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Fasco D504

Fasco D504 Motor Instruction Manual

Model: D504
Brand: Fasco

1. Introduction

This instruction manual provides essential information for the safe and efficient operation, installation, and maintenance of the Fasco D504 Permanent Split Capacitor (PSC) Motor. This motor is designed for various mechanical duty applications, featuring an open ventilated, self-cooled design with sleeve bearings. Please read this manual thoroughly before installation or operation to ensure proper use and to prevent potential hazards.

2. Safety Information

WARNING: Electrical shock hazard. Always disconnect power before installing, servicing, or cleaning this motor. Failure to do so can result in serious injury or death.
WARNING: Moving parts hazard. Keep hands, hair, and clothing away from rotating parts during operation.

- Ensure all electrical connections are made by a qualified electrician and comply with local and national electrical codes.
- This motor is thermally protected. If the motor overheats and shuts down, allow it to cool before attempting to restart. Investigate the cause of overheating.
- The motor is UL recognized and CSA certified, indicating compliance with specific safety standards.
- Do not operate the motor in environments exceeding its specified temperature limits or in hazardous atmospheres unless explicitly rated for such conditions.
- Securely mount the motor to prevent vibration and movement during operation.

3. Product Overview

The Fasco D504 motor is an open ventilated, permanent split capacitor (PSC) motor designed for self-cooled mechanical duty. It features durable sleeve bearings and is equipped with automatic thermal protection for enhanced safety. The motor includes a conduit box for convenient electrical connections.



Figure 3.1: Front view of the Fasco D504 motor, showing the output shaft and mounting studs. This image highlights the robust construction and the open ventilated design.

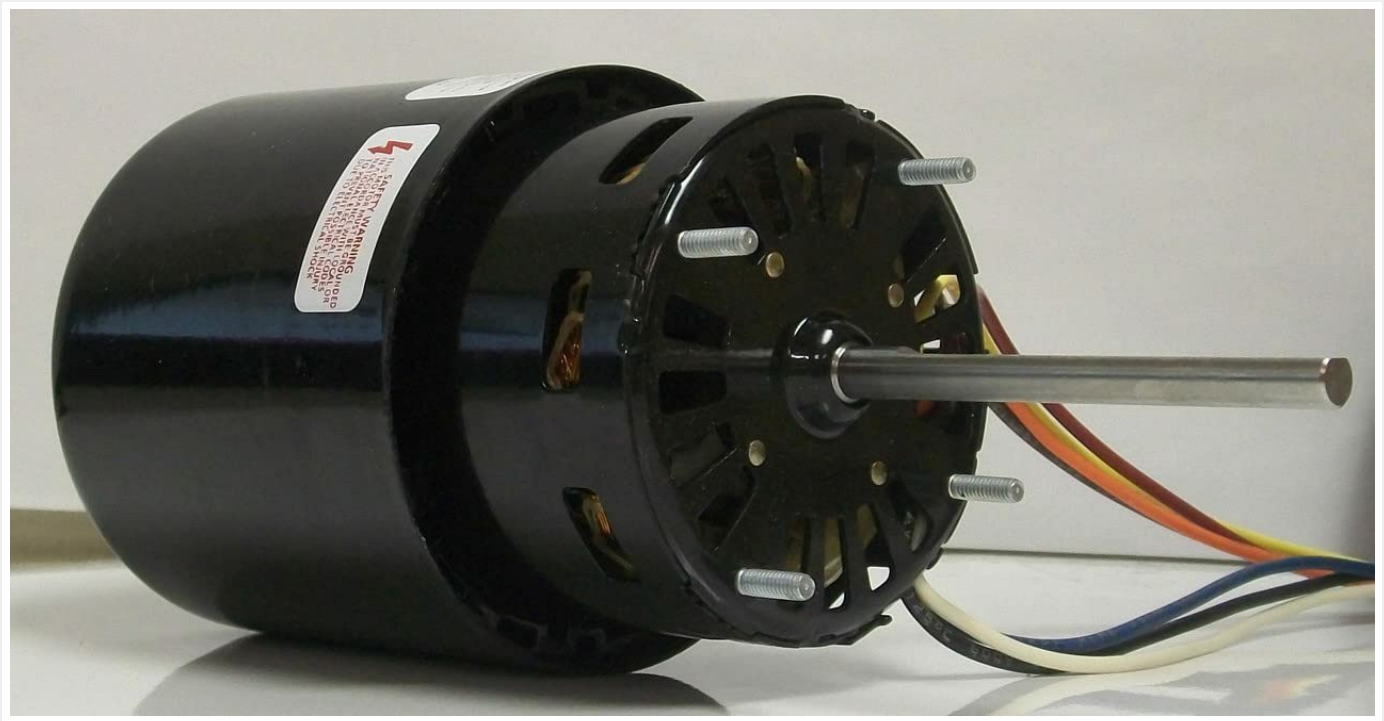


Figure 3.2: Side view of the Fasco D504 motor, illustrating the electrical wiring connections extending from the motor body. This view provides a clearer look at the ventilation openings.



Figure 3.3: Vertical view of the Fasco D504 motor, showcasing the wiring harness and a visible safety warning label on the motor casing. This perspective emphasizes the compact design.

Key Features:

- Open ventilated permanent split capacitor self cooled motor with sleeve bearing
- Thermally protected
- Reversible rotation
- CSA certified, UL recognized
- Shaft measures 5/16" diameter by 3-1/2" length

4. Setup and Installation

Proper installation is crucial for the longevity and performance of your Fasco D504 motor.

4.1 Mounting:

- Ensure the mounting surface is flat, stable, and capable of supporting the motor's weight and operational forces.
- Use appropriate fasteners to secure the motor firmly using its integrated mounting studs.
- Allow adequate clearance around the motor for ventilation to ensure proper self-cooling.

4.2 Electrical Connections:

- Verify that the power supply voltage matches the motor's rating (115V or 230V). The motor is designed for dual voltage operation.
- Connect wiring inside the provided conduit box, ensuring all connections are secure and insulated.
- Follow the wiring diagram provided with the motor or consult a qualified electrician for correct connections, especially for reversible rotation.
- Ensure proper grounding to prevent electrical hazards.

5. Operating Instructions

The Fasco D504 motor is designed for continuous mechanical duty.

- **Voltage Selection:** This motor operates at either 115V or 230V. Ensure the motor is wired correctly for your specific power supply.
- **Speed:** The motor operates at a single speed of 1500 RPM.
- **Current Draw:** The motor draws 1.6 amps at 115V and 0.8 amps at 230V. Ensure your circuit can handle these current loads.
- **Reversible Rotation:** The motor's rotation direction can be reversed. Refer to the wiring diagram for instructions on changing rotation.
- **Thermal Protection:** The motor is equipped with automatic thermal protection. If the motor becomes excessively hot, it will automatically shut off to prevent damage. Allow the motor to cool down before attempting to restart. Investigate the cause of overheating (e.g., excessive load, insufficient ventilation).

6. Maintenance

The Fasco D504 motor is designed for minimal maintenance. However, regular inspection can extend its lifespan.

- **Cleaning:** Periodically clean the exterior of the motor to prevent dust and debris buildup, especially around the ventilation openings. Ensure the motor is disconnected from power before cleaning. Use a dry cloth or compressed air.
- **Sleeve Bearings:** This motor uses sleeve bearings. These are typically pre-lubricated and sealed for life, requiring no additional lubrication under normal operating conditions. If unusual noise or excessive heat is detected from the bearings, consult a qualified technician.
- **Shaft Inspection:** Periodically inspect the motor shaft for any signs of wear, bending, or corrosion. Ensure that any attached components (e.g., fan blades, pulleys) are securely fastened and balanced.
- **Wiring Inspection:** Regularly check electrical wiring for signs of fraying, cracking, or loose connections. Tighten any loose terminals.

7. Troubleshooting

This section provides solutions to common issues you might encounter with your Fasco D504 motor.

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Motor does not start	No power supply Incorrect wiring Thermal overload tripped Seized bearings	Check power source and circuit breaker Verify wiring connections against diagram Allow motor to cool; check for overload Inspect shaft for free rotation; replace motor if seized
Motor overheats and shuts down	Excessive load Insufficient ventilation High ambient temperature Faulty thermal protector	Reduce load on motor Ensure clear airflow around motor Operate within specified temperature range Consult qualified technician
Excessive noise or vibration	Loose mounting Unbalanced load/fan Worn bearings	Tighten mounting bolts Balance or replace attached components Consult qualified technician for bearing inspection/replacement
Motor runs slowly or with reduced power	Low voltage Overload Faulty capacitor	Verify correct supply voltage Reduce load Consult qualified technician to test/replace capacitor

If you are unable to resolve an issue using the troubleshooting guide, please contact a qualified electrician or the manufacturer's support.

8. Specifications

Attribute	Detail
Model Number	D504
Brand	Fasco
Horsepower (HP)	1/8 HP
RPM	1500 rpm
Voltage	115/230V
Frequency	60Hz
Amperage	1.6-0.8 amps
Frame Diameter	3.3" (3.9" overall diameter)
Motor Length	5-1/2"
Shaft Dimensions	5/16" diameter by 3-1/2" length
Bearing Type	Sleeve Bearing
Cooling Type	Self-Cooled, Open Ventilated

Attribute	Detail
Protection	Automatic Thermally Protected
Certifications	UL Recognized, CSA Certified
Material	Copper (internal windings)
Package Dimensions	10.9 x 5.9 x 5.1 inches
Weight	4 Pounds
First Available Date	January 17, 2006

9. Warranty and Support

Specific warranty information for the Fasco D504 motor is typically provided at the point of purchase or directly by the manufacturer, Fasco Motors. Please retain your proof of purchase for warranty claims.
For technical support, detailed wiring diagrams, or warranty inquiries, please contact Fasco Motors directly or the authorized distributor from whom the product was purchased.
Manufacturer: Fasco Motors

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