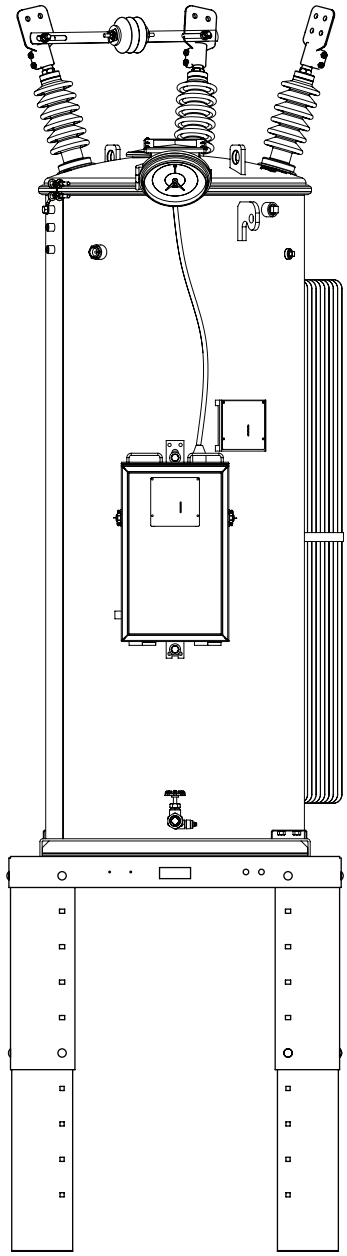
McGraw-Edison® Voltage Regulator Elevating Structure Assembly Instructions



Powering Business Worldwide

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Contents

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

Assembly procedure

Each elevating structure is shipped on its own pallet as a self-contained unit. The pallet contains a part assembly kit as shown in Table 1 on page 2. Check that all the parts are available before starting the assembly process. In order to complete the assembly, it is recommended to use a torque wrench or ratchet wrench with a socket for 11/16" across the flats of a standard hexagonal nut.

1. Place the top mounting platform on the ground, with smooth surface facing down, on wood runners to avoid scratching the galvanized zinc coating.
2. Place an upper leg in a vertical position on the inside corner of the platform (see Figure 1).
3. Insert a carriage bolt through the square holes in the platform and into the slotted hole on the leg. The round bolt head will be on the outside. Align the slot with the square hole until the shoulder on the carriage bolt goes through both parts (the leg and the platform). Insert a flange hex nut over the threaded end and tighten it until the parts stay together when released. Do not pull down tight.
4. Insert a second carriage bolt from the outside through the holes at 90° on the platform. Align holes so that the square shoulder goes through both parts. Place a nut over the threaded end and tighten as in step 3.

⚠ WARNING

It is important that the shoulder of the bolt goes through both the leg and the platform, and that the angle legs are flat in contact (metal to metal) with the platform surface. There should be no air gap between parts.

5. **Secure the nuts tight to a torque of 20 to 25 ft-lb**. The holes on the platform and the legs are located so that the legs will be perpendicular to the platform surface after tightening.
6. Repeat steps 2 through 5 until all four upper legs are secured in place.
7. Select the desired height of the structure, referring to Table 3 or Table 4. The elevating structure can be adjusted from a minimum to a maximum range as shown.

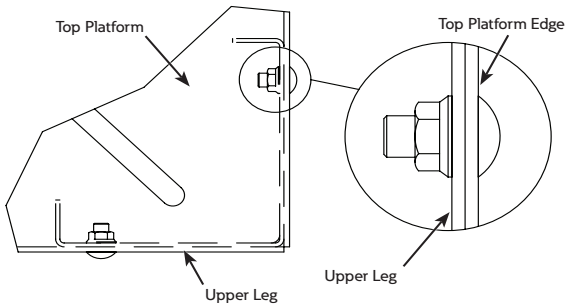


Figure 1. Assembly of upper leg to platform

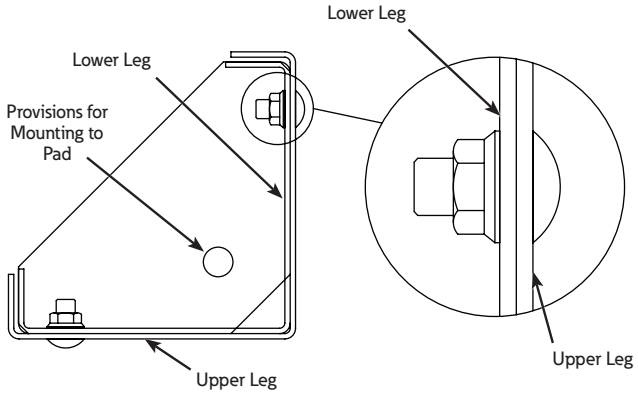


Figure 2. Assembly of lower leg to upper leg

8. Place a lower leg vertically, with anchor plate facing up, against the inside surface of the upper leg. Match the holes for desired stand height. Insert a carriage bolt with round head facing out through slot and square hole. Line up holes until the shoulder nests inside both parts (see Figure 2). Proceed as in steps 3 through 5 and repeat until all the lower legs have been secured in place. The assembly is now completed.
9. Turn assembly upright onto mounting pad or non-yielding footing. It is recommended that the lower leg mounting plates be secured to the pad with four (4) 1/2" diameter bolts (not provided) in order to ensure that the installation can withstand lateral wind and seismic loads. Refer to Table 2, Dimension "A" for reference mounting distance between bolts.
10. Lift the regulator onto the platform of the elevating structure. Secure the regulator to the center of the structure using four (4) 1/2" diameter bolts, the appropriate flat washers for the application, lock washers, and nuts. Tighten to 160-180 in-lb. Do not overtighten as the top mounting platform may deform.

⚠ WARNING

The maximum weight capacity for the elevating structure is 7400 pounds. Exceeding this rating may cause the structure to fail, resulting in possible permanent damage to the structure and/or the equipment placed on it and may result in personal injury or death.

Table 1. Kit materials

Quantity	Size	Description
18*	7/16"-14 x 1	Carriage Bolts with Epoxy Patch
18*	7/16"-14	Flanged Hex Nuts
4	1/2"-13 x 5	Hex Bolts
8**	1/2" x 1.25 O.D	Flat Washers
4	1/2"-13	Hex Nuts
4	1/2"	Lock Washers
8**	5/8" x 2.25 O.D.	Flat Washers
1		Top Platform
4		Upper Legs
4		Lower Legs (with provisions for anchoring to Pad)

* 16 Carriage bolts and hex lock nuts are required for assembly; two additional carriage bolts and hex lock nuts are included.

** 1.25" O.D. washer for pole-type tank bases, 2.25" O.D. washers for station-type tank bases.

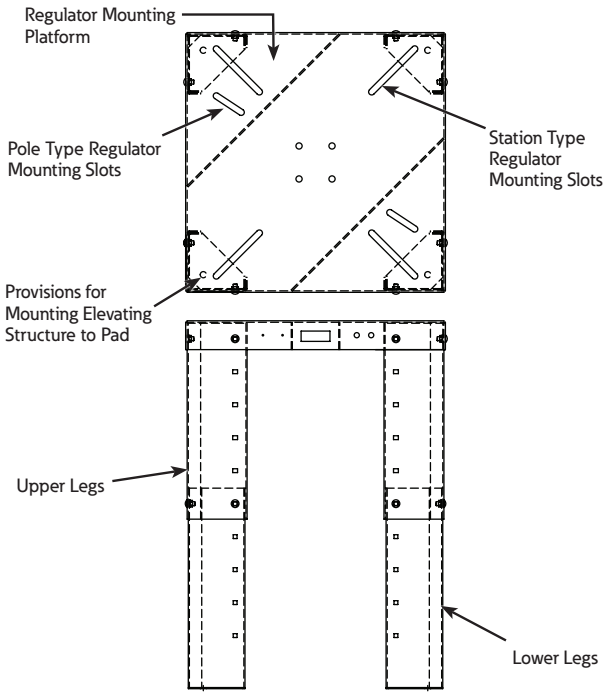


Figure 3. Complete assembly

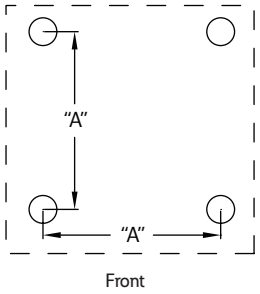


Table 2. Pad mounting hole location

Elevating Structure Part Number	Dimension "A"	Platform Size	Regulator Tank Diameter	Table
2042020B01	27.2 in.	31.50 in.	20-29 in.	2
2042020B02	27.2 in.	31.50 in.	20-29 in.	3
2042020B03	33.2 in.	37.50 in.	29-36 in.	3
2042020B04	33.2 in.	37.50 in.	29-36 in.	2

Table 3. Height of 2042020B01 & B04

Height	Hole Position on Lower Leg	Bolt Position on Upper Leg
24.7	5	4
28.7	5	5
32.7	4	5
36.7	3	5
40.7	2	5
44.7	1	5

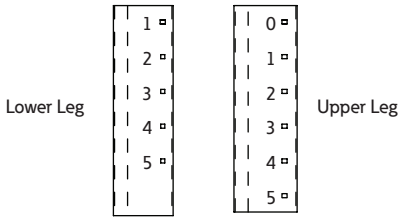
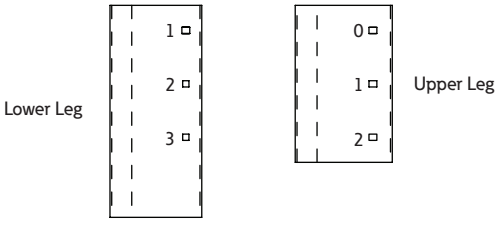


Table 4. Height of 2042020B02 & B03

Height	Hole Position on Lower Leg	Bolt Position on Upper Leg
16.4	3	2
20.4	2	2
24.4	1	2



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Powering Business Worldwide

Printed in USA
Publication No. MN225043EN
September 2016

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