

Figure 1. Top of the switchgear.

DANGER

This quick operation guide is not a replacement for adequate training and safety procedures for this product. Read S&C Instruction Sheet 682-510 thoroughly and carefully before using this document. **Failure to have adequate training and understanding of these instructions will likely result in serious personal injury or death if the instructions, including recommended precautions, are not followed.**

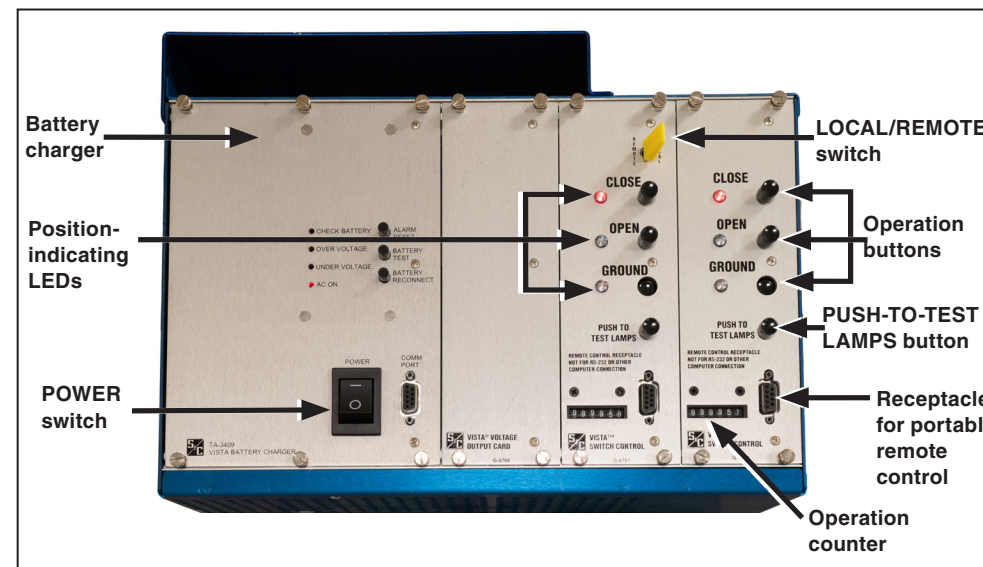


Figure 2. The motor operator control rack.

WARNING

Manual Vista Underground Distribution Switchgear must be installed, operated, and maintained by qualified persons knowledgeable in underground electric power distribution equipment and the associated hazards. For more information on the requirements of a qualified person, see the “Introduction” section of S&C Instruction Sheet 682-510. These instructions are not intended to be a substitute for adequate training and experience in safety procedures for this type of equipment. **Failure to follow these operating and safety procedures can result in serious injury.**

Understanding the Gas-Pressure Gauge

Vista switchgear uses a temperature-compensated gas-pressure gauge inside the tank to display the insulating gas pressure. The gauge includes four color-coded zones. See Figure 3. If the needle is in a zone, it denotes the following:

Green zone:

The Vista switchgear unit is OK to operate.

Green/Yellow zone:

The Vista switchgear unit may have lost some gas but is still OK to operate.

Red zone:

Do not operate. The insulating gas may be below the minimum operating pressure for the gear. Contact S&C for assistance.

Orange zone:

The Vista switchgear unit has been overfilled or has a defective pressure gauge. For SF₆ models and field-accessible ports, an external gauge can be used instead to verify the gas pressure before device operation. Contact S&C for assistance.

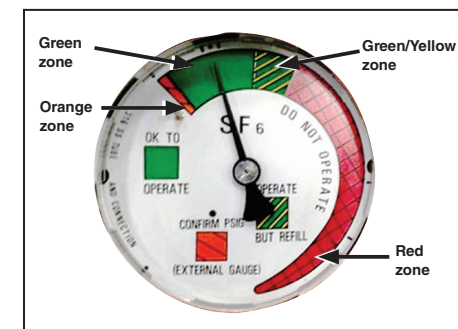


Figure 3. Internal gas-pressure gauge. SF₆ gauge shown, Vista Green models similar.

NOTICE

Rapid temperature fluctuations may temporarily cause high pressure indication. See S&C Instruction Sheet 682-510 for more information.

Operation Selector Function

The Operation selector prevents inadvertent switchgear operation directly from the **Closed** position to the **Grounded** position and vice versa. This blocks operations that could cause arcing and damage to the switchgear.

Four operating actions are possible:

1. Closed to Open
2. Open to Closed
3. Open to Grounded
4. Grounded to Open

The Operation selector should be swung out of the way before attempting an operation. In Figure 4, for example, the two operating actions available with the Operation selector in the far right position are Open to Closed and Closed to Open. To operate the switch from an **Open** to a **Grounded** position, the operating handle must be removed and the Operation selector moved to the far left.

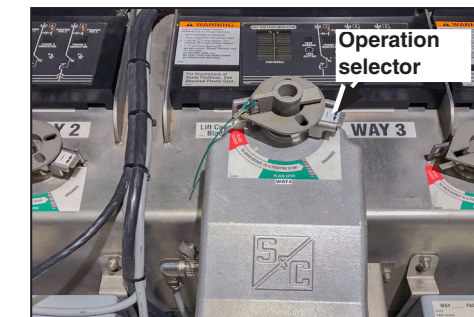


Figure 4. The Operation selector.

WARNING

Always confirm the position of switches or fault interrupters by visually observing the blade position. **Failure to follow this precaution can result in an injury or equipment damage.**

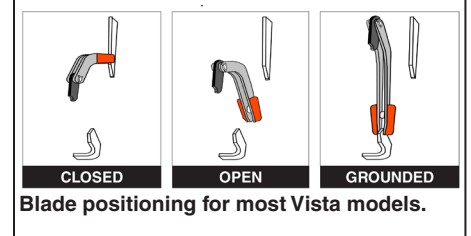


Figure 5. Confirm the blade position of the load-interrupter switch or fault interrupter.

Manually Opening, Closing, or Grounding a Way

WARNING

Do not operate this switchgear if the gas-pressure gauge is in the Red zone. **Failure to follow this precaution can result in a flashover, injury, and equipment damage.**

- STEP 1.** Make sure the gas-pressure gauge is in the Green zone (or the Green-and-Yellow striped zone) by lifting the viewing window cover over Way 1. See Figure 3.

- STEP 2.** Open the viewing window cover and confirm the position of the load-interrupter switch or fault interrupter by visually observing the position of the blades. See Figure 1.

Also, inspect the current-carrying components inside the tank specifically for dislodged hardware, signs of arcing, and significant blade misalignment.



WARNING

Do not operate the energized load-interrupter switch or fault interrupter with dislodged hardware or obvious signs of arcing or significant blade misalignment. **Equipment damage and personal injury may result.**

STEP 3. Remove the electrical-operation mechanical blocking key from the motor operator. Verify the Operation selector is in the far right position. This allows operation between **Closed** and **Open** positions (see Figure 6) and prevents inadvertent operation directly from the **Closed** position to/from the **Grounded** position.



Figure 6. Removing the mechanical blocking key and moving the Operation selector out of the way.

STEP 4. If the Operation selector is blocking operation, remove the electrical-operation mechanical blocking key from the motor operator and rotate the Operation selector out of the way.

STEP 5. Insert the manual operating handle into the notch of the motor operator operating mechanism. See Figure 7.

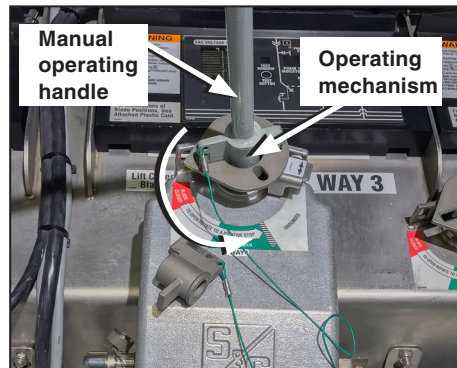


Figure 7. Insert the manual operating handle.

STEP 6. Rotate the manual operating handle in the appropriate direction to open, close, or ground the load-interrupter switch or three-pole fault interrupter. Operation to the **Open** position is shown in Figure 7.

STEP 7. When operating from a **Closed** to **Open** position, the operating handle must be rotated all the way to the line, as shown on the label, to recharge the mechanism. For the three-pole fault interrupter, the operating handle cannot be removed until the mechanism is fully charged.

For single-phase fault interrupters: When the fault interrupter is operated from the **Closed** position, it will move to the **Open** position before the TRIP indicator will appear. To reset the TRIP indicator, operate by going from the **Open** position back to the **Closed** position.

For three-phase fault interrupters: When the fault interrupter is operated from the **Closed** position, it will move toward the **Open** position, and the TRIP indicator will immediately appear after the indicator leaves the **Closed** position. To reset the trip indicator, continue operating until reaching the **Open** position.

WARNING

Always make sure the cables connected to the load-interrupter switch or fault interrupter are de-energized before grounding the switchgear. **Failure to do so can result in a flashover and equipment damage.**

STEP 8. If operation is to the **Grounded** position, rotate the Operation selector to the far left and make sure the cables connected to the load-interrupter switch or fault interrupter are de-energized. Check for voltage using the optional VOLTAGE indicator as instructed under the “Checking for Voltage Using Optional Voltage Indicator” section in Instruction Sheet 682-510, or use an alternate method.

STEP 9. Open the viewing window cover again and confirm the position of the load-interrupter switch or the three-pole fault interrupter by visually observing the position of the blades. See Figure 5 on page 1. Use the manual operating handle to move the switch to the **Grounded** position.

Note: Replace the electrical-operation mechanical blocking key when finished operating the gear with the manual operating handle.

Locking Out Operation

The Operation selector can be locked to the locking collar to prevent closing or grounding the switch.

Locking Out of the Grounded Position

To prevent the operation of a load-interrupter switch or fault interrupter into the **Grounded** position, insert a padlock through the Operation selector and the right-side hole of the locking collar. See Figure 8.

Locking Out of the Closed Position

To prevent the operation of a load-interrupter switch or fault interrupter into the **Closed** position, insert a padlock through the Operation selector and the left-side hole of the locking collar.

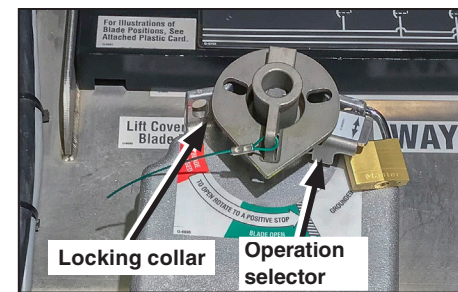


Figure 8. The Operation selection locked out of the Grounded position.

Locking In Operation

To lock a load-interrupter switch or fault interrupter into position, insert a padlock through the operating disk and the center hole in the locking collar. See Figure 9.

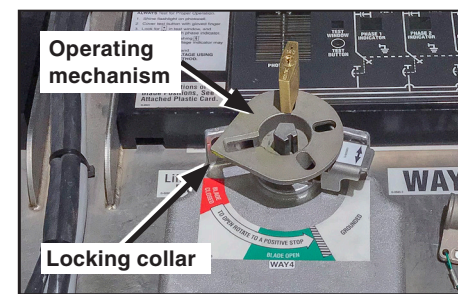


Figure 9. The operating disk locked to the back of the locking collar.

Electrically Opening, Closing, or Grounding a Way

NOTICE

When electrically operating a way using a motor operator more than two times in succession (for example, running multiple operations during a testing sequence), allow 15 seconds between successive operations. **Not allowing a 15-second rest period between operations may result in a missed operation.**

STEP 1. The motor operator controls are in the low-voltage compartment or enclosure. Each motor operator is controlled by a separate control board that includes CLOSE, OPEN, and (optionally) GROUND operation buttons, switch position indicating lamps, an **Operations** counter, a PUSH TO TEST LAMPS button, and

a receptacle for the portable remote control. See Figure 2.

STEP 2. Turn the LOCAL/REMOTE switch to the **Local** position. See Figure 2.

STEP 3. Verify the position-indicating lamp on the control board matches the position of its associated motor operator. See Figure 10.

STEP 4. Make sure the operating handle is removed from the operating disk of the motor operator.

STEP 5. Make sure the electrical-operation mechanical blocking key is set in the motor operator operating disk.

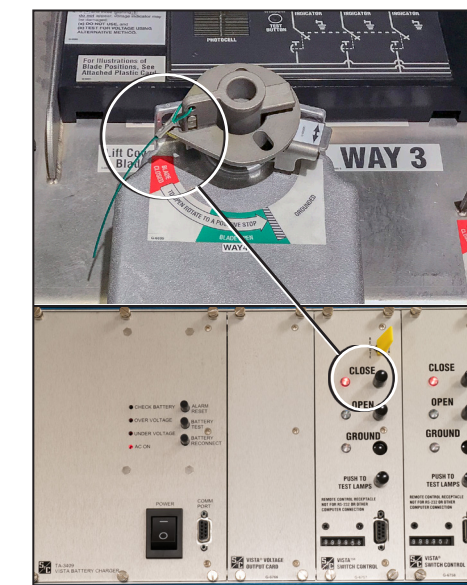


Figure 10. Comparing the position of the motor operator with the position of the indicating lamp. (Closed position is shown.)

STEP 6. If the Operation selector is blocking operation, rotate it out of the way, as shown in Figure 6. It may be necessary to remove the electrical-operation mechanical blocking key to move the operation selector. The Operation selector prevents inadvertent motor operator operation. Replace the mechanical blocking key.

STEP 7. Press the PUSH TO TEST LAMPS button on each motor operator control board to

ensure all LEDs are working. See Figure 2.

STEP 8. The LOCAL/REMOTE switch should already be in the **Local** position. If the switchgear is energized and feeding load, decouple the operator before continuing. The following actions may be performed using buttons, as shown in Figure 2:

- Close to Open
- Open to Grounded (optional)
- Grounded to Open (optional)
- Open to Close

An electrical interface in the controls will not allow the motor operators to move to/from the **Close** position directly from/to the **Grounded** position.

Returning Equipment to Service

STEP 1. Make sure the load-interrupter switch and fault-interrupter grounding means are removed.

STEP 2. Make sure the load-interrupter switches and fault interrupters are in the correct **Open** or **Closed** position.

STEP 3. If a pad-mounted enclosure is furnished, close and padlock the termination compartment before energizing the circuit and operating any switching devices.

STEP 4. Padlock the switchgear before leaving the site even momentarily. Observe this procedure even when the gear is accessible only to qualified persons.

Voltage Testing and Phasing

For information on the optional VOLTAGE indicator and VOLTAGE indicator with phasing, see S&C Instruction Sheet 682-510.

Maintenance and Dielectric Testing

For information on maintenance and dielectric testing, including routine switchgear testing, see S&C Instruction Sheet 682-510.