



# J600 Line Circuit Breakers Trip Units and Front-Connected Lugs

Types TJD, TJJ, TJK & THJK Two- and Three-Pole

## Description

The J 600 thermal-magnetic molded-case circuit breaker is designed to open an electrical circuit under overload or short-circuit conditions without damage to itself when applied within its operating capabilities.

The trip unit kit consists of the rated trip mechanism. Mounting hardware for the line end of the trip unit is included with the breaker frame.

The molded-case switch is similar to the rated mechanism in appearance.

Trip units with catalog number TJK636T, 250 through 600 amperes, are to be used in frames TJK626F000 and TJK636F000 only.

Trip units with catalog number TJK436T, 125 through 400 amperes, are to be used in frames TJK426F000 and TJK436F000 only.

Types TJD and TJJ are fixed-trip breakers.

**WARNING:** Danger of electrical shock or injury. Turn OFF power ahead of the device before trip unit installation or removal. Do not remove circuit protective devices until the power is turned OFF.

**AVERTISSEMENT:** Danger de choc électrique ou de blessure. Éteindre le courant en amont de l'appareil avant d'installer ou d'enlever le déclencheur. Ne pas enlever les appareils protégeant le circuit tant que le courant n'est pas éteint.

## Installation

Use the following procedure to install automatic and nonautomatic (molded-case switch) trip units in two- or three-pole frames:

1. Remove the eight breaker frame cover screws, as shown in Figure 1, then remove the frame cover.
2. Insert a #3/8-16 Philips-head screw with lock washer and plain washer (furnished with the breaker frame) into the left and right line-conductor holes of the trip unit, as indicated in Figure 2. Mounting hardware for the center line-conductor is factory assembled.
3. Place the trip unit in the breaker frame, engaging guide pins with the slots, as illustrated in Figure 2. Start each line-conductor screw. Flex the trip unit as necessary to align the load lug terminal holes. (Insert a screwdriver into the holes and gently force alignment.) Tighten the center screw, then tighten the other two line-conductor screws to 100 inch-pounds torque.

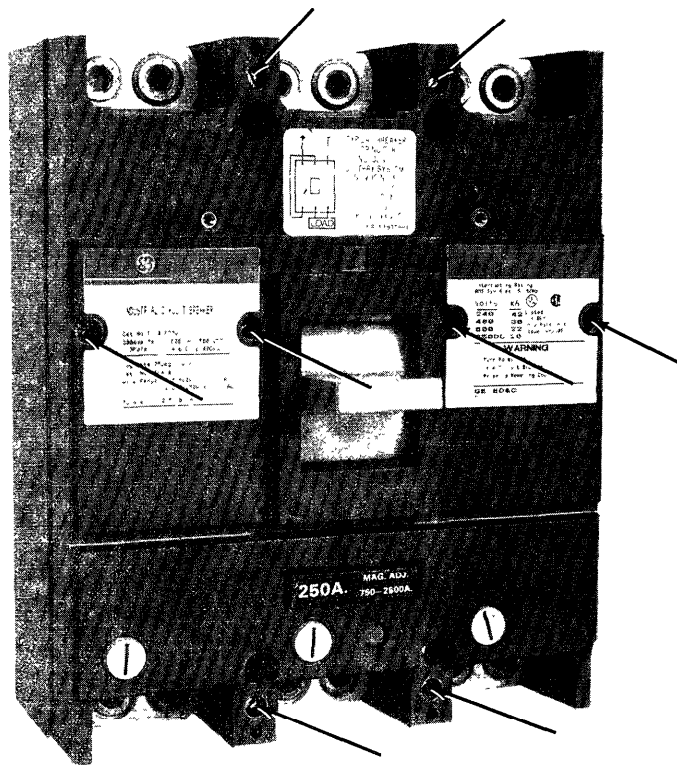


Figure 1. J 600 circuit breaker, showing the locations of the eight frame cover screws.

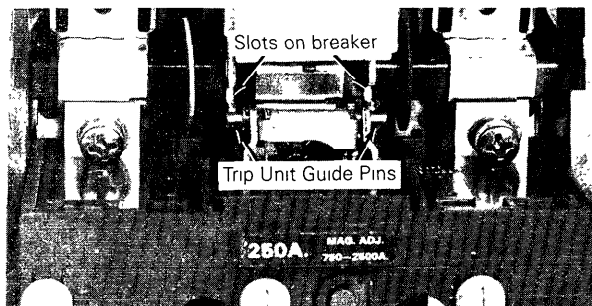


Figure 2. Attaching the trip unit to the breaker frame.

4. Fasten the load lugs, as described below.
5. Replace and secure the breaker frame cover.
6. Reset and close the circuit breaker by pushing the breaker handle to the extreme OFF position, then pushing it to the ON position.
7. Adjust the magnetic (instantaneous) settings on TJJ, TJK, and THJK trip units to the desired values by rotating clockwise from LO to HI. All poles should be set to the same values.

## Removal

The following procedure describes the removal of automatic and nonautomatic trip units in two- or three-pole frames.

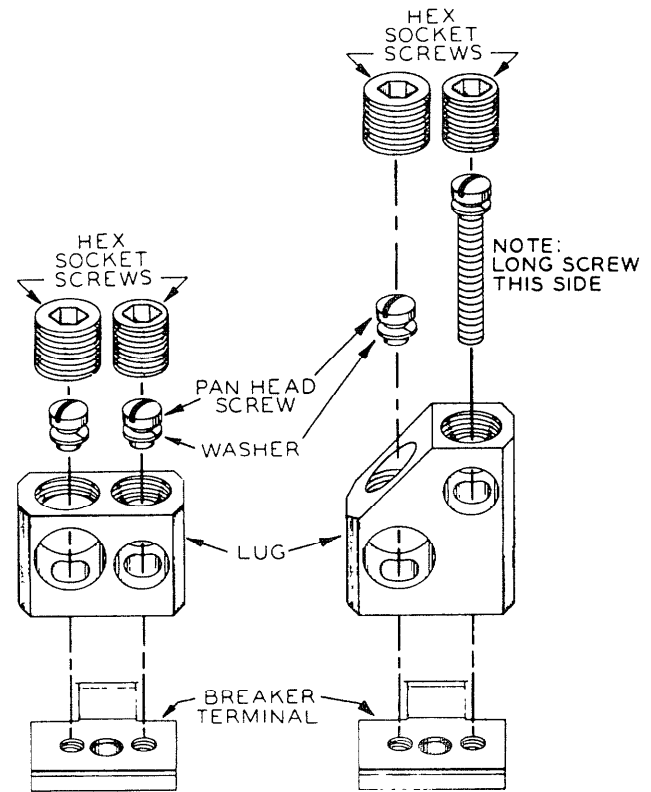
1. Remove the eight breaker frame cover screws, then remove the frame cover, as shown in Figure 1.
2. Unfasten the trip unit's line and load connections.
3. Lift the trip unit out of the breaker frame, disengaging the guide pins from the slots, as illustrated in Figure 2.

## Installation of Front-Connected Lugs

Figure 3 illustrates the following procedure for installing lugs.

Select TCAL 43 or TCAL 63 line and load lugs based on the required wire range, as given in Table 1. TCAL 47 lugs are suitable for use with one 750 kcmil copper or aluminum conductor and also for applications of 400 A or less. TCO 43 and TCO 63 lugs may be used only with copper conductors.

1. Insert two 1/4-20 pan-head screws and lock washers (furnished) into the lug. Use two 7/16" screws for lug TCAL 43; use one 7/16" screw and one 1 1/8" screw for lug TCAL 63. Do not use the red-dyed screws.
2. Place the lug and inserted screws into the breaker frame, with the stamped lug information visible on the outside of the breaker.
3. Tighten each pan-head screw to 60 in-lb torque.
4. Check that the lug-fastening screws do not project beyond the back side of the breaker terminal surface more than 1/16 inch. This is a final check that screws of the proper length were used.
5. Insert copper or aluminum wire into the lug.
6. Secure the cable connection to the lug with the hex socket screws supplied with the lug. Tighten the screws to the torque value shown on the breaker left-side label.



Cat. No. TCAL 43

Cat. No. TCAL 63

Figure 3. Installation of front-connected lugs on the circuit breaker.

Lug	Aluminum Wire	Copper Wire
TCAL 43	one 6-600 kcmil or two 2/0-250 kcmil	one 6-600 kcmil or two 2/0-250 kcmil
TCAL 63	two 300-500 kcmil	two 4/0-350 kcmil

Table 1. Wire ranges suitable for use with TCAL 43 and TCAL 63 lugs.

**NOTE:** When using aluminum wire, apply a joint compound recommended by the wire manufacturer.

**NOTE:** Dans les cas d'emploi de câble aluminium, utilisez le lubrifiant recommandé par le fabricant.

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.



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