600 A 15, 25, and 35 kV Class Cleer™ Loadbreak Connector Insulated Protective Cap Installation Instructions

Powering Business Worldwide

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Contents

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.

NOTICE

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

⚠ WARNING

High Voltage. All associated apparatus must be de-energized and grounded during installation, removal or maintenance. Failure to comply could result in death, severe personal injury and equipment damage.

⚠ CAUTION

The 600 A Cleer loadbreak protective cap is designed to be operated in accordance with normal safe operating procedures. These instructions are not intended to supersede or replace existing safety and operating procedures. Terminators must be de-energized during operation or maintenance. Visible break and adequate grounding must be provided before cable work proceeds. (Ensure that the connector is rated for the intended application before it is installed.)

The loadbreak protective cap should be installed and serviced only by personnel familiar with good safety practice and the handling of high-voltage electrical equipment.

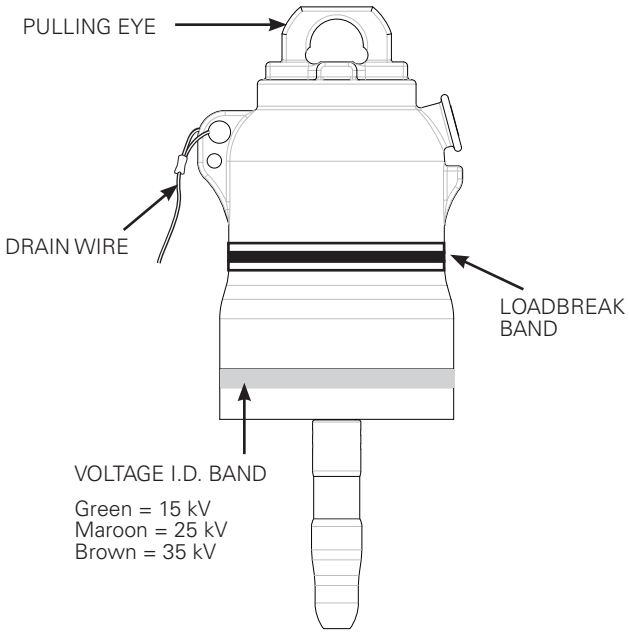

Figure 1. 600 A Cleer loadbreak connector insulated protective cap

Product information

Introduction

Eaton's Cooper Power™ series 600 A Cleer™ loadbreak protective cap (**Figure 1**) is an accessory device designed to electrically insulate and mechanically seal the 600 A Cleer loadbreak bushing interfaces.

Eaton incorporates its Cooper Power series field proven POSI-BREAK™ technology, providing a layer of insulation over the conductive internal insert and an insulative sleeve on the base of the probe. This results in increased strike distance, greatly reducing the possibility of partial vacuum flashovers and providing superior switching performance and reliability.

The protective cap is fully shielded and submersible and meets the applicable requirements of IEEE Std 386™ standard.

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 Eaton representative.

Acceptance and initial inspection

Each 600 A Class Cleer loadbreak connector insulated protective cap is in good condition when accepted by the carrier for shipment. Upon receipt, inspect the shipping container for signs of damage. Unpack the loadbreak protective cap and inspect it thoroughly for damage incurred during shipment. If damage is discovered, file a claim with the carrier immediately.

Handling and storage

Be careful during handling and storage of the loadbreak protective cap to minimize the possibility of damage. If the loadbreak protective cap 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

⚠ WARNING

High Voltage. All associated apparatus must be de-energized and grounded during installation, removal or maintenance. Failure to comply could result in death, severe personal injury and equipment damage.

Installation instructions

Loadbreak connector insulated protective cap kit contents:

- Insulated protective cap
- Silicone lubricant
- Instruction sheet

No special tools are required. A clampstick tool is used to place the protective cap on an energized or de-energized bushing.

Step 1

Grounding

- Attach protective cap drain wire to system ground.

Step 2

Clean and Lubricate

- Clean the interface surfaces of the protective cap and mating bushings.
- Lubricate the interfaces of the protective cap and mating bushings using the lubricant supplied.

Step 3

Installation

- Area must be clear of obstructions or contaminations that would interfere with the operation of the insulated protective cap.
- Securely fasten a clampstick to the pulling eye of the cap.
- Place the loadbreak cap over the bushing.
- Turn your back to the bushing and grasp the clampstick securely and obtain good footing. Slam the cap onto the bushing with one quick and continuous motion.
- Turn around and apply a force to the clampstick to push the cap onto the bushing. A popping or snapping sound is often heard when this operation is performed.
- To check that the cap is properly latched, apply a gentle pull force to the clampstick. When latched properly, the cap will not slide back off of the bushing.

IMPORTANT

Verify that the yellow latch indictor ring is not visible. If the ring is visible, the cap is not latched. See **Figure 2** for incorrect latching.

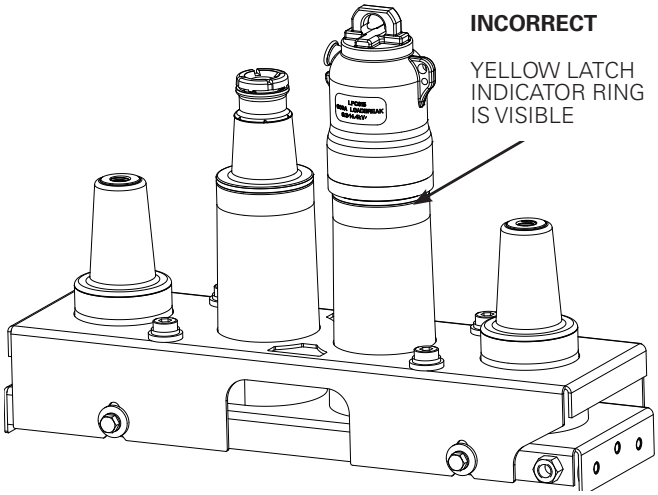

Figure 2. Insulated protective cap not properly latched

- As a last operation, push on the clampstick to seat the cap all the way onto the bushing again. This ensures that the cap is latched and was not dislodged during the latching check in the previous step.

Removal instructions

- Grasp the insulated protective cap's operating eye with a clampstick.
- Twist the clampstick to the left and right to break any surface friction.
- Looking away from the cap, withdraw the cap from the bushing with a quick, even tug.

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