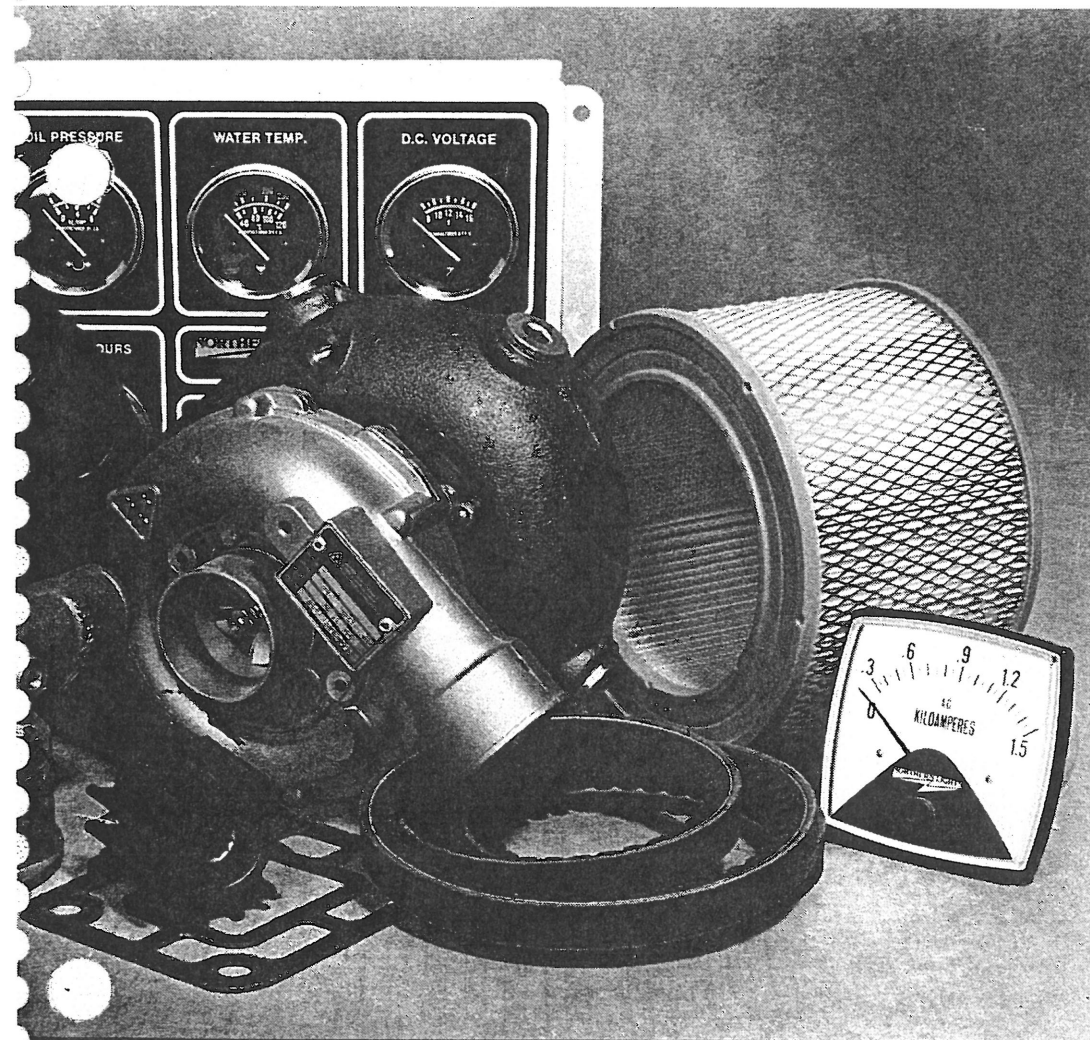


PARTS CATALOG

P753

for Models M753 & NL753



PARTS CATALOG

for Models
M753, M753G, NL753 and NL753G

Please read thoroughly before attempting to use this manual:

| | |
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INTRODUCTION

Model Designation

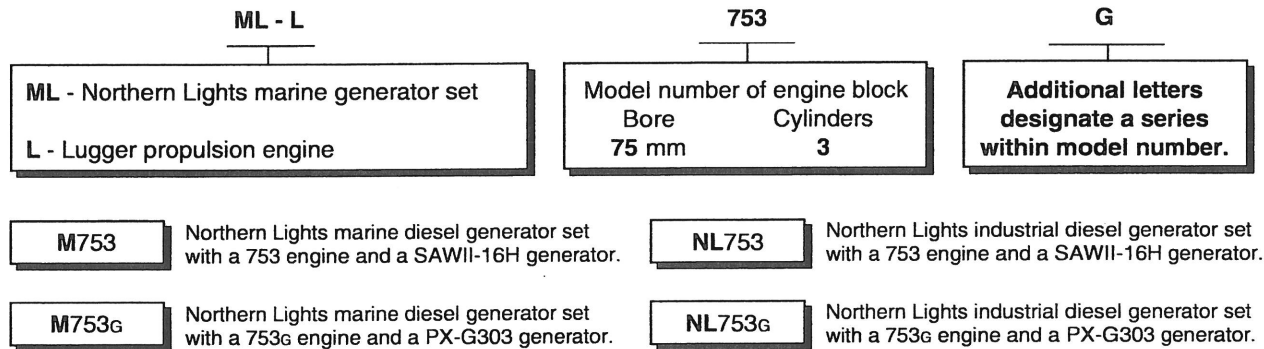
MODELS INCLUDED

This manual covers the operating instructions for:

M753 and **NL753**, which use the 753 engine;
and **M753G** and **NL753G**, which use the 753G engine.

Model Numbers

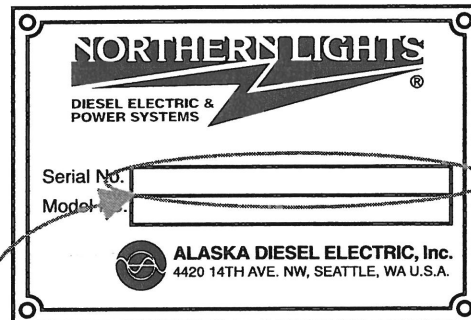
Model numbers give the unit's application, block model, aspiration, and RPM:



Serial Numbers

NORTHERN LIGHTS

Your set has three serial numbers: ① an engine number stamped on the block, ② a generator plate, and ③ a generator set plate. Use the serial number on the generator set plate when ordering parts or in correspondence. The generator set plate is found on the service side of the generator and resembles the drawing below.



*Generator Set Serial Number
for units with PXG, PXX, BCI,
and PSL generators*

Reading a Parts Page

IMPORTANT:

Before selecting parts, be sure that you are choosing parts from the correct page. Check the model designation at the page top. Do not use this illustration for parts purchasing.

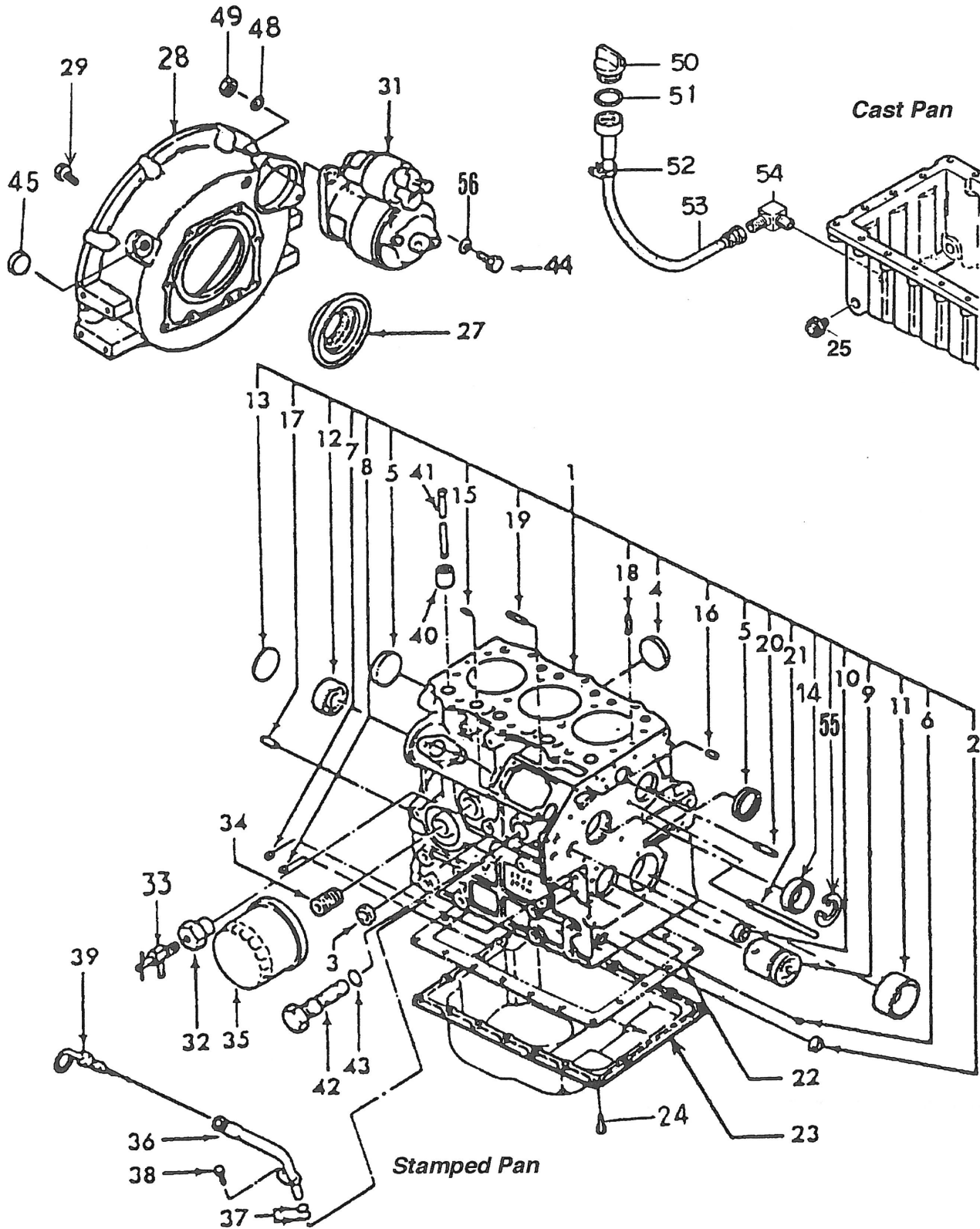
| KEY | PART NUMBER | QTY. | DESCRIPTION | SERIALNUMBER |
|-----|-------------|------|---------------------|--------------|
| 0 | 185046210 | 1 | Alternator Assembly | - |
| 1 | 185446219 | 1 | Flywheel, complete | - |
| 2 | 185446217 | 1 | Plate, complete | - |
| 3 | 185716200 | 1 | Plate | - |
| 4 | 185446218 | 1 | Stator, complete | - |
| 5 | 040126210 | 2 | Bearing | - |
| 6 | 020210010 | 1 | Nut | - |
| 7 | 027100010 | 1 | Spring washer | - |
| 8 | 026100010 | 1 | Washer | - |
| 9 | 185446220 | 1 | Clamp | - |
| 10 | 015140408 | 1 | Screw | - |
| 11 | 015140425 | 2 | Screw | - |
| 12 | 199236510 | 1 | Collar | - |

REFERENCES:

1. Grouping section title.
2. Model designation of equipment that uses parts listed on this page.
3. Title and description of assembly.
4. Drawing numbers that correspond to key column numbers for parts identification.
5. Key column for locating parts shown on drawing.
6. Part number.
7. Quantity of parts used.
8. Description of each component part.
9. Serial number of unit the part fits.
10. Assembly or kit designated by Key 0 or ••/•.
11. Grouping index number.
12. Page number within the grouping index.
13. Manual title.
14. Page publication date.

NOTE: ➡ Arrows always point toward the front of the engine.

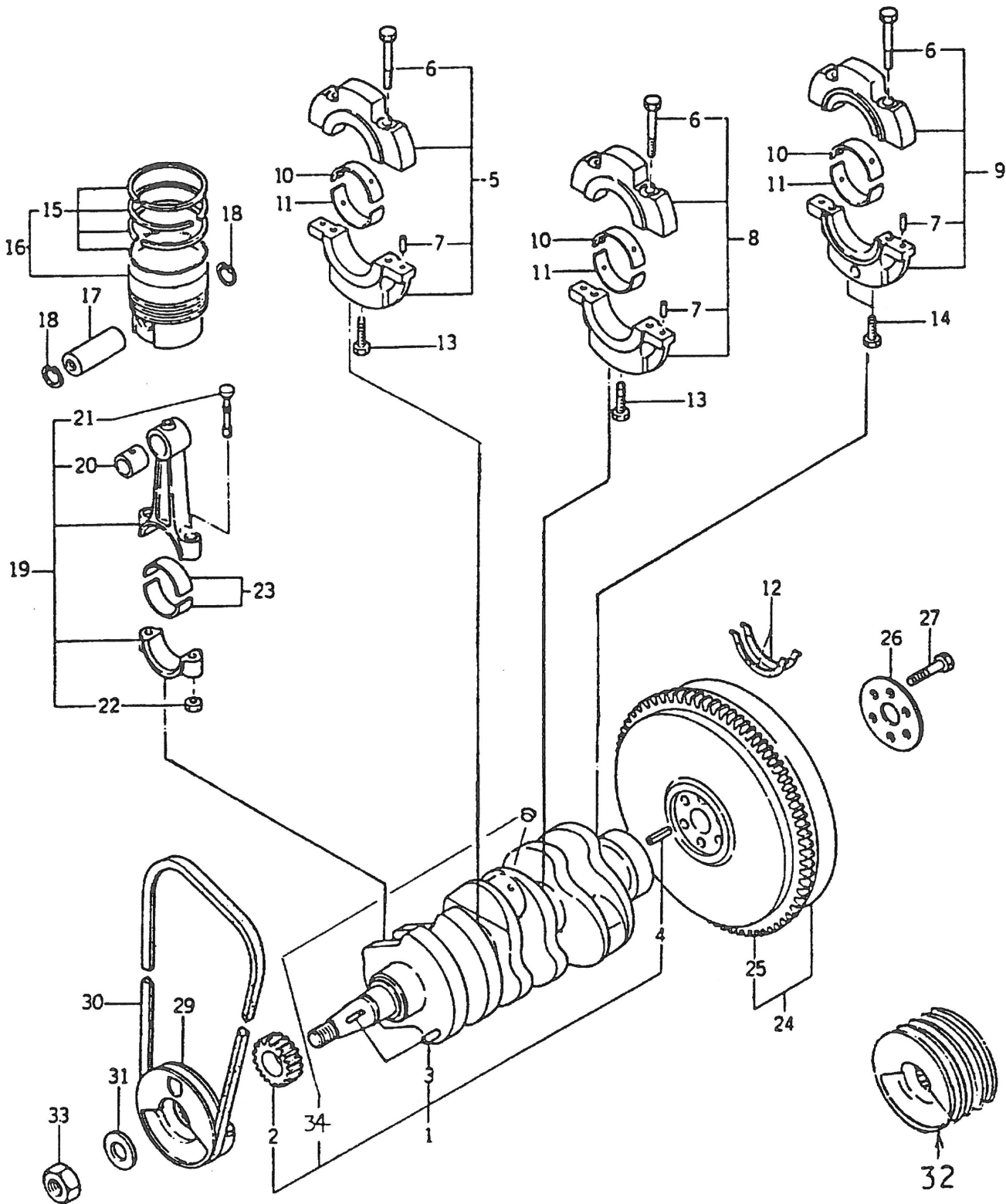
Cylinder Block



Cylinder Block

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|--|
| 1 | 110106791 | 1 | Cylinder Block Assembly (Blue - Industrial) | up to S/N xxxx-8552 up to S/N xxxx-8552 from S/N xxxx-8553 from S/N xxxx-8853 |
| | 110106960 | 1 | Cylinder Block Assembly (White - Marine) | |
| | 110107451 | 1 | Cylinder Block Assembly (Blue - Industrial) | |
| | 110107461 | 1 | Cylinder Block Assembly (White - Marine) | |
| 2 | 064200015 | 1 | Shallow Cup Core Plug 15 mm | - |
| 3 | 064200025 | 1 | Shallow Cup Core Plug 25 mm | - |
| 4 | 064200035 | 2 | Shallow Cup Core Plug 35 mm | - |
| 5 | 064200040 | 2 | Shallow Cup Core Plug 40 mm | - |
| 6 | 198466050 | 1 | Blank Plug | - |
| 7 | 198466030 | 4 | Blank Plug | - |
| 8 | 198466010 | 4 | Blank Plug | - |
| 9 | 165296141 | 1 | Idle Gear Shaft Assembly | up to S/Nxxxx-8552 |
| 10 | 198466060 | 1 | Blank Plug | - |
| 11 | 198517080 | 1 | Standard Bushing | - |
| | 198517084 | 1 | Bushing, Undersize 0.25 mm | - |
| | 198517087 | 1 | Bushing, Undersize 0.50 mm | - |
| 12 | 040106203 | 1 | Bearing | - |
| 13 | 064100045 | 1 | Expansion Plug | - |
| 14 | 042303015 | 1 | Bearing | - |
| 15 | 030500410 | 2 | Pin | up to S/Nxxxx-8552 |
| 16 | 030500616 | 2 | Pin | - |
| 17 | 030501025 | 2 | Dowel Pin | - |
| 18 | 030309005 | 2 | Spring Pin | - |
| 19 | 012110620 | 2 | Stud Bolt | - |
| 20 | 012100635 | 1 | Stud Bolt | - |
| 21 | 012100660 | 1 | Stud Bolt | - |
| 22 | 110996491 | 1 | Gasket (formerly #110996490) | - |
| 23 | 110707820 | 1 | Oil Pan-Stamped (Blue - Industrial) (formerly #110716590-Cast) | - |
| | 110707480 | 1 | Oil Pan-Stamped (White - Marine) (formerly #110716680-Cast) | - |
| 24 | 011310620 | 20 | Bolt with Washer (formerly #011140620) | - |
| 25 | 198436130 | AR | Plug (Cast Pan Only) as required 3/8 BSPT | - |
| | 010401212 | 2 | Plug, Hex Head M12 x 1.25 (for replacement stamped pan) | - |
| 27 | 198636130 | 1 | Oil Seal Assembly (Oil Seal plus Sleeve) | - |
| | 198636080 | 1 | Oil Seal (Sleeveless) | - |
| 28 | 110446363 | 1 | Flywheel Housing (Blue - Industrial) | } SAE #5 |
| | 110446421 | 1 | Flywheel Housing (White - Marine) | |
| 29 | 010111020 | 8 | Bolt | - |
| 31 | | 1 | Starting Motor (see Electrical Section) | - |
| 32 | 198486770 | 1 | Bushing (Marine) | - |
| 33 | 198736051 | 1 | Drain Cock (Marine) | - |
| | 198736120 | 1 | Drain Cock (Industrial) | - |
| 34 | 140546020 | 1 | Adapter | - |
| 35 | 24-02001 | 1 | Oil Filter | - |
| 36 | 110756070 | 1 | Dipstick Tube | - |
| 37 | 052100100 | 2 | O-Ring | - |
| 38 | 011150612 | 1 | Bolt | - |
| 39 | 198416270 | 1 | Dipstick | - |
| 40 | 120116100 | 6 | Tappet | - |
| 41 | 120456201 | 6 | Pushrod | - |
| 42 | 140036120 | 1 | Relief Valve Assembly (formerly #'s 140036111 & 140036120) | - |
| 43 | 052100150 | 1 | O-Ring | - |
| 44 | 010101045 | 2 | Bolt | - |
| 45 | 398460091 | 1 | Plug | - |
| 46 | 064115200 | 1 | Tube | - |
| 47 | 195816100 | 1 | Lifting Eye (Industrial) | - |
| 48 | 027100010 | 2 | Spring Washer | - |
| 49 | 020110010 | 2 | Nut | - |
| 50 | 398430560 | 1 | Cap (formerly #198430080) | - |
| 51 | 054109013 | 1 | O-Ring | - |
| 52 | 198756200 | 1 | Hose Clamp | - |
| 53 | 140606710 | 1 | Oil Drain Hose | - |
| 54 | 135806060 | 1 | Elbow 90° Steel 1/2 BSPT x 1/2-30 JIS | - |
| 55 | 036509005 | 1 | Snap Ring | - |
| 56 | 026100010 | 2 | Washer | - |
| 57 | 025100012 | 2 | Sealing Washer (for replacement stamped pan) | - |

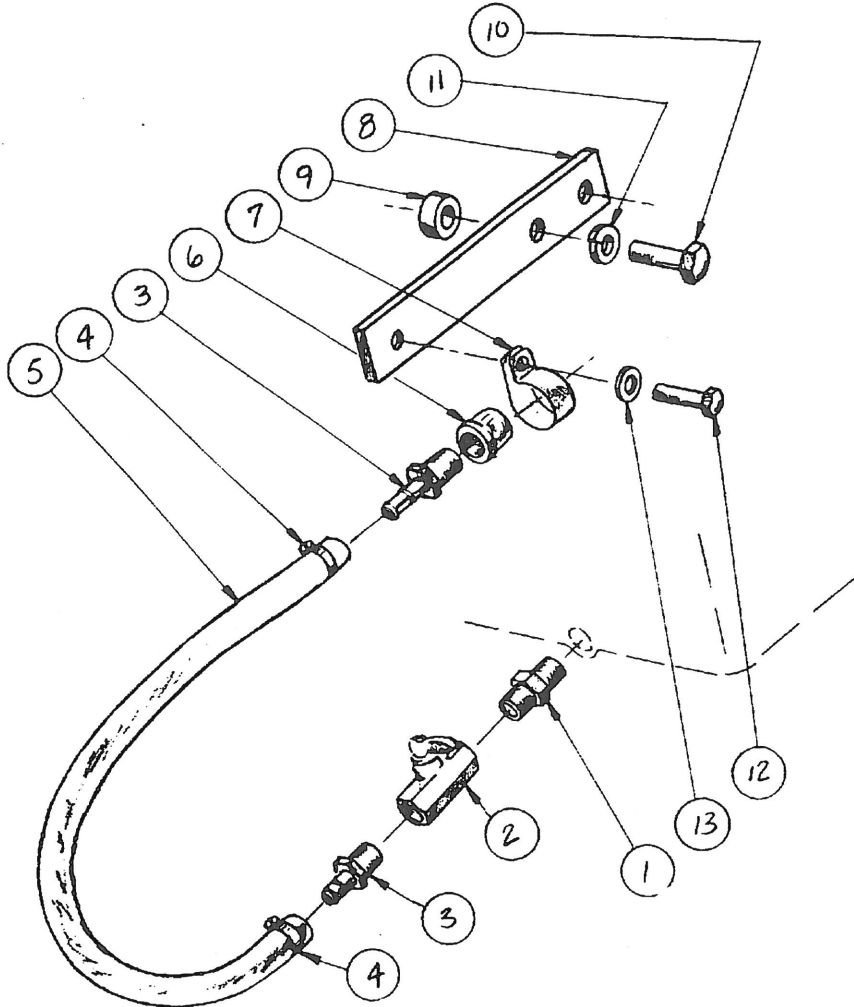
Camshaft and Pistons



Camshaft and Pistons

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----------|-------------|----------------------------------|--|-----------------------|
| 1 | 115256461 | 1 | Crankshaft, Early (replaced by #115256600) (includes Keys #2 - #4 & #34) | - |
| | 115256600 | 1 | Crankshaft, Late (includes Keys #2 - #4) | - |
| 2 | 115276180 | 1 | Gear | - |
| 3 | 034100508 | 2 | Key (for Gear #2 & Pulley #29 or #32 - Early Crankshaft) | - |
| | 034100508 | 1 | Key (for Pulley #29 or #32 only - Late Crankshaft) | - |
| | 030509020 | 1 | Dowel Pin (for Gear #2 only - Late Crankshaft) | - |
| 4 | 030300816 | 1 | Spring Pin | - |
| 5 | 110156111 | 1 | Bearing Holder Assembly | - |
| 6 | 010810840 | 6 | Bolt | - |
| 7 | 030500612 | 6 | Dowel | - |
| 8 | 110156121 | 1 | Bearing Holder Assembly | - |
| 9 | 110156131 | 1 | Bearing Holder Assembly | up to S/N xxxx-7181 |
| | 110156330 | 1 | Bearing Holder with Integral Thrust Washers (Late Production) | from S/N xxxx-7182 |
| 10 | 198517101 | 3 | Bearing, Standard | - |
| | 198517105 | 3 | Bearing, Undersize 0.25 mm | - |
| | 198517108 | 3 | Bearing, Undersize 0.50 mm | - |
| 11 | 198517110 | 3 | Bearing, Standard | - |
| | 198517114 | 3 | Bearing, Undersize 0.25 mm | - |
| | 198517117 | 3 | Bearing, Undersize 0.50 mm | - |
| | 199266170 | 2 | Thrust Washer (use with Early Bearing Holder 110156131) | up to S/N xxxx-7182 |
| 12 | 199266170 | 2 | Thrust Washer (use with Early Bearing Holder 110156131) | up to S/N xxxx-7182 |
| 13 | 011310850 | 2 | Bolt | - |
| 14 | 010700845 | 1 | Bolt | - |
| 15 | 115107201 | 3 | Standard Ring Set | - |
| | 115107204 | 3 | Ring Set, Oversize 0.50 mm | - |
| | 115107206 | 3 | Ring Set, Oversize 1.0 mm | - |
| | 115016511 | 3 | Standard Piston Assembly | - |
| | 115016515 | 3 | Piston Assembly, Oversize 0.50 mm | } (includes Key #15) |
| | 115016518 | 3 | Piston Assembly, Oversize 1.0 mm | |
| | 115017140 | 3 | Piston Assembly, Standard | - |
| | 115017150 | 3 | Piston Assembly, Oversize 0.50 mm | } (includes Key #15)* |
| 115017160 | 3 | Piston Assembly, Oversize 1.0 mm | | |
| 17 | 115326231 | 3 | Piston Pin | - |
| 18 | 036500021 | 6 | Snap Ring | - |
| 19 | 115026190 | 3 | Rod Assembly | up to S/N xxxx-4115 |
| | 115026191 | 3 | Rod Assembly (replaces #115026190) | from S/N xxxx-4116 |
| 20 | 198517125 | 3 | Bushing | - |
| 21 | 115176101 | 6 | Bolt (use with Connecting Rod #115026190) | up to S/N xxxx-4115 |
| | 115176150 | 6 | Bolt (use with Connecting Rod #115026191) | from S/N xxxx-4116 |
| 22 | 020109075 | 6 | Nut | - |
| 23 | 198517130 | 6 | Rod Bearing, Std. | - |
| | 198517134 | 6 | Rod Bearing, Undersize 0.25 mm | - |
| | 198517137 | 6 | Rod Bearing, Undersize 0.50 mm | - |
| | 115356720 | 1 | Flywheel Assembly SAE #6 1/2 | - |
| 24 | | | - units with PX-G Generators (includes Key #25) | - |
| | 115356841 | 1 | Flywheel Assembly SAE #6 1/2 | - |
| | | | - units with SAW Generators (formerly #115356840) (includes Key #25) | - |
| | 34-68200 | 1 | Flywheel Assembly SAE #6 1/2 | - |
| | | | - units with Lima 250/280 Generators (includes Key #25) | - |
| 25 | 115376130 | 1 | Ring Gear (96 Teeth) | - |
| 26 | 199316091 | 1 | Lock Washer - NLA | - |
| 27 | 010109223 | 6 | Bolt (used with #26 Washer) | - |
| | 010109340 | 6 | Bolt (replaces #010109223) | - |
| 29 | 115396552 | 1 | Pulley (Blue) | - |
| | 115396650 | 1 | Pulley (White) | - |
| 30 | 40-08201 | 1 | V-Belt (formerly #'s 080109050 & 080109049) | - |
| 31 | 026200018 | 1 | Washer (no longer required) | - |
| 32 | 115396541 | 1 | Pulley (4 Groove, White) | - |
| 33 | 020800018 | 1 | Nut | - |
| 34 | 198466030 | 3 | Blank Plug (with Early Crankshaft #115256461) | } Interchangeable |
| | 048100008 | 3 | Steel Ball (with Early Crankshaft #115256461) | |
| | | | * Replaces #115016511, #115016515 & #115016518 | |

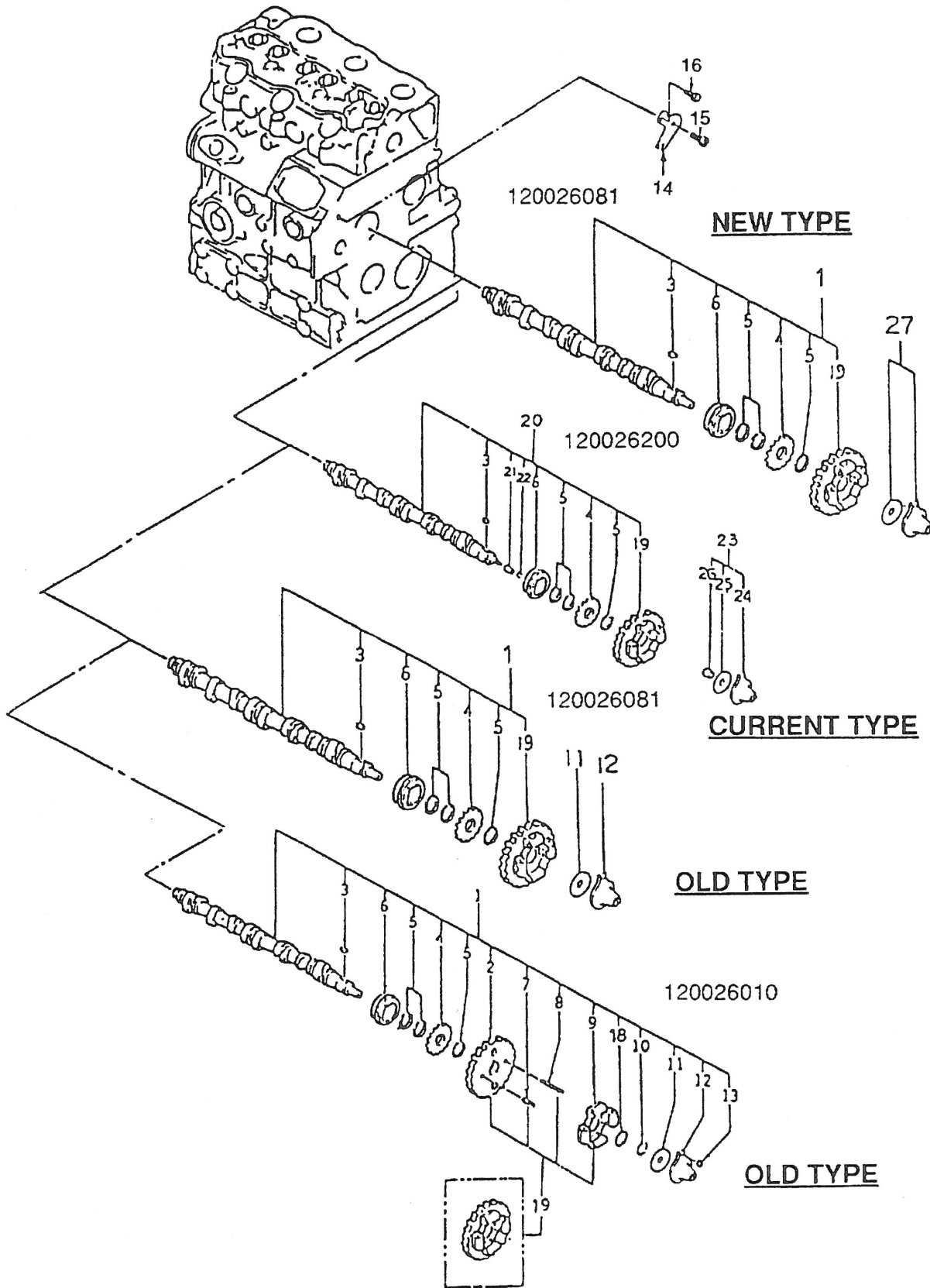
Oil Drain - Early Production



A-1604/B-2372

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|-------------------------------------|---------------|
| 1 | 21-12006 | 1 | Hex Nipple 3/8 NPT | - |
| 2 | 21-10013 | 1 | Drain Cock 3/8 F, NPT | - |
| 3 | 21-71038 | 2 | Male Connector 3/8 NPT x 3/8 HB | - |
| 4 | 19-00008 | 2 | Hose Clamp #8 | - |
| 5 | 18-51614 | 1 | Hose 3/8 x 16" | - |
| 6 | 21-72242 | 1 | Cap 3/8 NPT | - |
| 7 | 19-72252 | 1 | Adelle Clamp 3/8" | - |
| 8 | 23-00000 | 1 | Clamp Mounting Bracket | - |
| 9 | 21-72200 | 2 | Spacer 1/4 x 3/8" | - |
| 10 | 12-00312 | 2 | Capscrew, Hex Head 3/8 - 16 | - |
| 11 | 15-00302 | 2 | Lock Washer 3/8" | - |
| 12 | 12-00030 | 1 | Capscrew, Hex Head M6 x 1.0 x 15 mm | - |
| 13 | 15-00610 | 1 | Lock Washer M6 | - |

Camshaft



Camshaft

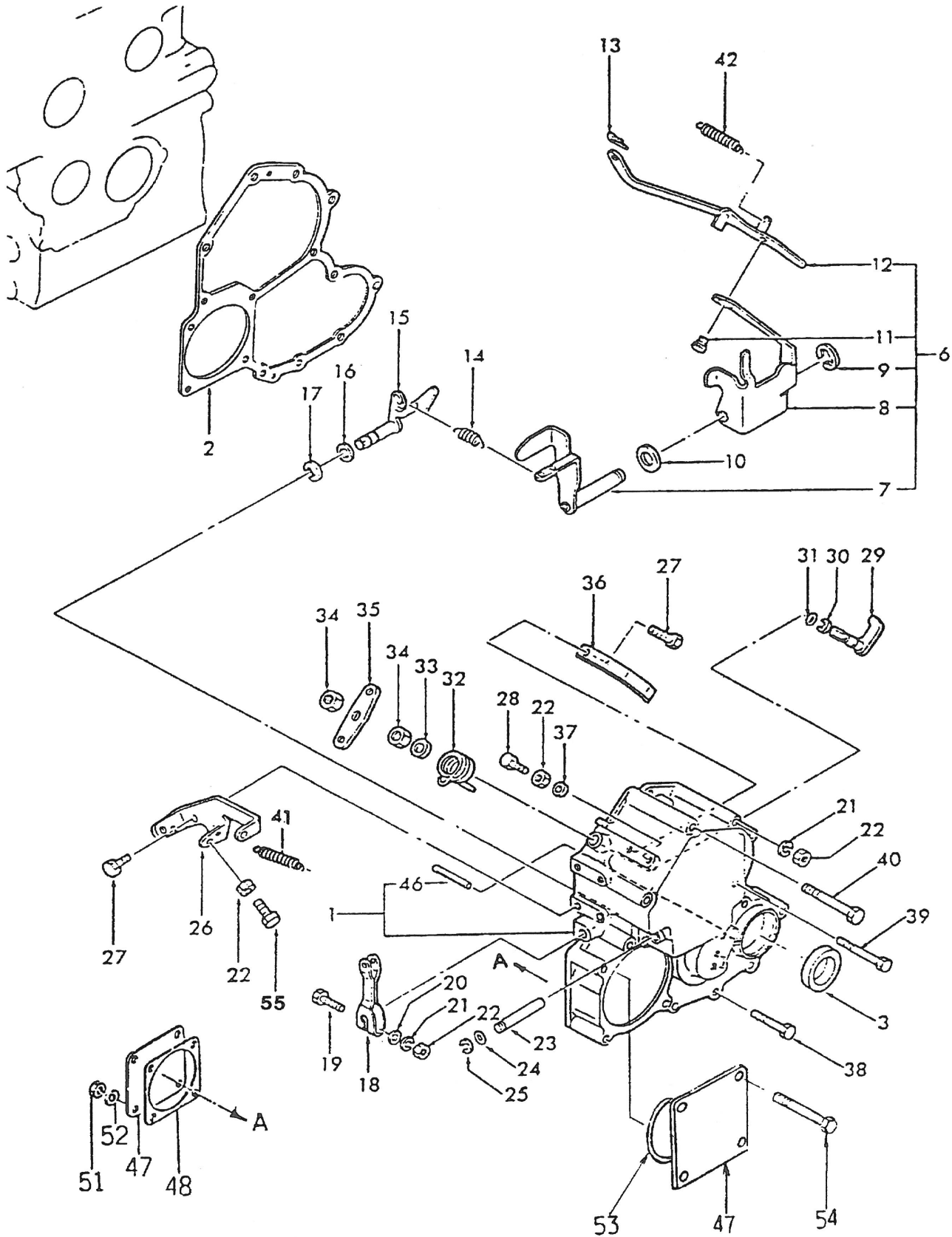
| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------------|
| 1 | 120026090 | 1 | Camshaft Assembly (includes Keys #3 - #6 & #19) | up to S/N xxxx-2616 |
| | 120026081 | 1 | Camshaft Assembly (includes Keys #3 - #6 & #19) | from S/N xxxx-2617 |
| | 120026010 | 1 | Camshaft Assembly (replaced***) | up to S/N xxxx-2616 |
| 2 | 120276181 | 1 | Gear | up to S/N xxxx-2616 |
| 3 | 034100508 | 1 | Key | - |
| 4 | 120736081 | 1 | Gear (formerly #120736080) | - |
| 5 | 199216230 | 3 | Spacer | - |
| 6 | 040156004 | 1 | Bearing (replaced by #040109059) | - |
| | 040109059 | 1 | Bearing | - |
| 7 | 030300432 | 1 | Pin | up to S/N xxxx-2616 |
| 8 | 030300414 | 1 | Pin | up to S/N xxxx-2616 |
| 9 | 125206160 | 1 | Flyweight Assembly | up to S/N xxxx-2616 |
| 10 | 036300020 | 1 | Snap Ring | - |
| 11 | 199286140 | 1 | Shim, t = 0.3 mm | up to S/N xxxx-2616 |
| | 199286210 | 1 | Shim, t = 0.3 mm | from S/N xxxx-2617 |
| 12 | 125256071 | 1 | Slider | up to S/N xxxx-2616 |
| | 125256111 | 1 | Slider Assembly (replaced**) | from S/N xxxx-2617 |
| 13 | 199236530 | 1 | Collar | - |
| 14 | 199566651 | 1 | Plate | - |
| 16 | 011310612 | 1 | Bolt | - |
| 17 | 010700610 | 1 | Bolt | - |
| 18 | 199286120 | * | Shim, t = 0.4 mm | - |
| | 199286130 | * | Shim, t = 0.2 mm | - |
| 19 | 120016021 | 1 | Cam Gear & Flyweight Assembly | from S/N xxxx-2617 |
| | 120016001 | 1 | Cam Gear & Flyweight Assembly (replaces #2, #7, #8 & #9) | up to S/N xxxx-2616 |
| 20 | 120026200 | 1 | Camshaft Assembly (replaced**) | from S/N xxxx-4116 |
| 21 | 125386030 | 1 | Sleeve | - |
| 22 | 036800004 | 1 | Snap Ring | - |
| 23 | 125086000 | 1 | Slider Assembly (replaced**) | from S/N xxxx-4116 |
| 24 | 125256130 | 1 | Slider | - |
| 25 | 199286210 | 1 | Shim | - |
| 26 | 125386040 | 1 | Sleeve | - |
| 27 | 125256120 | 1 | Slider Assembly | - |

*As Required.

**NOTE: Camshafts and sliders requiring replacement have been superceded by Camshaft #120026081 and Slider #125256120. These must be used together. Do not combine early- and late-style parts.

***NOTE: Camshafts and sliders requiring replacement have been superceded by Camshaft #120026090 and Slider #125256120. These must be used together. Do not combine early- and late-style parts.

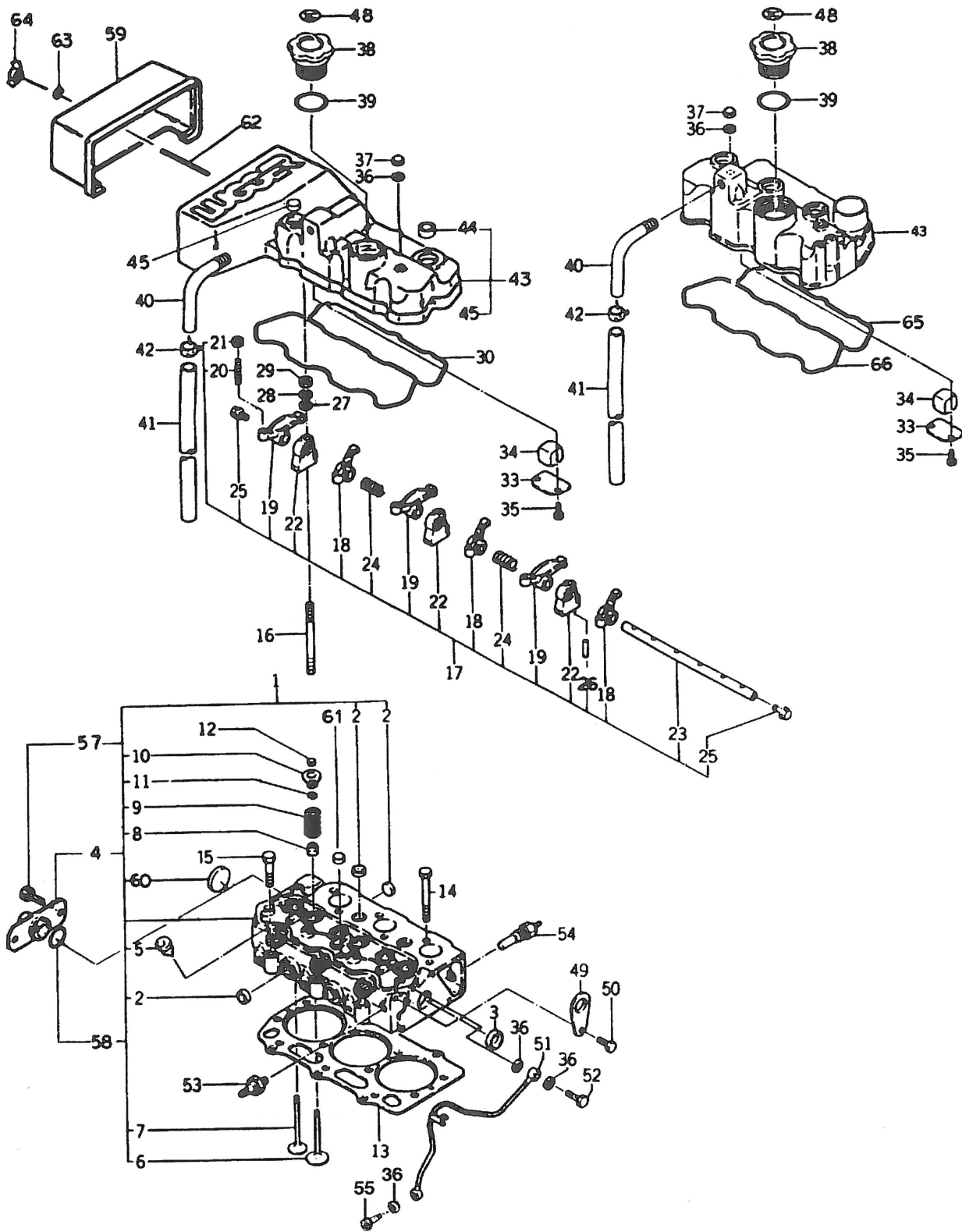
Timing Gear Case



Timing Gear Case

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 165106071 | 1 | Timing Gear Case (Blue - Indus., incl. Key #46) (formerly #165106070) | - |
| | 165106111 | 1 | Timing Gear Case (White - Marine, incl. Key #46) (formerly #165106110) | - |
| 2 | 165996310 | 1 | Gasket | - |
| 3 | 198636140 | 1 | Oil Seal Assembly (Oil Seal and Sleeve) | - |
| | 198636090 | 1 | Oil Seal (Sleeveless) | - |
| 6 | 125046080 | 1 | Lever Ass'y (replaced by #125046260, includes Keys #7 - #9, #11, #12) | - |
| | 125046260 | 1 | Lever Assembly (includes Keys #7 - #9, #11, #12) | - |
| 7 | 125406071 | 1 | Lever (formerly #125406050) | - |
| 8 | 125416081 | 1 | Lever | - |
| 9 | 036800008 | 1 | Snap Ring | - |
| 10 | 026200010 | 1 | Washer | - |
| 11 | 199616170 | 1 | Pin | - |
| 12 | 125366040 | 1 | Link | - |
| 13 | 031110004 | 1 | Pin | - |
| 14 | 198217350 | 1 | Spring | - |
| 15 | 125156170 | 1 | Arm | - |
| 16 | 052100070 | 1 | O-Ring | - |
| 17 | 036800008 | 1 | Snap Ring | - |
| 18 | 125416020 | 1 | Lever | - |
| 19 | 010100630 | 1 | Bolt | - |
| 20 | 026100006 | 1 | Washer | - |
| 21 | 027100006 | 2 | Spring Washer | - |
| 22 | 020100006 | 4 | Nut | - |
| 23 | 125116130 | 1 | Shaft | - |
| 24 | 052100030 | 1 | O-Ring | - |
| 25 | 036800005 | 1 | Snap Ring | - |
| 26 | 125976120 | 1 | Bracket | - |
| 27 | 011140614 | 2 | Bolt | - |
| 28 | 010109264 | 1 | Bolt | - |
| 29 | 125156180 | 1 | Arm Assembly | - |
| 30 | 036800006 | 1 | Snap Ring | - |
| 31 | 052100050 | 1 | O-Ring | - |
| 32 | 198216760 | 1 | Spring | - |
| 33 | 026100008 | 1 | Washer | - |
| 34 | 020700008 | 2 | Nut | - |
| 35 | 125176080 | 1 | Lever (formerly #125176071) | - |
| 36 | 198216750 | 1 | Spring (no longer required) | - |
| 37 | 025100006 | 1 | Sealing Washer | - |
| 38 | 011300640 | 5 | Bolt | - |
| 39 | 011300660 | 4 | Bolt | - |
| 40 | 011300680 | 2 | Bolt | - |
| 41 | 398210070 | 1 | Spring | - |
| 42 | 198216731 | 1 | Spring | - |
| 46 | 030300414 | 1 | Pin | - |
| 47 | 165206150 | 2 | Cover (Blue - Industrial) | - |
| | 165206320 | 1 | Cover (White - Marine) | - |
| 48 | 11-12005 | 1 | Gasket | - |
| 51 | 020100008 | 4 | Nut | - |
| 52 | 027100008 | 4 | Spring Washer | - |
| 53 | 052300700 | 1 | O-Ring | - |
| 54 | 010100865 | 4 | Bolt | - |
| 55 | 012800640 | 1 | Setting Bolt | - |

Cylinder Head



Cylinder Head

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------------|
| 1 | 111016691 | 1 | Cylinder Head Assembly, Blue (replaced by #111016622) | - |
| | 111017070 | 1 | Cylinder Head Assembly, White (Marine) | - |
| | 111016622 | 1 | Cylinder Head Complete, Blue (Industrial) (moves temperature switch #54 to top port of freshwater pump) | - |
| 2 | 064200018 | 6 | Plug | - |
| 3 | 064200025 | 1 | Plug | - |
| 4 | 185706320 | 1 | Holder | up to S/N xxxx-xxxx |
| 5 | 111316201 | 3 | Seat | - |
| 6 | 120166240 | 3 | Intake Valve | - |
| 7 | 120176250 | 3 | Exhaust Valve | - |
| 8 | 120406050 | 3 | Valve Guide Seal - Intake | - |
| | 120406070 | 3 | Valve Guide Seal - Exhaust | - |
| 9 | 198216700 | 6 | Spring | - |
| 10 | 120186080 | 6 | Retainer | - |
| 11 | 120226070 | 12 | Retainer | - |
| 12 | 120216040 | 6 | Cap (Not for use with Rocker Arms having Swivel Tips)* | up to S/N xxxx-7827 |
| 13 | 111146882 | 1 | Head Gasket t = 1.1 mm | - |
| | 111146892 | 1 | Head Gasket t = 1.2 mm | - |
| | 111146901 | 1 | Head Gasket t = 1.3 mm | - |
| 14 | 111136230 | 11 | Head Bolt (13 mm Hex) | - |
| | 111136440 | 11 | Head Bolt (12 mm Hex) (Formerly #111136230) | - |
| 15 | 111136240 | 3 | Head Bolt (13 mm Hex) | - |
| | 111136450 | 3 | Head Bolt (12 mm Hex) (Formerly #111136240) | - |
| 16 | 012109177 | 3 | Stud | - |
| 17 | 120036690 | 1 | Rocker Shaft Assembly - Aluminum (replaces #120036202 & #120036360. Requires Valve Cap #12) | - |
| | 120036202 | 1 | Rocker Shaft Assembly - Steel (includes Keys #18 - #26) | up to S/N xxxx-7827 |
| | 120036360 | 1 | Rocker Shaft Assembly - Aluminum (includes Keys #18 - #26 & #31) | from S/N xxxx-7828 |
| 18 | 120356200 | 3 | Intake Rocker Arm - Aluminum* | - |
| | 120366152 | 3 | Intake Rocker Arm - Steel* | up to S/N xxxx-7827 |
| | 120356110 | 3 | Intake Rocker Arm - Aluminum with Swivel Tip* | from S/N xxxx-7828 |
| 19 | 120356210 | 3 | Exhaust Rocker Arm - Aluminum* | - |
| | 120366162 | 3 | Exhaust Rocker Arm - Steel* | up to S/N xxxx-7827 |
| | 120356120 | 3 | Exhaust Rocker Arm - Aluminum with Swivel Tip* | from S/N xxxx-7828 |
| 20 | 199486220 | 6 | Screw | - |
| 21 | 020109076 | 6 | Nut | - |
| 22 | 120346170 | 3 | Bracket | - |
| 23 | 120316120 | 1 | Shaft | - |
| 24 | 198216780 | 2 | Spring | - |
| 25 | 064609006 | 2 | Plug | - |
| 26 | 030300325 | 1 | Pin | - |
| 27 | 026100008 | 3 | Washer | - |
| 28 | 027100008 | 3 | Spring Washer | - |
| 29 | 020500008 | 3 | Nut | - |
| 30 | 111996290 | 1 | Gasket (Marine) | - |
| 31 | 199280280 | 4 | Shim (not shown, use with Aluminum Rocker Arms) | from S/N xxxx-7828 |
| 33 | 110666050 | 1 | Cover | - |
| 34 | 110666090 | 1 | Filter (formerly #110666060) | - |
| 35 | 011150612 | 2 | Bolt | - |
| 36 | 140996260 | 7 | Sealing Washer (formerly #198996060) | - |
| 37 | 024500008 | 3 | Nut | - |

(Continued Next Page)

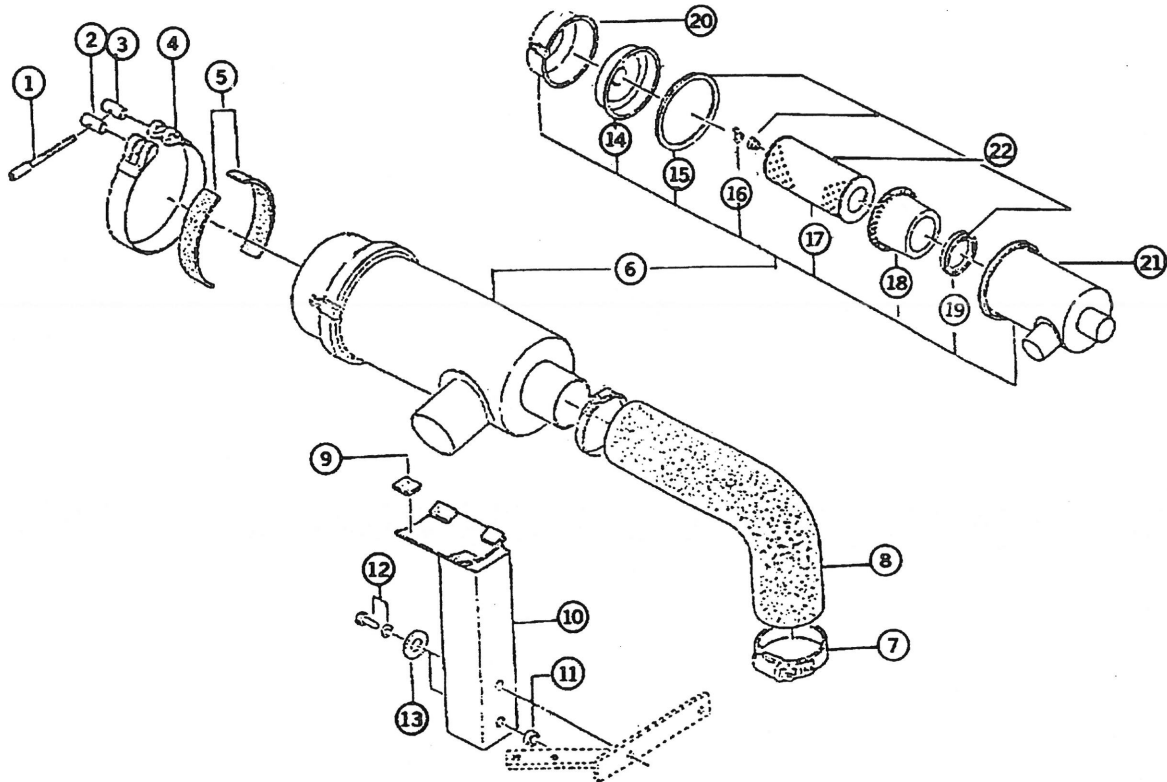
GROUP 1 – ENGINE

Cylinder Head

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------------|
| 38 | 198436010 | 1 | Cap | - |
| 39 | 052100400 | 1 | O-Ring | - |
| 40 | 110986500 | 1 | Pipe | - |
| 41 | 068122560 | 1 | Tube | - |
| 42 | 198346090 | 1 | Clip | - |
| 43 | 111206210 | 1 | Rocker Arm Cover/Intake Manifold (Early Industrial) | up to S/N xxxx-4342 |
| | 111026131 | 1 | Rocker Arm Cover (Industrial) | from S/N xxxx-4343 |
| | 111206250 | 1 | Rocker Arm Cover/Intake Manifold (Marine) | - |
| 44 | 064200030 | 1 | Plug (Marine Only) | - |
| 45 | 064200020 | 1 | Plug (Marine Only) | - |
| 48 | 190196630 | 1 | Caution Plate | - |
| 49 | 195816030 | 2 | Hanger (Blue) | - |
| | 195816340 | 2 | Hanger (White) | - |
| 50 | 011310816 | 2 | Bolt | - |
| 51 | 140606670 | 1 | Tube Assembly (formerly #140606670) | - |
| 52 | 198486780 | 1 | Bolt | - |
| 53 | 185246011 | 1 | Oil Pressure Switch | - |
| 54 | 385720030 | 1 | Temperature Switch 110°C (Industrial) | - |
| | 385720110 | 1 | Temperature Switch 95°C (Marine) | - |
| 55 | 198487590 | 1 | Banjo Bolt with 1/8 NPT Female Thread | - |
| 56 | 064500010 | 1 | Plug | - |
| 57 | 011300814 | 2 | Bolt | up to S/N xxxx-xxxx |
| 58 | 052300300 | 1 | O-Ring | - |
| 59 | 165366090 | 1 | Cover (Blue - Early Industrial) | up to S/N xxxx-4342 |
| | 165366110 | 1 | Cover (White - Marine) | - |
| 60 | 064200030 | 2 | Plug | - |
| 61 | 064200015 | 2 | Plug | - |
| 62 | 012109206 | 1 | Stud M6 x 1.0 x 160mm | - |
| 63 | 026100006 | 1 | Washer M6 Flat | - |
| 64 | 024109002 | 1 | Wing Nut M6 x 1.0 Nylock | - |
| 65 | 111996271 | 1 | Gasket - Industrial | - |
| 66 | 052109061 | 1 | O-Ring - Industrial | - |

*Note: Aluminum Rocker Arms without Swivel Tips are direct replacements for early steel pieces and for aluminum arms with swivel tips. Valve Cap #12 is required. Shim #31 is required when replacing Steel Rocker Arms.

Intake Air Filter: Industrial Application

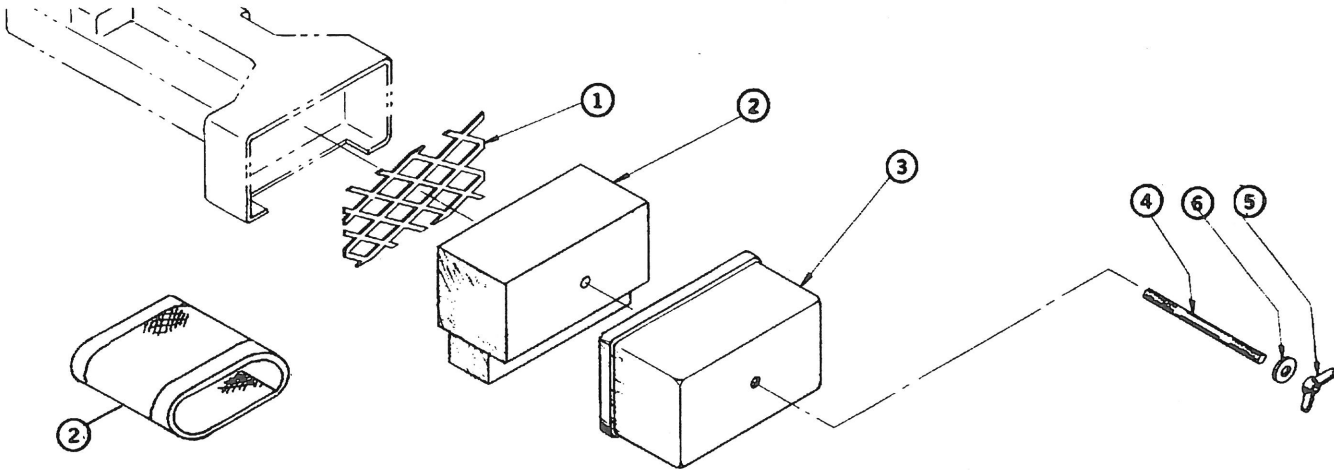


| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 399480070 | 1 | Screw | - |
| 2 | 399610100 | 1 | Pin | - |
| 3 | 399610110 | 1 | Pin | - |
| 4 | 314630030 | 1 | Hose Clamp | - |
| 5 | 398113190 | 2 | Rubber | - |
| 6 | 314500361 | 1 | Air Cleaner Assembly (includes Keys #14 - #19) (formerly #314500360) | - |
| 7 | 198756130 | 2 | Hose Clamp | - |
| 8 | 135597240 | 1 | Hose (Units with Muffler Assembly) | - |
| | 135596940 | 1 | Hose (Units without Muffler Assembly) | - |
| 9 | 398113270 | 4 | Rubber | - |
| 10 | 135976470 | 1 | Holder (Units with Muffler Assembly) | - |
| | 135976270 | 1 | Holder (Units without Muffler Assembly) | - |
| 11 | 199236730 | 1 | Collar | - |
| 12 | 011310825 | 2 | Bolt | - |
| 13 | 026109066 | 2 | Washer | - |
| 14 | 314531051 | 1 | End Cover | - |
| 15 | 314531052 | 1 | Gasket | - |
| 16 | 024100008 | 1 | Wing Nut | - |
| 17 | 314531124 | 1 | Element Assembly | - |
| 18 | 314531055 | 1 | Cyclone | - |
| 19 | 314531056 | 1 | Gasket | - |
| 20 | 314531067 | 1 | Case Sub-assembly | - |
| 21 | 314531053 | 1 | Case | - |
| 22 | 314531123 | 1 | Element Kit (includes Keys #15, #17, #18, & #19) | - |

GROUP 2 – INTAKE AND EXHAUST

Intake and Air Filter

Marine Application

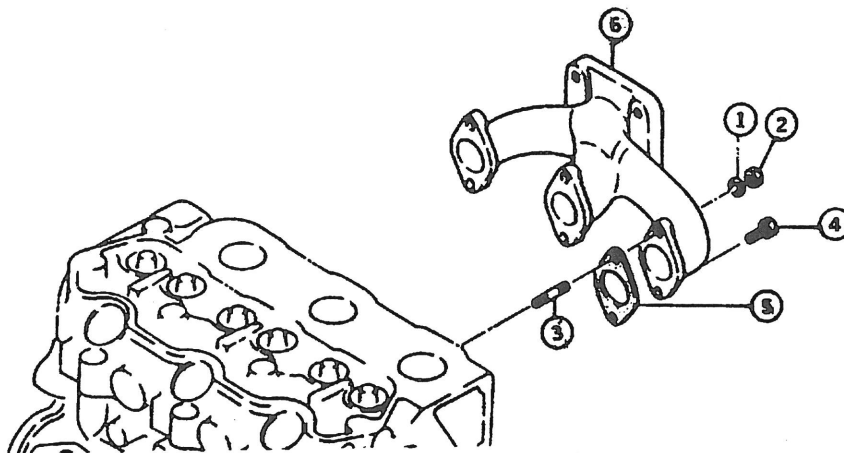


A-1461/B-2297B

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| ∞ | 24-22005 | 1 | Air Filter Assembly (includes Keys #1 - #2) | - |
| 1 | 24-22002 | 1 | Screen (L-M Marine Application) | - |
| 2 | 24-22003 | 1 | Air Filter Element (Foam Type) | - |
| | 24-22001 | 1 | Air Filter Element (Paper Type - Alternate) | - |
| 3 | 165366110 | 1 | Intake Cover | - |
| 4 | 13-22055 | 1 | Stud 1/4 - 20 x 7" | - |
| 5 | 14-22000 | 1 | Wing Nut, Nylock 1/4 - 20 | - |
| 6 | 15-00111 | 1 | Flat Washer 1/4" USS | - |

Exhaust Manifold

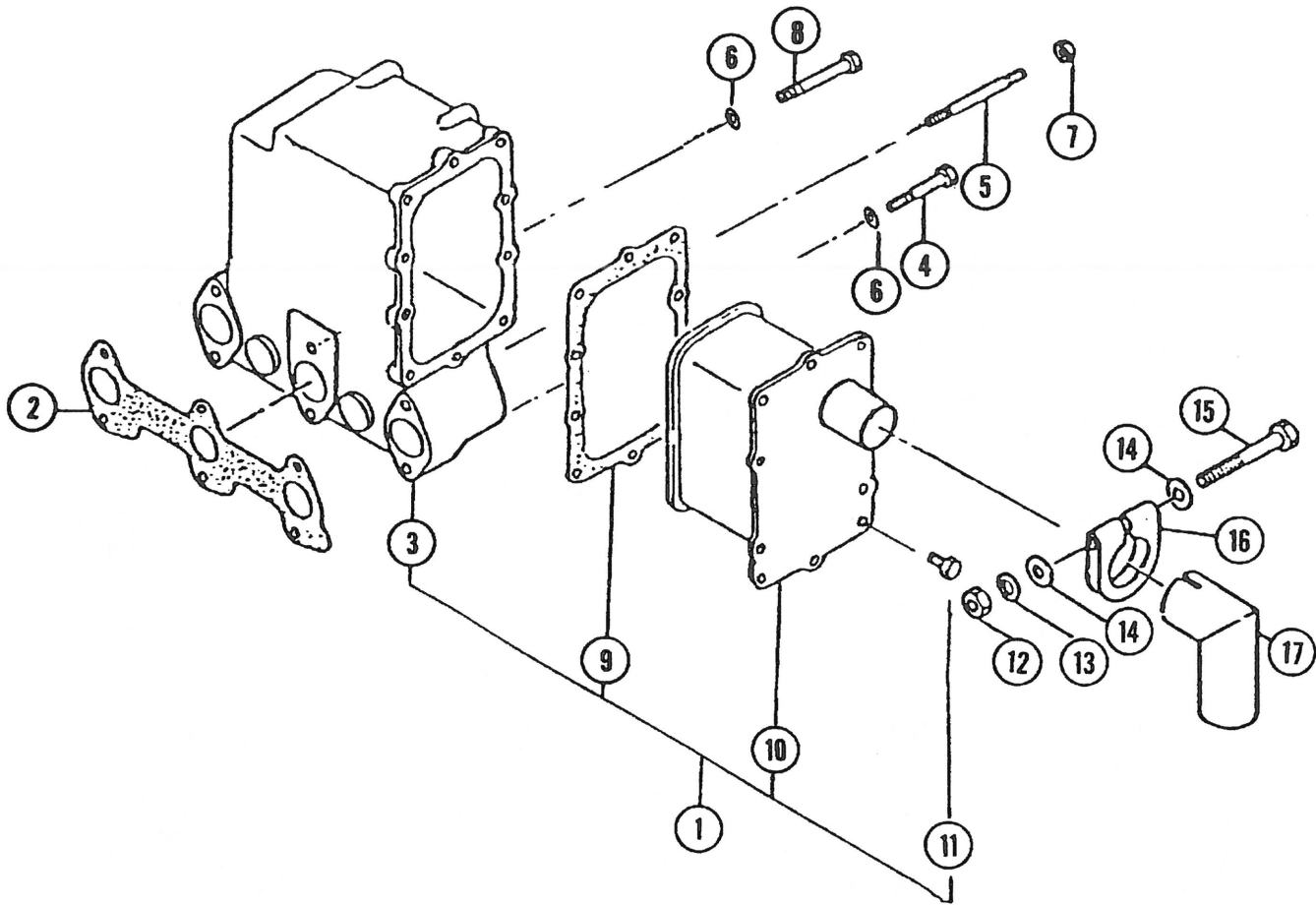
Industrial Application



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| 1 | 027100006 | 3 | Lock Washer | - |
| 2 | 020100006 | 3 | Nut | - |
| 3 | 012110625 | 3 | Stud | - |
| 4 | 011310625 | 3 | Bolt | - |
| 5 | 135996400 | 3 | Gasket (can use #135996540) | - |
| | 135996540 | 1 | Gasket, Asbestos (replaced by #135996541) | - |
| | 135996541 | 1 | Gasket, Stainless Steel | - |
| 6 | 135616311 | 1 | Exhaust Manifold | - |

Muffler Assembly

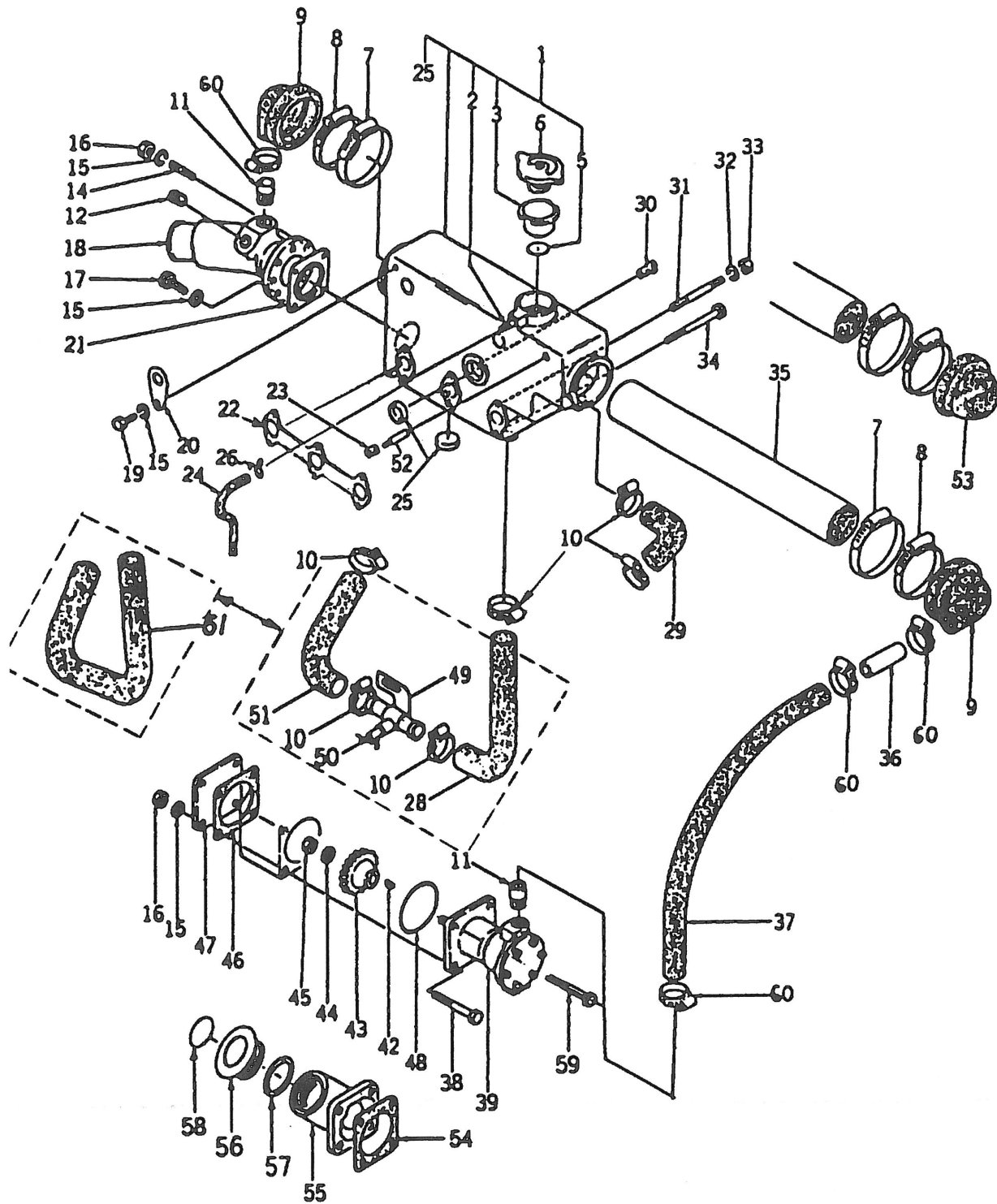
Industrial Application



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 135046211 | 1 | Muffler Assembly (includes Keys #3, #9, #10 & #11) (formerly #135046210) | - |
| 2 | 135996541 | 1 | Exhaust Gasket, Stainless Steel | - |
| 3 | 135616831 | 1 | Exhaust Manifold (formerly #135616830) | - |
| 4 | 010109381 | 3 | Bolt | - |
| 5 | 012109215 | 2 | Stud M6 x 1.0 x 70 mm (78 mm LOA) | - |
| 6 | 027100006 | 4 | Spring Washer | - |
| 7 | 023100006 | 2 | Nut | - |
| 8 | 12-01125 | 1 | Capscrew, Hex Head M6 x 1.0 x 65 mm | - |
| 9 | 135996530 | 1 | Gasket | - |
| 10 | 135406170 | 1 | Muffler Element | - |
| 11 | 011300612 | 10 | Bolt | - |
| 12 | 020100008 | 1 | Nut | - |
| 13 | 027100008 | 1 | Spring Washer | - |
| 14 | 026100008 | 2 | Washer | - |
| 15 | 010110860 | 1 | Bolt | - |
| 16 | 408330011 | 1 | Clamp (formerly #408330011) | - |
| 17 | 135606150 | 1 | Exhaust Elbow | - |
| | 27-38200 | 1 | Exhaust Elbow 1-1/4 NPT | - |

Exhaust Manifold & Heat Exchanger with Raw Water Pump

Marine Application

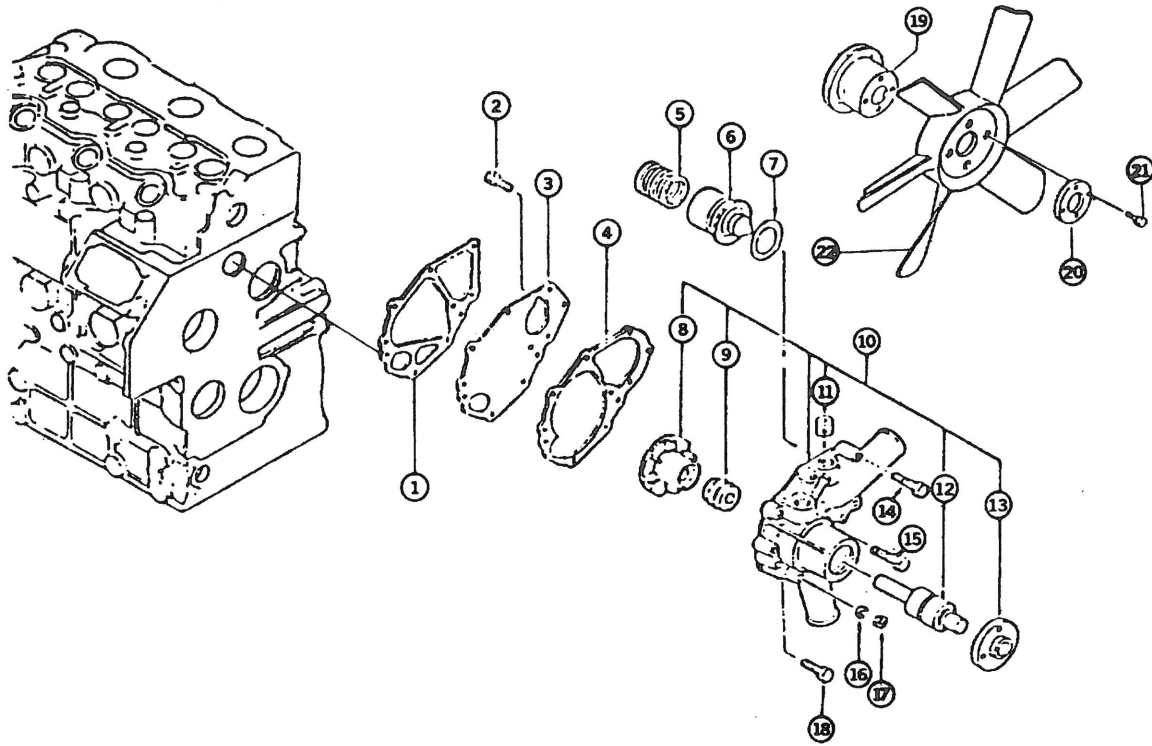


Exhaust Manifold & Heat Exchanger with Raw Water Pump

Marine Application

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------------|
| 1 | 135606130 | 1 | Exhaust Manifold/Expansion Tank | - |
| 2 | 198480100 | 1 | Connector | - |
| 3 | 145546220 | 1 | Filter Neck | - |
| 5 | 052400300 | 1 | O-Ring (formerly #398610110) | - |
| 6 | 21-12009 | 1 | Filler Cap (formerly #310110060) | - |
| 7 | 19-00048 | 2 | Hose Clamp #48 | - |
| 8 | 19-00040 | 2 | Hose Clamp #40 | - |
| 9 | 145536370 | 2 | Joint | - |
| 10 | 198756150 | 6 | Hose Clamp | - |
| 11 | 145986150 | 1 | Connector | - |
| 12 | 198436140 | 1 | Plug | - |
| 14 | 012100825 | 2 | Stud Bolt | - |
| 15 | 027100008 | 9 | Spring Washer | - |
| 16 | 020100008 | 6 | Nut | - |
| 17 | 011300825 | 2 | Bolt | - |
| 18 | 135616234 | 1 | Wet Exhaust Elbow (formerly #135616232) (cast iron) | - |
| | 27-32003 | 1 | Wet Exhaust Elbow (bronze) | - |
| 19 | 011310816 | 1 | Bolt | - |
| 20 | 195816340 | 1 | Hanger (White - Marine) | - |
| 21 | 314990030 | 1 | Gasket (can use #11-31902) | - |
| 22 | 135996390 | 1 | Gasket, Asbestos (replaced by #135996540) | - |
| | 135996540 | 1 | Gasket, Asbestos (replaced by #135996541) | - |
| | 135996541 | 1 | Gasket, Stainless Steel | - |
| 23 | 198436200 | 1 | Plug | - |
| 24 | 068115500 | 1 | Tube | - |
| 25 | 064200030 | 2 | Plug | - |
| 26 | 198343130 | 1 | Clip | - |
| 28 | 145536400 | 1 | Hose | - |
| 29 | 145536340 | 1 | Hose | - |
| 30 | 198436170 | 1 | Plug | - |
| 31 | 012110690 | 3 | Stud Bolt | - |
| 32 | 027100006 | 3 | Spring Washer | - |
| 33 | 020100006 | 3 | Nut | - |
| 34 | 010110690 | 3 | Bolt | - |
| 35 | 20-12002 | 1 | Heat Exchanger (formerly #145506212 or #145506300) | - |
| 36 | 145986160 | 1 | Pipe | - |
| 37 | 145536361 | 1 | Hose | - |
| 38 | 010100870 | 3 | Bolt | - |
| 39 | 145016310 | 1 | Raw Water Pump (replaced by #25-12057) | - |
| | 145016800 | 1 | Raw Water Pump (replaced by #25-12057) | up to S/N xxxx-5823 |
| | 25-12057 | 1 | Raw Water Pump (see parts detail) | from S/N xxxx-5824 |
| 42 | | | Key (no longer required) | - |
| 43 | 340460141 | 1 | Gear | - |
| 44 | 027100010 | 1 | Washer | - |
| 45 | 020100010 | 1 | Nut | - |
| 46 | 11-12005 | 1 | Gasket (can use #165996110) | - |
| 47 | 165206150 | 2 | Cover (Industrial) | - |
| 48 | 052300700 | 1 | O-Ring | - |
| 49 | 198486912 | 1 | Connector | - |
| 50 | 198736050 | 1 | Drain Cock | - |
| 51 | 145536411 | 1 | Hose | - |
| 52 | 199616190 | 1 | Zinc | - |
| 53 | 145536390 | 1 | Joint | - |
| 54 | 11-12005 | 1 | Gasket (can use #165996110) | - |
| 55 | 110766200 | 1 | Holder | - |
| 56 | 198436010 | 1 | Cap | - |
| 57 | 052100400 | 1 | O-Ring (formerly #052300300) | - |
| 58 | 190196630 | 1 | Caution Label | - |
| 59 | 010100865 | 1 | Bolt | - |
| 60 | 198756230 | 4 | Hose Clamp | - |
| 61 | 145536350 | 1 | Hose | - |

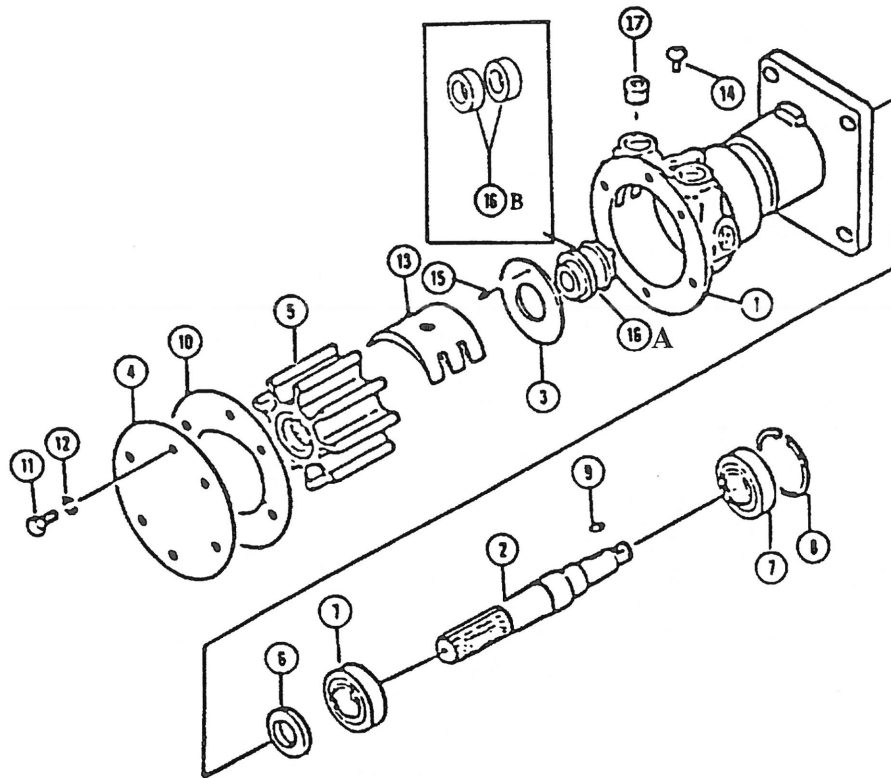
Coolant Pump



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| 1 | 145996270 | 1 | Gasket | - |
| 2 | 011140616 | 1 | Bolt | - |
| 3 | 145146480 | 1 | Backing Plate (formerly #145146100 & #145146240) | - |
| 4 | 145996280 | 1 | Gasket | - |
| 5 | 198217400 | 1 | Spring | - |
| 6 | 145206021 | 1 | Thermostat 71°C (formerly #145206020) | - |
| | 145206022 | 1 | Thermostat 82°C (can use #145206021) | - |
| 7 | 145996590 | 1 | Gasket (formerly #145996400) | - |
| 8 | 145116100 | 1 | Impeller | - |
| 9 | 145126010 | 1 | Seal | - |
| 10 | 145017300 | 1 | Coolant Pump Assembly (Blue - Industrial, includes Keys # 8, #9, #11 - #13. Formerly #145016430 & #145016431) | - |
| | 145017320 | 1 | Coolant Pump Assembly (White - Marine, includes Keys #8, #9, #11 - #13. Formerly #145016690 & #145016691) | - |
| 11 | 064500030 | 2 | Plug | - |
| 12 | 198566010 | 1 | Shaft | - |
| 13 | 145386230 | 1 | Hub (formerly #145386240) | - |
| 14 | 011300660 | 1 | Bolt | - |
| 15 | 011300630 | 2 | Bolt | - |
| 16 | 027100006 | 1 | Spring Washer | - |
| 17 | 020100006 | 1 | Nut | - |
| 18 | 011300635 | 4 | Bolt | - |
| 19 | 145336490 | 1 | Pulley, Circulating Pump Drive | - |
| 20 | 145386390 | 1 | Plate, Circulating Pump Drive Pulley (Marine only) | - |
| 21 | 011310614 | 4 | Bolt | - |
| 22 | 145306460 | 1 | Fan (Suction) | - |
| | 145306380 | 1 | Fan (Blower) | - |
| 23 | 011300650 | 2 | Bolt (not shown - See Alternator & Mounting Detail) | - |

Raw Water Pump Assembly

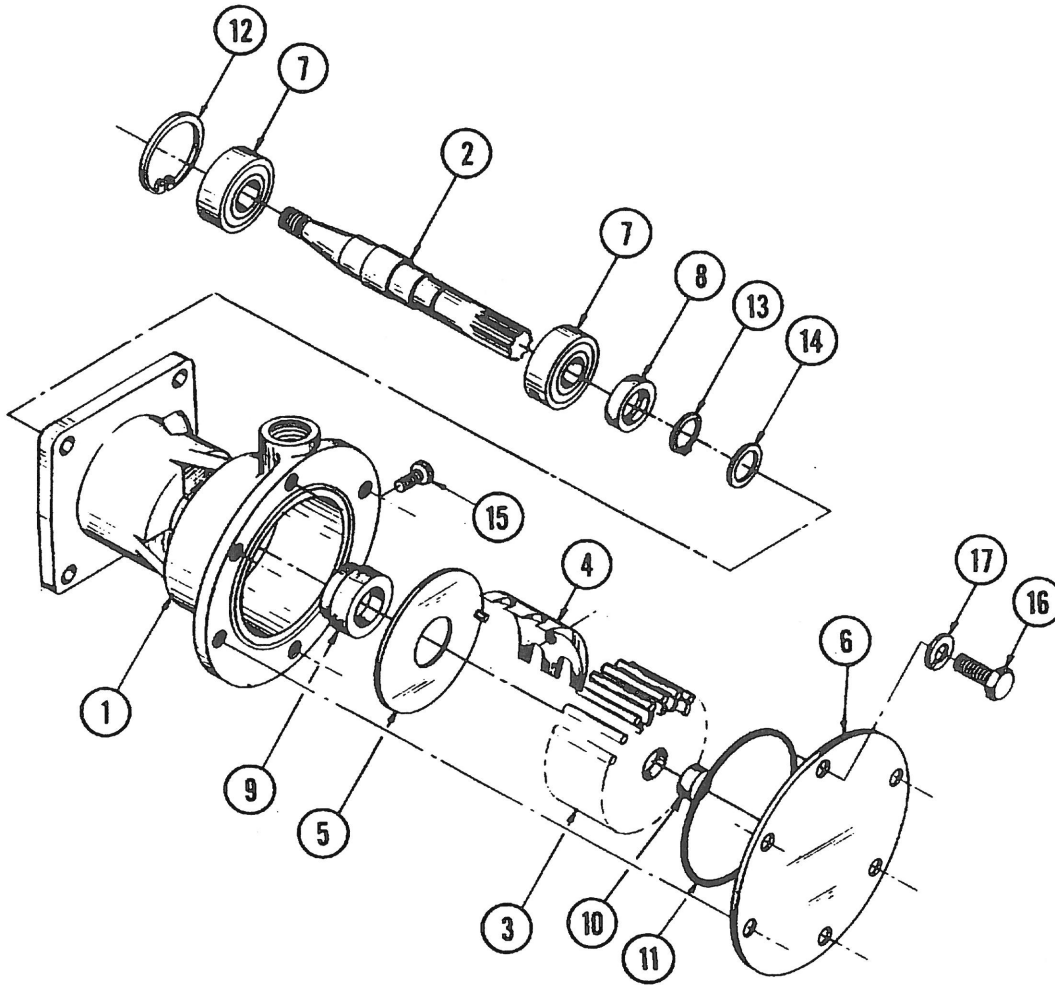
Marine Application - Early Production (Lip & Ceramic Seal Styles)



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| •• | 145016310 | 1 | Raw Water Pump Assembly, Lip Seal (replaced by 25-12057) | - |
| • | 25-12001 | 1 | Repair Kit for 145016310 Pump (includes Keys 2, 3, 5, 7-10, 13-14, 16B) | - |
| •• | 145016800 | 1 | Raw Water Pump Assembly, Ceramic Seal (replaced by 25-12057) | - |
| • | 25-12003 | 1 | Repair Kit for 145016800 Pump (includes Keys 3-7, 10, 13, 16A) | - |
| 1 | 145136250 | 1 | Housing for 14506800, Ceramic Seal Pump | - |
| | 145136220 | 1 | Housing for 145016310, Lip Seal Pump | - |
| 2 | 145626040 | 1 | Shaft for 145016800, Ceramic Seal Pump | - |
| | 145626030 | 1 | Shaft for 1450165310, Lip Seal Pump | - |
| 3 | 145146190 | 1 | Wear Plate | - |
| 4 | 165206250 | 1 | Cover | - |
| 5 | 25-12060 | 1 | Impeller | - |
| 6 | 198636190 | 1 | Oil Seal for 145016800, Ceramic Seal Pump | - |
| 7 | 25-12050 | 2 | Bearing | - |
| 8 | 036109004 | 1 | Snap Ring | - |
| 9 | 034309035 | 1 | Key | - |
| 10 | 25-12046 | 1 | Gasket | - |
| 11 | 199436310 | 6 | Bolt | - |
| 12 | 199346100 | 6 | Lock Washer | - |
| 13 | 120296020 | 1 | Cam | - |
| 14 | 199486250 | 1 | Screw | - |
| 15 | 199616180 | 1 | Pin | - |
| 16A | 145126020 | 1 | Ceramic Seal for Raw Water Pump | - |
| 16B | 25-12049 | 2 | Lip Seal for Raw Water Pump | - |
| 17 | 198436210 | 2 | Plug | - |

Raw Water Pump Assembly

Marine Application - Current Production

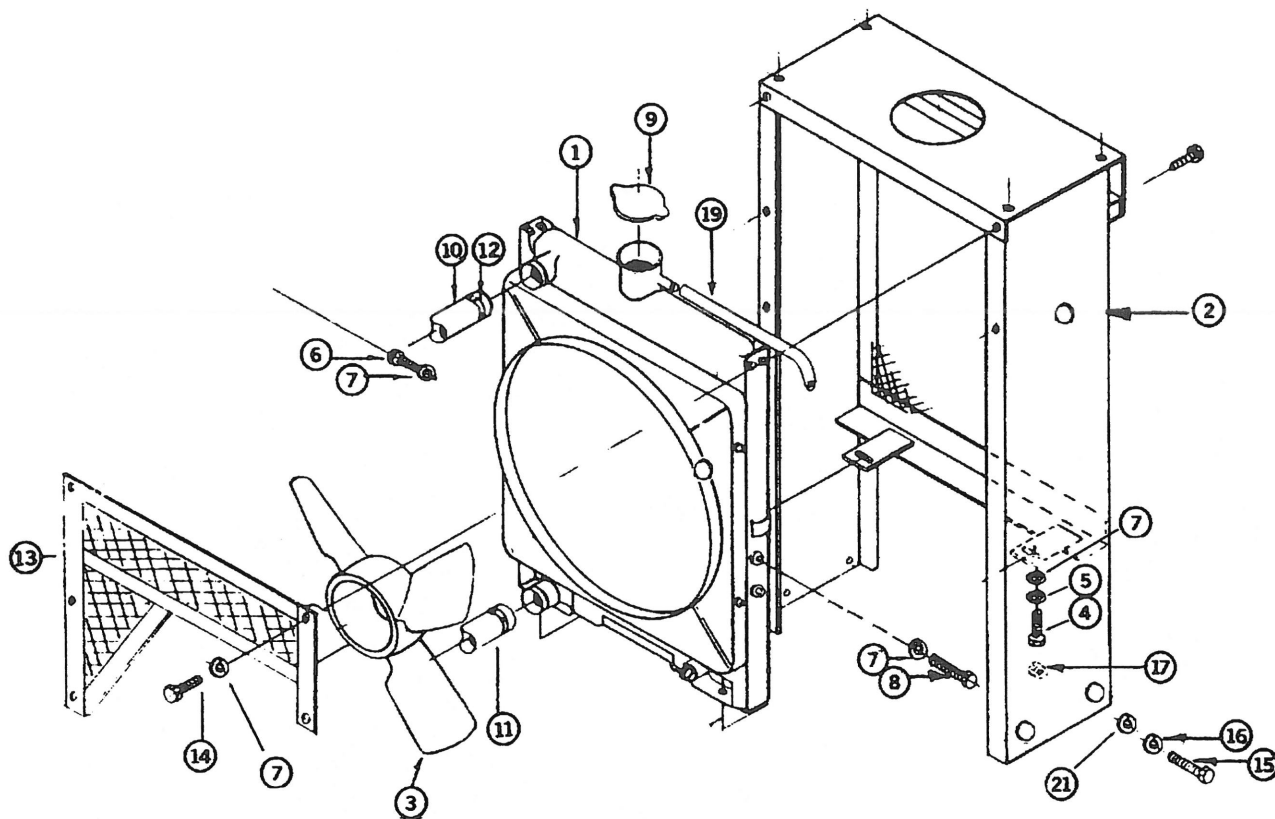


A-3706/C-2204

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|--------------------|
| ∞ | 25-12057 | 1 | Raw Water Pump Assembly (includes Keys #1 - #17) | from S/N xxxx-5824 |
| • | 25-12004 | 1 | Repair Kit (includes Keys #3, #5, #6, #7, #8, #9, #11) | - |
| 1 | 25-12058 | 1 | Housing | - |
| 2 | 25-12059 | 1 | Shaft | - |
| 3 | 25-12060 | 1 | Impeller | - |
| 4 | 25-12061 | 1 | Cam | - |
| 5 | 25-12062 | 1 | Wear Plate | - |
| 6 | 25-12063 | 1 | End Cover | - |
| 7 | 25-12064 | 2 | Bearing | - |
| 8 | 25-12065 | 1 | Lip Seal | - |
| 9 | 25-12066 | 1 | Mechanical Seal | - |
| 10 | 25-12017 | 1 | Spline Seal | - |
| 11 | 25-12067 | 1 | O-Ring | - |
| 12 | 25-12068 | 1 | Retaining Ring | - |
| 13 | 25-12069 | 1 | Retaining Ring | - |
| 14 | 25-12070 | 1 | Washer | - |
| 15 | 25-12071 | 1 | Machine Screw, Pan Head #10-32 x 3/8 S/S | - |
| 16 | 25-12072 | 1 | Machine Screw, Hex Head #10-32 x 3/8 S/S | - |
| 17 | 25-12073 | 1 | Lock Washer #10 S/S | - |

Radiator and Guard

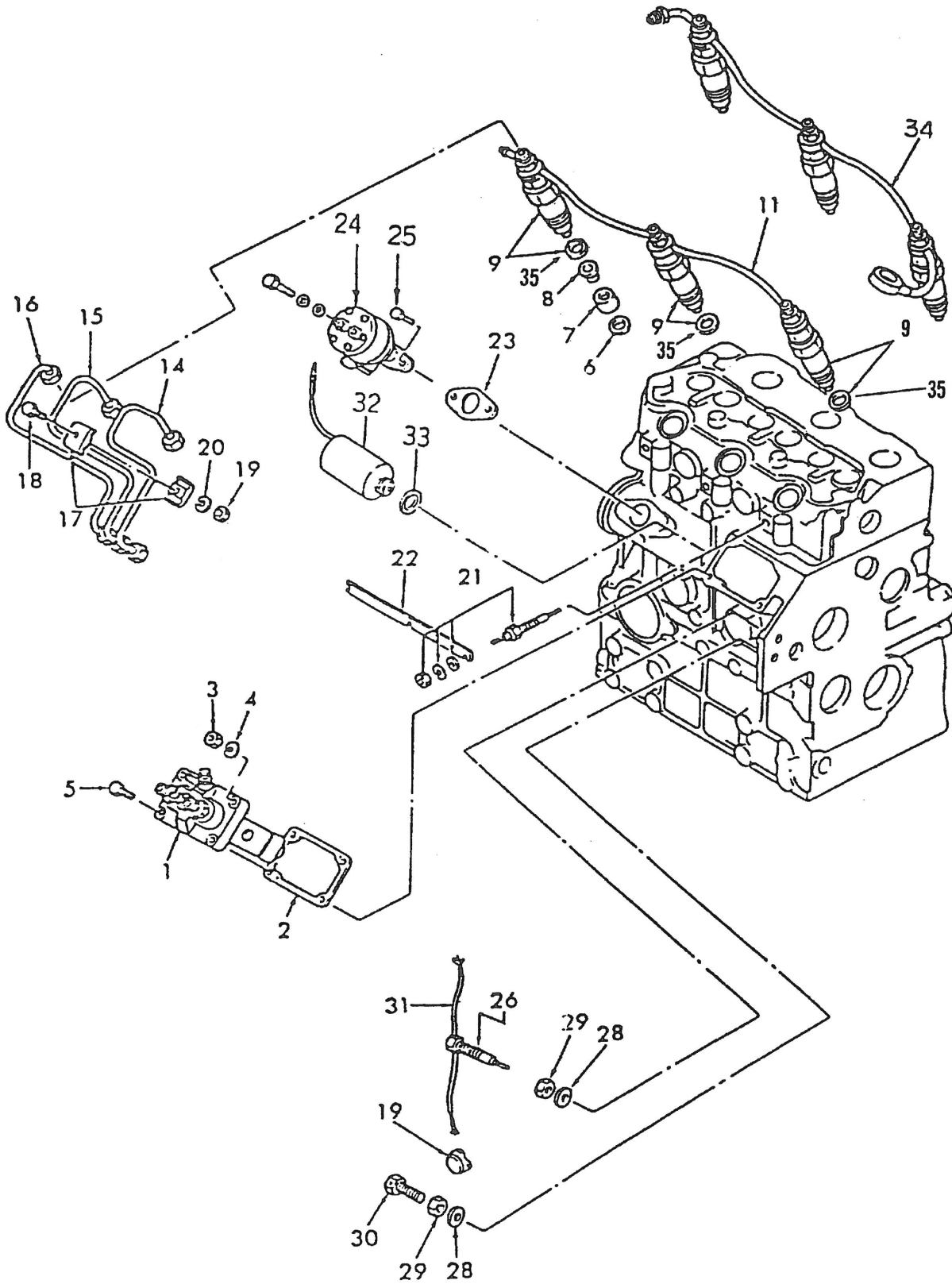
Industrial Application



A6202

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 145506530 | 1 | Radiator (Used with Blower Fan) | - |
| | 310100290 | 1 | Radiator (Used with Suction Fan - includes Key #20) | - |
| 2 | 39-18201 | 1 | Radiator Guard | - |
| 3 | 145306460 | 1 | Fan 13" (Buction) | - |
| | 145306380 | 1 | Fan 13" (Blower) | - |
| 4 | 12-00711 | 2 | Capscrew M8 x 1.25 x 20 mm | - |
| 5 | 15-00702 | 8 | Lock Washer M8 | - |
| 6 | 12-00714 | 1 | Capscrew, Hex Head M8 x 1.25 x 40 mm | - |
| 7 | 15-00701 | 8 | Flat Washer M8 | - |
| 8 | 12-00753 | 1 | Capscrew, Hex Head M8 x 1.25 x 30mm | - |
| 9 | 145546060 | 1 | Filler Cap | - |
| 10 | 145536300 | 1 | Hose, Radiator Inlet | - |
| 11 | 145536310 | 1 | Hose, Radiator Outlet | - |
| 12 | 19-00020 | 4 | Hose Clamp #20 | - |
| 13 | 39-18202 | 1 | Fan Guard - Early Production (Replaced by #39-18203) | - |
| | 39-18203 | 1 | Fan Guard - Late Production | - |
| 14 | 12-00713 | 4 | Capscrew, Hex Head M8 x 1.25 x 35 mm | - |
| 15 | 12-00819 | 4 | Capscrew, Hex Head M10 x 1.5 x 75 mm | - |
| 16 | 15-00802 | 4 | Lock Washer M10 | - |
| 17 | 14-00811 | 4 | Nut M10 x 1.5 | - |
| 18 | 310130030 | 1 | Draincock | - |
| 19 | 310120100 | 1 | Overflow Hose | - |
| 20 | 310140130 | 1 | Screen (not shown) | - |
| 21 | 15-00805 | 8 | Flat Washer M10 | - |

Injection Pump and Lines



Injection Pump and Lines

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------------|
| 1 | 131017061 | 1 | Injection Pump Assembly - see detail | up to S/N xxxx-8552 |
| | 131017290 | 1 | Injection Pump Assembly - see detail | from S/N xxxx-8553 |
| | 131017640 | 1 | Injection Pump | - |
| 2 | 131426300 | 1 | Shim Kit | - |
| | 131437150 | * | Shim, t=0.3mm | up to S/N xxxx-8552 |
| | 131437160 | * | Shim, t= 0.2mm | up to S/N xxxx-8552 |
| | 131437310 | * | Shim, t=0.3mm | from S/Nxxxx-8553 |
| | 131437320 | * | Shim, t= 0.3mm | from S/N xxxx-8553 |
| | 131437330 | * | Shim, t= 0.4mm | from S/N xxxx-8553 |
| | 131437340 | * | Shim, t=0.5mm | from S/N xxxx-8553 |
| 3 | 020100006 | 2 | Nut | up to S/N xxxx-8552 |
| 4 | 027109010 | 2 | Spring Washer | up to S/N xxxx-8552 |
| 5 | 010109246 | 2 | Bolt | up to S/N xxxx-8552 |
| | 011300620 | 2 | Bolt | from S/N xxxx-8553 |
| 6 | 198996050 | 3 | Gasket | - |
| 7 | 111316230 | 3 | Insert | - |
| 8 | 111346020 | 3 | Cap | - |
| 9 | 131406310 | 3 | Nozzle & Holder - see detail (Replaced by 131406330) | up to S/N xxxx-8552 |
| | 131406330 | 3 | Nozzle & Holder - see detail | from S/N xxxx-8553 |
| 11 | 131606160 | 1 | Return Line (Industrial) | - |
| 14 | 131506650 | 1 | Pipe | - |
| 15 | 131506660 | 1 | Pipe | - |
| 16 | 131506670 | 1 | Pipe | - |
| 17 | 199106020 | 4 | Clamp | - |
| 18 | 010100625 | 2 | Bolt | - |
| 19 | 020100006 | 2 | Nut | - |
| 20 | 027100006 | 2 | Spring Washer | - |
| 21 | 185366060 | 3 | 12 Volt Glow Plug | - |
| | 185366100 | 3 | 24 Volt Glow Plug | - |
| 22 | 185376110 | 1 | Connector | - |
| 23 | 130996070 | 1 | Gasket | - |
| 24 | 130506140 | 1 | Feed Pump - see detail | - |
| 25 | 011150616 | 2 | Bolt | - |
| 26 | 131466060 | 1 | Smoke Set | - |
| 28 | 025109006 | 2 | Sealing Washer | up to S/N xxxx-8552 |
| | 025100010 | 2 | Sealing Washer | from S/N xxxx-8553 |
| 29 | 020600010 | 2 | Nut | up to S/N xxxx-8552 |
| | 023109002 | 2 | Nut | from S/N xxxx-8553 |
| 30 | 010109271 | 1 | Speed Set Bolt (former #010109236) | - |
| 31 | | 1 | Wire (not available separately) | - |
| 32 | 185206082 | 1 | 12 Volt Solenoid | - |
| | 185206200 | 1 | 24 Volt Solenoid | - |
| 33 | 025100016 | 1 | Sealing Washer | - |
| 34 | 131606250 | 1 | Return Line (Marine) | - |
| 35 | 131426010 | 3 | Sealing Washer (former #131426130) | - |

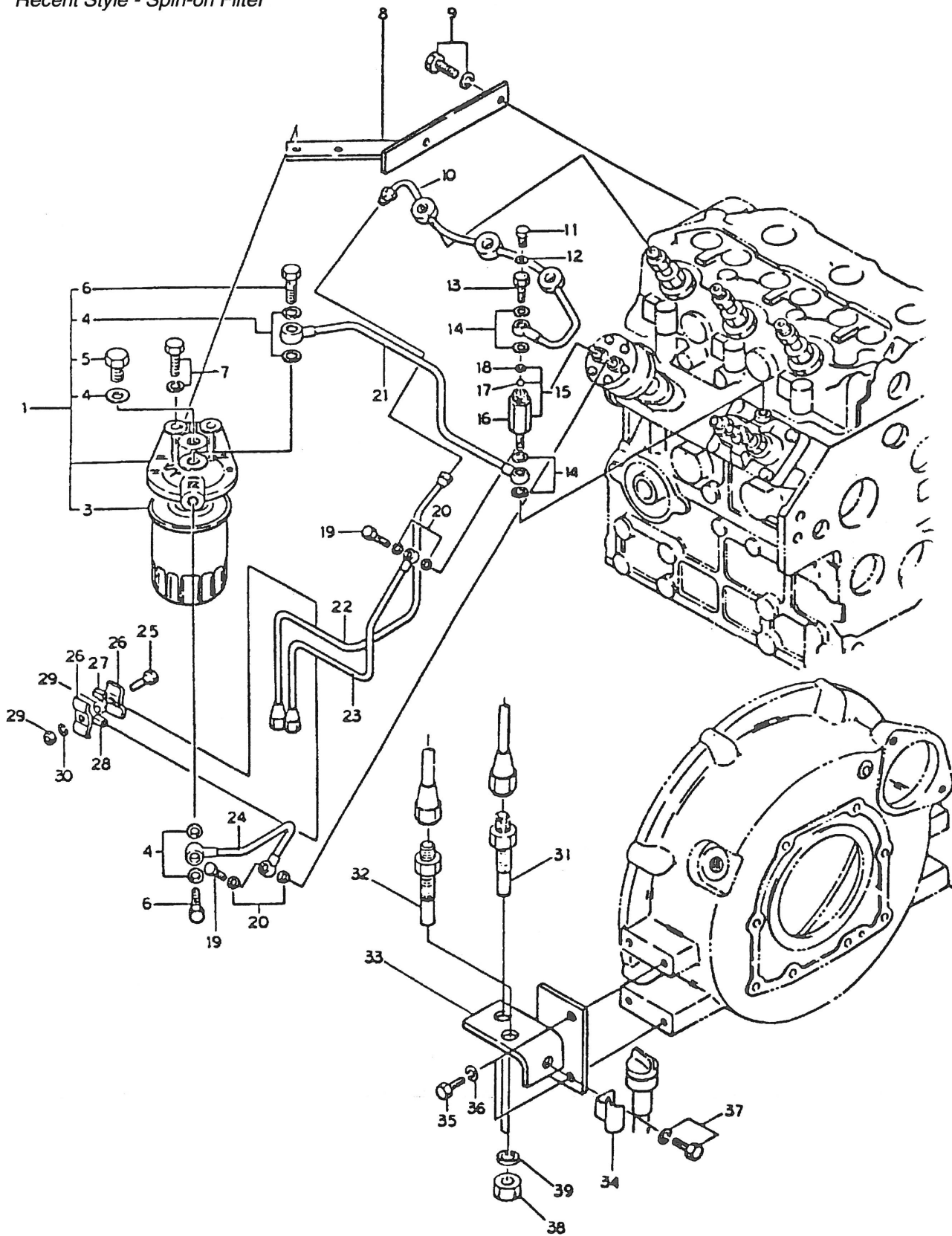
**Replaced - see notes

*As Required.

**Now included in shim kit #131426300.

Fuel Filter and Piping

Recent Style - Spin-on Filter



Fuel Filter and Piping

Recent Style - Spin-on Filter

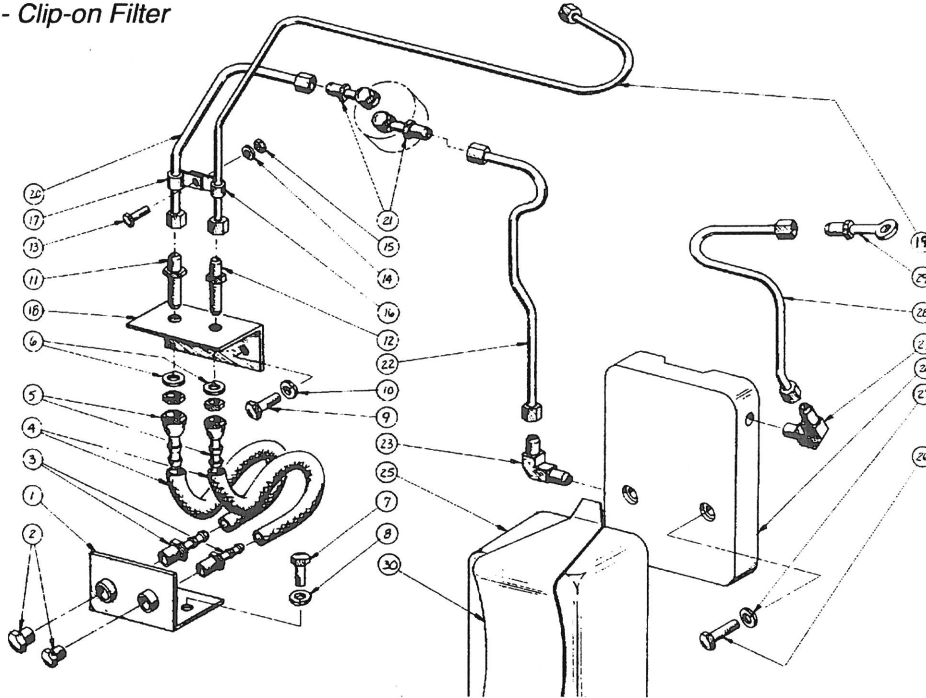
| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 130306190 | 1 | Fuel Filter Assembly (includes Keys 3-6) | - |
| 3 | 24-52020 | 1 | Fuel Filter | - |
| 4 | 130326051 | 5 | Gasket | - |
| 5 | 130396030 | 1 | Plug | - |
| 6 | 130436011 | 2 | Joint Bolt | - |
| 7 | 011301025 | 2 | Bolt | - |
| 8 | 131976060 | 1 | Mounting Bracket | - |
| 9 | 011300816 | 2 | Bolt | - |
| 10 | 131606250 | 1 | Return Pipe | - |
| 11 | 131236200 | 1 | Screw | - |
| 12 | 131426190 | 1 | Washer | - |
| 13 | 131236190 | 1 | Bolt | - |
| 14 | 198996071 | 4 | Gasket | - |
| 15 | 140036140 | 1 | Valve Assembly | - |
| 16 | 198487001 | 1 | Connector | - |
| 17 | 048100010 | 1 | Steel Ball | - |
| 18 | 198116230 | 1 | Rubber | - |
| 19 | 130516092 | 2 | Joint Bolt | - |
| 20 | 198996060 | 4 | Gasket | - |
| 21 | 130556500 | 1 | Pipe | - |
| 22 | 130556510 | 1 | Pipe | - |
| 23 | 130556490 | 1 | Pipe | - |
| | 130556680 | 1 | Banjo Fitting 5/16-37T | - |
| 24 | 130556480 | 1 | Pipe | - |
| 25 | 011300825 | 1 | Bolt | - |
| 26 | 399110160 | 2 | Clamp | - |
| 27 | 198116320 | 1 | Rubber | - |
| 28 | 198116310 | 1 | Rubber | - |
| 29 | 020700008 | 2 | Nut | - |
| 30 | 027100008 | 1 | Spring Washer | - |
| 31 | 130226050 | 1 | Connector | - |
| 32 | 130226040 | 1 | Connector | - |
| 33 | 130976280 | 1 | Bracket | - |
| 34 | 140976040 | 1 | Clamp | - |
| 35 | 199436350 | 2 | Bolt 3/8-16 x 3/4" | - |
| 36 | 027100010 | 2 | Spring Washer 3/8 | - |
| 37 | 011300812 | 1 | Bolt 3/8-16 x 3/4" | - |
| 38 | 020100012 | 2 | Nut 3/8 | - |
| 39 | 027100012 | 2 | Spring Washer | - |

*Note: Fuel lines #22 & #23 & items #25 - #39 not used on marine units with U.S. Coast Guard fuel lines.

GROUP 4 – FUEL SYSTEM

Fuel System

Early Style - Clip-on Filter

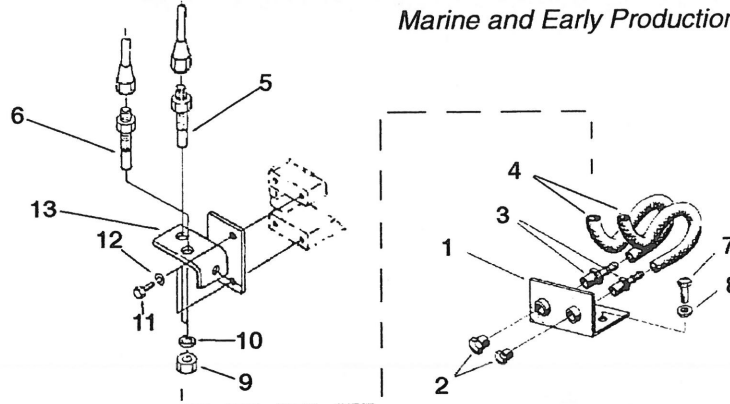


A-1605/C-1549

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 10-51099 | 1 | Manifold | - |
| 2 | 21-31624 | 2 | Plug 1/4 NPT | - |
| 3 | 21-71030 | 2 | Male Connector, Brass 1/4 NPT x 3/8 HB | - |
| 4 | 18-71029 | 2 | Hose 3/8 x 12" | - |
| 5 | 21-71034 | 2 | Female Swivel, Brass 3/8 HB x 3/8-37T | - |
| 6 | 15-00007 | 2 | Flat Washer M12 | - |
| 7 | 12-01102 | 2 | Capscrew, Hex Head M6 x 1.0 x 16mm S/S | - |
| 8 | 15-00610 | 2 | Lock Washer M6 | - |
| 9 | 12-00312 | 2 | Capscrew, Hex Head 3/8 - 16 x 1" | - |
| 10 | 15-00302 | 2 | Lock Washer 3/8" | - |
| 11 | 21-01018 | 1 | Bulkhead Fitting, Steel 3/8-37T x 1/4-37T | - |
| 12 | 21-52212 | 1 | Bulkhead Fitting, Steel 3/8-37T x 3/8-37T (former #21-01019) | - |
| 13 | 12-00030 | 1 | Capscrew, Hex Head M6 x 1.0 x 15 mm | - |
| 14 | 15-01132 | 1 | Lock Washer M6 | - |
| 15 | 14-01131 | 1 | Hex Nut M6 x 1.0 | - |
| 16 | 19-72252 | 1 | Adelle Clamp 3/8" | - |
| 17 | 19-72251 | 1 | Adelle Clamp 1/4" | - |
| 18 | 23-00001 | 1 | Mounting Bracket | - |
| 19 | 27-50000 | 1 | Fuel Return Tube Assembly | - |
| 20 | 27-50001 | 1 | Lift Pump Tube Assembly | - |
| 21 | 21-52102 | 2 | Banjo Fitting | - |
| 22 | 27-50002 | 1 | Tube Assembly, Fuel Filter Inlet | - |
| 23 | 21-00612 | 2 | Male Elbow 1/4 NPT x 3/8 - 37T | - |
| 24 | 24-52255 | 1 | Fuel Filter Bracket | - |
| 25 | 24-52259 | 1 | Fuel Filter (Metal Case) | - |
| 26 | 12-00831 | 2 | Capscrew, Hex Head M10 x 1.5 x 25 mm | - |
| 27 | 15-00802 | 2 | Lock Washer M10 | - |
| 28 | 27-50003 | 1 | Tube Assembly, Fuel Filter Outlet | - |
| 29 | 21-52103 | 1 | Banjo Fitting | - |
| 30 | 24-52256 | 1 | Spring Clamp | - |
| 31 | 19-00004 | 4 | Clamp Hose #4 | - |

Fuel Line Connection

Marine and Early Production Industrial Applications

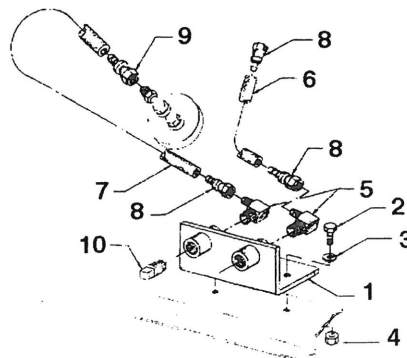


A-6136

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 10-51099 | 1 | Manifold | - |
| 2 | 21-00046 | 2 | Plug 1/4 NPT (for shipping) | - |
| 3 | 21-71030 | 2 | Male Connector, Brass 1/4 NPT x 3/8 HB | - |
| 4 | 18-71029 | 2 | Hose 3/8" ID x 12" | - |
| 5 | 130226050 | 1 | Bulkhead Fitting, Brass 1/4-45T x 3/8 HB | - |
| 6 | 130226040 | 1 | Bulkhead Fitting, Brass 3/8-45T x 3/8 HB | - |
| 7 | 12-01102 | 2 | Capscrew, Hex Head M6 x 1.0 x 16mm S/S | - |
| 8 | 15-00610 | 2 | Lock Washer M6 S/S | - |
| 9 | 020100012 | 2 | Hex Nut M12 x 1.75 | - |
| 10 | 027100012 | 2 | Lock Washer M12 | - |
| 11 | 199436350 | 2 | Bolt | - |
| 12 | 027100010 | 2 | Lock Washer M10 | - |
| 13 | 130976280 | 1 | Bracket | - |
| 14 | 19-00004 | 4 | Hose Clamp (not shown) | - |

Fuel Line Connection

Late Production Industrial

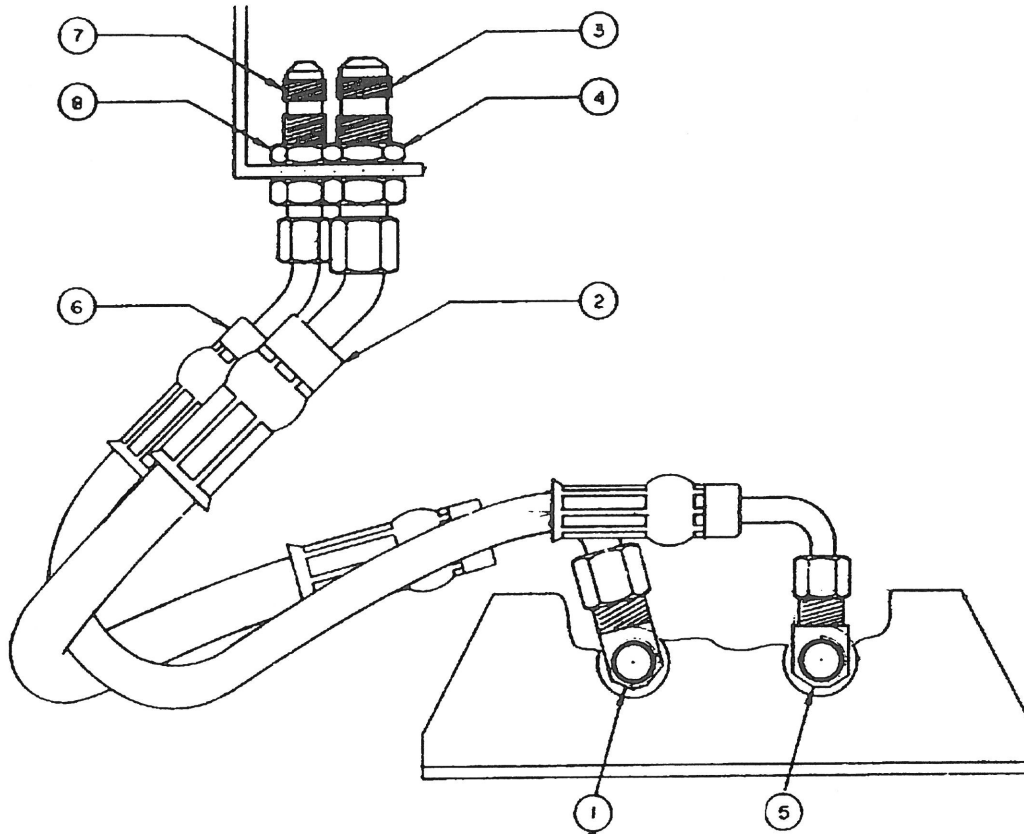


A-6705

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| 1 | 10-51099 | 1 | Manifold | - |
| 2 | 12-01131 | 2 | Capscrew, Hex Head M6 x 1.0 x 20mm | - |
| 3 | 15-00008 | 2 | Flat Washer M6 | - |
| 4 | 14-04803 | 2 | Nylock Nut M6 x 1.0 | - |
| 5 | 21-71044 | 2 | Male Elbow, 90° Brass 1/4 NPT x 1/4-45T | - |
| 6 | 18-51002 | 1 | Hose 1/4" x 17" | - |
| 7 | 18-51902 | 1 | Hose 1/4" ID x 15" | - |
| 8 | 21-71045 | 3 | Female Swivel, Brass 1/4 HB x 1/4-45T | - |
| 9 | 21-71048 | 1 | Female Swivel, Brass 1/4 HB x 5/16-45T | - |
| 10 | 21-00046 | 2 | Plug, 1/4 NPT (for shipping) | - |

U.S. Coast Guard Fuel Line Connection

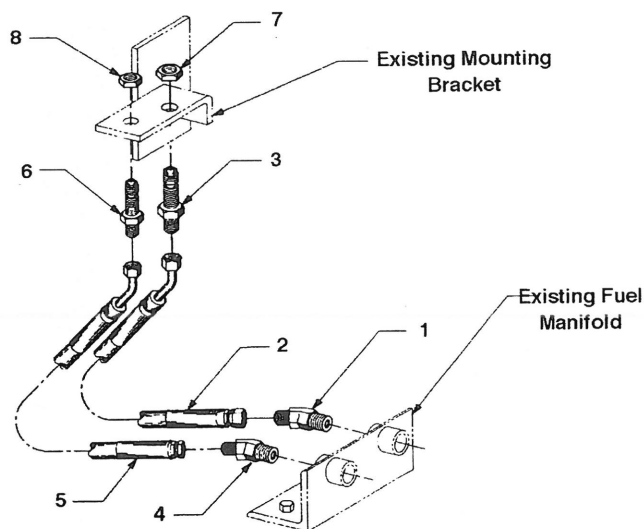
Clamp-on Fuel Filter Arrangement - Early Production



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 21-00015 | 1 | Male Elbow, 90° Steel 1/4 NPT x 3/8 - 37 T | - |
| 2 | 18-53105 | 1 | Hose Assembly 3/8" U.S. Coast Guard | - |
| 3 | 21-52212 | 1 | Bulkhead Union, Steel Straight Thread 3/8 - 37 T | - |
| 4 | 14-00010 | 1 | Bulkhead Nut 9/16 - 18 | - |
| 5 | 21-71049 | 1 | Male Elbow, 90° Steel 1/4 NPT x 1/4 - 37 T | - |
| 6 | 18-53106 | 1 | Hose Assembly 1/4" U.S. Coast Guard | - |
| 7 | 21-52211 | 1 | Bulkhead Union, Steel Straight Thread 1/4 - 37 T | - |
| 8 | 14-00012 | 1 | Bulkhead Nut 7/16 - 20 | - |
| 9 | 24-52259 | 1 | Fuel Filter (Metal Case - not shown) | - |

U.S. Coast Guard Fuel Line Connection

Units with SAW16 & LIMA 250-280 Frame Generators

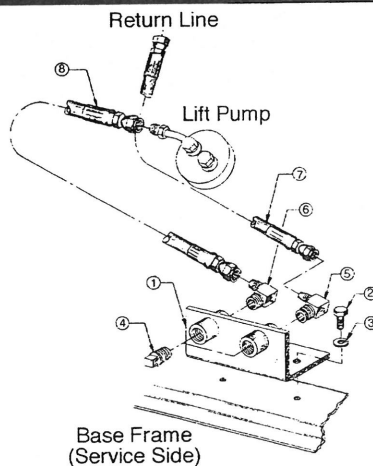


A-5304

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| 1 | 21-00600 | 1 | Male Elbow, 45° Steel 1/4NPT x 5/16-37T | - |
| 2 | 18-58201 | 1 | Hose Assembly 1/4" ID x 16.5" | - |
| 3 | 21-52223 | 1 | Bulkhead Union 5/16-37T | - |
| 4 | 21-05404 | 1 | Male Elbow, 45° Steel 1/4NPT x 1/4-37T | - |
| 5 | 18-58202 | 1 | Hose Assembly 1/4" ID x 16.5" | - |
| 6 | 21-52211 | 1 | Union 1/4-37T | - |
| 7 | 14-00018 | 1 | Nut 1/2-20 (5/16-37) | - |
| 8 | 14-00012 | 1 | Nut 7/16-20 (1/4-37T) | - |

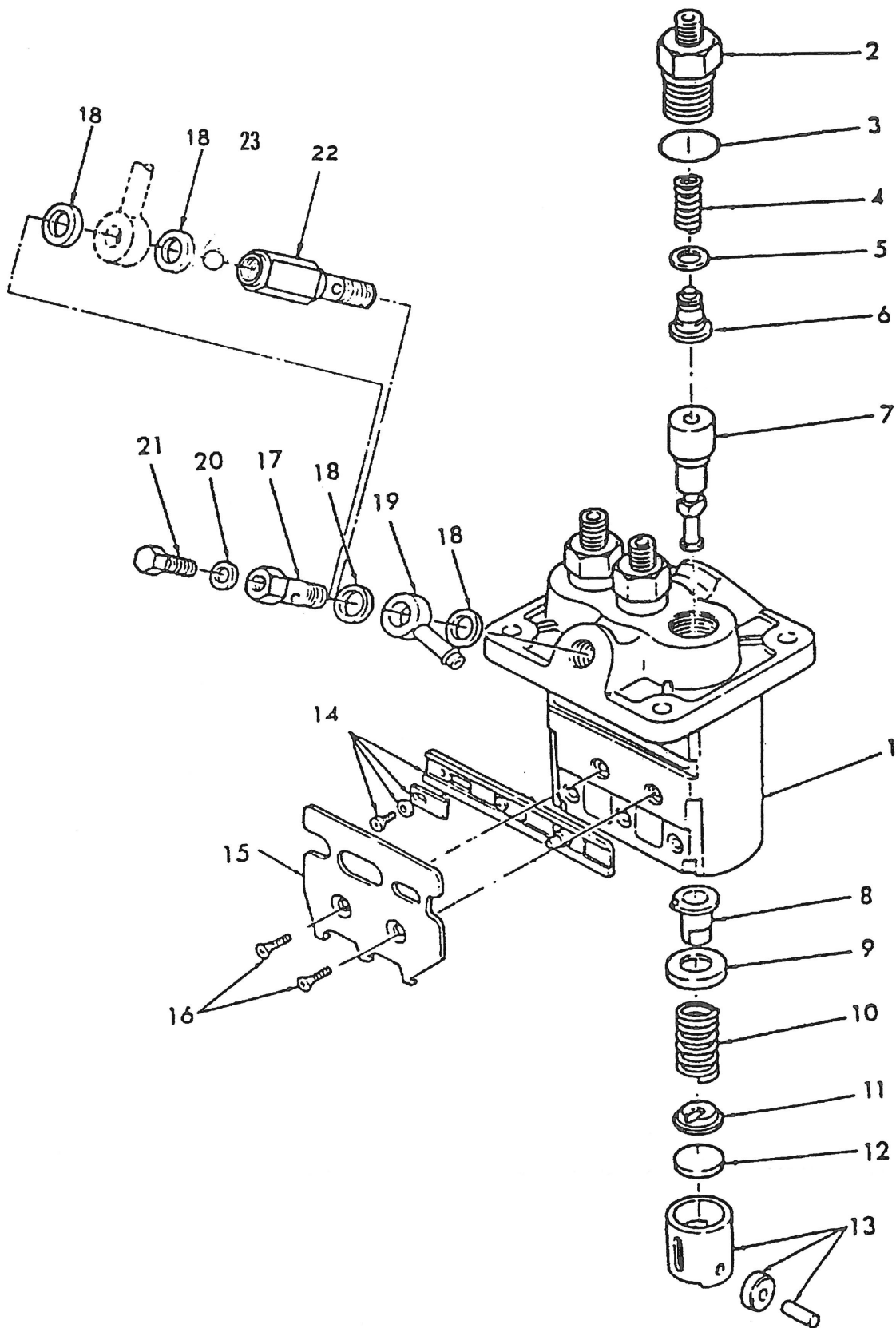
U.S. Coast Guard Fuel Line Connection

Units with PXG Generators



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 10-51099 | 1 | Manifold | - |
| 2 | 12-01131 | 2 | Capscrew, Hex Head M6 x 1.0 x 20 mm | - |
| 3 | 15-01132 | 2 | Lock Washer M6 | - |
| 4 | 21-00046 | 2 | Plug, 1/4 NPT (for shipping) | - |
| 5 | 21-71049 | 1 | Male Elbow 90°, Steel 1/4 NPT x 1/4-37T | - |
| 6 | 21-74411 | 1 | Male Elbow 90°, Steel 1/4 NPT x 5/16-37T | - |
| 7 | 18-58204 | 1 | Hose Assembly 1/4" ID x 19" | - |
| 8 | 18-58203 | 1 | Hose Assembly 1/4" ID x 23" | - |

Injection Pump

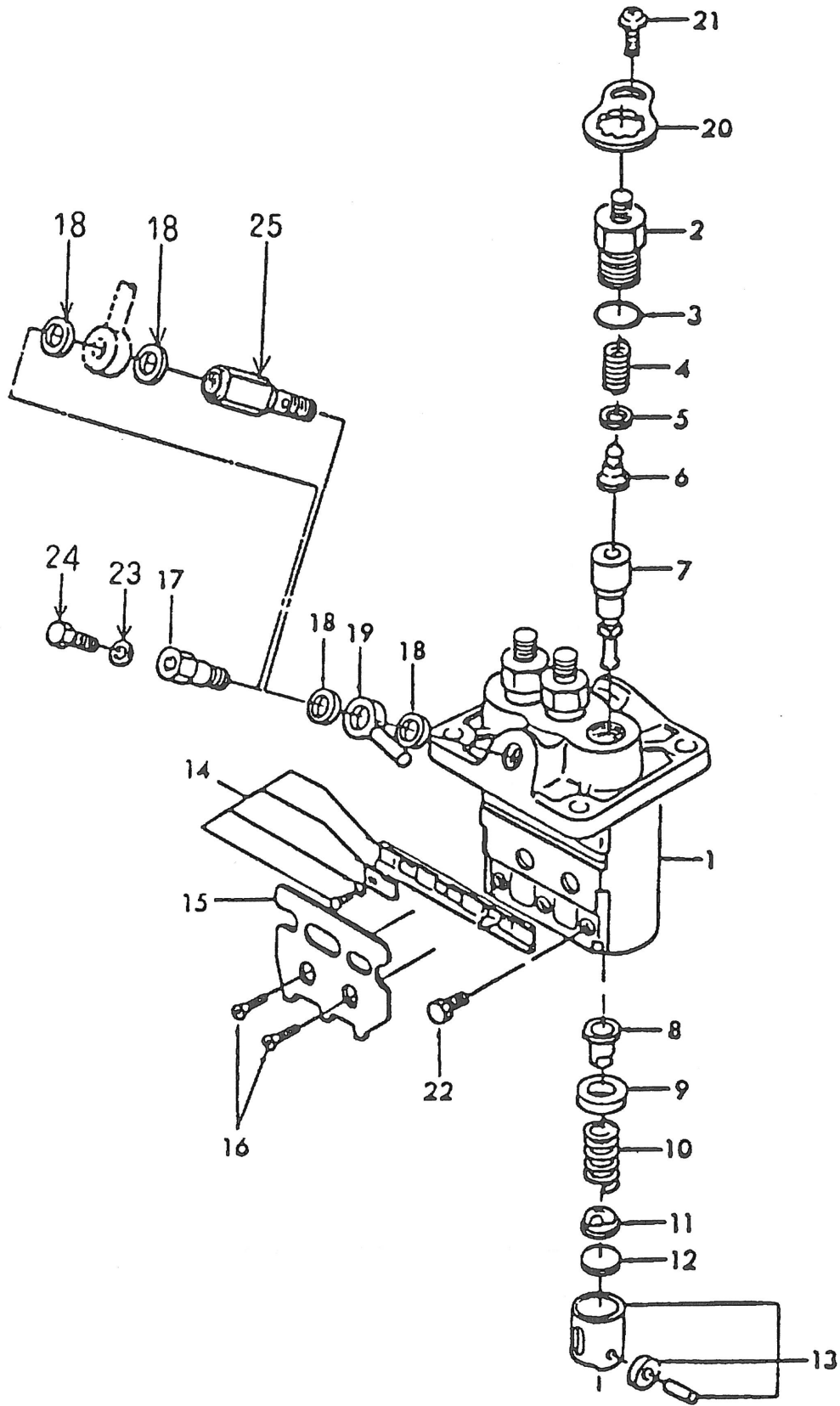


Injection Pump

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------------|
| ** | 131017061 | 1 | Pump Assembly | Up to S/N xxxx-8552 |
| 2 | 131196110 | 3 | Holder | - |
| 3 | 131226170 | 3 | O-Ring | - |
| 4 | 131176430 | 3 | Spring | - |
| 5 | 131186100 | 3 | Gasket | - |
| 6 | 131156110 | 3 | Valve Assembly | - |
| 7 | 131116371 | 3 | Element | - |
| 8 | 131296638 | 3 | Sleeve Assembly | - |
| 9 | 131296620 | 3 | Spring | - |
| 10 | 131176440 | 3 | Spring | - |
| 11 | 131296621 | 3 | Lower Spring Seat | - |
| 12 | 131296622 | * | Plate, t = 1.85 mm | - |
| | 131296623 | * | Plate, t = 1.90 mm | - |
| | 131296624 | * | Plate, t = 1.95 mm | - |
| | 131296625 | * | Plate, t = 2.00 mm | - |
| | 131296626 | * | Plate, t = 2.05 mm | - |
| | 131296627 | * | Plate, t = 2.10 mm | - |
| | 131296628 | * | Plate, t = 2.15 mm | - |
| | 131296629 | * | Plate, t = 2.20 mm | - |
| | 131296630 | * | Plate, t = 2.25 mm | - |
| | 131296631 | * | Plate, t = 2.30 mm | - |
| | 131296632 | * | Plate, t = 2.35 mm | - |
| | 131296633 | * | Plate, t = 2.40 mm | - |
| | 131296634 | * | Plate, t = 2.45 mm | - |
| | 131296635 | * | Plate, t = 2.50 mm | - |
| 13 | 131256120 | 3 | Tappet Assembly | - |
| 14 | 131296636 | 1 | Rack Assembly | - |
| 15 | 131296637 | 2 | Bracket | - |
| 16 | 131136320 | 2 | Screw | - |
| 17 | 131236190 | 1 | Bolt | - |
| 18 | 131426180 | 4 | Washer | - |
| 19 | 131246130 | 1 | Nipple | - |
| 20 | 131426190 | 1 | Washer | - |
| 21 | 131236200 | 1 | Screw | - |
| 22 | 140036140 | 1 | Air Valve Assembly (replaced by #198487000) | - |
| 23 | 048100010 | 1 | Ball | - |

*As Required.

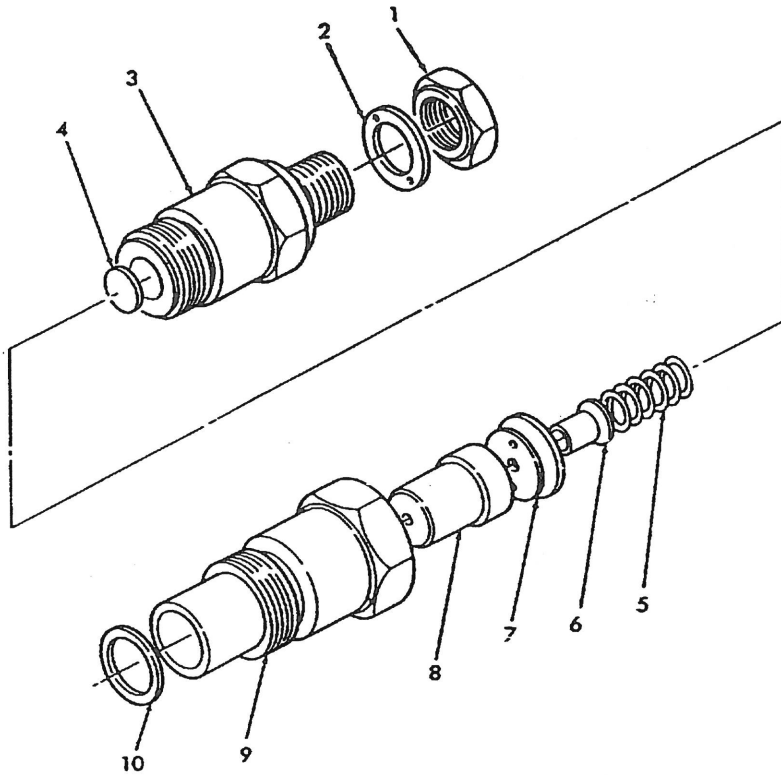
Injection Pump



Injection Pump

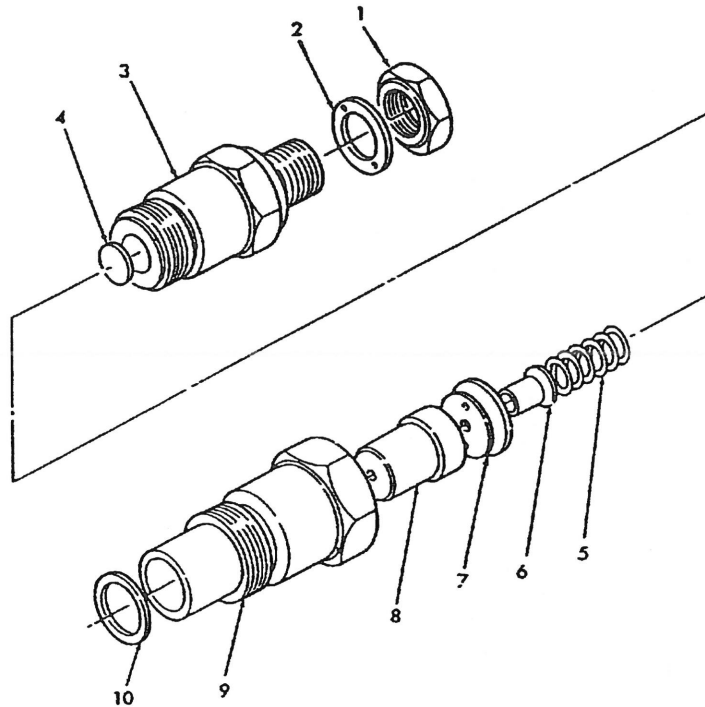
| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--------------------|--------------------|
| •• | 131017290 | 1 | Injection Pump | From S/N xxxx-8553 |
| 1 | 131296665 | 1 | Housing | - |
| 2 | 131196120 | 3 | Holder | - |
| 3 | 131226170 | 3 | O-Ring | - |
| 4 | 131176430 | 3 | Spring | - |
| 5 | 131186050 | 3 | Gasket | - |
| 6 | 131156160 | 3 | Valve Assembly | - |
| 7 | 131116400 | 3 | Element Assembly | - |
| 8 | 131296638 | 3 | Sleeve Assembly | - |
| 9 | 131296620 | 3 | Upper Spring Seat | - |
| 10 | 131176440 | 3 | Spring | - |
| 11 | 131296621 | 3 | Lower Spring Seat | - |
| 12 | 131296622 | ** | Plate; t = 1.85 mm | - |
| | 131296623 | ** | Plate; t = 1.90 mm | - |
| | 131296624 | ** | Plate; t = 1.95 mm | - |
| | 131296625 | ** | Plate; t = 2.00 mm | - |
| | 131296626 | ** | Plate; t = 2.05 mm | - |
| | 131296627 | ** | Plate; t = 2.10 mm | - |
| | 131296628 | ** | Plate; t = 2.15 mm | - |
| | 131296629 | ** | Plate; t = 2.20 mm | - |
| | 131296630 | ** | Plate; t = 2.25 mm | - |
| | 131296631 | ** | Plate; t = 2.30 mm | - |
| | 131296632 | ** | Plate; t = 2.35 mm | - |
| | 131296633 | ** | Plate; t = 2.40 mm | - |
| | 131296634 | ** | Plate; t = 2.45 mm | - |
| | 131296635 | ** | Plate; t = 2.50 mm | - |
| 13 | 131256120 | 3 | Tappet Assembly | - |
| 14 | 131296636 | 1 | Rack Assembly | - |
| 15 | 131296650 | 1 | Bracket | - |
| 16 | 131136320 | 2 | Screw | - |
| 17 | 131236190 | 1 | Bolt | - |
| 18 | 131426180 | 2 | Washer | - |
| 19 | 131246130 | 1 | Nipple | - |
| 20 | 131296662 | 3 | Plate | - |
| 21 | 131136330 | 3 | Screw | - |
| 22 | 131296651 | 3 | Pin | - |
| 23 | 131426190 | 1 | Washer | - |
| 24 | 131236200 | 1 | Screw | - |
| 25 | 140036140 | 1 | Air Valve Assembly | - |

Injector



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|-----------------------------------|---------------------|
| ** | 131406310 | | Fuel Injector (includes all Keys) | up to S/N xxxx-8552 |
| 1 | 131446008 | 1 | Nut | - |
| 2 | 131426120 | 1 | Fuel Return Line Washer | - |
| 3 | 131446049 | 1 | Body Assembly | - |
| 4 | 131436540 | * | Washer, t = 1.0" | - |
| | 131436600 | * | Washer, t = 1.30" | - |
| | 131436660 | * | Washer, t = 1.60" | - |
| | 131436720 | * | Washer, t = 1.90" | - |
| 5 | 131446011 | 1 | Spring | - |
| 6 | 131446012 | 1 | Pin | - |
| 7 | 131446013 | 1 | Spacer | - |
| 8 | 131416120 | 1 | Nozzle | - |
| 9 | 131446042 | 1 | Nut | - |
| 10 | 131426010 | 1 | Gasket (former # 131426130) | - |
| | | | *As Required. | |

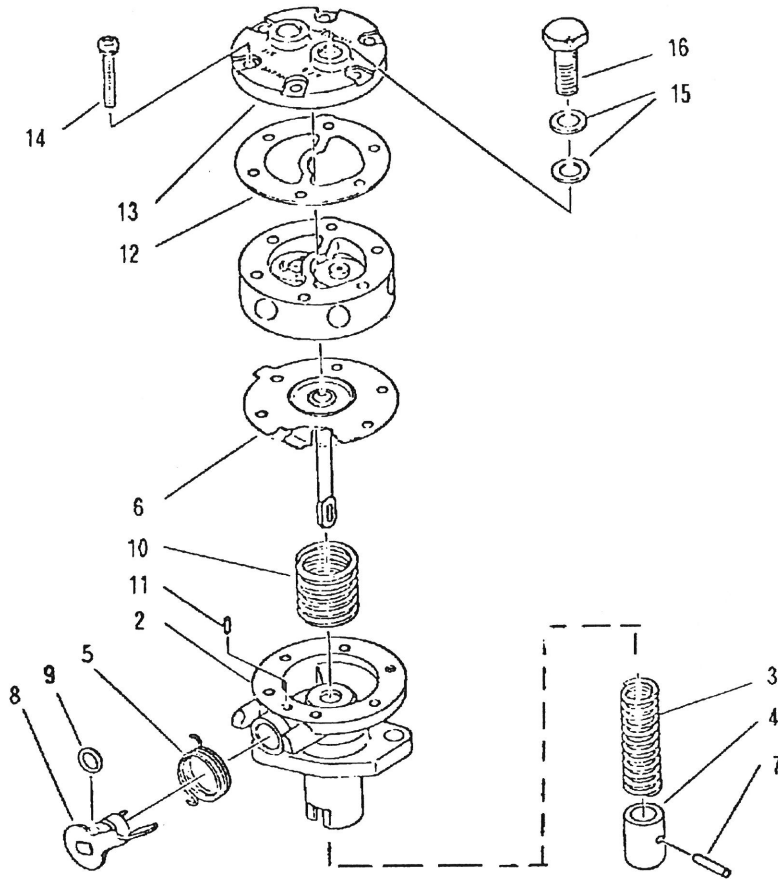
Injector



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|----------------------------|--------------------|
| ** | 131406330 | | Injector Assembly | from S/N xxxx-8553 |
| 1 | 131446008 | | Nut | - |
| 2 | 131426120 | 1 | Washer | - |
| 3 | 131446054 | 1 | Body Assembly | - |
| 4 | 131436540 | ** | Washer; t = 1.00 mm | - |
| | 131436550 | ** | Washer; t = 1.05 mm | - |
| | 131436560 | ** | Washer; t = 1.10 mm | - |
| | 131436570 | ** | Washer; t = 1.15 mm | - |
| | 131436580 | ** | Washer; t = 1.20 mm | - |
| | 131436590 | ** | Washer; t = 1.25 mm | - |
| | 131436600 | ** | Washer; t = 1.30 mm | - |
| | 131436610 | ** | Washer; t = 1.35 mm | - |
| | 131436620 | ** | Washer; t = 1.40 mm | - |
| | 131436630 | ** | Washer; t = 1.45 mm | - |
| | 131436640 | ** | Washer; t = 1.50 mm | - |
| | 131436650 | ** | Washer; t = 1.55 mm | - |
| | 131436660 | ** | Washer; t = 1.60 mm | - |
| | 131436670 | ** | Washer; t = 1.65 mm | - |
| | 131436680 | ** | Washer; t = 1.70 mm | - |
| | 131436690 | ** | Washer; t = 1.75 mm | - |
| | 131436700 | ** | Washer; t = 1.80 mm | - |
| | 131436710 | ** | Washer; t = 1.85 mm | - |
| | 131436720 | ** | Washer; t = 1.90 mm | - |
| | 131436730 | ** | Washer; t = 1.95 mm | - |
| 5 | 131446011 | 1 | Spring | - |
| 6 | 131446012 | 1 | Pin | - |
| 7 | 131446058 | 1 | Distance Piece | - |
| 8 | 131416140 | 1 | Nozzle Assembly | - |
| 9 | 131446064 | 1 | Nut | - |
| 10 | 131426010 | 1 | Gasket (former #131426130) | - |

GROUP 4 – FUEL SYSTEM

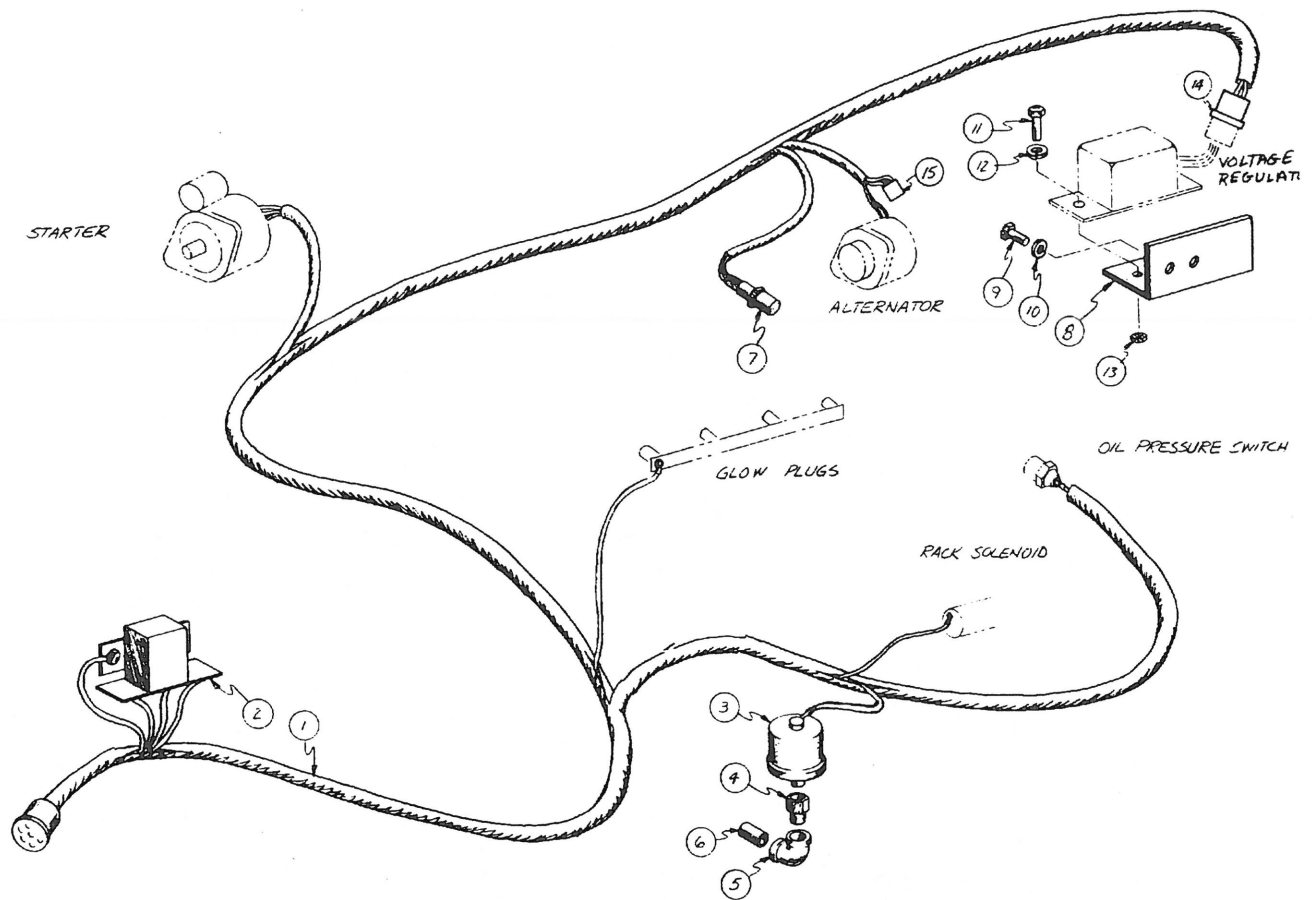
Fuel Feed Pump



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| ** | 130506140 | 1 | Fuel Feed Pump Assembly (includes Keys #2 - #16) | - |
| 2 | | 1 | Housing (not available separately) | - |
| 3 | 130516081 | 1 | Spring | - |
| 4 | 130516082 | 1 | Piston | - |
| 5 | 130516083 | 1 | Spring | - |
| 6 | 130516084 | 1 | Diaphragm | - |
| 7 | 130516085 | 1 | Pin | - |
| 8 | 130516086 | 1 | Lever | - |
| 9 | 131226180 | 1 | O-Ring | - |
| 10 | 130516087 | 1 | Spring | - |
| 11 | 130516088 | 1 | Guide | - |
| 12 | 130516089 | 1 | Gasket | - |
| 13 | 130516090 | 1 | Cap | - |
| 14 | 130516091 | 6 | Screw | - |
| 15 | 130516069 | 4 | Gasket | - |
| 16 | 130516092 | 2 | Joint Bolt | - |

Engine Electrical

Early Production

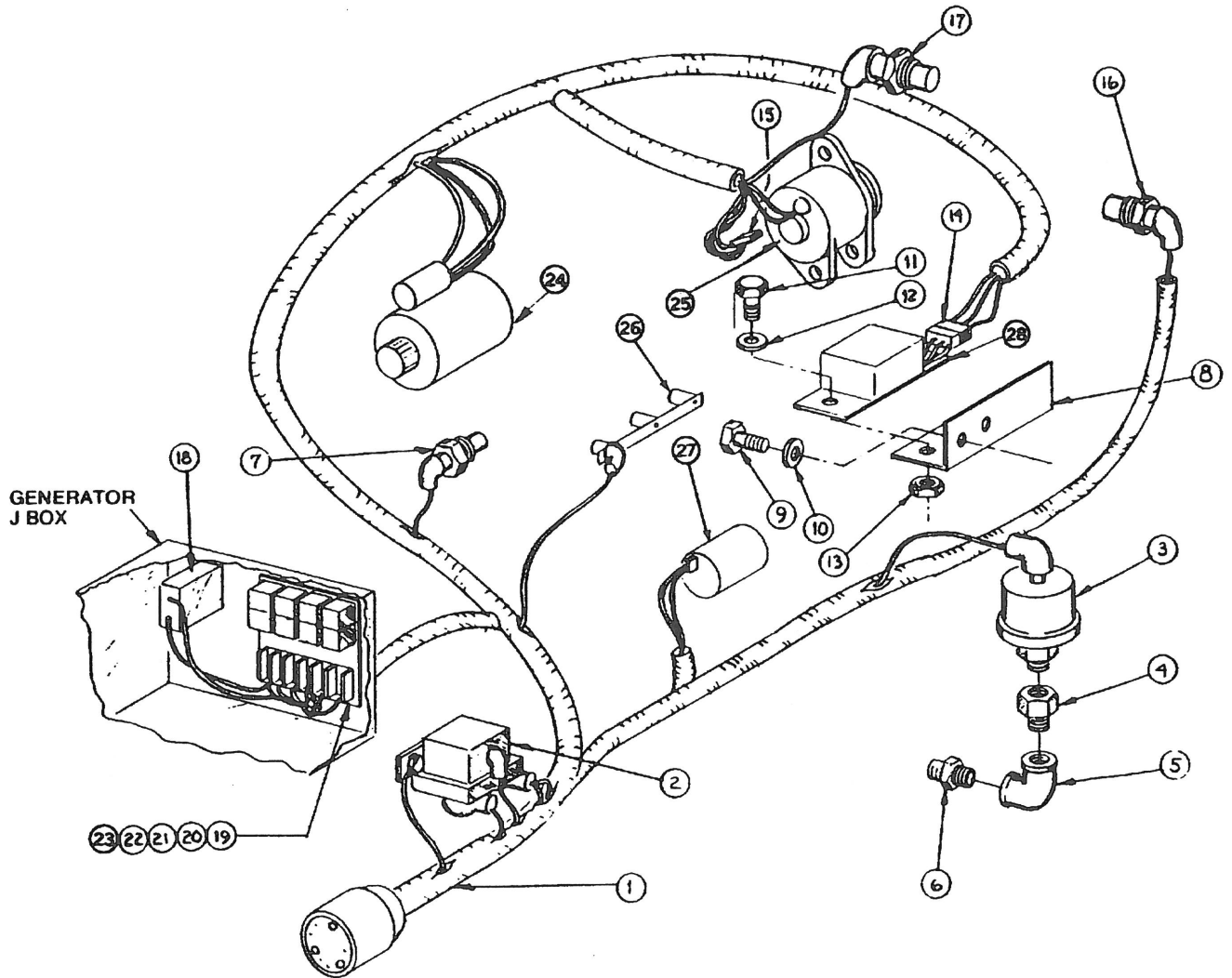


A-1606A/C-1550A

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---------------------------------------|-------------------------|
| 1 | 22-48200 | 1 | Wire Harness | - |
| 2 | 22-40077 | 1 | Glow Plug Relay | - |
| 3 | 22-41016 | 1 | Oil Pressure Sender, VDO Gauges | up to S/N xxxx-1771 |
| | 22-40086 | 1 | Oil Pressure Sender, FD Gauges | from S/N xxxx-1772-2848 |
| 4 | 21-61025 | 1 | Orifice 1/8 NPT x 1/8 NPT | - |
| 5 | 21-52002 | 1 | Female Elbow 90° 1/8 NPT | - |
| 6 | 21-41401 | 1 | Hex Nipple 1/8 NPT | - |
| 7 | 22-41901 | 1 | Temperature Switch/Sender, VDO Gauges | up to S/N xxxx-1771 |
| | 22-40087 | 1 | Temperature Sender, FD Gauges | - |
| 8 | 23-40003 | 1 | Voltage Regulator Mounting Bracket | - |
| 9 | 12-009040 | 1 | Capscrew, Hex Head M12 x 1.25 x 15 mm | - |
| 10 | 15-00912 | 2 | Lock Washer 12 mm | - |
| 11 | 12-00030 | 2 | Capscrew, Hex Head M6 x 1.0 x 15 mm | - |
| 12 | 15-00610 | 2 | Lock Washer M6 | - |
| 13 | 14-01131 | 2 | Nut M6 | - |
| 14 | 22-42236 | 1 | Terminal Strip 6 Connection | - |
| 15 | 22-42235 | 1 | Terminal Strip 3 Connection | - |
| 16 | 185246011 | 1 | Oil Pressure Switch | - |
| 17 | 385720110 | 1 | Temperature Switch (Marine) | - |
| | 385720090 | 1 | Temperature Switch (Industrial) | - |

Engine Electrical - 12 Volt

Late Production



Engine Electrical - 12 Volt

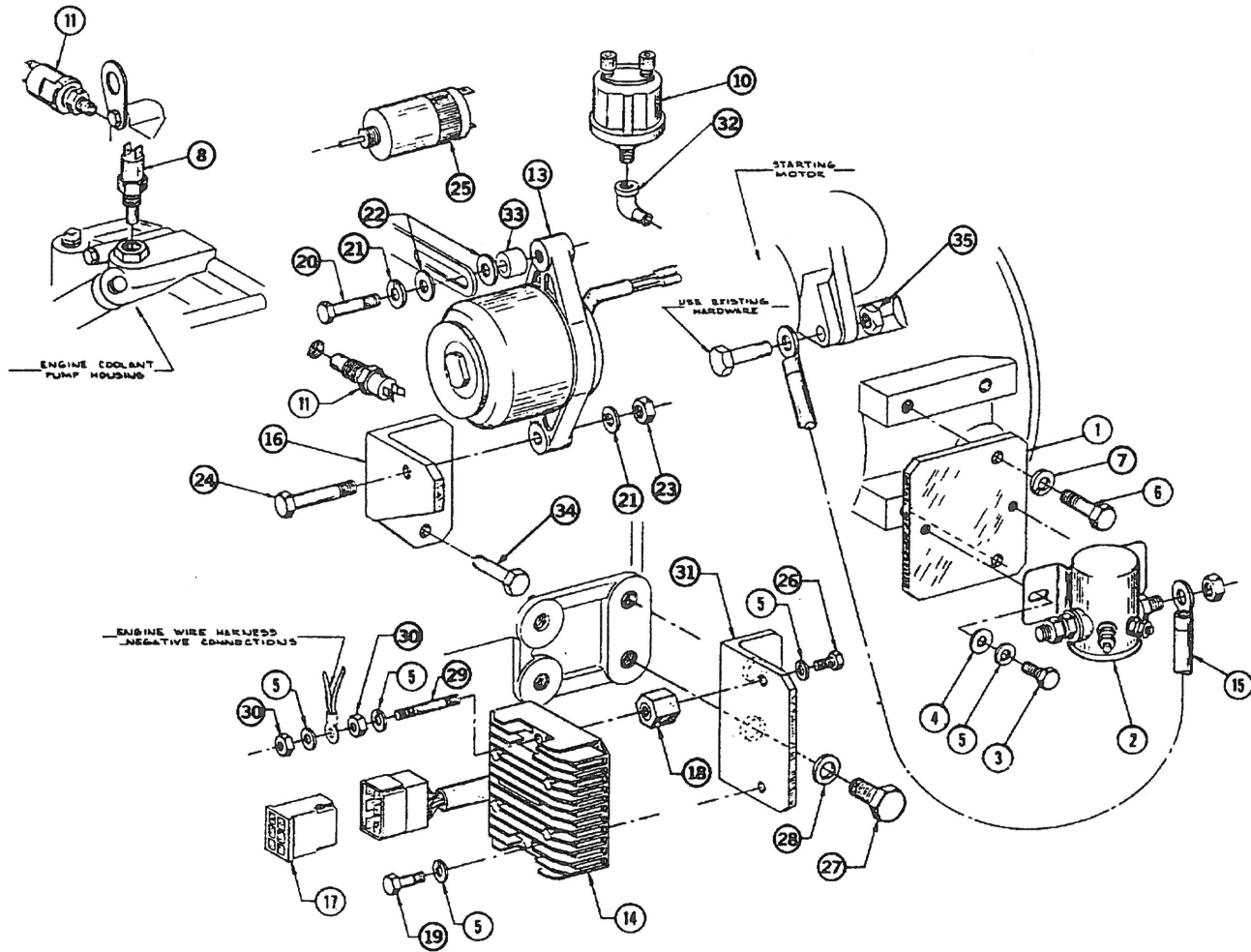
Late Production

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------------|
| 1 | 22-48204 | 1 | Wire Harness (753G) | - |
| | 22-48201 | 1 | Wire Harness (753 units using Keys #2, #4 - #14 & #28) | S/N 3849-4114 |
| | 22-48203 | 1 | Wire Harness (753 units with Internal Regulator) | from S/N xxxx-4115 |
| 2 | 22-40077 | 1 | Glow Plug Relay | up to S/N xxxx-4114 |
| 3 | 22-40177 | 1 | Oil Pressure Sender, Yazaki Gauges | up to S/N xxxx-6442 |
| | 22-41016 | 1 | Oil Pressure Sender, VDO Blue Line Gauges | from S/N xxxx-6443 |
| | 22-71016 | 1 | Oil Pressure Sender, Dual Station, VDO Blue Line Gauges | from S/N xxxx-6443 |
| 4 | 21-61025 | 1 | Adapter 1/8 MPT Female x 1/8 NPT Male* | - |
| 5 | 21-52002 | 1 | Female Elbow 90° 1/8 NPT* | - |
| 6 | 21-41401 | 1 | Close Nipple 1/8 NPT* | - |
| 7 | 22-40176 | 1 | Water Temperature Sender, Yazaki Gauges | up to S/N xxxx-6442 |
| | 22-42055 | 1 | Water Temperature Sender, VDO Blue Line Gauges | from S/N xxxx-6443 |
| | 22-71026 | 1 | Water Temperature Sender, Dual Station, VDO Blue Line Gauges | from S/N xxxx-6443 |
| | 21-51099 | 1 | Bushing, 3/8 NPT x 1/4 NPT (used with #22-71026 - not shown) | from S/N xxxx-6443 |
| 8 | 23-400003 | 1 | Voltage Regulator Mounting Bracket | - |
| 9 | 12-00940 | 2 | Capscrew, Hex Head M12 x 1.25 x 15 mm | - |
| 10 | 15-00912 | 2 | Lock Washer M12 | - |
| 11 | 12-00030 | 2 | Capscrew, Hex Head M6 x 1.0 x 15 mm | - |
| 12 | 15-00610 | 2 | Lock Washer M6 | - |
| 13 | 14-01131 | 2 | Nut M6 x 1.0 | - |
| 14 | 385620010 | 1 | Plug Assembly with 6 Connectors | - |
| 15 | 285640030 | 1 | Plug Assembly with 3 Connectors | - |
| 16 | 185246011 | 1 | Oil Pressure Switch | - |
| 17 | 22-42225 | 1 | Water Temperature Switch 95°C (Marine) | up to S/N xxxx-6442 |
| | 385720110 | 1 | Water Temperature Switch 95°C (Marine) | from S/N xxxx-6443 |
| | 385720030 | 1 | Water Temperature Switch 100°C (Industrial) | - |
| 18 | 22-42043 | 1 | Circuit Breaker 15 Amp | from S/N xxxx-2849 |
| 19 | 28-42001 | 1 | Terminal Board Mounting Plate | from S/N xxxx-2849 |
| 20 | 22-42045 | 1 | Terminal Board | from S/N xxxx-2849 |
| 21 | 22-41032 | 4 | Relay Base | from S/N xxxx-2849 |
| 22 | 22-42047 | 4 | 12 Volt DC Relay | from S/N xxxx-2849 |
| 23 | 22-41060 | 2 | Diode | - |
| 24 | 185086321 | 1 | Starter | - |
| 25 | 185046180 | 1 | Alternator | up to S/N xxxx-4114 |
| | 185046220 | 1 | Alternator with Integral Regulator | from S/N xxxx-4115 |
| 26 | 185366060 | 3 | Glow Plug | - |
| 27 | 185206082 | 1 | Stop Solenoid | - |
| 28 | 185516030 | 1 | Voltage Regulator | up to S/N xxxx-4114 |
| | 185516070 | 1 | Voltage Regulator (Alternate) | - |

*NOTE: Replaced by Special Banjo Fitting with 1/8 NPT Female Thread. Part # 198487590

Engine Electrical - 12 Volt Isolated Ground

Marine Application



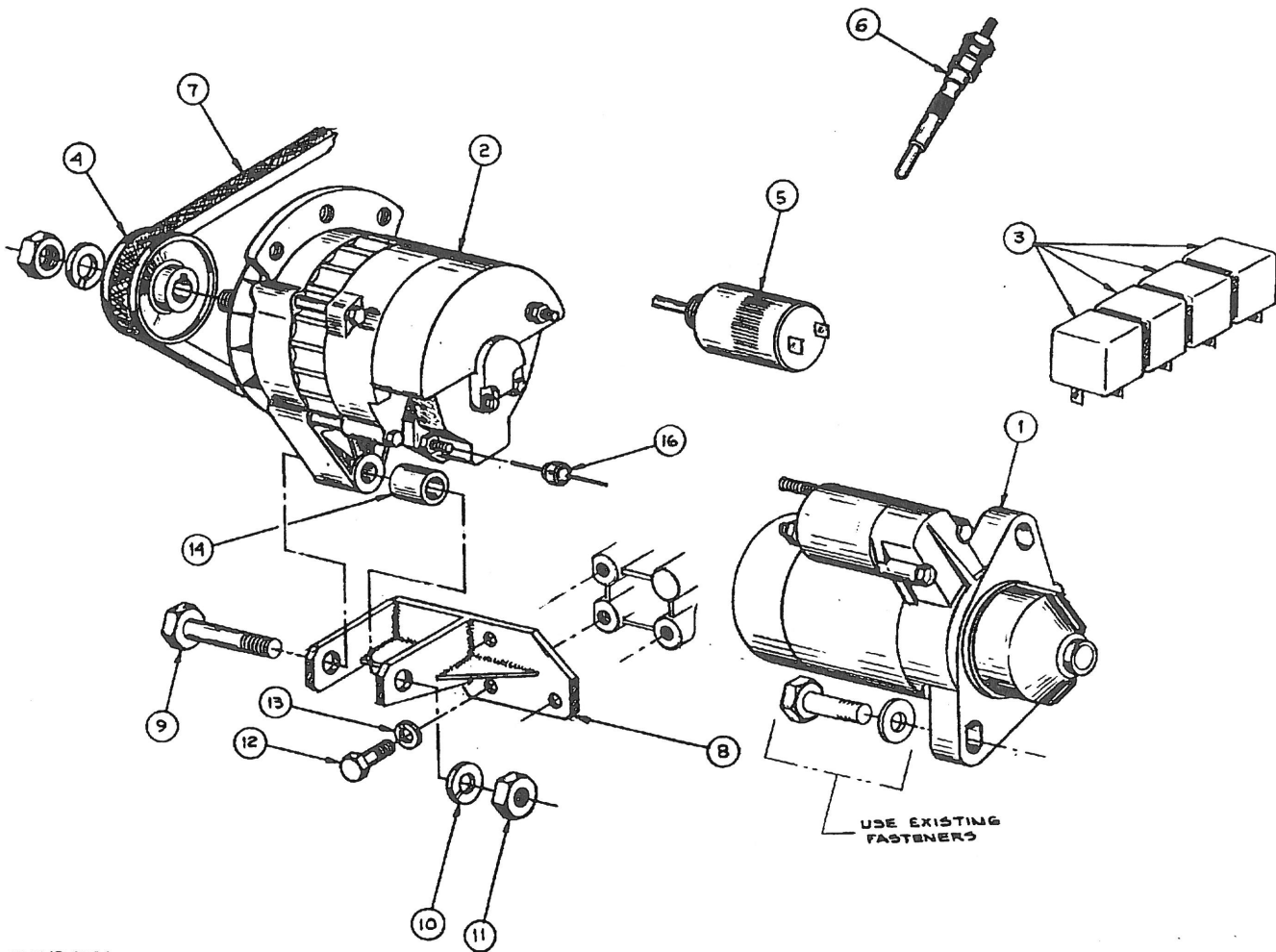
Engine Electrical - 12 Volt Isolated Ground

Marine Application

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| 1 | 23-42001 | 1 | Mounting Bracket | - |
| 2 | 22-41080 | 1 | 12V Ground Isolation Solenoid | - |
| 3 | 12-00100 | 4 | Capscrew, Hex Head 1/4 - 20 x 1/2" | - |
| 4 | 15-00111 | 2 | Flat Washer 1/4 | - |
| 5 | 15-00102 | 4 | Helical Lock Washer 1/4 | - |
| 6 | 12-00312 | 2 | Capscrew, Hex Head 3/8 - 16 x 1" | - |
| 7 | 15-00302 | 2 | Helical Lock Washer 3/8 | - |
| 8 | 22-44810 | 1 | Engine Temperature Sender 3/8 NPT | - |
| 9 | 22-40906 | 1 | Engine Temperature Switch 3/8 NPT 210°F | - |
| 10 | 22-42803 | 1 | Oil Pressure Sender 1/8 NPT | - |
| 11 | 22-42805 | 1 | Oil Pressure Switch 1/8 NPT 20 PSI | - |
| 12 | * | 1 | Engine Wire Harness, Isolated Ground | - |
| 13 | 185046210 | 1 | 12V Alternator | - |
| 14 | 185516060 | 1 | 12V DC Regulator | - |
| 15 | 22-42031 | 1 | Ground Wire, #4 AWG w/Terminals | - |
| 16 | 23-48201 | 1 | Alternator Mounting Bracket | - |
| 17 | 385620010 | 1 | 6 Terminal Plug Connector | - |
| 18 | 33-40001 | 2 | Glastic Insulator | - |
| 19 | 12-00113 | 1 | Capscrew, Hex Head 1/4 - 20 x 1-1/4" | - |
| 20 | 12-00714 | 1 | Capscrew, Hex Head M8 x 1.25 x 40 mm | - |
| 21 | 15-00702 | 2 | Helical Lockwasher M8 | - |
| 22 | 15-00701 | 1 | Flat Washer M8 | - |
| 23 | 14-00711 | 1 | Steel Hex Nut M8 x 1.25 | - |
| 24 | 12-00715 | 1 | Capscrew, Hex Head M8 x 1.25 x 50 mm | - |
| 25 | 185206190 | 1 | Fuel Solenoid, Isolated Ground | - |
| 26 | 12-00111 | 2 | Capscrew, Hex Head 1/4-20 x 3/4" | - |
| 27 | 12-00912 | 2 | Capscrew, Hex Head M12 x 1.75 x 25 mm | - |
| 28 | 15-00912 | 2 | Lock Washer M12 | - |
| 29 | 13-00100 | 1 | Stud, 1/4-20 x 1/4-28 x 2" | - |
| 30 | 14-00121 | 2 | Hex Nut 1/4-28 | - |
| 31 | 23-43105 | 1 | Mounting Bracket | - |
| 32 | 21-04801 | 1 | Elbow 90° Steel 1/8 NPT x 1/8 NPT | - |
| 33 | 199236680 | 1 | Spacer | - |
| 34 | 011300816 | 2 | Bolt | - |
| 35 | 020110010 | 1 | Nut | - |
| 36 | 010101045 | 1 | Bolt | - |

*Part number not yet assigned.

Engine Electrical - 24 Volt Standard Ground

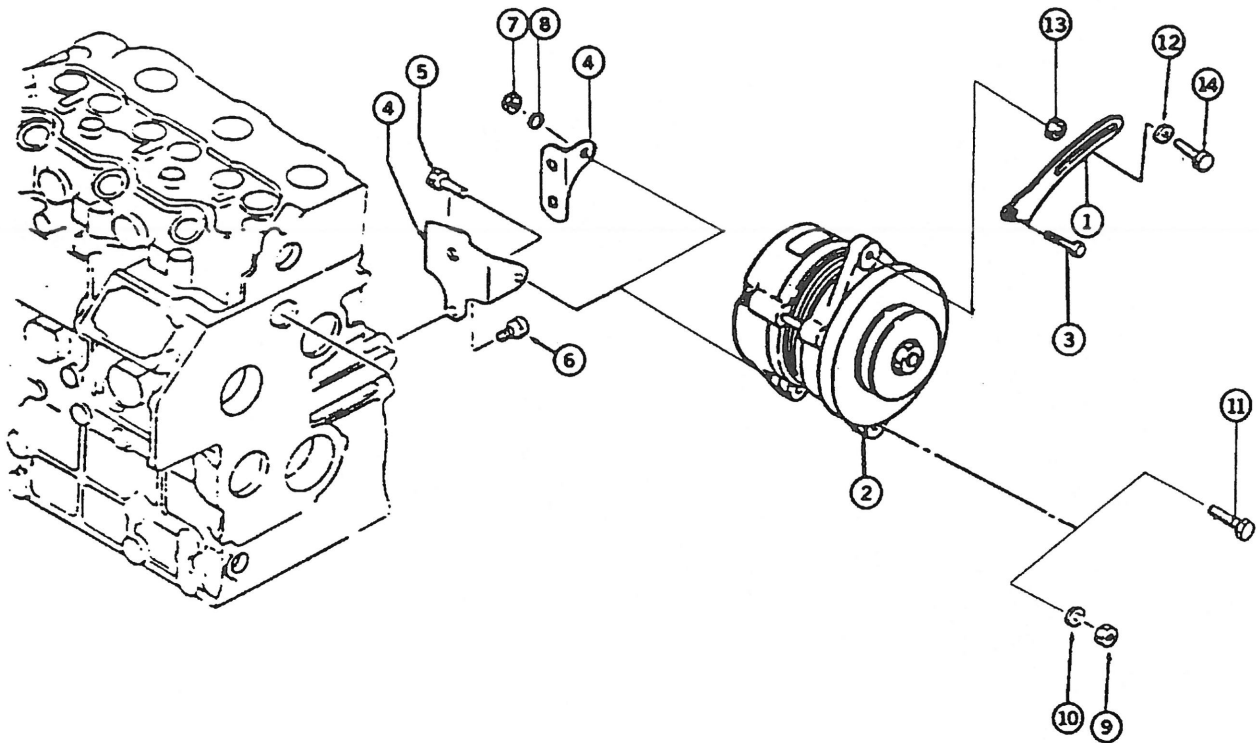


A-4949/C-2534

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| 1 | 22-48221 | 1 | 24V Starting Motor (Nippondenso) (formerly #22-48202) | - |
| | 22-95430 | 1 | S-1B 24 Volt Control Panel (see detail) | - |
| 2 | 22-71052 | 1 | 24V/35A Alternator (formerly #22-71051) | - |
| 3 | 22-40085 | 4 | 24V DC Relay SPDT | - |
| 4 | 34-41017 | 1 | Single Groove Pulley | - |
| 5 | 185206200 | 1 | 24V Stop Solenoid | - |
| 6 | 185366100 | 3 | 24V Glow Plug | - |
| 7 | 40-41900 | 1 | Drive Belt | - |
| 8 | 23-48202 | 1 | Alternator Mounting Bracket | - |
| 9 | 12-00552 | ** | Capscrew, Hex Head 1/2-13 x 3-1/2" | - |
| | 12-00515 | ** | Capscrew, Hex Head 1/2-13 x 1-3/4" | - |
| 10 | 15-00504 | 1 | Flat Washer 1/2 SAE | - |
| 11 | 14-00512 | 1 | Nylock Nut 1/2-13 | - |
| 12 | 12-00711 | 4 | Capscrew, Hex Head M8 x 1.25 x 20 mm | - |
| 13 | 15-00702 | 4 | Helical Lock Washer M8 | - |
| 14 | 21-48201 | ** | Spacer, BP 1/2" Schedule 40 x 1.25' | - |
| 15 | | 1 | Alternator Ground Wire (Required with #22-71052) | - |
| 16 | 22-41060 | 1 | Diode, 1 Amp 50 PIV | - |
| | | | **As Required. | |

12 Volt Alternator Mounting

Standard and Isolated Ground

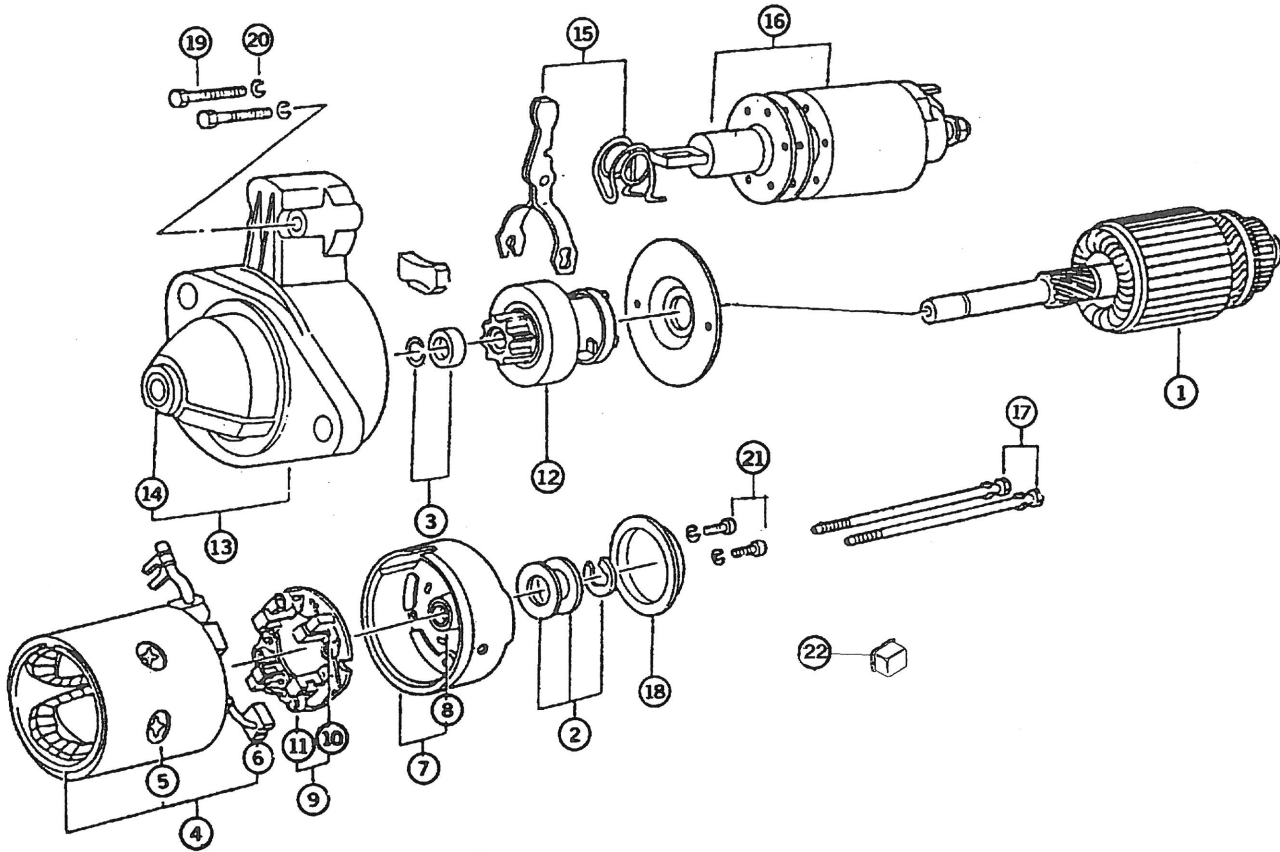


| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------------|
| 1 | 185726300 | 1 | Tensioner (Blue - Industrial, replaced by #185726410) | - |
| | 185726410 | 1 | Tensioner, Alternator with Separate Regulator (Blue - Industrial) | - |
| | 185726420 | 1 | Tensioner, Alternator with Separate Regulator (White - Marine) | - |
| | 185726971 | 1 | Tensioner, Alternator with Integral Regulator (Blue - Industrial) | - |
| | 185726460 | 1 | Tensioner, Alternator with Integral Regulator (White - Marine) | - |
| 2 | 185046180 | 1 | 12V Alternator with Separate Regulator | up to S/N xxxx-4114 |
| | 185046220 | 1 | 12V Alternator with Integral Regulator (Standard Ground) | from S/N xxxx-4115 |
| | 22-48206 | 1 | 12V Alternator wit Integral Regulator (Isolated Ground) | - |
| 3 | 011300650 | 1 | Bolt | - |
| 4 | 185976500 | 1 | Bracket, Alternator with Separate Regulator (formerly #185976110) | - |
| | 185976220 | 1 | Bracket, Alternator with Integral Regulator | - |
| 5 | 010100830 | 1 | Bolt | - |
| 6 | 011300816 | 2 | Bolt | - |
| 7 | 020100010 | 1 | Nut | - |
| 8 | 027100010 | 1 | Washer | - |
| 9 | 020100008 | 1 | Nut | - |
| 10 | 027100008 | 1 | Washer | - |
| 11 | 010101045 | 1 | Bolt | - |
| 12 | 026100008 | 1 | Washer | - |
| 13 | 199236680 | 1 | Spacer, Alternator with Integral Regulator | - |
| 14 | 011300825 | 1 | Bolt, Alternator with Separate Regulator | - |
| | 011300840 | 1 | Bolt, Alternator with Integral Regulator | - |

GROUP 5 – ELECTRICAL SLYSTEM

12 Volt Starting Motor

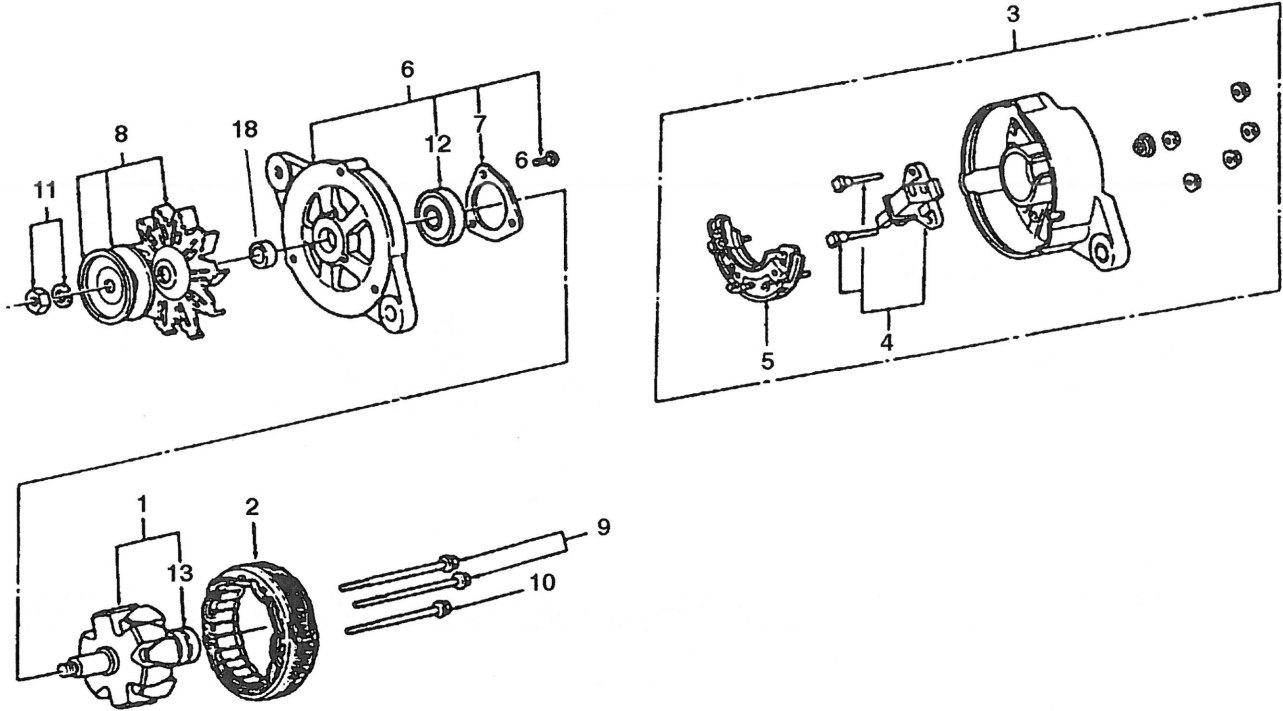
Standard Ground



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| ∞ | 185086321 | 1 | Starting Motor Complete (includes all Keys) | - |
| 1 | 185846159 | 1 | Armature Assembly | - |
| 2 | 185846126 | 1 | Thrust Washer Kit | - |
| 3 | 185846127 | 1 | Pinion Stopper Set | - |
| 4 | 185846160 | 1 | Field Coil Assembly (includes Keys #5 & #6) | - |
| 5 | 185846161 | 4 | Set Screw | - |
| 6 | 185416130 | 2 | Brush | - |
| 7 | 185846449 | 1 | Rear Cover Assembly (includes Key #8) | - |
| 8 | 185846131 | 1 | Rear Cover | - |
| 9 | 185416150 | 1 | Brush Holder Assembly (includes Keys #10 & #11) | - |
| 10 | 185416141 | 2 | Brush | - |
| 11 | 185846119 | 3 | Spring | - |
| 12 | 185866050 | 1 | Pinion Assembly | - |
| 13 | 185846454 | 1 | Gear Case Assembly (includes Key #14) | - |
| 14 | 185846134 | 1 | Bushing | - |
| 15 | 185846165 | 1 | Lever Kit | - |
| 16 | 185816180 | 1 | Switch Assembly | - |
| 17 | 185846166 | 2 | Bolt | - |
| 18 | 185846136 | 1 | Cover | - |
| 19 | 185846300 | 2 | Bolt | - |
| 20 | 027100006 | 2 | Washer | - |
| 21 | 015140412 | 2 | Screw Assembly | - |
| 22 | 285640030 | 1 | Plug Assy with 3 Connectors | - |

12 Volt Alternator - Separate Regulator

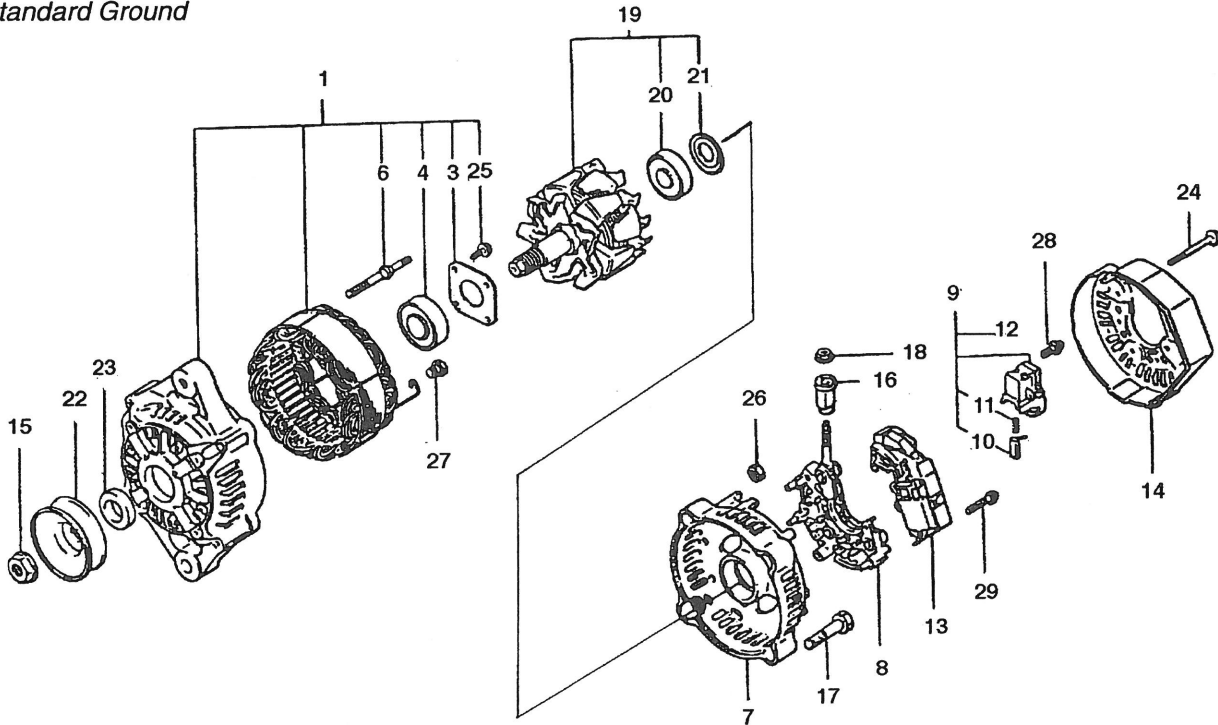
Standard Ground



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|--------------------------------|-------------|-----|--|---------------------|
| ∞ | 185046180 | 1 | Complete Alternator Assembly, External Regulator | up to S/N xxxx-4114 |
| 1 | 185446211 | 1 | Rotor Assembly (includes Key #13) | - |
| 2 | 185446212 | 1 | Stator Assembly | - |
| 3 | 185446149 | 1 | Rear Cover Assembly (includes Keys #4 & #5) | - |
| 4 | 185416260 | 1 | Brush Assembly | - |
| 5 | 185446150 | 1 | Diode Assembly | - |
| 6 | 185426070 | 1 | Front Cover Assembly (includes Keys #7 & #12) | - |
| 7 | 185446151 | 1 | Bearing Retainer | - |
| 8 | 185436090 | 1 | Pulley Assembly | - |
| 9 | 185446152 | 2 | Through Bolt | - |
| 10 | 185446153 | 1 | Through Bolt | - |
| 11 | 185446154 | 1 | Nut Assembly | - |
| 12 | 185446178 | 1 | Ball Bearing | - |
| 13 | 040146201 | 1 | Ball Bearing | - |
| 14 | 285640030 | 1 | Alternator Terminal | - |
| 15 | 185516030 | 1 | Regulator | - |
| 16 | 385620010 | 1 | Regulator Terminal | - |
| 17 | 385620150 | 1 | Starter Terminal | - |
| 18 | * | 1 | Bushing | - |
| *Part number not yet assigned. | | | | |

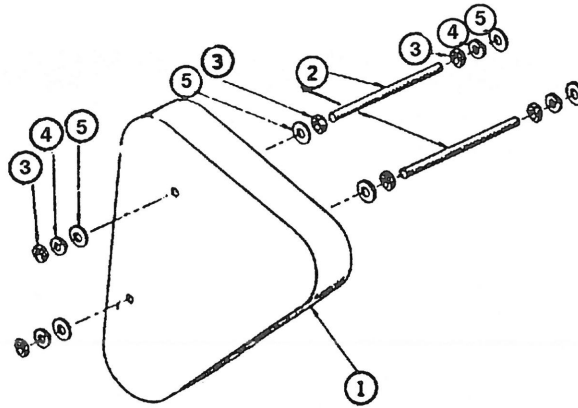
12 Volt Alternator - Built-in Regulator

Standard Ground



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| •• | 185046220 | 1 | Alternator with Regulator | - |
| 1 | 185446221 | 1 | Frame (includes Keys #3, #4, #6 & #25) | - |
| 2 | | 1 | Drive End Frame (not available separately) | - |
| 3 | 185446223 | 1 | Retainer Plate | - |
| 4 | 185446224 | 1 | Ball Bearing | - |
| 5 | | 1 | Stator (not available separately) | - |
| 6 | 185446227 | 2 | Stud Bolt | - |
| 7 | 185446228 | 1 | Rear End Frame | - |
| 8 | 185446229 | 1 | Rectifier Holder | - |
| 9 | 185446230 | 1 | Brush Holder (includes Keys #10 through #12) | - |
| 10 | 185446231 | 2 | Brush | - |
| 11 | 185446232 | 2 | Spring | - |
| 12 | | 1 | Seal (not available separately) | - |
| 13 | 185446234 | 1 | Regulator Assembly | - |
| 14 | 185446235 | 1 | Rear End Cover | - |
| 15 | 185446236 | 1 | Nut | - |
| 16 | 185446237 | 1 | Insulation Brush | - |
| 17 | 185446238 | 2 | Bolt | - |
| 18 | 185446239 | 1 | Nut | - |
| 19 | 185446240 | 1 | Rotor Assembly (includes Keys #20 & #21) | - |
| 20 | 185446241 | 1 | Ball Bearing | - |
| 21 | 185446242 | 1 | Bearing Cover | - |
| 22 | 185446243 | 1 | Pulley | - |
| 23 | 185446244 | 1 | Collar | - |
| 24 | 185446245 | 3 | Bolt | - |
| 25 | 185446258 | 4 | Bolt | - |
| 26 | 185446259 | 2 | Nut | - |
| 27 | 185446260 | 6 | Bolt | - |
| 28 | 185446261 | 1 | Bolt | - |
| 29 | 185446262 | 2 | Bolt | - |

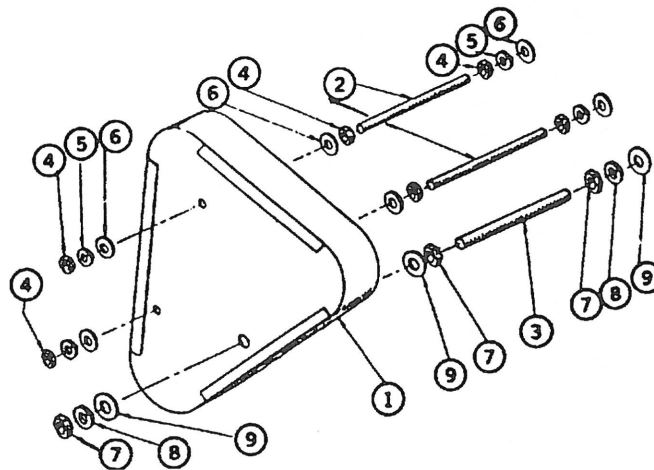
Belt Guard (ABS Plastic)



A-1649/B-2381

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|-------------------------------------|---------------|
| 1 | 00-78202 | 1 | Belt Guard (formerly #00-70007) | - |
| 2 | 13-70001 | 2 | Stud, All-Thread M6 x 1.0 x 150 mm | - |
| 3 | 13-70002 | 1 | Stud, All-Thread M10 x 1.5 x 150 mm | - |
| 4 | 14-01131 | 6 | Nut M6 - 1.0 | - |
| 5 | 15-01132 | 4 | Lock Washer M6 | - |
| 6 | 15-00008 | 6 | Flat Washer M8 | - |
| 7 | 14-00811 | 3 | Nut M10 - 1.5 | - |
| 8 | 15-00802 | 2 | Lock Washer M10 | - |
| 9 | 15-00805 | 3 | Flat Washer M10 | - |

Belt Guard (Steel)



A-4791, A-3171/C-1911

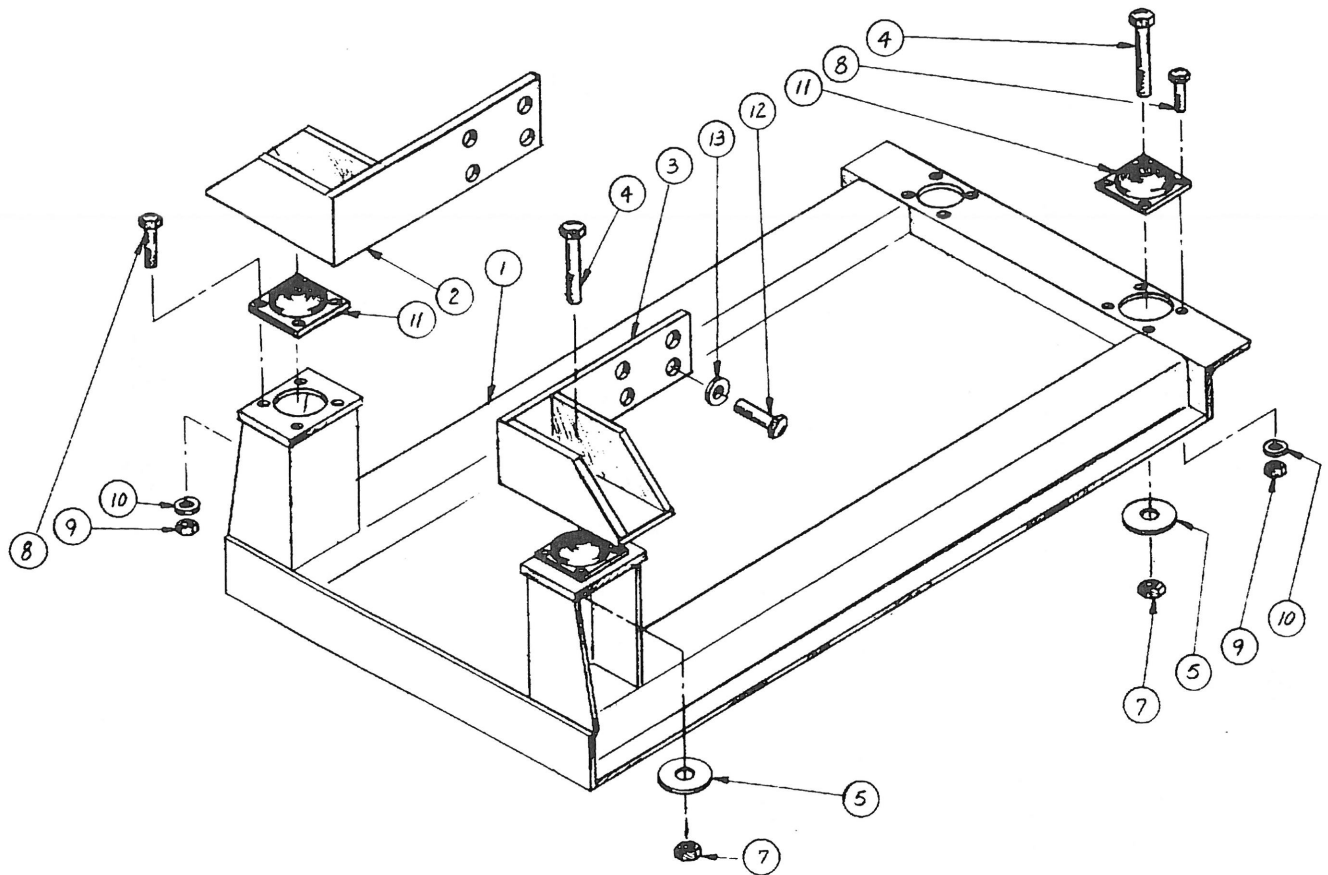
| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|------------------------------|
| •• | 22-95430 | 1 | 24V Series 1-B Control Panel } (includes all Keys) | - |
| •• | 22-90006 | 1 | | 12V Series 1-B Control Panel |
| 1 | 22-90007 | 1 | Preheat/Shutdown-Bypass Switch | - |
| 2 | 22-90008 | 1 | Engine Control Switch | - |
| 3 | 28-90003 | 1 | Series 1-B Face Plate | - |
| 4 | 22-90009 | 1 | Hour Meter | - |
| 5 | 22-40019 | 1 | Wire Harness | - |
| 6 | 22-40012 | 1 | Resistor, 12 Volt Only (not shown) | - |

GROUP 6 – GASKET SETS

| Gasket Set | | | | |
|-------------------|-------------|-----|---|---------------|
| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
| | 195906430 | 1 | Gasket Set (includes all items below) | - |
| | 165996300 | 1 | Front Plate Gasket, Cylinder Block | - |
| | 110996491 | 1 | Oil Pan Gasket | - |
| | 111146892 | 1 | Head Gasket, t = 1.2 | - |
| | 111146901 | 1 | Head Gasket, t = 1.3 | - |
| | 120406050 | 3 | Valve Guide Seal - Intake | - |
| | 120406070 | 3 | Valve Guide Seal Exhaust | - |
| | 198996050 | 3 | Prechamber Gasket | - |
| | 111996290 | 1 | Head Cover Gasket | - |
| | 135996541 | 3 | Exhaust Manifold Gasket | - |
| | 314990013 | 1 | Muffler Gasket (Industrial application) | - |
| | 314990030 | 1 | Exhaust Elbow Gasket (Marine application) | - |
| | 165996310 | 1 | Gear Case Gasket | - |
| | 165996050 | 2 | Water Pump Cover Gasket | - |
| | 131437150 | 2 | Injection Pump Gasket, t = 0.2 mm | - |
| | 131437160 | 2 | Injection Pump Gasket, t = 0.3 mm | - |
| | 130996070 | 1 | Feed Pump Gasket | - |
| | 131426130 | 3 | Injector Gasket | - |
| | 145996280 | 1 | Water Pump Case Gasket | - |
| | 145996270 | 1 | Set Plate Gasket | - |
| | 198996060 | 3 | Head Cover Gasket | - |
| | 025100010 | 2 | Smoke Set Gasket | - |
| | 025100016 | 1 | Solenoid Gasket | - |
| | 025100006 | 1 | Gear Case Gasket | - |
| | 198636140 | 1 | Front Oil Seal | - |
| | 198636130 | 1 | Rear Oil Seal | - |
| | 052109076 | 1 | O-Ring, Suction Filter Holder | - |
| | 052100400 | 1 | O-Ring, Oil Filter Cap | - |
| | 052100070 | 1 | O-Ring, Governor Arm Shaft | - |
| | 052100050 | 1 | O-Ring, Governor Arm Shaft | - |
| | 052100030 | 1 | O-Ring, Governor Arm Shaft | - |
| | 052100150 | 1 | O-Ring, Relief Valve | - |
| | 052100100 | 2 | O-Ring, Gauge Guide | - |
| | 052300700 | 1 | O-Ring Water Pump | - |
| | 052300300 | 1 | O-Ring, Temperature Sender Holder | - |
| | 111996271 | 1 | Rocker Cover Gasket | - |
| | 052109061 | 1 | Rocker Cover Gasket | - |

Marine Base Frame Assembly

Early Production - SAW 16 or Lima 250 & 280 Frame Generators

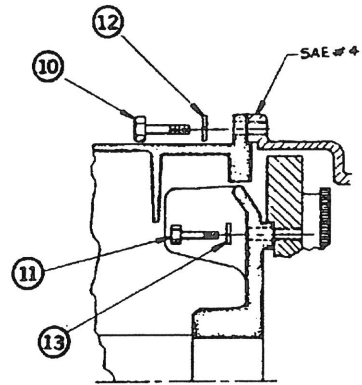
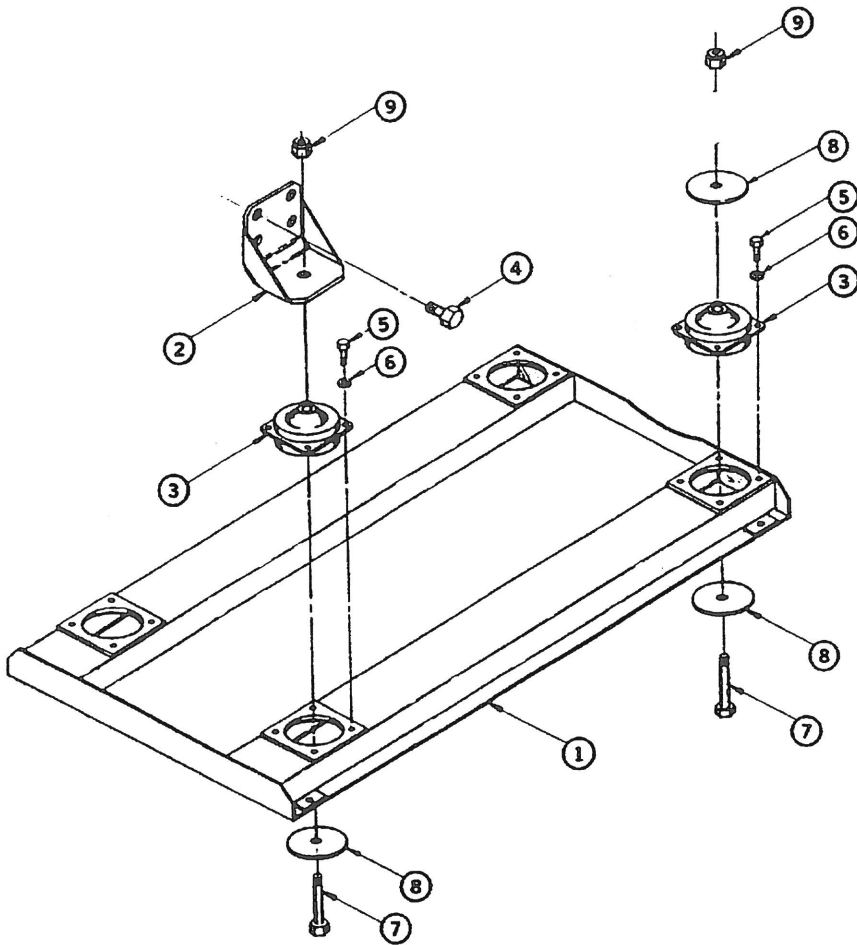


A-1603/B-2371

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| 1 | 39-88209 | 1 | Base Frame (SAW16H or Lima 250 & 280) | - |
| | 39-83100 | 1 | Base Frame (SAW16F and earlier) | - |
| 2 | 23-88205 | 1 | Mounting Bracket, Right Hand (SAW16H or Lima 250 & 280 Frames) | - |
| | 23-88207 | 2 | Mounting Bracket, Left & Right Hand (SAW16F and earlier) | - |
| 3 | 23-88204 | 1 | Mounting Bracket, Left Hand (SAW16H or Lima 250 & 280 Frames) | - |
| 4 | 12-00965 | 4 | Capscrew, Hex Head M12 x 1.75 x 70 mm | - |
| | 12-00552 | 2 | Capscrew, Hex Head 1/2-13 x 3-1/2 (w/LIMA 250 & 280 Frames) Rear | - |
| 5 | 15-00020 | 4 | Snubbing Washer | - |
| 7 | 14-00830 | 4 | Nylock Hex Nut M12 x 1.75 | - |
| | 14-00512 | 2 | Nylock Hex Nut 1/2-13 (w/LIMA 250 & 280 Frames) Rear | - |
| 8 | 12-00711 | 16 | Capscrew, Hex Head M8 x 1.25 x 20 mm | - |
| 9 | 14-00711 | 16 | Hex Nut M8 | - |
| 10 | 15-00702 | 16 | Lock Washer M8 | - |
| 11 | 33-83105 | 4 | Platform Mount (w/SAW16F & earlier) Front & Rear | - |
| | 33-83104 | 4 | Platform Mount (w/Lima 250 or SAW16H) Front & Rear | - |
| | 33-85402 | 2 | Platform Mount (w/Lima 280) Rear only | - |
| 12 | 12-00942 | 8 | Capscrew, Hex Head M12 x 1.25 x 25 mm | - |
| 13 | 15-00912 | 8 | Lock Washer M12 | - |

Marine Base Frame Assembly

PX-G303 Generator

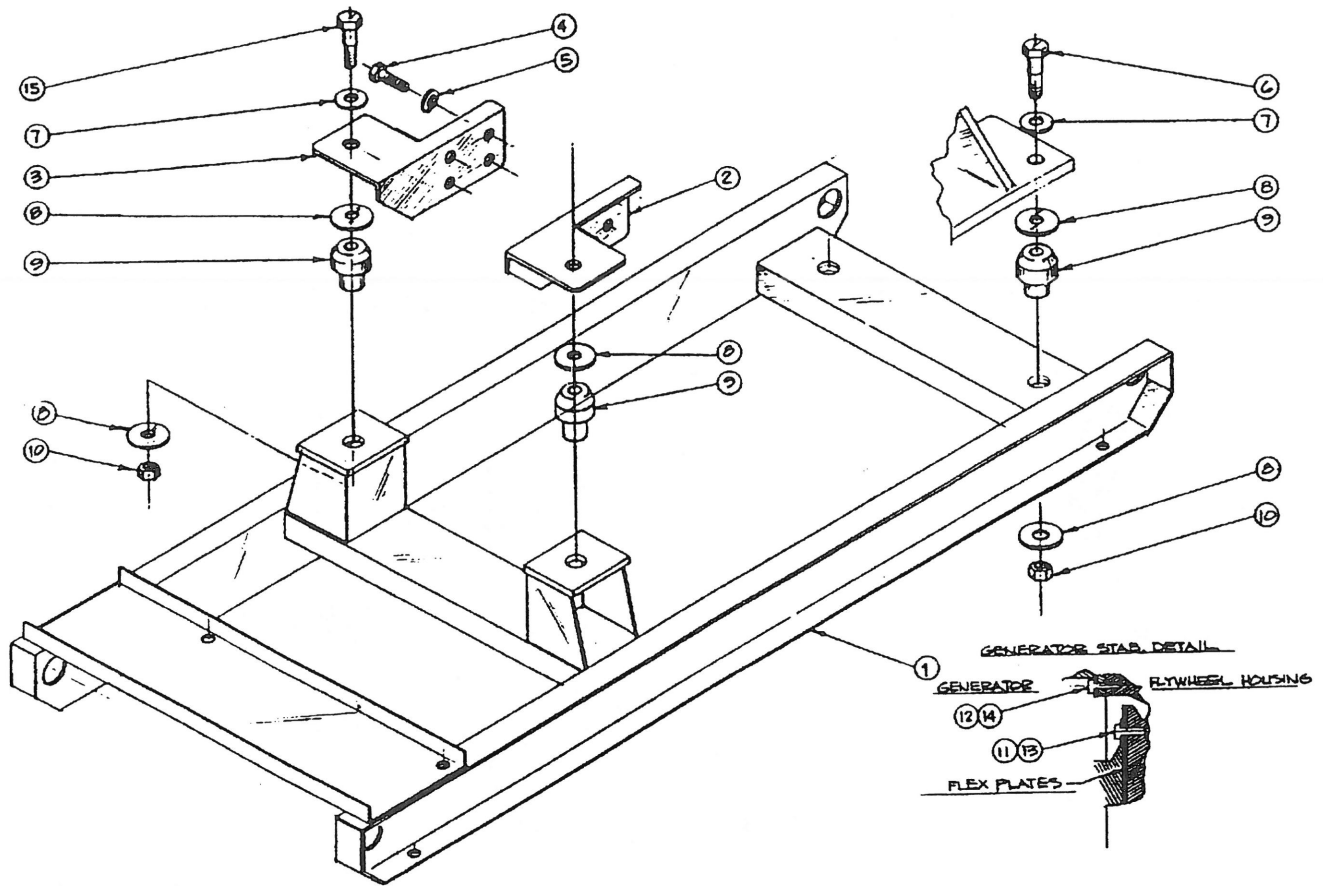


ENG. / GEN. COUPLING ARR.

A-5077

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---------------------------------------|---------------|
| 1 | 39-88205 | 1 | Base Frame | - |
| 2 | 23-88206 | 2 | Mounting Bracket, Left and Right | - |
| 3 | 33-83104 | 4 | Plate Form Mount | - |
| 4 | 12-00942 | 8 | Capscrew, Hex Head M12 x 1.25 x 25 mm | - |
| 5 | 12-00711 | 16 | Capscrew, Hex Head M8 x 1.25 x 20 mm | - |
| 6 | 15-00702 | 16 | Lock Washer M8 | - |
| 7 | 12-00519 | 4 | Capscrew, Hex Head 1/2 - 13 x 2-3/4" | - |
| 8 | 15-00020 | 8 | Snubbing Washer | - |
| 9 | 14-00512 | 4 | Nylock Nut 1/2 - 13 | - |
| 10 | 12-00312 | 8 | Capscrew, Hex Head 3/8 - 16 x 1" | - |
| 11 | 12-00214 | 6 | Capscrew, Hex Head 5/16 - 18 x 1-1/2" | - |
| 12 | 15-00302 | 8 | Lock Washer 3/8 | - |
| 13 | 15-00202 | 6 | Lock Washer 5/16 | - |

Industrial Base Frame Assembly



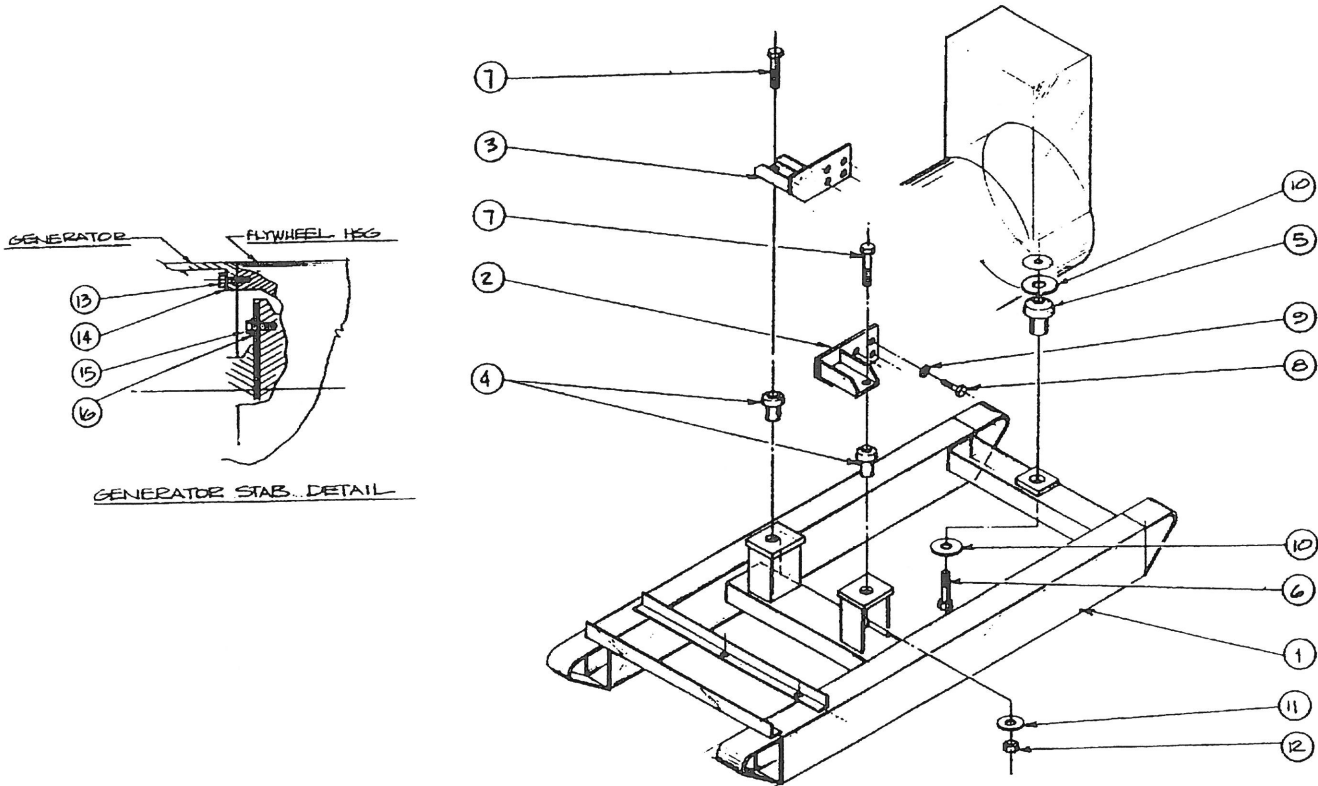
A-5096/C-2367

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|-----------------|
| 1 | 39-88206 | 1 | Base Frame (753) SAW 16 / Lima 250 & 280 | - |
| | 39-88203 | 1 | Base Frame (753G) PX-G302 with Battery Rack | up to xxxx-9864 |
| | 39-88214 | 1 | Base Frame (753G) PX-G302 without Battery Rack | from xxxx-9864 |
| 2 | 23-88204 | 1 | Mounting Bracket, Left Hand (formerly # 23-83115) | - |
| 3 | 23-88205 | 1 | Mounting Bracket, Right Hand (formerly # 23-83114) | - |
| 4 | 12-00942 | 8 | Capscrew, Hex Head M12 x 1.25 x 25 mm | - |
| 5 | 15-00912 | 8 | Lock Washer M12 | - |
| 6 | 12-00319 | 2 | Capscrew, Hex Head 3/8 - 16 x 2-3/4" | - |
| 7 | 15-00301 | 4 | Flat Washer 3/8 | - |
| 8 | 15-00014 | 8 | Snubbing Washer | - |
| 9 | 33-83100 | 2 | Front Shock Mount (753) | - |
| | 33-83151 | 2 | Rear Shock Mount (753) | - |
| | 33-83151 | 4 | Shock Mount (753G) | - |
| 10 | 14-00312 | 4 | Nylock Nut 3/8 - 16 | - |
| 11 | 12-00214 | 6 | Capscrew, Hex Head 5/16 - 18 x 1-1/2" (SAW & PX-G Generators) | - |
| | 12-00209 | 6 | Capscrew, Hex Head 5/16 - 18 x 3/4" (Lima Generators) | - |
| 12 | 12-00301 | 8 | Capscrew, Hex Head 3/8 - 16 x 1-1/4" | - |
| 13 | 15-00202 | 6 | Lock Washer 5/16 | - |
| 14 | 15-00302 | 8 | Lock Washer 3/8 | - |
| 15 | 12-00317 | 2 | Capscrew, Hex Head 3/8 - 16 x 2-1/4" | - |

GROUP 8 – FRAME AND MOUNTING

Marine Base Frame Assembly - 3 Point Mounting

Industrial Application

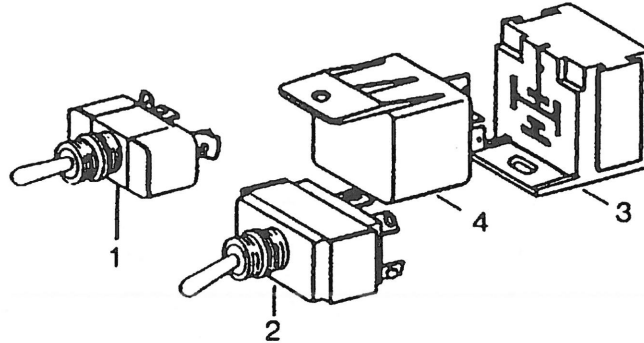


A-4915/C-2524

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---------------------------------------|---------------|
| 1 | 39-88201 | 1 | Base Frame | - |
| 2 | 23-88204 | 1 | Mounting Bracket, Left Hand | - |
| 3 | 23-88205 | 1 | Mounting Bracket, Right Hand | - |
| 4 | 33-83151 | 2 | Front Shock Mount | - |
| 5 | 33-82254 | 2 | Rear Shock Mount | - |
| 6 | 12-00955 | 1 | Capscrew, Hex Head M12 x 1.75 x 60 mm | - |
| 7 | 12-00317 | 2 | Capscrew, Hex Head 3/8 - 16 x 2-1/4" | - |
| 8 | 12-00942 | 8 | Capscrew, Hex Head M12 x 1.25 x 25 mm | - |
| 9 | 15-00912 | 8 | Lock Washer M12 | - |
| 10 | 15-00016 | 2 | Snubbing Washer | - |
| 11 | 15-00014 | 2 | Snubbing Washer | - |
| 12 | 14-00312 | 2 | Nylock Hex Nut 3/8 - 16 | - |
| 13 | 12-00312 | 12 | Capscrew, Hex Head 3/8 - 16 x 1" | - |
| 14 | 15-00302 | 12 | Lock Washer 3/8 | - |
| 15 | 12-00214 | 8 | Capscrew, Hex Head 5/16 - 18 x 1-1/2" | - |
| 16 | 15-00202 | 8 | Lock Washer 5/16 | - |

Series 1 Control Panel

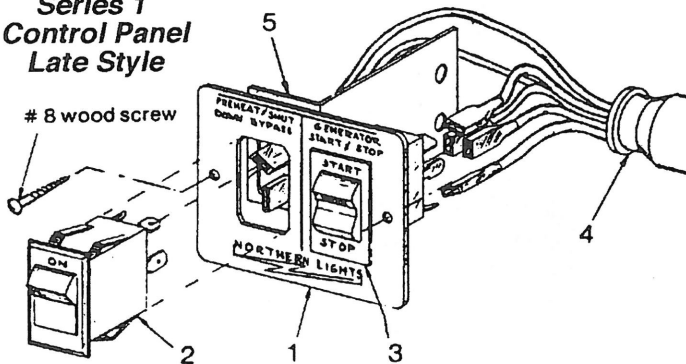
Early Style



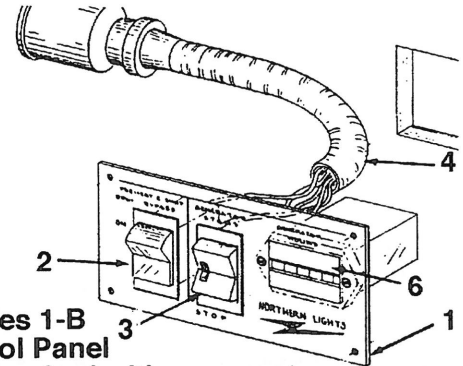
| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--------------------------|---------------|
| 1 | 22-41052 | 1 | Engine Control Switch | - |
| 2 | 22-41045 | 1 | Shutdown-Bypass Switch | - |
| 3 | 22-41032 | 1 | Relay Socket | - |
| 4 | 22-41680 | 1 | Relay | - |
| 5 | 22-42002 | 1 | Wire Harness (not shown) | - |

Series 1 and 1B Control Panel

**Series 1
Control Panel
Late Style**



**Series 1-B
Control Panel
Comes Standard with
Generator Set**



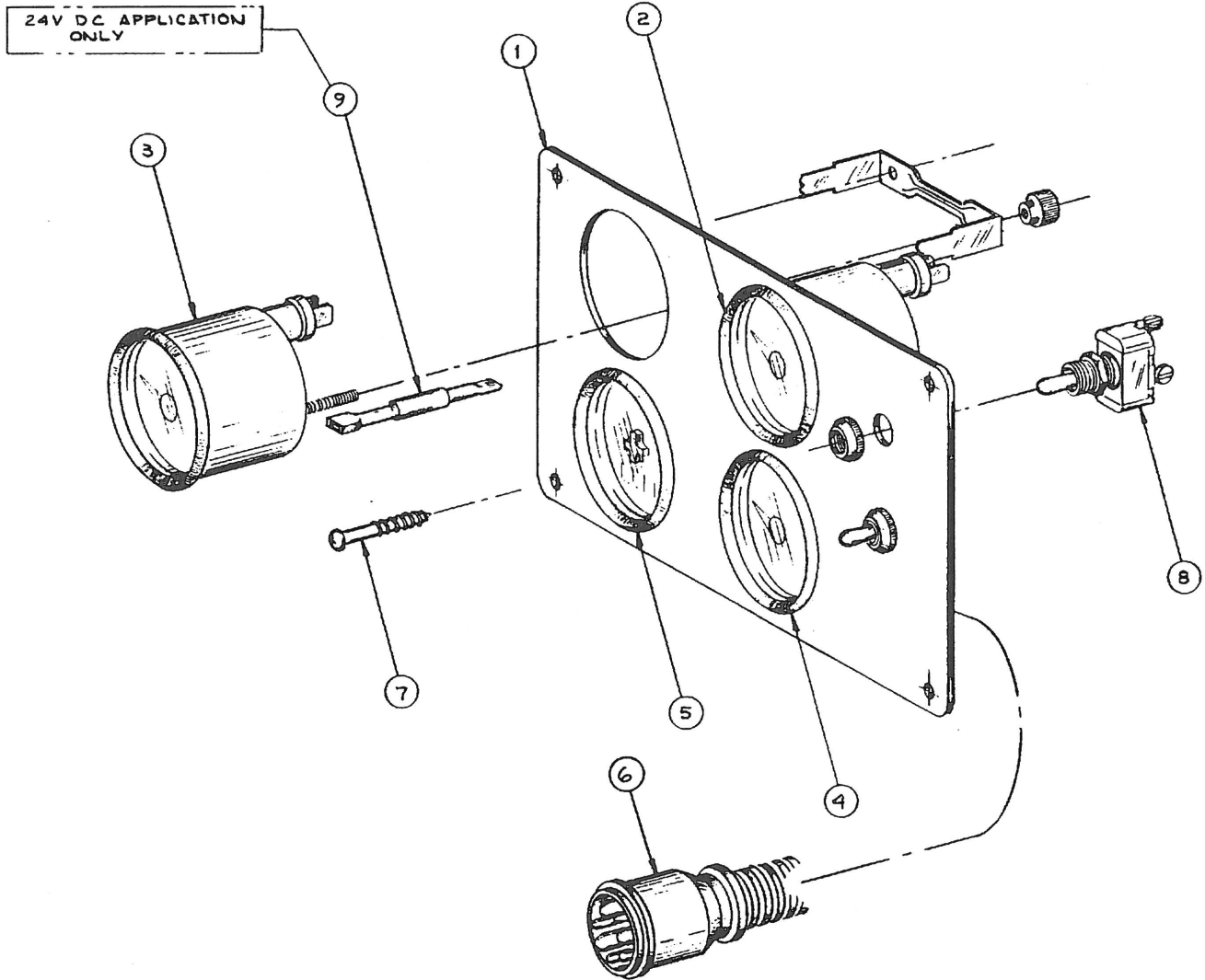
A-2863/B-2873

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| ∞ | 22-90005 | 1 | 12 Volt Series 1 Control Panel (includes all Keys) | - |
| ∞ | 22-90006 | 1 | 12 Volt Series 1-B Control Panel (includes all Keys) Included w/unit | - |
| ∞ | 22-95430 | 1 | 24 Volt Series 1-B Control Panel (includes all Keys) | - |
| 1 | 00-40013 | 1 | Series 1 Control Panel Face Plate | - |
| | 28-90003 | 1 | Series 1-B Control Panel Face Plate | - |
| 2 | 22-90007 | 1 | Preheat/Shutdown-Bypass Switch | - |
| 3 | 22-90008 | 1 | Engine Control Switch | - |
| 4 | 22-90009 | 1 | Wire Harness w/Series 1 Panel | - |
| | 22-90019 | 1 | Wire Harness w/Series 1-B Panel | - |
| 5 | 23-70009 | 1 | Strain Relief Bracket w/Series 1 Panel | - |
| 6 | 22-90009 | 1 | Hour Meter w/Series 1-B Panel | - |
| 7 | 22-40012 | 1 | Resistor, 12 Volt Only (not shown) w/Series 1-B Panel | - |

GROUP 9 – ACCESSORIES AND OPTIONAL EQUIPMENT

Standard Line, Flush Mount, Dual Station Control Panel

12 Volt

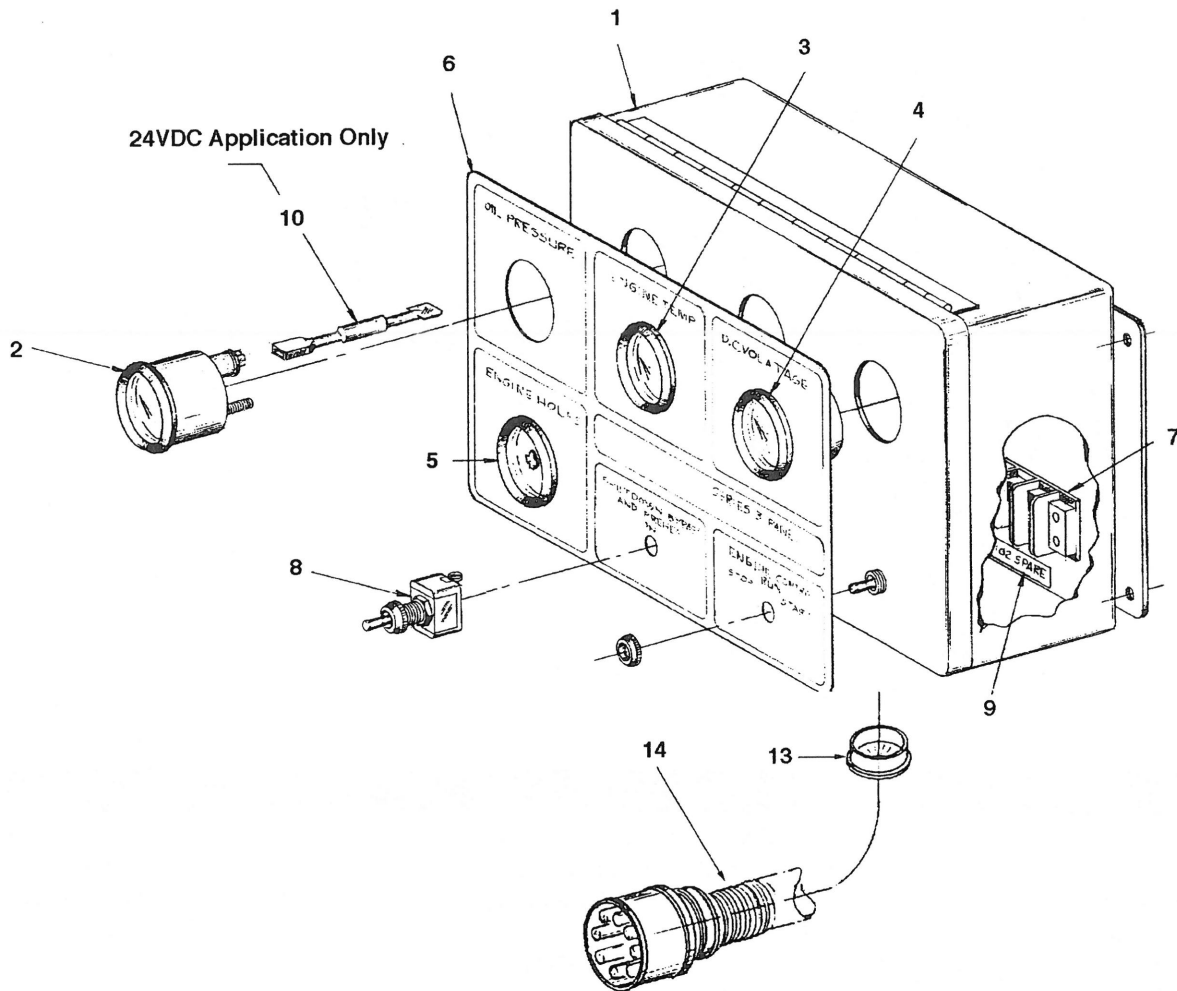


A-4732, A-4597/C-2441

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| ∞ | 22-92015 | 1 | S-3C Control Panel, 12 Volt Flush Mount (includes all Keys) | - |
| ∞ | 22-92014 | 1 | S-3C Control Panel, 24 Volt Flush Mount (includes all Keys) | - |
| 1 | 28-90010 | 1 | Series 3 Control Panel Plate | - |
| 2 | 37-40010 | 1 | Oil Pressure Gauge 0 - 80 PSI | - |
| 3 | 37-40011 | 1 | Engine Temperature Gauge, 250°F | - |
| 4 | 37-40012 | 1 | DC Voltmeter, 12 Volt | - |
| | 37-40014 | 1 | DC Voltmeter, 24 Volt | - |
| 5 | 27-40013 | 1 | Hourmeter | - |
| 6 | 22-40062 | 1 | Panel Wire Harness (not shown) | - |
| 7 | 12-90007 | 4 | Self Tapping Screw, Oval Head Phillips # 6 x 3/4" | - |
| 8 | 22-41051 | 2 | SPDT Momentary Toggle Switch | - |
| 9 | 22-40004 | 2 | 24 Volt Resistor Kit | - |
| 10 | 22-44852 | ** | 12 Volt Bulb (not shown) | - |
| | 22-44853 | ** | 24 Volt Bulb (not shown) | - |
| | | | **As Required. | |

Standard Line, Surface Mount, Dual Station Control Panel

12 and 24 Volt

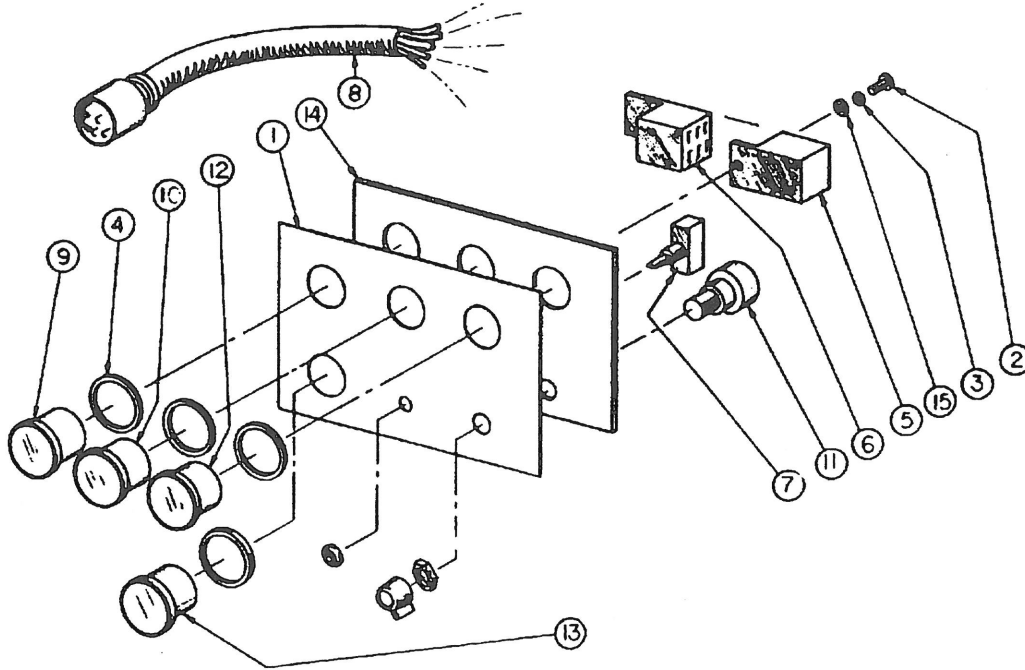


A-4721, A-4695, A-4722, A-4723/C-2470

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| •• | 22-92031 | 1 | S-3B Control Panel - 12 Volt (Includes all Keys) | - |
| •• | 22-95420 | 1 | S-3B Control Panel - 24 Volt (Includes all Keys) | - |
| 1 | 39-42005 | 1 | Enclosure 10" x 8" x 4" (white) | - |
| 2 | 37-40010 | 1 | Oil Pressure Gauge, Standard Line 0 - 80 PSI | - |
| 3 | 37-40011 | 1 | Engine Temperature Gauge, Standard Line 0 - 250° | - |
| 4 | 37-40012 | 1 | DC Voltmeter, 12 Volt, Standard Line | - |
| •• | 37-40014 | 1 | DC Voltmeter, 24 Volt, Standard Line | - |
| 5 | 37-40013 | 1 | Hourmeter, Standard Line | - |
| 6 | 00-91018 | 1 | Series 3 Control Panel Decal | - |
| 7 | 22-41077 | 1 | Terminal Board | - |
| 8 | 22-41051 | 2 | Toggle Switch, Momentary SPDT | - |
| 9 | 22-00052 | 1 | Number Strip | - |
| 10 | 22-40004 | 2 | Resistor Kit (24 Volt panel only) | - |
| 11 | 22-44852 | ** | Clear Bulb, 12 Volt (not shown) | - |
| •• | 22-44853 | ** | Clear Bulb, 24 Volt (not shown) | - |
| 12 | 22-40257 | 1 | Wire Harness (not shown) | - |
| 13 | 00-41015 | 1 | Plastic Bushing | - |
| 14 | 22-40062 | 1 | Connection Harness | - |
| | | | ** As Required. | |

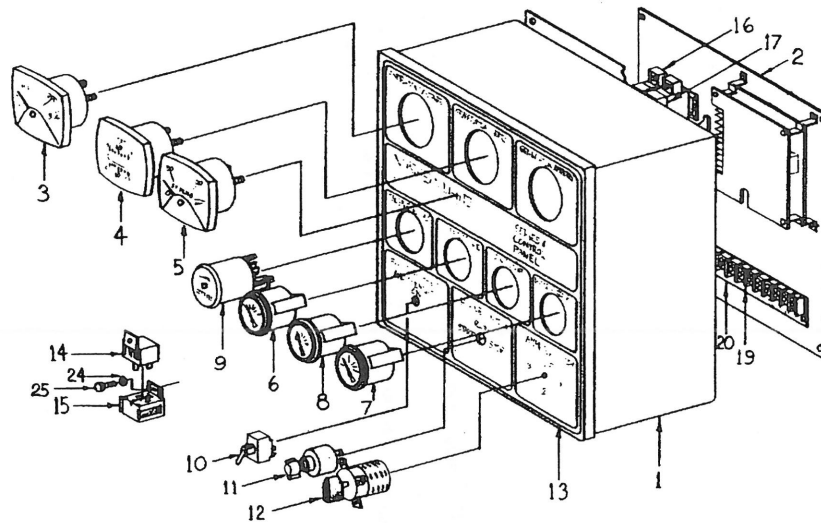
GROUP 9 – ACCESSORIES AND OPTIONAL EQUIPMENT

Series 3 Panel Kit - Flush Mount



| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------------|
| ∞ | 22-92011 | 1 | Complete Control Panel, VDO Gauges | up to S/N xxxx-1771 |
| ∞ | 22-92022 | 1 | Complete Control Panel, FD Gauges | S/N xxxx-1772-2848 |
| ∞ | 22-90041 | 1 | Complete Control Panel, Yazaki Gauges | S/N xxxx-2849-6442 |
| 1 | 00-91018 | 1 | Series 3 Panel Label | - |
| 2 | 12-00006 | 1 | Machine Screw, Bevel Head #8-32 x 1/2" | - |
| 3 | 15-00000 | 1 | Lock Washer #8 | - |
| 4 | 16-01001 | 4 | O-Ring Cut 1-3/4" ID | - |
| 5 | 22-41032 | 1 | Relay Base | - |
| 6 | 22-41680 | 1 | Relay (replaced by #22-42047) | - |
| | 22-42047 | 1 | Relay | - |
| 7 | 22-41051 | 1 | Toggle Switch | - |
| 8 | 22-42005 | 1 | Wire Harness Series 3 Control Panel | up to S/N xxxx-6442 |
| 9 | 37-91051 | 1 | Oil Pressure Gauge, VDO | up to S/N xxxx-1771 |
| | 37-40002 | 1 | Oil Pressure Gauge, FD | S/N xxxx-1772-2848 |
| | 37-90006 | 1 | Oil Pressure Gauge, Yazaki | S/N xxxx-2849-6442 |
| 10 | 37-91052 | 1 | Water Temperature Gauge, VDO | up to S/N xxxx-1771 |
| | 37-40003 | 1 | Water Temperature Gauge, FD | S/N xxxx-1772-2848 |
| | 37-90008 | 1 | Water Temperature Gauge, Yazaki | S/N xxxx-2849-6442 |
| 11 | 37-91055 | 1 | Engine Control Switch, Rotary | up to S/N xxxx-1771 |
| | 22-40089 | 1 | Engine Control Switch, Rotary | S/N xxxx-1772-2848 |
| 12 | 37-91058 | 1 | Voltmeter, 12V DC, VDO | up to S/N xxxx-1771 |
| | 37-40004 | 1 | Voltmeter, 12V DC, FD | S/N xxxx-1772-2848 |
| | 37-90005 | 1 | Voltmeter, 12V DC, Yazaki | S/N xxxx-2849-6442 |
| 13 | 37-91059 | 1 | Hourmeter, VDO | up to S/N xxxx-1771 |
| | 37-40005 | 1 | Hourmeter, FD | S/N xxxx-1772-2848 |
| | 28-90001 | 1 | Hourmeter, Yazaki | S/N xxxx-2849-6442 |
| 14 | 28-90001 | 1 | Series 3 Flush Panel Plate (replaced by #28-90005) | - |
| | 28-90005 | 1 | Series 3 Flush Panel Plate | - |
| 15 | 15-00001 | 1 | Flat Washer #8 | - |

Series 4 Control Panel

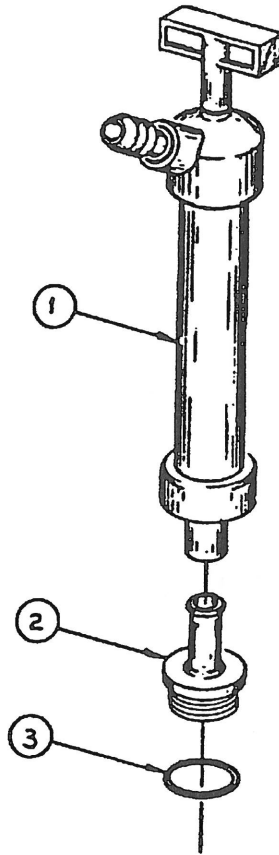


| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------------|
| 1 | 39-41006 | 1 | Enclosure 16" x 14" x 8" | - |
| 2 | 39-41001 | 1 | Enclosure Plate | - |
| 3 | 37-91020 | 1 | AC Voltmeter | - |
| 4 | 37-91022 | 1 | Frequency Meter | - |
| 5 | 37-91010 | 1 | AC Ammeter | - |
| 6 | 37-91051 | 1 | Oil Pressure Gauge, VDO | up to S/N xxxx-1771 |
| | 37-40002 | 1 | Oil Pressure Gauge, FD | S/N xxxx-1772-2848 |
| | 37-90006 | 1 | Oil Pressure Gauge, Yazaki | S/N xxxx-2849-6442 |
| | 37-91001 | 1 | Oil Pressure Gauge, VDO Blue Line | from S/N xxxx-6443 |
| 7 | 37-91052 | 1 | Water Temperature Gauge, VDO | up to S/N xxxx-1771 |
| | 37-40003 | 1 | Water Temperature Gauge, FD | S/N xxxx-1772-2848 |
| | 37-90008 | 1 | Water Temperature Gauge, Yazaki | S/N xxxx-2849-6442 |
| | 37-94805 | 1 | Water Temperature Gauge, VDO Blue Line | from S/N xxxx-6443 |
| 8 | 37-91058 | 1 | DC Voltmeter, VDO | up to S/N xxxx-1771 |
| | 37-40004 | 1 | DC Voltmeter, FD | S/N xxxx-1772-2848 |
| | 37-90005 | 1 | DC Voltmeter, Yazaki | S/N xxxx-2849-6442 |
| | 37-91008 | 1 | DC Voltmeter, VDO Blue Line | from S/N xxxx-6443 |
| 9 | 37-91059 | 1 | Engine Hourmeter, VDO | up to S/N xxxx-1771 |
| | 37-40005 | 1 | Engine Hourmeter, FD | S/N xxxx-1772-2848 |
| | 37-90007 | 1 | Engine Hourmeter, Yazaki | S/N xxxx-2849-6442 |
| | 37-94806 | 1 | Engine Hourmeter, VDO Blue Line | from S/N xxxx-6443 |
| 10 | 22-41051 | 1 | Shutdown-Bypass Switch | - |
| 11 | 37-91055 | 1 | Engine Control Switch, Single Station Rotary Switch | - |
| | 22-41051 | 1 | Engine Control Switch, Dual Station Toggle Switch | - |
| 12 | 22-41035 | 1 | Ammeter Switch (replaced by #22-41098) | - |
| | 22-41098 | 1 | Ammeter Switch | - |
| 13 | 00-91015 | 1 | Series 4 Control Panel Decal | - |
| 14 | 22-41680 | 1 | Relay (replaced by #22-42047) | - |
| | 22-42047 | 1 | Relay | - |
| 15 | 22-41032 | 1 | Relay Socket | - |
| 16 | 22-41036 | 1 | Fuel Holder Assembly | - |
| 17 | 22-41061 | 2 | 1 Amp Fuses for Generator Instruments and Regulator | - |
| 19 | 22-41069 | 1 | 22 Connector Terminal Board | - |
| 20 | 22-41040 | 1 | Number Strip | - |
| 21 | 12-00006 | 4 | Screw 9-32 x 3/4" | - |
| 22 | 15-00000 | 8 | Lock Washer #8 | - |
| 23 | 12-00005 | 2 | Screw 8-32 x 3/4" | - |
| 24 | 15-00032 | 1 | Flat Washer #10 | - |
| 25 | 12-00000 | 1 | Screw 10/32" x 1/2" | - |

GROUP 9 – ACCESSORIES AND OPTIONAL EQUIPMENT

Oil Drain Kit

Marine Application

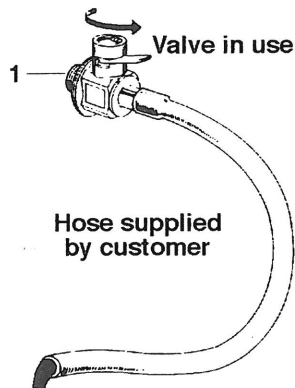


A-5024/B-3990

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|--|---------------|
| ∞ | 34-70010 | | Oil Drain Kit Complete (includes all Keys) | - |
| 1 | 36-72002 | 1 | Hand Pump | - |
| 2 | 31-70001 | 1 | Adapter, Oil Drain | - |
| 3 | 16-70001 | 1 | O-Ring | - |

Oil Drain Kit

Marine Application

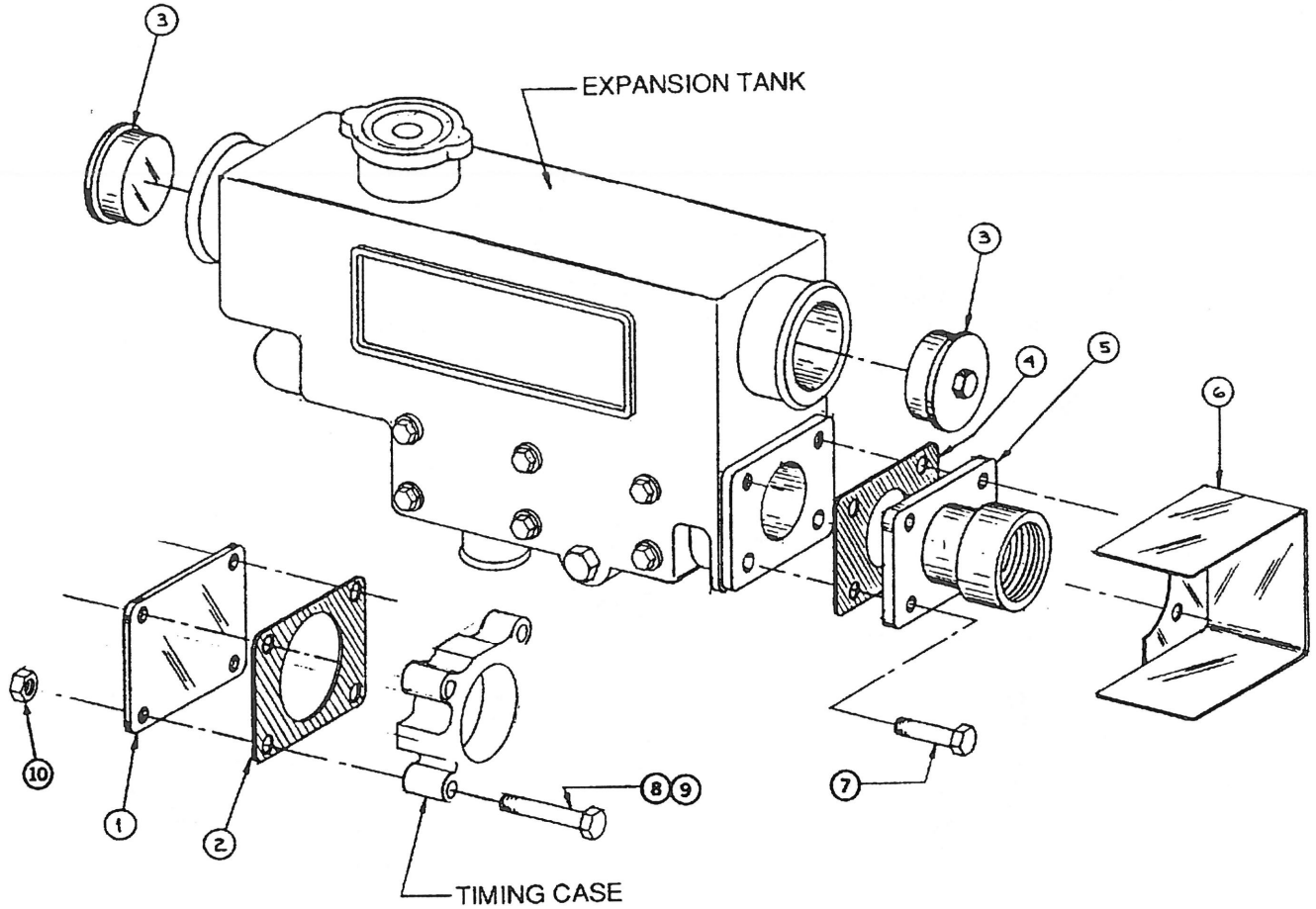


A-6480

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|-------------|---------------|
| 1 | 36-72003 | 1 | Drain Valve | - |

Dry Exhaust Adapter - Keel Cooled

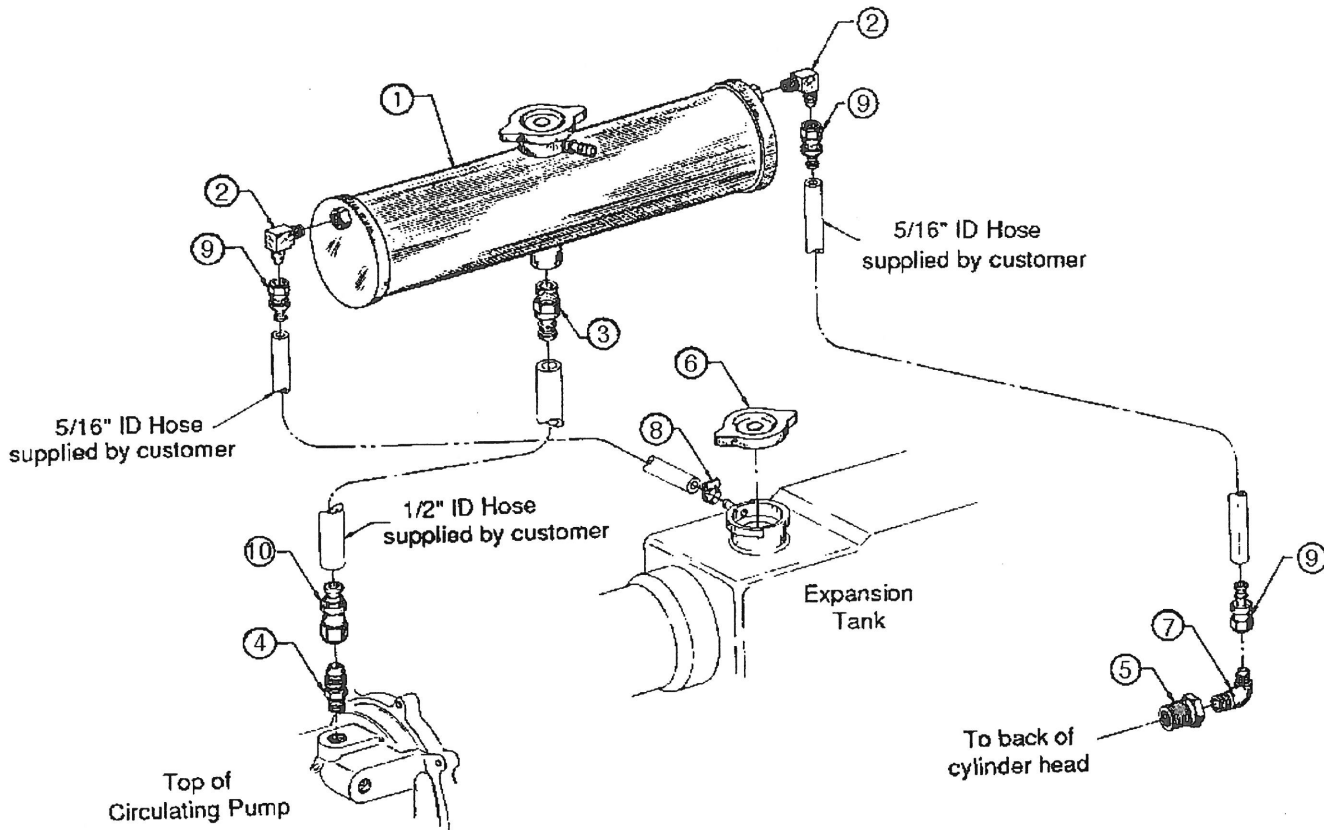
Marine Application



A-2169/C-2276

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| 1 | 165206320 | 1 | Cover Plate (formerly #165206010) | - |
| 2 | 11-12005 | 1 | Gasket, Cover Plate | - |
| 3 | 20-11904 | 2 | End Cap (replaces Plug #00-18201), requires Key #11 | - |
| 4 | 314990030 | 1 | Gasket, Exhaust Adapter | - |
| 5 | 27-31921 | 1 | Dry Exhaust Adapter | - |
| 6 | 00-12000 | 1 | Heat Shield | - |
| 7 | 12-00712 | 4 | Capscrew, Hex Head M8 x 1.25 x 25 mm | - |
| 8 | 12-00071 | 3 | Capscrew, Hex Head M8 x 1.25 x 70 mm | - |
| 9 | 12-00718 | 1 | Capscrew, Hex Head M8 x 1.25 x 65 mm | - |
| 10 | 14-00711 | 3 | Hex Nut M8 x 1.25 | - |
| 11 | 19-00058 | 2 | Hose Clamp #48 (used with #20-11904 - not shown) | - |

Remote Expansion Tank



A-5931A/D-2345

| KEY | PART NUMBER | QTY | DESCRIPTION | SERIAL NUMBER |
|-----|-------------|-----|---|---------------|
| 1 | 10-12002 | 1 | Tank | - |
| 2 | 21-52245 | 2 | Male Elbow, Brass 1/4 NPT x 5/16-45T | - |
| 3 | 21-51093 | 1 | Male Connector, Brass 1/2 NPT x 1/2 HB | - |
| 4 | 21-71093 | 1 | Male Connector, Brass 3/8 NPT x 1/2 HB | - |
| 5 | 21-00140 | 1 | Bushing, Steel 3/4 NPT x 3/8 NPT | - |
| 6 | 21-12008 | 1 | Filler Cap | - |
| 7 | 21-01013 | 1 | Male Elbow, Brass 3/8 NPT x 5/16-45T | - |
| 8 | 19-00004 | 1 | Hose Clamp | - |
| 9 | 21-71056 | 3 | Female Swivel, Brass 5/16 HB x 5/16-45T | - |
| 10 | 21-71042 | 1 | Female Swivel, Brass 1/2 HB x 1/2-45T | - |

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