

# SIEMENS

Siemens Energy & Automation, Inc.  
Circuit Protection Division  
Bellefontaine, Ohio 43311 U.S.A.

Cat. No. MI5404 Mechanical Interlock  
For Use With I-T-E<sup>®</sup> MD & ND Frame Circuit  
Breaker Types: MD6, ND6, HMD6, HND6,  
CMD6, CND6, SMD6, SND6, SHMD6, SHND6,  
SCMD6, SCND6. Types MD6ETI, ND6ETI &  
CMD6ETI Motor Circuit Interrupters, and  
Molded Case Switch Types MXD6 & NXD6.  
Page 1 of 4

## Installation Instructions



### ⚠ DANGER

HAZARDOUS VOLTAGE.  
WILL CAUSE SEVERE INJURY  
OR DEATH.

TURN OFF AND LOCK OUT ALL POWER  
SUPPLYING CIRCUIT BREAKER OR  
FRAME BEFORE REMOVING COVER(S)  
OR DEVICE AND WHILE COVER(S) ARE  
REMOVED.

REPLACE ALL COVERS AND SHIELDS  
BEFORE POWER SUPPLYING THIS  
DEVICE IS TURNED ON.



### SAFETY INSTRUCTIONS

NOTE: This instruction sheet outlines the recommended installation procedure. Installation of a Mechanical Interlock system prevents use of internal accessories in the left pole of the circuit breakers.

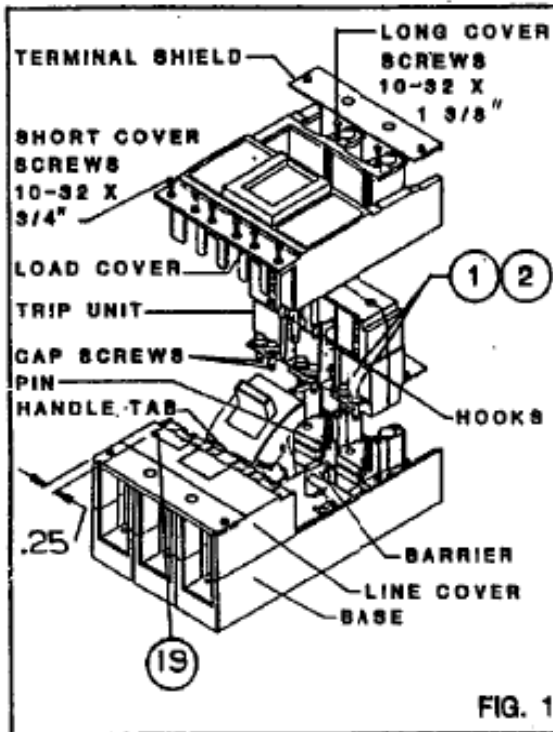


FIG. 1

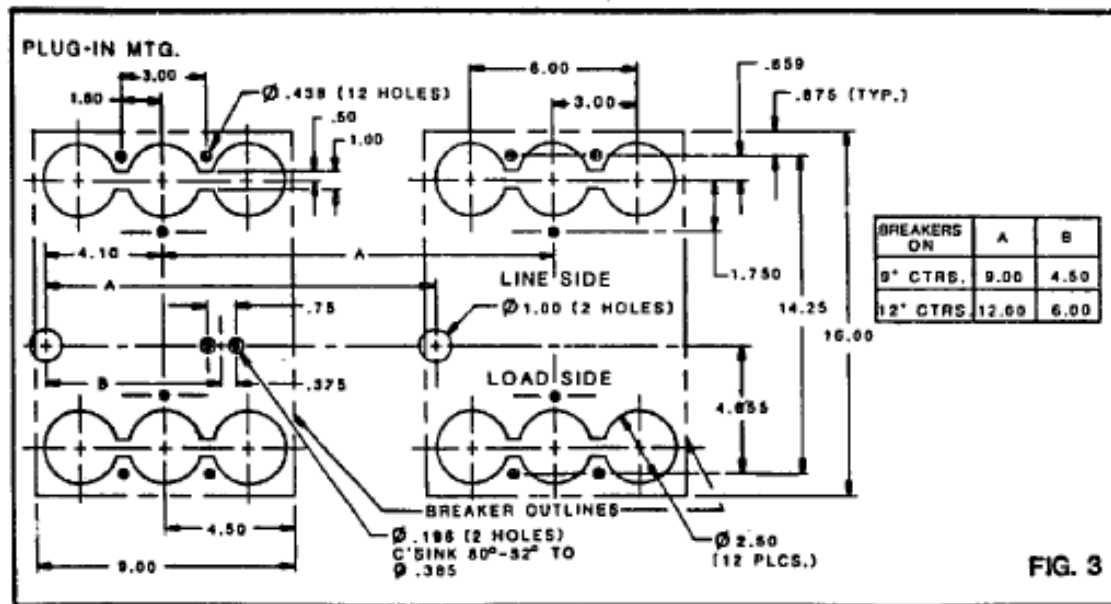
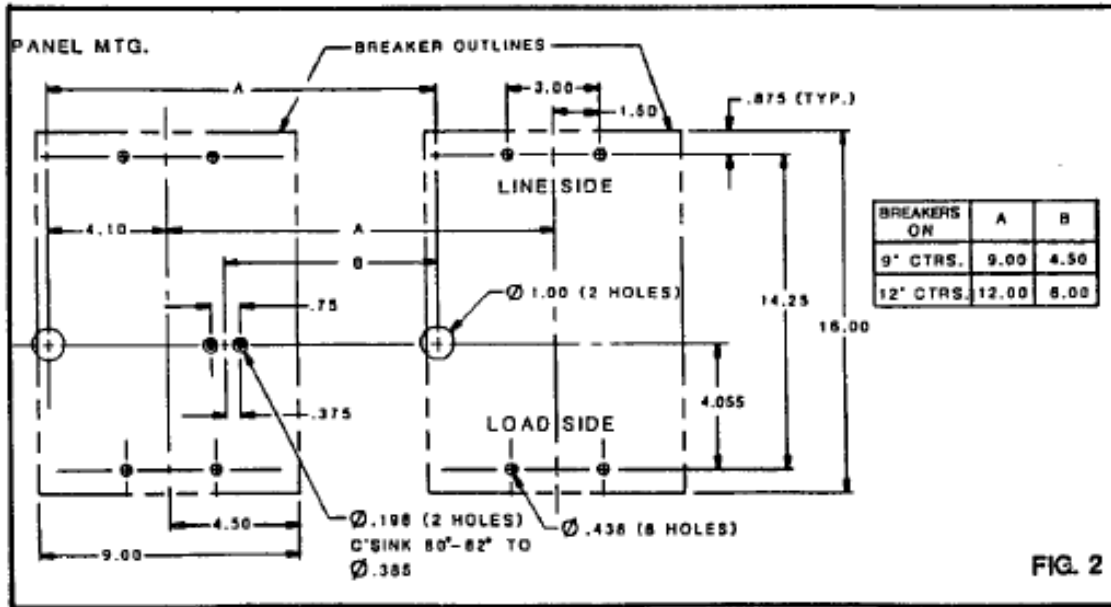
### CIRCUIT BREAKER PREPARATION

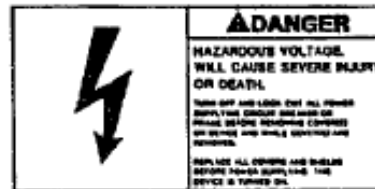
1. Turn off and lock out all power supplying circuit breaker or frame before removing cover(s) or device and while cover(s) are removed.
2. Remove terminal shield from line and load side of breaker frame. Two 8-32 screws each. See Figure 1.
3. Remove load cover from breaker frame. Six 10-32 x 3/4" screws and two 10-32 x 1-3/8" screws. See Figure 1.
4. Prior to lowering trip unit into place as shown in Figure 1 remove on left pole only the two socket head cap screws (Item 1) and the two Belleville spring washers (Item 2) and discard.
5. Lower trip unit into place as shown in Figure 1. The two hooks on the trip unit must fit over pins on frame. Handle may be removed to ease assembly.
6. Secure trip unit to frame. Tighten four 5/16-18 socket head cap screws to 140 in-lbs.
7. With 9 inch long tie-bar wrench supplied (see Item 3 in Figure 5) positioned over tie-bar connector (Item 4) on left pole rotate tie bar in direction of arrow and drop safety wood block (Item 5) with 1 inch dimension between tie-bar connector (Item 4) and trip unit (Item 6) on right pole so Item 5 comes to rest on the two socket head cap screws as shown in Figure 5. Remove wrench.  
Note: When properly installed, the top of the safety wood block will be flush with the top of the trip unit. IF NOT INSTALLED PER THESE INSTRUCTIONS PERSONAL INJURY COULD RESULT.
8. Select proper length of plunger for desired application and discard one pair of plungers (See Item 7 in Figure 5). Assemble support-tie bar assembly (Item 8) from top and insert plunger through rectangular opening in base from bottom of base. Tie bar member (Item 9), which is a part of Item 8 must engage tie-bar connector (Item 4), plunger locator pin (Item 10) of link assembly (also a part of Item 8) must engage hole in plunger (Item 7). Tighten two 5/16-18 socket head cap screws (Item 11) to 140 in-lbs.



**⚠ DANGER**  
 HAZARDOUS VOLTAGE  
 WILL CAUSE SEVERE INJURY  
 OR DEATH.  
 TURN OFF AND LOCK OUT ALL POWER  
 SUPPLYING CIRCUIT BREAKERS OR  
 FUSES BEFORE REMOVING COVERS  
 OR SERVICE AND WHILE COVERED AND  
 REMOVED.  
 REPLACE ALL DRIVEN AND REMOVED  
 BOLTS POWER SUPPLYING THE  
 DEVICE IN TABLE 24.

### Installation Instructions

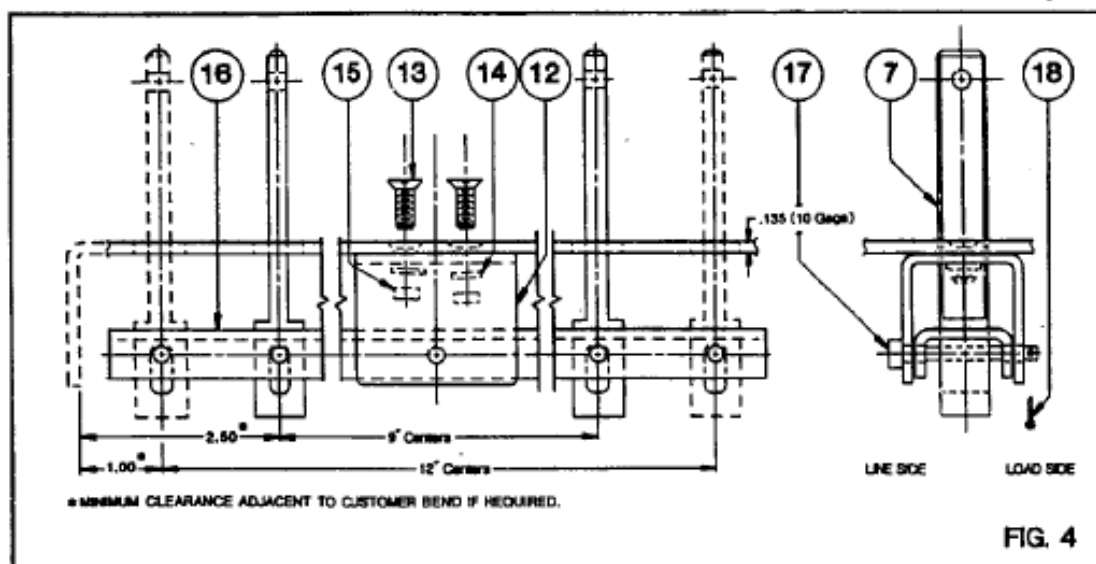


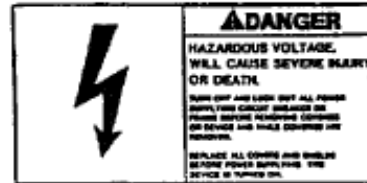


## Installation Instructions

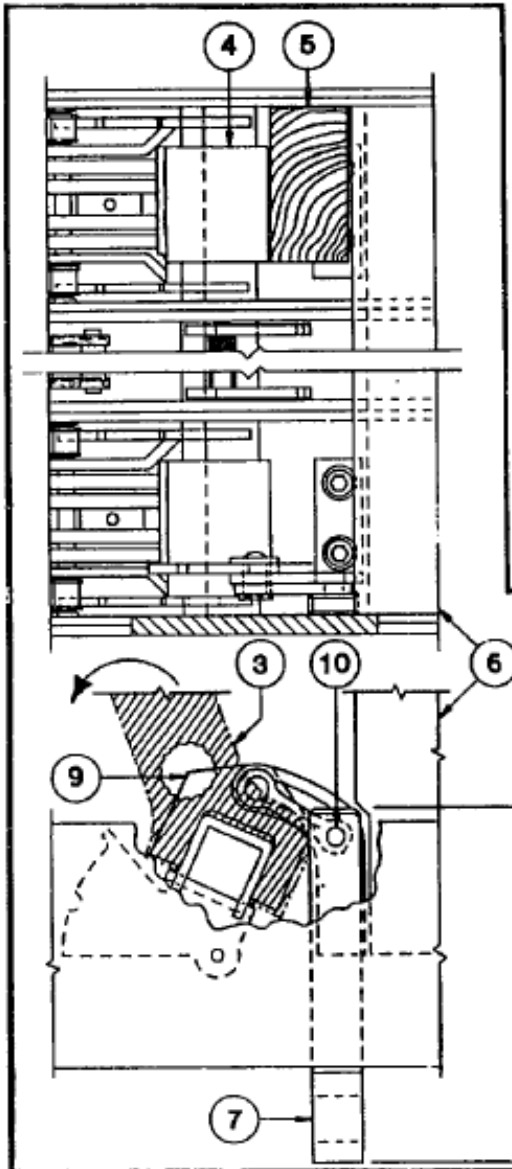
9. Using tie-bar wrench (Item 3) carefully positioned over tie-bar connector (Item 4), (so as not to damage support-tie bar assembly item 8) rotate tie bar in direction of arrow and remove wood block (Item 5). With care remove tie-bar wrench.
10. Replace handle if removed; note tab on front of handle must be toward line end. Replace load cover. The six 10-32 x 3/4" screws must be installed toward the line side of the circuit breaker. The two 10-32 x 1-3/8" screws are installed on the load end. Tighten all load cover screws to 25 in-lbs.
11. Drill panel as shown for panel mounting (circuit breakers on 9 or 12 in. centers), see Figure 2. For plug-in mounting see Figure 3.
 

**CAUTION:** Malfunction of the Mechanical Interlock could occur if the dimensions shown in Figure 2 or 3 are not maintained. This could result in property damage. MOUNT THE CIRCUIT BREAKERS AND THE BRACKET (Item 12) ON ONE SINGLE RIGID 10GA (.135) PANEL, carefully observing the dimensions shown in Figures 2 or 3 to ensure that all interface dimensions remain fixed during the service life of the interlock and breakers. Make certain that long unsupported mounting panel surfaces are provided with bracing to prevent flexure.
12. Assemble bracket (Item 12) to rear of 10 gage customer panel using screws (Item 13), lockwashers (Item 14) and nuts (Item 15) supplied as shown in Figure 4.
13. Assemble rocker arm (Item 16) to bracket (Item 12) with rocker arm pin (Item 17). Note: heads of rocker arm pins (Item 17) must be on upper side of assembly and cotter pins (Item 18) on lower side. Insert cotter pin (Item 18) into hole in Item 17 and spread ends. See Figure 4.
14. Add circuit breakers (specially prepared) to customer's panel for panel mounted or plug-in adapters and circuit breakers for plug-in applications. (Refer to installation instructions supplied with plug-in adapters Cat. No. PC5662 or PC5663). Carefully position circuit breaker over 1.00 dia. hole in panel so as not to damage protruding plungers (Item 7). For panel mounted applications use Cat. No. MSMN mounting screw kit (part of mechanical interlock Cat. No. M15404) to fasten circuit breaker to customer's panel. Replace terminal shields. Tighten





## Installation Instructions



two 8-32 screws each to 12 in-lbs.

15. Assemble rocker arm pins (Item 17) through rocker arm (Item 16) and slot in plunger (Item 7) and insert cotter pin (Item 18) into hole in item 17 and spread ends. See Figure 4 (Note: heads of rocker arm pins (Item 17) must be on upper side of assembly and cotter pins (Item 18) on lower side).
16. Affix labels (Item 19) to front of both circuit breakers as shown in Fig. 1.
17. With both circuit breakers in "OFF" position, interlock must move freely.
18. With one circuit breaker "ON" the other circuit breaker must not close.

Covered under U.S. Patent No. 4,902,859

4.58 PANEL MTG.  
5.25 PLUG-IN MTG.

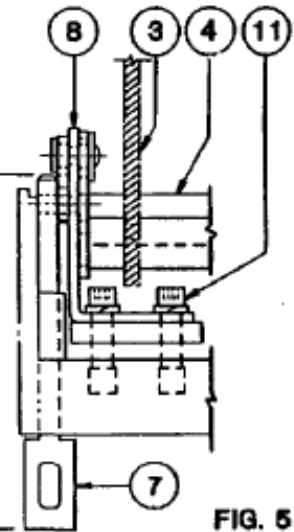


FIG. 5