Packard PRMJ88

PACKARD Start Capacitor PRMJ88 User Manual

Model: PRMJ88 | Brand: Packard

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of the PACKARD PRMJ88 Start Capacitor. Please read this manual thoroughly before use to ensure safe and efficient performance.

2. Safety Information

WARNING: Electrical components can be hazardous. Installation and maintenance should only be performed by qualified personnel. Always disconnect power before working with electrical circuits.

- Ensure power is disconnected before handling the capacitor.
- Discharge the capacitor before handling.
- Wear appropriate personal protective equipment (PPE), including insulated gloves and eye protection.
- Do not exceed the rated voltage or capacitance.
- Keep away from moisture and extreme temperatures.

3. Product Description

The PACKARD PRMJ88 is a motor start capacitor designed for intermittent duty in AC motor starting circuits. These capacitors are dry, electrolytic, and non-polarized, ensuring reliable performance for motor startup applications.

The capacitor features a round case constructed from moisture and oil-resistant molded phenolic resin or plastic, providing durability and protection. It is equipped with standard dual blade terminals for easy connection.

Figure 1: PACKARD PRMJ88 Start Capacitor with dual blade terminals.

Key Features:

- **Type:** Dry, electrolytic, non-polarized
- **Application:** Intermittent duty in AC motor starting circuits
- **Case Material:** Moisture and oil-resistant molded phenolic resin or plastic
- **Terminals:** Standard dual blade

4. Specifications

Attribute	Value
Model Number	PRMJ88
Capacitance	88-108 MFD (Microfarad)
Voltage Rating	330 VAC
Frequency	50/60 Hertz
Diameter	1 13/16 inches
Height	3 3/8 inches
Material	Plastic (Molded phenolic resin or plastic)
Shape	Round
Product Dimensions	11.02 x 4.72 x 5.51 inches (packaging/shipping dimensions)
Item Weight	4.8 ounces

5. Installation Instructions

The PACKARD PRMJ88 Start Capacitor is designed for use in AC motor starting circuits. Proper installation is crucial for safety and optimal performance. If you are not familiar with electrical work, consult a qualified electrician or HVAC technician.

1. **Power Disconnection:** Before beginning any work, ensure that the main power supply to the motor or appliance is completely disconnected and locked out. Verify with a voltage tester.

2. **Capacitor Discharge:** Safely discharge the old capacitor before removal. Use a resistor or insulated screwdriver with a well-insulated handle to short the terminals. A click or spark indicates discharge.
3. **Identify Terminals:** Note the wiring configuration of the existing capacitor. The PRMJ88 has standard dual blade terminals.
4. **Remove Old Capacitor:** Carefully disconnect the wires from the old capacitor and remove it from its mounting bracket.
5. **Install New Capacitor:** Mount the new PACKARD PRMJ88 capacitor securely in the same location. Connect the wires to the new capacitor's terminals, ensuring correct polarity if applicable (though start capacitors are typically non-polarized). Ensure connections are tight and secure.
6. **Verify Installation:** Double-check all connections and ensure no loose wires or potential shorts.
7. **Restore Power:** Once installation is complete and verified, restore power to the motor or appliance.
8. **Test Operation:** Test the motor's operation to confirm the capacitor is functioning correctly.

For specific wiring diagrams, refer to the motor or appliance manufacturer's service manual.

6. Operating Principles

A start capacitor, like the PACKARD PRMJ88, provides a temporary boost of torque to an AC induction motor during its startup phase. It works by creating a phase shift in the current supplied to the motor's start winding.

When the motor starts, the capacitor is connected in series with the start winding. This connection causes the current in the start winding to lead the voltage, creating a rotating magnetic field that helps the motor overcome inertia and reach operating speed quickly. Once the motor reaches approximately 75% of its full speed, a centrifugal switch (or electronic relay) disconnects the start capacitor from the circuit, as it is no longer needed for continuous operation.

The PRMJ88 is designed for intermittent duty, meaning it is only active for a short period during each motor start cycle. Its non-polarized design allows it to be used in AC circuits without concern for polarity.

7. Maintenance

Start capacitors are generally maintenance-free components. However, periodic inspection can help identify potential issues before they lead to motor failure.

- **Visual Inspection:** Periodically inspect the capacitor for any signs of physical damage, such as bulging, leaks, cracks, or discoloration. These are indicators of capacitor failure.
- **Terminal Connections:** Ensure that the terminal connections remain clean and tight. Loose connections can lead to overheating and poor performance.
- **Operating Environment:** Ensure the capacitor is operating within its specified temperature range and is protected from excessive moisture or corrosive environments.
- **Replacement:** If the motor is struggling to start, making unusual noises during startup, or failing to start altogether, the start capacitor may need replacement. Always replace with a capacitor of the same capacitance (MFD) and voltage rating.

Always disconnect power and discharge the capacitor before performing any inspection or maintenance.

8. Troubleshooting

If your motor is experiencing issues related to starting, the start capacitor may be a contributing factor. Here are common symptoms and potential solutions:

Symptom	Possible Cause	Solution
Motor hums but does not start (or starts slowly)	Failed start capacitor; faulty centrifugal switch/relay	Test and replace capacitor; inspect and replace switch/relay
Capacitor is bulging, leaking, or discolored	Internal failure of capacitor	Replace capacitor immediately
Motor starts, but capacitor remains hot or fails quickly	Centrifugal switch/relay not disconnecting capacitor; incorrect capacitor rating	Inspect and replace switch/relay; verify correct MFD and VAC rating
No motor response	No power; open circuit; motor winding failure	Check power supply and circuit breakers; test motor windings; consult professional

Note: Always ensure power is disconnected and the capacitor is discharged before performing any troubleshooting steps involving direct contact with electrical components.

9. Warranty and Support

For information regarding warranty coverage for your PACKARD PRMJ88 Start Capacitor, please refer to the documentation provided at the time of purchase or contact your authorized Packard distributor or retailer.

For technical support or further assistance, please contact Packard customer service or visit the official Packard website. When contacting support, please have your model number (PRMJ88) and purchase details available.

Disclaimer: This manual is intended for informational purposes only. Packard is not responsible for any damage or injury resulting from improper installation, use, or maintenance of this product. Always adhere to local electrical codes and safety regulations.