Leeson 175567.00

Leeson 175567.00 56C Brake Kit Instruction Manual

Model: 1056714051QF

1. Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of the Leeson 175567.00 56C Brake Kit. This brake kit, model 1056714051QF, is designed for industrial applications requiring reliable braking performance on 56C frame motors operating at 208-230/460V. Please read this manual thoroughly before attempting any installation or operation.

Figure 1: Leeson 56C Brake Kit. This image shows the primary components of the brake kit, including the brake assembly and associated hardware, ready for installation onto a motor.

2. Safety Information

WARNING: Failure to follow these safety instructions may result in serious injury, death, or equipment damage.

- Always disconnect power to the motor and brake kit before installation, maintenance, or troubleshooting. Verify zero voltage with a multimeter.
- Installation and wiring must be performed by qualified personnel in accordance with all local and national electrical codes.
- Ensure proper grounding of the motor and brake kit.
- Do not operate the brake kit if any components are damaged or missing.
- Wear appropriate personal protective equipment (PPE) such as safety glasses and gloves.
- Avoid touching moving parts during operation.

3. Package Contents

Verify that all items are present and undamaged upon unpacking:

- Leeson 56C Brake Assembly (Model 1056714051QF)
- Mounting Hardware (bolts, washers, nuts)
- Instruction Manual (this document)

4. Setup (Installation)

4.1 Pre-Installation Checks

- Ensure the motor is de-energized and locked out.
- Confirm the motor frame size is 56C.
- Verify the brake kit voltage (208-230/460V) matches the motor supply voltage.

4.2 Mounting Instructions

1. Remove any existing end cover or brake from the motor shaft end.
2. Clean the mounting surface on the motor.
3. Align the brake assembly with the motor's mounting holes.
4. Secure the brake kit to the motor using the provided mounting hardware. Tighten bolts evenly to the manufacturer's specified torque (refer to motor manual for specific torque values if available, otherwise use standard torque for bolt size).
5. Ensure the brake shaft engages properly with the motor shaft.

4.3 Electrical Connections

The Leeson 56C Brake Kit is designed for 208-230/460V operation. Connect the brake leads to the appropriate power source terminals. The brake coil is typically wired in parallel with the motor windings or to a separate control circuit that energizes the brake when the motor is intended to run.

- **For 208-230V operation:** Connect the brake leads to the 208-230V supply.
- **For 460V operation:** Connect the brake leads to the 460V supply.

Wiring Diagram (Conceptual):

The brake typically has two leads. Connect one lead to L1 (or phase A) and the other lead to L2 (or phase B/C) of the motor's power supply, ensuring the correct voltage connection. Consult the motor's wiring

diagram for specific terminal block configurations. The brake is released when energized and applies when de-energized.

5. Operating Instructions

The Leeson 56C Brake Kit is an electromagnetic brake designed to hold a load when power is removed (fail-safe operation). It releases when energized.

1. **Initial Power-Up:** After installation, apply power to the motor circuit. The brake should audibly release (disengage) as it is energized.
2. **Brake Engagement:** When power is removed from the motor (and thus the brake), the brake should engage, stopping and holding the motor shaft.
3. **Brake Disengagement:** When power is applied to the motor (and thus the brake), the brake should disengage, allowing the motor shaft to rotate freely.

Observe the brake's operation during the first few cycles to ensure proper function. Listen for any unusual noises or signs of improper engagement/disengagement.

6. Maintenance

Regular maintenance ensures optimal performance and extends the life of your brake kit.

- **Periodic Inspection (Monthly/Quarterly):** Visually inspect the brake for signs of wear, damage, or excessive dust accumulation. Check all mounting hardware for tightness.
- **Cleaning:** Keep the brake free from dust, dirt, and moisture. Use compressed air to remove dust from the friction surfaces and internal components. Do not use solvents that may damage electrical insulation or friction materials.
- **Friction Material Wear:** The brake pads are wear items. Monitor their thickness during inspections. If the friction material is worn down to the rivets or to a minimum specified thickness (typically 1/16 inch or 1.5 mm), the brake pads or entire brake assembly may need replacement. Consult Leeson for replacement parts.
- **Electrical Connections:** Periodically check electrical connections for corrosion or looseness.

7. Troubleshooting

Refer to the table below for common issues and their potential solutions.

Problem	Possible Cause	Solution
Brake does not release (motor does not turn)	No power to brake coil. Incorrect voltage. Damaged brake coil. Mechanical binding.	Check wiring and power supply. Verify supply voltage matches brake rating. Test coil resistance; replace brake if open circuit. Inspect for obstructions or improper mounting.

Problem	Possible Cause	Solution
Brake does not engage (motor continues to spin)	Brake coil remains energized. Worn friction material. Contaminated friction surfaces. Broken spring.	Check control circuit for continuous power. Inspect and replace worn friction pads/assembly. Clean friction surfaces (if lightly contaminated). Replace brake assembly.
Excessive noise or vibration	Loose mounting hardware. Misalignment. Damaged components.	Tighten all mounting bolts. Re-align brake assembly to motor. Inspect for bent shafts or damaged parts; replace if necessary.

If troubleshooting steps do not resolve the issue, contact Leeson technical support.

8. Specifications

- **Model Number:** 175567.00
- **Part Number:** 1056714051QF
- **Brand:** Leeson
- **Voltage:** 208-230/460V AC
- **Frame Size:** 56C
- **Enclosure Rating:** NEMA 4X (suitable for indoor/outdoor use, provides protection against corrosion, windblown dust and rain, splashing water, and hose-directed water; and that will be undamaged by the formation of ice on the enclosure)
- **Weight:** Approximately 3 lbs
- **UPC:** 663001092490

9. Warranty and Support

Leeson products are manufactured to high-quality standards and are backed by a limited warranty against defects in materials and workmanship. For specific warranty terms and conditions, please refer to the warranty statement provided with your purchase or visit the official Leeson website.

For technical assistance, replacement parts, or warranty claims, please contact Leeson customer support:

- **Website:** www.leeson.com
- **Phone:** Refer to the website for regional contact numbers.