



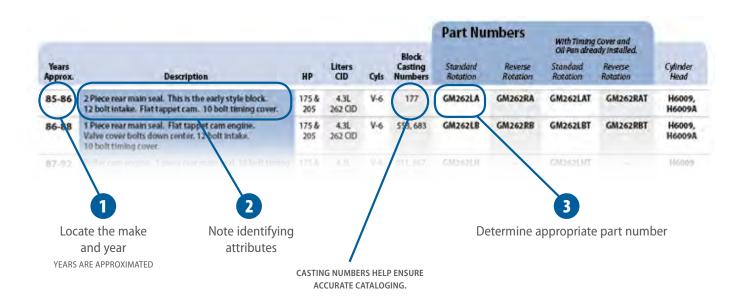
# QUALITY MARINE ENGINES TO FIT EVERY BUDGET

At FirstMate Marine, your complete satisfaction is our first and foremost concern. We offer long blocks, cylinder head kits, and some long block assemblies with oil pan and timing cover. If you need an engine that is not listed in our catalog, please call us or fill out our quote form online. Cylinder head, block and crank casting numbers will assist us in supplying your exact needs.

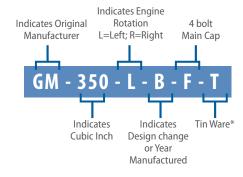
### **CASH FOR CORES!**

If you have any cores lying around, you could be turning them into money! Call 1-800-437-1779 today for a cash quote on cores.

# HOW TO USE THIS CATALOG



# **OUR PART NUMBER SYSTEM**



\*TIN INCLUDES TIMING COVER AND OIL PAN, OIL PUMP AND PICKUP TUBE, INSTALLED.

# **ENGINE ROTATION TERMINOLOGY**

Engine rotation direction is determined by observing Flywheel rotation from the flywheel end of the engine looking forward to the pulley end of the engine.

Note: Propeller rotation is not necessarily the same as engine rotation. Do not rely on propeller rotation in determining engine rotation.



#### Normal (Standard)

Rotation: Counter-clockwise (left hand) flywheel rotation



#### Reverse (Opposite)

Rotation: Clockwise (right hand) flywheel rotation

## **MARINE DRIVE VARIATIONS**



# Stern Drive (Inboard/Outboard, Outdrive)

The engine is mounted inside the boat. The transmission/drive unit is outside, attached to the transom. The engine and drive unit are joined by a torque coupler and universal joint. Angling the drive steers the boat.



### Inboard

The engine and transmission/drive unit are inside the boat. A drive shaft is connected at the rear of the transmission and is run out of the hull through a sealing unit. The propeller is connected directly to the drive shaft at the in-water end. A separate rudder steers the boat.



#### V-Drive

Basically a modified inboard installation. The engine is mounted with the front (pulley end) facing stern (rear). The transmission faces the bow (front) and by the use of a universal joint on the end of the transmission, the drive shaft is directed stern-wards under the engine and through the hull. The propeller/rudder arrangement is the same as in a standard inboard installation.



#### **Jet Drive**

The engine is mounted inside the boat and attached to a high speed pump which draws in water through an intake grate, increases its velocity and forces it out through a directionally-adjustable nozzle which is mounted outside the boat. Changing the direction of the nozzle steers the boat.

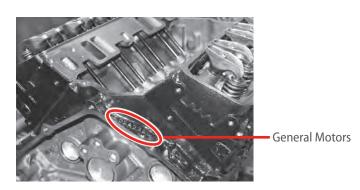
# **IDENTIFYING CORRECT PART NUMBERS**

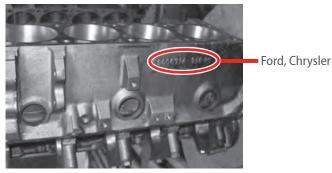
When identifying the correct part number for an application, make sure to verify all of the information asked for in the description.

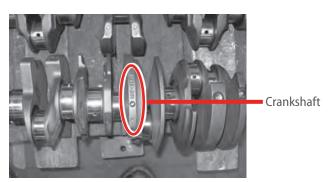
Use both the casting numbers and the physical descriptions, including the rotation of the engine.

# **CASTING NUMBERS**

Castings numbers can be found in the locations depicted below:

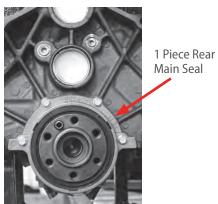




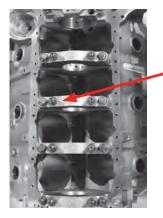




# **ENGINE IDENTIFIERS**



ar

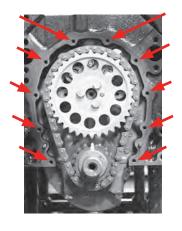


2 Piece Rear

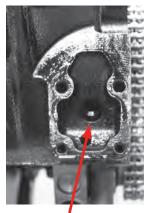
Main Seal

4 bolt Main

10 Bolt Timing Cover



Mechanical/Electric Fuel Pump

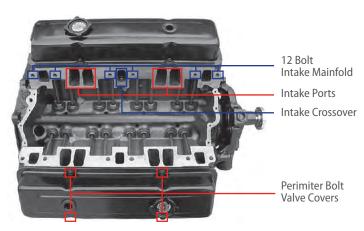


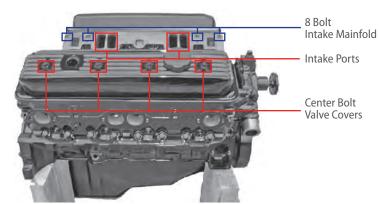
Is there a hole?

6 Bolt Timing Cover



# **CYLINDER HEAD IDENTIFIERS**





# **ENGINES**

# FIRST MATE MARINE ENGINE FEATURES

- 24-month Limited Warranty\*
- · New Pistons, Moly Rings
- · Marine Cam and Lifters
- · Brass Block Plugs
- · New Rod, Main and Cam Bearings
- · New H.D. Timing Chain and Gears
- · New Oil Pump
- New Marine Gasket Set
- · Block Resurfaced, Bored and Honed
- · Crankshaft Reconditioned
- · Connecting Rods Reconditioned
- Valve Guides Reconditioned
- · Heads Resurfaced
- New Valve Springs
- · Three-Angle Valve Job
- Spin Tested
- · Pressure Tested
- FirstMate Marine BluePrint Engines are blueprinted, balanced, Dyno-tested, and have a 12-month Limited Warranty

# HIGH-PERFORMANCE BLUEPRINT MARINE ENGINES



For those of you who feel the need for speed on the open water, we offer the ultimate in performance— the Marine BluePrint. All Marine performance engines are completely balanced, blueprinted and dyno-tested just like the rest of the BluePrint line.

# 4.3 Liter GM 262

Peak HP: 262 Torque: 300 ft/lbs.

.457 intake and exhaust lift, 218 intake and exhaust duration at .050, flat tappet cam, cast iron VORTEC heads, cast iron premium crank, hypereutectic pistons, new cast iron intake.

Base Part #: MBP262CT

#### 5.7 Liter GM 355

Peak HP: 365 Torque: 390 ft/lbs.

.462 intake and .477 exhaust lift, 218 intake and 224 exhaust duration at .050, flat tappet cam, cast iron VORTEC heads, cast iron premium crank, hypereutectic pistons, new cast iron intake.

Base Part #: MBP3550CT Dressed Part #: MBP3550CTC

## 5.7 Liter GM 350 "Stroker" 383

Peak HP: 405 Torque: 450 ft/lbs.

.503 intake and .510 exhaust lift, 224 intake and 230 exhaust duration at .050, roller cam, cast iron VORTEC heads, cast iron premium crank, hypereutectic pistons, new cast iron intake.

Base Part #: MBP3830CT Dressed Part #: MBP3830CTC

# 7.4 Liter GM 454 "Stroker" 496

Peak HP: 460 Torque: 515 ft/lbs.

.544 intake and .547 exhaust lift, 226 intake and 236 exhaust duration at .050, flat tappet cam, cast iron heads, cast steel crank, hypereutectic pistons, polished intake.

Base Part #: MBP4960CT Dressed Part #: MBP4960CTC



At FirstMate Marine, we bore every cylinder to within .004 of the finished size. Then we use a diamond hone to ensure bore geometry is held within 300 millionths of an inch. Next is a surface finish test to measure the roughness and plateau finish of the cylinder wall.



We completely assemble each engine in a clean and controlled environment under the supervision of a trained Quality Control department. Constant super-vision, testing and auditing assures every FirstMate Marine Engine meets our stringent requirements.



FirstMate Marine Cylinder
Heads are cleaned and
remanufactured to
perform like new. Our
quality programs enforce
excellence in every
operation, from hand
repair to state-of-the-art
3-angle seat cutting.

<sup>\*</sup> See Warranty for Details

		EC
	VU	

	VGINES		Part Nu	mbers	With Timing Cover and Oil Pan already installed.					
Years Approx.	Description	НР	Liters CID	Cyls	Block Casting Numbers	Standard Rotation	Reverse Rotation	Standard Rotation	Reverse Rotation	Cylinder Head
		СН	RYS	LE	R					
66-88	Dipstick in front of block. 2 piece rear main seal	200	5.2L 318 CID	V-8	730, 230, 603, 803, 030	CR318LA	CR318RA	-	-	H6041, 6041A
75-88	Dipstick in front of block. 2 piece rear main seal	250	5.9L 360 CID	V-8	496, 230, 830	CR360LA	CR360RA	-	-	H6045, 6045A
76-80	Standard 440 Engine. Forged steel crank. Must have customer's cam for reverse rotation engine.	335	7.2L 440 CID	V-8	630, 930	CR440LA	CR440RA	-	-	H6047
			OR	D						
87-88	1 piece rear main seal. Flat tappet cam. Must have core to return	110	2.3 140 CID	L-4	E32E-OC E3ZE-DC	FO140LA	-	-	-	H6052
68-81	Flat tappet cam. Early style. Crank casting numbers Must Be 2M, 2MA, 2MAB. Firing order 1,5,4,2,6,3,7,8.	188 & 200	5.0L 302 CID	V-8	D4DE-AA, D8YE-A3A, D9DE-E3A, D5ZY-AA	FO302LA	FO302RA	-	-	H6061, 6061A
81-95	1 piece rear main seal, flat tappet cam. Crank casting number must be 2MAE. 14mm spark Plugs. Firing order 1,5,4,2,6,3,7,8.	188 & 200	5.0L 302 CID	V-8	E1AE-AA, E5AE, E0AE, E6SE	FO302LB	FO302RB	-	-	H6062, 6062A
95-98	Firing order 1,3,7,2,6,5,4,8. Has a 351 cam. Flat tappet with knock sensor. Dipstick on side of block.	188 & 200	5.0L 302 CID	V-8	F1SE	FO302LD	-	-	-	H6062, H6062A
69-94	Standard 351 Engine. Dipstick in pan or front cover. Has fuel pump hole. Flat tappet cam. Windsor block.	235 & 250	5.8L 351 CID	V-8	D4AE-AA, D4AE-DA, D9AE-ED, E4AE	FO351LA	F0351RA	-	-	H6063, 6064, 6064A
73-78	Early style. Crank casting numbers must be 2YA, 2YABC, C8VE-A, 2Y or 2YAB. Must have customers cam for reverse rotation engine.	340	7.5L 460 CID	V-8	D1TE, D1V, D1VE-AA, D1VE-A2	FO460LA	FO460RA	-	-	H6065
78-90	Late style. Crank casting numbers must be 3Y Or 3YAABC. Must have customers cam for reverse rotation engine.	340	7.5L 460 CID	V-8	D9TE	FO460LB	FO460RB	-	-	H6065
	GEN	ER	A L I	M O	TOR	S				
62-86	Original replacement for the 2.5L 110 horse power engine. Must have core to return.	110 & 120	2.5L 153 CID	L-4	857, 034, 449, 045, 035, 746, 087	GM153LA	+	-	-	H6001, H6002
62-86	Up grade replacement for the 2.5L 110 horse power engine. Must have core to return.	110 & 120	2.5L 163 CID	L-4	886	GM163LA	-	-	-	H6001, H6002
75-90	2 Piece rear main seal. This is the early style block. Must have core to return.	130 & 140	3.0L 181 CID	L-4	087, 886, 678, 104, 446, 613, 080, 746	GM181LA	-	-	-	H6003
90-95	MERCRUSIER APPLICATIONS ONLY, 1 piece rear main seal, pre-electronic ignition, Head casting number 619 or 770. Engine is built for a 2-bolt starter where the bolt holes are parallel to bell housing. Crankshaft does not have a pilot hole. Must have core to return.	130 & 140	3.0L 181 CID	L-4	613, 080	GM181LB	-	-	-	H6004
95-12	Head casting number must be 620. MERCRUSIER APPLICATIONS ONLY, 1 piece rear main seal, electronic ignition. Engine is built for a 2-bolt starter where the bolt holes are parallel to bell housing. Crankshaft does not have a pilot hole. Must have core to return.	130 & 140	3.0L 181 CID	L-4	080	GM181LC	-	-	-	H6000

						Part Numbers With Timing Cover and			Cover and	
					Block				ady installed.	
Years Approx.	Description	НР	Liters CID	Cyls	Casting Numbers	Standard Rotation	Reverse Rotation	Standard Rotation	Reverse Rotation	Cylinder Head
95-04	HO series. Head casting number must be 619 or 770. MERCRUSIER APPLICATIONS ONLY, 1 piece rear main seal, electronic ignition, Engine is built for a 2-bolt starter where the bolt holes are parallel to bell housing. Crankshaft does not have a pilot hole. Must have core to return.	130 & 140	3.0L 181 CID	L-4	080	GM181LD	-	-	-	H6004
80-84	Valve covers bolt around perimeter. Flat tappet cam.	175	3.8L / 229	V-6	594	GM229LA	-	-	-	H6005
70-80	In Line 6 Cyl. Engine.	150 & 165	4.1L 250 CID	L-6	855, 675, 127, 466, 575	GM250LA	-	-	-	H6007
85-86	2 Piece rear main seal. This is the early style block. 12 bolt intake. Flat tappet cam. 10 bolt timing cover.	175 & 205	4.3L 262 CID	V-6	177	GM262LA	GM262RA	GM262LAT	GM262RAT	H6009, H6009A
86-88	1 Piece rear main seal. Flat tappet cam engine. Valve cover bolts down center. 12 bolt intake. 10 bolt timing cover.	175 & 205	4.3L 262 CID	V-6	553, 683	GM262LB	GM262RB	GM262LBT	GM262RBT	H6009, H6009A
87-92	Roller cam engine. 1 piece rear main seal, 10 bolt timing cover.With fuel pump hole. 12 bolt intake.	175 & 205	4.3L 262 CID	V-6	011, 867, 611, 756, 256, 073, 683, 061	GM262LH	-	GM262LHT	-	H6009
92-96	Roller cam engine with wide intake. Head casting numbers 064, 209, Or 181 last three digits. 4 bolt lifter hold down. No fuel pump hole, no balance shaft. 12 bolt intake. 1 piece rear main seal. 10 bolt timing cover.	175 & 205	4.3L 262 CID	V-6	756, 073, 061	GM262LF	+	-	-	H6011, H6012
96-99	VORTEC. Roller cam engine with balance shaft. 8 bolt intake, 1 piece rear main, 6 bolt plastic timing cover, 10 bolt oil pan rail, stamped steel rockers.	175 & 205	4.3L 262 CID	V-6	090	GM262LG	-	GM262LGT	-	H6010
92-99	Roller cam engine with balance shaft. 6 or 10 bolt timing cover, 1 piece rear main. Without fuel pump hole. 12 bolt intake. 14 bolt. Oil Pan.	175 & 205	4.3L 262 CID	V-6	196, 534, 359, 535	GM262LI	-	GM262LIT	-	H6011, H6012
00-09	VORTEC. Roller cam with balance shaft. Has roller rockers. Block has metric mounts. Head casting should be 113. 8 bolt intake. Plastic 6 bolt timing cover.	200 & 230	4.3L 262 CID	V-6	090M	GM262LJ	-	GM262LJT	-	H6014
63-73	7/16 Fly wheel bolts. 2 Bolt starter pad. Flat tappet cam.	200	4.8L 292 CID	L-6	258, 404, 659, 970	GM292LA	GM292RA	-	-	H6007
76-85	2 Piece rear main seal. Valve covers bolt around perimeter. Dip stick on starboard and port side of block, flat tappet, 12 bolt intake, 10 bolt timing cover.	200 & 230	5.0L 305 CID	V-8	909,979, 776, 777, 371, 778	GM305LA	GM305RA	GM305LAT	GM305RAT	H6015, H6015A, H6016, H6016A
85-87	1 Piece rear main seal. Valve covers bolt around perimeter. Double check rear main seal. This is not a very common engine. Flat tappet, 12 bolt intake.  10 bolt timing cover.	200 & 230	5.0L 305 CID	V-8	535, 551, 627, 058	GM305LB	GM305RB	GM305LBT	GM305RBT	H6015, H6015A, H6016, H6016A
87-95	1 Piece rear main seal, flat tappet. Valve covers bolt down center. 10 bolt timing cover, 12 bolt intake.	200 & 230	5.0L 305 CID	V-8	535, 551, 627, 058	GM305LC	GM305RC	GM305LCT	GM305RCT	H6017, H6017A
87-99	1 Piece rear main seal. Valve cover bolt down center. Roller cam engine. 10 bolt timing cover, 12 bolt intake.	200 & 230	5.0L 305 CID	V-8	535, 551, 627, 058	GM305LD	-	GM305LDT	-	H6017, H6017A
96-12	VORTEC, 8 bolt intake. 8 or 10 bolt timing cover, roller cam, 1 piece rear main seal.	250	5.0L 305 CID	V-8	880, 878	GM305LF	-	GM305LFT	-	H6018
67-85	2 Piece rear main seal. Valve covers bolt around perimeter. 2 bolt main. Dip stick on starboard and port side of block, flat tappet, 12 bolt intake, 10 bolt timing cover	260	5.7L 350 CID	V-8	245, 379, 010, 014, 678, 388, 618	GM350LA	GM350RA	GM350LAT	GM350RAT	H6021, H6022, H6022A
67-85	2 Piece rear main seal. Valve covers bolt around the perimeter. 4 bolt main. Dip stick on starboard and port side of block, flat tappet, 12 bolt intake, 10 bolt timing cover	260	5.7L 350 CID	V-8	245, 379, 010, 014, 678, 388, 618	GM350LAF	GM350RAF	GM350LAFT	GM350RAFT	H6021, H6022, H6022A

	<b>NGINES</b>									
	YONES				Block	Part Nu	mbers	With Timing (		
Years Approx.	Description	НР	Liters CID	Cyls	Casting Numbers	Standard Rotation	Reverse Rotation	Standard Rotation	Reverse Rotation	Cylinder Head
67-85	2 Piece rear main seal. Valve covers bolt around perimeter. 4 bolt main. This is a cam upgrade. Dip stick on starboard and port side of block, flat tappet, 12 bolt intake, 10 bolt timing cover	275	5.7L 350 CID	V-8	245, 379, 010, 014, 678, 388, 618	GM350LAFHO	-	GM350LAFHOT	-	H6021, H6022, H6022A
86-87	1 Piece rear main seal. Valve covers bolt around perimeter. 2 bolt main. Flat tappet, 12 bolt intake, 10 bolt timing cover.	260	5.7L 350 CID	V-8	245, 379, 010, 014, 678, 388, 618	GM350LB	GM350RB	GM350LBT	GM350RBT	H6021, H6022, H6022A
86-87	1 Piece rear main seal. Valve covers bolt around the perimeter. 4 bolt main. Flat tappet, 12 bolt intake, 10 bolt timing cover.	260	5.7L 350 CID	V-8	245, 379, 010, 014, 678, 388, 618	GM350LBF	GM350RBF	GM350LBFT	GM350RBFT	H6021, H6022, H6022A
86-87	1 Piece rear main seal. Valve covers bolt around perimeter. 4 bolt main. This is a cam upgrade. Flat tappet, 12 bolt intake, 10 bolt timing cover.	275	5.7L 350 CID	V-8	245, 379, 010, 014, 678, 388, 618	GM350LBFHO	-	GM350LBFHOT	-	H6021, H6022, H6022A
88-95	1 Piece rear main seal. Valve covers bolt down center. 2 bolt main. Flat tappet cam. Works for carburated or fuel injected. 12 Bolt intake. 10 bolt timing cover.	260	5.7L 350 CID	V-8	548, 526, 148, 638	GM350LC	GM350RC	GM350LCT	GM350RCT	H6023, H6023A
88-94	1 Piece rear main seal. Valve covers bolt down center. 4 bolt main. 10 bolt timing cover, flat tappet, 12 bolt intake.	260	5.7L 350 CID	V-8	548, 526, 148, 638	GM350LCF	GM350RCF	GM350LCFT	GM350RCFT	H6023, H6023A
88-94	1 Piece rear main seal. Valve covers bolt down center. 4 bolt main. This is a cam upgrade. 10 bolt timing cover, flat tappet, 12 bolt intake.	275	5.7L 350 CID	V-8	548, 526, 148, 638	GM350LCFHO	-	GM350LCFHOT	+	H6023, H6023A
88-94	1 Piece rear main seal. Valve covers bolt down center. Roller cam engine. 10 bolt timing cover, 12 bolt intake.	260	5.7L 350 CID	V-8	548, 526, 148, 638	GM350LD	-	GM350LDT	-	H6023, H6023A
95-99	1 Piece rear main seal. Roller cam. 12 Bolt Intake. Center bolt valve covers, 6 bolt plastic timing cover. Mechanical fuel pump. Can use GM350LD and use tin timing cover.	260	5.7L 350 CID	V-8	880	GM350LE	-	GM350LET	-	H6023, H6023A
95-99	1 Piece rear main seal. Roller cam. 6 bolt plastic timing cover. Center bolt valve covers. 12 bolt intake with electric fuel pump.	260	5.7L 350 CID	V-8	880	GM350LEI	-	GM350LEIT	-	H6023, H6023A
96-05	VORTEC . 1 Piece rear main seal. Roller cam. Plastic timing cover. Center bolt valve covers. Has 8 bolt intake. Mechanical fuel pump.	295	5.7L 350 CID	V-8	880	GM350LF	-	GM350LFT	-	H6013
96-12	VORTEC . 1 Piece rear main seal. Roller cam. Has 8 bolt intake. Electric fuel pump. center bolt valve covers, 6 bolt plastic timing cover. Can use GM350LF with fuel pump block off plate.	295	5.7L 350 CID	V-8	880	GM350LFI	GM350RFI	GM350LFIT	-	H6013
73-90	Mark IV 2 piece rear main seal. Oval intake port heads. Flat Tappet, 10 bolt timing cover. Built using 2 and 4 bolt main blocks.	330	7.4L 454 CID	V-8	289	GM454LA	GM454RA	GM454LAT	GM454RAT	H6032
73-90	Mark IV 2 piece rear main seal. Round intake port heads. This engine is a direct substitute for the GM454LA Or GM454RA. Flat Tappet, 10 bolt timing cover, built using 2 and 4 bolt main blocks	330	7.4L 454 CID	V-8	959, 445, 286, 775	GM454LAS	GM454RAS	GM454LAST	GM454RAST	H6031
73-90	Mark IV 2 piece rear main seal. Flat Tappet, oval intake ports, 10 bolt timing cover, 4 bolt main. This engine is a cam upgrade.	350	7.4L 454 CID	V-8	289	GM454LAHO	-	GM454LAHOT	-	H6032
91-97	Gen. V, 1 Piece rear main seal. Oval intake port heads. Flat tappet. 10 bolt timing cover, 4 bolt main.	330	7.4L 454 CID	V-8	182, 313	GM454LB	GM454RB	GM454LBT	GM454RBT	H6033
91-97	Gen. V , 1 Piece rear main seal. 10 bolt timing cover. HO Series. Flat Tappet, oval port heads. 4 bolt main.	360	7.4L 454 CID	V-8	182	GM454LC	-	GM454LCT	-	H6033
96-99	Gen VI. 6 Bolt timing cover. Roller cam engine. Electric fuel pump. L-29 Heads, 4 bolt main, oval intake ports.	330	7.4L 454 CID	V-8	297, 313	GM454LD	-	GM454LDT	-	H6036
-	Mark IV, "Magnum", 4 bolt main, Large Square Intake Ports, 10 bolt timing cover 2 piece rear main. Flat tappet. H.O. series.	370	7.4L 454 CID	V-8	286	GM454LE	-	GM454LET	-	H6037

						Part Nu	mbers	With Timing Oil Pan alrea		
Years Approx.	Description	НР	Liters CID	Cyls	Block Casting Numbers	Standard Rotation	Reverse Rotation	Standard Rotation	Reverse Rotation	Cylinder Head
91-97	Gen V 1 piece rear main seal. Steel crankshaft, flat tappet. Electric fuel pump. Magnum, 4 bolt main, Large Square Intake Ports, 10 bolt timing cover	370	7.4L 454 CID	V-8	182	GM454LF	-	GM454LFT	-	H6037
91-97	Gen VI large square intake ports, roller cam, 6 bolt timing cover. 4 bolt Main. 1 Piece rear main seal.	370	7.4L 454 CID	V-8	297	GM454LG	-	-	-	H6037
96-03	Gen VI, oval intake ports, 4 bolt main. 1 Piece rear main seal. Roller cam. 6 bolt timing cover.	330	7.4L 454 CID	V-8	297	GM454LH	-	-	-	H6033
70-76	Oldsmobile Engine.	325	7.5/455	V-8	021	GM455LA	-	-	-	H6035
91-98	Gen V flat tappet, large rectangle port, 10 bolt timing cover, 12 bolt intake, Standard base replacement. <b>R and R only.</b>	415	8.2L 502 CID	V-8	859	GM502LA				H6037
00-11	VORTEC, Not for H.O.	375	8.1L 496 CID	V-8	110			GM4960CT		H4608 (driver) H4609 (passanger)
00-11	VORTEC, Only for H.O.	420	8.1L 496 CID	V-8	110		-	GM4961CT	-	H4608 (driver) H4609 (passanger)
	M	E R	C R U	I S	ER					
76-89	Must upgrade impeller to Quicksilver part number 47-12600A1. Must have core to return.	170 & 190	3.7L 224 CID	L-4	-	ME224LA	-	_	-	H6051

# **CORE RETURN POLICY**

Cores must be paid in full at the time of sale. All 4-cylinder and 454 engines require a core return. All cores must be shipped prepaid unless pre-arranged with FirstMate Marine. Deduction will be assessed for missing parts and damaged blocks. All 454 cores will be given full core credit when core has been returned. FirstMate Marine, at their expense, will arrange pickup on all 454 cores. Call 1-800-437-1779 for core shipping instructions.

## **TERMS**

- Engines shipped FOB from 1 of our 10 warehouses
- Engines sold on outright basis (except 4 cylinder and 454 engines require a core return.)
- All engines returned with freeze cracks, salt water and connecting rod blowouts will receive 1/2 core value
- All engines are sold C.O.D. or prepaid
- Store Hours: 8 a.m. to 5:30 p.m. CST Monday through Friday
- \* Tin Ware includes timing cover and oil pan already installed.

# **PRIMING**

FirstMate Marine recommends priming all engines with a pressure pre-oiler.

# **FREIGHT INSPECTION**

Please inspect all engines before signing the freight bill. If there is freight damage, we need to start a claim with the freight line.

# **HEADS**

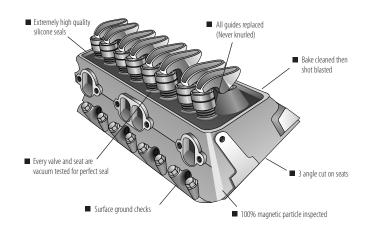
## **HEAD KITS INCLUDE:**

- New Valve Springs
- Three Angle Valve Job

# **CYLINDER HEAD SALES POLICY**

- Cylinder heads are sold on an outright basis.
- No core return necessary.

# FEATURES OF A FIRSTMATE MARINE CYLINDER HEAD



Liters	CID	Description	НР	Cyls	Head Casting Numbers	Part Number
		CHRYSLER				
5.2L	318	Standard Chrysler Marine Replacement. W/O Pad and W/O AIR. With Roto's.	200	V-8	920, 675, 300	H6041
5.2L	318	Standard Chrysler Marine Replacement. With Pad and W/O AIR. With Roto's.	200	V-8	973, 163, 593, 851, 585	H6041A
5.9L	360	Standard Chrysler Marine Replacement. W/O Pad and W/O AIR. With Roto's.	250	V-8	830, 496, 230, 915	H6045
5.9L	360	Standard Chrysler Marine Replacement. With Pad and W/O AIR. With Roto's.	250	V-8	051, 596, 974, 587, 475, 805	H6045A
7.2L	440	Standard Chrysler Marine Replacement. Gasket Seat Spark Plug	335	V-8	452	H6047
		FORD				
2.3L	140	D Shaped Intake Ports. Heart Shaped Combustion Chamber.	110	L-4	E5ZE, E6ZE, E59E, E68R	H6052
5.0L	302	18MM Spark Plugs. 5/16 Rocker Arm Studs. Large Combustion Chamber. 7/16 Head Bolts	188 & 200	V-8	DOOE, D2OE, C9TE	H6061
5.0L	302	18MM Spark Plugs. 5/16 Rocker Arm Studs. Small Combustion Chamber. 7/16 Head Bolts	188 & 200	V-8	DOOE, D2OE, C9TE	H6061
5.0L	302	Bolt on rockers. 7/16 Inch Head Bolts. 14 mm Spark Plugs.	188 & 200	V-8	D80E, E5AE, D70E, F3JE-CA	H6062
5.0L	302	Bolt on rockers. 7/16 Inch Head Bolts. 14 mm Spark Plugs. D-Shaped Combustion Chamber.	188 & 200	V-8	E7TE, E5TE	H6062
5.8L	351	14 mm Spark Plugs. 5/16 Inch Rocker Arm Studs. 1/2 Inch Head Bolts.	235 & 250	V-8	D80E, D70E-DA	H6063
5.8L	351	14 mm Spark Plugs. 5/16 Inch Bolt On Rockers. D Shaped Combustion Chamber. 1/2 Inch Head Bolts.	235 & 250	V-8	E5AE-CA, D8OE	H6064
5.8L	351	5/16 Bolt on rockers. 1/2 Head Bolt. 14mm Spark Plugs. D-Shaped Combustion Chamber.	235 & 250	V-8	E5TE, E7TE	H6064
7.5L	460	14 mm Spark Plugs. Bolt on Rockers, perimeter bolt valve covers.	340	V-8	D6TE-DA, D3VE-A2A	H6065
7.5L	460	Has 7/16 Inch Bolt Hole on Front of Head, Center bolt valve covers.	340	V-8	E6TE-DA, E5TE-EA	H6067
		GENERAL MOTOI	R S			
2.5L	153	Standard Marine Replacement	120	L-4	770, 952, 031	H6001
2.5L	153	Standard Marine Replacement	120	L-4	198, 519, 433, 888, 988, 306, 998	H6002
3.0L	181	Intake Port Curved Because of Soft Plug. R and R Only.	140	L-4	748, 954, 950, 758, 087, 852, 531	H6003
3.0L	181	Shared Intake Ports. No Soft Plug Holes. <b>R and R Only.</b>	140	L-4	619, 770	H6004
3.0L	181	Newer Style Head. Intake ports seperated.	130 & 140	L-4	620	H6000
3.8L	229	3/8 Inch Temp. Sender Hole. Standard Marine Replacement	175	V-6	595, 553	H6005
4.1L	250	Tapered seat plugs. Standard Marine Replacement	150 & 165	L-6	763, 052	H6007
4.3L	262	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 & 205	V-6	768, 996, 107, 476, 103, 066	H6009
4.3L	262	3 Accessory Mounting on one Side of the Head. 2 Accessory Mounting Holes on Other. Press in Studs.	235 & 250	V-8	268, 248	H6009/

Liters	CID	Description	НР	Cyls	Head Casting Numbers	Part Number
4.3L	262	VORTEC head. Screw In Studs. Heart Shaped Combustion Chambers.	175 & 205	V-6	772, 140	H6010
4.3L	262	Intake Ports Have Notch In Top Of Intake Port. Screw In Studs. Round Push Rod Holes.	175 & 205	V-6	181, 209, 064	H6011
4.3L	262	Intake Ports Have Notch In Top Of Intake Port. Screw In Studs. Round Push Rod Holes. Has Detonation Sensor Hole Above Water Temp Hole.	175 & 205	V-6	064, 181, 209	H6012
4.3L	262	VORTEC head. Roller Rocker Arms. No exhaust cross over. Heart shaped combustion chamber.	200 & 230	V-6	113	H6014
5.0L	305	7 Bolt Exhaust. Early Style. Valve Covers Bolt Around Perimeter. 1.720 Intake Valve.	200 & 230	V-8	513, 450, 416	H6015A
5.0L	305	Heavy Casting. 6 Bolt Exhaust. Early Style. Valve Covers Bolt Around Perimeter.	200 & 230	V-8	434, 741	H6015
5.0L	305	1.840 Intake Valves. 7 Bolt Exhaust. 3/8 Inch Temp Sender Hole.	200 & 230	V-8	450, 416	H6016A
5.0L	305	1.840 Intake Valves. 7 Bolt Exhaust. 1/2 Inch Temp Sender Hole.	200 & 230	V-8	450, 416	H6016
5.0L	305	Tall Valve Cover Rail. Valve Cover Bolts Down Center. Non VORTEC head. Slotted Push Rod Holes.	200 & 230	V-8	187	H6017A
5.0L	305	Tall Valve Cover Rail. Valve Cover Bolts Down Center. Non VORTEC head. Round Push Rod Holes. Must Use Rail Rockers.	200 & 230	V-8	081	H6017
5.0L	305	VORTEC head. Has 8 bolt intake.	200 & 230	V-8	520, 059	H6018
5.7L	350	1.9375 Intake Valves. Gasket Plug. Valve Covers Bolts Around Perimeter.	260	V-8		H6021
5.7L	350	1.9375 Intake Valves. Taper Plug. Valve Covers Bolts Around Perimeter. Non Roto.	260	V-8		H6022A
5.7L	350	1.9375 Intake Valves. Taper Plug. Valve Covers Bolts Around Perimeter. With Roto.	260	V-8		H6022
5.7L	350	1.9375 Intake Valves. 6 Bolt Exhaust. Valve Covers Bolts Around Perimeter.	260	V-8	882	H6024
5.7L	350	Tall Valve Cover Rail. Non VORTEC head . Valve Cover Bolts Down Center. 1.940 Intake Valves. Tapered intake ports.	260	V-8		H6023A
5.7L	350	Tall Valve Cover Rail. Non VORTEC head. Valve cover bolts down center of head. 1.940 Intake. Square intake ports.	260	V-8	083, 193, 217	H6023
5.7L	350	VORTEC Head. Heart shaped chambers. Rocker bolts in center of head. Has 4 intake bolts per side.	260	V-8	906, 062	H6013
7.4L	454	Taper Plug. Small Oval Intake Port Head. With Roto's. With Heat Crossover.	330	V-8	045, 360, 039, 416	H6031
7.4L	454	Taper Plug. Large Oval Intake Ports. With Roto's. With Heat Crossover	330	V-8	781, 049, 186	H6032
7.4L	454	Gen V head. Standard Marine Replacement. Oval Intake, with Heat Crossover	330	V-8	156, 932	H6033
7.4L	454	Heart shaped combustion chamber. 7/16 inch Mounting holes in heads. L-29, Oval Intake, No Heat Crossover	330	V-8	279	H6036
7.5L	455	Standard Marine Replacement	325	V-8	191, 409, 100, 783	H6035
8.2L	502	Early Style 502 Standard Marine Replacement. Large square intake ports. R and R Only.	360	V-8	088, 188	H6037
8.1L	496	VORTEC. Standard Replacement.	375 & 420	V-8	162	H4608 (driver) H4609 (passanger)
		MERCRUISER				
3.7L	224	Standard Marine Replacement. Has outlet on end of head.	170 & 190	L-4	E6TE-DA, E8TE-DA, D3VE-A2A	H6051

# FIRSTMATE MARINE CYLINDER HEAD WARRANTY

FirstMate Marine warrants its remanufactured cylinder heads to be free from defects in materials used or workmanship performed by FirstMate Marine for a period of 90 days. Warranty covers replacement of the defective parts and gaskets. Labor will be paid when the original installation was performed by a bona fide marine repair facility. When labor is allowed, it will be paid at the shop's regular rate, not to exceed \$45 per hour X the Motor Manual flat rate time. Labor not to exceed 1½ times price of head. Warranty does not cover oil, oil filter, incidental or consequential damages resulting from loss of time or use of boat. Repairs or replacements do not extend original warranty.

PRIOR AUTHORIZATION IS REQUIRED BEFORE WARRANTY WORK IS BEGUN. CALL YOUR DISTRIBUTOR OR FIRSTMATE MARINE.



#### **Long Blocks**

Pleasure Craft Boats

12 Months Labor/24 Months Parts

**Commercial or Charter Boats** 

12 Months Parts and Labor

#### **Performance Long Blocks**

**Pleasure Craft Boats** 

12 Months Parts and Labor<sup>3</sup>

Commercial or Charter Boats
No Warranty

#### **Short Blocks**

**Pleasure Craft Boats** 

No Warranty\*

Commercial or Charter Boats
No Warranty

### **Cylinder Heads**

**Pleasure Craft Boats** 90 Days Parts and Labor

**Commercial or Charter Boats** 90 Days Parts and Labor

Your First Mate Marine engine is designed for a specific application (pleasure boat, commercial boat or charter boat) and is only covered by this Limited Warranty when used for its specified application. First Mate Marine engines, blocks and cylinder heads are NOT warranted for use in airboats. Any engine, block or cylinder head used for an application other than the one for which it was expressly designed will void this Warranty.

First Mate Marine expressly warrants that its engines are of good quality and free from defects in materials and workmanship. Purchaser acknowledges that First Mate Marine has made no affirmation of fact or promise relating to its engines outside this Limited Warranty and that First Mate Marine has provided the purchaser no description, sample or model of its engines upon which the purchaser has relied in deciding to purchase a First Mate Marine engine. First Mate Marine will, at its sole discretion, repair or replace defective parts or a complete engine. All repairs will be made at the seller's or distributor's cost, plus applicable labor pursuant to the labor policy set forth below. PRIOR AUTHORIZATION IS REQUIRED FROM FIRST MATE MARINE BEFORE WARRANTY WORK IS BEGUN. Contact First Mate Marine at info@firstmatemarine.net or 1-800-437-1779 for a numbered authorization. It is the sole responsibility of the purchaser to pay for such work (including labor and parts) and to submit the alleged defective parts, written order showing all charges, and a written receipt for all charges to First Mate Marine for review and determination by First Mate Marine that the failure is or is not covered by this Limited Warranty. Repairs or replacements do not extend this Limited Warranty.

#### **Accesory Parts**

Fuel injectors, fuel pumps, oil pumps, water pumps, distributors, hydraulic high pressure pumps, sensors, sending units, turbochargers, belts, hoses and other accessories installed by First Mate Marine have a one year warranty, after which time they are considered maintenance items and are not covered under this Limited Warranty. Parts included in installation kits provided by First Mate Marine are warranted for defective workmanship and materials for that duration of time as stated by the original parts manufacturer.

#### **Labor Policy**

First Mate Marine will pay labor claims only to repair facilities it has authorized and will only pay labor claims that the purchaser actually incurs as an out of pocket expense. First Mate Marine will not be liable for or pay any labor claims on First Mate Marine installed by any third party who is not a certified marine mechanic (Marine Certificate or equivalent) that it has authorized to perform repair work and will not pay any labor claims on engines installed in whole or in part by purchaser. All labor expenses for field repairs, removal or reinstallation shall be limited to that expense and to those hours listed on the most recent Motors Flat Rate manual or alternative manual pre-approved by First Mate Marine at a pre-determined labor rate. Warranty credits not used within one year against future purchase will be considered void.

### **Owner Obligations**

PRE-LUBE YOUR ENGINE AS INSTRUCTED IN THE INSTALLATION GUIDE PRIOR TO START-UP. Change oil after 10 hours. Monitor oil level for fi rst 100 hours as oil consumption may be higher in this period. Use good quality motor oil of the appropriate grade and viscosity as recommended by the original engine manufacturer. Do not use synthetic oils during break-in or at anytime during the first 200 hours of operation. Synthetic oil can be used after the first 200 hours of operation. The use of synthetic oil during the first 200 hours of operation will void this Limited Warranty. Proper oil pressure and lubrication are mandatory for good engine break-in. All boats should be equipped with gauges or lights to indicate engine temperature and oil pressure. DO NOT OPERATE BOAT WITH ABNORMAL OIL PRESSURE OR WATER TEMPERATURE. After initial start-up, avoid excessive RPM and keep boat on plane. Vary RPM range for the first three (3) to five (5) hours of running time. High engine RPM may damage your new engine through friction and high temperatures. Avoid long periods of idling. Absent neglect by the purchaser, engine overheating and engine failure due to lack of lubrication can be prevented by proper monitoring of all gauges and/or lights and should never result in engine damage.

#### **Limitations and Exclusions**

Except as provided by state or federal laws, all other warranties express or implied (including merchantability and fitness for a particular pur pose) are herby excluded and no warranties exist which extend beyond the description in the express limited warranty on the face of this document with regard to any engine or part provided by First Mate Marine. In the event that this exclusion of implied warranties is prohibited, all implied warranties are limited in duration to the duration of the express limited warranty. No oral or written statements or forms of any kind by or from any person, distributor or salesperson may modify or change this limited warranty.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This limited Warranty is not an unconditional warranty against all hazards or failures. First Mate Marine shall not be responsible for:

- Damage or repairs required as a consequence of faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.
- Parts not supplied by First Mate Marine.
- Damages resulting one year after date of purchase from accessory parts installed by First Mate Marine. (Accessory parts are covered for one year from date of purchase.)
- Damages resulting from detonation or pre-ignition, including but not limited to melted or broken pistons, broken or scored rings, damaged cylinder heads or gaskets, scoring on cylinder walls or piston heads.
- Damages resulting from improper pre-lubrication prior to start-up.

The purchaser's exclusive remedy against the First Mate Marine shall be for repair or replacement of defective parts or replacement of the engine as set forth above. No other remedy (including, but not limited to, any special, direct, or indirect, incidental or consequential damages, such as lost profits, lost sales, injury to person or property, towing, oil,lubricants, filters, antifreeze, gaskets, shipping and freight, loss of us of vehicle or loss of time or any other evidential or consequential loss) shall be available to the purchaser.

In no event shall the total value of this Limited Warranty, weather paid or made in kind by First Mate Marine exceed the original distribution price of the engine at the time of the sale by the distributor or seller to the purchaser, plus \$500 labor or all boats 20 foot or shorter or \$600 for cabin cruisers 21 foot or longer. An additional \$150 crane allowance will be allowed on cabin cruisers 21 foot or longer. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

#### **Governing Law and Venue**

The terms and provisions of this Limited Warranty, and each and every document related to this Limited Warranty, shall be governed by and construed according to the laws of the State of Nebraska. Any action at law, suit in equity or judicial proceeding for the enforcement of this Limited Warranty or any provision thereof shall be instituted only in the courts of Nebraska.

This Limited Warranty gives you specific legal rights. You may also have other rights, which vary from state to state.

#### **Purchaser's Responsibilities**

Should you need to start a warranty claim, contact our Customer Service Department at 1-800-437-1779 during office hours: 7:30 a.m.–5:30 p.m. (CST). Please have the following information ready: engine part number, serial number, installation date, make and model of boat, number of hours on the engine, and the nature of the problem.

**Prior Approval:** All warranty repairs, including any replacement parts or labor charges, must have prior approval of First Mate Marine. It is the owner's responsibility to contact First Mate Marine in event of a warranty problem. Your failure to contact First Mate Marine to obtain prior approval for any warranty repair will void this Limited Warranty.

**Return of Parts:** All defective parts must be returned to First Mate Marine. Upon arrival at our facility, the part(s) will be inspected. Credit will be issued provided that the engine is defective in material and/or workmanship—and is within the warranty period. If parts are discarded or not returned, the claim cannot be processed.

Thank you for purchasing a First Mate Marine engine. For additional information about our products and our company, please use the contact information provided below.

\*See actual warranty for specific details.

FirstMate Marine Engines 404 West 8th Street Kearney, NE 68845 1-800-437-1779 www.firstmatemarine.net

