COOPER Power Systems

Service Information

T875 Quik-Drive™ Tap-Changer Brake Assembly Replacement Instructions

S225-50-19

Contents

GENERAL

The purpose of this replacement kit is to provide the parts and installation instructions for replacing the brake assembly on a QD8 Quik-Drive™ tap-changer.

PARTS SUPPLIED

Item	Part Number	Description	Qty
1	5740794B09	Brake Assembly	1

TOOLS REQUIRED

- Ratchet
- 1/4 inch Socket
- 3/8 inch Socket
- 7/16 inch Wrench
- Socket Extension
- Screwdriver (Phillips)
- Torque Wrench in-lbs

PRODUCT INFORMATION

Introduction

Cooper Power Systems QD8 tap-changer brake assembly installation instructions provide guidance for replacement of the tap changer brake assembly. Replacement should be performed when damage has occurred to the brake pad and assembly or when there is indication that it is no longer functioning properly and adjustment to the existing brake has failed to resolved the problem.

Read This Manual First

Read and understand the contents of this manual and follow all locally approved procedures and safety practices before installing or operating this equipment.

Additional Information

These instructions cannot cover all details or variations in the equipment, procedures, or process described nor provide directions for meeting every possible contingency during installation, operation, or maintenance. For additional information, contact your Cooper Power Systems representative.

Acceptance and Initial Inspection

Each tap-changer brake assembly is in good condition when accepted by the carrier for shipment. Upon receipt, inspect the shipping container for signs of damage. Unpack the tap-changer brake assembly and inspect it thoroughly for damage incurred during shipment. If damaged is discovered, file a claim with the carrier immediately.

Handling and Storage

Be careful during handling and storage of the tap-changer brake assembly to minimize the possibility of damage. If the tap-changer brake assembly is to be stored for any length of time prior to installation, provide a clean, dry storage area.

Standards

ISO 9001 Certified Quality Management System

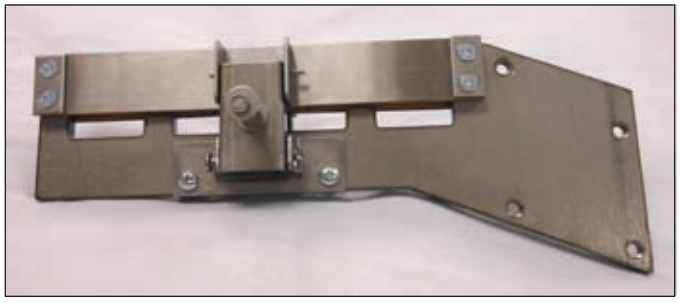

Figure 1.
Brake Assembly.

SAFETY FOR LIFE

Cooper Power Systems products meet or exceed all applicable industry standards relating to product safety. We actively promote safe practices in the use and maintenance of our products through our service literature, instructional training programs, and the continuous efforts of all Cooper Power Systems employees involved in product design, manufacture, marketing and service.

We strongly urge that you always follow all locally approved safety procedures and safety instructions when working around high-voltage lines and equipment and support our “Safety For Life” mission.

SAFETY INFORMATION

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians, who are familiar with this equipment should install, operate and service it.

A competent technician has these qualifications:

- *Is thoroughly familiar with these instructions.*
- *Is trained in industry-accepted high- and low-voltage safe operating practices and procedures.*
- *Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.*
- *Is trained in the care and use of protective equipment such as flash clothing, safety glasses, face shield, hard hat, rubber gloves, clampstick, hotstick, etc.*

Following is important safety information. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings.

Hazard Statement Definitions

This manual may contain four types of hazard statements:

⚠ DANGER:

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING:

Indicates a hazardous situation which, if not avoided, could result In death or serious injury.

⚠ CAUTION:

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

CAUTION: Indicates a hazardous situation which, if not avoided, could result in equipment damage only.

Safety Instructions

Following are general caution and warning statements that apply to this equipment. Additional statements, related to specific tasks and procedures, are located throughout the manual.

⚠ DANGER:

Hazardous voltage. Contact with high voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high- and low-voltage lines and equipment.

⚠ WARNING:

Before installing, operating, maintaining, or testing this equipment, carefully read and understand the contents of this manual. Improper operation, handling or maintenance can result in death, severe personal injury, and equipment damage.

⚠ WARNING:

This equipment is not intended to protect human life. Follow all locally approved procedures and safety practices when installing or operating this equipment. Failure to comply may result in death, severe personal injury and equipment damage.

⚠ WARNING:

Power distribution and transmission equipment must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures. Failure to properly select, install or maintain power distribution and transmission equipment can result in death, severe personal injury, and equipment damage.

INSTALLATION PROCEDURE

Brake Removal

1. Using a 1/4 inch (3/8 inch for newer tap-changer motors) socket, socket extension and a ratchet and place the socket onto the output shaft of the motor. See Figure 2.

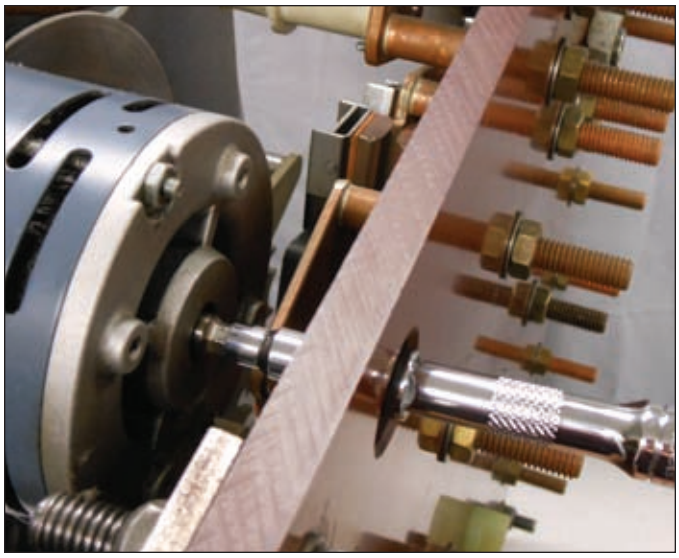

Figure 2.
Rotating the tap-changer motor.

2. Rotate the motor until the brake disc disengages from the brake pads on the brake assembly. See Figure 3.

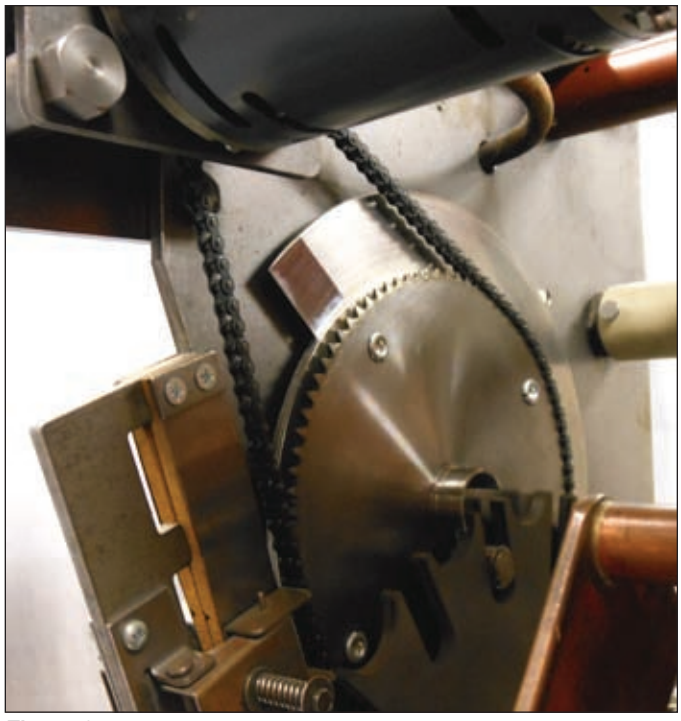

Figure 3.
Brake disk disengaged from the brake pad.

3. Use a 7/16 wrench and loosen and remove one 7/16 bolt. See Figure 4.

Figure 4.
Brake mounting bolts.

4. Place a screwdriver (small diameter Phillips or other similar rod) through the hole where the first bolt was removed. Remove the other three bolts. See Figure 5.

Figure 5.
Inserting screwdriver to hold shim.

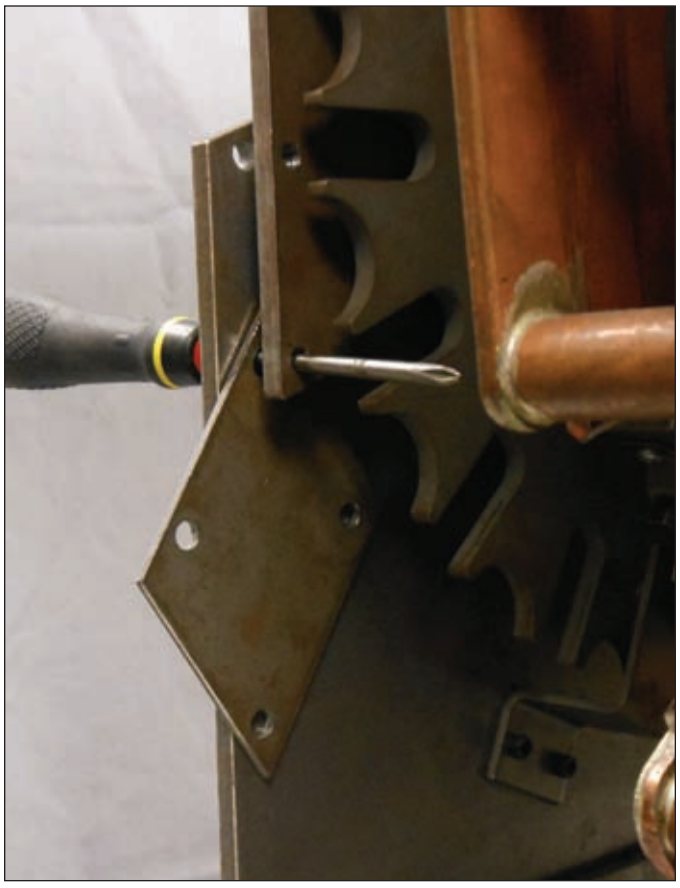

Figure 6.
Holding shim during brake removal.

5. The purpose of placing the screwdriver through the hardware hole is to keep the brake shim from dropping out and down in the tank. See Figure 6.

6. Hold onto the brake shim and the brake assembly and remove the screwdriver. Remove the brake assembly and shim from the tap-changer.

Installing Brake Assembly

7. Place the brake assembly and the brake shim onto the mounting position and insert the screwdriver to hold the shim in place. Make sure that the brake pad grooves of the assembly are facing toward the brake disc. See Figure 7.

Figure 7.
Installing bolts.

8. Align the mounting holes in the brake shim and brake assembly and begin to install the mounting bolts to hold the brake assembly in place. Start at least two screws before removing the screwdriver.
9. After removing the screwdriver and replacing the remaining bolts, complete the installation by tightening the bolts (alternating left, right, left, right) to a torque of 65 to 75 in-lbs (7.3 to 8.5 Nm).
10. Using the 1/4 inch (3/8 inch for newer tap-changer motors) socket, socket extension and ratch rotate the brake disc back into the brake pads by rotating the output shaft on the motor.
11. Rotate the motor until the tap-changer is in the neutral position.

    In the neutral position: 1) The reversing switch moveable contacts with be floating and not in contact with the stationary reversing switch contacts (Figure 8), 2) the main moveable contacts will be in contact with the neutral stationary contacts (Figure 9), and 3) the pinion cam will be pointing directly down over the holding switch (Figure 10).

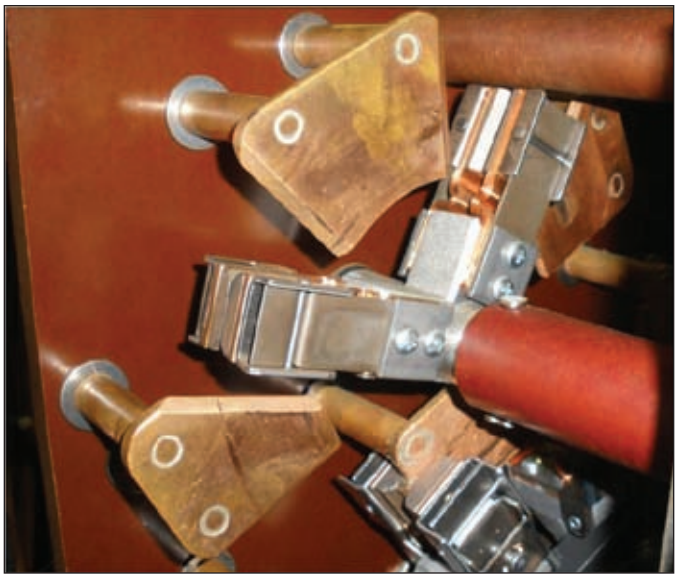

Figure 8.
Reversing switch contacts in neutral.

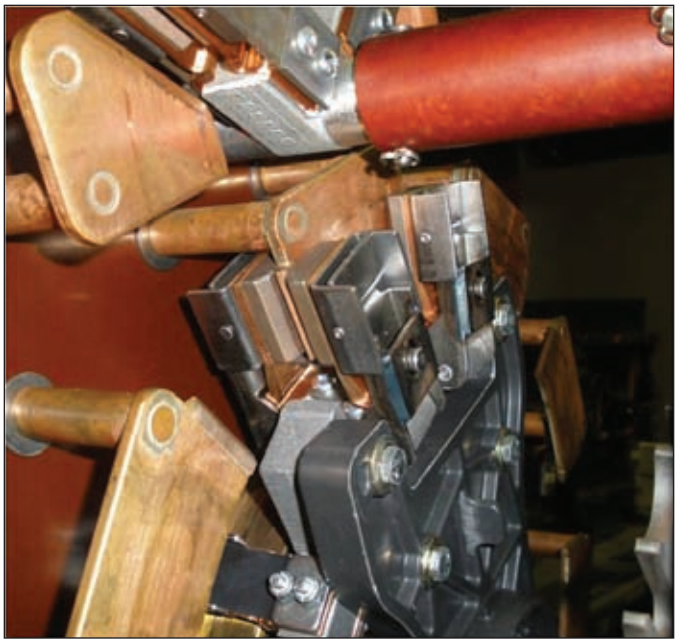

Figure 9.
Main moveable and stationary contacts in neutral.

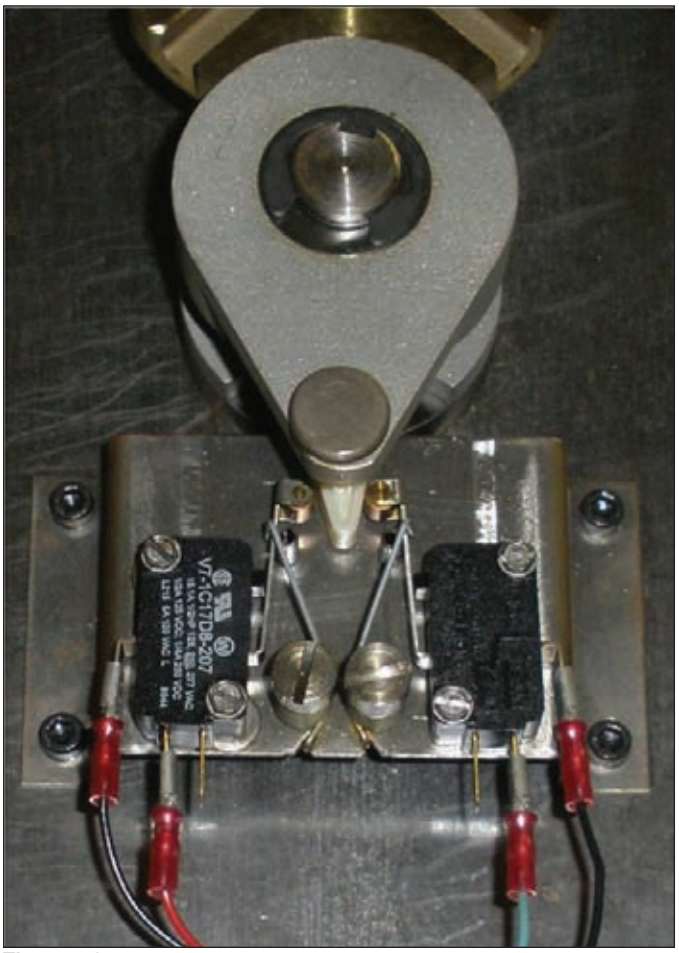

Figure 10.
Pinion cam in neutral.

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