



Molded-Case Circuit Breakers

Undervoltage Release for Types TJC, TJD, TJJ, TJK, THJK, TB4, and TBC4

Description

The J Frame undervoltage release (UVR) accessory, shown in Figure 1, is a kiss-free design that mounts in the right pole of the circuit breaker. It provides automatic tripping when either a loss of power or a major voltage drop occurs. The kiss-free feature prevents the breaker contacts from momentarily touching if the breaker is operated without restoring power to the accessory. After tripping, the accessory is reset with the circuit breaker handle.

As long as the UVR supply voltage is maintained, the UVR solenoid magnetic force prevents tripping by the UVR. If the UVR supply voltage is removed or falls to within 35% to 70% of the supply voltage, the solenoid releases the UVR mechanism, which directly engages the circuit breaker trip unit, causing an instantaneous trip. If the UVR supply voltage is not restored to at least 80% of nominal, the circuit breaker mechanism releases when the handle is moved from the OFF to the ON position. The UVR dropout voltage is factory calibrated to operate between 35% and 70% of the UVR rated voltage.

NOTE: UL listing is voided if the circuit breaker is modified to add an accessory.

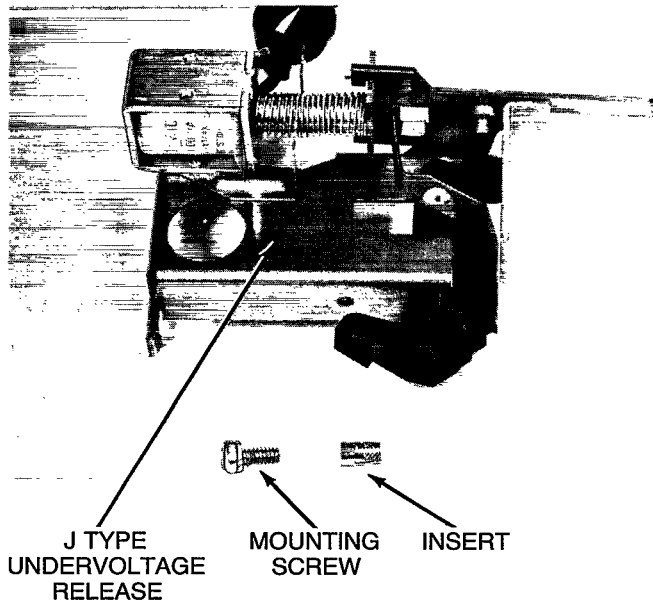


Figure 1. Undervoltage release for J Frame circuit breakers.

Catalog Number	Voltage Rating	Nominal Current, mA
TJUV1R	120 Vac	18
TJUV2R*	240 Vac	18
TJUV4R*	480 Vac	18
TJUV6R*	600 Vac	18
TJUV7R	12 Vdc	200
TJUV8R	24 Vdc	100
TJUV9R	48 Vdc	50
TJUV10R	125 Vdc	18
TJUV11R*	250 Vdc	18

*Externally mounted dropping resistor supplied with device.

Table 1. Catalog numbers and electrical ratings for the undervoltage release accessory.

Installation

CAUTION: When an undervoltage release accessory is removed from or installed in a circuit breaker, the breaker must be completely de-energized and disconnected from the electrical circuit. The breaker must be in the tripped position. This can be achieved by using the "Twist to Trip" feature or by pushing the RESET-TRIP button.

ATTENTION: Lors de l'enlèvement ou de l'installation d'un accessoire de déclenchement à manque de tension d'un disjoncteur, il faut que le disjoncteur soit complètement désamorçé et débranché du circuit électrique. Le disjoncteur doit en ce cas être en position de déclenchement. Pour ce faire on utilise le dispositif "Twist to Trip" ou on appuie sur le bouton RESET-TRIP.

CAUTION: Circuit breakers and accessories should be handled, inspected, installed, and removed by qualified personnel only and in accordance with these instructions and with accepted safety precautions.

NOTE: Seul un personnel qualifié et suivant ces directives ainsi que les mesures de précautions nécessaires devrait manipuler, inspecter installer et enlever les disjoncteurs et les accessoires.

Use the following procedure to install an undervoltage release in a circuit breaker:

1. Ensure that the circuit breaker is de-energized and disconnected from the electrical circuit.
2. Verify the voltage rating of the accessory, as listed in Table 1.
3. For breakers and trip units built before week 49, 1996 (date code J649=), install the UVR as supplied. For breakers and trip units built beginning in week 49, 1996, break the tab off the slide on the accessory, as illustrated in Figure 5. Refer to the breaker bar-code label or the trip unit face to determine the date of manufacture. The date code appears as a letter followed by three digits. For instance, J649= indicates the manufacturing plant (J), the year (6), the week (49), and the decade (= indicates 1990s).
3. Remove the eight cover-mounting screws, then remove the cover from the breaker. Do not remove the trip unit.
4. At the position indicated in Figure 3, enlarge the existing hole to 0.187" diameter and 0.327" deep. Press the insert provided into the hole until it is flush with or below the trip unit surface.
5. Being careful not to eject chips into the trip unit case, use a small screwdriver to gently pry out the knockout in the trip unit case, as illustrated in Figure 3. Remove any debris that may have entered the breaker housing.
6. Seat the plunger in the coil and hold it firmly. Rotate the circuit breaker handle forward and place the accessory in the right pole, as illustrated in Figure 4. Release the breaker handle and the accessory. Secure the accessory to the trip unit with the #6-32 screw provided, as illustrated in Figure 5.
7. Cut or file a slot in the breaker cover, as illustrated in Figure 6, and place the leads out the side of the breaker, positioning the wire ties on each side of the wall.
8. Replace the breaker cover and secure with the eight mounting screws.
9. Move the circuit breaker handle to the OFF position and attempt to move it to the ON position. The handle will release and the breaker return to the tripped position. Energize the undervoltage release to at least 80% of its rated voltage. The breaker handle should be able to be moved to ON position. Attach the supplied rating label next to the wire leads exiting the breaker base.

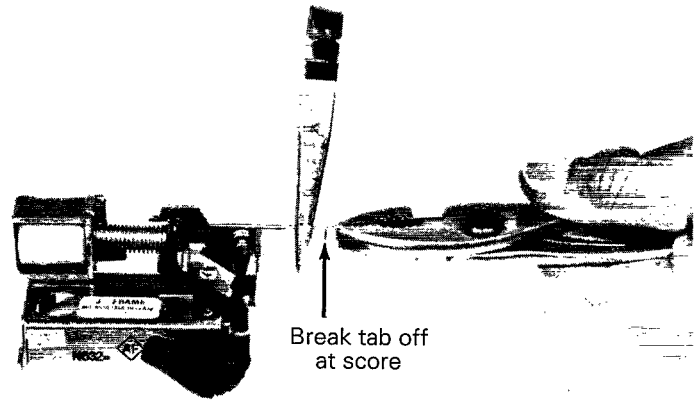


Figure 2. Breaking off the tab on the accessory slide for installation in breakers build after FW44, 1996.

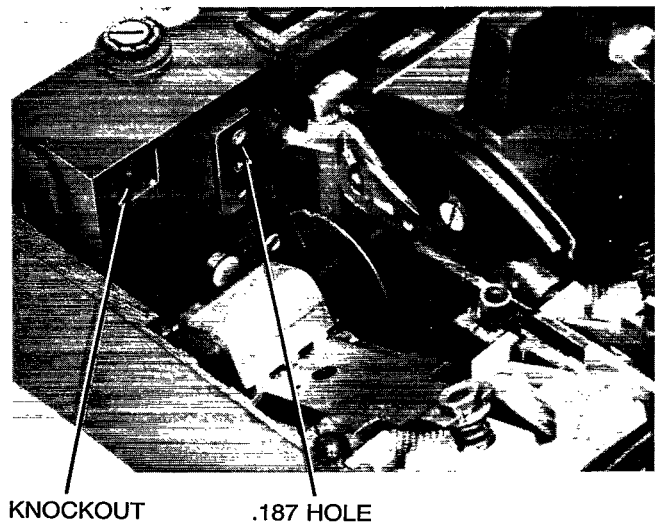


Figure 3. Location of the knockout and the hole to be enlarged in the trip unit housing.

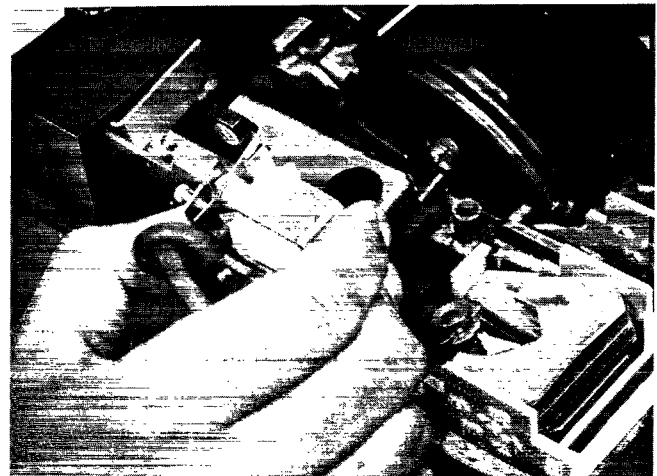


Figure 4. Placing the undervoltage accessory into the circuit breaker.

6-32 MOUNTING
SCREW

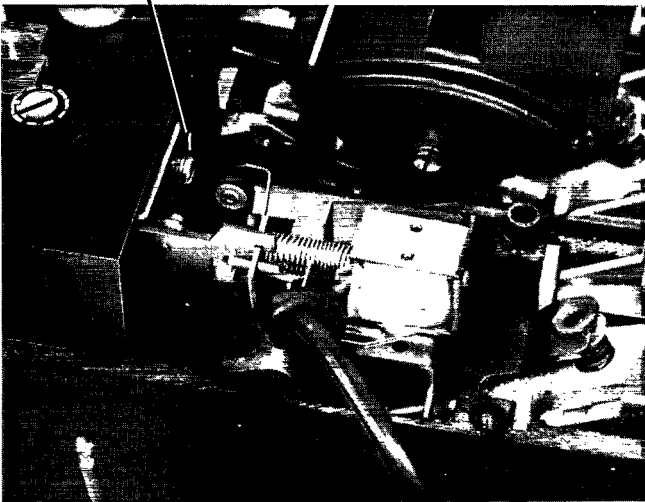


Figure 5. Undervoltage accessory installed in the circuit breaker.

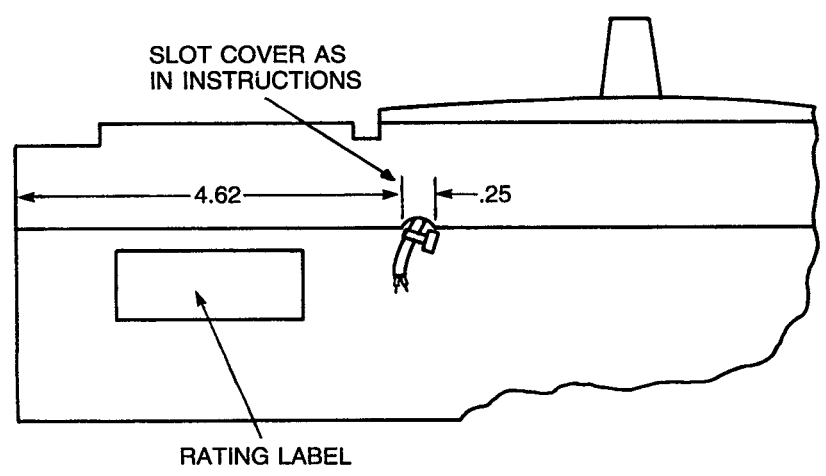
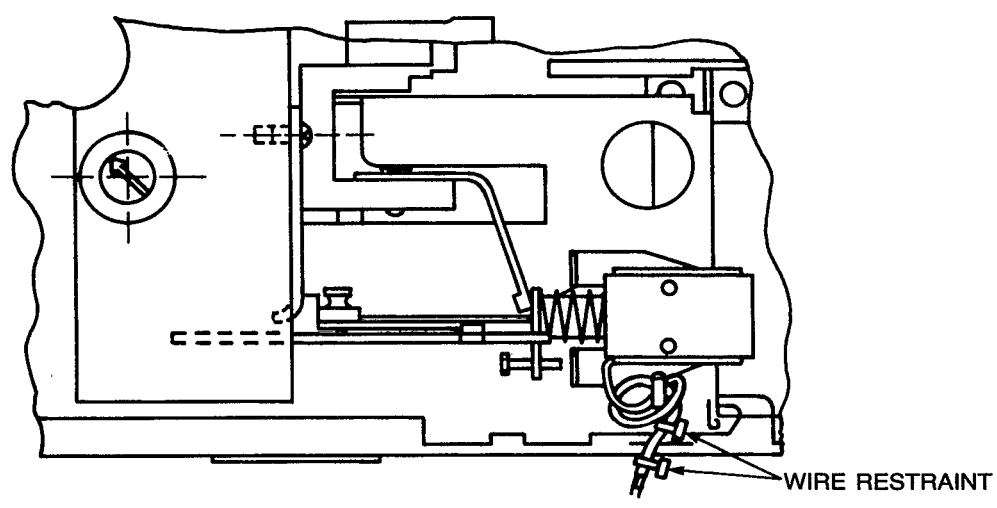


Figure 6. Location of the cover slot and position of the wire tie restraints.

These instructions do not cover all details or variations in equipment nor do they provide for every possible contingency that may be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise that are not covered sufficiently for the purchaser's purposes, the matter should be referred to the GE Company.



GE Electrical Distribution & Control