FIELD INSTALLATION
INSTRUCTION BOOKLET
IB-6705

INSTRUCTIONS FOR FIELD INSTALLATION OF
UNDervoltage TRIP DEVICE ON K-LINE CIRCUIT BREAKERS
INSTRUCTIONS FOR FIELD INSTALLATION OF UNDervOLTAGE TRIP DEVICE

I. PRELIMINARY STEPS

(a) Remove the circuit breaker from the enclosure after de-energizing both primary and control circuits.

(b) Place the circuit breaker in an accessible position on a work bench. The breaker should be in the open position and the closing springs discharged.

(c) Replace tripper bar and/or latch bar as required. (See Section III)

II. INSTALLATION OF UNDervOLTAGE DEVICE

(a) The undervoltage trip device is mounted behind the mechanism cover plate as shown in Figure A. On electrically operated circuit breakers the charging motor must be removed from the mounting bracket.

The motor leads do not have to be disconnected, but precautions should be taken that they do not become damaged.

(b) The undervoltage trip device can be mounted in position by two (2) 1/2-20 machine screws through the holes provided in the mechanism cover plate.
The gasket provided should be placed between the undervoltage device and the mounting surface.

Add the trip plate to the tripper bar as shown in Figure B when reset indication is desired.

(c) Install the terminal block provided as shown in Figure A. Wire the leads as per FIG. C wiring diagram. On drawout breakers, additional leads will have to be connected to the secondary control contacts.

(d) Replace the charging motor on electrically operated breakers.
(e) **Trip Adjustments**

The trip adjustment must be made on the circuit breaker after the undervoltage trip device is completely mounted. Upon dropout due to a loss or drop in line voltage, the magnet assembly will open up and the trip screw will then strike either the extended latch pin (no reset indication) or the appropriate tripper bar attachment (reset indication).

To make the trip screw adjustment, it is first necessary to close the breaker. In order to do this, the undervoltage trip device will have to be blocked in the pickup position (either electrically or mechanically), and the trip screw must be backed off by turning in a counterclockwise direction. With the circuit breaker contacts closed, gently release the armature. The trip screw can now be advanced to the point where the breaker just trips. From the point that the breaker just trips, advance the trip screw two additional turns.

**Latch Engagement (Bite)**

The latch engagement adjusting screw is located to the right of the right-hand mechanism housing. It can be reached easily from the top of the circuit breaker.

To adjust the latch engagement, proceed as follows:

1. Back off adjusting screw to assure excessive latch engagement.

2. Close the circuit breaker.

3. Turn adjusting screw down slowly until the latch just releases, tripping the circuit breaker.

4. Back off the adjusting screw 2 turns.

**Tripper Bar Latch Engagement**

The tripper bar latch engagement adjusting screw is located adjacent to the latch engagement adjusting screw.
To adjust the tripper bar latch engagement, proceed as follows:

1. Back off adjusting screw to assure excessive tripper bar travel.
2. Close the circuit breaker.
3. Turn adjusting screw down slowly until the latch just releases, tripping the circuit breaker.
4. Back off the adjusting screw 3½ turns.

III. TRIPPER BAR REPLACEMENT

On breakers manufactured to mechanism Service Number 702296, the tripper bar must be replaced.

**Tripper Bar Replacement and Latch Bar Replacement**

(Refer to Figure B)

1. Remove the two retainers on either end of the tripper bar. (Center pole tripper bar on K-1600). Remove extension shafts on K-1600.
2. Disconnect the latch spring and replace the trip latch (when latch bar trip is required).
3. Drive out the pivot shaft.
4. Replace new tripper bar and reconnect trip latch spring.
5. Replace pivot shaft retainers.
6. Check tripper bar latch bite and latch engagement adjustments.
7. Check the overload trip screws to ascertain that the breaker will trip by the overload.
FIGURE B
RESISTOR VALUE: 24V - 25\( \Omega \)
120V - 500\( \Omega \)

RESISTOR VALUE: 48V - 100\( \Omega \)
240V - 2000\( \Omega \)

D.C. CONTROL SOURCE
COILS IN PARALLEL

D.C. CONTROL SOURCE
COILS IN SERIES

SECONDARY DISCONN
(REE OF BREAKER)

A.C. CONTROL SOURCE
COILS IN PARALLEL

A.C. CONTROL SOURCE
COILS IN SERIES

FIG. 2

115 V.
230V.
60 CYCLES

460V.
575V.
60 CYCLES
Device shown from rear of circuit breaker.

Notes:
- For layout of the standard mech. assembly see L-10099
- For field installation see 5-16893

Adjustment dimensions shown are with undervoltage & circuit breaker closed.

EPL:
- 708472 - T1 to T16 complete undervoltage assembly
- 706774 - T11 to T12 complete operating mechanism assembly

Undervoltage trip device

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