

Fasco D909

Fasco D909 Condenser Fan Motor Instruction Manual

Model: D909

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1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Fasco D909 Condenser Fan Motor. Please read these instructions thoroughly before proceeding with installation or use. Retain this manual for future reference.

2. SAFETY INFORMATION

WARNING: Risk of Electric Shock and Injury.

- Always disconnect power to the unit before installing, servicing, or performing maintenance on the motor.
- Installation and wiring must be performed by a qualified technician in accordance with all local and national electrical codes.
- Ensure proper grounding of the motor.
- Do not operate the motor if it is damaged or if any wires are frayed or exposed.
- Wear appropriate personal protective equipment (PPE) such as safety glasses and gloves during installation and maintenance.
- This motor requires an external capacitor (7.5mfd/370V recommended, not included). Ensure the correct capacitor is used and wired properly.

3. PRODUCT OVERVIEW

The Fasco D909 is a 5.6-inch condenser fan motor designed for various HVAC applications. It is a PSC (Permanent Split Capacitor) type motor, featuring a totally enclosed design for durability and protection from environmental elements. The motor offers reversible rotation, allowing for flexible installation. It is equipped with sleeve bearings for reliable performance.

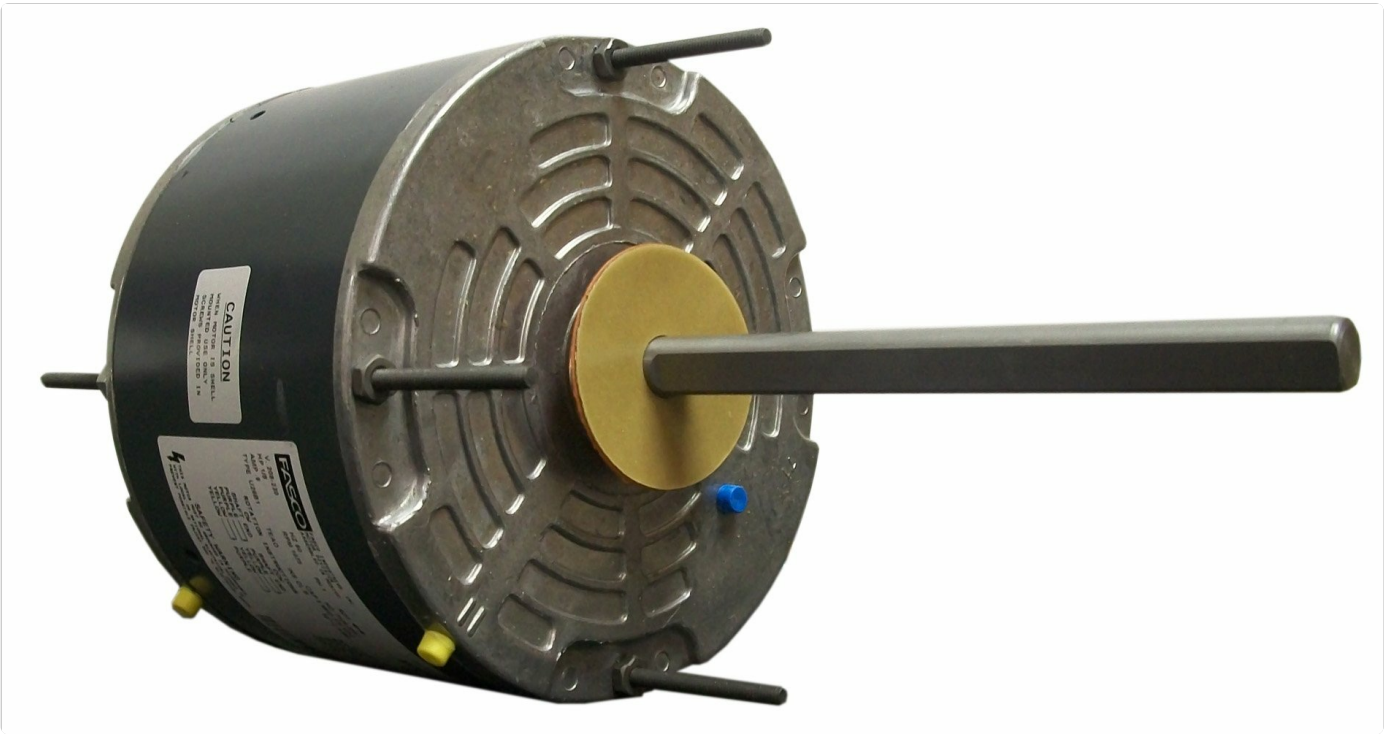


Figure 1: Fasco D909 Condenser Fan Motor. This image shows the motor with its shaft extending, ready for fan blade attachment. The motor casing is visible, indicating its totally enclosed design.

Key Features:

- **Horsepower:** 1/4 HP
- **Voltage:** 208-230 Volts
- **RPM:** 1075 RPM
- **Speed:** 1 Speed
- **Amperage:** 1.8 Amps
- **Enclosure:** Totally Enclosed
- **Rotation:** Reversible
- **Bearings:** Sleeve Bearing
- **Shaft:** 1/2-Inch x 6-1/2-Inch
- **Mounting:** 4 drilled and tapped holes in the shell, all angle mount bearings

Note: A 7.5mfd/370V capacitor is required for operation and is not included with the motor. Ensure you acquire the correct capacitor for proper functionality.

4. SPECIFICATIONS

Brand	Fasco
Model	D909
Horsepower (HP)	1/4 HP (0.25 HP)
Voltage	208-230 Volts
RPM	1075 RPM

Speed	1 Speed
Amperage	1.8 Amps
Enclosure Type	Totally Enclosed
Rotation	Reversible
Bearing Type	Sleeve Bearing
Shaft Dimensions	1/2-Inch x 6-1/2-Inch
Ambient Temperature Rating	60 Degree Celsius
Required Capacitor	7.5mfd/370V (Not Included)
Item Weight	16 ounces
Material Type	Metal

5. INSTALLATION

IMPORTANT: Installation should only be performed by a qualified HVAC technician or electrician. Ensure all local and national electrical codes are followed.

1. **Power Disconnection:** Before beginning any work, turn off all power to the HVAC unit at the main breaker. Verify power is off using a voltage tester.
2. **Old Motor Removal:**
 - Carefully disconnect the wiring from the old motor, noting the connections (take photos if necessary).
 - Remove the fan blade from the old motor shaft. This may require a wheel puller if rusted.
 - Unmount the old motor from its housing.
3. **New Motor Mounting:**
 - Mount the Fasco D909 motor using the 4 drilled and tapped holes in its shell. Ensure it is securely fastened. The motor supports all-angle mounting.
 - Attach the fan blade to the new motor's 1/2-inch x 6-1/2-inch shaft. Ensure the blade is properly seated and secured with a set screw. Verify the fan blade rotation direction.
4. **Wiring:**
 - Connect the motor's wires according to the wiring diagram provided with your HVAC unit or the motor's specific instructions (if available).
 - This motor is reversible. To change rotation, follow the wiring instructions provided on the motor label or in its specific wiring diagram.
 - Connect the external 7.5mfd/370V capacitor (not included) as per the motor's wiring diagram. Incorrect capacitor wiring can damage the motor.
 - Ensure all electrical connections are tight and insulated.
 - Verify proper grounding.
5. **Final Checks:**
 - Double-check all connections and mounting.
 - Ensure the fan blade spins freely without obstruction.

6. **Power Restoration:** Restore power to the unit and test the motor's operation. Observe for unusual noises or vibrations.

6. OPERATING INSTRUCTIONS

Once properly installed and wired, the Fasco D909 condenser fan motor operates automatically in conjunction with your HVAC system's controls. No manual intervention is typically required for its operation.

- Ensure the HVAC system is set to the desired mode (e.g., cooling).
- The motor will engage when the system calls for condenser fan operation.
- Listen for smooth operation. Any unusual noises (grinding, squealing) should be investigated immediately.

7. MAINTENANCE

Regular maintenance helps ensure the longevity and efficient operation of your Fasco D909 motor. Always disconnect power before performing any maintenance.

- **Annual Inspection:** Have a qualified technician inspect the motor and fan assembly annually.
- **Cleaning:** Keep the motor and fan blades free of dirt, dust, and debris. Accumulation can lead to overheating and reduced efficiency. Use a soft brush or compressed air.
- **Bearing Check:** While the motor uses sleeve bearings, which are typically self-lubricating, listen for any signs of bearing wear (e.g., squealing, grinding). If detected, professional service is recommended.
- **Wiring Inspection:** Periodically check all electrical connections for tightness and signs of wear or corrosion.
- **Capacitor Check:** The external capacitor should be checked periodically by a qualified technician for signs of bulging, leakage, or reduced capacitance, which can affect motor performance.

8. TROUBLESHOOTING

Before attempting any troubleshooting, ensure power is disconnected to the unit. If you are not comfortable performing these steps, contact a qualified technician.

Problem	Possible Cause	Solution
Motor does not start or hums but doesn't spin.	No power to the motor. Faulty capacitor. Motor seized or obstructed. Incorrect wiring.	Check circuit breaker and wiring connections. Test or replace capacitor. Check for obstructions around the fan blade; manually try to spin the shaft (with power off). Verify wiring against diagram.
Motor runs hot.	Insufficient airflow (dirty coils/fan). Overload. Low voltage. Faulty capacitor.	Clean condenser coils and fan blades. Ensure correct fan blade is used and not oversized. Check supply voltage. Test or replace capacitor.
Excessive noise or vibration.	Loose mounting bolts. Unbalanced fan blade. Worn bearings. Obstruction.	Tighten all mounting hardware. Inspect fan blade for damage or debris; balance if necessary. Motor replacement may be required. Remove any obstructions.

9. WARRANTY AND SUPPORT

The Fasco D909 Condenser Fan Motor is covered by a Manufacturer Warranty. For specific details regarding the warranty period, terms, and conditions, please refer to the documentation provided with your purchase or contact Fasco customer support directly. For technical assistance, replacement parts, or warranty claims, please contact Fasco customer service. Ensure you have your motor model number (D909) and purchase information available when contacting support.

