

Loadbreak Apparatus Connectors

200 A 15 kV, 25 kV and 35 kV Class Insulated Protective Cap Installation Instructions

Service Information

S500-21-1

CONTENTS

Product Information	1
Safety Information	2
Installation Procedure	3
Removal Procedure.....	4

PRODUCT INFORMATION

Introduction

The Cooper Power Systems Insulated Protective Cap is an accessory device designed to electrically insulate and mechanically seal loadbreak bushing interfaces. When mated to a loadbreak product and the drain wire is attached to ground, the Insulated Protective Cap provides a fully shielded, submersible insulating cover for energized bushings. The cap can be used for permanent or temporary installation on bushings, junctions, or feedthru devices that conform to the requirements of IEEE Std 386™ standard.



Figure 1.
15 kV Insulated Protected Cap shown.

! CAUTION:

The 200 ampere insulated protective cap should be installed, operated and serviced only by personnel familiar with good safety practice in handling high-voltage electrical equipment. Be sure that the insulated protective cap is rated for the intended application before it is installed.

! 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 representative.

Acceptance and Initial Inspection

Each 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 insulated 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 insulated protective cap to minimize the possibility of damage. If the insulated protective cap is to be stored for any length of time prior to installation, provide a clean, dry storage area.

Quality Standards

ISO 9001:2000 Certified Quality Management System



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, 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

STEP 1

GROUNDING

- Always attach drain wire to system ground bus (Figure 2).

CAUTION:

Drain wire **MUST** be attached to system ground to maintain a deadfront installation and to assure the absence of a capacitance build-up within the cap.

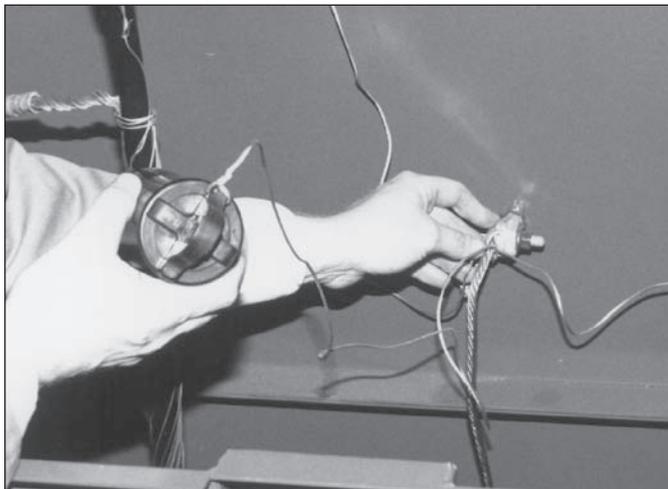


Figure 2.
Attach drain wire to system ground bus.

STEP 2

CLEAN AND LUBRICATE

- Clean and lubricate interface surface of insulated protective cap. Mating loadbreak bushing must also be cleaned and lubricated (Figure 3).
- Use lubricant supplied or approved equivalent.



Figure 3.
Clean and lubricate cap and bushing mating interfaces.

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 hotstick to the pulling eye of the cap.
- Place the loadbreak cap over the bushing,
- Turn your back to the bushing and grasp the shotgun stick 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 shotgun stick 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 shotgun stick. When latched properly the cap will not slide back off of the bushing.
- As a last operation, push on the hotstick to seat the cap all the way onto the bushing again. This insures that the cap is latched and was not dislodged during the latching check in previous step.

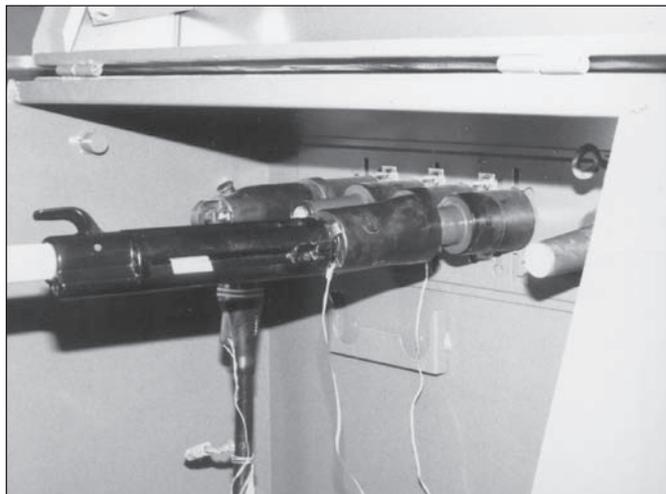


Figure 4.
Place cap into bushing until bump is felt.

REMOVAL PROCEDURE

- Grasp insulated protective cap's operating eye with a hotstick.
- Twist the hotstick to the left and right to break any surface friction (Figure 5).
- Withdraw cap from bushing with a quick, even tug.

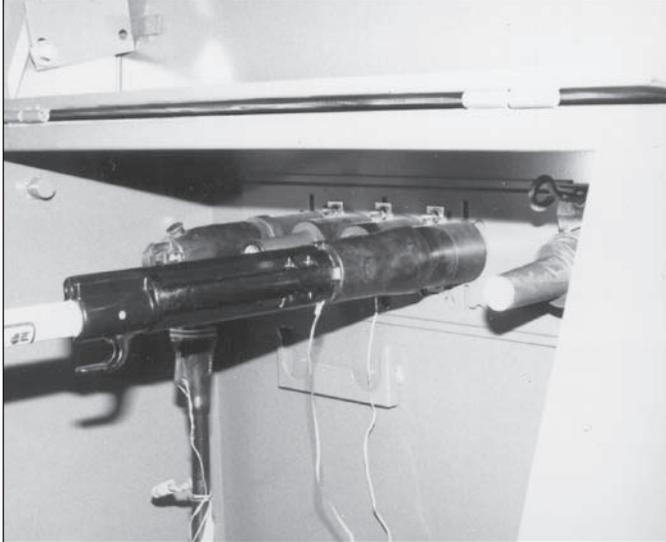


Figure 5.
Twist cap left and right to break surface friction.

