

# Operation Manual

## Enabling Pole-Top Communication Via the Magnet Tool

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## Introduction

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### Qualified Persons

#### **WARNING**

Only qualified persons who are 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 who is 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 before using the magnet tool. Familiarize yourself with Safety Information and Safety Precautions on pages 3 through 5. Also thoroughly and carefully read Instruction Sheet 461-502 before installing or operating your TripSaver II Cutout-Mounted Recloser. The latest version of this publication is available online in PDF format at [sandc.com/en/support/product-literature/](http://sandc.com/en/support/product-literature/).

### Retain this Instruction Sheet

This instruction sheet is a permanent part of your TripSaver II Cutout-Mounted Recloser. Designate a location where you 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 the TripSaver II Cutout-Mounted Recloser are listed in S&C Specification Bulletin 461-33.

### Warranty

The warranty and/or obligations described in S&C's Price Sheet 150, "Standard Conditions of Sale—Immediate Purchasers in the United States," (or Price Sheet 153, "Standard Conditions of Sale—Immediate Purchasers Outside the United States"), plus any special warranty provisions, as set forth in the applicable product-line specification bulletin, are exclusive. The remedies provided in the former for breach of these warranties shall constitute the immediate purchaser's or end user's exclusive remedy and a fulfillment of the seller's entire liability. In no event shall the seller's liability to the immediate purchaser or end user exceed the price of the specific product that gives rise to the immediate purchaser's or end user's claim. All other warranties, whether express or implied or arising by operation of law, course of dealing, usage of trade or otherwise, are excluded. The only warranties are those stated in Price Sheet 150 (or Price Sheet 153), and **THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY EXPRESS WARRANTY OR OTHER OBLIGATION PROVIDED IN PRICE SHEET 150 (OR PRICE SHEET 153) IS GRANTED ONLY TO THE IMMEDIATE PURCHASER AND END USER, AS DEFINED THEREIN. OTHER THAN AN END USER, NO REMOTE PURCHASER MAY RELY ON ANY AFFIRMATION OF FACT OR PROMISE THAT RELATES TO THE GOODS DESCRIBED HEREIN, ANY DESCRIPTION THAT RELATES TO THE GOODS, OR ANY REMEDIAL PROMISE INCLUDED IN PRICE SHEET 150 (OR PRICE SHEET 153).**


**Understanding Safety-Alert Messages**

Several types of safety-alert messages may appear throughout this instruction sheet and on labels and tags attached to your TripSaver II Cutout-Mounted Recloser. Familiarize yourself with these types of messages and the importance of these various signal words:

<b>⚠ DANGER</b>
“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.
<b>⚠ WARNING</b>
“WARNING” identifies hazards or unsafe practices that can result in serious personal injury or death if instructions, including recommended precautions, are not followed.
<b>⚠ CAUTION</b>
“CAUTION” identifies hazards or unsafe practices that can result in minor personal injury if instructions, including recommended precautions, are not followed.
<b>NOTICE</b>
“NOTICE” identifies important procedures or requirements that can result in product or property damage if instructions are not followed.

**Following Safety Instructions**

If you do not understand any portion of this instruction sheet and need assistance, contact your nearest S&C Sales Office or S&C Authorized Distributor. Their telephone numbers are listed on S&C’s website [sandc.com](http://sandc.com), or call the S&C Global Support and Monitoring Center at 1-888-762-1100.

<b>NOTICE</b>	
Read this instruction sheet thoroughly and carefully before installing your TripSaver II Cutout-Mounted Recloser and the magnet tool.	

**Replacement Instructions and Labels**

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

# Safety Information

## Location of Safety Labels



## Reorder Information for Safety Labels

Safety Alert Message	Description	Part Number
	TripSaver® II may be energized from either side and in any position. Always consider all parts live until de-energized, tested, and grounded.	G-9473-E

**⚠ DANGER**



The TripSaver II Cutout-Mounted Recloser operates at high voltage. Failure to observe these precautions 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.

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|---|--|
| <ol style="list-style-type: none"> <li>1. <b>QUALIFIED PERSONS.</b> Access to TripSaver II Cutout-Mounted Reclosers and the magnet tool must be restricted only to qualified persons. See the "Qualified Persons" section on page 2.</li> <li>2. <b>SAFETY PROCEDURES.</b> Always follow safe operating procedures and rule.</li> <li>3. <b>PERSONAL PROTECTIVE EQUIPMENT.</b> 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.</li> <li>4. <b>SAFETY LABELS AND TAGS.</b> Do not remove or obscure any of the "DANGER," "WARNING," "CAUTION," or "NOTICE" labels and tags. Remove tags ONLY if instructed to do so.</li> </ol> | <ol style="list-style-type: none"> <li>5. <b>ENERGIZED COMPONENTS.</b> Always consider all parts live until de-energized, tested, and grounded.</li> <li>6. <b>OPERATING TOOLS.</b> To close a TripSaver II Cutout-Mounted Recloser, use a conventional insulated hotstick or S&amp;C Universal Pole and Pole Extension fitted with a Talon™ Handling Tool or distribution prong. To open a TripSaver II Cutout-Mounted Recloser, use Loadbuster®—The S&amp;C Loadbreak Tool attached to a conventional insulated hotstick or S&amp;C Universal Pole.<br/><br/>The magnet tool must only be used when attached to an insulated hotstick.</li> <li>7. <b>MAINTAINING PROPER CLEARANCE.</b> Always maintain proper clearance from energized components.</li> </ol> |
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## Shipping and Handling

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### Packing

A complete S&C TripSaver II Cutout-Mounted Recloser Magnet Tool set consists of one shipping container. It includes the following:

- A magnet tool
- A small carrying pouch
- Two magnets

### 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 the listed shipping 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 the condition of shipment on all copies of the delivery receipt.
4. File a claim with the carrier.

If concealed damage 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.

### Handling

#### **NOTICE**

**DO NOT** drop a TripSaver II recloser magnet tool or subject any of its parts, including the magnets, to undue stress during operation. Only remove a TripSaver II recloser magnet tool from its protective pouch when it is ready for use.

### Returning

If for any reason a TripSaver II recloser magnet tool is to be returned, place the magnet tool in its carrying pouch to prevent damage during shipping.

**Overview**

The TripSaver II Cutout-Mounted Recloser Magnet Tool helps to safely attach a magnet to the recloser for temporarily enabling near-range communication functionality in reclosers installed in the field. When a magnet is attached and the control is powered up by load current, users can communicate with the recloser using the TripSaver® II Service Center Configuration Software to view recloser status and event logs and to download snapshot files without taking their TripSaver II reclosers down. This tool also makes removal of the magnet easy.

**Applying the Magnet Using the Magnet Tool**

Follow these steps to attach a magnet to a TripSaver II Cutout-Mounted Recloser using the magnet tool.

**STEP 1.** Install the tool to a hotstick by using a wrench to tighten the bolted attachment. See Figure 1.



Figure 1. Installing the magnet tool to a hotstick.

**STEP 2.** The black magnet comes attached to the “OFF” side of the tool. Pull the magnet away from the “OFF” side and slowly re-attach it to the “ON” side. See Figure 2. The side with the orange band should always face inwards.



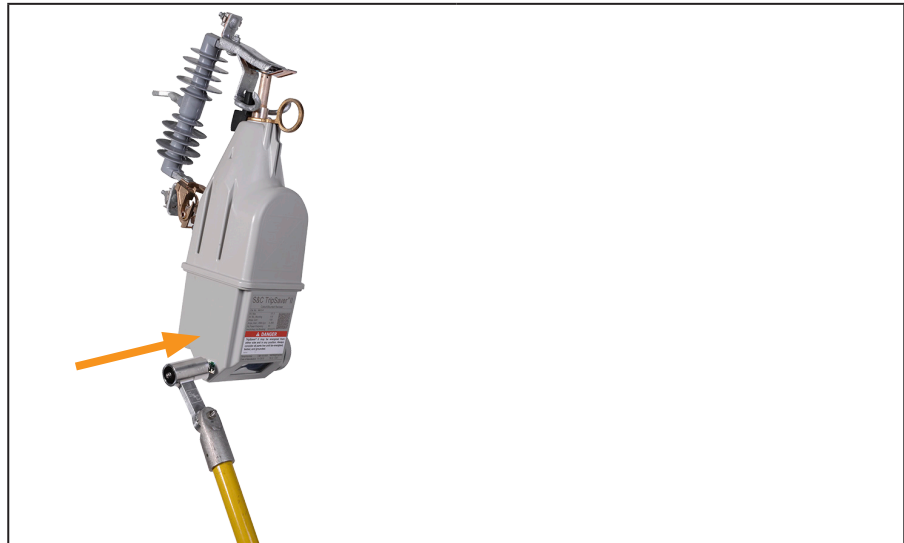
Figure 2. Moving the magnet to the “ON” side of the tool.

**STEP 3.** With the magnet attached to the “ON” side and the engraved S&C logo on the tool facing you, raise the magnet tool up to the left side of the recloser’s lower body. See Figure 3.



**Figure 3.** Raising the magnet tool up to the recloser.

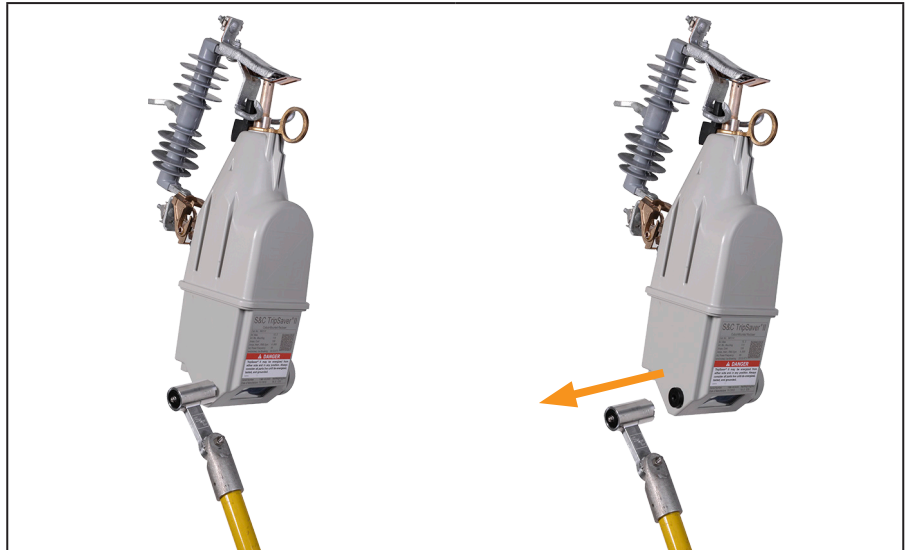
**STEP 4.** Move the magnet tool closer to TripSaver II recloser, aiming at the green S&C logo. See Figure 4.



**Figure 4.** Moving the magnet tool closer to the recloser.



**STEP 5.** As the magnet tool gets closer, the magnet will be attracted automatically to the green S&C logo and attach to the recloser. The magnet must cover the entire logo area. As soon as the magnet is attached to the green S&C logo, move the hotstick away. See Figure 5.



**Figure 5.** Attaching the magnet and moving the magnet tool away from the recloser.

When the magnet is attached and the TripSaver II recloser is powered by load current, communicate with the TripSaver II recloser in the field using the TripSaver II Service Center Configuration Software.

**NOTICE**

To power a TripSaver II recloser from its **Sleep** state, there must be enough load current available (1 A for 40-A continuous reclosers, 4 A for 100-A continuous reclosers, and 8 A for 200-A continuous reclosers). When powered, the control can stay on as long as the power does not fall below the **Stay On** threshold (0.5 A for 40-A continuous reclosers, 1.5 A for 100-A continuous reclosers, and 3 A for 200-A continuous reclosers).

### Removing the Magnet Using the Magnet Tool

Follow these steps to remove the magnet from the TripSaver II Cutout-Mounted Recloser, using the same magnet tool, after the communication session is over.

**STEP 6.** Flip the tool so the engraved S&C logo on the tool is facing away from you. Raise the magnet tool up to the left side of the TripSaver II recloser's lower body. See Figure 6.



Figure 6. Flipping the magnet tool and raising it up.

**STEP 7.** Move the magnet tool closer to TripSaver II recloser, aiming at the magnet. See Figure 7.



Figure 7. Moving the magnet tool closer to the TripSaver II recloser.

**STEP 8.** As the magnet tool gets closer, the magnet will be repelled automatically away from the green S&C logo and be attracted to the “OFF” side of the tool. As soon as the magnet is attached to the “OFF” side, move the hotstick away. See Figure 8.

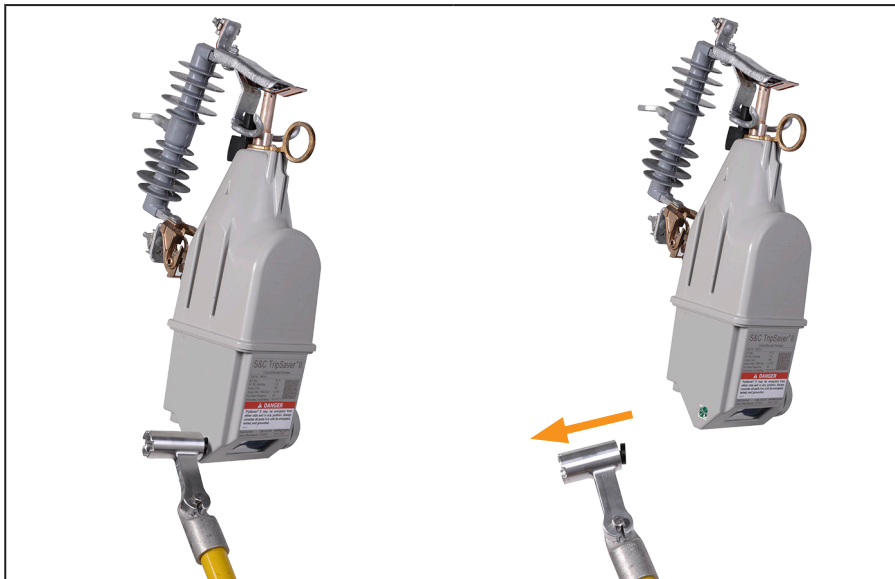


Figure 8. Repelling the magnet away from the recloser and moving it toward the magnet tool.

### Limitations During Communication Session

Pay attention to the following limitations when using the Magnet Tool:

- The signal strength could be weak when communicating with reclosers on the pole using the Service Center Configuration Software because of the increased distance and outdoor interference. If safe work practices allow, move the laptop computer closer to the recloser when making a connection is difficult.

#### NOTICE

DO NOT perform a firmware or settings update in the field. Loss of line power or loss of packets caused by weak signal strength or interference may render the TripSaver II recloser nonfunctional. Reclosers must be taken down from the pole to perform firmware or settings updates using the Service Center Configuration Kit.

- When a connection is established, the signal strength can be seen at the lower left corner of the Service Center Configuration Software screen. To download a snapshot file successfully, a -87 dBm signal strength or better is required. (The lower the magnitude of the number the better. For example, -83 dBm is better than -87 dBm; -90 dBm is worse than -87 dBm.) If the signal strength is worse than -87 dBm, downloading a snapshot file may take a very long time and may get interrupted or time out. To improve the signal strength, customers should move their laptop computer closer to the recloser when it is safe to do so.
- The magnet must not be left attached unattended. Always remove and securely store the magnet as soon as field data retrieval is complete.