

Charging handle replacement parts kit in Magnum low voltage circuit breakers

WARNING

(1) ONLY QUALIFIED ELECTRICAL PERSONNEL SHOULD BE PERMITTED TO WORK ON THE EQUIPMENT.
(2) ALWAYS DE-ENERGIZE PRIMARY AND SECONDARY CIRCUITS IF A CIRCUIT BREAKER CANNOT BE REMOVED TO A SAFE WORK LOCATION.
(3) DRAWOUT CIRCUIT BREAKERS SHOULD BE LEVERED (RACKED) OUT TO THE DISCONNECT POSITION.
(4) ALL CIRCUIT BREAKERS SHOULD BE SWITCHED TO THE OFF POSITION AND MECHANISM SPRINGS DISCHARGED.
FAILURE TO FOLLOW THESE STEPS FOR ALL PROCEDURES DESCRIBED IN THIS INSTRUCTION LEAFLET COULD RESULT IN DEATH, BODILY INJURY, OR PROPERTY DAMAGE.

Section 1: General information

The charging handle is used to manually charge a breaker's closing spring. It takes from five to seven downward strokes on the handle to complete the manual charging process.

Required tools

- 1/4-inch socket drive
- 10 mm socket
- Screwdriver

Kit parts identification

Refer to **Figure 1** for visual identification of the parts listed below:

- (A) Charging handle with links (one)
- (B) Charging spring (one)
- (C) X-washer (one)
- (D) M8 E-clip (one)
- (E) Quick-lock retainer (one)

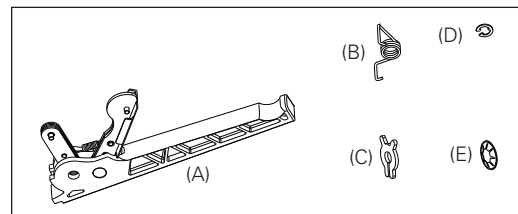


Figure 1. Contents of Kit

Section 2: Installation of charging handle

Proceed with the following 15 steps:

Step 1: Remove the front cover by unscrewing the hex-head captive bolts (four for three-pole, six for four-pole) that join the cover to the breaker housing using a 10 mm 1/4-inch drive socket. Then hold the charge handle down approximately 45 degrees to pull off the cover.

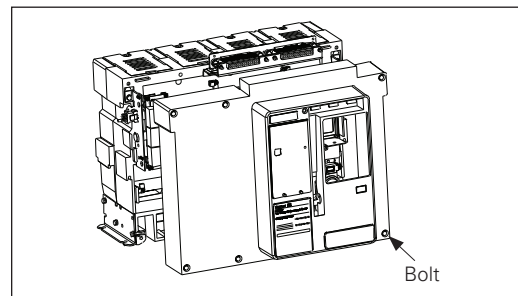


Figure 2. Step 1

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Step 2: If the breaker is equipped with a motor operator, it must be removed. Unfasten two flat-head screws, two thread-forming screws, and one hex bolt as shown.

For detailed information relative to the installation of a motor operator, refer to IL2C13769 (Standard Motor Operator) or IL2C12702 (Compact Motor Operator).

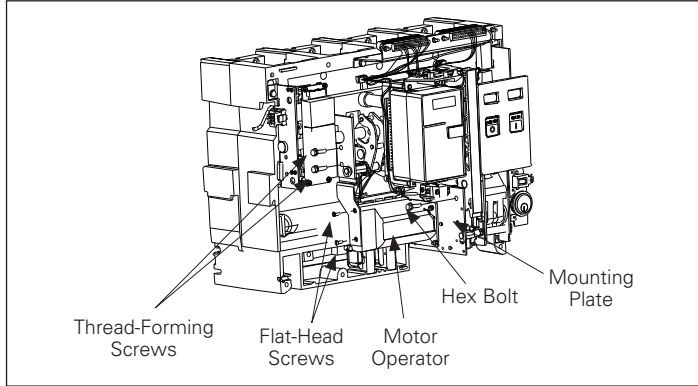


Figure 3. Step 2

Step 3: Remove the motor operator by holding the pawl back with a screwdriver while sliding the mounting plate forward and off of the three mounting posts.

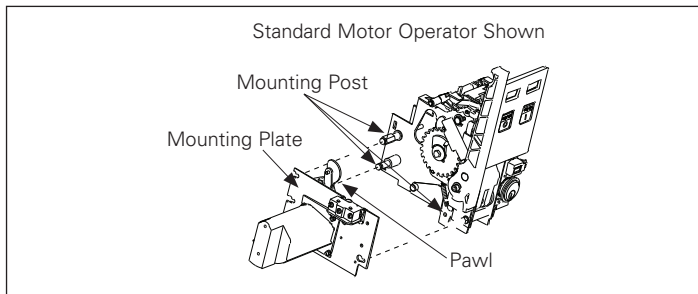


Figure 4. Step 3

Step 4: If the breaker is equipped with a Digitrip™ trip unit, remove it by first unfastening the rating plug mounting screw located behind its hinged front cover. Then pull down on the retaining spring on the bottom of the Digitrip trip unit case, and pull the case off the connectors.

Note: Be aware that if it is a Digitrip 1150 trip unit, there will be an additional retaining spring on the top of the case.

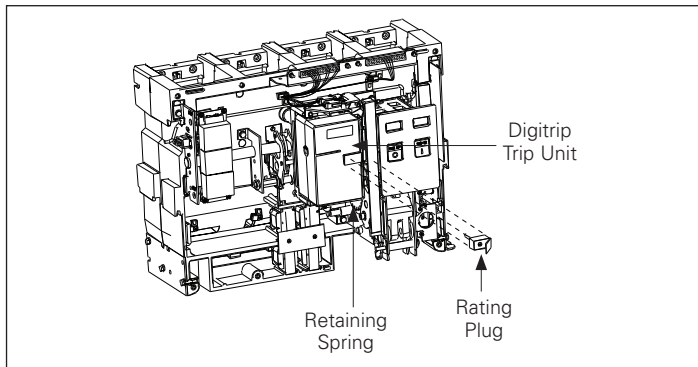


Figure 5. Step 4

Step 5: Use a screwdriver to remove the E-clip from the charging handle shaft.

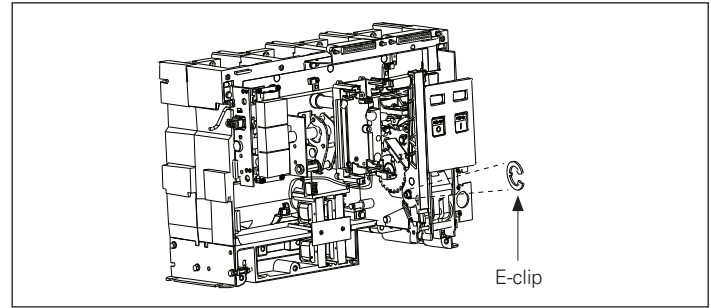


Figure 6. Step 5

Step 6: Slide the charging handle along with its links and the charging spring off of the shaft. Spread the links apart just enough to clear the gears.

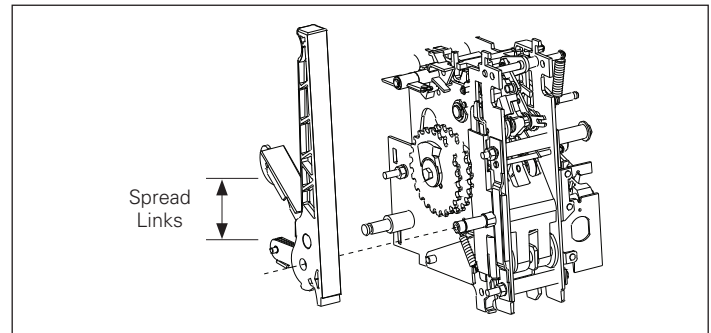


Figure 7. Step 6

Step 7: Assemble the charging spring (B) supplied to the new charging handle (A). One end of the spring hooks under the handle, and the other end hooks under the lower link.

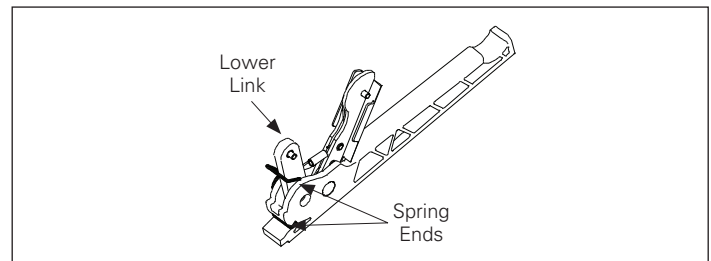


Figure 8. Step 7

Step 8: Slide the new charging handle assembly onto the shaft while spreading the two links apart just enough to clear the gears.

There are two possible fasteners that can be used, depending on the type of shaft supplied in the breaker. Both types of fasteners are supplied with the kit.

1. Use the X-washer (C) with a yellow chromate shaft
2. Use the quick-lock retainer (E) with a stainless steel shaft

With the new charging handle assembly in place, push the new fastener into the groove on the shaft to secure the charging handle assembly.

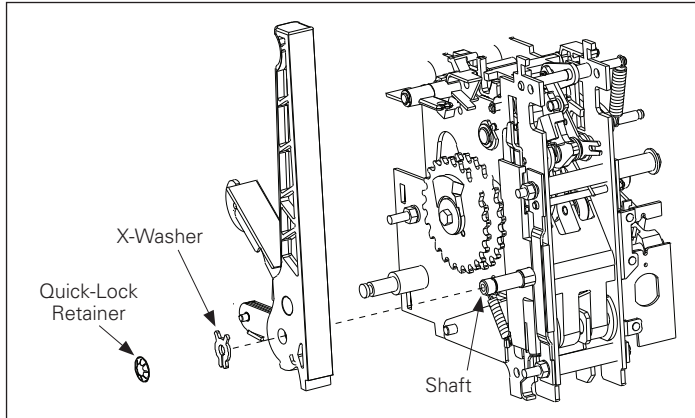


Figure 9. Step 8

Step 9: Test for proper operation by performing the following series of operations:

1. Manually charge breaker and close it
2. Manually recharge breaker
3. Open, close and re-open breaker

Step 10: If a Digitrip trip unit was previously removed in Step 4, reinstall it at this time. Mount the trip unit on the connectors, and fasten the rating plug back in place with its mounting screw.

Step 11: If a motor operator was previously removed in Step 3, reinstall it at this time. To simplify this process, move the motor operator assembly toward the gears on the breaker with the pawl on the motor operator pulled back. Do not permit the motor operator plate to engage the support pins at this point. Move the motor operator in until the pawl is positively engaged with the gears. Now carefully slide the motor operator assembly back away from the breaker only far enough so the motor operator plate can engage the support pin grooves (in three places). Once the motor operator plate is engaged with the pins, slide the assembly all the way into the fixed position.

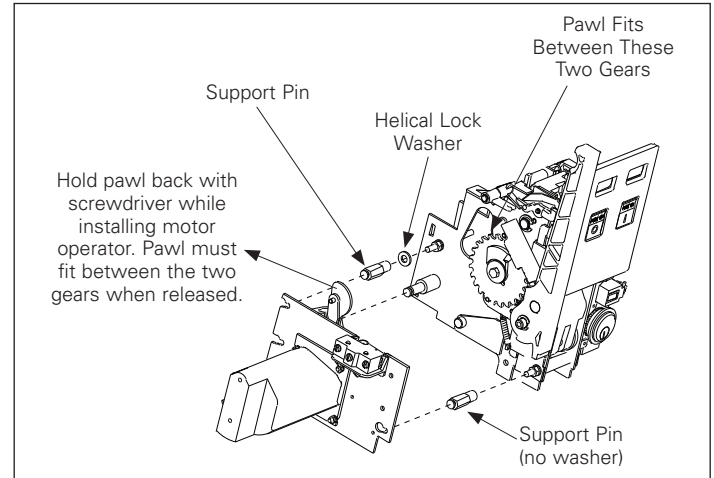


Figure 10. Step 11

Step 12: Fasten the assembly with M6 x 20 mm bolt and M6 helical lock washer. Torque to 75–85 in-lbs (8.5–9.6 Nm).

If the breaker is equipped with a levering device, verify that the levering interlock switch (if equipped) is centered on the levering device door tab. The switch should be closed when the levering device door is closed. The switch must be open when the door is open to access the levering drive socket.

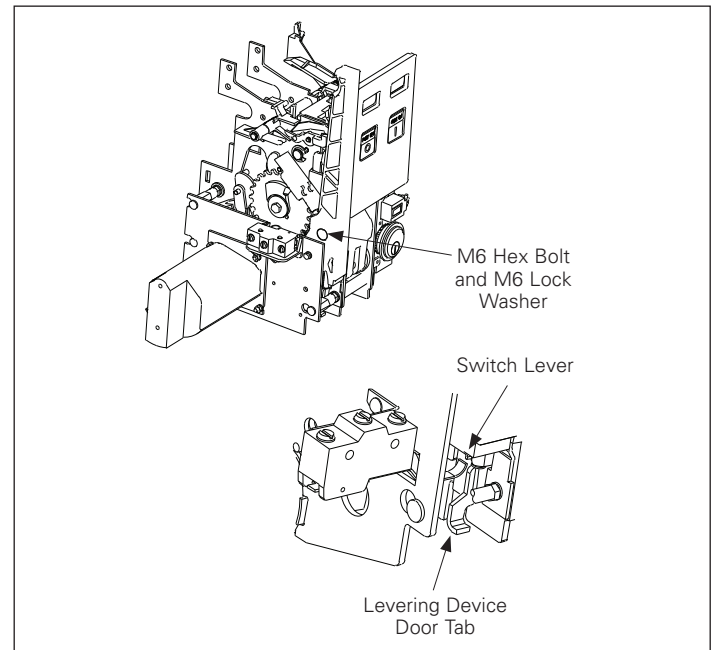


Figure 11. Step 12

Step 13: First mount the plate inside the bracket to the motor with two 8-32 x 3/8 large flat-head screws. Apply thread-locking adhesive to threads. Torque to 75–85 in-lbs (8.5–9.6 Nm).

Step 14: Mount plate inside the bracket on the breaker with two M6 x 10 mm thread-forming screws. Torque to 75–85 in-lbs (8.5–9.6 Nm).

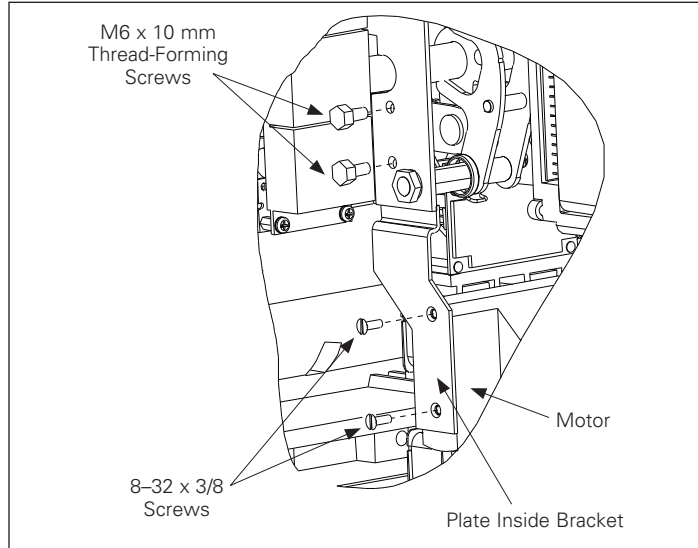


Figure 12. Steps 13 and 14

Step 15: Re-install front cover removed in Step 1.

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