

## Installation Instructions

**⚠ DANGER**

**Hazardous Voltage.**  
Will cause severe injury or death.

Turn off and lock out all power supplying circuit breaker before installing.

**SAFETY INSTRUCTIONS**

**NOTE:** These instructions outline the recommended installation procedure.

### GENERAL

The term circuit breaker used in these instructions includes motor circuit interrupters and molded case switches.

A complete handle operator consists of a handle assembly, frame assembly, breaker operator assembly, adjustable door catch, and mounting hardware.

### FEATURES

- Trip indication
- Handle can be padlocked in **OFF** position with up to three  $\frac{5}{16}$ " padlocks.
- Interlocks with I-T-E® DKR2, DKR3, DKL2, and DKL3 Door latch mechanisms.
- Cat. No. HAS-1 auxiliary switch can be attached to provide remote indication of handle position.

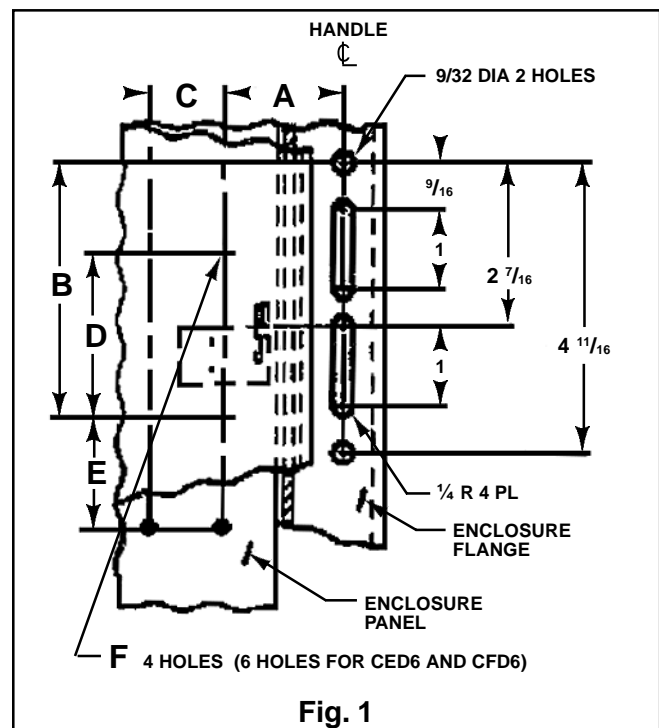
### 1. PREPARATION

- a. Turn OFF and lock out all power supplying the circuit breaker and all other equipment within the enclosure before installing this device.
- b. Prepare the mounting holes in the enclosure flange and in the enclosure panel (See Figure 1, Table, and Figure 2).

All dimensions are in inches.

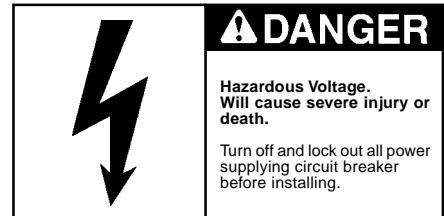
<u>Cat. No.*</u>	<u>For Use With</u>
<b>FDFBER</b>	I-T-E E and ED Frame Circuit
<b>FDFBEL</b>	Breakers (three pole only)
<b>FDFBER4</b>	TYPES: E2-A, (H)E4-A,
<b>FDFBEL4</b>	(H)E6-A(ETI), ED2(Y), (H)ED4,
	(H)ED6(ETI), CED6(ETI)
<b>FDFBFR</b>	I-T-E F and FD Frame Circuit
<b>FDFBFL</b>	Breakers TYPES: FJ6, FXD6(ETI),
<b>FDFBFR4</b>	(H)F6, (H)FD6, CFD6, CLF, SFD6,
<b>FDFBFL4</b>	SHFD6.

\* Cat. No.'s without suffix 4 are for installation in type 1, 2, 3, 3R, and 12 enclosures. Cat. No.'s with suffix 4 are for installation in type 1, 2, 3, 3R, 4, 4X, and 12 enclosures.

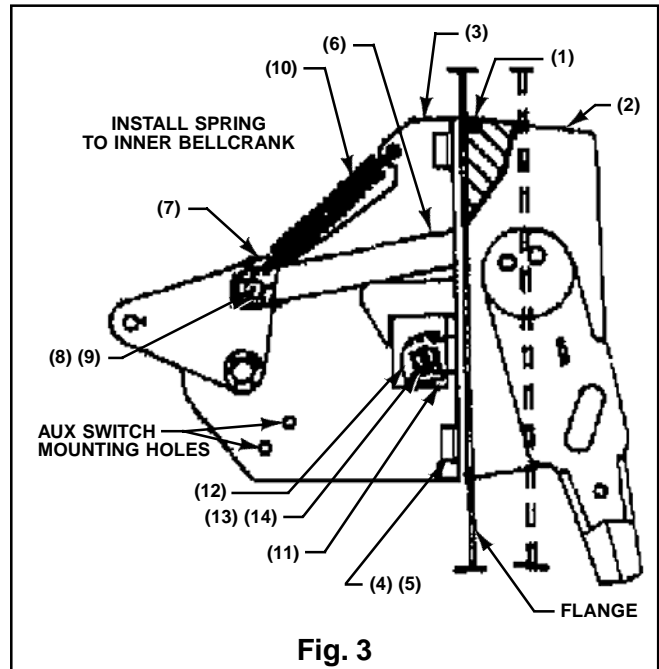
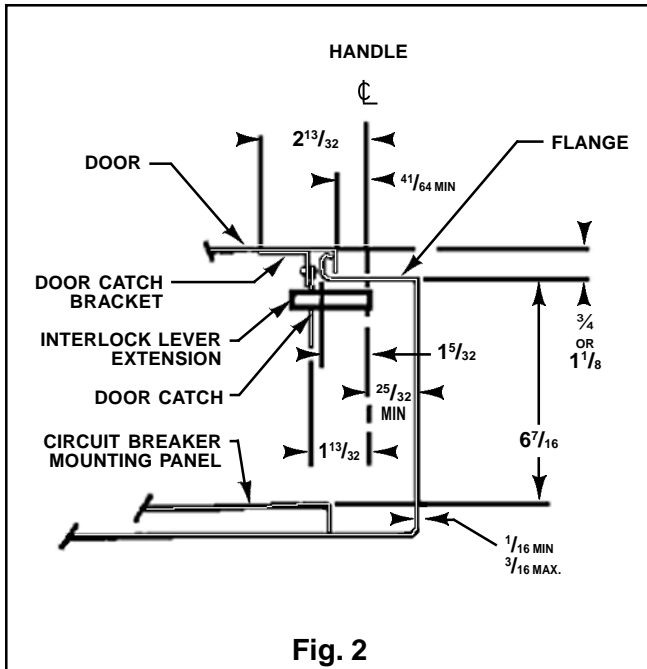


**Fig. 1**

CIRCUIT BREAKER FRAME SIZE	A	B	C	D	E	F TAP SIZE
E, ED	2.38	6.81	1.000	5.000	-	#8-32 UNC
CLD	2.38	6.81	1.000	5.000	3.250	#8-32 UNC
F, FD	3.50	6.78	1.500	7.500	-	¼-20 UNC
CLF	3.50	6.78	1.500	7.500	4.625	¼-20 UNC



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## 2. INSTALLATION HANDLE AND FRAME ASSEMBLIES

(see figure 3)

- a. Secure gasket (1) into groove of handle assembly (2). Mount handle assembly (2) and frame assembly (3) to enclosure flange using two 1/4-20 X 3/4 socket head cap screws (4) and 1/4 lockwashers (5). Tighten screws (4) to 75 in-lbs.
- b. Attach link (6) to bellcrank (7) using the 5/16 dia. X 5/8 grooved pin (8). Secure pin (8) using the two 5/16 E-type retaining rings (9).
- c. (Cat. No.'s FDFBER(4) and FDFBEL(4) only) Attach extension spring (10) to frame (3) and to inner bellcrank (7).
- d. Attach the interlock lever extension (11) to the interlock lever (12) and secure with #8-32 X 3/8 screw (13) and #8 helical lockwasher (14). Tighten screw to 25 in-lb.

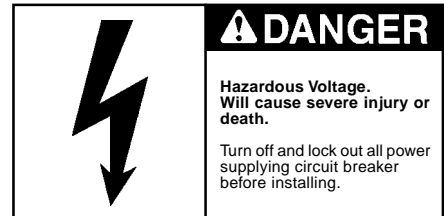
## 3. INSTALLING DOOR CATCH (if required)

(see figure 4)

If no door catch is provided with the enclosure, weld the supplied door catch bracket (15) to the enclosure door and attach the adjustable door catch (16) to the door catch bracket (15) using the #8-32 X 5/16 mounting screw (17) and #8 external tooth lockwashers (18). Note the "H" dimension for the correct mounting holes. Tighten the mounting screws to 25 in-lbs.

## 4. ADJUSTING DOOR CATCH

- a. Move the handle to the **OFF** position and close the enclosure door. This action should release the interlock, allowing the handle to be turned **ON**.  
 If the handle cannot be turned **ON**, loosen the screws (17) and adjust the door catch (16) downward in its slot, retighten the screws (17) and repeat.



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## 4. ADJUSTING DOOR CATCH (con't)

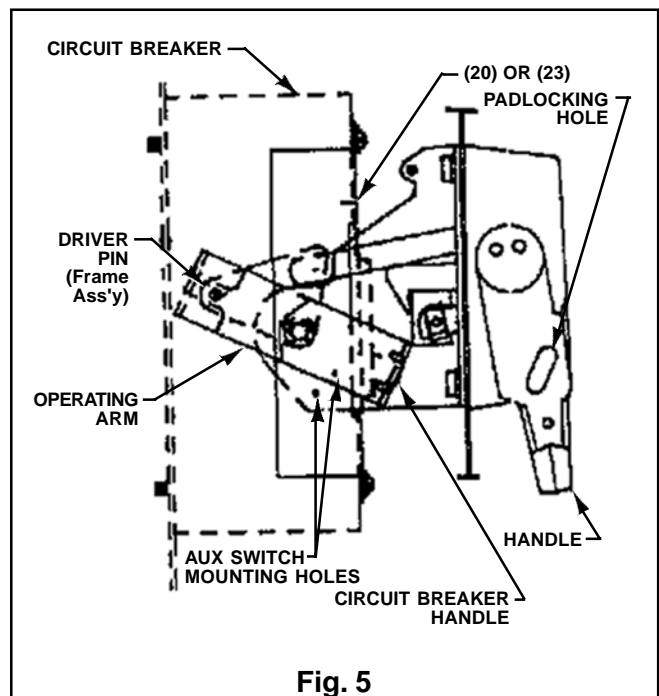
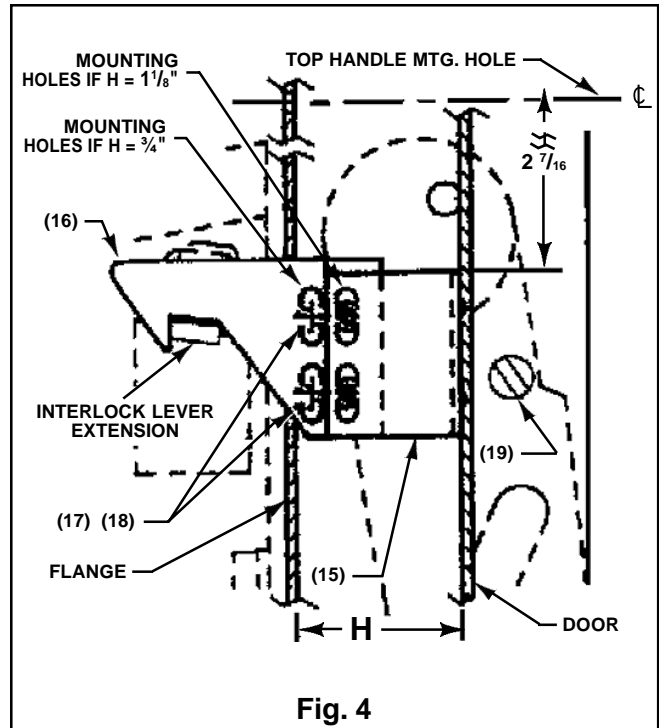
- b. Move the handle to the **ON** position and attempt to open the enclosure door. The door catch (16) should engage the interlock lever extension and hold the door closed. If the door can be opened, adjust the door catch (16) downward.
- c. Repeat steps 4a and 4b to insure that the handle cannot be turned **ON** unless the door is fully closed and the door cannot be opened if the handle is in the **ON** position. NOTE: The door can be opened when the handle is in the **ON** position by rotating the interlock defeater screw (19) located on either side of the handle housing.

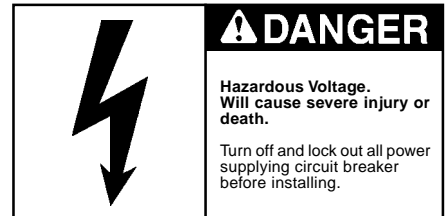
## 5. INSTALLING BREAKER AND BREAKER OPERATOR (See figures 5, 6, and 7)

Move the operating handle and circuit breaker handle to the **OFF** position.

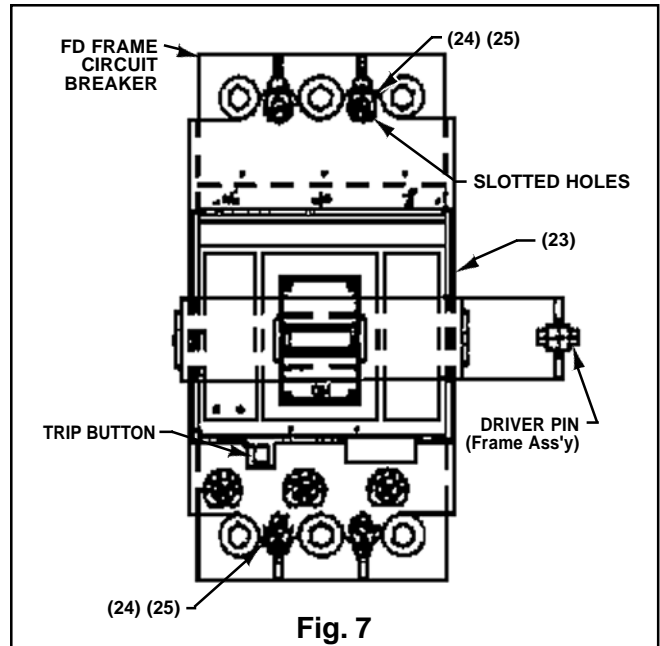
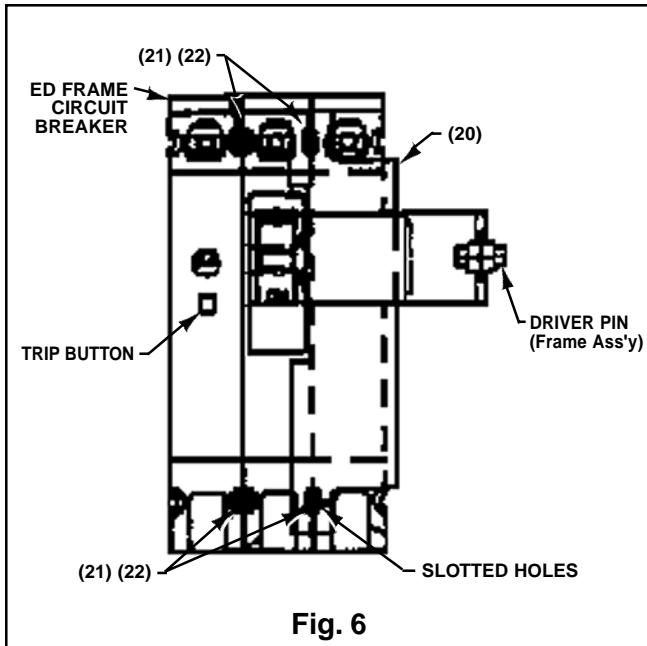
Locate the circuit breaker over the mounting holes in the enclosure panel and position the breaker operator (20) or (23) onto the circuit breaker, positioning the combination so that the operating arm engages the circuit breaker handle and the driver pin on the bell crank of the frame assembly.

Proceed with specific ED or FD frame instructions as follows:





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## ED FRAME (See figure 6)

Secure the breaker and breaker operator (20) to the enclosure panel using the four #8-32 X 4<sup>3</sup>/<sub>8</sub> screws (21), four #8 lockwashers (22), and two spacers (spacers supplied with separate instructions). Tighten the screw to 16 to 18 in-lbs.

## FD FRAME (See figure 7)

Secure the breaker and breaker operator (23) to the enclosure panel using the four ¼-20 X 4¼ screws (24) and ¼ lockwashers (25). Tighten the screw to 75 in-lbs.

## 6. ADJUSTING THE BREAKER OPERATOR

(See figures 6 or 7)

- Check that the circuit breaker turns **ON** and **OFF** by moving the operator handle **UP** for **ON** and **DOWN** for **OFF**. If the breaker does not turn **ON**, loosen the mounting screws, (21) or (24) and adjust the breaker operator upward 1/16 inch, tighten the mounting screws per step 5 (ED, FD) and check if the breaker turns **ON**. Repeat if required.
- To check the **TRIP - RESET** function, move the handle to the **ON** position and push the **TRIP** button located on the front of the circuit breaker. The circuit breaker will **TRIP** and the operating handle will move to an intermediate

**TRIP** position. Move the operating handle from **TRIP** position to **OFF** and back to **ON**. The circuit breaker should **RESET** then turn **ON**. If the breaker does not **RESET**, loosen the breaker operator mounting screws (21) or (24) and adjust the breaker operator downward 1/16 inch and retighten the screws per step 5 (ED, FD). Repeat if required.

## PADLOCKING (See figure 5)

Move the handle to **OFF** position and attach padlock(s) at the indicated padlocking hole.