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Model: 240-22156

1. INTRODUCTION

The DB Electrical 240-22156 Relay Switch is a high-quality, 12-volt aftermarket replacement part designed for marine tilt-trim systems. This relay acts as a crucial secondary switch, enabling the tilt-trim motor to operate efficiently when activated from the helm. It is engineered to meet OEM specifications, ensuring reliable performance and compatibility with various marine engines, including specific 130-300HP models from 2004-On.

This manual provides essential information for proper installation, operation, maintenance, and troubleshooting of your new relay switch.

2. SETUP AND INSTALLATION

Before beginning installation, always verify that this part fits your specific application. Disconnect the battery to prevent electrical shorts during installation.

Wiring Connections:

- **Plug #1:** Connects to the system with (1) Large Green wire and (1) Large Blue wire.
- **Plug #2:** Connects to the system with (1) Small Green wire and (1) Small Blue wire.
- **Battery Positive:** Connect the (1) Red Battery Positive Wire with Eyelet to the positive terminal.
- **Battery Ground:** Connect the (1) Black Battery Ground Wire with Eyelet to a suitable ground point.

Ensure all connections are secure and free from corrosion. It is recommended to consult your marine engine's service manual for specific wiring diagrams and locations of the existing relay switch.

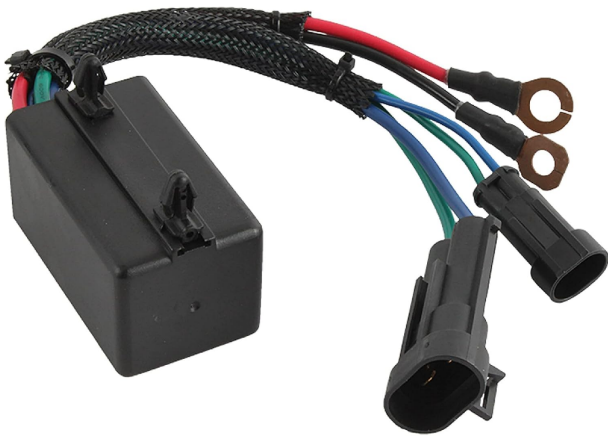


Figure 1: Front view of the DB Electrical 240-22156 Relay Switch, showing the main unit, braided wire harness, and various connectors and eyelets for electrical connections.

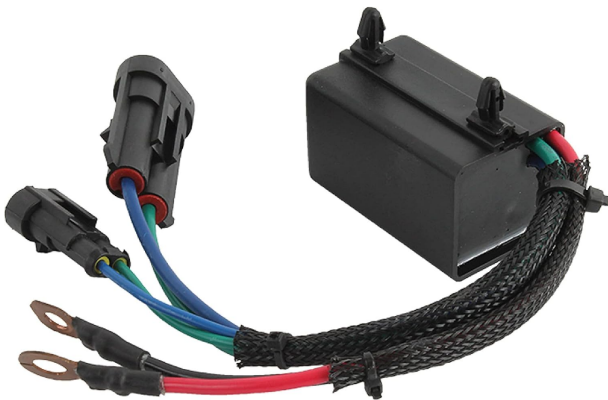


Figure 2: Angled view of the relay switch, highlighting the two main plug connectors and the two eyelet terminals for battery connections. The braided wire sleeve protects the internal wiring.



Figure 3: Detailed close-up of the various connectors and eyelets, showing the distinct colors of the wires (red, black, blue, green) and the robust construction of the terminals.

3. OPERATING INSTRUCTIONS

Once properly installed, the DB Electrical 240-22156 Relay Switch operates automatically as an integral part of your marine tilt-trim system. Its function is to complete the electrical circuit to the tilt-trim motor when the operator activates the tilt-trim switch at the helm.

When the helm switch is engaged, it sends a low-current signal to the relay. The relay's internal electromagnet then

activates, closing a higher-current circuit that directly powers the tilt-trim motor, allowing for the raising or lowering of the outboard motor.

No direct user interaction with the relay switch itself is required during normal operation.

4. MAINTENANCE

The DB Electrical 240-22156 Relay Switch is designed for durability and requires minimal maintenance. However, periodic inspection can help ensure its longevity and reliable performance:

- **Connection Check:** Annually inspect all wire connections to the relay for tightness and signs of corrosion. Loose or corroded connections can impede current flow and affect performance.
- **Wire Integrity:** Check the wire insulation for any signs of fraying, cracking, or damage. Ensure the braided sleeve is intact.
- **Cleanliness:** Keep the relay and its surrounding area clean and free from excessive dirt, salt, or moisture buildup.

If any damage or significant corrosion is observed, consider replacing the unit to prevent potential system failures.

5. TROUBLESHOOTING

If your marine tilt-trim system is not functioning correctly, the relay switch may be a contributing factor. Here are some common issues and troubleshooting steps:

Common Symptoms:

- Tilt-trim motor does not operate in one or both directions (up/down).
- Tilt-trim motor operates intermittently.
- Clicking sound from the relay but no motor movement.

Troubleshooting Steps:

1. **Check Power Supply:** Ensure the battery is fully charged and all battery connections are clean and tight.
2. **Inspect Wiring:** Verify that all wires connected to the relay switch are securely attached and free from damage or corrosion. Pay close attention to the eyelet terminals for battery connections.
3. **Test Helm Switch:** Confirm that the tilt-trim switch at the helm is functioning correctly. A faulty helm switch will not send the necessary signal to the relay.
4. **Listen for Relay Click:** With the battery connected, try operating the tilt-trim. If you hear a distinct click from the relay but the motor does not move, the issue might be with the motor itself, its wiring, or a high-resistance connection. If there is no click, the relay may not be receiving a signal or may be faulty internally.
5. **Verify Fitment:** Double-check that this specific relay switch model is indeed the correct replacement for your marine engine's tilt-trim system.

If troubleshooting does not resolve the issue, the relay switch may need to be replaced. Given the nature of electrical components in a marine environment, replacement is often the most straightforward solution for a confirmed faulty relay.

6. SPECIFICATIONS

Attribute	Value
Part Type	Relay Switch
Voltage	12 Volts
Dimensions (L x W x T)	69mm x 41mm x 38mm (approx. 2.7 x 1.6 x 1.5 inches)
Connector Type	Plug-In
Contact Material	Silver Nickel
Contact Type	Normally Open
Current Rating	30 Amps
Mounting Type	Plug In Mount
Coil Voltage	12 Volts
Specification Met	OEM
Item Weight	8.8 ounces
Country of Origin	China
Replaces OEM Numbers	ARCO MARINE R767, ARROWHEAD TRM6001, 240-22156, OMC 0586767, 586767

7. WARRANTY INFORMATION

DB Electrical stands behind the quality of its products. This relay switch is covered by a **1-year warranty** from the date of purchase. This warranty protects you against defects in material and workmanship.

In the rare event that the product does not perform flawlessly once installed, DB Electrical will replace it within one year of your order. Please retain your proof of purchase for warranty claims.

8. SUPPORT

For further assistance, technical support, or warranty claims, please contact DB Electrical customer service. Refer to the contact information provided with your purchase or visit the official DB Electrical website for support details.

When contacting support, please have your product model number (240-22156) and purchase details readily available.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question