

Types R and W recloser trip coil replacement instructions;
R recloser KA801R coils - serial No. 2215-9000,
W recloser KA803W coils - serial No. 1999 and lower



Powering Business Worldwide

DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITY

The information, recommendations, descriptions and safety notations in this document are based on Eaton Corporation's ("Eaton") experience and judgment and may not cover all contingencies. If further information is required, an Eaton sales office should be consulted. Sale of the product shown in this literature is subject to the terms and conditions outlined in appropriate Eaton selling policies or other contractual agreement between Eaton and the purchaser.

THERE ARE NO UNDERSTANDINGS, AGREEMENTS, WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, OTHER THAN THOSE SPECIFICALLY SET OUT IN ANY EXISTING CONTRACT BETWEEN THE PARTIES. ANY SUCH CONTRACT STATES THE ENTIRE OBLIGATION OF EATON. THE CONTENTS OF THIS DOCUMENT SHALL NOT BECOME PART OF OR MODIFY ANY CONTRACT BETWEEN THE PARTIES.

In no event will Eaton be responsible to the purchaser or user in contract, in tort (including negligence), strict liability or otherwise for any special, indirect, incidental or consequential damage or loss whatsoever, including but not limited to damage or loss of use of equipment, plant or power system, cost of capital, loss of power, additional expenses in the use of existing power facilities, or claims against the purchaser or user by its customers resulting from the use of the information, recommendations and descriptions contained herein. The information contained in this manual is subject to change without notice.

Contents

SAFETY INFORMATION

Safety instructions.....	iv
--------------------------	----

PRODUCT INFORMATION

Introduction.....	1
Additional information.....	1
Quality standards.....	1
Description.....	1

INSTALLATION PROCEDURE

Disassembly.....	2
Replacement.....	2



Safety for life



Eaton meets or exceeds all applicable industry standards relating to product safety in its Cooper Power™ series products. 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 arc 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 hazardous voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high- and low-voltage lines and equipment.

G103.3

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.

G101.0

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 can result in death, severe personal injury and equipment damage.

G102.1

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.

G122.2

Product information

Introduction

Service Information MN280032EN provides installation instructions for trip coil kit KA801R for Eaton's Cooper Power™ series Type R reclosers, and trip coil kit KA803W for Eaton's Cooper Power series Type W reclosers. Before installing, carefully read and understand the contents of this manual.

Acceptance and initial inspection

Each coil kit is in good condition at the factory and when accepted by the carrier for shipment.

Upon receipt, inspect the carton for signs of damage. Unpack the kit(s) and inspect thoroughly for damage incurred during shipment. If damage is discovered, file a claim with the carrier immediately.

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. When additional information is desired to satisfy a problem not covered sufficiently for the user's purpose, contact your Eaton representative.

Handling and storage

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

Quality standards

ISO 9001 certified quality management system

Description

Eaton's Type R and W family reclosers are constructed so that solenoid coils of different ampere ratings are interchangeable.

To change the continuous current rating of the Type R or W recloser requires the replacement of the coils installed in the three series-trip solenoids. These are located internally on the topside of each interrupting structure. Coil ratings, to change continuous current ratings for the R recloser, range from 25 through 400 amperes. Coil ratings range from 100 through 560 amperes for the Type W recloser. Minimum trip ratings for each of these standard coils are 200 per cent; that is, a 100 ampere coil will provide tripping at 200

amperes. These standard coils are illustrated in Figures 1 and 2 and are assembled completely inside the solenoid frame.

Special coils, such as shown, on Figure 3, are assembled with a one-half turn outside the solenoid frame and initiate tripping at about 140 percent of full load rating. Two such coils are available. The 400X coils trip the recloser at 560 amperes. In addition to the standard coils the Type W recloser can also utilize the 560X ampere coils or the 400X coils.

Table 1. Ordering Information

Kit Description	Catalog Number
For replacement of trip coils in Type R reclosers, serial numbers 2215-9000.	KA801R
For replacement of trip coils in Type W reclosers, serial numbers below 2000.	KA803W

Installation procedure

⚠ WARNING

Hazardous voltage. De-energize the switchgear before installing this kit. Follow all locally approved safety practices and procedures when working around high voltage lines and equipment. Failure to comply can result in contact with high voltage, which will cause death or severe personal injury.

T232.3

⚠ CAUTION

Equipment damage. Refer to the specific switchgear unit maintenance manual for tanking/untanking procedures and related instructions. Failure to follow these instructions could result in equipment damage or personal injury.

T238.0

CAUTION

Follow all locally approved safety practices when lifting and mounting the equipment. Use the tapped lifting provisions provided. Lift the load smoothly and do not allow the load to shift. Improper lifting can result in equipment damage.

G126.0

Disassembly

The entire installation process should be conducted in a clean environment, such as a repair shop.

1. Bypass, trip, and de-energize the recloser.
2. Carefully transport the unit to a suitable service facility.
3. With the recloser in the open position, untank the recloser by loosening the head bolts and washers on the head casting. Carefully lift the head assembly out of the tank using the lifting lug(s).

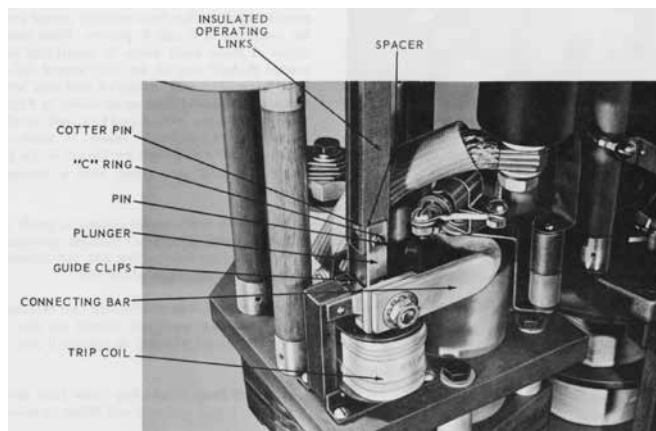


Figure 1. Series trip solenoid with standard coil.

CAUTION

Equipment damage. Recloser must be open (yellow operating handle, under sleethood, down) before untanking. Tripping the mechanism out of oil will cause excessive mechanical shock to the operating mechanism, which will cause accelerated wear and/or damage to the mechanism.

T202.0

CAUTION

Equipment damage. Keep work areas clean to prevent debris from accumulating on or in the hydraulic mechanism during disassembly and reassembly of components. Failure to comply can result in hydraulic failure and recloser misoperation.

T254.0

IMPORTANT

When installing this kit, use a clean, lint free cloth to prevent contamination of the hydraulic mechanism during series trip coil replacement.

4. Remove cotter pin, and slide out pin and spacer that connect the insulated operating links, Figure 1, and the solenoid plunger.
5. Loosen contact housing bolt indicated by arrow in Figure 2 and remove hex nut that secures the connecting bar to the coil terminal.
6. Remove bolt that secures bushing leads to one terminal of the trip coil.

⚠ CAUTION

Dielectric failure, equipment damage. Never use volatile solutions, detergents, or water-soluble cleaners when cleaning the interior of this equipment. These cleaners will contaminate the insulating oil, reducing its dielectric strength. Operation with contaminated insulating oil can result in internal flashovers that will cause equipment damage and possible personal injury.

T201.2

7. Lift out solenoid plunger, terminal bolt, guide clips, and guide channels. Swing connecting bar aside and slide coil out. Wipe off any carbon deposits with a clean, lint-free cloth. Replace any damaged parts. All three coils must be replaced when making a rating change.

Replacement

1. Replace lower insulation plate in position, and insert terminal bolt.
2. Position the upper insulating plate on top of coil as shown in Figure 2, and slide coil and insulating plate back in place.
3. Replace in order, guide channels, guide clips, and plunger. Connect plunger to operating links. Secure connecting bar and tighten the bolt on the other end of the bar.

IMPORTANT

Two kits are available for replacement of a set of 400X or 560X series trip coils. One replacement kit will have a right hand wound unit. This coil is for installation on the C phase interrupter (phase farthest away from the sleethood.) The kit containing the other two opposite wound coils is for mounting in the A and B phases. When inserting either of these coils begin by encircling the extended one-half turn of the coil around the solenoid frame. Push the extended half-turn between solenoid frame and stringer shown in Figure 3. Then push inner coil winding and insulating plates into the solenoid frame. In some cases these special coils must be forced in for proper fit. Carefully drive coil into frame with a hammer, if necessary.

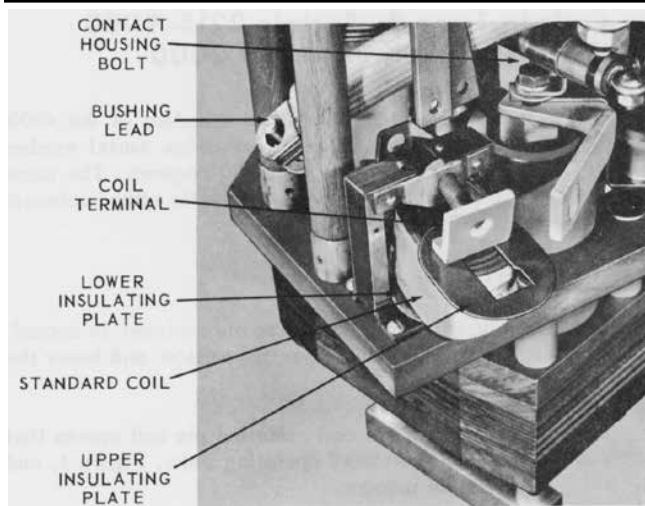


Figure 2. Standard coil partially removed or reassembled.

4. Bolt bushing leads to the trip coil terminal. Be sure bushing leads are formed so they clear any insulating stringer or grounded part by at least 1/2" inch.
5. After all three series trip coils have been replaced, retank recloser and return to service.



Figure 3. Inserting 400X or 560X series coil into solenoid frame.



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

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

© 2015 Eaton
All Rights Reserved
Printed in USA
Publication No. MN280032EN
KA2048-612 Rev. 01

Eaton is a registered trademark.

All trademarks are property
of their respective owners.

For Eaton's Cooper Power series product
information call 1-877-277-4636 or visit:
www.eaton.com/cooperpowerseries.