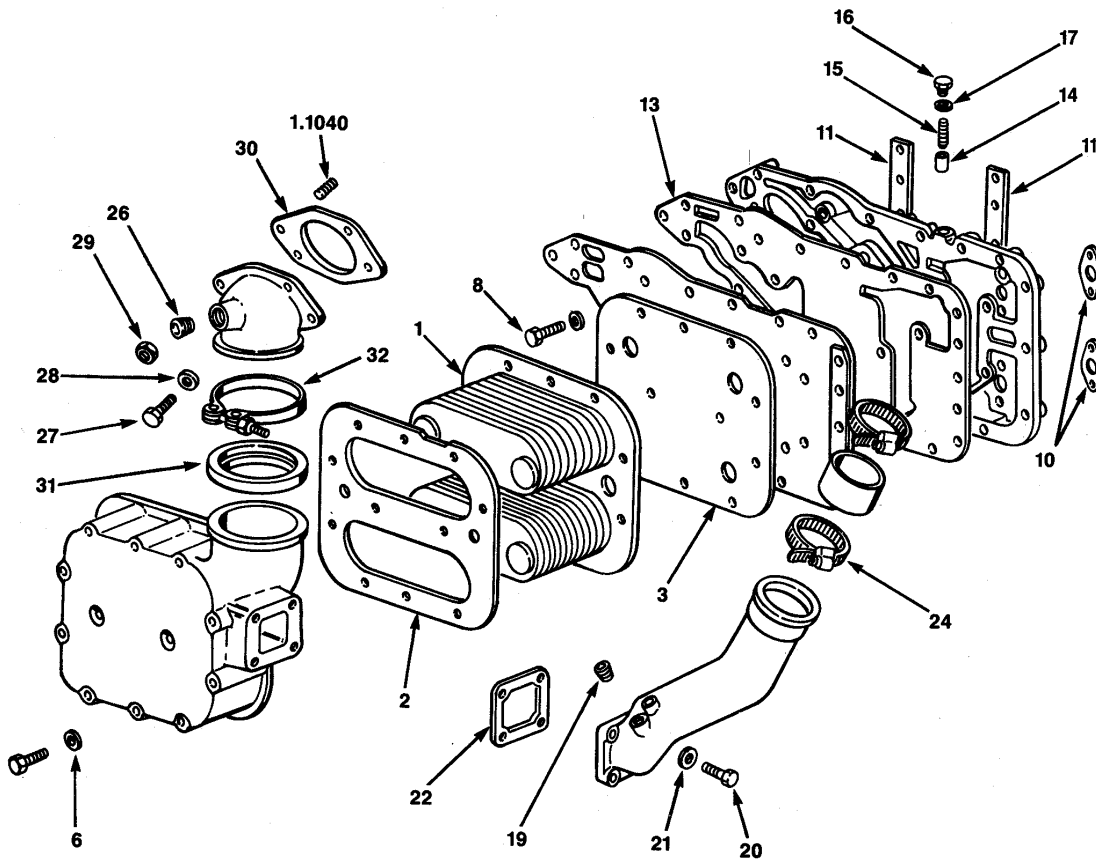
(Figure 13.2)

Groups:  
4.4170 - 4.4250

| Group  | Ref | Part No.    | Description                                       | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 4.4170 | 17  | FP-5134920  | Gasket, Oil Cooler By-Pass Plug                   | 1  | 1  | -   | -   |
| 4.4170 | 17  | FP-5177773  | Gasket, Oil Cooler By-Pass Plug                   | 1  | 1  | -   | -   |
| 4.4170 | 17  | FP-5575086  | Gasket, Oil Cooler By-Pass Plug                   | 1  | 1  | -   | -   |
| 4.4211 | 20  | FP-8927580  | Bolt, 3/8" -16 X 7/8"                             | 8  | 8  | 8   | 16  |
| 4.4211 | 21  | FP-5155596  | Washer, 5/16" Copper                              | 6  | 6  | 6   | 12  |
| 4.4211 | 21  | FP-103321   | Lockwasher, 3/8"                                  | 10 | 10 | 10  | 20  |
| 4.4211 | 19  | FP-5115214  | Plug, 1/2" Pipe                                   | 1  | 1  | 1   | 2   |
| 4.4211 | 19  | FP-5142549  | Plug, 3/4" Pipe                                   | 1  | 1  | 1   | 2   |
| 4.4211 | 19  | FP-8923313  | Plug, 3/4" Pipe                                   | 1  | 1  | 1   | 2   |
| 4.4211 | 19  | FP-8923847  | Plug, 1/4" Pipe                                   | 1  | 1  | 1   | 2   |
| 4.4212 | 0   | FP-5117317  | Gasket, Oil Cooler Water Inlet                    | 1  | 1  | -   | -   |
| 4.4212 | 22  | FP-5117476  | Gasket, Oil Cooler Water Inlet                    | 1  | 1  | -   | -   |
| 4.4214 | 0   | FP-5188036  | Clamp, Oil Cooler Water Inlet Hose (2 3/4" Hose ) | 2  | 2  | 2   | 2   |
| 4.4214 | 24  | FP-9139809  | Clamp, Oil Cooler Water Inlet Hose (2 1/16" -3" ) | 2  | 2  | 2   | 2   |
| 4.4220 | 0   | FP-103320   | Lockwasher, 5/16"                                 | 1  | 1  | 1   | 1   |
| 4.4220 | 0   | FP-5115214  | Plug, 1/2" Pipe                                   | 1  | 1  | 1   | 1   |
| 4.4220 | 0   | FP-5142549  | Plug, 3/4" Pipe                                   | 1  | 1  | 1   | 1   |
| 4.4220 | 0   | FP-5152148  | Washer, 3/8"                                      | 1  | 1  | 1   | 1   |
| 4.4220 | 0   | FP-8923313  | Plug, 3/4" Pipe                                   | 1  | 1  | 1   | 1   |
| 4.4220 | 0   | FP-8923847  | Plug, 1/4" Pipe                                   | 1  | 1  | 1   | 1   |
| 4.4242 | 28  | FP-103026   | Nut, 3/8" -24                                     | 4  | 4  | 4   | 4   |
| 4.4242 | 27  | FP-103321   | Lockwasher, 3/8"                                  | 4  | 4  | 4   | 4   |
| 4.4242 | 26  | FP-8927581  | Bolt, 3/8" -16 X 1"                               | 4  | 4  | 4   | 4   |
| 4.4242 | 29  | FP-23501837 | Seal Ring, Oil Cooler Water Outlet Flange         | 1  | 1  | 1   | 1   |
| 4.4250 | 0   | FP-5143999  | Clamp, Oil Cooler Water Outlet                    | 1  | 1  | 1   | 1   |

# Oil Cooler - Double

(Figure 13.3)







# Oil Cooler - Double

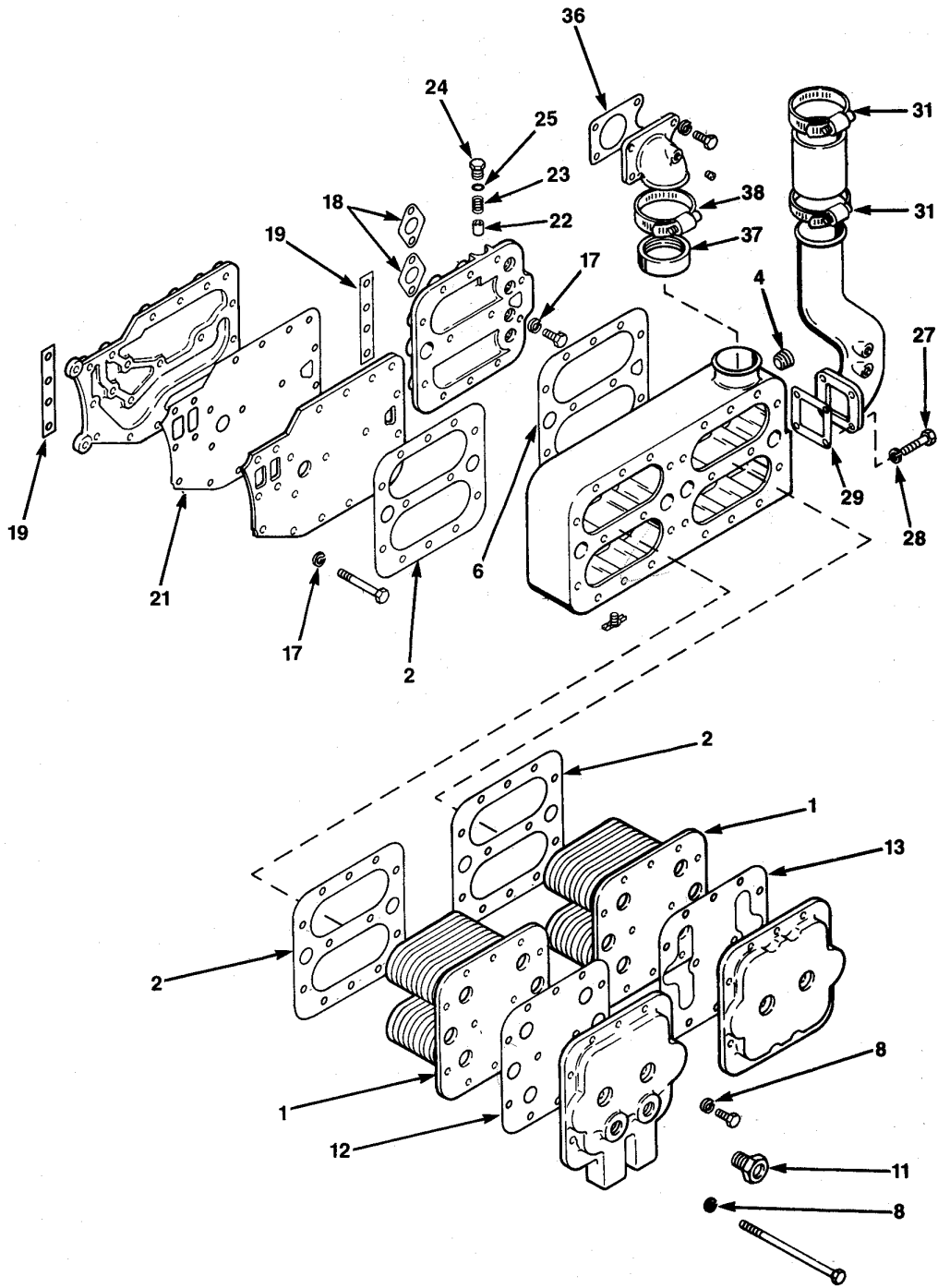
(Figure 13.3)

Groups:  
4.4001 - 4.4250

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 4.4001 | 1   | FP-8547237  | Core Assembly, Oil Cooler Engine (24 Plate)                 | 1  | 1  | 1   | 1   |
| 4.4001 | 1   | FP-8547553  | Core Assembly, Oil Cooler Engine (16 Plate)                 | 1  | 1  | -   | -   |
| 4.4030 | 2   | FP-8926782  | Gasket, Oil Cooler Core Inner                               | 1  | 1  | 1   | -   |
| 4.4040 | 3   | FP-23501584 | Gasket, Oil Cooler Core Outer                               | 1  | 1  | 1   | -   |
| 4.4040 | 3   | FP-23501587 | Gasket, Oil Cooler Core (Element To Block)                  | 1  | 1  | 1   | -   |
| 4.4040 | 3   | FP-23501589 | Gasket, Oil Cooler Core Outer                               | 1  | 1  | 1   | -   |
| 4.4050 | 6   | FP-103320   | Lockwasher, 5/16" (4.4110)                                  | 6  | 6  | 6   | -   |
| 4.4060 | 0   | FP-5155596  | Washer, 5/16" Copper  | 6  | 6  | 6   | -   |
| 4.4060 | 0   | FP-8923847  | Plug, 1/4" Pipe   | 2  | 2  | 2   | -   |
| 4.4061 | 3   | FP-23501589 | Gasket, Oil Cooler Housing Cover                            | 1  | 1  | -   | -   |
| 4.4110 | 0   | FP-8927581  | Bolt, 3/8" -16 X 1"   | 6  | 6  | 6   | -   |
| 4.4110 | 0   | FP-103321   | Lockwasher, 3/8"  | 4  | 4  | 4   | -   |
| 4.4110 | 9   | FP-5131433  | Washer, .41" X .81" X .1345                                 | 1  | 1  | 1   | -   |
| 4.4112 | 22  | FP-5117317  | Gasket, Oil Cooler Water Inlet                              | 1  | 2  | -   | -   |
| 4.4112 | 22  | FP-5100638  | Gasket, Oil Cooler Water Inlet                              | 1  | 1  | -   | -   |
| 4.4112 | 22  | FP-5124822  | Gasket, Oil Cooler Water Inlet                              | -  | -  | 1   | 1   |
| 4.4115 | 11  | FP-5102793  | Spacer, Oil Cooler Adaptor To Block (5.70" x 1" x .012") L) | 2  | 2  | 2   | -   |
| 4.4115 | 10  | FP-5117535  | Gasket, Oil Cooler Adaptor To Block                         | 2  | 2  | -   | -   |
| 4.4115 | 11  | FP-5126280  | Spacer, Oil Cooler Adaptor To Block (8.20" L)               | 2  | 2  | -   | -   |
| 4.4116 | 0   | FP-103320   | Lockwasher, 5/16" (4.4110)                                  | 6  | 6  | 6   | -   |
| 4.4117 | 0   | FP-5175882  | Gasket, Oil Cooler Adaptor Cover                            | 2  | 2  | 2   | 2   |
| 4.4117 | 13  | FP-23501594 | Gasket, Oil Cooler Adaptor Cover                            | 1  | 1  | -   | -   |
| 4.4117 | 13  | FP-23501596 | Gasket, Oil Cooler Adaptor Cover                            | 1  | 1  | 1   | 1   |
| 4.4117 | 13  | FP-8923512  | Gasket, Oil Cooler Adaptor Cover                            | 1  | 1  | 1   | -   |
| 4.4140 | 14  | FP-5177777  | Valve, Oil Cooler By-Pass                                   | 1  | 2  | -   | -   |
| 4.4150 | 15  | FP-5177778  | Spring, Oil Cooler By-Pass Valve                            | 1  | 2  | -   | -   |
| 4.4170 | 17  | FP-5177773  | Gasket, Oil Cooler By-Pass Plug                             | 1  | 2  | -   | -   |
| 4.4211 | 20  | FP-8927580  | Bolt, 5/16" -16 X 7/8"                                      | 6  | 6  | 6   | 8   |
| 4.4211 | 21  | FP-103321   | Lockwasher, 3/8"  | 2  | 2  | 2   | -   |
| 4.4211 | 0   | FP-8923847  | Plug, 1/4" Pipe   | 2  | 2  | 2   | -   |
| 4.4211 | 20  | FP-8927581  | Bolt, 3/8" -16 X 1"   | 2  | 2  | 2   | -   |
| 4.4211 | 19  | FP-5115214  | Plug, 1/2" Pipe   | 1  | 1  | 1   | -   |
| 4.4214 | 24  | FP-5188036  | Clamp, Oil Cooler Water Inlet Hose (2 3/4" Hose)            | 2  | 2  | -   | -   |
| 4.4214 | 24  | FP-9139809  | Clamp, Oil Cooler Water Inlet Hose (2 1/16" -3")            | 2  | 2  | -   | -   |
| 4.4220 | 29  | FP-103026   | Nut, 3/8" -24   | 1  | 1  | -   | -   |
| 4.4220 | 26  | FP-5142549  | Plug, 3/4" Pipe   | 1  | 1  | -   | -   |
| 4.4220 | 0   | FP-5152148  | Washer, 3/8"  | 1  | 1  | -   | -   |
| 4.4220 | 0   | FP-8923313  | Plug, 3/4" Pipe   | 1  | 1  | -   | -   |
| 4.4220 | 27  | FP-8927581  | Bolt, 3/8" -16 X 1"   | 1  | 1  | -   | -   |
| 4.4230 | 30  | FP-5117254  | Gasket, Oil Cooler Water Elbow                              | 1  | 1  | -   | -   |
| 4.4230 | 30  | FP-5117734  | Gasket, Oil Cooler Water Elbow (Front)                      | -  | 1  | -   | -   |
| 4.4240 | 31  | FP-5102098  | Seal, Oil Cooler Water Outlet Hose (3.60" O.D. X .62" W)    | 1  | 2  | -   | -   |
| 4.4250 | 32  | FP-5143999  | Clamp, Oil Cooler Water Outlet Hose (3 1/2" T-Bolt)         | 1  | 2  | -   | -   |

# Oil Cooler - Dual/Double

(Figure 13.4)





# Oil Cooler - Dual/Double

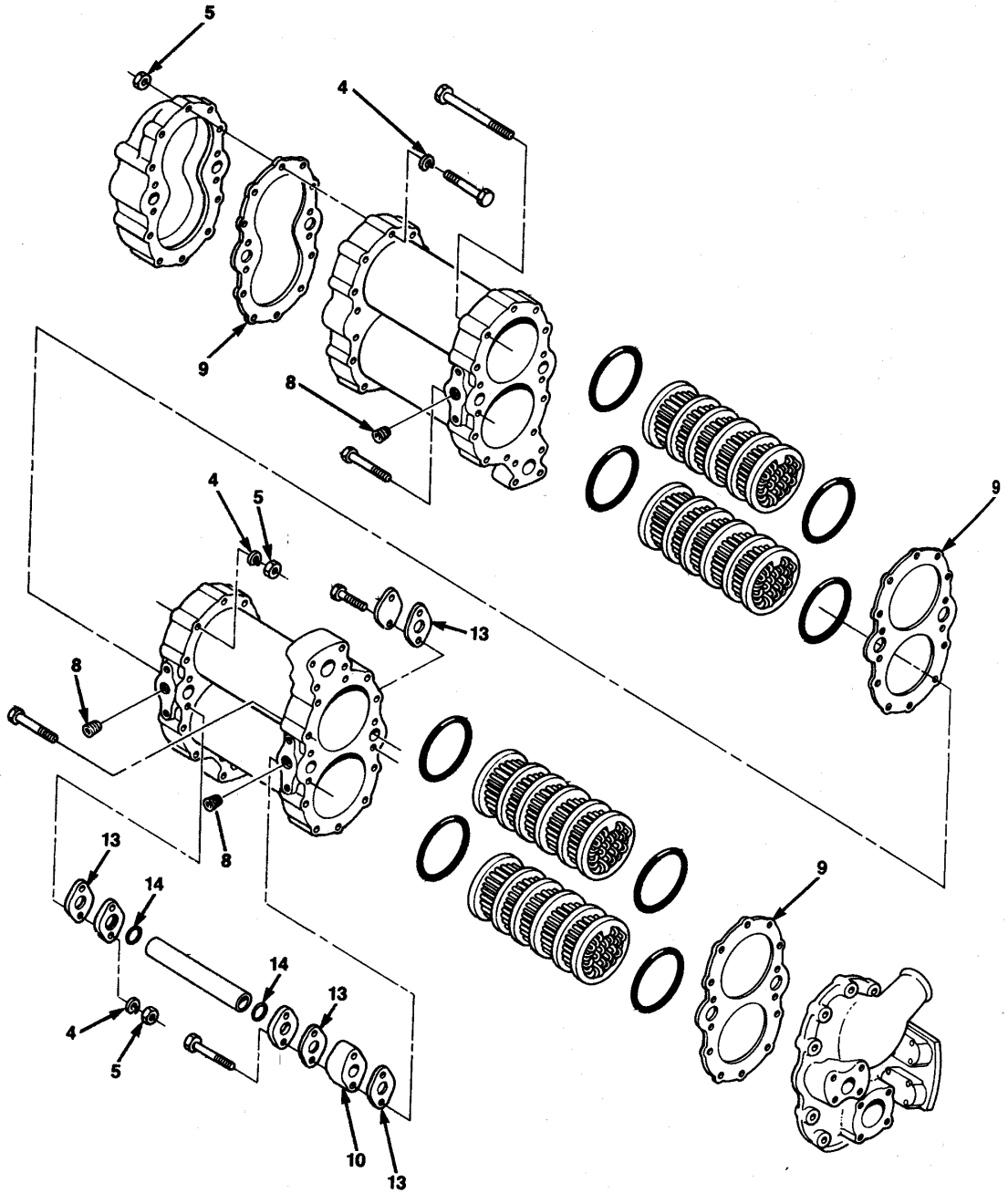
(Figure 13.4)

Groups:  
4.4001 - 4.4220

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 4.4001 | 1   | FP-8547237  | Core Assembly, Oil Cooler-Engine (24 Plate)              | -  | 2  | 2   | 2   |
| 4.4030 | 2   | FP-23501590 | Gasket, Oil Cooler Core Inner                            | -  | 3  | 3   | 3   |
| 4.4030 | 2   | FP-8926782  | Gasket, Oil Cooler Core Inner                            | -  | 3  | 3   | 3   |
| 4.4030 | 0   | FP-23511304 | Gasket, Oil Cooler Housing                               | -  | 1  | 1   | 1   |
| 4.4040 | 6   | FP-23501584 | Gasket, Oil Cooler Core Outer                            | -  | 1  | 1   | 1   |
| 4.4040 | 6   | FP-23501587 | Gasket, Oil Cooler Core Outer                            | -  | 1  | 1   | 1   |
| 4.4040 | 6   | FP-23501589 | Gasket, Oil Cooler Core Outer                            | -  | 1  | 1   | 1   |
| 4.4040 | 13  | FP-23506522 | Gasket, Oil Cooler Core Cover                            | -  | 1  | 1   | 1   |
| 4.4040 | 6   | FP-8926782  | Gasket, Oil Cooler Core Outer                            | -  | 1  | 1   | 1   |
| 4.4050 | 0   | FP-103320   | Lockwasher, 5/16"  | -  | 8  | 8   | 12  |
| 4.4050 | 0   | FP-8923847  | Plug, 1/4" Pipe  | -  | 4  | 4   | 6   |
| 4.4050 | 4   | FP-5142549  | Plug, 3/4" Pipe  | -  | 1  | 1   | 1   |
| 4.4060 | 8   | FP-103320   | Lockwasher, 5/16"  | -  | 8  | 8   | 12  |
| 4.4060 | 0   | FP-5155596  | Washer, 5/16" Copper                                     | -  | 8  | 8   | 12  |
| 4.4060 | 11  | FP-5142549  | Plug, 3/4" Pipe  | -  | 2  | 2   | 4   |
| 4.4060 | 0   | FP-8923847  | Plug, 1/4" Pipe  | -  | 2  | 2   | 4   |
| 4.4061 | 0   | FP-23501584 | Gasket, Oil Cooler Housing Cover                         | -  | 2  | 2   | 2   |
| 4.4061 | 0   | FP-8924623  | Gasket, Oil Cooler Housing Cover                         | -  | 2  | 2   | 2   |
| 4.4061 | 12  | FP-23501589 | Gasket, Oil Cooler Housing Cover (4.4040), (Front)       | -  | -  | 1   | -   |
| 4.4061 | 0   | FP-23501590 | Gasket, Oil Cooler Housing Cover                         | -  | -  | 1   | -   |
| 4.4110 | 17  | FP-103321   | Lockwasher, 3/8"   | -  | -  | 24  | -   |
| 4.4110 | 0   | FP-5152148  | Washer, 3/8"   | -  | -  | 24  | -   |
| 4.4115 | 18  | FP-5117535  | Gasket, Oil cooler Adaptor To Block                      | -  | 2  | 4   | 4   |
| 4.4115 | 2   | FP-8926782  | Gasket, Oil cooler Adaptor To Block                      | -  | -  | 3   | -   |
| 4.4116 | 0   | FP-103320   | Lockwasher, 5/16"  | -  | 8  | 8   | 12  |
| 4.4117 | 21  | FP-23501594 | Gasket, Oil Cooler By-Pass                               | -  | -  | 1   | -   |
| 4.4140 | 22  | FP-5136358  | Valve, Oil Cooler By-Pass                                | -  | 1  | 1   | -   |
| 4.4140 | 22  | FP-5177777  | Valve, Oil Cooler By-Pass                                | -  | 1  | 1   | 2   |
| 4.4150 | 23  | FP-5177778  | Spring, Oil Cooler By-Pass Valve                         | -  | 1  | 1   | 2   |
| 4.4170 | 25  | FP-5134920  | Gasket, Oil Cooler By-Pass Plug                          | -  | 1  | 1   | 2   |
| 4.4170 | 25  | FP-5177773  | Plug, Oil Cooler By-Pass Valve (18MM X 1.5MM SL. HD.)    | -  | 1  | 1   | 2   |
| 4.4170 | 25  | FP-5575086  | Gasket, Oil Cooler By-Pass Plug                          | -  | 1  | 1   | 2   |
| 4.4211 | 28  | FP-103321   | Lockwasher, 3/8"   | -  | 4  | 4   | 4   |
| 4.4211 | 0   | FP-5115214  | Plug, 1/2" Pipe  | -  | 1  | 1   | -   |
| 4.4211 | 29  | FP-5117317  | Gasket, Oil Cooler Water Inlet                           | -  | 1  | 1   | 2   |
| 4.4211 | 29  | FP-5117476  | Gasket, Oil Cooler Water Inlet                           | -  | 1  | -   | -   |
| 4.4211 | 0   | FP-8927580  | Bolt, 3/8" -16 X 7/8"                                    | -  | -  | -   | -   |
| 4.4211 | 0   | FP-8927581  | Bolt, 3/8" -16 X 1"                                      | -  | -  | -   | -   |
| 4.4214 | 31  | FP-9139809  | Clamp, Oil Cooler Water Inlet (2 1/16" -3")              | -  | 2  | 2   | 2   |
| 4.4214 | 0   | FP-5188036  | Clamp, Oil Cooler Water Inlet (2 3/4" Hose)              | -  | 1  | 1   | 1   |
| 4.4220 | 0   | FP-5152148  | Washer, 3/8"   | -  | 4  | 4   | 4   |
| 4.4220 | 0   | FP-8927581  | Bolt, 3/8" -16 X 1"                                      | -  | 4  | 4   | 4   |
| 4.4220 | 0   | FP-5115214  | Plug, 1/2" Pipe  | -  | 1  | 1   | 1   |
| 4.4220 | 33  | FP-5142549  | Plug, 3/4" Pipe  | -  | 1  | 1   | 1   |
| 4.4220 | 0   | FP-103026   | Nut, 3/8" -24  | -  | -  | -   | -   |
| 4.4220 | 0   | FP-8923313  | Plug, 3/4" Pipe  | -  | -  | -   | -   |
| 4.4230 | 36  | FP-5117254  | Gasket, Oil Cooler Water Elbow                           | -  | 1  | 1   | 1   |
| 4.4230 | 0   | FP-5117317  | Gasket, Oil Cooler Water Elbow                           | -  | 1  | 1   | -   |
| 4.4230 | 0   | FP-5117734  | Gasket, Oil Cooler Water Elbow (Front)                   | -  | -  | -   | 1   |
| 4.4240 | 37  | FP-5102098  | Seal, Oil Cooler Water Outlet Hose (3.60" O.D. X .62" W) | -  | 1  | 2   | 2   |
| 4.4242 | 0   | FP-8927581  | Bolt, 3/8" -16 X 1"                                      | -  | -  | -   | -   |
| 4.4250 | 38  | FP-5143999  | Clamp, Oil Cooler Water Outlet Hose (3 1/2" T-Bolt)      | -  | 1  | 2   | 4   |

# Oil Cooler

(Figure 13.5)





# Oil Cooler

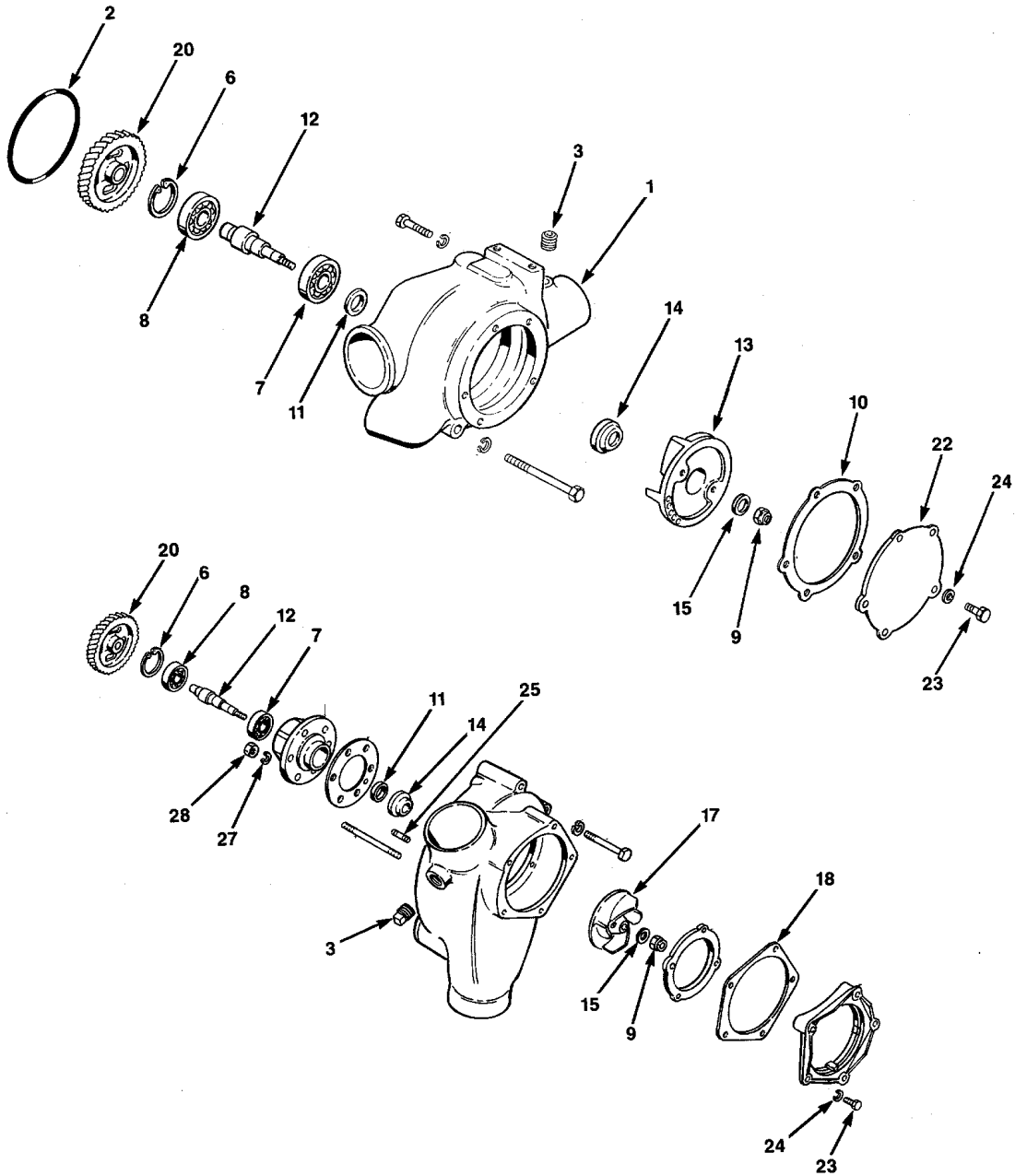
(Figure 13.5)

Groups:  
4.4001 - 4.4345

| Group  | Ref | Part No.   | Description                                      | 6V               | 8V | 12V | 16V |
|--------|-----|------------|--|------------------|----|-----|-----|
|        |     |            |  | <b>Tube Type</b> |    |     |     |
| 4.4001 | 5   | FP-103026  | Nut, 3/8" -24 Hex.                               | 28               | 28 | 28  | 28  |
| 4.4001 | 4   | FP-103321  | Lockwasher, 3/8"                                 | 28               | 28 | 28  | 28  |
| 4.4030 | 0   | FP-5117535 | Gasket, Oil Cooler Core Inner                    | 1                | 1  | 1   | 1   |
| 4.4030 | 0   | FP-5124806 | Gasket, Oil Cooler Core Inner                    | 1                | 1  | 1   | 1   |
| 4.4030 | 0   | FP-5124822 | Gasket, Oil Cooler Core Inner                    | 1                | 1  | 1   | 1   |
| 4.4030 | 0   | FP-5150155 | Gasket, Oil Cooler Core Inner                    | 1                | 1  | 1   | 1   |
| 4.4030 | 0   | FP-8926782 | Gasket, Oil Cooler Core Inner                    | 1                | 1  | 1   | 1   |
| 4.4040 | 0   | FP-5102506 | Gasket, Oil Cooler Core Outer                    | 1                | 1  | 1   | 1   |
| 4.4040 | 0   | FP-5124806 | Gasket, Oil Cooler Core Outer                    | 1                | 1  | 1   | 1   |
| 4.4040 | 0   | FP-5126618 | Gasket, Oil Cooler Core Outer                    | 1                | 1  | 1   | 1   |
| 4.4040 | 0   | FP-5136701 | Gasket, Oil Cooler Core Outer                    | 1                | 1  | 1   | 1   |
| 4.4060 | 4   | FP-103320  | Lockwasher, 5/16"                                | 8                | 8  | 8   | 8   |
| 4.4060 | 4   | FP-103321  | Lockwasher, 3/8"                                 | 28               | 28 | 28  | 28  |
| 4.4060 | 0   | FP-5152148 | Washer, 3/8" Flat                                | 28               | 28 | 28  | 28  |
| 4.4060 | 0   | FP-5126321 | Gasket, Oil Cooler Hosing Front Cover Plate      | 1                | 1  | 1   | 1   |
| 4.4060 | 0   | FP-5121182 | Plug, 1/4" Socket Head                           | -                | -  | -   | -   |
| 4.4061 | 9   | FP-5124806 | Gasket, Oil Cooler Cover                         | 1                | 1  | 1   | 1   |
| 4.4064 | 0   | FP-5130995 | Gasket, Oil Cooler Cover Bracket To FW Hsg.      | 1                | 1  | 1   | 1   |
| 4.4115 | 0   | FP-8920763 | Spacer, Oil Cooler Adaptor To Block              | 1                | 1  | 1   | 1   |
| 4.4140 | 1   | FP-5133431 | Valve, Oil Cooler By-Pass                        | 1                | 1  | 1   | 1   |
| 4.4178 | 13  | FP-5124798 | Gasket, Oil Cooler By-Pass Tube Flange           | 2                | 2  | 2   | 2   |
| 4.4178 | 14  | FP-5193598 | Seal Ring, Oil Cooler By-Pass Tube Flange        | 2                | 2  | 2   | 2   |
| 4.4182 | 5   | FP-103026  | Nut, 3/8" -24 Hex                                | 28               | 28 | 28  | 28  |
| 4.4182 | 4   | FP-103321  | Lockwasher, 3/8"                                 | 28               | 28 | 28  | 28  |
| 4.4184 | 13  | FP-5124798 | Gasket, Oil Cooler By-Pass Hole Cover            | 3                | 3  | 3   | 3   |
| 4.4200 | 0   | FP-5117535 | Gasket, Oil Cooler Inlet and Outlet Tube         | 2                | 2  | 2   | 2   |
| 4.4230 | 0   | FP-5124822 | Gasket, Oil Cooler Water Elbow                   | 1                | 1  | 1   | 1   |
| 4.4345 | 0   | FP-5181415 | Clip, Oil Cooler Lines (1 1/8" Tube - 7/16 Bolt) | AR               | AR | AR  | AR  |

# Fresh Water Pump

(Figure 14.1)





# Fresh Water Pump

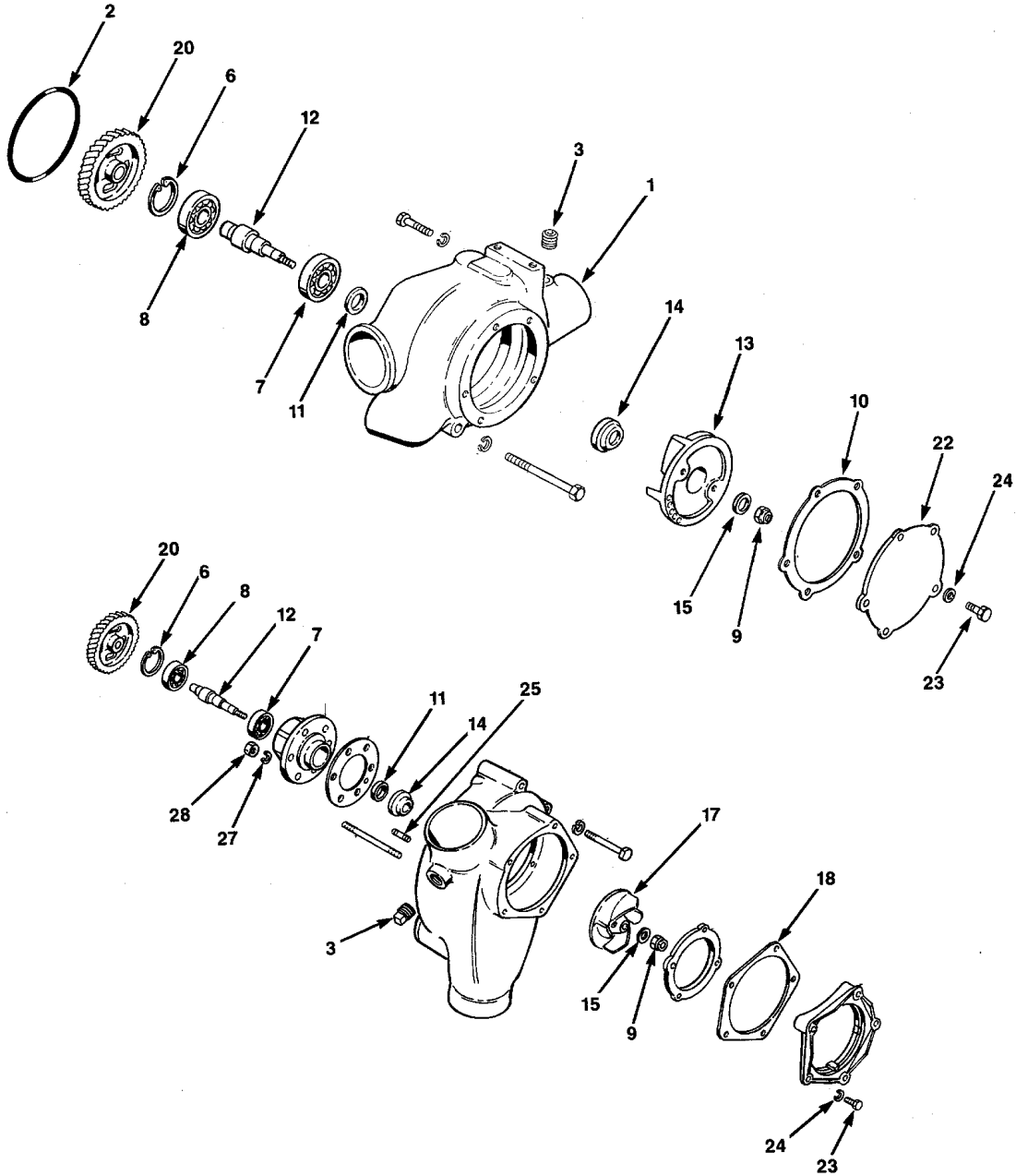
(Figure 14.1)

Groups:  
5.1001 - 5.1002

| Group  | Ref | Part No.           | Description  | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|--|----|----|-----|-----|
| 5.1001 | 0   | FP-23506604        | Assy, Fresh Water Pump   | AR | AR | AR  | AR  |
| 5.1001 | 0   | FP-23518811        | Bearing Assy, Fresh Water Pump (DBL Row, Angular Contact), (For 5108449, 5108487, 5108723, 5109590, 5126785, 5132081, 5132083 Pumps) | AR | AR | AR  | AR  |
| 5.1001 | 28  | FP-103026          | Nut, 3/8" -24 (5.1071)   | 5  | 5  | 5   | 5   |
| 5.1001 | 27  | FP-103321          | Lockwasher, 3/8" (5.1071)  | 5  | 5  | 5   | 5   |
| 5.1001 | 2   | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)  | 1  | 1  | 1   | 1   |
| 5.1001 | 0   | FP-5115214         | Plug, 1/2" Pipe  | 1  | 1  | 1   | 1   |
| 5.1001 | 3   | FP-5142549         | Plug, 3/4" Pipe  | 1  | 1  | 1   | 1   |
| 5.1001 | 3   | FP-8923313         | Plug, 3/4" Pipe  | 1  | 1  | 1   | 1   |
| 5.1002 | 0   | <b>FP-23506366</b> | <b>Kit, Fresh Water Pump Reconditioning</b>  | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-221436          | Washer, Flat   | 1  | 1  | -   | -   |
| 5.1002 | 6   | FP-274746          | Lock Ring, Fresh Water Pump Bearing  | 1  | 1  | -   | 1   |
| 5.1002 | 7   | FP-23503649        | Bearing, Fresh Water Pump (Outer)  | 1  | 1  | -   | 1   |
| 5.1002 | 8   | FP-23503687        | Bearing, Fresh Water Pump (Inner)  | 1  | 1  | -   | 1   |
| 5.1002 | 2   | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)  | 1  | 1  | -   | -   |
| 5.1002 | 9   | FP-5117972         | Nut, 7/16" -20 Lock  | 1  | 1  | -   | -   |
| 5.1002 | 10  | FP-5117975         | Gasket, Fresh Water Pump Body Cover  | 1  | 1  | -   | -   |
| 5.1002 | 11  | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing   | 1  | 1  | 1   | -   |
| 5.1002 | 12  | FP-5123150         | Shaft, Fresh Water Pump  | 1  | 1  | 1   | -   |
| 5.1002 | 13  | FP-23505999        | Impeller, Fresh Water Pump (Hi-Capacity)   | 1  | 1  | -   | -   |
| 5.1002 | 14  | FP-8924297         | Seal, Fresh Water Pump   | 1  | 1  | 1   | 1   |
| 5.1002 | 0   | <b>FP-23506852</b> | <b>Kit, Fresh Water Pump</b>   | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-221436          | Washer, Flat   | 1  | 1  | -   | -   |
| 5.1002 | 6   | FP-274746          | Lock Ring, Fresh Water Pump Bearing  | 1  | 1  | 1   | 1   |
| 5.1002 | 7   | FP-23503649        | Bearing, Fresh Water Pump (Outer)  | 1  | 1  | 1   | 1   |
| 5.1002 | 8   | FP-23503687        | Bearing, Fresh Water Pump (Inner)  | 1  | 1  | 1   | 1   |
| 5.1002 | 0   | FP-5101160         | Seal Ring, Fresh Water Pump Body   | 1  | 1  | -   | -   |
| 5.1002 | 2   | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)  | 1  | 1  | 1   | -   |
| 5.1002 | 9   | FP-5117972         | Nut, 7/16" -20 Lock  | 1  | 1  | 1   | -   |
| 5.1002 | 11  | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing   | 1  | 1  | 1   | 1   |
| 5.1002 | 17  | FP-23505995        | Impeller, Fresh Water Pump   | 1  | 1  | -   | -   |
| 5.1002 | 12  | FP-23506053        | Shaft, Fresh Water Pump  | 1  | 1  | -   | -   |
| 5.1002 | 14  | FP-23506248        | Seal, Fresh Water Pump   | 1  | 1  | -   | -   |
| 5.1002 | 0   | <b>FP-5197279</b>  | <b>Replacement Kit, Water Pump Ceramic Seal</b>  | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-5197310         | Washer, Adhesive, Ceramic Insert Fresh Water Pump  | 2  | 2  | -   | -   |
| 5.1002 | 0   | FP-5117342         | Ceramic Insert, Fresh Water Pump   | 1  | 1  | -   | -   |

# Fresh Water Pump

(Figure 14.2)







# Fresh Water Pump

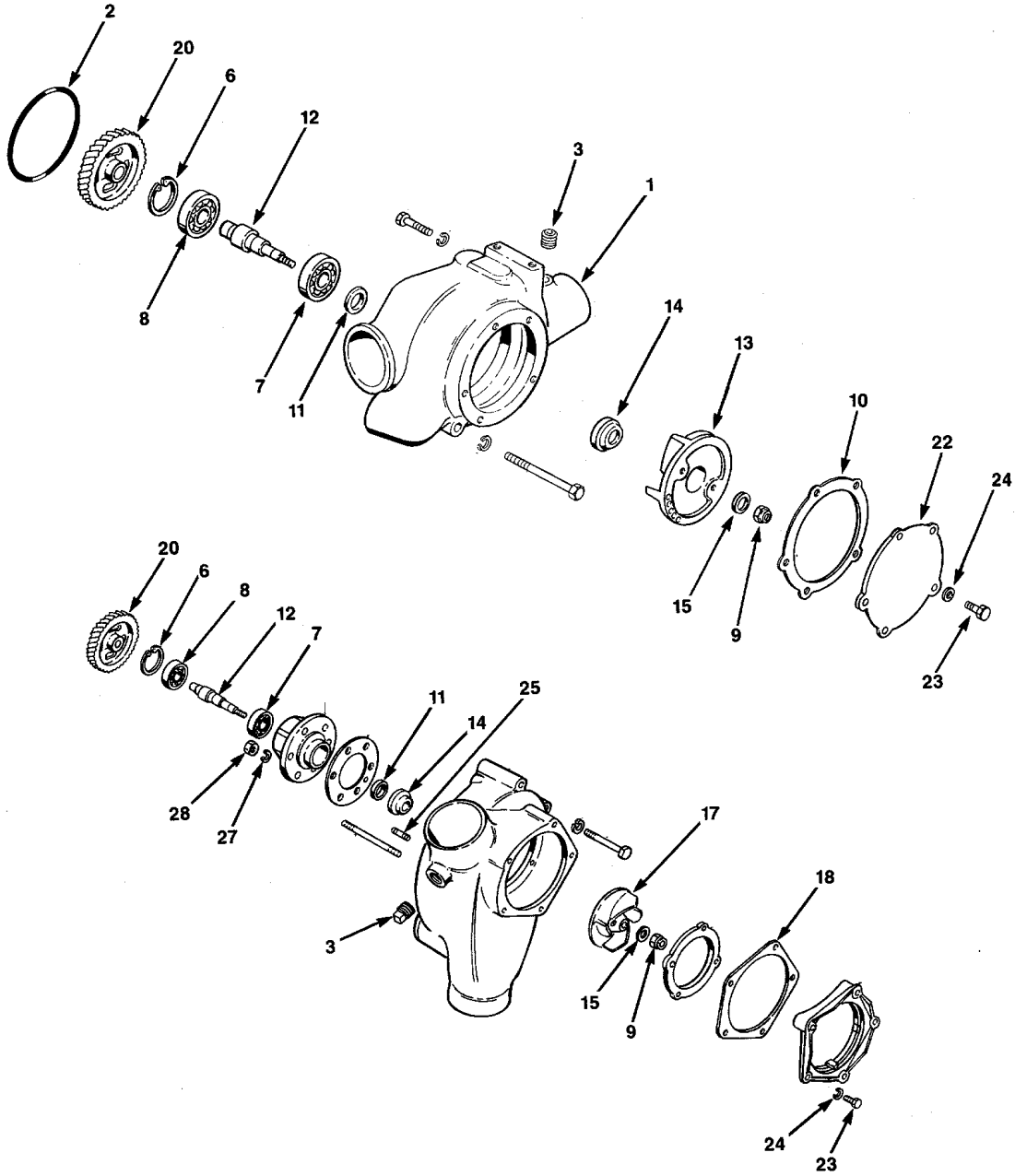
(Figure 14.2)

Groups:  
5.1002 - 5.1002

| Group  | Ref | Part No.           | Description  | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|--|----|----|-----|-----|
| 5.1002 | 0   | <b>FP-23506367</b> | <b>Kit, Fresh Water Pump (Long Vane), (12V71)</b>        | -  | -  | 1   | -   |
| 5.1002 | 15  | FP-221436          | Washer, Flat   | 1  | 1  | 1   | -   |
| 5.1002 | 6   | FP-274746          | Lock Ring, Fresh Water Pump Bearing                      | 1  | 1  | 1   | -   |
| 5.1002 | 7   | FP-23503649        | Bearing, Fresh Water Pump (Outer)                        | 1  | 1  | 1   | 1   |
| 5.1002 | 8   | FP-23503687        | Bearing, Fresh Water Pump (Inner)                        | 1  | 1  | 1   | 1   |
| 5.1002 | 18  | FP-5117976         | Gasket, Fresh Water Pump Body Cover                      | -  | -  | 1   | -   |
| 5.1002 | 11  | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing                     | -  | -  | 1   | -   |
| 5.1002 | 2   | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)                          | 1  | 1  | 1   | -   |
| 5.1002 | 12  | FP-5123150         | Shaft, Fresh Water Pump                                  | 1  | 1  | 1   | -   |
| 5.1002 | 12  | FP-23506000        | Impeller, Fresh Water Pump (Long Vane)                   | 1  | 1  | 1   | -   |
| 5.1002 | 9   | FP-5117972         | Nut, 7/16" -20 Lock                                      | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-8924297         | Seal, Fresh Water Pump                                   | 1  | 1  | 1   | -   |
| 5.1002 | 0   | <b>FP-23506368</b> | <b>Kit, Fresh Water Pump Reconditioning (Short Vane)</b> | -  | -  | 1   | -   |
| 5.1002 | 15  | FP-221436          | Washer, Flat   | 1  | 1  | 1   | 1   |
| 5.1002 | 6   | FP-274746          | Lock Ring, Fresh Water Pump Bearing                      | 1  | 1  | 1   | 1   |
| 5.1002 | 7   | FP-23503649        | Bearing, Fresh Water Pump (Outer)                        | 1  | 1  | 1   | 1   |
| 5.1002 | 8   | FP-23503687        | Bearing, Fresh Water Pump (Inner)                        | 1  | 1  | 1   | 1   |
| 5.1002 | 18  | FP-5117976         | Gasket, Fresh Water Pump Body Cover                      | -  | -  | 1   | -   |
| 5.1002 | 9   | FP-5117972         | Nut, 7/16" -20 Lock                                      | 1  | 1  | 1   | -   |
| 5.1002 | 11  | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing                     | 1  | 1  | 1   | 1   |
| 5.1002 | 12  | FP-23506053        | Shaft, Fresh Water Pump                                  | -  | -  | -   | 1   |
| 5.1002 | 14  | FP-23506248        | Seal, Fresh Water Pump                                   | 1  | 1  | 1   | 1   |
| 5.1002 | 17  | FP-23506001        | Impeller, Fresh Water Pump                               | -  | -  | 1   | -   |
| 5.1002 | 2   | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)                          | 1  | 1  | 1   | -   |
| 5.1002 | 0   | <b>FP-23506871</b> | <b>Kit, Fresh Water Pump Reconditioning (16V)</b>        | -  | -  | 1   | 1   |
| 5.1002 | 15  | FP-221436          | Washer, Flat   | 1  | 1  | 1   | 1   |
| 5.1002 | 6   | FP-274746          | Lock Ring, Fresh Water Pump Bearing                      | 1  | 1  | 1   | 1   |
| 5.1002 | 7   | FP-23503649        | Bearing, Fresh Water Pump (Outer)                        | 1  | 1  | 1   | 1   |
| 5.1002 | 8   | FP-23503687        | Bearing, Fresh Water Pump (Inner)                        | 1  | 1  | 1   | 1   |
| 5.1002 | 0   | FP-5109515         | Gasket, Fresh Water Pump                                 | -  | -  | 1   | 1   |
| 5.1002 | 9   | FP-5117972         | Nut, 7/16" -20 Lock                                      | 1  | 1  | 1   | -   |
| 5.1002 | 11  | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing                     | -  | -  | 1   | -   |
| 5.1002 | 12  | FP-23506053        | Shaft, Fresh Water Pump                                  | 1  | 1  | 1   | 1   |
| 5.1002 | 0   | FP-23506248        | Seal, Fresh Water Pump                                   | -  | -  | 1   | -   |
| 5.1002 | 17  | FP-23506002        | Impeller, Fresh Water Pump                               | -  | -  | -   | 1   |
| 5.1002 | 18  | FP-23505239        | Gasket, Fresh Water Pump                                 | -  | -  | 1   | 1   |
| 5.1002 | 0   | <b>FP-5149711</b>  | <b>Kit, Fresh Water Pump Repair</b>                      | 1  | 1  | -   | -   |
| 5.1002 | 15  | FP-221436          | Washer, Flat   | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-5101160         | Seal Ring, Fresh Water Pump                              | 1  | 1  | 1   | -   |
| 5.1002 | 2   | FP-5103544         | Seal Ring, Fresh Water Pump (.139" X 5.109" I.D.)        | 1  | 1  | 1   | -   |
| 5.1002 | 9   | FP-5117972         | Nut, 7/16" -20 Lock                                      | -  | -  | 1   | 1   |
| 5.1002 | 11  | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing                     | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-5197310         | Washer, Adhesive, Fresh Water Pump                       | 2  | 2  | -   | -   |
| 5.1002 | 0   | FP-5117342         | Insert, Ceramic Seal, Fresh Water Pump                   | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-8922407         | Ring, Retainer   | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-8924297         | Seal, Fresh Water Pump                                   | -  | -  | 1   | -   |

# Fresh Water Pump

(Figure 14.3)





# Fresh Water Pump

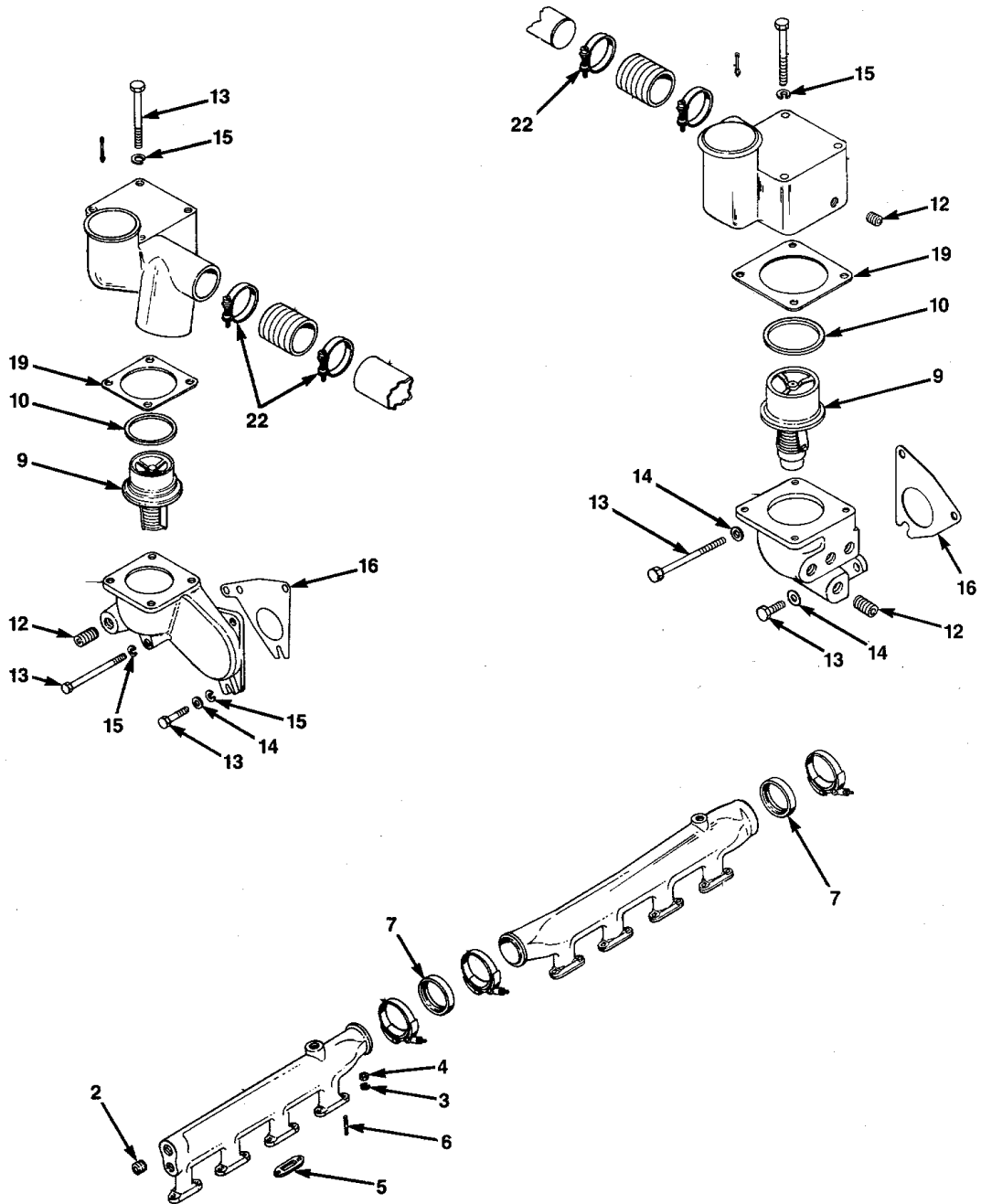
(Figure 14.3)

Groups:  
5.1002 - 5.1190

| Group  | Ref | Part No.           | Description  | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|--|----|----|-----|-----|
| 5.1010 | 0   | FP-5109515         | Gasket, Fresh Water Pump                             | -  | -  | 1   | 1   |
| 5.1010 | 0   | FP-5128220         | Gasket, Fresh Water Pump                             | -  | -  | -   | 1   |
| 5.1030 | 3   | FP-5142549         | Plug, 3/4" Pipe                                      | 1  | 1  | 1   | 1   |
| 5.1031 | 24  | FP-103321          | Lockwasher, 5/16"                                    | 5  | 5  | 5   | 5   |
| 5.1031 | 23  | FP-8925603         | Bolt, 5/16" -18 X 3/4" (5.1040)                      | 5  | 5  | 5   | 5   |
| 5.1031 | 22  | FP-5117950         | Cover, Fresh Water Pump Body                         | 1  | 1  | -   | -   |
| 5.1031 | 22  | FP-8922383         | Cover, Fresh Water Pump Body (Non-Metallic)          | 1  | 1  | -   | -   |
| 5.1031 | 22  | FP-5117961         | Cover, Fresh Water Pump Body                         | -  | 1  | -   | -   |
| 5.1032 | 0   | FP-5101160         | Seal Ring, Fresh Water Pump Body Cover               | 1  | 1  | -   | -   |
| 5.1032 | 10  | FP-5117975         | Gasket, Fresh Water Pump Body Cover                  | 1  | 1  | -   | -   |
| 5.1032 | 10  | FP-5117976         | Gasket, Fresh Water Pump Body Cover                  | -  | 1  | -   | -   |
| 5.1032 | 0   | FP-5128222         | Gasket, Fresh Water Pump Body (Dr. Gr. Cover)        | -  | -  | -   | 1   |
| 5.1032 | 18  | FP-5128224         | Gasket, Fresh Water Pump Body (Cover To Pump)        | -  | -  | -   | 1   |
| 5.1040 | 25  | FP-8927270         | Stud, Fresh Water Pump Body (3/8" -16 X 1 5/8")      | 3  | 3  | -   | -   |
| 5.1040 | 0   | FP-5154453         | Plug, 3/8" -16                                       | 1  | 1  | 1   | 1   |
| 5.1115 | 13  | FP-23505995        | Impeller, Fresh Water Pump                           | 1  | 1  | -   | -   |
| 5.1115 | 13  | FP-23505999        | Impeller, Fresh Water Pump (Hi-Capacity)             | 1  | 1  | -   | -   |
| 5.1115 | 17  | FP-23506000        | Impeller, Fresh Water Pump (Long Vane)               | -  | -  | 1   | -   |
| 5.1115 | 17  | FP-23506001        | Impeller, Fresh Water Pump (Short Vane)              | -  | -  | 1   | -   |
| 5.1115 | 17  | FP-23506002        | Impeller, Fresh Water Pump                           | -  | -  | -   | 1   |
| 5.1190 | 20  | FP-5146254         | Gear, Fresh Water Pump Drive(42 Teeth), (L.H. Helix) | 1  | 1  | -   | -   |
| 5.1002 | 0   | <b>FP-23500517</b> | <b>Kit, Fresh Water Pump Seal</b>                    | 1  | 1  | -   | -   |
| 5.1002 | 15  | FP-221436          | Washer, Flat   | 1  | 1  | -   | -   |
| 5.1002 | 2   | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)                      | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-5117342         | Insert, Ceramic Seal, Fresh Water Pump               | 1  | 1  | -   | -   |
| 5.1002 | 9   | FP-5117972         | Nut, 7/16" -20 Lock                                  | 1  | 1  | 1   | -   |
| 5.1002 | 10  | FP-5117975         | Gasket, Fresh Water Pump Body Cover                  | 1  | 1  | -   | -   |
| 5.1002 | 11  | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing                 | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-5197310         | Washer, Adhesive, Fresh Water Pump                   | 2  | 2  | -   | -   |
| 5.1002 | 0   | FP-8924297         | Seal, Fresh Water Pump                               | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-8925603         | Bolt, 5/16" -18 X 3/4"                               | 5  | 5  | -   | -   |

# Thermostat

(Figure 15.1)





# Thermostat

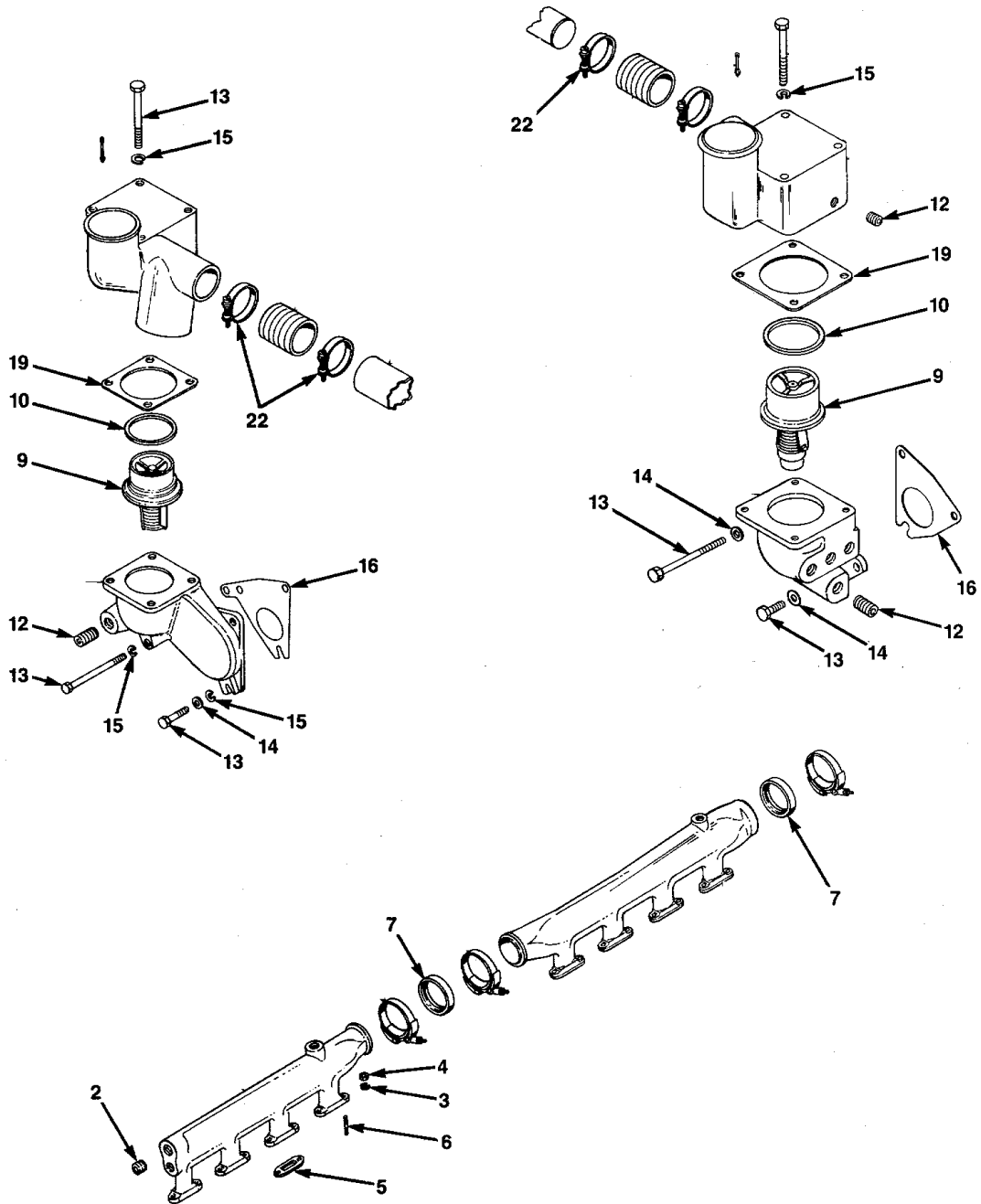
(Figure 15.1)

Groups:  
5.2001 - 5.2120

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 5.2001 | 2   | FP-5142549  | Plug, 3/4" Pipe                                      | 2  | 2  | 2   | 2   |
| 5.2001 | 0   | FP-5115214  | Plug, 1/2" Pipe                                      | 1  | 1  | 1   | 1   |
| 5.2001 | 3   | FP-103321   | Lockwasher, 3/8"                                     | -  | 16 | 24  | 32  |
| 5.2020 | 6   | FP-8927270  | Stud, Water Outlet Manifold (3/8" -16/24 X 1 11/16") | -  | 16 | 24  | 32  |
| 5.2030 | 0   | FP-5117344  | Plate, Water Outlet Manifold Hole                    | -  | 1  | 1   | 1   |
| 5.2037 | 0   | FP-5169478  | Gasket, Water Outlet Manifold Elbow                  | -  | 2  | -   | -   |
| 5.2043 | 7   | FP-5122439  | Seal, Water Outlet Manifold                          | -  | 2  | 2   | 2   |
| 5.2043 | 0   | FP-5188036  | Clamp, Water Outlet Manifold (2 9/16" -3 1/2")       | -  | 2  | -   | -   |
| 5.2043 | 0   | FP-5144768  | Clamp, Water Outlet Manifold (2 15/16" -2 7/8")      | -  | -  | 2   | 2   |
| 5.2043 | 7   | FP-5156770  | Seal, Water Outlet Manifold                          | -  | -  | 2   | 2   |
| 5.2050 | 9   | FP-23503825 | Thermostat Assembly (180°)                           | 2  | 2  | 2   | 2   |
| 5.2050 | 9   | FP-23503826 | Thermostat Assembly (170°)                           | 2  | 2  | 4   | 4   |
| 5.2050 | 9   | FP-5102112  | Thermostat Assembly (160 °)                          | 2  | 2  | -   | -   |
| 5.2050 | 9   | FP-5104096  | Thermostat Assembly (180 °)                          | 2  | 2  | -   | -   |
| 5.2050 | 9   | FP-23503828 | Thermostat Assembly (165°) (Weir Type)               | -  | 2  | -   | -   |
| 5.2050 | 9   | FP-5104238  | Thermostat Assembly (173°)                           | -  | 2  | -   | -   |
| 5.2060 | 10  | FP-5132155  | Seal, Thermostat                                     | 2  | 2  | 4   | 4   |
| 5.2090 | 15  | FP-103321   | Lockwasher, 3/8"                                     | 2  | 2  | 2   | 2   |
| 5.2090 | 0   | FP-5152148  | Washer, 3/8" Copper                                  | 2  | 2  | 2   | 2   |
| 5.2090 | 13  | FP-8927581  | Bolt, 3/8" -16 X 1"                                  | 2  | 2  | 2   | 2   |
| 5.2090 | 12  | FP-23511574 | Plug, 1" Pipe  | 1  | 1  | 1   | 1   |
| 5.2090 | 12  | FP-5115214  | Plug, 1/2" Pipe                                      | 1  | 1  | 1   | 1   |
| 5.2090 | 12  | FP-5121182  | Plug, 1/4" Pipe                                      | 1  | 1  | 1   | 1   |
| 5.2090 | 14  | FP-5125108  | Washer, 7/16"  | 1  | 1  | 1   | 1   |
| 5.2090 | 12  | FP-5142549  | Plug, 3/4" Pipe                                      | 1  | 1  | 1   | 1   |
| 5.2090 | 12  | FP-8924380  | Plug, 1/8" Pipe                                      | 1  | 1  | 1   | 1   |
| 5.2110 | 16  | FP-5117993  | Gasket, Thermostat Housing (Left & Right Bank)       | 2  | 2  | -   | -   |
| 5.2110 | 16  | FP-5144277  | Gasket, Thermostat Housing (Left & Right Bank)       | 2  | 2  | 2   | 2   |
| 5.2110 | 16  | FP-5123570  | Gasket, Thermostat Housing (Right Bank)              | 1  | 1  | -   | -   |
| 5.2110 | 16  | FP-5123715  | Gasket, Thermostat Housing (Right Bank)              | 1  | 1  | -   | -   |
| 5.2110 | 16  | FP-5123716  | Gasket, Thermostat Housing (Left Bank)               | 1  | 1  | -   | -   |
| 5.2110 | 16  | FP-5133254  | Gasket, Thermostat Housing (Left Bank)               | -  | -  | -   | -   |
| 5.2120 | 12  | FP-5121182  | Plug, 1/4" Pipe                                      | 2  | 2  | -   | -   |
| 5.2120 | 12  | FP-8924380  | Plug, 1/8" Pipe                                      | 2  | 2  | -   | -   |
| 5.2120 | 15  | FP-103321   | Lockwasher, 3/8"                                     | 1  | 1  | 1   | 1   |
| 5.2120 | 12  | FP-23511574 | Plug, 1" Pipe  | -  | -  | -   | 1   |
| 5.2120 | 12  | FP-5115214  | Plug, 1/2" Pipe                                      | -  | -  | -   | 2   |
| 5.2120 | 12  | FP-8924517  | Plug, 3/8" Pipe                                      | -  | -  | 2   | -   |

# Thermostat

(Figure 15.2)





# Thermostat

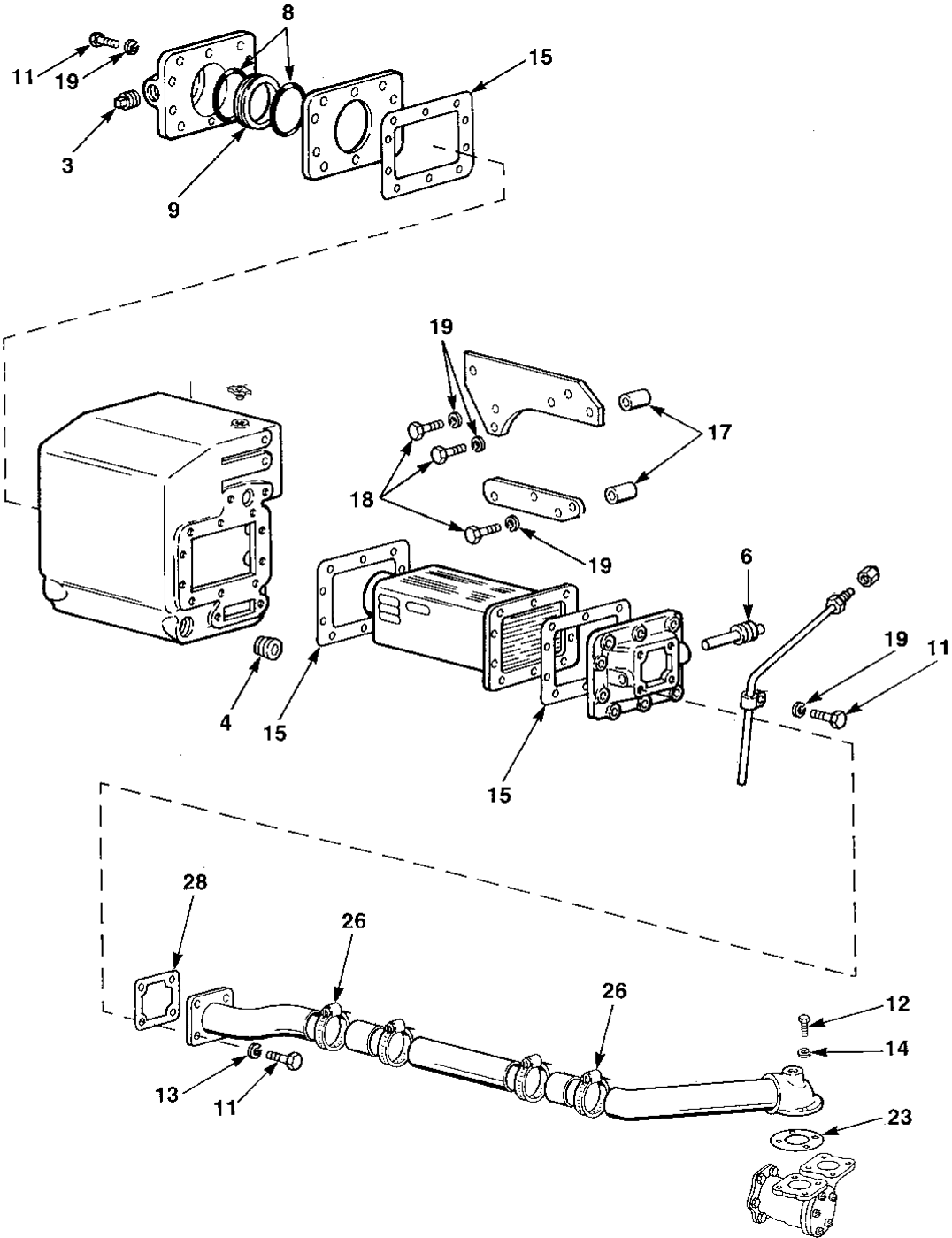
(Figure 15.2)

Groups:  
5.2122 - 5.3120

| Group  | Ref | Part No.   | Description                                    | 6V | 8V | 12V | 16V |
|--------|-----|------------|--|----|----|-----|-----|
| 5.2122 | 0   | FP-8927581 | Bolt, 3/8" -16 X 1"                            | 2  | 2  | 2   | 2   |
| 5.2122 | 0   | FP-5120540 | Gasket, Elbow Thermostat Housing               | 1  | 1  | 1   | 1   |
| 5.2124 | 0   | FP-5188036 | Clamp, Water Outlet Manifold (2 9/16" -3 1/2") | 2  | 2  | 4   | 4   |
| 5.2124 | 0   | FP-9139809 | Clamp, Water Outlet Manifold (2 1/16" -3")     | 1  | 1  | 1   | 1   |
| 5.2128 | 0   | FP-5122454 | Gasket, Heat Exchanger Water Manifold          | 1  | 1  | 1   | 1   |
| 5.2128 | 0   | FP-5124029 | Gasket, Heat Exchanger Water Manifold          | 1  | 1  | 1   | 1   |
| 5.2130 | 19  | FP-5100860 | Gasket, Thermostat Housing Cover               | 2  | 2  | -   | -   |
| 5.2130 | 19  | FP-5117786 | Gasket, Thermostat Housing Cover               | 2  | 2  | -   | -   |
| 5.2130 | 19  | FP-5117993 | Gasket, Thermostat Housing Cover               | 2  | 2  | -   | -   |
| 5.2130 | 19  | FP-5123575 | Gasket, Thermostat Housing Cover               | 1  | 1  | -   | -   |
| 5.2130 | 19  | FP-5133450 | Gasket, Thermostat Housing Cover               | 1  | 1  | 2   | 2   |
| 5.2130 | 19  | FP-5175989 | Gasket, Thermostat Housing Cover               | 1  | 1  | 2   | 2   |
| 5.2135 | 0   | FP-5179938 | Seal Ring, 3/8" Tube Sealastic                 | 1  | 1  | -   | -   |
| 5.2160 | 0   | FP-5121182 | Plug, 1/4"                                     | 2  | 2  | -   | -   |
| 5.2160 | 0   | FP-8927581 | Bolt, 3/8" -16 X 1"                            | 1  | 1  | 2   | 2   |
| 5.2160 | 0   | FP-8924517 | Plug, 3/8" Pipe                                | -  | -  | 2   | 2   |
| 5.2165 | 22  | FP-5186841 | Clamp, 1 9/16" -2 1/2"                         | 2  | 2  | 2   | 2   |
| 5.2165 | 22  | FP-9139809 | Clamp, 2 1/16" -3"                             | 2  | 2  | 2   | 2   |
| 5.2215 | 0   | FP-5169478 | Gasket, Water By-Pass Tube Elbow               | 1  | 1  | 1   | 1   |
| 5.3120 | 0   | FP-5197822 | Cap, Radiator Filler (23533127)                | 1  | 1  | 1   | 1   |

# Heat Exchanger

(Figure 16.1)







# Heat Exchanger

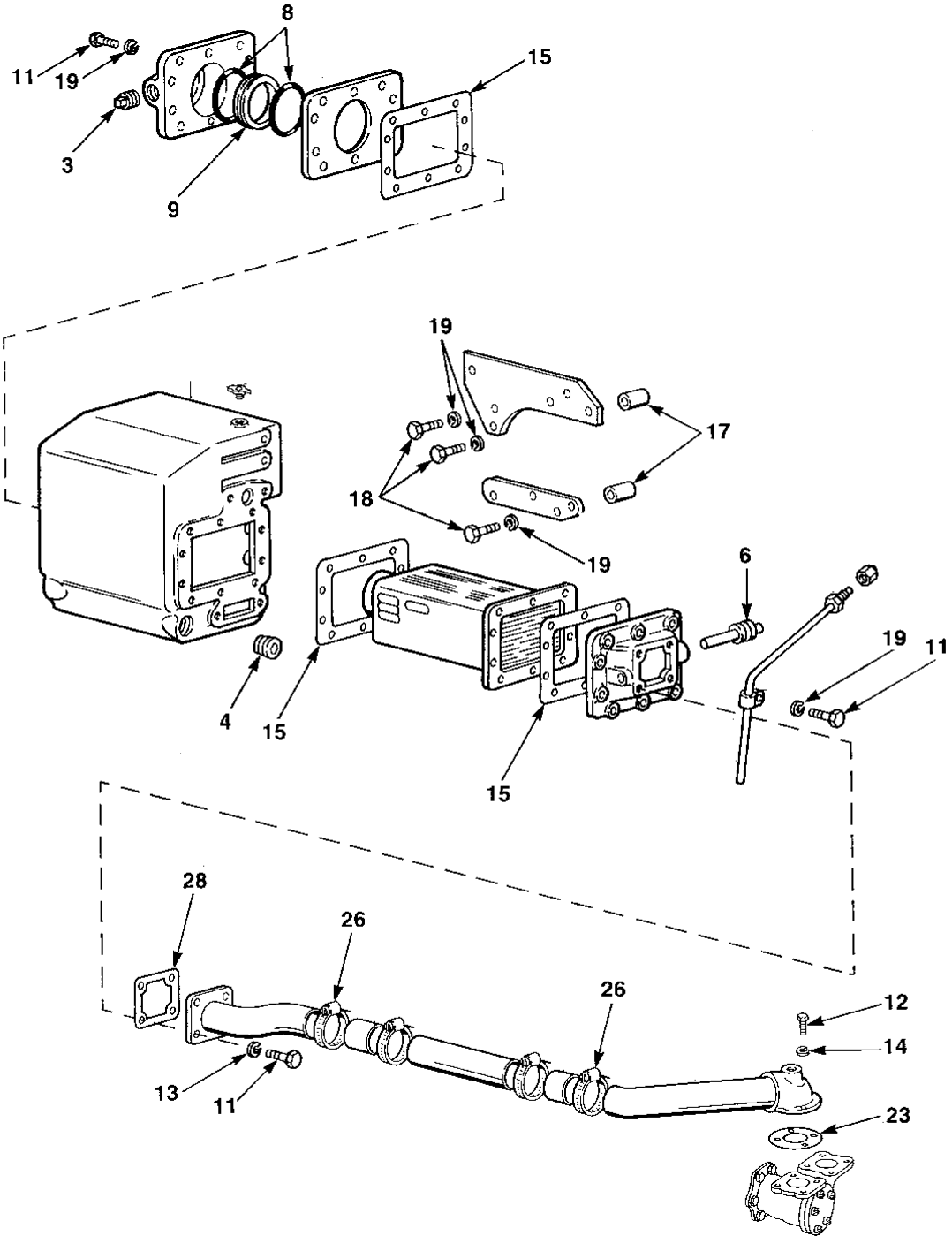
(Figure 16.1)

Groups:  
5.5001 - 5.5380

| Group  | Ref | Part No.   | Description                          | 6V | 8V | 12V | 16V |
|--------|-----|------------|--------------------------------------|----|----|-----|-----|
| 5.5001 | 0   | FP-103321  | Lockwasher, 3/8"                     | 4  | 4  | 4   | 4   |
| 5.5001 | 0   | FP-454992  | Bolt, 1/2" -13 X 2 1/2"              | 2  | 2  | 2   | 2   |
| 5.5001 | 0   | FP-5117186 | Plug, 2" Cup                         | 2  | 2  | 2   | 2   |
| 5.5001 | 0   | FP-8515850 | Electrode Assembly, Heat Exchanger   | 2  | 2  | 2   | 2   |
| 5.5001 | 0   | FP-5121182 | Plug, 1/4" Pipe                      | 1  | 1  | 1   | 1   |
| 5.5001 | 4   | FP-5142549 | Plug, 3/4" Pipe                      | 1  | 1  | 1   | 1   |
| 5.5001 | 3   | FP-8924380 | Plug, 1/8" Pipe                      | 1  | 1  | 1   | 1   |
| 5.5010 | 6   | FP-8517479 | Electrode Assembly, Heat Exchanger   | 2  | 2  | 2   | 2   |
| 5.5021 | 0   | FP-5150155 | Gasket, Expansion Tank Cover         | 1  | 1  | 1   | 1   |
| 5.5025 | 13  | FP-103320  | Lockwasher, 5/16"                    | 4  | 4  | 4   | 4   |
| 5.5028 | 8   | FP-5167746 | Seal Ring, Heat Exchanger            | 2  | 2  | 4   | 4   |
| 5.5028 | 9   | FP-5167745 | Gland, Heat Exchanger                | 1  | 1  | 1   | 1   |
| 5.5030 | 14  | FP-103321  | Lockwasher, 3/8"                     | 4  | 4  | -   | -   |
| 5.5030 | 12  | FP-8927581 | Bolt, 3/8" -16 X 1"                  | 4  | 4  | -   | -   |
| 5.5030 | 13  | FP-103320  | Lockwasher, 5/16"                    | 10 | 10 | -   | -   |
| 5.5050 | 15  | FP-5167764 | Gasket, Heat Exchanger Cover         | 3  | 3  | 3   | 3   |
| 5.5050 | 15  | FP-5117406 | Gasket, Heat Exchanger Cover         | 2  | 2  | 2   | 2   |
| 5.5050 | 15  | FP-5122975 | Gasket, Heat Exchanger Cover         | 2  | 2  | 2   | 2   |
| 5.5050 | 15  | FP-5123660 | Gasket, Heat Exchanger Cover         | 2  | 2  | 2   | 2   |
| 5.5070 | 19  | FP-103325  | Lockwasher, 5/8"                     | 8  | 8  | 8   | 8   |
| 5.5070 | 18  | FP-454992  | Bolt, 1/2" -13 X 2 1/2"              | 4  | 4  | 4   | 4   |
| 5.5070 | 0   | FP-5125108 | Washer, .75" O.D. x .453" I.D.       | 4  | 4  | 4   | 4   |
| 5.5070 | 17  | FP-5131978 | Spacer, 17/32" X 1" X .164"          | 4  | 4  | 4   | 4   |
| 5.5070 | 19  | FP-103321  | Lockwasher, 3/8"                     | 10 | 10 | 10  | 10  |
| 5.5290 | 13  | FP-103320  | Lockwasher, 5/16"                    | -  | -  | 14  | 14  |
| 5.5362 | 0   | FP-103026  | Nut, 3/8" -24                        | 2  | 2  | 2   | 2   |
| 5.5362 | 0   | FP-103321  | Lockwasher, 3/8"                     | 2  | 2  | 2   | 2   |
| 5.5378 | 23  | FP-5112143 | Gasket, Water Flange At Gear and RWP | 1  | 1  | 1   | 1   |
| 5.5378 | 23  | FP-5115395 | Gasket, Water Flange At Gear and RWP | 1  | 1  | 1   | 1   |
| 5.5380 | 0   | FP-8927580 | Bolt, 3/8" -16 X 7/8"                | 4  | 4  | 4   | 4   |
| 5.5380 | 0   | FP-8927581 | Bolt, 3/8" -16 X 1"                  | 4  | 4  | 4   | 4   |

# Heat Exchanger

(Figure 16.2)





# Heat Exchanger

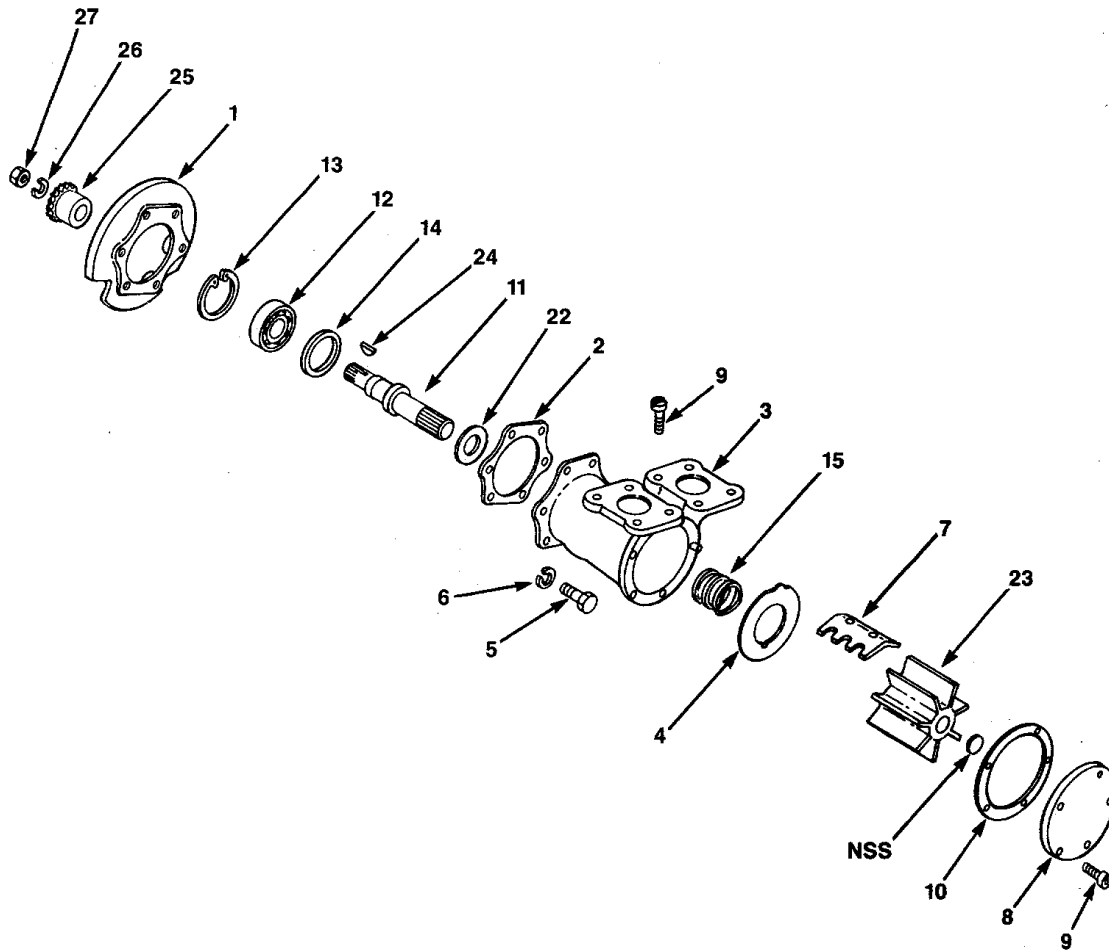
(Figure 16.2)

Groups:  
5.3280 - 5.5741

| Group  | Ref | Part No.   | Description                                   | 6V | 8V | 12V | 16V |
|--------|-----|------------|---|----|----|-----|-----|
| 5.3280 | 0   | FP-5163760 | Gasket, Radiator Inlet Connection             | 1  | 1  | 1   | 1   |
| 5.3321 | 0   | FP-5167762 | Gasket, Expansion Tank Outlet Connection      | 1  | 1  | 1   | 1   |
| 5.3323 | 0   | FP-5163760 | Gasket, Heat Exchanger Tank Inlet Connection  | 1  | 1  | 1   | 1   |
| 5.3325 | 0   | FP-5167762 | Gasket, Heat Exchanger Tank Outlet Connection | 1  | 1  | 1   | 1   |
| 5.5385 | 0   | FP-5186841 | Clamp, Raw Water Pump Outlet Tube             | 1  | 1  | 1   | 1   |
| 5.5430 | 26  | FP-9139809 | Clamp, Hose (2 1/16" -3" )                    | 4  | 4  | 4   | 4   |
| 5.5441 | 28  | FP-5158747 | Gasket, Heat Exchanger Raw Water Inlet Tube   | 1  | 1  | 1   | 1   |
| 5.5441 | 26  | FP-5186841 | Clamp, Heat Exchanger Raw Water Inlet         | 1  | 1  | 1   | 1   |
| 5.5441 | 28  | FP-8926293 | Gasket, Heat Exchanger Raw Water Inlet Tube   | 1  | 1  | 1   | 1   |
| 5.5480 | 26  | FP-5188036 | Clamp, Heat Exchanger Raw Water Inlet         | 4  | 4  | 4   | 4   |
| 5.5480 | 26  | FP-9139809 | Clamp, Hose (2 1/16" -3" )                    | 4  | 4  | 4   | 4   |
| 5.5550 | 13  | FP-103320  | Lockwasher, 3/8"                              | 4  | 4  | 4   | 4   |
| 5.5570 | 28  | FP-5158747 | Gasket, Heat Exchanger Water Outlet Tube      | 1  | 1  | 1   | 1   |
| 5.5732 | 26  | FP-5186841 | Clamp, Intercooler Inlet Hose                 | 4  | 4  | 4   | 4   |
| 5.5732 | 26  | FP-5188036 | Clamp, Intercooler Inlet Hose                 | 4  | 4  | 4   | 4   |
| 5.5732 | 26  | FP-9139809 | Clamp, Intercooler Inlet Hose                 | 4  | 4  | 4   | 4   |
| 5.5736 | 26  | FP-5188036 | Clamp, Intercooler Outlet Tube Hose           | 4  | 4  | 4   | 4   |
| 5.5736 | 26  | FP-9139809 | Clamp, Intercooler Outlet Tube Hose           | 4  | 4  | 4   | 4   |
| 5.5741 | 0   | FP-5186841 | Clamp, Intercooler By-Pass Tube               | 1  | 1  | 1   | 1   |

# Raw Water Pump

(Figure 17.1)





# Raw Water Pump

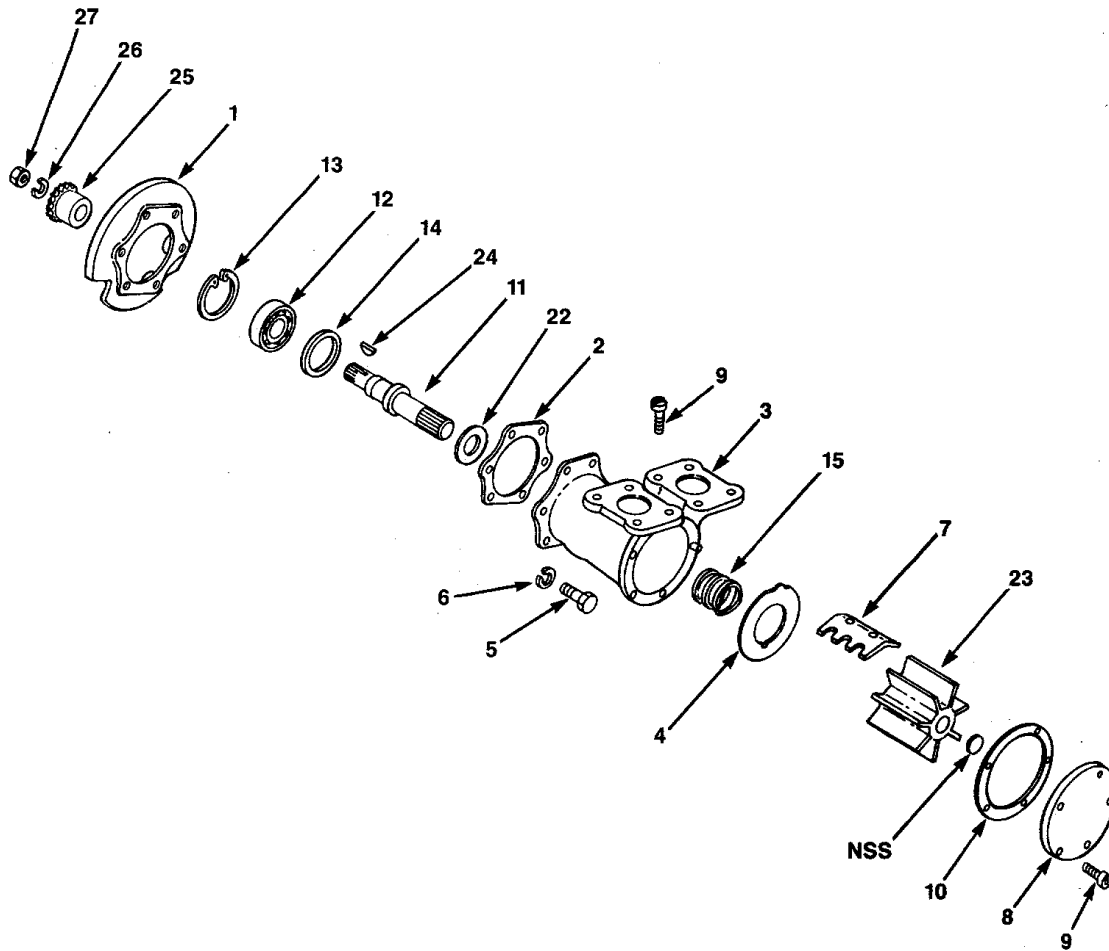
(Figure 17.1)

Groups:  
5.6001 - 5.6320

| Group  | Ref | Part No.          | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--|----|----|-----|-----|
| 5.6001 | 0   | FP-23507971       | Pump Assembly, Raw Water (Option Type 28,62,66)          | 1  | -  | -   | -   |
| 5.6001 | 0   | FP-23507972       | Pump Assembly, Raw Water (Option Type 37,63,64,65,67,87) | -  | 1  | 1   | 1   |
| 5.6010 | 5   | FP-23501660       | Bolt, 3/8" -16 X 1" (Adapter To Pump Body)               | 6  | 6  | 6   | 6   |
| 5.6010 | 1   | FP-5193551        | Adapter, Raw Water Pump Body                             | 1  | 1  | 1   | 1   |
| 5.6020 | 2   | FP-23515145       | Gasket, Raw Water Pump Adapter                           | 1  | 1  | 1   | 1   |
| 5.6020 | 4   | FP-5193556        | Plate, Wear  | 1  | 1  | 1   | 1   |
| 5.6020 | 2   | FP-5196513        | Gasket, Raw Water Pump Adapter                           | 1  | 1  | 1   | 1   |
| 5.6020 | 0   | FP-5197597        | Dowel Pin, Warplane Locating (3/16" X 5/16")             | 1  | 1  | 1   | 1   |
| 5.6170 | 15  | FP-5195198        | Seal, Raw Water Pump (1.06 D Spline, Jabsco)             | -  | 1  | 1   | 1   |
| 5.6230 | 0   | FP-5193602        | Impeller, (Synthetic), (Option Type 14), (Obsolete Pump) | -  | 1  | 1   | 1   |
| 5.6220 |     | <b>FP-5194860</b> | <b>Impeller &amp; Seal Kit Pump (FP-5115396)</b>         | 1  | -  | -   | -   |
| 5.6230 | 23  | FP-8924838        | Impeller, Raw Water Pump                                 | 1  | -  | -   | -   |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                      | 1  | 1  | 1   | 1   |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover                             | 1  | 1  | 1   | 1   |
| 5.6025 | 9   | FP-23504236       | Screw, Hexagon   | 6  | 6  | 6   | 6   |
| 5.6220 | 0   | <b>FP-5196846</b> | <b>Impeller &amp; Seal Kit Pump (FP-5122599)</b>         | -  | 1  | 1   | 1   |
| 5.6230 | 23  | FP-8924839        | Impeller, Raw Water Pump                                 | -  | 1  | 1   | 1   |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                      | 1  | 1  | 1   | 1   |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover                             | 1  | 1  | 1   | 1   |
| 5.6025 | 9   | FP-23504236       | Screw, Hexagon   | 6  | 6  | 6   | 6   |
| 5.6025 | 0   | <b>FP-5197222</b> | <b>Reconditioning Kit, Raw Water Pump (FP-5122599)</b>   | -  | 1  | 1   | 1   |
| 5.6012 | 0   | FP-23514265       | Seal Ring,   | -  | 1  | 1   | 1   |
| 5.6012 | 2   | FP-23501662       | Gasket, Raw Water Pump Body To Adapter                   | -  | 1  | 1   | 1   |
| 5.6020 | 4   | FP-5193556        | Plate, Wear  | -  | 1  | 1   | 1   |
| 5.6025 | 9   | FP-114366         | Screw, 1/4" -20 X 1/2" RWP Cam (Brass)                   | -  | 1  | 1   | 1   |
| 5.6035 | 7   | FP-5196167        | Cam, Raw Water Pump Body Offset                          | -  | 1  | 1   | 1   |
| 5.6090 | 8   | FP-5193555        | Cover, Raw Water Pump (End)                              | -  | 1  | 1   | 1   |
| 5.6090 | 9   | FP-23504236       | Screw, 1/4" -20 X 1/2" RWP Cover (Stainless)             | -  | 5  | 5   | 5   |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover                             | -  | 1  | 1   | 1   |
| 5.6120 | 11  | FP-5196169        | Shaft, Raw Water Pump                                    | -  | 1  | 1   | 1   |
| 5.6130 | 12  | FP-23505479       | Bearing, Raw Water Pump                                  | -  | 1  | 1   | 1   |
| 5.6140 | 13  | FP-5196171        | Ring, Raw Water Pump Bearing Retainer                    | -  | 1  | 1   | 1   |
| 5.6160 | 14  | FP-5195101        | Seal, Raw Water Pump Bearing                             | -  | 1  | 1   | 1   |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                      | -  | 1  | 1   | 1   |
| 5.6200 | 22  | FP-5193676        | Slinger, Raw Water Pump Shaft                            | -  | 1  | 1   | 1   |
| 5.6230 | 23  | FP-8924839        | Impeller, Raw Water Pump                                 | -  | 1  | 1   | 1   |
| 5.6320 | 24  | FP-103462         | Key, Woodruff Raw Water Pump Shaft                       | -  | 1  | 1   | 1   |

# Raw Water Pump

(Figure 17.2)





# Raw Water Pump

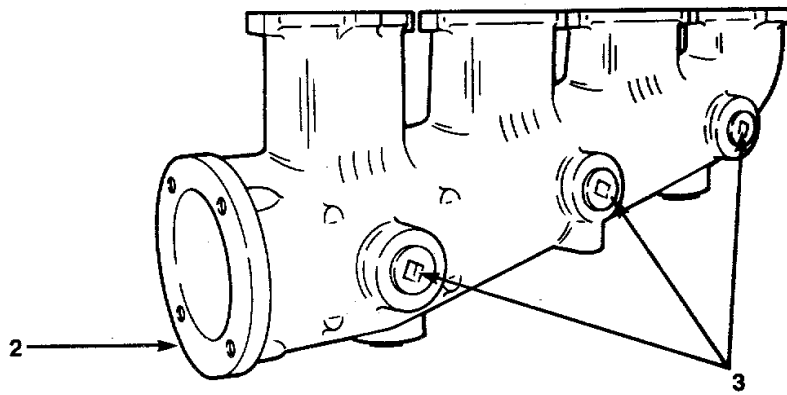
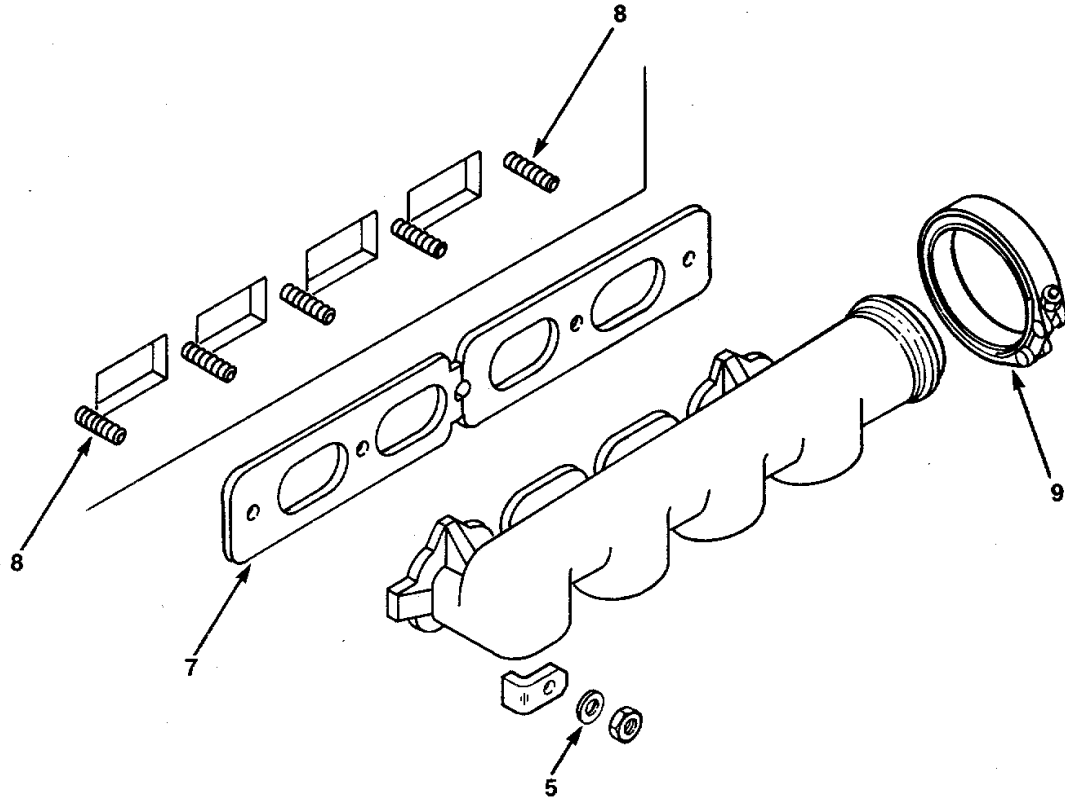
(Figure 17.2)

Groups:  
5.6012 - 6.6025

| Group  | Ref | Part No.          | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--|----|----|-----|-----|
| 5.6320 | 26  | FP-103325         | Lockwasher, 5/8"                                       | 1  | 1  | 1   | 1   |
| 5.6320 | 24  | FP-5161024        | Key, Woodruff RWP Shaft                                | 1  | -  | -   | -   |
| 5.6320 | 25  | FP-5193576        | Gear, Raw Water Pump Drive                             | 1  | -  | -   | -   |
| 5.6320 | 24  | FP-103462         | Key, 3/16" X 1"  | -  | 1  | 1   | 1   |
| 5.6330 | 0   | FP-9415285        | Ring, External Retainer                                | 2  | 2  | 2   | 2   |
| 5.6350 | 0   | FP-23515145       | Gasket, Raw Water Pump                                 | 1  | 1  | 1   | 1   |
| 5.6410 | 0   | FP-5145092        | Bolt, 3/8" -24 X 1.20"                                 | 4  | 4  | 4   | 4   |
| 5.6410 | 0   | FP-5170450        | Plate, Raw Water Pump Drive (21 Teeth)                 | 1  | 1  | 1   | 1   |
| 5.6574 | 0   | FP-5112143        | Gasket, Raw Water Pump Inlet Elbow                     | 1  | 1  | 1   | 1   |
| 5.6574 | 0   | FP-5115395        | Gasket, Raw Water Pump Inlet Elbow                     | 1  | 1  | 1   | 1   |
| 5.6575 | 0   | FP-8517479        | Electrode Assembly, Raw Water Pump (2 1/8" L.)         | 1  | 1  | -   | 1   |
| 5.6575 | 0   | FP-8517473        | Electrode Assembly, Raw Water Pump (1 1/4" L.)         | 1  | -  | -   | -   |
| 5.6575 | 0   | FP-8515850        | Electrode Assembly, Raw Water Pump (3 3/8" L.)         | -  | 1  | 2   | -   |
| 5.6581 | 0   | FP-5115395        | Gasket, Raw Water Pump Outlet Tube                     | 1  | -  | 1   | 1   |
| 5.6581 | 0   | FP-5112143        | Gasket, Raw Water Pump Outlet Tube                     | -  | -  | -   | 1   |
| 5.6586 | 0   | FP-5186841        | Clamp, Heat Exchanger Raw Water Inlet Tube             | 4  | 4  | 4   | 4   |
| 5.6590 | 0   | FP-9139809        | Clamp, Heat Exchanger Raw Water Outlet Tube            | 4  | 4  | 4   | 4   |
| 5.6025 | 0   | <b>FP-5197223</b> | <b>Reconditioning Kit, Raw Water Pump (FP-5115396)</b> | 1  | -  | -   | -   |
| 5.6012 | 2   | FP-23501662       | Gasket, Raw Water Pump Body To Adapter                 | 1  | 1  | 1   | 1   |
| 5.6020 | 4   | FP-5193556        | Plate, Wear  | 1  | 1  | 1   | 1   |
| 6.6025 | 0   | FP-23514265       | Seal Ring,   | 1  | 1  | 1   | 1   |
| 5.6025 | 0   | FP-5193684        | Seal, Raw Water Pump (Outboard)                        | 1  | -  | -   | -   |
| 5.6035 | 9   | FP-114366         | Screw, 1/4" -20 X 1/2" RWP Cam (Brass)                 | 1  | 1  | 1   | 1   |
| 5.6035 | 7   | FP-5193554        | Cam, Raw Water Pump Body Offset                        | 1  | -  | -   | -   |
| 5.6090 | 8   | FP-5193555        | Cover, Raw Water Pump (End)                            | 1  | 1  | 1   | 1   |
| 5.6090 | 9   | FP-23504236       | Screw, 1/4" -20 X 1/2" RWP Cover (Stainless)           | 5  | 5  | 5   | 5   |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover                           | 1  | 1  | 1   | 1   |
| 5.6120 | 11  | FP-5193552        | Shaft, Raw Water Pump                                  | 1  | -  | -   | -   |
| 5.6130 | 12  | FP-23504426       | Bearing, Raw Water Pump                                | 1  | -  | -   | -   |
| 5.6140 | 13  | FP-9415285        | Ring, Raw Water Pump Bearing Retainer (Large)          | 1  | -  | -   | -   |
| 5.6140 | 13  | FP-5193569        | Ring, Raw Water Pump Bearing Retainer (Small)          | 1  | -  | -   | -   |
| 5.6160 | 14  | FP-5195101        | Seal, Raw Water Pump Bearing                           | 1  | 1  | 1   | 1   |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                    | 1  | 1  | 1   | 1   |
| 5.6200 | 22  | FP-5193676        | Slinger, Raw Water Pump Shaft                          | 1  | 1  | 1   | 1   |
| 5.6230 | 23  | FP-8924838        | Impeller, Raw Water Pump                               | 1  | -  | -   | -   |
| 5.6320 | 24  | FP-5161024        | Key, 5/32" X 7/8"                                      | 1  | -  | -   | -   |

# Exhaust Manifold

(Figure 18.1)







# Exhaust Manifold

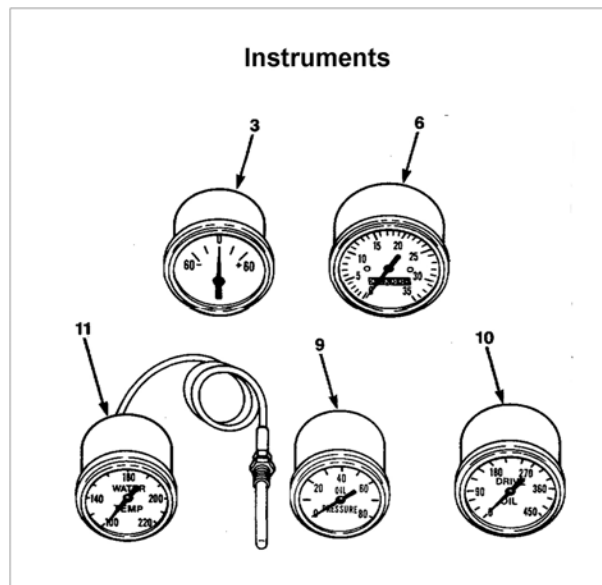
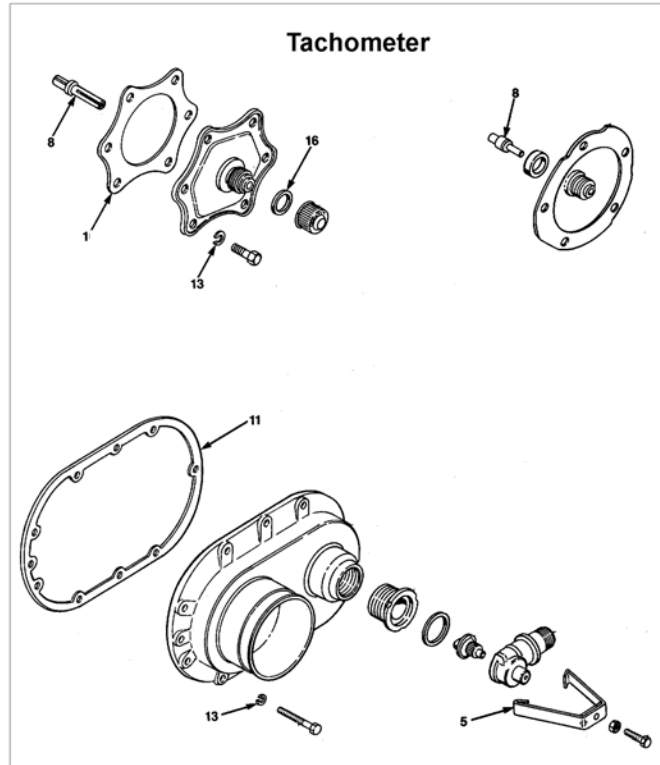
(Figure 18.1)

Groups:  
6.1001 - 6.2105

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 6.1001 | 5   | FP-5104439  | Washer, 7/16" X 1 1/4" (Dished)                         | 8  | 10 | 14  | 16  |
| 6.1001 | 9   | FP-5146165  | Clamp, 3.88" Dia. (Marmon)                              | 2  | 2  | 2   | 2   |
| 6.1001 | 0   | FP-5115214  | Plug, 1/2" Pipe   | 2  | -  | 2   | -   |
| 6.1001 | 0   | FP-5142549  | Plug, 3/4" Pipe   | -  | 4  | -   | 8   |
| 6.1001 | 2   | FP-8921706  | Manifold Assembly, Exhaust (Horizontal), (Water Cooled) | -  | 2  | -   | 4   |
| 6.1001 | 3   | FP-23511574 | Plug, 1" Pipe   | -  | -  | -   | -   |
| 6.1001 | 2   | FP-8921704  | Manifold Assembly, Exhaust (Horizontal), (Water Cooled) | -  | -  | 2   | -   |
| 6.1003 | 0   | FP-9411981  | Nut, 3/8" -24 Lock                                      | 12 | 14 | 16  | 24  |
| 6.1010 | 7   | FP-5122866S | Gasket, Exhaust Manifold (3 Ports), (Metal Clad)        | 2  | -  | -   | -   |
| 6.1010 | 7   | FP-5150194  | Gasket, Exhaust Manifold (Composition), (3 Ports)       | 2  | -  | -   | -   |
| 6.1010 | 7   | FP-5120224  | Gasket, Exhaust Manifold (Ends), (Metal Clad)           | -  | 4  | 4   | 8   |
| 6.1010 | 7   | FP-5150195  | Gasket, Exhaust Manifold (Composition), (End)           | -  | 4  | 4   | 8   |
| 6.1010 | 7   | FP-5113954  | Gasket, Exhaust Manifold                                | -  | -  | -   | -   |
| 6.1010 | 7   | FP-5120223  | Gasket, Exhaust Manifold (Intermediate), (Metal Clad)   | -  | -  | 2   | 4   |
| 6.1010 | 7   | FP-5150196  | Gasket, Exhaust Manifold (Composition), (Intermediate)  | -  | -  | 2   | -   |
| 6.1012 | 0   | FP-5145238  | Gasket, Exhaust Manifold Adapter                        | 2  | 2  | 2   | 4   |
| 6.1020 | 8   | FP-8925804  | Stud, Exhaust Manifold To Head (7/16" -14/20 X 2 3/32") | 12 | 16 | 24  | 32  |
| 6.1050 | 0   | FP-8925804  | Stud, Exhaust Manifold To Head (7/16" -14/20 X 2 3/32") | 12 | 12 | 16  | 16  |
| 6.1060 | 0   | FP-5100147  | Gasket, Exhaust Manifold Outlet                         | -  | 2  | -   | -   |
| 6.1100 | 0   | FP-103320   | Lockwasher, 5/16"                                       | 12 | 12 | 12  | 24  |
| 6.1110 | 0   | FP-5156319  | Gasket, Exhaust Manifold Cover Plate                    | 4  | 4  | 4   | 16  |
| 6.1110 | 0   | FP-5113412  | Gasket, Exhaust Manifold Cover Plate                    | 1  | 1  | 2   | 4   |
| 6.1120 | 0   | FP-8925603  | Stud, Exhaust Manifold Cover Plate (5/16" -18 X 3/4")   | 12 | 12 | 12  | 24  |
| 6.1150 | 0   | FP-5156319  | Gasket, Exhaust Manifold Water Outlet Flange            | 2  | 2  | 2   | 8   |
| 6.2085 | 0   | FP-5132650  | Clamp, Exhaust Flange                                   | 2  | 2  | -   | -   |
| 6.2085 | 0   | FP-5164146  | Flange, Exhaust Manifold                                | 2  | 2  | 2   | 4   |
| 6.2085 | 0   | FP-5137620  | Clamp, Exhaust Flange                                   | -  | -  | 2   | -   |
| 6.2085 | 0   | FP-5146165  | Clamp, Exhaust Flange                                   | -  | -  | -   | 4   |
| 6.2105 | 0   | FP-23512114 | Gasket, Exhaust Outlet                                  | AR | AR | AR  | AR  |
| 6.2105 | 0   | FP-3221863  | Gasket, Exhaust Outlet (3 1/4" I.D.)                    | AR | AR | AR  | AR  |
| 6.2105 | 0   | FP-5100147  | Gasket, Exhaust Outlet                                  | 2  | 2  | 2   | 4   |
| 6.2105 | 0   | FP-5108377  | Gasket, Exhaust Outlet                                  | 2  | 2  | 2   | 4   |
| 6.2105 | 0   | FP-5108989  | Gasket, Exhaust Outlet                                  | 2  | 2  | -   | -   |
| 6.2105 | 0   | FP-5166486  | Gasket, Exhaust Outlet (3 1/8" I.D.)                    | 2  | 2  | -   | -   |
| 6.2105 | 0   | FP-5163811  | Gasket, Exhaust Outlet (4 3/8" I.D.)                    | -  | 2  | 2   | 8   |

# Instruments

(Figure 19.1)





# Instruments

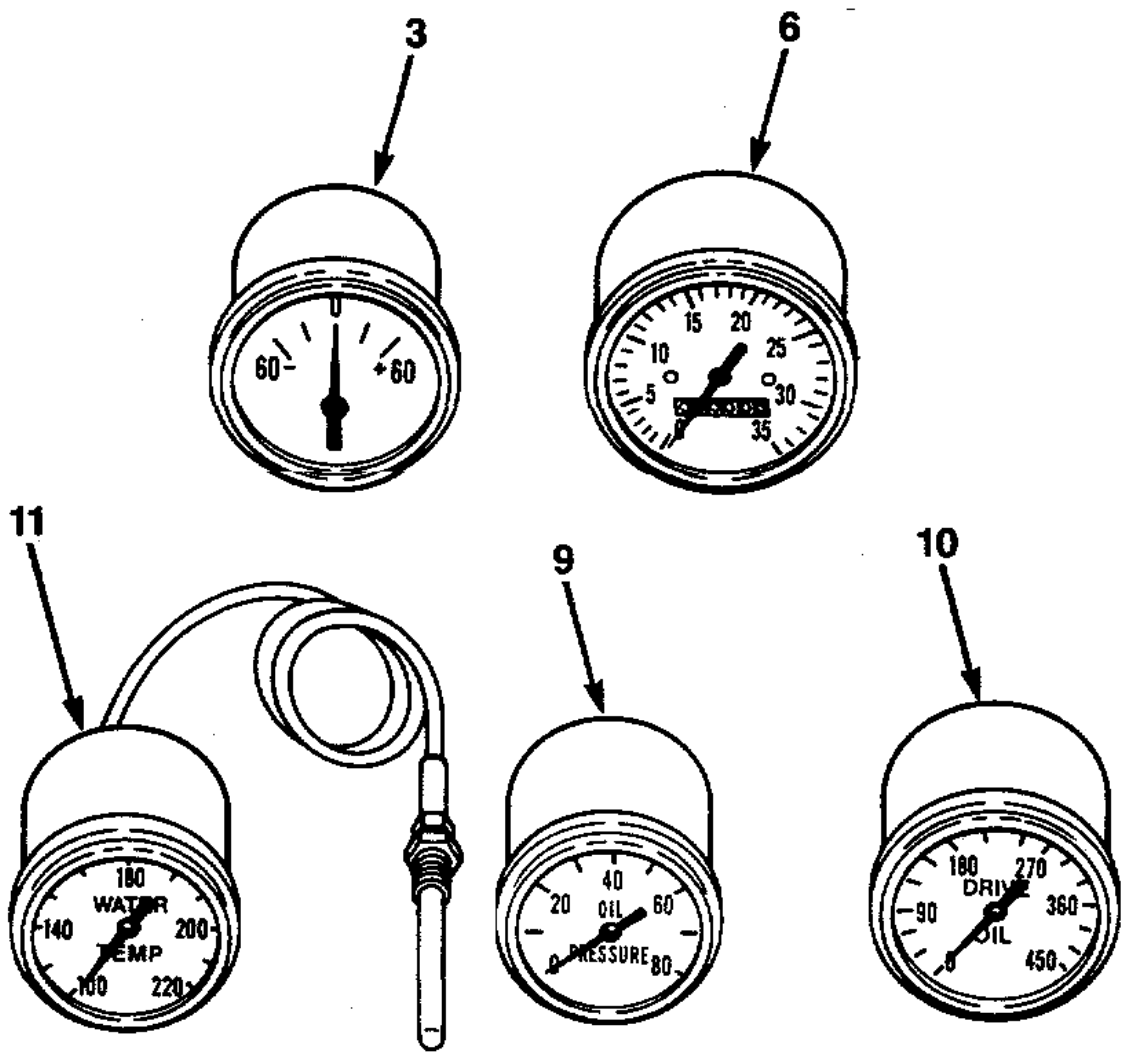
(Figure 19.1)

Groups:  
7.4013 - 7.4458

| Group  | Ref | Part No.    | Description                             | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 7.4013 | 0   | FP-103321   | Lockwasher, 3/8"                        | 2  | 2  | 2   | 2   |
| 7.4013 | 0   | FP-8927581  | Bolt, 3/8" -16 X 1"                     | 2  | 2  | 2   | 2   |
| 7.4015 | 3   | FP-6474479  | Ammeter (60 Amp)                        | 1  | 1  | 1   | 1   |
| 7.4070 | 9   | FP-12361169 | Gage, Oil Pressure (0-100 PSI)          | 1  | 1  | 1   | 1   |
| 7.4077 | 0   | FP-6490569  | Gage, Oil Temperature (6' Capillary)    | 1  | 1  | 1   | 1   |
| 7.4080 | 11  | FP-6490565  | Gage, Water Temperature (10' Capillary) | 1  | 1  | 1   | 1   |
| 7.4080 | 11  | FP-8993092  | Gage, Water Temperature (4' Capillary)  | 1  | 1  | 1   | 1   |
| 7.4080 | 11  | FP-8993093  | Gage, Water Temperature (6' Capillary)  | 1  | 1  | 1   | 1   |
| 7.4080 | 11  | FP-8993253  | Gage, Water Temperature (15' Capillary) | 1  | 1  | 1   | 1   |
| 7.4435 | 8   | FP-3224992  | Shaft, Tachometer Drive (.061" Key)     | -  | 1  | 1   | 1   |
| 7.4435 | 8   | FP-5135936  | Shaft, Tachometer Drive                 | -  | 1  | 1   | 1   |
| 7.4445 | 6   | FP-5150568  | Washer, 7/16" Copper                    | 1  | 1  | 1   | 1   |
| 7.4445 | 1   | FP-8924266  | Gasket, Tachometer Drive Cover Assembly | 1  | 1  | 1   | 1   |
| 7.4445 | 1   | FP-23515145 | Gasket, Tachometer Drive Cover Assembly | -  | 1  | 1   | 1   |
| 7.4445 | 1   | FP-5104507  | Gasket, Tachometer Drive Cover Assembly | -  | 1  | 1   | 1   |
| 7.4445 | 0   | FP-103321   | Lockwasher, 3/8"                        | -  | -  | 6   | 6   |
| 7.4445 | 5   | FP-8927580  | Bolt, 3/8" -16 X 7/8"                   | -  | -  | 2   | 2   |
| 7.4450 | 0   | FP-3202615  | Seal, Tachometer Drive Cover            | -  | 2  | 2   | 2   |
| 7.4455 | 4   | FP-5135935  | Gasket, Tachometer Drive Cover Adapter  | 1  | 1  | 1   | 1   |
| 7.4455 | 4   | FP-5104507  | Gasket, Tachometer Drive Cover Adapter  | -  | 1  | 1   | 1   |
| 7.4455 | 4   | FP-23515145 | Gasket, Tachometer Drive Cover Adapter  | -  | -  | -   | 1   |
| 7.4457 | 13  | FP-103320   | Lockwasher, 5/16"                       | 2  | 2  | 2   | 2   |
| 7.4457 | 0   | FP-103319   | Lockwasher, 1/4"                        | 1  | 1  | 1   | 1   |
| 7.4457 | 16  | FP-5107931  | Gasket, Tachometer Drive Cover Cap      | 1  | 1  | 1   | 1   |
| 7.4457 | 0   | FP-8924380  | Plug, 1/8" Pipe                         | -  | -  | -   | 1   |
| 7.4458 | 0   | FP-5135820  | Seal, Tachometer Drive Adapter          | -  | 1  | 1   | 1   |

# Instruments

(Figure 19.2)





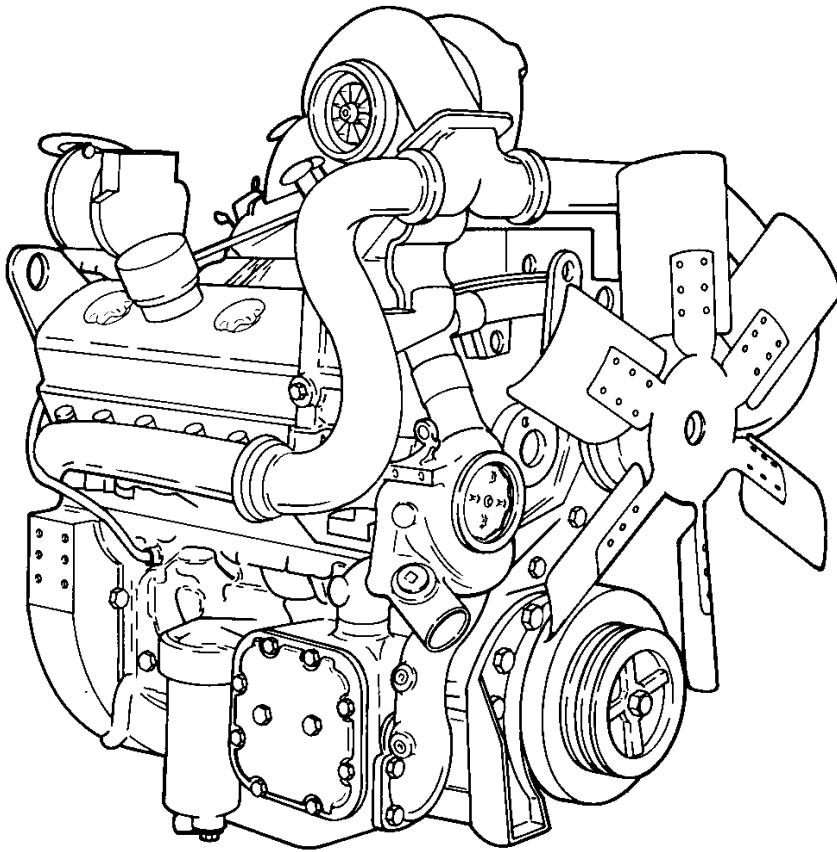
# Instruments

(Figure 19.2)

Groups:  
1.3320 - 12.4380

| Group                      | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|----------------------------|-----|-------------|--|----|----|-----|-----|
| 7.4505                     | 0   | FP-5146080  | Switch, Water Temperature                                    | AR | AR | AR  | AR  |
| 7.4505                     | 0   | FP-103320   | Lockwasher, 5/16"  | 2  | 2  | 2   | 2   |
| 7.4505                     | 0   | FP-5163830  | Gasket, Water Temperature Switch                             | 1  | 1  | 1   | 1   |
| 7.4505                     | 0   | FP-5179913  | Switch, Water Temperature (Option Type 90,140,224,547)       | 1  | -  | 1   | -   |
| 7.4505                     | 0   | FP-5186948  | Switch, Water Temperature (Option Type 237,314)              | -  | 1  | -   | -   |
| 7.4505                     | 0   | FP-5121665  | Switch, Water Temperature (Option Type 436,711,830)          | -  | -  | 1   | 1   |
| 7.4509                     | 0   | FP-103320   | Lockwasher, 5/16"  | 2  | 2  | 2   | 2   |
| 7.4509                     | 0   | FP-5166486  | Gasket, Manifold Flange                                      | 2  | 2  | 2   | 2   |
| 7.4509                     | 0   | FP-8923847  | Plug, 1/4" Pipe  | 2  | 2  | 2   | 2   |
| 7.4509                     | 0   | FP-5121182  | Plug, 1/4" Pipe  | 1  | 1  | 1   | 1   |
| 7.4510                     | 0   | FP-5113412  | Gasket, Water Temperature Switch                             | 1  | 1  | 1   | 1   |
| 7.4519                     | 0   | FP-103319   | Lockwasher, 1/4"   | 4  | 4  | 4   | 4   |
| 7.4519                     | 0   | FP-179803   | Bolt, 1/4" -20 X 1 3/4"                                      | 1  | 1  | 1   | 1   |
| 7.4519                     | 0   | FP-23504196 | Solenoid, Air Shutoff Or Governor (12V)                      | 1  | 1  | 1   | 1   |
| 7.4519                     | 0   | FP-443603   | Bolt, 1/4" -20 X 3/4"  | 1  | 1  | 1   | 1   |
| 7.4538                     | 0   | FP-5176810  | Pin, Air Shutoff Solenoid Control Rod (1/4" x 1 1/4" Clevis) | AR | AR | AR  | AR  |
| 7.4598                     | 0   | FP-23520023 | Switch, Oil Pressure (# 5 Break)                             | 1  | 1  | 1   | 1   |
| 7.4598                     | 0   | FP-23520024 | Switch, Oil Pressure (# 10 Break)                            | 1  | 1  | 1   | 1   |
| 7.4598                     | 0   | FP-23520025 | Switch, Oil Pressure (# 20 Make)                             | 1  | 1  | 1   | 1   |
| 7.4598                     | 0   | FP-23520026 | Switch, Oil Pressure (# 27 Make / Break)                     | 1  | 1  | 1   | 1   |
| 7.8110                     | 0   | FP-5147163  | Wire Assy, Air Heater Coil High Tension (14" L)              | AR | AR | AR  | AR  |
| <b>Miscellaneous Parts</b> |     |             |  |    |    |     |     |
| 1.3320                     | 0   | FP-5133761  | Belt Set (3 Belts - 54" L x .500" W)                         | AR | AR | AR  | AR  |
| 7.1597                     | 0   | FP-5122266  | Gasket, Compressor Mounting Bracket                          | AR | AR | AR  | AR  |
| 7.3001                     | 0   | FP-9418228  | Bolt, Starting Motor (5/8" - 11 x 1 3/4" - 12 Point)         | AR | AR | AR  | AR  |
| 9.1001                     | 0   | FP-23010125 | Plate, Hydraulic Gear Assy (Marine)                          | AR | AR | AR  | AR  |
| 9.1001                     | 0   | FP-5150475  | Gasket, Hydraulic Marine Gear Assy (4.6010)                  | 1  | 1  | 1   | 1   |
| 9.1035                     | 0   | FP-6700157  | Seal, Reverse Clutch Piston                                  | 2  | 2  | 2   | 2   |
| 9.1187                     | 0   | FP-5150144  | Gasket, Oil Line Flange Cover (4.1520)                       | AR | AR | AR  | AR  |
| 9.1207                     | 0   | FP-5173384  | Seal, Flywheel Oil (1 3/8")                                  | 1  | 1  | 1   | 1   |
| 9.1235                     | 0   | FP-5101603  | Plate Assy, Forward Clutch (14" 510HP)                       | -  | AR | AR  | AR  |
| 9.1270                     | 0   | FP-5156815  | Spring, Forward Clutch Dump Valve (4.1690)                   | 1  | 1  | 1   | 1   |
| 9.1480                     | 0   | FP-5150057  | Gasket, Hydraulic Gear Oil Pump To Adapter (1.5060)          | AR | AR | AR  | AR  |
| 12.4005                    | 0   | FP-5131939  | Gasket, Air Compressor Mounting                              | AR | AR | AR  | AR  |
| 12.4380                    | 0   | FP-5150144  | Gasket, Air Compressor Booster Tube                          | AR | AR | AR  | AR  |
| 12.4380                    | 0   | FP-5180273  | Gasket, Air Compressor Booster Tube                          | AR | AR | AR  | AR  |

## 92 SERIES ENGINE

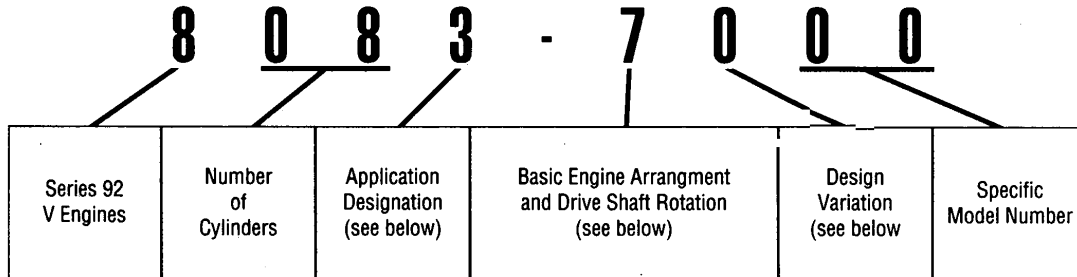




# 92 SERIES ENGINE

## Model Description Chart

Application, Rotation Design Variations



**APPLICATION DESIGNATION:**

- 8082 - 7000 Marine
- 8083 - 7000 Industrial F-F\*
- 8085 - 7000 Generator
- 8087 - 7000 Vehicle F-F\*

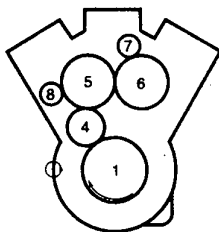
\* F-F — Fan to Flywheel

**DESIGN VARIATION:**

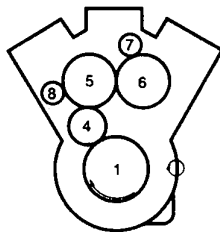
- 8083 - 7000 4 Valve Head Engine
- 8083 - 7300 Turbocharged Engine
- 8083 - 7400 Aftercooled Engine
- 8083 - 7500 Customer Special Engine
- 8083 - 7700 Turbo Torque
- 8083 - 7800 Aftercooled Turbo Torque
- 8083 - 7T60 Turbocharged Electronic Controls

### Basic Engine Arrangements

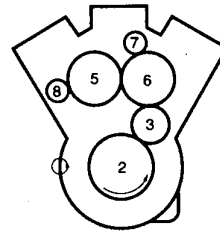
Rotation: L (Left) and R (right) designates rotation viewed from the front of the engine. (Not the Flywheel end)  
 Type: A-B-C-D designates location of starter and oil cooler as viewed from the rear (Flywheel end) of the engine.  
 Cylinder Bank: Left and right cylinder banks are determined from rear of the engine. (Flywheel end)



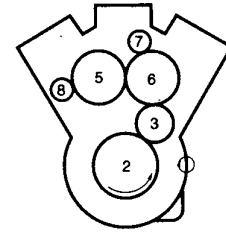
LC (XXXX-3XXX)



LD (XXXX-4XXX)



RC (XXXX-7XXX)

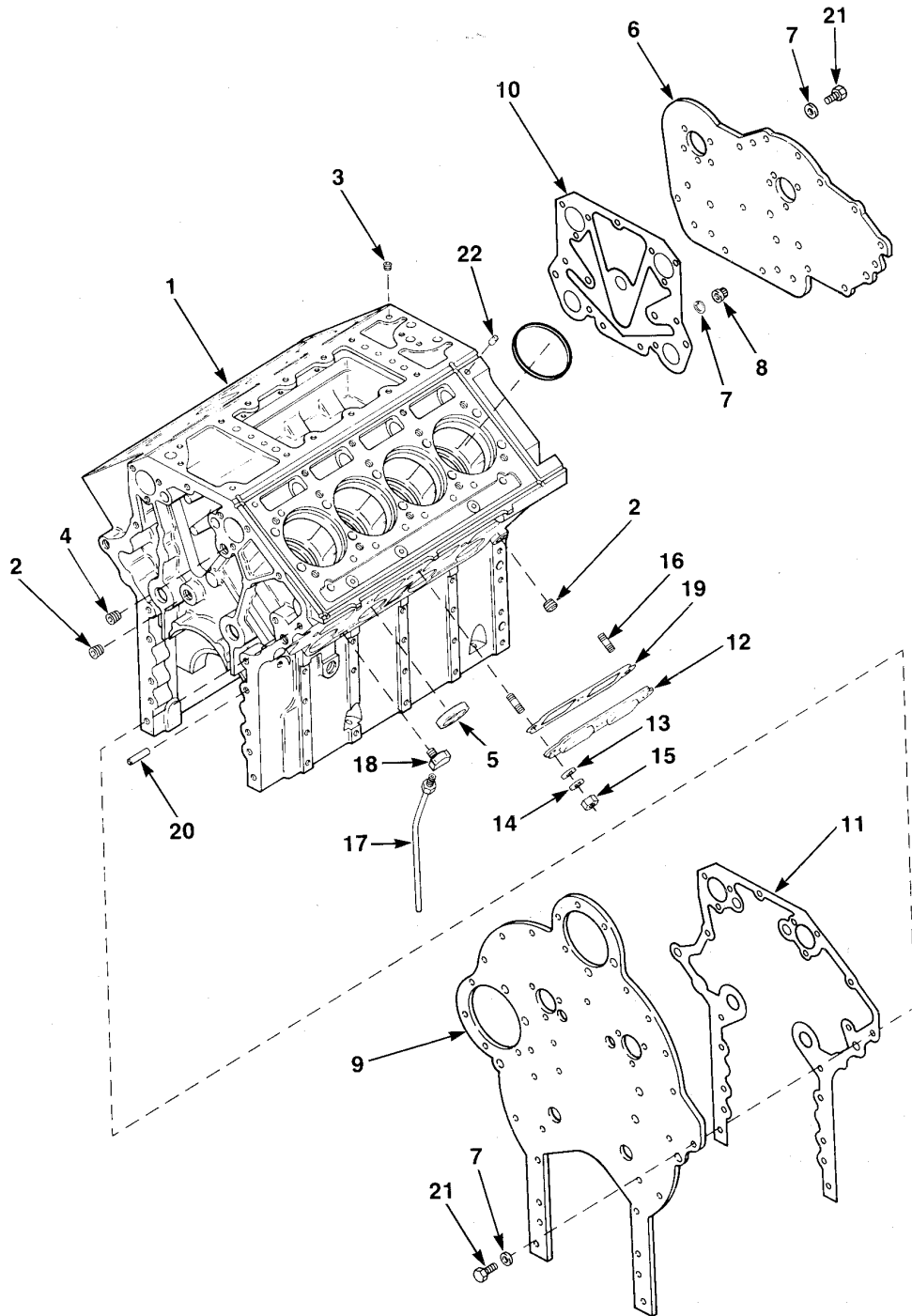


RD (XXXX-8XXX)

ALL VIEWS FROM REAR (FLYWHEEL) END OF ENGINE

# Cylinder Block

(Figure 1.1)







# Cylinder Block

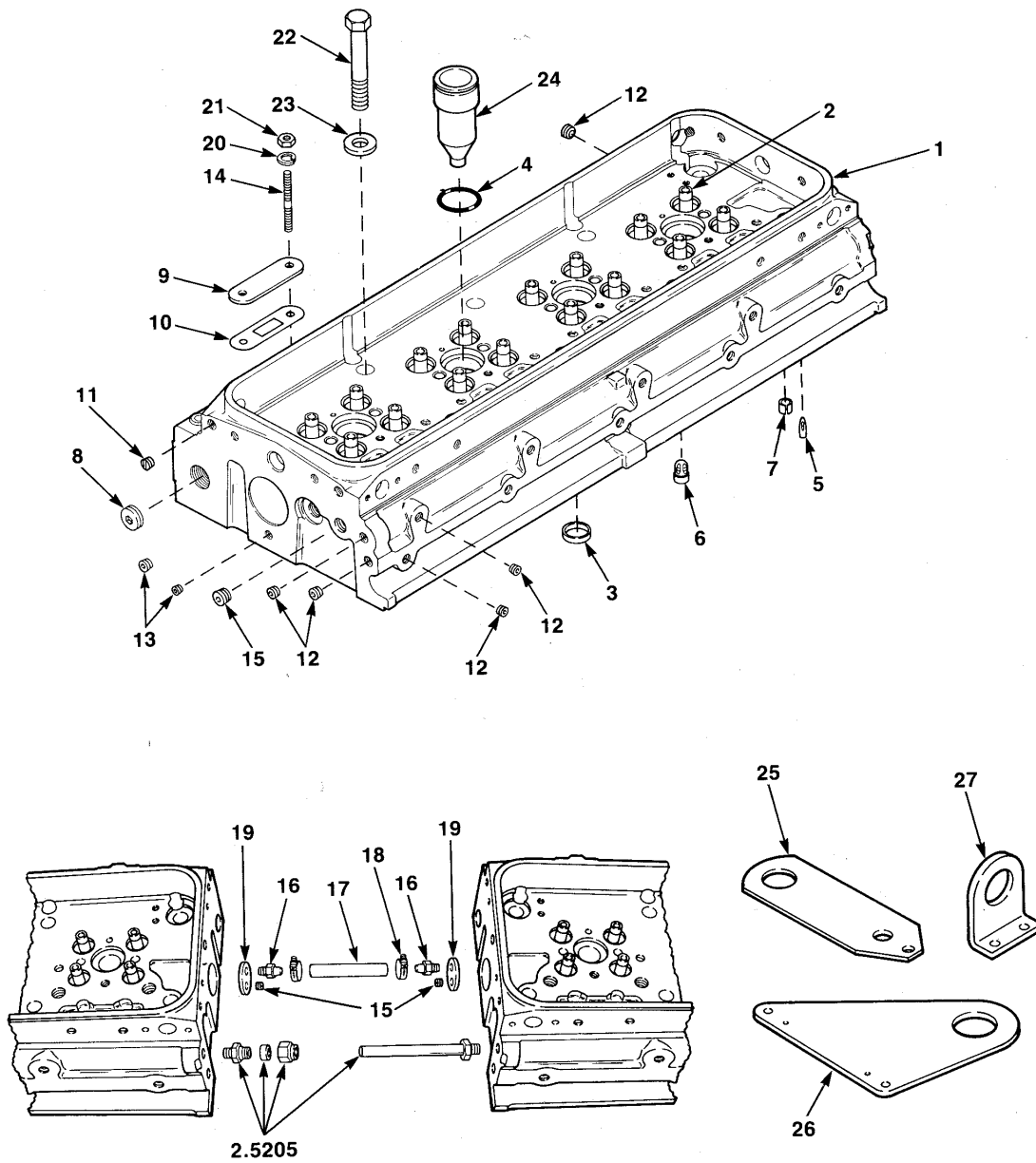
(Figure 1.1)

Groups:  
1.1001 - 1.1100

| Group  | Ref | Part No.      | Description   | 6V | 8V | 12V | 16V |
|--------|-----|---------------|---|----|----|-----|-----|
| 1.1001 | 4   | FP-5115214    | Plug, 3/4" Pipe                                     | 6  | 6  | 12  | 12  |
| 1.1001 | 2   | FP-5142549    | Plug, 1/2" Pipe                                     | 6  | 6  | 12  | 12  |
| 1.1001 | 0   | FP-141346     | Pin, 3/16" X 1/2"                                   | 4  | 4  | 4   | 4   |
| 1.1001 | 0   | FP-8923847    | Plug, 1/4" Pipe                                     | 3  | 2  | -   | -   |
| 1.1001 | 0   | FP-5132410    | Plug, 1 5/8" Cup (Stainless Steel)                  | 2  | 2  | 2   | 2   |
| 1.1001 | 0   | FP-8924380    | Plug, 1/8"- 27 Pipe                                 | 1  | 2  | -   | -   |
| 1.1001 | 3   | FP-5121182    | Plug, 1/4" Pipe                                     | -  | -  | 2   | 10  |
| 1.1001 | 0   | FP-5140082    | Gasket, Cylinder Block                              | -  | -  | 1   | 1   |
| 1.1002 | 0   | FP-23512683   | Gasket Kit, Engine Overhaul (6V92), (Tilt Coach)    | 1  | -  | -   | -   |
| 1.1002 | 0   | FP-23512684   | Gasket Kit, Engine Overhaul (6V92)                  | 1  | -  | -   | -   |
| 1.1002 | 0   | FP-23512684WS | Gasket Kit, Engine Overhaul w/Seals (6V92)          | 1  | -  | -   | -   |
| 1.1002 | 0   | FP-2351684R1  | Gasket Kit, Engine Overhaul (6V92)                  | 1  | -  | -   | -   |
| 1.1002 | 0   | FP-23512685   | Gasket Kit, Engine Overhaul (8V92)                  | -  | 1  | -   | -   |
| 1.1002 | 0   | FP-23512685WS | Gasket Kit, Engine Overhaul w/Seals (8V92)          | -  | 1  | -   | -   |
| 1.1002 | 0   | FP-23512686   | Gasket Kit, Engine Overhaul (12V92)                 | -  | -  | 1   | -   |
| 1.1002 | 0   | FP-23512686WS | Gasket Kit, Engine Overhaul w/Seals (12V92)         | -  | -  | 1   | -   |
| 1.1002 | 0   | FP-23512687   | Gasket Kit, Engine Overhaul (16V92)                 | -  | -  | -   | 1   |
| 1.1003 | 0   | FP-5109346    | Seal Ring, Inter-Block                              | -  | -  | 1   | 1   |
| 1.1003 | 0   | FP-5146433    | Seal Ring, Cylinder Block (.147" x 1.143")          | -  | -  | 2   | 2   |
| 1.1003 | 0   | FP-5186579    | Seal Ring   | -  | -  | 2   | 2   |
| 1.1020 | 0   | FP-5152148    | Washer, 3/8" X 9/16" (Copper)                       | 2  | 2  | 2   | 2   |
| 1.1030 | 0   | FP-5121835    | Gasket, Cylinder Block End Plate (Front), (Corner)  | 1  | 1  | 1   | 1   |
| 1.1030 | 10  | FP-5144901    | Gasket, Cylinder Block End Plate (Front)            | 1  | 1  | 1   | 1   |
| 1.1032 | 11  | FP-23506157   | Gasket, Cylinder Block End Plate (Rear)             | 1  | 1  | 1   | 2   |
| 1.1032 | 10  | FP-5104507    | Gasket, Cylinder Block End Plate (Small Hole Cover) | 1  | 1  | -   | -   |
| 1.1040 | 0   | FP-8924380    | Plug, 1/8" Pipe                                     | 2  | 2  | 4   | 4   |
| 1.1040 | 16  | FP-5152121    | Stud, 5/16"-18 X 1 1/2"                             | 10 | 14 | 10  | -   |
| 1.1040 | 14  | FP-103320     | Lockwasher, 5/16" Flat                              | -  | -  | -   | 20  |
| 1.1050 | 0   | FP-8923792    | Gasket, Cylinder Block Hand Hole Cover (Small)      | 2  | 4  | 8   | 4   |
| 1.1050 | 19  | FP-8923791    | Gasket, Cylinder Block Hand Hole Cover (Large)      | 2  | 2  | 4   | 4   |
| 1.1060 | 0   | FP-8927580    | Bolt, 3/8" - 16 X 7/8"                              | 4  | 4  | 4   | 4   |
| 1.1060 | 0   | FP-5152148    | Washer, 3/8" X 9/16" (Copper)                       | -  | -  | 4   | 4   |
| 1.1065 | 0   | FP-103321     | Lockwasher, 3/8"                                    | -  | -  | 4   | 4   |
| 1.1066 | 0   | FP-5117535    | Gasket, Cylinder Block Oil Hole Cover               | -  | -  | 2   | 2   |
| 1.1070 | 0   | FP-5117734    | Gasket, Cylinder Block Water Hole Cover (Rear)      | 1  | 1  | 1   | 1   |
| 1.1070 | 0   | FP-5117254    | Gasket, Cylinder Block Water Hole Cover (Front)     | -  | -  | 1   | 1   |
| 1.1100 | 3   | FP-5121182    | Plug, 1/4" Pipe                                     | 2  | 2  | 1   | 1   |
| 1.1100 | 17  | FP-5144327    | Tube, Air Box Drain (15.60" L.)                     | 2  | 2  | -   | -   |

# Cylinder Head

(Figure 2.1)





# Cylinder Head

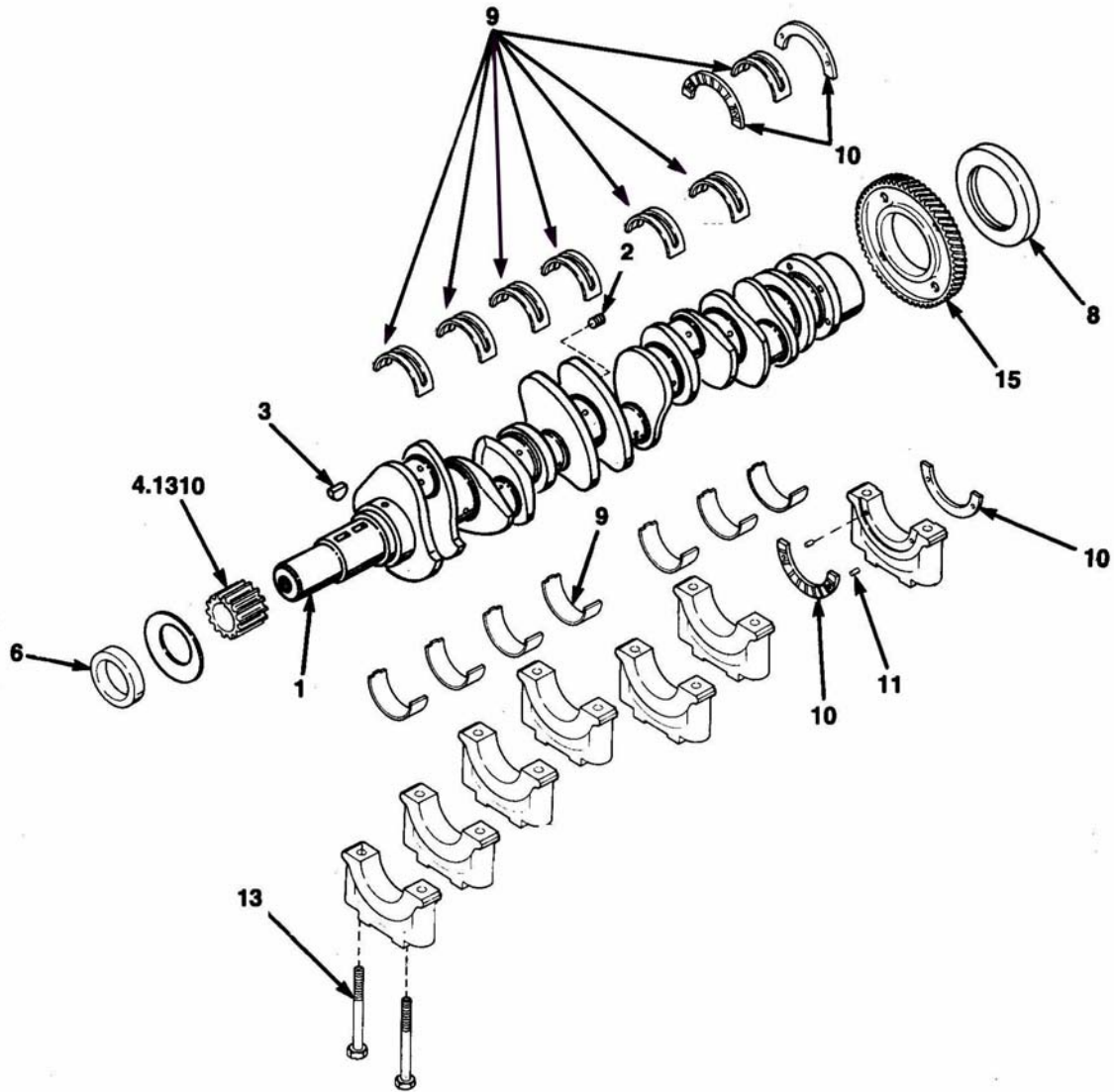
(Figure 2.1)

Groups:  
1.2001 - 1.2090

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 1.2001 | 0   | FP-8924809  | Plug, Fuse (1/8" Pipe - Slotted Head), (Early Units) | AR | AR | AR  | AR  |
| 1.2001 | 0   | FP-5121182  | Plug, 1/4" Pipe                                      | 7  | 9  | 7   | 9   |
| 1.2001 | 5   | FP-5104701  | Seal Ring, Injector Hole Tube (Viton)                | 6  | 8  | 12  | 16  |
| 1.2001 | 0   | FP-5117564  | Guide, Exhaust Valve Bridge                          | 6  | 8  | 6   | 8   |
| 1.2001 | 0   | FP-5125108  | Washer, Fuel Stand .446" X .75" X .060"              | 6  | 8  | 6   | 8   |
| 1.2001 | 4   | FP-8925981  | Tube Kit, Injector Hole (w/Seal Ring)                | 6  | 8  | 12  | 16  |
| 1.2001 | 14  | FP-8927580  | Bolt, 3/8" - 16 X 7/8"                               | 6  | 8  | 6   | 8   |
| 1.2001 | 13  | FP-5154453  | Plug, 3/8" - 16 Headless Special                     | 6  | 6  | 6   | 6   |
| 1.2001 | 0   | FP-8925804  | Stud, 7/16" - 14 X 2 3/32"                           | 4  | 5  | 4   | 5   |
| 1.2001 | 0   | FP-5100703  | Shim, Cylinder Head Support                          | 4  | 4  | 8   | 8   |
| 1.2001 | 8   | FP-5142549  | Plug, 3/4" Pipe                                      | 4  | 4  | 4   | 4   |
| 1.2001 | 7   | FP-5148615  | Sleeve, Pilot .70" L.                                | 4  | 4  | 4   | 4   |
| 1.2001 | 11  | FP-5178976  | Plug, 7/16" - 14 Special                             | 4  | 4  | 4   | 4   |
| 1.2001 | 10  | FP-23506469 | Gasket, Water Outlet Cover Plate                     | 3  | 4  | 3   | 4   |
| 1.2001 | 10  | FP-5117344  | Plate, Water Outlet Cover                            | 3  | 4  | 3   | 4   |
| 1.2001 | 15  | FP-8924517  | Plug, 3/8" Hex. Socket Head                          | 3  | 3  | 3   | 3   |
| 1.2001 | 2   | FP-5129919  | Guide, Exhaust Valve                                 | 24 | 32 | 48  | 64  |
| 1.2001 | 3   | FP-5148490  | Insert, Exhaust Valve Std.                           | 24 | 32 | 48  | 64  |
| 1.2001 | 21  | FP-103026   | Nut, 3/8" -24  | 2  | 2  | 4   | 6   |
| 1.2001 | 20  | FP-103321   | Lockwasher, 3/8"                                     | 2  | 2  | 4   | 6   |
| 1.2001 | 0   | FP-5150132  | Plug, 3/4" Dia. Cup                                  | 2  | 2  | 2   | 2   |
| 1.2001 | 5   | FP-5172874  | Nozzle, Water (Single Outlet)                        | 2  | 2  | 2   | 2   |
| 1.2001 | 0   | FP-8926993  | Plug, Cylinder Head Fuse 1/4"                        | 2  | 2  | 2   | 2   |
| 1.2001 | 0   | FP-8927270  | Stud, 3/8" - 16/24 X 1 11/16"                        | 2  | 2  | 24  | 32  |
| 1.2001 | 12  | FP-8923847  | Plug, 1/4" Hex Socket Head                           | 15 | 17 | 15  | 17  |
| 1.2001 | 0   | FP-5117562  | Washer, Exhaust Valve Spring Seat                    | 12 | 16 | 12  | 16  |
| 1.2001 | 0   | FP-5152148  | Washer, 3/8" X 9/16" (Copper)                        | 12 | 16 | -   | -   |
| 1.2001 | 0   | FP-5117186  | Plug, 2" Dia. Cup Stainless                          | 1  | 1  | 1   | 1   |
| 1.2001 | 17  | FP-5127843  | Hose, 3/8" ID X 1.48" L. (Vent)                      | -  | -  | 2   | 2   |
| 1.2002 | 0   | FP-5199673  | Gasket Set, Cylinder Head (Services One Head)        | 2  | -  | 4   | -   |
| 1.2002 | 0   | FP-5199674  | Gasket Set, Cylinder Head (Services One Head)        | -  | 2  | -   | 4   |
| 1.2010 | 0   | FP-5100404  | Gasket, Cylinder Head Compression                    | 6  | 8  | 12  | 16  |
| 1.2020 | 0   | FP-5148502  | Ring, Cylinder Head Oil Seal                         | 26 | 34 | 52  | 68  |
| 1.2020 | 0   | FP-5119972  | Gasket, Cylinder Head Oil Seal                       | 2  | -  | 4   | -   |
| 1.2020 | 0   | FP-5119973  | Gasket, Cylinder Head Oil Seal                       | -  | 2  | -   | 4   |
| 1.2030 | 23  | FP-5148310  | Washer, 11/16" Cylinder Head                         | 16 | 20 | 32  | 40  |
| 1.2030 | 22  | FP-5148324  | Bolt, 11/16" - 11 X 5.50' L. Cylinder Head           | 16 | 20 | 32  | 40  |
| 1.2045 | 24  | FP-8925981  | Kit, Injector Hole Tube w/Seal Ring                  | 6  | 8  | 12  | 16  |
| 1.2046 | 4   | FP-5104701  | Ring, Injector Hole Tube Seal                        | 6  | 8  | 12  | 16  |
| 1.2060 | 0   | FP-5123812  | Gasket, Cylinder Head Governor Hole Cover            | 8  | 8  | 16  | 16  |
| 1.2090 | 0   | FP-5117332  | Gasket, Engine Lifting Bracket                       | 1  | 1  | 1   | 1   |
| 1.2090 | 0   | FP-5175882  | Spacer, Engine Lifting Bracket                       | 1  | 1  | 1   | 1   |

# Crankshaft

(Figure 3.1)





# Crankshaft

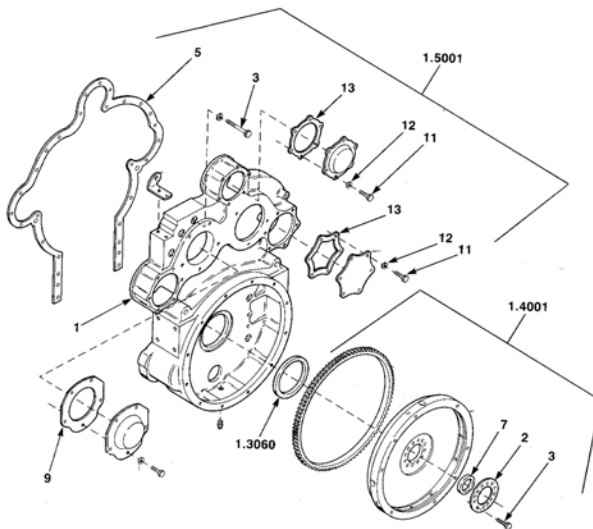
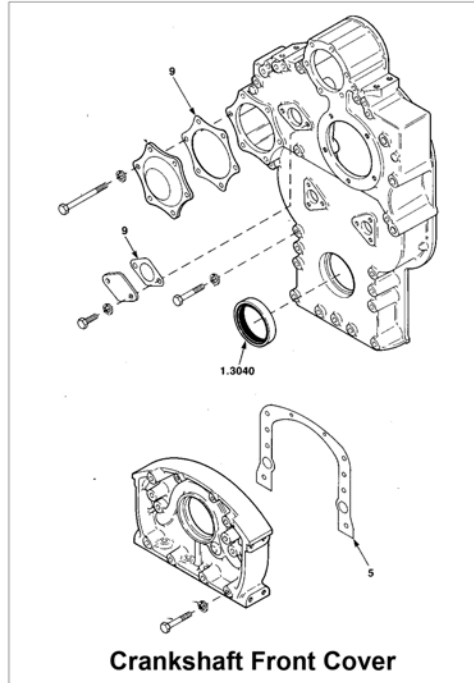
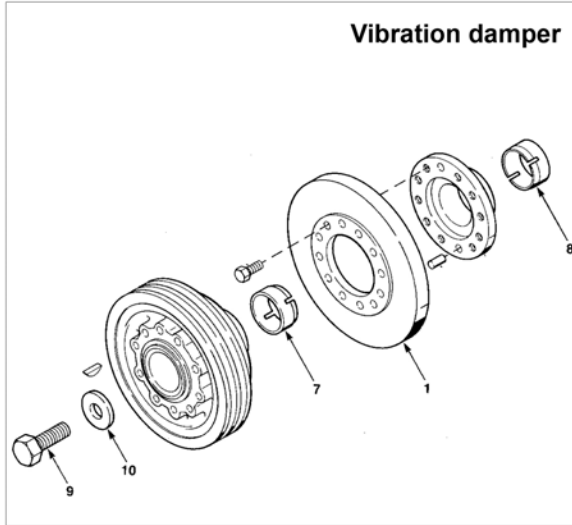
(Figure 3.1)

Groups:  
1.3001 - 1.5004

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 1.3001 | 2   | FP-8924380  | Plug, 1/8" Pipe (12.9550)   | 3  | 4  | 6   | 8   |
| 1.3001 | 3   | FP-8928545  | Key, 3/16" x 7/8" (12.9350)   | 2  | 2  | 2   | 2   |
| 1.3001 | 1   | FP-8926921  | Crankshaft Assembly, 6V92 (RH Rotation)   | 1  | -  | -   | -   |
| 1.3001 | 1   | FP-8926922  | Crankshaft Assembly, 6V92 (LH Rotation)   | 1  | -  | -   | -   |
| 1.3001 | 1   | FP-8926923  | Crankshaft Assembly, 8V92 (RH Rotation)   | -  | 1  | -   | -   |
| 1.3001 | 0   | FP-8926925  | Crankshaft Assembly, 12V92 (RH Rotation), (Front)                               | -  | -  | 1   | -   |
| 1.3001 | 0   | FP-8926926  | Crankshaft Assembly, 12V92 (RH Rotation), (Rear)                                | -  | -  | 1   | -   |
| 1.3040 | 6   | FP-5115454  | Seal, Crankshaft Oil (Front), (Single Std.)                                     | 1  | 1  | -   | -   |
| 1.3040 | 6   | FP-5143108  | Seal, Crankshaft Oil (Front), (Submersible)                                     | 1  | 1  | -   | -   |
| 1.3040 | 6   | FP-8922045  | Seal, Crankshaft Oil (Front), (RH Rotation)                                     | 1  | 1  | -   | -   |
| 1.3040 | 6   | FP-5114335  | Seal, Crankshaft Oil (Front), (Single Lip Std.)                                 | -  | -  | 1   | 1   |
| 1.3055 | 0   | FP-23503766 | Spacer, Crankshaft 2" (Front)   | 1  | 1  | 1   | 1   |
| 1.3055 | 0   | FP-23503767 | Spacer, Crankshaft 2.55" (Front)  | 1  | 1  | 1   | 1   |
| 1.3055 | 0   | FP-23503769 | Seal, Crankshaft Spacer   | 1  | 1  | 1   | 1   |
| 1.3055 | 0   | FP-23507306 | Spacer, Crankshaft 2.81" (Front)  | 1  | 1  | 1   | 1   |
| 1.3060 | 8   | FP-23501545 | Seal, Crankshaft Oil, LH (Rear), (Double Lip Teflon O.S.)                       | 1  | 1  | 1   | 1   |
| 1.3060 | 8   | FP-23501610 | Seal, Crankshaft Oil, LH (Rear), (Double Lip Teflon)                            | 1  | 1  | 1   | 1   |
| 1.3060 | 8   | FP-5106329  | Seal, Crankshaft Oil (Rear), (Double Lip Std.)                                  | 1  | 1  | 1   | 1   |
| 1.3060 | 8   | FP-5194462  | Seal, Crankshaft Oil LH (Rear), (Single Lip O.S.)                               | 1  | 1  | 1   | 1   |
| 1.3060 | 8   | FP-5198159  | Seal, Crankshaft Oil (Rear), (Double Lip O.S.)                                  | 1  | 1  | 1   | 1   |
| 1.3060 | 8   | FP-8923654  | Seal, Crankshaft Oil RH (Rear), (Single Lip O.S.)                               | 1  | 1  | 1   | 1   |
| 1.3060 | 8   | FP-8926761  | Seal, Crankshaft Oil RH (Rear), (Single Lip Std.)                               | 1  | 1  | 1   | 1   |
| 1.3060 | 8   | FP-8926762  | Seal, Crankshaft Oil LH (Rear), (Single Lip Std.)                               | 1  | 1  | 1   | 1   |
| 1.3066 | 0   | FP-23507226 | Sleeve, Crankshaft Oil Seal (Rear), (Use with O.S. Seals.)                      | 1  | 1  | 1   | 1   |
| 1.3066 | 0   | FP-23507225 | Sleeve, Crankshaft Oil Seal (Rear), (Use with O.S. Seals.)                      | -  | -  | 1   | 1   |
| 1.3090 | 9   | FP-5149565  | Shell Set, Crankshaft Main Bearing (Std.)                                       | 4  | 5  | 8   | 10  |
| 1.3090 | 9   | FP-5149566  | Shell Set, Crankshaft Main Bearing (.002")                                      | 4  | 5  | 8   | 10  |
| 1.3090 | 9   | FP-5149567  | Shell Set, Crankshaft Main Bearing (.010")                                      | 4  | 5  | 8   | 10  |
| 1.3090 | 9   | FP-5149568  | Shell Set, Crankshaft Main Bearing (.020")                                      | 4  | 5  | 8   | 10  |
| 1.3090 | 9   | FP-8922118  | Shell Set, Crankshaft Main Bearing (.030")                                      | 4  | 5  | 8   | 10  |
| 1.3100 | 11  | FP-141346   | Pin, 3/16" X 1/2" Dowel   | 4  | 4  | 4   | 4   |
| 1.3100 | 10  | FP-5117005  | Washer, Crankshaft Main Bearing Thrust (Std.)                                   | 4  | 4  | 4   | 4   |
| 1.3100 | 10  | FP-5196753  | Washer, Crankshaft Main Bearing Thrust (.005)                                   | 4  | 4  | 4   | 4   |
| 1.3100 | 10  | FP-5196754  | Washer, Crankshaft Main Bearing Thrust (.010)                                   | 4  | 4  | 4   | 4   |
| 1.3145 | 15  | FP-8926631  | Gear, Crankshaft Timing (R.H. Helix, R.H. Engine), (Rear On 16V)                | 1  | 1  | 1   | 1   |
| 1.5004 | 8   | FP-23501544 | Seal, Crankshaft Oil, RH (Rear), (Double Lip O.S.), (.500" Wide)                | 1  | 1  | 1   | 1   |
| 1.5004 | 8   | FP-8926135  | Seal, Crankshaft Oil (Rear), (Single Lip), (.500" Wide), (Use w/8926134 Sleeve) | 1  | 1  | 1   | 1   |
| 1.5004 | 8   | FP-8929750  | Seal, Crankshaft Oil (Rear), (Teflon)   | 1  | 1  | 1   | 1   |
| 1.5004 | 6   | FP-8927746  | Seal, Crankshaft Oil, RH (Front), (Double Lip Teflon)                           | -  | -  | 1   | 1   |
| 1.5004 | 6   | FP-8927747  | Seal, Crankshaft Oil, LH (Front), (Double Lip Teflon)                           | -  | -  | 1   | 1   |
| 1.5004 | 6   | FP-8927748  | Seal, Crankshaft Oil, RH (Front), (Double Lip O.S. Teflon)                      | -  | -  | 1   | 1   |
| 1.5004 | 6   | FP-8927749  | Seal, Crankshaft Oil, LH (Front), (Double Lip O.S. Teflon)                      | -  | -  | 1   | 1   |

# Damper & Flywheel

(Figure 3.2)



**Flywheel Housing**



# Damper & Flywheel

(Figure 3.2)

Groups:  
1.3170 - 1.5999

| Group                         | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|-------------------------------|-----|-------------|---|----|----|-----|-----|
| 1.3170                        | 5   | FP-5121714  | Gasket, Crankshaft Front Cover  | 1  | 1  | -   | -   |
| 1.3170                        | 0   | FP-5144875  | Gasket, Crankshaft Front Cover (1.5010)   | -  | -  | 1   | 1   |
| 1.3196                        | 9   | FP-3222141  | Gasket, Crankshaft Front Cover Small Hole (5.3280)  | -  | -  | 1   | 1   |
| 1.3196                        | 9   | FP-5104507  | Gasket, Crankshaft Front Cover Small Hole (1.5060)  | -  | -  | 1   | 1   |
| 1.3198                        | 0   | FP-23515145 | Gasket, Crankshaft Front Cover Large Hole (1.5040)  | -  | -  | 1   | 1   |
| 1.3210                        | 0   | FP-23512418 | Seal, Pulley Drive Shaft (Camshaft Damper), (2.8810)  | -  | 1  | -   | -   |
| 1.3210                        | 1   | FP-5106222  | Damper, Vibration (Heavy Viscous), (15")  | -  | 1  | 1   | 1   |
| 1.3210                        | 1   | FP-8922492  | Damper, Vibration (Heavy Viscous), (12.3" Dia.)   | -  | 1  | 1   | 1   |
| 1.3210                        | 1   | FP-8924435  | Damper, Vibration (Heavy Viscous), (12.3" Dia.)   | -  | 1  | 1   | 1   |
| 1.3210                        | 1   | FP-8920653  | Damper, Vibration (Heavy Viscous)   | -  | -  | -   | -   |
| 1.3240                        | 7   | FP-5151344  | Cone, Vibration Damper Front (.687" L)  | AR | AR | AR  | AR  |
| 1.3240                        | 7   | FP-5102957  | Cone, Vibration Damper Front (.937")  | -  | 1  | 1   | 1   |
| 1.3240                        | 8   | FP-5104475  | Cone, Vibration Damper Rear (1.701"), (w/Seal Groove)   | -  | 1  | 1   | 1   |
| 1.3240                        | 7   | FP-5134917  | Cone, Vibration Damper Front (.531")  | -  | 1  | 1   | 1   |
| 1.3250                        | 0   | FP-23503769 | Seal O-Ring, Vibration Damper Rear Cone   | -  | 1  | 1   | 1   |
| 1.3250                        | 8   | FP-23506876 | Cone, Vibration Damper Rear (1.40")   | -  | 1  | 1   | 1   |
| 1.3290                        | 9   | FP-23501143 | Bolt, 1" -14 x 2 3/4  | 1  | 1  | 1   | 1   |
| 1.3290                        | 10  | FP-5157930  | Retainer, Pulley Bolt   | 1  | 1  | 1   | 1   |
| <b>Flywheel &amp; Housing</b> |     |             |   |    |    |     |     |
| 1.4001                        | 3   | FP-5103250  | Bolt, Flywheel (9/16" - 18 x 2.75")   | 12 | 12 | 12  | 12  |
| 1.4001                        | 3   | FP-5103280  | Bolt, 9/16" - 18 X 2 1/4" Lock  | 12 | 12 | 12  | 12  |
| 1.4001                        | 3   | FP-9410925  | Bolt, 9/16" - 18 X 2 1/4" Lock  | 12 | 12 | 12  | 12  |
| 1.4001                        | 3   | FP-9412015  | Bolt, 9/16" - 18 X 2 1/2" Lock  | 12 | 12 | 12  | 12  |
| 1.4040                        | 7   | FP-23503706 | Bearing, Clutch Pilot (907084)  | 1  | 1  | 1   | 1   |
| 1.4040                        | 7   | FP-23503709 | Bearing, Clutch Pilot (907594)  | 1  | 1  | 1   | 1   |
| 1.5001                        | 0   | FP-5138619  | Washer, 25/64" X 3/4" X .083"   | 3  | 3  | 3   | 3   |
| 1.5001                        | 0   | FP-103026   | Nut, 3/8" - 24  | 2  | 2  | 2   | 2   |
| 1.5001                        | 0   | FP-5131755  | Washer, 17/32" X .88" X .1345"  | 2  | 2  | 2   | 2   |
| 1.5001                        | 0   | FP-5142549  | Plug, 3/4" Pipe   | 1  | 1  | 1   | 1   |
| 1.5010                        | 5   | FP-5144875  | Gasket, Flywheel Housing (All Types Not Listed Below)   | 1  | 1  | 1   | 1   |
| 1.5010                        | 5   | FP-5147246  | Gasket, Flywheel Housing (Types<br>504,506,528,533,535,540,546,581,582,594,602,646,657,658,659,660,66<br>1,662,663,670,674,686,687,727) | 1  | 1  | 1   | 1   |
| 1.5022                        | 0   | FP-5141017  | Seal Ring, Crankshaft Rear Support (Type 727)   | 1  | 1  | 1   | 1   |
| 1.5030                        | 0   | FP-5125108  | Washer, 7/16" X 3/4"  | 2  | 2  | 2   | 2   |
| 1.5040                        | 9   | FP-23515145 | Gasket, Flywheel Housing Large Hole Cover   | 2  | 2  | 2   | 2   |
| 1.5050                        | 12  | FP-103321   | Lockwasher, 3/8"  | 6  | 6  | 6   | 6   |
| 1.5050                        | 11  | FP-8927580  | Bolt, 3/8" - 16 X 7/8" (1.3210)   | 6  | 6  | 6   | 6   |
| 1.5050                        | 0   | FP-5152148  | Washer, 3/8" X 9/16" (Copper)   | 12 | 12 | 12  | 12  |
| 1.5050                        | 0   | FP-103026   | Nut, 3/8" -24   | 1  | 1  | 1   | 1   |
| 1.5050                        | 0   | FP-5138619  | Washer, 25/64" X 3/4" X .083  | 1  | 1  | 1   | 1   |
| 1.5060                        | 13  | FP-5104507  | Gasket, Flywheel Housing Small Hole Cover   | 3  | 3  | 3   | 3   |
| 1.5999                        | 3   | FP-9418228  | Bolt, Flywheel Housing (5/8" - 11 x 1 3/4" - 12 Point)  | AR | AR | AR  | AR  |



# Cylinder Kits

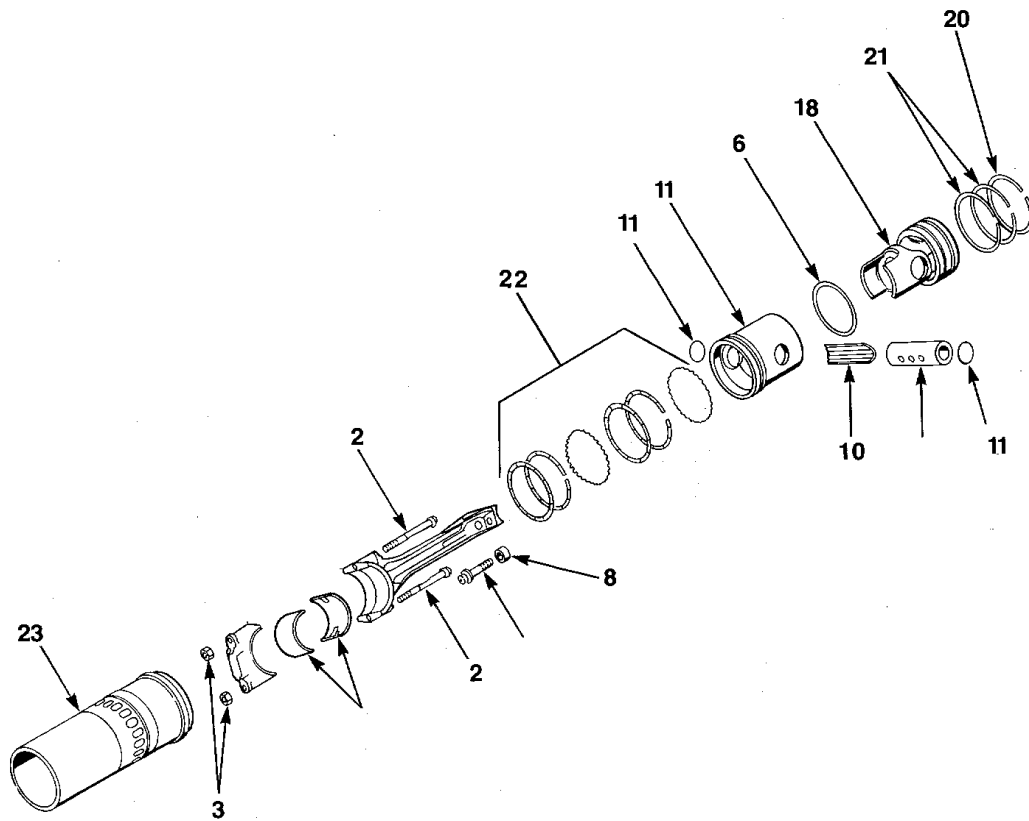
| Cylinder Kit     | Description                               | C/R  | Option Type Numbers  |
|------------------|---|------|--|
| <b>92 Series</b> |   |      |  |
| FP-23522161      | Turbo                                     | 17.1 |  |
| FP-23523101      | Turbo                                     | 17.1 |  |
| FP-23524494      | Turbo                                     | 17.1 |  |
| FP-23524345      | N/A Original P/N (8923346)                | 18.1 | 146,147,148,222,226,259,264,304,315,317  |
| FP-23524345 1    | N/A Original P/N OR                       | 18.1 | 146,147,148,222,226,259,264,304,315,317  |
| FP-23524345 10   | N/A Original P/N (8927450)                | 18.1 | 146,147,148,222,226,259,264,304,315,317  |
| FP-23524345 20   | N/A Original P/N                          | 18.1 | 146,147,148,222,226,259,264,304,315,317  |
| FP-23524339      | Turbo, Original P/N (8923342)             | 17.1 | 149,150,202,221,228,250,255, 262,275,277,278,279,299,409                         |
| FP-23524339 1    | Turbo, Original P/N (23500879)            | 17.1 | 149,150,202,221,228,250,255, 262,275,277,278,279,299,409                         |
| FP-23524339 10   | Turbo, Original P/N (23500880)            | 17.1 | 149,150,202,221,228,250,255, 262,275,277,278,279,299,409                         |
| FP-23524339 20   | Turbo, Original P/N (23500881)            | 17.1 | 149,150,202,221,228,250,255, 262,275,277,278,279,299,409                         |
| FP-23524341      | Turbo A/C, Original P/N (8923348)         | 17.1 | 153,190,223,225,247,248,251,252,259,260,263,272,273,274,276,'3<br>20,323,331,380 |
| FP-23524341 1    | Turbo A/C, Original P/N (8923804)         | 17.1 | 153,190,223,225,247,248,251,252,259,260,263,272,273,274,276,'3<br>20,323,331,380 |
| FP-23524341 10   | Turbo A/C, Original P/N (8924108)         | 17.1 | 153,190,223,225,247,248,251,252,259,260,263,272,273,274,276,'3<br>20,323,331,380 |
| FP-23524341 20   | Turbo A/C, Original P/N (8927449)         | 17.1 | 153,190,223,225,247,248,251,252,259,260,263,272,273,274,276,'3<br>20,323,331,380 |
| FP-23524341 20   | Turbo A/C, Original P/N (8927451)*        | 17.1 | 153,190,223,225,247,248,251,252,259,260,263,272,273,274,276,'3<br>20,323,331,380 |
| FP-23524346      | N/A Ind. & Marine, Original P/N (8924626) | 18.1 | 215,224,227,316,   |
| FP-23524346 1    | N/A Ind. & Marine, Original P/N (8924626) | 18.1 | 215,224,227,316,   |
| FP-23524346 10   | N/A Ind. & Marine, Original P/N (8924626) | 18.1 | 215,224,227,316,   |
| FP-23524346 20   | N/A Ind. & Marine, Original P/N (8924626) | 18.1 | 215,224,227,316,   |
| FP-23523100      | Turbo A/C Original P/N (23500752)         | 18.1 | 295,378  |
| FP-23524344      | T/ALCC Original P/N (23500753)            | 18.1 | 310,324,375,419,420  |
| FP-23524340      | Turbo, HO Original P/N (23503830)         | 17.1 | 395,396,407,458  |
| FP-23524340 1    | Turbo, HO Original P/N (23503830)         | 17.1 | 395,396,407,458  |
| FP-23524340 10   | Turbo, HO Original P/N (23503830)         | 17.1 | 395,396,407,458  |
| FP-23524340 20   | Turbo, HO Original P/N (23503830)         | 17.1 | 395,396,407,458  |
| FP-23524342      | Turbo, Original P/N (23518009)            | 17.1 | 410  |
| FP-23524342 1    | Turbo, Original P/N (23518009)            | 17.1 | 410  |
| FP-23524342 10   | Turbo, Original P/N (23518009)            | 17.1 | 410  |
| FP-23524342 20   | Turbo, Original P/N (23518009)            | 17.1 | 410  |
| FP-23524337      | Turbo Original P/N (23514260)             | 15.1 | 411  |
| FP-23524337 1    | Turbo Original P/N (23514260)             | 15.1 | 411  |
| FP-23524337 10   | Turbo Original P/N (23514260)             | 15.1 | 411  |
| FP-23524337 20   | Turbo Original P/N (23514260)             | 15.1 | 411  |
| FP-23524343      | Turbo/A/C Original P/N (23518011)         | 17.1 | 430,431,432,452  |
| FP-LCK-24346     | Linerless Cylinder Kit                    | 18.1 | Non-Turbo  |
| FP-LCK-24337     | Linerless Cylinder Kit                    | 15.1 | Turbo  |
| FP-LCK-24342     | Linerless Cylinder Kit                    | 17.1 | Turbo  |
| FP-LCK-24340     | Linerless Cylinder Kit                    | 17.1 | Turbo, HO  |





# Connecting Rod & Piston

(Figure 4.1)





# Connecting Rod & Piston

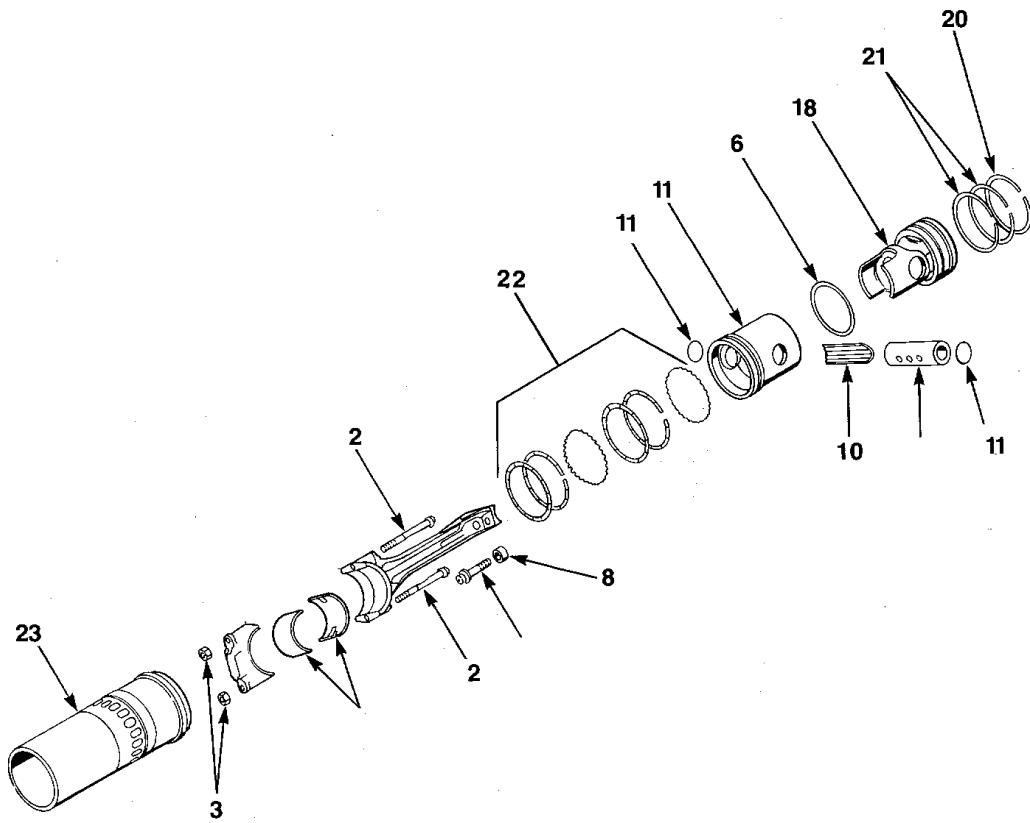
(Figure 4.1)

Groups:  
1.6001 - 1.6150

| Group  | Ref | Part No.           | Description   | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|---|----|----|-----|-----|
| 1.6001 | 3   | FP-5117629         | Nut, Rod Bolt 7/16" x 20                                | 12 | 16 | 24  | 32  |
| 1.6001 | 2   | FP-5132383         | Bolt, C/R 7/16" 20 x 3.52"                              | 12 | 16 | 24  | 32  |
| 1.6100 | 4   | FP-23501026        | Shell Set, Connecting Rod (.002 U.S.), (Air/Air & ALCC) | 6  | 8  | 12  | 16  |
| 1.6100 | 4   | FP-23501029        | Shell Set, Connecting Rod (.030 U.S.), (Air/Air & ALCC) | 6  | 8  | 12  | 16  |
| 1.6100 | 4   | FP-5149572         | Shell Set, Connecting Rod (Std.)                        | 6  | 8  | 12  | 16  |
| 1.6100 | 4   | FP-5149573         | Shell Set, Connecting Rod (.002 U.S.)                   | 6  | 8  | 12  | 16  |
| 1.6100 | 4   | FP-5149575         | Shell Set, Connecting Rod (.010 U.S.)                   | 6  | 8  | 12  | 16  |
| 1.6100 | 4   | FP-5149577         | Shell Set, Connecting Rod (.020 U.S.)                   | 6  | 8  | 12  | 16  |
| 1.6100 | 4   | FP-5149579         | Shell Set, Connecting Rod (.030 U.S.)                   | 6  | 8  | 12  | 16  |
| 1.6130 | 0   | FP-23503268        | Expander, Piston Oil Ring (9.00 - 15.00 Lbs.)           | 6  | 8  | 12  | 16  |
| 1.6140 | 9   | FP-5101120         | Pin, Piston Crosshead (Turbo, Solid)                    | 6  | 8  | 12  | 16  |
| 1.6140 | 9   | FP-5144744         | Pin, Piston Crosshead (Nut Plate Type)                  | 6  | 8  | 12  | 16  |
| 1.6140 | 5   | FP-5144846         | Spacer, Piston Pin Bolt                                 | 12 | 16 | 24  | 32  |
| 1.6140 | 6   | FP-5148373         | Bolt, Piston Pin To Rod 7/16" 20 x 2.00" L              | 12 | 16 | 24  | 32  |
| 1.6142 | 10  | FP-23501687        | Bearing, Piston Pin (Slipper)                           | 6  | 8  | 12  | 16  |
| 1.6150 | 12  | FP-5180250         | Retainer, Piston Pin (All)                              | 12 | 16 | 24  | 32  |
| 1.6100 | 0   | <b>FP-23500883</b> | <b>Dome Kit, Piston (18:1), (Turbo)</b>                 | 6  | 8  | 12  | 16  |
| 1.6100 | 8   | FP-8926480         | Crown, Piston (18:1), (Turbo)                           | 6  | 8  | 12  | 16  |
| 1.6110 | 13  | FP-23508986        | Skirt, Piston Crosshead (All)                           | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-8923729         | Seal, Piston Dome (All), (1.6106)                       | 6  | 8  | 12  | 16  |
| 1.6100 | 0   | <b>FP-23505052</b> | <b>Dome Kit, Piston (15:1), (Turbo)</b>                 | 6  | 8  | 12  | 16  |
| 1.6100 | 8   | FP-23504353        | Crown, Piston (15:1), (Turbo)                           | 6  | 8  | 12  | 16  |
| 1.6110 | 13  | FP-23508986        | Skirt, Piston Crosshead (All)                           | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-8923729         | Seal, Piston Dome (All), (1.6106)                       | 6  | 8  | 12  | 16  |
| 1.6115 | 0   | <b>FP-23524349</b> | <b>Ring Set, Piston (Wide Gap Fire Ring)</b>            | 6  | 8  | 12  | 16  |
| 1.6120 | 14  | FP-23524192        | Ring (Top Fire)   | 6  | 8  | 12  | 16  |
| 1.6120 | 15  | FP-8923113         | Ring, Compression (2nd & 3rd Groove)                    | 12 | 16 | 24  | 32  |
| 1.6130 | 16  | FP-23524350        | Ring Set (Oil Control For One Piston)                   | 6  | 8  | 12  | 16  |
| 1.6115 | 0   | <b>FP-23524502</b> | <b>Ring Set, Piston (Special Incomplete)</b>            | 6  | 8  | 12  | 16  |
| 1.6120 | 14  | FP-23524191        | Ring (Top Fire)   | 6  | 8  | 12  | 16  |
| 1.6130 | 16  | FP-5144622         | Ring Set (Oil Control For One Piston)                   | 6  | 8  | 12  | 16  |
| 1.6115 | 0   | <b>FP-23524542</b> | <b>Ring Set, Piston (Std. Gap Fire Ring)</b>            | 6  | 8  | 12  | 16  |
| 1.6120 | 14  | FP-23524191        | Ring (Top Fire)   | 6  | 8  | 12  | 16  |
| 1.6120 | 15  | FP-8923113         | Ring, Compression (2nd & 3rd Groove)                    | 12 | 16 | 24  | 32  |
| 1.6130 | 16  | FP-23524350        | Ring Set (Oil Control For One Piston)                   | 6  | 8  | 12  | 16  |
| 1.6100 | 0   | <b>FP-5149963</b>  | <b>Dome Kit, Piston (17:1), (Turbo)</b>                 | 6  | 8  | 12  | 16  |
| 1.6100 | 8   | FP-5144872         | Crown, Piston (17:1), (Turbo)                           | 6  | 8  | 12  | 16  |
| 1.6110 | 13  | FP-23508986        | Skirt, Piston Crosshead (All)                           | 6  | 8  | 12  | 16  |
| 1.6110 | 11  | FP-8923729         | Seal, Piston Dome (All), (1.6106)                       | 6  | 8  | 12  | 16  |

# Connecting Rod & Piston

(Figure 4.2)





## Connecting Rod & Piston

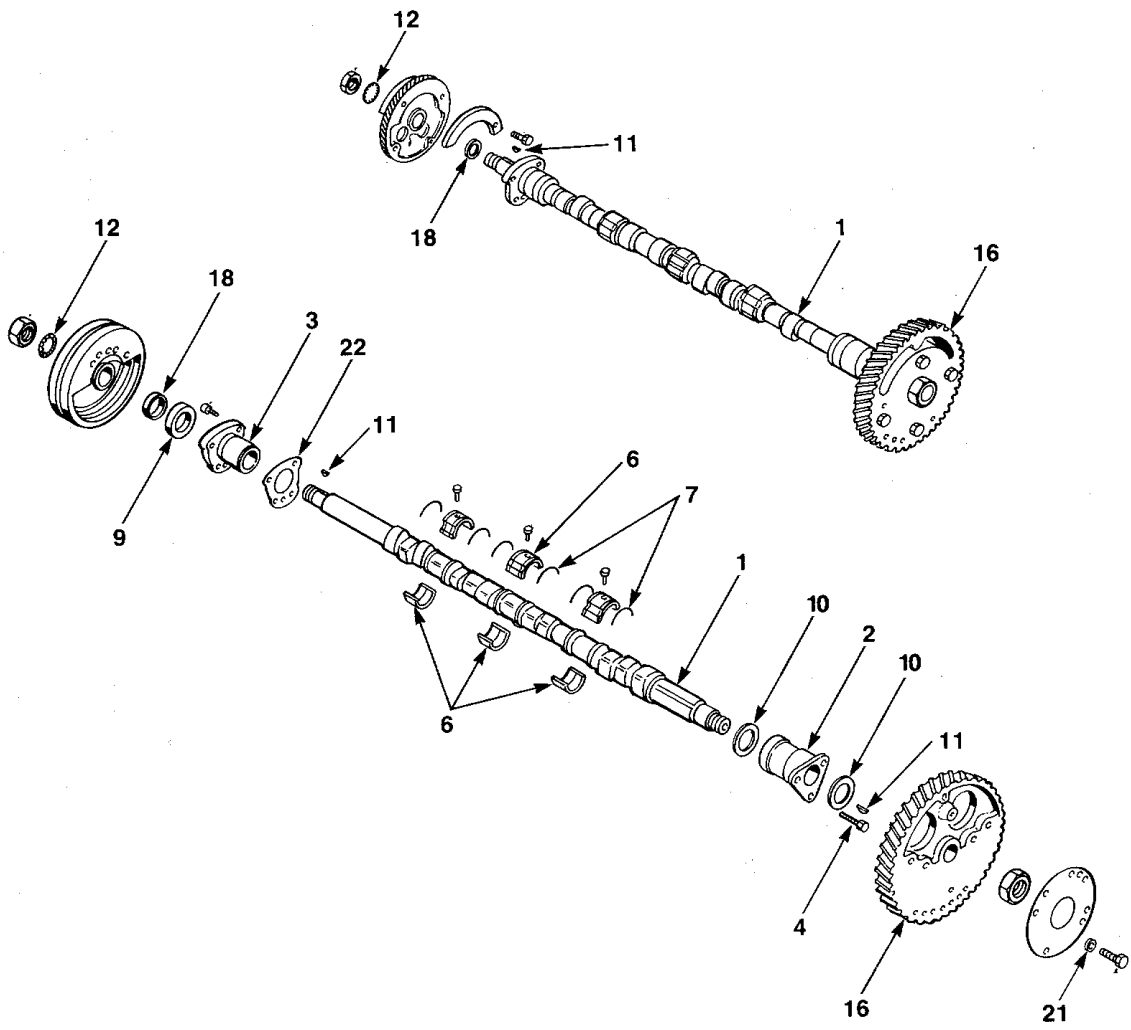
(Figure 4.2)

Groups:  
1.6180 - 1.6190

| Group  | Ref | Part No.      | Description  | 6V | 8V | 12V | 16V |
|--------|-----|---------------|--|----|----|-----|-----|
| 1.6180 | 17  | FP-23507231   | Liner, Cylinder Std. .95" Brushed                        | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-235072311  | Liner, Cylinder OS .001 In Lower Receiver Bore Area      | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-2350723110 | Liner, Cylinder OS .010 In Lower Receiver Bore Area      | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-23508383   | Liner, Cylinder Std. .85" (20 Degree Port)               | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-5107176    | Liner, Cylinder Std. .95"                                | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-510717610  | Liner, Cylinder OS .010 In Lower Receiver Bore Area      | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-510717620  | Liner, Cylinder OS .020 In Lower Receiver Bore Area      | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-5107176WS  | Liner, Cylinder Std. .95" w/Seals                        | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-5148505    | Liner, Cylinder Std. 1.05" (30 Degree Port)              | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-51485051   | Liner, Cylinder OS .001 In Lower Receiver Bore Area      | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-514850510  | Liner, Cylinder OS .010 In Lower Receiver Bore Area      | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-514850520  | Liner, Cylinder OS .020 In Lower Receiver Bore Area      | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-5148505SH  | Liner, Cylinder Std. (Without Ports)                     | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-5148505WS  | Liner, Cylinder Std. 1.05" (30 Degree Port) w/Seals      | 6  | 8  | 12  | 16  |
| 1.6180 | 17  | FP-8927078    | Liner, Cylinder Std. .75" (20 Degree Port)               | 6  | 8  | 12  | 16  |
| 1.6187 | 7   | FP-5101533    | Insert, Cylinder .015" I.D. (.1350"-.1355"), (1.1038)    | 6  | 8  | 12  | 16  |
| 1.6187 | 7   | FP-5101723    | Insert, Cylinder .015" I.D. (.1338"-.1343"), (1.1038)    | 6  | 8  | 12  | 16  |
| 1.6187 | 7   | FP-5101727    | Insert, Cylinder .015" I.D. (.1362"-.1367"), (1.1038)    | 6  | 8  | 12  | 16  |
| 1.6187 | 7   | FP-5148501    | Insert, Cylinder Liner (Std.), (.1200"-.1205"), (1.1038) | 6  | 8  | 12  | 16  |
| 1.6187 | 7   | FP-5148611    | Insert, Cylinder Liner (.1212"-.1217"), (1.1038)         | 6  | 8  | 12  | 16  |
| 1.6187 | 7   | FP-5148612    | Insert, Cylinder Liner (.1188"-.1193"), (1.1038)         | 6  | 8  | 12  | 16  |
| 1.6190 | 18  | FP-8927189    | Seal Ring, Cylinder Liner                                | 12 | 16 | 24  | 32  |

# Camshaft

(Figure 5.1)





# Camshaft

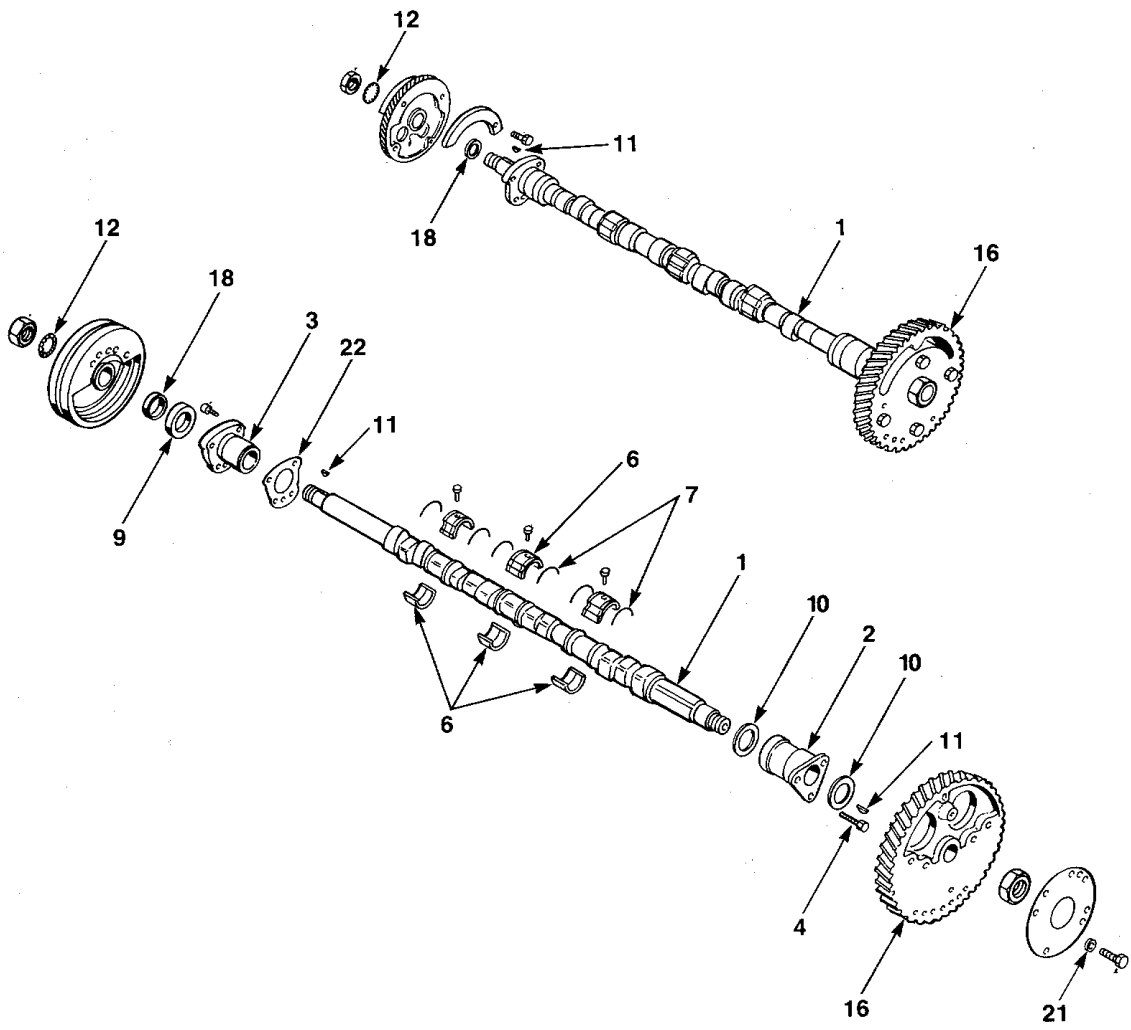
(Figure 5.1)

Groups:  
1.7001 - 1.7001

| Group  | Ref | Part No.   | Description   | 6V | 8V | 12V | 16V |
|--------|-----|------------|---|----|----|-----|-----|
| 1.7001 | 1   | FP-5108111 | Camshaft Assembly, Left Bank R/H Rotation (Stamped 5108113) (Type 245,249,303,316,338,349,359,360,380,381,408,411,439,440, 478,517,580,581,598,603,609,633,635,644,649,650,667) | 1  | -  | -   | -   |
| 1.7001 | 1   | FP-5108111 | Camshaft Assembly, Left Bank R/H Rotation (Stamped 5108113) (Type 494,497,518,519,573,574,613,616,629)  | 1  | -  | -   | -   |

# Camshaft

(Figure 5.2)







# Camshaft

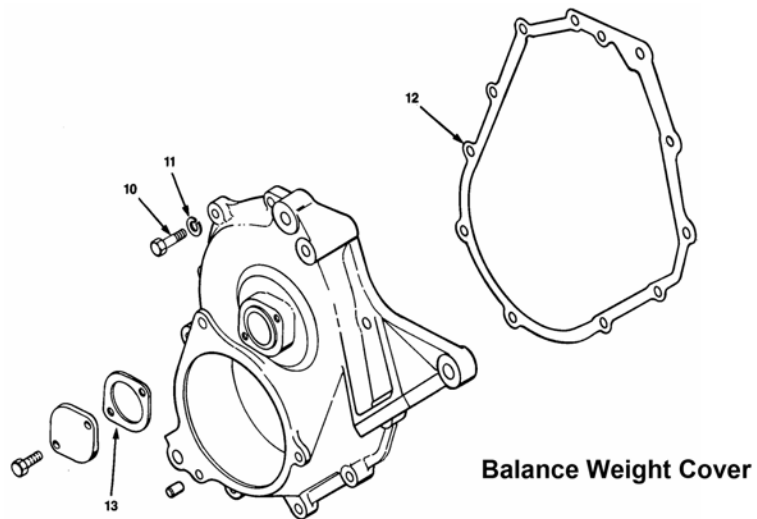
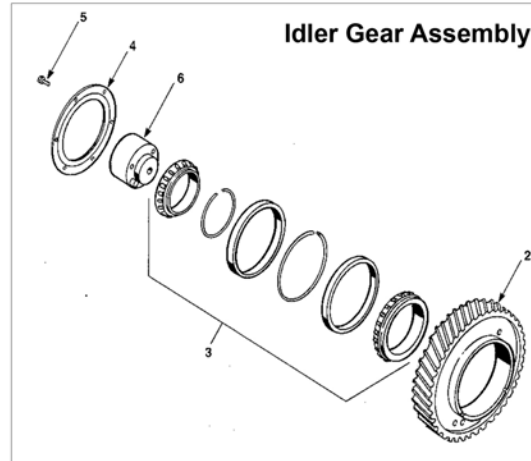
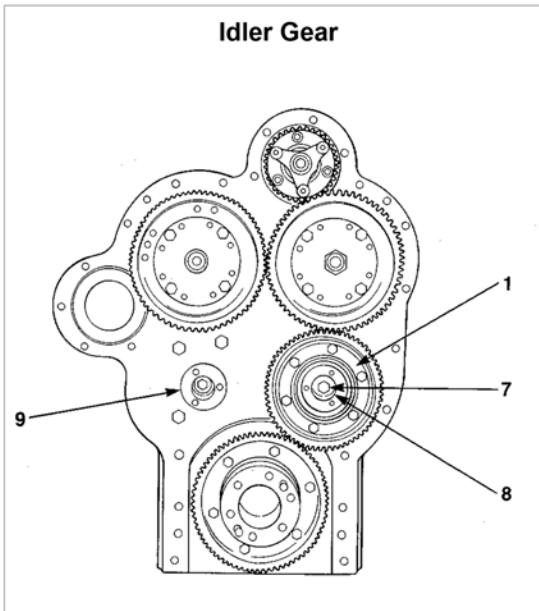
(Figure 5.2)

Groups:  
1.7010 - 1.7207

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 1.7010 | 2   | FP-5111422  | Bearing, Camshaft Rear (Std.)                         | 2  | 2  | 4   | 4   |
| 1.7010 | 3   | FP-5117984  | Bearing, Camshaft Front (Std.)                        | 2  | 2  | -   | -   |
| 1.7010 | 2   | FP-5194858  | Bearing, Camshaft Rear (.010" U.S.I.D.)               | 2  | 2  | 4   | 4   |
| 1.7010 | 3   | FP-5197569  | Bearing, Camshaft Front (.010" U.S.I.D.)              | 2  | 2  | -   | -   |
| 1.7010 | 0   | FP-103321   | Lockwasher, 3/8"                                      | 12 | 12 | 12  | 12  |
| 1.7012 | 22  | FP-5117243  | Gasket, Camshaft Front End Bearing                    | 1  | 1  | -   | -   |
| 1.7015 | 0   | FP-5111423  | Bushing, Camshaft End Bearing                         | 8  | 8  | 8   | 8   |
| 1.7015 | 0   | FP-5194825  | Bushing, Camshaft End Bearing (.020" U.S. Unfinished) | 8  | 8  | 8   | 8   |
| 1.7030 | 10  | FP-5111424  | Washer, Camshaft Thrust (Std.)                        | 4  | 4  | 8   | 8   |
| 1.7030 | 10  | FP-5194826  | Washer, Camshaft Thrust (.005".)                      | 4  | 4  | 8   | 8   |
| 1.7030 | 10  | FP-5194827  | Washer, Camshaft Thrust (.010".)                      | 4  | 4  | 8   | 8   |
| 1.7040 | 6   | FP-5196026  | Bearing, Camshaft Intermediate (Std.)                 | 4  | 6  | 10  | 12  |
| 1.7040 | 6   | FP-5196027  | Bearing, Camshaft Intermediate (.010" U.S.I.D.)       | 4  | 6  | 10  | 12  |
| 1.7050 | 0   | FP-5123383  | Bolt, Camshaft Lock (1/4" - 28 x .715")               | AR | AR | AR  | AR  |
| 1.7050 | 7   | FP-5115572  | Ring, Camshaft Intermediate Bearing Lock              | 8  | 12 | 20  | 24  |
| 1.7060 | 9   | FP-23516871 | Seal, Camshaft Oil (Front Left Bank)                  | 1  | 1  | -   | -   |
| 1.7130 | 12  | FP-5177769  | Lockwasher, 1 1/8"                                    | 1  | 1  | -   | -   |
| 1.7130 | 11  | FP-8926247  | Key, 1/4" X 3/4" Woodruff                             | 1  | 1  | -   | -   |
| 1.7200 | 11  | FP-8926247  | Key, 1/4" X 3/4" Woodruff                             | 3  | 3  | 4   | 4   |
| 1.7200 | 12  | FP-5177769  | Lockwasher, 1 1/8"                                    | 1  | 1  | -   | -   |
| 1.7202 | 18  | FP-5116485  | Spacer, Cam & Balance Shaft Gear (.64" L. Front)      | 2  | 2  | -   | -   |
| 1.7207 | 21  | FP-103321   | Lockwasher, 3/8"                                      | 8  | 8  | 16  | 16  |

# Camshaft

(Figure 5.3)





# Camshaft

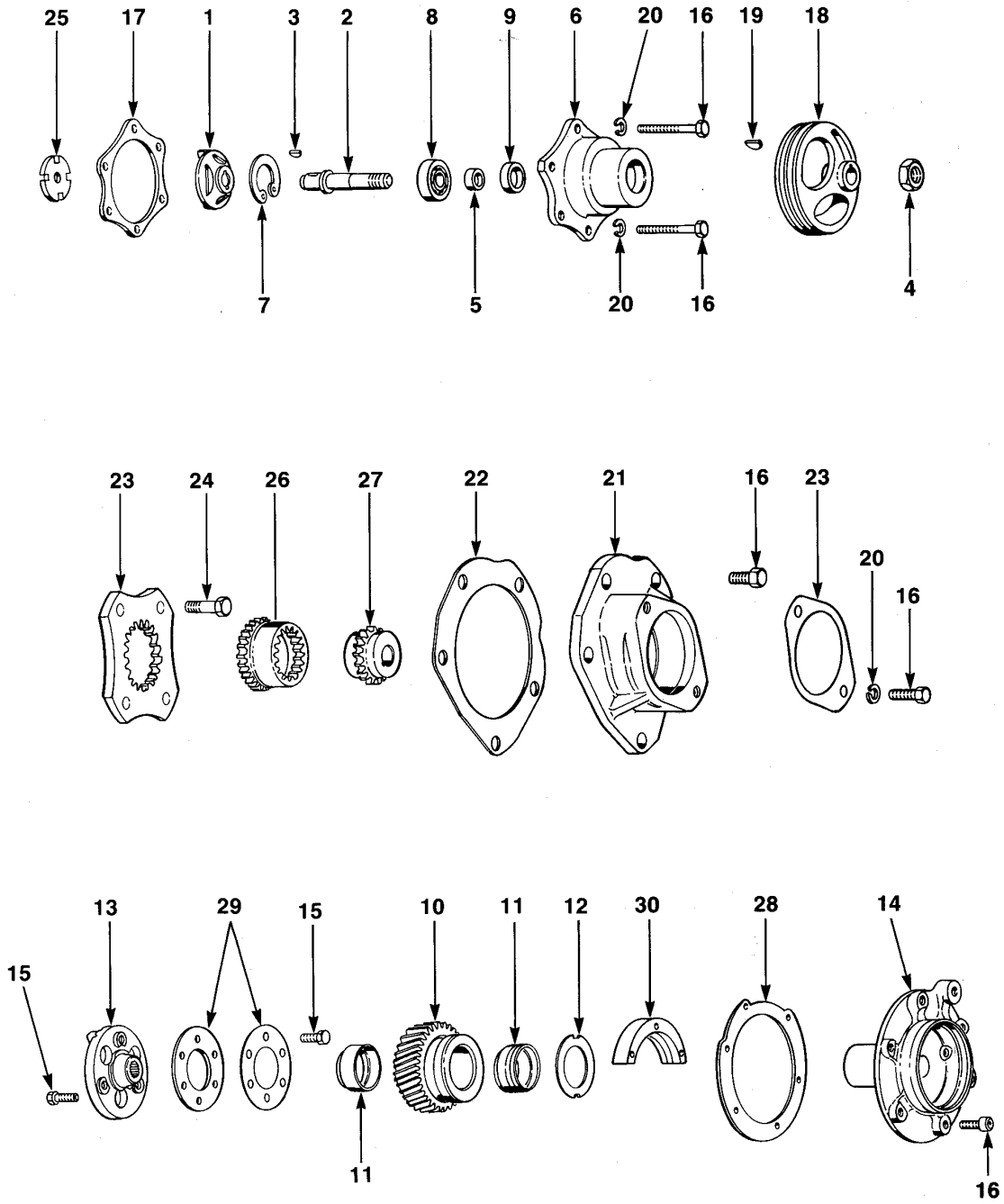
(Figure 5.3)

Groups:  
1.7225 - 1.7500

| Group                       | Ref | Part No.   | Description                                  | 6V | 8V | 12V | 16V |
|-----------------------------|-----|------------|--|----|----|-----|-----|
| <b>Balance Weight Cover</b> |     |            |  |    |    |     |     |
| 1.7470                      | 0   | FP-103026  | Nut, 3/8" - 24                               | 10 | 10 | 10  | 10  |
| 1.7470                      | 4   | FP-103321  | Lockwasher, 3/8"                             | 1  | 1  | 1   | 1   |
| 1.7480                      | 5   | FP-5121753 | Gasket, Balance Weight Cover (Type 25)       | 1  | 1  | 1   | -   |
| 1.7480                      | 5   | FP-5123638 | Gasket, Balance Weight Cover (Type 42,44,48) | 1  | 1  | 1   | -   |
| 1.7480                      | 5   | FP-5123639 | Gasket, Balance Weight Cover (Type 29,49,50) | 1  | 1  | 1   | -   |
| 1.7500                      | 8   | FP-5123123 | Gasket, Balance Weight Cover Hole            | 1  | 1  | 1   | -   |
| <b>Idler Gear Assembly</b>  |     |            |  |    |    |     |     |
| 1.7225                      | 13  | FP-7451948 | Bearing, Idler Gear                          | 1  | 1  | 1   | 2   |
| 1.7227                      | 15  | FP-5103534 | Bolt, 5/16" - 24 x 1/2" (Vibrate Coated)     | 6  | 6  | 6   | 6   |
| 1.7227                      | 14  | FP-5176998 | Retainer, Idler Gear Bearing                 | 1  | 1  | 1   | 1   |
| 1.7250                      | 7   | FP-454992  | Bolt, 1/2" - 13 X 2 1/2"                     | 2  | 2  | 2   | 2   |
| 1.7250                      | 8   | FP-5167714 | Washer, 17/32" X 7/8" X 3/32"                | 2  | 2  | 2   | 2   |
| 1.7250                      | 16  | FP-5130135 | Hub Assembly Idler Gear                      | 1  | 1  | 1   | 1   |
| 1.7260                      | 9   | FP-5101150 | Spacer, Idler Gear Hole                      | 1  | 1  | 1   | 1   |

# Accessory Drive

(Figure 5.4)





## Accessory Drive

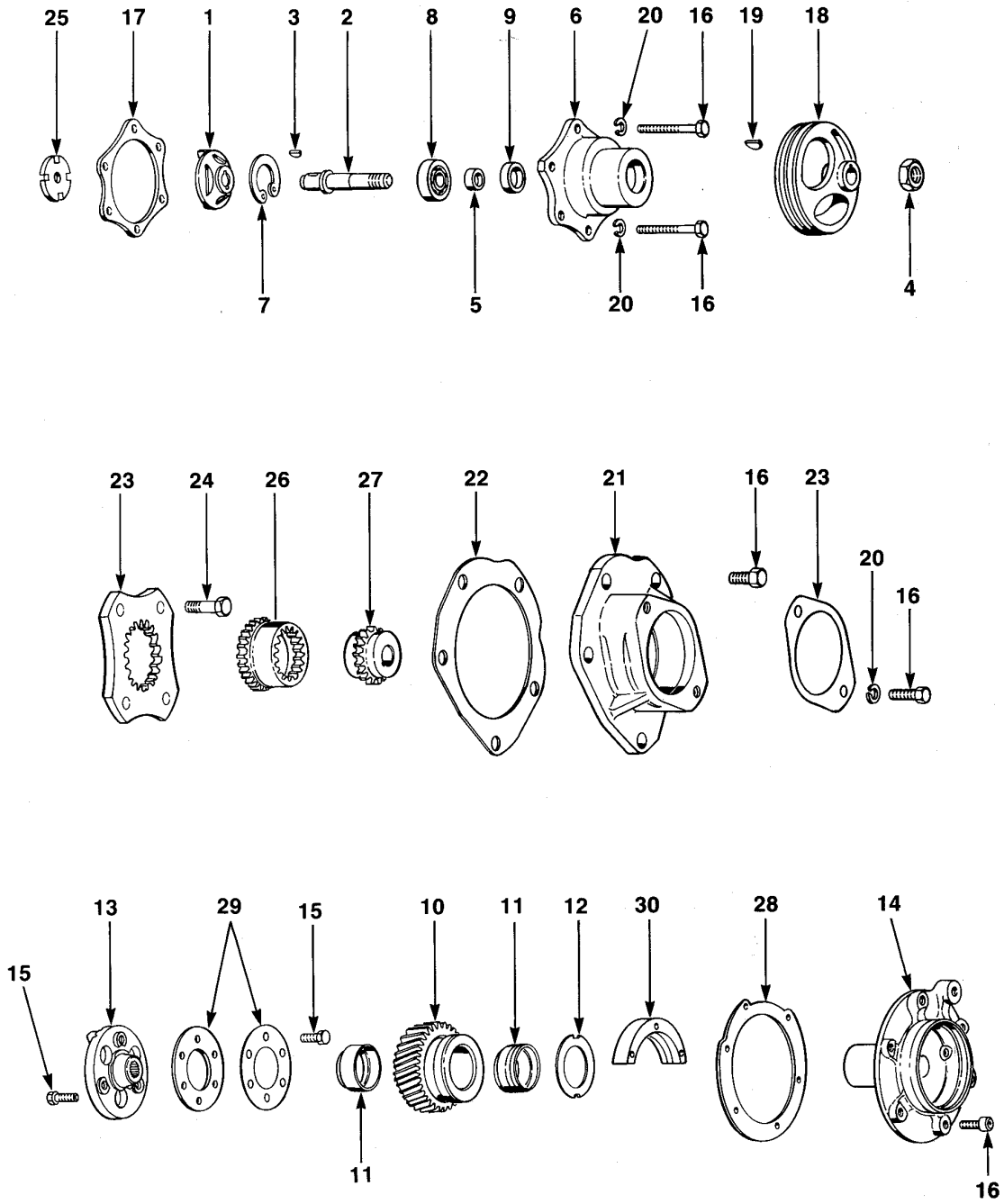
(Figure 5.4)

Groups:  
1.7600 - 2.7600

| Group  | Ref | Part No.          | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--|----|----|-----|-----|
| 1.7600 | 11  | FP-5120501        | Bushing, Accessory Drive Gear  | 2  | 2  | 2   | 2   |
| 1.7600 | 8   | FP-23504528       | Bearing, Accessory Drive   | 1  | 1  | 1   | 1   |
| 1.7600 | 9   | FP-5131329        | Seal, Accessory Drive Oil  | 1  | 1  | 1   | 1   |
| 1.7600 | 5   | FP-5133682        | Spacer, Accessory Drive Oil Seal   | 1  | 1  | 1   | 1   |
| 1.7600 | 0   | FP-5198174        | Sleeve, Accessory Drive Oil Seal   | 1  | 1  | 1   | 1   |
| 1.7600 | 0   | FP-8926285        | Lockwasher, Accessory & Blower Drive Gear  | 1  | 1  | 1   | 1   |
| 1.7600 | 0   | FP-8926293        | Washer, Accessory & Blower Drive Gear Thrust   | 1  | 1  | 1   | 1   |
| 1.7600 | 7   | FP-9415285        | Lockring, Accessory Drive  | 1  | 1  | 1   | 1   |
| 1.7600 | 0   | FP-9428477        | Plug, 15/16" Cup   | 1  | 1  | 1   | 1   |
| 1.7604 | 17  | FP-5104507        | Gasket, Accessory Drive (Type 91,92,100,139,143,232,278,281,283,320,321,330,344,349,350,351,366,373,375) | 1  | 1  | 1   | 1   |
| 1.7604 | 28  | FP-5148810        | Gasket, Accessory Drive (Type 233,277,302,304,320,321,326,340,350,366,375)                               | 1  | 1  | 1   | 1   |
| 1.7604 | 17  | FP-5188755        | Gasket, Accessory Drive (Type 389)   | 1  | 1  | 1   | 1   |
| 1.7604 | 17  | FP-5196962        | Gasket, Accessory Drive (Type 299,302,325,326)   | 1  | 1  | 1   | 1   |
| 1.7615 | 0   | FP-5102456        | Seal, Drive Pulley Hub Oil (Type 324)  | 1  | 1  | 1   | 1   |
| 1.7622 | 0   | FP-103026         | Nut, 3/8" - 24   | 2  | 2  | 2   | 2   |
| 1.7622 | 0   | FP-8927270        | Stud, 3/8" - 16/24 X 1 9/16"   | 2  | 2  | 2   | 2   |
| 1.7622 | 0   | FP-5121182        | Plug, 1/4" Pipe  | 1  | 1  | 1   | 1   |
| 1.7623 | 22  | FP-5124926        | Gasket, Accessory Drive Adaptor (Type 135)   | 1  | 1  | 1   | 1   |
| 1.7623 | 0   | FP-5188755        | Gasket, Accessory Drive Adaptor (Type 136,144,166,167,171,172,179,180,254,255,284,289,331)               | 1  | 1  | 1   | 1   |
| 1.7623 | 22  | FP-5196962        | Gasket, Accessory Drive Adaptor (Type 299)   | 1  | 1  | 1   | 1   |
| 1.7630 | 24  | FP-5145092        | Bolt, 3/8" -24 X 1.20"   | 4  | 4  | 4   | 4   |
| 1.7630 | 11  | FP-5120501        | Bushing, Accessory Drive Gear  | 2  | 2  | 2   | 2   |
| 1.7630 | 23  | FP-5170450        | Plate, Accessory Drive (21 Teeth)  | 1  | 1  | 1   | 1   |
| 1.7630 | 10  | FP-5193576        | Gear, Accessory Drive (Type 108)   | 1  | 1  | 1   | 1   |
| 1.7635 | 0   | FP-5139545        | Coupling, Accessory Drive (Type 91,92,138,139,143,230,320,321,344,350,351,366,375)                       | 1  | 1  | 1   | 1   |
| 1.7635 | 25  | FP-5145282        | Coupling, Accessory Drive (Type 89,254,349)  | 1  | 1  | 1   | 1   |
| 2.7600 | 0   | FP-103026         | Nut, 3/8" - 24   | 6  | 6  | 6   | 6   |
| 2.7600 | 16  | FP-8927581        | Bolt, 3/8" - 16 X 1"   | 6  | 6  | 6   | 6   |
| 2.7600 | 29  | FP-8920764        | Plate, Blower Drive Gear Hub Spring  | 2  | 2  | 4   | 4   |
| 2.7600 | 0   | FP-8927580        | Bolt, 3/8" - 16 X 7/8"   | 2  | 2  | 2   | 2   |
| 1.7600 | 0   | <b>FP-5198175</b> | <b>Kit, Accessory Drive Seal &amp; Bearing</b>   | 1  | 1  | 1   | 1   |
| 1.7600 | 8   | FP-23503727       | Bearing, Accessory Drive (1.7655)  | 1  | 1  | 1   | 1   |
| 1.7600 | 5   | FP-5133682        | Spacer, Accessory Drive Oil Seal (1.7660)  | 1  | 1  | 1   | 1   |
| 1.7600 | 9   | FP-5138710        | Seal, Accessory Drive Oil (1.7660)   | 1  | 1  | 1   | 1   |

# Accessory Drive

(Figure 5.5)





## Accessory Drive

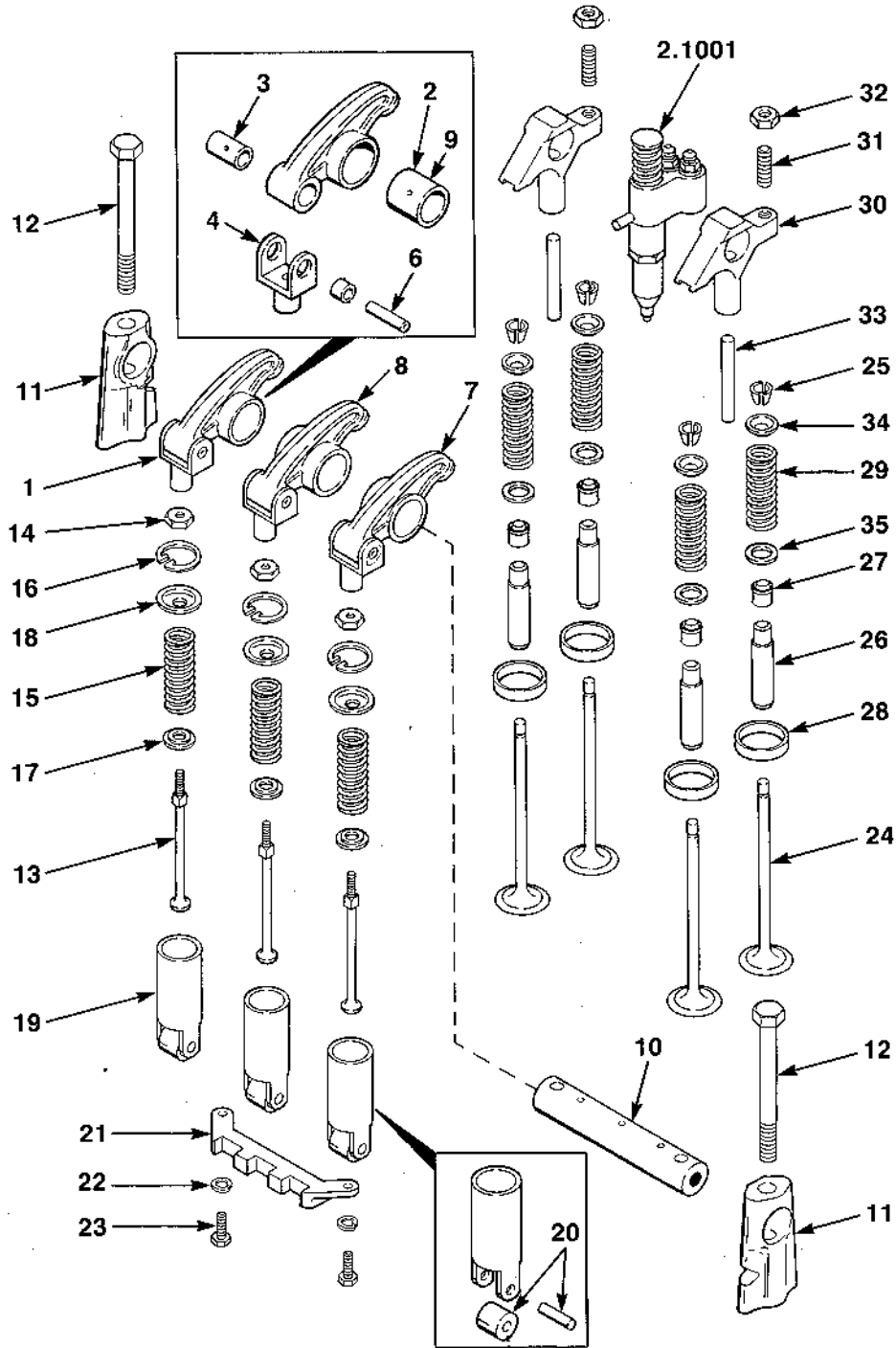
(Figure 5.5)

Groups:  
1.7635 - 1.7750

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 1.7635 | 0   | FP-5141773  | Coupling, Accessory Drive Compressor Drive (Type 226,230,330,378,384)              | 1  | 1  | 1   | 1   |
| 1.7635 | 26  | FP-5144866  | Hub, Accessory Drive (Type 226,230,283,286,298,301,330,384)                        | 1  | 1  | 1   | 1   |
| 1.7642 | 0   | FP-8926285  | Lockwasher, Blower & Accessory Drive Gear  | 1  | 1  | 1   | 1   |
| 1.7642 | 0   | FP-8926293  | Washer, Blower & Accessory Drive Gear Hub  | 1  | 1  | 1   | 1   |
| 1.7645 | 0   | FP-5152148  | Washer, 3/8" X 9/16" Copper  | 1  | 1  | 1   | 1   |
| 1.7645 | 7   | FP-9415285  | Lockring, Accessory Drive Retainer Bearing   | 1  | 1  | 1   | 1   |
| 1.7645 | 0   | FP-9428477  | Plug, 15/16" Cup   | 1  | 1  | 1   | 1   |
| 1.7646 | 28  | FP-5148810  | Gasket, Accessory Drive Support (Type 233,277,302,304,320,321,326,350,366,375,389) | 1  | 1  | 1   | 1   |
| 1.7647 | 0   | FP-8924380  | Plug, 1/8" Pipe  | 1  | 1  | 1   | 1   |
| 1.7650 | 7   | FP-9415285  | Lockring, Accessory drive  | 1  | 1  | 1   | 1   |
| 1.7655 | 8   | FP-23503727 | Bearing, Accessory Drive   | 1  | 1  | 1   | 1   |
| 1.7660 | 9   | FP-5131329  | Seal, Accessory Drive  | 1  | 1  | 1   | 1   |
| 1.7660 | 9   | FP-5138710  | Seal, Accessory Drive  | 1  | 1  | 1   | 1   |
| 1.7660 | 0   | FP-5198174  | Sleeve, Accessory Drive Oil Seal   | 1  | 1  | 1   | 1   |
| 1.7665 | 5   | FP-5131131  | Spacer, Accessory Drive Seal   | 1  | 1  | 1   | 1   |
| 1.7665 | 5   | FP-5133682  | Spacer, Accessory Drive Seal   | 1  | 1  | 1   | 1   |
| 1.7670 | 27  | FP-5144866  | Gear, Accessory Drive (Type 226)   | 1  | 1  | 1   | 1   |
| 1.7670 | 27  | FP-5193576  | Gear, Accessory Drive (Type 304)   | 1  | 1  | 1   | 1   |
| 1.7700 | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1"   | 2  | 2  | 2   | 2   |
| 1.7700 | 0   | FP-5115214  | Plug, 1/2" Pipe  | 1  | 1  | 1   | 1   |
| 1.7700 | 0   | FP-5124926  | Gasket, Accessory Drive Adaptor Cover (Type 302,325,326,336,349,382,384,387,388)   | 1  | 1  | 1   | 1   |
| 1.7750 | 0   | FP-5185793  | Screw, Internal Gear Mount   | 6  | 6  | 6   | 6   |

# Valve Train

(Figure 6.1)







# Valve Train

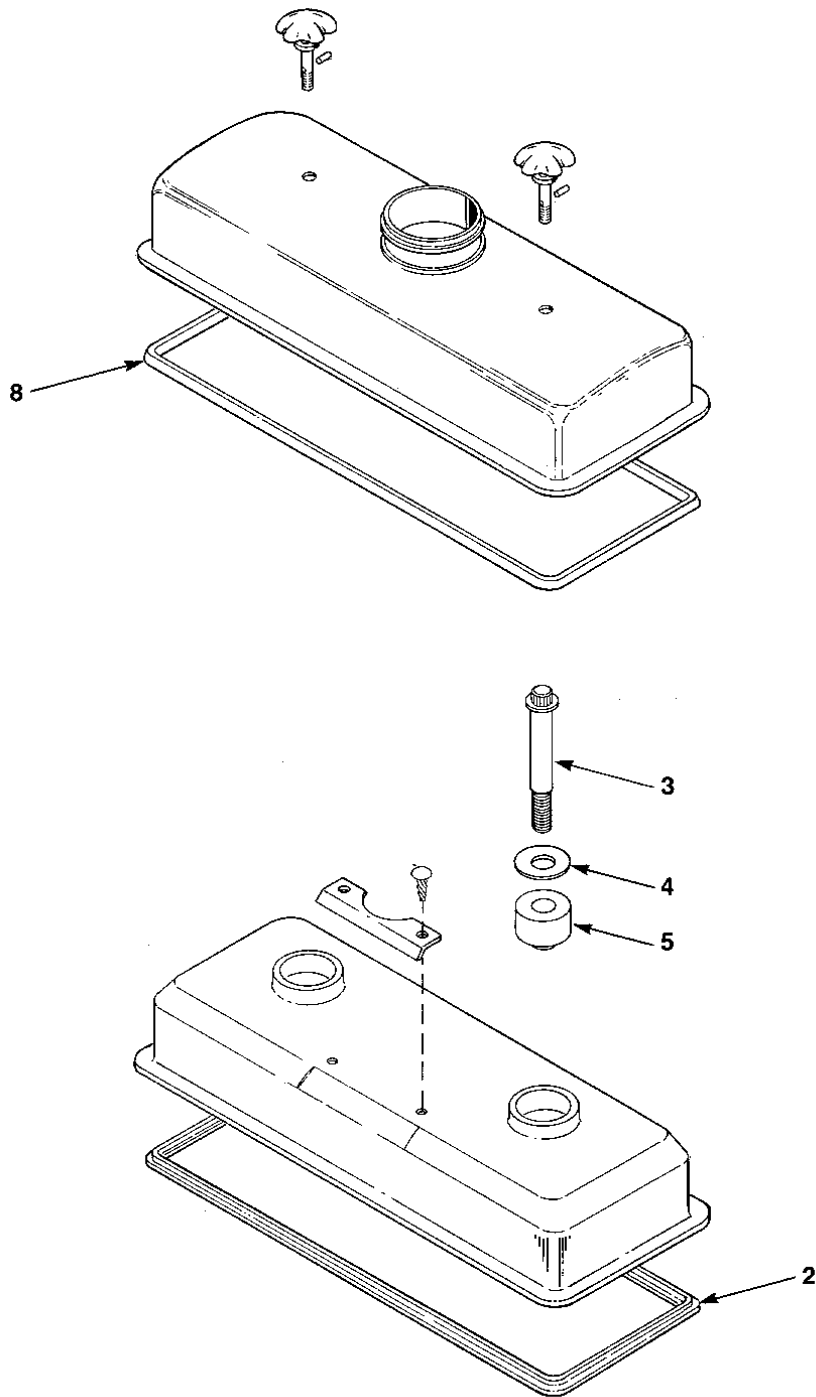
(Figure 6.1)

Groups:  
1.8060 - 1.8370

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 1.8060 | 8   | FP-23502616 | Arm Assembly, Injector (Blue Paint), (DDEC Coach)  | 6  | 8  | -   | -   |
| 1.8060 | 1   | FP-5148472  | Rocker Arm Assembly, Exhaust Valve L.H.            | 6  | 8  | 12  | 16  |
| 1.8060 | 7   | FP-5148475  | Rocker Arm Assembly, Exhaust Valve R.H.            | 6  | 8  | 12  | 16  |
| 1.8060 | 8   | FP-8923554  | Rocker Arm Assembly, Injector (Orange Paint)       | 6  | 8  | 12  | 16  |
| 1.8110 | 9   | FP-8924355  | Bushing, Rocker Arm (Large)                        | 6  | 8  | 12  | 16  |
| 1.8110 | 9   | FP-8924355  | Bushing, Rocker Arm Injector (Large)               | 6  | 8  | 12  | 16  |
| 1.8110 | 2   | FP-23517217 | Bushing, Rocker Arm Exhaust Valve (Large)          | 12 | 16 | 24  | 32  |
| 1.8120 | 3   | FP-8924354  | Bushing, Rocker Arm (Small)                        | 6  | 8  | 12  | 16  |
| 1.8120 | 3   | FP-8924354  | Bushing, Rocker Arm (Small)                        | 6  | 8  | 12  | 16  |
| 1.8120 | 3   | FP-8924354  | Bushing, Rocker Arm Exhaust Valve (Small)          | 12 | 16 | 24  | 32  |
| 1.8130 | 4   | FP-5150312  | Clevis, Rocker Arm                                 | 6  | 8  | 12  | 16  |
| 1.8130 | 4   | FP-5150312  | Clevis, Rocker Arm, Injector                       | 6  | 8  | 12  | 16  |
| 1.8130 | 4   | FP-5150312  | Clevis, Rocker Arm Exhaust Valve                   | 12 | 16 | 24  | 32  |
| 1.8140 | 5   | FP-23502615 | Bushing, Clevis .6295" O.D.                        | 6  | 8  | 12  | 16  |
| 1.8140 | 5   | FP-5123700  | Bushing, Clevis .5625" O.D.                        | 6  | 8  | 12  | 16  |
| 1.8140 | 5   | FP-5123700  | Bushing, Rocker Arm Exhaust Valve Clevis           | 12 | 16 | 24  | 32  |
| 1.8150 | 6   | FP-5150314  | Pin, Clevis, Rocker Arm                            | 6  | 8  | 12  | 16  |
| 1.8150 | 6   | FP-5150314  | Pin, Clevis, Rocker Arm                            | 6  | 8  | 12  | 16  |
| 1.8150 | 6   | FP-5150314  | Pin, Clevis, Rocker Arm                            | 12 | 16 | 24  | 32  |
| 1.8160 | 10  | FP-23500714 | Shaft Assembly, Rocker (FP-5150322)                | 6  | 8  | 12  | 16  |
| 1.8170 | 11  | FP-5103903  | Bracket, Rocker Shaft                              | 12 | 16 | 24  | 32  |
| 1.8170 | 12  | FP-5150325  | Bolt, Rocker Shaft Bracket                         | 12 | 16 | 24  | 32  |
| 1.8180 | 13  | FP-5128640  | Rod, Push  | 18 | 24 | 36  | 48  |
| 1.8180 | 14  | FP-5151601  | Nut, Push Rod 5/16" -24 Lock                       | 18 | 24 | 36  | 48  |
| 1.8190 | 15  | FP-5108918  | Spring, Push Rod                                   | 18 | 24 | 36  | 48  |
| 1.8200 | 16  | FP-5108919  | Seat, Push Rod Spring (Upper)                      | 18 | 24 | 36  | 48  |
| 1.8210 | 17  | FP-5123250  | Seat, Push Rod Spring (Lower)                      | 18 | 24 | 36  | 48  |
| 1.8250 | 18  | FP-5150303  | Retainer, Push Rod                                 | 18 | 24 | 36  | 48  |
| 1.8260 | 20  | FP-8923814  | Pin & Roller, Follower Assembly                    | 18 | 24 | 36  | 48  |
| 1.8260 | 19  | FP-8924439  | Follower Assembly, Camshaft                        | 18 | 24 | 36  | 48  |
| 1.8300 | 22  | FP-103319   | Lockwasher 1/4"                                    | 12 | 16 | 24  | 32  |
| 1.8300 | 23  | FP-443603   | Bolt, 1/4" - 20 X 3/4"                             | 12 | 16 | 24  | 32  |
| 1.8310 | 24  | FP-5106136  | Valve, Exhaust (Code V Or Blank, Pyromet 31)       | 24 | 32 | 48  | 64  |
| 1.8310 | 0   | FP-5149771  | Valve Kit, Exhaust Turbo & N/A (w/Locks)           | 24 | 32 | 48  | 64  |
| 1.8320 | 26  | FP-5129919  | Guide, Exhaust Valve                               | 24 | 32 | 48  | 64  |
| 1.8320 | 27  | FP-8921209  | Seal, Exhaust Valve Guide                          | 24 | 32 | 48  | 64  |
| 1.8330 | 28  | FP-5101315  | Insert, Exhaust Valve (.010" O.S. O.D.)            | 24 | 32 | 48  | 64  |
| 1.8330 | 28  | FP-5148490  | Insert, Exhaust Valve                              | 24 | 32 | 48  | 64  |
| 1.8340 | 29  | FP-5147347  | Spring, Exhaust Valve                              | 24 | 32 | 48  | 64  |
| 1.8340 | 29  | FP-8927794  | Spring, Exhaust Valve (DDEC Coach), (Type 281,283) | 24 | 32 | -   | -   |
| 1.8343 | 31  | FP-5129101  | Screw, 5/16" - 24 X 1"                             | 12 | 16 | 24  | 32  |
| 1.8343 | 30  | FP-5148491  | Bridge, Exhaust Valve                              | 12 | 16 | 24  | 32  |
| 1.8343 | 32  | FP-5151601  | Nut, 5/16" -24                                     | 12 | 16 | 24  | 32  |
| 1.8345 | 33  | FP-5117564  | Guide, Exhaust Valve Bridge                        | 12 | 16 | 24  | 32  |
| 1.8345 | 0   | FP-51175646 | Guide, Exhaust Valve Bridge .006 O.S. (Press Fit)  | 12 | 16 | 24  | 32  |
| 1.8345 | 0   | FP-5196843  | Guide, Exhaust Valve Bridge (Threaded Type)        | 12 | 16 | 24  | 32  |
| 1.8350 | 34  | FP-5117563  | Cap, Exhaust Valve Spring                          | 24 | 32 | 48  | 64  |
| 1.8360 | 35  | FP-5117562  | Seat, Exhaust Valve Spring                         | 24 | 32 | 48  | 64  |
| 1.8370 | 25  | FP-5111337  | Lock Half, Exhaust Valve                           | 48 | 64 | 96  | 128 |

# Valve Train Rocker Cover

(Figure 6.2)





# Valve Train Rocker Cover

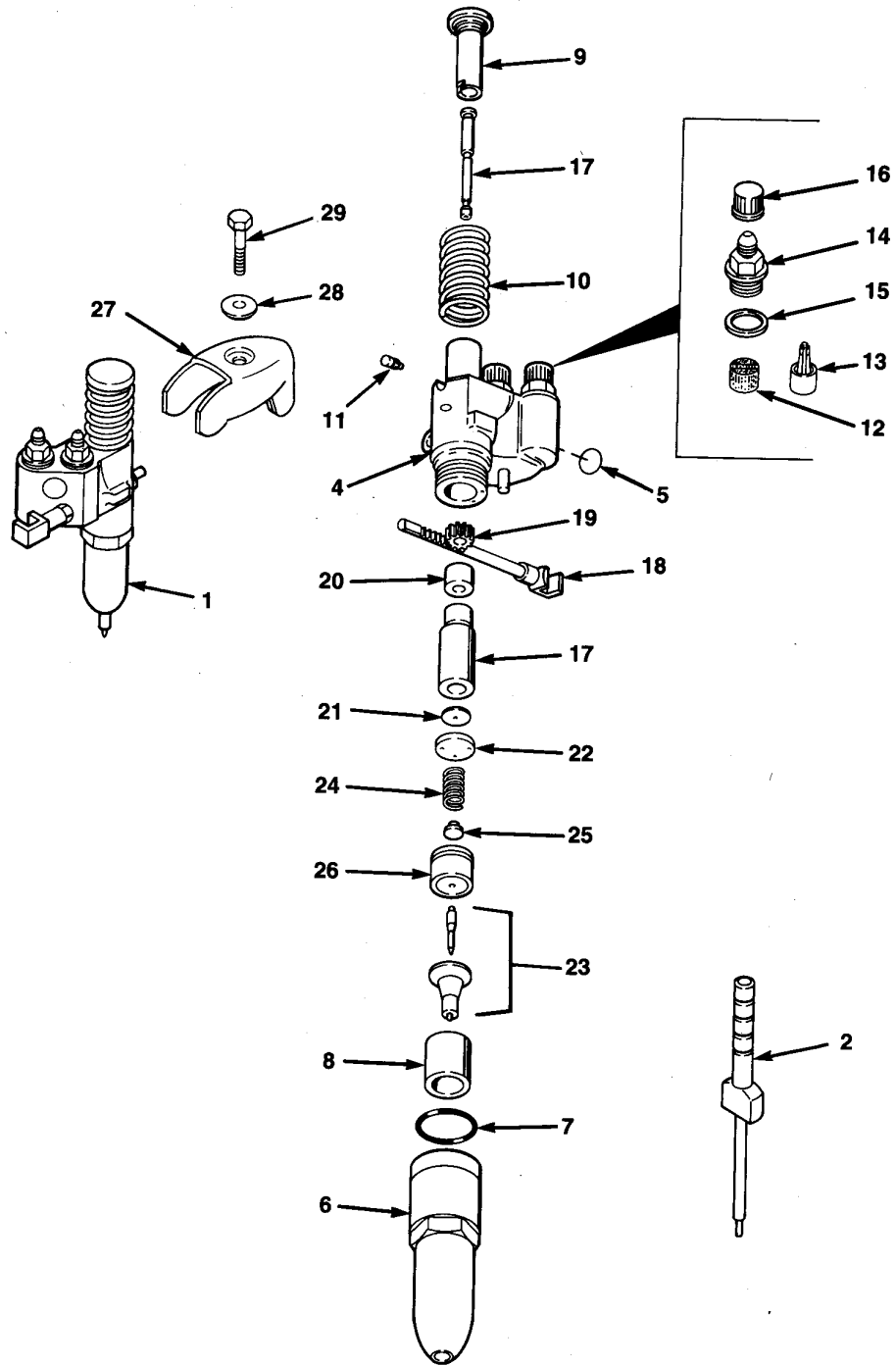
(Figure 6.2)

Groups:  
1.8451 - 3.8455

| Group  | Ref | Part No.   | Description                                     | 6V | 8V | 12V | 16V |
|--------|-----|------------|---|----|----|-----|-----|
| 1.8451 | 3   | FP-5104015 | Bolt, Rocker Cover 3/8" - 16 X 6.57" L 12 Pt    | 4  | 4  | 4   | 8   |
| 1.8451 | 5   | FP-5104515 | Isolator, Rocker Cover Bolt                     | 4  | 4  | 4   | 8   |
| 1.8451 | 0   | FP-5149510 | Installation Kit, Aluminum Rocker Cover         | 2  | -  | 4   | -   |
| 1.8451 | 0   | FP-5103635 | Bolt, Throttle Delay 3/8" - 16 X 2.90"          | 1  | 1  | 1   | 1   |
| 1.8451 | 0   | FP-5149511 | Installation Kit, Aluminum Rocker Cover         | -  | 2  | -   | 4   |
| 1.8455 | 2   | FP-5104018 | Gasket, Silicone, Aluminum Rocker Cover (3 Cyl) | 2  | -  | 4   | -   |
| 1.8455 | 2   | FP-5104081 | Gasket, Silicone, Aluminum Rocker Cover (4 Cyl) | -  | 2  | -   | 4   |
| 1.8475 | 0   | FP-5148504 | Stud, 17/32"                                    | -  | 4  | 4   | 4   |
| 2.8451 | 4   | FP-5104514 | Washer, Isolator .47" X 2.00" X .20"            | 4  | 4  | 4   | 8   |
| 3.8455 | 8   | FP-5143405 | Gasket, Neoprene, Stamped Rocker Cover (3 Cyl)  | 2  | -  | 4   | -   |
| 3.8455 | 8   | FP-5143406 | Gasket, Neoprene, Stamped Rocker Cover (4 Cyl)  | -  | 2  | -   | 4   |

# Fuel Injector

(Figure 7.1)





# Fuel Injector

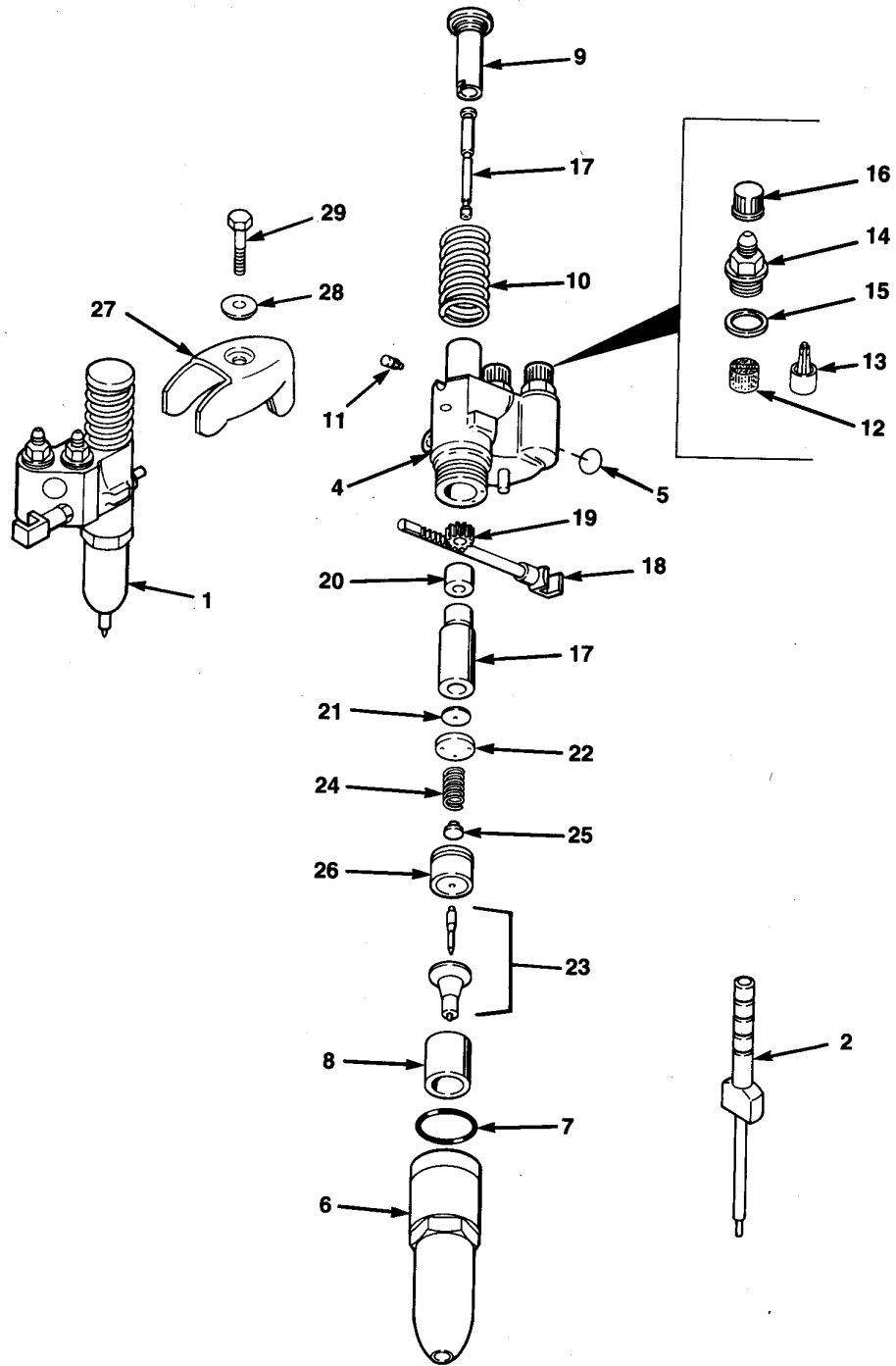
(Figure 7.1)

Groups:  
2.1001 - 2.1235

| Group                         | Ref | Part No.   | Description   | 6V | 8V | 12V | 16V |
|-------------------------------|-----|------------|---|----|----|-----|-----|
| 2.1001                        | 1   | FP-5229380 | Injector Assembly 9275 (Type 123)                                 | 6  | 8  | 12  | 16  |
| 2.1001                        | 1   | FP-5229526 | Tag, Number (9285), (Inj. # 5229400)                              | 6  | 8  | 12  | 16  |
| 2.1001                        | 1   | FP-5229630 | Injector Assembly 9A90 (Type 135)                                 | 6  | 8  | 12  | 16  |
| 2.1001                        | 1   | FP-5229715 | Injector Assembly (9215)  | 6  | 8  | 12  | 16  |
| 2.1001                        | 1   | FP-5229890 | Injector Assembly 9C90 (Type 188)                                 | 6  | 8  | 12  | 16  |
| 2.1001                        | 1   | FP-5229895 | Injector Assembly 7G65 (Type 180)                                 | 6  | 8  | 12  | 16  |
| 2.1001                        | 2   | FP-J1242   | Timing Gage Injector (1.484)                                      | 1  | 1  | 1   | 1   |
| 2.1001                        | 2   | FP-J1853   | Timing Gage Injector (1.460)                                      | 1  | 1  | 1   | 1   |
| <b>Plunger &amp; Bushings</b> |     |            |   |    |    |     |     |
| 2.1160                        | 17  | FP-5226248 | Plunger & Bushing Assembly (Use w/Inj. 5226555, 5227045, 5227105) | 6  | 8  | 12  | 16  |
| 2.1160                        | 17  | FP-5226338 | Plunger & Bushing Assembly (Use w/Inj. 5226410, 5226525)          | 6  | 8  | 12  | 16  |
| 2.1160                        | 17  | FP-5226474 | Plunger & Bushing Assembly (Use w/Inj. 5226405, 5226420, 5226635) | 6  | 8  | 12  | 16  |
| 2.1160                        | 17  | FP-5229298 | Plunger & Bushing Assembly F10 9200                               | 6  | 8  | 12  | 16  |
| 2.1160                        | 17  | FP-5229657 | Plunger & Bushing Assembly 115 9215                               | 6  | 8  | 12  | 16  |
| 2.1160                        | 17  | FP-5229657 | Plunger & Bushing Assembly 115 9225                               | 6  | 8  | 12  | 16  |
| 2.1160                        | 17  | FP-5229912 | Plunger & Bushing Assembly 7G70 7G70                              | 6  | 8  | 12  | 16  |
| 2.1160                        | 17  | FP-5229912 | Plunger & Bushing Assembly 7G70 9E65                              | 6  | 8  | 12  | 16  |
| 2.1160                        | 17  | FP-5229916 | Plunger & Bushing Assembly 7G65 7G65                              | 6  | 8  | 12  | 16  |
| 2.1235                        | 23  | FP-5229184 | Tip Assembly, 115 9215  | 6  | 8  | 12  | 16  |
| 2.1235                        | 23  | FP-5229184 | Tip Assembly, F10 9200  | 6  | 8  | 12  | 16  |
| 2.1235                        | 23  | FP-5229516 | Tip Assembly, 115 9225  | 6  | 8  | 12  | 16  |
| 2.1235                        | 23  | FP-5229806 | Tip Assembly, F7 7E70   | 6  | 8  | 12  | 16  |

# Fuel Injector

(Figure 7.2)





# Fuel Injector

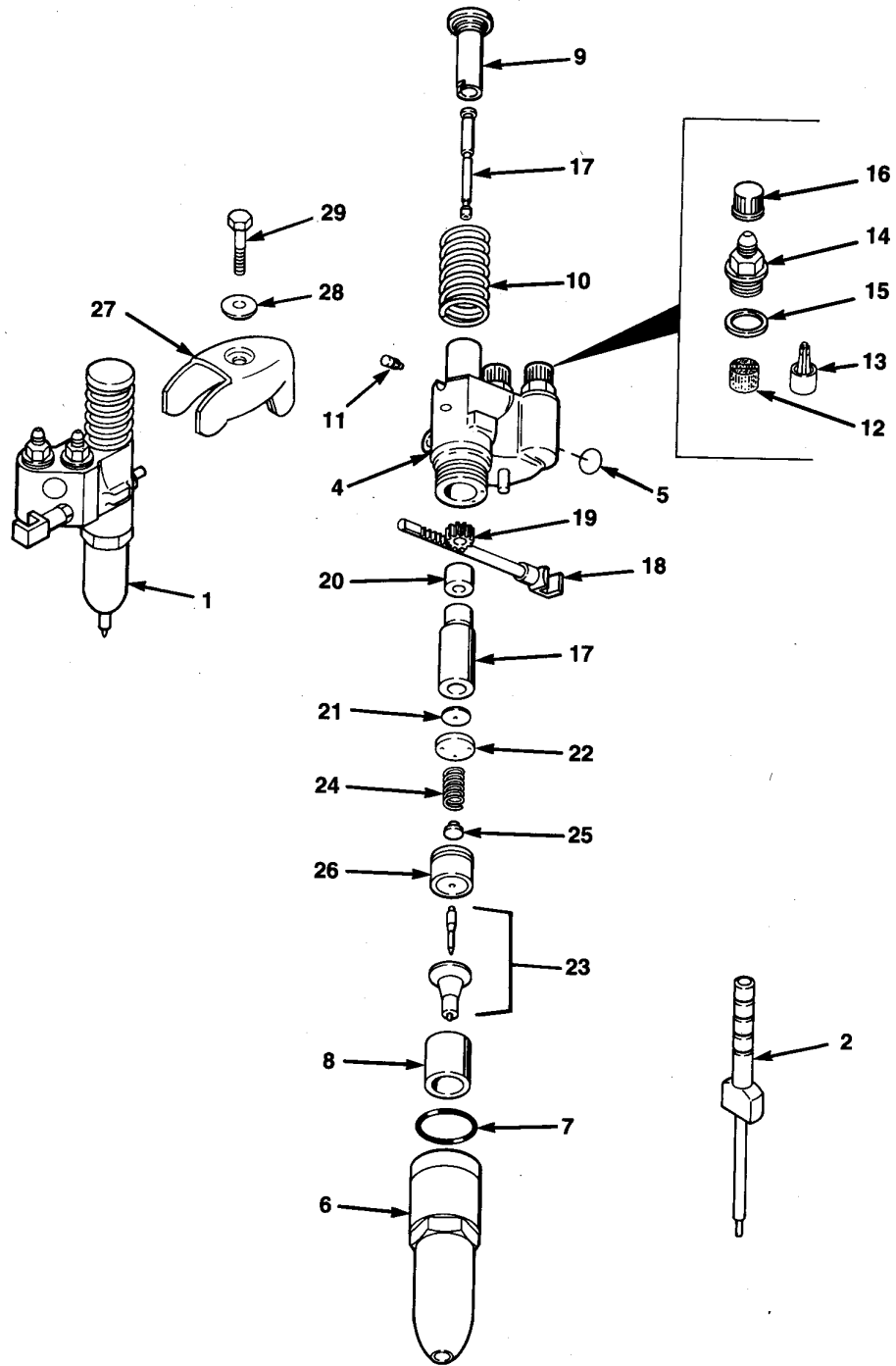
(Figure 7.2)

Groups:  
2.1160 - 2.1235

| Group  | Ref | Part No.   | Description   | 6V | 8V | 12V | 16V |
|--------|-----|------------|---|----|----|-----|-----|
| 2.1160 | 17  | FP-5229181 | Plunger & Bushing Assembly F8 7E80                  | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229181 | Plunger & Bushing Assembly F8 9280                  | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229181 | Plunger & Bushing Assembly F8 9A80                  | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229268 | Plunger & Bushing Assembly F95 9295                 | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229278 | Plunger & Bushing Assembly F85 7E85                 | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229278 | Plunger & Bushing Assembly F85 9285                 | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229278 | Plunger & Bushing Assembly F85 9A85                 | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229292 | Plunger & Bushing Assembly F9 7E90                  | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229292 | Plunger & Bushing Assembly F9 9290                  | 6  | 8  | 12  | 16  |
| 2.1160 | 17  | FP-5229292 | Plunger & Bushing Assembly F9 9A90                  | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5226272 | Tip Assembly (Use w/Inj. 5227030, 5227495, 5235905) | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5226438 | Tip Assembly (Use w/Inj. 5226410, 5226420)          | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229184 | Tip Assembly, F7 9270                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229184 | Tip Assembly, F75 9275                              | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229184 | Tip Assembly, F8 9280                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229184 | Tip Assembly, F85 9285                              | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229184 | Tip Assembly, F9 9290                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229184 | Tip Assembly, F95 9295                              | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229622 | Tip Assembly, F8 9A80                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229622 | Tip Assembly, F85 7E85                              | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229622 | Tip Assembly, F9 9A90                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, F7 7E70                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, F75 7E75                              | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, F8 7E80                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, F85 9A85                              | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, F9 7E90                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, G7 9C70                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, G75 9C75                              | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, G8 9C80                               | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, G85 9C85                              | 6  | 8  | 12  | 16  |
| 2.1235 | 23  | FP-5229806 | Tip Assembly, G9 9C90                               | 6  | 8  | 12  | 16  |

# Fuel Injector

(Figure 7.3)







# Fuel Injector

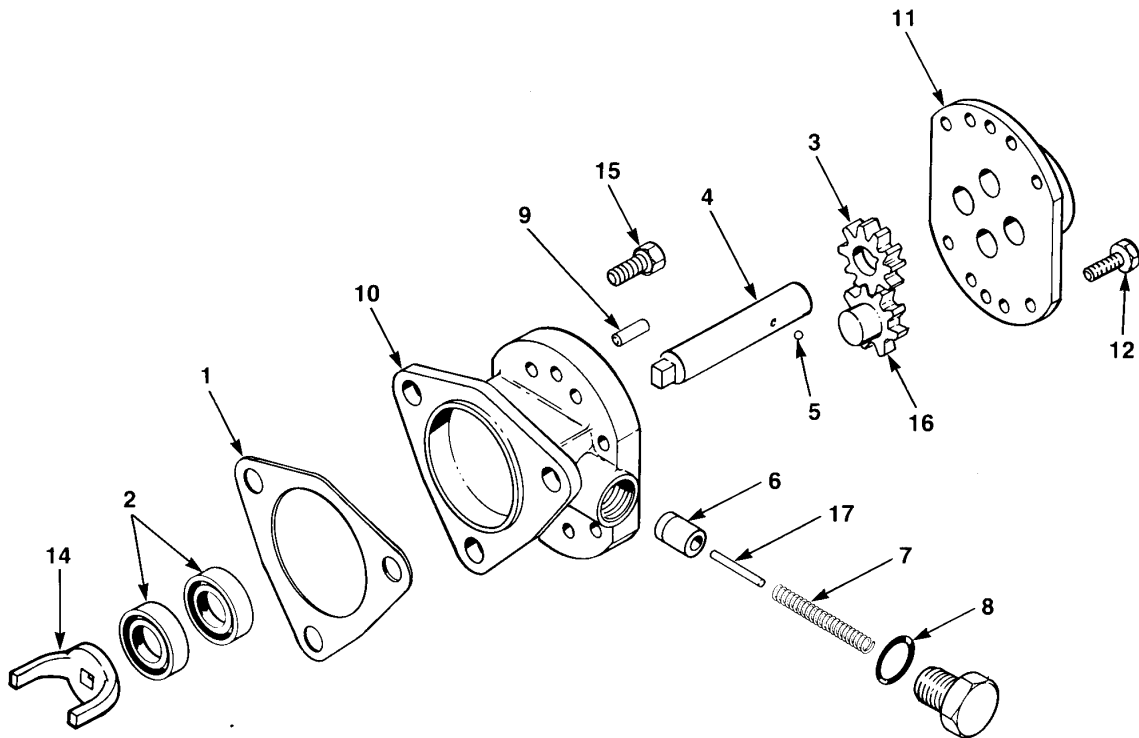
(Figure 7.3)

Groups:  
2.1002 - 2.1270

| Group  | Ref | Part No.          | Description                          | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--------------------------------------|----|----|-----|-----|
| 2.1020 | 4   | FP-5228583        | Body Assembly, Injector              | 6  | 8  | 12  | 16  |
| 2.1020 | 5   | FP-5229191        | Tag, Injector Blank                  | 6  | 8  | 12  | 16  |
| 2.1030 | 6   | FP-5228601        | Nut, Injector Valve                  | 6  | 8  | 12  | 16  |
| 2.1050 | 8   | FP-5228109        | Deflector, Injector Spill            | 6  | 8  | 12  | 16  |
| 2.1060 | 9   | FP-5228104        | Follower, Injector                   | 6  | 8  | 12  | 16  |
| 2.1080 | 10  | FP-5229518        | Spring, Injector Plunger (1.574" L.) | 6  | 8  | 12  | 16  |
| 2.1080 | 10  | FP-5229518        | Spring, Injector Plunger (6 Coils)   | 6  | 8  | 12  | 16  |
| 2.1100 | 11  | FP-5228608        | Pin, Injector Stop                   | 6  | 8  | 12  | 16  |
| 2.1130 | 14  | FP-5228588        | Cap, Injector Filter                 | 6  | 8  | 12  | 16  |
| 2.1170 | 18  | FP-5226719        | Rack, Injector                       | 6  | 8  | 12  | 16  |
| 2.1180 | 19  | FP-5226400        | Gear, Injector                       | 6  | 8  | 12  | 16  |
| 2.1180 | 19  | FP-5228802        | Gear, Injector                       | 6  | 8  | 12  | 16  |
| 2.1190 | 20  | FP-5228586        | Retainer, Injector Gear              | 6  | 8  | 12  | 16  |
| 2.1200 | 21  | FP-5228694        | Valve, Injector Check                | 6  | 8  | 12  | 16  |
| 2.1205 | 22  | FP-5228696        | Cage, Injector Check Valve           | 6  | 8  | 12  | 16  |
| 2.1257 | 26  | FP-5228594        | Cage, Injector Spring                | 6  | 8  | 12  | 16  |
| 2.1270 | 27  | FP-5121259        | Clamp, Injector Hold Down            | 6  | 8  | 12  | 16  |
| 2.1270 | 28  | FP-5150250        | Washer, Injector Hold Down Clamp     | 6  | 8  | 12  | 16  |
| 2.1238 | 0   | <b>FP-5228769</b> | <b>Valve Kit, Injector</b>           | 6  | 8  | 12  | 16  |
| 2.1250 | 24  | FP-5228596        | Spring, Injector Valve               | 6  | 8  | 12  | 16  |
| 2.1250 | 25  | FP-5228766        | Seat, Injector Seat                  | 6  | 8  | 12  | 16  |
| 2.1002 | 0   | <b>FP-5229649</b> | <b>Service Kit</b>                   | 6  | 8  | 12  | 16  |
| 2.1040 | 7   | FP-5234281        | Ring, Injector Seal                  | 6  | 8  | 12  | 16  |
| 2.1110 | 12  | FP-5228587        | Element, Injector Filter             | 6  | 8  | 12  | 16  |
| 2.1140 | 15  | FP-5226186        | Gasket, Injector Filter              | 6  | 8  | 12  | 16  |
| 2.1150 | 16  | FP-5226414        | Cap, Injector Shipping               | 6  | 8  | 12  | 16  |

# Fuel Pump

(Figure 8.1)





# Fuel Pump

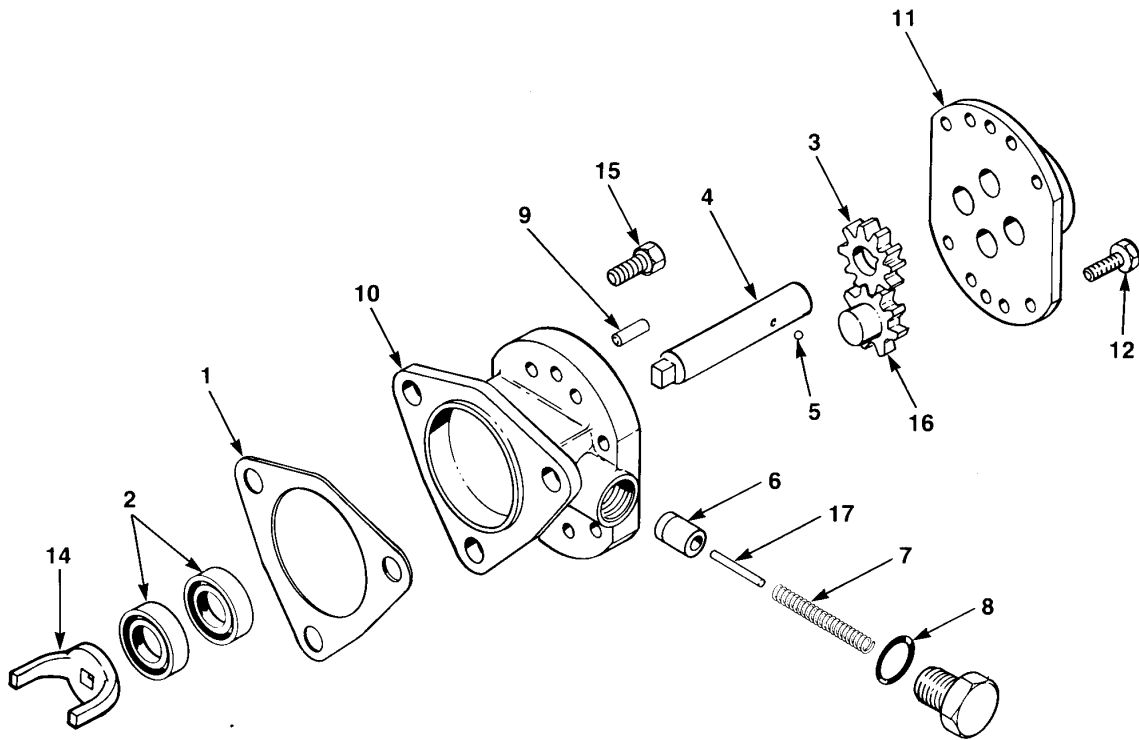
(Figure 8.1)

Groups:  
2.2001 - 2.2180

| Group  | Ref | Part No.          | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--|----|----|-----|-----|
| 2.1600 | 0   | FP-8925325        | Bushing, Pipe Red (3/8" PTF - 1/4" Zinc)                           | AR | -  | -   | -   |
| 2.2001 | 0   | FP-5199560        | Kit, Fuel Pump (1/4" Gear), (Std. Output L.H.), (Type 126,150,174) | 1  | 1  | 1   | 1   |
| 2.2001 | 0   | FP-5199735        | Kit, Fuel Pump (3/8" Gear), (High Output L.H.), (Type 56,146,177)  | 1  | 1  | 1   | 1   |
| 2.2010 | 9   | FP-141195         | Pin, 1/4" X 5/8" Dowel   | 2  | 2  | 2   | 2   |
| 2.2010 | 0   | FP-8924380        | Plug, 1/8"-27 Pipe   | 2  | 2  | 2   | 2   |
| 2.2030 | 12  | FP-179803         | Bolt, 1/4" -20 X 1 3/4"  | 4  | 4  | 4   | 4   |
| 2.2030 | 0   | FP-5198558        | Bushing, 3/8" - 1/4"   | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5146705</b> | <b>Shaft Assembly, Fuel Pump Drive (3.09" L), (High Output)</b>    | 1  | 1  | 1   | 1   |
| 2.2004 | 4   | FP-5178700        | Shaft, Fuel Pump Drive (3.09" L), (High. Output)                   | 1  | 1  | 1   | 1   |
| 2.2004 | 3   | FP-5128217        | Gear, Fuel Pump Drive (.374" W.), (High Output)                    | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5149599</b> | <b>Overhaul Kit, Fuel Pump (High Output), (Short Shaft)</b>        | 1  | 1  | 1   | 1   |
| 2.2007 | 1   | FP-5150193        | Gasket, Fuel Pump Mounting   | 1  | 1  | 1   | 1   |
| 2.2010 | 0   | FP-5136240        | Plug, Cap Fuel Pump Body 1/4"                                      | 2  | 2  | 2   | 2   |
| 2.2010 | 0   | FP-5136241        | Plug, Cap Fuel Pump Body 3/8"                                      | 1  | 1  | 1   | 1   |
| 2.2070 | 2   | FP-23512243       | Seal, Fuel Pump Oil (FP-5107223)                                   | 2  | 2  | 2   | 2   |
| 2.2093 | 4   | FP-5146705        | Shaft Assembly, Fuel Pump Drive (3.09" L), (High Output)           | 1  | 1  | 1   | 1   |
| 2.2093 | 14  | FP-5100313        | Shaft Assembly, Fuel Pump Driven (.963"L), (High Output)           | 1  | 1  | 1   | 1   |
| 2.2130 | 6   | FP-5174973        | Valve, Fuel Pump   | 1  | 1  | 1   | 1   |
| 2.2130 | 17  | FP-103709         | Pin, 5/32" X 1" Straight   | 1  | 1  | 1   | 1   |
| 2.2160 | 7   | FP-5184530        | Spring, Fuel Pump Valve Retaining                                  | 1  | 1  | 1   | 1   |
| 2.2180 | 8   | FP-5161003        | Gasket, Fuel Plump Valve Plug                                      | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5181746</b> | <b>Shaft &amp; Gear, Fuel Pump Drive (.3.09"L), (Std. Output)</b>  | 1  | 1  | 1   | 1   |
| 2.2004 | 4   | FP-5178700        | Shaft, Fuel Pump Drive (3.09" L), (Std. Output)                    | 1  | 1  | 1   | 1   |
| 2.2004 | 3   | FP-5174975        | Gear, Fuel Pump Drive (.294" W.), (Std. Output)                    | 1  | 1  | 1   | 1   |
| 2.2004 | 16  | <b>FP-5181747</b> | <b>Shaft &amp; Gear, Fuel Pump Driven (.838" L), (Std. Output)</b> | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | FP-5181749        | Shaft, Fuel Pump Driven (.838" L), (Std. Output)                   | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | FP-5181748        | Gear, Fuel Pump Driven (.294" W.)                                  | 1  | 1  | 1   | 1   |
| 2.2004 | 0   | <b>FP-5195078</b> | <b>Overhaul Kit, Fuel Pump (Std. Output)</b>                       | 1  | 1  | 1   | 1   |
| 2.2007 | 1   | FP-5150193        | Gasket, Fuel Pump Mounting   | 1  | 1  | 1   | 1   |
| 2.2010 | 0   | FP-5136240        | Plug, Cap (.420" Dia., Outlet)                                     | 2  | 2  | 2   | 2   |
| 2.2010 | 0   | FP-5136241        | Plug, Cap (.580" Dia., Outlet)                                     | 1  | 1  | 1   | 1   |
| 2.2070 | 2   | FP-23512243       | Seal, Fuel Pump Oil (FP-5107223)                                   | 2  | 2  | 2   | 2   |
| 2.2093 | 4   | FP-5181746        | Shaft & Gear, Fuel Pump Drive (.3.09"L), (Std. Output)             | 1  | 1  | 1   | 1   |
| 2.2093 | 14  | FP-5181747        | Shaft & Gear, Fuel Pump Driven (.838" L), (Std. Output)            | 1  | 1  | 1   | 1   |
| 2.2130 | 0   | FP-103709         | Pin, 5/32" X 1" Straight   | 1  | 1  | 1   | 1   |
| 2.2130 | 6   | FP-5174973        | Valve, Fuel Pump   | 1  | 1  | 1   | 1   |
| 2.2160 | 7   | FP-5184530        | Spring, Fuel Pump Valve Retaining                                  | 1  | 1  | 1   | 1   |
| 2.2180 | 8   | FP-5161003        | Gasket, Fuel Pump Valve Plug                                       | 1  | 1  | 1   | 1   |

# Fuel Pump

(Figure 8.2)





# Fuel Pump

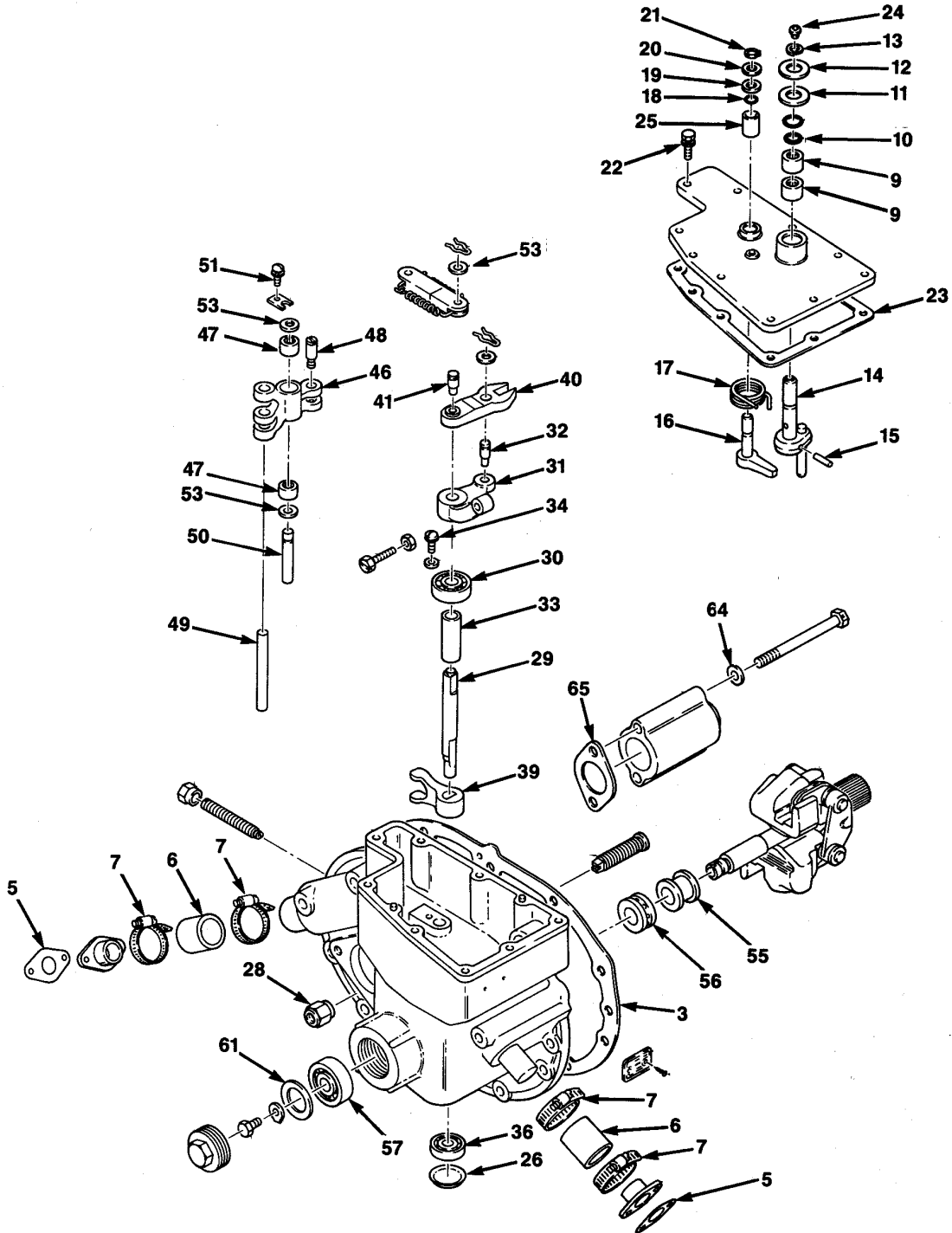
(Figure 8.2)

Groups:  
2.2007 - 3.4020

| Group  | Ref | Part No.          | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|---|----|----|-----|-----|
| 2.2007 | 0   | FP-23515145       | Gasket, Fuel Pump Mounting Plate                                | 1  | 1  | 1   | 1   |
| 2.2087 | 5   | FP-147481         | Ball, 1/8" Steel  | 1  | 1  | 1   | 1   |
| 2.2170 | 18  | FP-5174971        | Plug, 1/2" - 20 Fuel Pump Valve                                 | 1  | 1  | 1   | 1   |
| 2.2220 | 14  | FP-5102257        | Fork, Fuel Pump Coupling  | -  | 1  | 1   | 1   |
| 2.4020 | 0   | FP-23511854       | Fuel Pipe Tube, Cylinder Head To Injector                       | AR | AR | AR  | AR  |
| 2.4020 | 1   | FP-23511850       | Fuel Pipe Assembly, Injector To Stand Pipe (Short)              | 6  | 8  | 12  | 16  |
| 2.4030 | 3   | FP-8926992        | Connector, Fuel Pipe  | 4  | -  | -   | -   |
| 2.4030 | 2   | FP-5117369        | Connector, Fuel Pipe  | -  | 6  | 8   | 12  |
| 2.4050 | 0   | FP-5152148        | Washer, 25/64" X 9/16" X 1/16"                                  | 4  | -  | -   | -   |
| 2.4050 | 0   | FP-5125108        | Washer, 7/16" X 3/4" X 1/16"                                    | -  | 6  | 8   | 12  |
| 2.5006 | 0   | FP-5135308        | Valve, Fuel Check 3/8" (Swing Type)                             | 1  | 1  | 1   | 1   |
| 2.5006 | 0   | FP-5174924        | Valve, Fuel Check 1/4" (Swing Type)                             | 1  | 1  | 1   | 1   |
| 2.5006 | 0   | FP-5179938        | Seal Ring, 3/8" Sealastic                                       | -  | -  | 1   | 1   |
| 3.4020 | 2   | FP-23511851       | Fuel Pipe Assembly, Injector To Stand Pipe (Long)               | 6  | 8  | 12  | 16  |
| 2.2004 | 0   | <b>FP-5100313</b> | <b>Shaft Assembly, Fuel Pump Driven (.963"L), (High Output)</b> | 1  | 1  | 1   | 1   |
| 2.2004 | 14  | FP-5100312        | Shaft, Fuel Pump Driven (.963"L), (High Output)                 | 1  | 1  | 1   | 1   |
| 2.2004 | 3   | FP-5118915        | Gear, Fuel Pump Driven (.374" W.), (High Output)                | 1  | 1  | 1   | 1   |

# Governor

(Figure 9.1)





# Governor

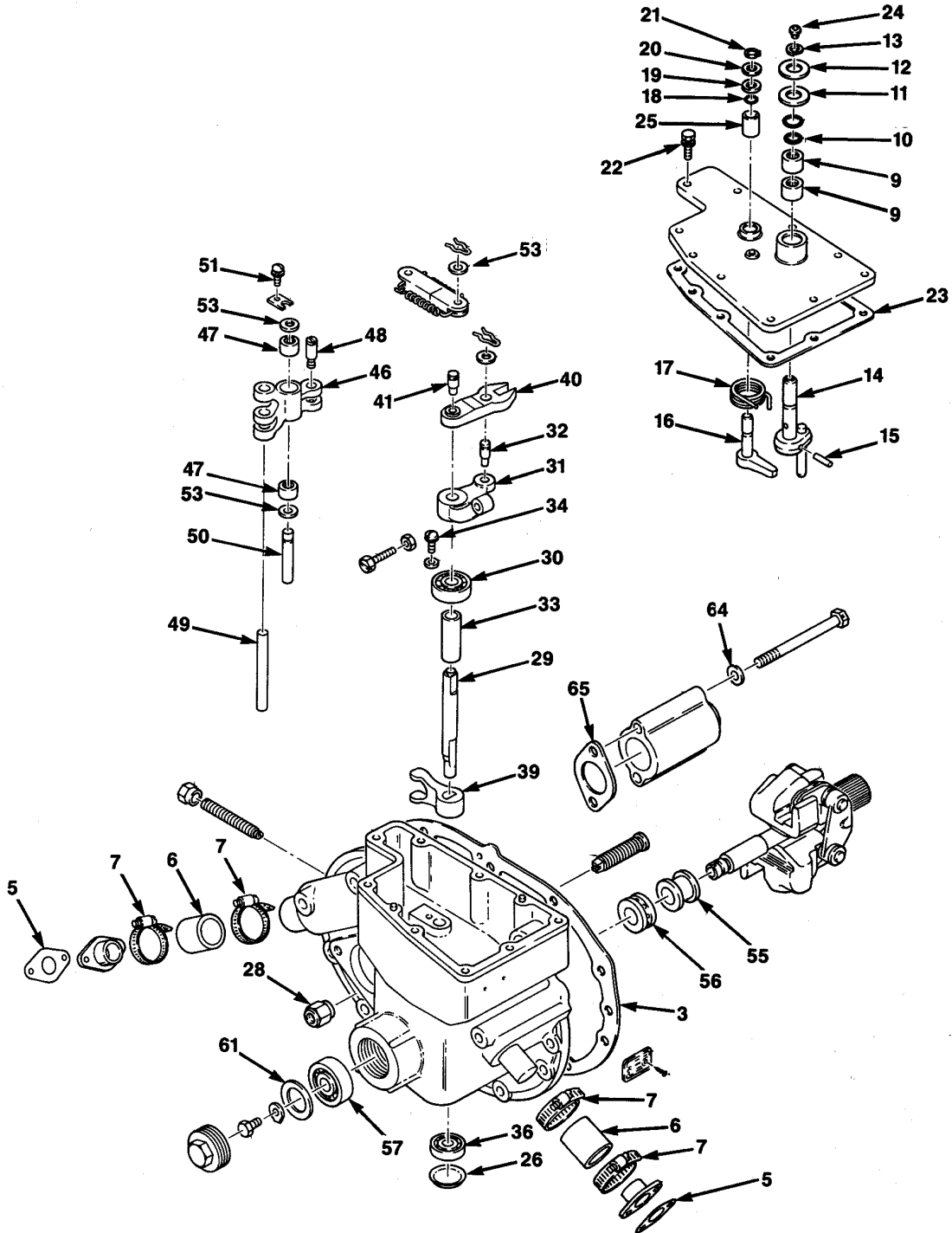
(Figure 9.1)

Groups:  
2.6545 - 2.7045

| Group  | Ref | Part No.        | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-----------------|---|----|----|-----|-----|
| 2.6545 | 0   | FP-8927412      | Gasket, Governor Control Housing Mounting                         | 1  | 1  | 1   | 1   |
| 2.7001 | 49  | FP-5127375      | Pin, Governor Control Link Lever                                  | 1  | 1  | 1   | 1   |
| 2.7001 | 0   | FP-5155596      | Washer, 5/16" (Copper)  | 1  | 1  | 1   | 2   |
| 2.7001 | 0   | FP-5179709      | Washer, 1/4" (Copper)   | 1  | 1  | 1   | 2   |
| 2.7030 | 0   | FP-5104556      | Hose, Governor Assy (1" I.D. x .56" L), (12.9001)                 | AR | AR | AR  | AR  |
| 2.7030 | 0   | FP-8921930      | Bolt, 1/4" -20 X 3/4" Governor Fuel Rod Cover                     | 8  | 8  | 16  | 16  |
| 2.7030 | 7   | FP-5104592      | Clamp, Governor Fuel Rod To Cylinder Head Hose                    | 4  | 4  | 8   | 8   |
| 2.7030 | 5   | FP-5123812      | Gasket, Governor Fuel Rod Cover                                   | 2  | 2  | 4   | 4   |
| 2.7030 | 6   | FP-8924267      | Hose, Governor Fuel Rod Cover To Cylinder Head                    | 2  | 2  | 4   | 4   |
| 2.7030 | 0   | FP-443603       | Bolt, 1/4" - 20 X 3/4" Steel                                      | 1  | 1  | 1   | 1   |
| 2.7045 | 9   | FP-8921472      | Bushing, Split, Throttle Shaft (2.7100)                           | 2  | 2  | 4   | 4   |
| 2.7045 | 17  | FP-5127213      | Spring, Governor Shutdown Shaft (2.7117)                          | 1  | 1  | 2   | 2   |
| 2.7045 | 11  | FP-5144177      | Retainer, Throttle Shaft Seal Ring (2.7150)                       | 1  | 1  | 2   | 2   |
| 2.7045 | 12  | FP-5153060      | Retainer, (Flat) Throttle Shaft Seal Ring (2.7150)                | 1  | 1  | 2   | 2   |
| 2.7045 | 13  | FP-5174429      | Retainer Ring, Throttle Shaft Seal Ring (2.7150)                  | 1  | 1  | 2   | 2   |
| 2.7045 | 10  | FP-5176557      | Seal Ring, .477" ID x .113" Thk. (Yellow) Throttle Shaft (2.7140) | 1  | 1  | 2   | 2   |
| 2.7001 |     | <b>FP-20001</b> | <b>Kit, Rebuild, Mechanical Governor</b>                          | -  | -  | -   | -   |
| 2.7001 | 26  | FP-116337       | Plug, Expansion, Operating Shaft                                  | 1  | 1  | 1   | 1   |
| 2.7001 | 0   | FP-148402       | Bearing, 1/2"X1/2" Dia. Needle Cover Throttle Shaft               | 2  | 2  | 4   | 4   |
| 2.7001 | 47  | FP-447196       | Bearing, Shutdown and Control Lever Shafts                        | 4  | 4  | 4   | 4   |
| 2.7001 | 48  | FP-5117693      | Pin, 5/16" X 1" Governor Control Link Lever (2.7317)              | 1  | 1  | 2   | 2   |
| 2.7001 | 49  | FP-5127375      | Pin, .309" Dia. X 3.12" L. Control Link Lever (2.7317)            | 1  | 1  | 2   | 2   |
| 2.7001 | 50  | FP-5143866      | Pin, .375" Dia. X 2" L. Control Link Lever (2.7317)               | 1  | 1  | 2   | 2   |
| 2.7001 | 18  | FP-5101691      | Seal Ring, Shutdown Shaft   | 1  | 1  | 1   | 1   |
| 2.7001 | 11  | FP-5144177      | Retainer, Throttle Shaft Seal Ring                                | 1  | 1  | 1   | 1   |
| 2.7001 | 19  | FP-5144178      | Retainer, Shutdown Shaft Seal                                     | 1  | 1  | 1   | 1   |
| 2.7001 | 0   | FP-5147866      | Bushing, High Speed Weight  | 2  | 2  | 2   | 2   |
| 2.7001 | 53  | FP-5150885      | Washer, Governor Weight Pin                                       | 2  | 2  | 2   | 2   |
| 2.7001 | 10  | FP-5176557      | Seal Ring, Throttle Shaft   | 1  | 1  | 1   | 1   |
| 2.7001 | 12  | FP-5153060      | Retainer, Throttle Shaft Seal Ring                                | 1  | 1  | 1   | 1   |
| 2.7001 | 13  | FP-5174429      | Ring Retainer, Throttle Shaft                                     | 1  | 1  | 1   | 1   |
| 2.7001 | 28  | FP-5174286      | Nut, Buffer Screw Seal (2.7230)                                   | 1  | 1  | 1   | 1   |
| 2.7001 | 61  | FP-5165221      | Gasket, Weight Shaft End Cap                                      | 1  | 1  | 1   | 1   |
| 2.7001 | 20  | FP-5151487      | Retainer Washer, Shutdown Shaft & Weight Pin                      | 3  | 3  | 3   | 3   |
| 2.7001 | 21  | FP-5178581      | Ring Retainer, Shutdown Shaft & Weight Pin                        | 5  | 5  | 5   | 5   |
| 2.7001 | 0   | FP-5185153      | Pin, Governor Weight  | 2  | 2  | 2   | 2   |
| 2.7001 | 65  | FP-8922593      | Gasket, High Speed Spring Cover                                   | 1  | 1  | 1   | 1   |
| 2.7001 | 23  | FP-8924869      | Gasket, Governor Cover  | 1  | 1  | 1   | 1   |
| 2.7001 | 30  | FP-9431896      | Bearing, Operating Shaft (Upper)                                  | 1  | 1  | 1   | 1   |
| 2.7001 | 36  | FP-9436682      | Bearing, Operating Shaft (Lower)                                  | 1  | 1  | 1   | 1   |
| 2.7001 | 56  | FP-9437108      | Bearing, Weight Riser Thrust                                      | 1  | 1  | 1   | 1   |
| 2.7001 | 57  | FP-9424121      | Bearing, Weight Shaft End   | 1  | 1  | 1   | 1   |
| 2.7001 | 3   | FP-8924266      | Gasket, Governor To Blower  | 1  | 1  | 1   | 1   |

# Governor

(Figure 9.2)







# Governor

(Figure 9.2)

Groups:  
2.7045 - 2.7317

| Group  | Ref | Part No.   | Description  | 6V | 8V | 12V | 16V |
|--------|-----|------------|--|----|----|-----|-----|
| 2.7045 | 0   | FP-103319  | Lockwasher, 1/4"   | 8  | 8  | 16  | 16  |
| 2.7045 | 22  | FP-9417926 | Bolt Assembly, 1/4" -20 X 3/4" Governor Cover                    | 8  | 8  | 16  | 16  |
| 2.7045 | 18  | FP-5101691 | Seal Ring, Governor Shutdown Shaft (2.7145)                      | 1  | 1  | 2   | 2   |
| 2.7045 | 19  | FP-5144178 | Retainer, Governor Shutdown Shaft Seal Ring                      | 1  | 1  | 1   | 1   |
| 2.7045 | 20  | FP-5151487 | Retainer, Throttle Shaft Seal Ring (2.7145), (Flat)              | 1  | 1  | 2   | 2   |
| 2.7045 | 21  | FP-5178581 | Retainer Ring, Governor Shutdown Shaft Seal                      | 1  | 1  | 1   | 1   |
| 2.7051 | 23  | FP-8924869 | Gasket, Governor Cover   | 1  | 1  | 2   | 2   |
| 2.7095 | 14  | FP-5117928 | Shaft Assembly, Governor Cover Throttle                          | 1  | 1  | 1   | 1   |
| 2.7095 | 24  | FP-8924380 | Plug, 1/8" - 27 Pipe   | 1  | 1  | 1   | 1   |
| 2.7100 | 0   | FP-8921472 | Bushing, Bearing Governor Throttle Shaft (Split)                 | 2  | 2  | 2   | 2   |
| 2.7111 | 25  | FP-5127267 | Bushing, Governor Cover Shutdown Shaft (Split)                   | 1  | 1  | 2   | 2   |
| 2.7117 | 0   | FP-5127213 | Spring, Governor Shutdown Shaft                                  | 1  | 1  | 2   | 2   |
| 2.7117 | 17  | FP-5131368 | Spring 3 3/4" Coils R/H Helix .077" Wire Dia. (Red)              | 1  | 1  | 2   | 2   |
| 2.7140 | 18  | FP-5101691 | Seal Ring, .362" ID X .113" Thk. (Green)                         | 1  | 1  | 2   | 2   |
| 2.7145 | 0   | FP-5151487 | Washer, Governor Shutdown Shaft                                  | 1  | 1  | 1   | 1   |
| 2.7145 | 0   | FP-5182977 | Seal Ring, 3/32" X 3/8" X 3/8"                                   | 1  | 1  | 2   | 2   |
| 2.7165 | 0   | FP-103319  | Lockwasher, 1/4"   | 1  | 1  | 2   | 2   |
| 2.7165 | 0   | FP-142583  | Retainer, 13/64" Spring  | 1  | 1  | 2   | 2   |
| 2.7210 | 0   | FP-5108775 | Spring, Governor Lever Retracting                                | 1  | 1  | 2   | 2   |
| 2.7230 | 26  | FP-116337  | Plug 1 1/16" Expansion, Governor Operating Shaft Bearing (Lower) | 1  | 1  | 2   | 2   |
| 2.7230 | 28  | FP-5174286 | Nut, 3/8" - 24 Hex. Lock Governor Starting Aid Screw             | 1  | 1  | 2   | 2   |
| 2.7250 | 31  | FP-5132747 | Lever, Governor Operating Shaft                                  | 1  | 1  | 1   | 1   |
| 2.7250 | 29  | FP-5133680 | Shaft, Governor Operating (2.7255)                               | 1  | 1  | 1   | 1   |
| 2.7250 | 0   | FP-5133795 | Shaft Assembly, Governor Operating                               | 1  | 1  | 1   | 1   |
| 2.7250 | 32  | FP-5150943 | Pin, Governor Operating Shaft Lever (2.7300)                     | 1  | 1  | 1   | 2   |
| 2.7250 | 30  | FP-9431896 | Bearing, Governor Operating Shaft (Upper)                        | 1  | 1  | 1   | 1   |
| 2.7255 | 30  | FP-9431894 | Bearing, Governor Operating Shaft (Upper)                        | 1  | 1  | 1   | 2   |
| 2.7260 | 30  | FP-9431896 | Bearing, Governor Operating Shaft (Upper)                        | 1  | 1  | 1   | 1   |
| 2.7270 | 36  | FP-9436682 | Bearing, Governor Operating Shaft (Lower)                        | 1  | 1  | 1   | 2   |
| 2.7280 | 0   | FP-5132747 | Lever, Governor Operating Shaft                                  | 1  | 1  | 1   | 2   |
| 2.7280 | 37  | FP-5132962 | Screw, Governor Operating Shaft Lever (Gap Adjusting)            | 1  | 1  | 1   | 2   |
| 2.7290 | 0   | FP-5159714 | Washer, Governor Fork  | 1  | 1  | 1   | 2   |
| 2.7300 | 0   | FP-5150943 | Pin, Governor Operating Shaft Lever                              | 1  | 1  | 1   | 2   |
| 2.7310 | 0   | FP-142583  | Retainer, 13/64"   | 1  | 1  | 1   | 1   |
| 2.7310 | 41  | FP-5150894 | Pin 25/32" L. Governor Differential (2.7315)                     | 1  | 1  | 1   | 2   |
| 2.7317 | 53  | FP-5150885 | Washer, Governor Control Link Lever Pin (2.7340)                 | 2  | 2  | 2   | 2   |
| 2.7317 | 46  | FP-5127373 | Lever Assembly, Governor Control Link Operating                  | 1  | 1  | 1   | 2   |
| 2.7317 | 0   | FP-5127375 | Pin, .309" X 3.12" L   | -  | -  | -   | -   |

# Governor

(Figure 9.3)

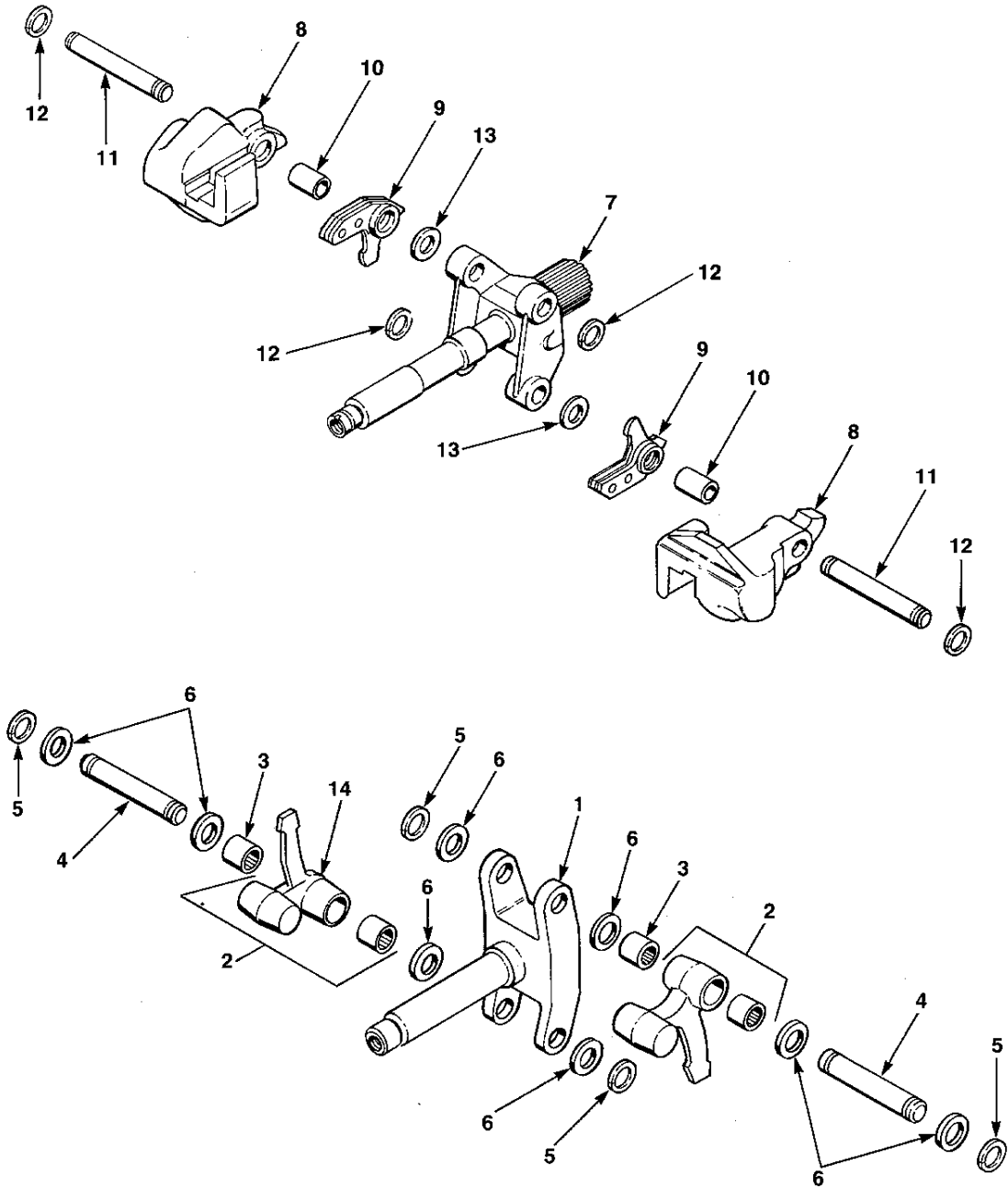


FIGURE 9.3



# Governor

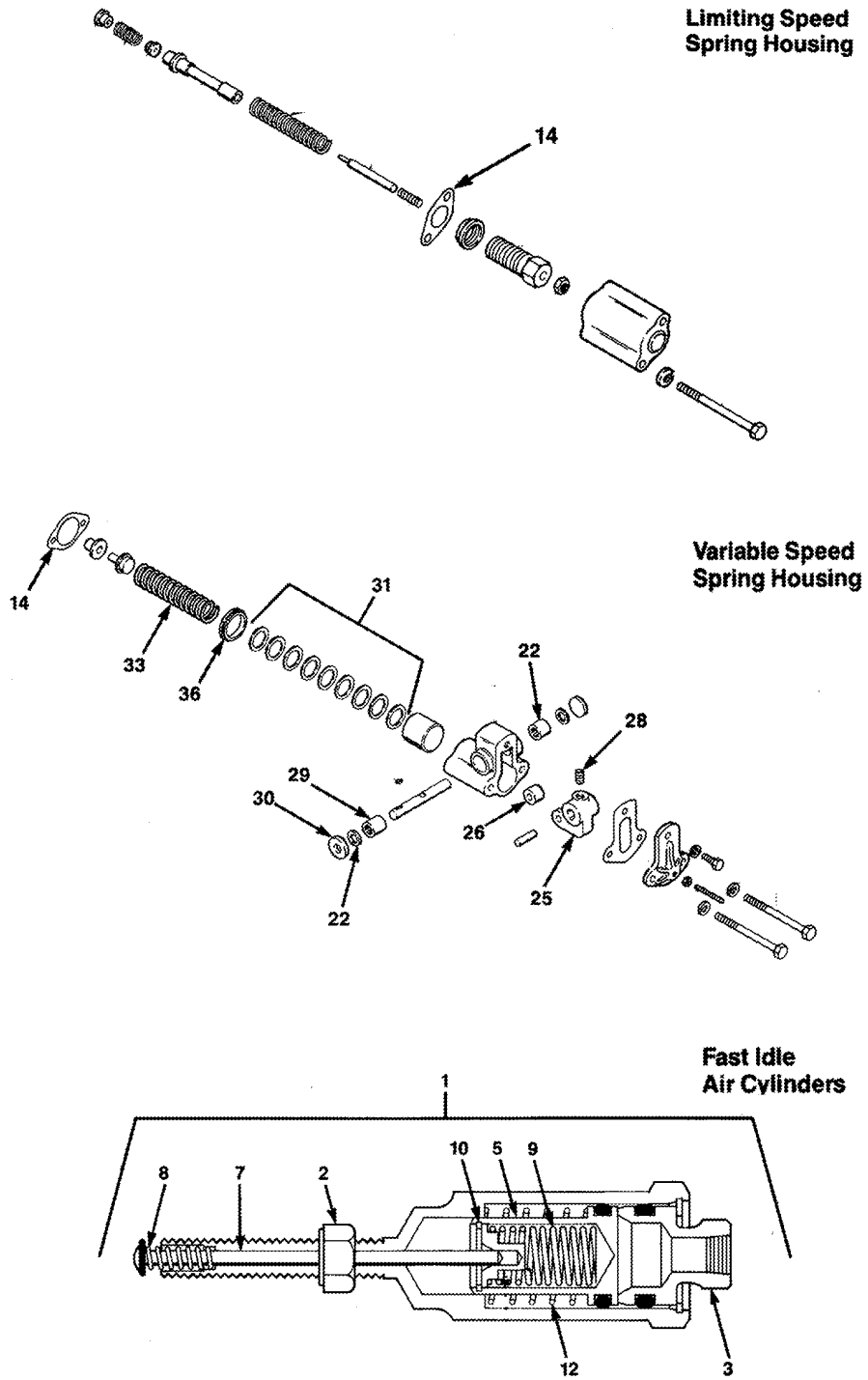
(Figure 9.3)

Groups:  
2.7330 - 2.7635

| Group  | Ref | Part No.   | Description   | 6V | 8V | 12V | 16V |
|--------|-----|------------|---|----|----|-----|-----|
| 2.7330 | 13  | FP-5151487 | Washer, Governor Weight Shaft (2.7430)                  | 1  | 1  | 1   | 1   |
| 2.7330 | 14  | FP-5147866 | Bushing, .520" L. Governor Weight (2.7390)              | -  | 2  | 2   | 4   |
| 2.7380 | 55  | FP-5117193 | Riser 1.062" L. Governor Weight Bearing                 | 1  | 1  | 1   | 1   |
| 2.7380 | 55  | FP-5147910 | Riser 1.865" L. Governor Weight Bearing                 | 1  | 1  | 1   | 1   |
| 2.7430 | 11  | FP-5183632 | Pin, Governor Weight (Drilled For Set Screw)            | 2  | 2  | 2   | 2   |
| 2.7430 | 4   | FP-5185154 | Pin, Governor Weight (Ring Groove)                      | 2  | 2  | 2   | 2   |
| 2.7430 | 22  | FP-5178581 | Ring, Retainer  | 1  | 1  | 1   | 1   |
| 2.7440 | 3   | FP-447196  | Bearing, Governor Weight                                | 4  | 4  | 4   | 4   |
| 2.7460 | 56  | FP-9437108 | Bearing, .352" - .356" W., Governor Weight Riser Thrust | 1  | 1  | 1   | 1   |
| 2.7460 | 56  | FP-9438907 | Bearing, .551" W., Governor Weight Riser Thrust         | 1  | 1  | 1   | 1   |
| 2.7470 | 57  | FP-9424121 | Bearing, Governor Weight Shaft End                      | 1  | 1  | 1   | 1   |
| 2.7515 | 61  | FP-5165221 | Gasket, Governor Weight Housing Cap                     | 1  | 1  | 1   | 1   |
| 2.7540 | 0   | FP-5122165 | Spring, (One Blue Stripe) Governor Low Speed #          | 1  | 1  | 1   | 1   |
| 2.7550 | 0   | FP-5136160 | Spring, (Two Pink Stripes) Governor High Speed          | 1  | 1  | 1   | 1   |
| 2.7580 | 0   | FP-5102968 | Cap, Governor Low Speed Spring                          | 1  | 1  | 2   | 2   |
| 2.7590 | 0   | FP-5102270 | Screw, 1/4" -28 X 1"                                    | 1  | 1  | 2   | 2   |
| 2.7620 | 0   | FP-5126623 | Ring, Governor Spring Guide                             | 1  | 1  | 1   | 2   |
| 2.7635 | 64  | FP-5155596 | Washer, 5/16" Copper                                    | 2  | 2  | 2   | 4   |
| 2.7635 | 65  | FP-8922593 | Gasket, Governor High Speed Spring Adjusting Cover      | 1  | 1  | 1   | 1   |

# Governor

(Figure 9.4)





# Governor

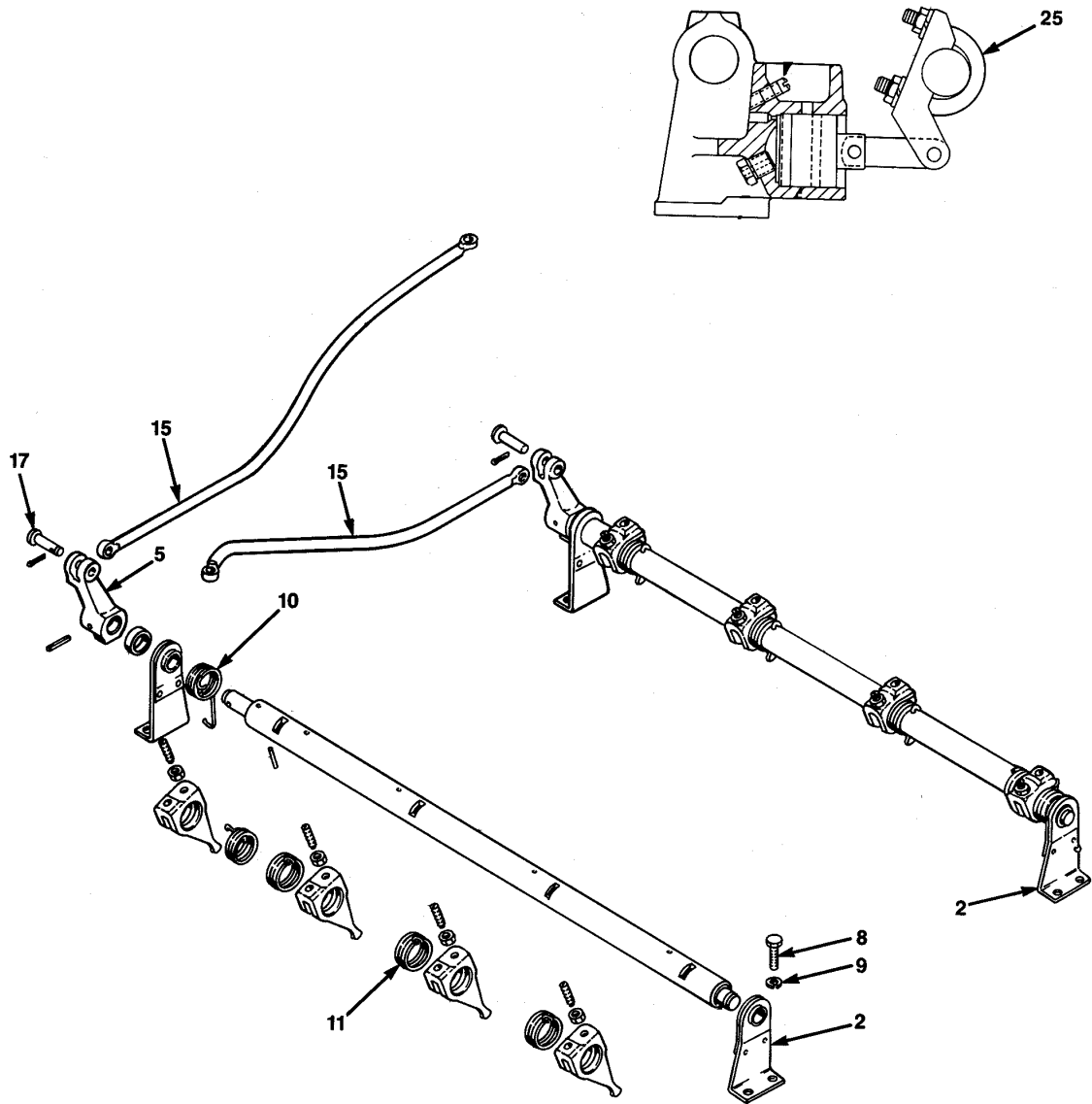
(Figure 9.4)

Groups:  
2.7690 - 2.8950

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 2.7690 | 0   | FP-5121182  | Plug, 1/4" Pipe  | 1  | 1  | 1   | 1   |
| 2.7690 | 0   | FP-9417926  | Bolt Assembly, 1/4" - 20 X 3/4"                              | 1  | 1  | 1   | 1   |
| 2.7694 | 0   | FP-5101710  | Ring Seal .070" X .114" I.D.                                 | 1  | 1  | 1   | 1   |
| 2.7700 | 14  | FP-8922593  | Gasket, Governor High Speed Spring Housing                   | 1  | 1  | 1   | 2   |
| 2.7712 | 22  | FP-148402   | Bearing 1/2" X 1/2" Dia. Governor Variable Speed Spring      | 2  | 2  | 2   | 2   |
| 2.7735 | 31  | FP-5136590  | Shim, .010" Governor Variable Speed Spring                   | 6  | 6  | 6   | 12  |
| 2.7735 | 31  | FP-5136591  | Shim, .078" Governor Variable Speed Spring                   | 3  | 3  | 3   | 6   |
| 2.7736 | 0   | FP-5101711  | Ring, .139" X .859"  | 1  | 1  | 1   | 1   |
| 2.7741 | 0   | FP-5101710  | Seal Ring, .070" X .114" I.D.                                | 1  | 1  | 1   | 1   |
| 2.7750 | 29  | FP-5176557  | Seal O-Ring, Governor Variable speed Spring                  | 1  | 1  | 1   | 2   |
| 2.7760 | 33  | FP-5122270  | Spring, (Two Red Stripes) Governor Variable Speed Spring     | 1  | 1  | 1   | 2   |
| 2.7800 | 31  | FP-5136590  | Shim, .010" Governor Variable Speed Spring                   | 6  | 6  | 6   | 6   |
| 2.7800 | 31  | FP-5136591  | Shim, .078" Governor Variable Speed Spring                   | 3  | 3  | 3   | 3   |
| 2.7810 | 0   | FP-5117952  | Screw Assembly, Governor Buffer                              | 1  | 1  | 1   | 1   |
| 2.7810 | 0   | FP-5152929  | Spring, Governor Buffer                                      | 1  | 1  | 1   | 1   |
| 2.7810 | 0   | FP-5174286  | Nut, 3/8" - 24 Lock  | 1  | 1  | 1   | 1   |
| 2.7810 | 0   | FP-8925664  | Button, Buffer Screw   | 1  | 1  | 1   | 1   |
| 2.7850 | 1   | FP-5129010  | Cylinder Assembly, Fast Idle Air                             | 1  | 1  | -   | -   |
| 2.7850 | 1   | FP-5131807  | Cylinder Assembly, Fast Idle Air                             | 1  | 1  | -   | -   |
| 2.7850 | 2   | FP-5174286  | Nut Assembly, 3/8" -24                                       | 1  | 1  | -   | -   |
| 2.7860 | 6   | FP-5103072  | Seal Ring, Fast Idle Air Cylinder Piston                     | 2  | 2  | -   | -   |
| 2.7860 | 0   | FP-5101419  | Ring Seal, Fast Idle Air Cylinder                            | 1  | 1  | 1   | 1   |
| 2.7865 | 8   | FP-5152929  | Spring, Fast Idle Air Cylinder Plunger                       | 1  | 1  | -   | -   |
| 2.7870 | 12  | FP-5112908  | Spring (Outer) Fast Idle Air Cylinder                        | 1  | 1  | -   | -   |
| 2.7870 | 9   | FP-5129009  | Spring, (Inner) Fast Idle Air Cylinder (FP-5129010 Assembly) | 1  | 1  | -   | -   |
| 2.7892 | 0   | FP-443603   | Bolt, 1/4" - 20 X 3/4" Governor Control Link                 | 8  | 4  | -   | -   |
| 2.7892 | 0   | FP-23507896 | Clamp, 1" Hose   | 1  | 1  | 1   | 1   |
| 2.7892 | 0   | FP-5123812  | Gasket, Governor Housing Control Link                        | 1  | 1  | 1   | 1   |
| 2.7892 | 7   | FP-5104592  | Clamp, 1 1/2" L. Hose, Governor Fuel Rod Cover (F16.9.2)     | -  | -  | 4   | 4   |
| 2.7892 | 6   | FP-8924267  | Hose, 1" X 1.16" L. Governor Fuel Rod Cover (F16.9.2)        | -  | -  | 2   | 2   |
| 2.7898 | 22  | FP-9417926  | Bolt Assembly, 1/4" - 20 X 3/4" Link Housing Cover           | 1  | 1  | 1   | 2   |
| 2.7900 | 0   | FP-5133698  | Gasket, Governor Control Link Housing Cover                  | -  | -  | -   | -   |
| 2.8030 | 0   | FP-5194069  | Washer, Governor Assembly (1/4" Copper)                      | AR | AR | AR  | AR  |
| 2.8030 | 0   | FP-5197065  | Seal, Governor Assembly                                      | AR | AR | AR  | AR  |
| 2.8260 | 0   | FP-3249110  | Gasket, Governor Assy (For 23509533 Governor)                | 2  | 2  | 2   | 2   |
| 2.8810 | 0   | FP-23503717 | Bearing, Governor Driven Shaft                               | AR | AR | AR  | AR  |
| 2.8830 | 0   | FP-23503717 | Bearing, Governor Drive Thrust                               | AR | AR | AR  | AR  |
| 2.8950 | 7   | FP-10019739 | Clamp, Injector Control Tube Link Boot (F16.9.2)             | AR | AR | AR  | AR  |

# Injector Controls

(Figure 9.5)





# Injector Controls

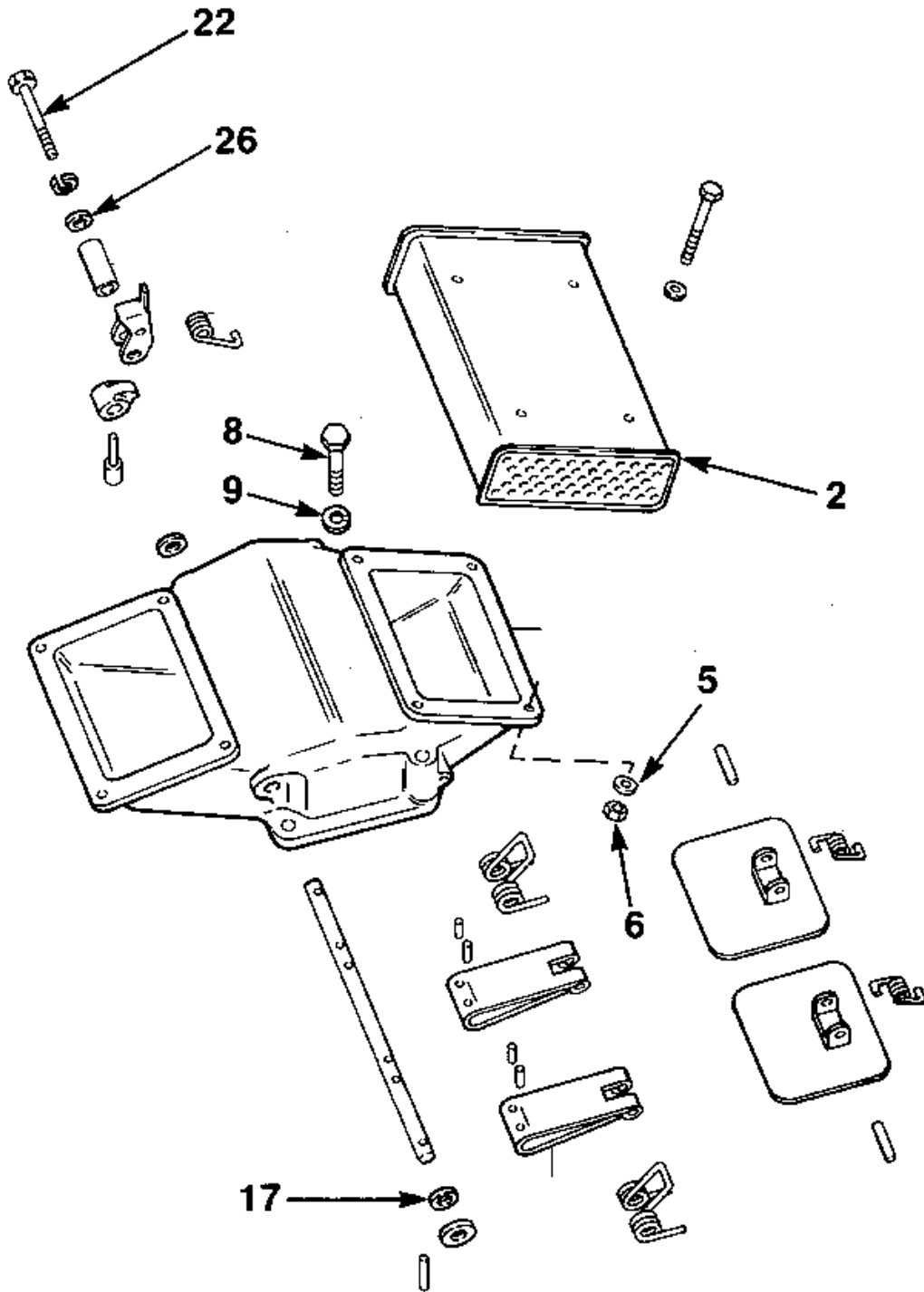
(Figure 9.5)

Groups:  
2.9001 - 2.9410

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 2.9001 | 2   | FP-5130509  | Bracket, Injector Control Tube   | 4  | 4  | 8   | 8   |
| 2.9003 | 9   | FP-103319   | Lockwasher, 1/4"   | 4  | 4  | 8   | 8   |
| 2.9003 | 8   | FP-9422203  | Bolt, 1/4" - 20 X 5/8"   | 4  | 4  | 8   | 8   |
| 2.9012 | 11  | FP-5101258  | Spring, Injector Control Tube (L.H. Helix)   | 2  | 2  | 2   | 2   |
| 2.9012 | 10  | FP-5124142  | Spring, Injector Control Tube Return (Green)   | 2  | 2  | 2   | 2   |
| 2.9022 | 15  | FP-5117942  | Link, Injector Control Tube To Governor (Long), (R/Bank) (R/Bank Rear On 16V), (Type # 95,96,137,150,215,216,218,233,234,244,246,251,253,288,292,295,296,298,299,308,311,312,314,315,324,325)  | 4  | 4  | 8   | 8   |
| 2.9022 | 0   | FP-142583   | Retainer, 13/64" Plain Spring  | 2  | 2  | 4   | 4   |
| 2.9022 | 15  | FP-5117191  | Link, Injector Control Tube To Governor (Short), (L/Bank) (Type # 95,96,216,218,233,234,241,244,246,251,288,292,295,296,298,299,308,309,310,311,312,326,327,328,329,330,331,332,333,334,335,336,337,338,341,344,353,362,363,370,371,383,386) | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5127415  | Link, Injector Control Tube To Governor (Long), (L/Bank) (Left Bank Rear on 16V), (Type # 116,117,119,241,243,289,313)   | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5127417  | Link, Injector Control Tube To Governor (Short), (R/Bank Rear) (Type # 116,117,119,241,243,289,313)  | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5133699  | Link, Injector Control Tube To Governor (Long), (R/Bank Front) (Type # 137,150,215,253,314,315,379,388)  | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5133700  | Link, Injector Control Tube To Governor (Short), (L/Bank Rear) (Type # 137,150,215,253,314,315,379,388)  | 1  | 1  | 1   | 1   |
| 2.9022 | 15  | FP-5134026  | Link, Injector Control Tube To Governor (Short), (L/Bank Front) (Type # 137,150,215,253,314,315,379,388)   | 1  | 1  | 1   | 1   |
| 2.9030 | 0   | FP-5150325  | Bolt, 1/2" -13 X 4 1/4"  | 1  | 1  | 1   | 1   |
| 2.9030 | 25  | FP-5180116  | Bolt, "U" 1/4" - 20  | 1  | 1  | 1   | 1   |
| 2.9087 | 0   | FP-5131433  | Washer, .41" X .81" X .1345"   | 1  | 1  | 1   | 1   |
| 2.9087 | 0   | FP-8927580  | Bolt, 3/8" X 7/8"  | 1  | 1  | 1   | 1   |
| 2.9090 | 0   | FP-5103635  | Bolt, 3/8" - 16 X 2.70"  | 2  | 2  | 2   | 2   |
| 2.9355 | 0   | FP-23504196 | Solenoid, Throttle Control (12V)   | 1  | 1  | 1   | 1   |
| 2.9360 | 0   | FP-5122797  | Link, Throttle Control   | 1  | 1  | 1   | 1   |
| 2.9410 | 0   | FP-5176810  | Pin, Clevis, Governor Control Lever (1/4" x 49/64")  | AR | AR | AR  | AR  |

# Silencer & Air Intake

(Figure 10.1)







## Silencer & Air Intake

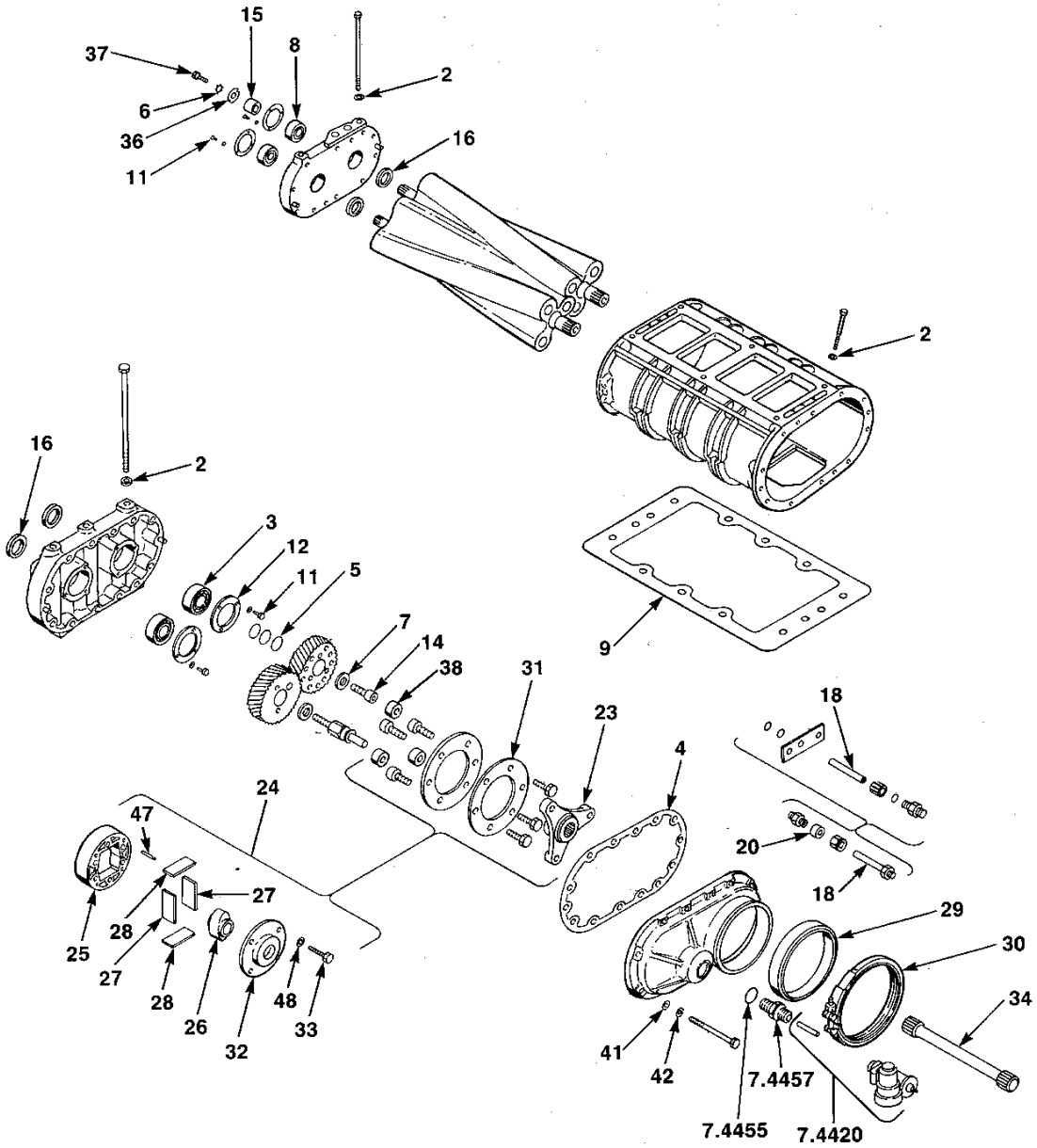
(Figure 10.1)

Groups:  
3.1261 - 3.3270

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 3.1261 | 0   | FP-5123750  | Gasket, Air Cleaner To Inlet Housing Pipe                    | AR | AR | AR  | AR  |
| 3.2001 | 5   | FP-103320   | Lockwasher, 5/16"  | 8  | 8  | 8   | 8   |
| 3.2001 | 5   | FP-103321   | Lockwasher, 3/8"   | 8  | 8  | 8   | 8   |
| 3.2001 | 2   | FP-5189848  | Silencer, Air (Option # 24)                                  | 2  | -  | -   | -   |
| 3.2001 | 2   | FP-5187177  | Silencer, Air (Option # 36)                                  | -  | -  | -   | 4   |
| 3.3003 | 9   | FP-103321   | Lockwasher, 3/8"   | 8  | 8  | 8   | 16  |
| 3.3003 | 8   | FP-8927580  | Bolt, 3/8" - 16 X 7/8"                                       | 8  | 8  | 8   | 16  |
| 3.3003 | 0   | FP-5142549  | Plug, 3/4" Pipe  | 1  | 1  | 1   | 2   |
| 3.3010 | 0   | FP-23511492 | Gasket, Air Inlet Housing (Old # 5133245)                    | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5101408  | Gasket, Air Inlet Housing (15.48" I.D. w/Ten 15/32" Holes)   | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5101412  | Gasket, Air Inlet Housing (11.60" I.D. w/Eight 15/32" Holes) | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5103515  | Gasket, Air Inlet Housing (w/Screen)                         | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5103602  | Gasket, Air Inlet Housing (w/Screen)                         | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5123703  | Gasket, Air Inlet Housing (5.68" I.D. w/Eight 13/32" Holes)  | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5134838  | Gasket, Air Inlet Housing (8" L. w/Four 13/32" Holes)        | 2  | 2  | 2   | 4   |
| 3.3010 | 0   | FP-5145086  | Gasket, Air Inlet Housing                                    | 2  | 2  | 2   | 4   |
| 3.3030 | 0   | FP-5145086  | Gasket, Air Inlet Housing Striker Plate                      | 2  | 2  | 2   | 4   |
| 3.3030 | 0   | FP-5145235  | Gasket, Air Inlet Housing Striker Plate                      | 2  | 2  | 2   | 4   |
| 3.3035 | 22  | FP-179803   | Bolt, 1/4" - 20 X 1 3/4"                                     | 1  | 1  | 1   | 2   |
| 3.3035 | 26  | FP-5159714  | Washer, 11/16" X 1/8"  | 1  | 1  | 2   | 2   |
| 3.3055 | 17  | FP-5179232  | Seal, Air Inlet Housing Shutdown Valve                       | 2  | 2  | 4   | 4   |
| 3.3067 | 0   | FP-23506396 | Ring Seal, Blower By-Pass Valve CI                           | 2  | 2  | 2   | 2   |
| 3.3070 | 22  | FP-179803   | Bolt, 1/4" - 20 X1 3/4"                                      | 2  | 2  | 4   | 4   |
| 3.3090 | 26  | FP-5159714  | Washer, 11/16" X 1/8"  | 1  | 1  | 2   | 2   |
| 3.3270 | 0   | FP-103321   | Lockwasher, 3/8"   | 1  | 1  | 2   | 2   |
| 3.3270 | 0   | FP-8927580  | Bolt, 3/8" - 16 X 7/8"                                       | 1  | 1  | 2   | 2   |

# Blower

(Figure 10.2)





# Blower

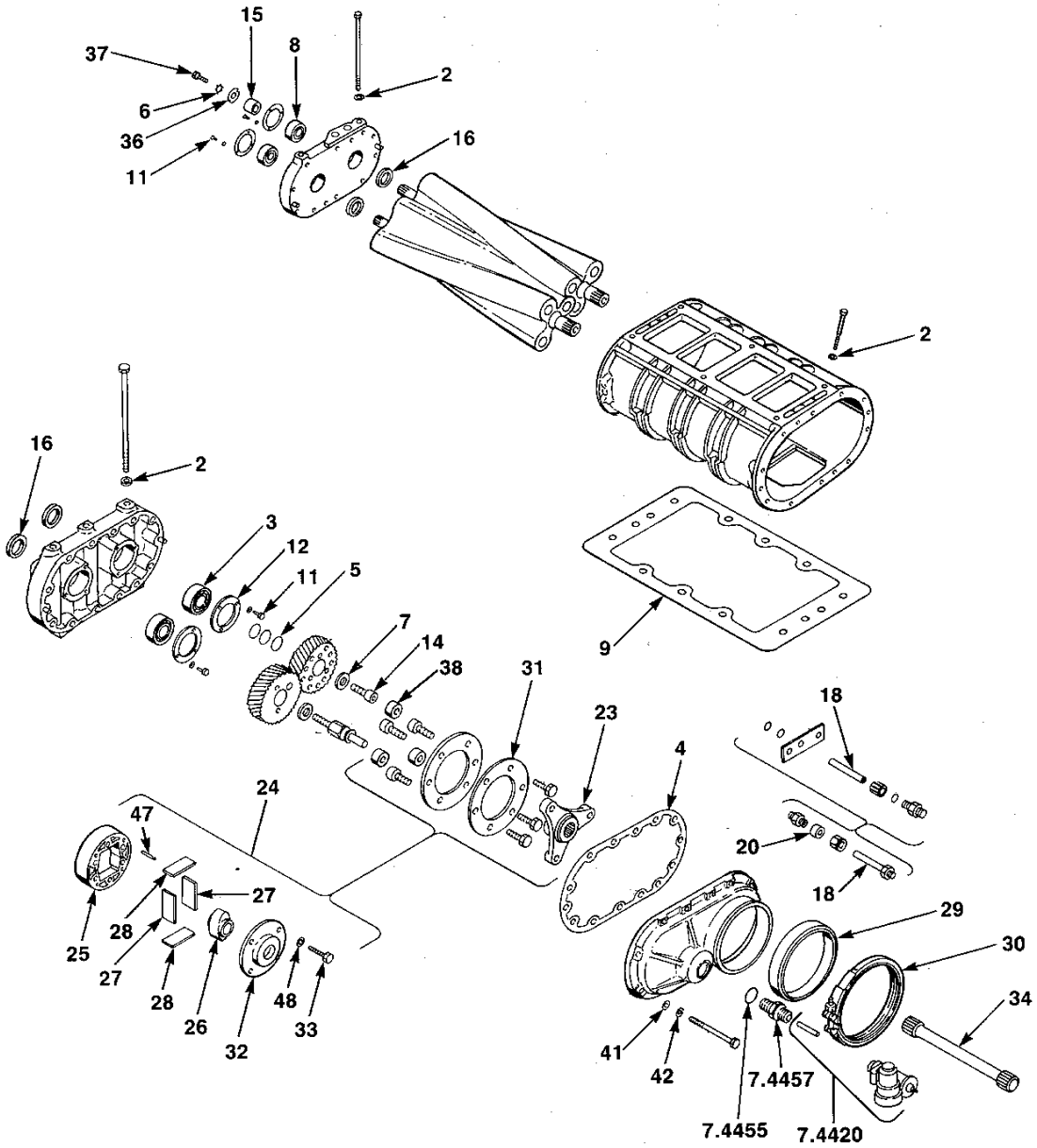
(Figure 10.2)

Groups:  
3.4001 - 3.4192

| Group  | Ref | Part No.           | Description   | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|---|----|----|-----|-----|
| 3.4001 | 0   | FP-5101419         | Seal Ring, Round .139" X .734" I.D.                 | 2  | 2  | 4   | 4   |
| 3.4001 | 2   | FP-5121905         | Washer, 15/32" I.D. X 7/8" O.D. X 5/32" L           | 2  | 2  | 4   | 4   |
| 3.4003 | 0   | FP-5149641         | Gasket Kit, Blower Installation (6V92 Turbo)        | 1  | -  | -   | -   |
| 3.4003 | 0   | FP-5149646         | Gasket Kit, Blower Installation (6V92 N/A)          | 1  | -  | -   | -   |
| 3.4003 | 0   | FP-5149643         | Gasket Kit, Blower Installation (8V92 Turbo)        | -  | 1  | -   | -   |
| 3.4003 | 0   | FP-5149644         | Gasket Kit, Blower Installation (8V92 N/A)          | -  | 1  | -   | -   |
| 3.4003 | 0   | FP-5149642         | Gasket Kit, Blower Installation (12V92 N/A & Turbo) | -  | -  | 2   | -   |
| 3.4003 | 0   | FP-5149645         | Gasket Kit, Blower Installation (16V92 N/A & Turbo) | -  | -  | -   | 2   |
| 3.4005 | 6   | FP-5154398         | Lockwasher, 1/2" Special                            | 1  | 1  | 1   | 1   |
| 3.4010 | 9   | FP-23520019        | Gasket, Blower To Block (Old # 23513179)            | 1  | -  | 2   | -   |
| 3.4010 | 9   | FP-5145235         | Gasket, Blower To Block (Less Screen)               | 1  | -  | 2   | -   |
| 3.4010 | 9   | FP-23520012        | Gasket, Blower To Block                             | -  | 1  | -   | 2   |
| 3.4010 | 9   | FP-5145086         | Gasket, Blower To Block (Less Screen)               | -  | 1  | -   | 2   |
| 3.4025 | 0   | FP-5103515         | Gasket, Blower (w/Screen)                           | 1  | -  | 2   | -   |
| 3.4025 | 0   | FP-5102062         | Gasket, Blower                                      | -  | 1  | -   | 2   |
| 3.4025 | 0   | FP-5103602         | Gasket, Blower (w/Screen)                           | -  | 1  | -   | -   |
| 3.4025 | 0   | FP-5104323         | Gasket, Blower (Less Screen)                        | -  | -  | 2   | -   |
| 3.4050 | 11  | FP-5148794         | Bolt, 1/4" - 20 X 5/8"                              | 12 | 12 | 24  | 24  |
| 3.4080 | 14  | FP-9409060         | Bolt, 1/2" - 20 X 1 1/2" Lock                       | 1  | 1  | 1   | 1   |
| 3.4080 | 0   | FP-5103364         | Bolt, 1/2" - 20 X 1.10" 12 Pt Head                  | -  | -  | 3   | -   |
| 3.4135 | 31  | FP-8920764         | Plate, Rotor Gear Hub (Rear of Front Blower)        | -  | -  | 4   | 4   |
| 3.4135 | 31  | FP-8920765         | Plate, Rotor Gear Hub (Front of Rear Blower)        | -  | -  | 2   | 2   |
| 3.4137 | 38  | FP-5173364         | Spacer, Blower Gear                                 | -  | -  | 3   | 3   |
| 3.4137 | 0   | FP-8920763         | Spacer, Blower Gear Hub                             | -  | -  | 3   | 3   |
| 3.4160 | 16  | FP-5138710         | Seal, Blower End Plate Std.                         | 4  | 4  | 8   | 8   |
| 3.4180 | 42  | FP-103320          | Lockwasher, 5/16"                                   | 28 | 28 | 56  | 56  |
| 3.4180 | 41  | FP-5159714         | Washer, 11/16" X 1/8"                               | 28 | 28 | 56  | 56  |
| 3.4190 | 4   | FP-8924266         | Gasket, Blower End Plate Cover                      | 1  | 1  | 2   | 2   |
| 3.4192 | 18  | FP-5117717         | Tube, Blower Oil Supply 5/16" X 4.20"               | 1  | 1  | 1   | 1   |
| 3.4160 | 0   | <b>FP-23500533</b> | <b>Seal Kit, Blower End Plate</b>                   | 1  | 1  | 2   | 2   |
| 3.4160 | 16  | FP-8924453         | Seal, Blower End Plate                              | 4  | 4  | 8   | 8   |
| 3.4160 | 0   | FP-5192439         | Sleeve, Blower End Plate Seal                       | 4  | 4  | 8   | 8   |
| 3.4005 | 0   | <b>FP-23514202</b> | <b>Kit, Blower Repair, Large Bearing (All)</b>      | 1  | 1  | 2   | 2   |
| 3.4005 | 5   | FP-5150372         | Shim, Blower Rotor Gear (.002")                     | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5153938         | Shim, Blower Rotor Gear (.003")                     | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150855         | Shim, Blower Rotor Gear (.005")                     | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150856         | Shim, Blower Rotor Gear (.010")                     | 1  | 1  | 1   | 1   |
| 3.4110 | 36  | FP-5154398         | Lockwasher, 1/2" Ext. Tooth                         | 1  | 1  | 2   | 2   |
| 3.4005 | 0   | FP-5192439         | Sleeve, Blower End Plate Seal                       | 4  | 4  | 4   | 4   |
| 3.4005 | 7   | FP-8924453         | Seal Assembly, Blower Rotor                         | 4  | 4  | 4   | 4   |
| 3.4005 | 3   | FP-23504304        | Bearing, Roller, Blower Rotor (Rear)                | 2  | 2  | 2   | 2   |
| 3.4005 | 8   | FP-23503542        | Bearing, Ball, Blower Rotor (Front)                 | 2  | 2  | 2   | 2   |

# Blower

(Figure 10.2)





# Blower

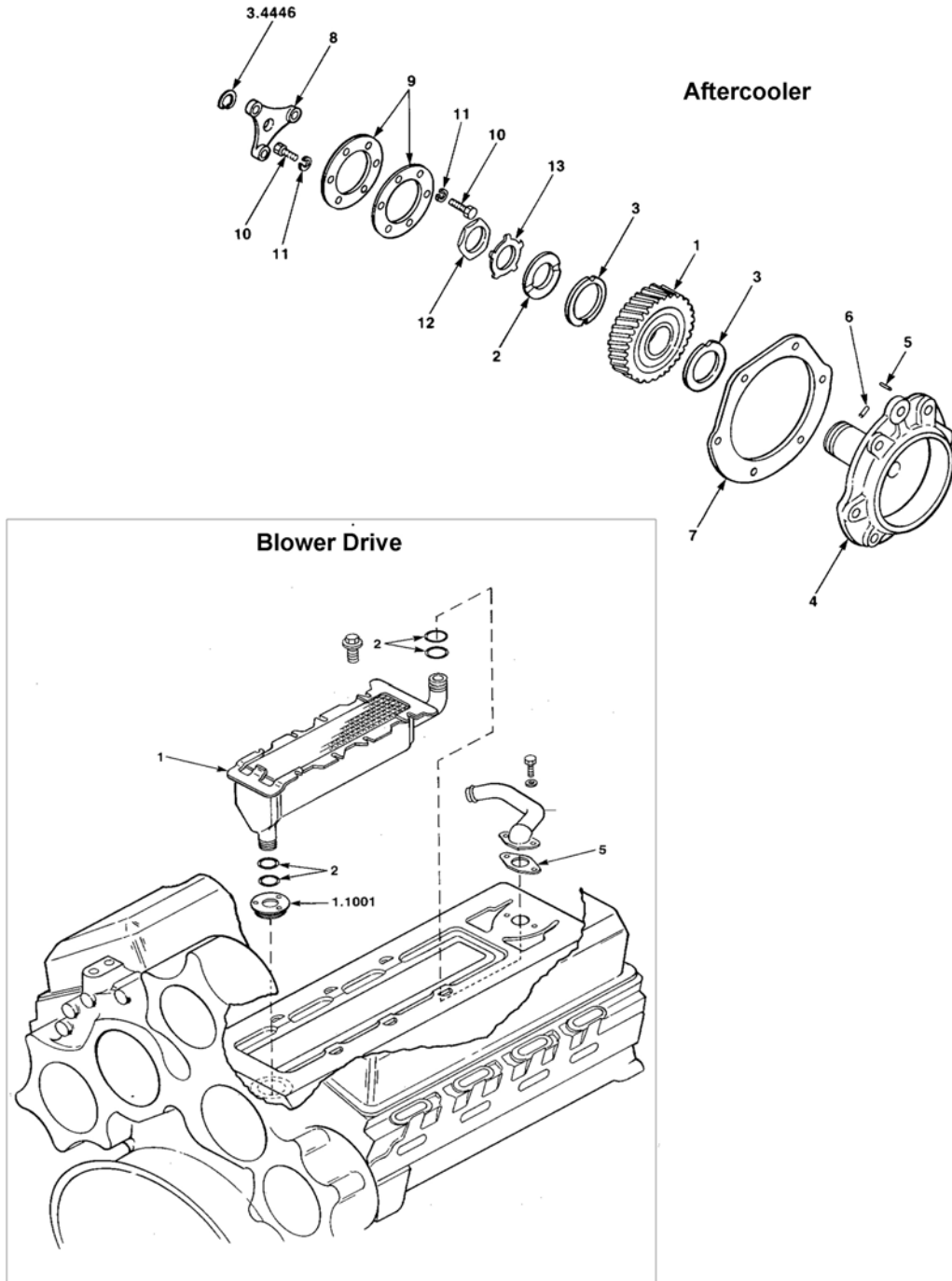
(Figure 10.2)

Groups:  
3.4001 - 3.4192

| Group  | Ref | Part No.             | Description                                    | 6V | 8V | 12V | 16V |
|--------|-----|----------------------|--|----|----|-----|-----|
| 3.4005 | 0   | <b>FP-23514202WG</b> | <b>Kit, Blower Repair, Large Bearing (All)</b> | 1  | 1  | 2   | 2   |
| 3.4005 | 0   | FP-5114726           | Blower End Plate Gasket                        | 2  | 2  | 4   | 4   |
| 3.4005 | 0   | FP-5150234           | Blower End Plate Gasket                        | 1  | 1  | 2   | 2   |
| 3.4005 | 5   | FP-5150372           | Shim, Blower Rotor Gear (.002")                | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5153938           | Shim, Blower Rotor Gear (.003")                | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150855           | Shim, Blower Rotor Gear (.005")                | 1  | 1  | 1   | 1   |
| 3.4005 | 5   | FP-5150856           | Shim, Blower Rotor Gear (.010")                | 1  | 1  | 1   | 1   |
| 3.4110 | 36  | FP-5154398           | Lockwasher, 1/2" Ext. Tooth                    | 1  | 1  | 2   | 2   |
| 3.4005 | 0   | FP-5192439           | Sleeve, Blower End Plate Seal                  | 4  | 4  | 4   | 4   |
| 3.4005 | 0   | FP-8924266           | Blower End Plate Gasket                        | 2  | 2  | 4   | 4   |
| 3.4005 | 7   | FP-8924453           | Seal Assembly, Blower Rotor                    | 4  | 4  | 4   | 4   |
| 3.4005 | 3   | FP-23504304          | Bearing, Roller, Blower Rotor (Rear)           | 2  | 2  | 2   | 2   |
| 3.4005 | 8   | FP-23503542          | Bearing, Ball, Blower Rotor (Front)            | 2  | 2  | 2   | 2   |

# Blower Drive & Aftercooler

(Figure 10.3)





# Blower Drive & Aftercooler

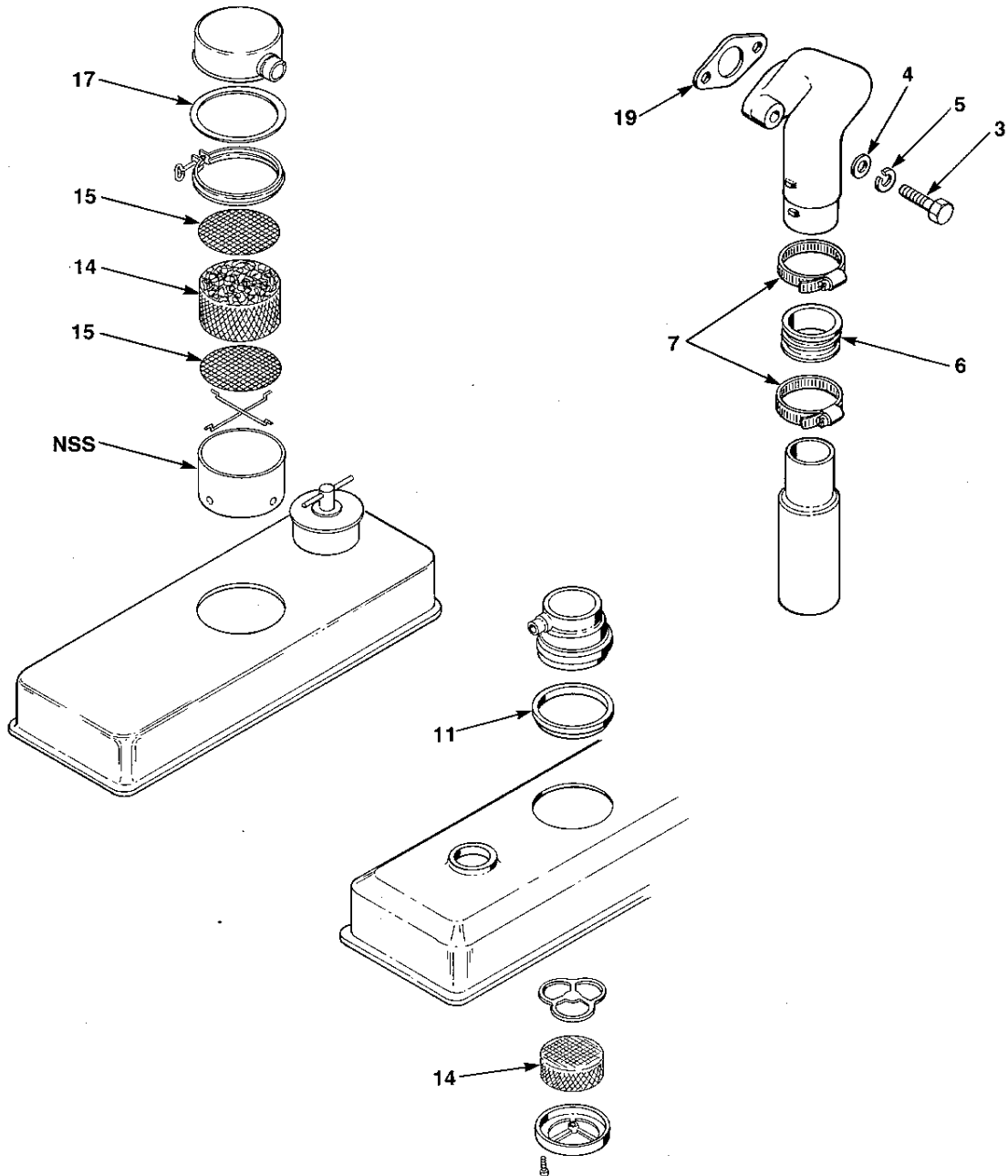
(Figure 10.3)

Groups:  
3.4192 - 3.5520

| Group               | Ref | Part No.           | Description  | 6V | 8V | 12V | 16V |
|---------------------|-----|--------------------|--|----|----|-----|-----|
| <b>Aftercooler</b>  |     |                    |  |    |    |     |     |
| 3.5436              | 2   | FP-5101138         | Seal Ring, .984" X .139"   | 4  | 4  | 8   | 8   |
| 3.5437              | 0   | FP-5186840         | Clamp, 13/16" X 1 1/2"   | 4  | 4  | 8   | 8   |
| 3.5438              | 0   | FP-103320          | Lockwasher, 5/16"  | 1  | 1  | 2   | 2   |
| 3.5438              | 5   | FP-5145581         | Gasket, Aftercooler Water Outlet                                       | 1  | 1  | 2   | 2   |
| <b>Blower</b>       |     |                    |  |    |    |     |     |
| 3.4192              | 43  | FP-5124519         | O-Ring, Blower Oil Supply Tube   | 1  | 1  | 1   | 1   |
| 3.4192              | 43  | FP-8927414         | Seal, Ring Blower Oil Supply Tube (1/4" I.D. - Violet Color)           | 1  | 1  | 1   | 1   |
| 3.4220              | 29  | FP-8922140         | Seal, Blower Drive Cover (4.32" X 4.88" X .77")                        | 1  | 1  | 1   | 1   |
| 3.4227              | 30  | FP-5106219         | Clamp, Blower Drive Cover Seal   | 1  | 1  | 1   | 1   |
| 3.4370              | 0   | FP-5103364         | Bolt, 1/2" - 20 X 1.10" 12 Pt Head                                     | 3  | 3  | 3   | 3   |
| 3.4370              | 0   | FP-5173364         | Spacer, Blower Drive Coupling  | 3  | 3  | 3   | 3   |
| 3.4370              | 0   | FP-8920763         | Spacer, Blower Drive Coupling  | 3  | 3  | 3   | 3   |
| 3.4370              | 0   | FP-5196314         | Spring Pack, Blower Drive Coupling                                     | 1  | 1  | 1   | 1   |
| 3.4370              | 23  | FP-8922517         | Coupling, Blower Drive (29 Spline), (Spider)                           | 1  | 1  | 1   | 1   |
| 3.4370              | 23  | FP-5141473         | Coupling, Blower Drive (48 Spline), (Spider)                           | 1  | -  | -   | -   |
| 3.4420              | 48  | FP-103320          | Washer, 5/16"  | 3  | 3  | 3   | 3   |
| 3.4420              | 33  | FP-9409077         | Bolt, 5/16" - 24 X 1 5/8"  | 3  | 3  | 3   | 3   |
| 3.4420              | 32  | FP-5150349         | Retainer, Blower Drive Coupling  | 1  | 1  | 1   | 1   |
| 3.4420              | 32  | FP-5150349         | Retainer, Blower Drive Coupling  | 1  | 1  | 1   | 1   |
| 3.4445              | 34  | FP-8922634         | Shaft, Blower Drive (w/Spring), (6.67" L), (29 Spline)                 | 1  | -  | 2   | -   |
| 3.4445              | 34  | FP-8922666         | Shaft, Blower Drive (w/Spring), (4.89" L), (29 Spline)                 | 1  | -  | 2   | -   |
| 3.4445              | 34  | FP-8923052         | Shaft, Blower Drive (w/Spring), (4.89" L), (48 Teeth)                  | 1  | -  | 2   | -   |
| 3.4445              | 34  | FP-8923053         | Shaft, Blower Drive (w/Spring), (6.67" L), (48 Spline), (Carbonitride) | -  | 1  | -   | 2   |
| 3.4446              | 0   | FP-5154637         | Ring, Blower Drive Shaft Retaining                                     | 1  | 1  | 1   | 1   |
| 3.4370              | 0   | <b>FP-23503682</b> | <b>Coupling Assembly, Blower Drive</b>                                 | 1  | 1  | 1   | 1   |
| 3.4380              | 25  | FP-5150345         | Support, Blower Drive Coupling   | 1  | 1  | 1   | 1   |
| 3.4390              | 26  | FP-23503681        | Cam, Blower Drive Coupling   | 1  | 1  | 1   | 1   |
| 3.4400              | 27  | FP-5123859         | Spring, Blower Drive Coupling  | -  | 42 | 42  | 42  |
| 3.4400              | 28  | FP-5123860         | Seat, Blower Drive Coupling  | 2  | 2  | 2   | 2   |
| 3.4410              | 47  | FP-5150346         | Seat, Blower Drive Coupling Spring (Pin Half)                          | 4  | 4  | 4   | 4   |
| 3.4370              | 24  | <b>FP-5103377</b>  | <b>Coupling, Blower Drive</b>  | 1  | 1  | 1   | 1   |
| 3.4380              | 25  | FP-5150345         | Support, Blower Drive Coupling   | 1  | 1  | 1   | 1   |
| 3.4390              | 26  | FP-5103365         | Cam, Blower Drive Coupling   | 1  | 1  | 1   | 1   |
| 3.4400              | 27  | FP-5123859         | Spring, Blower Drive Coupling  | 42 | 42 | 42  | 42  |
| 3.4400              | 28  | FP-5123860         | Seat, Blower Drive Coupling  | 2  | 2  | 2   | 2   |
| 3.4410              | 47  | FP-5150346         | Seat, Blower Drive Coupling Spring (Pin Half)                          | 2  | 2  | 2   | 2   |
| <b>Turbocharger</b> |     |                    |  |    |    |     |     |
| 3.5001              | 0   | FP-5198257         | Seal Ring, Turbocharger (3.5022)                                       | AR | AR | AR  | AR  |
| 3.5001              | 0   | FP-5149158         | Lock Plate, Turbocharger Mounting                                      | 4  | 4  | 4   | 4   |
| 3.5305              | 0   | FP-5108715         | Seal, Turbocharger Exhaust Inlet Connector (3.62" I.D. x 4.08" O.D.)   | 1  | 1  | 1   | 1   |
| 3.5307              | 0   | FP-23523346        | Gasket, Turbocharger Exhaust Inlet Elbow (Coach)                       | 1  | -  | -   | -   |
| 3.5402              | 0   | FP-23511492        | Gasket, Turbocharger Inlet Elbow                                       | 1  | 1  | 1   | AR  |
| 3.5418              | 0   | FP-23511492        | Gasket, Turbocharger Outlet Elbow                                      | 1  | 1  | 1   | AR  |
| 3.5505              | 0   | FP-5143618         | Hose, Turbocharger Oil Return (# 16 x 31.00")                          | AR | AR | AR  | AR  |
| 3.5505              | 0   | FP-5176532         | Seal Ring, Turbocharger Oil Return Tube (7/8" Tube, Sealastic)         | 1  | 1  | 1   | 1   |
| 3.5520              | 0   | FP-5181415         | Clip, Turbocharger Water Supply Tube (1 1/8" Tube, 7/16" Bolt)         | AR | AR | AR  | AR  |

# Breathers

(Figure 11.1)







# Breathers

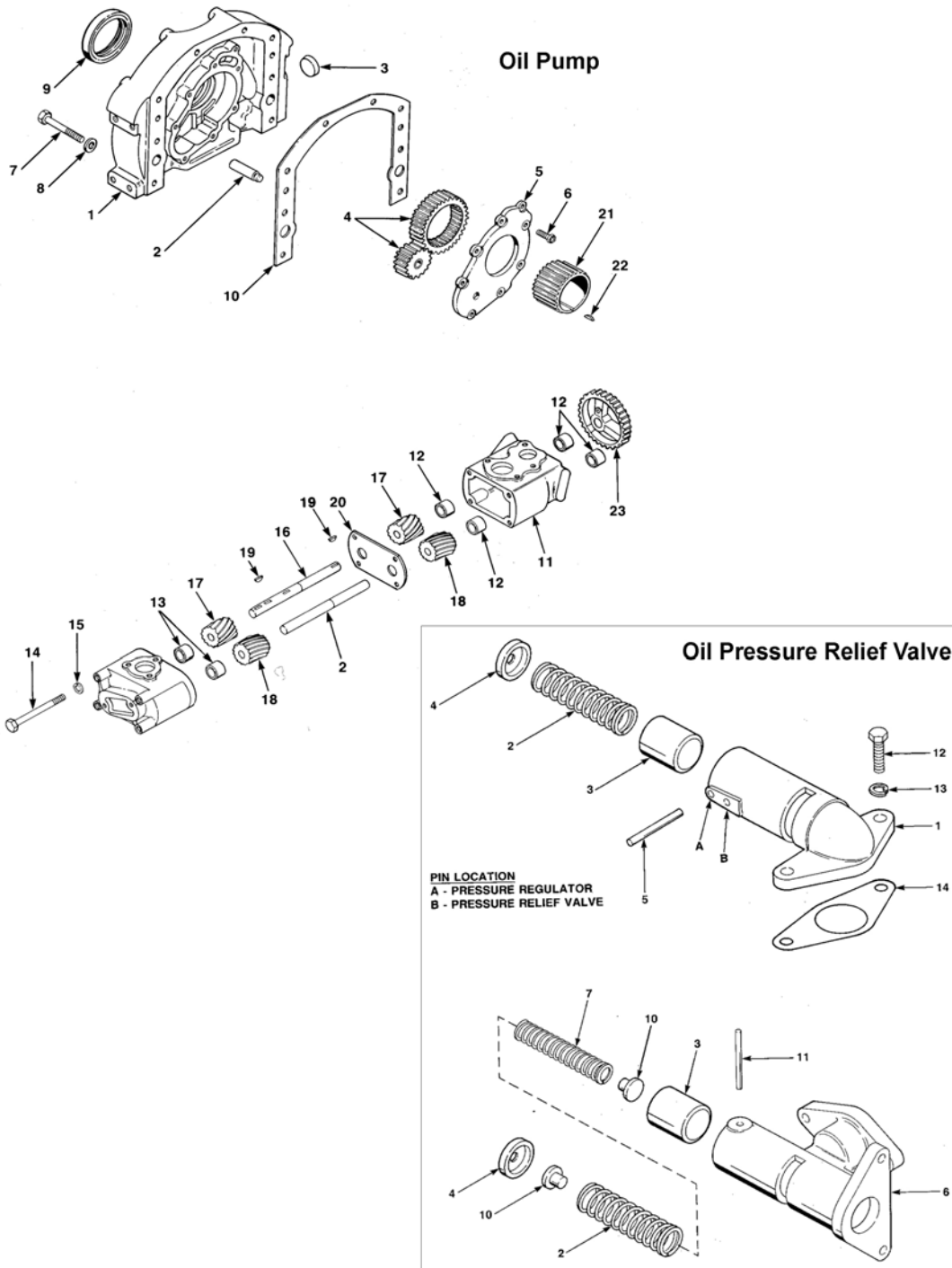
(Figure 11.1)

Groups:  
4.8001 - 4.8170

| Group  | Ref | Part No.    | Description                                      | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 4.8001 | 5   | FP-103319   | Lockwasher, 1/4"                                 | 2  | 2  | 2   | 2   |
| 4.8001 | 5   | FP-103321   | Lockwasher, 3/8"                                 | 2  | 2  | 2   | 2   |
| 4.8001 | 0   | FP-443603   | Bolt, 1/4" - 20 X 3/4"                           | 2  | 2  | 2   | 2   |
| 4.8001 | 19  | FP-5123812  | Gasket, Breather Elbow                           | 2  | 2  | 4   | 4   |
| 4.8001 | 0   | FP-5180314  | Seal Ring, Breather                              | 2  | 2  | 4   | 4   |
| 4.8001 | 0   | FP-8921930  | Bolt, 1/4" - 20 X 1.25"                          | 2  | 2  | 4   | 4   |
| 4.8001 | 3   | FP-8927581  | Bolt, 3/8" - 16 X 1"                             | 2  | 2  | 2   | 2   |
| 4.8010 | 7   | FP-5104592  | Clamp, Breather (2 1/2" Dia. Hose)               | 2  | 2  | 2   | 2   |
| 4.8010 | 7   | FP-5186840  | Clamp, Breather (13/16" - 1 1/2" Clamping Range) | 2  | 2  | 2   | 2   |
| 4.8010 | 6   | FP-8924267  | Hose, Breather Tube Extension (1" L.)            | 1  | 1  | 1   | 1   |
| 4.8013 | 3   | FP-8927581  | Bolt, 3/8" - 16 X 1"                             | 2  | 2  | 2   | 2   |
| 4.8020 | 0   | FP-23507249 | Gasket, Breather Tube                            | AR | AR | AR  | AR  |
| 4.8020 | 0   | FP-5117636  | Gasket, Breather Pipe                            | 1  | 1  | 1   | 1   |
| 4.8020 | 0   | FP-5132331  | Gasket, Breather Pipe                            | 1  | 1  | 1   | -   |
| 4.8040 | 0   | FP-5186840  | Clamp, Breather (13/16" - 1 1/2" Clamping Range) | 2  | 2  | 2   | 2   |
| 4.8040 | 0   | FP-103321   | Lockwasher, 3/8"                                 | 1  | 1  | 1   | 1   |
| 4.8040 | 0   | FP-106261   | Washer, 5/16" X 3/4"                             | 1  | 1  | 1   | 1   |
| 4.8040 | 0   | FP-5131433  | Washer, .41" X .81" X .1345"                     | 1  | 1  | 1   | 1   |
| 4.8040 | 0   | FP-8927580  | Bolt, 3/8" - 16 X 7/8"                           | 1  | 1  | 1   | 1   |
| 4.8040 | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1"                             | 1  | 1  | 1   | 1   |
| 4.8042 | 0   | FP-103319   | Lockwasher, 1/4"                                 | 1  | 1  | 1   | 1   |
| 4.8043 | 11  | FP-5103646  | Gasket, Breather Hole Plug                       | 1  | 1  | 1   | 1   |
| 4.8045 | 15  | FP-5132042  | Screen, Filter Unit Breather                     | 2  | 2  | 2   | 2   |
| 4.8045 | 14  | FP-5101760  | Element, Breather Oil Separator Filter Unit      | 1  | 1  | 1   | 1   |
| 4.8045 | 0   | FP-5130349  | Gasket, Breather Pipe                            | 1  | 1  | 1   | 1   |
| 4.8055 | 10  | FP-5103642  | Screw, # 10 - 24 X .375" Lock                    | 1  | 1  | 1   | 1   |
| 4.8057 | 11  | FP-5103646  | Gasket, Breather Shell Cover                     | 1  | 1  | 1   | 1   |
| 4.8060 | 15  | FP-5132042  | Screen, Filter Unit Breather                     | 2  | 2  | 2   | 2   |
| 4.8060 | 14  | FP-5101760  | Element, Breather Oil Separator Filter Unit      | 1  | 1  | 1   | 1   |
| 4.8070 | 17  | FP-5144038  | Gasket, Breather Body Or Separator               | 2  | 2  | 2   | 2   |
| 4.8070 | 17  | FP-5130349  | Gasket, Breather Body Or Separator               | 1  | 1  | 1   | 1   |
| 4.8170 | 0   | FP-103320   | Lockwasher, 5/16"                                | 1  | 1  | 1   | 1   |

# Oil Pump

(Figure 12.1)





# Oil Pump

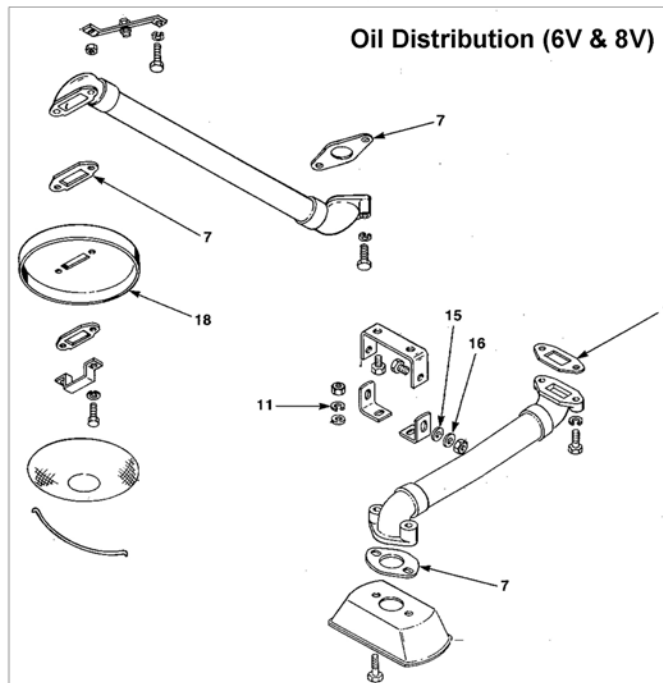
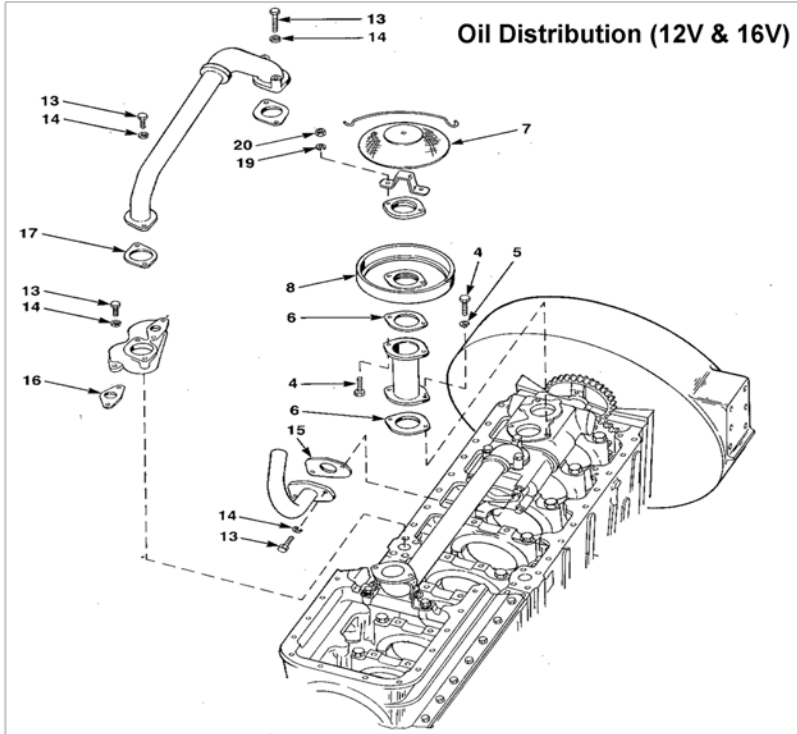
(Figure 12.1)

Groups:  
4.1001 - 4.1380

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 4.1001 | 8   | FP-103321   | Lockwasher, 3/8"                                      | 2  | 2  | -   | -   |
| 4.1001 | 0   | FP-5136240  | Plug Cap, .420" Dia.                                  | 1  | 1  | -   | -   |
| 4.1001 | 0   | FP-103026   | Nut, 3/8" - 24  | -  | -  | -   | -   |
| 4.1001 | 0   | FP-8927270  | Stud, 3/8" - 16/24 X 1 11/16"                         | -  | -  | -   | -   |
| 4.1004 | 9   | FP-23514608 | Seal, Crankshaft Oil (Front), (R.H. Rotation), (Red)  | 1  | 1  | -   | -   |
| 4.1004 | 9   | FP-23514609 | Seal, Crankshaft Oil (Front), (L.H. Rotation), (Blue) | 1  | 1  | -   | -   |
| 4.1004 | 9   | FP-5115454  | Seal, Crankshaft Oil (Front), (Single Lip)            | 1  | 1  | -   | -   |
| 4.1004 | 9   | FP-8922045  | Seal, Crankshaft Oil (Front), (R.H. Rotation)         | 1  | 1  | -   | -   |
| 4.1004 | 9   | FP-5143108  | Seal, Crankshaft Oil (Front)                          | -  | 1  | -   | -   |
| 4.1007 | 10  | FP-5121714  | Gasket, Oil Pump To Cylinder Block                    | 1  | 1  | -   | -   |
| 4.1008 | 0   | FP-23503766 | Spacer, 2.50" I.D. x 2" L.                            | 1  | 1  | -   | -   |
| 4.1008 | 0   | FP-23503769 | Seal, Crankshaft Spacer                               | 1  | 1  | -   | -   |
| 4.1008 | 0   | FP-23503767 | Spacer, 2.55" L.                                      | 1  | -  | -   | -   |
| 4.1040 | 0   | FP-5142549  | Plug, 3/4" Pipe                                       | 1  | 1  | -   | -   |
| 4.1090 | 0   | FP-5117587  | Gear, Oil Pump Drive (1.302" Wide)                    | 1  | 1  | -   | -   |
| 4.1095 | 4   | FP-5196602  | Gear Set, Oil Pump (1.302" Wide)                      | 1  | 1  | -   | -   |
| 4.1095 | 4   | FP-5196603  | Gear Set, Oil Pump (.981" Wide)                       | 1  | 1  | -   | -   |
| 4.1200 | 0   | FP-5117588  | Gear, Oil Pump Driven (1.302" Wide)                   | 1  | 1  | -   | -   |
| 4.1200 | 0   | FP-5123303  | Bushing, Oil Pump Driven Gear                         | 1  | 1  | -   | -   |
| 4.1220 | 0   | FP-8924517  | Plug, 3/8" Pipe                                       | 1  | 1  | 1   | 1   |
| 4.1220 | 18  | FP-103321   | Lockwasher, 3/8"                                      | -  | -  | 4   | 4   |
| 4.1220 | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1"                                  | -  | -  | 4   | 4   |
| 4.1222 | 21  | FP-103321   | Lockwasher, 3/8"                                      | 2  | 2  | 2   | 2   |
| 4.1222 | 20  | FP-8927580  | Bolt, 3/8" - 16 X 1"                                  | 2  | 2  | 2   | 2   |
| 4.1260 | 0   | FP-5126326  | Spring, Oil Pressure Relief Valve                     | 1  | 1  | 1   | 1   |
| 4.1260 | 0   | FP-5126327  | Spring, Oil Pressure Relief Valve                     | 1  | 1  | 1   | 1   |
| 4.1300 | 26  | FP-29503153 | Gasket, Oil Pump Cover Flange (2.40" B.C.)            | 2  | 2  | 2   | 2   |
| 4.1310 | 28  | FP-8928545  | Key, 3/16" X 7/8" Woodruff                            | 1  | 1  | 1   | 1   |
| 4.1310 | 27  | FP-8927135  | Gear, Oil Pump Drive (On Crankshaft 37 Teeth)         | 1  | -  | 1   | 1   |
| 4.1380 | 0   | FP-5104439  | Washer, (Dished 1 1/4" O.D.)                          | 1  | 1  | 1   | 1   |

# Oil Distribution

(Figure 12.2)





# Oil Distribution

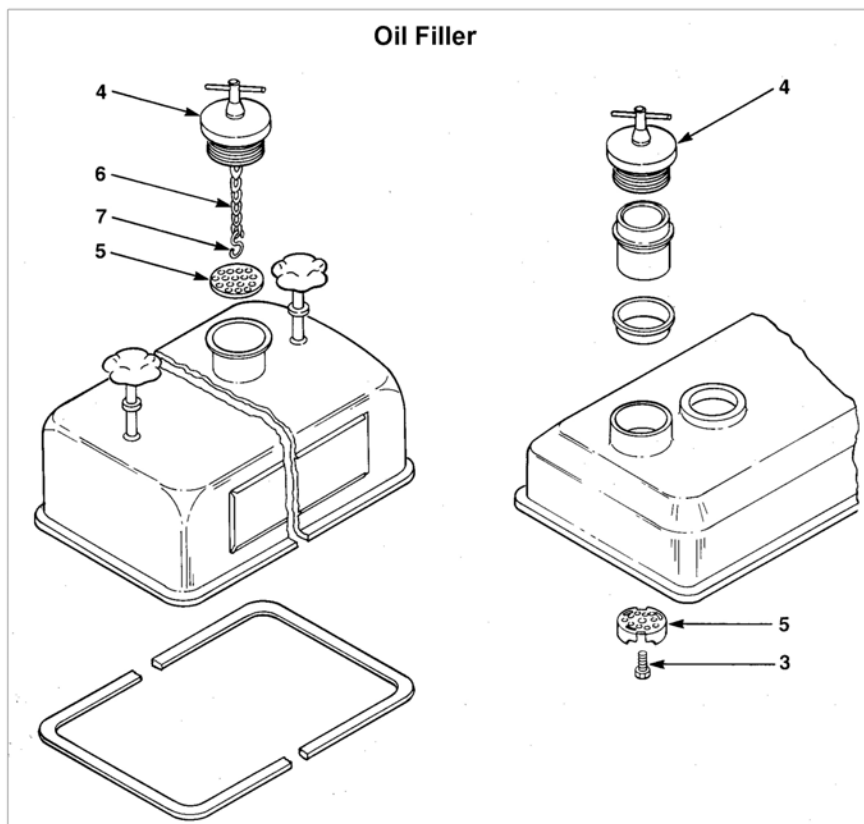
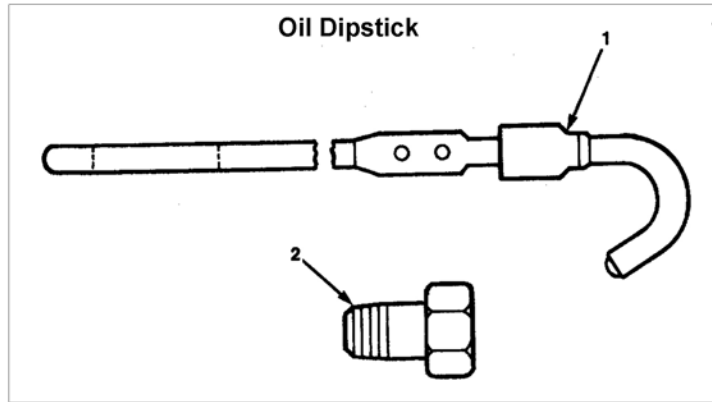
(Figure 12.2)

Groups:  
4.1510 - 4.2350

| Group                                     | Ref | Part No.   | Description  | 6V | 8V | 12V | 16V |
|---|-----|------------|--|----|----|-----|-----|
| <b>Oil Distribution 6V92 &amp; 8V92</b>   |     |            |  |    |    |     |     |
| 4.1520                                    | 7   | FP-5117242 | Gasket, Oil Pump Inlet Pipe (At Pump), (3" B.C.)           | 1  | 1  | -   | -   |
| 4.1520                                    | 7   | FP-5126160 | Gasket, Oil Pump Inlet Pipe (1.80" B.C.)                   | 1  | 1  | -   | -   |
| 4.1520                                    | 7   | FP-5167380 | Gasket, Oil Pump Inlet Pipe (2 21/32" B.C.)                | 1  | 1  | -   | -   |
| 4.1530                                    | 11  | FP-103320  | Lockwasher, 5/16"  | 2  | 2  | -   | -   |
| 4.1540                                    | 16  | FP-103321  | Lockwasher, 3/8"   | 2  | 2  | -   | -   |
| 4.1540                                    | 0   | FP-5104293 | Bolt, Oil Pump Screen Support (5/16" - 18 x 3/4")          | 2  | 2  | -   | -   |
| 4.1540                                    | 0   | FP-5148436 | Bolt, 5/16" - 18 X 3/4"                                    | 2  | 2  | -   | -   |
| 4.1540                                    | 0   | FP-8927581 | Bolt, 3/8"- 16 X 1"  | 2  | 2  | -   | -   |
| 4.1540                                    | 0   | FP-8927580 | Bolt, 3/8"- 16 X 7/8"                                      | 1  | 1  | -   | -   |
| 4.1550                                    | 18  | FP-5118302 | Cover, Oil Pump Inlet Pipe Screen                          | 1  | 1  | -   | -   |
| 4.1550                                    | 18  | FP-5128886 | Cover, Oil Pump Inlet Pipe Screen                          | 1  | 1  | -   | -   |
| 4.1590                                    | 0   | FP-5112401 | Gasket, Oil Pump Outlet Pipe To Oil Cooler                 | 1  | 1  | -   | -   |
| 4.2350                                    | 0   | FP-5140881 | Gasket, Oil Filter Adapter                                 | 1  | -  | -   | -   |
| <b>Oil Distribution 12V92 &amp; 16V92</b> |     |            |  |    |    |     |     |
| 4.1510                                    | 20  | FP-103026  | Nut, 3/8" - 24   | -  | -  | 2   | 2   |
| 4.1510                                    | 19  | FP-103321  | Lockwasher, 3/8"   | -  | -  | 4   | 4   |
| 4.1510                                    | 4   | FP-8927580 | Bolt, 3/8"- 16 X 7/8"                                      | -  | -  | 4   | 4   |
| 4.1520                                    | 6   | FP-5128891 | Gasket, Oil Pump Inlet Pipe (Pump To Screen), (2.88" B.C.) | -  | -  | -   | 3   |
| 4.1521                                    | 6   | FP-5128875 | Gasket, Oil Pump Inlet Pipe (Scavenging Pump), (3 Hole)    | -  | -  | 1   | 1   |
| 4.1550                                    | 8   | FP-5118302 | Cover, Oil Pump Inlet Screen                               | -  | -  | 2   | -   |
| 4.1550                                    | 8   | FP-5128886 | Cover, Oil Pump Inlet Screen                               | -  | -  | -   | 2   |
| 4.1580                                    | 14  | FP-103321  | Lockwasher, 3/8"   | -  | -  | 8   | 8   |
| 4.1580                                    | 0   | FP-5121182 | Plug, 1/2" Pipe  | -  | -  | -   | -   |
| 4.1580                                    | 0   | FP-8924380 | Plug, 1/8" - 27 Pipe                                       | -  | -  | 1   | 1   |
| 4.1580                                    | 13  | FP-8927581 | Bolt, 3/8" - 16 X 1" (4.1540)                              | -  | -  | 8   | 8   |
| 4.1581                                    | 0   | FP-8923847 | Plug, 1/4" Pipe  | -  | -  | 1   | 1   |
| 4.1581                                    | 0   | FP-8924380 | Plug, 1/8" - 27 Pipe                                       | -  | -  | 1   | 1   |
| 4.1590                                    | 17  | FP-2206783 | Gasket, Oil Pump Outlet Pipe (Junction Outlet)             | -  | -  | 1   | 1   |
| 4.1590                                    | 16  | FP-5117269 | Gasket, Oil Pump Outlet Pipe (Junction Block)              | -  | -  | 2   | 2   |
| 4.1590                                    | 18  | FP-5123660 | Gasket, Oil Pump Outlet                                    | -  | -  | 1   | 1   |
| 4.1597                                    | 0   | FP-5121182 | Plug, 1/4" Pipe  | -  | -  | 1   | 1   |
| 4.1597                                    | 0   | FP-8923847 | Plug, 1/4" Pipe  | -  | -  | 1   | 1   |

# Oil Filler & Dipstick

(Figure 12.3)





# Oil Filler & Dipstick

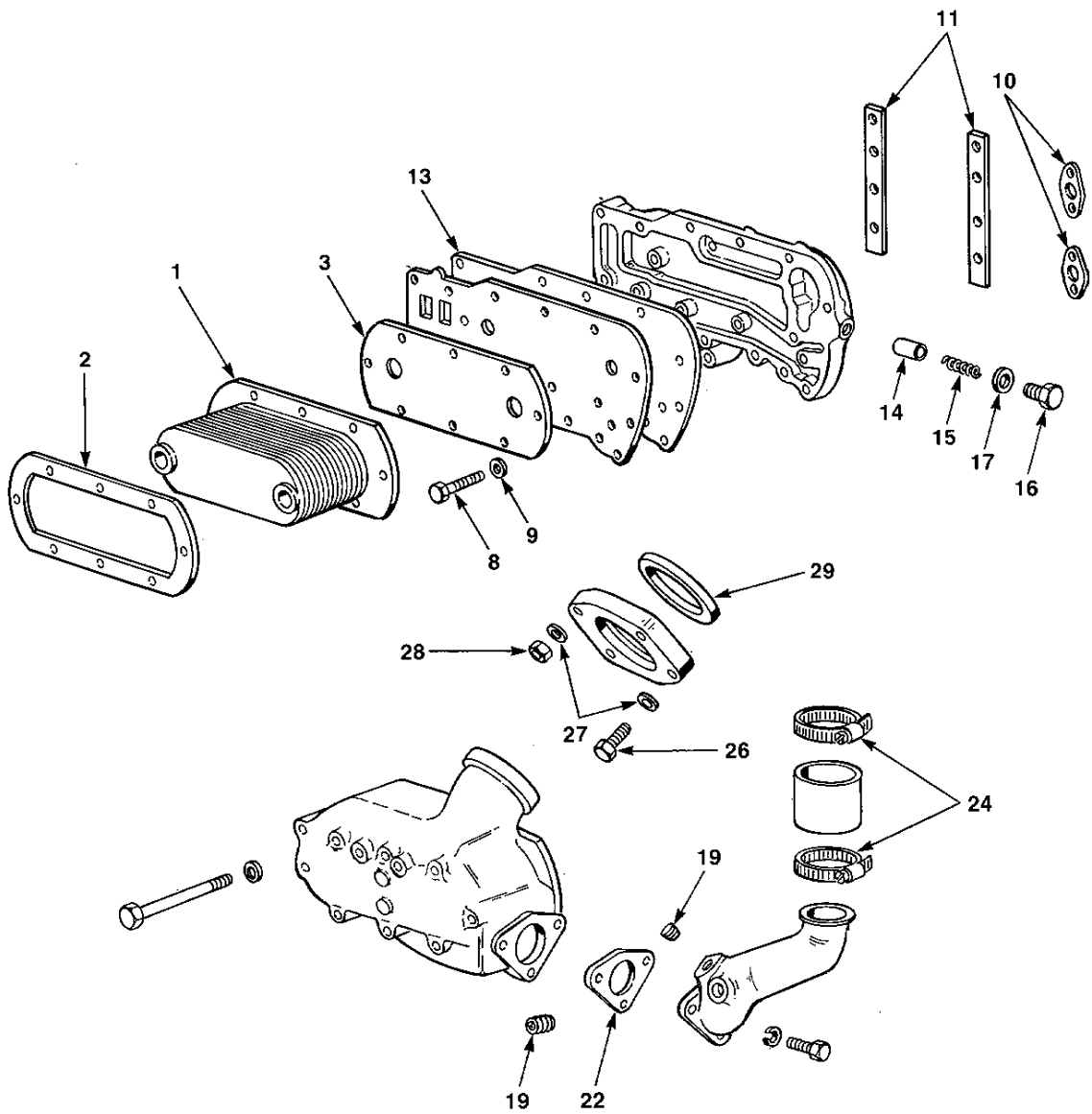
(Figure 12.3)

Groups:  
4.5001 - 4.6040

| Group             | Ref | Part No.   | Description                                  | 6V | 8V | 12V | 16V |
|-------------------|-----|------------|--|----|----|-----|-----|
| <b>Dipstick</b>   |     |            |  |    |    |     |     |
| 4.6001            | 1   | FP-5101885 | Dipstick, Marked                             | 1  | 1  | 1   | 1   |
| 4.6001            | 1   | FP-5102092 | Dipstick, Marked                             | 1  | 1  | 1   | 1   |
| 4.6001            | 1   | FP-5146680 | Dipstick, Unmarked                           | 1  | 1  | 1   | 1   |
| 4.6020            | 0   | FP-5121182 | Plug, 1/4" Pipe                              | 1  | 1  | 1   | 1   |
| 4.6020            | 2   | FP-5151430 | Guide, Dipstick (1 1/2" L.)                  | 1  | 1  | 1   | 1   |
| 4.6040            | 0   | FP-103026  | Nut, 3/8"-24                                 | 1  | 1  | 1   | 1   |
| 4.6040            | 0   | FP-106261  | Washer, 5/16"                                | 1  | 1  | 1   | 1   |
| 4.6040            | 0   | FP-5152148 | Washer, 3/8" Copper                          | 1  | 1  | 1   | 1   |
| 4.6040            | 0   | FP-8927581 | Bolt, 3/8" - 16 X 1"                         | 1  | 1  | 1   | 1   |
| <b>Oil Filler</b> |     |            |  |    |    |     |     |
| 4.5001            | 3   | FP-5103642 | Screw, #10 - 24 X 3.75" Lock                 | 3  | 3  | 3   | 3   |
| 4.5001            | 0   | FP-103321  | Lockwasher, 3/8"                             | 2  | 2  | 2   | 2   |
| 4.5005            | 0   | FP-103321  | Lockwasher, 3/8"                             | 2  | 2  | 2   | 2   |
| 4.5005            | 0   | FP-8923847 | Plug, 1/4" Pipe                              | 1  | 1  | 1   | 1   |
| 4.5005            | 0   | FP-8927581 | Bolt, 3/8" - 16 X 1"                         | 1  | 1  | 1   | 1   |
| 4.5007            | 0   | FP-5104507 | Gasket, Oil Filler Tube Adaptor              | 1  | 1  | 2   | 2   |
| 4.5007            | 0   | FP-5120540 | Gasket, Oil Filler Tube Adaptor              | 1  | 1  | 2   | 2   |
| 4.5010            | 4   | FP-5107106 | Cap, Oil Filler (1 1/2" Dia.), (Bottle Type) | 2  | 2  | 2   | 2   |
| 4.5010            | 4   | FP-5117362 | Cap, Oil Filler (2" Dia.), (Bottle Type)     | 2  | 2  | 2   | 2   |
| 4.5020            | 3   | FP-5103642 | Screw, #10 - 24 X 3.75" Lock                 | 2  | 2  | 2   | 2   |
| 4.5020            | 5   | FP-5150147 | Strainer, Oil Filler Tube                    | 2  | 2  | 2   | 2   |

# Oil Cooler - Single

(Figure 13.1)







# Oil Cooler - Single

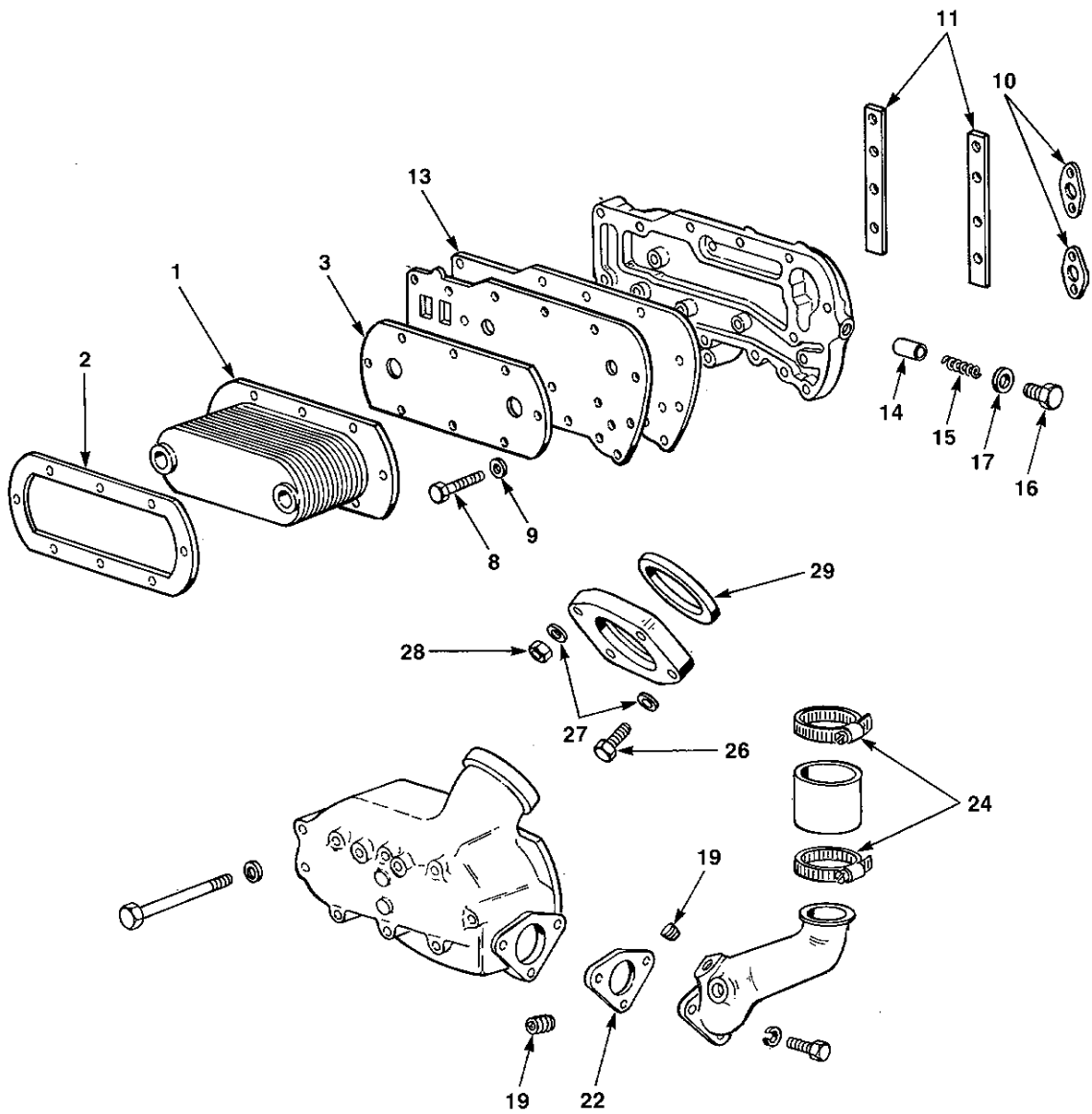
(Figure 13.1)

Groups:  
4.4001 - 4.4116

| Group  | Ref | Part No.   | Description   | 6V | 8V | 12V | 16V |
|--------|-----|------------|---|----|----|-----|-----|
| 4.4001 | 1   | FP-8547195 | Core Assembly, Oil Cooler, Engine (18 Plate)                          | 1  | 1  | -   | -   |
| 4.4001 | 1   | FP-8547581 | Core Assembly, Oil Cooler, Marine Gear (13 Plate)                     | 1  | 1  | -   | -   |
| 4.4001 | 1   | FP-8547547 | Core Assembly, Oil Cooler, Engine (16 Plate)                          | 1  | -  | -   | -   |
| 4.4001 | 1   | FP-8547551 | Core Assembly, Oil Cooler, Engine (8 Plate)                           | 1  | -  | 1   | -   |
| 4.4001 | 1   | FP-8547236 | Core Assembly, Oil Cooler, Engine (13 Plate)                          | -  | -  | 1   | -   |
| 4.4002 | 2   | FP-5150155 | Gasket, Oil Cooler Core (Inner)                                       | 1  | 1  | -   | -   |
| 4.4002 | 1   | FP-8547551 | Core Assembly, Oil Cooler, Marine Gear (8 Plate)                      | 1  | -  | 1   | -   |
| 4.4030 | 3   | FP-5102506 | Gasket, Oil Cooler Core (Outer)                                       | 1  | 1  | -   | -   |
| 4.4040 | 0   | FP-5142549 | Plug, 3/4" Pipe   | 2  | 2  | -   | -   |
| 4.4040 | 3   | FP-8923223 | Gasket, Oil Cooler Core (Outer)                                       | 1  | 1  | -   | -   |
| 4.4050 | 6   | FP-103320  | Lockwasher, 5/16"   | 8  | 8  | -   | -   |
| 4.4050 | 0   | FP-5155596 | Washer, 5/16" Copper  | 1  | 1  | -   | -   |
| 4.4050 | 0   | FP-5575086 | Gasket, Oil Cooler Housing  | 1  | 1  | -   | -   |
| 4.4050 | 0   | FP-8923313 | Plug, 3/4" Pipe   | 1  | 1  | -   | -   |
| 4.4050 | 0   | FP-8923847 | Plug, 1/4" Pipe   | 1  | 1  | -   | -   |
| 4.4060 | 0   | FP-8923847 | Plug, 1/4" Pipe   | 2  | 2  | -   | -   |
| 4.4060 | 0   | FP-5121182 | Plug, 1/4" Pipe   | 1  | 1  | -   | -   |
| 4.4060 | 0   | FP-5133431 | Valve, Oil Cooler Housing   | 1  | 1  | -   | -   |
| 4.4060 | 0   | FP-5155596 | Washer, 5/16" Copper  | 1  | 1  | -   | -   |
| 4.4060 | 0   | FP-8924517 | Plug, 3/8" Pipe   | 1  | 1  | -   | -   |
| 4.4060 | 0   | FP-8924623 | Gasket, Oil Cooler Housing Cover                                      | 1  | 1  | -   | -   |
| 4.4060 | 0   | FP-8927580 | Bolt, 3/8" - 16 X 7/8"  | 1  | 1  | -   | -   |
| 4.4061 | 8   | FP-8927581 | Bolt, 3/8" - 16 X 1"  | 3  | 3  | -   | -   |
| 4.4061 | 0   | FP-5117734 | Gasket, Oil Cooler Housing Cover                                      | 1  | 1  | -   | -   |
| 4.4061 | 0   | FP-5150155 | Gasket, Oil Cooler Housing Cover                                      | 1  | 1  | -   | -   |
| 4.4110 | 0   | FP-103320  | Lockwasher, 5/16"   | 1  | 1  | -   | -   |
| 4.4110 | 0   | FP-5131433 | Washer, .41" X .81" X .1345"  | 1  | 1  | -   | -   |
| 4.4110 | 0   | FP-5152148 | Washer, 3/8" Copper   | 1  | 1  | -   | -   |
| 4.4110 | 8   | FP-8923391 | Bolt, 3/8" - 16 X 1.88"   | 1  | 1  | -   | -   |
| 4.4110 | 0   | FP-8926782 | Gasket, Adaptor To Oil Cooler Housing                                 | 1  | 1  | -   | -   |
| 4.4112 | 10  | FP-5117535 | Gasket, Oil Cooler Adaptor To Block                                   | 2  | 1  | -   | -   |
| 4.4115 | 0   | FP-103320  | Lockwasher, 5/16"   | 2  | 2  | -   | -   |
| 4.4115 | 11  | FP-5126280 | Spacer, Oil Cooler Adaptor To Block (8.20" L.)                        | 2  | 2  | -   | -   |
| 4.4115 | 11  | FP-5102793 | Spacer, Oil Cooler Adaptor To Block (5.70" X 1" X .012")              | 1  | 1  | -   | -   |
| 4.4115 | 11  | FP-8920763 | Spacer, Oil Cooler Adaptor To Block (.385" I.D.X 1" O.D. x .013" Thk) | 1  | 1  | -   | -   |
| 4.4115 | 10  | FP-8923512 | Gasket, Oil Cooler Adaptor To Block                                   | 1  | 1  | -   | -   |
| 4.4116 | 13  | FP-8923512 | Gasket, Oil Cooler Adaptor Cover                                      | 1  | 1  | -   | -   |

# Oil Cooler - Single

(Figure 13.2)





# Oil Cooler - Single

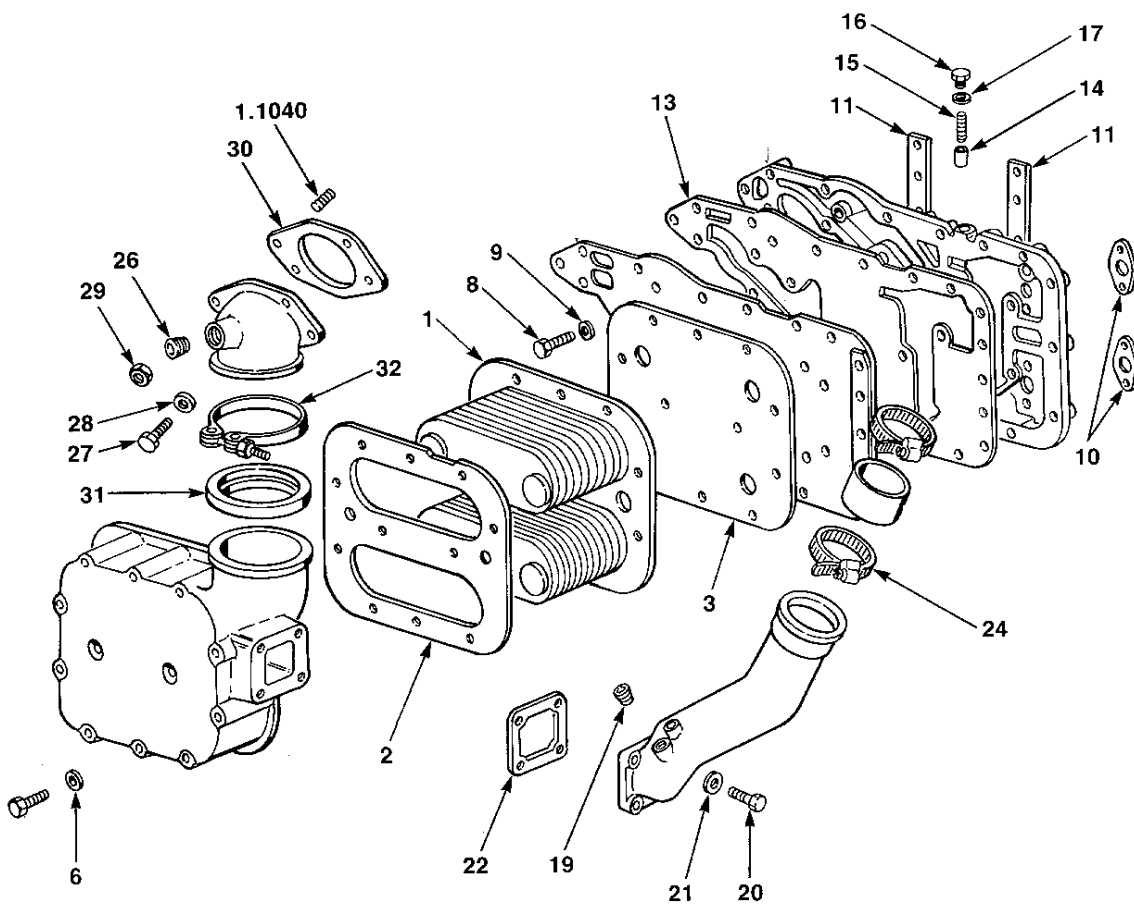
(Figure 13.2)

Groups:  
4.4117 - 4.4244

| Group  | Ref | Part No.    | Description                                       | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 4.4117 | 0   | FP-5131433  | Washer, Oil Cooler Adaptor                        | 2  | 2  | -   | -   |
| 4.4117 | 0   | FP-8923391  | Bolt, 3/8" X 1 7/8"                               | 2  | 2  | -   | -   |
| 4.4117 | 13  | FP-5117535  | Gasket, Oil Cooler Adaptor Cover                  | 1  | 1  | -   | -   |
| 4.4117 | 0   | FP-5149946  | Gasket, Oil Cooler Adaptor Cover                  | 1  | 1  | -   | -   |
| 4.4117 | 0   | FP-5150155  | Gasket, Oil Cooler Core                           | 1  | 1  | -   | -   |
| 4.4117 | 13  | FP-8923222  | Gasket, Oil Cooler Adaptor Cover                  | 1  | 1  | -   | -   |
| 4.4117 | 0   | FP-8923222  | Gasket, Oil Cooler Plate                          | 1  | 1  | -   | -   |
| 4.4117 | 0   | FP-8923223  | Gasket, Oil Cooler Core                           | 1  | 1  | -   | -   |
| 4.4117 | 0   | FP-8924412  | Gasket, Oil Filter Adaptor                        | 1  | 1  | -   | -   |
| 4.4140 | 14  | FP-5133431  | Valve, Oil Cooler By-Pass                         | 1  | 1  | -   | -   |
| 4.4140 | 14  | FP-5177777  | Valve, Oil Cooler By-Pass                         | 1  | 1  | -   | -   |
| 4.4150 | 15  | FP-5177778  | Spring, Oil Cooler By-Pass Valve                  | 1  | 1  | -   | -   |
| 4.4170 | 17  | FP-5134920  | Gasket, Oil Cooler By-Pass Plug                   | 1  | 1  | -   | -   |
| 4.4170 | 17  | FP-5177773  | Gasket, Oil Cooler By-Pass Plug                   | 1  | 1  | -   | -   |
| 4.4170 | 17  | FP-5575086  | Gasket, Oil Cooler By-Pass Plug                   | 1  | 1  | -   | -   |
| 4.4211 | 19  | FP-8923847  | Plug, 1/4" Pipe                                   | 2  | 2  | -   | -   |
| 4.4211 | 19  | FP-5115214  | Plug, 1/2" Pipe                                   | 1  | 1  | -   | -   |
| 4.4211 | 19  | FP-5142549  | Plug, 3/4" Pipe                                   | 1  | 1  | -   | -   |
| 4.4211 | 0   | FP-5155596  | Washer, 5/16" Copper                              | 1  | 1  | -   | -   |
| 4.4211 | 19  | FP-8923313  | Plug, 3/4" Pipe                                   | 1  | 1  | -   | -   |
| 4.4211 | 0   | FP-8927580  | Bolt, 3/8" - 16 X 7/8"                            | 1  | 1  | -   | -   |
| 4.4212 | 0   | FP-5117317  | Gasket, Oil Cooler Water Inlet                    | 1  | 1  | -   | -   |
| 4.4212 | 22  | FP-5117476  | Gasket, Oil Cooler Water Inlet                    | 1  | 1  | -   | -   |
| 4.4212 | 0   | FP-5122454  | Gasket, Oil Cooler Water Inlet                    | 1  | 1  | -   | -   |
| 4.4212 | 0   | FP-5124822  | Gasket, Oil Cooler Water Inlet                    | 1  | 1  | -   | -   |
| 4.4214 | 0   | FP-5188036  | Clamp, Oil Cooler Water Inlet Hose (2 3/4" - 3")  | 2  | 2  | -   | -   |
| 4.4214 | 24  | FP-9139809  | Clamp, Oil Cooler Water Inlet Hose (2 1/16" - 3") | 2  | 2  | -   | -   |
| 4.4220 | 0   | FP-103026   | Nut, 3/8" - 24                                    | 2  | 2  | -   | -   |
| 4.4220 | 0   | FP-103321   | Lockwasher, 3/8"                                  | 2  | 2  | -   | -   |
| 4.4220 | 0   | FP-5152148  | Washer, 3/8"                                      | 2  | 2  | -   | -   |
| 4.4220 | 0   | FP-8923847  | Plug, 1/4" Pipe                                   | 2  | 2  | -   | -   |
| 4.4220 | 0   | FP-103320   | Lockwasher, 5/16"                                 | 1  | 1  | -   | -   |
| 4.4220 | 0   | FP-5115214  | Plug, 1/2" Pipe                                   | 1  | 1  | -   | -   |
| 4.4220 | 0   | FP-5142549  | Plug, 3/4" Pipe                                   | 1  | 1  | -   | -   |
| 4.4220 | 0   | FP-8923313  | Plug, 3/4" Pipe                                   | 1  | 1  | -   | -   |
| 4.4242 | 28  | FP-103026   | Nut, 3/8" - 24                                    | 2  | 2  | -   | -   |
| 4.4242 | 27  | FP-103321   | Lockwasher, 3/8"                                  | 2  | 2  | -   | -   |
| 4.4242 | 26  | FP-8927581  | Bolt, 3/8" - 16 X 1"                              | 2  | 2  | -   | -   |
| 4.4244 | 29  | FP-23501837 | Seal Ring, Oil Cooler Water Outlet Flange         | 1  | 1  | -   | -   |

# Oil Cooler - Double

(Figure 13.3)





## Oil Cooler - Double

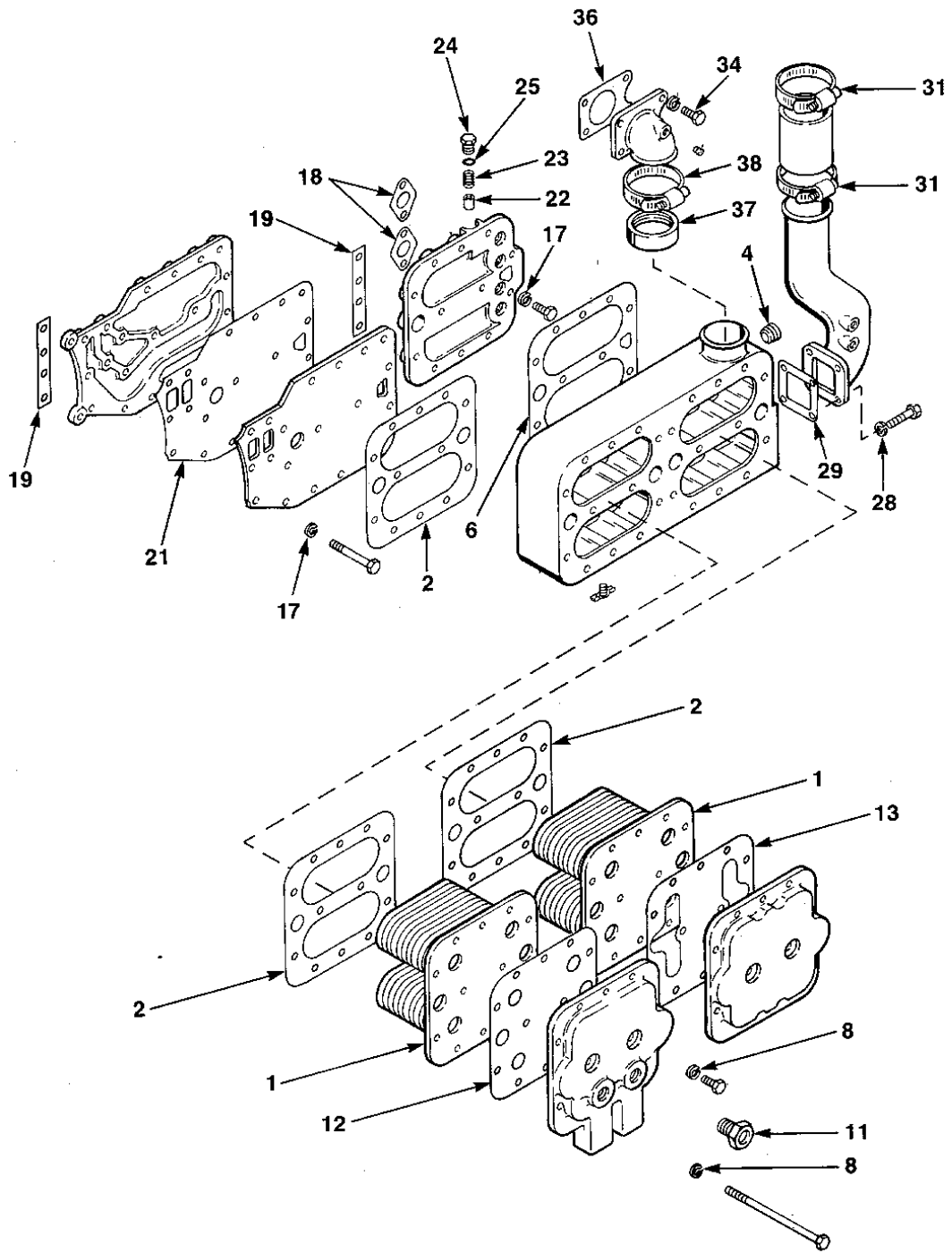
(Figure 13.3)

Groups:  
4.4001 - 4.4250

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 4.4001 | 1   | FP-8547237  | Core Assembly, Oil Cooler, Engine (24 Plate)             | 1  | 1  | -   | -   |
| 4.4001 | 1   | FP-8547552  | Core Assembly, Oil Cooler, Engine (32 Plate)             | 1  | 1  | -   | -   |
| 4.4001 | 1   | FP-8547553  | Core Assembly, Oil Cooler Engine (16 Plate)              | 1  | 1  | -   | -   |
| 4.4001 | 1   | FP-8547581  | Core Assembly, Oil Cooler, Engine (13 Plate)             | 1  | 1  | -   | -   |
| 4.4030 | 2   | FP-5150155  | Gasket, Oil Cooler Core (Inner)                          | 1  | 1  | -   | -   |
| 4.4030 | 2   | FP-8926782  | Gasket, Oil Cooler Core (Inner)                          | 1  | 1  | -   | -   |
| 4.4040 | 3   | FP-23501587 | Gasket, Oil Cooler Core (Outer), (Element To Plate)      | 1  | 1  | -   | -   |
| 4.4040 | 3   | FP-8925731  | Gasket, Oil Cooler Core (Outer)                          | -  | 1  | -   | -   |
| 4.4050 | 6   | FP-103320   | Lockwasher, 5/16"  | 8  | 8  | -   | -   |
| 4.4060 | 0   | FP-5155596  | Washer, 5/16" Copper                                     | 8  | 8  | -   | -   |
| 4.4060 | 0   | FP-8923847  | Plug, 1/4" Pipe  | 2  | 2  | -   | -   |
| 4.4061 | 0   | FP-23501589 | Gasket, Oil Cooler Housing Cover                         | 1  | 1  | -   | -   |
| 4.4061 | 0   | FP-23511304 | Gasket, Oil Cooler Housing Cover                         | 1  | 1  | -   | -   |
| 4.4110 | 9   | FP-5131433  | Washer, .41" X .81" X .1345"                             | 8  | 8  | -   | -   |
| 4.4110 | 0   | FP-103320   | Lockwasher, 5/16"  | 2  | 2  | -   | -   |
| 4.4110 | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1"                                     | 2  | 2  | -   | -   |
| 4.4115 | 10  | FP-5117535  | Gasket, Oil Cooler Adaptor To Block                      | 2  | 2  | -   | -   |
| 4.4115 | 11  | FP-5126280  | Spacer, Oil Cooler Adaptor To Block (8.20")              | 2  | 2  | -   | -   |
| 4.4115 | 11  | FP-5102793  | Spacer, Oil Cooler Adaptor To Block (5.70" X 1" X .012") | 1  | 1  | -   | -   |
| 4.4117 | 13  | FP-23501594 | Gasket, Oil Cooler Adaptor Cover                         | 1  | 1  | -   | -   |
| 4.4117 | 13  | FP-8923512  | Gasket, Oil Cooler Adaptor Cover                         | 1  | 1  | -   | -   |
| 4.4140 | 14  | FP-5177777  | Valve, Oil Cooler By-Pass                                | 1  | 1  | -   | -   |
| 4.4150 | 15  | FP-5177778  | Spring, Oil Cooler By-Pass Valve                         | 1  | 1  | -   | -   |
| 4.4170 | 17  | FP-5177773  | Plug, Oil Cooler By-Pass Valve (18MM X 1.5 MM SL HD.)    | 1  | 1  | -   | -   |
| 4.4211 | 21  | FP-103321   | Lockwasher, 3/8"   | 2  | 2  | -   | -   |
| 4.4211 | 19  | FP-5115214  | Plug, 1/2" Pipe  | 2  | 2  | -   | -   |
| 4.4211 | 0   | FP-8923847  | Plug, 1/4" Pipe  | 2  | 2  | -   | -   |
| 4.4211 | 20  | FP-8927580  | Bolt, 3/8" - 16 X 7/8"                                   | 2  | 2  | -   | -   |
| 4.4211 | 20  | FP-8927581  | Bolt, 3/8" - 16 X 1"                                     | 2  | 2  | -   | -   |
| 4.4212 | 22  | FP-5117317  | Gasket, Oil Cooler Water Inlet                           | 2  | 2  | -   | -   |
| 4.4212 | 22  | FP-5100638  | Gasket, Oil Cooler Water Inlet                           | 1  | 1  | -   | -   |
| 4.4212 | 22  | FP-5124822  | Gasket, Oil Cooler Water Inlet                           | 1  | 1  | -   | -   |
| 4.4214 | 24  | FP-5188036  | Clamp, Oil Cooler Water Inlet Hose (2 3/4" Hose)         | 2  | 2  | -   | -   |
| 4.4214 | 24  | FP-9139809  | Clamp, Oil Cooler Water Inlet Hose (2 1/16" - 3")        | 2  | 2  | -   | -   |
| 4.4220 | 29  | FP-103026   | Nut, 3/8"  | 2  | 2  | -   | -   |
| 4.4220 | 0   | FP-5152148  | Washer, 3/8"   | 2  | 2  | -   | -   |
| 4.4220 | 27  | FP-8927581  | Bolt, 3/8" - 16 X 1"                                     | 2  | 2  | -   | -   |
| 4.4220 | 26  | FP-5142549  | Plug, 3/4" Pipe  | 1  | 1  | -   | -   |
| 4.4220 | 0   | FP-8923313  | Plug, 3/4" Pipe  | 1  | 1  | -   | -   |
| 4.4230 | 30  | FP-5117254  | Gasket, Oil Cooler Water Elbow                           | 1  | 1  | -   | -   |
| 4.4230 | 30  | FP-5117734  | Gasket, Oil Cooler Water Elbow (Front)                   | 1  | 1  | -   | -   |
| 4.4240 | 31  | FP-5102098  | Seal, Oil Cooler Water Outlet Hose (3.60" O.D.X .62" W.) | 1  | 1  | -   | -   |
| 4.4250 | 32  | FP-5143999  | Clamp, Oil Cooler Water Outlet Hose (3 1/2" T-Bolt)      | 1  | 1  | -   | -   |

# Oil Cooler - Dual/Double

(Figure 13.4)





## Oil Cooler - Dual/Double

(Figure 13.4)

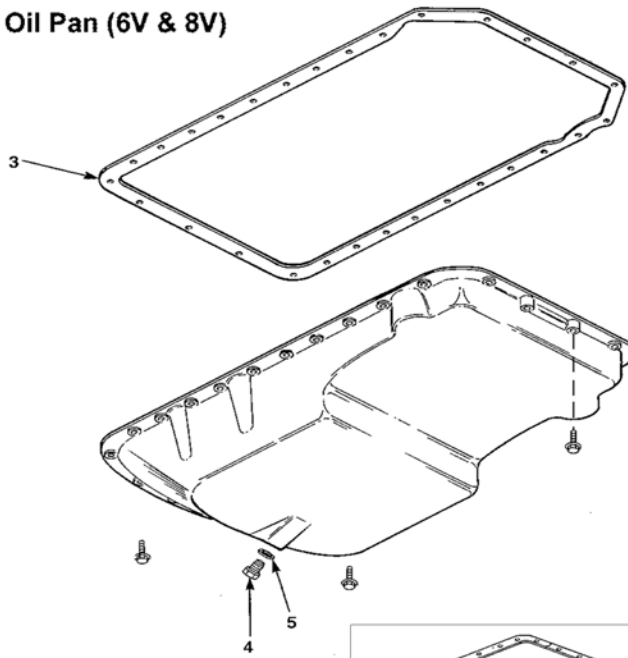
Groups:  
4.4001 - 4.4250

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 4.4001 | 1   | FP-8547237  | Core Assembly, Oil Cooler, Engine (24 Plate)             | 1  | -  | 2   | -   |
| 4.4001 | 1   | FP-8547552  | Core Assembly, Oil Cooler, Engine (32 Plate)             | -  | 2  | -   | -   |
| 4.4030 | 2   | FP-8926782  | Gasket, Oil Cooler Core (Inner)                          | 3  | 1  | 3   | -   |
| 4.4030 | 0   | FP-23501595 | Gasket, Oil Cooler Core (Inner)                          | -  | 4  | -   | -   |
| 4.4040 | 6   | FP-23511304 | Gasket, Oil Cooler Core (Inner)                          | 1  | 2  | 2   | -   |
| 4.4050 | 4   | FP-5142549  | Plug, 3/4" Pipe  | 1  | 1  | 1   | -   |
| 4.4050 | 0   | FP-8923847  | Plug, 1/4" Pipe  | 1  | 1  | 1   | -   |
| 4.4060 | 8   | FP-103320   | Lockwasher, 5/16"  | 22 | 22 | 22  | -   |
| 4.4060 | 11  | FP-5142549  | Plug, 3/4" Pipe  | 1  | 1  | -   | -   |
| 4.4060 | 0   | FP-5155596  | Washer, 5/16" Copper                                     | 1  | 1  | 1   | -   |
| 4.4060 | 0   | FP-8923847  | Plug, 1/4" Pipe  | 1  | 1  | 1   | -   |
| 4.4061 | 0   | FP-5117734  | Gasket, Oil Cooler Housing Cover                         | 1  | 1  | -   | -   |
| 4.4061 | 0   | FP-23501584 | Gasket, Oil Cooler Housing Cover                         | -  | 2  | 2   | -   |
| 4.4061 | 12  | FP-23501589 | Gasket, Oil Cooler Housing Cover                         | -  | -  | 1   | -   |
| 4.4061 | 0   | FP-23501590 | Gasket, Oil Cooler Housing Cover                         | -  | -  | 1   | -   |
| 4.4061 | 0   | FP-8924623  | Gasket, Oil Cooler Housing Cover                         | -  | -  | 1   | -   |
| 4.4110 | 0   | FP-5152148  | Washer, 3/8"   | 1  | 1  | -   | -   |
| 4.4115 | 18  | FP-5117535  | Gasket, Oil Cooler Adaptor To Block                      | 2  | 4  | 4   | -   |
| 4.4115 | 19  | FP-5126280  | Spacer, Oil Cooler Adaptor To Block (8.20" L.)           | 2  | 2  | -   | -   |
| 4.4115 | 2   | FP-8926782  | Gasket, Oil Cooler Adaptor To Block                      | 1  | 1  | -   | -   |
| 4.4117 | 21  | FP-23501594 | Gasket, Oil Cooler Adaptor Cover                         | 1  | 1  | -   | -   |
| 4.4140 | 22  | FP-5177777  | Valve, Oil Cooler By-Pass                                | 1  | 2  | 2   | -   |
| 4.4140 | 22  | FP-5136358  | Valve, Oil Cooler By-Pass                                | 1  | 1  | -   | -   |
| 4.4150 | 23  | FP-5177778  | Spring, Oil Cooler By-Pass Valve                         | 1  | 2  | 2   | -   |
| 4.4170 | 25  | FP-5177773  | Gasket, Oil Cooler By-Pass Plug                          | 1  | 2  | 2   | -   |
| 4.4170 | 25  | FP-5134920  | Gasket, Oil Cooler By-Pass Plug                          | -  | -  | 1   | -   |
| 4.4178 | 0   | FP-5131185  | Gasket, Oil Cooler By-Pass Tube Flange                   | -  | -  | 1   | 1   |
| 4.4211 | 0   | FP-8927580  | Bolt, 3/8" -16 X 7/8"                                    | 6  | 6  | 6   | -   |
| 4.4211 | 28  | FP-103321   | Lockwasher, 3/8"   | 2  | 2  | 2   | -   |
| 4.4211 | 0   | FP-8927581  | Bolt, 3/8" -16 X 1"                                      | 2  | 2  | 2   | -   |
| 4.4211 | 0   | FP-5115214  | Plug, 1/2" Pipe  | 1  | 1  | 1   | -   |
| 4.4212 | 29  | FP-5117317  | Gasket, Oil Cooler Water Inlet                           | 1  | 2  | 2   | -   |
| 4.4214 | 0   | FP-5188036  | Clamp, Oil Cooler Water Inlet Hose (2 3/8" Hose")        | 2  | 2  | 2   | -   |
| 4.4214 | 31  | FP-9139809  | Clamp, Oil Cooler Water Inlet Hose (2 1/16" -3")         | 2  | 2  | 2   | -   |
| 4.4220 | 0   | FP-103026   | Nut, 3/8" -24  | 2  | 2  | 2   | -   |
| 4.4220 | 0   | FP-5115214  | Plug, 1/2" Pipe  | 1  | 1  | 1   | -   |
| 4.4220 | 33  | FP-5142549  | Plug, 3/4" Pipe  | 1  | 1  | 1   | -   |
| 4.4220 | 0   | FP-5152148  | Washer, 3/8"   | 1  | 1  | 1   | -   |
| 4.4220 | 0   | FP-8923313  | Plug, 3/4" Pipe  | 1  | 1  | 1   | -   |
| 4.4220 | 34  | FP-8927581  | Bolt, 3/8" -16 X 1"                                      | 1  | 1  | 1   | -   |
| 4.4230 | 36  | FP-5117254  | Gasket, Oil Cooler Water Elbow                           | 1  | 1  | 1   | -   |
| 4.4230 | 0   | FP-5117317  | Gasket, Oil Cooler Water Elbow                           | 1  | 1  | 1   | -   |
| 4.4230 | 0   | FP-5117734  | Gasket, Oil Cooler Water Elbow (Front)                   | 1  | 1  | 1   | -   |
| 4.4240 | 37  | FP-5102098  | Seal, Oil Cooler Water Outlet Hose (3.60" O.D. X .62' W) | 1  | 1  | 1   | -   |
| 4.4250 | 38  | FP-5143999  | Clamp, Oil Cooler Water Outlet Hose (3 1/2" T - Bolt)    | 2  | 2  | 2   | -   |

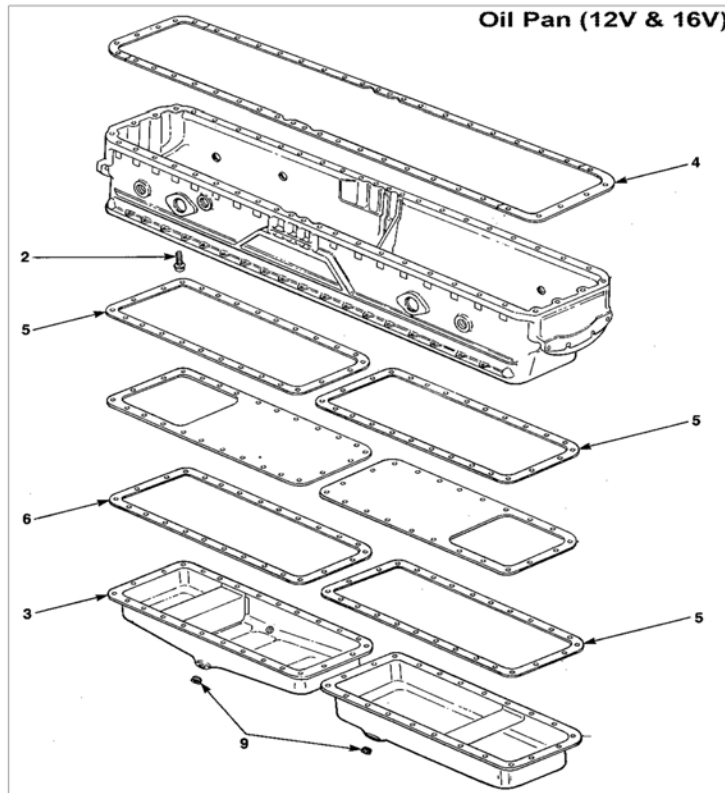
# Oil Pan

(Figure 13.6)

Oil Pan (6V & 8V)



Oil Pan (12V & 16V)







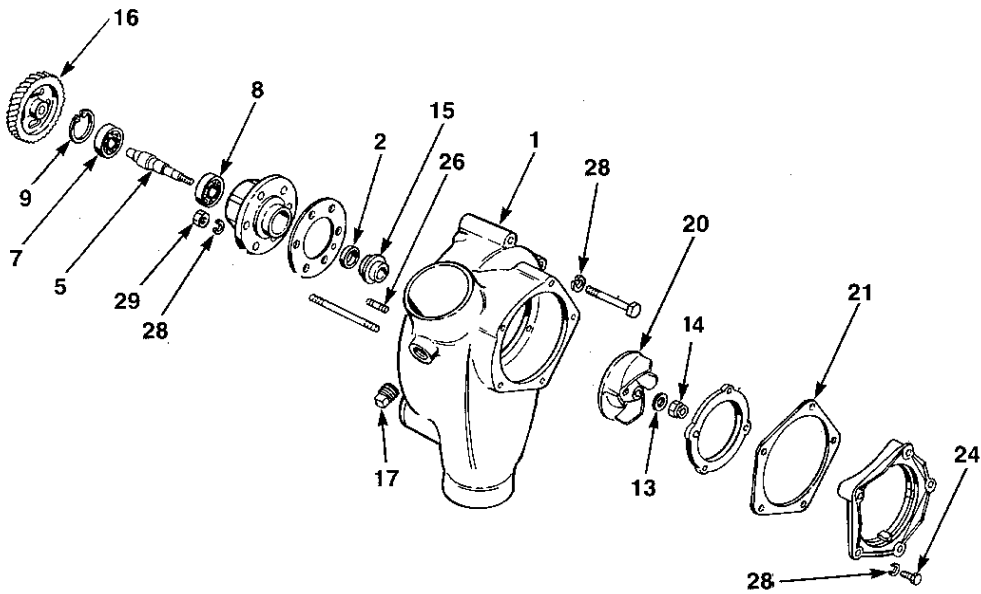
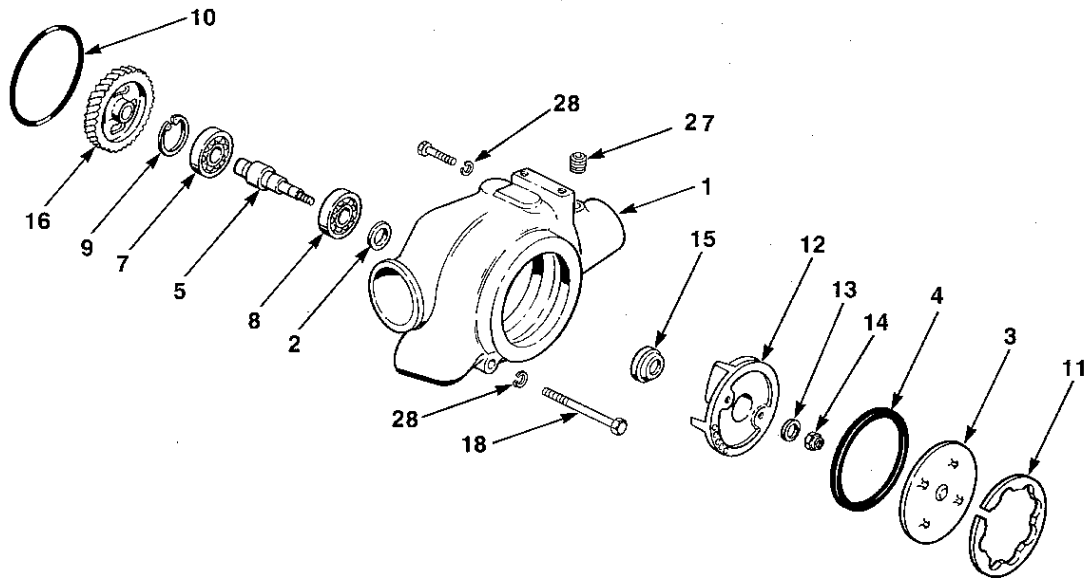
## Oil Pan (Figure 13.6)

Groups:  
4.7001 - 7.7040

| Group                | Ref | Part No.    | Description                               | 6V | 8V | 12V | 16V |
|----------------------|-----|-------------|---|----|----|-----|-----|
| <b>6V &amp; 8V</b>   |     |             |   |    |    |     |     |
| 4.7001               | 2   | FP-8927581  | Bolt, 3/8" - 16 X 1"                      | 24 | 28 | -   | -   |
| 4.7001               | 0   | FP-5115214  | Plug, Oil Pan 1/2" Pipe                   | 1  | 1  | -   | -   |
| 4.7001               | 0   | FP-5121182  | Plug, Oil Pan 1/4" Pipe                   | 1  | -  | -   | -   |
| 4.7001               | 4   | FP-8923313  | Plug, Oil Pan 3/4" Pipe (4.7010)          | 1  | -  | -   | -   |
| 4.7001               | 4   | FP-5142549  | Plug, Oil Pan 3/4" Pipe (4.7010)          | -  | 1  | -   | -   |
| 4.7020               | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1"                      | 4  | 4  | -   | -   |
| 4.7020               | 0   | FP-5148436  | Bolt, 5/16" - 18 X 3/4"                   | 24 | 28 | -   | -   |
| 4.7030               | 3   | FP-23503588 | Gasket, Oil Pan To Block (Stamped Pan)    | 1  | -  | -   | -   |
| 4.7030               | 3   | FP-5117231  | Gasket, Oil Pan To Block (Stamped Pan)    | -  | 1  | -   | -   |
| 4.7040               | 0   | FP-5150115  | Gasket, Lower Oil Pan                     | 1  | 1  | -   | -   |
| 4.7040               | 0   | FP-5150116  | Gasket, Lower Oil Pan                     | 1  | 1  | -   | -   |
| 4.7040               | 0   | FP-8920557  | Gasket, Lower Oil Pan                     | 1  | -  | -   | -   |
| 4.7040               | 0   | FP-5153256  | Gasket, Lower Oil Pan                     | -  | 1  | -   | -   |
| 4.7080               | 4   | FP-5115214  | Plug, Oil Pan Drain (1/2" Pipe)           | 1  | 1  | -   | -   |
| 4.7080               | 4   | FP-5121182  | Plug, Oil Pan Drain (1/4" Pipe)           | 1  | 1  | -   | -   |
| 4.7080               | 4   | FP-8923847  | Plug, Oil Pan Drain (1/4" Pipe)           | 1  | 1  | -   | -   |
| 4.7080               | 4   | FP-8924517  | Plug, Oil Pan Drain (3/8" Pipe)           | 1  | 1  | -   | -   |
| 4.7090               | 5   | FP-840277   | Gasket, Oil Drain Plug (18MM., Nylon)     | 1  | 1  | -   | -   |
| 4.7100               | 0   | FP-8924517  | Plug, 3/8" Pipe                           | 1  | -  | -   | -   |
| 4.7120               | 0   | FP-5194069  | Washer, Oil Pan Cover (1/4" Copper)       | AR | AR | -   | -   |
| 4.7130               | 0   | FP-5170049  | Gasket, Oil Pan Cover                     | 1  | 1  | -   | -   |
| 4.7130               | 0   | FP-5163760  | Gasket, Oil Pan Cover (5.5090) Tilt Coach | 1  | -  | -   | -   |
| 4.7130               | 0   | FP-5139862  | Gasket, Oil Pan Cover                     | -  | 1  | -   | -   |
| 4.7140               | 0   | FP-5115214  | Plug, Oil Pan Sump (1/2" Pipe)            | 1  | 1  | -   | -   |
| <b>12V &amp; 16V</b> |     |             |   |    |    |     |     |
| 4.7010               | 0   | FP-103321   | Lockwasher, 3/8"                          | -  | -  | 40  | 56  |
| 4.7010               | 0   | FP-5142549  | Plug, Oil Pan 3/4" Pipe (4.7010)          | -  | -  | -   | 2   |
| 4.7010               | 0   | FP-8923313  | Plug, Oil Pan 3/4" Pipe (4.7010)          | -  | -  | 2   | -   |
| 4.7020               | 0   | FP-5148436  | Bolt, 5/16" - 18 X 3/4"                   | -  | -  | 40  | 56  |
| 4.7021               | 0   | FP-103320   | Lockwasher 5/16"                          | -  | -  | 40  | 56  |
| 4.7030               | 4   | FP-5109915  | Gasket, Oil Pan To Block (12V)            | -  | -  | 1   | -   |
| 4.7030               | 4   | FP-5126562  | Gasket, Oil Pan To Block (16V)            | -  | -  | -   | 1   |
| 4.7030               | 4   | FP-5150115  | Gasket, Lower Oil Pan (Front Pan)         | -  | -  | -   | 1   |
| 4.7030               | 4   | FP-8920608  | Gasket Set, Oil Pan                       | -  | -  | 1   | 1   |
| 4.7040               | 4   | FP-5125635  | Gasket, Lower Oil Pan                     | -  | -  | 1   | -   |
| 4.7080               | 9   | FP-5115214  | Plug, Oil Pan Drain (1/2" Pipe)           | -  | -  | -   | 1   |
| 4.7120               | 0   | FP-5142549  | Plug, Oil Pan (3/4" Pipe)                 | -  | -  | 1   | 1   |
| 4.7120               | 0   | FP-5148436  | Bolt, 5/16" - 18 X 3/4"                   | -  | -  | -   | 21  |
| 4.7120               | 0   | FP-8923313  | Plug, Oil Pan (3/4" Pipe)                 | -  | -  | 1   | 1   |
| 4.7130               | 0   | FP-5124796  | Gasket, Oil Pan Cover (4.7040)            | -  | -  | 1   | -   |
| 4.7130               | 0   | FP-5150115  | Gasket, Oil Pan Cover                     | -  | -  | 1   | -   |
| 4.7130               | 0   | FP-5153788  | Gasket, Oil Pan Cover                     | -  | -  | -   | 1   |
| 4.7130               | 0   | FP-8920520  | Gasket, Oil Pan Cover                     | -  | -  | 1   | -   |
| 4.7140               | 0   | FP-5115214  | Plug, Oil Pan Sump (1/2" Pipe)            | -  | -  | -   | 1   |
| 4.7141               | 0   | FP-103320   | Lockwasher, 5/16"                         | -  | -  | -   | 21  |
| 7.7040               | 6   | FP-5150116  | Gasket, Lower Oil Pan (Rear Pan)          | -  | -  | -   | 1   |
| 7.7040               | 5   | FP-8920557  | Gasket, Lower Oil Pan                     | -  | -  | 1   | -   |

# Fresh Water Pump

(Figure 14.1)





# Fresh Water Pump

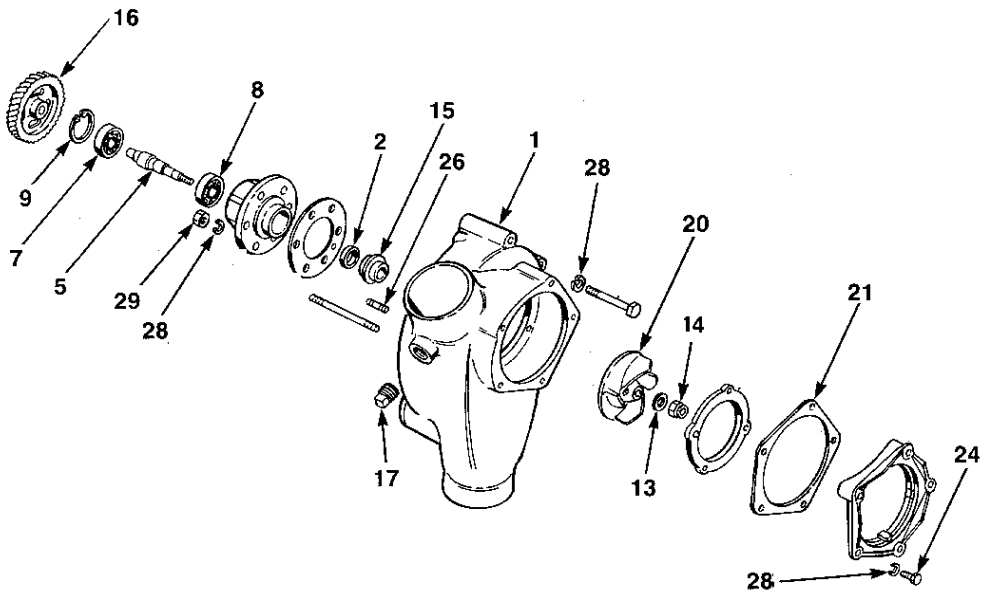
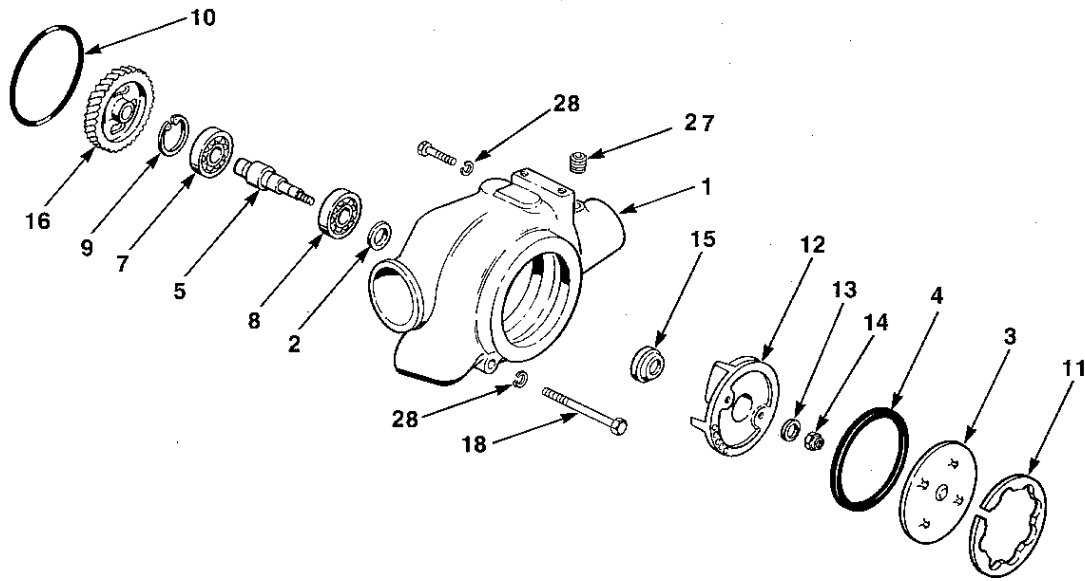
(Figure 14.1)

Groups:  
5.1001 - 5.1002

| Group  | Ref | Part No.           | Description                                       | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|---|----|----|-----|-----|
| 5.1001 | 29  | FP-103026          | Nut, 3/8" - 24 (5.1071)                           | 5  | 5  | 5   | 5   |
| 5.1001 | 28  | FP-103321          | Lockwasher, 3/8" (5.1071)                         | 5  | 5  | 5   | 5   |
| 5.1001 | 0   | FP-5115214         | Plug, 1/2" Pipe                                   | 1  | 1  | 1   | 1   |
| 5.1001 | 17  | FP-5142549         | Plug, 3/4" Pipe                                   | 1  | 1  | 1   | 1   |
| 5.1001 | 27  | FP-8923313         | Plug, 3/4" Pipe                                   | 1  | 1  | 1   | 1   |
| 5.1001 | 0   | FP-23506602        | Pump Assembly, Fresh Water (Walking)              | 1  | -  | -   | -   |
| 5.1002 | 13  | FP-221436          | Washer, Flat                                      | 1  | 1  | 1   | -   |
| 5.1002 | 13  | FP-221436          | Washer, Flat                                      | 1  | 1  | -   | -   |
| 5.1002 | 10  | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)                   | 1  | 1  | 1   | -   |
| 5.1002 | 0   | <b>FP-23506366</b> | <b>Kit, Fresh Water Pump Reconditioning</b>       | 1  | 1  | -   | -   |
| 5.1002 | 13  | FP-221436          | Washer, Flat                                      | 1  | 1  | -   | -   |
| 5.1002 | 9   | FP-274746          | Lock Ring, Fresh Water Pump Bearing               | 1  | 1  | -   | 1   |
| 5.1002 | 7   | FP-23503649        | Bearing, Fresh Water Pump (Outer)                 | 1  | 1  | -   | 1   |
| 5.1002 | 8   | FP-23503687        | Bearing, Fresh Water Pump (Inner)                 | 1  | 1  | 1   | 1   |
| 5.1002 | 10  | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)                   | 1  | 1  | -   | -   |
| 5.1002 | 14  | FP-5117972         | Nut, 7/16" - 20 Lock                              | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-5117975         | Gasket, Fresh Water Pump Body Cover               | 1  | 1  | -   | -   |
| 5.1002 | 2   | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing              | 1  | 1  | 1   | 1   |
| 5.1002 | 5   | FP-23506053        | Shaft, Fresh Water Pump                           | 1  | 1  | 1   | -   |
| 5.1002 | 12  | FP-23505999        | Impeller, Fresh Water Pump (Hi-Capacity)          | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-23506248        | Seal, Fresh Water Pump                            | 1  | 1  | 1   | 1   |
| 5.1002 | 0   | <b>FP-23506367</b> | <b>Kit, Fresh Water Pump (Long Vane), (12V71)</b> | -  | -  | 1   | -   |
| 5.1002 | 9   | FP-274746          | Lock Ring, Fresh Water Pump Bearing               | 1  | 1  | 1   | -   |
| 5.1002 | 7   | FP-23503649        | Bearing, Fresh Water Pump (Outer)                 | 1  | 1  | 1   | 1   |
| 5.1002 | 8   | FP-23503687        | Bearing, Fresh Water Pump (Inner)                 | 1  | 1  | -   | 1   |
| 5.1002 | 14  | FP-5117972         | Nut, 7/16" - 20 Lock                              | 1  | 1  | 1   | -   |
| 5.1002 | 18  | FP-5117976         | Gasket, Fresh Water Pump Body Cover               | -  | -  | 1   | -   |
| 5.1002 | 2   | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing              | -  | -  | 1   | -   |
| 5.1001 | 10  | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)                   | 1  | 1  | 1   | 1   |
| 5.1002 | 12  | FP-23506053        | Shaft, Fresh Water Pump                           | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-23506000        | Impeller, Fresh Water Pump(Long Vane)             | -  | -  | 1   | -   |
| 5.1002 | 0   | FP-23506248        | Seal, Fresh Water Pump                            | -  | -  | 1   | -   |
| 5.1002 | 0   | <b>FP-23506852</b> | <b>Kit, Fresh Water Pump</b>                      | 1  | 1  | -   | -   |
| 5.1002 | 9   | FP-274746          | Lock Ring, Fresh Water Pump Bearing               | 1  | 1  | 1   | 1   |
| 5.1002 | 7   | FP-23503649        | Bearing, Fresh Water Pump (Outer)                 | 1  | 1  | 1   | 1   |
| 5.1002 | 8   | FP-23503687        | Bearing, Fresh Water Pump (Inner)                 | 1  | 1  | 1   | 1   |
| 5.1002 | 10  | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)                   | 1  | 1  | 1   | -   |
| 5.1002 | 14  | FP-5117972         | Nut, 7/16" - 20 Lock                              | 1  | 1  | 1   | -   |
| 5.1002 | 4   | FP-5101160         | Seal Ring, Fresh Water Pump Body                  | 1  | 1  | -   | -   |
| 5.1002 | 2   | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing              | 1  | 1  | 1   | -   |
| 5.1002 | 5   | FP-23506053        | Shaft, Fresh Water Pump                           | 1  | 1  | -   | -   |
| 5.1002 | 12  | FP-23505995        | Impeller, Fresh Water Pump                        | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-23506248        | Seal, Fresh Water Pump                            | 1  | 1  | -   | -   |
| 5.1002 | 0   | <b>FP-5197279</b>  | <b>Replacement Kit, Water Pump Ceramic Seal</b>   | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-5197310         | Washer, Adhesive, Ceramic Insert Fresh Water Pump | 2  | 2  | -   | -   |
| 5.1002 | 0   | FP-5117342         | Ceramic Insert, Fresh Water Pump                  | 1  | 1  | -   | -   |

# Fresh Water Pump

(Figure 14.2)





# Fresh Water Pump

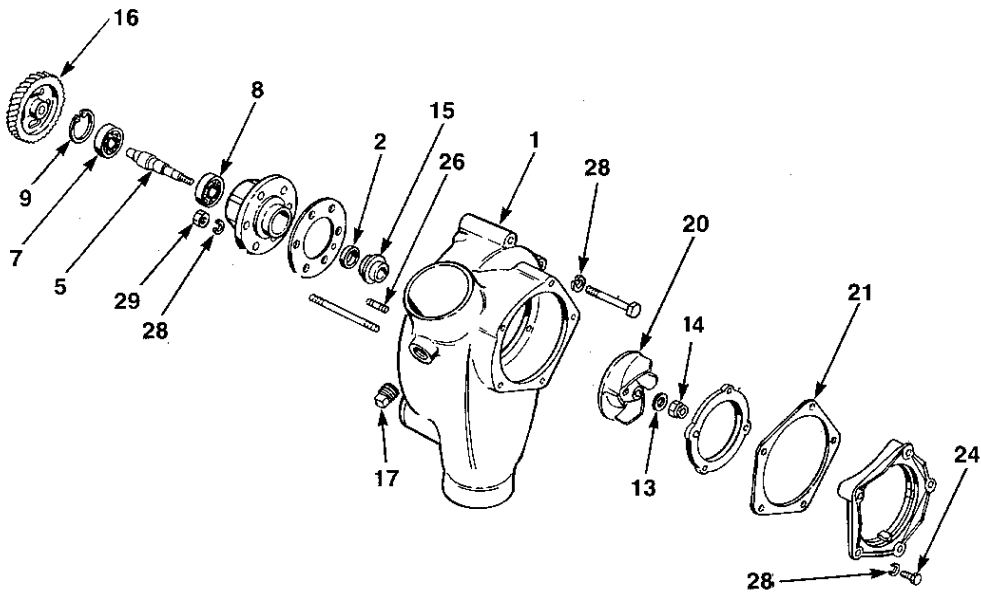
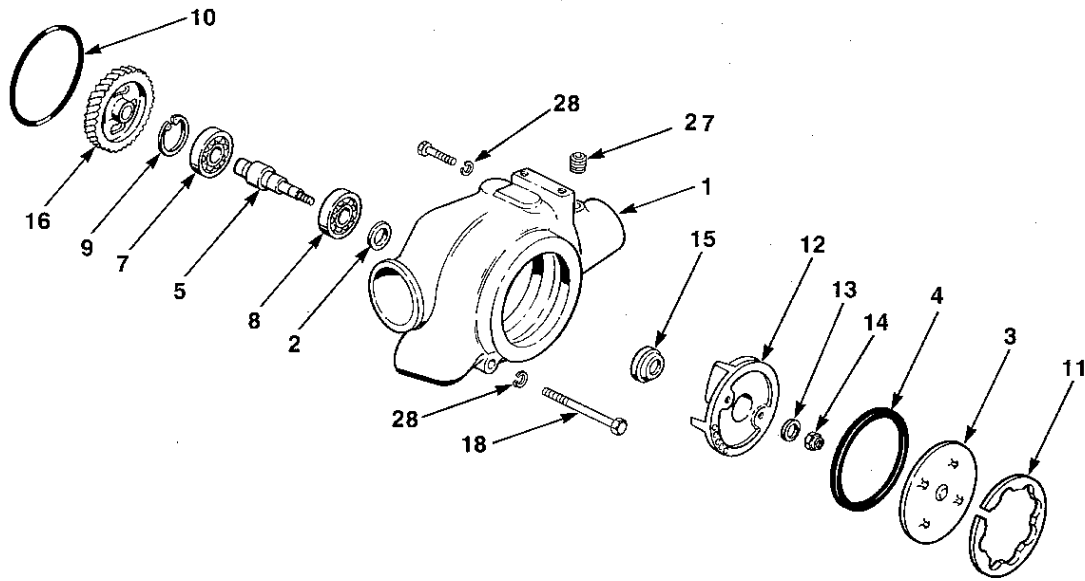
(Figure 14.2)

Groups:  
5.1002 - 5.1032

| Group  | Ref | Part No.           | Description                                       | 6V | 8V | 12V | 16V |
|--------|-----|--------------------|---|----|----|-----|-----|
| 5.1010 | 0   | FP-5109515         | Gasket, Fresh Water Pump                          | -  | -  | 1   | 1   |
| 5.1010 | 0   | FP-5128220         | Gasket, Fresh Water Pump                          | -  | -  | -   | 1   |
| 5.1030 | 17  | FP-5142549         | Plug, 3/4" Pipe                                   | 1  | 1  | 1   | 1   |
| 5.1031 | 28  | FP-103321          | Lockwasher, 5/16"                                 | 5  | 5  | 5   | 5   |
| 5.1031 | 24  | FP-8925603         | Bolt, 5/16" - 18 X 3/4" (5.1040)                  | 5  | 5  | 5   | 5   |
| 5.1031 | 3   | FP-5117950         | Cover, Fresh Water Pump Body                      | 1  | 1  | -   | -   |
| 5.1031 | 3   | FP-8922383         | Cover, Fresh Water Pump Body (Non-Metallic)       | 1  | 1  | -   | -   |
| 5.1031 | 3   | FP-5117961         | Cover, Fresh Water Pump Body                      | -  | 1  | -   | -   |
| 5.1032 | 10  | FP-5117975         | Gasket, Fresh Water Pump Body Cover               | 1  | 1  | -   | -   |
| 5.1032 | 0   | FP-5128222         | Gasket, Fresh Water Pump Body (Dr. Gr. Cover)     | -  | -  | -   | 1   |
| 5.1032 | 0   | FP-5128224         | Gasket, Fresh Water Pump Body (Cover To Pump)     | -  | -  | -   | 1   |
| 5.1002 | 0   | <b>FP-23500517</b> | <b>Kit, Fresh Water Pump Seal</b>                 | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-221436          | Washer, Flat                                      | 1  | 1  | -   | -   |
| 5.1002 | 10  | FP-5103544         | Ring Seal (.139" X 5.109" I.D.)                   | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-5117342         | Insert, Ceramic Seal, Fresh Water Pump            | 1  | 1  | -   | -   |
| 5.1002 | 14  | FP-5117972         | Nut, 7/16" - 20 Lock                              | 1  | 1  | 1   | -   |
| 5.1002 | 10  | FP-5117975         | Gasket, Fresh Water Pump Body Cover               | 1  | 1  | -   | -   |
| 5.1002 | 2   | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing              | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-5197310         | Washer, Adhesive, Fresh Water Pump                | 2  | 2  | -   | -   |
| 5.1002 | 0   | FP-23506248        | Seal, Fresh Water Pump                            | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-8925603         | Bolt, 5/16" - 18 X 3/4"                           | 5  | 5  | -   | -   |
| 5.1002 | 0   | <b>FP-23506871</b> | <b>Kit, Fresh Water Pump Reconditioning (16V)</b> | -  | -  | 1   | 1   |
| 5.1002 | 13  | FP-221436          | Washer, Flat                                      | 1  | 1  | 1   | 1   |
| 5.1002 | 9   | FP-274746          | Lock Ring, Fresh Water Pump Bearing               | 1  | 1  | 1   | 1   |
| 5.1002 | 7   | FP-23503649        | Bearing, Fresh Water Pump (Outer)                 | 1  | 1  | 1   | 1   |
| 5.1002 | 8   | FP-23503687        | Bearing, Fresh Water Pump (Inner)                 | 1  | 1  | 1   | 1   |
| 5.1002 | 0   | FP-5109515         | Gasket, Fresh Water Pump                          | -  | -  | 1   | 1   |
| 5.1002 | 14  | FP-5117972         | Nut, 7/16" - 20 Lock                              | -  | -  | 1   | 1   |
| 5.1002 | 2   | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing              | 1  | 1  | 1   | 1   |
| 5.1002 | 5   | FP-23506053        | Shaft, Fresh Water Pump                           | -  | -  | -   | 1   |
| 5.1002 | 0   | FP-23506248        | Seal, Fresh Water Pump                            | 1  | 1  | 1   | 1   |
| 5.1002 | 20  | FP-23506002        | Impeller, Fresh Water Pump                        | -  | -  | -   | 1   |
| 5.1002 | 21  | FP-23505239        | Gasket, Fresh Water Pump                          | -  | -  | 1   | 1   |
| 5.1002 | 0   | <b>FP-5149711</b>  | <b>Kit, Fresh Water Pump Repair</b>               | 1  | 1  | -   | -   |
| 5.1002 | 13  | FP-221436          | Washer, Flat                                      | 1  | 1  | 1   | -   |
| 5.1002 | 4   | FP-5101160         | Seal Ring, Fresh Water Pump                       | 1  | 1  | 1   | -   |
| 5.1002 | 10  | FP-5103544         | Seal Ring, Fresh Water Pump (.139" X 5.109" I.D.) | 1  | 1  | 1   | -   |
| 5.1002 | 14  | FP-5117972         | Nut, 7/16" - 20 Lock                              | 1  | 1  | 1   | -   |
| 5.1002 | 2   | FP-5117983         | Seal, Fresh Water Pump Shaft Bearing              | 1  | 1  | 1   | -   |
| 5.1002 | 0   | FP-5197310         | Washer, Adhesive, Fresh Water Pump                | 2  | 2  | -   | -   |
| 5.1002 | 0   | FP-5117342         | Insert, Ceramic Seal, Fresh Water Pump            | 1  | 1  | -   | -   |
| 5.1002 | 11  | FP-8922407         | Ring, Retainer                                    | 1  | 1  | -   | -   |
| 5.1002 | 0   | FP-23506248        | Seal, Fresh Water Pump                            | 1  | 1  | 1   | -   |

# Fresh Water Pump

(Figure 14.3)





# Fresh Water Pump

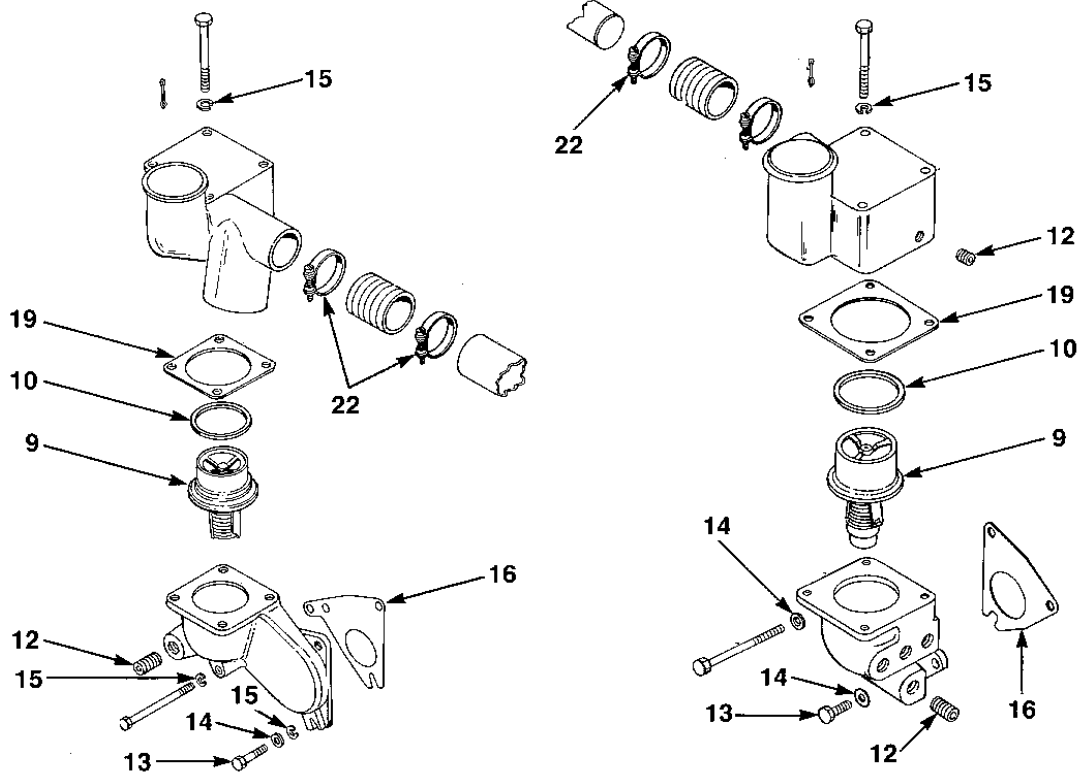
(Figure 14.3)

Groups:  
5.1032 - 5.1190

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 5.1032 | 4   | FP-5101160  | Seal Ring, Fresh Water Pump Body Cover                | 1  | 1  | -   | -   |
| 5.1032 | 10  | FP-5117976  | Gasket, Fresh Water Pump Body Cover                   | -  | 1  | -   | -   |
| 5.1040 | 26  | FP-8927270  | Stud, Fresh Water Pump Body (3/8" - 16 X 1 5/8")      | 3  | 3  | -   | -   |
| 5.1040 | 0   | FP-5154453  | Plug, 3/8" - 16                                       | 1  | 1  | 1   | 1   |
| 5.1115 | 12  | FP-23505995 | Impeller, Fresh Water Pump                            | 1  | 1  | -   | -   |
| 5.1115 | 12  | FP-23505999 | Impeller, Fresh Water Pump (Hi-Capacity)              | 1  | 1  | -   | -   |
| 5.1115 | 20  | FP-23506000 | Impeller, Fresh Water Pump (Long Vane)                | -  | -  | 1   | -   |
| 5.1115 | 20  | FP-23506002 | Impeller, Fresh Water Pump                            | -  | -  | -   | 1   |
| 5.1130 | 15  | FP-8924297  | Seal, Water Pump Coolant                              | 1  | 1  | 1   | 1   |
| 5.1190 | 16  | FP-5146254  | Gear, Fresh Water Pump Drive (42 Teeth), (L.H. Helix) | 1  | 1  | -   | -   |

# Thermostat

(Figure 15.1)



**Thermostat**





# Thermostat

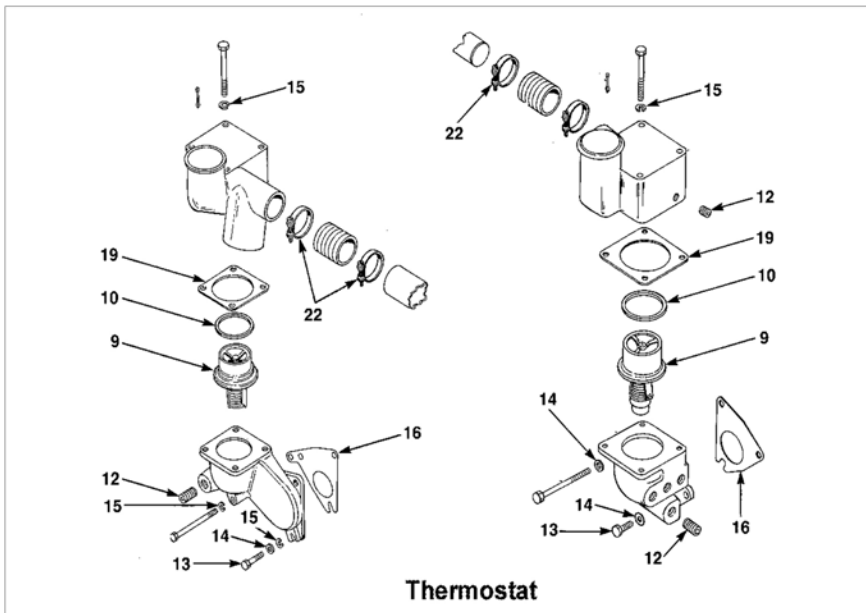
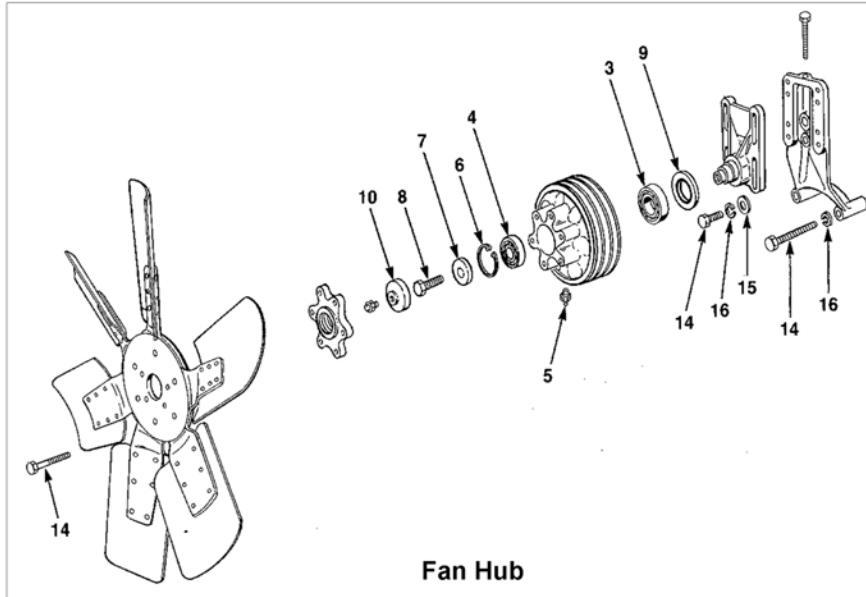
(Figure 15.1)

Groups:  
5.2001 - 5.2130

| Group  | Ref | Part No.    | Description                                      | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 5.2001 | 12  | FP-5142549  | Plug, 3/4" Pipe                                  | 2  | 2  | 2   | 2   |
| 5.2001 | 0   | FP-5115214  | Plug, 1/2" Pipe                                  | 1  | 1  | 1   | 1   |
| 5.2001 | 15  | FP-103321   | Lockwasher, 3/8"                                 | -  | 16 | 24  | 32  |
| 5.2043 | 7   | FP-5122439  | Seal, Water Outlet Manifold                      | -  | 2  | 2   | 2   |
| 5.2043 | 0   | FP-5188036  | Clamp, Water Outlet Manifold (2 9/16" - 3 1/2")  | -  | 2  | -   | -   |
| 5.2043 | 0   | FP-5144768  | Clamp, Water Outlet Manifold (2 15/16" - 2 7/8") | -  | -  | 2   | 2   |
| 5.2043 | 7   | FP-5156770  | Seal, Water Outlet Manifold                      | -  | -  | 2   | 2   |
| 5.2050 | 9   | FP-23503825 | Thermostat Assembly (180 Degree)                 | 2  | 2  | 2   | 2   |
| 5.2050 | 9   | FP-23503826 | Thermostat Assembly (170 Degree)                 | 2  | 2  | 4   | 4   |
| 5.2050 | 9   | FP-23504473 | Thermostat Assembly (190 Degree Opening Temp)    | 2  | 2  | 4   | 4   |
| 5.2050 | 9   | FP-5102112  | Thermostat Assembly (160 Degree)                 | 2  | 2  | -   | -   |
| 5.2050 | 9   | FP-5104096  | Thermostat Assembly (180 Degree)                 | 2  | 2  | -   | -   |
| 5.2050 | 9   | FP-5106232  | Thermostat Assembly (180 Degree)                 | 2  | 2  | -   | -   |
| 5.2060 | 10  | FP-5132155  | Seal, Thermostat                                 | 2  | 2  | 4   | 4   |
| 5.2090 | 15  | FP-103321   | Lockwasher, 3/8"                                 | 2  | 2  | 2   | 2   |
| 5.2090 | 0   | FP-5152148  | Washer, 3/8" Copper                              | 2  | 2  | 2   | 2   |
| 5.2090 | 13  | FP-8927581  | Bolt, 3/8" - 16 X 1"                             | 2  | 2  | 2   | 2   |
| 5.2090 | 12  | FP-5115214  | Plug, 1/2" Pipe                                  | 1  | 1  | 1   | 1   |
| 5.2090 | 12  | FP-5121182  | Plug, 1/4" Pipe                                  | 1  | 1  | 1   | 1   |
| 5.2090 | 14  | FP-5125108  | Washer, 7/16"                                    | 1  | 1  | 1   | 1   |
| 5.2090 | 12  | FP-5142549  | Plug, 3/4" Pipe                                  | 1  | 1  | 1   | 1   |
| 5.2090 | 12  | FP-8924380  | Plug, 1/8" Pipe                                  | 1  | 1  | 1   | 1   |
| 5.2110 | 16  | FP-5117786  | Gasket, Thermostat Housing (Left & Right Bank)   | 2  | 2  | -   | -   |
| 5.2110 | 16  | FP-5117993  | Gasket, Thermostat Housing (Left & Right Bank)   | 2  | 2  | -   | -   |
| 5.2110 | 16  | FP-5144277  | Gasket, Thermostat Housing (Left & Right Bank)   | 2  | 2  | 2   | 2   |
| 5.2110 | 16  | FP-5123570  | Gasket, Thermostat Housing (Right Bank)          | 1  | 1  | -   | -   |
| 5.2110 | 16  | FP-5123715  | Gasket, Thermostat Housing (Right Bank)          | 1  | 1  | -   | -   |
| 5.2110 | 16  | FP-5123716  | Gasket, Thermostat Housing (Left Bank)           | 1  | 1  | -   | -   |
| 5.2110 | 16  | FP-5133254  | Gasket, Thermostat Housing (Left Bank)           | 1  | 1  | -   | -   |
| 5.2120 | 12  | FP-5121182  | Plug, 1/4" Pipe                                  | 2  | 2  | -   | -   |
| 5.2120 | 12  | FP-8924380  | Plug, 1/8" Pipe                                  | 2  | 2  | -   | -   |
| 5.2120 | 15  | FP-103321   | Lockwasher, 3/8"                                 | 1  | 1  | 1   | 1   |
| 5.2120 | 12  | FP-5115214  | Plug, 1/2" Pipe                                  | -  | -  | -   | 2   |
| 5.2120 | 12  | FP-8924517  | Plug, 3/8" Pipe                                  | -  | -  | 2   | -   |
| 5.2122 | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1"                             | 2  | 2  | 2   | 2   |
| 5.2122 | 0   | FP-5120540  | Gasket, Elbow Thermostat Housing                 | 1  | 1  | 1   | 1   |
| 5.2124 | 0   | FP-5188036  | Clamp, Water Outlet Manifold (2 9/16" - 3 1/2")  | 2  | 2  | 4   | 4   |
| 5.2124 | 0   | FP-9139809  | Clamp, Water Outlet Manifold (2 1/16" - 3")      | 1  | 1  | 1   | 1   |
| 5.2128 | 0   | FP-5122454  | Gasket, Heat Exchanger Water Manifold            | 1  | 1  | 1   | 1   |
| 5.2128 | 0   | FP-5124029  | Gasket, Heat Exchanger Water Manifold            | 1  | 1  | 1   | 1   |
| 5.2130 | 19  | FP-5100860  | Gasket, Thermostat Housing Cover                 | 2  | 2  | -   | -   |
| 5.2130 | 19  | FP-5117786  | Gasket, Thermostat Housing Cover                 | 2  | 2  | -   | -   |
| 5.2130 | 19  | FP-5117993  | Gasket, Thermostat Housing Cover                 | 2  | 2  | -   | -   |
| 5.2130 | 19  | FP-5123575  | Gasket, Thermostat Housing Cover                 | 1  | 1  | -   | -   |
| 5.2130 | 19  | FP-5175989  | Gasket, Thermostat Housing Cover                 | 1  | 1  | 2   | 2   |

# Thermostat & Fan Hub

(Figure 15.2)





# Thermostat & Fan Hub

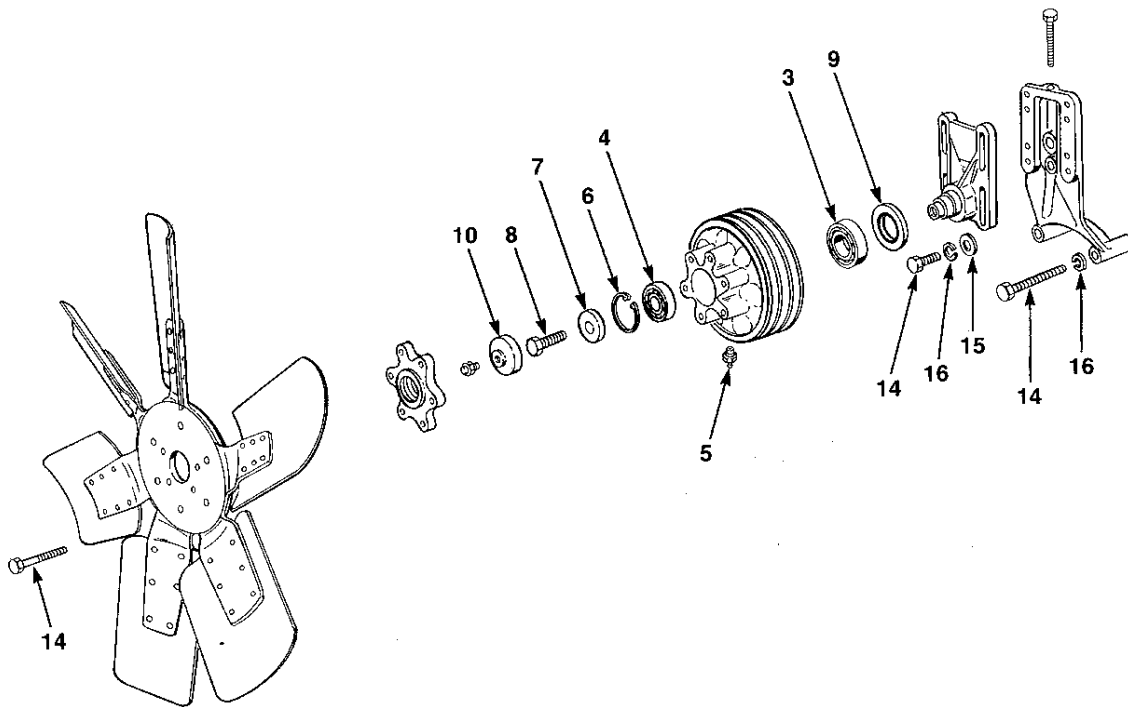
(Figure 15.2)

Groups:  
4.4025 - 5.4110

| Group          | Ref | Part No.    | Description                                       | 6V | 8V | 12V | 16V |
|----------------|-----|-------------|---|----|----|-----|-----|
| 5.2130         | 19  | FP-8924018  | Gasket, Thermostat Housing Cover                  | 1  | 1  | -   | -   |
| 5.2135         | 0   | FP-5179938  | Seal Ring, 3/8" Tube Sealastic                    | 1  | 1  | -   | -   |
| 5.2160         | 0   | FP-5121182  | Plug, 1/4"  | 2  | 2  | -   | -   |
| 5.2160         | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1"                              | 1  | 1  | 2   | 2   |
| 5.2160         | 0   | FP-8924517  | Plug, 3/8" Pipe                                   | -  | -  | 2   | 2   |
| 5.2165         | 22  | FP-5186841  | Clamp, 1 9/16" - 2 1/2"                           | 2  | 2  | 2   | 2   |
| 5.2165         | 22  | FP-9139809  | Clamp, 2 1/16" - 3"                               | 2  | 2  | 2   | 2   |
| 5.3120         | 0   | FP-5197822  | Cap, Radiator Filler (23533127)                   | 1  | 1  | 1   | 1   |
| 5.3321         | 0   | FP-5167762  | Gasket, Expansion Tank Outlet Connection (4.4230) | 1  | 1  | 1   | 1   |
| <b>Fan Hub</b> |     |             |   |    |    |     |     |
| 4.4025         | 16  | FP-103325   | Lockwasher, 5/8"                                  | 4  | 4  | 4   | 4   |
| 4.4025         | 15  | FP-5131978  | Washer, .53" X 1"                                 | 4  | 4  | 4   | 4   |
| 4.4025         | 15  | FP-5133981  | Washer, 19/32" I.D. X 1.00" O.D.                  | 4  | 4  | 4   | 4   |
| 4.4025         | 14  | FP-454992   | Bolt, 1/2" - 13 X 2 1/2"                          | 2  | 2  | 2   | 2   |
| 4.4025         | 0   | FP-5133981  | Spacer, .122" Thick                               | 1  | 1  | 1   | 1   |
| 4.4090         | 0   | FP-103325   | Lockwasher, 5/8"                                  | 1  | 1  | 1   | 1   |
| 4.4090         | 0   | FP-5131978  | Washer, .53" X 1"                                 | 1  | 1  | 1   | 1   |
| 5.4015         | 4   | FP-23503535 | Bearing, Fan Shaft (Outer)                        | 1  | 1  | 1   | 1   |
| 5.4015         | 4   | FP-23503537 | Bearing, Fan Shaft (Outer)                        | 1  | 1  | 1   | 1   |
| 5.4015         | 3   | FP-23503550 | Bearing, Fan Shaft (Inner)                        | 1  | 1  | 1   | 1   |
| 5.4015         | 3   | FP-23503704 | Bearing, Fan Shaft (Inner)                        | 1  | 1  | 1   | 1   |
| 5.4015         | 9   | FP-5103623  | Seal, Fan Shaft                                   | 1  | 1  | 1   | 1   |
| 5.4015         | 7   | FP-5103624  | Washer, Fan Shaft Bearing Retainer (.50" Thk)     | 1  | 1  | 1   | 1   |
| 5.4015         | 9   | FP-5103951  | Seal, Fan Shaft                                   | 1  | 1  | 1   | 1   |
| 5.4015         | 0   | FP-5131978  | Washer, .53" X 1.00"                              | 1  | 1  | 1   | 1   |
| 5.4015         | 8   | FP-9409060  | Bolt, 1/2" - 20 X 1 1/2" Self Lock                | 1  | 1  | 1   | 1   |
| 5.4015         | 8   | FP-9409129  | Bolt, 1/2" - 20 X 1 3/4" Self Locking             | 1  | 1  | 1   | 1   |
| 5.4100         | 4   | FP-23503727 | Bearing, Fan Shaft (Outer)                        | 1  | 1  | 1   | 1   |
| 5.4100         | 0   | FP-5131978  | Washer, .53" X 1"                                 | 1  | 1  | 1   | 1   |
| 5.4100         | 0   | FP-5133981  | Washer, 19/32" I.D. X 1.00" O.D.                  | 1  | 1  | 1   | 1   |
| 5.4110         | 4   | FP-23503535 | Bearing, Fan Shaft (Outer)                        | 1  | 1  | 1   | 1   |
| 5.4110         | 4   | FP-23503537 | Bearing, Fan Shaft (Outer)                        | 1  | 1  | 1   | 1   |
| 5.4110         | 3   | FP-23503550 | Bearing, Fan Shaft (Inner)                        | 1  | 1  | 1   | 1   |
| 5.4110         | 3   | FP-23503704 | Bearing, Fan Shaft (Inner)                        | 1  | 1  | 1   | 1   |
| 5.4110         | 3   | FP-23503796 | Bearing, Fan Shaft (Inner)                        | 1  | 1  | 1   | 1   |
| 5.4110         | 3   | FP-7450630  | Bearing, Fan Shaft (Inner)                        | 1  | 1  | 1   | 1   |
| 5.4110         | 4   | FP-9415132  | Bearing, Fan Shaft (Outer)                        | 1  | 1  | 1   | 1   |

# Fan Hub

(Figure 15.3)





# Fan Hub

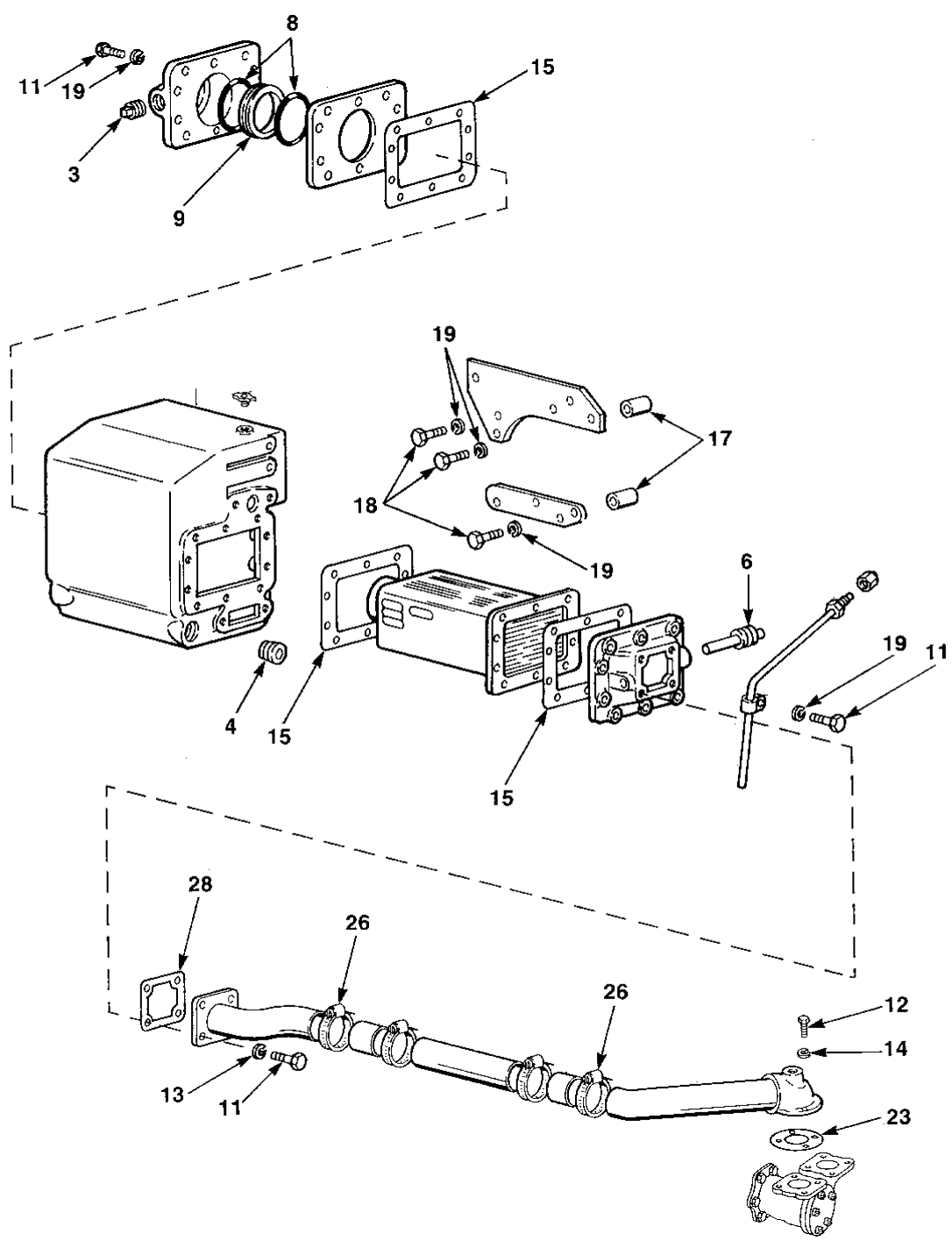
(Figure 15.3)

Groups:  
5.4140 - 5.4235

| Group  | Ref | Part No.   | Description                                  | 6V | 8V | 12V | 16V |
|--------|-----|------------|--|----|----|-----|-----|
| 5.4140 | 6   | FP-274746  | Lock Ring, Fan Shaft Bearing Retainer        | 1  | 1  | 1   | 1   |
| 5.4140 | 7   | FP-5103624 | Washer, Fan Shaft Bearing Retainer (.50" Th) | 1  | 1  | 1   | 1   |
| 5.4140 | 8   | FP-9409060 | Bolt, 1/2" - 20 X 1 1/2" Self Lock           | 1  | 1  | 1   | 1   |
| 5.4140 | 8   | FP-9409129 | Bolt, 1/2" - 20 X 1 3/4" Self Lock           | 1  | 1  | 1   | 1   |
| 5.4150 | 9   | FP-5100408 | Seal, Fan Shaft                              | 1  | 1  | 1   | 1   |
| 5.4150 | 9   | FP-5103623 | Seal, Fan Shaft                              | 1  | 1  | 1   | 1   |
| 5.4150 | 9   | FP-5103951 | Seal, Fan Shaft                              | 1  | 1  | 1   | 1   |
| 5.4150 | 9   | FP-5108219 | Seal, Fan Shaft                              | 1  | 1  | 1   | 1   |
| 5.4170 | 0   | FP-5131122 | Spacer, Fan Shaft Bearing                    | 1  | 1  | 1   | 1   |
| 5.4180 | 0   | FP-103320  | Lockwasher, 5/16"                            | 1  | 1  | 1   | 1   |
| 5.4235 | 0   | FP-8924380 | Plug, 1/8" - 27 Pipe                         | 1  | 1  | 1   | 1   |

# Heat Exchanger

(Figure 16.1)





# Heat Exchanger

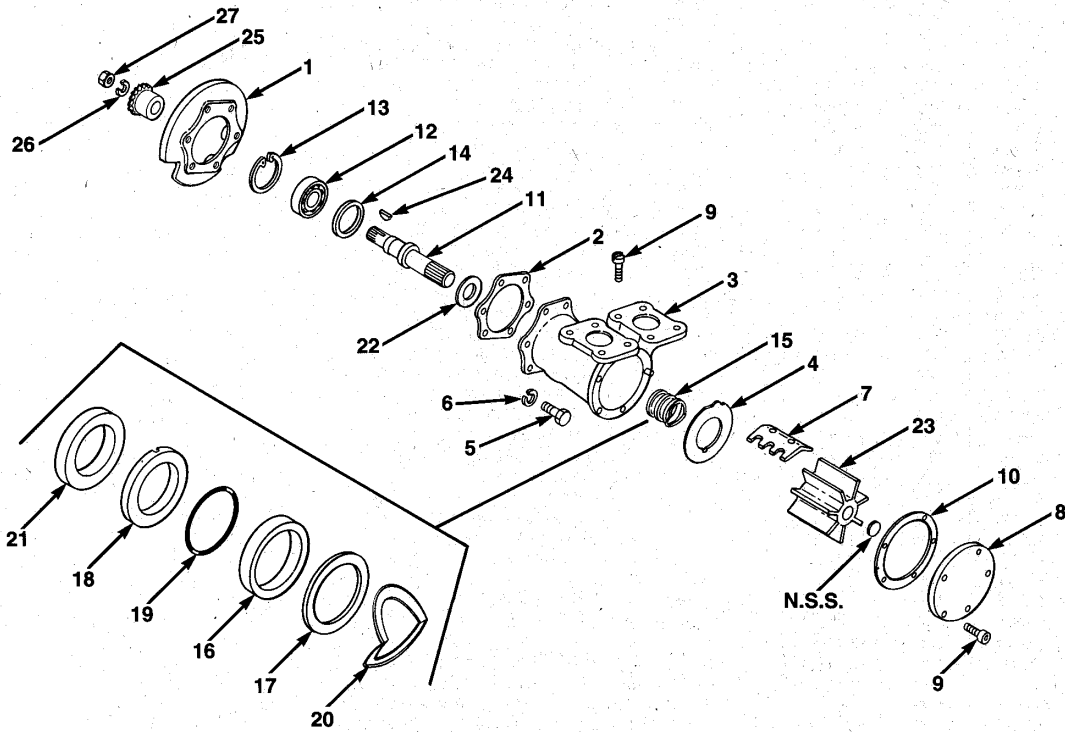
(Figure 16.1)

Groups:  
5.5001 - 5.5570

| Group  | Ref | Part No.   | Description                              | 6V | 8V | 12V | 16V |
|--------|-----|------------|--|----|----|-----|-----|
| 5.5001 | 0   | FP-103321  | Lockwasher, 3/8"                         | 4  | 4  | 4   | 4   |
| 5.5001 | 0   | FP-454992  | Bolt, 1/2" -13 X 2 1/2"                  | 2  | 2  | 2   | 2   |
| 5.5001 | 0   | FP-5117186 | Plug, 2" Cup                             | 2  | 2  | 2   | 2   |
| 5.5001 | 6   | FP-8515850 | Electrode Assembly, Heat Exchanger       | 2  | 2  | 2   | 2   |
| 5.5001 | 0   | FP-5121182 | Plug, 1/4" Pipe                          | 1  | 1  | 1   | 1   |
| 5.5001 | 4   | FP-5142549 | Plug, 3/4" Pipe                          | 1  | 1  | 1   | 1   |
| 5.5001 | 3   | FP-8924380 | Plug, 1/8" Pipe                          | 1  | 1  | 1   | 1   |
| 5.5010 | 6   | FP-8517479 | Electrode Assembly, Heat Exchanger       | 2  | 2  | 2   | 2   |
| 5.5021 | 0   | FP-5150155 | Gasket, Expansion Tank Cover             | 1  | 1  | 1   | 1   |
| 5.5025 | 13  | FP-103320  | Lockwasher, 5/16"                        | 4  | 4  | 4   | 4   |
| 5.5028 | 8   | FP-5167746 | Seal Ring, Heat Exchanger                | 2  | 2  | 4   | 4   |
| 5.5028 | 9   | FP-5167745 | Gland, Heat Exchanger                    | 1  | 1  | 1   | 1   |
| 5.5030 | 14  | FP-103321  | Lockwasher, 3/8"                         | 4  | 4  | -   | -   |
| 5.5030 | 12  | FP-8927581 | Bolt, 3/8" -16 X 1"                      | 4  | 4  | -   | -   |
| 5.5030 | 13  | FP-103320  | Lockwasher, 5/16"                        | 10 | 10 | -   | -   |
| 5.5050 | 15  | FP-5167764 | Gasket, Heat Exchanger Cover             | 3  | 3  | 3   | 3   |
| 5.5050 | 15  | FP-5117406 | Gasket, Heat Exchanger Cover             | 2  | 2  | 2   | 2   |
| 5.5050 | 15  | FP-5122975 | Gasket, Heat Exchanger Cover             | 2  | 2  | 2   | 2   |
| 5.5050 | 15  | FP-5123660 | Gasket, Heat Exchanger Cover             | 2  | 2  | 2   | 2   |
| 5.5070 | 19  | FP-103325  | Lockwasher, 5/8"                         | 8  | 8  | 8   | 8   |
| 5.5070 | 18  | FP-454992  | Bolt, 1/2" - 13 X 2 1/2"                 | 4  | 4  | 4   | 4   |
| 5.5070 | 0   | FP-5125108 | Washer, .75" O.D. x .453" I.D.           | 4  | 4  | 4   | 4   |
| 5.5070 | 17  | FP-5131978 | Spacer, 17/32" X 1" X .164"              | 4  | 4  | 4   | 4   |
| 5.5070 | 19  | FP-103321  | Lockwasher, 3/8"                         | 10 | 10 | 10  | 10  |
| 5.5290 | 13  | FP-103320  | Lockwasher, 5/16"                        | -  | -  | 14  | 14  |
| 5.5362 | 0   | FP-103026  | Nut, 3/8" - 24                           | 2  | 2  | 2   | 2   |
| 5.5362 | 0   | FP-103321  | Lockwasher, 3/8"                         | 2  | 2  | 2   | 2   |
| 5.5378 | 23  | FP-5112143 | Gasket, Water Flange At Gear and RWP     | 1  | 1  | 1   | 1   |
| 5.5380 | 0   | FP-8927580 | Bolt, 3/8" - 16 X 7/8"                   | 4  | 4  | 4   | 4   |
| 5.5380 | 0   | FP-8927581 | Bolt, 3/8" - 16 X 1"                     | 4  | 4  | 4   | 4   |
| 5.5385 | 0   | FP-5186841 | Clamp, Raw Water Pump Outlet Tube        | 1  | 1  | 1   | 1   |
| 5.5430 | 26  | FP-9139809 | Clamp, Hose (2 1/16" - 3" )              | 4  | 4  | 4   | 4   |
| 5.5480 | 26  | FP-5188036 | Clamp, Heat Exchanger Raw Water Inlet    | 4  | 4  | 4   | 4   |
| 5.5550 | 13  | FP-103320  | Lockwasher, 3/8"                         | 4  | 4  | 4   | 4   |
| 5.5570 | 28  | FP-5158747 | Gasket, Heat Exchanger Water Outlet Tube | 1  | 1  | 1   | 1   |

# Raw Water Pump

(Figure 17.1)







# Raw Water Pump

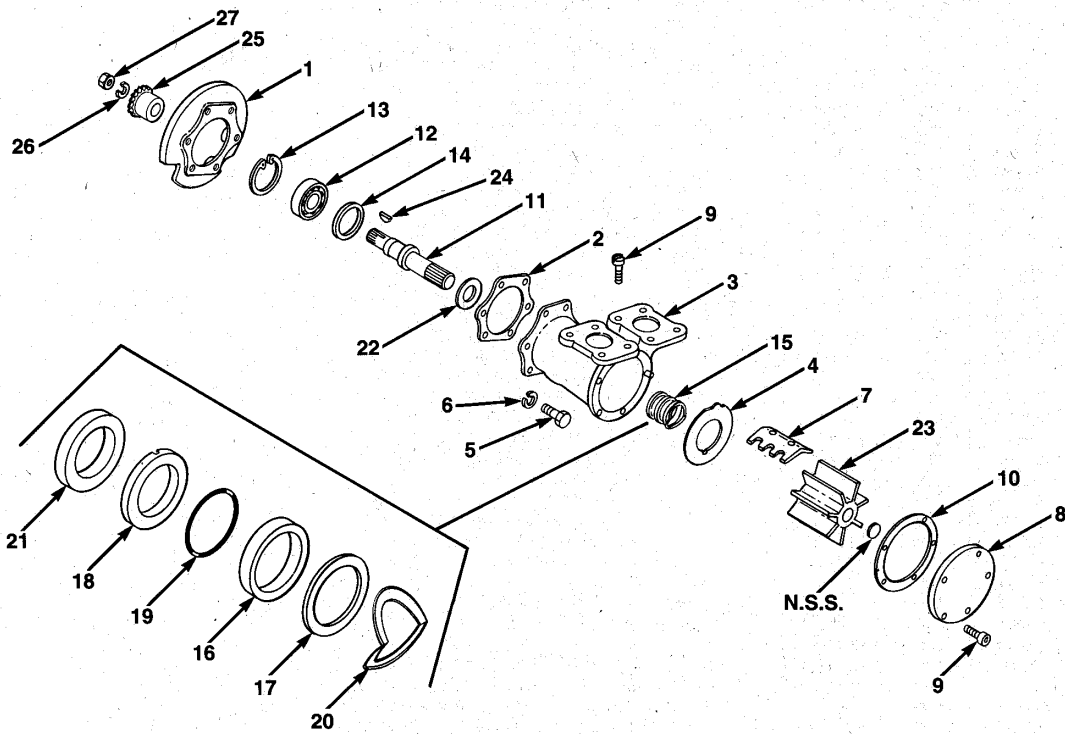
(Figure 17.1)

Groups:  
5.6001 - 5.6320

| Group  | Ref | Part No.          | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--|----|----|-----|-----|
| 5.6001 | 0   | FP-23507971       | Pump Assembly, Raw Water (Option Type 62)                  | 1  | -  | -   | -   |
| 5.6001 | 0   | FP-23507972       | Pump Assembly, Raw Water (Option Type 63,65,90,100)        | -  | 1  | 1   | -   |
| 5.6010 | 5   | FP-23501660       | Bolt, 3/8" - 16 X 1" (Adaptor To Pump Body)                | 6  | 6  | 6   | 6   |
| 5.6010 | 1   | FP-5193551        | Adaptor, Raw Water Pump Body                               | 1  | 1  | 1   | 1   |
| 5.6012 | 2   | FP-23501662       | Gasket, Raw Water Pump Adaptor                             | 1  | 1  | 1   | 1   |
| 5.6012 | 2   | FP-5196513        | Gasket, Raw Water Pump Adaptor                             | 1  | 1  | 1   | 1   |
| 5.6020 | 4   | FP-5193556        | Plate, Wear  | 1  | 1  | 1   | 1   |
| 5.6020 | 0   | FP-5197597        | Pin, 3/16" X 5/16" Dowel (Wearplate Locating)              | 1  | 1  | 1   | 1   |
| 5.6230 | 0   | FP-5193602        | Impeller (Synthetic), (Option Type 14), (Obsolete Pump)    | -  | 1  | 1   | 1   |
| 5.6220 |     | <b>FP-5194860</b> | <b>Impeller &amp; Seal Kit (For Pump FP-5115396)</b>       | 1  | -  | -   | -   |
| 5.6230 | 23  | FP-8924838        | Impeller, Raw Water Pump                                   | 1  | -  | -   | -   |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                        | 1  | 1  | 1   | 1   |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover                               | 1  | 1  | 1   | 1   |
| 5.6025 | 9   | FP-23504236       | Screw, Hexagon   | 6  | 6  | 6   | 6   |
| 5.6220 |     | <b>FP-5196846</b> | <b>Impeller &amp; Seal Kit (For Pump FP-5122599)</b>       | -  | 1  | 1   | 1   |
| 5.6230 | 23  | FP-8924839        | Impeller, Raw Water Pump                                   | -  | 1  | 1   | 1   |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                        | 1  | 1  | 1   | 1   |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover                               | 1  | 1  | 1   | 1   |
| 5.6025 | 9   | FP-23504236       | Screw, Hexagon   | 6  | 6  | 6   | 6   |
| 5.6025 | 0   | <b>FP-5197222</b> | <b>Reconditioning Kit, Raw Water Pump (For FP-5122599)</b> | -  | 1  | 1   | 1   |
| 5.6012 | 0   | FP-23514265       | Seal Ring,   | -  | 1  | 1   | 1   |
| 5.6012 | 2   | FP-23501662       | Gasket, Raw Water Pump Body To Adaptor                     | -  | 1  | 1   | 1   |
| 5.6020 | 4   | FP-5193556        | Plate, Wear  | -  | 1  | 1   | 1   |
| 5.6025 | 9   | FP-114366         | Screw, 1/4" - 20 X 1/2" RWP Cam (Brass)                    | -  | 1  | 1   | 1   |
| 5.6035 | 7   | FP-5196167        | Cam, Raw Water Pump Body Offset                            | -  | 1  | 1   | 1   |
| 5.6090 | 8   | FP-5193555        | Cover, Raw Water Pump (End)                                | -  | 1  | 1   | 1   |
| 5.6090 | 9   | FP-23504236       | Screw, 1/4" - 20 X 1/2" RWP Cover (Stainless)              | -  | 5  | 5   | 5   |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover                               | -  | 1  | 1   | 1   |
| 5.6120 | 11  | FP-5196169        | Shaft, Raw Water Pump                                      | -  | 1  | 1   | 1   |
| 5.6130 | 12  | FP-23505479       | Bearing, Raw Water Pump                                    | -  | 1  | 1   | 1   |
| 5.6140 | 13  | FP-5196171        | Ring, Raw Water Pump Bearing Retainer                      | -  | 1  | 1   | 1   |
| 5.6160 | 14  | FP-5195101        | Seal, Raw Water Pump Bearing                               | -  | 1  | 1   | 1   |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                        | -  | 1  | 1   | 1   |
| 5.6200 | 22  | FP-5193676        | Slinger, Raw Water Pump Shaft                              | -  | 1  | 1   | 1   |
| 5.6230 | 23  | FP-8924839        | Impeller, Raw Water Pump                                   | -  | 1  | 1   | 1   |
| 5.6320 | 24  | FP-103462         | Key, Woodruff RWP Shaft                                    | -  | 1  | 1   | 1   |

# Raw Water Pump

(Figure 17.2)





# Raw Water Pump

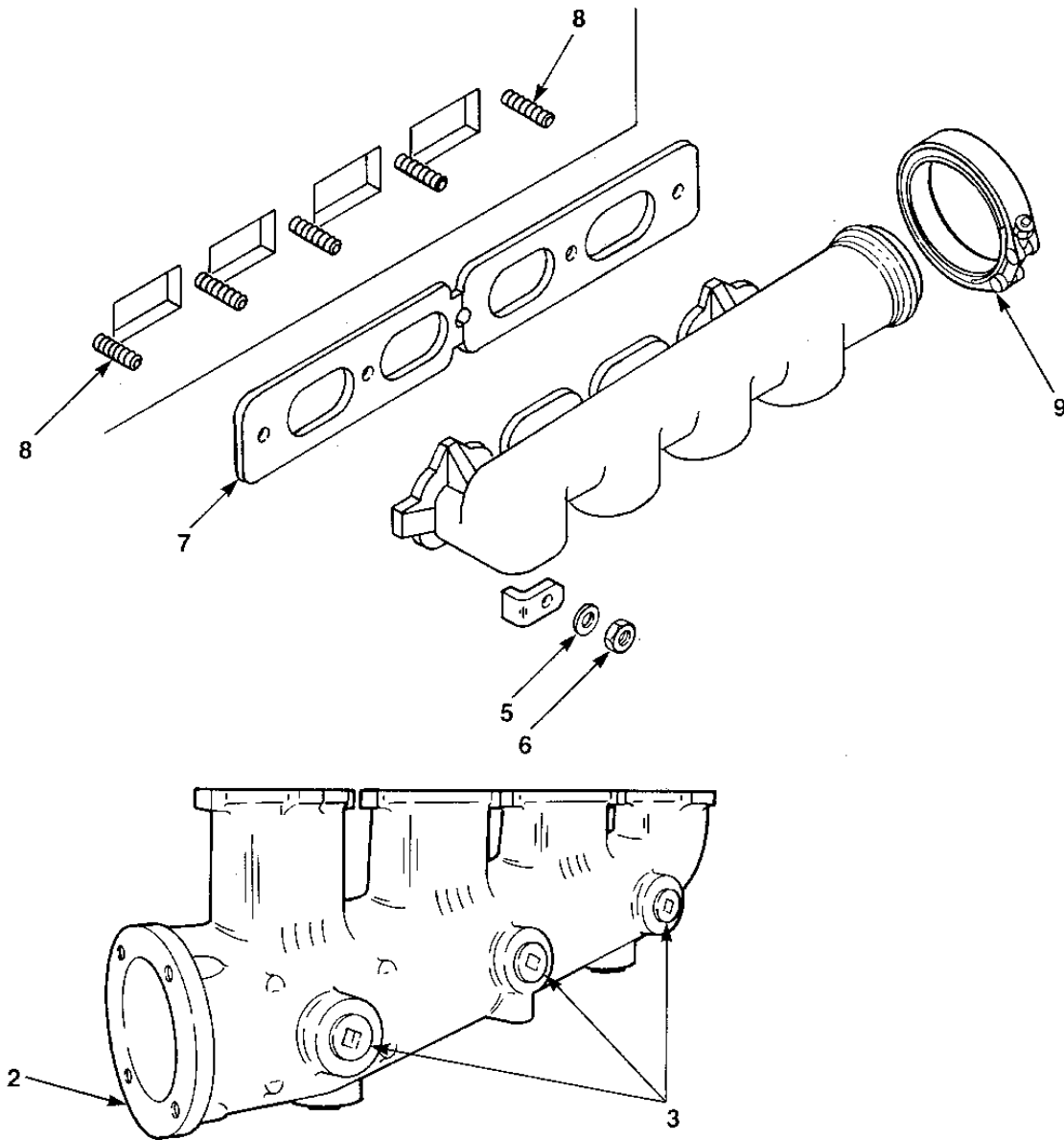
(Figure 17.2)

Groups:  
5.6012 - 6.6025

| Group  | Ref | Part No.          | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------------|--|----|----|-----|-----|
| 5.6320 | 26  | FP-103325         | Lockwasher, 5/8"   | 1  | 1  | 1   | 1   |
| 5.6320 | 24  | FP-5161024        | Key, 5/32" X 7/8"  | 1  | -  | -   | -   |
| 5.6320 | 25  | FP-5193576        | Gear, Raw Water Pump Drive                                 | 1  | -  | -   | -   |
| 5.6320 | 24  | FP-103462         | Key, 3/16" X 1"  | -  | 1  | 1   | 1   |
| 5.6330 | 0   | FP-9415285        | Ring, External Retainer                                    | 2  | 2  | 2   | 2   |
| 5.6350 | 0   | FP-23515145       | Gasket, Raw Water Pump                                     | 1  | 1  | 1   | 1   |
| 5.6410 | 0   | FP-5145092        | Bolt, 3/8" -24 X 1.20"                                     | 4  | 4  | 4   | 4   |
| 5.6410 | 0   | FP-5170450        | Plate, Raw Water Pump Drive (21 Teeth)                     | 1  | 1  | 1   | 1   |
| 5.6574 | 0   | FP-5112143        | Gasket, Raw Water Pump Inlet Elbow                         | 1  | 1  | 1   | 1   |
| 5.6574 | 0   | FP-5115395        | Gasket, Raw Water Pump Inlet Elbow                         | 1  | 1  | 1   | 1   |
| 5.6575 | 0   | FP-8517479        | Electrode Assembly, Raw Water Pump (2 1/8" L.)             | 1  | 1  | -   | 1   |
| 5.6575 | 0   | FP-8517473        | Electrode Assembly, Raw Water Pump (1 1/4" L.)             | 1  | -  | -   | -   |
| 5.6575 | 0   | FP-8515850        | Electrode Assembly, Raw Water Pump (3 3/8" L.)             | -  | 1  | 2   | -   |
| 5.6581 | 0   | FP-5115395        | Gasket, Raw Water Pump Outlet Tube                         | 1  | -  | 1   | 1   |
| 5.6581 | 0   | FP-5112143        | Gasket, Raw Water Pump Outlet Tube                         | -  | -  | -   | 1   |
| 5.6586 | 0   | FP-5186841        | Clamp, Heat Exchanger Raw Water Inlet Tube                 | 4  | 4  | 4   | 4   |
| 5.6590 | 0   | FP-9139809        | Clamp, Heat Exchanger Raw Water Outlet Tube                | 4  | 4  | 4   | 4   |
| 5.6025 | 0   | <b>FP-5197224</b> | <b>Reconditioning Kit, Raw Water (For Pump FP-5115396)</b> | 1  | -  | -   | -   |
| 5.6012 | 2   | FP-23501662       | Gasket, Raw Water Pump Body To Adaptor                     | 1  | 1  | 1   | 1   |
| 5.6020 | 4   | FP-5193556        | Plate, Wear  | 1  | 1  | 1   | 1   |
| 6.6025 | 0   | FP-23514265       | Seal Ring,   | 1  | 1  | 1   | 1   |
| 5.6035 | 9   | FP-114366         | Screw, 1/4" - 20 X 1/2" RWP Cam (Brass)                    | 1  | 1  | 1   | 1   |
| 5.6035 | 7   | FP-5193554        | Cam, Raw Water Pump Body Offset                            | 1  | -  | -   | -   |
| 5.6090 | 8   | FP-5193555        | Cover, Raw Water Pump (End)                                | 1  | 1  | 1   | 1   |
| 5.6090 | 9   | FP-23504236       | Screw, 1/4" - 20 X 1/2" RWP Cover (Stainless)              | 5  | 5  | 5   | 5   |
| 5.6100 | 10  | FP-5193562        | Gasket, Raw Water Pump Cover                               | 1  | 1  | 1   | 1   |
| 5.6120 | 11  | FP-5193552        | Shaft, Raw Water Pump                                      | 1  | -  | -   | -   |
| 5.6130 | 12  | FP-23504426       | Bearing, Raw Water Pump                                    | 1  | -  | -   | -   |
| 5.6140 | 13  | FP-9415285        | Ring, Raw Water Pump Bearing Retainer (Large)              | 1  | -  | -   | -   |
| 5.6140 | 13  | FP-5193569        | Ring, Raw Water Pump Bearing Retainer (Small)              | 1  | -  | -   | -   |
| 5.6160 | 14  | FP-5195101        | Seal, Raw Water Pump Bearing                               | 1  | 1  | 1   | 1   |
| 5.6170 | 15  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                        | 1  | 1  | 1   | 1   |
| 5.6200 | 22  | FP-5193676        | Slinger, Raw Water Pump Shaft                              | 1  | 1  | 1   | 1   |
| 5.6230 | 23  | FP-8924838        | Impeller, Raw Water Pump                                   | 1  | -  | -   | -   |
| 5.6320 | 24  | FP-5161024        | Key, Woodruff RWP Shaft                                    | 1  | -  | -   | -   |

# Exhaust Manifold

(Figure 18.1)





# Exhaust Manifold

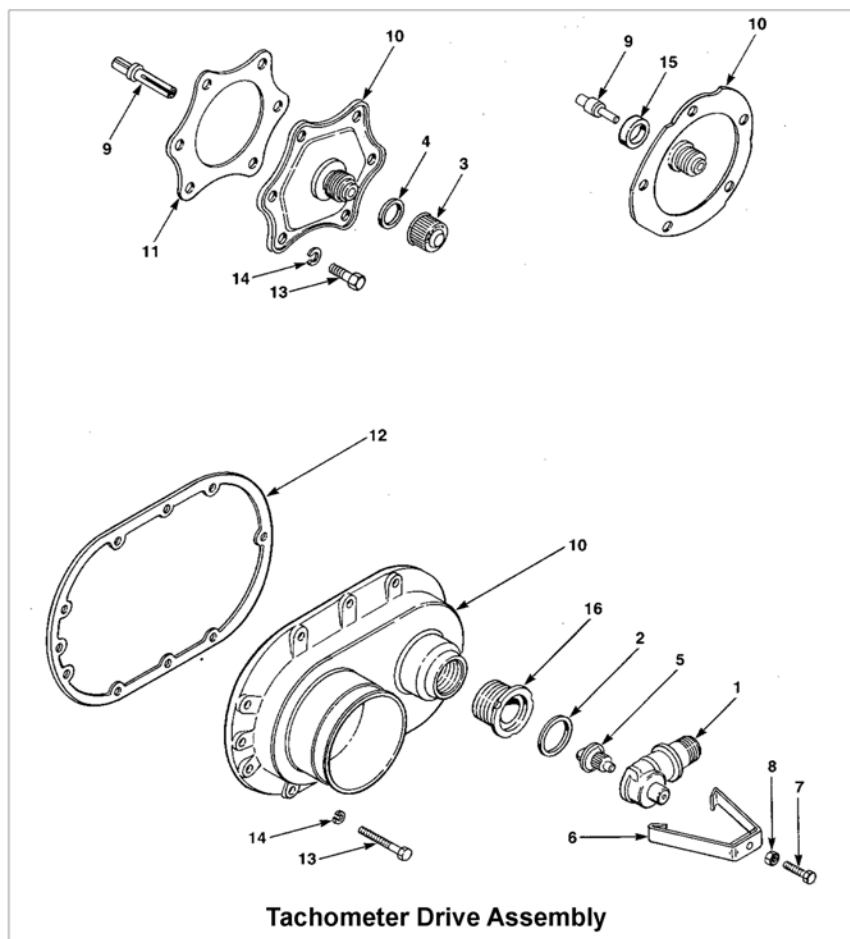
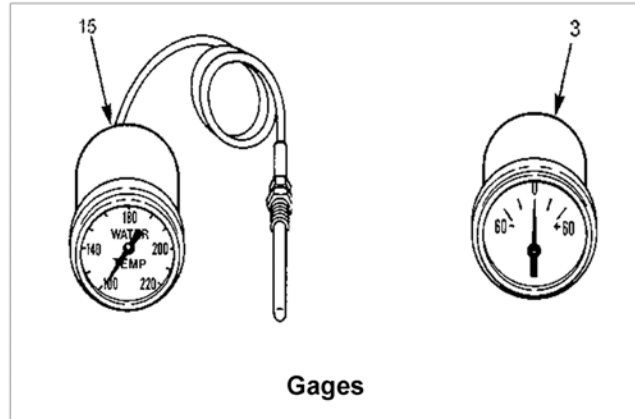
(Figure 18.1)

Groups:  
6.1001 - 6.2105

| Group  | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|--------|-----|-------------|---|----|----|-----|-----|
| 6.1001 | 5   | FP-5104439  | Washer, 7/16" X 1 1/4" (Dished)                         | 8  | 10 | 14  | 16  |
| 6.1001 | 3   | FP-23511574 | Plug, Drain   | 6  | 8  | 10  | 16  |
| 6.1001 | 9   | FP-5146165  | Clamp, 3.88" Dia. (Marmon)                              | 2  | 2  | 2   | 2   |
| 6.1001 | 0   | FP-5115214  | Plug, 1/2" Pipe   | 2  | -  | 2   | -   |
| 6.1001 | 6   | FP-23505398 | Nut, Lock 7/16" -20                                     | 12 | 16 | 24  | 32  |
| 6.1001 | 0   | FP-5142549  | Plug, 3/4" Pipe   | -  | 4  | -   | 8   |
| 6.1001 | 2   | FP-8921706  | Manifold Assembly, Exhaust (Horizontal), (Water Cooled) | -  | 2  | -   | 4   |
| 6.1003 | 0   | FP-9411981  | Nut, 3/8" - 24 Lock                                     | 12 | 14 | 16  | 24  |
| 6.1010 | 7   | FP-5113954  | Gasket, Exhaust Manifold                                | AR | AR | AR  | AR  |
| 6.1010 | 7   | FP-5122866S | Gasket, Exhaust Manifold (3 Ports), (Metal Clad)        | 2  | -  | -   | -   |
| 6.1010 | 7   | FP-5150194  | Gasket, Exhaust Manifold (Composition), (3 Ports)       | 2  | -  | -   | -   |
| 6.1010 | 7   | FP-5120224  | Gasket, Exhaust Manifold (Ends), (Metal Clad)           | -  | 4  | 4   | 8   |
| 6.1010 | 7   | FP-5150195  | Gasket, Exhaust Manifold (Composition), (End)           | -  | 4  | 4   | 8   |
| 6.1010 | 7   | FP-5120223  | Gasket, Exhaust Manifold (Intermediate), (Metal Clad)   | -  | -  | 2   | 4   |
| 6.1010 | 7   | FP-5150196  | Gasket, Exhaust Manifold (Composition), (Inter.)        | -  | -  | 2   | -   |
| 6.1012 | 0   | FP-23512114 | Gasket, Exhaust Manifold Adaptor (Old # 5148029)        | 2  | 2  | 2   | 4   |
| 6.1012 | 0   | FP-5145238  | Gasket, Exhaust Manifold Adaptor                        | 2  | 2  | 2   | 4   |
| 6.1020 | 8   | FP-8925804  | Stud, Exhaust Manifold To Head (7/16" -14/20 X 2 3/32") | 12 | 16 | 24  | 32  |
| 6.1050 | 0   | FP-8925804  | Stud, Exhaust Manifold To Head (7/16" -14/20 X 2 3/32") | 12 | 12 | 16  | 16  |
| 6.1060 | 0   | FP-5100147  | Gasket, Exhaust Manifold Outlet                         | -  | 2  | -   | -   |
| 6.1100 | 0   | FP-103320   | Lockwasher, 5/16"                                       | 12 | 12 | 12  | 24  |
| 6.1110 | 0   | FP-5156319  | Gasket, Exhaust Manifold Cover Plate                    | 4  | 4  | 4   | 16  |
| 6.1110 | 0   | FP-5113412  | Gasket, Exhaust Manifold Cover Plate                    | 1  | 1  | 2   | 4   |
| 6.1120 | 0   | FP-8925603  | Stud, Exhaust Manifold Cover Plate (5/16" - 18 X 3/4")  | 12 | 12 | 12  | 24  |
| 6.1150 | 0   | FP-5156319  | Gasket, Exhaust Manifold Water Outlet Flange            | 2  | 2  | 2   | 8   |
| 6.2085 | 0   | FP-5132650  | Clamp, Exhaust Flange                                   | 2  | 2  | -   | -   |
| 6.2085 | 0   | FP-5164146  | Flange, Exhaust Manifold                                | 2  | 2  | 2   | 4   |
| 6.2085 | 0   | FP-23506306 | Clamp, Exhaust Flange                                   | -  | 2  | -   | -   |
| 6.2085 | 0   | FP-5137620  | Clamp, Exhaust Flange                                   | -  | -  | 2   | -   |
| 6.2085 | 0   | FP-5146165  | Clamp, Exhaust Flange                                   | -  | -  | -   | 4   |
| 6.2105 | 0   | FP-23504701 | Gasket, Exhaust Outlet                                  | 2  | 2  | -   | 8   |
| 6.2105 | 0   | FP-23512114 | Gasket, Exhaust Manifold Adaptor (Old # 5148029)        | 2  | 2  | 2   | 4   |
| 6.2105 | 0   | FP-5100147  | Gasket, Exhaust Outlet                                  | 2  | 2  | 2   | 4   |
| 6.2105 | 0   | FP-5108377  | Gasket, Exhaust Outlet                                  | 2  | 2  | 2   | 4   |
| 6.2105 | 0   | FP-5108989  | Gasket, Exhaust Outlet                                  | 2  | 2  | -   | -   |
| 6.2105 | 0   | FP-5145238  | Gasket, Exhaust Outlet                                  | 2  | 2  | -   | 8   |
| 6.2105 | 0   | FP-5166486  | Gasket, Exhaust Outlet (3 1/8" I.D.)                    | 2  | 2  | -   | -   |
| 6.2105 | 0   | FP-5163811  | Gasket, Exhaust Outlet (4 3/8" I.D.)                    | -  | 2  | 2   | 8   |

# Instruments

(Figure 19.1)





# Instruments

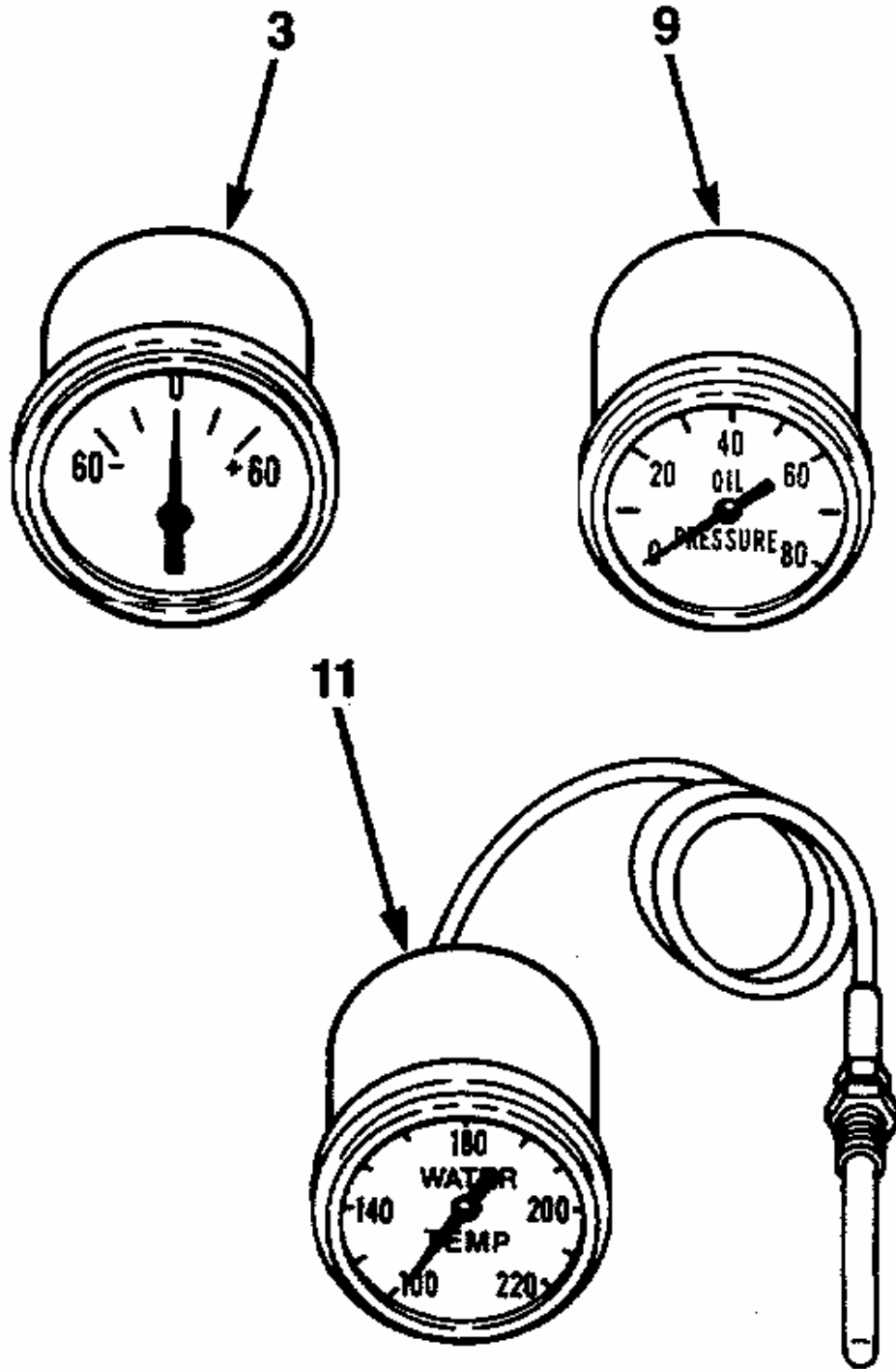
(Figure 19.1)

Groups:  
7.4013 - 7.4505

| Group  | Ref | Part No.    | Description  | 6V | 8V | 12V | 16V |
|--------|-----|-------------|--|----|----|-----|-----|
| 7.4013 | 0   | FP-103321   | Lockwasher, 3/8"                                       | 2  | 2  | 2   | 2   |
| 7.4013 | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1"                                   | 2  | 2  | 2   | 2   |
| 7.4015 | 3   | FP-6474479  | Ammeter (60 Amp)                                       | 1  | 1  | 1   | 1   |
| 7.4070 | 9   | FP-12361169 | Gage, Oil Pressure, 0-100 PSI                          | 1  | 1  | 1   | 1   |
| 7.4077 | 0   | FP-6490569  | Gage, Oil Temperature (6' Capillary)                   | 1  | 1  | 1   | 1   |
| 7.4080 | 15  | FP-6490565  | Gage, Water Temperature (10' Capillary)                | 1  | 1  | 1   | 1   |
| 7.4080 | 15  | FP-8993092  | Gage, Water Temperature (4' Capillary)                 | 1  | 1  | 1   | 1   |
| 7.4080 | 15  | FP-8993093  | Gage, Water Temperature (6' Capillary)                 | 1  | 1  | 1   | 1   |
| 7.4080 | 15  | FP-8993253  | Gage, Water Temperature (15' Capillary)                | 1  | 1  | 1   | 1   |
| 7.4421 | 0   | FP-5136678  | Gasket, Tachometer Drive Cable Adaptor                 | 1  | 1  | 1   | 1   |
| 7.4435 | 2   | FP-3224992  | Shaft, Tachometer Drive (.061" Key)                    | -  | 1  | 1   | 1   |
| 7.4435 | 2   | FP-5135936  | Shaft, Tachometer Drive                                | -  | 1  | 1   | 1   |
| 7.4445 | 0   | FP-5150568  | Washer, 7/16" Copper                                   | 1  | 1  | 1   | 1   |
| 7.4445 | 0   | FP-5190566  | Gasket, Tachometer Drive Cover Assembly                | 1  | 1  | 1   | 1   |
| 7.4445 | 13  | FP-8924266  | Gasket, Tachometer Drive Cover Assembly                | 1  | 1  | 1   | 1   |
| 7.4445 | 11  | FP-23515145 | Gasket, Tachometer Drive Cover Assembly                | -  | 1  | 1   | 1   |
| 7.4445 | 11  | FP-5104507  | Gasket, Tachometer Drive Cover Assembly                | -  | 1  | 1   | 1   |
| 7.4445 | 0   | FP-103321   | Lockwasher, 3/8"                                       | -  | -  | 6   | 6   |
| 7.4445 | 0   | FP-8927580  | Bolt, 3/8" - 16 X 7/8"                                 | -  | -  | 2   | 2   |
| 7.4450 | 0   | FP-3202615  | Seal, Tachometer Drive Cover                           | -  | 2  | 2   | 2   |
| 7.4455 | 11  | FP-5123123  | Gasket, Tachometer Drive Cover Adaptor                 | 1  | 1  | 1   | 1   |
| 7.4455 | 11  | FP-5135935  | Gasket, Tachometer Drive Cover Adaptor                 | 1  | 1  | 1   | 1   |
| 7.4455 | 11  | FP-5135935  | Gasket, Tachometer Drive Cover Adaptor                 | 1  | 1  | 1   | 1   |
| 7.4455 | 11  | FP-5136678  | Gasket, Tachometer Drive Cover Adaptor                 | 1  | 1  | 1   | 1   |
| 7.4455 | 11  | FP-5104507  | Gasket, Tachometer Drive Cover Adaptor                 | -  | 1  | 1   | 1   |
| 7.4455 | 11  | FP-23515145 | Gasket, Tachometer Drive Cover Adaptor                 | -  | -  | -   | 1   |
| 7.4457 | 0   | FP-103320   | Lockwasher, 5/16"                                      | 2  | 2  | 2   | 2   |
| 7.4457 | 14  | FP-103319   | Lockwasher, 1/4"                                       | 1  | 1  | 1   | 1   |
| 7.4457 | 0   | FP-5107931  | Gasket, Tachometer Drive Cover Cap                     | 1  | 1  | 1   | 1   |
| 7.4457 | 0   | FP-8924380  | Plug, 1/8" Pipe  | -  | -  | -   | 1   |
| 7.4458 | 0   | FP-5135820  | Seal, Tachometer Drive Adaptor                         | -  | 1  | 1   | 1   |
| 7.4505 | 0   | FP-5146080  | Switch, Water Temperature                              | AR | AR | AR  | AR  |
| 7.4505 | 0   | FP-103320   | Lockwasher, 5/16"                                      | 2  | 2  | 2   | 2   |
| 7.4505 | 0   | FP-5163830  | Gasket, Water Temperature Switch                       | 1  | 1  | 1   | 1   |
| 7.4505 | 0   | FP-5179913  | Switch, Water Temperature (Option Type 90,140,224,547) | 1  | -  | 1   | -   |
| 7.4505 | 0   | FP-5186948  | Switch, Water Temperature (Option Type 237,314)        | -  | 1  | -   | -   |
| 7.4505 | 0   | FP-5121665  | Switch, Water Temperature (Option Type 436,711,830)    | -  | -  | 1   | 1   |

# Instruments

(Figure 19.2)







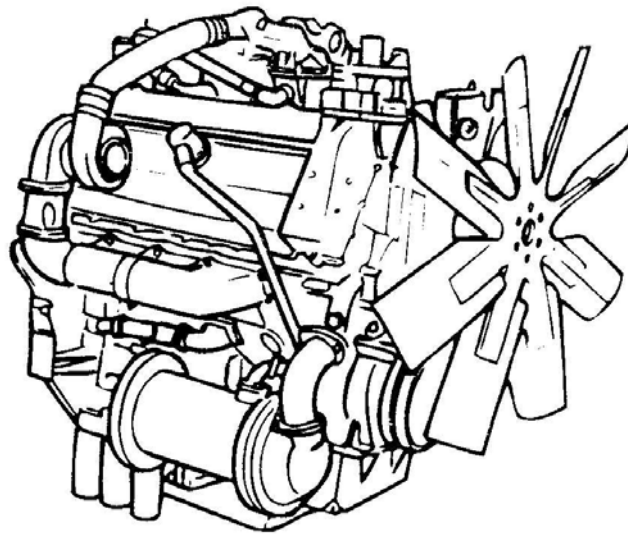
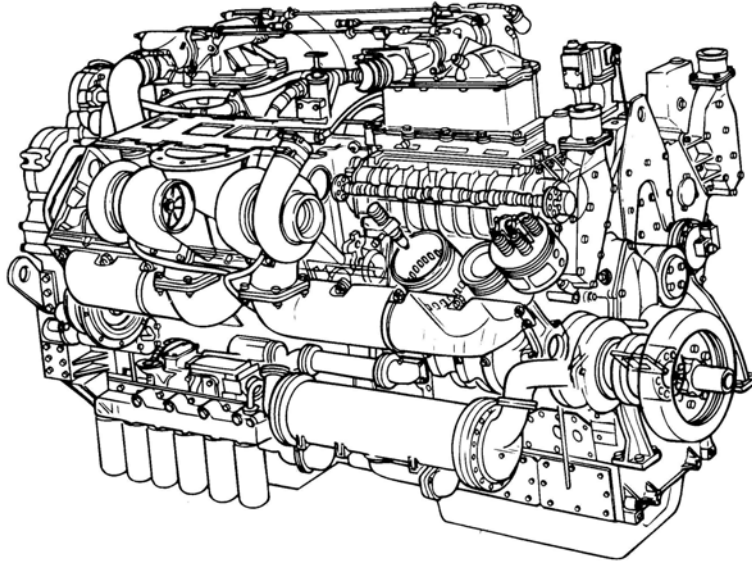
# Instruments

(Figure 19.2)

Groups:  
1.3320 - 12.5020

| Group                      | Ref | Part No.    | Description   | 6V | 8V | 12V | 16V |
|----------------------------|-----|-------------|---|----|----|-----|-----|
| 7.4509                     | 0   | FP-103320   | Lockwasher, 5/16"   | 2  | 2  | 2   | 2   |
| 7.4509                     | 0   | FP-5166486  | Gasket, Manifold Flange   | 2  | 2  | 2   | 2   |
| 7.4509                     | 0   | FP-8923847  | Plug, 1/4" Pipe   | 2  | 2  | 2   | 2   |
| 7.4509                     | 0   | FP-5121182  | Plug, 1/4" Pipe   | 1  | 1  | 1   | 1   |
| 7.4510                     | 0   | FP-5113412  | Gasket, Water Temperature Switch                                  | 1  | 1  | 1   | 1   |
| 7.4519                     | 5   | FP-103319   | Lockwasher, 1/4"  | 4  | 4  | 4   | 4   |
| 7.4519                     | 3   | FP-179803   | Bolt, 1/4" - 20 X 1 3/4"  | 1  | 1  | 1   | 1   |
| 7.4519                     | 0   | FP-23504196 | Solenoid, Air Shutoff Or Governor (12V)                           | 1  | 1  | 1   | 1   |
| 7.4519                     | 3   | FP-443603   | Bolt, 1/4" - 20 X 3/4"  | 1  | 1  | 1   | 1   |
| 7.4538                     | 0   | FP-5176810  | Pin, Clevis, Air Shutoff Control Rod (1/4" x 49/64")              | AR | AR | AR  | AR  |
| 7.4598                     | 0   | FP-23520023 | Switch, Oil Pressure (# 5 Break)                                  | 1  | 1  | 1   | 1   |
| 7.4598                     | 0   | FP-23520024 | Switch, Oil Pressure (# 10 Break)                                 | 1  | 1  | 1   | 1   |
| 7.4598                     | 0   | FP-23520025 | Switch, Oil Pressure (# 20 Make)                                  | 1  | 1  | 1   | 1   |
| 7.4598                     | 0   | FP-23520026 | Switch, Oil Pressure (# 27 Make / Break)                          | 1  | 1  | 1   | 1   |
| <b>Miscellaneous Parts</b> |     |             |   |    |    |     |     |
| 1.3320                     | 0   | FP-5133761  | Belt Set, 3 Belts (53" L - .500" W)                               | AR | AR | AR  | AR  |
| 7.1597                     | 0   | FP-5122266  | Gasket, Generator Mounting Gasket                                 | 1  | 1  | 1   | 1   |
| 7.3001                     | 0   | FP-9418228  | Bolt, Starter Motor (5/8" - 11 x 1 3/4" - 12 Point)               | AR | AR | AR  | AR  |
| 9.1001                     | 0   | FP-6700157  | Seal, Hydraulic Gear Assembly                                     | 2  | 2  | 2   | 2   |
| 9.1001                     | 0   | FP-5150475  | Gasket, Hydraulic marine Gear Assy (4.6010)                       | 1  | 1  | 1   | 1   |
| 9.1035                     | 0   | FP-6700157  | Seal, Reverse Clutch Piston                                       | 2  | 2  | 2   | 2   |
| 9.1045                     | 0   | FP-23010125 | Plate Assy, Reverse Clutch Disc                                   | 1  | 1  | 1   | 1   |
| 9.1207                     | 0   | FP-5173384  | Seal, Flywheel Oil (1 3/8")                                       | 1  | 1  | 1   | 1   |
| 9.1235                     | 0   | FP-5101603  | Plate Assy, Forward Clutch (14" 510HP)                            | 1  | 1  | 1   | 1   |
| 9.1245                     | 0   | FP-5103250  | Bolt, Flywheel (9/16" - 18 x 2.75" B/H)                           | 12 | 12 | 12  | 12  |
| 9.1270                     | 0   | FP-5156815  | Spring, Forward Clutch Dump Valve (4.1690)                        | 1  | 1  | 1   | 1   |
| 11.1100                    | 0   | FP-9418228  | Bolt, Rear Engine Support Bracket (5/8" - 11 x 1 3/4" - 12 Point) | AR | AR | AR  | AR  |
| 12.4005                    | 0   | FP-5131939  | Gasket, Air Compressor Mounting                                   | 1  | 1  | 1   | 1   |
| 12.5020                    | 0   | FP-23505523 | Gasket, Hydraulic Pump Adaptor (1.5060)                           | 1  | 1  | 1   | 1   |

## 149 SERIES ENGINE



Typical 8V-149



# 149 SERIES ENGINE

## Model Description Chart

Application, Rotation Design Variations

# 9 1 2 2 - 7 0 0 0

|                   |                     |                                     |                                      |                              |                       |
|-------------------|---------------------|-------------------------------------|--------------------------------------|------------------------------|-----------------------|
| SERIES 149 ENGINE | NUMBER OF CYLINDERS | APPLICATION DESIGNATION (see below) | BASIC ENGINE ARRANGEMENT (see below) | DESIGN VARIATION (see below) | SPECIFIC MODEL NUMBER |
|-------------------|---------------------|-------------------------------------|--------------------------------------|------------------------------|-----------------------|

### APPLICATION DESIGNATION

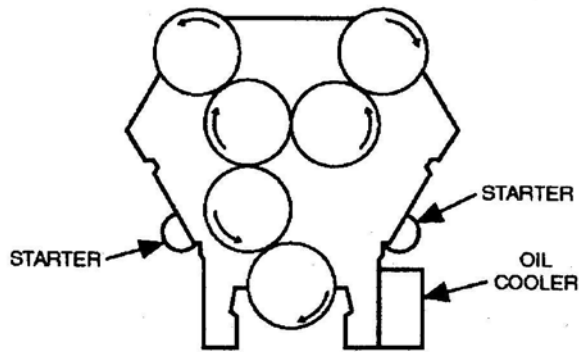
9122 - 7000 MARINE  
9123 - 7000 FAN TO FW - INDUSTRIAL

### DESIGN VARIATIONS

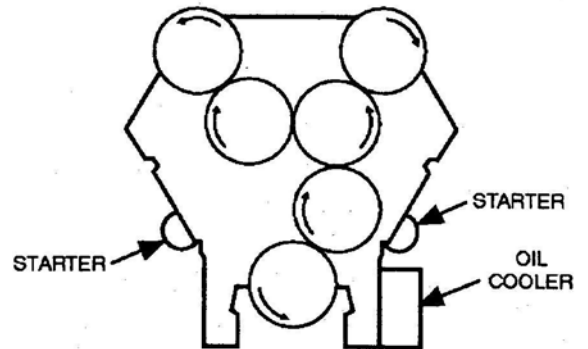
9123 - 7000 NON-TURBOCHARGED  
9123 - 7300 TURBOCHARGED

### Basic Engine Arrangements

ALL VIEWS FROM FLYWHEEL (REAR) END OF ENGINE  
ENGINE ROTATION DETERMINED BY VIEWING ENGINE FROM FRONT END



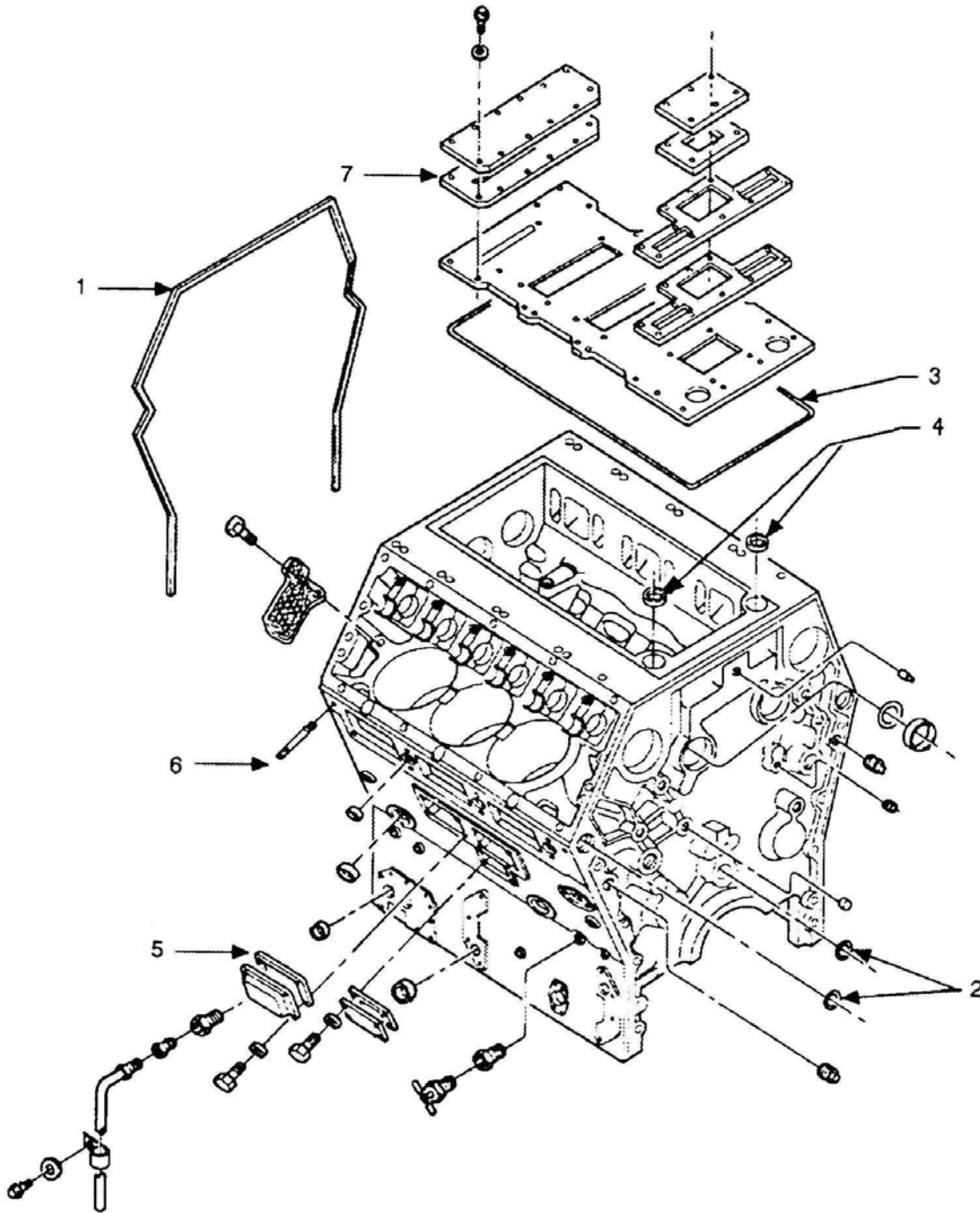
LC (XXXX-3XXX)



RC (XXXX-7XXX)

# Cylinder Block

(Figure 1.1)





# Cylinder Block

(Figure 1.1)

Groups:

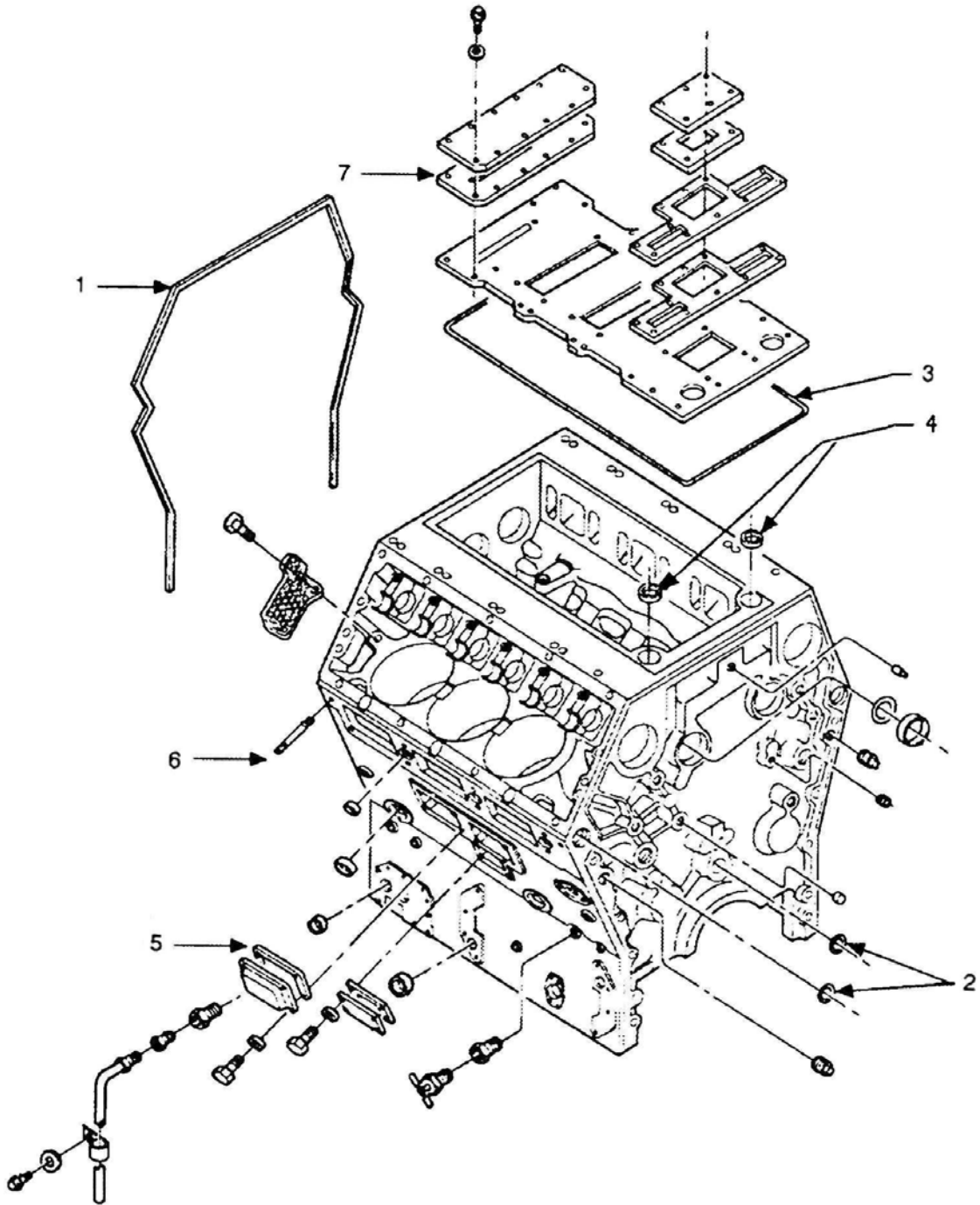
1.1001 - 1.1077

| Group  | Ref | Part No.       | Description                                      | 8V | 12V | 16V |
|--------|-----|----------------|--|----|-----|-----|
| 1.1001 | 2   | FP-5141037^    | Seal Ring, (.880" I.D.), (Water)                 | 2  | 2   | 2   |
| 1.1001 | 0   | FP-103321^     | Lockwasher, 3/8"                                 | 8  | 8   | 8   |
| 1.1001 | 0   | FP-103320^     | Lockwasher, 5/16"                                | 8  | 8   | 8   |
| 1.1001 | 0   | FP-5146279^    | Seal Ring, Rear Block                            | -  | 1   | 1   |
| 1.1001 | 0   | FP-5140261^    | Seal, Ring (Oil Gallery)                         | 1  | 1   | 1   |
| 1.1001 | 1   | FP-5140157^    | Seal, Strip Inter-Block                          | 1  | 1   | 1   |
| 1.1001 | 0   | FP-5139853^    | Bar, Bolting                                     | 2  | 2   | 2   |
| 1.1001 | 0   | FP-5139509^    | Seal Ring, Cylinder Head (7.987" I.D.), (1.2022) | 8  | 12  | 16  |
| 1.1001 | 0   | FP-5107182^    | Seal, Sleeve Water Hole (1.2022)                 | -  | 168 | 224 |
| 1.1001 | 0   | FP-5144943^    | Sleeve, Water Hole Seal (1.2021)                 | -  | 84  | 112 |
| 1.1001 | 0   | FP-5169866^    | Washer, 17/64" (Copper), (2.8810)                | 1  | 1   | 1   |
| 1.1001 | 0   | FP-8924517^    | Plug, 3/8"- 18 SQ. SOC. VIBRA SEAL               | 4  | 10  | 10  |
| 1.1001 | 0   | FP-8923313^    | Plug, 3/4" Pipe                                  | -  | 12  | 12  |
| 1.1001 | 0   | FP-5154453^    | Plug, 3/8" - 16                                  | 4  | 4   | 4   |
| 1.1001 | 6   | FP-8925804^    | Stud, 7/16" - 14/20 X 2 3/32"                    | 2  | 2   | 2   |
| 1.1001 | 0   | FP-5140843^    | Dowel, Special (1.1003)                          | 1  | 1   | 1   |
| 1.1001 | 0   | FP-454992^     | Bolt, 1/2" - 13 X 2 1/2"                         | 12 | 16  | 16  |
| 1.1001 | 0   | FP-5178997^    | Gasket, Plug (Aluminum)                          | 3  | 4   | 4   |
| 1.1001 | 0   | FP-5138659^    | Gasket, 2.75" X .063" Plug                       | 3  | 4   | 4   |
| 1.1001 | 0   | FP-5144211^    | Insert, 5/8" O.D.X 3/8" I.D. X 1 1/4" L.         | 2  | 2   | 2   |
| 1.1001 | 0   | FP-5131755^    | Washer, 17/32" X .88" X .1345"                   | 3  | 3   | 3   |
| 1.1001 | 0   | FP-5107182^    | Seal Sleeve, Counterbored Block Repair           | -  | -   | -   |
| 1.1001 | 0   | FP-8923847^    | Plug, Pipe 1/4 - 18" NPTF                        | 4  | 4   | 4   |
| 1.1002 | 0   | FP-23516493CO^ | Gasket Set, Overhaul (w/Crank Seals)             | -  | -   | 1   |
| 1.1002 | 0   | FP-23516878^   | Gasket Set, Complete Overhaul (20V149)           | -  | -   | -   |
| 1.1002 | 0   | FP-23516642^   | Gasket Set, Complete Overhaul                    | 1  | -   | -   |
| 1.1002 | 0   | FP-23516494^   | Gasket Set, Complete Overhaul                    | -  | 1   | -   |
| 1.1002 | 0   | FP-23516494CO^ | Gasket Set, Overhaul (w/Crank Seals)             | -  | 1   | -   |
| 1.1002 | 0   | FP-23516493^   | Gasket Set, Complete Overhaul                    | -  | -   | 1   |
| 1.1003 | 0   | FP-5139853     | Bar, Bolting                                     | 2  | 2   | 2   |
| 1.1003 | 0   | FP-5131755     | Washer, 17/32" X .88" X .1345" (1.7250)          | 3  | 3   | 3   |
| 1.1003 | 5   | FP-8927618     | Gasket, Cylinder Block Hand Hole Cover           | 8  | 12  | 16  |
| 1.1003 | 0   | FP-5146279     | Seal Ring, Rear Block                            | 2  | 2   | 2   |
| 1.1003 | 0   | FP-5141037     | Seal Ring, (.880" I.D.), (Water Holes)           | 2  | 2   | 2   |
| 1.1003 | 0   | FP-5140157     | Seal Strip, Inter-Block                          | 1  | 1   | 1   |
| 1.1003 | 0   | FP-23504737    | Seal Strip, Inter-Block                          | 1  | 1   | 1   |
| 1.1003 | 0   | FP-5140843     | Dowel, Special                                   | 1  | 1   | 1   |
| 1.1003 | 0   | FP-5140261     | Seal Ring, (Oil Gallery)                         | 1  | 1   | 1   |
| 1.1040 | 0   | FP-8927581     | Bolt, 3/8" - 16 X 1.135" Hand Hole Cover         | 24 | 32  | 48  |
| 1.1050 | 5   | FP-8927618     | Gasket, Cylinder Block Hand Hole Cover           | 8  | 12  | 16  |
| 1.1070 | 0   | FP-23506132    | Gasket, Cylinder Block Water Hole Cover          | 2  | 6   | 6   |
| 1.1077 | 0   | FP-5152148     | Washer, 3/8" X 9/16" (Copper)                    | 10 | 12  | 14  |
| 1.1077 | 0   | FP-8924517     | Plug, 3/8"- 18 SQ. SOC. VIBRA SEAL               | 1  | -   | -   |
| 1.1077 | 0   | FP-5155596     | Washer, 21/64" (Special Copper)                  | 5  | 5   | 5   |

^ Gasket sets are less head gasket components, oil cooler gaskets and air inlet blower gaskets.

# Cylinder Block

(Figure 1.2)





# Cylinder Block

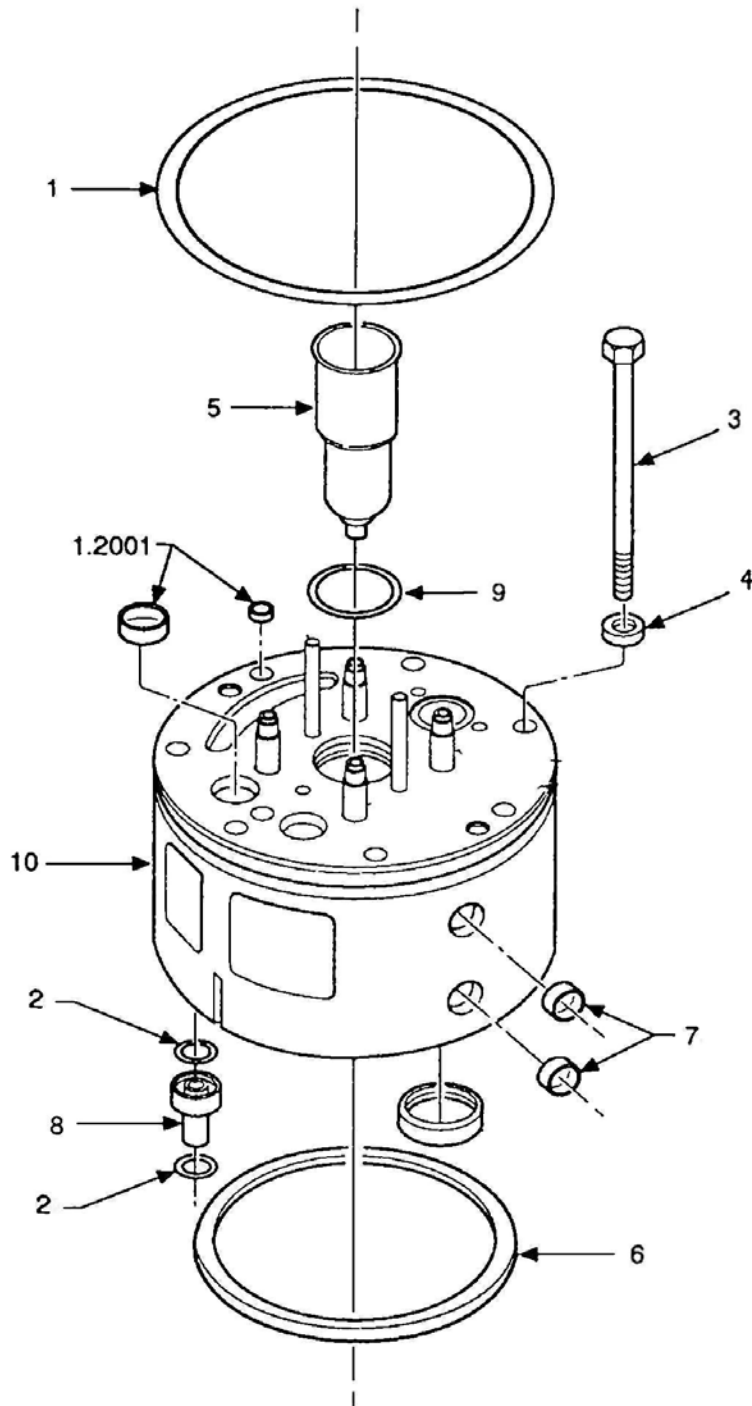
(Figure 1.2)

Groups:  
1.1087 - 1.1087

| Group  | Ref | Part No.   | Description                                    | 8V | 12V | 16V |
|--------|-----|------------|--|----|-----|-----|
| 1.1087 | 3   | FP-5139918 | Ring Seal, Air Box Cover                       | 2  | 2   | 2   |
| 1.1087 | 0   | FP-8927618 | Gasket, Air Box Cover                          | 8  | 8   | 12  |
| 1.1087 | 4   | FP-5144035 | Ring Seal, Air Box Cover (.139" X 1.609" I.D.) | 4  | 4   | 4   |
| 1.1087 | 4   | FP-5139696 | Ring Seal, Air Box Cover                       | 2  | 2   | 2   |
| 1.1087 | 4   | FP-5140956 | Ring Seal, Air Box Cover                       | 2  | 2   | 2   |
| 1.1087 | 7   | FP-5143686 | Gasket, Inspection Hole (Front)                | 1  | 2   | 2   |
| 1.1087 | 0   | FP-5145623 | Gasket, Governor Hole                          | 1  | 1   | 1   |

# Cylinder Head

(Figure 2.1)







# Cylinder Head

(Figure 2.1)

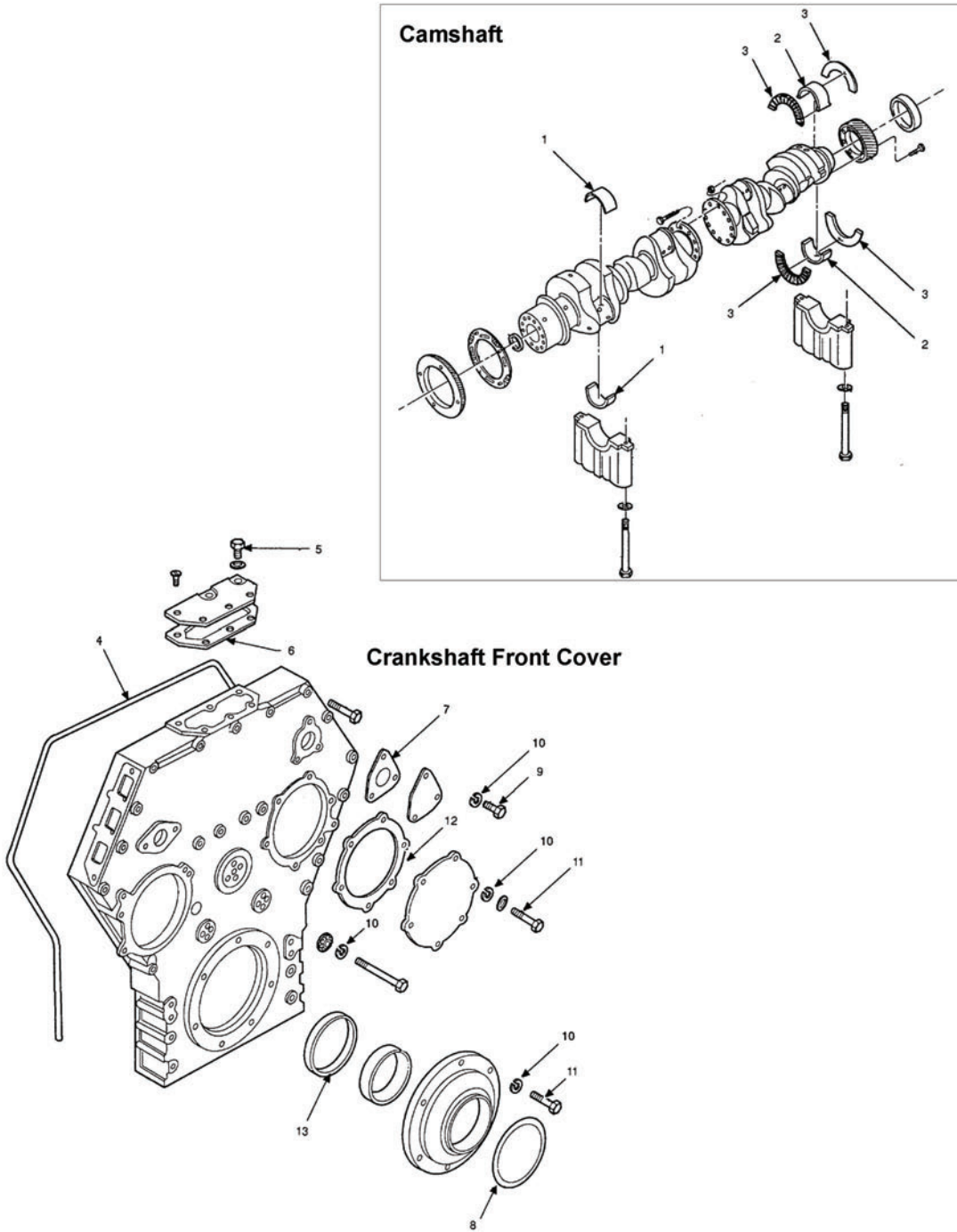
Groups:

1.2001 - 1.2070

| Group  | Ref | Part No.    | Description  | 8V  | 12V | 16V |
|--------|-----|-------------|--|-----|-----|-----|
| 1.2001 | 10  | FP-8924760  | Head Assembly (Short Slot)                                     | 8   | 12  | 16  |
| 1.2001 | 7   | FP-5139997  | Plug, 7/8" Cup   | 6   | 6   | 6   |
| 1.2001 | 0   | FP-8926993  | Plug, Fuse (1/4" - 18 Recessed Socket)                         | 1   | 1   | 1   |
| 1.2002 | 0   | FP-5149597  | Gasket Kit, Cylinder Head Installation                         | 8   | 12  | 16  |
| 1.2010 | 6   | FP-23515231 | Gasket, Cylinder Compression                                   | 8   | 12  | 16  |
| 1.2021 | 8   | FP-5144943  | Sleeve Assembly, Water Hole Seal                               | 56  | 84  | 112 |
| 1.2022 | 2   | FP-5107182  | Seal, Sleeve, Cylinder Water & Oil                             | 112 | 168 | 224 |
| 1.2022 | 1   | FP-5139509  | Ring Seal, (.987" I.D.)  | 1   | 1   | 1   |
| 1.2030 | 3   | FP-23509593 | Bolt, 9/16" - 18 X 7.156"                                      | 7   | 7   | 7   |
| 1.2030 | 4   | FP-5139850  | Washer, Cylinder Head Bolt                                     | 7   | 7   | 7   |
| 1.2045 | 5   | FP-5199528  | Tube Kit, Injector Hole (Includes ring seal reference # 09.)   | 1   | 1   | 1   |
| 1.2046 | 9   | FP-5146539  | Ring, Seal (1.609" I.D.) White Dot                             | 1   | 1   | 1   |
| 1.2061 | 0   | FP-5139436  | Tube (Elbow to Block)  | 1   | 1   | 1   |
| 1.2061 | 0   | FP-106261   | Washer, 5/16" X 3/4"   | 2   | 2   | 2   |
| 1.2062 | 0   | FP-5139457  | Ring Seal, (.862" I.D.)  | 2   | 2   | 2   |
| 1.2062 | 0   | FP-5126623  | Seal, Ring   | 1   | 1   | 1   |
| 1.2070 | 0   | FP-5107175  | Washer, 1/2" Seal  | 2   | 2   | 2   |
| 1.2070 | 0   | FP-5132715  | Washer, .53" X .94" X .12"                                     | 2   | 2   | 2   |
| 1.2070 | 0   | FP-103321   | Lockwasher, 3/8"   | 1   | 1   | 1   |
| 1.2030 | 3   | FP-HBS149   | Cylinder Head Bolt & Washer Set (Includes 7 Bolts & 7 Washers) | 1   | 1   | 1   |

# Crankshaft

(Figure 3.1)





# Crankshaft

(Figure 3.1)

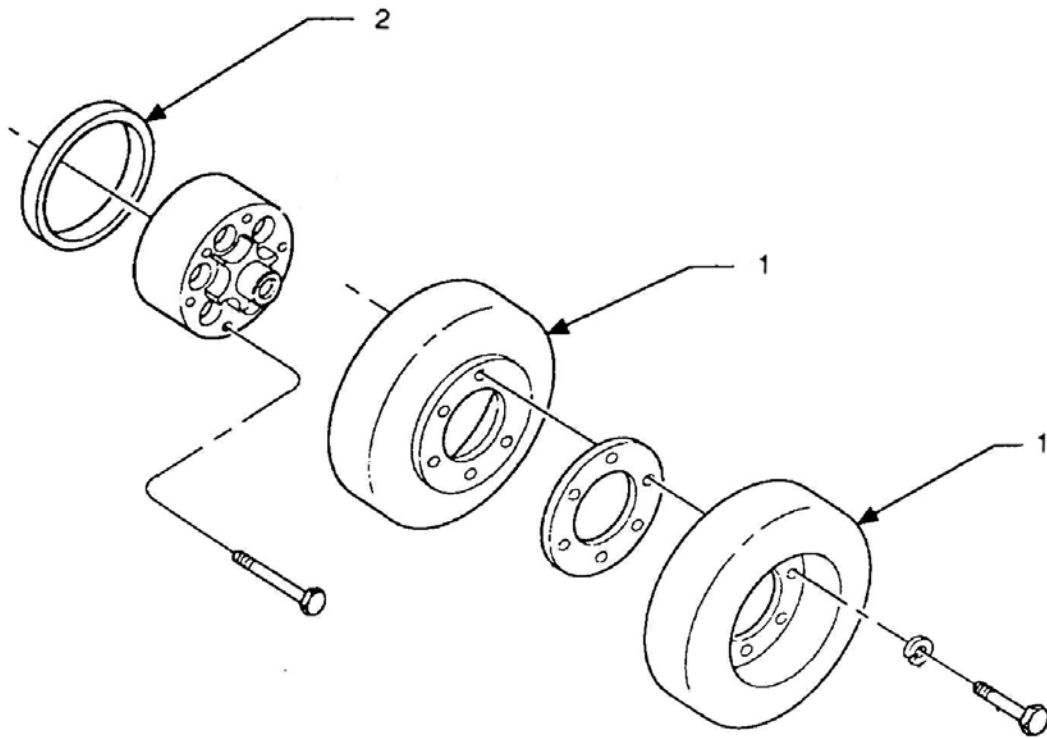
Groups:

1.3001 - 1.3198

| Group                         | Ref | Part No.    | Description   | 8V | 12V | 16V |
|-------------------------------|-----|-------------|---|----|-----|-----|
| 1.3001                        | 0   | FP-5115214  | Plug, 1/2" Pipe   | 1  | 1   | 1   |
| 1.3001                        | 0   | FP-5145528  | Bolt, 7/16" - 20 X 1 1/2"   | 1  | 1   | 1   |
| 1.3090                        | 1   | FP-5149113  | Shell Set, Intermediate Main Bearing .020" U.S. (Narrow), (1.80") | 4  | 6   | 8   |
| 1.3090                        | 2   | FP-5199114  | Shell Set, End Main Bearing .030" U.S. (Wide), (2.70")            | 1  | 2   | 2   |
| 1.3090                        | 2   | FP-5199112  | Shell Set, End Main Bearing .020" U.S. (Wide), (2.70")            | 1  | 2   | 2   |
| 1.3090                        | 2   | FP-5199110  | Shell Set, End Main Bearing .010" U.S. (Wide), (2.70")            | 1  | 2   | 2   |
| 1.3090                        | 2   | FP-5199108  | Shell Set, End Main Bearing .002" U.S. (Wide), (2.70")            | 1  | 2   | 2   |
| 1.3090                        | 1   | FP-5149115  | Shell Set, Intermediate Main Bearing .030" U.S. (Narrow), (1.80") | 4  | 6   | 8   |
| 1.3090                        | 1   | FP-5149111  | Shell Set, Intermediate Main Bearing .010" U.S. (Narrow), (1.80") | 4  | 6   | 8   |
| 1.3090                        | 1   | FP-5149109  | Shell Set, Intermediate Main Bearing .002" U.S. (Narrow), (1.80") | 4  | 6   | 8   |
| 1.3090                        | 1   | FP-5149096  | Shell Set, Intermediate Main Bearing (Std.), (Narrow), (1.80")    | 4  | 6   | 8   |
| 1.3090                        | 2   | FP-5198615  | Shell Set, End Main Bearing (Std.), (Wide), (2.70")               | 1  | 2   | 2   |
| 1.3100                        | 3   | FP-5138992  | Washer, Thrust Crankshaft (Std.)                                  | 4  | 4   | 4   |
| 1.3100                        | 3   | FP-5199248  | Washer, Thrust Crankshaft (.005 O.S.)                             | 4  | 4   | 4   |
| 1.3100                        | 3   | FP-5199249  | Washer, Thrust Crankshaft (.010 O.S.)                             | 4  | 4   | 4   |
| <b>Crankshaft Front Cover</b> |     |             |   |    |     |     |
| 1.3160                        | 0   | FP-116337   | Plug, 1 1/16"   | 4  | 4   | 4   |
| 1.3160                        | 0   | FP-103345   | Washer, 5/8"  | 11 | 11  | 11  |
| 1.3160                        | 0   | FP-103321   | Lockwasher, 3/8"  | 1  | 1   | 1   |
| 1.3160                        | 0   | FP-103026   | Nut, 3/8" - 24  | 1  | 1   | 1   |
| 1.3160                        | 0   | FP-5102373  | Washer (Generator Shaft)  | 12 | 12  | 12  |
| 1.3160                        | 0   | FP-5180539  | Gasket  | 2  | 2   | 2   |
| 1.3160                        | 0   | FP-5154453  | Plug 3/8" - 16  | 1  | 1   | 1   |
| 1.3160                        | 0   | FP-5107175  | Washer, 1/2" Seal   | 8  | 10  | 10  |
| 1.3160                        | 0   | FP-5132715  | Washer, .53" X .94" X .12"  | 8  | 10  | 10  |
| 1.3160                        | 0   | FP-5121182  | Plug, 1/4" Pipe   | 1  | 1   | 1   |
| 1.3163                        | 8   | FP-5139584  | Seal Ring   | 1  | 1   | 1   |
| 1.3164                        | 0   | FP-23515534 | Seal Kit, w/Wear Sleeve (Teflon), (Front L.H. Rot.)               | 1  | 1   | 1   |
| 1.3164                        | 0   | FP-5132715  | Washer, .53" X .94" X .12"  | 7  | 7   | 7   |
| 1.3164                        | 13  | FP-23505760 | Seal, Oil With Dust Lip (Single Lip Teflon), (Front R.H. Rot.)    | 1  | 1   | 1   |
| 1.3170                        | 0   | FP-5141037  | Seal Ring (.880" I.D.) Water Holes                                | 2  | 2   | 2   |
| 1.3170                        | 4   | FP-5141245  | Seal (Strip)  | 1  | 1   | 1   |
| 1.3175                        | 5   | FP-8927580  | Bolt, 3/8" - 16 X 1.015"  | 5  | 5   | 5   |
| 1.3177                        | 6   | FP-5140419  | Gasket, Front Cover Governor                                      | 1  | 1   | 1   |
| 1.3195                        | 10  | FP-103321   | Lockwasher, 3/8"  | 3  | 3   | 3   |
| 1.3195                        | 9   | FP-8927581  | Bolt, 3/8" - 16 X 1.035"  | 3  | 3   | 3   |
| 1.3195                        | 5   | FP-8927580  | Bolt, 3/8" - 16 X 1.015"  | 3  | 3   | 3   |
| 1.3196                        | 7   | FP-5141878  | Gasket, Front Cover Small Hole                                    | 1  | 1   | 1   |
| 1.3197                        | 10  | FP-103321   | Lockwasher, 3/8"  | 6  | 6   | 6   |
| 1.3197                        | 0   | FP-103026   | Nut, 3/8" - 24  | 1  | 1   | 1   |
| 1.3197                        | 0   | FP-8923847  | Plug, Pipe 1/4" - 18 NPTF   | 1  | 1   | 1   |
| 1.3197                        | 0   | FP-8924380  | Plug, 1/8" -27 Pipe   | 1  | 1   | 1   |
| 1.3197                        | 11  | FP-8927581  | Bolt, 3/8" - 16 X 1.035"  | 5  | 5   | 5   |
| 1.3198                        | 12  | FP-5139583  | Gasket, Front Cover Hole  | 1  | 1   | 1   |

# Vibration Damper

(Figure 3.2)





# Vibration Damper

(Figure 3.2)

Groups:

1.3210 - 1.5075

| Group                   | Ref | Part No.    | Description  | 8V | 12V | 16V |
|-------------------------|-----|-------------|--|----|-----|-----|
| 1.3210                  | 1   | FP-8922492  | Damper (Heavy Viscous)   | 2  | 2   | 2   |
| 1.3210                  | 1   | FP-5107312  | Damper (18" Dia.)  | -  | -   | 2   |
| 1.3232                  | 2   | FP-23506511 | Sleeve, Vibration Damper Hub   | 1  | 1   | 1   |
| 1.3280                  | 0   | FP-5131724  | Key, 3/8" X 1" Woodruff (Crankshaft Pulley)  | 2  | 2   | 2   |
| <b>Flywheel Housing</b> |     |             |  |    |     |     |
| 1.5004                  | 0   | FP-23505760 | Seal, Oil With Dust Lip (Single LipTeflon), (Rear L.H. Rot.)   | 1  | 1   | 1   |
| 1.5004                  | 0   | FP-23515534 | Seal Kit, w/Wear Sleeve (Teflon), (Rear R.H. Rot.)   | 1  | 1   | 1   |
| 1.5004                  | 0   | FP-23501875 | Seal, Crankshaft O.S. (R.H.ROT.), (Use w/ FP-5198553 Sleeve) (Above Seal for Types 418,419,428,771,800 Only) | 1  | 1   | 1   |
| 1.5010                  | 0   | FP-5141245  | Seal (Strip)   | 1  | 1   | 1   |
| 1.5010                  | 0   | FP-5180539  | Gasket   | 2  | 2   | 2   |
| 1.5012                  | 0   | FP-5198553  | Sleeve, Rear Crankshaft Oil Seal (Use w/ FP-23501875 Seal) (Above Sleeve for Types 418,419,428,771,800 Only) | 1  | 1   | 1   |
| 1.5021                  | 0   | FP-5132715  | Washer, .53" X .94" X .12"   | 7  | 7   | 7   |
| 1.5022                  | 0   | FP-5139584  | Seal Ring, Rear Support  | 1  | 1   | 1   |
| 1.5061                  | 0   | FP-23511917 | Seal Ring, Flywheel Housing Accessory Hole   | 1  | 1   | 1   |
| 1.5062                  | 0   | FP-5141021  | Gasket, Flywheel Housing Accessory Hole (At # 1)   | 1  | 1   | 1   |
| 1.5062                  | 0   | FP-5140620  | Gasket, Flywheel Housing Accessory Hole (At # 4)   | 2  | 2   | 2   |
| 1.5065                  | 0   | FP-5150568  | Washer, 7/16"  | 2  | 2   | 2   |
| 1.5065                  | 0   | FP-5125108  | Washer, 7/16" x 3/4"   | 2  | 2   | 2   |
| 1.5065                  | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1.135"   | 12 | 12  | 12  |
| 1.5066                  | 0   | FP-5140035  | Gasket, Flywheel Housing Cam Gear Hole Cover (At # 2)  | 2  | 2   | 2   |
| 1.5066                  | 0   | FP-23515145 | Gasket, Flywheel Housing Cam Gear Hole Cover   | 2  | 2   | 2   |
| 1.5075                  | 0   | FP-5130995  | Gasket, Starting Motor Hole Cover  | 1  | 1   | 1   |



# Cylinder Kits

| Cylinder Kit                | Description   | C/R   | Option Type Numbers                                       |
|-----------------------------|---|-------|---|
| <b>149 Series</b>           |   |       |   |
| FP-5149715                  | Cylinder Kit, Narrow Fire Ring T & NA, Above Kit<br>Replaces (5149526), (5149647), (5199883), (5199884) | 17:01 | (106,114,130,136,159,160,193,198,199,358,404,456)         |
| FP-5149527                  | Cylinder Kit, Narrow Fire Ring T & TI, Above Kit<br>Replaces (5149648), (5199885)                       | 16:01 | (145,192,195,196,197,200,220,257,354,379,382,383,384,391) |
| FP-5149934                  | Cylinder Kit, Wide Fire Ring T & TI   | 17:01 | (216,218,281,352,364)                                     |
| FP-8924890                  | Cylinder Kit, Wide Fire Ring T & TI, Above Kit<br>Replaces (5149714), (8926907)                         | 16:01 | (217,267,284,371,385)                                     |
| FP-CK23502389               | Cylinder Kit, Narrow Fire Ring  | 15:01 | (309,357,374,381,386,392)                                 |
| FP-23502389 - Crown         |   |       |   |
| FP-23523189 - Cyl Inst. Kit |   |       |   |
| FP-5138135 - Liner          |   |       |   |
| FP-8928932 - Ring Set       |   |       |   |
| FP-CK23502393               | Cylinder Kit, Wide Fire Ring  |       | (335,366,367,390)   |
| FP-23502393 - Crown         |   |       |   |
| FP-23523189 - Cyl Inst. Kit |   |       |   |
| FP-5138135 - Liner          |   |       |   |
| FP-23501524 - Ring set      |   |       |   |
| FP-CK23502389               | Turbo & Turbo-Intercooled Narrow Fire Ring  |       | (373,393,400)   |
| FP-23502389 - Crown         |   |       |   |
| FP-23523189 - Cyl Inst. Kit |   |       |   |
| FP-23502356 - Liner         |   |       |   |
| FP-8928932 - Ring Set       |   |       |   |
| FP-CK23502390               | Turbo & Non-Aspirated Narrow Fire Ring  | 16:01 | (399,438,447)   |
| FP-23502390 - Crown         |   |       |   |
| FP-23523189 - Cyl Inst. Kit |   |       |   |
| FP-23502356 - Liner         |   |       |   |
| FP-8928932 - Ring Set       |   |       |   |
| FP-CK23502393               | Turbo & Turbo-Intercooled Wide Fire Ring  | 15:01 | (412)   |
| FP-23502393 - Crown         |   |       |   |
| FP-23523189 - Cyl Inst. Kit |   |       |   |
| FP-23502356 - Liner         |   |       |   |
| FP-23501524 - Ring Set      |   |       |   |
| FP-CK23502671               | Cylinder Kit, Narrow Fire Ring  | 17:01 | (483)   |
| FP-23502671 - Crown         |   |       |   |
| FP-23523189 - Cyl Inst. Kit |   |       |   |
| FP-23502356 - Liner         |   |       |   |
| FP-8928932 - Ring Set       |   |       |   |
| FP-CK23502388               | Cylinder Kit, Wide Fire Ring  | 16:01 | (500)   |
| FP-23502388 - Crown         |   |       |   |
| FP-23523189 - Cyl Inst. Kit |   |       |   |
| FP-23502356 - Liner         |   |       |   |
| FP-23501524 - Ring Set      |   |       |   |
| FP-23523189                 | Cylinder Installation Kit   |       | All Types   |

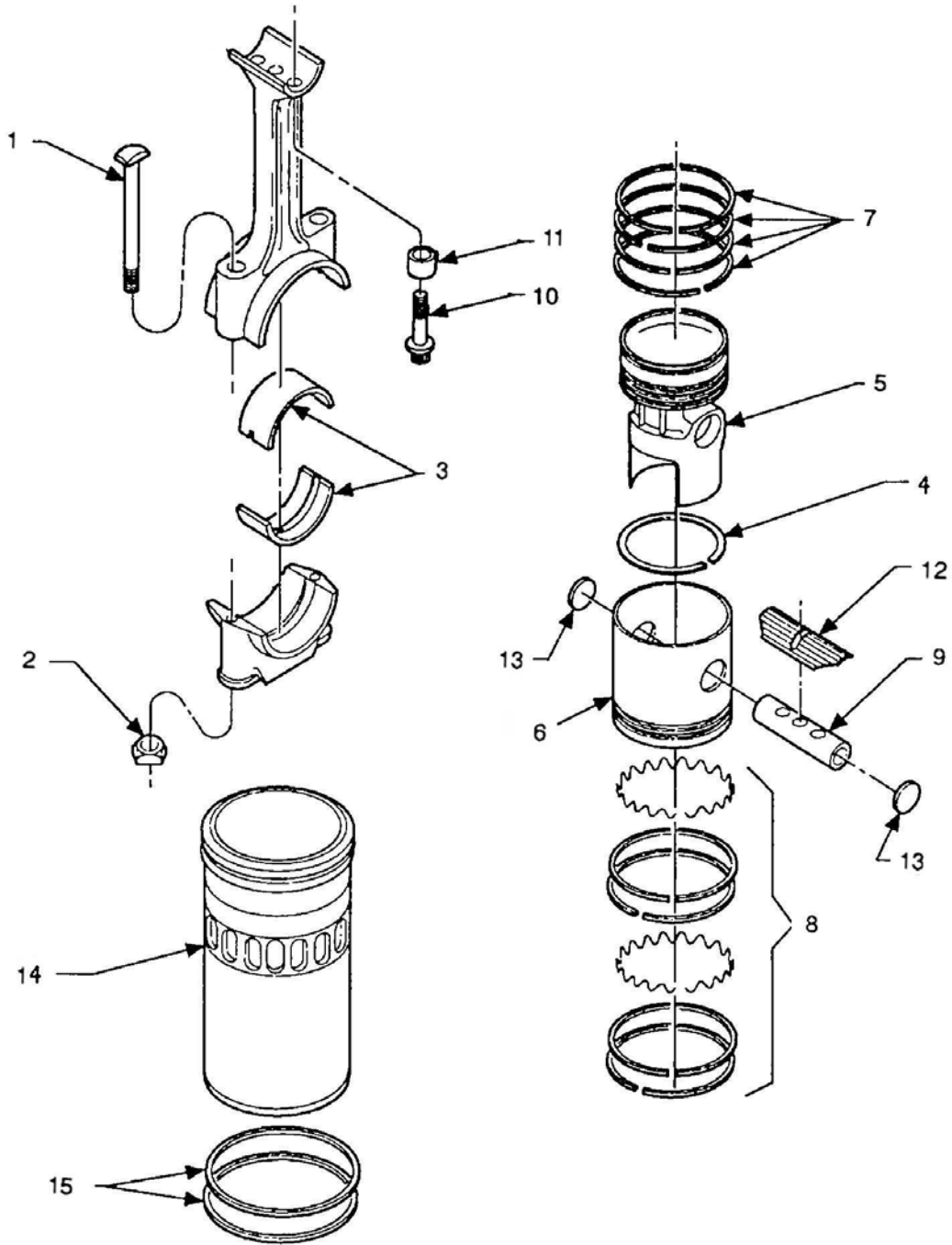


# Cylinder Kits

| Dome              | Seal, Dome | Skirt      | Slipper Brg                           | Liner                     | Port Ht | Ring Set    | Pin        | Retainer   |
|-------------------|------------|------------|---------------------------------------|---------------------------|---------|-------------|------------|------------|
| <b>149 Series</b> |            |            |                                       |                           |         |             |            |            |
| FP-23502671       | FP-8924099 | FP-5144912 | FP-23504149 Bolt<br>FP-5141126 Spacer | FP-5138135<br>FP-5101198  | 1.15"   | FP-8928932  | FP-8926002 | FP-5101323 |
| FP-23502390       | FP-8924099 | FP-5144912 | FP-5141126 Spacer<br>FP-23504149 Bolt | FP-5138135<br>FP-5101198  | 1.15"   | FP-8928932  | FP-8926002 | FP-5101323 |
| FP-23502672       | FP-8924099 | FP-5144912 | FP-23504149 Bolt<br>FP-5141126 Spacer | FP-5138135<br>FP-5101198  | 1.15"   | FP-23501524 | FP-8926002 | FP-5101323 |
| FP-23502388       | FP-8924099 | FP-5144912 | FP-5141126 Spacer<br>FP-23504149 Bolt | FP-5138135<br>FP-5101198  | 1.15"   | FP-23501524 | FP-8926002 | FP-5101323 |
| FP-23502389       | FP-8924099 | FP-5144912 | FP-23504149 Bolt<br>FP-5141126 Spacer | FP-5138135<br>FP-5101198  | 1.15"   | FP-8928932  | FP-8926002 | FP-5101323 |
|                   | FP-8924099 | FP-5144912 | FP-23504149 Bolt<br>FP-5141126 Spacer | FP-5138135<br>FP-5101198  | 1.15"   | FP-23501524 | FP-8926002 | FP-5101323 |
| FP-23502389       | FP-8924099 | FP-5144912 | FP-23504149 Bolt<br>FP-5141126 Spacer | FP-23502356<br>FP-5101198 | .85"    | FP-8928932  | FP-8926002 | FP-5101323 |
| FP-23502390       | FP-8924099 | FP-5144912 | FP-23504149 Bolt<br>FP-5141126 Spacer | FP-23502356<br>FP-5101198 | .85"    | FP-8928932  | FP-8926002 | FP-5101323 |
|                   | FP-8924099 | FP-5144912 | FP-23504149 Bolt<br>FP-5141126 Spacer | FP-23502356<br>FP-5101198 | .85"    | FP-23501524 | FP-8926002 | FP-5101323 |
| FP-23502671       | FP-8924099 | FP-5144912 | FP-23504149 Bolt<br>FP-5141126 Spacer | FP-23502356<br>FP-5101198 | .85"    | FP-8928932  | FP-8926002 | FP-5101323 |
| FP-23502388       | FP-8924099 | FP-5144912 | FP-23504149 Bolt<br>FP-5141126 Spacer | FP-23502356<br>FP-5101198 | .85"    | FP-23501524 | FP-8926002 | FP-5101323 |
|                   | FP-8924099 | FP-5144912 | FP-5141126 Spacer,<br>Bolt            |                           |         |             | FP-8926002 | FP-5101323 |

# Connecting Rod & Piston

(Figure 4.1)







# Connecting Rod & Piston

(Figure 4.1)

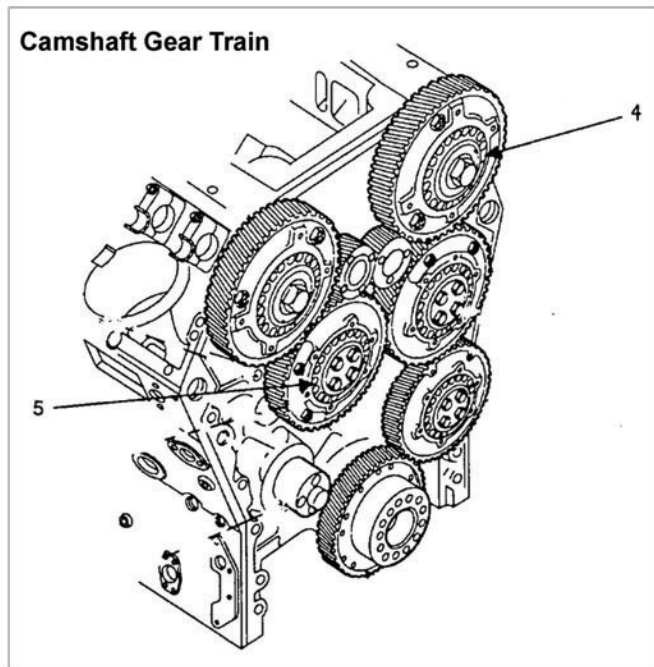
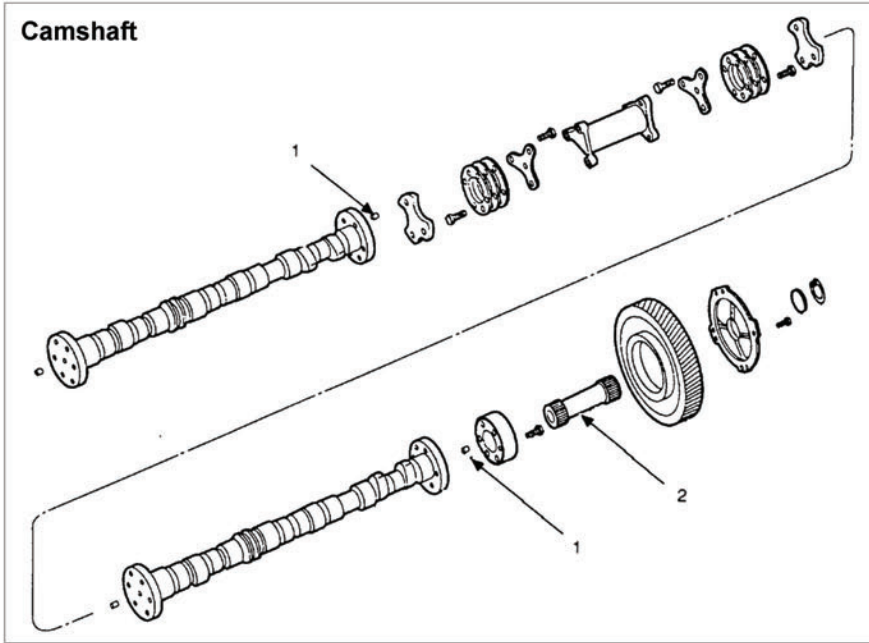
Groups:

1.6001 - 1.6190

| Group  | Ref | Part No.           | Description  | 8V | 12V | 16V |
|--------|-----|--------------------|--|----|-----|-----|
| 1.6001 | 2   | FP-5139553         | Nut, Connecting Rod                                | 16 | 24  | 32  |
| 1.6001 | 1   | FP-5139552         | Bolt, Connecting Rod                               | 16 | 24  | 32  |
| 1.6100 | 3   | FP-5198547         | Shell Set (Std.)                                   | 8  | 12  | 16  |
| 1.6100 | 3   | FP-5199104         | Shell Set, (.002" U.S.)                            | 8  | 12  | 16  |
| 1.6100 | 3   | FP-5199105         | Shell Set, (.010" U.S.)                            | 8  | 12  | 16  |
| 1.6100 | 3   | FP-5199106         | Shell Set, (.020" U.S.)                            | 8  | 12  | 16  |
| 1.6100 | 3   | FP-5199107         | Shell Set, (.030" U.S.)                            | 8  | 12  | 16  |
| 1.6106 | 4   | FP-8924099         | Ring Seal, Dome                                    | 8  | 12  | 16  |
| 1.6110 | 5   | FP-23502393        | Crown, Piston (15:1) Wide Fire Ring                | 8  | 12  | 16  |
| 1.6110 | 6   | FP-5144912         | Skirt, Piston (w/Drain Holes)                      | 8  | 12  | 16  |
| 1.6110 | 5   | FP-23502671        | Crown, Piston (17:1) Narrow Fire Ring              | 8  | 12  | 16  |
| 1.6110 | 5   | FP-23502390        | Crown, Piston (16:1) Narrow Fire Ring              | 8  | 12  | 16  |
| 1.6110 | 5   | FP-23502389        | Crown, Piston (15:1) Narrow Fire Ring              | 8  | 12  | 16  |
| 1.6110 | 5   | FP-23502388        | Crown, Piston (16:1) Wide Fire Ring                | 8  | 12  | 16  |
| 1.6110 | 5   | FP-23502672        | Crown, Piston (17:1) Wide Fire Ring                | 8  | 12  | 16  |
| 1.6140 | 9   | FP-8926002         | Pin, Piston  | 8  | 12  | 16  |
| 1.6140 | 11  | FP-5141126         | Spacer, Bolt                                       | 16 | 24  | 32  |
| 1.6140 | 10  | FP-23504149        | Bolt, 1/2" Pin To Rod                              | 16 | 24  | 32  |
| 1.6142 | 12  | FP-8926153         | Bearing, Rod (Slipper)                             | 8  | 12  | 16  |
| 1.6150 | 13  | FP-5101323         | Retainer, Piston Pin                               | 16 | 24  | 32  |
| 1.6180 | 14  | FP-5149060         | Liner, (.002" O.S.O.D.), (1.15" Ports Ht.)         | 8  | 12  | 16  |
| 1.6180 | 14  | FP-5138135         | Liner (Std.), (1.15" Ports Ht.)                    | 8  | 12  | 16  |
| 1.6180 | 14  | FP-23502356        | Liner (Std.), (.85" Ports Ht.)                     | 8  | 12  | 16  |
| 1.6190 | 15  | FP-5101198         | Seal, Cylinder Liner (Std.), (Black)               | 16 | 24  | 32  |
| 1.6115 | 7   | <b>FP-23501524</b> | <b>Ring Set, Piston (Wide)</b>                     | 8  | 12  | 16  |
| 1.6115 | 0   | FP-8925989         | Ring, Fire (Wide), (Plasma Coated)                 | 8  | 12  | 16  |
| 1.6115 | 0   | FP-5148277         | Ring, Compression (2nd Groove)                     | 8  | 12  | 16  |
| 1.6115 | 0   | FP-5140256         | Ring, Compression (3rd & 4th Groove)               | 16 | 24  | 32  |
| 1.6130 | 8   | FP-8926909         | Ring Set, Oil Control (For One Piston)             | 8  | 12  | 16  |
| 1.6183 | 0   | FP-23504149        | Bolt, Rod To Pin                                   | 2  | 2   | 2   |
| 1.6183 | 0   | <b>FP-23523189</b> | <b>Cylinder Installation Kit(All Applications)</b> | -  | -   | -   |
| 1.6183 | 0   | FP-5144912         | Skirt, Cross Head                                  | 1  | 1   | 1   |
| 1.6183 | 0   | FP-8924099         | Seal Ring, Dome                                    | 1  | 1   | 1   |
| 1.6183 | 0   | FP-5101198         | Seal Ring, Liner                                   | 2  | 2   | 2   |
| 1.6183 | 0   | FP-8926153         | Bearing, Slipper                                   | 1  | 1   | 1   |
| 1.6183 | 0   | FP-5141126         | Spacer, Bolt                                       | 2  | 2   | 2   |
| 1.6183 | 0   | FP-8926002         | Pin, Piston  | 1  | 1   | 1   |
| 1.6183 | 0   | FP-5101323         | Retainer   | 2  | 2   | 2   |
| 1.6115 | 7   | <b>FP-8928932</b>  | <b>Ring Set, Piston (Narrow Fire Ring)</b>         | 8  | 12  | 16  |
| 1.6115 | 0   | FP-5148334         | Ring, Fire (Narrow), (Top Groove)                  | 8  | 12  | 16  |
| 1.6115 | 0   | FP-5148277         | Ring, Compression (2nd Groove)                     | 8  | 12  | 16  |
| 1.6115 | 0   | FP-5140256         | Ring, Compression (3rd & 4th Grooves)              | 16 | 24  | 32  |
| 1.6130 | 8   | FP-8926909         | Ring Set, Oil Control (For One Piston)             | 8  | 12  | 16  |

# Camshaft

(Figure 5.1)





# Camshaft

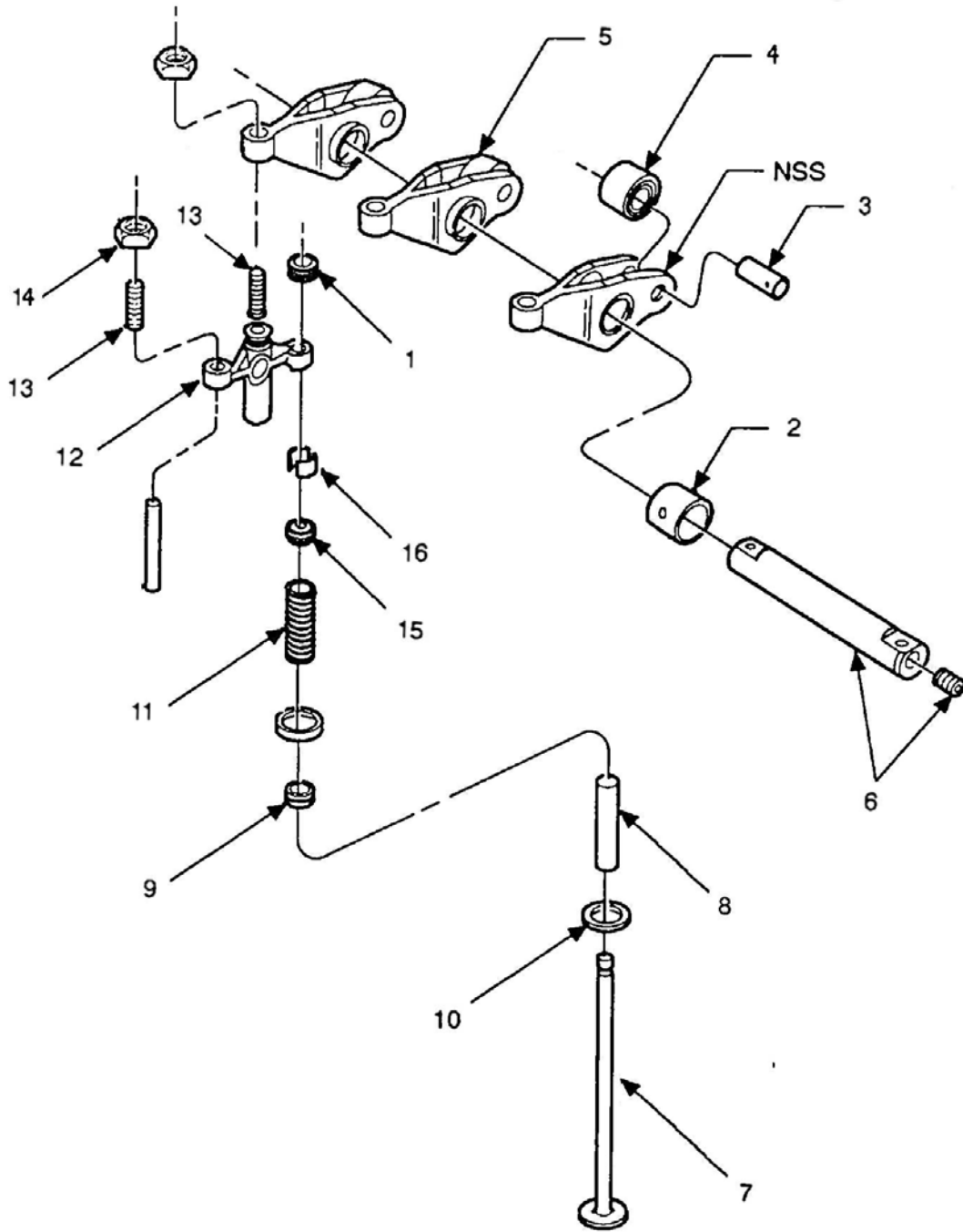
(Figure 5.1)

Groups:  
1.7001 - 1.7725

| Group                      | Ref | Part No.    | Description                              | 8V | 12V | 16V |
|----------------------------|-----|-------------|--|----|-----|-----|
| 1.7001                     | 1   | FP-5151277  | Plug, Drive                              | 4  | 4   | 4   |
| 1.7003                     | 2   | FP-5139244  | Shaft (R.Bank, Rear), (9.92" L.)         | 1  | 1   | 1   |
| 1.7003                     | 2   | FP-5139245  | Shaft (L.Bank, Rear), (8.42" L.)         | 1  | 1   | 1   |
| 1.7004                     | 0   | FP-9427996  | Bolt, 7/16" - 20 1 1/4" (12 PT.)         | -  | 30  | 10  |
| 1.7006                     | 0   | FP-141346   | Pin, 3/16" X 1/2" Dowel (1.7007)         | 1  | 1   | 1   |
| 1.7040                     | 0   | FP-5140203  | Bearing, Camshaft Intermediate           | 32 | 48  | 64  |
| 1.7042                     | 0   | FP-5131755  | Washer, 17/32" X .88" X .1345" (1.7250)  | 16 | 24  | 32  |
| 1.7042                     | 0   | FP-454992   | Bolt, 1/2" - 13 X 2 1/2"                 | 16 | 24  | 32  |
| 1.7042                     | 0   | FP-5138638  | Dowel, .626" X .37" Hollow (1.7200)      | 16 | 24  | 32  |
| <b>Camshaft Gear Train</b> |     |             |  |    |     |     |
| 1.7204                     | 4   | FP-9424926  | Bearing, Camshaft Gear                   | 2  | 2   | 2   |
| 1.7225                     | 5   | FP-9424929  | Bearing, Idler Gear (Rear)               | 3  | 3   | 3   |
| 1.7431                     | 0   | FP-5139143  | Bushing, Blower Drive Gear               | 2  | 2   | 2   |
| 1.7435                     | 0   | FP-274889   | Pin, 1/8" X 1/4" Spring                  | 1  | 1   | 1   |
| 1.7435                     | 0   | FP-9426895  | Bolt, 3/8" - 16 X 1 1/4"                 | 3  | 3   | 3   |
| 1.7436                     | 0   | FP-5143840  | Seal Ring (.2.98" I.D.)                  | 1  | 1   | 1   |
| 1.7436                     | 0   | FP-5180352  | Seal Ring (.31" I.D.)                    | 1  | 1   | 1   |
| 1.7437                     | 0   | FP-8926293  | Washer, Blower Drive Support Thrust      | 1  | 1   | 1   |
| 1.7438                     | 0   | FP-8926285  | Lockwasher, 1 15/32" I.D. Ext.           | 1  | 1   | 1   |
| 1.7441                     | 0   | FP-5138964  | Plate, Flex.                             | 3  | 3   | 3   |
| 1.7600                     | 0   | FP-9426895  | Bolt, 3/8" - 16 X 1 1/4"                 | -  | -   | -   |
| 1.7600                     | 0   | FP-103321   | Lockwasher, 3/8"                         | 4  | 4   | 4   |
| 1.7604                     | 0   | FP-23515145 | Gasket, Accessory Drive                  | 1  | 1   | 1   |
| 1.7604                     | 0   | FP-5141021  | Gasket, Accessory Drive (At # 1)         | 1  | 1   | 1   |
| 1.7604                     | 0   | FP-5188755  | Gasket, Accessory Drive                  | 1  | 1   | 1   |
| 1.7620                     | 0   | FP-5143840  | Seal Ring (2.98" I.D.)                   | 1  | 1   | 1   |
| 1.7620                     | 0   | FP-5180352  | Seal Ring (.31" I.D.)                    | 1  | 1   | 1   |
| 1.7623                     | 0   | FP-5140620  | Gasket, Accessory Drive Adaptor (At # 4) | 1  | 1   | 1   |
| 1.7623                     | 0   | FP-23515145 | Gasket, Accessory Drive                  | 1  | 1   | 1   |
| 1.7623                     | 0   | FP-5140035  | Gasket, Accessory Drive Adaptor (At # 2) | 1  | 1   | 1   |
| 1.7630                     | 0   | FP-5139143  | Bushing, Accessory Drive Gear            | 1  | 1   | 1   |
| 1.7645                     | 0   | FP-274889   | Pin, 1/8" X 1/4" Spring                  | 1  | 1   | 1   |
| 1.7645                     | 0   | FP-5125108  | Washer, 7/16" X 3/4"                     | 1  | 1   | 1   |
| 1.7645                     | 0   | FP-5150568  | Washer, 7/16"                            | 1  | 1   | 1   |
| 1.7646                     | 0   | FP-23515145 | Gasket, Accessory Drive                  | 1  | 1   | 1   |
| 1.7655                     | 0   | FP-8926293  | Washer                                   | 1  | 1   | 1   |
| 1.7655                     | 0   | FP-9415285  | Ring, 2 7/16" Dia. Lock Retaining        | 1  | 1   | 1   |
| 1.7655                     | 0   | FP-23504528 | Bearing, Accessory Drive                 | 1  | 1   | 1   |
| 1.7655                     | 0   | FP-23503727 | Bearing, Accessory Drive                 | 1  | 1   | 1   |
| 1.7655                     | 0   | FP-9424929  | Bearing, Idler Gear (Rear)               | 1  | 1   | 1   |
| 1.7660                     | 0   | FP-5131329  | Seal, Accessory Drive                    | 1  | 1   | 1   |
| 1.7660                     | 0   | FP-5138710  | Seal, Accessory Drive                    | 1  | 1   | 1   |
| 1.7665                     | 0   | FP-5131131  | Spacer, Seal Accessory Drive Oil Seal    | 1  | 1   | 1   |
| 1.7725                     | 0   | FP-23515145 | Gasket, Accessory Drive                  | 1  | 1   | 1   |

# Valve Train

(Figure 6.1)





# Valve Train

(Figure 6.1)

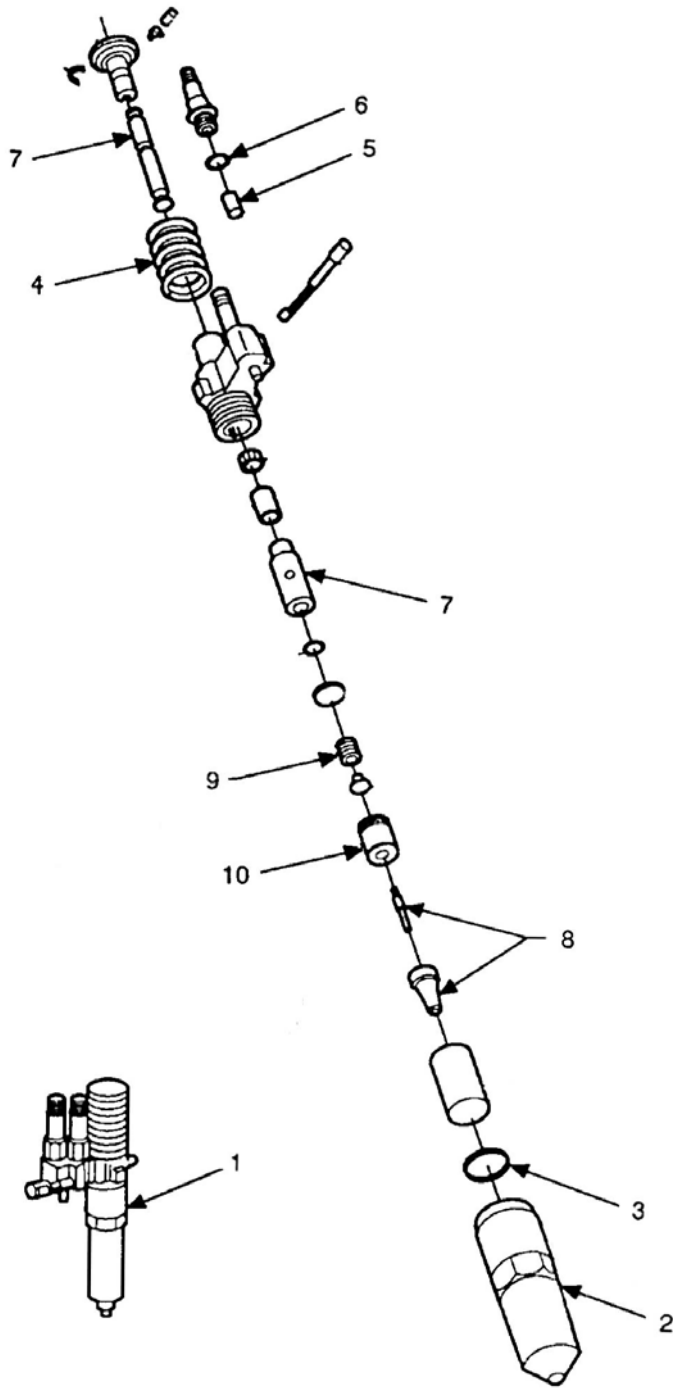
Groups:

1.8090 - 1.8460

| Group  | Ref | Part No.    | Description  | 8V | 12V | 16V |
|--------|-----|-------------|--|----|-----|-----|
| 1.8090 | 1   | FP-5138643  | Button, Ball & Seat Assembly   | 16 | 36  | 48  |
| 1.8110 | 2   | FP-5138644  | Bushing, Injector Rocker Arm-Large   | 8  | 12  | 16  |
| 1.8112 | 3   | FP-5138513  | Pin, Valve & Injector Cam Roller   | 16 | 24  | 32  |
| 1.8112 | 0   | FP-5138656  | Pin, Injector Cam Roller   | 8  | 12  | 16  |
| 1.8113 | 4   | FP-5138651  | Roller and Bushing Assembly (Valve), (w/ FP-5138649 Bushing)   | 16 | 24  | 32  |
| 1.8113 | 5   | FP-5138378  | Roller and Bushing Assembly (Injector), (w/ FP-5138376 Bushing)  | 8  | 12  | 16  |
| 1.8160 | 6   | FP-5139747  | Shaft Assembly, Rocker (w/Plugs)   | 8  | 12  | 16  |
| 1.8310 | 7   | FP-8921205  | Valve Kit, Exhaust (Stellite-Faced), (Turbo/IC), (w/ Locks), (Valve Spring Retainers Not Incl.)        | 32 | 48  | 64  |
| 1.8310 | 7   | FP-8928729  | Valve Kit, Exhaust (NA/Turbo-Pyromet 31), (w/Cap & Locks), (Valve Spring Retainers Incl.)              | 32 | 48  | 64  |
| 1.8310 | 7   | FP-8926328  | Valve Kit, Exhaust (Stellite-Faced), (Turbo/IC), (w/Cap & Locks), (TI), (Valve Spring Retainers Incl.) | 32 | 48  | 64  |
| 1.8320 | 8   | FP-23505104 | Guide, Exhaust Valve (3.156" L.)   | 32 | 48  | 64  |
| 1.8320 | 8   | FP-23515391 | Guide, Exhaust Valve (2.94" L.), (Use w/Ceramic Coated Valve)  | 32 | 48  | 64  |
| 1.8320 | 9   | FP-5144008  | Seal, Exhaust Valve Guide  | 32 | 48  | 64  |
| 1.8320 | 9   | FP-23523930 | Seal, Exhaust Valve Guide (Ceramic Coated Valve)   | 32 | 48  | 64  |
| 1.8330 | 10  | FP-5139982  | Insert, Exhaust Valve  | 32 | 48  | 64  |
| 1.8340 | 11  | FP-23512120 | Spring, Exhaust Valve (FP-5144379)   | 32 | 48  | 64  |
| 1.8343 | 12  | FP-5104243  | Bridge, Exhaust Valve  | 16 | 24  | 32  |
| 1.8343 | 13  | FP-5129101  | Screw, 5/16" - 24 X 1" (Adjusting)   | 16 | 24  | 32  |
| 1.8343 | 14  | FP-5151601  | Nut, 5/16" - 24 Lock (Bridge Adjusting Screw)  | 16 | 24  | 32  |
| 1.8350 | 15  | FP-8925202  | Cap, Exhaust Valve Spring (Yellow Dye I.D.)  | 16 | 24  | 32  |
| 1.8370 | 16  | FP-8925203  | Lock Halves, (Yellow Dye I.D.)   | 64 | 96  | 128 |
| 1.8370 | 16  | FP-8929573  | Lock, Key Exhaust Valve Spring   | 48 | 64  | 80  |
| 1.8455 | 0   | FP-23507344 | Gasket, Rocker Cover   | -  | 4   | -   |
| 1.8455 | 0   | FP-23507345 | Gasket, Rocker Cover   | 2  | -   | 4   |
| 1.8455 | 0   | FP-23508779 | Gasket, Rocker Cover   | 2  | -   | 4   |
| 1.8455 | 0   | FP-23508780 | Gasket, Rocker Cover   | -  | 4   | -   |
| 1.8460 | 0   | FP-5104015  | Bolt, Rocker Cover 3/8" - 16 X 6.57"   | 8  | 12  | 16  |
| 1.8460 | 0   | FP-5104514  | Washer, 3/8"   | 8  | 12  | 16  |
| 1.8112 | 0   | FP-5138649  | Bushing, Valve Arm Roller  | 16 | 24  | 32  |
| 1.8112 | 0   | FP-5138376  | Bushing, Injector Rocker Arm Roller  | 8  | 12  | 16  |

# Fuel Injector

(Figure 7.1)





# Fuel Injector

(Figure 7.1)

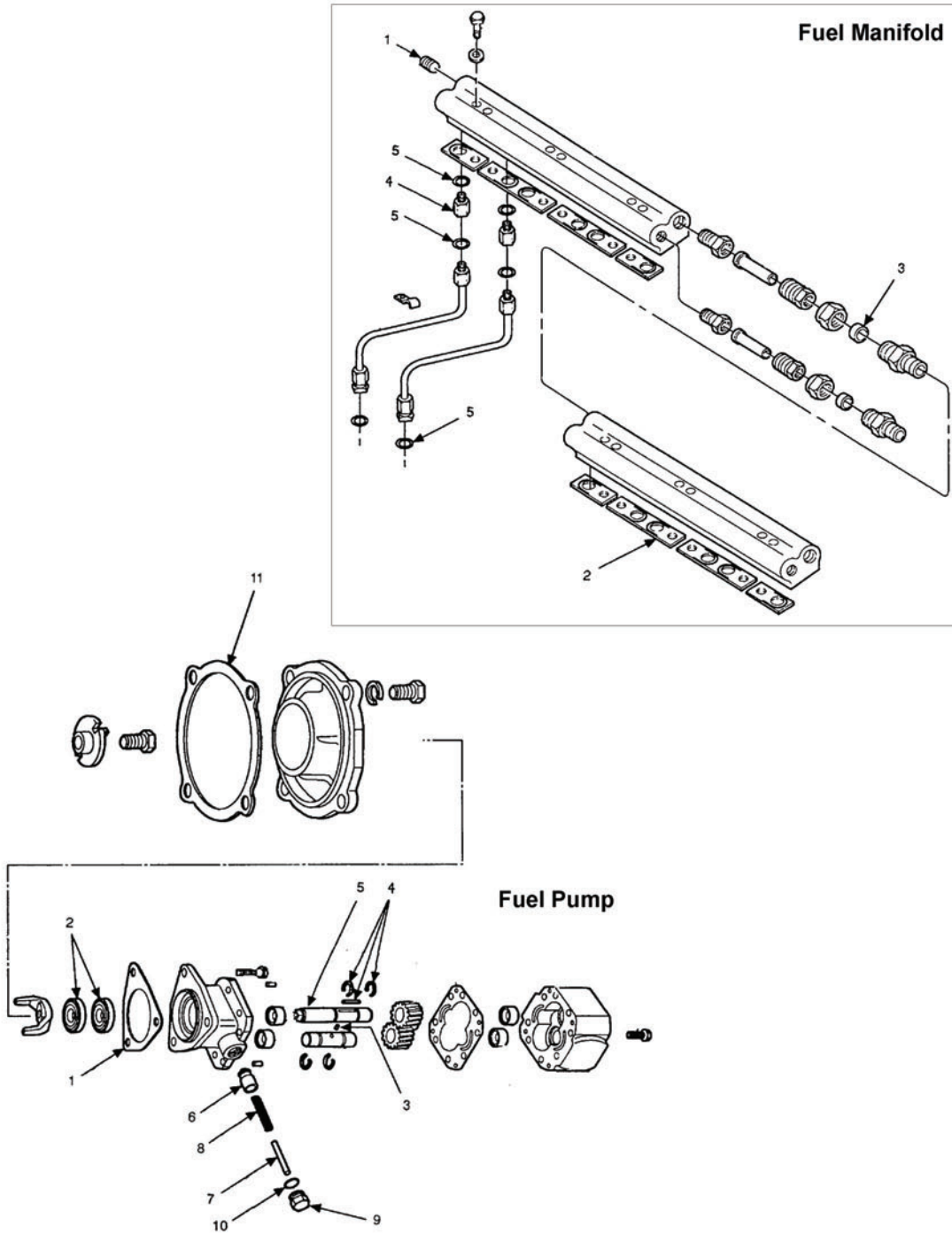
Groups:

2.1001 - 2.1257

| Group  | Ref | Part No.    | Description  | 8V | 12V | 16V |
|--------|-----|-------------|--|----|-----|-----|
| 2.1001 | 1   | FP-5229650  | Injector Assembly 150 (Type 144, 222, 358)   | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5226130R | Injector Assembly 190 (Type 201), (Available In Rebuilt Only)  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229910  | Injector Assembly 170 (Type 189)   | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229635  | Injector Assembly 120 (Type 143)   | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229645  | Injector Assembly 140 (Type 145, 221)  | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229640  | Injector Assembly 130 (Type 142)   | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229655  | Injector Assembly 165 (Type 146)   | 8  | 12  | 16  |
| 2.1001 | 1   | FP-5229660  | Injector Assembly 180 (Type 141)   | 8  | 12  | 16  |
| 2.1002 | 0   | FP-5229169  | Service Kit, Injector  | 8  | 12  | 16  |
| 2.1030 | 2   | FP-5229628  | Nut, Injector Valve  | 8  | 12  | 16  |
| 2.1030 | 0   | FP-5229629  | Seal, Copper (Nut, Injector Valve)   | 8  | 12  | 16  |
| 2.1040 | 3   | FP-5228003  | Ring, Injector Seal  | 8  | 12  | 16  |
| 2.1080 | 4   | FP-5228921  | Spring, Injector Plunger (Orange Stripe)   | 8  | 12  | 16  |
| 2.1105 | 0   | FP-5227992  | Spring, Injector Stop Pin  | 8  | 12  | 16  |
| 2.1105 | 0   | FP-5227993  | Retainer   | 8  | 12  | 16  |
| 2.1110 | 5   | FP-5228905  | Element, Injector Filter   | 16 | 24  | 32  |
| 2.1140 | 6   | FP-5226186  | Gasket, Injector Filter Cap  | 16 | 24  | 32  |
| 2.1150 | 0   | FP-5228317  | Cap, Injector Shipping   | 16 | 24  | 32  |
| 2.1160 | 7   | FP-5228870  | Plunger & Bushing, Injector (Types<br>95,96,98,99,101,105,141,142,143,144,145,146,189,190,201,202,203,20<br>4,220,221,222,223,224,271,306,319,323,334,339,342,347,348,353,358) | 8  | 12  | 16  |
| 2.1160 | 7   | FP-5229828  | Plunger & Bushing, Injector (Types<br>176,225,278,283,294,308,311,317,318,321,337,338,340,350,351)   | 8  | 12  | 16  |
| 2.1235 | 8   | FP-5227142  | Tip Assembly, Injector (Types<br>95,96,98,99,101,105,141,142,143,144,145,146,189,190,201,203,204,22<br>1,222,223,278,283,306,311,318,319,323,339,342,347,350,353,358)          | 8  | 12  | 16  |
| 2.1235 | 8   | FP-5227152  | Tip Assembly, Injector (Types 202, 220, 224, 271, 334, 348, 351)   | 8  | 12  | 16  |
| 2.1250 | 9   | FP-5234981  | Spring, Injector Valve   | 8  | 12  | 16  |
| 2.1257 | 10  | FP-5234928  | Cage, Injector Valve Spring  | 8  | 12  | 16  |

# Fuel Pump & Manifold

(Figure 8.1)







# Fuel Pump & Manifold

(Figure 8.1)

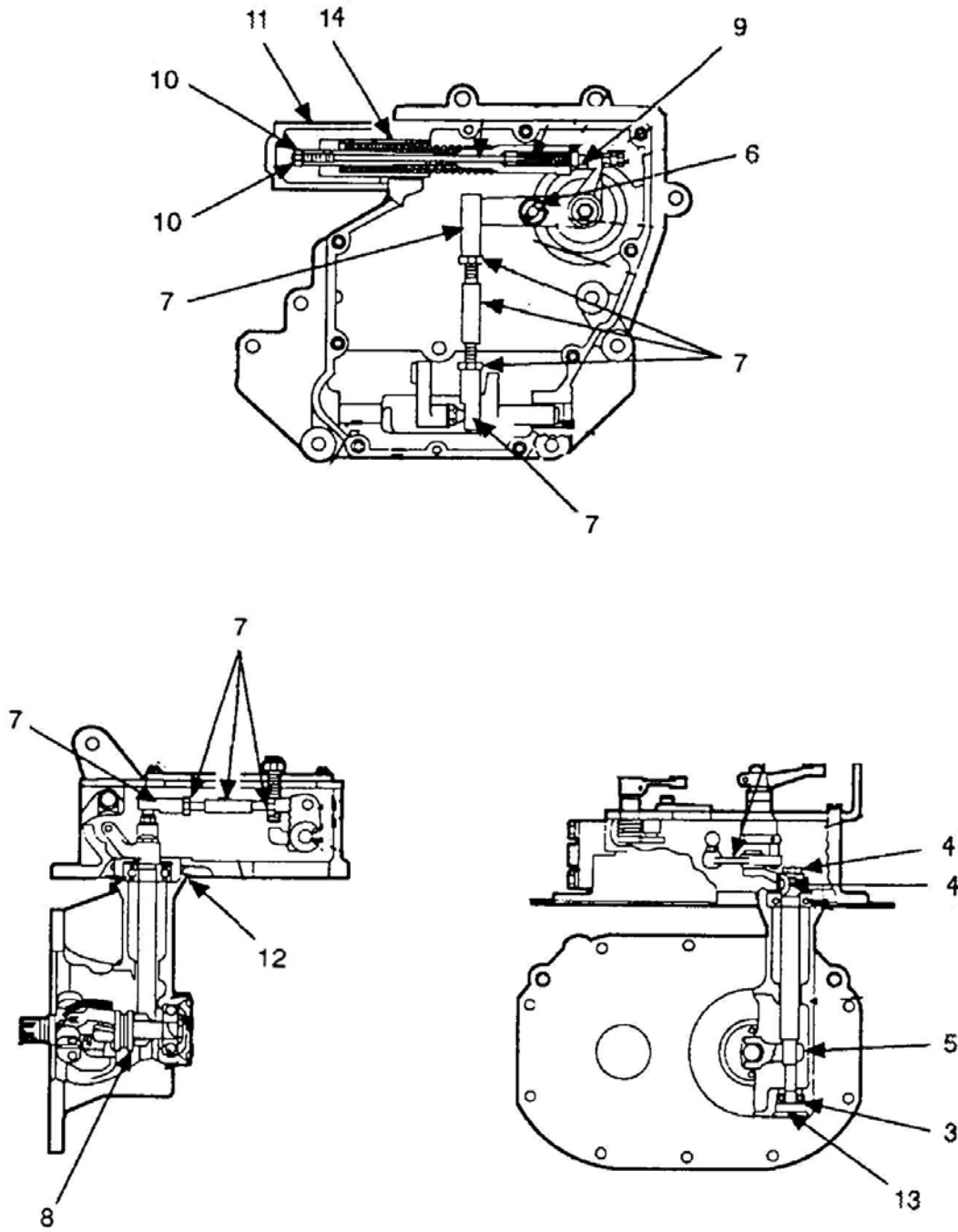
Groups:

2.2007 - 2.5170

| Group                | Ref | Part No.    | Description                               | 8V | 12V | 16V |
|----------------------|-----|-------------|---|----|-----|-----|
| 2.2007               | 1   | FP-5150193  | Gasket, Fuel Pump To Drive Assembly       | 1  | 1   | 1   |
| 2.2070               | 2   | FP-23512243 | Seal, Fuel Pump Oil                       | 2  | 2   | 2   |
| 2.2087               | 3   | FP-147481   | Ball 1/8" Dia. Steel                      | 1  | 1   | 1   |
| 2.2087               | 4   | FP-8923522  | Ring, Gear Retaining (2.2088)             | 2  | 2   | 2   |
| 2.2093               | 5   | FP-5138683  | Shaft, Fuel Pump Drive                    | 1  | 1   | 1   |
| 2.2130               | 6   | FP-5174973  | Valve, Fuel Pump                          | 1  | 1   | 1   |
| 2.2130               | 7   | FP-103709   | Pin, .15" X 1" Straight                   | 1  | 1   | 1   |
| 2.2160               | 8   | FP-5184530  | Spring, Fuel Pump Valve Retaining         | 1  | 1   | 1   |
| 2.2170               | 9   | FP-5174971  | Plug, Fuel Pump Valve                     | 1  | 1   | 1   |
| 2.2180               | 10  | FP-5161003  | Gasket, Fuel Pump Valve Plug              | 1  | 1   | 1   |
| 2.2228               | 0   | FP-5170450  | Plate (21 Teeth)                          | 1  | 1   | 1   |
| 2.2237               | 11  | FP-5139159  | Gasket, Fuel Mounting Plate               | 1  | 1   | 1   |
| 2.2237               | 0   | FP-23511917 | Seal Ring, Fuel Pump Mounting Plate       | 1  | 1   | 1   |
| <b>Fuel Manifold</b> |     |             |   |    |     |     |
| 2.4001               | 1   | FP-8923847  | Plug, Pipe 1/4 - 18" NPTF                 | 2  | 2   | 2   |
| 2.4001               | 1   | FP-8924517  | Plug, 3/8" - 18 Sq. Soc. Vibra Seal       | 2  | 2   | 2   |
| 2.4013               | 2   | FP-5147430  | Gasket, Fuel Manifold                     | 8  | 12  | 16  |
| 2.4015               | 3   | FP-5176524  | Seal Ring, 1/2" Tube Sealastic            | 2  | 2   | 2   |
| 2.4015               | 3   | FP-5179938  | Seal Ring, 3/8" Tube Sealastic            | 2  | 2   | 2   |
| 2.4020               | 0   | FP-103320   | Lockwasher, 5/16"                         | 16 | 24  | 32  |
| 2.4030               | 4   | FP-5141485  | Connector, Fuel Pipe                      | 16 | 24  | 32  |
| 2.4030               | 0   | FP-23504350 | Seal Ring, .414" I.D. X .072"             | 16 | 24  | 32  |
| 2.4030               | 0   | FP-23504352 | Seal Ring, .070" X .301" I.D.             | 32 | 48  | 64  |
| 2.4050               | 5   | FP-5161003  | Gasket, Fuel Pipe Connector               | 16 | 24  | 32  |
| 2.5006               | 0   | FP-5104978  | Seal Ring, 1.102" X 1.138"                | 1  | 1   | 1   |
| 2.5006               | 0   | FP-5137201  | Washer, Plug 1.09" X 1.38" X .032" Copper | 1  | 1   | 1   |
| 2.5148               | 0   | FP-103321   | Lockwasher, 3/8"                          | 1  | 1   | 1   |
| 2.5170               | 0   | FP-103321   | Lockwasher, 3/8"                          | 1  | 1   | 1   |
| 2.5170               | 0   | FP-103026   | Nut, 3/8" - 24                            | 1  | 1   | 1   |
| 2.5170               | 0   | FP-186624   | Bolt, 5/16" - 18 X 1 1/4"                 | 1  | 1   | 1   |
| 2.5170               | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1.135"                  | 1  | 1   | 1   |
| 2.5170               | 0   | FP-103320   | Lockwasher, 5/16"                         | 1  | 1   | 1   |
| 2.5170               | 0   | FP-5155596  | Washer, 5/16" Copper                      | 1  | 1   | 1   |

# Mechanical Governor

(Figure 9.1)





# Mechanical Governor

(Figure 9.1)

Groups:

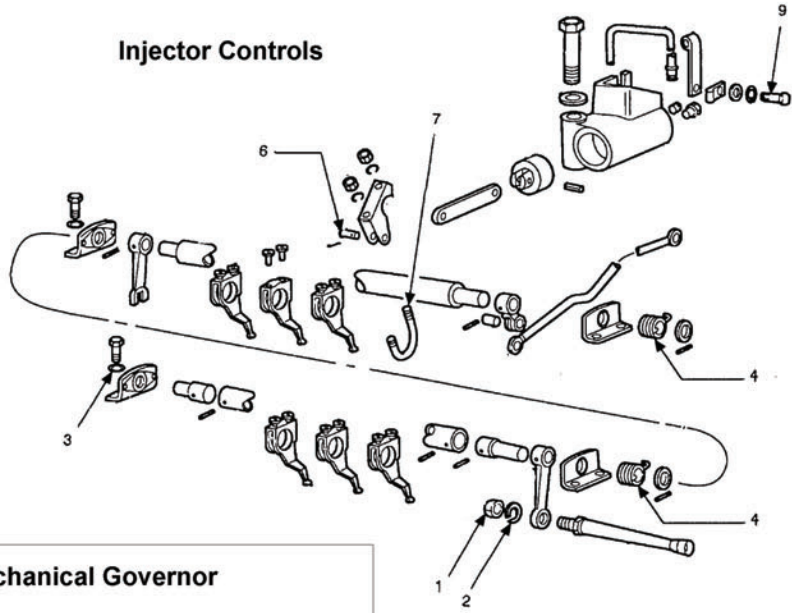
2.7001 - 2.7380

| Group  | Ref | Part No.    | Description   | 8V | 12V | 16V |
|--------|-----|-------------|---|----|-----|-----|
| 2.7001 | 0   | FP-5154453  | Plug, 3/8" - 16   | 1  | 1   | 1   |
| 2.7001 | 0   | FP-186624   | Bolt, 5/16" - 18 X 1 1/4"                               | 1  | 1   | 1   |
| 2.7001 | 0   | FP-103026   | Nut, 3/8" - 24  | 2  | 2   | 2   |
| 2.7001 | 0   | FP-8927581  | Bolt, 3/8" - 16 X 1.135"                                | 2  | 2   | 2   |
| 2.7001 | 0   | FP-5155596  | Washer, 21/64" Special Copper                           | 2  | 4   | 5   |
| 2.7001 | 0   | FP-103321   | Lockwasher, 3/8"  | 2  | 4   | 5   |
| 2.7007 | 0   | FP-5140419  | Gasket, Governor To Front Cover                         | 1  | 1   | 1   |
| 2.7010 | 0   | FP-23506090 | Gasket, Governor To Blower-Governor Drive               | 1  | 2   | 2   |
| 2.7011 | 0   | FP-5139892  | Gasket, Governor To Air Box Cover                       | 1  | 1   | 1   |
| 2.7011 | 0   | FP-5143152  | Gasket, Governor To Air Box                             | 1  | 1   | 1   |
| 2.7013 | 0   | FP-142583   | Retainer, 13/64" Spring                                 | 2  | 2   | 2   |
| 2.7015 | 0   | FP-103319   | Lockwasher, .062" 1/4"                                  | 3  | 3   | 3   |
| 2.7015 | 0   | FP-103320   | Lockwasher, 5/16"                                       | 1  | 1   | 1   |
| 2.7016 | 0   | FP-5104592  | Clamp, 1" - 1 1/2" Clamping Range                       | 1  | 1   | 1   |
| 2.7020 | 0   | FP-5143134  | Seal Ring (1.64" I.D.)                                  | 2  | 2   | 2   |
| 2.7040 | 0   | FP-120217   | Lockwasher, # 10  | 2  | 2   | 2   |
| 2.7045 | 0   | FP-9417926  | Bolt Assembly, 1/4" - 20 X 3/4"                         | 2  | 2   | 2   |
| 2.7045 | 0   | FP-5183701  | Screw, 1/4" - 20 X 5/8"                                 | 2  | 2   | 2   |
| 2.7045 | 0   | FP-9422203  | Bolt, 1/4" - 20 X 5/8" (Governor Cover)                 | 4  | 4   | 4   |
| 2.7051 | 0   | FP-5143148  | Gasket, Governor Cover                                  | 1  | 1   | 1   |
| 2.7051 | 0   | FP-5143132  | Gasket, Governor Cover Plate                            | 1  | 1   | 1   |
| 2.7100 | 0   | FP-148402   | Bearing, 1/2" X 1/2" Dia. Needle                        | 2  | 2   | 2   |
| 2.7111 | 0   | FP-5127267  | Bushing, 3/8" I.D. x 7/8" L. (Governor Shut Down Shaft) | 1  | 1   | 1   |
| 2.7165 | 0   | FP-5183042  | Lever, Governor Cover Shutdown Shaft                    | 1  | 1   | 1   |
| 2.7166 | 0   | FP-103319   | Lockwasher, .062" 1/4"                                  | 1  | 1   | 1   |
| 2.7170 | 0   | FP-103320   | Lockwasher, 5/16"                                       | 1  | 1   | 1   |
| 2.7232 | 12  | FP-6525206  | Seal Ring, 2 1/4" I.D.                                  | 1  | 1   | 1   |
| 2.7270 | 3   | FP-9436682  | Bearing, Governor Operating Shaft-Lower                 | 1  | 1   | 1   |
| 2.7280 | 4   | FP-5145007  | Screw, 1/4"-28 X.745" (Hardened), (Gap Adj.)            | 1  | 1   | 1   |
| 2.7280 | 4   | FP-5132962  | Screw, Gap Adjusting                                    | 1  | 1   | 1   |
| 2.7290 | 5   | FP-5138335  | Fork, Governor Operating Shaft-Lower                    | 1  | 1   | 1   |
| 2.7305 | 0   | FP-103319   | Lockwasher, 1/4"  | 1  | 1   | 1   |
| 2.7305 | 0   | FP-23504197 | Solenoid, Governor Operating (24/32 Volt)               | 1  | 1   | 1   |
| 2.7310 | 6   | FP-5150885  | Washer, Governor Differential                           | 1  | 1   | 1   |
| 2.7312 | 7   | FP-5199709  | Rod, Governor Operating Shaft (Spring Loaded)           | 1  | 1   | 1   |
| 2.7312 | 7   | FP-5140204  | Joint, Ball Link, Governor Operating Lever              | 1  | 1   | 1   |
| 2.7312 | 0   | FP-142583   | Retainer, 13/64" Spring                                 | 2  | 2   | 2   |
| 2.7312 | 0   | FP-103320   | Lockwasher, 5/16"                                       | 2  | 2   | 2   |
| 2.7318 | 0   | FP-9426895  | Bolt, 3/8" - 16 X 1 1/4" (Electronic Limiter)           | 2  | 2   | 2   |
| 2.7340 | 13  | FP-8924380  | Plug, 1/8" - 27 Pipe (Governor Weight)                  | 1  | 1   | 1   |
| 2.7380 | 0   | FP-5117193  | Riser, Governor   | 1  | 1   | 1   |
| 2.7380 | 0   | FP-5147910  | Riser, Governor   | 1  | 1   | 1   |

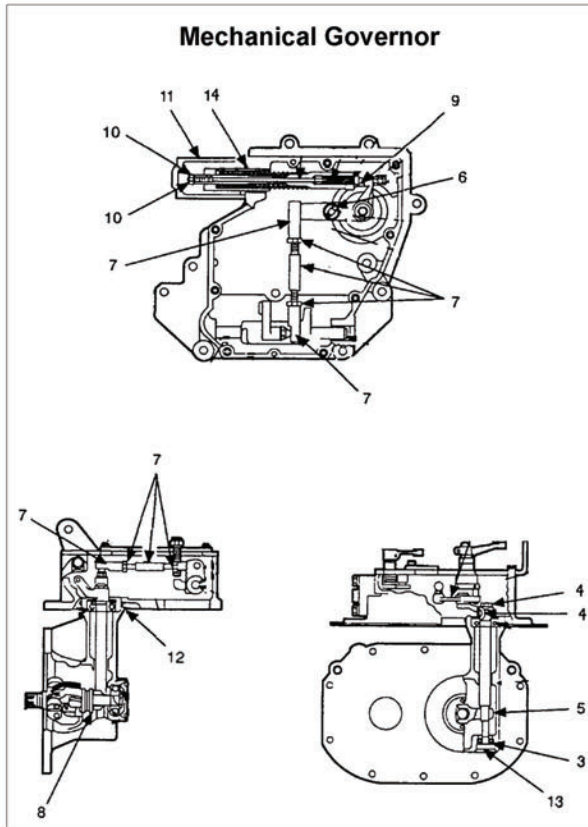
# Mechanical Governor

(Figure 9.2)

## Injector Controls



## Mechanical Governor





# Mechanical Governor

(Figure 9.2)

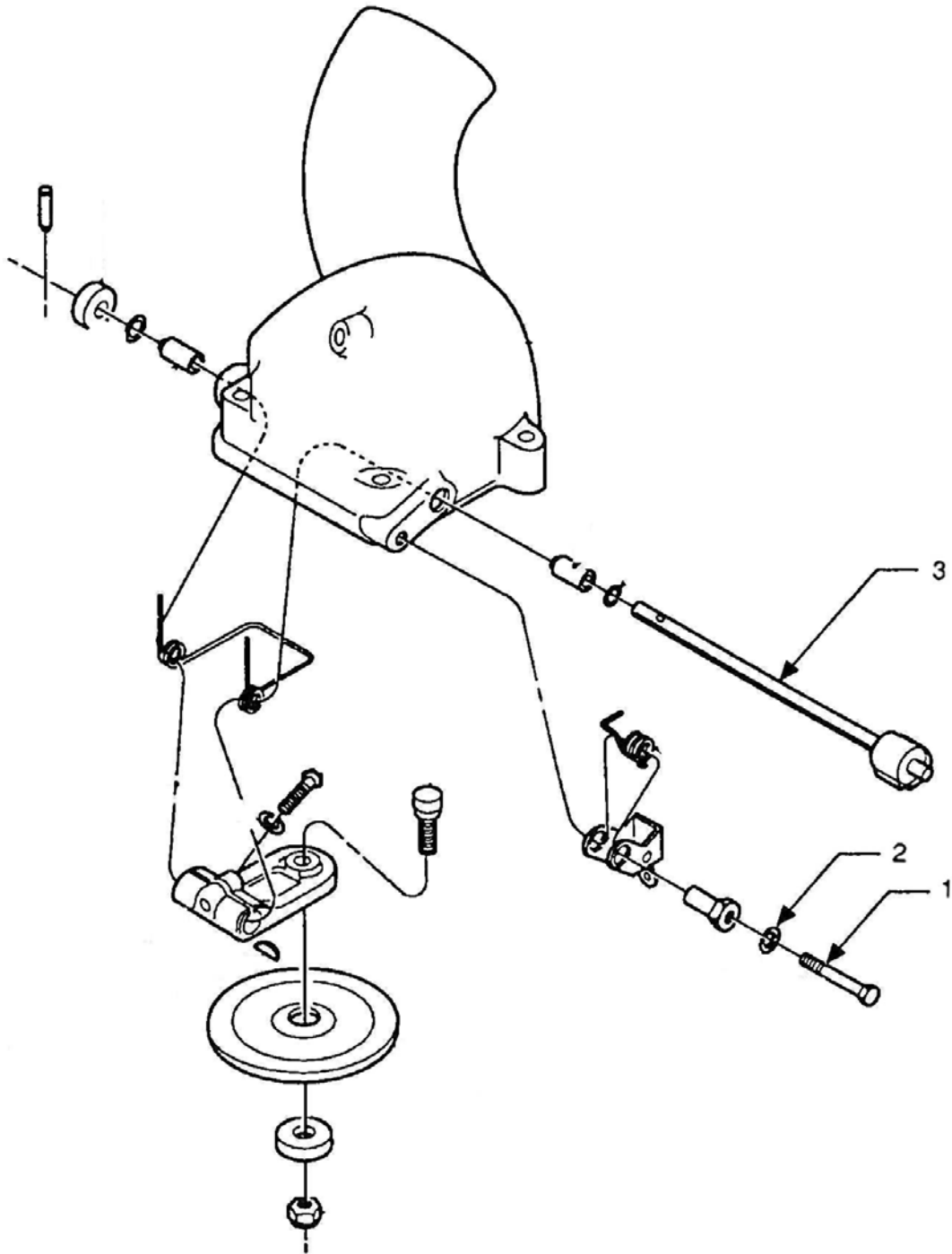
Groups:

2.7440 - 2.9096

| Group                   | Ref | Part No.   | Description  | 8V | 12V | 16V |
|-------------------------|-----|------------|--|----|-----|-----|
| 2.7440                  | 0   | FP-447196  | Bearing, Governor Weight                               | 6  | 6   | 6   |
| 2.7460                  | 8   | FP-9437108 | Bearing, .352"-.356 W. (Governor Weight, Riser Thrust) | 1  | 1   | 1   |
| 2.7460                  | 8   | FP-9438907 | Bearing, .551 W. (Governor Weight, Riser Thrust)       | 1  | 1   | 1   |
| 2.7460                  | 8   | FP-9440384 | Bearing (Governor Weight, Riser Thrust)                | 1  | 1   | 1   |
| 2.7580                  | 9   | FP-5103975 | Cap, Governor Low Speed Spring                         | 1  | 1   | 1   |
| 2.7590                  | 10  | FP-5102270 | Screw, Governor Low Speed Spring Adjustment            | 1  | 1   | 1   |
| 2.7635                  | 11  | FP-5155596 | Washer, 21/64" Special Copper                          | 1  | 1   | 1   |
| 2.7650                  | 14  | FP-8922593 | Gasket, High Speed Spring Cover                        | 1  | 1   | 1   |
| 2.7680                  | 0   | FP-103320  | Lockwasher, 5/16"                                      | 2  | 2   | 2   |
| 2.7700                  | 0   | FP-8922593 | Gasket, High Speed Spring Cover                        | 1  | 1   | 1   |
| 2.7732                  | 0   | FP-5139468 | Bearing, Roller Variable Speed Spring                  | 1  | 1   | 1   |
| 2.7750                  | 0   | FP-5176557 | Seal Ring, .477" I.D.x.113" Thick (Yellow Paint)       | 1  | 1   | 1   |
| 2.7800                  | 0   | FP-5136591 | Shim, .078" (Variable Speed Spring)                    | 3  | 3   | 3   |
| 2.7800                  | 0   | FP-5136590 | Shim, .010" (Variable Speed Spring)                    | 6  | 6   | 6   |
| 2.7810                  | 0   | FP-103026  | Nut, 3/8" - 24   | 1  | 1   | 1   |
| 2.7905                  | 0   | FP-142583  | Retainer, 13/64" Spring                                | 2  | 2   | 2   |
| 2.7905                  | 0   | FP-103320  | Lockwasher, 5/16"                                      | 2  | 2   | 2   |
| <b>Injector Control</b> |     |            |  |    |     |     |
| 2.9002                  | 1   | FP-103026  | Nut, 3/8" - 24   | 2  | 2   | 2   |
| 2.9002                  | 2   | FP-103321  | Lockwasher, 3/8"                                       | -  | -   | -   |
| 2.9003                  | 3   | FP-103320  | Lockwasher, 5/16"                                      | 16 | 16  | 16  |
| 2.9012                  | 4   | FP-5101258 | Spring, (L.H. Helix), (Green)                          | 8  | 12  | 16  |
| 2.9022                  | 0   | FP-142583  | Retainer, 13/64" Spring                                | 4  | 4   | 4   |
| 2.9095                  | 7   | FP-5180116 | Bolt, "U" 1.4 - 20                                     | 1  | 1   | 1   |
| 2.9095                  | 0   | FP-103319  | Lockwasher, 1/4"                                       | 2  | 2   | 2   |
| 2.9095                  | 6   | FP-5147345 | Pin, 1/4" X 49/64" Clevis                              | 1  | 1   | 1   |
| 2.9096                  | 9   | FP-186624  | Bolt, 5/16" - 18 X 1 1/4"                              | 1  | 1   | 1   |

# Air Inlet Housing

(Figure 10.1)





# Air Inlet Housing

(Figure 10.1)

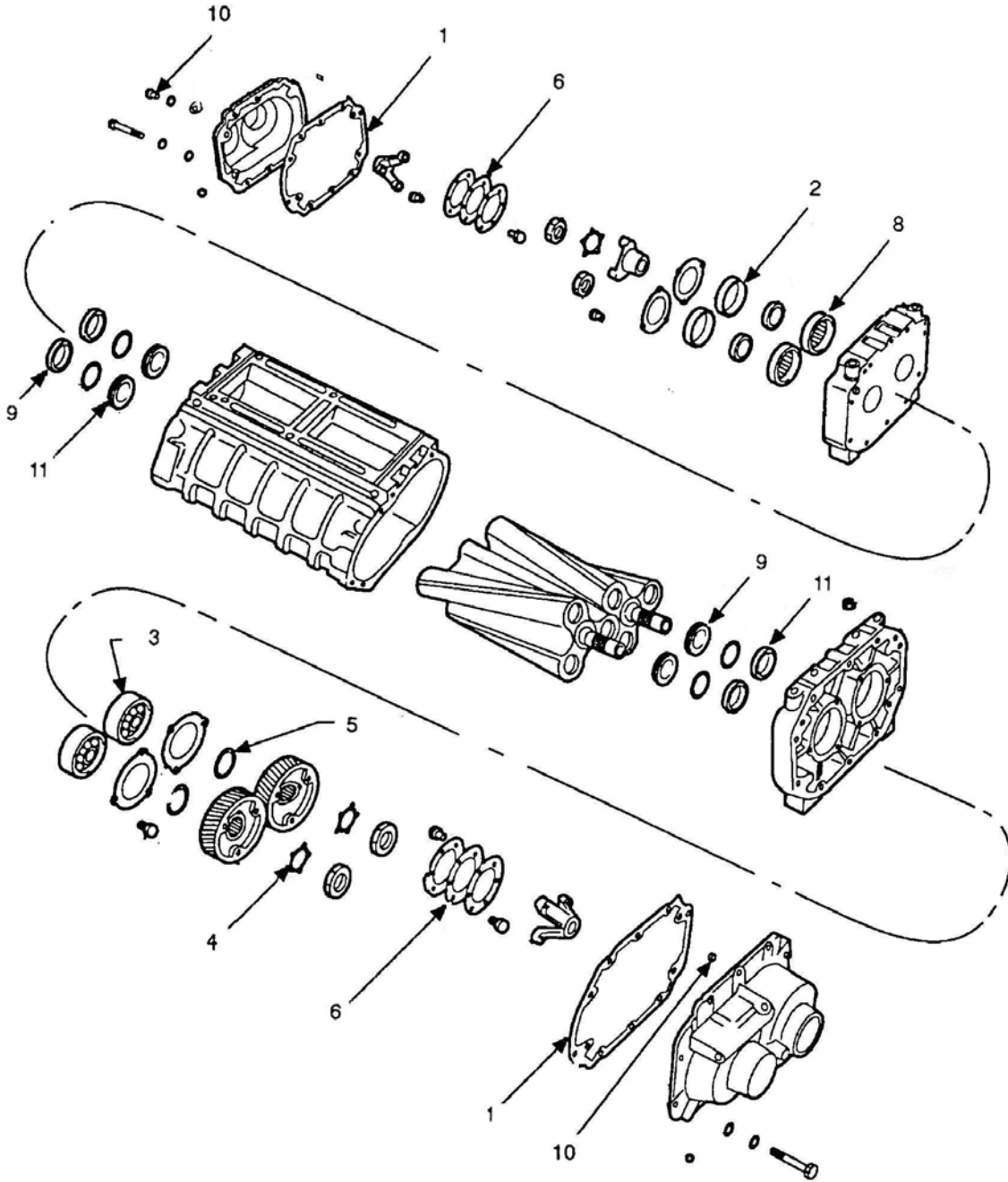
Groups:

3.3001 - 3.3095

| Group  | Ref | Part No.    | Description                               | 8V | 12V | 16V |
|--------|-----|-------------|---|----|-----|-----|
| 3.3001 | 0   | FP-5155596  | Washer, 21/64" Special Copper             | 4  | 4   | 4   |
| 3.3001 | 0   | FP-103321   | Lockwasher, 3/8"                          | -  | 20  | 36  |
| 3.3003 | 0   | FP-5121182  | Plug, 1/4" Pipe                           | 2  | 2   | 2   |
| 3.3003 | 7   | FP-103321   | Lockwasher, 3/8"                          | 16 | 24  | 36  |
| 3.3003 | 0   | FP-8927581  | Bolt, 3/8" - 16 x 1.135"                  | 32 | 32  | 32  |
| 3.3003 | 0   | FP-5142549  | Plug, 3/4" Pipe Sq. Soc.                  | 2  | 2   | 2   |
| 3.3003 | 0   | FP-8924517  | Plug, 3/8" - 18 Sq. Soc. Vibra Seal       | 2  | 2   | 2   |
| 3.3003 | 0   | FP-8923847  | Plug, 1/4" - 18 NPTF                      | 3  | 3   | 3   |
| 3.3003 | 0   | FP-5155596  | Washer, 21/64" Special Copper             | 4  | 4   | 4   |
| 3.3004 | 0   | FP-103321   | Lockwasher, 3/8"                          | 32 | 32  | 32  |
| 3.3004 | 0   | FP-8927581  | Bolt, 3/8" - 16 1.135"                    | 32 | 32  | 32  |
| 3.3010 | 0   | FP-23511894 | Seal, Air Inlet Housing                   | 2  | 2   | 2   |
| 3.3010 | 0   | FP-23511897 | Ring Seal (Orange Stripe)                 | -  | 1   | 1   |
| 3.3010 | 0   | FP-23511896 | Ring Seal (Orange Stripe)                 | 2  | 2   | 2   |
| 3.3010 | 0   | FP-23511895 | Ring Seal                                 | 1  | 1   | 1   |
| 3.3010 | 0   | FP-5187576  | Gasket (Screen)                           | -  | -   | 2   |
| 3.3010 | 0   | FP-5141256  | Screen (Gasket)                           | -  | 2   | -   |
| 3.3010 | 0   | FP-5141838  | Gasket, Air Inlet Housing (8 Drill Holes) | -  | -   | 2   |
| 3.3010 | 0   | FP-23509405 | Gasket, Air Inlet Housing (4 Drill Holes) | 4  | 4   | 4   |
| 3.3010 | 0   | FP-5142907  | Gasket, Air Inlet Housing (8 Drill Holes) | -  | 2   | -   |
| 3.3010 | 0   | FP-23509404 | Gasket, Air Inlet Housing (5 Drill Holes) | 4  | 4   | 4   |
| 3.3030 | 0   | FP-5145457  | Gasket, Air Inlet Striker Plate 12V       | -  | 2   | -   |
| 3.3030 | 0   | FP-5145459  | Gasket, Air Inlet Striker Plate 16V       | -  | -   | 2   |
| 3.3040 | 0   | FP-103320   | Lockwasher, 5/16"                         | 4  | 4   | 4   |
| 3.3050 | 3   | FP-5146483  | Shaft (8.60" L.)                          | 2  | 2   | 2   |
| 3.3090 | 1   | FP-179803   | Bolt, 1/4" - 20 X 1 3/4"                  | 1  | 2   | 2   |
| 3.3090 | 2   | FP-103319   | Lockwasher, 1/4"                          | 1  | 1   | 1   |
| 3.3095 | 4   | FP-186624   | Bolt, 5/16" - 18 X 1 1/4"                 | 4  | 10  | 12  |
| 3.3095 | 6   | FP-103320   | Lockwasher, 5/16"                         | 4  | 10  | 12  |
| 3.3095 | 5   | FP-8921527  | Rod (12.86" L.)                           | 2  | 2   | 2   |

# Blower

(Figure 10.2)







# Blower

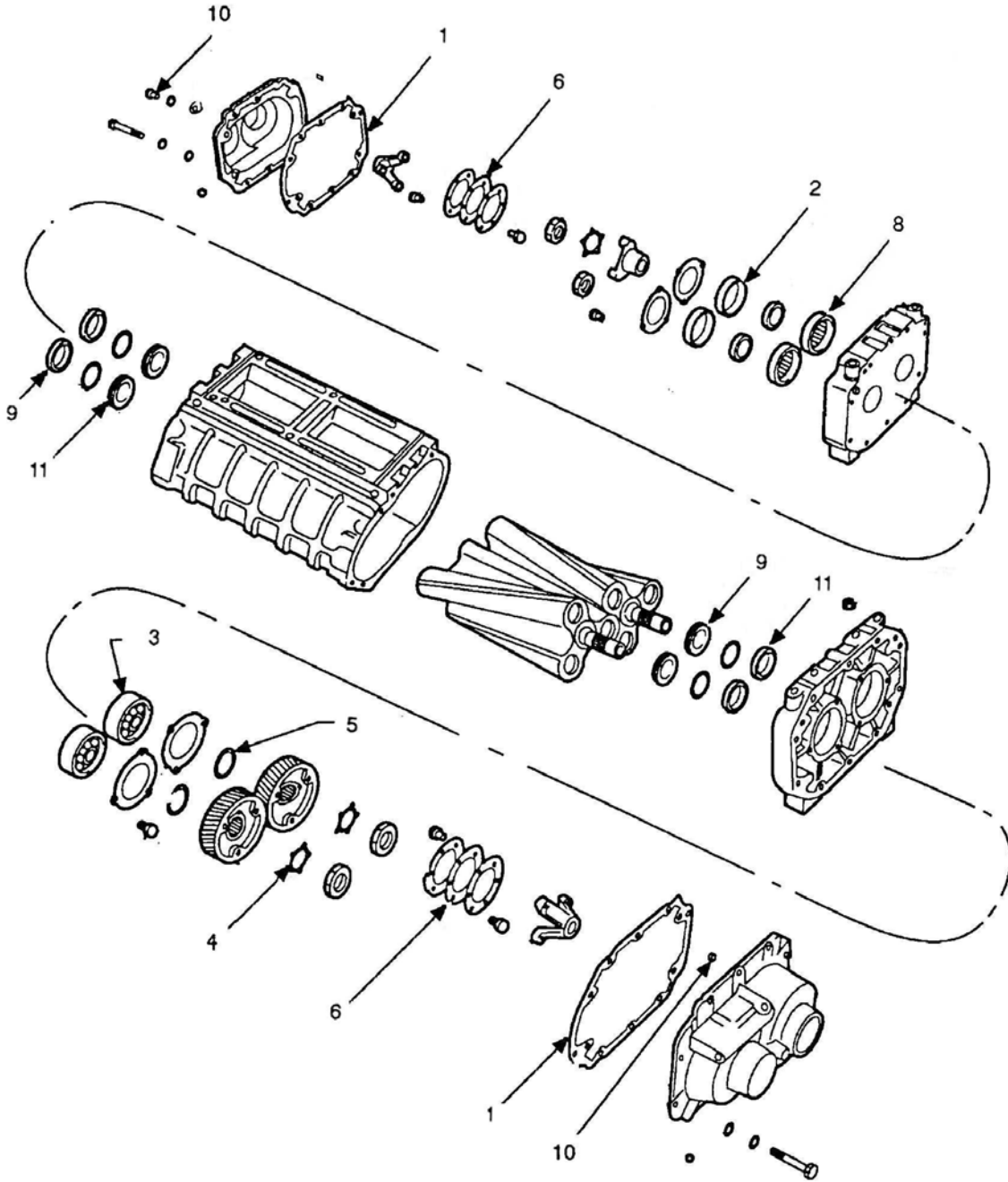
(Figure 10.2)

Groups:  
3.4003 - 2.7232

| Group  | Ref | Part No.           | Description   | 8V | 12V | 16V |
|--------|-----|--------------------|---|----|-----|-----|
| 3.4003 | 0   | <b>FP-23500485</b> | <b>Blower Kit, Installation (Types 454,544,652,674,720,725,743)</b> | 1  | -   | 2   |
| 1.1087 | 0   | FP-5139918         | Seal Ring   | 1  | 2   | 2   |
| 1.1087 | 0   | FP-5140957         | Seal Ring   | 2  | 4   | 4   |
| 2.7011 | 0   | FP-5143152         | Gasket  | 1  | 2   | 2   |
| 2.7020 | 0   | FP-5143134         | Seal Ring   | 2  | 4   | 4   |
| 2.7232 | 0   | FP-6525206         | Seal Ring   | 1  | 2   | 2   |
| 2.8760 | 0   | FP-23509675        | Gasket  | 1  | 2   | 2   |
| 3.3010 | 0   | FP-23509404        | Gasket  | 1  | 2   | 2   |
| 3.3010 | 0   | FP-23509405        | Gasket  | 2  | 4   | 4   |
| 3.4025 | 0   | FP-5187576         | Screen  | 2  | 4   | 4   |
| 3.4143 | 0   | FP-5116290         | Seal Ring   | 2  | 4   | 4   |
| 3.4143 | 0   | FP-5141452         | Seal Ring   | 2  | 4   | 4   |
| 3.4190 | 1   | FP-23506090        | Gasket  | 2  | 4   | 4   |
| 3.4220 | 0   | FP-5139480         | Seal Ring   | 4  | 8   | 8   |
| 3.5785 | 0   | FP-8924873         | Seal Ring   | 1  | 2   | 2   |
| 3.4003 | 0   | <b>FP-5199524</b>  | <b>Blower Kit, Installation (Types 124,163,533,562,582,665)</b>     | -  | 2   | -   |
| 1.1087 | 0   | FP-5139696         | Seal Ring   | -  | 2   | -   |
| 1.1087 | 0   | FP-5140956         | Seal Ring   | -  | 2   | -   |
| 1.1087 | 0   | FP-5144035         | Seal Ring   | -  | 4   | -   |
| 1.1087 | 0   | FP-5145623         | Gasket  | -  | 2   | -   |
| 2.7011 | 0   | FP-5139892         | Gasket  | -  | 2   | -   |
| 2.7011 | 0   | FP-5143152         | Gasket  | -  | 2   | -   |
| 2.7020 | 0   | FP-5143134         | Seal Ring   | -  | 4   | -   |
| 2.8039 | 0   | FP-5140419         | Gasket  | -  | 2   | -   |
| 2.8760 | 0   | FP-23509675        | Gasket  | -  | 2   | -   |
| 3.3010 | 0   | FP-5142907         | Gasket  | -  | 2   | -   |
| 3.3030 | 0   | FP-5145457         | Gasket  | -  | 2   | -   |
| 3.4025 | 0   | FP-5141256         | Screen Assembly   | -  | 2   | -   |
| 3.4143 | 0   | FP-5116290         | Seal Ring   | -  | 4   | -   |
| 3.4143 | 0   | FP-5141452         | Seal Ring   | -  | 4   | -   |
| 3.4190 | 1   | FP-23506090        | Gasket  | -  | 2   | -   |
| 3.4200 | 0   | FP-23506601        | Hose  | -  | 2   | -   |
| 3.4220 | 0   | FP-5139480         | Seal Ring (3.4229)  | -  | 12  | -   |
| 4.8015 | 0   | FP-5143682         | Gasket  | -  | 2   | -   |
| 4.8015 | 0   | FP-5143683         | Gasket  | -  | 2   | -   |
| 3.4003 | 0   | <b>FP-5199526</b>  | <b>Blower Kit, Installation (Types 126,464,527,529,531,532,583)</b> | -  | -   | 2   |
| 1.1087 | 0   | FP-5139918         | Seal Ring   | -  | -   | 2   |
| 1.1087 | 0   | FP-5140957         | Seal Ring   | -  | -   | 2   |
| 1.1087 | 0   | FP-5144035         | Seal Ring   | -  | -   | 4   |
| 1.1087 | 0   | FP-5145623         | Gasket  | -  | -   | 2   |
| 2.7011 | 0   | FP-5143152         | Gasket  | -  | -   | 2   |
| 2.7020 | 0   | FP-5143134         | Seal Ring   | -  | -   | 4   |
| 2.7232 | 0   | FP-6525206         | Seal Ring   | -  | -   | 2   |

# Blower

(Figure 10.3)





# Blower

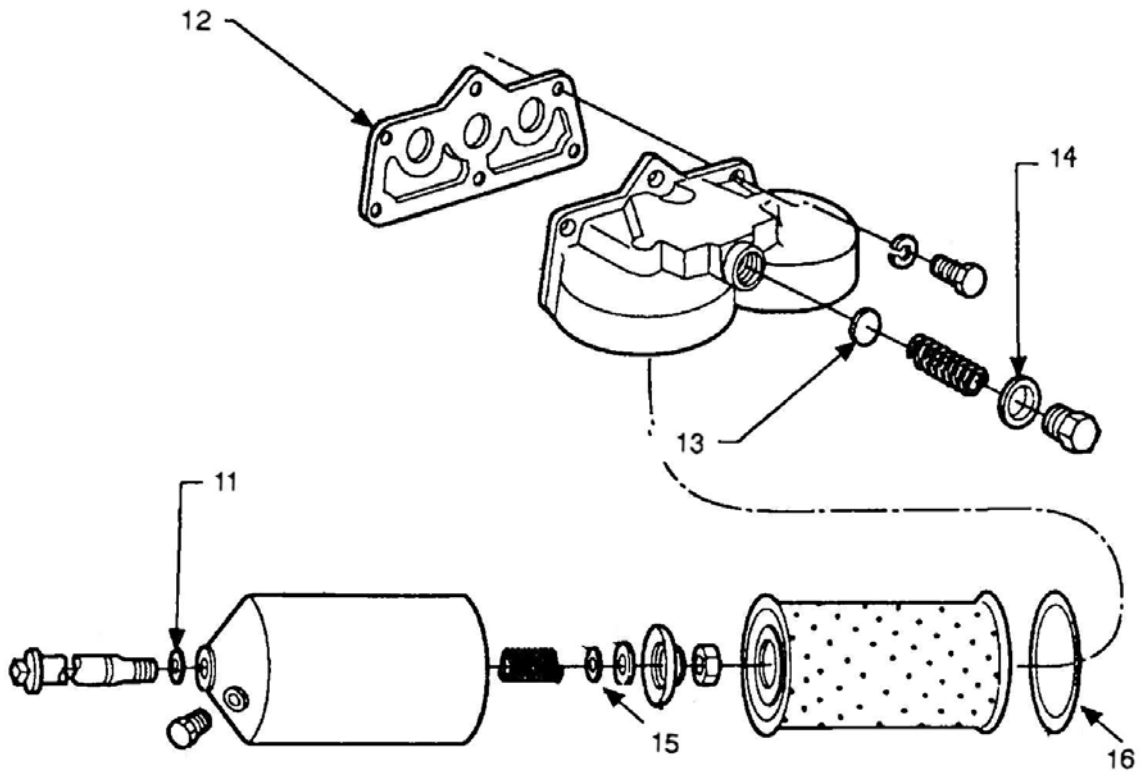
(Figure 10.3)

Groups:  
3.4003 - 3.5001

| Group  | Ref | Part No.           | Description  | 8V | 12V | 16V |
|--------|-----|--------------------|--|----|-----|-----|
| 3.4135 | 6   | FP-5138964         | Plate, Flex Blower Rotor Gear Hub                                  | 6  | 18  | 24  |
| 3.4140 | 8   | FP-5109389         | Strainer, Oil  | 2  | 4   | 4   |
| 3.4143 | 0   | FP-5141452         | Seal Ring  | 2  | 4   | 4   |
| 3.4143 | 0   | FP-5116290         | Seal Ring, .440X.121" (Supply)                                     | 2  | 4   | 4   |
| 3.4180 | 0   | FP-103321          | Lockwasher, 3/8"   | 10 | 30  | 30  |
| 3.4180 | 0   | FP-9425668         | Pin, 1/2" X 2 3/4" Dowel   | 2  | 2   | 2   |
| 3.4180 | 10  | FP-8924380         | Plug, 1/8" - 27 Pipe   | 6  | 9   | 18  |
| 3.4200 | 0   | FP-103320          | Lockwasher, 5/16"  | 1  | 1   | 1   |
| 3.4200 | 0   | FP-23506601        | Hose, 2.88" I.D. X 1.75"L.   | 1  | 1   | 1   |
| 3.4227 | 0   | FP-5188036         | Clamp, 2 9/16" - 3 1/2" Clamping Range                             | 2  | 2   | 2   |
| 3.4445 | 0   | FP-5139043         | Shaft, Blower Drive (Rear), (9.90"L.)                              | 1  | -   | 2   |
| 3.4445 | 0   | FP-5139232         | Shaft, Blower Drive (Rear), (8.10" L.)                             | -  | 2   | -   |
| 3.4445 | 0   | FP-5139233         | Shaft, Blower Drive (Center), (7.10"L.)                            | -  | 1   | -   |
| 3.5001 | 0   | FP-5103838         | Turbocharger Assembly (T18A40), (Type 167,168,340,350,359)         | -  | -   | 4   |
| 3.4005 | 0   | <b>FP-23509236</b> | <b>Blower Kit, Repair</b>  | 1  | 2   | 2   |
| 3.4040 | 2   | FP-23503627        | Bearing, Blower Rotor Front (Roller Single Row)                    | 2  | 4   | 4   |
| 3.4060 | 3   | FP-23504210        | Bearing, Blower Rotor Rear (Ball Double Row)                       | 2  | 4   | 4   |
| 3.4080 | 4   | FP-5139588         | Lockwasher, 1.39" I.D.x1.750" (3.4130)                             | 3  | 6   | 6   |
| 3.4090 | 5   | FP-5139368         | Shim, .010   | 2  | 4   | 4   |
| 3.4090 | 5   | FP-5139369         | Shim, .005   | 2  | 4   | 4   |
| 3.4090 | 5   | FP-5139370         | Shim, .002   | 2  | 4   | 4   |
| 3.4135 | 6   | FP-5138964         | Plate, Flex Drive  | 6  | 12  | 12  |
| 3.4160 | 7   | FP-23506798        | Seal Assembly  | 4  | 8   | 8   |
| 3.4163 | 0   | FP-23509000        | Sleeve, Blower Seal .640   | 4  | 8   | 8   |
| 3.4190 | 1   | FP-23506090        | Gasket, Blower Housing End Plate Cover                             | 3  | 6   | 6   |
| 3.4160 | 0   | <b>FP-23509313</b> | <b>Seal Kit (Contains 4 ea. Next Two Items)</b>                    | 1  | 2   | 2   |
| 3.4160 | 9   | FP-23506798        | Seal, Blower End Plate   | 4  | 8   | 8   |
| 3.4163 | 11  | FP-23509000        | Sleeve, Blower End Plate Seal                                      | 4  | 8   | 8   |
| 3.4003 | 0   | <b>FP-5199526</b>  | <b>Blower Kit, Installation (Type 126,464,527,529,531,532,583)</b> | -  | -   | 2   |
| 1.1087 | 0   | FP-5139918         | Seal Ring  | -  | -   | 2   |
| 1.1087 | 0   | FP-5140957         | Seal Ring  | -  | -   | 2   |
| 1.1087 | 0   | FP-5144035         | Seal Ring  | -  | -   | 4   |
| 1.1087 | 0   | FP-5145623         | Gasket   | -  | -   | 2   |
| 2.7011 | 0   | FP-5143152         | Gasket   | -  | -   | 2   |
| 2.7020 | 0   | FP-5143134         | Seal Ring  | -  | -   | 4   |
| 2.7232 | 0   | FP-6525206         | Seal Ring  | -  | -   | 2   |
| 2.8760 | 0   | FP-23509675        | Gasket   | -  | -   | 2   |
| 3.3030 | 0   | FP-5145459         | Gasket   | -  | -   | 2   |
| 3.4025 | 0   | FP-5187576         | Screen Assembly  | -  | -   | 2   |
| 3.4143 | 0   | FP-5116290         | Seal Ring  | -  | -   | 4   |
| 3.4143 | 0   | FP-5141452         | Seal Ring  | -  | -   | 4   |
| 3.4190 | 1   | FP-23506090        | Gasket   | -  | -   | 6   |
| 3.4220 | 0   | FP-5139480         | Seal Ring (3.4229)   | -  | -   | 20  |
| 3.5423 | 0   | FP-5141838         | Gasket   | -  | -   | 2   |
| 4.8015 | 0   | FP-5143682         | Gasket   | -  | -   | 2   |
| 4.8015 | 0   | FP-5143683         | Gasket   | -  | -   | 2   |

# Oil Distribution

(Figure 11.1)





# Oil Distribution

(Figure 11.1)

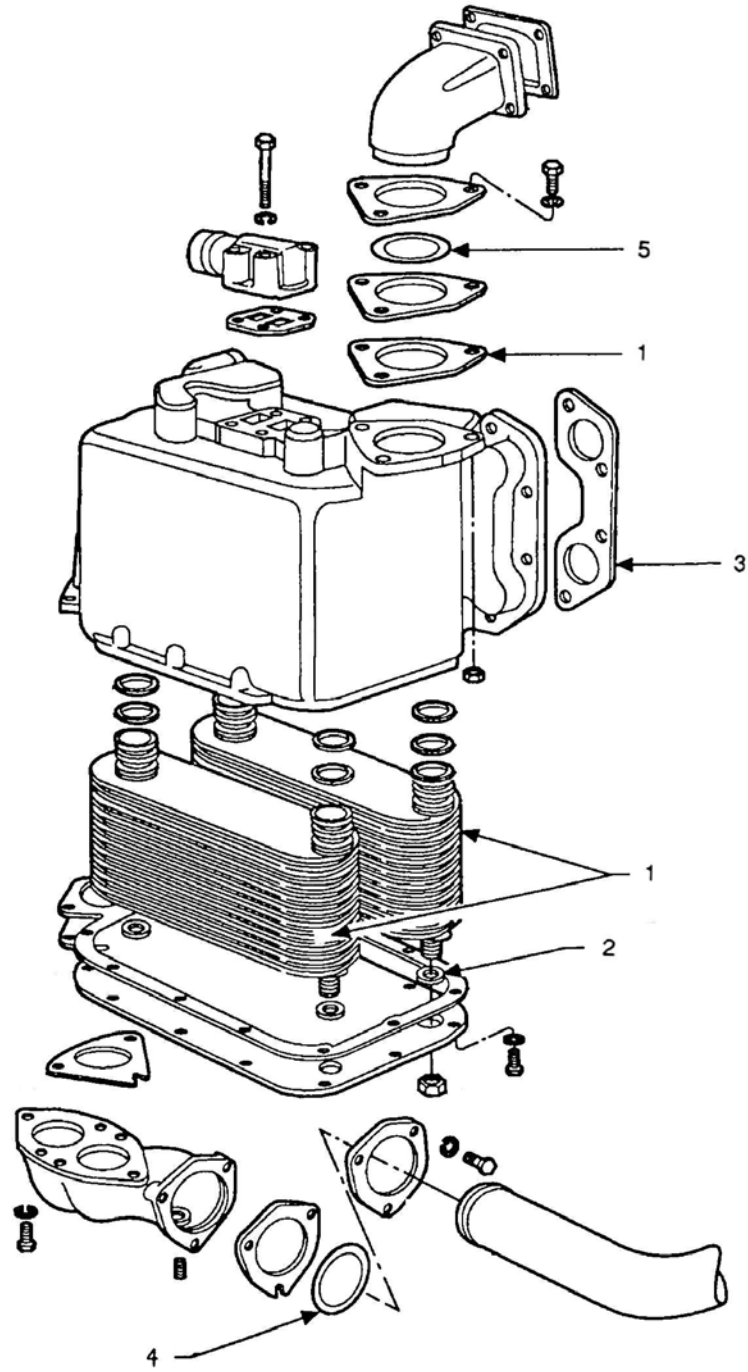
Groups:

4.1510 - 4.3023

| Group                      | Ref | Part No.    | Description                                   | 8V | 12V | 16V |
|----------------------------|-----|-------------|---|----|-----|-----|
| 4.1510                     | 0   | FP-5140889  | Seal Ring (1.48" I.D.)                        | 1  | 1   | 1   |
| 4.1510                     | 0   | FP-5141459  | Seal Ring (2.61" I.D.)                        | 1  | 1   | 1   |
| 4.1510                     | 0   | FP-5142718  | Seal Ring (1.98" I.D.)                        | 1  | 1   | 1   |
| 4.1510                     | 0   | FP-103321   | Lockwasher, 3/8" (4.1512), (4.1522), (4.1580) | 8  | 8   | 8   |
| 4.1512                     | 2   | FP-8927580  | Bolt, 3/8" -16 X 1.015"                       | 2  | 2   | 2   |
| 4.1512                     | 2   | FP-8927581  | Bolt, 3/8" -16 X 1.135"                       | 2  | 2   | 2   |
| 4.1520                     | 5   | FP-5139880  | Gasket (Scavenging)                           | 1  | 2   | 1   |
| 4.1520                     | 6   | FP-5141020  | Gasket (Pressure)                             | 1  | 1   | 2   |
| 4.1520                     | 3   | FP-5141457  | Gasket (Pressure)                             | 1  | 1   | 1   |
| 4.1580                     | 4   | FP-5142718  | Seal Ring (1.98" I.D.)                        | 1  | 2   | 1   |
| 4.1580                     | 4   | FP-8927581  | Bolt, 3/8" -16 X 1.135"                       | 4  | 4   | 4   |
| 4.1580                     | 4   | FP-5140889  | Seal Ring (1.48" I.D.)                        | 1  | 1   | 1   |
| 4.1580                     | 4   | FP-5140096  | Seal Ring (1.609" I.D.)                       | 1  | 1   | 1   |
| 4.1590                     | 6   | FP-5141020  | Gasket (Pressure)                             | 1  | 1   | 1   |
| 4.1590                     | 5   | FP-5139880  | Gasket (Scavenging)                           | 2  | 2   | 2   |
| <b>Oil Filter</b>          |     |             |   |    |     |     |
| 4.2242                     | 0   | FP-23503738 | O-Ring (1.504" O.D.)                          | 2  | 2   | 2   |
| 4.2290                     | 0   | FP-5121182  | Plug, 1/4" Pipe                               | 2  | 2   | 2   |
| 4.2300                     | 16  | FP-1595620  | Gasket, Oil Filter Cover                      | 2  | 2   | 2   |
| 4.2330                     | 15  | FP-6437298  | Gasket, Oil Filter Cover Nut                  | 2  | 2   | 2   |
| 4.2330                     | 11  | FP-5187310  | Gasket, Oil Filter Cover Nut (Rear)           | 2  | 2   | 2   |
| 4.2350                     | 12  | FP-8927620  | Gasket, Oil Filter Adaptor                    | 1  | 2   | 3   |
| 4.2350                     | 12  | FP-23506133 | Gasket, Oil Filter Adaptor                    | 1  | 1   | 1   |
| 4.2350                     | 12  | FP-23506133 | Gasket, Oil Filter Adaptor                    | 1  | 1   | 1   |
| 4.2350                     | 12  | FP-8925654  | Gasket, Oil Filter Adaptor                    | 1  | 1   | 1   |
| 4.2350                     | 12  | FP-5130995  | Gasket, Oil Filter Adaptor                    | 2  | 2   | 2   |
| 4.2350                     | 12  | FP-8927619  | Gasket, Oil Filter Adaptor                    | 1  | 1   | 1   |
| 4.2350                     | 12  | FP-5141031  | Gasket, Oil Filter Adaptor                    | 1  | 1   | 1   |
| 4.2350                     | 12  | FP-8927620  | Gasket, Oil Filter Adaptor                    | 1  | 2   | 3   |
| 4.2350                     | 12  | FP-8925654  | Gasket, Oil Filter Adaptor                    | 1  | 1   | 1   |
| 4.2350                     | 12  | FP-8927619  | Gasket, Oil Filter Adaptor                    | 1  | 1   | 1   |
| 4.2400                     | 12  | FP-8922740  | Valve, Oil Filter By-Pass                     | 2  | 3   | 3   |
| 4.2485                     | 0   | FP-5136358  | Valve, Oil Filter By-Pass                     | 1  | 1   | 4   |
| 4.2485                     | 13  | FP-5133431  | Valve, Disc Oil Filter By-Pass                | 1  | 2   | 2   |
| 4.2489                     | 14  | FP-5134920  | Gasket, Oil Filter By-Pass Plug               | 1  | 2   | 2   |
| 4.2489                     | 14  | FP-5575086  | Gasket, Oil Filter By-Pass Plug               | 2  | 2   | 2   |
| 4.2489                     | 0   | FP-5137201  | Washer, Plug 1.09" X 1.38" X .032"            | 2  | 2   | 5   |
| 4.3023                     | 0   | FP-5141031  | Gasket (Split Flange)                         | 2  | 2   | 2   |
| <b>Oil Pressure Relief</b> |     |             |   |    |     |     |
| 4.1671                     | 0   | FP-8927581  | Bolt, 3/8" -16 X 1.135"                       | 2  | 2   | 2   |
| 4.1690                     | 0   | FP-5126327  | Spring, Oil Pressure Regulator                | 1  | 2   | 3   |
| 4.1700                     | 0   | FP-8922740  | Valve, Oil Pressure Regulator                 | 1  | 2   | 3   |
| 4.1701                     | 0   | FP-457008   | Pin, 3/16" X 1 1/2" Spring                    | 2  | 2   | 3   |
| 4.1730                     | 0   | FP-5117269  | Gasket, Oil Pressure Regulator Body           | 1  | 1   | 1   |
| 4.1730                     | 0   | FP-5140831  | Seal Ring, 1.234" X .139"                     | 2  | 2   | 2   |

# Oil Cooler

(Figure 11.2)





# Oil Cooler

(Figure 11.2)

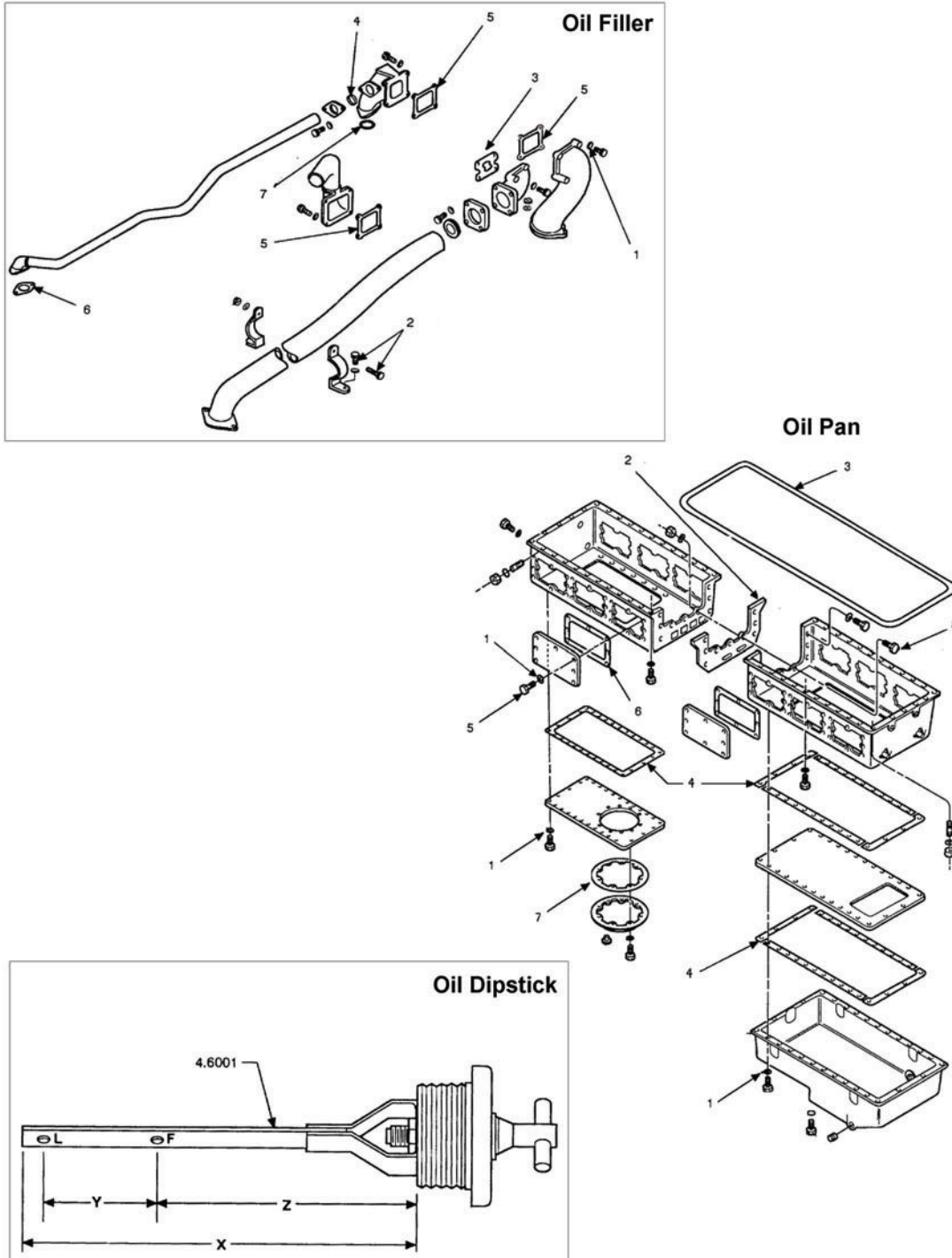
Groups:

4.4001 - 4.4244

| Group  | Ref | Part No.    | Description  | 8V | 12V | 16V |
|--------|-----|-------------|--|----|-----|-----|
| 4.4001 | 1   | FP-8535369  | Core, 28 Plates Oil Cooler                               | -  | 5   | -   |
| 4.4001 | 1   | FP-8547543  | Core, 30 Plates Oil Cooler                               | -  | 4   | -   |
| 4.4040 | 2   | FP-5150155  | Gasket, Oil Cooler Core-Outer                            | 1  | 1   | 1   |
| 4.4055 | 3   | FP-23506470 | Gasket, Oil Cooler Housing                               | 8  | 8   | 8   |
| 4.4060 | 0   | FP-5121182  | Plug, 1/4" Pipe  | 2  | 2   | 2   |
| 4.4060 | 0   | FP-103320   | Lockwasher, 5/16"  | 22 | 22  | 22  |
| 4.4107 | 0   | FP-23509170 | Gasket, Oil Cooler Inlet & Outlet-Oil (4.4200), (4.4244) | 1  | 1   | 1   |
| 4.4107 | 0   | FP-23509110 | Gasket (Outlet Between Elbows)                           | 1  | 1   | 1   |
| 4.4107 | 3   | FP-23506470 | Gasket (Outlet At Block ), (4.4200)                      | 1  | 1   | 1   |
| 4.4107 | 0   | FP-5145411  | Ring, Seal (Inlet Between Elbows)                        | 1  | 1   | 1   |
| 4.4170 | 0   | FP-5137201  | Washer, Plug 1.09" X 1.38" X .032"                       | 2  | 2   | 2   |
| 4.4176 | 0   | FP-8927581  | Bolt, 3/8" -16 X 1.135"                                  | 2  | 4   | 4   |
| 4.4176 | 0   | FP-103321   | Lockwasher, 3/8"   | 2  | 4   | 4   |
| 4.4178 | 0   | FP-23506133 | Gasket, Oil Cooler By-Pass Tube Flange (4.4184)          | 1  | 1   | 1   |
| 4.4212 | 4   | FP-5145409  | Seal Ring, 3.80" X .45" (4.4230), (4.4244)               | 2  | 2   | 2   |
| 4.4219 | 4   | FP-5145409  | Seal Ring, 3.80" X .45" (4.4230)                         | 2  | 2   | 2   |
| 4.4219 | 0   | FP-5119660  | Ring, Seal (Adaptor), (3.975" I.D.)                      | 2  | 2   | 2   |
| 4.4244 | 5   | FP-5145411  | Ring Seal (Inlet Between Elbows)                         | 2  | 2   | 2   |

# Oil Filler, Dipstick & Pan

(Figure 11.3)







# Oil Filler, Dipstick & Pan

(Figure 11.3)

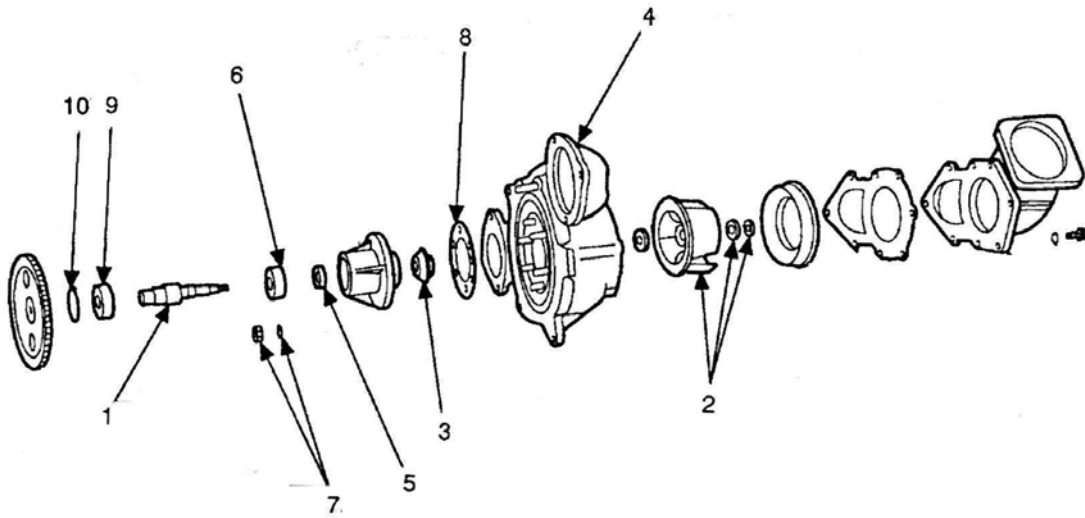
Groups:

4.5007 - 4.8070

| Group           | Ref | Part No.    | Description                     | 8V | 12V | 16V |
|-----------------|-----|-------------|---------------------------------|----|-----|-----|
| <b>Breather</b> |     |             |                                 |    |     |     |
| 4.8015          | 0   | FP-5143682  | Gasket, Breather Elbow (R.Bank) | 1  | 2   | 2   |
| 4.8015          | 0   | FP-5143683  | Gasket, Breather Elbow (L.Bank) | 1  | 2   | 2   |
| 4.8045          | 0   | FP-5110393  | Gasket, Breather Assembly       | 1  | 1   | 1   |
| 4.8050          | 0   | FP-5130349  | Gasket, Breather Or Separator   | 1  | 1   | 1   |
| 4.8057          | 0   | FP-5106703  | Gasket, Breather Shell Cover    | 1  | 1   | 1   |
| 4.8057          | 0   | FP-5103646  | Gasket, Breather Shell Cover    | 1  | 1   | 1   |
| 4.8057          | 0   | FP-23505521 | Gasket, Breather Shell Cover    | 1  | 1   | 1   |
| 4.8060          | 0   | FP-5132042  | Screen, Filter Unit, Breather   | -  | -   | 2   |
| 4.8060          | 0   | FP-5101760  | Element, Round                  | -  | -   | 1   |
| 4.8070          | 0   | FP-5144038  | Gasket, Breather Or Separator   | -  | -   | 1   |
| <b>Dipstick</b> |     |             |                                 |    |     |     |
| 4.6001          | 0   | FP-5146679  | Dipstick, Cut To Length         | 1  | 1   | 1   |
| 4.6061          | 0   | FP-8927620  | Gasket, Dipstick Adaptor Plate  | 1  | 1   | 1   |
| <b>Filler</b>   |     |             |                                 |    |     |     |
| 4.5007          | 0   | FP-5139583  | Gasket, Oil Filler Tube Adaptor | 1  | 2   | 2   |
| 4.5010          | 0   | FP-5117362  | Cap, Oil Filler                 | 1  | 2   | 2   |
| 4.5020          | 0   | FP-5150147  | Strainer, Oil Filler Tube       | 1  | 2   | 2   |
| 4.5030          | 0   | FP-5113825  | Chain, 20" L.                   | 1  | 2   | 2   |
| 4.5030          | 0   | FP-5146248  | Hook, Oil Filler Cap            | 1  | 2   | 2   |
| <b>Pan</b>      |     |             |                                 |    |     |     |
| 4.7010          | 8   | FP-454992   | Bolt, 1/2" - 13 X 2 1/2"        | 7  | 7   | 7   |
| 4.7020          | 0   | FP-23511574 | Plug, 1" Pipe Sq. Soc.          | 2  | 2   | 2   |
| 4.7020          | 1   | FP-8927581  | Bolt, 3/8" - 16 X 1.135"        | 12 | 30  | 30  |
| 4.7020          | 0   | FP-5142549  | Plug, 3/4" Pipe Sq. Soc.        | 4  | 4   | 4   |
| 4.7020          | 0   | FP-103026   | Nut, 3/8" - 24                  | -  | -   | -   |
| 4.7020          | 0   | FP-5115214  | Plug, 1/2" - 14 Pipe            | 2  | 2   | 2   |
| 4.7020          | 0   | FP-8923847  | Plug, Pipe 1/4" - 18" NPTF      | 2  | 2   | 2   |
| 4.7027          | 2   | FP-23515447 | Gasket, Upper Oil Pan           | -  | -   | 1   |
| 4.7030          | 3   | FP-5117231  | Gasket, Oil Pan                 | 1  | 2   | 4   |
| 4.7030          | 0   | FP-5141595  | Seal Ring, (100.60" I.D.)       | -  | -   | 1   |
| 4.7030          | 0   | FP-8925313  | Ring Seal, Oil Pan To Block     | 1  | -   | -   |
| 4.7030          | 0   | FP-5141594  | Seal Ring, (83.60" I.D.)        | -  | 1   | -   |
| 4.7040          | 4   | FP-5131100  | Gasket, Lower Oil Pan           | 1  | 2   | -   |
| 4.7040          | 4   | FP-5125635  | Gasket, Lower Oil Pan           | -  | 1   | -   |
| 4.7040          | 4   | FP-5117231  | Gasket, Lower Oil Pan           | -  | 2   | -   |
| 4.7040          | 4   | FP-23503588 | Gasket, Lower Oil Pan           | -  | 1   | -   |
| 4.7040          | 4   | FP-5125643  | Gasket, Lower Oil Pan           | 1  | 2   | 4   |
| 4.7050          | 0   | FP-8927580  | Bolt, 3/8" - 16 X 1" X 1.015"   | 1  | 2   | 6   |
| 4.7050          | 9   | FP-103026   | Nut, 3/8" - 24 (117049)         | -  | -   | 6   |
| 4.7050          | 1   | FP-8927581  | Bolt, 3/8" - 16 X 1" X 1.135"   | -  | -   | 98  |
| 4.7050          | 0   | FP-103321   | Lockwasher, 3/8"                | -  | -   | 6   |
| 4.7060          | 6   | FP-8927619  | Gasket, Oil Pan Hand Hole       | 2  | 3   | 4   |
| 4.7060          | 6   | FP-8927620  | Gasket, Oil Pan Hand Hole       | 8  | 11  | 12  |
| 4.7130          | 0   | FP-5139862  | Gasket, Oil Pan Cover           | 1  | 1   | 1   |
| 4.7150          | 7   | FP-5153986  | Gasket, Oil Pan Sump            | -  | 1   | -   |

# Fresh Water Pump

(Figure 12.1)





# Fresh Water Pump

(Figure 12.1)

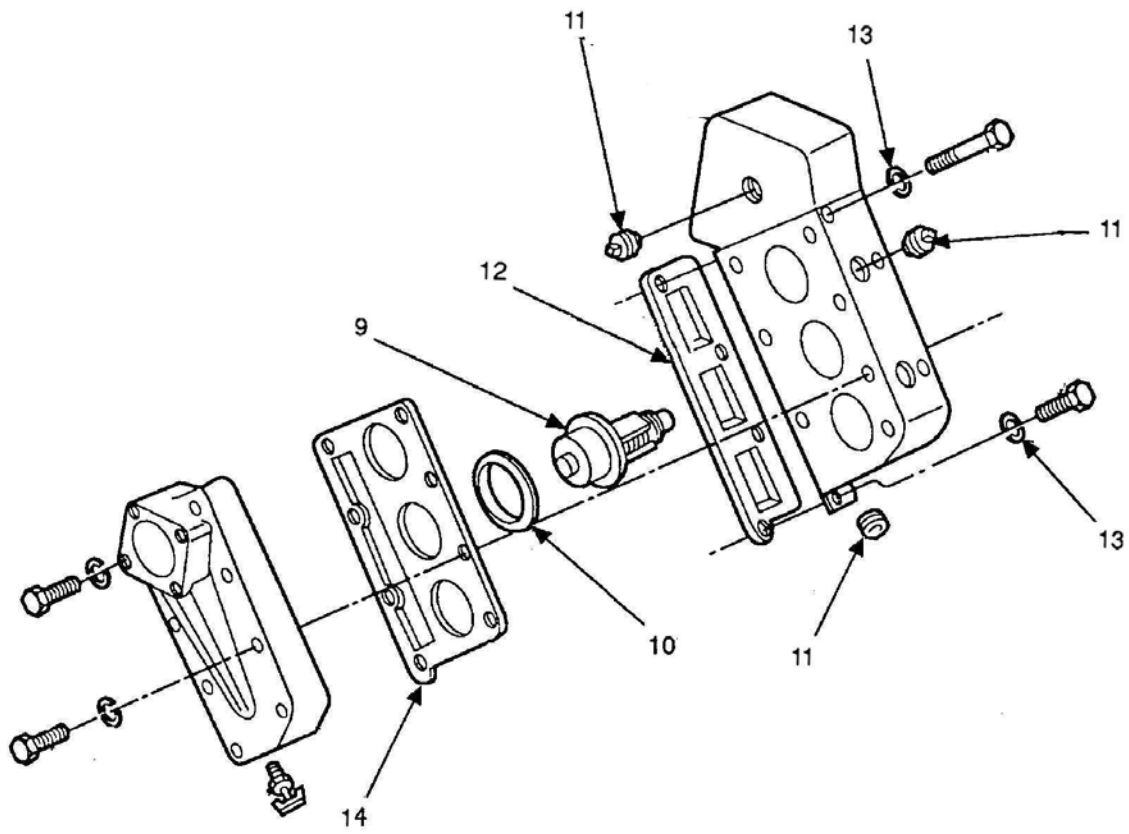
Groups:

5.1000 - 5.2043

| Group  | Ref | Part No.           | Description   | 8V | 12V | 16V |
|--------|-----|--------------------|---|----|-----|-----|
| 5.1000 | 0   | FP-23506704        | Pump Assembly (L.H. Hi-Capacity), (Type 283)          | 1  | -   | -   |
| 5.1030 | 4   | FP-8920915         | Body, Fresh Water Pump (L.H. Hi-Capacity)             | 1  | -   | -   |
| 5.1050 | 0   | FP-908337          | Shaft & Bearing                                       | 1  | -   | -   |
| 5.1050 | 1   | FP-8922201         | Shaft, Fresh Water Pump                               | 1  | -   | -   |
| 5.1050 | 1   | FP-5123150         | Shaft, Fresh Water Pump                               | 1  | -   | -   |
| 5.1065 | 5   | FP-5117983         | Seal, Fresh Water Pump Shaft                          | 1  | -   | -   |
| 5.1070 | 10  | FP-274746          | Lockring  | 1  | -   | -   |
| 5.1070 | 6   | FP-23503687        | Bearing, Fresh Water Pump                             | 1  | -   | -   |
| 5.1070 | 9   | FP-23503649        | Bearing, Fresh Water Pump                             | 1  | -   | -   |
| 5.1071 | 7   | FP-9415285         | Ring, 2 7/16" Dia. Lock Retaining                     | 1  | -   | -   |
| 5.1071 | 7   | FP-103321          | Lockwasher, 3/8"                                      | 1  | -   | -   |
| 5.1071 | 7   | FP-103026          | Nut, 3/8" - 24  | 1  | -   | -   |
| 5.1074 | 8   | FP-5127922         | Gasket, Pump Bearing Support                          | 1  | -   | -   |
| 5.1110 | 2   | FP-221436          | Washer, 7/16"   | 1  | -   | -   |
| 5.1110 | 2   | FP-5117972         | Nut, 7/16" - 20 Lock                                  | 1  | -   | -   |
| 5.1110 | 2   | FP-120395          | Washer, 7/16"   | 1  | -   | -   |
| 5.1110 | 2   | FP-23505998        | Impeller, Fresh Water Pump                            | 1  | -   | -   |
| 5.1130 | 3   | FP-8924297         | Seal, Fresh Water Pump                                | 1  | -   | -   |
| 5.1130 | 3   | FP-23506248        | Seal, Unitized  | 1  | -   | -   |
| 5.1210 | 0   | FP-5114011         | Thrower, Fresh Water Pump                             | 1  | -   | -   |
| 5.2001 | 0   | FP-23511574        | Plug, 1" Pipe Sq. Soc.                                | 1  | -   | -   |
| 5.2001 | 0   | FP-103321          | Lockwasher, 3/8"                                      | 1  | -   | -   |
| 5.2001 | 0   | FP-5142549         | Plug, 3/4" Pipe Sq. Soc.                              | 1  | -   | -   |
| 5.2001 | 0   | FP-5115214         | Plug, 1/2" - 14 Pipe                                  | 1  | -   | -   |
| 5.2010 | 0   | FP-5139745         | Gasket, Water Outlet Manifold                         | 1  | -   | -   |
| 5.2035 | 0   | FP-103321          | Lockwasher, 3/8"                                      | 1  | -   | -   |
| 5.2037 | 0   | FP-23518859        | Gasket, Water Outlet Manifold Elbow                   | 1  | -   | -   |
| 5.2043 | 0   | FP-5121182         | Plug, 1/4" Pipe                                       | 1  | -   | -   |
| 5.2043 | 0   | FP-5141445         | Gasket, Plate   | 1  | -   | -   |
| 5.2043 | 0   | FP-5139724         | Seal (Front To Rear)                                  | 1  | -   | -   |
| 5.2043 | 0   | FP-5142549         | Plug, 3/4" Pipe Sq. Soc.                              | 1  | -   | -   |
| 5.2043 | 0   | FP-5145410         | Seal (Outlet)   | 1  | -   | -   |
| 5.2043 | 0   | FP-23515899        | Seal, (Outlet)  | 1  | -   | -   |
| 5.2043 | 0   | FP-103321          | Lockwasher, 3/8"                                      | 1  | -   | -   |
| 5.1000 | 0   | <b>FP-23506870</b> | <b>Reconditioning Kit (High Capacity), (Type 283)</b> | 1  | -   | -   |
| 5.1050 | 0   | FP-908337          | Shaft & Bearing, Fresh Water Pump                     | 1  | -   | -   |
| 5.1110 | 2   | FP-23505998        | Impeller, Fresh Water Pump                            | 1  | -   | -   |
| 5.1130 | 3   | FP-23506248        | Seal, Fresh Water Pump                                | 1  | -   | -   |
| 5.1210 | 0   | FP-5114011         | Thrower, Fresh Water Pump                             | 1  | -   | -   |
| 5.1210 | 0   | FP-5150191         | Seal, Fresh Water Pump                                | 1  | -   | -   |
| 5.1210 | 0   | FP-5150193         | Gasket, Fresh Water Pump                              | 1  | -   | -   |
| 5.1210 | 0   | FP-5178273         | Gasket, Fresh Water Pump                              | 1  | -   | -   |

# Thermostat Housing

(Figure 12.2)





# Thermostat Housing

(Figure 12.2)

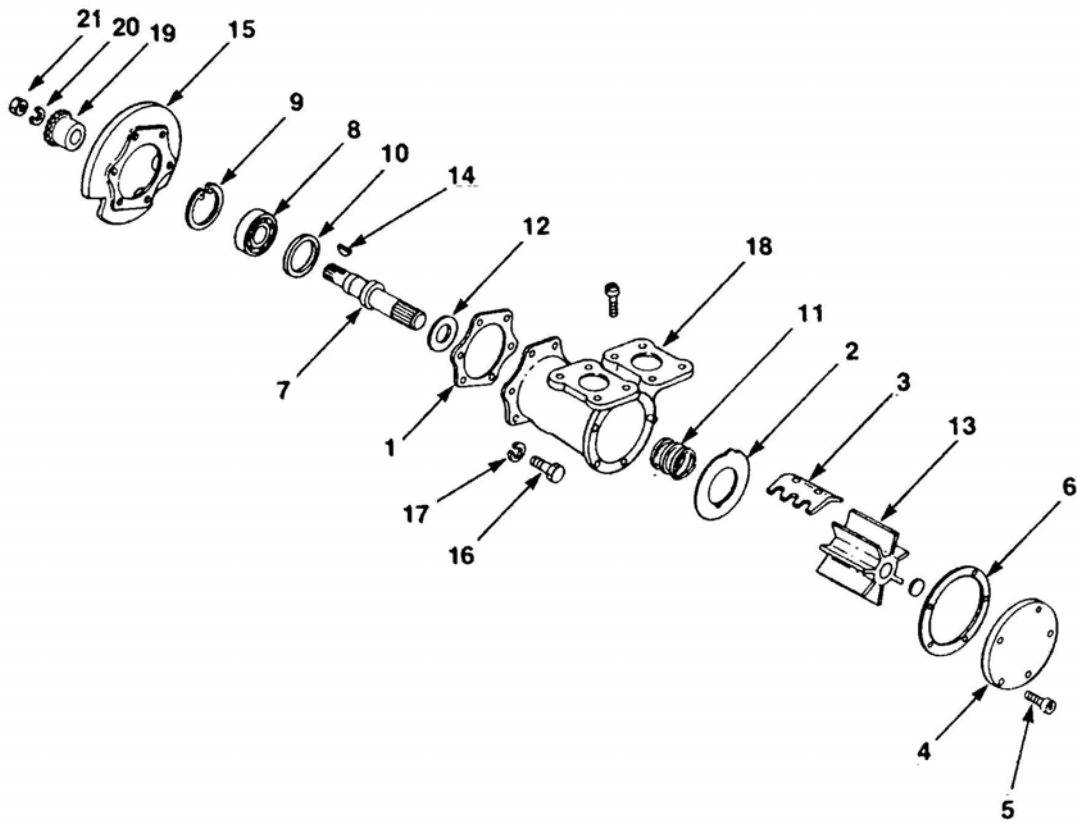
Groups:

5.2050 - 5.4017

| Group  | Ref | Part No.    | Description                        | 8V | 12V | 16V |
|--------|-----|-------------|------------------------------------|----|-----|-----|
| 5.2050 | 9   | FP-23503826 | Thermostat 170 °                   | 2  | -   | -   |
| 5.2050 | 9   | FP-23503827 | Thermostat 160 °                   | 2  | -   | -   |
| 5.2060 | 10  | FP-5132155  | Seal, Thermostat                   | 2  | -   | -   |
| 5.2090 | 11  | FP-5115214  | Plug, 1/2" - 14 Pipe               | 2  | -   | -   |
| 5.2090 | 0   | FP-103321   | Lockwasher, 3/8"                   | 1  | -   | -   |
| 5.2090 | 0   | FP-5121182  | Plug, 1/4" Pipe                    | 1  | -   | -   |
| 5.2090 | 0   | FP-5142549  | Plug, 3/4" Pipe Sq. Soc.           | 1  | -   | -   |
| 5.2110 | 12  | FP-5139501  | Gasket, Thermostat Housing         | 1  | -   | -   |
| 5.2120 | 0   | FP-5131433  | Washer, .41" X .81" X .1345"       | 1  | -   | -   |
| 5.2120 | 13  | FP-103321   | Lockwasher, 3/8"                   | 1  | -   | -   |
| 5.2130 | 14  | FP-5141437  | Gasket, Thermostat Housing Cover   | 1  | -   | -   |
| 5.4017 | 0   | FP-3041379  | Thermostat, 170 Deg. (Fan Control) | 2  | -   | -   |

# Raw Water Pump

(Figure 13.1)





# Raw Water Pump

(Figure 13.1)

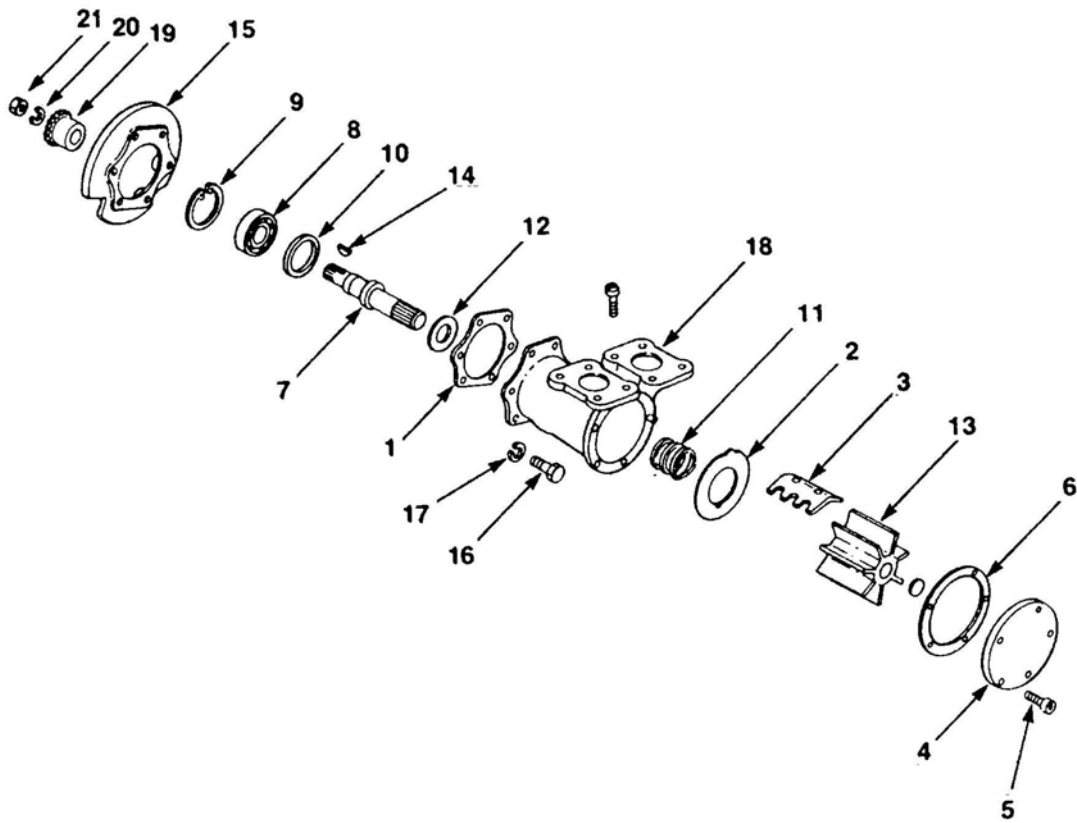
Groups:

5.6001 - 5.6176

| Group  | Ref | Part No.          | Description   | 8V | 12V | 16V |
|--------|-----|-------------------|---|----|-----|-----|
| 5.6001 | 0   | FP-5122599        | Pump, Raw Water (Types 52,81)                                   | 1  | -   | -   |
| 5.6010 | 15  | FP-5193551        | Adaptor, Housing, Raw Water Pump Drive                          | 1  | -   | -   |
| 5.6010 | 16  | FP-23501660       | Screw, 3/8" - 16 X 1"   | 6  | -   | -   |
| 5.6010 | 17  | FP-187372         | Washer, 3/8"  | 6  | -   | -   |
| 5.6012 | 1   | FP-23501662       | Gasket, Raw Water Pump Adaptor                                  | 1  | -   | -   |
| 5.6020 | 18  | FP-5196165        | Body, Raw Water Pump  | 1  | -   | -   |
| 5.6025 | 2   | FP-5193556        | Plate, Wear   | 1  | -   | -   |
| 5.6025 | 0   | FP-5197597        | Pin, .183" X 11/32" Dowel                                       | 1  | -   | -   |
| 5.6035 | 0   | FP-114366         | Screw, 1/4" - 20 X 1/2" (Slotted)                               | 1  | -   | -   |
| 5.6035 | 3   | FP-5196167        | Cam, Raw Water Pump Body Offset                                 | 1  | -   | -   |
| 5.6090 | 5   | FP-23504236       | Screw, 1/4" - 20 X 1/2"   | 5  | -   | -   |
| 5.6090 | 4   | FP-5193555        | Cover, End  | 1  | -   | -   |
| 5.6100 | 6   | FP-5193562        | Gasket, Raw Water Pump Cover                                    | 1  | -   | -   |
| 5.6120 | 7   | FP-5196169        | Shaft, Raw Water Pump   | 1  | -   | -   |
| 5.6130 | 8   | FP-23505479       | Bearing, Raw Water Pump   | 1  | -   | -   |
| 5.6140 | 9   | FP-5196171        | Ring, Bearing Retainer  | 1  | -   | -   |
| 5.6160 | 10  | FP-5195101        | Seal, 1 11/32" I.D. Raw Water Pump Bearing                      | 1  | -   | -   |
| 5.6170 | 11  | FP-5198419        | Seal Assembly Raw Water Pump Shaft                              | 1  | -   | -   |
| 5.6176 | 0   | FP-5193567        | O-Ring, Raw Water Pump Shaft                                    | 1  | -   | -   |
| 5.6220 | 0   | <b>FP-5196846</b> | <b>Impeller &amp; Seal Kit (For Pump FP-5122599)</b>            | 1  | -   | -   |
| 5.6230 | 13  | FP-8924839        | Impeller, Raw Water Pump  | 1  | -   | -   |
| 5.6170 | 11  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                             | 1  | -   | -   |
| 5.6100 | 6   | FP-5193562        | Gasket, Raw Water Pump Cover                                    | 1  | -   | -   |
| 5.6025 | 5   | FP-23504236       | Screw, Hexagon  | 5  | -   | -   |
| 5.6025 | 0   | <b>FP-5197222</b> | <b>Reconditioning Kit, Raw Water Pump (For Pump FP-5122599)</b> | 1  | -   | -   |
| 5.6012 | 0   | FP-23514265       | Seal Ring   | 1  | -   | -   |
| 5.6012 | 1   | FP-23501662       | Gasket, Raw Water Pump Body To Adaptor                          | 1  | -   | -   |
| 5.6020 | 2   | FP-5193556        | Plate, Wear   | 1  | -   | -   |
| 5.6025 | 0   | FP-114366         | Screw, 1/4" - 20 X 1/2" Raw Water Pump Cam (Brass)              | 1  | -   | -   |
| 5.6035 | 3   | FP-5196167        | Cam, Raw Water Pump Body Offset                                 | 1  | -   | -   |
| 5.6090 | 4   | FP-5193555        | Cover, Raw Water Pump (End)                                     | 1  | -   | -   |
| 5.6090 | 5   | FP-23504236       | Screw, 1/4" - 20 X 1/2" Raw Water Pump Cover (Stainless)        | 5  | -   | -   |
| 5.6100 | 6   | FP-5193562        | Gasket, Raw Water Pump Cover                                    | 1  | -   | -   |
| 5.6120 | 7   | FP-5196169        | Shaft, Raw Water Pump   | 1  | -   | -   |
| 5.6130 | 8   | FP-23505479       | Bearing, Raw Water Pump   | 1  | -   | -   |
| 5.6140 | 9   | FP-5196171        | Ring, Raw Water Pump Bearing Retainer                           | 1  | -   | -   |
| 5.6160 | 10  | FP-5195101        | Seal, Raw Water Pump Bearing                                    | 1  | -   | -   |
| 5.6170 | 11  | FP-5198419        | Seal Assembly, Raw Water Pump Shaft                             | 1  | -   | -   |
| 5.6200 | 12  | FP-5193676        | Slinger, Raw Water Pump Shaft                                   | 1  | -   | -   |
| 5.6230 | 13  | FP-8924839        | Impeller, Raw Water Pump  | 1  | -   | -   |
| 5.6320 | 14  | FP-103462         | Key, Woodruff Raw Water Pump Shaft                              | 1  | -   | -   |

# Raw Water Pump

(Figure 13.2)







# Raw Water Pump

(Figure 13.2)

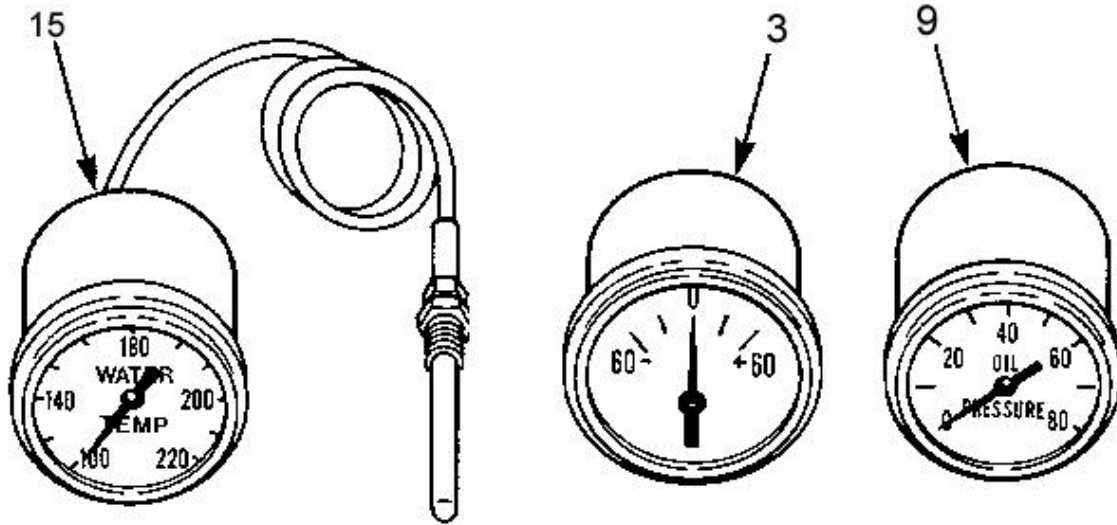
Groups:

5.6200 - 5.6575

| Group  | Ref | Part No.    | Description                        | 8V | 12V | 16V |
|--------|-----|-------------|------------------------------------|----|-----|-----|
| 5.6200 | 12  | FP-5193676  | Slinger, Raw Water Pump Shaft      | 1  | -   | -   |
| 5.6230 | 13  | FP-8924839  | Impeller, Raw Water Pump           | 1  | -   | -   |
| 5.6320 | 19  | FP-5196170  | Gear, Raw Water Pump Drive         | 1  | -   | -   |
| 5.6320 | 20  | FP-103325   | Lockwasher, 5/8"                   | 1  | -   | -   |
| 5.6320 | 21  | FP-114498   | Nut, 5/8" -18                      | 1  | -   | -   |
| 5.6350 | 0   | FP-5104506  | Gasket, Adaptor Cover              | 1  | -   | -   |
| 5.6350 | 0   | FP-23515145 | Gasket, Flywheel Housing Cover     | 1  | -   | -   |
| 5.6410 | 0   | FP-5170450  | Plate (21 Teeth)                   | 1  | -   | -   |
| 5.6573 | 0   | FP-8927581  | Bolt, 3/8" -16 X .135"             | 8  | -   | -   |
| 5.6573 | 0   | FP-103321   | Lockwasher, 3/8"                   | 4  | -   | -   |
| 5.6574 | 0   | FP-5112143  | Gasket, Raw Water Pump Inlet Elbow | 1  | -   | -   |
| 5.6575 | 0   | FP-8517479  | Electrode Assembly (2 1/8" L.)     | 2  | -   | -   |

# Instruments

(Figure 14.1)





# Instruments

(Figure 14.1)

Groups:

7.4015 - 7.4750

| Group  | Ref | Part No.    | Description                                      | 8V | 12V | 16V |
|--------|-----|-------------|--|----|-----|-----|
| 7.4015 | 0   | FP-6474479  | Ammeter (60 Amp)                                 | 1  | 1   | 1   |
| 7.4070 | 0   | FP-12361169 | Gage (0-100 PSI)                                 | 1  | 1   | 1   |
| 7.4070 | 0   | FP-6462554  | Gage (0-400 PSI)                                 | 1  | 1   | 1   |
| 7.4080 | 0   | FP-8993253  | Gage (180" Capillary)                            | 1  | 1   | 1   |
| 7.4421 | 0   | FP-5136678  | Gasket, Tachometer Drive Cable Adaptor           | 1  | 1   | 1   |
| 7.4433 | 0   | FP-3222141  | Gasket, Tachometer Drive Cable Adaptor Retainer  | 1  | 1   | 1   |
| 7.4433 | 0   | FP-103320   | Lockwasher, 5/16"                                | 2  | 2   | 2   |
| 7.4433 | 0   | FP-5155596  | Washer, 21/64" Special Copper                    | 2  | 2   | 2   |
| 7.4447 | 0   | FP-23515145 | Gasket, Tachometer Drive Cover                   | 1  | 1   | 1   |
| 7.4447 | 0   | FP-5140035  | Gasket, Tachometer Drive Cover                   | 1  | 1   | 1   |
| 7.4455 | 0   | FP-5135935  | Gasket, Tachometer Drive Cover Adaptor           | 1  | 1   | 1   |
| 7.4457 | 0   | FP-5107931  | Washer, .141" X .641" I.D. Rubber                | 1  | 1   | 1   |
| 7.4457 | 0   | FP-103320   | Lockwasher, 5/16"                                | 2  | 2   | 2   |
| 7.4509 | 0   | FP-103320   | Lockwasher, 5/16"                                | 2  | 2   | 2   |
| 7.4509 | 0   | FP-5121182  | Plug, 1/4" Pipe                                  | 1  | 1   | 1   |
| 7.4510 | 0   | FP-5113412  | Gasket, Water Temperature Switch                 | 1  | 1   | 1   |
| 7.4510 | 0   | FP-5163830  | Gasket, Water Temperature Switch                 | 1  | 1   | 1   |
| 7.4519 | 0   | FP-23504197 | Solenoid, (24/32 Volt)                           | 1  | 1   | 1   |
| 7.4530 | 0   | FP-103319   | Lockwasher, 1/4"(7.4538)                         | 3  | 3   | 3   |
| 7.4591 | 0   | FP-5155596  | Washer, 21/64" Special Copper                    | 2  | 2   | 2   |
| 7.4591 | 0   | FP-103320   | Lockwasher, 5/16"                                | 2  | 2   | 2   |
| 7.4592 | 0   | FP-3222141  | Gasket, Tachometer Drive Cable Adaptor Retainer  | 1  | 1   | 1   |
| 7.4592 | 0   | FP-5116391  | Gasket, Valve Metering                           | 1  | 1   | 1   |
| 7.4638 | 0   | FP-23515145 | Gasket, Tachometer Drive Cover                   | 1  | 1   | 1   |
| 7.4638 | 0   | FP-5141021  | Gasket, (At # 1)                                 | 1  | 1   | 1   |
| 7.4638 | 0   | FP-5140035  | Gasket, (At # 2)                                 | 1  | 1   | 1   |
| 7.4661 | 0   | FP-5143840  | Seal Ring, (2.98" I.D.) Overspeed Governor Drive | 1  | 1   | 1   |
| 7.4661 | 0   | FP-5180352  | Seal Ring, (.31" I.D.) Overspeed Governor Drive  | 1  | 1   | 1   |
| 7.4750 | 0   | FP-5107931  | Washer, .141" X .641" I.D.                       | 1  | 1   | 1   |

# 2-Stroke In-Frame Engine Kits



## Kit Number: FP-2-53

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION |
|---------------|------|-----------|-----------------------------|------------------|
| FP-5198899    | 2    | STD       | Cylinder Kit Complete       | C.R. 21:1        |
| FP-5198899 10 | 2    | 10        | Cylinder Kit Complete       | C.R. 21:1        |
| FP-5198899 20 | 2    | 20        | Cylinder Kit Complete       | C.R. 21:1        |
| FP-5198903    | 2    | STD       | Cylinder Kit Complete       | C.R. 17.0:1      |
| FP-5198903 10 | 2    | 10        | Cylinder Kit Complete       | C.R. 17.0:1      |
| FP-5198903 20 | 2    | 20        | Cylinder Kit Complete       | C.R. 17.0:1      |
| FP-5149452    | 2    | STD       | Connecting Rod Bearing Pair |                  |
| FP-5149454    | 2    | 10        | Connecting Rod Bearing Pair |                  |
| FP-5149455    | 2    | 20        | Connecting Rod Bearing Pair |                  |
| FP-5149456    | 2    | 30        | Connecting Rod Bearing Pair |                  |
| FP-8924357    | 3    | STD       | Main Bearing, Plain         |                  |
| FP-8924359    | 3    | 10        | Main Bearing, Plain         |                  |
| FP-8924360    | 3    | 20        | Main Bearing, Plain         |                  |
| FP-8924361    | 3    | 30        | Main Bearing, Plain         |                  |
| FP-5116197    | 4    | STD       | Thrust Washer               |                  |
| FP-5199809    | 1    |           | Head Gasket Set             |                  |
| FP-5116255    | 1    |           | Oil Pan Gasket              | STAMPED PAN      |
| FP-5147993    | 1    |           | Valve Cover Gasket          |                  |

## Kit Number: FP-3-53

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION      |
|---------------|------|-----------|-----------------------------|-----------------------|
| FP-5198899    | 3    | STD       | Cylinder Kit Complete       | C.R. 21:1             |
| FP-5198899 10 | 3    | 10        | Cylinder Kit Complete       | C.R. 21:1             |
| FP-5198899 20 | 3    | 20        | Cylinder Kit Complete       | C.R. 21:1             |
| FP-5198903    | 3    | STD       | Cylinder Kit Complete       | C.R. 17.0:1           |
| FP-5149452    | 3    | STD       | Connecting Rod Bearing Pair |                       |
| FP-5149454    | 3    | 10        | Connecting Rod Bearing Pair |                       |
| FP-5149455    | 3    | 20        | Connecting Rod Bearing Pair |                       |
| FP-5149456    | 3    | 30        | Connecting Rod Bearing Pair |                       |
| FP-8924357    | 4    | STD       | Main Bearing, Plain         |                       |
| FP-8924359    | 4    | 10        | Main Bearing, Plain         |                       |
| FP-8924360    | 4    | 20        | Main Bearing, Plain         |                       |
| FP-8924361    | 4    | 30        | Main Bearing, Plain         |                       |
| FP-5116197    | 4    | STD       | Thrust Washer               |                       |
| FP-5199811    | 1    |           | Head Gasket Set             |                       |
| FP-5116256    | 1    |           | Oil Pan Gasket              |                       |
| FP-8925273    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER |
| FP-5147994    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER    |



## 2-Stroke In-Frame Engine Kits

Kit Number: FP-3-53-T

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION            |
|---------------|------|-----------|-----------------------------|-----------------------------|
| FP-5149315    | 3    | STD       | Cylinder Kit Complete       | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 10 | 3    | 10        | Cylinder Kit Complete       | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 20 | 3    | 20        | Cylinder Kit Complete       | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149734    | 3    | STD       | Cylinder Kit Complete       | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 10 | 3    | 10        | Cylinder Kit Complete       | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 20 | 3    | 20        | Cylinder Kit Complete       | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149452    | 3    | STD       | Connecting Rod Bearing Pair |                             |
| FP-5149454    | 3    | 10        | Connecting Rod Bearing Pair |                             |
| FP-5149455    | 3    | 20        | Connecting Rod Bearing Pair |                             |
| FP-5149456    | 3    | 30        | Connecting Rod Bearing Pair |                             |
| FP-5149447    | 4    | STD       | Main Bearing, Plain         |                             |
| FP-5149449    | 4    | 10        | Main Bearing, Plain         |                             |
| FP-5149450    | 4    | 20        | Main Bearing, Plain         |                             |
| FP-5149451    | 4    | 30        | Main Bearing, Plain         |                             |
| FP-5116197    | 4    | STD       | Thrust Washer               |                             |
| FP-5199811    | 1    |           | Head Gasket Set             |                             |
| FP-5116256    | 1    |           | Oil Pan Gasket              |                             |
| FP-8925273    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER       |
| FP-5147994    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER          |

Kit Number: FP-3-53-XHT

| COMPONENT NO.  | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION      |
|----------------|------|-----------|-----------------------------|-----------------------|
| FP-23503778    | 3    | STD       | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503778 10 | 3    | 10        | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503778 20 | 3    | 20        | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503810    | 3    | STD       | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503810 20 | 3    | 20        | Cylinder Kit Complete       | C.R. 18:1             |
| FP-5149452     | 3    | STD       | Connecting Rod Bearing Pair |                       |
| FP-5149454     | 3    | 10        | Connecting Rod Bearing Pair |                       |
| FP-5149455     | 3    | 20        | Connecting Rod Bearing Pair |                       |
| FP-5149456     | 3    | 30        | Connecting Rod Bearing Pair |                       |
| FP-5149447     | 4    | STD       | Main Bearing, Plain         |                       |
| FP-5149449     | 4    | 10        | Main Bearing, Plain         |                       |
| FP-5149450     | 4    | 20        | Main Bearing, Plain         |                       |
| FP-5149451     | 4    | 30        | Main Bearing, Plain         |                       |
| FP-5116197     | 4    | STD       | Thrust Washer               |                       |
| FP-5199811     | 1    |           | Head Gasket Set             |                       |
| FP-5116256     | 1    |           | Oil Pan Gasket              |                       |
| FP-8925273     | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER |
| FP-5147994     | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER    |

# 2-Stroke In-Frame Engine Kits



## Kit Number: FP-4-53

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION      |
|---------------|------|-----------|-----------------------------|-----------------------|
| FP-5198899    | 4    |           | Cylinder Kit Complete       | C.R. 21:1             |
| FP-5198899 10 | 4    |           | Cylinder Kit Complete       | C.R. 21:1             |
| FP-5198899 20 | 4    |           | Cylinder Kit Complete       | C.R. 21:1             |
| FP-5198903    | 4    |           | Cylinder Kit Complete       | C.R. 17.0:1           |
| FP-5149452    | 4    | STD       | Connecting Rod Bearing Pair |                       |
| FP-5149454    | 4    | 10        | Connecting Rod Bearing Pair |                       |
| FP-5149455    | 4    | 20        | Connecting Rod Bearing Pair |                       |
| FP-5149456    | 4    | 30        | Connecting Rod Bearing Pair |                       |
| FP-8924357    | 5    | STD       | Main Bearing, Plain         |                       |
| FP-8924359    | 5    | 10        | Main Bearing, Plain         |                       |
| FP-8924360    | 5    | 20        | Main Bearing, Plain         |                       |
| FP-8924361    | 5    | 30        | Main Bearing, Plain         |                       |
| FP-5116197    | 4    | STD       | Thrust Washer               |                       |
| FP-5199812    | 1    |           | Head Gasket Set             |                       |
| FP-5116257    | 1    |           | Oil Pan Gasket              |                       |
| FP-8925274    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER |
| FP-5147506    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER    |

## Kit Number: FP-4-53-T

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION            |
|---------------|------|-----------|-----------------------------|-----------------------------|
| FP-5149315    | 4    | STD       | Cylinder Kit Complete       | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 10 | 4    | 10        | Cylinder Kit Complete       | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 20 | 4    | 20        | Cylinder Kit Complete       | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149734    | 4    | STD       | Cylinder Kit Complete       | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 10 | 4    | 10        | Cylinder Kit Complete       | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 20 | 4    | 20        | Cylinder Kit Complete       | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149452    | 4    | STD       | Connecting Rod Bearing Pair |                             |
| FP-5149454    | 4    | 10        | Connecting Rod Bearing Pair |                             |
| FP-5149455    | 4    | 20        | Connecting Rod Bearing Pair |                             |
| FP-5149456    | 4    | 30        | Connecting Rod Bearing Pair |                             |
| FP-5149447    | 5    | STD       | Main Bearing, Plain         |                             |
| FP-5149449    | 5    | 10        | Main Bearing, Plain         |                             |
| FP-5149450    | 5    | 20        | Main Bearing, Plain         |                             |
| FP-5149451    | 5    | 30        | Main Bearing, Plain         |                             |
| FP-5116197    | 4    | STD       | Thrust Washer               |                             |
| FP-5199812    | 1    |           | Head Gasket Set             |                             |
| FP-5116257    | 1    |           | Oil Pan Gasket              |                             |
| FP-8925274    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER       |
| FP-5147506    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER          |



## 2-Stroke In-Frame Engine Kits

Kit Number: FP-4-53-XHT

| COMPONENT NO.  | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION      |
|----------------|------|-----------|-----------------------------|-----------------------|
| FP-23503778    | 4    | STD       | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503778 10 | 4    | 10        | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503778 20 | 4    | 20        | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503810    | 4    | STD       | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503810 20 | 4    | 20        | Cylinder Kit Complete       | C.R. 18:1             |
| FP-5149452     | 4    | STD       | Connecting Rod Bearing Pair |                       |
| FP-5149454     | 4    | 10        | Connecting Rod Bearing Pair |                       |
| FP-5149455     | 4    | 20        | Connecting Rod Bearing Pair |                       |
| FP-5149456     | 4    | 30        | Connecting Rod Bearing Pair |                       |
| FP-5149447     | 5    | STD       | Main Bearing, Plain         |                       |
| FP-5149449     | 5    | 10        | Main Bearing, Plain         |                       |
| FP-5149450     | 5    | 20        | Main Bearing, Plain         |                       |
| FP-5149451     | 5    | 30        | Main Bearing, Plain         |                       |
| FP-5116197     | 4    | STD       | Thrust Washer               |                       |
| FP-5199812     | 1    |           | Head Gasket Set             |                       |
| FP-5116257     | 1    |           | Oil Pan Gasket              |                       |
| FP-8925274     | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER |
| FP-5147506     | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER    |

Kit Number: FP-6V53

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION      |
|---------------|------|-----------|-----------------------------|-----------------------|
| FP-5198899    | 6    |           | Cylinder Kit Complete       | C.R. 21:1             |
| FP-5198899 10 | 6    |           | Cylinder Kit Complete       | C.R. 21:1             |
| FP-5198899 20 | 6    |           | Cylinder Kit Complete       | C.R. 21:1             |
| FP-5197975    | 6    | STD       | Connecting Rod Bearing Pair |                       |
| FP-5197977    | 6    | 10        | Connecting Rod Bearing Pair |                       |
| FP-5197978    | 6    | 20        | Connecting Rod Bearing Pair |                       |
| FP-5197979    | 6    | 30        | Connecting Rod Bearing Pair |                       |
| FP-5198410    | 4    | STD       | Main Bearing, Plain         |                       |
| FP-5198412    | 4    | 10        | Main Bearing, Plain         |                       |
| FP-5198413    | 4    | 20        | Main Bearing, Plain         |                       |
| FP-5198414    | 4    | 30        | Main Bearing, Plain         |                       |
| FP-5159353    | 4    | STD       | Thrust Washer               |                       |
| FP-5199811    | 2    |           | Head Gasket Set             |                       |
| FP-5119266    | 1    |           | Oil Pan Gasket              |                       |
| FP-8925273    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER |
| FP-5147994    | 2    |           | Valve Cover Gasket          | STEEL ROCKER COVER    |

# 2-Stroke In-Frame Engine Kits



## Kit Number: FP-6V53-T

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION            |
|---------------|------|-----------|-----------------------------|-----------------------------|
| FP-5149315    | 6    | STD       | Cylinder Kit Complete       | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 10 | 6    | 10        | Cylinder Kit Complete       | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 20 | 6    | 20        | Cylinder Kit Complete       | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149734    | 6    | STD       | Cylinder Kit Complete       | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 10 | 6    | 10        | Cylinder Kit Complete       | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 20 | 6    | 20        | Cylinder Kit Complete       | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5197975    | 6    | STD       | Connecting Rod Bearing Pair |                             |
| FP-5197977    | 6    | 10        | Connecting Rod Bearing Pair |                             |
| FP-5197978    | 6    | 20        | Connecting Rod Bearing Pair |                             |
| FP-5197979    | 6    | 30        | Connecting Rod Bearing Pair |                             |
| FP-5198410    | 4    | STD       | Main Bearing, Plain         |                             |
| FP-5198412    | 4    | 10        | Main Bearing, Plain         |                             |
| FP-5198413    | 4    | 20        | Main Bearing, Plain         |                             |
| FP-5198414    | 4    | 30        | Main Bearing, Plain         |                             |
| FP-5159353    | 4    | STD       | Thrust Washer               |                             |
| FP-5199811    | 2    |           | Head Gasket Set             |                             |
| FP-5119266    | 1    |           | Oil Pan Gasket              |                             |
| FP-8925273    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER       |
| FP-5147994    | 2    |           | Valve Cover Gasket          | STEEL ROCKER COVER          |

## Kit Number: FP-6V53-XHT

| COMPONENT NO.  | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION      |
|----------------|------|-----------|-----------------------------|-----------------------|
| FP-23503778    | 6    | STD       | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503778 10 | 6    | 10        | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503778 20 | 6    | 20        | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503810    | 6    | STD       | Cylinder Kit Complete       | C.R. 18:1             |
| FP-23503810 20 | 6    | 20        | Cylinder Kit Complete       | C.R. 18:1             |
| FP-5197975     | 6    | STD       | Connecting Rod Bearing Pair |                       |
| FP-5197977     | 6    | 10        | Connecting Rod Bearing Pair |                       |
| FP-5197978     | 6    | 20        | Connecting Rod Bearing Pair |                       |
| FP-5197979     | 6    | 30        | Connecting Rod Bearing Pair |                       |
| FP-5198410     | 4    | STD       | Main Bearing, Plain         |                       |
| FP-5198412     | 4    | 10        | Main Bearing, Plain         |                       |
| FP-5198413     | 4    | 20        | Main Bearing, Plain         |                       |
| FP-5198414     | 4    | 30        | Main Bearing, Plain         |                       |
| FP-5159353     | 4    | STD       | Thrust Washer               |                       |
| FP-5199811     | 2    |           | Head Gasket Set             |                       |
| FP-5119266     | 1    |           | Oil Pan Gasket              |                       |
| FP-8925273     | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER |
| FP-5147994     | 2    |           | Valve Cover Gasket          | STEEL ROCKER COVER    |





## 2-Stroke In-Frame Engine Kits

Kit Number: FP-2-71-2V

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION               |
|---------------|------|-----------|------------------------------|--------------------------------|
| FP-20014      | 2    | STD       | Cylinder Kit Complete        | STD-2V NON TURBO 17.5:1 CR; #1 |
| FP-23505308   | 2    | STD       | Cylinder Kit Complete        | STD-2V NON TURBO 17.5:1 CR; #2 |
| FP-23505309   | 2    | STD       | Cylinder Kit Complete        | STD-2V NON TURBO 17.5:1 CR; #3 |
| FP-235053091  | 2    | 1         | Cylinder Kit Complete        | 1-2V NON TURBO 17.5:1 CR; #4   |
| FP-235053095  | 2    | 5         | Cylinder Kit Complete        | 5-2V NON TURBO 17.5:1 CR       |
| FP-2350530910 | 2    | 10        | Cylinder Kit Complete        | 10-2V NON TURBO 17.5:1 CR      |
| FP-2350530920 | 2    | 20        | Cylinder Kit Complete        | 20-2V NON TURBO 17.5:1 CR      |
| FP-2350530930 | 2    | 30        | Cylinder Kit Complete        | 30-2V NON TURBO 17.5:1 CR      |
| FP-23511129   | 2    | STD       | Connecting Rod Bearing Pair  | STD                            |
| FP-23511131   | 2    | 2         | Connecting Rod Bearing Pair  | 2                              |
| FP-23511133   | 2    | 10        | Connecting Rod Bearing Pair  | 10                             |
| FP-23511135   | 2    | 20        | Connecting Rod Bearing Pair  | 20                             |
| FP-23511137   | 2    | 30        | Connecting Rod Bearing Pair  | 30                             |
| FP-5192874    | 3    | STD       | Main Bearing, Plain          | STD                            |
| FP-5192875    | 3    | 2         | Main Bearing, Plain          | 2                              |
| FP-5192876    | 3    | 10        | Main Bearing, Plain          | 10                             |
| FP-5192877    | 3    | 20        | Main Bearing, Plain          | 20                             |
| FP-5192878    | 3    | 30        | Main Bearing, Plain          | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer                | STD                            |
| FP-5192434    | 1    |           | Complete Overhaul Gasket Set |                                |

Kit Number: FP-3-71-NA

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20011      | 3    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#1 |
| FP-23505305   | 3    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 3    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 3    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 3    | 5         | Cylinder Kit Complete       | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 3    | 10        | Cylinder Kit Complete       | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 3    | 20        | Cylinder Kit Complete       | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 3    | 30        | Cylinder Kit Complete       | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-23511129   | 3    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511131   | 3    | 2         | Connecting Rod Bearing Pair | 2                              |
| FP-23511133   | 3    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 3    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 3    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 4    | STD       | Main Bearing, Plain         | STD                            |
| FP-5192875    | 4    | 2         | Main Bearing, Plain         | 2                              |
| FP-5192876    | 4    | 10        | Main Bearing, Plain         | 10                             |
| FP-5192877    | 4    | 20        | Main Bearing, Plain         | 20                             |
| FP-5192878    | 4    | 30        | Main Bearing, Plain         | 30                             |

continued on next page

# 2-Stroke In-Frame Engine Kits



## Kit Number: FP-3-71-NA cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION   | PART APPLICATION      |
|---------------|------|-----------|--------------------|-----------------------|
| FP-5159353    | 4    | STD       | Thrust Washer      | STD                   |
| FP-5193116    | 1    |           | Head Gasket Set    | HIGH BLOCK            |
| FP-5150115    | 1    |           | Oil Pan Gasket     |                       |
| FP-5104018    | 1    |           | Valve Cover Gasket | ALUMINUM ROCKER COVER |
| FP-5143405    | 1    |           | Valve Cover Gasket | STEEL ROCKER COVER    |

## Kit Number: FP-3-71-XH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20022      | 3    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 3    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 3    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 3    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 3    | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 3    | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 3    | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 3    | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23511129   | 3    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511133   | 3    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 3    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 3    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 4    | STD       | Main Bearing, Plain         | STD                            |
| FP-5192875    | 4    | 2         | Main Bearing, Plain         | 2                              |
| FP-5192876    | 4    | 10        | Main Bearing, Plain         | 10                             |
| FP-5192877    | 4    | 20        | Main Bearing, Plain         | 20                             |
| FP-5192878    | 4    | 30        | Main Bearing, Plain         | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5193116    | 1    |           | Head Gasket Set             | HIGH BLOCK                     |
| FP-5150115    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104018    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143405    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |



## 2-Stroke In-Frame Engine Kits

Kit Number: FP-3-71-2V

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20014      | 3    | STD       | Cylinder Kit Complete       | STD-2V NON TURBO 17.5:1 CR; #1 |
| FP-23505308   | 3    | STD       | Cylinder Kit Complete       | STD-2V NON TURBO 17.5:1 CR; #2 |
| FP-23505309   | 3    | STD       | Cylinder Kit Complete       | STD-2V NON TURBO 17.5:1 CR; #3 |
| FP-235053091  | 3    | 1         | Cylinder Kit Complete       | 1-2V NON TURBO 17.5:1 CR; #4   |
| FP-235053095  | 3    | 5         | Cylinder Kit Complete       | 5-2V NON TURBO 17.5:1 CR       |
| FP-2350530910 | 3    | 10        | Cylinder Kit Complete       | 10-2V NON TURBO 17.5:1 CR      |
| FP-2350530920 | 3    | 20        | Cylinder Kit Complete       | 20-2V NON TURBO 17.5:1 CR      |
| FP-2350530930 | 3    | 30        | Cylinder Kit Complete       | 30-2V NON TURBO 17.5:1 CR      |
| FP-23511129   | 3    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511131   | 3    | 2         | Connecting Rod Bearing Pair | 2                              |
| FP-23511133   | 3    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 3    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 3    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 4    | STD       | Main Bearing, Plain         | STD                            |
| FP-5192875    | 4    | 2         | Main Bearing, Plain         | 2                              |
| FP-5192876    | 4    | 10        | Main Bearing, Plain         | 10                             |
| FP-5192877    | 4    | 20        | Main Bearing, Plain         | 20                             |
| FP-5192878    | 4    | 30        | Main Bearing, Plain         | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5192924    | 1    |           | Head Gasket Set             | LOW BLOCK                      |
| FP-5193116    | 1    |           | Head Gasket Set             | HIGH BLOCK                     |
| FP-5150115    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104018    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143405    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

# 2-Stroke In-Frame Engine Kits



## Kit Number: FP-4-71-NA

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20011      | 4    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#1 |
| FP-23505305   | 4    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 4    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 4    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 4    | 5         | Cylinder Kit Complete       | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 4    | 10        | Cylinder Kit Complete       | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 4    | 20        | Cylinder Kit Complete       | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 4    | 30        | Cylinder Kit Complete       | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-23511129   | 4    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511131   | 4    | 2         | Connecting Rod Bearing Pair | 2                              |
| FP-23511133   | 4    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 4    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 4    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 5    | STD       | Main Bearing, Plain         | STD                            |
| FP-5192875    | 5    | 2         | Main Bearing, Plain         | 2                              |
| FP-5192876    | 5    | 10        | Main Bearing, Plain         | 10                             |
| FP-5192877    | 5    | 20        | Main Bearing, Plain         | 20                             |
| FP-5192878    | 5    | 30        | Main Bearing, Plain         | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5198676    | 1    |           | Head Gasket Set             | HIGH BLOCK                     |
| FP-5150116    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104081    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143406    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

## Kit Number: FP-4-71-XH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION      | PART APPLICATION               |
|---------------|------|-----------|-----------------------|--------------------------------|
| FP-20019      | 4    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 4    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 4    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 4    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 4    | 5         | Cylinder Kit Complete | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 4    | 10        | Cylinder Kit Complete | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 4    | 20        | Cylinder Kit Complete | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 4    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 4    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 4    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 4    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 4    | 5         | Cylinder Kit Complete | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 4    | 10        | Cylinder Kit Complete | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 4    | 20        | Cylinder Kit Complete | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 4    | 30        | Cylinder Kit Complete | 30-X-Hd TA;17.0:1 C.R.         |

continued on next page



## 2-Stroke In-Frame Engine Kits

Kit Number: FP-4-71-XH cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20021      | 4    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 4    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #2  |
| FP-23522509   | 4    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #3  |
| FP-23522511   | 4    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 4    | 5         | Cylinder Kit Complete       | 5-BUS/COACH 18.7:1 C.R.        |
| FP-23522513   | 4    | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 4    | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 4    | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 4    | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 4    | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 4    | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 4    | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-23511129   | 4    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511131   | 4    | 2         | Connecting Rod Bearing Pair | 2                              |
| FP-23511133   | 4    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 4    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 4    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 5    | STD       | Main Bearing, Plain         | STD                            |
| FP-5192875    | 5    | 2         | Main Bearing, Plain         | 2                              |
| FP-5192876    | 5    | 10        | Main Bearing, Plain         | 10                             |
| FP-5192877    | 5    | 20        | Main Bearing, Plain         | 20                             |
| FP-5192878    | 5    | 30        | Main Bearing, Plain         | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5192925    | 1    |           | Head Gasket Set             | LOW BLOCK                      |
| FP-5198676    | 1    |           | Head Gasket Set             | HIGH BLOCK                     |
| FP-5150116    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104081    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143406    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

# 2-Stroke In-Frame Engine Kits



**Kit Number: FP-4-71-2V**

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20014      | 4    | STD       | Cylinder Kit Complete       | STD-2V NON TURBO 17.5:1 CR; #1 |
| FP-23505308   | 4    | STD       | Cylinder Kit Complete       | STD-2V NON TURBO 17.5:1 CR; #2 |
| FP-23505309   | 4    | STD       | Cylinder Kit Complete       | STD-2V NON TURBO 17.5:1 CR; #3 |
| FP-235053091  | 4    | 1         | Cylinder Kit Complete       | 1-2V NON TURBO 17.5:1 CR; #4   |
| FP-235053095  | 4    | 5         | Cylinder Kit Complete       | 5-2V NON TURBO 17.5:1 CR       |
| FP-2350530910 | 4    | 10        | Cylinder Kit Complete       | 10-2V NON TURBO 17.5:1 CR      |
| FP-2350530920 | 4    | 20        | Cylinder Kit Complete       | 20-2V NON TURBO 17.5:1 CR      |
| FP-2350530930 | 4    | 30        | Cylinder Kit Complete       | 30-2V NON TURBO 17.5:1 CR      |
| FP-23511129   | 4    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511131   | 4    | 2         | Connecting Rod Bearing Pair | 2                              |
| FP-23511133   | 4    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 4    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 4    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 5    | STD       | Main Bearing, Plain         | STD                            |
| FP-5192875    | 5    | 2         | Main Bearing, Plain         | 2                              |
| FP-5192876    | 5    | 10        | Main Bearing, Plain         | 10                             |
| FP-5192877    | 5    | 20        | Main Bearing, Plain         | 20                             |
| FP-5192878    | 5    | 30        | Main Bearing, Plain         | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5192925    | 1    |           | Head Gasket Set             | LOW BLOCK                      |
| FP-5198676    | 1    |           | Head Gasket Set             | HIGH BLOCK                     |
| FP-5150116    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104081    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143406    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |



## 2-Stroke In-Frame Engine Kits

Kit Number: FP-6-71-NA

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-23505305   | 6    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 6    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 6    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 6    | 5         | Cylinder Kit Complete       | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 6    | 10        | Cylinder Kit Complete       | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 6    | 20        | Cylinder Kit Complete       | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 6    | 30        | Cylinder Kit Complete       | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-23511129   | 6    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511133   | 6    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 6    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 6    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 7    | STD       | Main Bearing, Plain         | STD                            |
| FP-5192875    | 7    | 2         | Main Bearing, Plain         | 2                              |
| FP-5192876    | 7    | 10        | Main Bearing, Plain         | 10                             |
| FP-5192877    | 7    | 20        | Main Bearing, Plain         | 20                             |
| FP-5192878    | 7    | 30        | Main Bearing, Plain         | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5195742    | 1    |           | Head Gasket Set             | HIGH BLOCK                     |
| FP-5150117    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104019    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143407    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

Kit Number: FP-6-71-XH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION      | PART APPLICATION               |
|---------------|------|-----------|-----------------------|--------------------------------|
| FP-20019      | 6    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 6    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 6    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 6    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 6    | 5         | Cylinder Kit Complete | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 6    | 10        | Cylinder Kit Complete | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 6    | 20        | Cylinder Kit Complete | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 6    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 6    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 6    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 6    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 6    | 5         | Cylinder Kit Complete | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 6    | 10        | Cylinder Kit Complete | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 6    | 20        | Cylinder Kit Complete | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 6    | 30        | Cylinder Kit Complete | 30-X-Hd TA;17.0:1 C.R.         |
| FP-20021      | 6    | STD       | Cylinder Kit Complete | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 6    | STD       | Cylinder Kit Complete | STD-BUS/COACH 18.7:1 C.R.; #2  |

continued on next page

# 2-Stroke In-Frame Engine Kits



Kit Number: FP-6-71-XH cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-23522509   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #3  |
| FP-23522511   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 6    | 5         | Cylinder Kit Complete       | 5-18.7:1 C.R.                  |
| FP-23522513   | 6    | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 6    | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 6    | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 6    | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 6    | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 6    | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 6    | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-23511129   | 6    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511131   | 6    | 2         | Connecting Rod Bearing Pair | 2                              |
| FP-23511133   | 6    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 6    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 6    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 7    | STD       | Main Bearing, Plain         | STD                            |
| FP-5192875    | 7    | 2         | Main Bearing, Plain         | 2                              |
| FP-5192876    | 7    | 10        | Main Bearing, Plain         | 10                             |
| FP-5192877    | 7    | 20        | Main Bearing, Plain         | 20                             |
| FP-5192878    | 7    | 30        | Main Bearing, Plain         | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5195742    | 1    |           | Head Gasket Set             | HIGH BLOCK                     |
| FP-5150117    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104019    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143407    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |





## 2-Stroke In-Frame Engine Kits

Kit Number: FP-6-71-2V

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-23505308   | 6    | STD       | Cylinder Kit Complete       | STD-2V NON TURBO 17.5:1 CR; #2 |
| FP-23505309   | 6    | STD       | Cylinder Kit Complete       | STD-2V NON TURBO 17.5:1 CR; #3 |
| FP-235053091  | 6    | 1         | Cylinder Kit Complete       | 1-2V NON TURBO 17.5:1 CR; #4   |
| FP-235053095  | 6    | 5         | Cylinder Kit Complete       | 5-2V NON TURBO 17.5:1 CR       |
| FP-2350530910 | 6    | 10        | Cylinder Kit Complete       | 10-2V NON TURBO 17.5:1 CR      |
| FP-2350530920 | 6    | 20        | Cylinder Kit Complete       | 20-2V NON TURBO 17.5:1 CR      |
| FP-2350530930 | 6    | 30        | Cylinder Kit Complete       | 30-2V NON TURBO 17.5:1 CR      |
| FP-23511129   | 6    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511131   | 6    | 2         | Connecting Rod Bearing Pair | 2                              |
| FP-23511133   | 6    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 6    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 6    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 7    | STD       | Main Bearing, Plain         | STD                            |
| FP-5192875    | 7    | 2         | Main Bearing, Plain         | 2                              |
| FP-5192876    | 7    | 10        | Main Bearing, Plain         | 10                             |
| FP-5192877    | 7    | 20        | Main Bearing, Plain         | 20                             |
| FP-5192878    | 7    | 30        | Main Bearing, Plain         | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5192926    | 1    |           | Head Gasket Set             | LOW BLOCK                      |
| FP-5195742    | 1    |           | Head Gasket Set             | HIGH BLOCK                     |
| FP-5150117    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104019    | 1    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143407    | 1    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

# 2-Stroke In-Frame Engine Kits



## Kit Number: FP-6V71-NA

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20011      | 6    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#1 |
| FP-23505305   | 6    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 6    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 6    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 6    | 5         | Cylinder Kit Complete       | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 6    | 10        | Cylinder Kit Complete       | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 6    | 20        | Cylinder Kit Complete       | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 6    | 30        | Cylinder Kit Complete       | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-5149572    | 6    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-5149575    | 6    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-5149577    | 6    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-5149579    | 6    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5149556    | 4    | STD       | Main Bearing, Plain         | STD                            |
| FP-5149559    | 4    | 10        | Main Bearing, Plain         | 10                             |
| FP-5149561    | 4    | 20        | Main Bearing, Plain         | 20                             |
| FP-5149563    | 4    | 30        | Main Bearing, Plain         | 30                             |
| FP-5117005    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5196380    | 2    |           | Head Gasket Set             |                                |
| FP-23503588   | 1    |           | Oil Pan Gasket              |                                |
| FP-5104018    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143405    | 2    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

## Kit Number: FP-6V71-XH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION      | PART APPLICATION               |
|---------------|------|-----------|-----------------------|--------------------------------|
| FP-20019      | 6    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 6    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 6    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 6    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 6    | 5         | Cylinder Kit Complete | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 6    | 10        | Cylinder Kit Complete | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 6    | 20        | Cylinder Kit Complete | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 6    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 6    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 6    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 6    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 6    | 5         | Cylinder Kit Complete | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 6    | 10        | Cylinder Kit Complete | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 6    | 20        | Cylinder Kit Complete | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 6    | 30        | Cylinder Kit Complete | 30-X-Hd TA;17.0:1 C.R.         |
| FP-20021      | 6    | STD       | Cylinder Kit Complete | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 6    | STD       | Cylinder Kit Complete | STD-BUS/COACH 18.7:1 C.R.; #2  |

continued on next page



## 2-Stroke In-Frame Engine Kits

Kit Number: FP-6V71-XH cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-23522509   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #3  |
| FP-23522511   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 6    | 5         | Cylinder Kit Complete       | 5-18.7:1 C.R.                  |
| FP-23522513   | 6    | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 6    | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 6    | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 6    | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 6    | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 6    | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 6    | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-5149572    | 6    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-5149575    | 6    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-5149577    | 6    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-5149579    | 6    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5149556    | 4    | STD       | Main Bearing, Plain         | STD-NAT. ASP.                  |
| FP-5149559    | 4    | 10        | Main Bearing, Plain         | 10-NAT. ASP.                   |
| FP-5149561    | 4    | 20        | Main Bearing, Plain         | 20-NAT. ASP.                   |
| FP-5149563    | 4    | 30        | Main Bearing, Plain         | 30-NAT. ASP.                   |
| FP-5149565    | 4    | STD       | Main Bearing, Plain         | STD-TURBO                      |
| FP-5149567    | 4    | 10        | Main Bearing, Plain         | 10-TURBO                       |
| FP-5149568    | 4    | 20        | Main Bearing, Plain         | 20-TURBO                       |
| FP-8922118    | 4    | 30        | Main Bearing, Plain         | 30-TURBO                       |
| FP-5117005    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5196380    | 2    |           | Head Gasket Set             |                                |
| FP-23503588   | 1    |           | Oil Pan Gasket              |                                |
| FP-5104018    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143405    | 2    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

# 2-Stroke In-Frame Engine Kits



## Kit Number: FP-8V71-NA

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-23505305   | 8    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 8    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 8    | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 8    | 5         | Cylinder Kit Complete       | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 8    | 10        | Cylinder Kit Complete       | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 8    | 20        | Cylinder Kit Complete       | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 8    | 30        | Cylinder Kit Complete       | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-5149572    | 8    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-5149575    | 8    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-5149577    | 8    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-5149579    | 8    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5149556    | 5    | STD       | Main Bearing, Plain         | STD                            |
| FP-5149559    | 5    | 10        | Main Bearing, Plain         | 10                             |
| FP-5149561    | 5    | 20        | Main Bearing, Plain         | 20                             |
| FP-5149563    | 5    | 30        | Main Bearing, Plain         | 30                             |
| FP-5117005    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5196381    | 2    |           | Head Gasket Set             |                                |
| FP-5117231    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104081    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143406    | 2    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

## Kit Number: FP-8V71-XH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION      | PART APPLICATION               |
|---------------|------|-----------|-----------------------|--------------------------------|
| FP-20019      | 8    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 8    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 8    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 8    | STD       | Cylinder Kit Complete | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 8    | 5         | Cylinder Kit Complete | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 8    | 10        | Cylinder Kit Complete | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 8    | 20        | Cylinder Kit Complete | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 8    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 8    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 8    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 8    | STD       | Cylinder Kit Complete | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 8    | 5         | Cylinder Kit Complete | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 8    | 10        | Cylinder Kit Complete | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 8    | 20        | Cylinder Kit Complete | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 8    | 30        | Cylinder Kit Complete | 30-X-Hd TA;17.0:1 C.R.         |
| FP-20021      | 8    | STD       | Cylinder Kit Complete | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 8    | STD       | Cylinder Kit Complete | STD-BUS/COACH 18.7:1 C.R.; #2  |
| FP-23522509   | 8    | STD       | Cylinder Kit Complete | STD-BUS/COACH 18.7:1 C.R.; #3  |

continued on next page



## 2-Stroke In-Frame Engine Kits

Kit Number: FP-8V71-XH cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-23522511   | 8    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 8    | 5         | Cylinder Kit Complete       | 5-18.7:1 C.R.                  |
| FP-23522513   | 8    | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 8    | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 8    | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 8    | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 8    | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 8    | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 8    | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-5149572    | 8    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-5149575    | 8    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-5149577    | 8    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-5149579    | 8    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5149556    | 5    | STD       | Main Bearing, Plain         | STD-NAT. ASP.                  |
| FP-5149559    | 5    | 10        | Main Bearing, Plain         | 10-NAT. ASP.                   |
| FP-5149561    | 5    | 20        | Main Bearing, Plain         | 20-NAT. ASP.                   |
| FP-5149563    | 5    | 30        | Main Bearing, Plain         | 30-NAT. ASP.                   |
| FP-5149565    | 5    | STD       | Main Bearing, Plain         | STD-TURBO                      |
| FP-5149567    | 5    | 10        | Main Bearing, Plain         | 10-TURBO                       |
| FP-5149568    | 5    | 20        | Main Bearing, Plain         | 20-TURBO                       |
| FP-8922118    | 5    | 30        | Main Bearing, Plain         | 30-TURBO                       |
| FP-5117005    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5196381    | 2    |           | Head Gasket Set             |                                |
| FP-5117231    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104081    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143406    | 2    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

# 2-Stroke In-Frame Engine Kits



## Kit Number: FP-12V71-NA

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-23505305   | 12   | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 12   | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 12   | STD       | Cylinder Kit Complete       | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 12   | 5         | Cylinder Kit Complete       | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 12   | 10        | Cylinder Kit Complete       | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 12   | 20        | Cylinder Kit Complete       | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 12   | 30        | Cylinder Kit Complete       | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-5149572    | 12   | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-5149575    | 12   | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-5149577    | 12   | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-5149579    | 12   | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5149556    | 7    | STD       | Main Bearing, Plain         | STD                            |
| FP-5149559    | 7    | 10        | Main Bearing, Plain         | 10                             |
| FP-5149561    | 7    | 20        | Main Bearing, Plain         | 20                             |
| FP-5149563    | 7    | 30        | Main Bearing, Plain         | 30                             |
| FP-5117005    | 4    | STD       | Thrust Washer               | STD                            |
| FP-5196382    | 2    |           | Head Gasket Set             |                                |
| FP-5109915    | 1    |           | Oil Pan Gasket              |                                |
| FP-5104019    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER          |
| FP-5143407    | 2    |           | Valve Cover Gasket          | STEEL ROCKER COVER             |

## Kit Number: FP-12V71-T

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION      |
|---------------|------|-----------|-----------------------------|-----------------------|
| FP-23505307   | 12   | STD       | Cylinder Kit Complete       | STD-17.0:1 C.R.; #3   |
| FP-235053071  | 12   | STD       | Cylinder Kit Complete       | STD-17.0:1 C.R.; #4   |
| FP-235053075  | 12   | 5         | Cylinder Kit Complete       | 5-17.0:1 C.R.         |
| FP-2350530710 | 12   | 10        | Cylinder Kit Complete       | 10-17.0:1 C.R.        |
| FP-2350530720 | 12   | 20        | Cylinder Kit Complete       | 20-17.0:1 C.R.        |
| FP-2350530730 | 12   | 30        | Cylinder Kit Complete       | 30-17.0:1 C.R.        |
| FP-5149572    | 12   | STD       | Connecting Rod Bearing Pair | STD                   |
| FP-5149575    | 12   | 10        | Connecting Rod Bearing Pair | 10                    |
| FP-5149577    | 12   | 20        | Connecting Rod Bearing Pair | 20                    |
| FP-5149579    | 12   | 30        | Connecting Rod Bearing Pair | 30                    |
| FP-5149556    | 7    | STD       | Main Bearing, Plain         | STD                   |
| FP-5149559    | 7    | 10        | Main Bearing, Plain         | 10                    |
| FP-5149561    | 7    | 20        | Main Bearing, Plain         | 20                    |
| FP-5149563    | 7    | 30        | Main Bearing, Plain         | 30                    |
| FP-5117005    | 4    | STD       | Thrust Washer               | STD                   |
| FP-5196382    | 2    |           | Head Gasket Set             |                       |
| FP-5109915    | 1    |           | Oil Pan Gasket              |                       |
| FP-5104019    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER |
| FP-5143407    | 2    |           | Valve Cover Gasket          | STEEL ROCKER COVER    |



## 2-Stroke In-Frame Engine Kits

Kit Number: FP-12V71-XH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20019      | 12   | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 12   | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 12   | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 12   | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 12   | 5         | Cylinder Kit Complete       | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 12   | 10        | Cylinder Kit Complete       | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 12   | 20        | Cylinder Kit Complete       | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 12   | 5         | Cylinder Kit Complete       | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 12   | 10        | Cylinder Kit Complete       | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 12   | 20        | Cylinder Kit Complete       | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 12   | 30        | Cylinder Kit Complete       | 30-X-Hd TA;17.0:1 C.R.         |
| FP-20021      | 12   | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 12   | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #2  |
| FP-23522509   | 12   | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #3  |
| FP-23522511   | 12   | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 12   | 5         | Cylinder Kit Complete       | 5-BUS/COACH 18.7:1 C.R.        |
| FP-23522513   | 12   | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 12   | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 12   | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 12   | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 12   | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 12   | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 12   | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-5149572    | 12   | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-5149575    | 12   | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-5149577    | 12   | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-5149579    | 12   | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5149556    | 7    | STD       | Main Bearing, Plain         | STD                            |
| FP-5149559    | 7    | 10        | Main Bearing, Plain         | 10                             |

continued on next page

# 2-Stroke In-Frame Engine Kits



## Kit Number: FP-12V71-XH cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION    | PART APPLICATION      |
|---------------|------|-----------|---------------------|-----------------------|
| FP-5149561    | 7    | 20        | Main Bearing, Plain | 20                    |
| FP-5149563    | 7    | 30        | Main Bearing, Plain | 30                    |
| FP-5149565    | 7    | STD       | Main Bearing, Plain | STD-TURBO             |
| FP-5149567    | 7    | 10        | Main Bearing, Plain | 10-TURBO              |
| FP-5149568    | 7    | 20        | Main Bearing, Plain | 20-TURBO              |
| FP-8922118    | 7    | 30        | Main Bearing, Plain | 30-TURBO              |
| FP-5117005    | 4    | STD       | Thrust Washer       | STD                   |
| FP-5196382    | 2    |           | Head Gasket Set     |                       |
| FP-5109915    | 1    |           | Oil Pan Gasket      |                       |
| FP-5104019    | 2    |           | Valve Cover Gasket  | ALUMINUM ROCKER COVER |
| FP-5143407    | 2    |           | Valve Cover Gasket  | STEEL ROCKER COVER    |

## Kit Number: FP-6V92

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION                |
|---------------|------|-----------|-----------------------------|---------------------------------|
| FP-23524337   | 6    |           | Cylinder Kit Complete       | STD-TURBO 15.0:1 C.R.           |
| FP-23524339   | 6    |           | Cylinder Kit Complete       | STD-TURBO 17.0:1 C.R.1.05" Port |
| FP-23524340   | 6    |           | Cylinder Kit Complete       | STD-TURBO HO 17.0:1 C.R.        |
| FP-23524341   | 6    |           | Cylinder Kit Complete       | STD-TURBO A/C 17.0:1 C.R.       |
| FP-23524342   | 6    |           | Cylinder Kit Complete       | STD-TURBO 17.0:1 C.R. .95" Port |
| FP-23524343   | 6    |           | Cylinder Kit Complete       | STD-TURBO A/C 17.0:1 C.R.       |
| FP-23524344   | 6    |           | Cylinder Kit Complete       | STD-TURBO ALCC 18.0:1 C.R.      |
| FP-23524345   | 6    |           | Cylinder Kit Complete       | STD-NAT ASP 18.0:1 C.R.         |
| FP-23524346   | 6    |           | Cylinder Kit Complete       | STD-NA, Ind/Marine,18.0:1 C.R.  |
| FP-23524494   | 6    |           | Cylinder Kit Complete       | STD-TURBO 17.0:1 C.R. .85" Port |
| FP-23522161   | 6    |           | Cylinder Kit Complete       | STD-TURBO 17.0:1 C.R.           |
| FP-23523100   | 6    |           | Cylinder Kit Complete       | STD-18.0:1 C.R.                 |
| FP-23523101   | 6    |           | Cylinder Kit Complete       | STD-TURBO17.0:1C.R.Widegap rng  |
| FP-5149572    | 6    | STD       | Connecting Rod Bearing Pair | STD                             |
| FP-5149573    | 6    | 2         | Connecting Rod Bearing Pair | 2                               |
| FP-5149575    | 6    | 10        | Connecting Rod Bearing Pair | 10                              |
| FP-5149577    | 6    | 20        | Connecting Rod Bearing Pair | 20                              |
| FP-5149579    | 6    | 30        | Connecting Rod Bearing Pair | 30                              |
| FP-5149565    | 4    | STD       | Main Bearing, Plain         | STD                             |
| FP-5149566    | 4    | 2         | Main Bearing, Plain         | 2                               |
| FP-5149567    | 4    | 10        | Main Bearing, Plain         | 10                              |
| FP-5149568    | 4    | 20        | Main Bearing, Plain         | 20                              |
| FP-8922118    | 4    | 30        | Main Bearing, Plain         | 30                              |
| FP-5117005    | 4    | STD       | Thrust Washer               | STD                             |
| FP-5199673    | 2    |           | Head Gasket Set             |                                 |
| FP-23503588   | 1    |           | Oil Pan Gasket              |                                 |
| FP-5104018    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER           |





## 2-Stroke In-Frame Engine Kits

Kit Number: FP-8V92

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION                |
|---------------|------|-----------|-----------------------------|---------------------------------|
| FP-23524337   | 8    |           | Cylinder Kit Complete       | STD-TURBO 15.0:1 C.R.           |
| FP-23524339   | 8    |           | Cylinder Kit Complete       | STD-TURBO 17.0:1 C.R.1.05" Port |
| FP-23524340   | 8    |           | Cylinder Kit Complete       | STD-TURBO HO 17.0:1 C.R.        |
| FP-23524341   | 8    |           | Cylinder Kit Complete       | STD-TURBO A/C 17.0:1 C.R.       |
| FP-23524342   | 8    |           | Cylinder Kit Complete       | STD-TURBO 17.0:1 C.R. .95" Port |
| FP-23524343   | 8    |           | Cylinder Kit Complete       | STD-TURBO A/C 17.0:1 C.R.       |
| FP-23524344   | 8    |           | Cylinder Kit Complete       | STD-TURBO ALCC 18.0:1 C.R.      |
| FP-23524345   | 8    |           | Cylinder Kit Complete       | STD-NAT ASP 18.0:1 C.R.         |
| FP-23524346   | 8    |           | Cylinder Kit Complete       | STD-NA, Ind/Marine,18.0:1 C.R.  |
| FP-23524494   | 8    |           | Cylinder Kit Complete       | STD-TURBO 17.0:1 C.R. .85" Port |
| FP-23522161   | 8    |           | Cylinder Kit Complete       | STD-TURBO 17.0:1 C.R.           |
| FP-23523100   | 8    |           | Cylinder Kit Complete       | STD-18.0:1 C.R.                 |
| FP-23523101   | 8    |           | Cylinder Kit Complete       | STD-TURBO17.0:1C.R.Widegap rng  |
| FP-5149572    | 8    | STD       | Connecting Rod Bearing Pair | STD                             |
| FP-5149573    | 8    | 2         | Connecting Rod Bearing Pair | 2                               |
| FP-5149575    | 8    | 10        | Connecting Rod Bearing Pair | 10                              |
| FP-5149577    | 8    | 20        | Connecting Rod Bearing Pair | 20                              |
| FP-5149579    | 8    | 30        | Connecting Rod Bearing Pair | 30                              |
| FP-5149565    | 5    | STD       | Main Bearing, Plain         | STD                             |
| FP-5149566    | 5    | 2         | Main Bearing, Plain         | 2                               |
| FP-5149567    | 5    | 10        | Main Bearing, Plain         | 10                              |
| FP-5149568    | 5    | 20        | Main Bearing, Plain         | 20                              |
| FP-8922118    | 5    | 30        | Main Bearing, Plain         | 30                              |
| FP-5117005    | 4    | STD       | Thrust Washer               | STD                             |
| FP-5199674    | 2    |           | Head Gasket Set             |                                 |
| FP-5117231    | 1    |           | Oil Pan Gasket              |                                 |
| FP-5104081    | 2    |           | Valve Cover Gasket          | ALUMINUM ROCKER COVER           |

# 2-stroke Overhaul Engine Kits



## Kit Number: FP-2-53-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION |
|---------------|------|-----------|------------------------------|------------------|
| FP-5198899    | 2    | STD       | Cylinder Kit Complete        | C.R. 21:1        |
| FP-5198899 10 | 2    | 10        | Cylinder Kit Complete        | C.R. 21:1        |
| FP-5198899 20 | 2    | 20        | Cylinder Kit Complete        | C.R. 21:1        |
| FP-5198903    | 2    | STD       | Cylinder Kit Complete        | C.R. 17.0:1      |
| FP-5198903 10 | 2    | 10        | Cylinder Kit Complete        | C.R. 17.0:1      |
| FP-5198903 20 | 2    | 20        | Cylinder Kit Complete        | C.R. 17.0:1      |
| FP-5149452    | 2    | STD       | Connecting Rod Bearing Pair  |                  |
| FP-5149454    | 2    | 10        | Connecting Rod Bearing Pair  |                  |
| FP-5149455    | 2    | 20        | Connecting Rod Bearing Pair  |                  |
| FP-5149456    | 2    | 30        | Connecting Rod Bearing Pair  |                  |
| FP-8924357    | 3    | STD       | Main Bearing, Plain          |                  |
| FP-8924359    | 3    | 10        | Main Bearing, Plain          |                  |
| FP-8924360    | 3    | 20        | Main Bearing, Plain          |                  |
| FP-8924361    | 3    | 30        | Main Bearing, Plain          |                  |
| FP-5116197    | 4    | STD       | Thrust Washer                |                  |
| FP-5147993    | 1    |           | Valve Cover Gasket           |                  |
| FP-23517625   | 1    |           | Complete Overhaul Gasket Set |                  |

## Kit Number: FP-3-53-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|---------------|------|-----------|------------------------------|-----------------------|
| FP-5198899    | 3    | STD       | Cylinder Kit Complete        | C.R. 21:1             |
| FP-5198899 10 | 3    | 10        | Cylinder Kit Complete        | C.R. 21:1             |
| FP-5198899 20 | 3    | 20        | Cylinder Kit Complete        | C.R. 21:1             |
| FP-5198903    | 3    | STD       | Cylinder Kit Complete        | C.R. 17.0:1           |
| FP-5198903 10 | 3    | 10        | Cylinder Kit Complete        | C.R. 17.0:1           |
| FP-5198903 20 | 3    | 20        | Cylinder Kit Complete        | C.R. 17.0:1           |
| FP-5149452    | 3    | STD       | Connecting Rod Bearing Pair  |                       |
| FP-5149454    | 3    | 10        | Connecting Rod Bearing Pair  |                       |
| FP-5149455    | 3    | 20        | Connecting Rod Bearing Pair  |                       |
| FP-5149456    | 3    | 30        | Connecting Rod Bearing Pair  |                       |
| FP-8924357    | 4    | STD       | Main Bearing, Plain          |                       |
| FP-8924359    | 4    | 10        | Main Bearing, Plain          |                       |
| FP-8924360    | 4    | 20        | Main Bearing, Plain          |                       |
| FP-8924361    | 4    | 30        | Main Bearing, Plain          |                       |
| FP-5116197    | 4    | STD       | Thrust Washer                |                       |
| FP-8925273    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5147994    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23517623   | 1    |           | Complete Overhaul Gasket Set |                       |



## 2-stroke Overhaul Engine Kits

Kit Number: FP-3-53-T-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION            |
|---------------|------|-----------|------------------------------|-----------------------------|
| FP-5149315    | 3    | STD       | Cylinder Kit Complete        | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 10 | 3    | 10        | Cylinder Kit Complete        | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 20 | 3    | 20        | Cylinder Kit Complete        | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149734    | 3    | STD       | Cylinder Kit Complete        | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 10 | 3    | 10        | Cylinder Kit Complete        | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 20 | 3    | 20        | Cylinder Kit Complete        | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149452    | 3    | STD       | Connecting Rod Bearing Pair  |                             |
| FP-5149454    | 3    | 10        | Connecting Rod Bearing Pair  |                             |
| FP-5149455    | 3    | 20        | Connecting Rod Bearing Pair  |                             |
| FP-5149456    | 3    | 30        | Connecting Rod Bearing Pair  |                             |
| FP-5149447    | 4    | STD       | Main Bearing, Plain          |                             |
| FP-5149449    | 4    | 10        | Main Bearing, Plain          |                             |
| FP-5149450    | 4    | 20        | Main Bearing, Plain          |                             |
| FP-5149451    | 4    | 30        | Main Bearing, Plain          |                             |
| FP-5116197    | 4    | STD       | Thrust Washer                |                             |
| FP-8925273    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER       |
| FP-5147994    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER          |
| FP-23517623   | 1    |           | Complete Overhaul Gasket Set |                             |

Kit Number: FP-3-53-XHT-OH

| COMPONENT NO.  | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|----------------|------|-----------|------------------------------|-----------------------|
| FP-23503778    | 3    | STD       | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503778 10 | 3    | 10        | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503778 20 | 3    | 20        | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503810    | 3    | STD       | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503810 20 | 3    | 20        | Cylinder Kit Complete        | C.R. 18:1             |
| FP-5149452     | 3    | STD       | Connecting Rod Bearing Pair  |                       |
| FP-5149454     | 3    | 10        | Connecting Rod Bearing Pair  |                       |
| FP-5149455     | 3    | 20        | Connecting Rod Bearing Pair  |                       |
| FP-5149456     | 3    | 30        | Connecting Rod Bearing Pair  |                       |
| FP-5149447     | 4    | STD       | Main Bearing, Plain          |                       |
| FP-5149449     | 4    | 10        | Main Bearing, Plain          |                       |
| FP-5149450     | 4    | 20        | Main Bearing, Plain          |                       |
| FP-5149451     | 4    | 30        | Main Bearing, Plain          |                       |
| FP-5116197     | 4    | STD       | Thrust Washer                |                       |
| FP-8925273     | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5147994     | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23517623    | 1    |           | Complete Overhaul Gasket Set |                       |

# 2-stroke Overhaul Engine Kits



## Kit Number: FP-4-53-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|---------------|------|-----------|------------------------------|-----------------------|
| FP-5198899    | 4    | STD       | Cylinder Kit Complete        | C.R. 21:1             |
| FP-5198899 10 | 4    | 10        | Cylinder Kit Complete        | C.R. 21:1             |
| FP-5198899 20 | 4    | 20        | Cylinder Kit Complete        | C.R. 21:1             |
| FP-5198903    | 4    | STD       | Cylinder Kit Complete        | C.R. 17.0:1           |
| FP-5198903 10 | 4    | 10        | Cylinder Kit Complete        | C.R. 17.0:1           |
| FP-5198903 20 | 4    | 20        | Cylinder Kit Complete        | C.R. 17.0:1           |
| FP-5149452    | 4    | STD       | Connecting Rod Bearing Pair  |                       |
| FP-5149454    | 4    | 10        | Connecting Rod Bearing Pair  |                       |
| FP-5149455    | 4    | 20        | Connecting Rod Bearing Pair  |                       |
| FP-5149456    | 4    | 30        | Connecting Rod Bearing Pair  |                       |
| FP-8924357    | 5    | STD       | Main Bearing, Plain          |                       |
| FP-8924359    | 5    | 10        | Main Bearing, Plain          |                       |
| FP-8924360    | 5    | 20        | Main Bearing, Plain          |                       |
| FP-8924361    | 5    | 30        | Main Bearing, Plain          |                       |
| FP-5116197    | 4    | STD       | Thrust Washer                |                       |
| FP-8925274    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5147506    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23517624   | 1    |           | Complete Overhaul Gasket Set |                       |

## Kit Number: FP-4-53-T-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION            |
|---------------|------|-----------|------------------------------|-----------------------------|
| FP-5149315    | 4    | STD       | Cylinder Kit Complete        | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 10 | 4    | 10        | Cylinder Kit Complete        | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 20 | 4    | 20        | Cylinder Kit Complete        | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149734    | 4    | STD       | Cylinder Kit Complete        | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 10 | 4    | 10        | Cylinder Kit Complete        | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 20 | 4    | 20        | Cylinder Kit Complete        | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149452    | 4    | STD       | Connecting Rod Bearing Pair  |                             |
| FP-5149454    | 4    | 10        | Connecting Rod Bearing Pair  |                             |
| FP-5149455    | 4    | 20        | Connecting Rod Bearing Pair  |                             |
| FP-5149456    | 4    | 30        | Connecting Rod Bearing Pair  |                             |
| FP-5149447    | 5    | STD       | Main Bearing, Plain          |                             |
| FP-5149449    | 5    | 10        | Main Bearing, Plain          |                             |
| FP-5149450    | 5    | 20        | Main Bearing, Plain          |                             |
| FP-5149451    | 5    | 30        | Main Bearing, Plain          |                             |
| FP-5116197    | 4    | STD       | Thrust Washer                |                             |
| FP-8925274    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER       |
| FP-5147506    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER          |
| FP-23517624   | 1    |           | Complete Overhaul Gasket Set |                             |



## 2-stroke Overhaul Engine Kits

Kit Number: FP-4-53-XHT-OH

| COMPONENT NO.  | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|----------------|------|-----------|------------------------------|-----------------------|
| FP-23503778    | 4    | STD       | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503778 10 | 4    | 10        | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503778 20 | 4    | 20        | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503810    | 4    | STD       | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503810 20 | 4    | 20        | Cylinder Kit Complete        | C.R. 18:1             |
| FP-5149452     | 4    | STD       | Connecting Rod Bearing Pair  |                       |
| FP-5149454     | 4    | 10        | Connecting Rod Bearing Pair  |                       |
| FP-5149455     | 4    | 20        | Connecting Rod Bearing Pair  |                       |
| FP-5149456     | 4    | 30        | Connecting Rod Bearing Pair  |                       |
| FP-5149447     | 5    | STD       | Main Bearing, Plain          |                       |
| FP-5149449     | 5    | 10        | Main Bearing, Plain          |                       |
| FP-5149450     | 5    | 20        | Main Bearing, Plain          |                       |
| FP-5149451     | 5    | 30        | Main Bearing, Plain          |                       |
| FP-5116197     | 4    | STD       | Thrust Washer                |                       |
| FP-8925274     | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5147506     | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23517624    | 1    |           | Complete Overhaul Gasket Set |                       |

Kit Number: FP-6V53-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|---------------|------|-----------|------------------------------|-----------------------|
| FP-5198899    | 6    | STD       | Cylinder Kit Complete        | C.R. 21:1             |
| FP-5198899 10 | 6    | 10        | Cylinder Kit Complete        | C.R. 21:1             |
| FP-5198899 20 | 6    | 20        | Cylinder Kit Complete        | C.R. 21:1             |
| FP-5197975    | 6    | STD       | Connecting Rod Bearing Pair  |                       |
| FP-5197977    | 6    | 10        | Connecting Rod Bearing Pair  |                       |
| FP-5197978    | 6    | 20        | Connecting Rod Bearing Pair  |                       |
| FP-5197979    | 6    | 30        | Connecting Rod Bearing Pair  |                       |
| FP-5198410    | 4    | STD       | Main Bearing, Plain          |                       |
| FP-5198412    | 4    | 10        | Main Bearing, Plain          |                       |
| FP-5198413    | 4    | 20        | Main Bearing, Plain          |                       |
| FP-5198414    | 4    | 30        | Main Bearing, Plain          |                       |
| FP-5159353    | 4    | STD       | Thrust Washer                |                       |
| FP-8925273    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5147994    | 2    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23512690   | 1    |           | Complete Overhaul Gasket Set |                       |

# 2-stroke Overhaul Engine Kits



## Kit Number: FP-6V53-T-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION            |
|---------------|------|-----------|------------------------------|-----------------------------|
| FP-5149315    | 6    | STD       | Cylinder Kit Complete        | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 10 | 6    | 10        | Cylinder Kit Complete        | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149315 20 | 6    | 20        | Cylinder Kit Complete        | C.R. 17.5:1; 1.38" PIN DIA. |
| FP-5149734    | 6    | STD       | Cylinder Kit Complete        | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 10 | 6    | 10        | Cylinder Kit Complete        | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5149734 20 | 6    | 20        | Cylinder Kit Complete        | C.R. 18.7:1; 1.5" PIN DIA.  |
| FP-5197975    | 6    | STD       | Connecting Rod Bearing Pair  |                             |
| FP-5197977    | 6    | 10        | Connecting Rod Bearing Pair  |                             |
| FP-5197978    | 6    | 20        | Connecting Rod Bearing Pair  |                             |
| FP-5197979    | 6    | 30        | Connecting Rod Bearing Pair  |                             |
| FP-5198410    | 4    | STD       | Main Bearing, Plain          |                             |
| FP-5198412    | 4    | 10        | Main Bearing, Plain          |                             |
| FP-5198413    | 4    | 20        | Main Bearing, Plain          |                             |
| FP-5198414    | 4    | 30        | Main Bearing, Plain          |                             |
| FP-5159353    | 4    | STD       | Thrust Washer                |                             |
| FP-8925273    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER       |
| FP-5147994    | 2    |           | Valve Cover Gasket           | STEEL ROCKER COVER          |
| FP-23512690   | 1    |           | Complete Overhaul Gasket Set |                             |

## Kit Number: FP-6V53-XHT-OH

| COMPONENT NO.  | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|----------------|------|-----------|------------------------------|-----------------------|
| FP-23503778    | 6    | STD       | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503778 10 | 6    | 10        | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503778 20 | 6    | 20        | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503810    | 6    | STD       | Cylinder Kit Complete        | C.R. 18:1             |
| FP-23503810 20 | 6    | 20        | Cylinder Kit Complete        | C.R. 18:1             |
| FP-5197975     | 6    | STD       | Connecting Rod Bearing Pair  |                       |
| FP-5197977     | 6    | 10        | Connecting Rod Bearing Pair  |                       |
| FP-5197978     | 6    | 20        | Connecting Rod Bearing Pair  |                       |
| FP-5197979     | 6    | 30        | Connecting Rod Bearing Pair  |                       |
| FP-5198410     | 4    | STD       | Main Bearing, Plain          |                       |
| FP-5198412     | 4    | 10        | Main Bearing, Plain          |                       |
| FP-5198413     | 4    | 20        | Main Bearing, Plain          |                       |
| FP-5198414     | 4    | 30        | Main Bearing, Plain          |                       |
| FP-5159353     | 4    | STD       | Thrust Washer                |                       |
| FP-8925273     | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5147994     | 2    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23512690    | 1    |           | Complete Overhaul Gasket Set |                       |



## 2-stroke Overhaul Engine Kits

Kit Number: FP-3-71-NA-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION               |
|---------------|------|-----------|------------------------------|--------------------------------|
| FP-23505305   | 3    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 3    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 3    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 3    | 5         | Cylinder Kit Complete        | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 3    | 10        | Cylinder Kit Complete        | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 3    | 20        | Cylinder Kit Complete        | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 3    | 30        | Cylinder Kit Complete        | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-23511129   | 3    | STD       | Connecting Rod Bearing Pair  | STD                            |
| FP-23511131   | 3    | 2         | Connecting Rod Bearing Pair  | 2                              |
| FP-23511133   | 3    | 10        | Connecting Rod Bearing Pair  | 10                             |
| FP-23511135   | 3    | 20        | Connecting Rod Bearing Pair  | 20                             |
| FP-23511137   | 3    | 30        | Connecting Rod Bearing Pair  | 30                             |
| FP-5192874    | 4    | STD       | Main Bearing, Plain          | STD                            |
| FP-5192875    | 4    | 2         | Main Bearing, Plain          | 2                              |
| FP-5192876    | 4    | 10        | Main Bearing, Plain          | 10                             |
| FP-5192877    | 4    | 20        | Main Bearing, Plain          | 20                             |
| FP-5192878    | 4    | 30        | Main Bearing, Plain          | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer                | STD                            |
| FP-5104018    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143405    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-23512674   | 1    |           | Complete Overhaul Gasket Set | HIGH BLOCK                     |

# 2-stroke Overhaul Engine Kits



**Kit Number: FP-3-71-XH-OH**

| <b>COMPONENT NO.</b> | <b>QTY.</b> | <b>PART SIZE</b> | <b>PART DESCRIPTION</b>      | <b>PART APPLICATION</b>        |
|----------------------|-------------|------------------|------------------------------|--------------------------------|
| FP-23522949          | 3           | STD              | Cylinder Kit Complete        | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947          | 3           | STD              | Cylinder Kit Complete        | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521          | 3           | STD              | Cylinder Kit Complete        | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495         | 3           | 5                | Cylinder Kit Complete        | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951          | 3           | 10               | Cylinder Kit Complete        | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525          | 3           | 20               | Cylinder Kit Complete        | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930        | 3           | 30               | Cylinder Kit Complete        | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23511129          | 3           | STD              | Connecting Rod Bearing Pair  | STD                            |
| FP-23511133          | 3           | 10               | Connecting Rod Bearing Pair  | 10                             |
| FP-23511135          | 3           | 20               | Connecting Rod Bearing Pair  | 20                             |
| FP-23511137          | 3           | 30               | Connecting Rod Bearing Pair  | 30                             |
| FP-5192874           | 4           | STD              | Main Bearing, Plain          | STD                            |
| FP-5192875           | 4           | 2                | Main Bearing, Plain          | 2                              |
| FP-5192876           | 4           | 10               | Main Bearing, Plain          | 10                             |
| FP-5192877           | 4           | 20               | Main Bearing, Plain          | 20                             |
| FP-5192878           | 4           | 30               | Main Bearing, Plain          | 30                             |
| FP-5159353           | 4           | STD              | Thrust Washer                | STD                            |
| FP-5104018           | 1           |                  | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143405           | 1           |                  | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-23512674          | 1           |                  | Complete Overhaul Gasket Set | HIGH BLOCK                     |
| FP-5192921           | 1           |                  | Complete Overhaul Gasket Set | LOW BLOCK                      |
| FP-23512674          | 1           |                  | Complete Overhaul Gasket Set | HIGH BLOCK                     |





## 2-stroke Overhaul Engine Kits

Kit Number: FP-3-71-2V-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION               |
|---------------|------|-----------|------------------------------|--------------------------------|
| FP-23505308   | 3    | STD       | Cylinder Kit Complete        | STD-2V NON TURBO 17.5:1 CR; #2 |
| FP-23505309   | 3    | STD       | Cylinder Kit Complete        | STD-2V NON TURBO 17.5:1 CR; #3 |
| FP-235053091  | 3    | 1         | Cylinder Kit Complete        | 1-2V NON TURBO 17.5:1 CR; #4   |
| FP-235053095  | 3    | 5         | Cylinder Kit Complete        | 5-2V NON TURBO 17.5:1 CR       |
| FP-2350530910 | 3    | 10        | Cylinder Kit Complete        | 10-2V NON TURBO 17.5:1 CR      |
| FP-2350530920 | 3    | 20        | Cylinder Kit Complete        | 20-2V NON TURBO 17.5:1 CR      |
| FP-2350530930 | 3    | 30        | Cylinder Kit Complete        | 30-2V NON TURBO 17.5:1 CR      |
| FP-23511129   | 3    | STD       | Connecting Rod Bearing Pair  | STD                            |
| FP-23511131   | 3    | 2         | Connecting Rod Bearing Pair  | 2                              |
| FP-23511133   | 3    | 10        | Connecting Rod Bearing Pair  | 10                             |
| FP-23511135   | 3    | 20        | Connecting Rod Bearing Pair  | 20                             |
| FP-23511137   | 3    | 30        | Connecting Rod Bearing Pair  | 30                             |
| FP-5192874    | 4    | STD       | Main Bearing, Plain          | STD                            |
| FP-5192875    | 4    | 2         | Main Bearing, Plain          | 2                              |
| FP-5192876    | 4    | 10        | Main Bearing, Plain          | 10                             |
| FP-5192877    | 4    | 20        | Main Bearing, Plain          | 20                             |
| FP-5192878    | 4    | 30        | Main Bearing, Plain          | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer                | STD                            |
| FP-5104018    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143405    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-5192921    | 1    |           | Complete Overhaul Gasket Set | LOW BLOCK                      |
| FP-23512674   | 1    |           | Complete Overhaul Gasket Set | HIGH BLOCK                     |

# 2-stroke Overhaul Engine Kits



Kit Number:FP-4-71-NA-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION               |
|---------------|------|-----------|------------------------------|--------------------------------|
| FP-23505305   | 4    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 4    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 4    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 4    | 5         | Cylinder Kit Complete        | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 4    | 10        | Cylinder Kit Complete        | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 4    | 20        | Cylinder Kit Complete        | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 4    | 30        | Cylinder Kit Complete        | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-23511129   | 4    | STD       | Connecting Rod Bearing Pair  | STD                            |
| FP-23511131   | 4    | 2         | Connecting Rod Bearing Pair  | 2                              |
| FP-23511133   | 4    | 10        | Connecting Rod Bearing Pair  | 10                             |
| FP-23511135   | 4    | 20        | Connecting Rod Bearing Pair  | 20                             |
| FP-23511137   | 4    | 30        | Connecting Rod Bearing Pair  | 30                             |
| FP-5192874    | 5    | STD       | Main Bearing, Plain          | STD                            |
| FP-5192875    | 5    | 2         | Main Bearing, Plain          | 2                              |
| FP-5192876    | 5    | 10        | Main Bearing, Plain          | 10                             |
| FP-5192877    | 5    | 20        | Main Bearing, Plain          | 20                             |
| FP-5192878    | 5    | 30        | Main Bearing, Plain          | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer                | STD                            |
| FP-5104081    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143406    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-23512675   | 1    |           | Complete Overhaul Gasket Set | HIGH BLOCK                     |



## 2-stroke Overhaul Engine Kits

Kit Number: FP-4-71-XH-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20019      | 4    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 4    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 4    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 4    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 4    | 5         | Cylinder Kit Complete       | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 4    | 10        | Cylinder Kit Complete       | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 4    | 20        | Cylinder Kit Complete       | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 4    | 5         | Cylinder Kit Complete       | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 4    | 10        | Cylinder Kit Complete       | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 4    | 20        | Cylinder Kit Complete       | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 4    | 30        | Cylinder Kit Complete       | 30-X-Hd TA;17.0:1 C.R.         |
| FP-20021      | 4    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 4    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #2  |
| FP-23522509   | 4    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #3  |
| FP-23522511   | 4    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 4    | 5         | Cylinder Kit Complete       | 5-18.7:1 C.R.                  |
| FP-23522513   | 4    | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 4    | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 4    | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 4    | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 4    | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 4    | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 4    | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 4    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-23511129   | 4    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511131   | 4    | 2         | Connecting Rod Bearing Pair | 2                              |
| FP-23511133   | 4    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 4    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 4    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 5    | STD       | Main Bearing, Plain         | STD                            |

continued on next page

# 2-stroke Overhaul Engine Kits



## Kit Number: FP-4-71-XH-OH con't

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|---------------|------|-----------|------------------------------|-----------------------|
| FP-5192875    | 5    | 2         | Main Bearing, Plain          | 2                     |
| FP-5192876    | 5    | 10        | Main Bearing, Plain          | 10                    |
| FP-5192877    | 5    | 20        | Main Bearing, Plain          | 20                    |
| FP-5192878    | 5    | 30        | Main Bearing, Plain          | 30                    |
| FP-5159353    | 4    | STD       | Thrust Washer                | STD                   |
| FP-5104081    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5143406    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23512675   | 1    |           | Complete Overhaul Gasket Set | HIGH BLOCK            |

## Kit Number: FP-4-71-2V-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION               |
|---------------|------|-----------|------------------------------|--------------------------------|
| FP-23505308   | 4    | STD       | Cylinder Kit Complete        | STD-2V NON TURBO 17.5:1 CR; #2 |
| FP-23505309   | 4    | STD       | Cylinder Kit Complete        | STD-2V NON TURBO 17.5:1 CR; #3 |
| FP-235053091  | 4    | 1         | Cylinder Kit Complete        | 1-2V NON TURBO 17.5:1 CR; #4   |
| FP-235053095  | 4    | 5         | Cylinder Kit Complete        | 5-2V NON TURBO 17.5:1 CR       |
| FP-2350530910 | 4    | 10        | Cylinder Kit Complete        | 10-2V NON TURBO 17.5:1 CR      |
| FP-2350530920 | 4    | 20        | Cylinder Kit Complete        | 20-2V NON TURBO 17.5:1 CR      |
| FP-2350530930 | 4    | 30        | Cylinder Kit Complete        | 30-2V NON TURBO 17.5:1 CR      |
| FP-23511129   | 4    | STD       | Connecting Rod Bearing Pair  | STD                            |
| FP-23511131   | 4    | 2         | Connecting Rod Bearing Pair  | 2                              |
| FP-23511133   | 4    | 10        | Connecting Rod Bearing Pair  | 10                             |
| FP-23511135   | 4    | 20        | Connecting Rod Bearing Pair  | 20                             |
| FP-23511137   | 4    | 30        | Connecting Rod Bearing Pair  | 30                             |
| FP-5192874    | 5    | STD       | Main Bearing, Plain          | STD                            |
| FP-5192875    | 5    | 2         | Main Bearing, Plain          | 2                              |
| FP-5192876    | 5    | 10        | Main Bearing, Plain          | 10                             |
| FP-5192877    | 5    | 20        | Main Bearing, Plain          | 20                             |
| FP-5192878    | 5    | 30        | Main Bearing, Plain          | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer                | STD                            |
| FP-5104081    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143406    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-5192922    | 1    |           | Complete Overhaul Gasket Set | LOW BLOCK                      |
| FP-23512675   | 1    |           | Complete Overhaul Gasket Set | HIGH BLOCK                     |



## 2-stroke Overhaul Engine Kits

Kit Number: FP-6-71-NA-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION               |
|---------------|------|-----------|------------------------------|--------------------------------|
| FP-23505305   | 6    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 6    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 6    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 6    | 5         | Cylinder Kit Complete        | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 6    | 10        | Cylinder Kit Complete        | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 6    | 20        | Cylinder Kit Complete        | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 6    | 30        | Cylinder Kit Complete        | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-23511129   | 6    | STD       | Connecting Rod Bearing Pair  | STD                            |
| FP-23511133   | 6    | 10        | Connecting Rod Bearing Pair  | 10                             |
| FP-23511135   | 6    | 20        | Connecting Rod Bearing Pair  | 20                             |
| FP-23511137   | 6    | 30        | Connecting Rod Bearing Pair  | 30                             |
| FP-5192874    | 7    | STD       | Main Bearing, Plain          | STD                            |
| FP-5192875    | 7    | 2         | Main Bearing, Plain          | 2                              |
| FP-5192876    | 7    | 10        | Main Bearing, Plain          | 10                             |
| FP-5192877    | 7    | 20        | Main Bearing, Plain          | 20                             |
| FP-5192878    | 7    | 30        | Main Bearing, Plain          | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer                | STD                            |
| FP-5104019    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143407    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-23512676   | 1    |           | Complete Overhaul Gasket Set | HIGH BLOCK                     |

# 2-stroke Overhaul Engine Kits



**Kit Number: FP-6-71-XH-OH**

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20019      | 6    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 6    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 6    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 6    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 6    | 5         | Cylinder Kit Complete       | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 6    | 10        | Cylinder Kit Complete       | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 6    | 20        | Cylinder Kit Complete       | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 6    | 5         | Cylinder Kit Complete       | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 6    | 10        | Cylinder Kit Complete       | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 6    | 20        | Cylinder Kit Complete       | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 6    | 30        | Cylinder Kit Complete       | 30-X-Hd TA;17.0:1 C.R.         |
| FP-20021      | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #2  |
| FP-23522509   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #3  |
| FP-23522511   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 6    | 5         | Cylinder Kit Complete       | 5-18.7:1 C.R.                  |
| FP-23522513   | 6    | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 6    | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 6    | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 6    | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 6    | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 6    | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 6    | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-23511129   | 6    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-23511131   | 6    | 2         | Connecting Rod Bearing Pair | 2                              |
| FP-23511133   | 6    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-23511135   | 6    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-23511137   | 6    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5192874    | 7    | STD       | Main Bearing, Plain         | STD                            |

continued on next page



## 2-stroke Overhaul Engine Kits

Kit Number: FP-6-71-XH-OH cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|---------------|------|-----------|------------------------------|-----------------------|
| FP-5192875    | 7    | 2         | Main Bearing, Plain          | 2                     |
| FP-5192876    | 7    | 10        | Main Bearing, Plain          | 10                    |
| FP-5192877    | 7    | 20        | Main Bearing, Plain          | 20                    |
| FP-5192878    | 7    | 30        | Main Bearing, Plain          | 30                    |
| FP-5159353    | 4    | STD       | Thrust Washer                | STD                   |
| FP-5104019    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5143407    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23512676   | 1    |           | Complete Overhaul Gasket Set | HIGH BLOCK            |

Kit Number: FP-6-71-2V-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION               |
|---------------|------|-----------|------------------------------|--------------------------------|
| FP-23505308   | 6    | STD       | Cylinder Kit Complete        | STD-2V NON TURBO 17.5:1 CR; #2 |
| FP-23505309   | 6    | STD       | Cylinder Kit Complete        | STD-2V NON TURBO 17.5:1 CR; #3 |
| FP-235053091  | 6    | 1         | Cylinder Kit Complete        | 1-2V NON TURBO 17.5:1 CR; #4   |
| FP-235053095  | 6    | 5         | Cylinder Kit Complete        | 5-2V NON TURBO 17.5:1 CR       |
| FP-2350530910 | 6    | 10        | Cylinder Kit Complete        | 10-2V NON TURBO 17.5:1 CR      |
| FP-2350530920 | 6    | 20        | Cylinder Kit Complete        | 20-2V NON TURBO 17.5:1 CR      |
| FP-2350530930 | 6    | 30        | Cylinder Kit Complete        | 30-2V NON TURBO 17.5:1 CR      |
| FP-23511129   | 6    | STD       | Connecting Rod Bearing Pair  | STD                            |
| FP-23511131   | 6    | 2         | Connecting Rod Bearing Pair  | 2                              |
| FP-23511133   | 6    | 10        | Connecting Rod Bearing Pair  | 10                             |
| FP-23511135   | 6    | 20        | Connecting Rod Bearing Pair  | 20                             |
| FP-23511137   | 6    | 30        | Connecting Rod Bearing Pair  | 30                             |
| FP-5192874    | 7    | STD       | Main Bearing, Plain          | STD                            |
| FP-5192875    | 7    | 2         | Main Bearing, Plain          | 2                              |
| FP-5192876    | 7    | 10        | Main Bearing, Plain          | 10                             |
| FP-5192877    | 7    | 20        | Main Bearing, Plain          | 20                             |
| FP-5192878    | 7    | 30        | Main Bearing, Plain          | 30                             |
| FP-5159353    | 4    | STD       | Thrust Washer                | STD                            |
| FP-5104019    | 1    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143407    | 1    |           | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-5192923    | 1    |           | Complete Overhaul Gasket Set | LOW BLOCK                      |
| FP-23512676   | 1    |           | Complete Overhaul Gasket Set | HIGH BLOCK                     |

# 2-stroke Overhaul Engine Kits



**Kit Number: FP-6V71-NA-OH**

| <b>COMPONENT NO.</b> | <b>QTY.</b> | <b>PART SIZE</b> | <b>PART DESCRIPTION</b>      | <b>PART APPLICATION</b>        |
|----------------------|-------------|------------------|------------------------------|--------------------------------|
| FP-23505305          | 6           | STD              | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306          | 6           | STD              | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261           | 6           | STD              | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065         | 6           | 5                | Cylinder Kit Complete        | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263           | 6           | 10               | Cylinder Kit Complete        | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264           | 6           | 20               | Cylinder Kit Complete        | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630        | 6           | 30               | Cylinder Kit Complete        | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-5149572           | 6           | STD              | Connecting Rod Bearing Pair  | STD                            |
| FP-5149575           | 6           | 10               | Connecting Rod Bearing Pair  | 10                             |
| FP-5149577           | 6           | 20               | Connecting Rod Bearing Pair  | 20                             |
| FP-5149579           | 6           | 30               | Connecting Rod Bearing Pair  | 30                             |
| FP-5149556           | 4           | STD              | Main Bearing, Plain          | STD                            |
| FP-5149559           | 4           | 10               | Main Bearing, Plain          | 10                             |
| FP-5149561           | 4           | 20               | Main Bearing, Plain          | 20                             |
| FP-5149563           | 4           | 30               | Main Bearing, Plain          | 30                             |
| FP-5117005           | 4           | STD              | Thrust Washer                | STD                            |
| FP-5104018           | 2           |                  | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143405           | 2           |                  | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-23512678          | 1           |                  | Complete Overhaul Gasket Set |                                |





## 2-stroke Overhaul Engine Kits

Kit Number: FP-6V71-XH-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20019      | 6    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 6    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 6    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 6    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 6    | 5         | Cylinder Kit Complete       | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 6    | 10        | Cylinder Kit Complete       | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 6    | 20        | Cylinder Kit Complete       | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 6    | 5         | Cylinder Kit Complete       | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 6    | 10        | Cylinder Kit Complete       | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 6    | 20        | Cylinder Kit Complete       | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 6    | 30        | Cylinder Kit Complete       | 30-X-Hd TA;17.0:1 C.R.         |
| FP-20021      | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #2  |
| FP-23522509   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #3  |
| FP-23522511   | 6    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 6    | 5         | Cylinder Kit Complete       | 5-18.7:1 C.R.                  |
| FP-23522513   | 6    | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 6    | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 6    | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 6    | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 6    | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 6    | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 6    | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 6    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-5149572    | 6    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-5149575    | 6    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-5149577    | 6    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-5149579    | 6    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5149556    | 4    | STD       | Main Bearing, Plain         | STD-NAT. ASP.                  |
| FP-5149559    | 4    | 10        | Main Bearing, Plain         | 10-NAT. ASP.                   |

continued on next page

# 2-stroke Overhaul Engine Kits



## Kit Number: FP-6V71-XH-OH cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|---------------|------|-----------|------------------------------|-----------------------|
| FP-5149561    | 4    | 20        | Main Bearing, Plain          | 20-NAT. ASP.          |
| FP-5149563    | 4    | 30        | Main Bearing, Plain          | 30-NAT. ASP.          |
| FP-5149565    | 4    | STD       | Main Bearing, Plain          | STD-TURBO             |
| FP-5149567    | 4    | 10        | Main Bearing, Plain          | 10-TURBO              |
| FP-5149568    | 4    | 20        | Main Bearing, Plain          | 20-TURBO              |
| FP-8922118    | 4    | 30        | Main Bearing, Plain          | 30-TURBO              |
| FP-5117005    | 4    | STD       | Thrust Washer                | STD                   |
| FP-5104018    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5143405    | 2    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23512678   | 1    |           | Complete Overhaul Gasket Set |                       |

## Kit Number: FP-8V71-NA-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION               |
|---------------|------|-----------|------------------------------|--------------------------------|
| FP-23505305   | 8    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 8    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 8    | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 8    | 5         | Cylinder Kit Complete        | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 8    | 10        | Cylinder Kit Complete        | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 8    | 20        | Cylinder Kit Complete        | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 8    | 30        | Cylinder Kit Complete        | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-5149572    | 8    | STD       | Connecting Rod Bearing Pair  | STD                            |
| FP-5149575    | 8    | 10        | Connecting Rod Bearing Pair  | 10                             |
| FP-5149577    | 8    | 20        | Connecting Rod Bearing Pair  | 20                             |
| FP-5149579    | 8    | 30        | Connecting Rod Bearing Pair  | 30                             |
| FP-5149556    | 5    | STD       | Main Bearing, Plain          | STD                            |
| FP-5149559    | 5    | 10        | Main Bearing, Plain          | 10                             |
| FP-5149561    | 5    | 20        | Main Bearing, Plain          | 20                             |
| FP-5149563    | 5    | 30        | Main Bearing, Plain          | 30                             |
| FP-5117005    | 4    | STD       | Thrust Washer                | STD                            |
| FP-5104081    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143406    | 2    |           | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-23512679   | 1    |           | Complete Overhaul Gasket Set | GMC/RTS COACH                  |
| FP-23512680   | 1    |           | Complete Overhaul Gasket Set |                                |



## 2-stroke Overhaul Engine Kits

Kit Number: FP-8V71-XH-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20019      | 8    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 8    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 8    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 8    | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 8    | 5         | Cylinder Kit Complete       | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 8    | 10        | Cylinder Kit Complete       | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 8    | 20        | Cylinder Kit Complete       | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 8    | 5         | Cylinder Kit Complete       | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 8    | 10        | Cylinder Kit Complete       | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 8    | 20        | Cylinder Kit Complete       | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 8    | 30        | Cylinder Kit Complete       | 30-X-Hd TA;17.0:1 C.R.         |
| FP-20021      | 8    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 8    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #2  |
| FP-23522509   | 8    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #3  |
| FP-23522511   | 8    | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 8    | 5         | Cylinder Kit Complete       | 5-18.7:1 C.R.                  |
| FP-23522513   | 8    | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 8    | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 8    | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 8    | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 8    | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 8    | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 8    | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 8    | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-5149572    | 8    | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-5149575    | 8    | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-5149577    | 8    | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-5149579    | 8    | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5149556    | 5    | STD       | Main Bearing, Plain         | STD-NAT. ASP.                  |
| FP-5149559    | 5    | 10        | Main Bearing, Plain         | 10-NAT. ASP.                   |

continued on next page

# 2-stroke Overhaul Engine Kits



## Kit Number: FP-8V71-XH-OH cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|---------------|------|-----------|------------------------------|-----------------------|
| FP-5149561    | 5    | 20        | Main Bearing, Plain          | 20-NAT. ASP.          |
| FP-5149563    | 5    | 30        | Main Bearing, Plain          | 30-NAT. ASP.          |
| FP-5149565    | 5    | STD       | Main Bearing, Plain          | STD-TURBO             |
| FP-5149567    | 5    | 10        | Main Bearing, Plain          | 10-TURBO              |
| FP-5149568    | 5    | 20        | Main Bearing, Plain          | 20-TURBO              |
| FP-8922118    | 5    | 30        | Main Bearing, Plain          | 30-TURBO              |
| FP-5117005    | 4    | STD       | Thrust Washer                | STD                   |
| FP-5104081    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5143406    | 2    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23512679   | 1    |           | Complete Overhaul Gasket Set | GMC/RTS COACH         |
| FP-23512680   | 1    |           | Complete Overhaul Gasket Set |                       |

## Kit Number: FP-12V71-NA-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION               |
|---------------|------|-----------|------------------------------|--------------------------------|
| FP-23505305   | 12   | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#2 |
| FP-23505306   | 12   | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#3 |
| FP-5149261    | 12   | STD       | Cylinder Kit Complete        | STD-TRNK NON TRBO 18.7:1 CR;#4 |
| FP-235053065  | 12   | 5         | Cylinder Kit Complete        | 5-TRNK NON TURBO 18.7:1 CR     |
| FP-5149263    | 12   | 10        | Cylinder Kit Complete        | 10-TRNK NON TURBO 18.7:1 CR    |
| FP-5149264    | 12   | 20        | Cylinder Kit Complete        | 20-TRNK NON TURBO 18.7:1 CR    |
| FP-2350530630 | 12   | 30        | Cylinder Kit Complete        | 30-TRNK NON TURBO 18.7:1 CR    |
| FP-5149572    | 12   | STD       | Connecting Rod Bearing Pair  | STD                            |
| FP-5149575    | 12   | 10        | Connecting Rod Bearing Pair  | 10                             |
| FP-5149577    | 12   | 20        | Connecting Rod Bearing Pair  | 20                             |
| FP-5149579    | 12   | 30        | Connecting Rod Bearing Pair  | 30                             |
| FP-5149556    | 7    | STD       | Main Bearing, Plain          | STD                            |
| FP-5149559    | 7    | 10        | Main Bearing, Plain          | 10                             |
| FP-5149561    | 7    | 20        | Main Bearing, Plain          | 20                             |
| FP-5149563    | 7    | 30        | Main Bearing, Plain          | 30                             |
| FP-5117005    | 4    | STD       | Thrust Washer                |                                |
| FP-5104019    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER          |
| FP-5143407    | 2    |           | Valve Cover Gasket           | STEEL ROCKER COVER             |
| FP-23512681   | 1    |           | Complete Overhaul Gasket Set |                                |



## 2-stroke Overhaul Engine Kits

Kit Number: FP-12V71-T-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|---------------|------|-----------|------------------------------|-----------------------|
| FP-23505307   | 12   | STD       | Cylinder Kit Complete        | STD-17.0:1 C.R.; #3   |
| FP-235053071  | 12   | STD       | Cylinder Kit Complete        | STD-17.0:1 C.R.; #4   |
| FP-235053075  | 12   | 5         | Cylinder Kit Complete        | 5-17.0:1 C.R.         |
| FP-2350530710 | 12   | 10        | Cylinder Kit Complete        | 10-17.0:1 C.R.        |
| FP-2350530720 | 12   | 20        | Cylinder Kit Complete        | 20-17.0:1 C.R.        |
| FP-2350530730 | 12   | 30        | Cylinder Kit Complete        | 30-17.0:1 C.R.        |
| FP-5149572    | 12   | STD       | Connecting Rod Bearing Pair  | STD                   |
| FP-5149575    | 12   | 10        | Connecting Rod Bearing Pair  | 10                    |
| FP-5149577    | 12   | 20        | Connecting Rod Bearing Pair  | 20                    |
| FP-5149579    | 12   | 30        | Connecting Rod Bearing Pair  | 30                    |
| FP-5149556    | 7    | STD       | Main Bearing, Plain          | STD                   |
| FP-5149559    | 7    | 10        | Main Bearing, Plain          | 10                    |
| FP-5149561    | 7    | 20        | Main Bearing, Plain          | 20                    |
| FP-5149563    | 7    | 30        | Main Bearing, Plain          | 30                    |
| FP-5117005    | 4    | STD       | Thrust Washer                | STD                   |
| FP-5104019    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5143407    | 2    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23512681   | 1    |           | Complete Overhaul Gasket Set |                       |

# 2-stroke Overhaul Engine Kits



Kit Number: FP-12V71-XH-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION            | PART APPLICATION               |
|---------------|------|-----------|-----------------------------|--------------------------------|
| FP-20019      | 12   | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #1  |
| FP-23522473   | 12   | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #2  |
| FP-23522477   | 12   | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #3  |
| FP-23522479   | 12   | STD       | Cylinder Kit Complete       | STD-HO MARINE 17.0:1 C.R.; #4  |
| FP-235224735  | 12   | 5         | Cylinder Kit Complete       | 5-Wide Gap Fire Rng 17.0:1 CR  |
| FP-23522481   | 12   | 10        | Cylinder Kit Complete       | 10-Wide Gap Fire Rng 17.0:1 CR |
| FP-23522483   | 12   | 20        | Cylinder Kit Complete       | 20-Wide Gap Fire Rng 17.0:1 CR |
| FP-20020      | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #1    |
| FP-23522485   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #2    |
| FP-23522953   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #3    |
| FP-23522489   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TA 17.0:1 C.R.; #4    |
| FP-235224855  | 12   | 5         | Cylinder Kit Complete       | 5-X-Hd TA;17.0:1 C.R.          |
| FP-23522491   | 12   | 10        | Cylinder Kit Complete       | 10-X-Hd TA;17.0:1 C.R.         |
| FP-23522493   | 12   | 20        | Cylinder Kit Complete       | 20-X-Hd TA;17.0:1 C.R.         |
| FP-2352248530 | 12   | 30        | Cylinder Kit Complete       | 30-X-Hd TA;17.0:1 C.R.         |
| FP-20021      | 12   | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #1  |
| FP-23522507   | 12   | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #2  |
| FP-23522509   | 12   | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #3  |
| FP-23522511   | 12   | STD       | Cylinder Kit Complete       | STD-BUS/COACH 18.7:1 C.R.; #4  |
| FP-235225075  | 12   | 5         | Cylinder Kit Complete       | 5-18.7:1 C.R.                  |
| FP-23522513   | 12   | 10        | Cylinder Kit Complete       | 10-BUS/COACH 18.7:1 C.R.       |
| FP-23522515   | 12   | 20        | Cylinder Kit Complete       | 20-BUS/COACH 18.7:1 C.R.       |
| FP-20022      | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#1 |
| FP-23522949   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#2 |
| FP-23522947   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#3 |
| FP-23522521   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd NON TRB 18.7:1C.R.;#4 |
| FP-235229495  | 12   | 5         | Cylinder Kit Complete       | 5-X-Hd NON TRB 18.7:1 C.R.     |
| FP-23522951   | 12   | 10        | Cylinder Kit Complete       | 10-NON TURBO 18.7:1 C.R.       |
| FP-23522525   | 12   | 20        | Cylinder Kit Complete       | 20-X-Hd NON TRB 18.7:1 C.R.    |
| FP-2352294930 | 12   | 30        | Cylinder Kit Complete       | 30-X-Hd NON TRB 18.7:1 C.R.    |
| FP-23522948   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #2 |
| FP-23522946   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 18.7:1 C.R.; #3 |
| FP-23522950   | 12   | 10        | Cylinder Kit Complete       | 10-TURBO 18.7:1 C.R.           |
| FP-23522952   | 12   | STD       | Cylinder Kit Complete       | STD-X-Hd TURBO 17.0:1 C.R.; #3 |
| FP-5149572    | 12   | STD       | Connecting Rod Bearing Pair | STD                            |
| FP-5149575    | 12   | 10        | Connecting Rod Bearing Pair | 10                             |
| FP-5149577    | 12   | 20        | Connecting Rod Bearing Pair | 20                             |
| FP-5149579    | 12   | 30        | Connecting Rod Bearing Pair | 30                             |
| FP-5149556    | 7    | STD       | Main Bearing, Plain         | STD                            |
| FP-5149559    | 7    | 10        | Main Bearing, Plain         | 10                             |

continued on next page



## 2-stroke Overhaul Engine Kits

Kit Number: FP-12V71-XH-OH cont'd

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION      |
|---------------|------|-----------|------------------------------|-----------------------|
| FP-5149561    | 7    | 20        | Main Bearing, Plain          | 20                    |
| FP-5149563    | 7    | 30        | Main Bearing, Plain          | 30                    |
| FP-5149565    | 7    | STD       | Main Bearing, Plain          | STD-TURBO             |
| FP-5149567    | 7    | 10        | Main Bearing, Plain          | 10-TURBO              |
| FP-5149568    | 7    | 20        | Main Bearing, Plain          | 20-TURBO              |
| FP-8922118    | 7    | 30        | Main Bearing, Plain          | 30-TURBO              |
| FP-5117005    | 4    | STD       | Thrust Washer                | STD                   |
| FP-5104019    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER |
| FP-5143407    | 2    |           | Valve Cover Gasket           | STEEL ROCKER COVER    |
| FP-23512681   | 1    |           | Complete Overhaul Gasket Set |                       |

Kit Number: FP-6V92-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION                  |
|---------------|------|-----------|------------------------------|-----------------------------------|
| FP-23524337   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO 15.0:1 C.R.             |
| FP-23522161   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R.             |
| FP-23524494   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. .85" Port   |
| FP-23524342   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. .95" Port   |
| FP-23524339   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. 1.05" Port  |
| FP-23524340   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO HO 17.0:1 C.R.          |
| FP-23524341   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO A/C 17.0:1 C.R.         |
| FP-23524343   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO A/C 17.0:1 C.R.         |
| FP-23524344   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO ALCC 18.0:1 C.R.        |
| FP-23523101   | 6    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. Widegap rng |
| FP-23523100   | 6    | STD       | Cylinder Kit Complete        | STD-18.0:1 C.R.                   |
| FP-23524346   | 6    | STD       | Cylinder Kit Complete        | STD-NA, Ind/Marine, 18.0:1 C.R.   |
| FP-23524345   | 6    | STD       | Cylinder Kit Complete        | STD-NAT ASP 18.0:1 C.R.           |
| FP-5149572    | 6    | STD       | Connecting Rod Bearing Pair  | STD                               |
| FP-5149573    | 6    | 2         | Connecting Rod Bearing Pair  | 2                                 |
| FP-5149575    | 6    | 10        | Connecting Rod Bearing Pair  | 10                                |
| FP-5149577    | 6    | 20        | Connecting Rod Bearing Pair  | 20                                |
| FP-5149579    | 6    | 30        | Connecting Rod Bearing Pair  | 30                                |
| FP-5149565    | 4    | STD       | Main Bearing, Plain          | STD                               |
| FP-5149566    | 4    | 2         | Main Bearing, Plain          | 2                                 |
| FP-5149567    | 4    | 10        | Main Bearing, Plain          | 10                                |
| FP-5149568    | 4    | 20        | Main Bearing, Plain          | 20                                |
| FP-8922118    | 4    | 30        | Main Bearing, Plain          | 30                                |
| FP-5117005    | 4    | STD       | Thrust Washer                | STD                               |
| FP-5104018    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER             |
| FP-23512683   | 1    |           | Complete Overhaul Gasket Set | COACH APPLICATION                 |
| FP-23512684   | 1    |           | Complete Overhaul Gasket Set | OVER THE ROAD APPLICATION         |

# 2-stroke Overhaul Engine Kits



Kit Number: FP-8V92-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION                  |
|---------------|------|-----------|------------------------------|-----------------------------------|
| FP-23524337   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO 15.0:1 C.R.             |
| FP-23522161   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R.             |
| FP-23524494   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. .85" Port   |
| FP-23524342   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. .95" Port   |
| FP-23524339   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. 1.05" Port  |
| FP-23524340   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO HO 17.0:1 C.R.          |
| FP-23524341   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO A/C 17.0:1 C.R.         |
| FP-23524343   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO A/C 17.0:1 C.R.         |
| FP-23524344   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO ALCC 18.0:1 C.R.        |
| FP-23523101   | 8    | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. Widegap rng |
| FP-23523100   | 8    | STD       | Cylinder Kit Complete        | STD-18.0:1 C.R.                   |
| FP-23524346   | 8    | STD       | Cylinder Kit Complete        | STD-NA, Ind/Marine, 18.0:1 C.R.   |
| FP-23524345   | 8    | STD       | Cylinder Kit Complete        | STD-NAT ASP 18.0:1 C.R.           |
| FP-5149572    | 8    | STD       | Connecting Rod Bearing Pair  | STD                               |
| FP-5149573    | 8    | 2         | Connecting Rod Bearing Pair  | 2                                 |
| FP-5149575    | 8    | 10        | Connecting Rod Bearing Pair  | 10                                |
| FP-5149577    | 8    | 20        | Connecting Rod Bearing Pair  | 20                                |
| FP-5149579    | 8    | 30        | Connecting Rod Bearing Pair  | 30                                |
| FP-5149565    | 5    | STD       | Main Bearing, Plain          | STD                               |
| FP-5149566    | 5    | 2         | Main Bearing, Plain          | 2                                 |
| FP-5149567    | 5    | 10        | Main Bearing, Plain          | 10                                |
| FP-5149568    | 5    | 20        | Main Bearing, Plain          | 20                                |
| FP-8922118    | 5    | 30        | Main Bearing, Plain          | 30                                |
| FP-5117005    | 4    | STD       | Thrust Washer                | STD                               |
| FP-5104081    | 2    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER             |
| FP-23512685   | 1    |           | Complete Overhaul Gasket Set |                                   |





## 2-stroke Overhaul Engine Kits

Kit Number: FP-12V92-OH

| COMPONENT NO. | QTY. | PART SIZE | PART DESCRIPTION             | PART APPLICATION                   |
|---------------|------|-----------|------------------------------|------------------------------------|
| FP-23524337   | 12   | STD       | Cylinder Kit Complete        | STD-TURBO 15.0:1 C.R.              |
| FP-23522161   | 12   | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R.              |
| FP-23524494   | 12   | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. .85" Port    |
| FP-23524342   | 12   | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. .95" Port    |
| FP-23524339   | 12   | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. 1.05" Port   |
| FP-23524340   | 12   | STD       | Cylinder Kit Complete        | STD-TURBO HO 17.0:1 C.R.           |
| FP-23524341   | 12   | STD       | Cylinder Kit Complete        | STD-TURBO A/C 17.0:1 C.R.          |
| FP-23524344   | 12   | STD       | Cylinder Kit Complete        | STD-TURBO ALCC 18.0:1 C.R.         |
| FP-23523101   | 12   | STD       | Cylinder Kit Complete        | STD-TURBO 17.0:1 C.R. Widegap ring |
| FP-23523100   | 12   | STD       | Cylinder Kit Complete        | STD-18.0:1 C.R.                    |
| FP-23524346   | 12   | STD       | Cylinder Kit Complete        | STD-NA, Ind/Marine, 18.0:1 C.R.    |
| FP-23524345   | 12   | STD       | Cylinder Kit Complete        | STD-NAT ASP 18.0:1 C.R.            |
| FP-5149572    | 12   | STD       | Connecting Rod Bearing Pair  | STD                                |
| FP-5149573    | 12   | 2         | Connecting Rod Bearing Pair  | 2                                  |
| FP-5149575    | 12   | 10        | Connecting Rod Bearing Pair  | 10                                 |
| FP-5149577    | 12   | 20        | Connecting Rod Bearing Pair  | 20                                 |
| FP-5149579    | 12   | 30        | Connecting Rod Bearing Pair  | 30                                 |
| FP-5149565    | 8    | STD       | Main Bearing, Plain          | STD                                |
| FP-5149566    | 8    | 2         | Main Bearing, Plain          | 2                                  |
| FP-5149567    | 8    | 10        | Main Bearing, Plain          | 10                                 |
| FP-5149568    | 8    | 20        | Main Bearing, Plain          | 20                                 |
| FP-8922118    | 8    | 30        | Main Bearing, Plain          | 30                                 |
| FP-5117005    | 8    | STD       | Thrust Washer                | STD                                |
| FP-5104018    | 4    |           | Valve Cover Gasket           | ALUMINUM ROCKER COVER              |
| FP-23512686   | 1    |           | Complete Overhaul Gasket Set |                                    |

## Decimal Equivalents

| 8THS.     | 16THS.     | 32NDS.      | 64THS.      | DECIMALS | mm        |
|-----------|------------|-------------|-------------|----------|-----------|
|           |            |             | 1/64 .....  | .015625  | .396875   |
|           |            | 1/32 .....  | 3/64 .....  | .031250  | .793750   |
|           | 1/16 ..... |             | 5/64 .....  | .046875  | 1.190625  |
|           |            | 3/32 .....  | 7/64 .....  | .062500  | 1.587500  |
| 1/8 ..... |            |             | 9/64 .....  | .078125  | 1.984375  |
|           |            | 5/32 .....  | 11/64 ..... | .093750  | 2.381250  |
|           | 3/16 ..... |             | 13/64 ..... | .109375  | 2.778125  |
|           |            | 7/32 .....  | 15/64 ..... | .125000  | 3.175000  |
|           |            |             | 17/64 ..... | .140625  | 3.571875  |
|           |            | 5/32 .....  | 19/64 ..... | .156250  | 3.968750  |
|           | 3/16 ..... |             | 21/64 ..... | .171875  | 4.365625  |
|           |            | 7/32 .....  | 23/64 ..... | .187500  | 4.762500  |
|           |            |             | 25/64 ..... | .203125  | 5.159375  |
|           |            | 9/32 .....  | 27/64 ..... | .218750  | 5.556250  |
| 1/4 ..... |            |             | 29/64 ..... | .234375  | 5.953125  |
|           |            | 5/32 .....  | 31/64 ..... | .250000  | 6.350000  |
|           | 5/16 ..... |             | 33/64 ..... | .265625  | 6.746875  |
|           |            | 9/32 .....  | 35/64 ..... | .281250  | 7.143750  |
|           |            |             | 37/64 ..... | .296875  | 7.540625  |
|           |            | 5/16 .....  | 39/64 ..... | .312500  | 7.937500  |
|           |            |             | 41/64 ..... | .328125  | 8.334375  |
|           |            | 11/32 ..... | 43/64 ..... | .343750  | 8.731250  |
| 3/8 ..... |            |             | 45/64 ..... | .359375  | 9.128125  |
|           |            | 13/32 ..... | 47/64 ..... | .375000  | 9.525000  |
|           |            |             | 49/64 ..... | .390625  | 9.921875  |
|           | 7/16 ..... |             | 51/64 ..... | .406250  | 10.318750 |
|           |            | 15/32 ..... | 53/64 ..... | .421875  | 10.715625 |
|           |            |             | 55/64 ..... | .437500  | 11.112500 |
|           |            | 9/32 .....  | 57/64 ..... | .453125  | 11.509375 |
|           |            |             | 59/64 ..... | .468750  | 11.906250 |
|           |            | 11/32 ..... | 61/64 ..... | .484375  | 12.303125 |
| 1/2 ..... |            |             | 63/64 ..... | .500000  | 12.700000 |
|           |            | 17/32 ..... |             | .515625  | 13.096875 |
|           | 9/16 ..... |             |             | .531250  | 13.493750 |
|           |            | 19/32 ..... |             | .546875  | 13.890625 |
|           |            |             |             | .562500  | 14.287500 |
|           |            | 11/16 ..... |             | .578125  | 14.684375 |
|           |            |             |             | .593750  | 15.081250 |
|           |            | 19/32 ..... |             | .609375  | 15.478125 |
| 5/8 ..... |            |             |             | .625000  | 15.875000 |
|           |            | 21/32 ..... |             | .640625  | 16.271875 |
|           |            |             |             | .656250  | 16.668750 |
|           |            | 11/16 ..... |             | .671875  | 17.065625 |
|           |            |             |             | .687500  | 17.462500 |
|           |            | 23/32 ..... |             | .703125  | 17.859375 |
|           |            |             |             | .718750  | 18.256250 |
|           |            | 13/16 ..... |             | .734375  | 18.653125 |
|           |            |             |             | .750000  | 19.050000 |
| 3/4 ..... |            | 25/32 ..... |             | .765625  | 19.446875 |
|           |            |             |             | .781250  | 19.843750 |
|           |            | 13/16 ..... |             | .796875  | 20.240625 |
|           |            |             |             | .812500  | 20.637500 |
|           |            | 27/32 ..... |             | .828125  | 21.034375 |
|           |            |             |             | .843750  | 21.431250 |
|           |            | 15/16 ..... |             | .859375  | 21.828125 |
|           |            |             |             | .875000  | 22.225000 |
| 7/8 ..... |            |             |             | .890625  | 22.621875 |
|           |            | 29/32 ..... |             | .906250  | 23.018750 |
|           |            |             |             | .921875  | 23.415625 |
|           |            | 15/16 ..... |             | .937500  | 23.812500 |
|           |            |             |             | .953125  | 24.209375 |
|           |            | 31/32 ..... |             | .968750  | 24.606250 |
|           |            |             |             | .984375  | 25.003125 |
| 1 .....   |            |             |             | 1.000000 | 25.003125 |

### Inches to Millimeters

|            |          |
|------------|----------|
| .001 ..... | 0.0254mm |
| .002 ..... | 0.0508mm |
| .003 ..... | 0.0762mm |
| .004 ..... | 0.1016mm |
| .005 ..... | 0.1270mm |
| .006 ..... | 0.1524mm |
| .007 ..... | 0.1778mm |
| .008 ..... | 0.2032mm |
| .009 ..... | 0.2286mm |
| .010 ..... | 0.2540mm |
| .020 ..... | 0.5080mm |
| .030 ..... | 0.7620mm |
| .040 ..... | 1.0160mm |
| .050 ..... | 1.2700mm |
| .060 ..... | 1.5240mm |
| .070 ..... | 1.7780mm |
| .080 ..... | 2.0320mm |
| .090 ..... | 2.2860mm |
| .100 ..... | 2.5400mm |

### Millimeters to Inches

|               |         |
|---------------|---------|
| 0.025mm ..... | .000984 |
| 0.050mm ..... | .001968 |
| 0.075mm ..... | .002952 |
| 0.100mm ..... | .003937 |
| 0.125mm ..... | .004921 |
| 0.150mm ..... | .005905 |
| 0.175mm ..... | .006889 |
| 0.200mm ..... | .007874 |
| 0.225mm ..... | .008858 |
| 0.250mm ..... | .009842 |
| 0.500mm ..... | .019685 |
| 0.750mm ..... | .029527 |
| 1.000mm ..... | .039370 |
| 1.250mm ..... | .049212 |
| 1.500mm ..... | .059055 |
| 1.750mm ..... | .068897 |
| 2.000mm ..... | .078740 |
| 2.250mm ..... | .088582 |
| 2.500mm ..... | .098425 |

### Conversion Formulae

28.349 gm./oz.  
453.592 gm./lb.

16.387 cc/in.<sup>3</sup>  
61.024 in.<sup>3</sup>/L

3.785 L/U.S. gal.  
4.546 L/Imp. gal.  
0.264 U.S. gal./L  
0.220 Imp. gal./L



Global Technology Behind Every Part

# Repower your heavy-duty engines easier than ever

**Any high-horsepower engine**, regardless of age, represents a brutal operating environment for pistons, rings, bearings, liners and other internal components. Yet not nearly as demanding as the engine durability and performance labs at Federal-Mogul Corporation's

## Advanced Technology Centers

in Burscheid and Nuremberg, Germany; and Ann Arbor, Michigan, U.S.A.

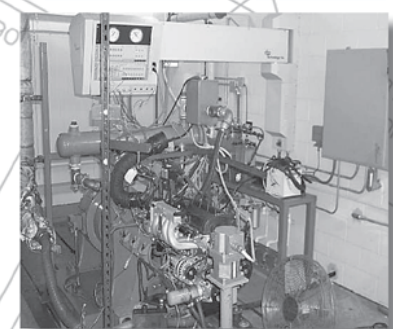
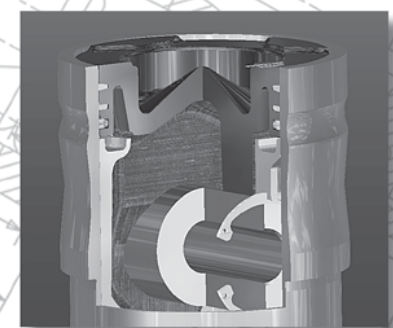
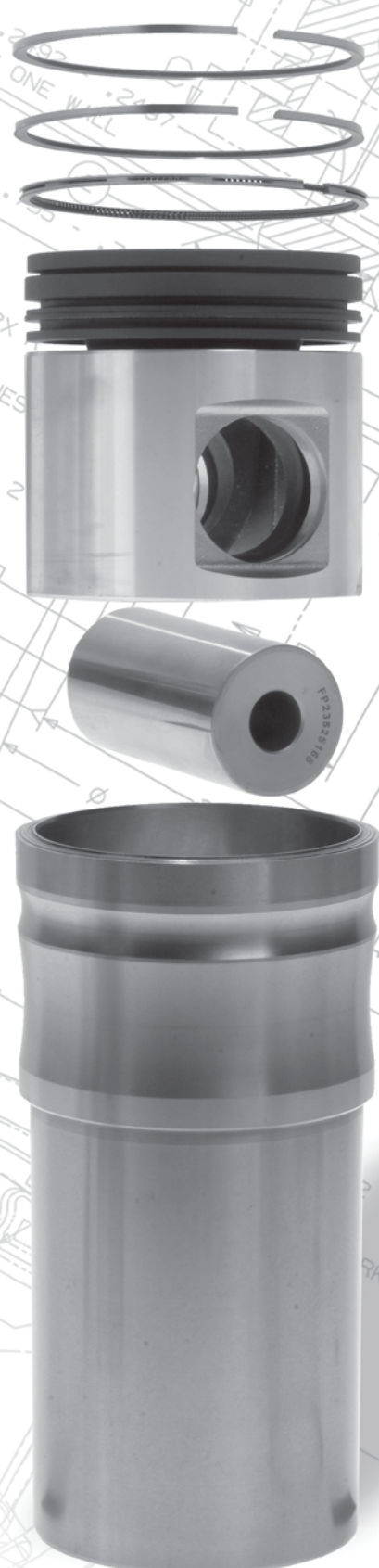
Being a global manufacturer means investing in advanced technologies worldwide. On a daily basis, our engineers work to create engine and sealing systems solutions that address the dynamic forces found in each generation of diesel engines.

## As the Global Leader in Heavy-duty Powertrain Systems,

Federal-Mogul is instrumental in the development of every new generation of gasoline and diesel engine technology. Our global research centers are pioneering the use of new materials and designs that will become tomorrow's standards. And the consistent deployment of these advanced technologies throughout our technology centers means better designs for replacement applications. These include:

- Advanced-design articulated and Monosteel™ pistons for on- and off-highway engines.
- Space-age ring coatings to resist the corrosion and abrasion associated with EGR and other engine emissions solutions.
- Thinner, stronger cylinder liners that allow customers to maximize bore size.

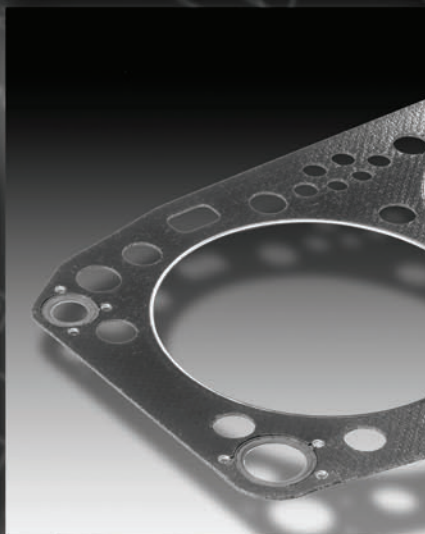
When you choose FP Diesel, you receive much more than premium-quality engine parts. Each component is the product of the industry's very best ideas — powertrain technologies that won't merely survive, but thrive in today's hardest-working engines.





## Series 60 Cross Head Piston

- Improved material properties
- Reduced stress concentration at key points
- Optimized radius of struts
- Increased standup height



## FP Diesel ML<sup>7</sup>™ Head Gaskets

- Patented multi-layer design provides unprecedented strength
- Expanded graphite outer facings fills in minor voids in sealing surfaces
- Stainless steel armors provide robust, long lasting combustion seal
- Solid steel core provides enhanced lateral stability



## Valvetrain Components

- Manufactured to the highest quality standards
- OEM specification materials used with upgrades to super alloys such as stellite, nickel, nimonic and inconel where needed for problem applications
- Available parts include valves, springs, guides, keepers, rotocaps, rocker parts, lifters, seals, seats and more



**GLOBAL TECHNOLOGY** behind every part