

Manuals.plus /

- › Sierra /
- › Sierra 18-6777 Tilt/Trim Motor User Manual

## Sierra 18-6777

# Sierra 18-6777 Tilt/Trim Motor User Manual

MODEL: 18-6777

## 1. Introduction

The Sierra 18-6777 Tilt/Trim Motor is a high-quality replacement component designed to meet or exceed original equipment specifications. This motor is engineered for reliable performance in marine environments and is interchangeable with a wide range of OEM parts, including Arco 6276, Chrysler/Force/US Marine, Mercury Marine, and others. It is a critical component for the proper operation of your boat's tilt and trim system, allowing for precise adjustment of the outboard or sterndrive.



Figure 1: The Sierra 18-6777 Tilt/Trim Motor, shown with its accompanying gasket, bolts, and fluid cap, ready for installation. This image highlights the motor's robust construction and the complete set of hardware provided for a seamless replacement.

## 2. Key Features

- **OEM Quality:** Meets or exceeds the original equipment quality for reliable performance.
- **Durable Construction:** Features 90% copper and 10% nickel bushings for extended lifespan.
- **Enhanced Windings:** High-temperature epoxy armature coating strengthens and secures internal windings.
- **Complete Kit:** Harness and relays are included as required for specific applications.
- **Heavy-Duty Valves:** Includes heavy-duty valves where applicable, ensuring robust operation.
- **Direct Fit:** Designed for specific fitment; always check part numbers for proper compatibility.

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Video 1: An overview of Sierra's trim motors, highlighting their adherence to OEM specifications, use of durable materials like copper and nickel bushings, and high-temperature epoxy armature coating for secure windings. The video also mentions the inclusion of necessary harnesses, relays, and heavy-duty valves, emphasizing the product's guaranteed performance and broad application range across various marine engine brands.

### 3. Installation and Setup

Installation of the Sierra 18-6777 Tilt/Trim Motor requires mechanical aptitude and familiarity with marine engine systems. It is highly recommended that installation be performed by a qualified marine technician to ensure proper fitment and function, and to prevent potential damage to the motor or the vessel. Always refer to your specific engine's service manual for detailed, step-by-step instructions and torque specifications.

1. **Safety First:** Disconnect the battery before beginning any work on the electrical system. Ensure the boat is securely supported.
2. **Fluid Management:** Be prepared to manage hydraulic fluid. Have appropriate containers for draining old fluid and clean rags for spills.
3. **Component Removal:** Carefully remove the old tilt/trim motor, noting the orientation of all wires, hoses, and mounting hardware.
4. **Gasket and Seal Replacement:** Always replace old gaskets and seals with new ones provided or recommended by the manufacturer to ensure a watertight and leak-free seal.
5. **Motor Installation:** Install the new Sierra 18-6777 motor, ensuring all mounting bolts are tightened to the manufacturer's specified torque.
6. **Electrical Connections:** Connect all electrical wires securely, ensuring correct polarity. Use dielectric grease on connections to prevent corrosion.
7. **Hydraulic System Bleeding:** After installation, the hydraulic system must be properly bled to remove any air. Follow your engine's service manual for the correct bleeding procedure.
8. **Fluid Level Check:** Fill the reservoir with the recommended hydraulic fluid to the appropriate level.
9. **Functionality Test:** Once installed and bled, test the tilt/trim function slowly and carefully, checking for smooth operation and any leaks.



Figure 2: A rear view of the Sierra 18-6777 Tilt/Trim Motor, showcasing its electrical connections and mounting base. This perspective is useful for understanding the wiring and physical integration points during the installation process.

## 4. Operating Instructions

Once properly installed, the Sierra 18-6777 Tilt/Trim Motor operates as part of your boat's hydraulic tilt and trim system. The motor is controlled via the trim switch, typically located on the throttle lever or dashboard. Pressing the "UP" button will activate the motor to raise the outboard or sterndrive, while pressing the "DOWN" button will lower it.

**Trim Function:** Use the trim function to adjust the angle of the engine while underway. This optimizes boat performance, fuel efficiency, and ride comfort. Trimming *up* can reduce drag and increase speed, while trimming *down* can improve planing and reduce porpoising.

**Tilt Function:** The tilt function is used to raise the engine completely out of the water when docked, trailered, or navigating shallow areas. This prevents marine growth on the lower unit and protects the propeller from damage. Always operate the tilt/trim system smoothly and avoid rapid, jerky movements. Listen for any unusual noises during operation, which could indicate an issue.

## 5. Maintenance

Regular maintenance is crucial for the longevity and optimal performance of your Sierra 18-6777 Tilt/Trim Motor. Adhere to the maintenance schedule outlined in your engine's owner's manual.

- **Fluid Level Check:** Periodically check the hydraulic fluid level in the reservoir. Top up with the recommended fluid if necessary. Low fluid levels can lead to poor performance and motor strain.
- **Visual Inspection:** Regularly inspect the motor and hydraulic lines for any signs of leaks, corrosion, or damage. Pay close attention to electrical connections for signs of fraying or loose terminals.
- **Cleaning:** Keep the exterior of the motor clean and free of salt residue, dirt, and debris. A gentle rinse with fresh water after each use in saltwater environments is recommended.
- **Corrosion Protection:** Apply a marine-grade corrosion inhibitor to electrical connections and exposed metal parts as part of your routine maintenance.
- **Winterization:** If operating in cold climates, ensure proper winterization procedures are followed for the hydraulic system to prevent freezing and damage.

## 6. Troubleshooting

This section provides general troubleshooting tips. For complex issues, consult a qualified marine technician.

Problem	Possible Cause	Solution
Motor does not operate or operates slowly.	Low battery voltage, corroded electrical connections, low hydraulic fluid, faulty trim switch, motor failure.	Check battery charge. Clean and secure electrical connections. Check and top up hydraulic fluid. Test trim switch. If issues persist, professional diagnosis is required.
Motor makes noise but does not move the engine.	Air in hydraulic system, low hydraulic fluid, internal pump issue, motor not engaging pump.	Bleed hydraulic system. Check fluid level. Consult a technician for internal pump or motor engagement issues.
Engine drifts down after being trimmed up.	Leaking hydraulic seals, faulty check valve in pump, air in system.	Inspect for external leaks. Bleed hydraulic system. Internal hydraulic system repair typically requires professional service.

If you encounter problems that cannot be resolved with these basic troubleshooting steps, it is advisable to seek assistance from a certified marine mechanic.

## 7. Specifications

Attribute	Value
<b>Brand</b>	Sierra
<b>Model Name</b>	Sierra 18-6777 Tilt/Trim Motor
<b>Item Model Number</b>	18-6777
<b>Manufacturer Part Number</b>	18-6777
<b>OEM Part Number Equivalents</b>	818903A1, 819479A1, 819480A1, 819762A4-A7, 81977A8-A9, 822870A1, 830250A3-T3, 832021A1-T4-A2-T2, 854472A3, 854472A4, 855654A1-T2, CHRYSLER FORCE 19217A1-A5, MERCURY MARINE 854472A2
<b>Item Weight</b>	4.35 pounds
<b>Product Dimensions</b>	11.2 x 6.6 x 5.6 inches
<b>Lift Type</b>	MOTOR
<b>UPC</b>	808282244606

## 8. Warranty and Support

Sierra stands behind the quality of its products. The Sierra 18-6777 Tilt/Trim Motor is backed by Sierra's industry-leading warranty, which includes a limited lifetime warranty for rotating electrical components. This comprehensive warranty provides unparalleled peace of mind, covering associated fees, parts replacement, incidental parts damage, and posted shop labor rates in the event of a part failure.

For detailed warranty information, claims, or technical support, please refer to the official Sierra website or contact their customer service department. When contacting support, please have your product model number (18-6777) and any relevant purchase information readily available.

**Online Resources:** Visit the official Sierra website for product documentation, FAQs, and additional support resources.

**Customer Service:** Contact Sierra customer service for direct assistance with product inquiries, installation questions, or warranty claims.