ENGINE ROTATION

Engine rotation is viewed from the flywheel of the engine, counter clockwise would be left hand, & clockwise would be right hand.

If your FLYWHEEL turns counter clockwise you have LEFT HAND engine rotation

If your FLYWHEEL turns clockwise you have RIGHT HAND engine rotation

If you can not view the engine from the flywheel end, look at the belts & pulleys and refer to the diagram below, propeller rotation is not a good indication of engine rotation, a drive or transmission can reverse engine rotation, ALL I/O ENGINES ARE LEFT HAND!

If your BELTS & PULLEYS turn clockwise you have LEFT HAND engine rotation

If your BELTS & PULLEYS turn counter clockwise you have right hand engine rotation
# Marine Engines & Components

## New & Remanufactured Long Blocks

### New GM 5.7, V8 Vortec Base Engines

5.7L GM marine vortec base engine, includes 4 bbl Holley carburetor, Mallory electronic ignition, spark plugs & wires, electric fuel pump with safety switch, oil pan, circulating pump, flywheel, harmonic balancer, limited 1 year warranty

### Replacements for Mercruiser, Volvo-Penta, OMC, Sterndrives, & Crusader Inboard Applications

<table>
<thead>
<tr>
<th>Part#</th>
<th>BAR-4.3L</th>
<th>4.3L / 229 C.I.D.</th>
<th>V6</th>
<th>4.00 x 3.48 inches</th>
<th>9.4 : 1</th>
<th>GM Powertrain</th>
<th>Unleaded, 89</th>
<th>Octane Min.</th>
<th>223 hp @ 4800 rpm</th>
<th>(Carb.)</th>
<th>4.5 QT</th>
<th>12 Month Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterndrive Part#</td>
<td>CRU-BASE-LH-IO</td>
<td>Displacement</td>
<td>Cylinders</td>
<td>Bore &amp; Stroke</td>
<td>Comp. Ratio</td>
<td>Block Mfg.</td>
<td>Fuel Required</td>
<td>Horsepower</td>
<td>Oil Type</td>
<td>Warranty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inboard Part#</td>
<td>CRU-BASE-LH-IB</td>
<td>CRU-BASE-RH-IB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### New 3.0L GM Service Replacement Engine

<table>
<thead>
<tr>
<th>Part#</th>
<th>BAR-3.0L</th>
<th>3.0L / 181 C.I.D.</th>
<th>In-Line 4 Cylinder</th>
<th>4.00 x 3.30</th>
<th>9.25 : 1 High Flow Vortec H</th>
<th>GM Powertrain</th>
<th>Unleaded, 89</th>
<th>Octane Min.</th>
<th>140 hp @ 4800 rpm</th>
<th>(Carb.)</th>
<th>SAE 15W40 Pennzoill Marine</th>
<th>12 Month Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes</td>
<td>oil pan, valve covers, harmonic balancer, circulating pump, &amp; electronic distributor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### New 4.3L GM Service Replacement Engine

<table>
<thead>
<tr>
<th>Part#</th>
<th>BAR-4.3L</th>
<th>4.3L / 229 C.I.D.</th>
<th>V6</th>
<th>4.00 x 3.48 inches</th>
<th>11.7 : 1</th>
<th>GM Powertrain</th>
<th>Unleaded, 89</th>
<th>Octane Min.</th>
<th>255 hp @ 4800 rpm</th>
<th>(Carb.)</th>
<th>4.5 QT</th>
<th>12 Month Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes</td>
<td>water circulating pump, spark plugs, flywheel, cast iron intake (2bbl), oil pan, valve covers, &amp; harmonic balancer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### First Mate Performance “Blueprint” Marine Engines

#### 4.3 Liter GM 262 Performance Base Engine

- Heads: Cast Iron Vortec
- Crank: Cast Iron Premium
- Pistons: Hypereutectic
- Intake: Cast Iron
- Camshaft: Flat tappet
- .457 intake and exhaust lift, 218 intake and exhaust duration at .050
- Peak HP 262 Peak Torque 300ft/lbs

| Part# | FIRMBP262CT |

#### 5.7 Liter GM 350 “Stroker” 383 Base Engine

- Heads: Cast Iron Vortec
- Crank: New SCAT Cast Iron
- Pistons: Hypereutectic
- Intake: Cast Iron
- Camshaft: Roller tappet
- .503 intake .510 exhaust lift, 224 intake 230 exhaust duration at .050
- Peak HP 405 Peak Torque 450ft/lbs

| Part# | FIRMBP3830CT |

Order toll free: 1-800-382-9335 | WWW.PARTMAN.COM | 24 hr. fax: 631-722-5719
FIRST MATE REMANUFACTURED MARINE CYLINDER HEADS

These remanufactured heads feature New valve springs, Thre angle valve job, high quality silicone seals, all guides replaced, baked, cleaned then shot blasted, & 100% magnetic particle inspection.

They are sold on an outright basis & NO core return necessary.

“NEW”

Part# MCHCHE817N GENERAL MOTORS (350)
Description: 5.7L. Vortec head, heart shaped chambers, rocker bolts in center of head, has 4 intake bolts per side, 260hp, 8 cyl.
Casting Numbers: 906, 062

Part# 18-4489 GENERAL MOTORS (151 / 183)
Description: 2.5L & 181 cu.in. 3.0L Mercruiser, OMC, & others, 1968 thru 1995 NON vortex
Casting Numbers: 954, 748, 950, 758, 087, 852, 531
Note: Engines between 1968-1982 use manifold to head gasket #CHV-47-0120, Engines between 1983-1995 use manifold to head gasket 18-1204

“NEW”

Part# FIRH-6007 GENERAL MOTORS (250)
Description: 4.1L, tapered seat plugs, standard marine replacement, 150/165hp 6 cyl.
Casting Numbers: 763, 052

Part# FIRH-6009 GENERAL MOTORS (262)
Description: 4.3L, 3 accessory mounting holes on the front of the head, substitute for the 2 accessory mounting holes on the front of the head, press in studs, 175/205hp, 6 cyl.
Casting Numbers: 768, 996, 107, 476, 103, 066

FIRST MATE

REBUILT

Part# FIRH-6015 GENERAL MOTORS (305)
Description: 5.0L. Heavy casting, 6 bolt exhaust, early style, valve covers bolt around perimeter, 200/230hp, 8 cyl.
Casting Numbers: 434, 741

Part# FIRH-6017 GENERAL MOTORS (305)
Description: 5.0L, Tall valve cover rail, valve cover bolts down center, NON vortex head, round push rod holes, Must use rail rockers, 200/230hp, 8 cyl.
Casting Numbers: 081

FIRST MATE

REBUILT

Part# FIRH-6017A GENERAL MOTORS (305)
Description: 5.0L, Tall valve cover rail, valve cover bolts down center, NON vortex head, round push rod holes, Must use rail rockers, 200/230hp, 8 cyl.
Casting Numbers: 087

Part# FIRH-6022 GENERAL MOTORS (350)
Description: 5.7L 1.9375 intake valves, taper plug, valve covers bolts around perimeter, with roto, 260hp, 8 cyl.
Casting Numbers: covers all early style that are not #882
**FEATURES OF A FIRST MATE REBUILT MARINE HEAD**

- Extremely high quality silicone seals
- All guides are replaced (never knurled)
- Baked clean & shot blasted
- Every valve & seat are tested for a perfect seal
- Surface grounds checked
- 3 angle cut on valve seats
- 100% magnetic particle inspected

**First Mate**

**REBUILT**

**Part#**

FIRH-6023 **GENERAL MOTORS (350)**

**Description:**

5.7L, Tall valve cover rail, NON vortec head, valve cover bolts down center of head, 1.940 intake, square intake ports, 260hp, 8 cyl.

**Casting Numbers:** 083, 193, 217

**First Mate**

**REBUILT**

**Part#**

FIRH-6031 **GENERAL MOTORS (454)**

**Description:**

7.4L, Taper plug, small oval intake port head, with roto’s, 330hp, 8 cyl.

**Casting Numbers:** 045, 360, 039, 416

**First Mate**

**REBUILT**

**Part#**

FIRH-6032 **GENERAL MOTORS (454)**

**Description:**

7.4L, Taper plug, large oval intake port head, with roto’s, 330hp, 8 cyl.

**Casting Numbers:** 781, 049, 186

**First Mate**

**REBUILT**

**Part#**

FIRH-6033 **GENERAL MOTORS (454)**

**Description:**

7.4L, Gen V head, standard marine replacement, 330hp, 8 cyl.

**Casting Numbers:** 156, 932

**First Mate**

**REBUILT**

**Part#**

FIRH-6041A **CHRYSLER (318)**

**Description:**

5.2L, Standard chrysler replacement, with pad & W/O AIR, with roto’s, 200hp, 8 cyl.

**Casting Numbers:** 973, 163, 593, 851, 585

**First Mate**

**REBUILT**

**Part#**

FIRH-6045 **CHRYSLER (360)**

**Description:**

5.9L, Standard chrysler replacement, with pad & W/O AIR, with roto’s, 200hp, 8 cyl.

**Casting Numbers:** 830, 496, 230, 915

**First Mate**

**REBUILT**

**Part#**

FIRH-6051 **MERCRUISER (224)**

**Description:**

3.7L, standard marine replacement, has outlet on end of head, 170/190hp, 4 cyl.

**Casting Numbers:** E6TE-DA, E8TE-DA, D3VE-A2A

---

**Call our sales dept. for instructions on locating your casting number to ensure correct replacement is ordered**
MARINE ENGINES & COMPONENTS
MARINE INTAKE MANIFOLDS & TIMING COVERS

INTAKE MANIFOLD GM SB HI-RISE

Part# 856076
Description: Fits GM CHEVY SB (5.0 & 5.7L) engines with 12 bolt mounting pattern, (pre vortec) valve covers bolt down center, Casting #14096244

Part# BJM8504
Description: Mounting bolt kit (12)

CAST IRON INTAKE MANIFOLD
VORTEC GM CHEVY 5.0 & 5.7L

Part# EGL6107
Description: Fits GM CHEVY (5.7L V-8 VORTEC ENGINES), fits late model GM CHEVY (5.7L Engines), “E-COATED” for longer life, will accept 4-BBL Square Bore Carburetors such as Edelbrock and Holley

Part# EDL8516
Description: Mounting bolt kit (8)

INTAKE MANIFOLD GM 454 7.4L
(OVAL PORTS)

Part# 3854100
Description: Fits GM CHEVY BB (454 7.4L) engines with oval ports & 4 BBL rochester carburetors, 16 bolt mounting pattern, Casting #333841

Part# EDL8564
Description: Mounting bolt kit (16)

ALUMINUM INTAKE MANIFOLD
VORTEC GM CHEVY 5.0 & 5.7L

Part# CRURO02018C
Description: Aluminum with Bronze Inserts for GM (Chevy) 5.0 & 5.7 L “Vortec” Engines, (8-bolt pattern to secure intake manifold to heads), will accept 4-BBL Square Bore Carburetors such as Edelbrock & Holley. Note: this intake manifold is made by Crusader & Pleasurecraft Marine (part # R002018C) has bronze cross over & bronze ring in thermostat housing

Part# EDL8516
Description: Mounting bolt kit (8)

TIMING CASE COVERS

Part # Description:
3853135 In-line 4 & 6 cylinder GM, w/ seal & timing tab, No gasket
18-0887 Cover gasket for In-line 4 & 6 cylinder cover (3853135)
BJM6544-K V6 & V8 small block GM w/ cover gasket & bi-rotational seal
18-0976 Cover gasket for V6 & V8 SB (BJM6544-K)
66215 V8 GM big block w/ seal, No gasket
18-0980 Cover gasket for V8 BB cover (66215)
1697335 Front seal, V6 & V8 small block GM, Bi-rotational
268219471 Front seal, V8 bigi block GM, Bi-rotational
PNRS-1105 Timing cover bolt kit, All V6 & V8
**MARINE ENGINES & COMPONENTS**

**VALVE COVERS, OIL CAPS, HEAD BOLTS & ACCESSORIES**

**VALVE COVER KIT SB GM**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAR55-6000</td>
<td>Valve cover fits 1987 &amp; later GM SB V8’s, bolts down center, includes valve covers, gaskets, &amp; all hardware</td>
</tr>
</tbody>
</table>

**VALVE COVER 4.3L 1986 & UP**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3854949 Port Side</td>
<td>Valve cover fits GM 4.3L V6’s</td>
</tr>
<tr>
<td>3854948 Starboard Side</td>
<td></td>
</tr>
</tbody>
</table>

**VALVE COVER BEFORE 1985**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BJM6541 (pair)</td>
<td>Valve cover fits GM SB V8’s prior to 1985, bolts around rim</td>
</tr>
</tbody>
</table>

**OIL CAP CLAMP STYLE**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>17345</td>
<td>Twist In type for 1-1/4” dia. hole</td>
</tr>
</tbody>
</table>

**OIL CAP PUSH IN “BLANK”**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BJM6539</td>
<td>Push in type for 1-1/4” dia. hole.</td>
</tr>
</tbody>
</table>

**OIL CAP SCREW IN (PLASTIC)**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3854008</td>
<td>For GM 1987 &amp; up, will not rust</td>
</tr>
</tbody>
</table>

**GROMMETS, & CONNECTORS**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2552188</td>
<td>Grommet, Small Block GM</td>
</tr>
<tr>
<td>CRUR094016</td>
<td>Grommet, Big Block GM</td>
</tr>
<tr>
<td>CRU1104594</td>
<td>Connector, 45 degree</td>
</tr>
<tr>
<td>R035015</td>
<td>PCV Valve, 90 degree 3/8” hose</td>
</tr>
<tr>
<td>EEMFV156DP</td>
<td>PCV Valve, straight 1/2” hose</td>
</tr>
<tr>
<td>EEMFV181DP</td>
<td>PCV Valve, straight 3/8” hose</td>
</tr>
</tbody>
</table>

**DOWEL PIN KITS - (HEAD TO BLOCK)**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNRS-1110</td>
<td>Small Block GM V8</td>
</tr>
<tr>
<td>PNRS-1101</td>
<td>Big Block GM V8</td>
</tr>
</tbody>
</table>

**HEAD BOLT KIT - 1 HEAD**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAL9-56501</td>
<td>V-8 Small Block GM (Chevy) Fits most 4.3, 5.0 and 5.7-Liter GM (Chevy) engines. Note: 1-kit secures 1-Head to 1985, bolts around rim</td>
</tr>
</tbody>
</table>

**HEAD BOLT KIT - 1 HEAD**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAL9-56500</td>
<td>V-8 Big Block GM (Chevy) Fits most GM (Chevy) 454 cu.in. (7.4-liter) Big Block Cylinder Heads. Note: 1-kit secures 1-Head</td>
</tr>
</tbody>
</table>

**HEAD BOLT WASHERS - 2 HEADS**

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAL9-56551</td>
<td>Head Bolt Washers, 1-kit has enough washers for 2-heads</td>
</tr>
</tbody>
</table>

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**MERCI 470/485 FRONT COVER**

**Part#   | Description |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18-4380</td>
<td>#7, 8, 9 Gasket Kit</td>
</tr>
<tr>
<td>18-0172</td>
<td>#6 Camshaft Seal (2)</td>
</tr>
<tr>
<td>2667388</td>
<td>#5 Crankshaft seal (1)</td>
</tr>
<tr>
<td>FM99087</td>
<td>Redi Sleeves for camshaft (2 required)</td>
</tr>
<tr>
<td>Model</td>
<td>Part#</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>5.0L CHEVY</td>
<td>94130</td>
</tr>
<tr>
<td>3.7L MERC</td>
<td>71938A1</td>
</tr>
<tr>
<td>305/350 OLD STYLE</td>
<td>5006166</td>
</tr>
<tr>
<td>5.0 &amp; 5.7L CHEVY</td>
<td>18-0613 &amp; BJM6501</td>
</tr>
<tr>
<td>5.0 &amp; 5.7L</td>
<td>BAR55-1609</td>
</tr>
<tr>
<td>454, 350HP</td>
<td>18-0615</td>
</tr>
<tr>
<td>454, 7.4L</td>
<td>18-0614</td>
</tr>
<tr>
<td>4.3L V6</td>
<td>18-0616</td>
</tr>
<tr>
<td></td>
<td>FEL17971 PAN GASKET</td>
</tr>
<tr>
<td></td>
<td>FEL17985 PAN GASKET</td>
</tr>
</tbody>
</table>