

Leeson 108048

Leeson 12 Volt DC Electric Motor - Model 108048 User Manual

3/4 HP, 1,750 RPM, 58 Amps

1. INTRODUCTION

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your Leeson 12 Volt DC Electric Motor, Model 108048. Please read this manual thoroughly before attempting to install or operate the motor. Retain this manual for future reference.

Safety Warning:

- Always disconnect power before performing any installation, maintenance, or troubleshooting.
- Ensure all electrical connections comply with local and national electrical codes.
- This motor operates on 12 Volts DC. Connecting it to an incorrect voltage source can cause severe damage or injury.
- Wear appropriate personal protective equipment (PPE) during installation and maintenance.

2. SETUP AND INSTALLATION

Proper installation is crucial for the motor's performance and longevity.

2.1 Unpacking and Inspection

Carefully remove the motor from its packaging. Inspect the motor for any signs of shipping damage. Report any damage to the carrier immediately. Ensure all components are present.

2.2 Mounting

The Leeson Model 108048 motor features a heavy-duty, stamped steel, bolt-on base for rigid mounting. It also includes a NEMA C-Face mounting flange, offering versatile installation options.

1. Choose a stable, level surface capable of supporting the motor's weight and operational forces.
2. Secure the motor using the bolt-on base. Ensure all mounting bolts are tightened to the

manufacturer's specifications.

3. If using the NEMA C-Face mount, ensure proper alignment with the driven equipment.



Figure 1: Leeson 12 Volt DC Electric Motor, Model 108048, showing the main body, mounting base, and shaft. This image illustrates the overall design and key external components of the motor.

2.3 Electrical Connections

This motor requires a 12 Volt DC power supply. The motor is rated for 58 Amps at full load.

1. Ensure the power supply is off before making any connections.
2. Connect the positive (+) terminal of the 12V DC power supply to the motor's positive terminal.
3. Connect the negative (-) terminal of the 12V DC power supply to the motor's negative terminal.
4. Use appropriately sized wiring and circuit protection (fuses or circuit breakers) for a 58 Amp load. Consult an electrician if unsure.
5. Verify all connections are secure and insulated.



Figure 2: Close-up view of the Leeson 12 Volt DC Electric Motor, highlighting the electrical terminals. This image helps identify where power connections should be made.

3. OPERATING INSTRUCTIONS

Once properly installed and connected, the motor is ready for operation.

1. Ensure the motor is free from obstructions and that the driven equipment is ready for operation.
2. Apply 12 Volt DC power to the motor. The motor should begin to rotate.
3. Monitor the motor during initial operation for any unusual noises, vibrations, or excessive heat.
4. The motor is designed for continuous operation at 40°C (104°F) ambient temperature. Ensure adequate ventilation around the motor to prevent overheating.

4. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your motor.

4.1 Brush Replacement

The Leeson Model 108048 features larger, oversized brushes designed for longer life and external access for easy replacement.

1. **Safety First:** Disconnect all power to the motor before attempting brush replacement.
2. Locate the external brush access covers on the motor housing.
3. Carefully remove the covers.
4. Extract the old brushes and inspect the commutator for wear.
5. Insert new, genuine Leeson replacement brushes, ensuring they slide freely in their holders.
6. Replace the brush covers securely.
7. After brush replacement, run the motor at a reduced load for a short period to allow the new brushes to seat properly.

4.2 General Cleaning and Inspection

- Keep the motor clean and free of dust, dirt, and debris. Use a dry cloth or compressed air.
- Periodically inspect all electrical connections for tightness and signs of corrosion.
- Check mounting bolts for tightness.
- Listen for unusual noises or vibrations during operation, which may indicate a problem.

5. TROUBLESHOOTING

This section provides guidance for common issues. For problems not listed, contact Leeson technical support.

Problem	Possible Cause	Solution
Motor does not start	No power supply; Incorrect wiring; Blown fuse/tripped breaker; Worn brushes.	Check power source; Verify wiring connections; Replace fuse/reset breaker; Inspect and replace brushes if necessary.
Motor runs slowly or with reduced power	Low voltage; Excessive load; Worn brushes; Partial short circuit.	Check power supply voltage; Reduce load; Inspect and replace brushes; Consult a qualified technician.
Motor overheats	Excessive load; Insufficient ventilation; Prolonged operation beyond ratings; Internal fault.	Reduce load; Ensure adequate airflow around motor; Allow motor to cool; Consult a qualified technician.
Excessive noise or vibration	Loose mounting; Misalignment with driven equipment; Worn bearings; Internal damage.	Check and tighten mounting bolts; Verify alignment; Consult a qualified technician.

6. SPECIFICATIONS

Key technical specifications for the Leeson 12 Volt DC Electric Motor, Model 108048.

Feature	Detail
Brand	Leeson
Model Number	108048
Voltage	12 Volts DC
Horsepower	0.75 HP (3/4 HP)
Speed	1750 RPM
Current (Full Load)	58 Amps
Material	Alloy Steel (Frame)
Item Weight	30 Pounds
Product Dimensions	20 x 10.9 x 11.1 inches
Certification	CSA/NEMA/UL
UPC	691720006726

7. WARRANTY AND SUPPORT

For warranty information or technical assistance, please contact Leeson customer support directly. Refer to

your purchase documentation for specific warranty terms and conditions.

Leeson is a registered trademark of Regal Rexnord Corporation.

For further assistance, visit the official Leeson website or contact their customer service department.