

Deadbreak Apparatus Connectors

600 A 15, 25, and 35 kV Class PUSH-OP Bushing Adapter Cap Installation Instructions

Service Information
S600-19-1

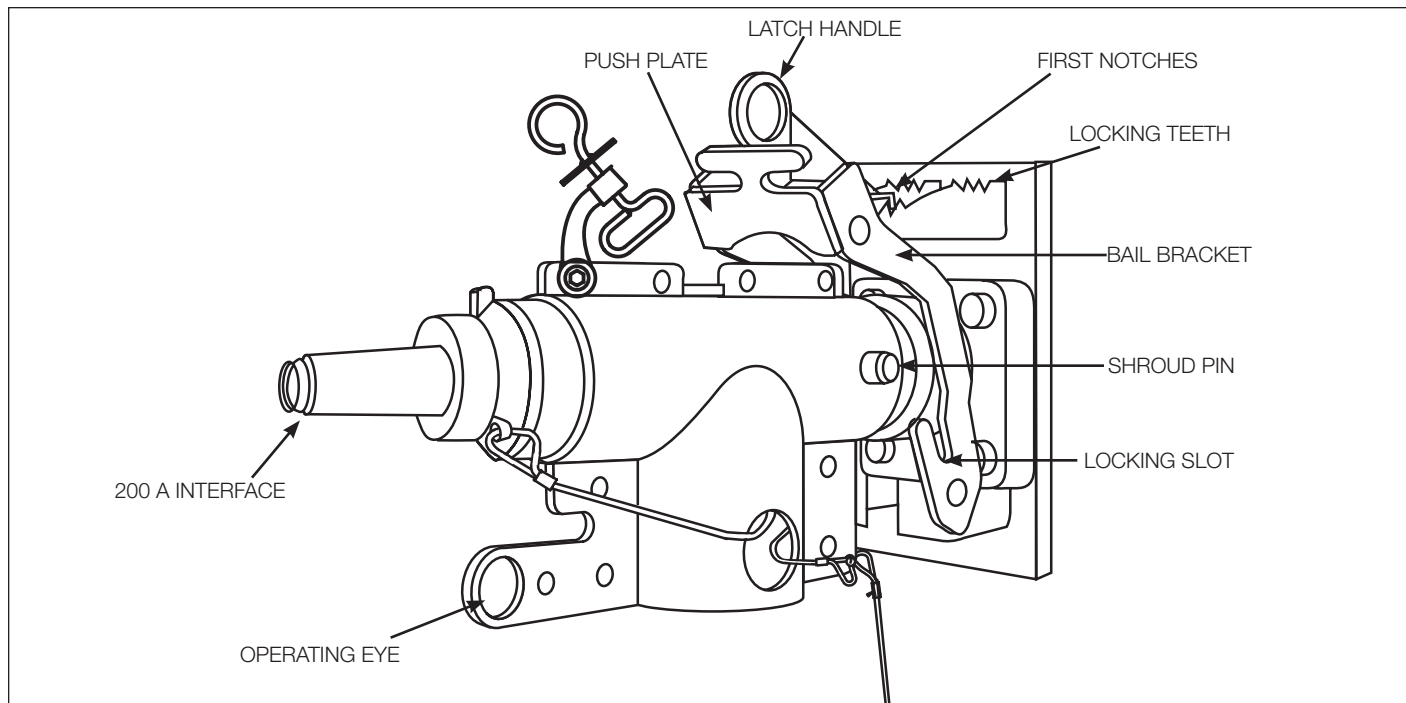


Figure 1. Line drawing showing 15 kV 600 A PUSH-OP Bushing Adapter Cap.

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⚠ WARNING:

The Cooper Power System 600 A 15, 25 and 35 kV PUSH-OP Bushing Adapter 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 component is rated for the intended application before it is installed.)

The Bushing Adapter Cap should be installed and serviced only by personnel familiar with good safety practice and the handling of high-voltage electrical equipment. Failure to comply may result in death, severe personal injury or equipment damage.

⚠ WARNING:

All associated apparatus must be de-energized during installation and/or maintenance. Failure to comply may result in death, severe personal injury or equipment damage.

PRODUCT INFORMATION

Introduction

The Cooper Power Systems 600 A, 15, 25, and 35 kV PUSH-OP Bushing Adapter Cap is a factory assembled Load Reducing Tap Plug (LRTP) and bushing extender unit. It is used to convert a 600 A deadbreak interface to a 200 A loadbreak interface* allowing for safe testing and grounding. It has electrical characteristics identical to those of the LRTP. Used with a 200 A insulated protective cap, M.O.V.E. arrester, grounding elbow or loadbreak elbow connector, a bushing adapter provides a fully shielded, submersible unit that meets the requirements of IEEE Std 386™ standard.

* Switching rating limited to single-phase 21.1 kV.



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.



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 PUSH-OP bushing adapter cap is in good condition when accepted by the carrier for shipment. Upon receipt, inspect the shipping container for signs of damage. Unpack the PUSH-OP bushing adapter 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 PUSH-OP bushing adapter cap to minimize the possibility of damage. If the PUSH-OP bushing adapter cap is to be stored for any length of time prior to installation, provide a clean, dry storage area.

Standards

ISO 9001:2008 Certified Quality Management System

INSTALLATION INSTRUCTIONS

PUSH-OP Bushing Adapter Cap Kit

- Each kit contains:
 - Bushing Adapter
 - Silicone Lubricant
 - Installation Instructions
 - 200 A Loadbreak Protective Cap (Optional)

Equipment Required

- Tools:
 - Torque Wrench (Catalog Number 15/25 kV - TQHD625, 35 kV - TQHD635)
 - T-Wrench (Catalog Number T-WRENCH)
 - O & T Tool (Catalog Number 15 kV - OT615, 25 kV - OT625, 35 kV - OT635)
 - Combined O & T/Torque Tool (Catalog Number 15 kV - OTTQ615, 25 kV - OTTQ625, 35 kV - OTTQ635)

NOTE: If Combined O & T Tool is used, a separate O & T tool and torque wrench is not required.

Step 1.

CLEAN AND LUBRICATE

- Clean and lubricate 600 A and 200 A interfaces of PUSH-OP bushing adapter cap with lubricant supplied or approved equivalent.
- Clean and lubricate mating surface of PUSH-OP bushing.

Step 2.

GROUND

- Attach drain wire to system ground bus.

Step 3.

ASSEMBLE TO APPARATUS BUSHING

- Grasp operating eye on bushing adapter with hotstick and pull eye completely into hotstick.
- Place bushing adapter cap on PUSH-OP apparatus bushing, engaging shroud pins in bail bracket locking slots, and push until latch plate engages first notches.
- Release operating eye from hotstick.
- Push forward on push plate until a bump is felt and latch plate engages locking teeth.
- Pull on push plate with hotstick to ensure latch plate is engaged.
- Use hotstick to hook catch strap on push plate slots.

Step 4

INSTALL MATING APPARATUS

- Clean and lubricate 200 A interface of mating apparatus (e.g. insulated protective cap, grounding elbow, M.O.V.E. arrester).

BUSHING ADAPTER CAP REMOVAL PROCESS

- Remove mating apparatus from bushing adapter using a hotstick.

WARNING:

Test for voltage by fuzzing or by using voltage detector. Do not proceed until bushing is de-energized. Failure to comply may result in death, severe personal injury or equipment damage.

- Ensure that catch strap is hooked on push plate.
- Grasp latch handle of PUSH-OP bushing using hotstick and pull backward until bushing adapter is completely unsealed.
- Remove bushing adapter cap by unhooking catch strap ring with hotstick. Place bushing adapter in clean protected area.

