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

A motor operator is an electric motor assembly internally mounted in the circuit breaker. It charges the closing springs electrically for remote or local operation. The motor operator can be factory or site installed.

Note: The standard motor operator is for use with standard and double frame Magnum™ breakers only (not MDN, MDSL, and MDSX).

Required tools

- 1/4-inch drive socket wrench (with torque measuring capabilities)
- 10 mm socket

Kit parts identification

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

(A) Plate inside bracket (one)
(B) Motor operator (one)
(C) Support pin (two)
(D) M6 x 20 mm hex bolt (one)
(E) M6 helical lock washer (two)
(F) M6 x 10 mm thread-forming screw (two)
(G) 8–32 x 3/8 large flat-head screw (two)
(H) Thread-locking adhesive
(I) Cable tie (four)
(J) Accessory labels

Figure 1. Contents of Kit
Section 2: Installation of standard motor operator

Proceed with the following 10 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.

**Step 2:** Place the appropriate label (J) on the front cover nameplate space located under “Accessories.”

**Step 3:** Apply thread-locking adhesive (H) to the threads of and install two support pins (C) on the breaker as shown. Torque to 75–85 in-lbs (8.5–9.6 Nm).

**Step 4:** The motor operator (B) is now ready to be installed. 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.

**Step 5:** Fasten the assembly with M6 x 20 mm bolt (D) and M6 helical lock washer (E). 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.

**Step 6:** First, mount plate inside bracket (A) to motor with two 8–32 x 3/8 large flat-head screws (G). Apply thread-locking adhesive (H) to threads. Torque to 75–85 in-lbs (8.5–9.6 Nm).

**Step 7:** Mount plate inside bracket (A) on breaker with two M6 x 10 mm thread-forming screws (F). Torque to 75–85 in-lbs (8.5–9.6 Nm).
**Step 8:** Wire white motor lead to Switch NC. Wire black motor lead to Secondary Block B, Position 14. Wire A16 from Switch NO to Secondary Block A, Position 16. Wire B15 from Switch COM to Secondary Block, Position 15. Route and secure the leads as shown.

If the breaker is a drawout breaker, proceed to Step 9 after completing Step 8. If the breaker is not a drawout breaker, proceed to Step 10 after completing Step 8.

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**Figure 6. Step 8**

**Step 9:** For drawout breaker only, check the levering interlock switch to verify that it opens when the levering access door is raised to a 0.4-inch gap. The switch must close when the door is lowered to a 0.1-inch gap.

**Step 10:** Reinstall front cover removed in Step 1.
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Standard motor operator in
Magnum low voltage circuit breakers

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