

Vesselview installation instructions mercury marine

vesselview installation instructions mercury marine provide a comprehensive guide for boat owners and marine technicians looking to install the VesselView system accurately and efficiently. VesselView is an advanced digital display and monitoring system designed by Mercury Marine to give real-time data about your engine's performance, diagnostics, and boat systems. Proper installation ensures optimal performance, safety, and ease of use. This article will walk you through detailed step-by-step instructions, necessary tools, safety precautions, and troubleshooting tips to help you successfully install your VesselView system.

Understanding the VesselView System

Before beginning installation, it's essential to familiarize yourself with the components of the VesselView system and their functions.

Components of VesselView System

- VesselView Display:** The main interface for monitoring engine data, diagnostics, and system status.
- Engine Module:** Connects to the engine's data bus and transmits information to the display.
- Connectivity Cables:** Includes power cables, communication cables (Ethernet, NMEA 2000, or Mercury Marine-specific connectors).
- Mounting Hardware:** Brackets, screws, or adhesive pads needed for installation.
- Optional Accessories:** Bluetooth adapters, additional sensors, or wiring extensions.

Pre-Installation Preparation

Proper preparation ensures a smooth installation process.

Tools and Materials Needed

- Screwdrivers (Phillips and flat-head)
- Drill with appropriate bits
- Wire strippers and crimpers
- Electrical tape or heat shrink tubing
- Marine-grade sealant (if mounting in exposed environments)
- Multimeter for electrical testing
- Mounting brackets and hardware supplied with VesselView

User manual or installation guide specific to your VesselView model

Safety Precautions

- Disconnect the boat's battery before starting electrical work to prevent shorts or shocks.
- Ensure the engine is off and cooled down to avoid injury.
- Work in a dry, well-lit area to prevent electrical hazards.
- Follow all manufacturer instructions and safety guidelines provided in the VesselView manual.

Step-by-Step VesselView Installation Instructions

Follow these detailed steps to install the VesselView system effectively.

Step 1: Determine Mounting Location for the Display

Choose a location that is easily visible and accessible while operating the boat. Ensure the mounting area is flat, stable, and within reach of wiring connections. Avoid areas exposed to excessive sunlight or moisture unless the display is rated for such conditions. Use the provided template or measure dimensions to mark drilling points accurately.

Step 2: Mount the VesselView Display

Using the mounting brackets, position the display on the chosen location. Drill holes if necessary, ensuring not to damage underlying wiring or components. Secure the display with screws or mounting hardware, applying marine-grade sealant if mounted in an exposed environment. Confirm the display is firmly attached and correctly oriented for optimal viewing.

Step 3: Connect Power Supply

Locate the main power source, typically the boat's battery or a dedicated fuse block. Use appropriate gauge wire (refer to manual specifications) to connect the VesselView power cable. Connect the positive (+) terminal to the power source, and the negative (-) to the ground. Install inline fuse or circuit breaker as recommended by Mercury Marine to protect the

system. Use marine-grade connectors and ensure all connections are waterproofed with heat shrink or electrical tape.

Step 4: Connect Data and Communication Cables Depending on your VesselView model and setup, connections may include Ethernet, NMEA 2000, or Mercury Marine-specific connectors.

For NMEA 2000 Networks: Connect the VesselView to the NMEA 2000 backbone using a T-connector. Ensure the backbone is properly terminated at both ends with terminator resistors. Use compatible NMEA 2000 cables for data transmission.

For Ethernet-based Systems: Connect the display to the engine module or network hub via Ethernet cable. Verify connections are secure and properly seated.

For Mercury Marine-specific connections: Follow the wiring diagram in the manual to connect to engine sensors, control modules, or existing Mercury systems.

Step 5: Connect to the Engine Data Bus Locate the engine's data port, often a Mercury Marine-specific connector. Connect the engine module to the engine's data port securely. Ensure the connection is free of corrosion and properly seated. For some models, an adapter or extension cable may be required.

Step 6: Verify Connections and Power On Double-check all wiring connections for correctness and security. Reconnect the boat's battery. Turn on the ignition or power switch to supply power to the VesselView system. Observe the display for startup messages or diagnostic alerts.

Initial System Configuration Once physically installed, configure your VesselView system for optimal operation.

Software and Firmware Updates Connect the VesselView to a computer or mobile device via Bluetooth or Wi-Fi, if supported. Download and install the latest firmware updates from Mercury Marine's official website. Follow on-screen instructions to update the system.

Calibration and Settings Adjust display brightness, contrast, and language settings. Calibrate sensors or gauges if prompted. Enter boat and engine information to personalize data display. Configure alerts or alarms based on your preferences.

Testing and Troubleshooting Ensure the system operates correctly before heading out on the water.

Performing System Checks Verify that engine data appears correctly on the display. Test diagnostic functions? check for error codes or warnings. Confirm communication between the VesselView and engine modules. Ensure all mounted components remain secure and free of damage.

Common Installation Issues and Solutions

- No power to display: Check fuse, wiring, and battery connections.
- Data not displaying correctly: Ensure proper network connections and terminations.
- Display flickering or unresponsive: Verify power and grounding connections.
- Engine data inconsistent: Re-calibrate sensors or check for wiring faults.

Maintenance and Care Post-Installation Proper maintenance extends the lifespan and reliability of your VesselView system. Regularly inspect wiring and connectors for corrosion or damage. Clean the display with a soft, damp cloth; avoid harsh chemicals. Update firmware periodically to benefit from improvements and bug fixes. Keep the system dry and protected from extreme conditions when possible.

Conclusion Installing the VesselView system from Mercury Marine is a straightforward process when following proper procedures and safety guidelines. Ensuring correct wiring, secure mounting, and thorough testing will provide you with reliable engine monitoring and diagnostic capabilities, enhancing your boating experience. Always refer to the specific installation manual for your VesselView model, and do not hesitate to seek professional assistance if needed. With proper installation, VesselView becomes an invaluable tool for safer, more efficient boating.

VesselView Installation Instructions Mercury Marine: A Comprehensive Guide to Setting Up Your Marine Instrument System

In the world of marine navigation and performance monitoring, the VesselView installation instructions Mercury Marine provide essential guidance for boat owners and technicians seeking to integrate this advanced digital display system into their vessels. Whether you're upgrading your existing setup or installing a VesselView for the first time, understanding the proper installation procedures is crucial to ensure reliable operation, accurate data display, and long-term durability. This guide offers an in-depth walkthrough of the installation process, best practices, and troubleshooting tips to help you achieve a seamless integration of Mercury Marine's VesselView system.

Understanding the VesselView System and Its Importance

Before diving into installation instructions, it's important to understand what VesselView is and why it's a valuable addition to your boat.

What is VesselView? VesselView is a digital display interface that provides real-time data on engine performance, fuel efficiency, boat speed, RPM, diagnostic codes, and more. It allows boaters to monitor critical systems at a glance, helping optimize performance and prevent costly repairs.

Benefits of Proper Installation Ensuring correct installation not only guarantees that the VesselView functions correctly but also protects sensitive electronics from damage, ensures accurate data reporting, and maintains the vessel's safety and efficiency.

Pre-Installation Preparation

Step 1: Gather Necessary Tools and Equipment

- VesselView display unit (compatible with your Mercury Marine engine)
- Marine-grade wiring harnesses and connectors
- Power supply (12V DC, fused)
- Ethernet or NMEA 2000 cables (as required)
- Mounting hardware (brackets, screws, adhesives)
- Drill, screwdriver, wire strippers, crimping tools
- Sealant or marine-grade adhesive
- User manual and installation kit documentation

Step 2: Review Your Vessel's Wiring and Engine Setup

- Confirm compatibility of the VesselView model with your Mercury engine
- Identify available power sources and data bus connections
- Locate existing NMEA 2000 backbone or plan to install one
- Check the vessel's dashboard space for display mounting

Step 3: Plan the Installation Location

- Select a position with clear visibility, easy access, and minimal glare
- Ensure the mounting surface is stable and can accommodate the display size
- Avoid areas exposed to excessive heat, moisture, or vibration

Step-by-Step VesselView Installation Guide

Mounting the Display Unit

Choosing the Mounting Method

Dashboard Mounting: Use the supplied brackets for secure attachment.

Flush Mounting: Drill a hole to fit the display into a panel or console.

Installation Steps

- Mark the mounting holes** based on the display's template.
- Drill holes** with appropriate size, ensuring no wiring or structural components are affected.
- Install the mounting bracket or bezel** securely using marine-grade screws.
- Attach the VesselView display** to the bracket, ensuring it clicks or screws into place.

Tip: Apply marine sealant around the mounting edges to prevent water intrusion.

Connecting Power and Data

Power Connection

- Identify a 12V DC power source with fused circuit protection.
- Connect the positive (+) wire to the power source, and the negative (-) wire to ground.
- Use marine-grade crimp connectors for secure, corrosion-resistant connections.
- Confirm proper polarity before powering on.

Data Connection

- For Ethernet-based models, connect the display to the NMEA 2000 backbone using the provided T-connector and backbone cables.
- For NMEA 2000, ensure the backbone is properly terminated at both ends with 120-ohm resistors.
- If integrating with other systems, connect GPS, sensors, and engine data ports following manufacturer instructions.

Tip: Use

color-coded wiring diagrams from Mercury Marine for clarity. Configuring the System Power on the vessel's electrical system. Turn on the VesselView display. Follow the on-screen prompts to set up language, units, and network settings. Use the system menu to select connected sensors and engine configurations. Note: Refer to the user manual for specific configuration options pertinent to your engine model. Final Checks and Testing Verify all connections are secure and properly insulated. Check that the display powers on without errors. Confirm data is being received: engine RPM, speed, fuel levels, diagnostics. Test the system under various operating conditions if possible. Best Practices for a Reliable Installation Use Marine-Grade Components: Only use connectors, wiring, and mounting hardware rated for marine environments to prevent corrosion. Secure Wiring: Route cables away from moving parts, heat sources, and areas prone to water exposure. Maintain Proper Grounding: Ensure all grounds are solid and connected to a common grounding point. Avoid Interference: Keep data cables away from high-current wiring to prevent signal noise. Document Your Installation: Keep records of wiring diagrams, cable lengths, and connection points for future troubleshooting. Troubleshooting Common Issues No Power to VesselView: Check fuse and circuit breaker; verify wiring polarity. No Data Display: Ensure connections to NMEA 2000 or Ethernet are secure; confirm network address settings. Incorrect Data: Reconfigure system settings; update firmware if necessary. Display Glitches or Freezes: Inspect wiring for damage; restart the system; update software firmware. Maintenance and Upgrades Regularly inspect wiring and connections for corrosion or wear. Keep the display clean with a soft, damp cloth; avoid harsh chemicals. Update firmware periodically via Mercury Marine's software tools. For upgrades, follow the same steps, ensuring compatibility with your existing systems. Conclusion Properly following the VesselView installation instructions Mercury Marine ensures a reliable, accurate, and durable system that enhances your boating experience. From planning and mounting to wiring and configuration, attention to detail during installation can prevent future issues and maximize the benefits of your VesselView system. Whether you're a seasoned marine technician or a boat owner with basic skills, this guide provides a thorough roadmap to achieving a professional-grade installation. Remember, when in doubt, consulting with certified Mercury Marine technicians guarantees optimal results and vessel safety.

QuestionAnswer

What are the key steps to install the VesselView system on a Mercury Marine engine?

To install the VesselView system, start by connecting the display module to the engine's data port, then mount the display in a suitable location, connect the power and communication cables as per the wiring diagram, and finally follow the on-screen setup instructions to complete the installation.

Are there specific tools required for installing Mercury Marine's VesselView?

Yes, you'll need basic hand tools such as screwdrivers, wire strippers, crimpers, and possibly a drill. It's also recommended to have a torque wrench for securing connectors and mounting brackets, along with the installation hardware provided in the VesselView kit.

How do I connect VesselView to my Mercury Marine engine's data port?

Locate the engine's data port, usually a dedicated connector near the engine control module. Connect the VesselView wiring harness to this port securely, ensuring the connectors are properly aligned and latched. Refer to the specific wiring diagram included with your VesselView model for precise connection points.

Can I install VesselView myself, or should I hire a professional?

While experienced boat owners with electrical skills can perform the installation by following the provided instructions, it is recommended to have a professional marine technician handle the installation to ensure proper setup and avoid potential damage.

What are common troubleshooting steps if VesselView does not power on after installation?

Check all wiring connections for secure contact and correct placement. Verify the power source is active and providing the proper voltage. Ensure the fuse or circuit breaker is not tripped. If issues persist, consult the VesselView installation manual or contact Mercury Marine support for assistance.

Where can I find the official installation instructions for VesselView on Mercury Marine engines?

Official installation instructions are available in the VesselView user manual included with your device, or can be downloaded from the Mercury Marine website's support section under 'Product Documentation' for your specific model.

Related keywords: VesselView installation, Mercury Marine setup, VesselView wiring, Mercury Marine configuration, VesselView device installation, Mercury Marine electronics, VesselView troubleshooting, Mercury Marine user guide, VesselView connectivity, Mercury Marine software update

Mercury 115 elpt 4 stroke manual

mercury 115 elpt 4 stroke manual is an essential resource for boat owners, marine mechanics, and enthusiasts who seek comprehensive guidance on operating, maintaining, and troubleshooting this popular outboard motor. Known for its reliability, fuel efficiency, and smooth operation, the Mercury 115 ELPT 4-stroke engine has become a preferred choice for various boating applications, from fishing boats to small recreational vessels. However, to maximize its performance and lifespan, owners need to familiarize themselves with the detailed instructions provided in the manual, which covers everything from installation and operation to maintenance and troubleshooting. In this article, we explore the key aspects of the Mercury 115 ELPT 4-stroke manual, offering a thorough overview to help users get the most out of their engine. Whether you're a first-time owner or an experienced technician, understanding the manual's contents ensures safe, efficient, and trouble-free operation.

Understanding the Mercury 115 ELPT 4-Stroke Engine Overview of the Engine

The Mercury 115 ELPT 4-stroke outboard motor is a lightweight, compact, and powerful engine designed to deliver excellent performance on a variety of boats. Its 4-stroke design means quieter operation, lower emissions, and better fuel economy compared to 2-stroke engines. The engine features electronic fuel injection (EFI), which optimizes fuel delivery for smoother acceleration and improved efficiency.

Main Features

- Power Output:** 115 horsepower
- Fuel System:** Electronic Fuel Injection (EFI)
- Cooling System:** Water-cooled
- Weight:** Approximately 390 pounds (varies by specific model)
- Control Options:** Mechanical or digital controls
- Additional Features:** Power steering, tilt and trim system, integrated alarm system

Getting Started with the Mercury 115 ELPT 4-Stroke Manual

Unboxing and Initial Inspection

Before installation, carefully unpack the engine and inspect for any shipping damage or missing parts. The manual provides detailed instructions on what should be included in the package and how to verify that all components are present.

Installation Guidelines

Proper installation is crucial for optimal performance and safety. The manual emphasizes:

- Mounting the engine** securely on a compatible transom
- Ensuring alignment** with the boat's hull
- Connecting fuel lines, control cables, and electrical wiring** correctly
- Using the recommended tools and torque specifications**

Pre-Operation Checklist

Before starting the engine for the first time:

- Check oil levels** and replenish if necessary
- Inspect the fuel system** for leaks or damage
- Ensure the cooling water intake** is unobstructed
- Verify that the control mechanisms** operate smoothly

Operating the Mercury 115 ELPT 4-Stroke Engine

Starting the Engine

The manual details the step-by-step process:

- Engage the control shift/throttle** to neutral.
- Ensure the gear shift** is in neutral.
- Open the fuel tank valve.**
- Set the choke** (if applicable) to the closed position.
- Turn the ignition switch** to the "On" position.
- Push the start button** or turn the key to start the engine.
- Gradually release the choke** as the engine warms up.

Operating Tips for Optimal Performance

Always operate within the recommended RPM range specified in the manual. Use the trim and tilt functions to adjust the engine angle for best efficiency. Monitor engine gauges regularly for temperature, oil pressure, and RPM. Be aware of environmental conditions such as wind and water currents.

Shutdown Procedure

- Reduce throttle** to idle.
- Turn the ignition switch** to "Off."
- Close the fuel valve.**
- Remove the key** or disconnect power if necessary.

Maintenance and Care Based on the Manual

Regular Maintenance Schedule

Following the maintenance schedule outlined in the manual ensures longevity.

- Daily Checks:** Visual inspection of the engine, checking for leaks or corrosion.
- Weekly:** Check and top off engine oil, inspect fuel lines.
- Monthly:** Clean the propeller, inspect drive belts, and

check cooling water intake. Annually: Comprehensive inspection, oil change, spark plug replacement, and corrosion prevention. Oil and Fuel System Maintenance Use only recommended oils and fuels specified in the manual. Change engine oil after the first 20 hours of operation, then every 100 hours or annually. Inspect and replace fuel filters as necessary. Drain and flush the fuel system if fuel contamination occurs. Cooling System Maintenance Regularly inspect water intake screens. Flush the cooling system with fresh water after saltwater use. Replace thermostat and water pump impeller periodically as per manual recommendations. Electrical System and Battery Care Keep battery terminals clean and tight. Check wiring and connections for corrosion or damage. Test the ignition system periodically. Troubleshooting Common Issues Engine Won't Start Verify fuel delivery and check for clogged filters. Ensure the battery is charged and connections are secure. Check for spark at the spark plugs. Consult the manual for specific troubleshooting steps related to ignition and fuel system issues. Engine Overheating Inspect water intake for blockages. Check the water pump impeller. Ensure cooling water hoses are unobstructed. Unusual Noises or Vibration Examine the propeller for damage or imbalance. Check mounting bolts and engine mounts. Inspect internal components if noises persist. Poor Fuel Efficiency Ensure the engine is properly tuned. Use recommended fuel and oil. Adjust trim and throttle settings for best efficiency. Safety Precautions and Best Practices Operating Safety Always wear life jackets and safety gear. Be aware of local boating laws and regulations. Never operate the engine under the influence of alcohol or drugs. Keep a fire extinguisher nearby. Maintenance Safety Disconnect the battery before working on electrical components. Allow the engine to cool before performing maintenance. Use proper protective equipment when handling fluids and parts. Where to Find the Mercury 115 ELPT 4-Stroke Manual The official manual can be obtained from Mercury Marine's website or authorized dealers. It is available in both printed and digital formats, ensuring easy access for troubleshooting and reference. Conclusion The Mercury 115 ELPT 4-stroke manual is an invaluable resource that empowers boat owners and technicians to operate and maintain their engines effectively. By adhering to the guidelines outlined in the manual, users can ensure their engine performs reliably, remains fuel-efficient, and has an extended service life. Proper understanding and regular maintenance not only enhance safety but also maximize the enjoyment of boating adventures. Whether you're installing the engine for the first time or performing routine upkeep, consulting the manual is the first step toward a smooth and trouble-free boating experience.

Mercury 115 ELPT 4 Stroke Manual: An Expert Review of Performance, Features, and Reliability The Mercury 115 ELPT 4 Stroke is a standout outboard engine that combines power, efficiency, and durability, making it a popular choice among boating enthusiasts, anglers, and commercial operators alike. This article provides an in-depth review of the Mercury 115 ELPT 4 Stroke Manual, exploring its design, features, performance, maintenance, and overall value, helping you understand whether this engine is the right fit for your marine needs. Introduction to the Mercury 115 ELPT 4 Stroke The Mercury 115 ELPT (Extra Long Power Tilt) 4 Stroke engine is part of Mercury's renowned lineup of outboards that prioritize smooth operation, fuel efficiency, and ease

of maintenance. As a 4-stroke engine, it offers advantages over traditional 2-stroke motors, including lower emissions, quieter operation, and better fuel economy. Designed specifically for boats that require a reliable mid-range power source, the 115 ELPT is ideal for pontoons, fishing boats, and small to medium-sized vessels. Understanding its full potential requires a detailed look into its technical specifications, features, and real-world performance.

Design and Build Quality
Engine Construction The Mercury 115 ELPT 4 Stroke boasts a robust and lightweight aluminum block construction that balances durability with weight management. Its compact design ensures easier installation and handling without sacrificing structural integrity. The engine features a corrosion-resistant coating, making it suitable for both freshwater and saltwater applications. Mercury's emphasis on corrosion protection extends the lifespan of the engine, especially in harsh marine environments.

Weight and Dimensions
Weighing approximately 379 pounds (172 kg), the Mercury 115 ELPT is relatively lightweight for its class, facilitating easier transportation and installation. Its dimensions are optimized to fit a variety of boat transoms, with a standard mounting height that accommodates most setups.

Key Features and Technologies
4-Stroke Power and Fuel Efficiency The engine's 4-stroke design ensures smoother operation, less vibration, and cleaner emissions. It features a 4-cylinder in-line configuration with a displacement of 2.1 liters, delivering consistent power output and impressive fuel economy. The engine's fuel injection system precisely meters the air-fuel mixture, optimizing performance and reducing fuel consumption—a critical factor for anglers and long-distance cruisers.

Power Tilt and Trim (ELPT) The "ELPT" designation indicates the inclusion of electric power tilt and trim functions, offering effortless adjustments to optimize boat performance and handling. The tilt feature allows raising or lowering the engine with the push of a button, simplifying docking and trailering. The trim system ensures the boat maintains optimal attitude for speed, fuel efficiency, and comfort, especially when navigating varying water conditions.

Digital Throttle and Shift (DTS) Mercury's DTS system provides precise control over throttle and shifting, resulting in smoother acceleration and deceleration. This enhances maneuverability and contributes to less engine wear over time.

SmartCraft VesselView Integration The engine is compatible with Mercury's VesselView system, offering real-time diagnostics, fuel management data, and performance metrics. This technology allows boaters to monitor engine health and optimize operation.

Quiet Operation and Low Emissions Thanks to advanced engineering and sound-dampening materials, the Mercury 115 ELPT runs quietly, reducing noise pollution and enhancing the boating experience. Its 4-stroke design also ensures compliance with modern emissions standards.

Performance Analysis
Power Output and Acceleration The Mercury 115 ELPT 4 Stroke provides a rated horsepower of 115 HP at 5500-6000 RPM. When properly matched with the boat size and load, it offers quick acceleration and reliable top speeds, making it suitable for watersports, fishing, or cruising. In real-world testing, boat owners report achieving speeds exceeding 30 knots with a light load, with smooth throttle response across the RPM range.

Fuel Efficiency and Range One of the standout features of this engine is its impressive fuel economy. Thanks to precise fuel injection and efficient combustion, operators often see fuel consumption rates of approximately 3-4 gallons per hour at cruising speeds, significantly extending the range of their vessel. This efficiency translates into longer trips between fuel stops and reduced operating costs—a vital benefit for commercial and recreational boaters alike.

Handling and

ManeuverabilityThe power tilt and trim system enables precise control over boat attitude, making docking and turning more manageable. The engine's low vibration levels and balanced weight distribution contribute to a stable and comfortable ride. Additionally, the engine's compact size allows for easy installation on a wide variety of transom configurations.

Reliability and DurabilityMercury's reputation for building durable engines is well-reflected in the 115 ELPT. With regular maintenance, many owners report trouble-free operation for thousands of hours. The engine's corrosion-resistant features ensure longevity even in saltwater environments.

Maintenance and Servicing**Routine Maintenance Tasks**Maintaining the Mercury 115 ELPT involves regular checks and servicing, including:

- Oil Changes:** Using Mercury-approved 4-stroke oil, typically every 100 hours or annually.
- Fuel System Inspection:** Ensuring fuel lines and filters are clean and free of debris.
- Cooling System Checks:** Flushing the water pump and inspecting thermostats.
- Propeller Inspection:** Checking for damage or corrosion, which can impact performance.
- Electrical System:** Ensuring battery connections and wiring are secure and corrosion-free.

Service Intervals and WarrantyMercury provides a comprehensive warranty, often covering three years for recreational users. Scheduled maintenance intervals are outlined in the manual, emphasizing the importance of regular servicing to maintain optimal performance and longevity.

DIY vs. Professional ServicingWhile basic maintenance can be performed by knowledgeable boat owners, complex repairs and adjustments should be handled by authorized Mercury service centers to ensure warranty compliance and proper operation.

Pros and Cons**Advantages****Reliable Power Output:** Consistent 115 HP performance.**Fuel Efficiency:** Cost-effective operation over long periods.**Ease of Use:** Electric tilt/trim and Digital Throttle and Shift.**Durability:** Saltwater corrosion resistance and robust construction.**Quiet Operation:** Reduced noise levels for a pleasant experience.**Advanced Technology:** VesselView integration and diagnostics.

Potential Drawbacks**Price Point:** Slightly higher initial investment compared to 2-stroke engines.**Weight:** While lightweight for its class, it may still require proper mounting and support.**Maintenance Costs:** Regular servicing with quality parts can add to operational expenses.

Final Verdict: Is the Mercury 115 ELPT 4 Stroke Manual a Worthwhile Investment?The Mercury 115 ELPT 4 Stroke manual outboard engine is a well-rounded, high-performance powerplant suitable for a wide array of boating applications. Its combination of durability, fuel efficiency, ease of operation, and advanced technological features make it an excellent choice for boat owners seeking a reliable mid-range engine. While the initial cost may be higher than some alternatives, the long-term savings on fuel, maintenance, and repairs, along with the peace of mind provided by Mercury's reputation and warranty, make this engine a sound investment. For boaters prioritizing smooth performance, environmental friendliness, and ease of handling, the Mercury 115 ELPT 4 Stroke manual stands out as a top contender in its class, promising years of dependable service on the water. In conclusion, whether you're upgrading an existing vessel or outfitting a new one, the Mercury 115 ELPT 4 Stroke manual offers an impressive blend of power, efficiency, and user-friendly features that cater to both novice and experienced boaters. Proper maintenance and careful operation will ensure this engine remains a reliable companion on countless adventures.

QuestionAnswer

What are the key features of the Mercury 115 ELPT 4-Stroke Manual?

The Mercury 115 ELPT 4-Stroke Manual features a lightweight design, electronic fuel injection for better efficiency, and a reliable power output suitable for various boat types. It includes a manual tilt system, digital throttle and shift controls, and advanced corrosion protection.

How do I perform regular maintenance on my Mercury 115 ELPT 4-Stroke?

Regular maintenance includes checking and changing the engine oil, inspecting and replacing the spark plugs, cleaning the propeller, and flushing the cooling system after use in saltwater. Consult the manual for detailed intervals and procedures.

What is the recommended fuel type and oil for the Mercury 115 ELPT 4-Stroke?

Use unleaded gasoline with a minimum octane rating of 87 and Mercury Precision Oil or an equivalent 4-stroke outboard oil. Always follow the manufacturer's recommendations found in the manual for optimal performance.

How do I troubleshoot starting issues on my Mercury 115 ELPT 4-Stroke?

Check the fuel supply, ensure the kill switch is in the correct position, inspect the spark plugs, and verify the battery and electrical connections. If problems persist, consult the troubleshooting section of the manual or contact a certified dealer.

What is the proper way to winterize my Mercury 115 ELPT 4-Stroke?

Winterization involves draining the fuel system, changing the engine oil, adding fuel stabilizer, fogging the engine, and storing the motor in a dry, sheltered area. Refer to the manual for detailed winterization procedures.

Can I upgrade the control system on my Mercury 115 ELPT 4-Stroke?

Yes, Mercury offers digital throttle and shift controls and electronic steering options. Ensure compatibility with your motor model and follow the installation instructions provided in the manual or seek professional assistance.

What safety precautions should I follow when operating the Mercury 115 ELPT 4-Stroke?

Always wear life jackets, keep hands and clothing away from moving parts, check for fuel leaks, and operate in designated areas. Familiarize yourself with the manual's safety instructions before use.

How do I adjust the trim and tilt on my Mercury 115 ELPT 4-Stroke?

Use the manual tilt system or an electric trim switch if available. Follow the manual's instructions for adjusting the trim angle to optimize performance and fuel efficiency.

What is the warranty coverage for the Mercury 115 ELPT 4-Stroke?

Warranty coverage typically includes a limited factory warranty covering parts and labor for a specified period, usually one year. Check your manual or contact Mercury Marine for detailed warranty information and registration procedures.

Where can I find a replacement manual or parts for my Mercury 115 ELPT 4-Stroke?

Replacement manuals and parts can be purchased through authorized Mercury Marine dealers, online stores, or the official Mercury Marine website. Always use genuine parts to ensure compatibility and optimal performance.

Related keywords: Mercury 115 ELPT 4 Stroke, Mercury outboard manual, Mercury 115 hp manual, Mercury 4 stroke outboard, Mercury engine maintenance, Mercury outboard parts, Mercury 115 service guide, Mercury ELPT 4 stroke specs, Mercury outboard troubleshooting, Mercury 115 repair manual

Big tiller mercury marine

Big Tiller Mercury Marine: Your Ultimate Guide to Power, Performance, and Reliability In the world of marine propulsion, few brands stand out as prominently as Mercury Marine, renowned for their innovative technology, durability, and superior performance. Among their extensive lineup, the big tiller mercury marine engines have garnered a reputation for delivering exceptional power and control, especially suited for anglers, boat enthusiasts, and commercial operators seeking robust and reliable outboard motors. This comprehensive guide explores everything you need to know about big tiller Mercury Marine engines—from their features and benefits to maintenance tips and purchasing advice.

Understanding Big Tiller Mercury Marine Engines What Is a Big Tiller Mercury Marine Engine? A big tiller Mercury Marine engine is a type of outboard motor designed with a large, robust tiller handle that provides direct control over the boat's steering and throttle. These engines

are typically used on smaller boats, jon boats, and fishing boats where maneuverability, simplicity, and power are paramount. The term "big tiller" refers to the size and strength of the tiller handle, which allows for precise handling, especially during tight turns or when navigating shallow waters. These engines are known for their straightforward design, ease of use, and excellent durability.

Key Features of Big Tiller Mercury Marine Engines

- Power Range:** Usually ranging from 2.5 HP to 25 HP, suitable for small craft.
- Tiller Handle:** Large, ergonomic handle for easy control and maneuverability.
- Compact Design:** Small footprint, ideal for lightweight and portable setups.
- Durability:** Built for tough conditions, with corrosion-resistant components.
- Ease of Maintenance:** Simple design facilitates quick repairs and routine servicing.
- Fuel Efficiency:** Designed to maximize fuel economy even under heavy use.

Benefits of Choosing Big Tiller Mercury Marine Engines

- 1. Exceptional Maneuverability and Control** The large tiller handle provides direct, intuitive control, making it easier to navigate in tight spaces, shallow waters, or during precise maneuvers such as docking or fishing.
- 2. Reliable Power for Small Boats** Despite their compact size, these engines deliver reliable and consistent power, ensuring smooth operation whether you're trolling, cruising, or maneuvering.
- 3. Durability and Longevity** Mercury Marine is renowned for manufacturing engines with high-quality materials and corrosion-resistant components, especially suited for freshwater and saltwater environments.
- 4. Ease of Use** Designed with simplicity in mind, big tiller engines are straightforward to operate, making them suitable for novice boaters and seasoned anglers alike.
- 5. Portability** Lightweight and compact, these engines are easy to transport, install, or remove, offering flexibility for various boating needs.
- 6. Cost-Effective Solution** Affordable compared to larger inboard engines, big tiller Mercury motors provide an economical choice for small boat owners who demand performance without breaking the bank.

Popular Mercury Marine Big Tiller Models

- Mercury 2.5 HP Big Tiller** Ideal for small boats, dinghies, and fishing vessels. Lightweight and portable. Perfect for trolling and light-duty applications.
- Mercury 3.5 HP Big Tiller** Slightly more power than the 2.5 HP. Suitable for small fishing boats and inflatable boats. Features easy starting and smooth operation.
- Mercury 4 HP Big Tiller** Balances power and portability. Used for small watercraft requiring reliable engine performance. Offers features like a built-in fuel tank for convenience.
- Mercury 5 HP and 6 HP Big Tiller** Provide increased thrust and control. Suitable for larger small boats and jon boats. Designed with durability for extended use.
- Mercury 9.9 HP and 15 HP Big Tiller** Offer more substantial power for versatile applications. Often used in trolling, fishing, or as auxiliary motors. Equipped with advanced features like power tilt and trim in some models.

Performance and Technical Specifications

Model	Power (HP)	Weight	Fuel Tank Capacity	Features
2.5 HP	2.5	Approx. 15 lbs	1.2 liters	Manual start, simple controls
3.5 HP	3.5	Approx. 17 lbs	1.2 liters	Easy start, lightweight
4 HP	4	Approx. 20 lbs	1.2 liters	Built-in fuel tank, manual start
6 HP	6	Approx. 30 lbs	1.2 liters	Tiller handle, reliable performance
9.9 HP	9.9	Approx. 50 lbs	12 liters	Power tilt, electric start options
15 HP	15	Approx. 70 lbs	12 liters	Power trim and tilt, advanced cooling

[Note: Specifications vary slightly depending on the model year and design updates.]

Choosing the Right Big Tiller Mercury Marine Engine

Assess Your Boat and Usage Needs

- Boat Size:** Match engine horsepower to your boat's size and weight.
- Intended Use:** Consider whether you need a trolling motor, auxiliary power, or primary

propulsion. Water Conditions: Saltwater or freshwater use may influence corrosion-resistant features. Budget Considerations Mercury offers models at various price points; weigh the features against your budget. Remember that investing in a reliable, durable engine can save money on repairs and replacements in the long run. Availability of Parts and Service Choose models with widespread dealer support. Regular maintenance and readily available parts are critical for longevity. Additional Features to Consider Electric start vs. manual start. Power tilt and trim options. Fuel tank capacity and efficiency. Noise levels and vibration control. Maintenance Tips for Big Tiller Mercury Marine Engines Routine Checks Inspect propeller for damage. Check fuel lines and connections for leaks. Examine the tiller handle and controls for smooth operation. Regular Servicing Change the engine oil and gear lubricant as recommended. Clean or replace spark plugs periodically. Flush the cooling system after saltwater use. Replace fuel filters regularly. Storage Tips Drain fuel or add fuel stabilizer during winter storage. Store in a dry, sheltered place. Remove the propeller and inspect for damage before storage. Troubleshooting Common Issues Engine won't start: Check fuel supply, spark, and carburetor. Overheating: Clean cooling passages and impeller. Unusual vibrations: Inspect propeller and alignment. Where to Buy and How to Ensure Authenticity Purchase from authorized Mercury Marine dealers or certified outlets. Verify warranty coverage and after-sales support. Look for genuine parts and accessories to maintain performance and durability. Conclusion The big tiller mercury marine engines are a testament to Mercury Marine's commitment to quality, power, and reliability. Whether you're a fishing enthusiast, a small boat owner, or someone in need of a dependable auxiliary motor, these engines offer an excellent blend of control, performance, and ease of maintenance. By understanding their features, benefits, and proper care, you can ensure many years of smooth, efficient operation on the water. Investing in a big tiller Mercury Marine engine means investing in confidence, control, and the joy of boating. With the right model suited to your needs, you'll enjoy hassle-free adventures and countless memories on the water.

Big Tiller Mercury Marine: Revolutionizing Marine Power with Power and Precision In the world of marine propulsion, few brands have achieved the level of recognition and trust that Mercury Marine commands. Among its diverse product lineup, the Big Tiller Mercury Marine stands out as a flagship solution tailored for serious boaters and commercial operators seeking robust performance, durability, and advanced control features. This article delves into the intricacies of Mercury Marine's big tiller motors, exploring their design, technological innovations, applications, and what sets them apart in the competitive marine engine industry. Understanding the Big Tiller Mercury Marine: An Overview Mercury Marine has long been a leader in outboard engine technology, renowned for delivering reliable, high-performance propulsion systems. The "big tiller" designation refers to a specific type of outboard motor setup characterized by the tiller handle—a manual steering and throttle control directly attached to the engine. These engines are typically larger, more powerful, and designed for demanding applications such as commercial fishing, high-performance boating, and workboats. What Is a Big Tiller Mercury Marine? A big tiller Mercury Marine engine is an

outboard motor featuring: High horsepower ratings, generally ranging from 60 HP up to 150 HP or more. A robust tiller handle, offering direct control over throttle, shift, and steering. Simplified mechanical design, favoring durability and ease of maintenance. Suitable for single-operator control, ideal for small boats, skiffs, and workboats. This design provides a more tactile, intuitive experience for operators who prefer direct engagement with the engine, especially in challenging or demanding environments where quick responses are vital.

Design Features of Mercury Marine Big Tiller Engines

Powertrain and Construction

Mercury's big tiller engines are built with a focus on durability and high performance. Key design features include:

- V-6 or V-4 configurations:** Many models utilize V-shaped cylinders for smooth operation and efficient power delivery.
- Aluminum construction:** Lightweight yet sturdy, aluminum helps maximize power-to-weight ratio and resist corrosion.
- Long-stroke design:** Enhances torque, which is crucial for pushing heavy loads or operating in rough conditions.
- Integrated gearcase:** Designed for high efficiency and durability, often featuring a water-lubricated lower unit.

Control and Ergonomics

The tiller handle is the centerpiece of these engines, equipped with:

- Throttle and shift controls:** Usually combined into a single lever for ease of operation.
- Steering linkage:** Typically via a simple tiller arm, but some models can be paired with remote steering systems.
- Ergonomic grip:** Designed for comfort during extended use.

Optional features: Some models include trim and tilt controls, kill switches, and other safety features integrated into the tiller.

Cooling and Fuel Systems

Mercury's big tiller engines employ advanced cooling systems, such as:

- Water-cooled inline systems:** Ensuring consistent operating temperatures.
- Carbureted or fuel-injected options:** With fuel injection providing better fuel efficiency, easier starting, and lower emissions.

Power Output and Performance

Depending on the model, big tiller Mercury engines deliver:

- High torque output:** Enabling quick acceleration and the ability to handle heavier loads.
- Reliable operation at high RPMs:** Maintaining performance even under strenuous conditions.
- Fuel efficiency:** Thanks to modern fuel delivery systems.
- Durability:** Heavy-duty components designed for prolonged use with minimal downtime.

Technological Innovations in Mercury Marine's Big Tiller Engines

Mercury Marine has integrated cutting-edge technologies into its big tiller engines to enhance performance, safety, and ease of maintenance.

Digital Power Steering and Control

Many contemporary models feature optional digital or mechanical steering options, enabling:

- Enhanced maneuverability:** Critical in tight or challenging environments.
- Reduced operator fatigue:** Especially when handling larger engines over long periods.
- Precise throttle control:** With integrated digital or mechanical controls.

SmartCraft Digital Technologies

Mercury's proprietary SmartCraft system is a suite of digital controls and diagnostics that provide:

- Real-time data:** Including engine speed, temperature, oil pressure, and fuel consumption.
- Troubleshooting alerts:** Helping operators identify issues before they escalate.
- Maintenance scheduling:** Automated reminders for oil changes, filters, and other routine tasks.
- Enhanced safety features:** Such as kill switches, alarms, and engine lockouts.

Enhanced Cooling and Corrosion Resistance

Given the marine environment's corrosive nature, Mercury's big tiller engines incorporate:

- Anti-corrosion coatings:** Protect vital components from saltwater damage.
- Freshwater flushing ports:** Facilitate easy rinsing of internal parts.
- Anodized components:** To prevent galvanic corrosion.

Fuel Injection and Emissions Control

Modern models utilize Electronic Fuel Injection (EFI), which offers:

- Better throttle response**
- Lower emissions**
- Improved fuel economy**
- Ease of cold starts**

Applications of Big Tiller

Mercury Marine Engines Commercial Fishing and Workboats The durability and straightforward control of big tiller engines make them preferred choices for commercial operators, including: Alaska king salmon fishers Diving and research vessels Rescue boats Their reliability under heavy loads and rough conditions ensures operational continuity. High-Performance Recreational Boating Enthusiasts seeking precise control and high power often favor big tiller engines for: Skiffs and dinghies High-speed racing boats Personal watercraft requiring manual handling Utility and Utility-Related Marine Tasks Utility boats used for tasks such as: Patrol and security Transport and logistics Maintenance and support operations benefit from the straightforward mechanics and robustness of Mercury's big tiller engines.

Benefits and Advantages of Mercury Marine Big Tiller Engines

Simplicity and Reliability The mechanical design of big tiller engines minimizes complexity, leading to: Easier maintenance Fewer breakdowns Lower operating costs

Precise Manual Control Tiller handles allow: Immediate, tactile response Fine-tuned maneuvering Better control during docking or navigating tight spaces

Cost-Effectiveness Compared to remote control systems, big tiller engines often: Cost less initially Require less sophisticated installation Are easier to repair or replace

Suitability for Diverse Environments From freshwater lakes to saltwater estuaries, Mercury's corrosion-resistant components and cooling systems ensure longevity.

Compatibility and Customization Mercury offers a range of models that can be customized with optional controls, steering systems, and accessories tailored to specific operational needs.

Challenges and Considerations While big tiller Mercury Marine engines offer numerous benefits, potential users should consider: Operator skill: Manual control requires familiarity and experience. Engine size and weight: Larger engines may require sturdy mounting and handling. Limited automation: Unlike modern electronic systems, tiller engines lack automated features like cruise control.

The Future of Big Tiller Mercury Marine Engines Mercury Marine continues to innovate, integrating more digital features, improved materials, and eco-friendly technologies into its big tiller lineup. The trend toward electric and hybrid propulsion systems hints at future developments, promising quieter, cleaner, and more efficient marine engines.

Ongoing Trends

Electrification: Developing electric big tiller engines for zero-emission applications.

Smart integrations: Extending digital control systems for enhanced safety and efficiency.

Lightweight materials: Further reducing weight without sacrificing durability.

Conclusion Big Tiller Mercury Marine engines represent a blend of rugged mechanical engineering and modern technological advancements, tailored for users who value direct control, reliability, and performance. Whether employed in commercial fishing, recreational boating, or utility tasks, these engines have proven their worth through decades of service, setting standards for durability and ease of operation. As marine technology evolves, Mercury Marine's commitment to innovation ensures that the big tiller segment will continue to serve demanding operators well into the future.

QuestionAnswer

What is the Big Tiller Mercury Marine and what makes it popular among boat enthusiasts?

The Big Tiller Mercury Marine is a series of high-performance outboard motors designed for serious anglers and boaters. Its popularity stems from its powerful engine options, durability, and advanced technology features that enhance boating experience and reliability.

Which boat models are compatible with the Big Tiller Mercury Marine engines?

The Big Tiller Mercury Marine engines are typically compatible with a range of bass boats, center consoles, and other freshwater or saltwater fishing vessels that require high horsepower outboards, such as models from Skeeter, Ranger, and Nitro.

What are the key features of the latest Big Tiller Mercury Marine motors?

The latest Big Tiller Mercury Marine motors feature V8 and V6 powerheads, digital throttle and shift, advanced cooling systems, and Mercury's Digital Power Steering for smoother handling. They also include Mercury's VesselView display for real-time engine monitoring.

How does the Big Tiller Mercury Marine improve fuel efficiency?

The Big Tiller Mercury Marine engines incorporate Eco-optimizing technology, such as variable timing and efficient fuel management systems, which help reduce fuel consumption while maintaining high performance.

What maintenance is required for a Big Tiller Mercury Marine engine?

Routine maintenance includes regular oil and filter changes, checking and replacing spark plugs, inspecting the propeller, and flushing the cooling system after saltwater use. Mercury also recommends annual professional servicing for optimal performance.

Are there any known issues or recalls related to the Big Tiller Mercury Marine series?

While generally reliable, some models have experienced issues such as cooling system leaks or electrical component failures. It's advisable to check Mercury Marine's official recall notices and ensure your engine is serviced by authorized technicians.

What is the average price range for a new Big Tiller Mercury Marine engine?

The price for a new Big Tiller Mercury Marine engine typically ranges from \$20,000 to \$40,000 depending on the horsepower and features selected. Used models may be available at lower prices based on condition and age.

Where can I find authorized service and support for Big Tiller Mercury Marine engines?

Authorized Mercury Marine dealers and service centers are available nationwide. You can locate the nearest dealer through the Mercury Marine website or contact certified marine mechanics for maintenance and repairs.

Related keywords: mercury marine outboard, big tiller boat motor, mercury outboard engine, marine tiller handle, outboard motor controls, mercury marine parts, tiller steering boat, high horsepower outboard, mercury marine accessories, boat motor steering

Mercury verado smartcraft manual

Mercury Verado SmartCraft Manual: The Ultimate Guide for Boat Owners and Marine Enthusiasts

When it comes to modern marine propulsion systems, the Mercury Verado series stands out for its power, efficiency, and advanced technology. For boat owners and marine technicians, understanding how to operate, troubleshoot, and maintain these engines is essential. The Mercury Verado SmartCraft manual serves as a comprehensive resource, providing detailed instructions, technical specifications, and troubleshooting tips to ensure optimal performance and longevity of your engine.

In this article, we will explore the key aspects of the Mercury Verado SmartCraft manual, guiding you through its core features, maintenance procedures, and troubleshooting techniques. Whether you are a new owner or an experienced technician, this guide aims to enhance your understanding of SmartCraft systems and how to leverage them effectively.

Understanding Mercury Verado SmartCraft Technology

SmartCraft is Mercury Marine's integrated digital technology platform that offers real-time data monitoring, engine control, and diagnostic capabilities. The Mercury Verado SmartCraft manual provides detailed instructions on how to interpret and utilize these features to optimize your boat's performance.

What Is SmartCraft?

SmartCraft is a suite of digital protocols and systems that connect various engine components, sensors, and displays into a cohesive network. It enables:

- Real-time engine monitoring
- Fault detection and diagnostic alerts
- Performance tuning and customization
- Data logging for maintenance and troubleshooting

Components of the SmartCraft System

Understanding the main components outlined in the manual is crucial:

- Digital Throttle and Shift (DTS):** Controls throttle and gear shifting electronically for smoother operation.
- Engine Control Module (ECM):** Central processing unit that manages engine functions and communicates with SmartCraft.
- Sensors:** Various sensors monitor parameters like temperature, pressure, oil levels, and more.
- Display Modules:** Multi-function gauges or displays that show real-time data and alerts.
- Diagnostic Port:** Interface for connecting diagnostic tools and retrieving fault codes.

Accessing and Using the Mercury Verado SmartCraft Manual

The manual is typically provided in digital format or printed form by Mercury Marine. It is essential to

familiarize yourself with its structure to efficiently locate information.

How to Navigate the Manual

Table of Contents: Offers an overview of sections such as installation, operation, maintenance, troubleshooting, and specifications.

Index: Helps locate specific topics quickly.

Illustrations and Diagrams: Visual aids to understand component locations and wiring diagrams.

Step-by-Step Procedures: Clear instructions for procedures like system calibration, diagnostics, and repairs.

Importance of the Manual for Proper Maintenance

Regular consultation of the Mercury Verado SmartCraft manual ensures:

- Correct installation and setup
- Accurate troubleshooting of faults
- Proper maintenance routines
- Extended engine lifespan

Installation and Setup Instructions

Proper installation and initial setup are vital to ensure your Mercury Verado engine operates seamlessly with the SmartCraft system.

Pre-Installation Checks

Before installation, the manual recommends:

- Verifying compatibility with your boat's electrical system
- Inspecting all components for damage
- Ensuring proper grounding and wiring harnesses

Connecting the SmartCraft System

Following the manual, connect:

- Power supply to the engine's control module
- Sensors and actuators to the designated ports

Display modules for data visualization

Diagnostic tools for future troubleshooting

Initial Calibration

The manual guides users through calibration procedures such as:

- Throttle and shift linkages
- Engine position sensors
- Fuel management systems

Operation and Monitoring Using the SmartCraft System

Once installed, the Mercury Verado SmartCraft system offers intuitive operation and comprehensive monitoring features.

Starting the Engine

The manual details that:

- Ensure all gauges and displays are active
- Check for fault codes or alerts
- Use the digital throttle to start the engine smoothly

Monitoring Engine Performance

Real-time data displayed includes:

- RPM
- Oil pressure
- Coolant temperature
- Fuel consumption
- Battery voltage

Adjustments and Tuning

The manual provides instructions on how to:

- Adjust throttle curves
- Set cruise control parameters
- Configure warning thresholds

Troubleshooting Common Issues with Mercury Verado SmartCraft

Troubleshooting is a critical aspect covered extensively in the manual, helping users quickly identify and resolve problems.

Reading Fault Codes

The manual explains how to:

- Access fault codes via diagnostic port
- Interpret code meanings using provided tables
- Determine necessary corrective actions

Common Problems and Solutions

Some typical issues include:

- Engine not starting:** Check battery voltage, wiring connections, and sensor status.
- Warning lights on:** Refer to fault codes and perform specific troubleshooting steps.
- Unusual engine vibrations:** Inspect mounts, sensors, and fuel system.
- Erratic throttle response:** Calibrate throttle sensors or check for mechanical issues.

Resetting Faults and Clearing Alerts

The manual details procedures for:

- Using diagnostic tools to clear fault codes
- Performing system resets after repairs
- Verifying resolution through test runs

Maintenance Procedures as Outlined in the Mercury Verado SmartCraft Manual

Regular maintenance is vital for engine health. The manual provides comprehensive routines to follow.

Routine Checks

Includes:

- Inspecting fluid levels (oil, coolant, fuel)
- Checking sensor connections and wiring integrity
- Cleaning intake screens and filters

Scheduled Maintenance Tasks

According to the manual, you should:

- Change engine oil and filter regularly
- Inspect and replace spark plugs as needed
- Update software and firmware via SmartCraft interface
- Inspect propeller condition and alignment

Software and Firmware Updates

The manual emphasizes the importance of keeping your SmartCraft system updated to ensure compatibility and security:

- Use authorized diagnostic tools
- Follow step-by-step update procedures
- Backup existing settings before updating

Advanced

Features and Customization Options SmartCraft systems offer advanced features that can be customized for optimal performance. Performance Tuning The manual guides users through: Adjusting fuel maps Setting performance profiles Monitoring real-time data to optimize operation Remote Monitoring and Data Logging With compatible devices, you can: Access engine data remotely Record performance metrics over time Diagnose issues proactively Integration with Marine Electronics The manual details how to integrate SmartCraft with: Chart plotters Navigation systems Other onboard sensors and devices Conclusion: Maximizing Your Mercury Verado with the SmartCraft Manual The Mercury Verado SmartCraft manual is an indispensable resource for ensuring your engine performs at its best. From installation and operation to troubleshooting and maintenance, the manual provides detailed guidance tailored for both novice and experienced users. By thoroughly understanding and applying the instructions within, you can extend your engine's lifespan, improve performance, and enjoy

Mercury Verado SmartCraft Manual: An In-Depth Guide to Enhancing Marine Performance and Maintenance The Mercury Verado SmartCraft manual stands as an essential resource for boat owners, marine technicians, and enthusiasts seeking to optimize the performance, maintenance, and troubleshooting of Mercury Verado outboard engines equipped with SmartCraft technology. This comprehensive manual provides detailed instructions, system insights, and best practices that empower users to fully harness the capabilities of their engines, ensuring longevity, safety, and peak efficiency. In this article, we delve into the core components, features, and procedural guidelines outlined in the manual, offering a thorough understanding of how to operate, maintain, and troubleshoot Mercury Verado engines with SmartCraft systems. Understanding Mercury Verado and SmartCraft Technology What is Mercury Verado? Mercury Verado represents the premium line of outboard motors from Mercury Marine, renowned for their high-performance, durability, and innovative design. These engines boast features like supercharged power, advanced corrosion resistance, and integrated electronic controls, making them popular among recreational boaters and commercial operators alike. The Verado series is distinguished by its compact design, smooth operation, and impressive horsepower ranges, often exceeding 300 horsepower. Introduction to SmartCraft System SmartCraft is Mercury's proprietary digital communication system that integrates engine management, vessel information, and control systems into a unified network. It employs a specialized data bus and electronic modules to provide real-time data, diagnostics, and remote control capabilities. The SmartCraft system enhances engine efficiency, simplifies troubleshooting, and offers seamless integration with compatible gauges and displays, such as Mercury VesselView displays. Key benefits of SmartCraft include: Real-time engine data monitoring (RPM, temperature, oil pressure, etc.) Advanced diagnostics and fault code reporting Performance optimization tools Remote engine control and calibration Enhanced safety features with alerts and alarms Structure and Content of the Mercury Verado SmartCraft Manual The manual is meticulously organized into sections that cover everything from installation to troubleshooting. Its structure ensures users can quickly locate pertinent information, whether they are performing routine maintenance or resolving complex

issues. Main sections include: Introduction and Safety Precautions Installation Procedures System Overview and Components Operation Instructions Maintenance and Service Troubleshooting and Diagnostics Software Updates and Calibration Appendices and Technical Data Each section combines detailed step-by-step instructions, diagrams, and safety warnings to facilitate effective and safe handling of the engine and electronic systems.

Installation and Setup Guidelines Pre-Installation Considerations Before installing a Mercury Verado engine with SmartCraft, ensure compatibility with your vessel, proper mounting space, and the availability of electrical and fuel systems. The manual emphasizes the importance of following manufacturer specifications to prevent damage and ensure optimal performance. Key points include: Verifying engine weight and mounting dimensions Ensuring electrical system voltage matches engine requirements Preparing the fuel system for high-pressure delivery Checking for adequate ventilation and cooling Connecting the SmartCraft System Proper installation of the SmartCraft components is critical. The manual provides detailed wiring diagrams and connector specifications. Key steps involve: Connecting the Engine Control Module (ECM) to the vessel's data bus Installing the Mercury VesselView display or compatible gauges Ensuring secure and corrosion-resistant connections Configuring communication settings through the VesselView interface Correct setup ensures accurate data transmission and reliable engine operation.

Operational Features and User Interface Using the Mercury VesselView Display The VesselView display acts as the central interface for monitoring and controlling the Verado engine. The manual describes the interface layout, including: Main menu navigation Real-time data screens (speed, RPM, temperature, etc.) Diagnostic and fault code displays Customizable alerts and alarms Maintenance reminders Operators are guided through initial setup procedures, calibration, and personalization options to tailor the display to their preferences.

Engine Control and Performance Monitoring SmartCraft enables advanced control features such as: Throttle and shift management Power steering integration Cruise control settings Performance optimization through diagnostic feedback The manual emphasizes the importance of understanding these features to maximize efficiency and safety.

Maintenance and Servicing Procedures Routine Maintenance Tasks The manual details routine maintenance schedules, which are vital for engine longevity. These include: Changing engine oil and filter (recommended interval: every 100 hours or annually) Inspecting and replacing spark plugs Checking and replacing fuel filters Inspecting propeller condition and alignment Flushing the cooling system to prevent corrosion Adherence to these schedules helps prevent unexpected failures and preserves engine performance.

Using SmartCraft Diagnostics for Maintenance SmartCraft's diagnostic tools simplify maintenance by providing: Fault code readings with detailed descriptions Live data on engine parameters Alerts for potential issues before failure occurs The manual guides users through interpreting diagnostic data and performing corrective actions, such as resetting fault codes or scheduling repairs.

Periodic Software Updates and Calibration Regular software updates ensure the engine's electronic systems operate with the latest enhancements. The manual describes: Connecting the engine to Mercury's Service Tool or authorized dealer interface Downloading and installing firmware updates Calibrating sensors and control parameters post-update Proper calibration maintains system accuracy and responsiveness.

Troubleshooting and Fault Resolution Common Issues and Their Diagnostics The manual provides extensive troubleshooting guides addressing common problems: Engine not

starting or stalls Erratic RPM or performance issues Overheating alarms Fault codes related to sensors or control modules Each issue is accompanied by diagnostic flowcharts and recommended corrective actions. Interpreting Fault Codes Fault codes are alphanumeric identifiers that pinpoint specific issues. The manual explains how to: Retrieve fault codes via VesselView or diagnostic tools Interpret code meanings Prioritize repairs based on severity Reset fault codes after repairs are completed This systematic approach ensures efficient problem resolution. When to Seek Professional Assistance While the manual promotes owner maintenance, it also delineates circumstances requiring professional technicians: Persistent fault codes after troubleshooting Complex electrical or mechanical repairs Software reprogramming beyond basic updates Engine overhaul or major component replacements Consulting authorized Mercury service centers guarantees safety and compliance. Advanced Features and Customization Performance Tuning and Calibration The manual describes how to fine-tune engine parameters for specific applications, such as: Adjusting throttle response Setting cruise control parameters Customizing shift points These features enable users to tailor engine behavior for optimal performance under various conditions. Remote Monitoring and Control Modern Verado engines with SmartCraft can be monitored remotely via compatible devices, allowing: Real-time performance tracking Alerts on engine health Remote diagnostics The manual covers setup procedures for remote systems and data security considerations. Safety and Best Practices Operational Safety The manual underscores safety precautions, including: Wearing protective gear during maintenance Ensuring engine is off before inspection Avoiding hot surfaces and moving parts Proper handling of fuel and electrical connections Adhering to these guidelines minimizes risk of injury or damage. Environmental Considerations Mercury emphasizes eco-friendly practices, such as: Proper disposal of used oil and filters Avoiding fuel leaks Using recommended lubricants and cleaning agents Sustainable operation aligns with regulatory standards and environmental stewardship. Conclusion: The Value of the Mercury Verado SmartCraft Manual The Mercury Verado SmartCraft manual is more than just a technical document; it is a vital tool that empowers users to operate, maintain, and troubleshoot their engines confidently. Its detailed instructions, diagnostic insights, and system explanations facilitate proactive maintenance, enhance safety, and maximize performance. For boat owners and technicians alike, mastering this manual ensures that the high-performance Verado engine continues to deliver reliable power and efficiency on the water. By investing time to understand and utilize the comprehensive guidance within the manual, users can extend their engine's lifespan, reduce downtime, and enjoy a seamless boating experience. As marine technology advances, the importance of such detailed documentation only grows, making the Mercury Verado SmartCraft manual an indispensable resource in modern marine operations.

Question Answer

What are the key features of the Mercury Verado SmartCraft manual?

The Mercury Verado SmartCraft manual provides detailed information on engine operation, diagnostics, maintenance procedures, and troubleshooting tips to ensure optimal performance and longevity of the engine.

Where can I find the digital version of the Mercury Verado SmartCraft manual?

You can access the digital version of the Mercury Verado SmartCraft manual on Mercury Marine's official website or through authorized Mercury dealers' online resources.

How do I calibrate the SmartCraft system on a Mercury Verado engine?

Calibration of the SmartCraft system typically involves connecting a compatible diagnostic tool and following the step-by-step procedures outlined in the manual to ensure accurate sensor readings and system performance.

What maintenance intervals are recommended for Mercury Verado engines according to the SmartCraft manual?

The manual recommends routine maintenance intervals such as oil changes every 100 hours or annually, spark plug replacements, and system checks to maintain engine reliability and performance.

How do I interpret error codes from the Mercury Verado SmartCraft system?

Error codes can be interpreted using the troubleshooting section of the manual, which provides descriptions for each code, possible causes, and recommended corrective actions.

Can I perform troubleshooting and repairs on the Mercury Verado SmartCraft system myself?

While some basic troubleshooting can be performed by experienced boat owners using the manual, complex repairs should be conducted by certified technicians to ensure safety and proper system function.

What should I do if I experience communication issues with the Mercury Verado SmartCraft system?

Refer to the manual for troubleshooting steps such as checking connections, resetting the system, and verifying software updates. If issues persist, contact an authorized Mercury service center for assistance.

Related keywords: Mercury Verado, SmartCraft, manual, outboard motor, boat engine, engine maintenance, troubleshooting, user guide, outboard service, Mercury Marine

Mercury outboards 2008

Mercury outboards 2008 marked a significant year in the evolution of outboard motors, showcasing Mercury's commitment to innovation, reliability, and performance. As one of the most reputable brands in the marine industry, Mercury outboards from 2008 continue to be celebrated by boat enthusiasts, fishermen, and water sports lovers alike. Whether you are a collector seeking vintage models or a boat owner considering a used engine, understanding the features, specifications, and historical relevance of Mercury outboards from 2008 is essential. This comprehensive guide offers an in-depth look into the 2008 Mercury outboards, exploring their models, technological advancements, maintenance tips, and overall performance.

Overview of Mercury Outboards in 2008

In 2008, Mercury Marine released a diverse lineup of outboard motors designed to cater to a broad spectrum of boating needs. From small freshwater fishing boats to large offshore vessels, Mercury's 2008 models were engineered to deliver durability, efficiency, and ease of use. The year was marked by the company's focus on enhancing fuel economy, reducing emissions, and improving overall engine performance. Some of the popular models from 2008 included the 2.5hp portable engines, the versatile 50hp models, and the powerful 150hp and 200hp engines suitable for larger boats. Mercury also emphasized technological innovations such as electronic fuel injection (EFI) systems and improved cooling mechanisms, which contributed to the engines' reliability and efficiency.

Key Features of Mercury Outboards 2008

Understanding the core features of Mercury outboards from 2008 helps owners and enthusiasts appreciate their value and performance metrics.

Engine Types and Sizes

Four-Stroke Engines: Mercury's four-stroke models in 2008 offered smoother operation, better fuel economy, and lower emissions.

Two-Stroke Engines: Known for their lighter weight and higher power-to-weight ratio, two-stroke engines remained popular in the 2008 lineup, especially for portable and fishing applications.

Power Range: The 2008 lineup covered a broad power spectrum, from small 2.5hp engines to robust 250hp models.

Technological Innovations

Electronic Fuel Injection (EFI): Some models featured EFI, providing more precise fuel delivery, improved starting, and enhanced efficiency.

Power Trim and Tilt: Many models included power trim and tilt features, allowing for easy adjustments to optimize performance and fuel efficiency.

Digital Throttle and Shift (DTS): Improved control and responsiveness, especially in the higher horsepower models.

Build Quality and Materials

Mercury's 2008 outboards boasted corrosion-resistant components, especially important for saltwater environments. Use of durable aluminum and composite materials ensured longevity and reduced maintenance needs.

Popular Mercury Outboard Models from 2008

Here are some of the standout models from Mercury's 2008 lineup, highlighting their specifications and typical applications:

Mercury 2.5 HP FourStroke Ideal for small boats, dinghies, and trolling setups. Lightweight and portable, perfect for easy transport and storage. Fuel-efficient and quiet operation.

Mercury 15 HP FourStroke Suitable for small fishing boats

and dinghies. Features power trim and tilt. Known for reliability and ease of maintenance. Mercury 50 HP FourStroke Popular for small to medium-sized boats. Offers a good balance of power and fuel economy. Equipped with electronic ignition and tilt/trim. Mercury 115 HP EFI Designed for fishing boats, pontoons, and small cruisers. Features electronic fuel injection for better performance. Compact design with advanced cooling systems. Mercury 150 HP Optimax A high-performance outboard suitable for larger, offshore vessels. Combines high power output with fuel efficiency. Equipped with advanced digital controls and diagnostics.

Performance and Reliability of Mercury Outboards 2008 The 2008 Mercury outboards are renowned for their durability and consistent performance, making them a popular choice among boat owners for over a decade. **Fuel Efficiency** With advancements like EFI, many 2008 models offered improved fuel economy compared to previous years. Proper maintenance and tuning could enhance efficiency further, making these engines economical for long-term use. **Performance in Different Conditions** Mercury outboards from 2008 perform reliably in both freshwater and saltwater conditions due to their corrosion-resistant components. Power trim and tilt features allow boats to adapt quickly to changing load and water conditions. **Maintenance and Longevity** Routine maintenance such as oil changes, spark plug replacements, and cooling system checks are essential. Many 2008 models, when properly maintained, continue to operate effectively even years later. Mercury's extensive dealer network simplifies parts replacement and repairs.

Maintenance Tips for Mercury Outboards 2008 To keep your 2008 Mercury outboard running smoothly, adhere to the following maintenance practices:

- Regular Oil Changes:** Change engine oil at recommended intervals to prevent wear and tear.
- Inspect and Replace Spark Plugs:** Ensure spark plugs are clean and functioning correctly for optimal combustion.
- Check Cooling System:** Regularly inspect cooling water intake and impeller to prevent overheating.
- Lubricate Moving Parts:** Apply appropriate lubricants to tilt and trim mechanisms.
- Battery Maintenance:** Keep the battery terminals clean and charged for reliable starts.
- Store Properly:** When not in use, especially during off-season, store the engine in a dry, protected area and consider fogging or winterizing if in cold climates.

Advantages and Disadvantages of 2008 Mercury Outboards Understanding both the strengths and limitations of these engines can help owners make informed decisions.

Advantages Proven durability and reliability over years of use. Wide range of models catering to different needs. Technological enhancements like EFI and digital controls. Corrosion-resistant construction suitable for saltwater use. Extensive dealer and service network.

Disadvantages Potential difficulty finding original parts for older models. Some models may have higher maintenance needs due to age. Limited availability of certain accessories or upgrades. Older technology compared to newer models with more advanced features.

Buying Used Mercury Outboards from 2008 Purchasing a used Mercury outboard from 2008 can be a cost-effective way to equip your boat, but it requires careful evaluation.

What to Check Before Buying

- Maintenance History:** Request service records to verify regular upkeep.
- Operational Test:** If possible, start the engine and check for smooth operation, unusual noises, or vibrations.
- Compression Test:** Assess engine health by testing cylinder compression.
- Visual Inspection:** Look for corrosion, cracks, or damage on the housing and propeller.
- Water Testing:** Run the engine in water to observe performance and responsiveness.

Where to Buy Certified marine dealerships specializing in used engines. Reputable online marketplaces with seller reviews. Marine

salvage yards and auctions

Conclusion Mercury outboards from 2008 represent a blend of reliability, technological innovation, and performance that continues to appeal to boat owners and enthusiasts. Their diverse lineup caters to various boating needs, from casual fishing to serious offshore adventures. With proper maintenance and care, these engines can provide years of dependable service, making them a smart choice for those seeking vintage or budget-friendly marine power. Whether you're restoring an old vessel, upgrading your boat, or simply exploring the history of Mercury Marine, understanding the features and strengths of the 2008 lineup is essential to making an informed decision. For ongoing performance, troubleshooting, or parts replacement, always consult with certified Mercury service providers or authorized dealers to ensure your outboard engine remains in prime condition. The legacy of Mercury outboards from 2008 continues to thrive, testament to their engineering excellence and enduring value.

Mercury Outboards 2008: An In-Depth Review of Performance, Reliability, and Innovation

The year 2008 marked a notable chapter in Mercury Marine's storied history of manufacturing high-performance outboard motors. As an industry leader, Mercury's 2008 outboards combined proven engineering, technological advancements, and user-centric features to cater to a broad spectrum of boating enthusiasts—from casual anglers to professional fishermen. This review delves into the key aspects of Mercury outboards from 2008, exploring their technical specifications, performance metrics, durability, innovation, and the overall user experience.

Overview of Mercury Outboards in 2008

In 2008, Mercury Marine maintained its reputation as a pioneer in outboard motor technology, offering a diverse lineup that ranged from small portable engines to powerful mid-range models. The 2008 range was characterized by:

- Introduction of new engine technologies aimed at improving fuel efficiency and emissions.
- Emphasis on lightweight construction for easier handling and transportation.
- Enhanced durability and corrosion resistance, especially important for saltwater applications.
- Integration of digital controls and diagnostic systems to streamline maintenance and operation.

Key Models and Their Market Positioning

Mercury's 2008 lineup included several notable models, such as:

- Mercury 2-Stroke Outboards (115, 150, 200 HP):** Known for their simplicity and robust power delivery.
- Mercury 4-Stroke Outboards (90, 115, 150, 175, 200 HP):** Focused on fuel efficiency, quiet operation, and environmental compliance.
- OptiMax Series (2-Stroke Direct Injection):** Combining the power of 2-stroke engines with cleaner emissions.

Technical Specifications and Features

Understanding the technical nuances of Mercury's 2008 outboards provides insight into their capabilities and suitability for various boating needs.

Engine Configurations and Displacements

- 2-Stroke Engines:** Typically ranged from 115 to 200 HP, featuring simpler design with fewer components.
- 4-Stroke Engines:** Offered in 90 to 200 HP, emphasizing smoother operation and better fuel economy.
- OptiMax Series:** 2-stroke direct injection engines with models like 150 and 200 HP, designed for high performance.

Key Technical Innovations

- Digital Throttle and Shift (DTS):** Enabled precise control, smoother shifting, and reduced operator fatigue. Provided diagnostic feedback for maintenance.
- V6 and V4 Configurations:** V6 engines (e.g., 200 HP) offered increased torque suitable for heavier vessels. V4 engines balanced power with compact design for smaller

boats. Power Steering and Remote Controls: Improved maneuverability, especially in larger engines. Integrated with Mercury's VesselView system for real-time engine data. Corrosion Resistance Technologies: Use of premium anodes and corrosion-resistant materials. Extended lifespan in saltwater environments. Performance and Handling Mercury's 2008 outboards were lauded for their excellent performance metrics across the board. Key performance aspects include: Acceleration and Top Speed Engines like the 150 and 200 HP models delivered rapid acceleration, making them suitable for watersports and quick getaways. Top speeds varied based on boat weight and hull design but generally ranged from 40 to 60+ mph for high-performance models. Fuel Efficiency 4-stroke models demonstrated significant improvements over previous years, with some reports indicating up to 25% better fuel economy. OptiMax direct injection engines achieved a balanced mix of power and economy. Reliability and Power Delivery Mercury outboards in 2008 were known for consistent power output, with minimal vibration and noise. The use of advanced ignition systems and fuel management contributed to smooth operation and longevity. Maneuverability and Control The incorporation of power steering and advanced control systems allowed for precise handling, even at low speeds. The availability of digital controls meant adjustments could be made seamlessly, enhancing user confidence. Durability and Maintenance Durability is a critical factor in evaluating outboard motors, especially for users relying on their engines for demanding applications. Build Quality and Materials Mercury's 2008 models employed high-grade aluminum and corrosion-resistant components. The sleek design incorporated reinforced mounting brackets and durable cowling materials. Maintenance Requirements Regular maintenance tasks included oil changes, gear lubrication, and spark plug replacement. Mercury's Command Thrust gearcase design reduced wear and improved durability. The inclusion of diagnostic systems simplified troubleshooting and preventive maintenance. Common Issues and User Feedback While generally reliable, some users reported: Fuel pump or carburetor issues in older 2-stroke models. Corrosion in saltwater environments if not properly maintained. The importance of using recommended oils and fuels to prolong engine life. Technological Advancements and Innovations in 2008 2008 was a pivotal year for Mercury Marine, with several technological innovations enhancing the user experience. Digital Technologies VesselView System: Offered real-time data on engine performance, allowing users to monitor parameters like RPM, temperature, and fuel consumption. Digital Throttle and Shift (DTS): Provided smoother operation and reduced mechanical wear. Environmental Compliance Introduction of cleaner-burning 2-stroke OptiMax engines that met or exceeded EPA regulations. Improved exhaust and fuel management systems resulted in reduced emissions. Lightweight Design Use of composite materials and optimized engineering reduced overall weight, making boats easier to handle and transport. Compact designs allowed for installation in a broader range of boat hulls. Comparative Analysis: Mercury 2008 vs. Other Brands When evaluating Mercury outboards from 2008 against competitors like Yamaha, Evinrude, and Honda, several factors stand out: Performance: Mercury engines offered competitive horsepower and acceleration, with some models leading in torque. Reliability: Mercury's widespread dealer network and proven engineering provided confidence in longevity. Innovation: Mercury's integration of digital controls and diagnostic systems was ahead of some competitors. Price Point: Generally positioned at a competitive price, offering good value for the features included. Pros and

Cons of Mercury Outboards 2008ProsExcellent power-to-weight ratio, especially in 4-stroke models.Advanced digital control systems for smoother operation.Robust construction with high corrosion resistance.Broad model lineup catering to various needs.Improved fuel efficiency and emissions compliance.ConsSome older 2-stroke models may require more maintenance.Potential for corrosion if not properly maintained, especially in saltwater.Initial cost may be higher compared to less technologically advanced brands.Parts availability could be limited as models age beyond a decade.Conclusion: Is a 2008 Mercury Outboard Still a Viable Choice?While technology has advanced considerably since 2008, Mercury outboards from that year remain a reputable choice for many boaters. Their proven reliability, solid performance, and innovative features make them suitable for both recreational and commercial applications. Proper maintenance and understanding of the specific model's characteristics are essential to maximize lifespan and performance.If considering a used Mercury 2008 outboard, prospective buyers should:Verify maintenance history.Conduct a thorough inspection for corrosion or wear.Test run the engine before purchase.Ensure availability of parts and service support in their area.In summary, Mercury's 2008 outboards represent a blend of traditional durability and emerging technological sophistication, making them a noteworthy option for those seeking a dependable power source on the water.

QuestionAnswer

What are the common issues faced by Mercury Outboards from 2008?

Common issues include electrical problems such as faulty wiring or sensors, fuel system corrosion, and occasional overheating. Regular maintenance and proper storage can help mitigate these issues.

Are Mercury Outboards 2008 models reliable for long-term use?

Yes, Mercury Outboards from 2008 are generally reliable, especially if they have been well-maintained. Many owners report durable performance, but it's important to check for any signs of wear or damage before purchase.

What maintenance should be performed on a Mercury Outboard 2008 to ensure optimal performance?

Routine maintenance includes changing the gear oil, inspecting and replacing spark plugs, cleaning or replacing fuel filters, flushing the cooling system, and checking the propeller for damage. Regular servicing helps prolong engine life.

How does the fuel efficiency of Mercury Outboards 2008 models compare to newer ones?

While Mercury Outboards from 2008 are known for decent fuel efficiency, newer models often feature advanced technology that enhances fuel economy and emissions. Upgrading to a newer model can provide better efficiency but at a higher cost.

Is it possible to upgrade or retrofit a 2008 Mercury Outboard with modern technology?

Some upgrades, such as modern control systems or digital gauges, can be integrated, but compatibility depends on the specific model. Consulting a Mercury service technician is recommended to determine feasible upgrades.

Related keywords: Mercury Outboards, 2008 Mercury Outboards, Mercury Outboard engines, 2008 Mercury motors, Mercury Outboard parts 2008, Mercury Outboard repair, Mercury Outboard specifications 2008, Mercury Outboard maintenance, Mercury Outboard pricing 2008, Mercury Outboard dealers 2008