Operation

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Qualified Persons

⚠ WARNING

Only qualified persons knowledgeable in the installation, operation, and maintenance of overhead and underground electric distribution equipment, along with all associated hazards, may install, operate, and maintain the equipment covered by this publication. A qualified person is someone trained and competent in:

- The skills and techniques necessary to distinguish exposed live parts from nonlive 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 special precautionary techniques, personal protective equipment, insulated and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment

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.

Read this Instruction Sheet

NOTICE

Thoroughly and carefully read this instruction sheet and all materials included in the product's instruction handbook before installing or operating the Manual PME Pad-Mounted Gear – PMH Configuration. Become familiar with the Safety Information on pages 3 through 5 and Safety Precautions on page 6. The latest version of this publication is available online in PDF format at **sandc.com/en/contact-us/product-literature/**.

Retain this Instruction Sheet

This instruction sheet is a permanent part of the Manual PME Pad-Mounted Gear – PMH Configuration. Keep a copy in the gear's instruction book holder.

Proper Application

⚠ WARNING

The equipment in this publication must be selected for a specific application. The application must be within the ratings furnished for the equipment. Ratings for manual PME Pad-Mounted Gear – PMH Configuration are listed in the ratings table in Specification Bulletin 665-33. Ratings for this gear are listed on the ratings label on the interior of the doors (right-hand doors only for double-door models).

Understanding Safety-Alert Messages

Several types of safety-alert messages may appear throughout this instruction sheet and on labels and tags attached to the product. Become familiar with these types of messages and the importance of these signal words:

⚠ DANGER

"DANGER" identifies the most serious and immediate hazards that will likely result in serious personal injury or death if instructions, including recommended precautions, are not followed.

⚠ WARNING

"WARNING" identifies hazards or unsafe practices that can result in serious personal injury or death if instructions, including recommended precautions, are not followed.

⚠ CAUTION

"CAUTION" identifies hazards or unsafe practices that can result in minor personal injury if instructions, including recommended precautions, are not followed.

NOTICE

"NOTICE" identifies important procedures or requirements that can result in product or property damage if instructions are not followed.

Following Safety Instructions

If any portion of this instruction sheet is unclear and assistance is needed, contact the nearest S&C Sales Office or S&C Authorized Distributor. Their telephone numbers are listed on S&C's website **sandc.com**, or call the S&C Global Support and Monitoring Center at 1-888-762-1100.

NOTICE

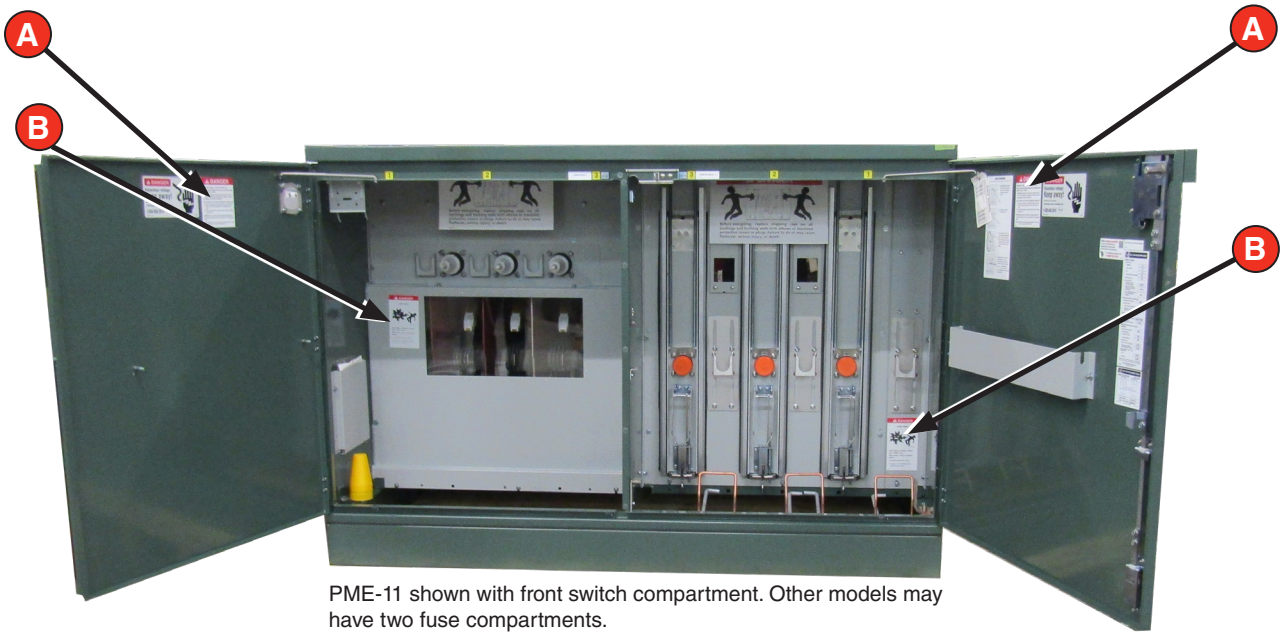
Read this instruction sheet thoroughly and carefully before operating the Manual PME Pad-Mounted Gear – PMH Configuration.

Replacement Instructions and Labels

If additional copies of this instruction sheet are required, contact the nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

It is important that any missing, damaged, or faded labels on the equipment be replaced immediately. Replacement labels are available by contacting the nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

Location of Safety Labels



PME-11 shown with front switch compartment. Other models may have two fuse compartments.

Reorder Information for Safety Labels

Location	Safety Alert Message	Description	Part Number
A	⚠ DANGER	Hazardous Voltage – more than 4000 volts…	G-6503
B	⚠ DANGER	Keep Away. Hazardous voltage – more than 4000 volts…	G-6500
C	⚠ WARNING	Keep Out. Hazardous voltage inside.	G-6398●

● The same labels are located on the rear doors as well.

Reorder Information for Safety Labels

Location	Safety Alert Message	Description	Part Number
A	⚠ DANGER	Hazardous Voltage – more than 4000 volts…	G-6503
B	⚠ DANGER	Keep Away. Hazardous voltage – more than 4000 volts…	G-6500

⚠ DANGER

Manual PME Pad-Mounted Gear – PMH Configuration operates at high voltage. Failure to observe the precautions below will result in serious personal injury or death.

Some of these precautions may differ from your company's operating procedures and rules. Where a discrepancy exists, follow your company's operating procedures and rules.

1. **QUALIFIED PERSONS.** Access to pad-mounted gear must be restricted only to qualified persons. See the "Qualified Persons" section on page 2.
2. **SAFETY PROCEDURES.** Always follow safe operating procedures and rules.
3. **PERSONAL PROTECTIVE EQUIPMENT.** Always use suitable protective equipment, such as rubber gloves, rubber mats, hard hats, safety glasses, and flash clothing in accordance with safe operating procedures and rules.
4. **SAFETY LABELS.** Do not remove or obscure any of the "CAUTION," "WARNING," or "DANGER" labels.
5. **KEY INTERLOCKS.**
   - If optional key interlocks were furnished, they must be in place.
   - Check the operating sequence of key interlocks to verify proper sequencing.
   - After the pad-mounted gear is installed, either: (1) destroy the extra set of keys or (2) make them accessible only to qualified persons. This will maintain the integrity of the key-interlock scheme.
   - Key interlocks are not security locks and are not substitutes for padlocks.
6. **OPENING DOORS.** Do not force doors open. Forcing a door open can damage the latching mechanism. If optional key interlocks are provided, correctly position the interlocks so the doors can be opened.
7. **CLOSING AND LOCKING DOORS.**
   - Doors must be securely closed and latched, with padlocks in place at all times unless work is being performed inside the enclosure.
   - Mini-Rupter Switches have switch operating-shaft access covers located on the sides of the pad-mounted gear enclosure. They must be closed and padlocked at all times unless the switches are being operated.
   - Do not close a door on a TransFuser Mounting in the **Open** position with a fuse in the mounting. The door will strike the fuse pull-ring, which will interfere with door closing. The door may be closed if the fuse is removed from the mounting.
8. **ENERGIZED TERMINALS.** Always assume both sets of power terminals on any Mini-Rupter Switch or fuse are energized unless proved otherwise by test, by visual evidence of open-circuit conditions on both sets of terminals, or by observing that both sets of terminals are grounded.
9. **BACKFEED.** Mini-Rupter Switches and fuses may be energized by backfeed.
10. **DE-ENERGIZING, TESTING, AND GROUNDING.** Before touching any device that is to be inspected, replaced, serviced, or repaired in the high-voltage compartments, always disconnect Mini-Rupter Switches and fuses from all power sources (including backfeed), test for voltage, and properly ground.
11. **TESTING.** Test for voltage on both sets of power terminals of any Mini-Rupter Switch or fuse using proper high-voltage test equipment before touching any device that is to be inspected, replaced, serviced, or repaired in the high-voltage compartments.
12. **GROUNDING.**
    - Make sure the pad-mounted gear enclosure is properly grounded to the station or facility ground.
    - After the gear has been completely disconnected from all sources of power and tested for voltage, install suitable grounding cables in all compartments before touching any device that is to be inspected, replaced, serviced, or repaired in the high-voltage compartments.
13. **SWITCH POSITION.**
    - Always confirm the **Open/Close** position of Mini-Rupter Switches by visually observing the position of the switch blades.
    - Switches may be energized by backfeed.
    - Switches may be energized in any position.
14. **MAINTAINING PROPER CLEARANCE.** Always maintain proper clearance from energized components.
15. **FUSE STORAGE.**
    - Always store fuses in a clean, dry location.
    - Do not store end-fittings or fuses in termination compartments unless the unit is equipped with the optional **Fuse Storage** feature.

Instruction manuals regarding installation and operation of the pad-mounted gear are included in the "Installation and Operation Information Kit" provided with each unit of Manual PME Pad-Mounted Gear – PMH Configuration. A catalog dimensional drawing showing cable-locating and anchor-bolt dimensions is also provided in the information kit. All personnel involved with installation and operation of the gear should be thoroughly familiar with the contents of the kit.

The following instructions cover operation of the fuses and Mini-Rupter Switches in manual PME Pad-Mounted Gear – PMH Configuration. For installation instructions, refer to S&C Instruction Sheet 665-507.

Manual PME Pad-Mounted Gear – PMH Configuration, which is available in a 27-kV rating, permits manual switching and provides fault protection for underground distribution systems. This gear features elbow-connected encased components and accommodates separable insulated connectors with components at a height appropriate when using manual PME Pad-Mounted Gear – PMH Configuration as a replacement for manual PMH Pad-Mounted Gear. The gear contains the following:

- External-handle-operated 600-ampere Mini-Rupter Switches for three-pole live switching of three-phase source circuits
- Adjustable parking stands in the fuse compartment. (Instructions for adjusting the height of the parking stands are available in the S&C Instruction Sheet 665-507.)
- TransFuser Mountings—fuse-handling mechanisms with mechanical interlocks (Type SMU-20® Fuse Units installed in SME-20 Fuse Mountings.)
- Penta-Latch® Mechanisms on each door (right-hand door only for double-door models) for access control (The mechanisms provide automatic door latching and permit padlocking only when the doors are latched closed. The doors can be opened only with a pentahead socket wrench or tool.)

A variety of optional features are available for Manual PME Pad-Mounted Gear – PMH Configuration. The catalog number stamped on the nameplate affixed to the enclosure door is suffixed with letter-number combinations applicable to the gear furnished. Refer to S&C Specification Bulletin 665-33 for descriptions of the optional features.

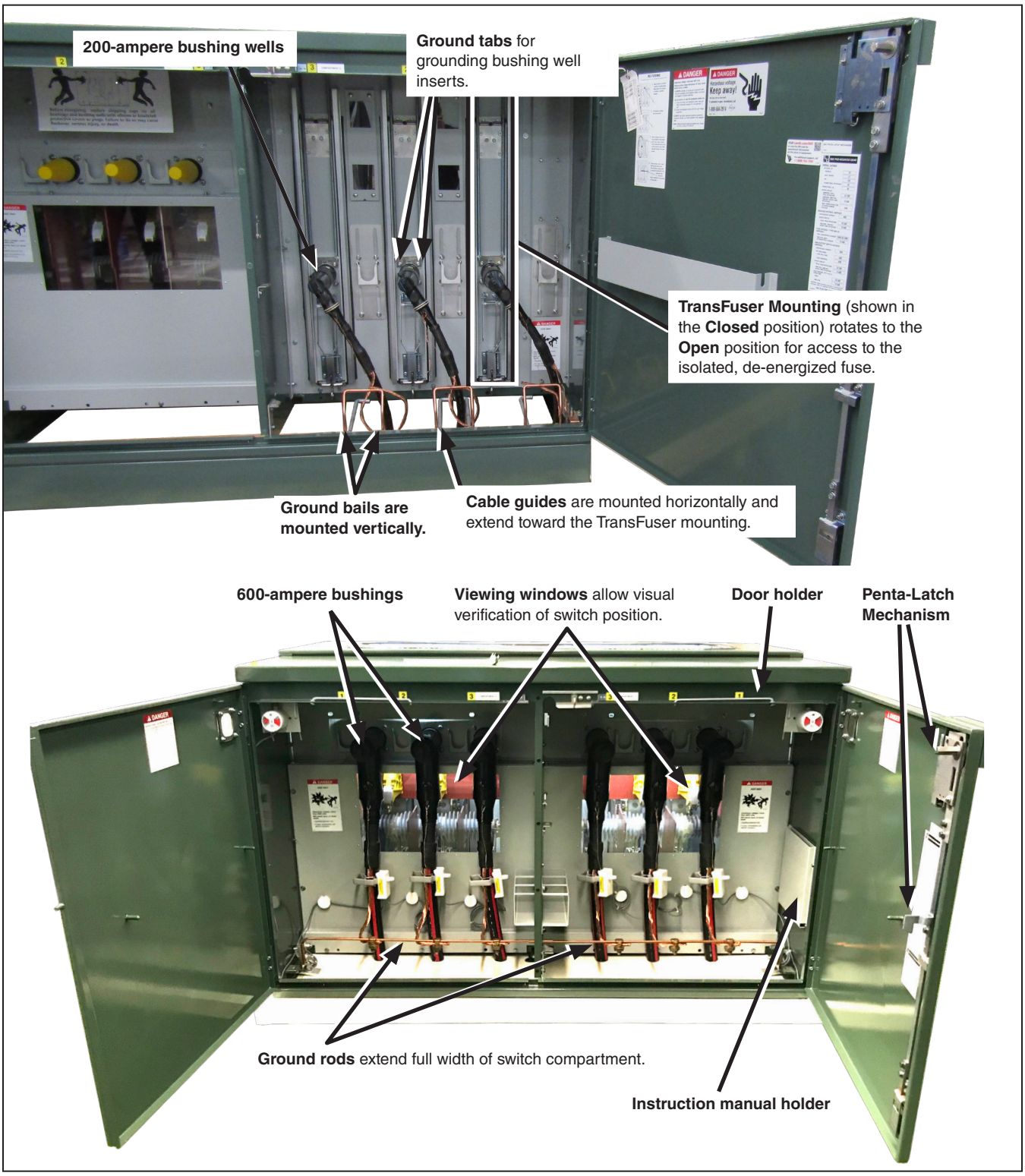


Figure 1. The manual Model PME-9 showing open-door views of fuse-termination compartments (top) and switch-termination compartments (bottom).

⚠ DANGER

When access to high-voltage compartments is required for inspection, service, or repairs, always observe the precautions below. **Failure to observe these precautions will result in serious personal injury or death.**

- Access to pad-mount gear must be restricted only to qualified persons. See the "Qualified Persons" section on page 2.
- Always follow safe operating procedures and rules.
- Before touching any device, always disconnect switches and fuses from all power sources (including backfeed), test for voltage, and properly ground.
- Always assume both sets of power terminals on any switch or fuse are energized unless proved otherwise by test, by visual evidence of open-circuit conditions on both sets of terminals, or by observing that both sets of terminals are grounded.
- Test for voltage on both sets of power terminals of any switch or fuse using proper high-voltage test equipment.
- After the gear has been completely disconnected from all sources of power and tested for voltage, install suitable grounding cables in all compartments.
- Make sure the enclosure is properly grounded to the station or facility ground. Do not return equipment to service unless such grounds are properly made.

Opening and Closing the Doors

Complete the following steps to open the doors:

STEP 1. To access a side of the enclosure, remove the padlock from the doors.

STEP 2. Insert a pentahead socket wrench or tool (a hexhead socket wrench or tool when catalog number suffix "-B1" or "-B2" is specified) into the latching mechanism. Rotate the wrench or tool 60° counterclockwise to unlatch the doors. See Figure 2.

> **NOTICE**
>
> Do not apply any undue force when attempting to open the doors. The use of undue force may damage the latching mechanism.

STEP 3. Disengage the left-door latching mechanism by turning the latch clockwise. See Figure 3.

STEP 4. Open each door fully and latch the door holders. See Figure 4.

STEP 5. To gain access to the other side of the enclosure, repeat Step 1 through Step 4 to open the doors.

Figure 2. To unlock the doors, turn the pentahead socket wrench 60° counterclockwise against spring resistance until a "click" is heard and the wrench reaches its stop.

Figure 3. The left-door latching mechanism disengaged.

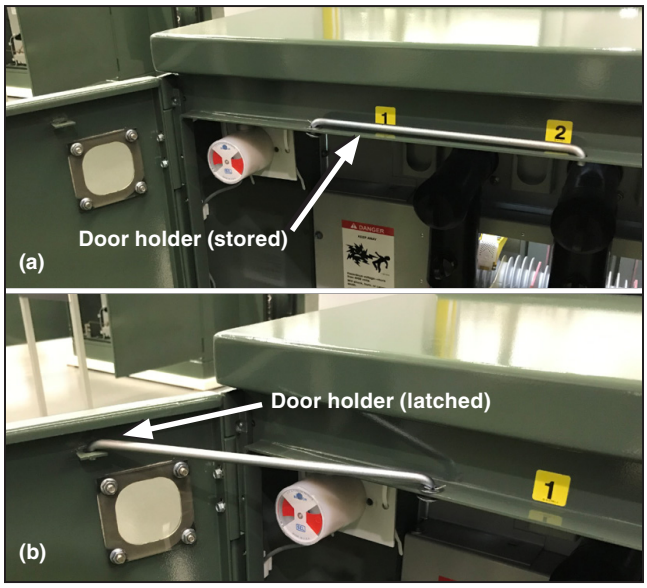


Figure 4. Using the door holder to hold the door open.

Complete the following steps to close and lock the doors:

STEP 1. Lift the door holder up to allow the door to swing closed. See Figure 5. Make sure the door holder is placed back in the **Storage** position to allow the door to be fully closed. See Figure 6.

STEP 2. Repeat Step 1 for the other door.

Figure 5. Lift the door holder to allow the door to swing closed.

Figure 6. The door holder placed in the Storage position to allow the door to close.

STEP 3. Engage the left-door latching mechanism. See Figure 7.

STEP 4. The right-hand door of the unit is equipped with the Penta-Latch Mechanism, which latches automatically when the door is closed. To close a door equipped with the Penta-Latch Mechanism, place one hand at the midpoint of the door front near the edge and firmly push the door closed. When the latch points are positively engaged, the spring mechanism will trip to latch the door.

STEP 5. Insert the padlock shackle through the hole in padlock recess and lock the padlock. See Figure 8.

STEP 6. Repeat Step 1 on page 11 through Step 5 for the doors on the other side of the enclosure (if open).

Figure 7. The left-door latching mechanism engaged.

Figure 8. The enclosure doors padlocked.

The Mini-Rupter Switch is a three-pole, 600-A switch used to switch between power sources. The operating shaft used to control the switch is located on the same side of the enclosure with respect to the switch location.

Operating the Mini-Rupter Switch

Complete the following steps to operate the Mini-Rupter Switch:

STEP 1. Remove the padlock and open the switch-operating-shaft access cover. See Figure 9.

STEP 2. Remove the folding switch-operating handle from its storage pocket behind the access cover. Unfold the handle until it is latched and slide it onto the hex switch-operating shaft. See Figure 10.

Note: The SWITCH POSITION indicator attaches to the hex switch-operating shaft and rests against a stop in either the **Open** or **Closed** position. Arrows indicate the **Switch Open** or **Switch Closed** position.

STEP 3. Rotate the handle in the appropriate direction to open or close the switch, and check the SWITCH POSITION indicator to verify the switch is in the desired position. See Figure 11.

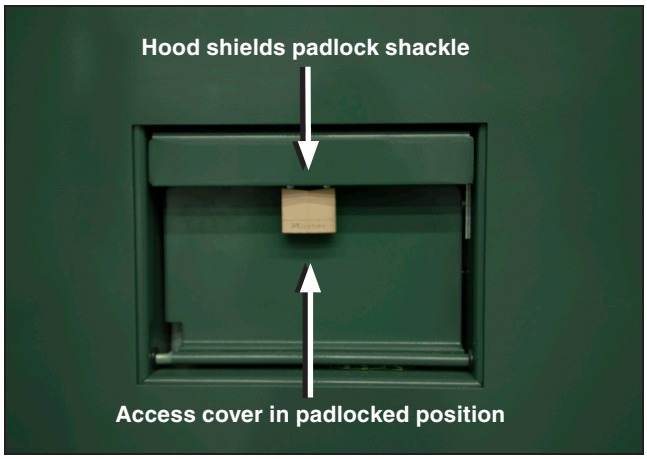


Figure 9. The access cover padlock.

Figure 10. The access cover door opened.

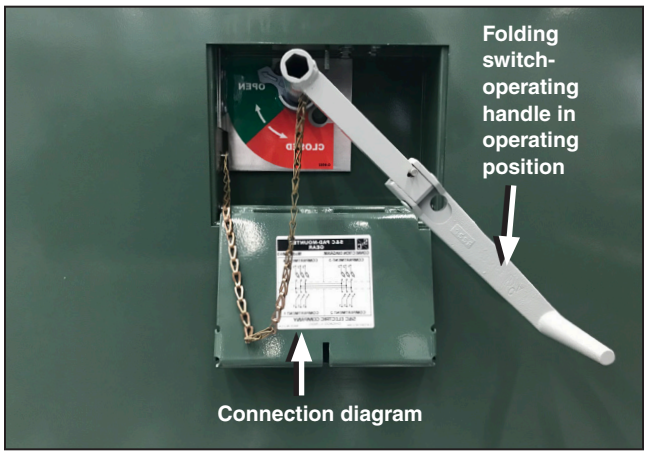


Figure 11. The switch operating handle installed.

STEP 4. Follow the instructions in the "Opening and Closing the Doors" section on page 10 to open the enclosure doors.

STEP 5. Check the physical position of the switch by using the viewing window provided in the switch-termination compartment. See Figure 12.

> **⚠ WARNING**
>
> Always confirm the **Open/Close** position of the Mini-Rupter Switch by visually observing the position of the switch blades. **Failure to do so can result in personal injury.**

STEP 6. Remove and fold the switch-operating handle, and return the handle to its **Storage** position. Then, close and padlock the access cover.

> **⚠ CAUTION**
>
> Do not leave the switch-operating-shaft access cover unlocked if the gear is left unattended. **Failure to do so can result in equipment damage and personal injury.**

STEP 7. Follow the instructions in the "Opening and Closing the Doors" section on page 10 to close and lock the enclosure doors.

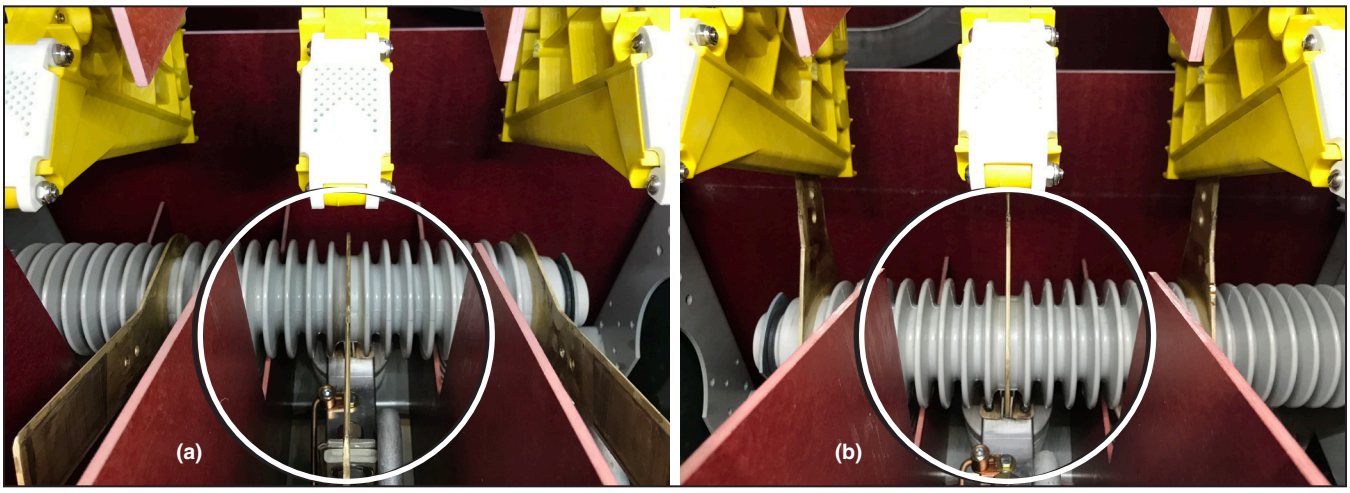


Figure 12. (a) Shows the switch in the Open position, and (b) shows the switch in the Closed position.

Manual PME Pad-Mounted Gear is equipped with the unique TransFuser Mounting—a fuse-handling mechanism that is interlocked with the loadbreak elbow. First, the elbow is removed to interrupt any fuse load. Then, the mechanical interlock is actuated, allowing operation of the TransFuser Mounting mechanism. This permits access to the fuse for quick and easy replacement of blown fuses with a conventional shotgun stick. The fuse is accessible only when it is de-energized and isolated.

⚠ DANGER

The following procedures presuppose the user has supplied and installed loadbreak inserts and loadbreak elbows.

Open the Mini-Rupter Switches before proceeding if deadbreak inserts and deadbreak elbows are installed, or if company operating procedures and rules do not permit switching with elbows. **Failure to open the switches when deadbreak inserts and elbows are used will result in a flashover and serious injury.**

Opening the TransFuser Mounting

Complete the following steps to open a TransFuser Mounting:

STEP 1. Open the appropriate fuse termination-compartment door and secure it with the door holder. See Figure 13. On double-door models, the adjacent door should be closed and latched to minimize exposure.

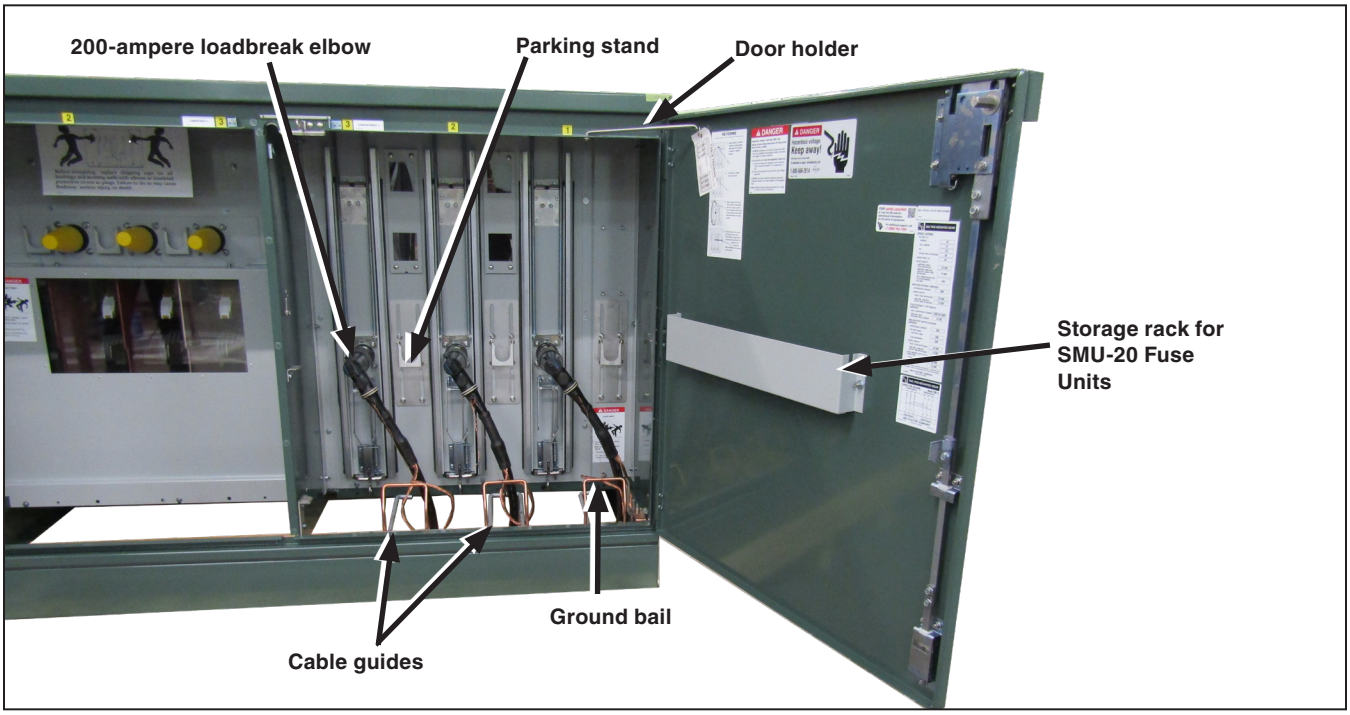


Figure 13. The termination compartment for fuses with elbows installed on 200-ampere inserts in the bushing wells.

STEP 2. Using a shotgun stick, install a portable feedthru or standoff insulator on the parking stand directly above the cable guide of the elbow to be moved. This will ensure when the elbow is moved, the cable will not interfere with the TransFuser Mounting. Using the shotgun stick, and following the elbow manufacturer's instructions for loadbreak operation, remove the 200-ampere loadbreak elbow (thus interrupting any load through the fuse to be removed), and move the elbow to the portable feedthru or standoff insulator. See Figure 14.

⚠ WARNING

When changing fuses, the 200-ampere interface need not be covered because it will be exposed only temporarily. If company operating procedures and rules require it, the interface may be covered with an insulating protective cap without a drain wire. A cap with a drain wire must not be used.

Operation of the TransFuser mechanism will draw the grounded drain wire inside the medium-voltage compartment close to energized parts, which can result in a flashover and serious injury.

⚠ WARNING

If elbows are stored on feedthru or standoff insulators for an extended period of time, cover the 200-ampere interface with an insulating protective cap with a drain wire and connect the drain wire to the ground bail.

Failure to connect the drain wire to the ground bail can result in a flashover, injury, and equipment damage.

NOTICE

The insulated protective cap and drain wire must be removed before operating the TransFuser mechanism. Failure to remove the cap and drain wire will interfere with operation of the mechanism.

Figure 14. Removing the loadbreak elbow interrupts any load through the fuse to be removed.

STEP 3. When the elbow has been moved and mounted on a feedthru or standoff insulator, the TransFuser Mounting mechanism may be operated. Using the shotgun stick, raise the mechanical interlock to unlock the TransFuser Mounting. See Figure 15. This interlock, which cannot be lifted to the **Unlocked** position until the elbow has been removed, guards against gaining access to the fuse while it is carrying current.

STEP 4. Secure the shotgun stick to the pull-ring at the lower end of the TransFuser Mounting. Be sure not to ratchet the shotgun stick all the way up when securing the pull-ring as it may hinder the movement of the TransFuser Mounting. See Figure 16. In one motion, using an outward pull, rotate the TransFuser Mounting end-over-end to expose the fuse.

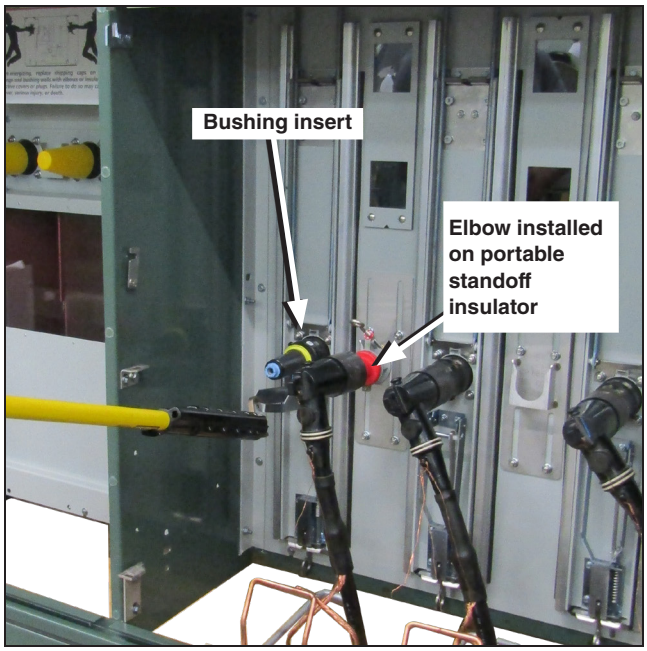


Figure 15. Raising the mechanical interlock to unlock the TransFuser Mounting.

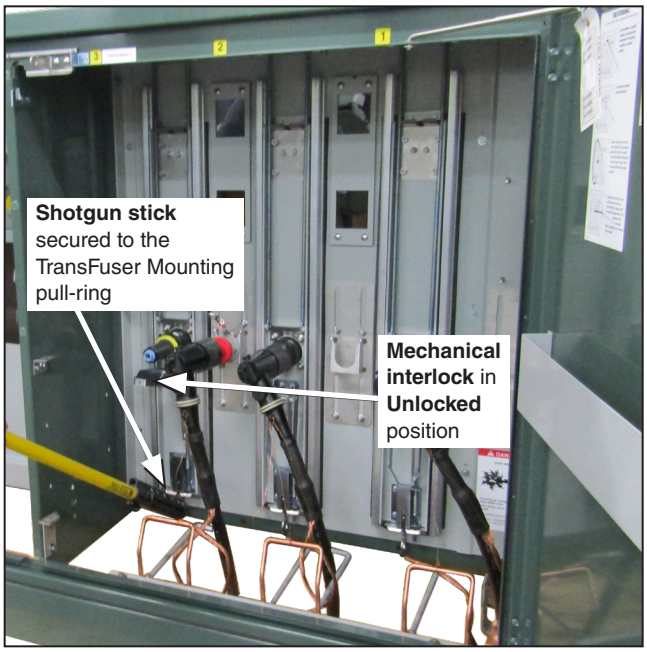


Figure 16. Unlatching (or latching) a TransFuser Mounting in the Closed position.

Make sure the mounting is latched before removing the shotgun stick. Then, disengage the shotgun stick from the pull-ring. Using the shotgun stick, push against the top of the mounting to verify it has securely latched. With the TransFuser Mounting latched in the **Open** position, the fuse is de-energized, isolated from high voltage, and accessible for removal from the mounting using the shotgun stick. See Figure 17.

NOTICE

Do not close a door on a TransFuser Mounting in the **Open** position with a fuse in the mounting. The door will strike the fuse pull-ring, which will interfere with door closing. The door may be closed if the fuse is removed from the mounting.

Figure 17. Latching (or unlatching) a TransFuser Mounting in the Open position.

Assembling the Fuse

Manual PME Pad-Mounted Gear – PMH Configuration can only accommodate SMU-20 Fuse Units installed in SME-20 Fuse Mountings. Install a fuse unit into each set of SME-20 Fuse Mounting end fittings in accordance with S&C Instruction Sheet 252-550.

Installing the Fuse in the Mounting

Install the fuse into the TransFuser Mounting as follows:

STEP 1. Secure a shotgun stick tightly to the fuse pull-ring with the fuse positioned so the body of the fuse is below the stick. Grasp the shotgun stick with both hands approximately 2 feet (61 cm) apart, placing one hand on the shotgun-stick latch mechanism.

STEP 2. Lift the fuse and lower it into the cradle of the fuse mounting. See Figure 18.

STEP 3. With the fuse securely seated in the cradle, with one motion push the fuse forward to latch it in the **Closed** position. Disengage the shotgun stick from the fuse.

STEP 4. Verify the fuse is properly latched in the fuse mounting. While holding the shotgun stick, push against the fuse holder assembly and pull on the fuse assembly as shown in Figure 19 by locating the ring of the stick in the opening below the pull-ring.

Figure 18. A fuse lowered into the cradle in preparation for latching to a TransFuser Mounting.

Figure 19. Pull on the fuse assembly by locating the ring of the stick in the opening below the pull-ring.

Closing the TransFuser Mounting

After the fuse has been installed or replaced, close the TransFuser Mounting (to energize the fuse) as follows:

STEP 1. Secure a shotgun stick to the pull-ring at the top of the TransFuser Mounting. Be sure not to ratchet the shotgun stick all the way up when securing the pull-ring as it may hinder the movement of the TransFuser Mounting. See Figure 20. With an outward pull, rotate the TransFuser Mounting end-over-end to return the fuse to the medium-voltage compartment in one motion. Make sure the mounting latches are in this position before removing the shotgun stick. Then, disengage the shotgun stick from the pull-ring. Using the shotgun stick, push against the bottom of the mounting to verify it has securely latched.

STEP 2. Using the shotgun stick, lower the mechanical interlock to lock the TransFuser Mounting. See Figure 21.

STEP 3. If a protective cap was placed on the bushing interface, remove it with the shotgun stick.

STEP 4. Using the shotgun stick, move the elbow from the portable feedthru or standoff insulator to the bushing in accordance with the elbow manufacturer's instructions. Remove the portable feedthru or standoff insulator from the parking stand.

STEP 5. Close and latch the enclosure doors. Pull outward on the Penta-Latch Mechanism cover to verify the door has latched securely and then padlock the door.

Figure 20. Latching (or unlatching) a TransFuser Mounting in the Open position.

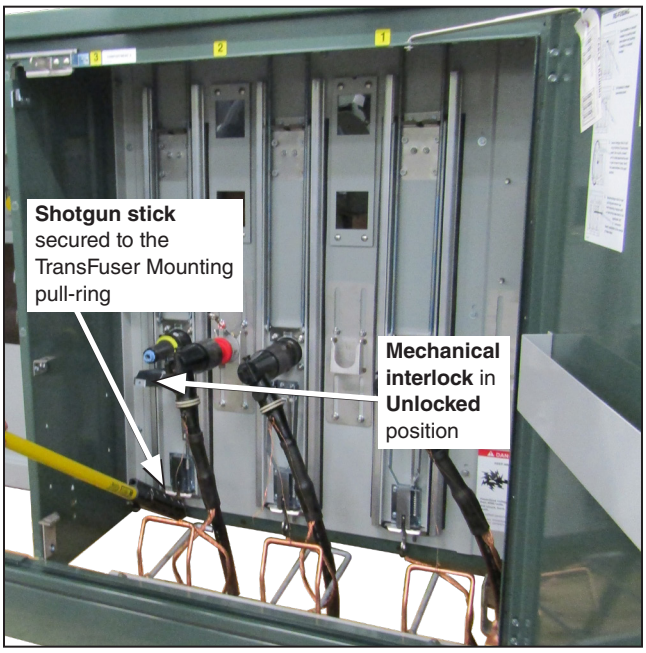


Figure 21. Unlatching (or latching) a TransFuser Mounting in the Closed position.

How to Detect a Blown Fuse

Open the appropriate fuse termination compartment door and secure it with the door holder. On double-door models, the adjacent door should be closed and latched to minimize exposure.

Observe the blown-fuse target through the viewing windows provided for that purpose. See Figure 22.

On SMU-20 Fuse Units, a red blown-fuse target projects from the SME-20 Fuse Mounting end-fitting when the fuse has operated, making it easy to check the fuse condition with the fuse in the **Closed** position. The blown-fuse target retracts when the blown fuse unit or interrupting module is replaced.

Figure 22. Blown-fuse target location.

Replacing a Blown Fuse

Complete the following steps when replacing a blown fuse:

STEP 1. Gain access to the blown fuse following the instructions found in the "Fuse Access—Opening" section on page 15.

STEP 2. Remove the fuse as follows:

(a) Grasp a shotgun stick with both hands approximately 2 feet (61 cm) apart, placing one hand on the shotgun-stick latch mechanism.

(b) Secure the shotgun stick tightly to the fuse pull-ring. See Figure 23.

(c) Stand in a normal, upright position facing the shotgun stick. Unlatch the fuse with a short, outward pull on the fuse pull-ring. Then, remove the fuse from the TransFuser Mounting with an upward and outward lifting motion. When the fuse has been removed, the TransFuser Mounting may be left with the live parts in the termination compartment and the doors may be closed.

Note: Take the blown fuse back to the service center for proper disposal.

NOTICE

Always store fuses in a clean, dry location. Do not store fuses in termination compartments unless the unit is equipped with the optional **Fuse Storage** feature. This feature accommodates three SMU-20 Fuse Units installed in SME-20 Fuse Mounting end fittings.

For storage, position the fuse with the silencer or trunnion at the bottom, and insert it into the bracket. Then, turn the fuse so the pull-ring is out of the way of the cables.

STEP 3. Install a new SMU-20 Fuse Unit in the SME-20 Fuse Mounting following the instructions provided in S&C Instruction Sheet 252-550 for removal of blown SMU-20 Fuse Units and for insertion of replacements in the fuse mounting end-fittings.

STEP 4. Install the fuse into the TransFuser Mounting following the instructions found in the "Fusing" section on page 19.

Figure 23. A shotgun stick secured to a fuse pull-ring in preparation for unlatching the fuse.

Components

No mechanical maintenance is required for manual PME Pad-Mounted Gear – PMH Configuration. However, occasional inspection of the gear and exercising of the Mini-Rupter Switches is recommended.

⚠ DANGER

When access to high-voltage compartments is required for inspection, service, or repairs, always observe the precautions below. **Failure to observe these precautions will result in serious personal injury or death.**

- Access to pad-mount gear must be restricted only to qualified persons. See the "Qualified Persons" section on page 2.
- Always follow safe operating procedures and rules.
- Before touching any device, always disconnect switches and fuses from all power sources (including backfeed), test for voltage, and properly ground.
- Always assume both sets of power terminals on any switch or fuse are energized unless proved otherwise by test, by visual evidence of open-circuit conditions on both sets of terminals, or by observing that both sets of terminals are grounded.
- Test for voltage on both sets of power terminals of any switch or fuse using proper high-voltage test equipment.
- After the gear has been completely disconnected from all sources of power and tested for voltage, install suitable grounding cables in all compartments.
- Make sure the enclosure is properly grounded to the station or facility ground. Do not return equipment to service unless such grounds are properly made.

Returning Equipment to Service

When returning the equipment to service, the following procedures should be observed:

STEP 1. Make sure switch and fuse grounding means are removed (if external grounding was done).

STEP 2. Make sure the Mini-Rupter Switches are in the correct positions (**Open** or **Closed**) as dictated by system requirements.

STEP 3. Close each door and make sure the associated Penta-Latch Mechanisms are securely latched before energizing the circuit or operating any switching device.

STEP 4. Padlock all doors and switch-operating-shaft access covers before leaving the installation site, even momentarily. Observe this procedure even in those cases where the gear is accessible only to qualified persons.

Enclosure Finish

The responsibility for ensuring a finish protects the enclosure lies with both the manufacturer and the user. Manual PME Pad-Mounted Gear is finished with the Ultradur® II Outdoor Finish, which provides lasting protection for the enclosure. To retain this protection, the user should take periodic corrective action as follows:

STEP 1. Touch up any penetration of the finish to bare metal, such as scratches and abrasions caused by shipping or vandalism, to maintain the original integrity. S&C touch-up finish and primer are available in aerosol spray cans. See S&C Specification Bulletin 665-33 for catalog number information used for ordering. No other finish or primer is approved. The area to be touched up should be cleaned to remove all oil and grease. Sand the area, removing any traces of rust that may be present, and make sure all edges are feathered before applying primer.

STEP 2. Provide an occasional simple washdown, such as an automobile would be given, to remove surface contaminants. Use any ordinary mild household detergent solution.

In those cases where the enclosure must be refinished by the user before the finish has weathered—for example, to match other equipment—a special precaution must be taken. The entire surface must be sanded to provide a tooth to bond the new coat to the unusually tough and smooth Ultradur II Outdoor Finish.

For the convenience of users who normally perform electrical tests on system components such as pad-mounted gear, appropriate withstand test values are given in Table 1:

Table 1. Ratings and Insulation Test Values

Rating, kV		Withstand, kV		
Nom.	Max	60-Hertz, RMS①	Dc②③	Impulse (BIL)
25	27	60	70	125

① Ac withstand tests made on this equipment after shipment by S&C should be conducted at no more than 0.75 times the values shown. When making ac tests, the time duration for application of the test voltage should be limited to less than 10 seconds.

② The column headed "Dc" is given as a reference only for those making dc tests and represents values believed to be appropriate and approximately equivalent to the corresponding power-frequency withstand test values specified for components of this voltage class. The presence of this column in no way implies any requirement for a dc withstand test on these components.

③ Dc withstand tests made on this equipment after shipment by S&C should be conducted at no more than 0.75 times the values shown. When making dc tests, the test voltage should be raised in discrete steps—one minute per step.