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SPJIUQI SP-000212

Engine Trim Solenoid Relay User Manual

Model: SP-000212 | Brand: SPJIUQI

1. INTRODUCTION

This user manual provides essential information for the proper installation, operation, and maintenance of your new SPJIUQI Engine Trim Solenoid Relay. Please read this manual thoroughly before installation and keep it for future reference. This product is designed as a direct replacement for specific Yamaha Marine engine models.

2. PRODUCT OVERVIEW

The Engine Trim Solenoid Relay is a critical electrical component in marine outboard engines, responsible for controlling the trim and tilt functions. This 12V solenoid relay ensures reliable operation of your engine's trim system, allowing for precise adjustment of the outboard motor's angle for optimal performance and maneuverability.



Figure 2.1: Front view of the SPJIUQI Engine Trim Solenoid Relay, showing the main body, electrical terminals, and wiring harness with a 12V label.



Figure 2.2: Angled view of the solenoid relay, highlighting the robust construction and terminal layout.



Figure 2.3: Top-down view of the solenoid relay, clearly showing the various terminals and their connections.

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Video 2.1: A 13-second overview of the 12V Engine Trim Solenoid Relay for Yamaha 200-350HP engines, demonstrating its physical appearance and various angles.

3. COMPATIBILITY

This Engine Trim Solenoid Relay is a direct replacement for the following part numbers:

- Yamaha: 6AW-81950-00-00, 6AW819500000
- Arrowhead: 240-22239
- J&N: 240-22239

It is compatible with the following Yamaha Marine engine models (2006 & Later, 200-350HP):

- F/FL150
- F/FL175
- F/FL200

- F/FL225
- F/FL250
- F/FL300
- F/FL350

4. SPECIFICATIONS

Feature	Detail
Model Number	SP-000212
Product Dimensions	3 x 3 x 3 inches
Item Weight	1.06 Pounds
Connector Type	Plug-In
Contact Material	Copper
Contact Type	Normally Closed
Current Rating	200 Amps
Mounting Type	Screw Mount
Country of Origin	China



Figure 4.1: The solenoid relay with a digital caliper indicating a length of approximately 4.10 inches.



Figure 4.2: The solenoid relay with a digital caliper indicating a height of approximately 1.72 inches.



Figure 4.3: The solenoid relay with a digital caliper indicating a width of approximately 2.51 inches.

5. WHAT'S IN THE BOX

Upon opening the package, you should find the following item:

- 1 x Engine Trim Solenoid Relay

6. SETUP AND INSTALLATION

Safety Warning: Before beginning any electrical work on your marine engine, ensure the battery is disconnected to prevent electrical shock or damage to components. If you are unsure about any step, consult a qualified marine technician.

1. **Preparation:** Gather necessary tools, which may include wrenches, screwdrivers, and electrical tape. Ensure you have adequate lighting and a clean workspace.
2. **Locate Existing Solenoid:** Identify the old trim solenoid relay on your engine. It is typically located near the trim motor.

3. **Disconnect Wiring:** Carefully disconnect all electrical wires connected to the old solenoid. Note the position and color of each wire for correct re-connection. Taking photos can be helpful.
4. **Remove Old Solenoid:** Unscrew or unbolt the old solenoid from its mounting bracket.
5. **Mount New Solenoid:** Position the new SPJIUQI Engine Trim Solenoid Relay in the same location as the old one. Secure it using the existing screws or bolts. Ensure it is firmly mounted to prevent vibration damage.
6. **Connect Wiring:** Reconnect the electrical wires to the new solenoid, matching them to the positions noted earlier. Ensure all connections are clean, tight, and free from corrosion. Pay close attention to the positive and negative terminals.
7. **Verify Connections:** Double-check all wiring connections to ensure they are secure and correctly routed.
8. **Reconnect Battery:** Once all connections are verified, reconnect the battery terminals.
9. **Test Functionality:** Test the trim and tilt functions of your engine to ensure the new solenoid is operating correctly.

7. OPERATING INSTRUCTIONS

The Engine Trim Solenoid Relay operates automatically in response to commands from your boat's trim/tilt switch. When the trim/tilt switch is activated (either up or down), the solenoid receives an electrical signal, which then energizes the trim motor to adjust the outboard engine's angle. There are no user-adjustable settings on the solenoid itself.

- Ensure your boat's battery is fully charged and properly connected.
- Use the trim/tilt switch on your boat's control panel to raise or lower the outboard engine.
- Listen for the trim motor engaging and observe the engine's movement.

8. MAINTENANCE

Regular maintenance helps ensure the longevity and reliable performance of your trim solenoid relay.

- **Visual Inspection:** Periodically inspect the solenoid and its wiring for any signs of corrosion, fraying, or loose connections.
- **Clean Terminals:** If corrosion is present on the terminals, disconnect the battery and carefully clean the terminals using a wire brush and a suitable electrical contact cleaner.
- **Check Mounting:** Ensure the solenoid remains securely mounted and does not vibrate excessively during operation.
- **Protect from Elements:** While designed for marine environments, ensure the solenoid is as protected as possible from direct exposure to saltwater spray and excessive moisture.

9. TROUBLESHOOTING

If you experience issues with your trim and tilt system, consider the following common troubleshooting steps:

Problem	Possible Cause	Solution
Trim/Tilt not working	Blown fuse, low battery, faulty trim/tilt switch, loose wiring, faulty trim motor, faulty solenoid.	Check fuses, charge battery, test trim/tilt switch, inspect and tighten all wiring connections, test trim motor, test solenoid.
Solenoid clicks but motor doesn't run	Low battery voltage, corroded or loose main power cables to motor, faulty trim motor.	Check battery voltage, clean and tighten main power cable connections, test trim motor for continuity and operation.
Solenoid gets hot	Excessive current draw from trim motor, short circuit in wiring, continuous activation.	Inspect trim motor for binding or damage, check wiring for shorts, ensure trim/tilt switch is not stuck.
Intermittent operation	Loose or corroded connections, intermittent fault in switch or motor.	Thoroughly inspect and clean all electrical connections. Test components individually.

If troubleshooting steps do not resolve the issue, it is recommended to consult a professional marine technician.

10. WARRANTY AND SUPPORT

SPJIUQI stands behind the quality of its products. For information regarding warranty coverage, returns, or technical support, please refer to the product listing on the retailer's website or contact SPJIUQI customer service directly through the contact information provided with your purchase or on the official brand store page.

For further assistance, please visit the SPJIUQI Store on Amazon.