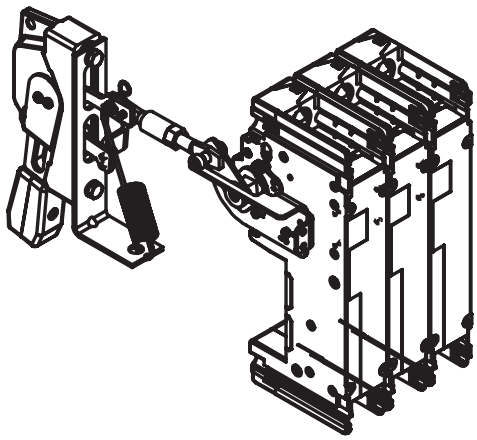
CCP2-FLR2-21_ flange-rod operating mechanism



General information

These instructions cover installing and operating the Bussmann™ series CCP2-FLR2-_ flange rod operating mechanisms installed on 2- or 3-pole versions of the fused 200 and 400 amp Compact Circuit Protector (CCP2) disconnect switches, and 3-pole versions of the non-fused 200 and 400 amp Compact Circuit Disconnect (CCD2) switches.

The flange rod handle mechanism provides an external means to operate the CCP2 and CCD2 switches. The standard handle is for NEMA 1, 3R, and 12 enclosures while the chrome handle version is for NEMA 4X enclosures.

Using the CCP2-FLR2_ for CCP2 and CCD2 switches precludes installing the optional auxiliary contacts on the switch's right side.

Full installation utilizes the operating handle, rod and assembled switch mechanism.

Contents

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

MAY RESULT IN DEATH OR SERIOUS INJURY

Working on or near energized circuits poses a serious risk of electric shock. De-energize all circuits before installing or servicing this equipment and follow all prescribed safety procedures.

- Do not install or perform maintenance on equipment while it's energized.
- Death, severe personal injury or substantial property damage can result from contact with energized equipment. Always verify that no voltage is present, and prescribed safety and lockout/tagout procedures are followed.
- Eaton is not liable for the misapplication or mis-installation of this product.
- The user is cautioned to observe all recommendations, warnings and cautions relating to personnel and equipment safety, as well as all general and local health and safety laws, codes and procedures.
- The recommendations and information contained herein are based on experience and judgment, but should not be considered to be all-inclusive or covering every application or circumstance which may arise. If any questions arise, contact the Bussmann Division for further information or instructions.

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Required tools

- #1 phillips head screwdriver
- Needle nose pliers
- 5/16" open end wrench
- 7/16" open end wrench
- 9/16" open end wrench
- 5M tap and suitable drill bit
- Pliers
- Electric drill
- Hacksaw
- Metal file

Before proceeding, please review flange rod operator kit contents to be sure all parts are included. If any are missing, please contact your local Bussmann series product representative.

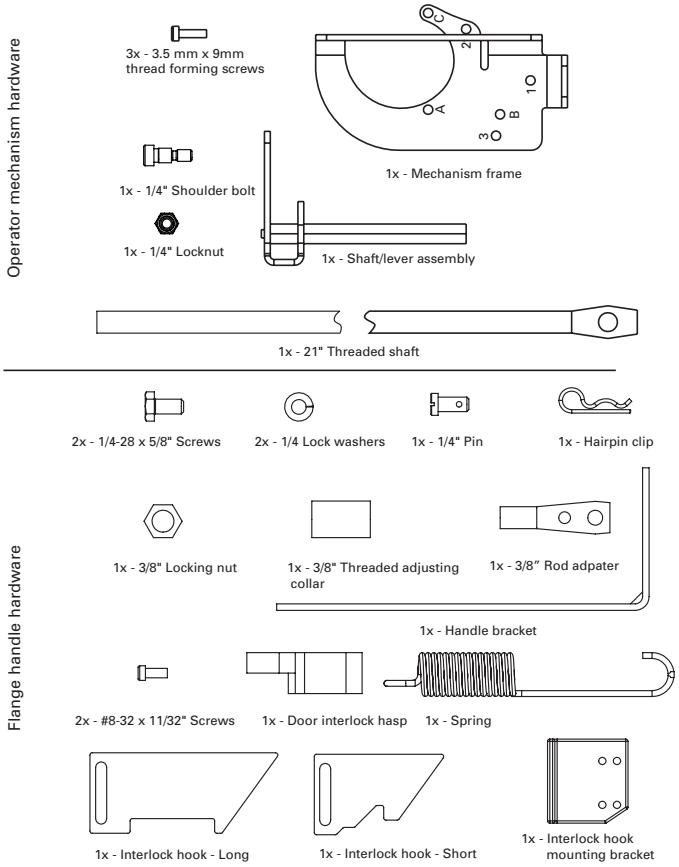

Fig. A Hardware contents

Part 1 — Mount flange handle onto enclosure

Refer to Fig. 1-1 and Fig. 1-2.

Step 1. Place the handle mechanism with attached gasket over the enclosure cutout. (For cutout dimensions, refer to Fig. 4-1). Place the handle bracket on the inside as shown in Fig. 1-1, and insert the top 1/4-20 x 7/8" handle mechanism mounting screw and lock washer through the bracket and enclosure, and thread into the handle mechanism for a few turns, but not all the way.

Step 2. Insert the bottom handle mechanism mounting screw and lock washer through the handle bracket and enclosure, an thread into the handle.

Step 3. Securely tighten both mounting screws.

Step 4. Mount door interlock hasp to handle using two #8-32 SEMS screws (see Fig. 1-1) and tighten. Hasp orientation may be modified per customer requirements and enclosures.

Step 5. Attach the spring to the handle bracket and handle as shown in Fig. 1-2 after the threaded rod is installed in Part 3, Step 5.

Step 6. Attach either the long or short door interlock hook onto the panel door's bracket. If door does not have a pre-installed interlock hook bracket, install the interlock bracket provided in the hardware.

Step 7. Cycle handle ON and OFF, and check the door interlock operation. To cycle the mechanism, either close door or defeat door interlock lever.

The flange handle mounting is now complete. Proceed to Part 2 "Assemble operator mechanism onto switch and mount on panel."

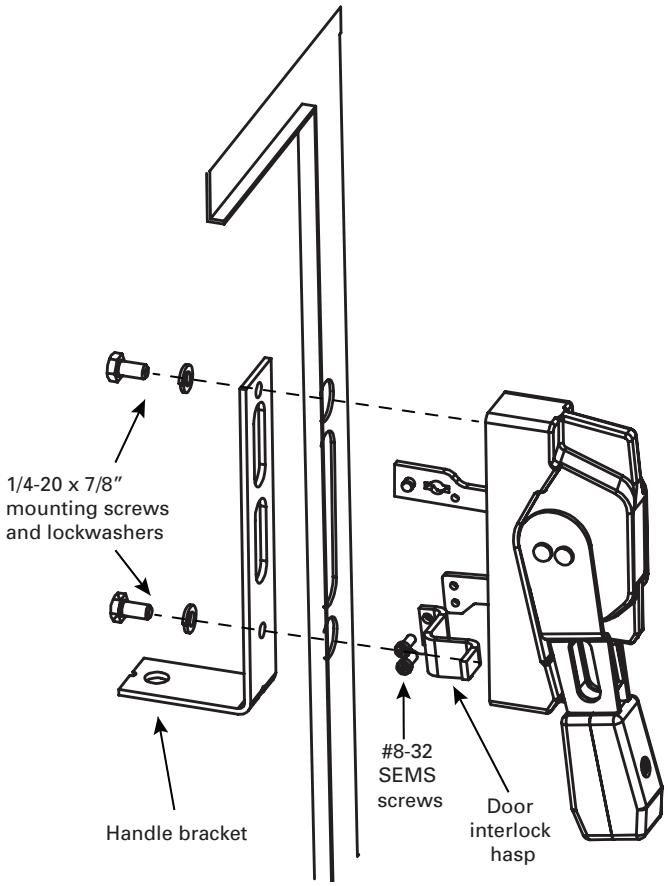

Fig. 1-1. Assemble flange handle onto the enclosure using supplied mounting screws, lock washers and bracket as shown. Then install the door interlock hasp using the supplied screws, as shown. Tighten screws securely.

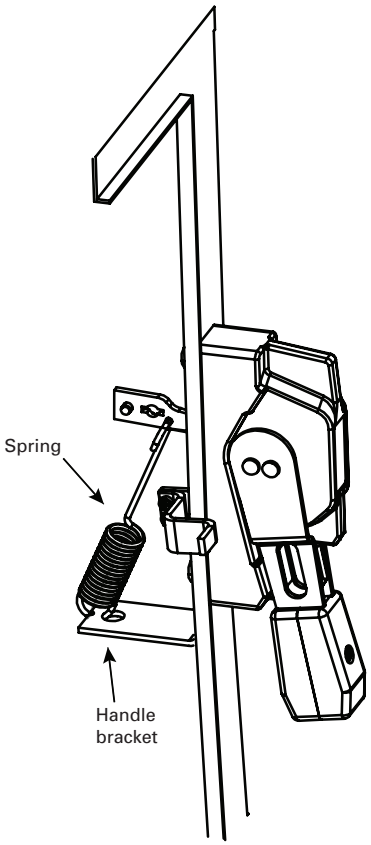

Fig. 1-2. The spring attaches between the handle bracket and handle as shown. Install spring after adjusting threaded rod in Part 3, Step 5.

Installation

Part 2 — Assemble operator mechanism onto switch and mount on panel

Step 1. Test fit the shaft into right side of switch by inserting until fully seated (see Fig. 2-1). If shaft protrudes beyond the left side, mark and trim shaft accordingly with hacksaw. Remove burrs with metal file.

Step 2. Place switch in ON position and insert shaft into the switch's right side until fully seated. Take care to align the shaft's lever so that it's 90° to the switch handles as shown in Fig. 2-2.

Step 3. Secure mechanism frame to the switch's right side using three 3.5 mm x 9 mm thread forming phillips head screws placed in holes marked A, B and C. Torque to 12 lb-in (see Fig. 2-3).

Step 4. Position switch against the enclosure's back panel so that the threaded rod, when installed, will be horizontal and at a right (90°) angle to the switch lever pin (see Fig. 2-4).

Step 5. Follow switch installation instructions and secure switch to the back panel wall.

The switch/mechanism assembly and installation is now complete. Proceed to Part 3 "Threaded rod installation and adjustment."

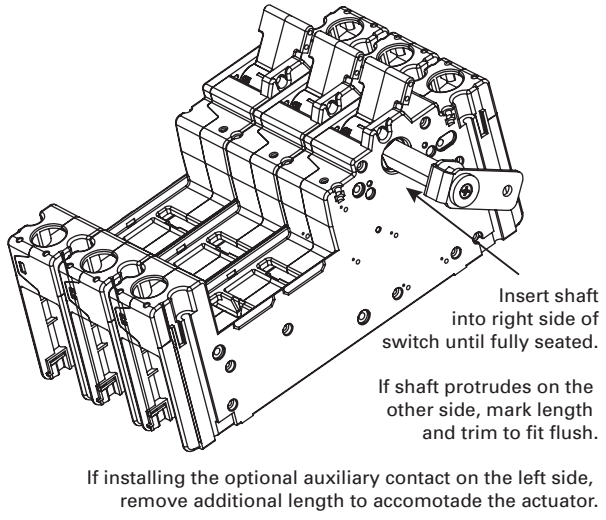

Fig. 2-1. Test fit shaft.

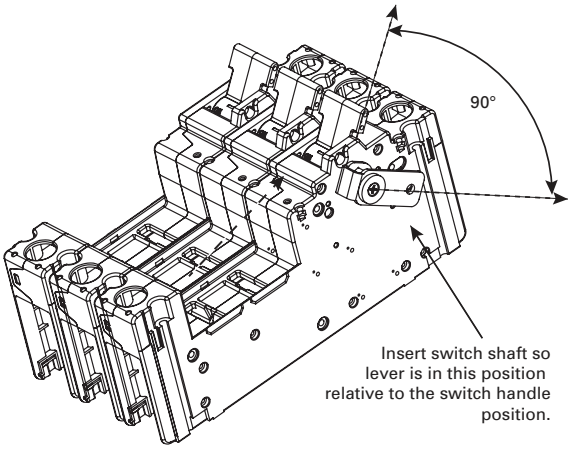

Fig. 2-2. Align shaft lever 90° to switch handle position.

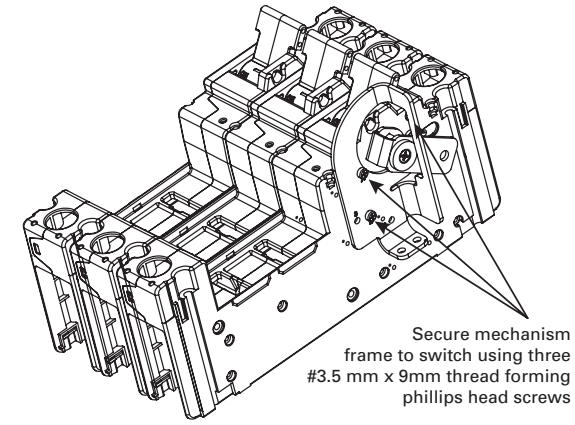

Fig. 2-3. Secure mechanism frame to switch using three 3.5 mm x 9 mm thread forming phillips head screws in holes marked 1, 2 and 3.

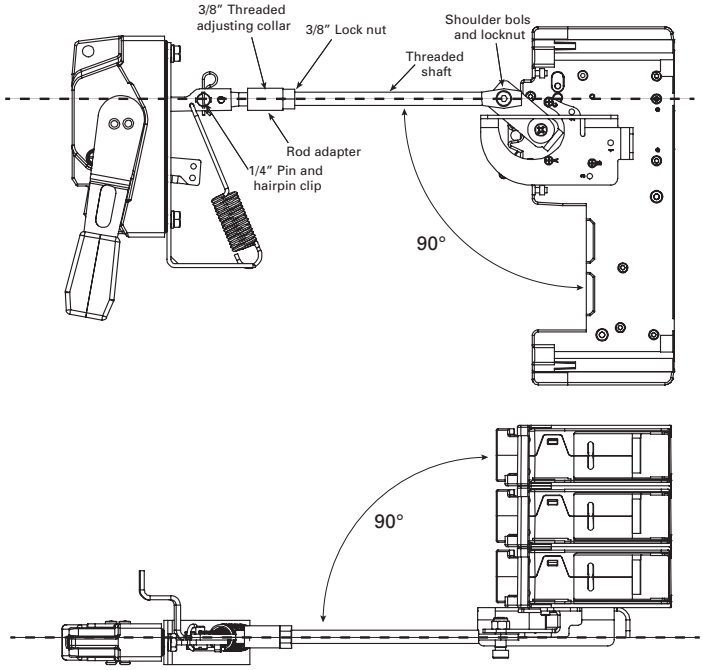

Fig. 2-4. For proper alignment, position switch and operator assembly against panel back wall so that the threaded shaft is at right angles vertically and horizontally.

Installation

Part 3 — Threaded rod installation and adjustment

Step 1. Install rod adapter onto the flange handle toggle and secure using the 1/4″ pin and hairpin clip (see Fig. 3-1).

Step 2. Place both the switch and flange handle in the OFF position and test fit the threaded shaft for length (see Fig. 3-2). Note: the threaded shaft length, when cut, needs to be long enough so that the 3/8″ threaded adjusting collar will engage both the threaded shaft and rod adapter for a minimum of 3/8″ on both ends.

Step 3. Cut threaded shaft to length, file off any burrs. Thread on the 3/8″ locking nut and 3/8″ threaded adjusting collar. Next thread the adjusting collar onto the rod adapter and adjust the total length so that the threaded rod end can be connected to the switch lever when the 1/4″ shoulder bolt is installed and the locknut tightened (see Fig. 3-2).

Step 4. Test the flange handle's operation by cycling ON and OFF. If operating satisfactorily, proceed to Step 5. If further adjustment is needed, disengage the threaded rod from the switch's lever and lengthen or shorten until proper flange handle operation is obtained, then proceed to Step 5.

Step 5. Tighten the 3/8″ locking nut to prevent the adjusting collar from rotating. Install spring between handle bracket and handle as shown in Fig. 3-2.

The installation is now complete.

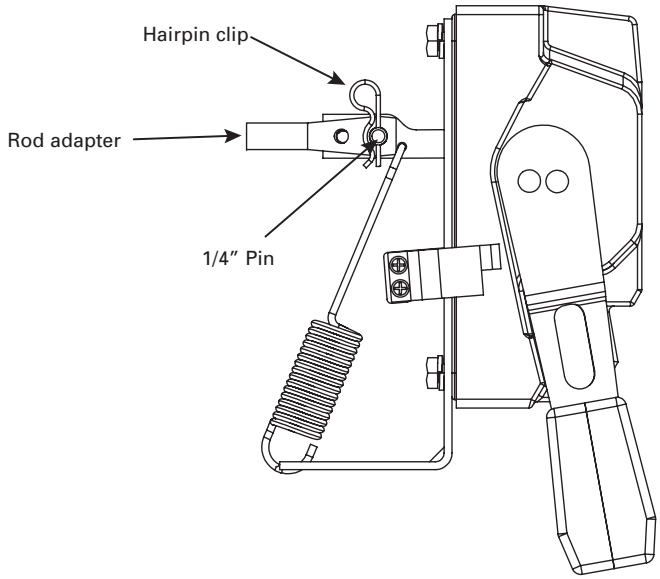

Fig. 3-1. Install rod adapter using 1/4″ pin and secure with hairpin clip.

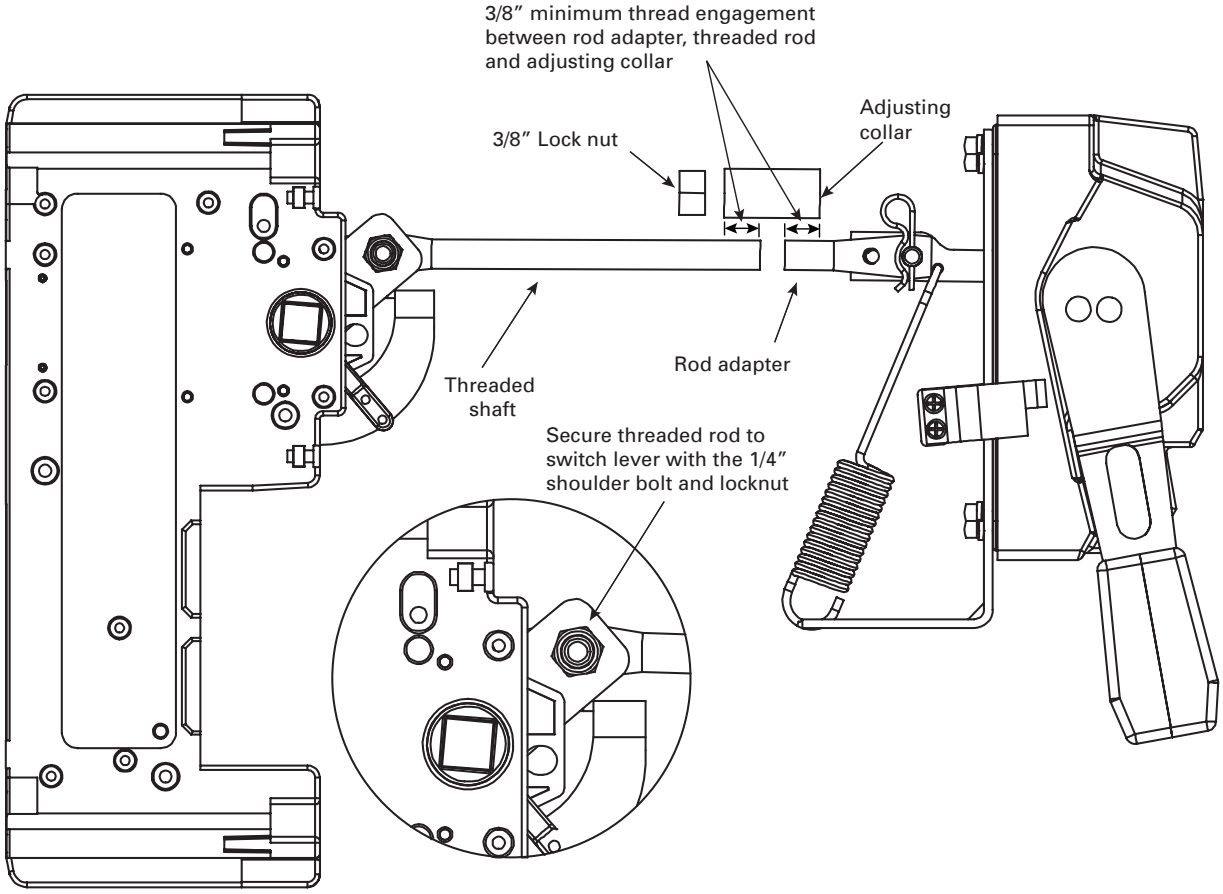

Fig. 3-2. Test fit threaded rod, mark and cut to length. Next install the 3/8″ lock nut and adjusting collar.

Installation

Part 4 — Custom flange handle mounting

If an enclosure that does not have provisions for mounting the flange handle, below (see Fig. 4-1) are the dimensions for making the necessary cutouts and mounting the door interlock blade.

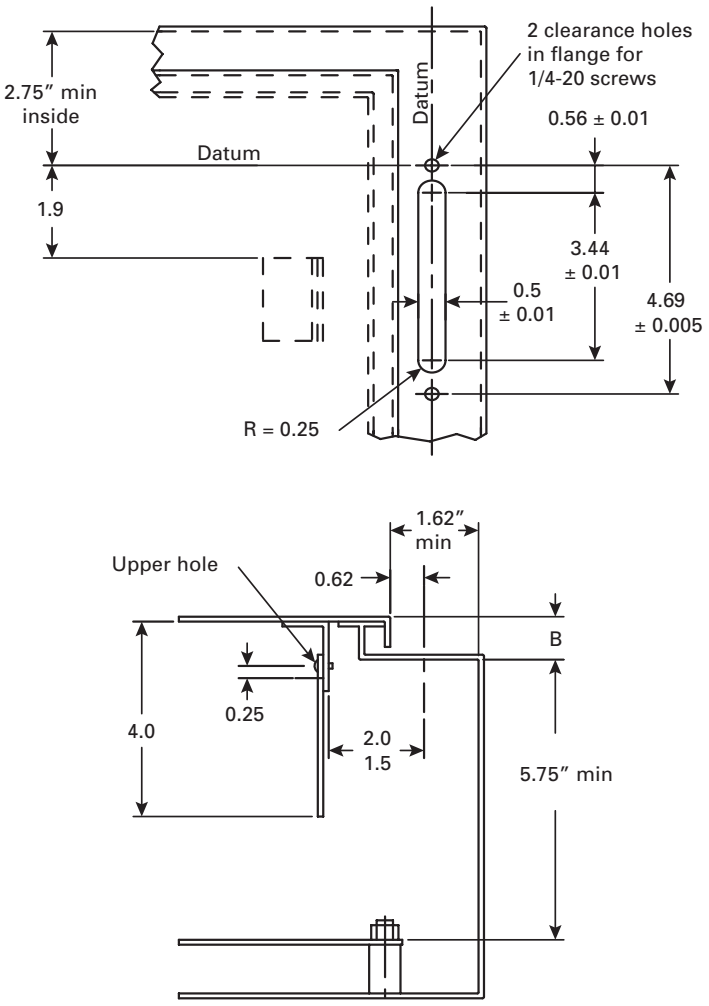

Fig. 4-1. Flange drilling pattern for handle and interlock blade mounting.

The instructions for installation, testing, maintenance, or repair herein are provided for the use of the product in general commercial applications and may not be appropriate for use in nuclear applications.

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