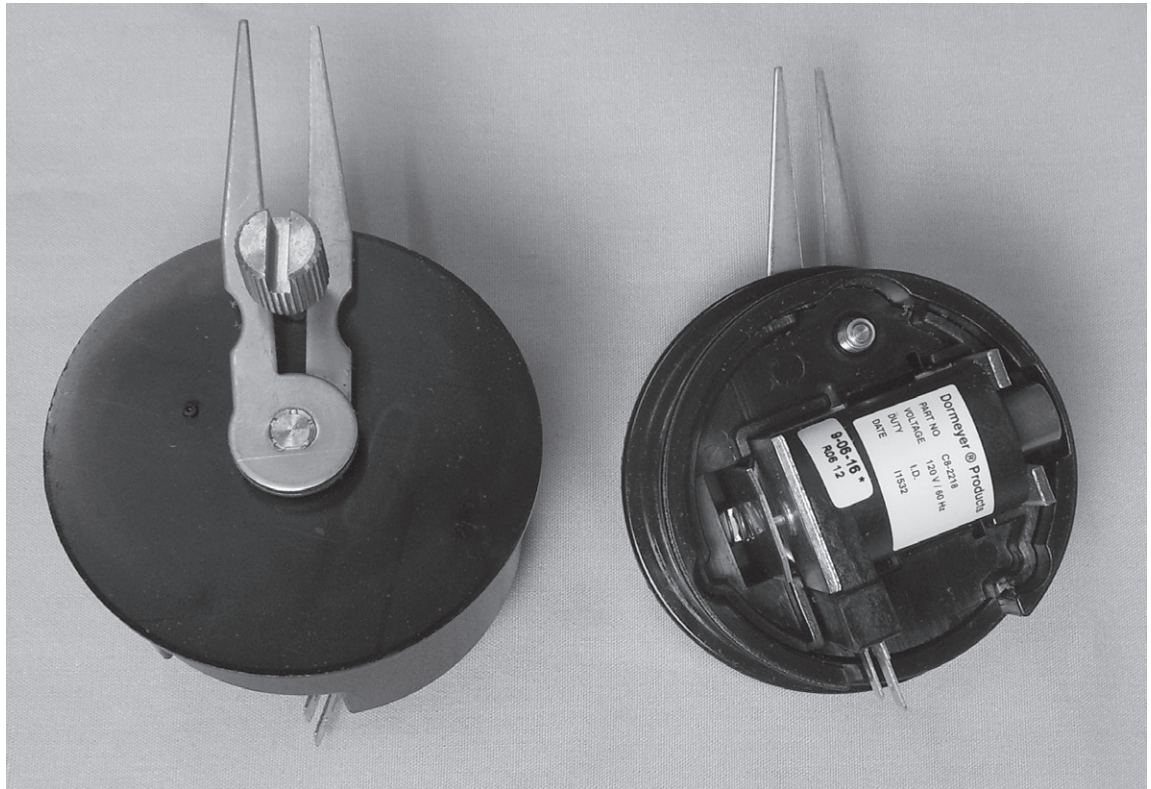


Polymer position indicator replacement solenoid kit number 5742301B01



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Safety for life



Eaton's Cooper Power series 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 Eaton 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 an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

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

CAUTION

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

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may 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.

Product information

Introduction

Service Information MN225045EN provides instructions for the replacement of the drag-hand reset solenoid for the Eaton voltage regulator polymer position indicator.

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. Read and understand the manuals detailing the installation and operation of the voltage regulator and the control used with the voltage regulator. Refer to *Service Information MN225003EN, CL-7 Voltage Regulator Control Installation, Operation, and Maintenance Instructions* for information on the CL-7 voltage regulator control. Refer to *Service Information MN225008EN, VR-32 Voltage Regulator with Quik-Drive™ Tap-Changer Installation, Operation, and Maintenance Instructions* for information on Eaton's Cooper Power Systems voltage regulator with Quik-Drive tap changer.

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, please contact your Eaton representative.

Acceptance and initial inspection

This kit is thoroughly inspected at the factory. It is in good condition when accepted by the carrier for shipment. Upon receipt of the drag-hand reset solenoid kit, a thorough inspection should be made for damage, evidence of rough handling, or shortages. Should this initial inspection reveal evidence of rough handling, damage, or shortages, it should be noted on the bill of lading and a claim should immediately be made with the carrier. Also, notify your Eaton representative.

Handling and storage

Be careful during handling and storage of equipment to minimize the possibility of damage. If the kit is not to be placed into immediate use, store the kit where the possibility of damage is minimized.

Quality standards

ISO 9001 Certified Quality Management System

General

The purpose of this kit is to provide a replacement drag-hand solenoid for the Eaton voltage regulator polymer position indicator.

Table 1. Parts supplied

Item	Part number	Description	Qty
1	5742301B01	Drag Hand and Solenoid Module	1

Tools required

- Standard Screwdriver
- Needle-nose Pliers
- AC Voltmeter

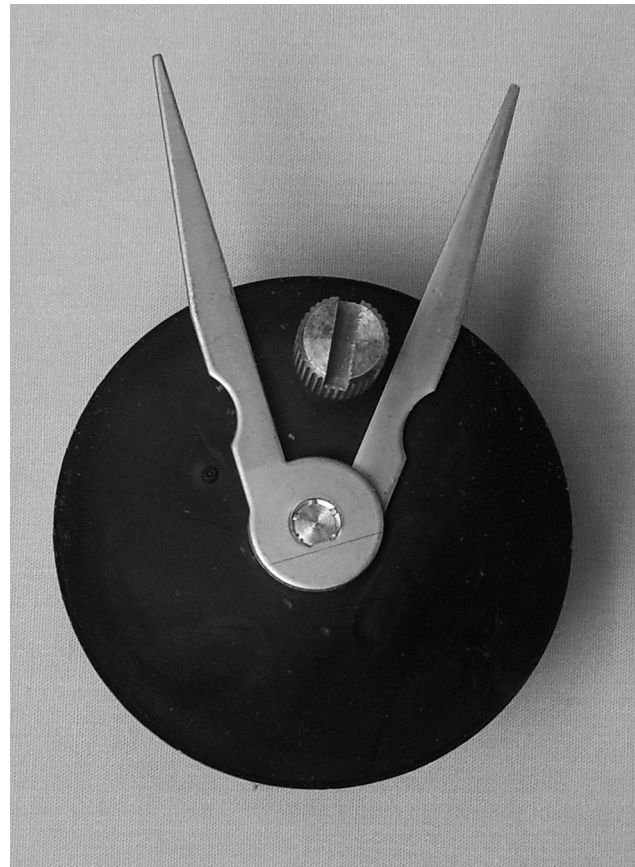


Figure 1. Kit parts

Instructions

Preparation

1. Check the drag-hand reset (DHR) circuit for power by using a voltmeter to check for voltage between the DHR terminal and ground on the panel behind the voltage regulator control. No voltage should be present. If voltage is present, take steps to troubleshoot and resolve the problem.
2. If the voltage regulator is energized, use locally approved steps and procedures to insure a safe approach to the position indicator on the cover of the voltage regulator.
3. On energized voltage regulators, take these steps regarding the voltage regulator control: Move the Control Function switch to OFF, move the Power switch to OFF, and remove the motor fuse.

Removal of solenoid assembly

4. Open the main cover of the position indicator by unlatching the hasp on the right-hand side. See Figure 2.



Figure 2. Main cover hasp

5. To remove the DHR solenoid module from the position indicator, use a standard screwdriver to loosen the thumb-screw on the module. See Figure 3.



Figure 3. Solenoid module fastening screw

6. With the thumb-screw fully loosened, pull on the DHR module to remove it from the position indicator face. See Figure 4.

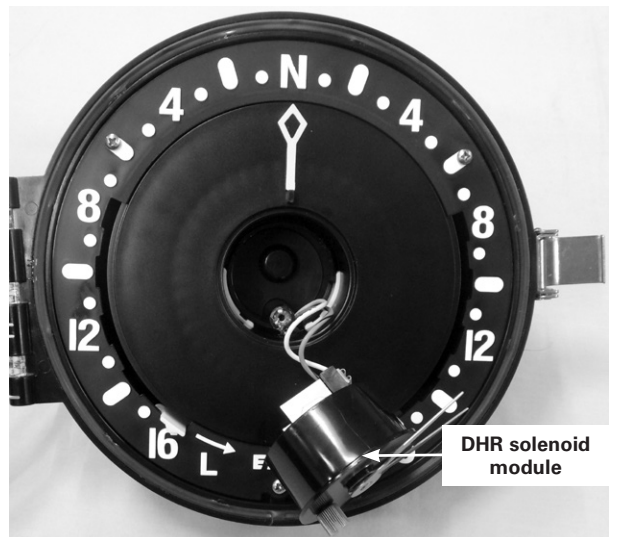


Figure 4. Module removal

CAUTION

Insure that no voltage is present between the orange/black and the white ground wires connected to the DHR solenoid using a voltmeter. Failure to do so could result in an electric shock or equipment damage

- Using a pair of needle-nose pliers, remove the orange/black and white wires from the terminals on the solenoid. See Figure 5.

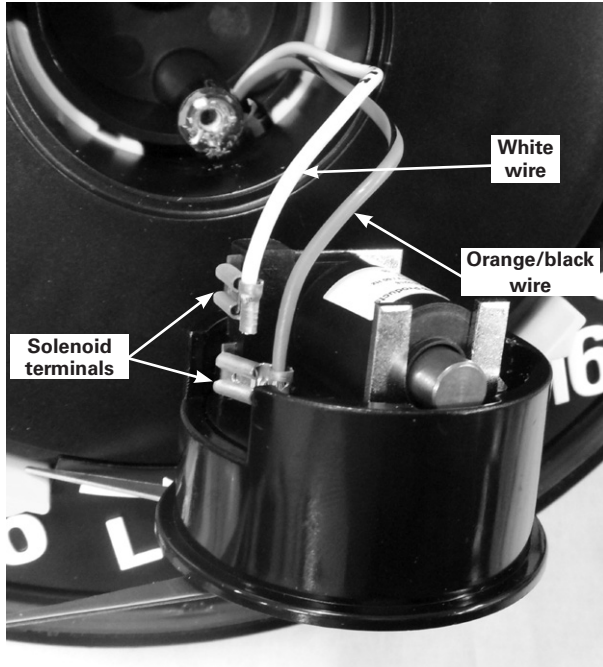


Figure 5. Solenoid terminals

Installation of solenoid assembly

- Connect the orange/black wire to the inside terminal post on the new DHR solenoid. Connect the white wire on to the outside terminal post of the new module. See Figure 5.

- Open up the drag hands on the module so that they will fall on the proper sides of the indicator pointer. See Figure 6.

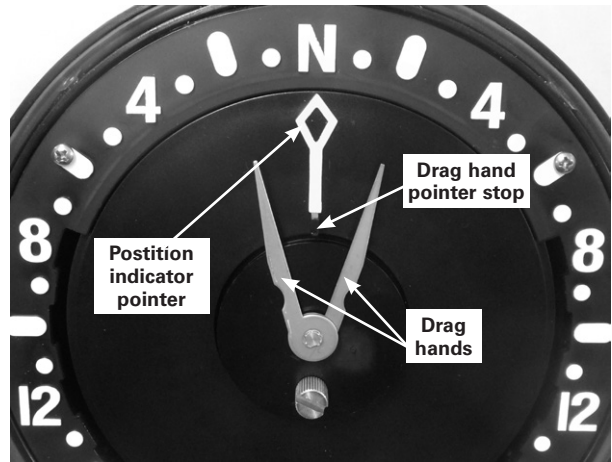


Figure 6. Drag hand positioning

- Set both the lower and raise limit switch to 16 L and 16 R. This will make it easier to insert the new DHR solenoid. See Figure 7.

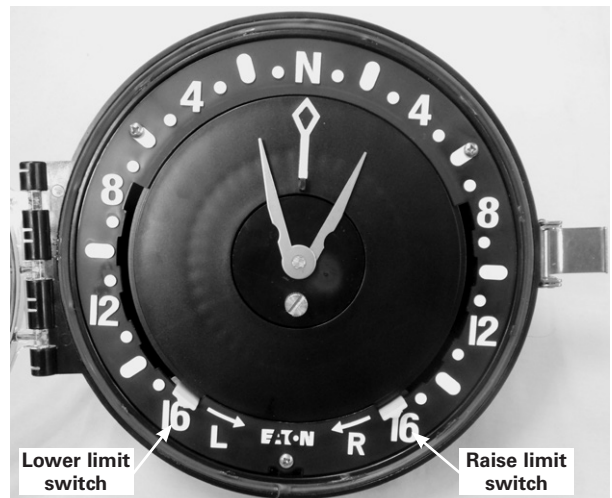


Figure 7. Limit switch positions

11. While aligning the DHR module for installation, align the solenoid plunger, (Figure 8), up with the cutout slot in the position indicator housing, (Figure 9), before inserting the module.

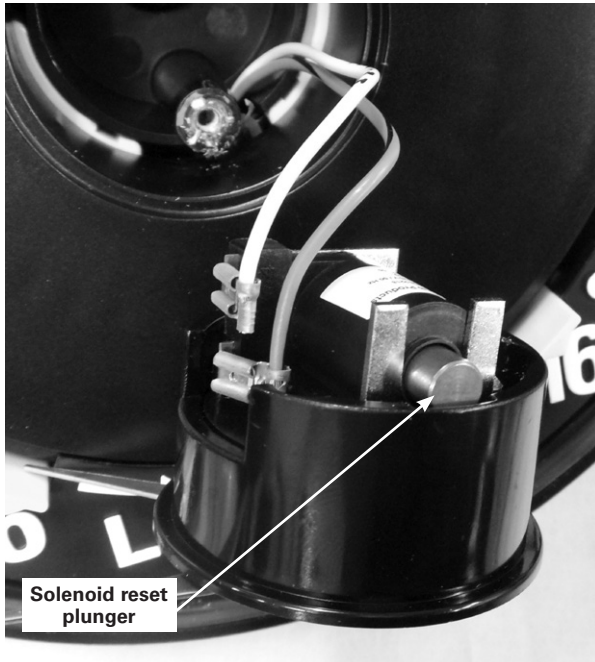


Figure 8. Solenoid reset plunger

12. Align the screw threads with the screw mounting hole threads, press down on the module and tighten the thumb-screw.
13. Restore power the the voltage regulator control and reinstall the motor fuse.
14. Manually position the drag hands so that they are not together at the indicator pointer. Press the DHR switch on the control panel. The drag hands should return to the indicator pointer.
15. Close the cover on the position indicator and latch the hasp to complete the work.

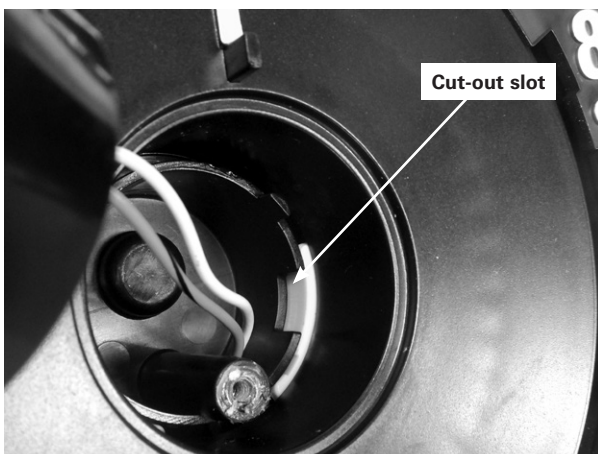


Figure 9. Solenoid plunger cut-out slot

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Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Eaton's Power Systems Division
2300 Badger Drive
Waukesha, WI 53188
United States
Eaton.com/cooperpowerseries

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