Installation

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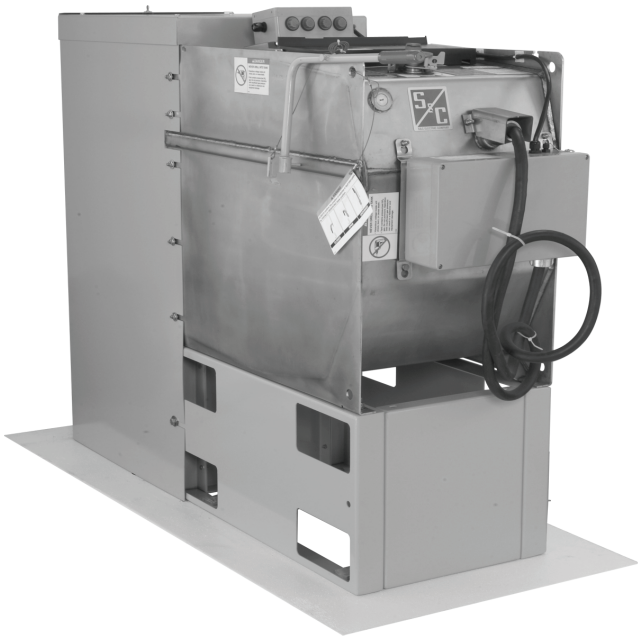


October 14, 2024

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 single-way/wind-turbine style Vista Underground Distribution Switchgear. Become familiar with the Safety Information and Safety Precautions on page 3 through page 5. 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 single-way/wind-turbine style Vista Underground Distribution Switchgear. Designate a location where users can easily retrieve and refer to this publication.

Proper Application

⚠ WARNING

The equipment in this publication is only intended for a specific application. The application must be within the ratings furnished for the equipment. Ratings for single-way/wind-turbine style Vista Underground Distribution Switchgear are listed in the "Ratings" section on page 15. The ratings are also on the nameplate affixed to the product.

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 various 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

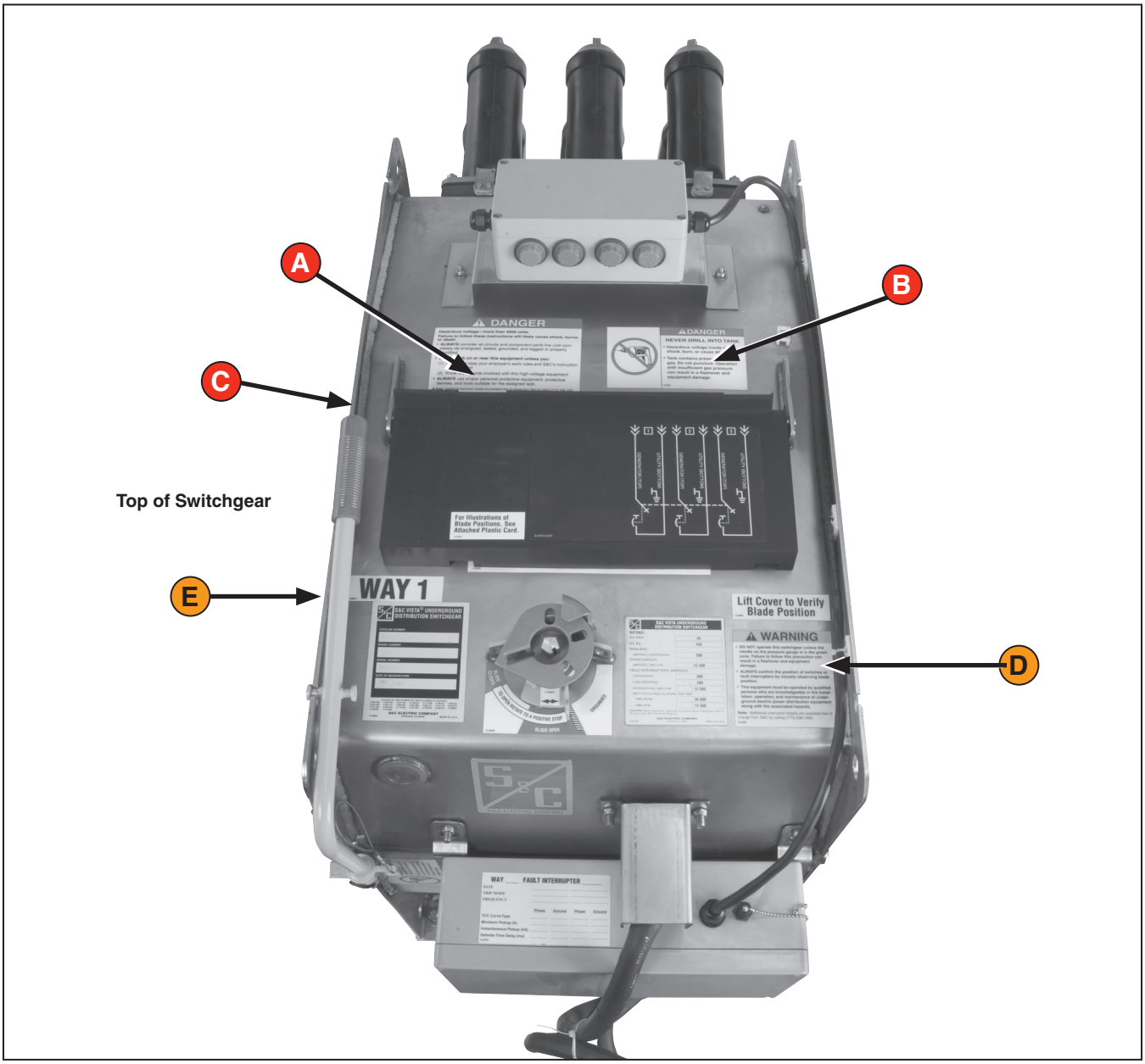
Read this instruction sheet thoroughly and carefully before installing single-way/wind-turbine style Vista Underground Distribution Switchgear.

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



Reorder Information for Safety Labels

Location	Safety Alert Message	Description	Part Number
A	⚠ DANGER	Hazardous Voltage—Always Consider Circuits and Components Live . . .	G-6700
B	⚠ DANGER	Never Drill Into Tank – Hazardous Voltage, Contains Pressurized SF_6 gas	G-6682
C	⚠ DANGER	Keep Away—Hazardous Voltage (“Mr. Ouch”)	G-6699●
D	⚠ WARNING	Check Gas Pressure Before Operating Switchgear	G-6686
E	⚠ WARNING	Always Visually Confirm Blade Position	G-6693●

● This label is located on the side of the gear and is not visible in this photo.

⚠ DANGER

Vista switchgear 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 switchgear 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," "DANGER," or "NOTICE" labels.
5. **ENERGIZED COMPONENTS.** Always assume the bushings are energized unless proved otherwise by test, by visual evidence of an open-circuit condition at the fault interrupter, or by observing the fault interrupter is grounded.
6. **BACKFEED.** Bushings, cables, and the fault interrupter may be energized by backfeed.
7. **DE-ENERGIZING TESTING, AND GROUNDING.** Before touching any bushings or components inside the switchgear tank to be inspected, replaced, serviced, or repaired, always disconnect the fault interrupter from all power sources (including backfeed), test for voltage, and properly ground.
8. **TESTING.** Test the bushings for voltage using the **Voltage Indication** feature (if furnished) or other proper high-voltage test equipment before touching any bushings or components to be inspected, replaced, serviced, or repaired.
9. **GROUNDING**.
   - Make sure the switchgear tank is properly grounded to the station or facility ground.
   - After the switchgear has been completely disconnected from all sources of power and tested for voltage, properly ground the fault interrupter before touching any bushings or components to be inspected, replaced, serviced, or repaired.
10. **FAULT-INTERRUPTER POSITION.**
    - Always confirm the **Open/Close/Grounded** position of the fault interrupter by visually observing the position of the blades.
    - The fault interrupter may be energized by backfeed.
    - The fault interrupter may be energized in any position.
11. **MAINTAINING PROPER CLEARANCE**. Always maintain proper clearance from energized bushings.

Packing

Single-way/wind-turbine style Vista switchgear is shipped in a wooden crate.

At the first opportunity, remove all packing materials (cardboard, paper, foam padding, etc.) from the outside of the switchgear. This will prevent rainwater absorbed by the packing materials from damaging the finish on the elbow cover assembly and prevent wind-induced abrasion from loose cardboard.

Inspection

Examine the shipment for external evidence of damage as soon after receipt as possible, preferably before removal from the carrier's conveyance. Check the bill of lading to make sure all listed shipping skids, crates, and containers are present.

If there is visible loss and/or damage:

1. Notify the delivering carrier immediately.
2. Ask for a carrier inspection.
3. Note condition of shipment on all copies of the delivery receipt.

File a claim with the carrier.

If concealed damaged is discovered:

1. Notify the delivering carrier within 15 days of receipt of shipment.
2. Ask for a carrier inspection.
3. File a claim with the carrier.

Also notify S&C Electric Company in all instances of loss and/or damage.

Storage

The single-way/wind-turbine style Vista switchgear is intended for vault applications. It can go in an electrical room or in the base of a wind turbine.

If it cannot be immediately installed, make sure it is stored in a clean, warm, and dry environment. If this is not possible, shelter the switchgear in a tent-like covering, which will allow adequate ventilation but prevent entry of rain, snow, and contaminants through any openings.

Removal of Elbow Cover Assembly

Complete the following steps to remove the elbow cover assembly:

STEP 1. Loosen the seven thumbscrews on the front cover.

STEP 2. Remove the front cover.

STEP 3. Remove the four hex-head cap screws on the top cover.

STEP 4. Remove the four hex nuts on the underside of the top cover.

STEP 5. Remove the top cover.

STEP 6. Loosen the six hex nuts on the right-side cover. See Figure 1.

STEP 7. Remove the right-side cover by pulling it forward. See Figure 2.

STEP 8. Repeat Step 6 and Step 7 for the left-side cover.

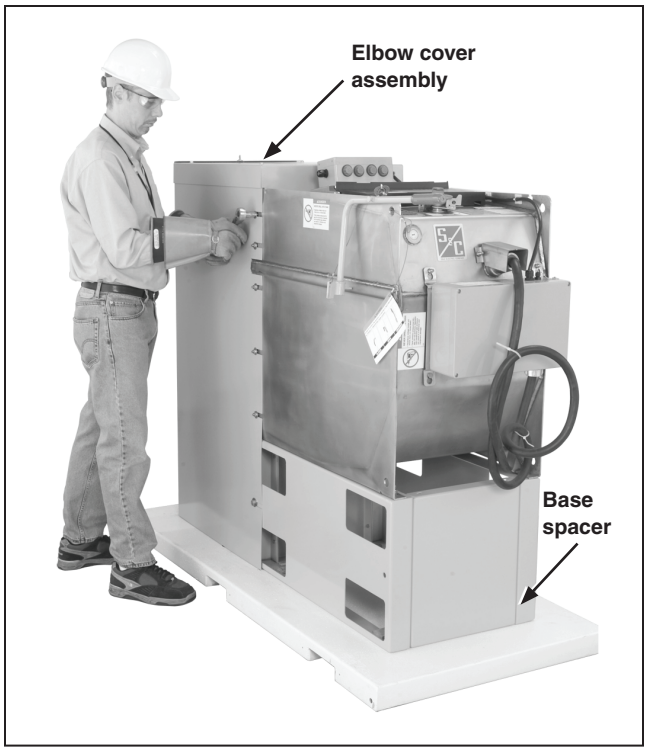


Figure 1. Loosen the six hex nuts on the right-side cover.

Figure 2. Remove the right-side cover by pulling it forward.

Handling

⚠ WARNING

When handling single-way/wind-turbine style Vista switchgear with an overhead hoist, observe standard lifting practices and the general instructions below. **Failure to follow these precautions can result in serious personal injury or equipment damage.**

When handling the Vista switchgear, make sure to:

- Remove the anchor brackets tie-wrapped to the switchgear ground pad. Retain these anchor brackets for reuse in the "Switchgear Placement" section on page 9.
- Use 6-foot (183-cm) or longer hoist slings of equal length to prevent damaging the switchgear during lifting.
- Arrange the hoist slings so as to distribute the lifting forces equally between the lifting tabs. See Figure 3.
- Avoid sudden starts and stops.

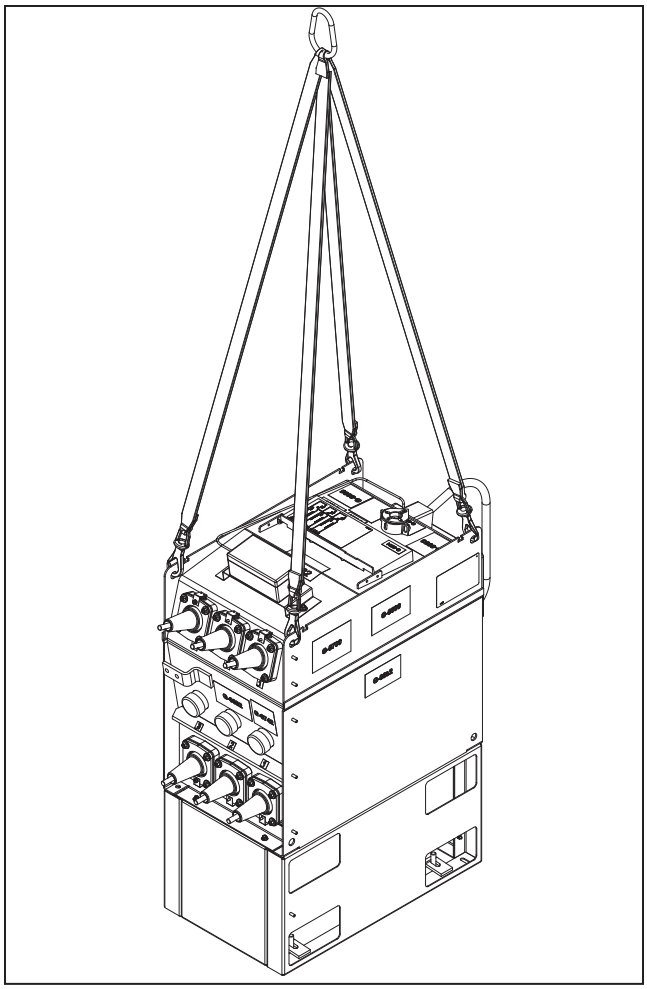


Figure 3. Using hoist slings to lift the switchgear.

Switchgear Placement

Complete the following steps when placing the switchgear:

STEP 1. Remove the switchgear from its crate and life the gear into place, observing the precautions described in the "Handling" section on page 8.

STEP 2. Secure the switchgear to the pad using the anchor brackets provided.

STEP 3. Refer to the catalog dimensional drawing furnished with the switchgear and verify the base spacer is positioned correctly and the base spacer is properly aligned with respect to the anchor bolts.

STEP 4. Secure the base spacer to the pad using the anchor brackets provided. See Figure 4.

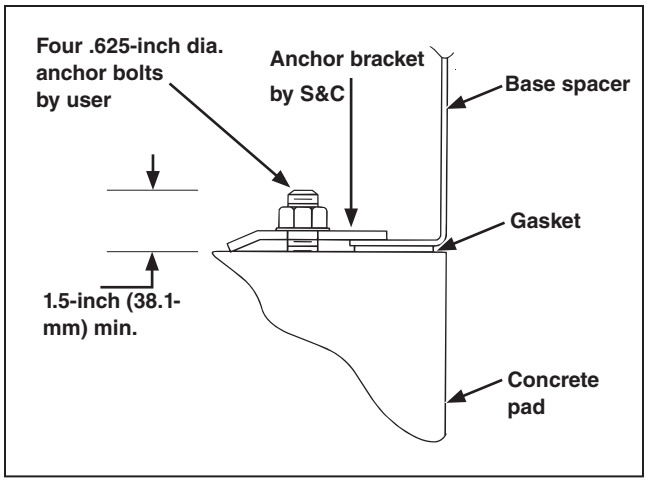


Figure 4. The anchor bracket.

Cables

⚠ DANGER

Before energizing the switchgear, replace the shipping caps on all bushings and bushing wells with elbows or insulated protective caps. **Failure to replace the shipping caps with elbows or insulated protective caps can result in a flashover and serious personal injury or death.**

Follow these steps when handling the switchgear:

STEP 1. Remove the shipping covers from the bushings and bushing wells. See Figure 5.

⚠ CAUTION

ALWAYS follow proper cable installation practices. When installing cable to be attached to the switchgear, provide a strain-relief segment to minimize the load on the bushings. Cables must be allowed to expand and flex without putting a significant load on the bushings. **Failure to follow these precautions can result in damage to the bushings and bushing wells and subsequent leakage of the SF_6 insulating gas. Inhaling SF_6 also may cause irritation.**

STEP 1. Assemble the elbow connectors to the cables following the elbow connector manufacturer's instructions. See Figure 5.

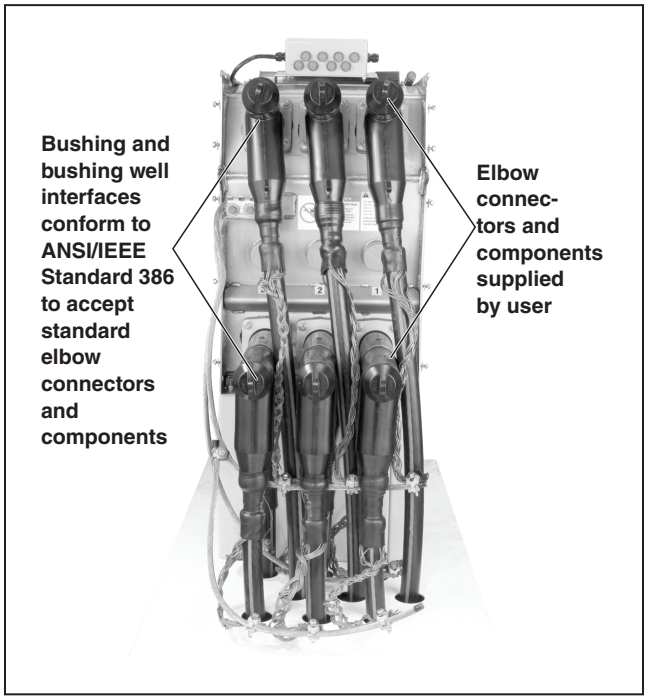


Figure 5. The elbow connectors.

Grounding

Complete the following steps to ground the Vista switchgear:

STEP 1. Connect the cable concentric-neutral ground wires to the grounding system as appropriate.

STEP 2. Connect the ground pad of the switchgear to the system ground facility in accordance with the user's standard grounding practice. See Figure 6.

STEP 3. Use the equivalent of 4/0 copper (or cable sized in accordance with the user's standard practice) in either a single or multiple connection to realize the maximum momentary rating of the switchgear.

For a multiple connection, cables smaller than 1/0 copper or equivalent should not be used.

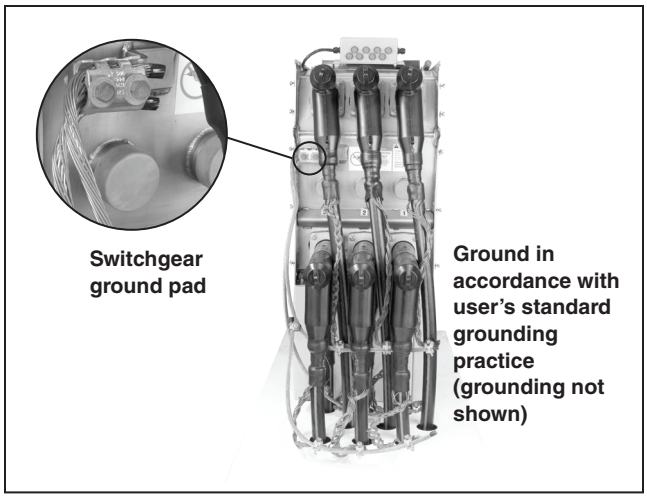


Figure 6. Grounding to the switchgear

Replacement of Elbow Cover Assembly

Complete the following steps to replace the elbow cover assembly:

STEP 1. Slide the right side cover over the six studs. See Figure 7.

STEP 2. Tighten the six hex nuts retained on the studs. See Figure 8 on page 11.

STEP 3. Repeat Step 1 and Step 2 for the left side cover.

STEP 4. Lift the top cover into place.

STEP 5. Replace and tighten the four hex-head cap screws on the top cover.

STEP 6. Replace and tighten the four hex nuts on the underside of the top cover.

STEP 7. Lift the front cover into place.

STEP 8. Tighten the seven thumb screws retained on the front cover.

Figure 7. Slide the right side cover over the six studs.

Completing the Installation

A resilient closed-cell gasket on the bottom flange of the switchgear protects the finish from being scratched during installation and isolates it from the alkalinity of a concrete foundation. This gasket also helps to seal the enclosure to the foundation to guard against entry of wildlife, insects, or weeds, and to discourage tampering.

Complete the following steps to finish the installation:

STEP 1. Wipe down the exterior of the elbow cover assembly with a clean, damp cloth.

STEP 2. Refinish any scratches or abrasions with S&C touch-up finish and red-oxide primer, which are available in aerosol spray cans. See Table 8 on page 17 for ordering information. No other finish or primer is approved.

STEP 3. 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.

Figure 8. Tighten the six hex nuts retained on the studs.

⚠ DANGER

Before energizing the switchgear, replace the shipping covers on all bushing and bushing wells with elbows or insulated protective caps.

Failure to replace the shipping covers on all bushings and bushing wells with elbows or insulated protective caps can result in a flashover and serious personal injury or death.

Complete the following steps to connect the cables and elbow connectors:

STEP 1. Remove the shipping covers from the bushings and bushing wells. See Figure 9.

⚠ CAUTION

ALWAYS follow proper cable installation practices. When installing cable to be attached to the switchgear, provide a strain-relief segment to minimize the load on the bushings. Cables must be allowed to expand and flex without putting a significant load on the bushings. **Failure to follow these precautions can result in minor injury as well as damage to the bushings and bushing wells and subsequent leakage of insulating gas.**

STEP 2. Assemble the elbow connectors to the cables following the elbow connector manufacturer's instructions. See Figure 10.

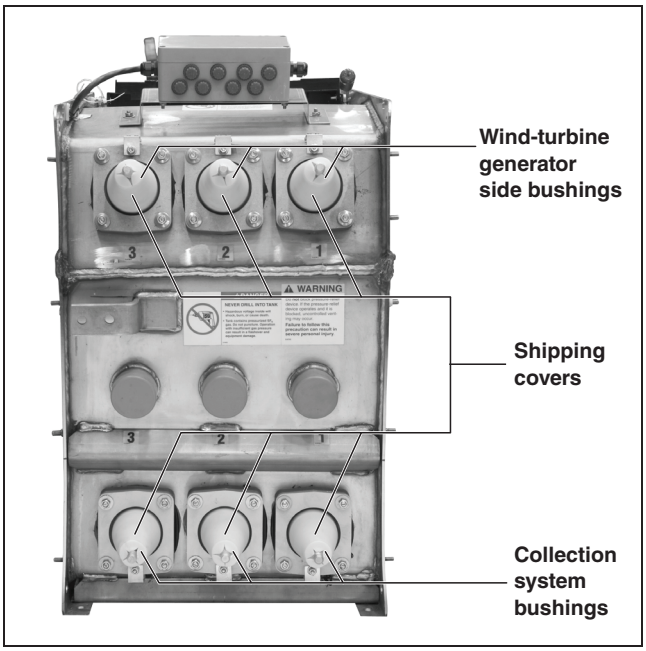


Figure 9. Removing the shipping covers.

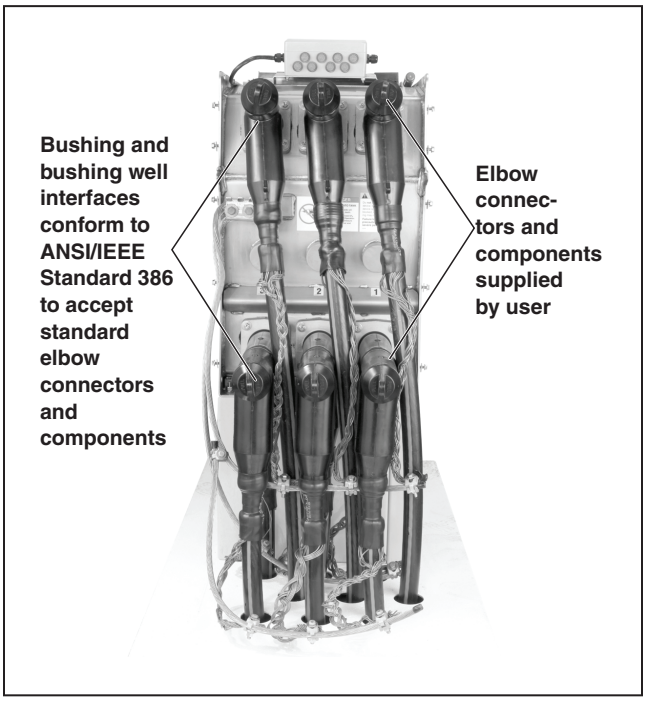


Figure 10. The elbow connectors.

Routine Switchgear Testing

For the convenience of users who normally perform electrical tests on system components such as switchgear, appropriate withstand test values for single-way/wind-turbine style Vista switchgear are given in Table 1.

These test values are significantly greater than the normal operating voltage of the switchgear and are near the flashover voltage of the gear. They should be applied only when the switchgear is completely de-energized and disconnected from all power sources.

⚠ WARNING

When performing electrical withstand tests on Vista Underground Distribution Switchgear, always observe the following precautions. **Failure to observe these precautions can result in a flashover, injury, and equipment damage.**

1. Completely de-energize the switchgear and disconnect it from all power sources.
2. Terminate bushings with an insulated cap or other appropriate cable termination capable of withstanding the test voltage.
3. Verify the insulating-gas pressure gauge is in the green zone.

Table 1. Maximum Insulation Test Voltages

Vista Switchgear Rating, kV			Withstand Test Voltage, kV	
50 Hz	60 Hz	Impulsive (BIL.)	Power Frequency①	Dc ② ③
12	15.5	95	27	42
24	20	125	40	62
36	38	150	50	82

① The power-frequency withstand test voltages listed in the table are approximately 80% of the design values for new equipment.

② The dc withstand test voltages listed in the table are approximately 80% of the design values for new equipment.

③ Dc withstand test voltages are given for reference only for those users performing dc withstand tests. The presence of these values does not imply a dc withstand rating or performance requirements for the switchgear. A dc withstand design test is specified for new equipment because the switchgear may be subjected to dc test voltage when connected to the cable. The dc withstand test values listed in the table are approximately equal to the ac peak test voltage.

Fault-Interrupter Testing

When performing dielectrical tests on single-way/wind-turbine style Vista switchgear, the vacuum fault interrupter will not be subject to voltage across the open gap because the disconnect switch will isolate the vacuum interrupter from the test voltage.

Because the vacuum interrupter will not be energized across the open gap, there is no exposure to X-rays normally associated with high-voltage testing of vacuum devices. Routine testing of the vacuum fault interrupter is not recommended. For those users who desire to test the vacuum interrupter, contact the nearest S&C Sales Office for specific instructions.

Cable-Testing and Fault-Locating

Dc-testing of installed cables is performed to determine the condition of the cables and to locate faults. Industry standards, such as IEEE 400, "IEEE Guide for Making High-Direct-Voltage Tests on Power Cable Systems in the Field," describe such testing and should be referenced for selection of the test procedures.

Dc-testing also includes cable "thumping," i.e., the sudden application of dc voltage from a large capacitor for the purposes of fault locating, which causes transients and voltage doubling at the end of the open cable. When the cables are attached to the switchgear, the gear will also be subjected to the dc-test voltages.

⚠ WARNING

The dc-withstand capability of the switchgear may be reduced because of aging, damage, gas leakage, or electrical or mechanical wear. Therefore, the dc-test voltage must be selected so it does not exceed the withstand limits of the switchgear. **Application of dc-test voltage greater than the withstand capability of the switchgear can result in a flashover, injury, and equipment damage.**

Always verify the insulating-gas pressure gauge is in the green zone before proceeding with any testing.

⚠ DANGER

Do not exceed the test voltages given in Table 2 on page 14. Exceeding the test voltages can cause a flashover of the isolating gap or phase-to-phase insulation of the switchgear. **This will lead to a power-frequency fault in the gear or the dc test source, and result in severe personal injury or death.**

Cables connected to single-way/wind-turbine style Vista switchgear may be dc-tested as follows:

- **With the switchgear energized and the switch blade in the Open position.** The maximum test voltage should not exceed the "Dc Cable-Thumping Voltage" indicated in Table 2. Cables must be de-energized before connecting them to the dc fault-locating equipment.
- **With the switch blade in the grounded position, grounding the cables connecting the wind turbine generator to the switchgear.** The maximum test voltage should not exceed the "Dc Cable Test Voltage" indicated in Table 2. Cables must be de-energized before connecting them to the dc-test equipment.

After testing, the dc fault-locating or test equipment should be used to discharge any stored charge on the cables before regrounding the cables.

⚠ DANGER

Follow the recommendations provided by the manufacturer of the dc-test equipment or fault-locating equipment. Follow the user's operating and safety procedures for grounding the cable, connecting the dc-test source, isolating the dc-test source (in case of flashover), ungrounding the cable, applying the dc-test source, discharging the cable, and regrounding the cable. **Failure to follow these operating and safety procedures will result in injury or equipment damage.**

Table 2. Maximum Cable-Test and Cable-Thumping Voltages

Vista Switchgear Rating, kV				
50 Hz	60 Hz	Impul-sive (BIL.)	Dc Cable-Test Voltage, kV	Dc Cable-Thumping Voltage, kV ①
12	15.5	95	30	15
24	27	125	40	20
36	38	150	40	20

① The dc cable-thumping voltage is 50% of the dc cable-test voltage because of voltage doubling that will occur at the open end of the cable, which is assumed to be a unit of single-way/wind-turbine style Vista switchgear. If the open end of the cable is grounded, the dc cable-thumping voltage applied to the cable and switchgear can be increased to the dc cable test voltage.

Table 3. Single-Way/Wind-Turbine Style Vista Switchgear Ratings①②

Voltage, kV			Current, Amperes (RMS)	
System Class	Max	BIL	Main Bus Cont. Current	Short-Circuit, Sym.
15.5 (12)	15.5 (15.5)	95 (95)	600 (630)●■	12 500 (12 500)
			600 (630)	25 000 (25 000)
27 (24)	29 (29)	125 (125)	600 (630)●■	12 500 (12 500)
			600 (630)	25 000 (25 000)
38 (36)	38 (38)	150 (150	600 (630)●■	12 500 (12 500)
			600 (630)	25 000 (25 000)

① ANSI ratings have been assigned in accordance with the applicable portions of IEEE C37.71, C37.72, and C37.73. IEC Ratings have been assigned in accordance with the applicable portions of IEC 265-1 for a Class A switch.

② Refer to the nearest S&C Sales Office for other possible ratings.

● 200 (200) amperes when switchgear is furnished with optional 200-ampere bushing wells at load-interrupter switch terminals, catalog number suffix "-M4."

■ 200 (200) amperes when optional 600-ampere bushings at fault-interrupter terminals, catalog number suffix ("-M2" or "-M3"), is not specified.

Table 4. Fault-Interrupter Ratings (if applicable)①②

Voltage, kV	Current, Amperes, RMS			
System Class	Cont., Load-Dropping, and Load-Splitting③	10-Time Duty-Cycle Fault-Closing, Sym.		10-Time Duty-Cycle Fault-Interrupting, Sym.
		Into Closed Position	Into Grounded Position	
15.5 (12)	200 (200)●	12 500 (12 500)	12 500 (12 500)	12 500 (12 500)
	600 (630)	25 000 (25 000)	■	25 000 (25 000)
27 (24)	200 (200)●	12 500 (12 500)	12 500 (12 500)	12 500 (12 500)
	600 (630)	25 000 (25 000)	■	25 000 (25 000)
38 (36)	200 (200)●	12 500 (12 500)	12 500 (12 500)	12 500 (12 500)
	600 (630)	25 000 (25 000)	■	25 000 (25 000)

① ANSI ratings have been assigned in accordance with the applicable portions of IEEE C37.71, C37.72, and C37.73. IEC Ratings have been assigned in accordance with the applicable portions of IEC 265-1 for a Class A switch.

② Refer to the nearest S&C Sales Office for other possible ratings.

③ Parallel or loop switching. Fault interrupters and load-interrupter switches can switch the magnetizing current of transformers associated with the load-dropping rating. Unloaded cable-switching rating: 10 amperes at 15.5 kV, 20 amperes at 29 kV and 38 kV.

● 600 (630) amperes when switchgear is furnished with optional 600-ampere bushings at fault-interrupter terminals, catalog number suffix "-M2" or "-M3."

■ 25 000 (25 000) amperes symmetrical three-time duty-cycle fault-closing rating; 16 000 (16 000) amperes symmetrical 10-time duty-cycle fault-closing rating.

Table 5. Load-Interrupter Switch Ratings①② (If applicable)

Voltage, kV	Current, Amperes, RMS		
System Class	Cont., Load-Dropping, and Load-Splitting③	10-Time Duty-Cycle Fault-Closing, Sym.④	Mom. and One-Second, Sym.
15.5 (12)	600 (630)●	12 500 (12 500)	12 500 (12 500)
	600 (630)	■	25 000 (25 000)
27 (24)	600 (630)●	16 000 (16 000)	12 500 (12 500)
	600 (630)	■	25 000 (25 000)
38 (36)	600 (630)●	16 000 (16 000)	12 500 (12 500)
	600 (630)	■	25 000 (25 000)

① ANSI ratings have been assigned in accordance with the applicable portions of IEEE C37.71, C37.72, and C37.73. IEC Ratings have been assigned in accordance with the applicable portions of IEC 265-1 for a Class A switch.

② Refer to the nearest S&C Sales Office for other possible ratings.

③ Parallel or loop switching. Fault interrupters and load-interrupter switches can switch the magnetizing current of transformers associated with the load-dropping rating. Unloaded cable-switching rating: 10 amperes at 15.5 kV, 20 amperes at 29 kV and 38 kV.

④ Applicable to fault closing into **Closed** or **Grounded** position.

● 200 (200) amperes when switchgear is furnished with optional 200-ampere bushing wells at load-interrupter switch terminals, catalog number suffix "-M4."

■ 25 000 (25 000) amperes symmetrical three-time duty-cycle fault-closing rating; 16 000 (16 000) amperes symmetrical ten-time duty-cycle fault-closing rating.

Table 6. Optional Features

Item		Suffix Added to Switchgear Catalog Number
Potential Indication with Test Feature. Includes liquid-crystal display which indicates presence of voltage on each phase, and solar panel to supply power for testing of complete voltage-indication circuit and phasing circuit (if furnished)	Without provisions for low-voltage phasing	-L1
	With provisions for low-voltage phasing	-L2
Remote Low-Pressure Alarm①—includes internal contact for remote low-pressure indication, with wiring to outside of tank	With wires routed on tank for future customer connections	-R11
	With wires terminated in an enclosure furnished with a terminal block for customer connections	-R2
External Trip Provisions, allows three-pole tripping of fault interrupter via a trip signal from a remote location or an external relay. Requires 120-Vac control power②③	In addition to standard overcurrent control	-R31
	In lieu of standard overcurrent control and current transformers	-R41
Key Interlock on Fault Interrupter④		-X1

① This option must be specified if future remote supervisory features, including remote low-pressure indication, are planned.

② Refer to the nearest S&C Sales Office if compatibility with control power other than 120 Vac is required.

③ The user-supplied trip-initiating signal must be a momentary contact. Refer to the nearest S&C Sales Office if an application requires the use of a latching contact.

④ Motor operator cannot be fitted on fault interrupter with key interlock.

Table 7. Accessories

Item		Catalog Number
Shotgun Clamp Sticks for use with separable connectors	69–5½ length	9933-150
	8–5½ length	9933-151
Storage Bag for Shotgun Clamp Stick, heavy canvas	6–6 length	9933-152
	8–6 length	9933-153
Overcurrent-Control Adapter Cable—required for programming overcurrent control	For connecting control to user-furnished personal computer in the field, having a 9-pin (DB9) serial communication port and a PS/2 (mouse) port	TA-2367
	For connecting control (removed from is enclosure) to user-furnished personal computer in the shop, having a 9-pin (DB9) serial communication port and a PS/2 (mouse) port	TA-2368
	For connecting control to user-furnished personal computer having a USB port. Kit includes USB cable, adapter cable, driver CD-ROM, and installation instructions	TA-3153
Portable Motor Operator for operation of fault interrupter from a remote location. Includes carrying case, 50 foot cable with remote controls, and power supplied by	User-furnished 24-volt battery and battery charger	38320R1
	S&C-furnished 24-volt battery and battery charger	38322R1
	S&C-furnished AC input power supply	38323R1

Table 8. Touch-up Kit Components—Aerosol Coatings①

Item	Catalog Number
S&C Light Gray Outdoor Finish	9999-080
S&C Red-Oxide Primer	9999-061

① In 12-ounce cans.