

TYPE PSE DEAD-FRONT PAD-MOUNTED SWITCHGEAR 15kV • 25kV INSPECTION & MAINTENANCE RECOMMENDATIONS



Qualified Persons

WARNING

The equipment covered by this publication must be selected for a specific application and it must be operated and maintained by **Qualified Persons** who are thoroughly trained and knowledgeable in the installation, operation, and maintenance of underground power distribution equipment along with the associated hazards that may be involved. This publication is written only for such qualified persons and is not intended to be a substitute for adequate training and experience in safety procedures for this type of equipment. Proper installation is the responsibility of the operating and construction personnel and the utility performing and authorizing the work. Completion of these instructions implies no further warranty by the manufacturer.

A **Qualified Person** is defined in the National Electrical Code (NEC/NFPA-70) as:

One who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training to recognize and avoid the hazards involved.

The specific electrical safety training requirements to be considered a qualified person are detailed in **NFPA-70E, Article 110.1(D), Employee Training**. Some of the requirements from the 2012 edition are shown below. For the specific detailed training requirements for a Qualified Person make certain to refer to the most recent applicable edition.

These training requirements would include, but are not limited, to the following key points:

- The skills and techniques necessary to distinguish exposed energized parts from other parts of electrical equipment.
- The skills and techniques necessary to determine the proper approach distances corresponding to the voltages to which the qualified person will be exposed.
- The proper use of the special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment.
- Tasks performed less often than once per year have additional training requirements.

These instructions are intended only for such qualified persons. They are not intended to be a substitute for adequate training and experience in safety procedures for this type of equipment. Additionally, the recommendations in this instruction bulletin are not intended to supersede or to take the place of established utility safety guidelines and established practices. If there is any question, consult with your foreman or supervisor, as appropriate.

Please refer to OSHA 29 CFR 1910.399 and NFPA 70E Articles 100 and 110.

The procedures required for operation of the Federal Pacific Auto-jet® II Load-Interrupter Switches, the dead-break hinged fuse panels, the doors, the barriers and other accessory components are covered in detail in the Federal Pacific Instruction Bulletin Section IB-2A-210. The inspection and maintenance recommendations covered in this bulletin are expected to be performed in conjunction with a review of IB-2A-210. This bulletin does not cover all the detailed and specific operational procedures and checks. In addition, these instructions are not intended as a substitute for the user's standard operating practices and procedures. A copy of Instruction Bulletin Section IB-2A-210 can be printed from the internet at www.federal-pacific.com.

WARNING

When cleaning components, NEVER use any industrial strength cleaners. NEVER apply lubricants to the probe contact or the tulip contact which are the interrupting contacts. NEVER use any solvent-based or flammable products on any components in the pad-mounted switchgear. Solvents and flammable products can attack non-metallic components of the equipment and reduce electrical and mechanical properties.

Maintenance

Federal Pacific switchgear does not require routine mechanical or electrical maintenance. However, the following are some recommendations for enhancing continued service of the equipment.

Before Opening the Switchgear

DANGER

The following inspection and maintenance procedures must be performed with the current-carrying parts completely de-energized and isolated from voltage. Any attempt to perform the inspection and maintenance with the current-carrying parts energized may result in electrical arc flash that can cause equipment damage, personal injury or death.

1. Switch Operation

Check switch for proper operation refer to Instruction Bulletin IB-2A-210. If the switch is closed on a short circuit within the fault closing rating and the short circuit is cleared by circuit breakers or fuses, the switch will not sustain damage which would require major repairs. However, the switch should be inspected before returning to service to determine switch condition. See Lubrication.

2. Cleanliness

Check for cleanliness generally, but particularly for accumulation of any foreign material on insulators, barriers and viewing windows.

NOTICE

Barriers, viewing windows and insulators can be cleaned with a non-alcohol and non-solvent based cleaner that does not leave any residue when dry. Residue must be removed.

3. Exercising

Yearly mechanical exercising of the switch is recommended. Refer to Instruction Bulletin Section IB-2A-210 for information on operating the switch.

WARNING

Current carrying parts must be completely de-energized from all sources before any maintenance is performed on these parts. Follow normal system operating practices to de-energize, test for voltage and ground these parts before any work is performed.

CAUTION

Do not put any lubricant on switch probe or puffer contacts. Refer to section "10. Lubrication".

4. Exercise Fuse Mountings

Open and close hinged fuse panels and insure proper latching as described on the label on the inside of the compartment door and in Instruction Bulletin Section IB-2A-210. Inspect fuse contact interfaces for damage and overheating, which will be evidenced by distortion or discoloration of the contacts. Note that contacts are copper and may be silver plated. There will be normal oxidation of these parts. Slight irregularities can be burnished with an emory cloth or paper.

5. Replacement Parts

If parts or labels are required they may be ordered by contacting Federal Pacific at 276-466-8200 or your local Federal Pacific Manufacturer's Representative. A directory of the representatives can be found at www.federal-pacific.com. If parts are ordered, the unit serial number and date of manufacture must be provided along with the part description.

6. Maintaining the Exterior

The exterior finish can be maintained by periodic washing, touch up of any scratches and abrasions, and waxing.

For areas to be touched-up, clean the area removing all rust. Apply a red-oxide primer, available in spray cans from a local paint supplier or home improvement store. Spray cans of the topcoat finish are available from Federal Pacific (specify the original color).

7. Verify Security Devices

Verify the operational integrity of security devices such as door latches, penta-head bolts, hinges and key-interlock systems. Make certain padlocks are properly installed on all doors and covers.

8 Replacing Labels

Replace any missing, damaged or obscure labels. Replacement labels are available from Federal Pacific.

9 Lubrication of Non-Current Carrying Parts

- a. Non-current carrying parts, such as operating mechanism, hinges and latches, may be lubricated with any lubricants that the user has determined to be suitable for such applications.
- b. Door latches on units with a date of manufacture prior to March 2008 should be regularly lubricated to prevent corrosion that may render the latches inoperable. If latches become non-functional and the door does not release, refer to Instruction Bulletin IB-1H-810.

10 Lubrication of Current Carrying Parts

When maintenance is performed, check for lubrication at the following locations:

- a. On the fuse panel main contact stab. See Figure 1.
- b. On the contact interface at the fuse-mounting stationary main contact. See Figure 1.
- c. The contact rod and fuse ferrule on the fuse assembly and/or fuse holder.
- d. **DO NOT LUBRICATE ANY OTHER CURRENT CARRYING AREAS.**
- e. If lubrication is required apply a coating of NYE Rheolube 363, which is the only approved lubricant for electrical contact surfaces.

WARNING

Lubrication is NOT required on any other current carrying surfaces than the locations identified. Applying lubrication in other areas may reduce mechanical and electrical performance. **DO NOT OVER LUBRICATE!**

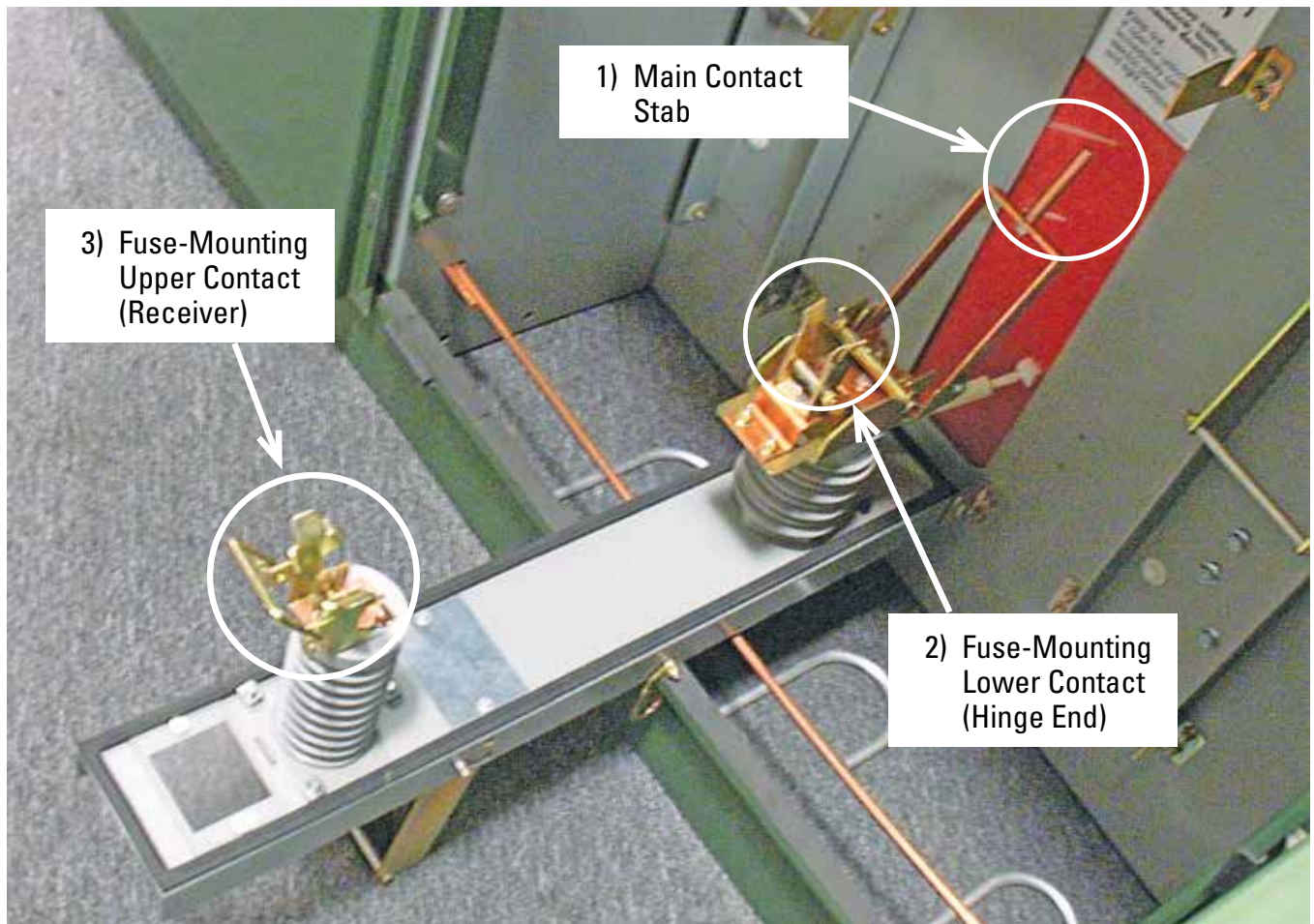


Figure 1. Lubrication points for electrical contacts on PSE fuse panel.

