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Piaggio 58115R

Piaggio 58115R Starter Relay User Manual

Model: 58115R | Brand: Piaggio

1. PRODUCT OVERVIEW

The Piaggio 58115R Starter Relay is an essential electromagnetic switch designed for your scooter or motorcycle's starting system. Its primary function is to complete the electrical circuit to the starter motor when the starter button on the handlebar is pressed, allowing the engine to crank and start.



Image: The Piaggio 58115R Starter Relay, showing its compact brown casing and the various metal terminals for electrical connections. This component is crucial for initiating the engine's start sequence.

2. SPECIFICATIONS

- **Model:** 58115R
- **Brand:** Piaggio
- **Voltage:** 12V
- **Rated Current (Main Contacts):** 80A
- **Rated Current (Coil):** 8 Ampere (This refers to the current required to activate the relay's internal electromagnet.)

- **Contact Material:** Silver alloy
- **Contact Type:** Normally open
- **Mounting Type:** Screw mounting
- **Product Dimensions:** 10.16 x 7.62 x 3.81 cm (4.0 x 3.0 x 1.5 inches)
- **Weight:** 40 grams (0.09 lbs)
- **Replaces OE Numbers:** 584521, 584319, Aprilia AP8224026

3. INSTALLATION AND SETUP

Proper installation of the starter relay is crucial for safe and reliable operation. If you are unsure about any steps, it is recommended to seek assistance from a qualified mechanic.

1. **Safety First:** Before beginning any electrical work, always disconnect the vehicle's battery to prevent accidental short circuits or electrical shocks.
2. **Locate Existing Relay:** Identify the old starter relay on your vehicle. It is typically located near the battery or starter motor.
3. **Compare Relays:** Carefully compare the new Piaggio 58115R relay with the old one. Ensure that the physical dimensions, terminal configuration, and mounting points are identical. This is critical for proper fitment and function.
4. **Disconnect Old Relay:** Disconnect all electrical wires from the old relay. Note the position and connection of each wire to ensure correct re-connection. Taking a photograph before disconnecting can be helpful.
5. **Mount New Relay:** Secure the new Piaggio 58115R relay using its screw mounting points. Ensure it is firmly attached and not subject to excessive vibration.
6. **Connect Wires:** Reconnect the electrical wires to the new relay, ensuring each wire is attached to its correct terminal. Double-check all connections for tightness and security.
7. **Reconnect Battery:** Once all connections are secure, reconnect the vehicle's battery.
8. **Test Functionality:** Attempt to start the vehicle to confirm the new relay is functioning correctly.

4. OPERATION

The Piaggio 58115R Starter Relay operates as an intermediary switch in your vehicle's electrical system. When you press the starter button on your handlebar, a low-current signal is sent to the relay's coil. This signal energizes the coil, creating a magnetic field that pulls a contact arm, closing the high-current circuit between the battery and the starter motor. This allows a large surge of current to flow to the starter motor, enabling it to crank the engine. Once the starter button is released, the coil de-energizes, and the contacts open, disconnecting the starter motor from the battery.

5. MAINTENANCE

The Piaggio 58115R Starter Relay is designed for durability and typically requires minimal maintenance. However, periodic checks can help ensure its longevity and reliable performance:

- **Inspect Connections:** Periodically check all electrical connections to the relay for corrosion, looseness, or damage. Clean any corrosion with a wire brush and ensure connections are tight.
- **Keep Clean:** Ensure the relay and its surrounding area are free from dirt, debris, and moisture, which can interfere with electrical contacts.
- **Avoid Overloading:** Ensure your vehicle's electrical system is in good condition and that the starter motor is not drawing excessive current, which can prematurely wear out the relay.

6. TROUBLESHOOTING

If your vehicle is experiencing starting issues, the starter relay might be a contributing factor. Here are common symptoms and troubleshooting steps:

- **Symptom: Relay Clicks but Starter Motor Does Not Engage**

Possible Cause: This often indicates that the relay's coil is receiving power and activating, but the main contacts are not closing or are corroded, preventing current flow to the starter motor. It could also indicate a low battery voltage, a faulty starter motor, or poor connections.

Solution:

- a. Check battery voltage. Ensure it is fully charged.
- b. Inspect all high-current connections to and from the relay and starter motor for corrosion or looseness.
- c. If connections are good and battery is charged, the relay itself may be faulty and require replacement.
- d. Test the starter motor directly (with caution) to rule out a starter motor issue.

- **Symptom: No Click from Relay When Starter Button is Pressed**

Possible Cause: The relay is not receiving the activation signal, or its coil is faulty.

Solution:

- a. Check the starter button and its wiring for continuity.
- b. Verify power supply to the relay's coil terminals.
- c. Check relevant fuses in the vehicle's electrical system.
- d. If power is present at the coil terminals and the button works, the relay's coil may be open-circuited, requiring relay replacement.

- **Symptom: Starter Motor Cranks Slowly or Weakly**

Possible Cause: While often a battery or starter motor issue, a failing relay with high internal resistance can also contribute.

Solution:

- a. Test battery charge and health.
- b. Inspect all high-current cables for corrosion or damage.
- c. Consider replacing the relay if other components are ruled out.

Always ensure safety precautions are followed when troubleshooting electrical systems. If you are not comfortable performing these checks, consult a professional.

7. COMPATIBILITY

The Piaggio 58115R Starter Relay is designed to be compatible with various Piaggio and Aprilia models. It directly replaces the following original equipment (OE) part numbers:

- Piaggio OE Number: 584521
- Piaggio OE Number: 584319
- Aprilia OE Number: AP8224026

Known compatible models include, but are not limited to, the Aprilia Atlantic 300. To ensure correct fitment for your specific vehicle, it is highly recommended to compare the physical appearance and OE part number of your existing relay with the specifications of the Piaggio 58115R.

8. WARRANTY AND SUPPORT

For information regarding the warranty period and terms for your Piaggio 58115R Starter Relay, please refer to the documentation provided at the time of purchase or contact your retailer. For technical support or further inquiries, please reach out to your authorized Piaggio service center or the point of purchase.

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