

Pad-Mounted Switchgear

Service Information

Edison Modular Switchgear Connection Adapter and Bushing Field Replacement Instructions

S285-90-2

Contents

Product Information	1
Safety Information	2
Installation Procedure	3
Bushing Removal	3
Adapter Installation	3
Bushing Installation	5

PRODUCT INFORMATION

Introduction

The Cooper Power Systems bolted loadbreak reducing tap plugs (BLRTP) and deadbreak connecting plugs (DCP) are assembled to Edison Modular Switchgear (EMS) switch housings with a threaded adapter and provide the appropriate mating bushing interface needed to terminate high-voltage underground cable to the EMS gear. They are fully shielded, submersible, and meet the requirements of IEEE Std 386™ standard – “Separable Insulated Connector Systems”.



Figure 1.
EMS Assembly.

⚠ 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, please contact your Cooper Power Systems sales representative.

Acceptance and Initial Inspection

Each BLRTP or DCP is completely inspected and tested at the factory. It is in good condition when accepted by the carrier for shipment. Upon receipt of a BLRTP or DCP, inspect it thoroughly for damage and loss of parts incurred during shipment. If damage or loss is discovered, file a claim with the carrier immediately.

Handling and Storage

If the BLRTP or DCP is to be stored for an appreciable time before 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

REMOVAL OF BUSHING

1. De-energize apparatus and verify apparatus is de-energized.
2. Remove mating T-body or Loadbreak Elbow and place it in the stand-off device or in a clean, dry location.
3. Use either a 5/16" hex drive tool & 3/8" drive torque tool or a strap wrench to remove the bushing.
 - If a hex-drive tool is used, insert drive into insert, turning tool slightly to engage hex-broach. Turn counter-clockwise to remove.
 - If a strap wrench is used, wrap around the collar of the BLRTP or DCP. Turn counter-clockwise to remove. Take care not to damage the BLRTP or DCP interface during this procedure.
4. Examine to see if the adapter is removed with the BLRTP or DCP. See Figures 2-3.



Figure 2.
BLRTP with adapter (left) and without adapter (right).



Figure 3.
DCP with adapter (left) and without adapter (right) .

5. If the adapter is removed with the BLRTP or DCP then replace the BLRTP or DCP and adapter with the new components provided in the EMS field replacement kit by following the installation instructions below (7-18).
6. If the adapter is not removed when the BLRTP or DCP is removed then follow the BLRTP or DCP installation instructions (13-19).

ADAPTER INSTALLATION INSTRUCTIONS

7. Verify that the old adapter is removed from the module.
8. Obtain the new adapter from field replacement kit.
9. Apply Loctite® 271™ threadlocker to shorter length (3/8" long) 5/8-11 thread of the adapter on the first thread as shown in the picture. See Figure 4.

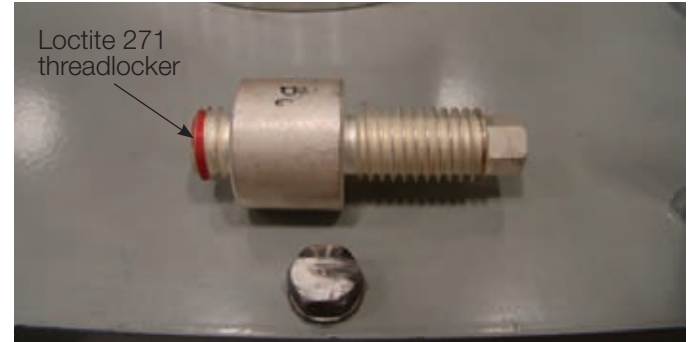


Figure 4.
Adapter shown with Loctite 271 threadlocker applied.

10. Thread the adapter into the module by using a 3/8" hex socket. See Figure 5.

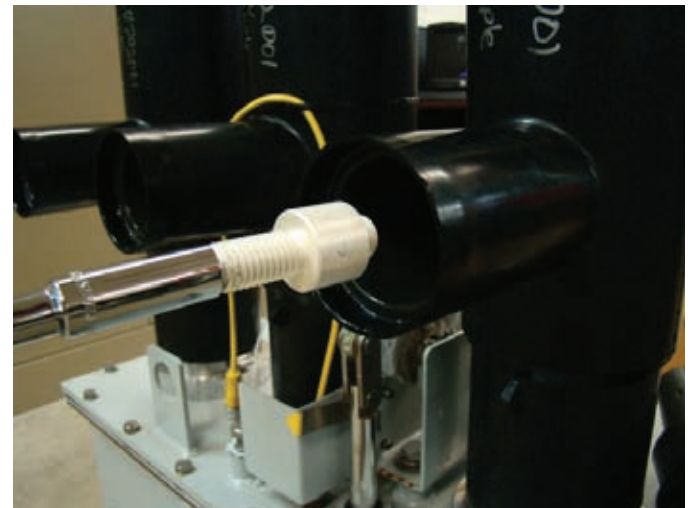


Figure 5.
Adapter installation.

- Using a 3/8" drive torque tool, Torque the adapter to 30 ft-lbs. See Figure 6.

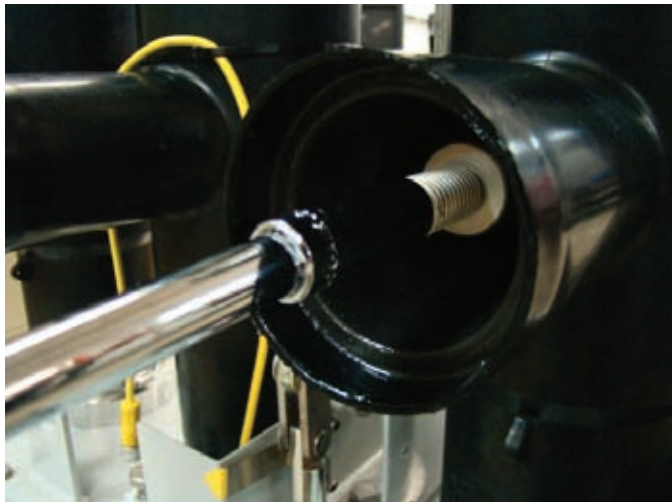


Figure 6.
Adapter torque.

- Immediately after securing the adapter, obtain the new BLRTP or DCP from the field replacement kit.

BUSHING INSTALLATION INSTRUCTIONS

- Clean the BLRTP or DCP well and apply a thin uniform coating of silicone lubricant on the rubber surfaces. (Do not apply silicone lubricant to threads.) See Figures 7 and 8.



Figure 7.
Clean Housing.



Figure 8.
Lubricate housing.

- Clean the mating 35 kV interface of the BLRTP or DCP and apply a thin uniform coating of silicone lubricant on the rubber surfaces. (Do not apply silicone lubricant to threads.) See Figures 9-10.



Figure 9.
Lubricate interfaces of BLRTP or DCP.



Figure 10.
Lubricate application-2.

15. Insert the 35 kV side of the BLRTP or DCP into the bushing well.
16. Thread the bushing clockwise into the module and onto the adapter. See Figure 11.



Figure 11.
Installation of BLRTP or DCP.

17. Using a 3/8" drive torque tool and 5/16" hex drive shaft, insert the hex shaft into the throat of the BT-TAP or DCP and engage the internal hex. Torque the bushing to 50ft-lbs. See Figure 12.



Figure 12.
Torque BT-TAP or deadbreak connector plug.

18. BLRTP/DCP assembly is now complete.
19. Reinstall mating T-body or Loadbreak Elbow. Reference T-body Service Information, S600-10-2 or Loadbreak Elbow Service Information, S500-10-7.

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