

Installation
Instructions for
Breakers Types TKM,
THKM, TKC, TB6, TBC6,
TB8 TBC8, TK4V, THK4V,
TKL4V, THK9V, THK9VV,
TKH8/12, and TKL8/12



Molded Case Circuit Breakers

Motor-operated Mechanisms

Description

A motor-operated mechanism is designed to open, close, and reset a circuit breaker by remote control.

In an operating installation, the customer must supply normally open ON and OFF push buttons, external wiring, a control power source, and control circuitry. Outline dimensions are shown in Fig. 6 and 7.

Electrical Operation

With the breaker and operating mechanism in the OFF position, press the ON button to energize the motor, closing the breaker. When the breaker handle reaches the ON position, the control circuit is disconnected by an internal limit switch.

When the OFF button is pressed, the motor is energized, opening the breaker. After the breaker handle reaches the OFF position, the limit switch de-energizes the control circuit.

When the circuit breaker trips automatically, there is no external trip indication, unless a separate bell alarm accessory is provided to actuate a warning device. It is necessary to press the OFF button to reset the breaker.

Automatic Reset

For automatic reset, an auxiliary switch, which is available as an accessory, is used to return the breaker to the OFF/RESET position after it has tripped. The switch is mounted inside the breaker and wired in parallel with the OFF button. When the breaker trips, the switch closes, moving the breaker handle to the OFF/RESET POSITION. After the motor-operated mechanism has reset the breaker, the limit switch again opens the circuit. To use AUTOMATIC/RESET, the ON push button must be the single-pole, double-throw type and wired as in Fig. 8. (The AUTO/RESET scheme applies to ac devices only and is not applicable for dc applications.)

Manual Operation

Lift the cover to disengage the handle and operate the breaker handle. (See Fig. 1.) To return the breaker to electrical operation, align the breaker handle with the operating mechanism and close the cover. (See Electrical Operation.)

Installation

WARNING: THE CIRCUIT BREAKER SHOULD BE DEENERGIZED BEFORE THE MOTOR OPERATOR IS INSTALLED.

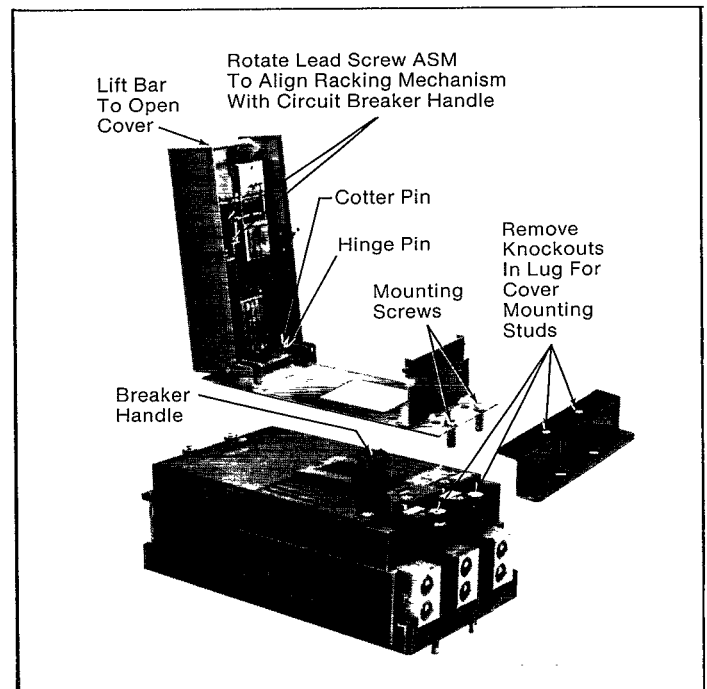


Fig. 1.

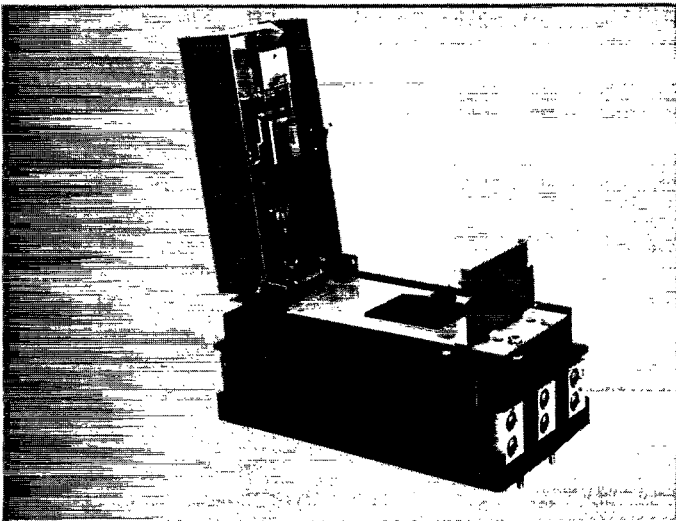


Fig. 2. Installed mounting plate for Types TKM, THKM, TKC, TB6, TBC6, TB8, and TBC8 breakers.

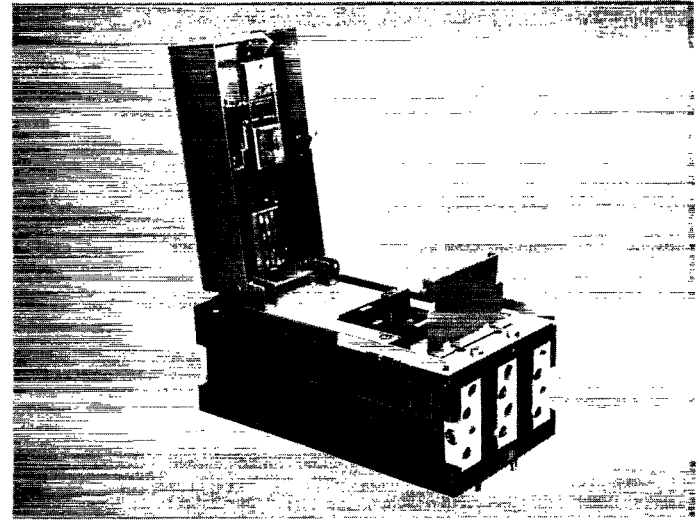


Fig. 3. For Type TK4V, THK4V, TKL4V, THK9V, THK9VV, TKH8/12, and TKL8/12 breakers, convert mounting plate to wide-style plate as shown. See installation instruction 1.

1. When the motor-operated mechanism is installed on Types TK4V, THK4V, TKL4V, THK9V, THK9VV, TKH8/12, and TKL8/12 breakers, the mounting plate must be removed and an optional mounting plate installed. Remove cotter pins (shown in Fig. 1) from hinge pins. Remove hinge pins and remove assembled mounting plate. Position the optional mounting plate (supplied). Assemble hinge pins and assemble new cotter pins supplied with the mounting hardware kit. (Fig. 3).

2. Mount circuit breaker using hardware kits listed in Table 1.

3. Connect line and load circuit breaker terminals.

4. Remove knockouts in lug covers and assemble mechanism to circuit breaker. See Fig. 1.

5. Install motor-operating mechanism using bolts and washers supplied. See Figs. 4 and 5.

6. Align racking mechanism and circuit breaker handle by rotating lead screw or by moving circuit breaker handle. Close cover. See Fig. 1.

Table 1. Hardware Data

Breaker Type	Reference Figure	Remarks
TKM THKM TK4V THK4V TKL4V	4	These breaker types use studs and 5/16-18 bolts 3/4-inch long on line and load end of breaker. Hardware Kit: 343L518G1-Replacement Kit 343L518G3-Plug-in Base Hardware Kit
TB6 TBC6 TB8 TBC8 THK9V THK9VV TKH8/12 TKL8/12	5	These breaker types use studs and 5/16-18 bolts 3/4-inch long on line end of breaker and pouch cover inserts with 5/16-18 bolts, 3/4-inch long on load end of breaker. Hardware Kit: 343L518G1-Replacement Kit 343L518G3-Plug-in Base Hardware Kit

Hardware Assembly Details

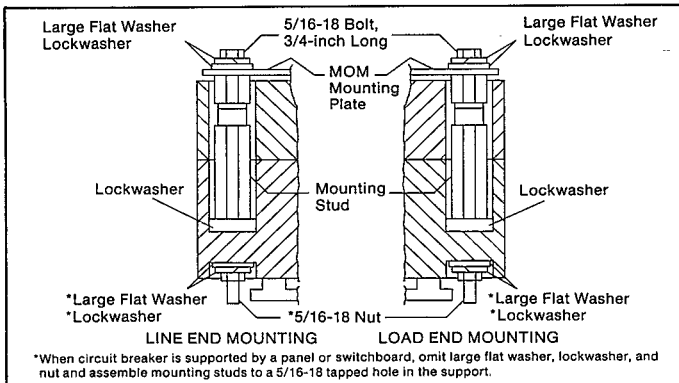


Fig. 4. Mounting hardware installation. Use with breaker Types TKM, THKM, TK4V, THK4V, TKL4V.

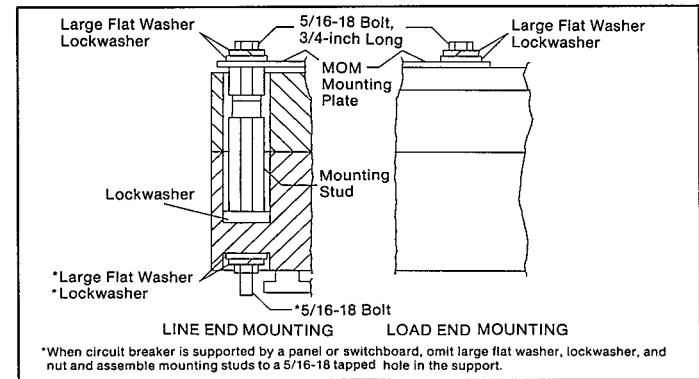


Fig. 5. Mounting hardware installation. Use with breaker Types TB6, TBC6, TB8, TBC8, THK9V, THK9VV, TKH8/12, and TKL8/12.

Outline Dimensions

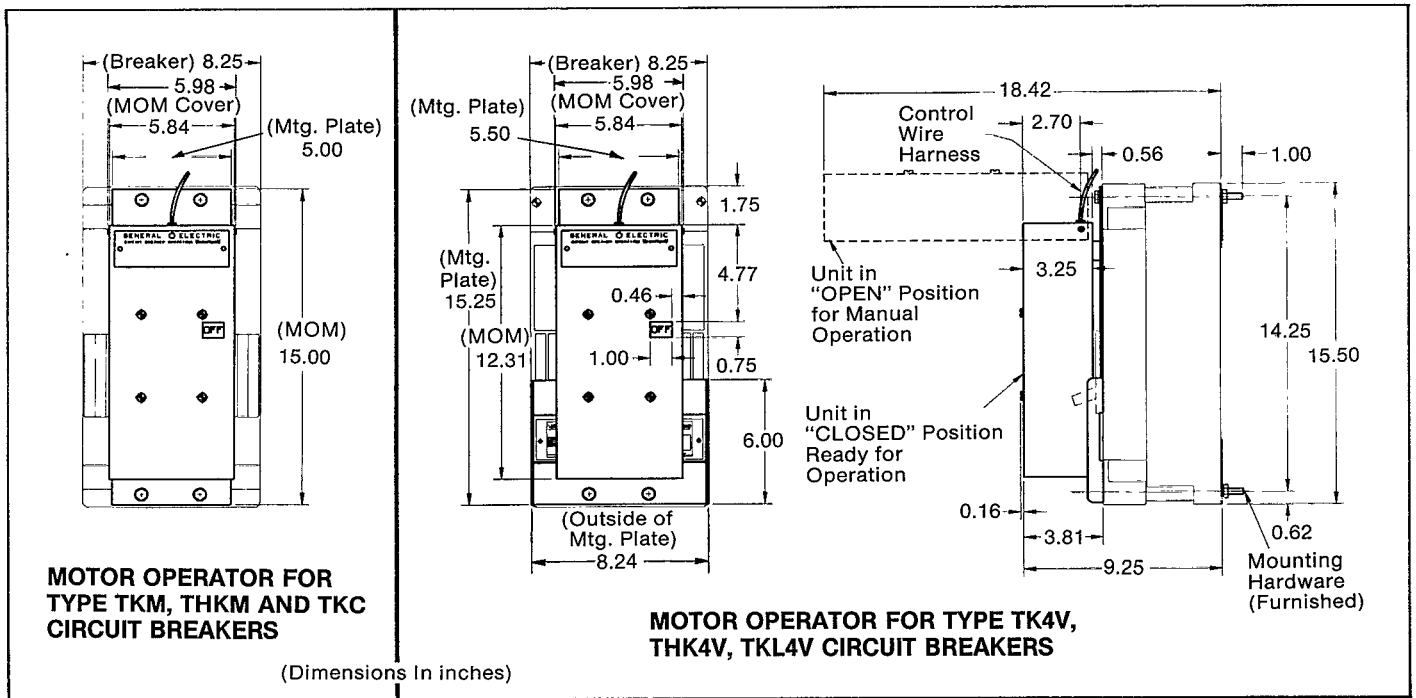


Fig. 6.

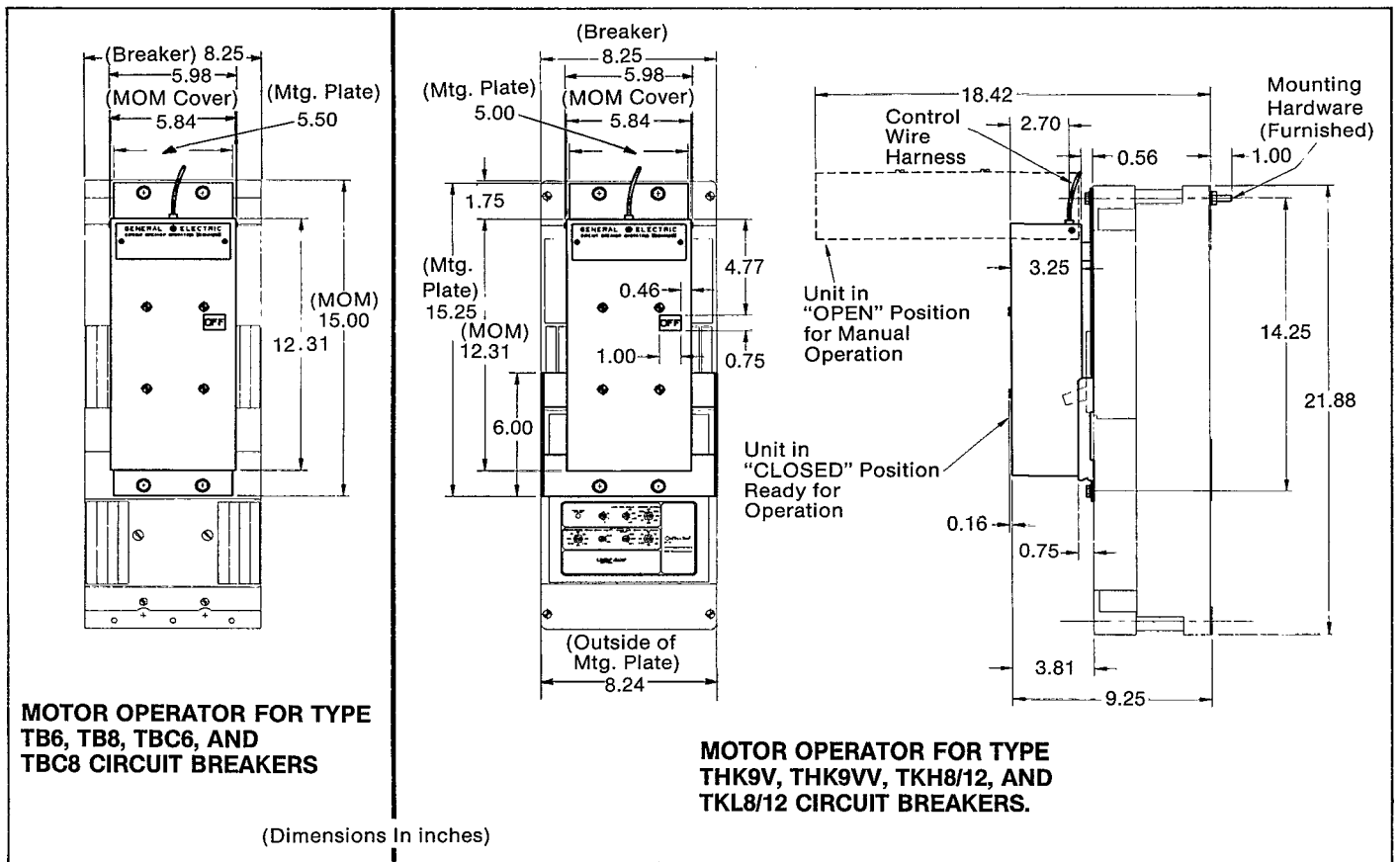


Fig. 7.

7. Electrically test per specified electrical data, Table 2. Refer to Fig. 8 for schematic and auto/reset diagram.

8. Periodically, it may become necessary to re-tighten the conductors at the lugs. To do this, the motor-operating mechanism must be removed from the breaker and the mounting studs removed. The mounting studs should be removed one at a time and replaced after conductor re-tightening is completed to maintain secure breaker mounting. After all conductors have been re-tightened, install the motor-operating mechanism in accordance with installation instructions.

Table 2. Electrical Data

Catalog Number	Control			Timing (Sec)		Recommended Fuse
	Volts	In Rush (Amp)	Running (Amp)	Closing	Opening Reset	
TKVMOMA1	120 Vac	9.0	6.0	.30	.30	2 Amp (Time Delay)
	125 Vdc	10.5	4.5			
TKVMOMA2	240 Vac	5.0	3.0	.60	.35	
	250 Vdc	5.0	3.0			
TKVMOMA8	24 Vdc	22	15	.40	.30	3 Amp (Time Delay)
TKVMOMA9	48 Vdc	14	10			

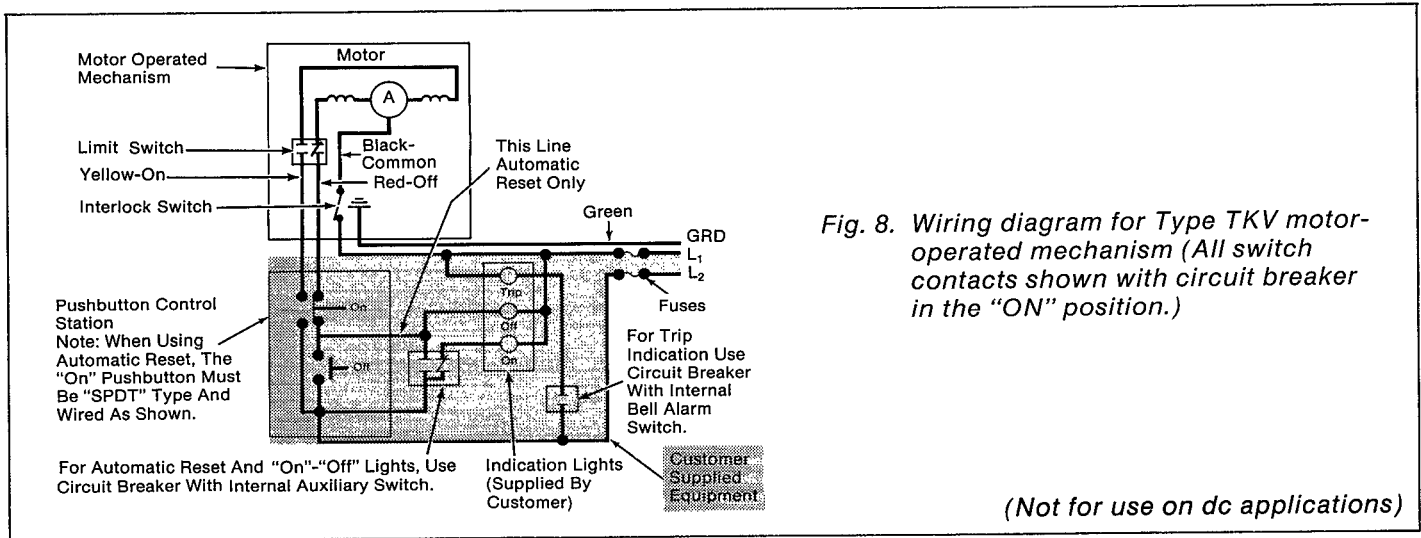


Fig. 8. Wiring diagram for Type TKV motor-operated mechanism (All switch contacts shown with circuit breaker in the "ON" position.)

(Not for use on dc applications)

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

For further information call or write your local General Electric Sales Office or . . .

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