



THE REPOWER OF CHOICE

# REPOWER GUIDE

A RESOURCE AID BROUGHT TO YOU BY MERCURY MERCUISER



Are you at a point with your boat where you are saying, “I sure love this boat, but I think she has plowed her last wake” or “it sure would be nice if she could only ...?” Do you remember the power and throttle responsiveness you experienced when your boat was new? Don’t dismay; restore your boat and perhaps even add some enhancements through repowering.

Unlike an automobile that is largely used up by the time the engine wears out, a boat can live on, often through several engine changes. A well-designed hull has a timeless style – a thing of beauty whether at the dock or on the water.

This guide is intended to inform you of the different repower options and to help you make an informed decision regarding repowering your boat. Our goal at MerCruiser® is to keep you on the water with your friends and family and a trouble-free boating experience, thereby earning your trust and loyalty for years to come.

Review this guide and consult with your MerCruiser dealer. The information provided will give you the knowledge and confidence to make the best choice for your repower needs.

## WHAT IS REPOWER?

The term “Repower” refers to a complete replacement of your existing power plant. In some cases you may also elect to include the transom assembly and drive for your I/O boat. A repower is not necessarily the direct replacement of the original engine with the same type of engine. Many times a vessel owner will choose to not only restore a boat to its original performance, but to also take the extra step and upgrade to the latest technology or a more powerful engine package. This makes particular sense if you are replacing a carbureted engine with a fuel-injected engine for quick starts and hassle-free boating.

### WHAT IS AN ENGINE POWER PACKAGE?

A Sterndrive Engine Power Package includes an engine, transom assembly and a sterndrive.

An Inboard or Tow Sports Engine Power Package includes an engine and a transmission.

## WHY REPOWER?

Why would you want to repower? You want to keep your boat and:

- You want more POWER!
- A new boat is out of your budget.
- You want to incorporate the latest in fuel injection or digital technology that your current engine does not support.
- There has been a major failure in your existing engine.
- It has become a chore and a financial burden to keep up with the “little” problems of your older engine.
- Your current engine is just not performing up to your needs or expectations.

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## WHEN TO REPOWER?

Because a MerCruiser engine is designed for a long and trouble-free life of service, you may start thinking of repower when you begin noticing subtle signs of age, like a longer cranking time at start-up or power that's not quite what it was when the boat was new. Sometimes, a more serious problem has developed: a plugged water intake caused the engine to overheat, striking a submerged object caused serious damage or an unexpected freeze resulted in a cracked block.

Obviously, if the current engine fails during the season, your options are limited. During peak season, the service bays at your local dealer will be full, and you will be faced with losing prime boating time while the service department can free up time for your boat.

Ideally, you should consider the decision to repower before a catastrophic incident. Doing your homework in advance not only provides you with the options available, it also provides you with the knowledge to make the right choice for your situation.

The off-season is typically the best time to perform a repower. This way, none of your prime boating time is interrupted by your boat being in the shop.

## REPOWER OPTIONS?

So, you have made the decision to look into repower options for your boat – what choices do you have?

- **Rebuild your existing engine:** Although an engine rebuild is not actually a repower in the truest sense of the word, many people consider rebuilding when the engine is starting to require more than just simple maintenance. A rebuild is actually closer to a major repair than a true repower – the technician removes the engine and looks for worn or broken parts, replaces them as well as gaskets, seals and any other component that may be suspect. Then your old engine is reinstalled in your boat. While a rebuild may solve some symptoms of aging, it is still the same engine.

If you are considering rebuilding as an option, it is vital to require that your mechanic use marine-grade components. Automotive parts are not meant to withstand the constant torque and rpm load of a marine vessel, not to mention the marine environment. Your authorized Mercury Marine dealer will be happy to discuss this option with you in detail.

- **Crate Engine:** This is a generic term often used to describe an engine purchased from an aftermarket shop. A crate engine is a complete or nearly complete engine, usually supplied with a carburetor or injection system and a few other accessories.

First and foremost, check to make sure you are getting a marine engine and that it is up to date with U.S. Coast Guard Safety Standards for the safety of you and your passengers.

Second, remember that a generic crate engine is not always compatible with the components remaining from your existing engine, such as water pump, power steering, etc. In the end, you may find yourself with extensive “reconfiguration” charges. Please see the section of this guide entitled “Included in a New MerCruiser Engine” for more details on what MerCruiser provides with our engine and compare to the crate engine.

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- **Remanufactured Engine:** Remanufactured engines are substantially different from rebuilt engines. Remanufacturing refers to a process by which an engine is completely stripped to its most basic components and thoroughly brought back to OEM specifications. While rebuilding simply repairs broken or worn parts, remanufacturing renews every surface, component or interface that contributes to the life span of the engine.

Remanufactured engines come in different levels of completion from a long block to a fully dressed drop-in replacement. Not all engine remanufactures are the same; do your homework to find out the quality you are receiving. If price is a major constraint for you, a Mercury Remanufactured engine may be your best option.

- **Complete New Engine Power Package:** Brand new block and components, manufactured complete, drop-in ready and fully warrantied by the factory. A new engine is clearly the most expensive (up-front) option, however with a new engine you know that you are getting brand new product with the latest technology and U.S. Coast Guard Safety Standards. With MerCruiser, you are getting the state of the art with Turn-Key Start carbureted engines or ECM/PCM 555-controlled Multiport Fuel Injection engines. MerCruiser also offers the latest in Digital Throttle & Shift technology combined with our SmartCraft® Digital Gauge and Monitoring System.

## DOES THE ENGINE MANUFACTURER MATTER?

As you are researching your options, you might wonder whether the engine manufacturer matters. The answer is “yes.” Regardless of what you may have been told, all marine engines are not equal. While the majority of new marine engines begin with a General Motors® block, after that the differences grow exponentially. Take the time to explore the features and benefits of each manufacturer and also what is included with this engine compared to other brands. These answers alone can save you hundreds or even thousands of dollars at the time of your repower or over the course of the next few years as components fail which may not have been included with your new engine.

## AVAILABLE OPTIONS FROM MERCURY REMANUFACTURING.

Mercury Marine offers a full line-up of Repower options to meet a broad range of needs and budgets:

1. Refresh with Mercury Factory-Certified Pre-Owned engines. This line offers a lower cost way to replace or upgrade your current engine. Offered as complete engines, these are nearly fully dressed\* power plants that have been thoroughly evaluated and upgraded to meet the strict standards of a Mercury Factory-Certified Pre-Owned engine. Available as direct replacements for the full line from four cylinders to big-block V-8s, these engines can be used to replace your old engine or as an upgrade. Since they come complete with induction systems and control modules, you can upgrade from your V-6 to a small block V-8 or from carburetion to fuel injection. These are pre-owned products and availability

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\* Content may vary on Pre-Owned engines but will always include electrical systems with starting, charging and ECM when applicable, induction system, and base exhaust system. Pre-Owned engines may not have all accessories found on a new complete engine and may require some additional final dress parts, connections or accessories.

varies, so ask your dealer to check current stock at our factory. Mercury Factory-Certified Pre-Owned engines come standard with one year of factory warranty and an optional one or two year additional service contract is available for up to three years of factory-backed coverage.

2. Restore with a Mercury Remanufactured long block. These direct replacements have been completely disassembled and thoroughly remanufactured to OEM specifications, not just repaired or rebuilt. Each engine is thoroughly hot tested before leaving our manufacturing facility, so you know it's right. Long blocks come complete with valve covers, oil pan and front cover, so you just bolt on your existing intake, exhaust and accessories and go. Mercury Remanufactured long block engines come with one year of factory warranty and an optional one or two year additional service contract is available for up to three years of factory-backed coverage.
3. Mercury Plus Series engines from Mercury Remanufacturing add even more value to the long block option. These semi-dressed engines also have the induction and electrical systems added for an even more complete solution. Available straight from the Mercury catalog, fully hot tested and standard with one year of factory warranty and an optional one or two year additional service contract is available for up to three years of factory-backed coverage.

## WHAT'S INCLUDED IN A NEW MERCUISER ENGINE POWER PACKAGE?

As you scour the marketplace looking for the best value for your replacement Engine Power Package, it is important to know what you are getting for your hard-earned dollar. Many marine engine power suppliers lead you to believe that you are getting the same thing as a MerCruiser for much less, but that is not always the case.

All new MerCruiser engines are manufactured complete and include the following components.

- Power Steering - Standard on all sterndrive engine packages except 3.0L (4 cyl.)
- Fuel System Multiport Fuel Injection or Turn-Key Start Carbureted
- Brass Sea Water Pump - Standard on all Bravo®, Alpha® freshwater-cooled sterndrive packages, Inboards and Tow Sport Engines
- Water Pump
- Thermostat Housing
- Trim Pump - Standard on all sterndrive packages
- Cool Fuel System - Standard on all MPI Engines
- Dry-Joint Exhaust Manifolds
- Starter
- Oil Pan
- Steering Actuator
- Flywheel Housing

If you are told that you do not need all of these things because your current components are still functioning properly, wouldn't you feel more secure knowing your entire Engine Power Package is new and fully backed by the manufacturer?

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## FEATURES AND BENEFITS OF A MERCUISER ENGINE

### Reliability

- Industry-Exclusive Dry-Joint Exhaust System
- Ceramic-Coated Exhaust Elbows
- Marine-Grade Motorola 555 ECM or PCM on fuel-injected engines
- Best-in-class closed-cooling on Horizon® models with three-year factory warranty
- Factory backed extended warranty available for a total of six years coverage
- Standard three year corrosion warranty

### Performance

- Turn-Key Starting
- Antifeedback Power Steering
- Low Restriction Flame Arrestor for added horsepower and torque

### Easy Ownership

- Easy Oil Drain System
- Easy Water Drain System
- All engines run on 87-Octane Fuel
- 300-hour maintenance intervals

### Technology

- Digital Throttle & Shift (Optional on V-8 MPI engines)
- Smartcraft Digital Technology (MPI Engines)
- Engine Guardian/or Alarm System

## FEATURES AND BENEFITS OF A MERCUISER DRIVE

- Power Trim XD - Maintains Boat Control in an Emergency
- Flo-Torq® II - Propeller hub saves drive after striking an object
- No Maintenance Permalube® U-Joints and Hinge Pins
- Drive Lube Monitor on all Sterndrives
- Greasable Gimbal Bearing and Drive Coupler - don't have to remove drive
- Armored Trim Lines - protected from debris
- Integrated Speedometer Tube - fewer drill holes and claptrap
- Trim Limit Switch - sets drive for best performance
- Through Prop Exhaust - best power and least noise
- Corrosion Fighting Built-in:
- Three - Year Corrosion Warranty
- MerCathode® – standard on Bravo, optional on Alpha
- XK-360 Low Copper Aluminum Alloy
- Tri-Paint System- Irridite, EDP, Powder Paint
- Ultra-Pure Aluminum Anodes and Magnesium Anode Kit

### ADDITIONAL REQUIREMENTS TO DISCUSS WITH YOUR DEALER.

Any or all of these may need to be updated as you change your power: propeller, wiring harness, gauges (analog or SmartCraft), rigging (helm and remote controls), battery, exhaust hoses, fuel lines, water lines.

STERNDRIVES	SmartCraft	Horsepower	RPM Range	Displacement Liter/CID	Cylinders	Fuel System	Digital Throttle & Shift Option	Closed- Cooling	Water Drain System* (See description on opposite page.)		Drive Options	Total Weight (lb/kg)
									Alpha	Bravo/Inboard		
496 MAG High Output (HO)	Yes	425 hp (317 kW)	4600-5000	8.1/496	V-8	MPI	Yes	Standard	N/A	Standard	Bravo One X, XR Bravo Two X, XR Bravo Three X, XR	1199/544 1214/551 1224/556
496 MAG	Yes	375 hp (280 kW)	4400-4800	8.1/496	V-8	MPI	Yes	Standard	N/A	Standard	Bravo One X, XR Bravo Two X, XR Bravo Three X, XR	1199/544 1216/553 1225/557
▼ MX 6.2 MPI Horizon	Yes	320 hp (239 kW)	4800-5200	6.2/377	V-8	MPI	Yes	Standard	N/A	Standard	Bravo One Bravo Two Bravo Three	1044/475 1016/482 1070/486
MX 6.2 MPI	Yes	320 hp (239 kW)	4800-5200	6.2/377	V-8	MPI	Yes	Kit	N/A	Optional	Bravo One Bravo Two Bravo Three	993/451 1010/459 1019/463
▼ 350 MAG MPI Horizon	Yes	300 hp (224 kW)	4800-5200	5.7/350	V-8	MPI	Yes	Standard	N/A	Standard	Bravo One Bravo Two Bravo Three	1044/475 1061/482 1070/486
350 MAG MPI	Yes	300 hp (224 kW)	4800-5200	5.7/350	V-8	MPI	Yes	Kit	Standard	Optional	Alpha Bravo One Bravo Two Bravo Three	952/433 993/451 1010/459 1019/463
5.0 MPI	Yes	260 hp (194 kW)	4600-5000	5.0/305	V-8	MPI	Yes	Optional or Kit	Standard	Optional	Alpha Bravo One Bravo Two Bravo Three	952/433 993/451 1010/459 1019/463
5.7L	No	250 hp (186 kW)	4400-4800	5.7/350	V-8	TKS Carb	No	Kit	N/A	N/A	Alpha Bravo One Bravo Two Bravo Three	946/430 987/449 1004/456 1013/460
5.0L	No	220 hp (164 kW)	4400-4800	5.0/305	V-8	TKS Carb	No	Kit	N/A	N/A	Alpha Bravo One Bravo Two Bravo Three	946/430 987/449 1004/456 1013/460
4.3 MPI	Yes	220 hp (164 kW)	4400-4800	4.3/262	V-6	MPI	No	Optional or Kit	Standard	Optional	Alpha Bravo Two Bravo Three	865/393 912/414 921/419
4.3L	No	190 hp (142 kW)	4400-4800	4.3/262	V-6	TKS Carb	No	Optional or Kit	N/A	N/A	Alpha Bravo Two Bravo Three	848/385 893/405 902/410
3.0L	No	135 hp (101 kW)	4400-4800	3.0/181	Inline-4	TKS Carb	No	Optional or Kit	Standard	N/A	Alpha	635/288

INBOARDS	SmartCraft	Horsepower	RPM Range	Displacement Liter/CID	Cylinders	Fuel System	Digital Throttle & Shift Option	Closed- Cooling	Water Drain System* (See description below.)		Drive Options	Total Weight (lb/kg)
									Alpha	Bravo/Inboard		
8.1S High Output (HO)	Yes	420 hp (313 kW)	4400-4800	8.1/496	V-8	MPI	Yes	Standard	N/A	Standard	N/A	1130/513
▼ 8.1S Horizon	Yes	370 hp (276 kW)	4200-4600	8.1/496	V-8	MPI	Yes	Standard	N/A	Standard	N/A	1130/513
▼ MX 6.2 MPI Horizon	Yes	320 hp (239 kW)	4600-5000	6.2/377	V-8	MPI	Yes	Standard	N/A	Standard	N/A	948/431
MX 6.2 MPI	Yes	320 hp (239 kW)	4600-5000	6.2/377	V-8	MPI	Yes	Optional	N/A	Optional	N/A	860/390
▼ 350 MAG MPI Horizon	Yes	300 hp (224 kW)	4600-5000	5.7/350	V-8	MPI	Yes	Standard	N/A	Standard	N/A	940/427
350 MAG MPI	Yes	300 hp (224 kW)	4600-5000	5.7/350	V-8	MPI	Yes	Optional	N/A	Optional	N/A	860/390
5.7L	No	260 hp (194 kW)	4200-4600	5.7/350	V-8	MPI	No	Kit	N/A	N/A	N/A	888/400
<b>TOW SPORTS INBOARDS</b>												
▼ MX 6.2 Black Scorpion	Yes	340 hp (254 kW)	4800-5200	6.2/377	V-8	MPI	No	N/A	N/A	Optional	N/A	821/373
Black Scorpion	Yes	330 hp (246 kW)	4800-5200	5.7/350	V-8	MPI	No	N/A	N/A	Optional	N/A	821/373
350 MAG MPI	Yes	315 hp (235 kW)	4600-5000	5.7/350	V-8	MPI	No	N/A	N/A	Optional	N/A	813/369
5.7L	No	270 hp (201 kW)	4400-4800	5.7/350	V-8	TKS Carb	No	N/A	N/A	N/A	N/A	833/379
<b>RACING STERNDRIVES</b>												
HP1075 SCi	Yes	1075 hp (802 kW)	5600-6000	9.1/557	V-8	Sequential Fuel Injection	No	N/A	N/A	N/A	Dry-Sump Six	1720/782
HP850 SCi	Yes	850 hp (634 kW)	5500-5800	9.1/557	V-8	Sequential Fuel Injection	No	N/A	N/A	N/A	Dry-Sump Six	1720/782
HP600 SCi	Yes	600 hp (447 kW)	4800-5200	8.2/502	V-8	Sequential Fuel Injection	No	Standard	N/A	N/A	Bravo One XR Bravo One XR Sport Master Dry-Sump Six	1267/575
HP525 EFI	Yes	525 hp (410 kW)	4800-5200	8.2/502	V-8	Sequential Fuel Injection	No	Standard	N/A	N/A	Bravo One XR Bravo One XR Sport Master Bravo Three XR, Dry-Sump Six	1201/545

▼ Horizon models and the MX 6.2 Black Scorpion tow sports inboard are covered by a three-year limited warranty.

\*\*For engine registrations outside the United States and Canada, local market warranty length will apply and in no case will this be less than two years for Horizon models and the MX 6.2 Black Scorpion tow sports inboard in certified and noncertified boat brands.

**General Notes**

- Approximate engine and drive weights. Individual units may vary slightly.
- Option availability determined by boat manufacturer within its boat model offerings.
- Performance obtained and corrected in accordance with SAE J1228 crankshaft power.
- All models and specifications are subject to change without notice or without incurring obligations to modify previously manufactured products.

\*MerCruiser offers a variety of easy water drain systems depending upon application, design and in some cases by boat model. The Alpha drain systems typically involve turning a handle or removing quick-connect hoses to drain. The Bravo/Inboard water drain systems are also found on most closed-cooled models and are activated by pressurized air. Some OEM customers request these systems be removed.

## PICK YOUR ENGINE / DRIVE

Now that you have selected the Engine Power Package of your choice, feel free to visit our website at [mercurymarine.com](http://mercurymarine.com) for even more information and then call one of the 4,000 plus local MerCruiser authorized dealers for a price quote.

Please have the following information ready to aid your dealer:

- Boat year, manufacturer and length
- Engine manufacturer, model and serial number
- Salt or freshwater boat usage

**Thank you, and please let us know if we can be of assistance.**

## FREQUENTLY ASKED QUESTIONS

**Q:** Can I use my existing sterndrive with a new MerCruiser engine?

**A:** The answer is sometimes yes and sometimes no; your dealer can discuss the compatibility of your drive and the need of a transom adaptor and possible fiberglass work.

**Q:** Do I need to replace my rigging, controls, harnesses and gauges when I repower?

**A:** Many times the feel and the way you perceive the performance can be directly related to the rigging and gauge systems in your vessel. Please take the time to review your entire system with your dealer, who will be happy to explain the need or benefit of changing these important components.

**Q:** What can I expect if I am replacing a competitor's engine power package with a MerCruiser?

**A:** The need to change mounting hardware, engine brackets, a transom adaptor and/or glasswork is always possible. As this is not always the case, please consult your dealer.

**Q:** Who do I contact for an estimate on my repower?

**A:** Please visit [mercurymarine.com](http://mercurymarine.com) or call 800-MERCURY to find an authorized dealer near you.

**Q:** I found an engine on the internet, should I buy it there?

**A:** There is nothing wrong with trying to find the best value for your needs, however remember; "if it is too good to be true, then it probably isn't true." Do your homework, refer to the section "What is Included in a New MerCruiser Engine Package" and verify you are getting what you think you are.

**NOTES:**