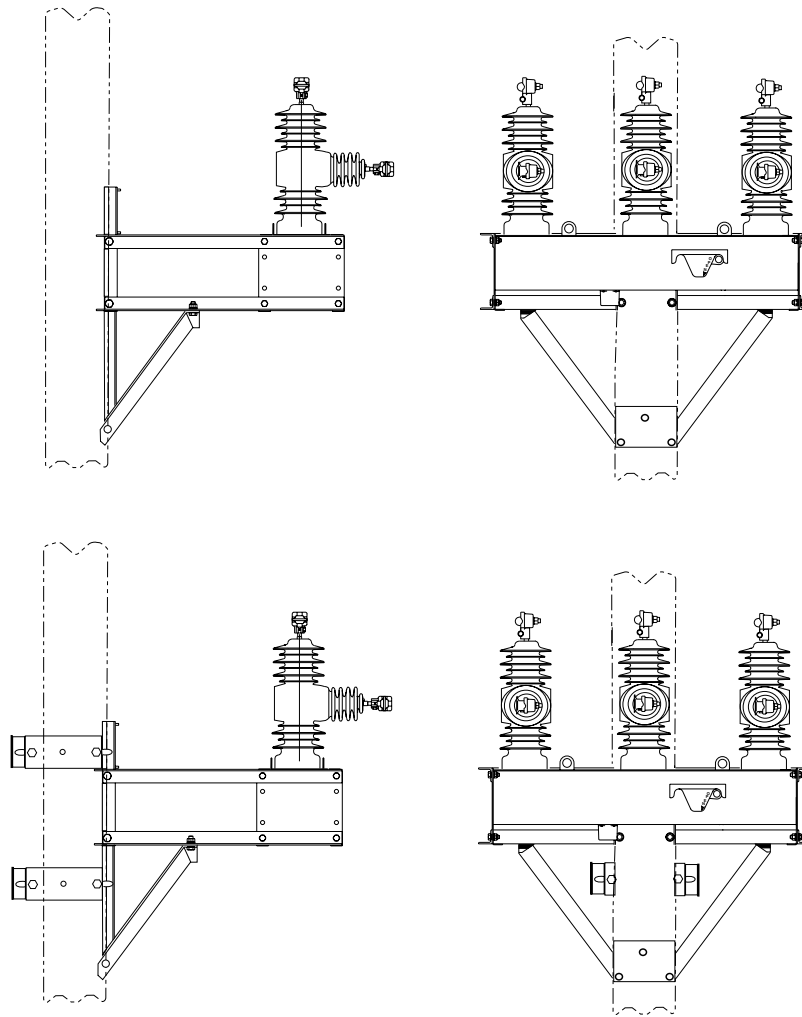


KNOVA-54-3 pole-mounting hanger and KNOVA-54-4 pole-mounting hanger assembly and installation instructions



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Contents

SAFETY INFORMATION

Safety Information	iv
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PRODUCT INFORMATION

Introduction	1
Acceptance and initial inspection	1
Handling and storage	1

KNOVA-54-3 POLE-MOUNTING HANGER INSTRUCTIONS

KNOVA-54-3 assembly instructions	2
KNOVA-54-3 installation instructions	3

KNOVA-54-4 POLE-MOUNTING HANGER INSTRUCTIONS

KNOVA-54-4 assembly instructions	4
KNOVA-54-4 installation instructions	5



Safety for life



Eaton meets or exceeds all applicable industry standards relating to product safety in its Cooper Power™ series products. We actively promote safe practices in the use and maintenance of our products through our service literature, instructional training programs, and the continuous efforts of all Eaton employees involved in product design, manufacture, marketing, and service.

We strongly urge that you always follow all locally approved safety procedures and safety instructions when working around high voltage lines and equipment, and support our “Safety For Life” mission.

Safety information

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians who are familiar with this equipment should install, operate, and service it.

A competent technician has these qualifications:

- Is thoroughly familiar with these instructions.
- Is trained in industry-accepted high and low-voltage safe operating practices and procedures.
- Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.
- Is trained in the care and use of protective equipment such as arc flash clothing, safety glasses, face shield, hard hat, rubber gloves, clampstick, hotstick, etc.

Following is important safety information. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings.

Hazard Statement Definitions

This manual may contain four types of hazard statements:

 DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

 WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in equipment damage only.

Safety instructions

Following are general caution and warning statements that apply to this equipment. Additional statements, related to specific tasks and procedures, are located throughout the manual.

 DANGER

Hazardous voltage. Contact with hazardous voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high- and low-voltage lines and equipment.

G103.3

 WARNING

Before installing, operating, maintaining, or testing this equipment, carefully read and understand the contents of this manual. Improper operation, handling or maintenance can result in death, severe personal injury, and equipment damage.

G101.0

 WARNING

This equipment is not intended to protect human life. Follow all locally approved procedures and safety practices when installing or operating this equipment. Failure to comply can result in death, severe personal injury and equipment damage.

G102.1

 WARNING

Power distribution and transmission equipment must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures. Failure to properly select, install or maintain power distribution and transmission equipment can result in death, severe personal injury, and equipment damage.

G122.3

Product information

Introduction

Eaton's *Service Information MN280042EN* provides assembly and installation instructions for its Cooper Power™ series KNOVA-54-3 and KNOVA-54-4 pole-mounting hangers.

- The KNOVA-54-3 hanger is designed for use on a wooden pole.
- The KNOVA-54-4 hanger is designed for use on steel or concrete poles. The KNOVA-54-4 hanger is acceptable for mounting on a round steel or concrete pole with a diameter from 178 mm-305 mm (7"-12") or a square steel or concrete pole 165 mm-298 mm (6.5"-11") square.

Before assembling the pole-mounting hanger, carefully read and understand the contents of this manual.

The pole-mounting hangers referenced in these instructions are intended for the following switchgear from Eaton.

- NOVA® three-phase recloser
- DAS three-phase distribution automation switch
- VCS-3 three-phase capacitor switch
- TVS time-voltage sectionalizer

Read this manual first

Read and understand the contents of this manual and follow all locally approved procedures and safety practices before assembling or installing this equipment.

Additional information

These instructions cannot cover all details or variations in the equipment, procedures, or process described nor provide directions for meeting every possible contingency during assembly or installation. For additional information, please contact your Eaton representative.

Acceptance and initial inspection

All hanger parts are inspected at the factory. They are in good condition when accepted by the carrier for shipment. Upon receipt, inspect the shipping container for signs of damage. Unpack and inspect thoroughly for damage incurred during shipment. If damage is discovered, file a claim with the carrier immediately.

Handling and storage

Be careful during handling and storage of the hanger to minimize the possibility of damage. If the hanger is to be stored for any length of time prior to assembly or installation, provide a clean, dry storage area.

Quality standards

ISO 9001 Certified Quality Management System

KNOVA-54-3 pole-mounting hanger instructions

Table 1. KNOVA-54-3 Assembly Parts List

Item	Description	Part Number	Quantity
1	Channel	6A00095601	1
2	Bracket, right hand	VCS10012200001	2
3	Bracket, left hand	VCS10012200002	2
4	Hex head capscrew, 1/2-13x1-1/2	730115150150A	10
5	Split lockwasher, 1/2	900815050000A	10
6	Hex nut, 1/2-13	880215113050A	10
7	Hex head capscrew, 5/8-11x1-1/2	730115162150A	6
8	Split lockwasher, 5/8	900815062000A	6
9	Hex nut, 5/8-11	880215111062A	6
10	Brace Support Angle	6A00090501	1
11	Brace Support Angle	6A00090601	1
12	Washer, 1/2	900215050000A	8
-	Anti-seize compound		

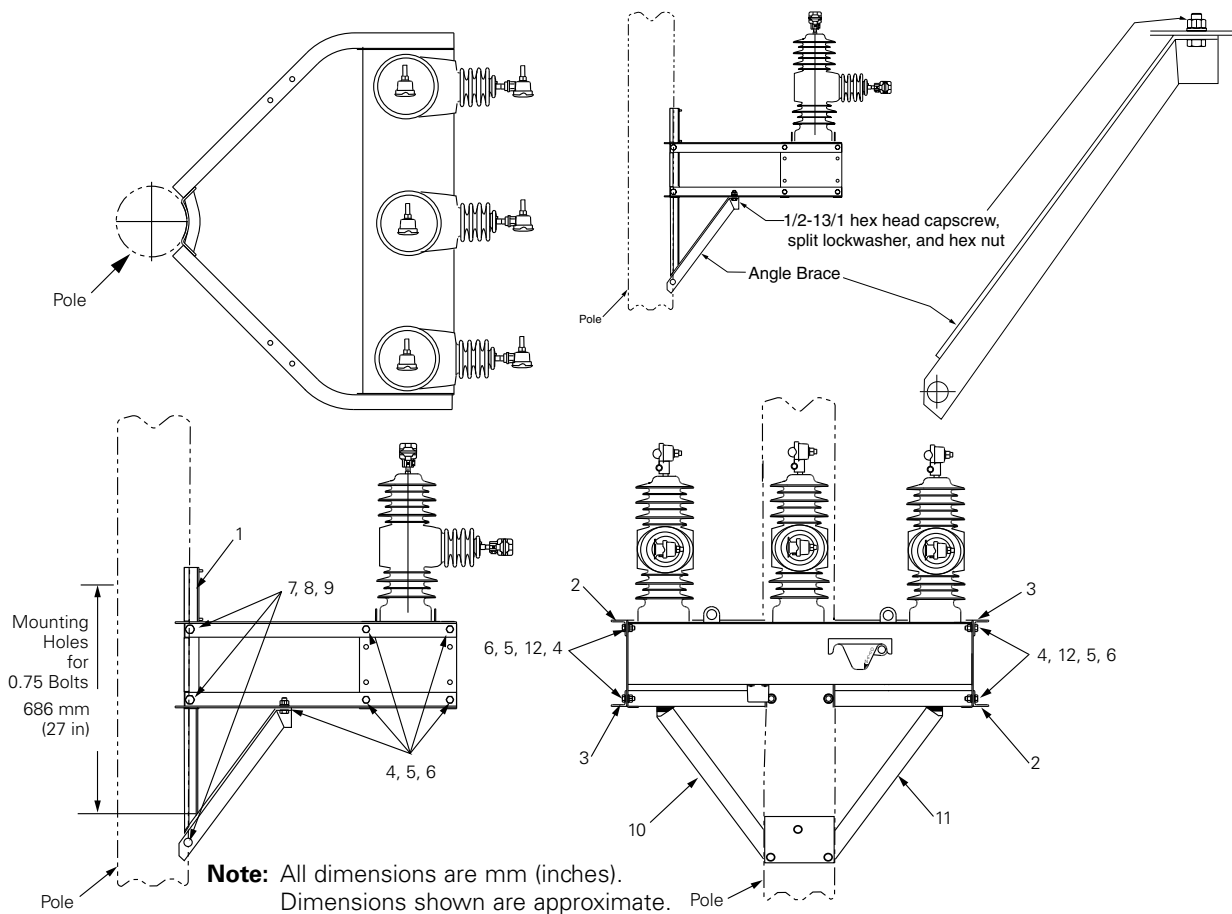


Figure 1. KNOVA-54-3 pole-mounting hanger.

Hanger assembly instructions

The hanger is shipped unassembled. Assemble the hanger using the following procedures. Refer to Table 1.

1. Coat all threaded hardware with anti-seize compound prior to assembly.

CAUTION

Personal Injury. Sheds on epoxy encapsulation have sharp edges. Wear protective gloves when handling the unit. Failure to do so can result in cuts and abrasions. T258.1

2. Orient the brackets as illustrated in Figure 1.
3. Attach the four brackets (Items 2 and 3) to the switchgear unit using eight 1/2-13x1-1/2 hex head capscrews, flat washer, split lockwashers, and hex nuts (Items 4, 12, 5, and 6).
4. Finger-tighten hardware.
5. Attach the channel (Item 1) to the ends of the four brackets using four 5/8-11x1-1/2 hex head capscrews, split lockwashers, and hex nuts (Items 7, 8, and 9).
6. Finger-tighten hardware.
7. Attach the angle braces (Items 10 and 11) to the bottom of the two brackets (using holes closest to switchgear) using two 1/2-13x1-1/2 hex head capscrews, split lockwashers, and hex nuts (Items 4, 5, and 6). Refer to Figure 1 for proper orientation.
8. Finger-tighten hardware.
9. Attach the angle braces to the channel using two 5/8-11x1-1/2 hex head capscrews, split lockwashers, and hex nuts (Items 7, 8, and 9).
10. Completely tighten all hardware to 47 Nm (35 ft-lbs.)

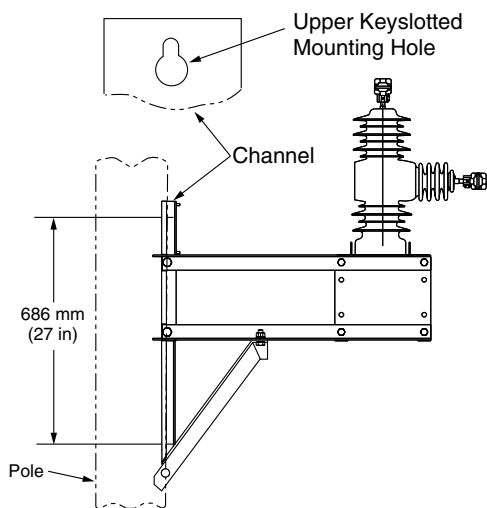


Figure 2. Proper orientation of upper keyslotted mounting hole for KNOVA-54-3 pole-mounting hanger.

Hanger installation instructions

The hanger is mounted to the pole on 686 mm (27 Inch) centers. The upper keyslotted mounting hole allows for some variation in the mounting centers dimension. (See Figure 2.)

CAUTION

Falling equipment. Use the lifting lugs provided and follow all locally approved safety practices when lifting and mounting the equipment. Lift the unit smoothly and do not allow the unit to shift. Improper lifting can result in severe personal injury, death, and/or equipment damage. G106.3

1. Lift the entire assembly. See Figure 3 for lifting instructions.
2. Attach the frame to the pole with 19 mm (3/4 inch) pole-mounting hardware (to be provided by the customer).

Moving the switch

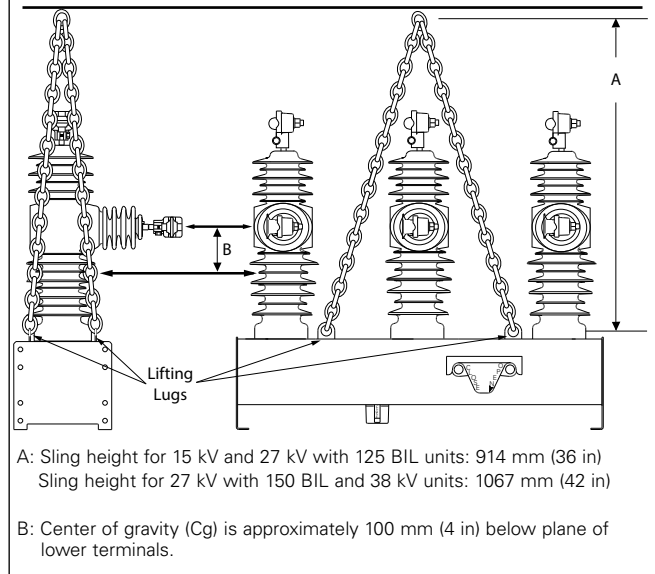
The switchgear are shipped palletized (bolted onto a pallet). When moving with a fork truck/lift, the switchgear must remain bolted to the pallet to avoid damage to the OPEN/CLOSE contact position indicator.

Lifting the switch

Follow all approved safety practices when making hitches and lifting the equipment. Lift the unit smoothly and do not allow the unit to shift.

CAUTION

Tip-over Hazard. High center of gravity. Use a 4-point hitch to prevent switchgear from overturning during lifting operations. Improper lifting can result in person injury or equipment damage. T297.0



- A: Sling height for 15 kV and 27 kV with 125 BIL units: 914 mm (36 in)
Sling height for 27 kV with 150 BIL and 38 kV units: 1067 mm (42 in)
- B: Center of gravity (Cg) is approximately 100 mm (4 in) below plane of lower terminals.

Figure 3. Moving and lifting instructions for the switchgear.

KNOVA-54-4 pole mounting hanger instructions

Table 2. KNOVA-54-4 Assembly Parts List

Item	Description	Part Number	Quantity
1	Channel	6A00301001	1
2	Bracket, right hand	VCS10012200001	2
3	Bracket, left hand	VCS10012200002	2
4	Hex head capscrew, 1/2-13x1-1/2	730115150150A	10
5	Split lockwasher, 1/2	900815050000A	10
6	Hex nut, 1/2-13	880215113050A	10
7	Hex head capscrew, 5/8-11x1-1/2	730115162150A	6
8	Split lockwasher, 5/8	900815062000A	6
9	Hex nut, 5/8-11	880215111062A	6
10	Brace Support Angle	6A00090501	1
11	Brace Support Angle	6A00090601	1
12	Spacer Plate	L000383	6
13	Bolt, 3/4x6-1/2	DZ28D18	8
14	Square Nut, 3/4	DF1N6	16
15	Washer, 1/2	900215050000A	8
-	Anti-seize compound		

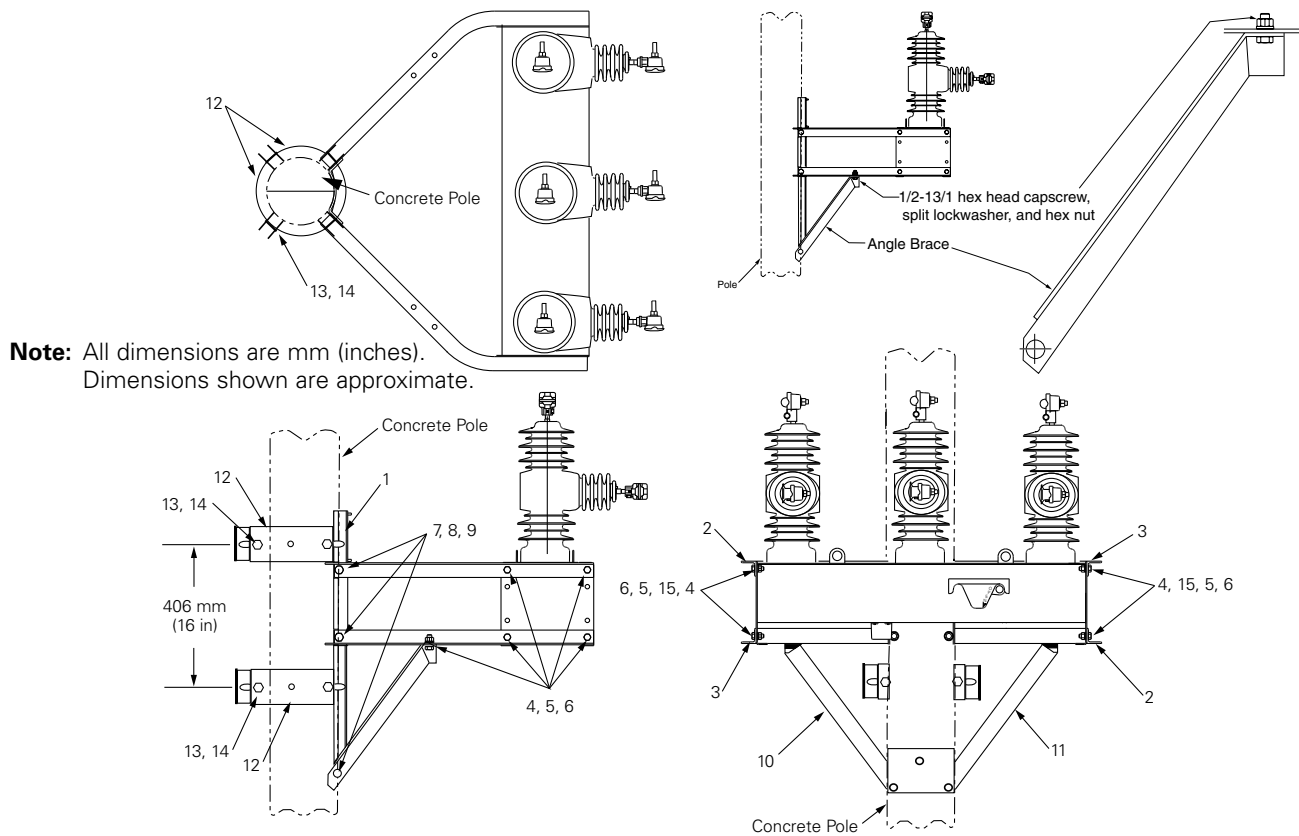


Figure 4. KNOVA-54-4 pole-mounting hanger.

Hanger assembly instructions

The hanger is shipped unassembled. Assemble the hanger using the following procedures. Refer to Table 2.

1. Coat all threaded hardware with anti-seize compound prior to assembly.

CAUTION

Personal Injury. Sheds on epoxy encapsulation have sharp edges. Wear protective gloves when handling the unit. Failure to do so can result in cuts and abrasions. T258.1

2. Orient the brackets as illustrated in Figure 4.
3. Attach the four brackets (Items 2 and 3) to the switchgear unit using eight 1/2-13x1-1/2 hex head capscrews, flat washer, split lockwashers, and hex nuts (Items 4, 15, 5, and 6).
4. Finger-tighten hardware.
5. Attach the channel (Item 1) to the ends of the four brackets using four 5/8-11x1-1/2 hex head capscrews, split lockwashers, and hex nuts (Items 7, 8, and 9).
6. Finger-tighten hardware.
7. Attach the angle braces (Items 10 and 11) to the bottom of the two brackets (using holes closest to switchgear) using two 1/2-13x1-1/2 hex head capscrews, split lockwashers, and hex nuts (Items 4, 5, and 6). Refer to Figure 4 for proper orientation.
8. Finger-tighten hardware.
9. Attach the angle braces to the channel using two 5/8-11x1-1/2 hex head capscrews, split lockwashers, and hex nuts (Items 7, 8, and 9).
10. Completely tighten all hardware to 47 Nm (35 ft-lbs.)

Hanger installation instructions

The hanger is mounted to the pole on 406 mm (16 Inch) centers. (See Figure 4.)

1. Lift the entire assembly. See Figure 5 for lifting instructions.

CAUTION

Falling equipment. Use the lifting lugs provided and follow all locally approved safety practices when lifting and mounting the equipment. Lift the unit smoothly and do not allow the unit to shift. Improper lifting can result in severe personal injury, death, and/or equipment damage. G106.3

2. Attach the spacer plates (Item 12) to the channel and each other to encircle the pole using two 3/4x6-1/2 bolts and square nuts (Items 13 and 14). Place two nuts on each bolt, one nut on either side of the spacer plate. See Figure 4.
3. Tighten all hardware to 47 Nm (35 ft-lbs).

Moving the switch

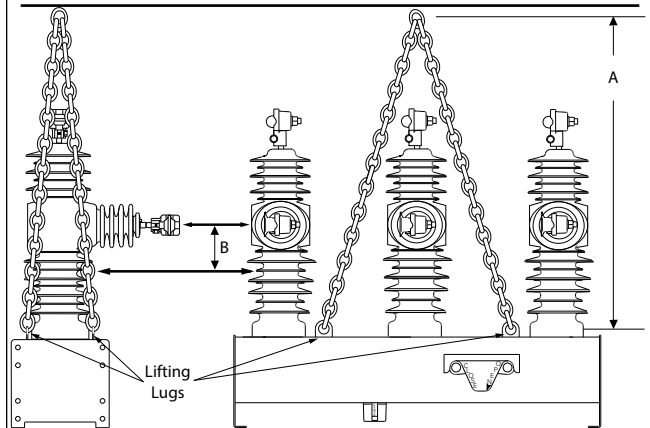
The switchgear are shipped palletized (bolted onto a pallet). When moving with a fork truck/lift, the switchgear must remain bolted to the pallet to avoid damage to the OPEN/CLOSE contact position indicator.

Lifting the switch

Follow all approved safety practices when making hitches and lifting the equipment. Lift the unit smoothly and do not allow the unit to shift.

CAUTION

Tip-over Hazard. High center of gravity. Use a 4-point hitch to prevent switchgear from overturning during lifting operations. Improper lifting can result in person injury or equipment damage. T297.0



A: Sling height for 15 kV and 27 kV with 125 BIL units: 914 mm (36 in)
Sling height for 27 kV with 150 BIL and 38 kV units: 1067 mm (42 in)

B: Center of gravity (Cg) is approximately 100 mm (4 in) below plane of lower terminals.

Figure 5. Moving and lifting instructions for the switchgear.

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Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

**Eaton's Cooper Power Systems
Division**
2300 Badger Drive
Waukesha, WI 53188
United States
Eaton.com/cooperpowerseries

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