Magnum low voltage drawout circuit breaker
IEC horizontal stab cassette shutter kit
(narrow up to 2000A, standard up to 4000A)

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 REMOVED FROM THEIR COMPARTMENTS.
(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

Cassette safety shutters are optional automatically operated insulating type safety shutters for use with a drawout cassette. When the drawout circuit breaker is levered (racked) from the CONNECT position, the shutters automatically close to cover the fixed primary contacts. When the circuit breaker is levered (racked) into the cassette, the shutters automatically open, permitting primary connections to be made.

Required tools

• 10 mm socket and drive (M6 hex nut)
• 10 mm wrench (M6 x 30 screw)
• External retaining-ring tool (suggested for M12 E-clip)
• Small Phillips-head screwdriver (M4 x 10 screw)
• Slotted screwdriver (link mounting screw)
• Small crescent wrench for M4 nut

Kit parts identification

Refer to Figure 2 for visual identification of the parts listed below:

(A) M6 hex nut (four)
(B) M6 x 30 screw (eight for six-pole, ten for eight-pole)
(C) M6 lock washer (four)
(D) Shutter spring (two)
(E) Upper shaft assembly (two)
(F) Top link slide assembly (one)
(G) Bottom link slide assembly (one)
(H) M4 nut with lock washer (four)
(I) Link mounting screw (four)
(J) O-ring (four)
(K) M4 x 10 screw (four)
(L) M6 x 25 wide washer (four)
(M) M12 E-clip (four)
(N) Shaft collar (four)
(O) Lubricant (one)
(P) Shutter panel assembly (two)
Section 2: Installation of cassette shutter kit

Proceed with the following seven steps.

**Step 1**: Install two shaft collars (N) on left-side sheet (on right-side sheet for right-side mounting). Fasten the grooves on the collars with M12 E-clips (M).

**Step 2**: Apply Magnalube-G lubricant (O) to M6 x 25 wide washer (L) face and edges of slots. Run link mounting pins (I) through slots and washers, and capture with O-rings (J). Hook shutter spring (D) on the mounting post of bottom link slide assembly (G).
**Step 3:** Mount the shutter slide link assemblies to the cassette side sheet with M6 lock washers (C) and M6 hex nuts (A). The left-side mounting is shown with the right-side mounting just the opposite.

*Note:* The straight edge (without step) of the slide link assembly is on the bottom of the lower assembly and is up on the upper assembly.

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**Step 4:** Mount shutter panel assembly (P) with two M4 x 10 screws (K) and M4 nut with lock washer (H), and four M6 x 30 thread-forming screws (B) (six required for four-pole shutters).

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**Step 5:** Apply Magnalube-G lubricant (O) to the edges of slots on the shaft arms of the shaft assemblies (E), and to the inside surfaces of the shaft collars (N).
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Step 6: Refer to Figure 9 for an exploded view of the shaft assemblies.

1. Position the tips of the shaft arms between the pins on the shutters. Maintain this position during the assembly.
2. Extend the other end of shaft through holes on other side sheets (without shaft collars). Then position slot on the shaft arm over the pin on the shutter link.
3. Insert the shaft end into the shaft collar, and into center-bearing plates. Check the positions of the shaft arms between the shutter pins, and the slot on shaft arm over shutter link pin.

Figure 9. Step 6

Step 7: To install the shutter shaft assemblies, insert the two remaining shaft collars through the other side sheet and onto the other ends of the shafts. Fasten grooves on these collars with retaining rings.

Figure 10. Step 7

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