



# Power Break<sup>®</sup> Accessories

## Bell Alarm Switch and Overcurrent Lockout Device TSBAA

### General Description

This device, Fig. 1, is for use in 2500-4000A frame POWER BREAK<sup>®</sup> MagneTrip™ circuit breakers. It is designed to provide an electrical signal or interlock switching function to indicate remotely that the breaker has opened under overcurrent conditions. The switch is a single-pole, double-throw AB type, rated 6 amperes at 600 Vac, ¼ ampere at 240 Vdc, and ½ ampere at 125 Vdc.

The wiring diagram, Fig. 2, shows the breaker in an overcurrent tripped position.

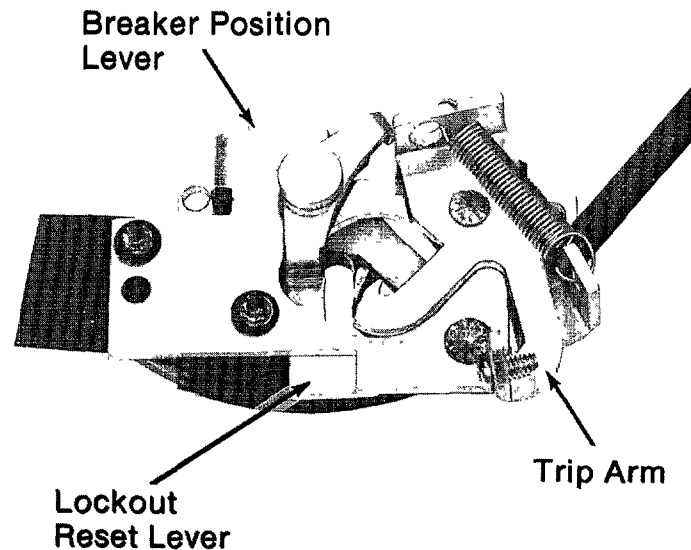


Fig. 1. Bell alarm device shown in lockout condition.

After an overcurrent trip, the bell alarm locks the breaker latch open to prevent subsequent contact closure and maintains the electrical circuit indicating an overcurrent trip.

The lockout action is defeated by pushing the OFF button down as far as possible, thus resetting the device to its normal unlocked position.

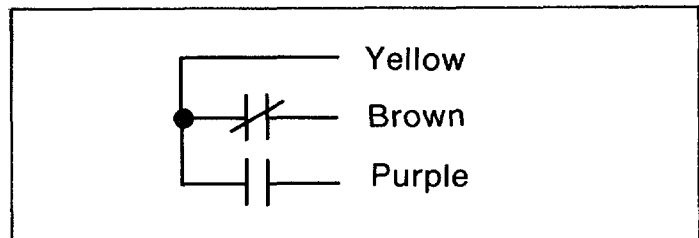


Fig. 2. Wiring diagram shown with breaker in overcurrent tripped condition.

### Replacement Instructions

**WARNING:** BEFORE OPENING THE BREAKER TO REPLACE THIS ACCESSORY, THE BREAKER CONTACTS MUST BE OPEN, THE MECHANISM NOT CHARGED, AND THE BREAKER ITSELF DISCONNECTED FROM THE ELECTRICAL SYSTEM.

1. Remove the breaker cover and trip unit as described in GEH-4656 and GEH-4658.
2. Disconnect the old bell alarm leads and pull them out of the access hole. To defeat the cover interlock used on late model devices, pull the trip slide up and use one of the ½-inch diameter by ¾-inch long phenolic defeat plugs (supplied with the kit) to prop it up as shown in Fig. 3. If the breaker is equipped with a drawout trip interlock, use a screwdriver to lift the interlock and prop it up with the second plug.

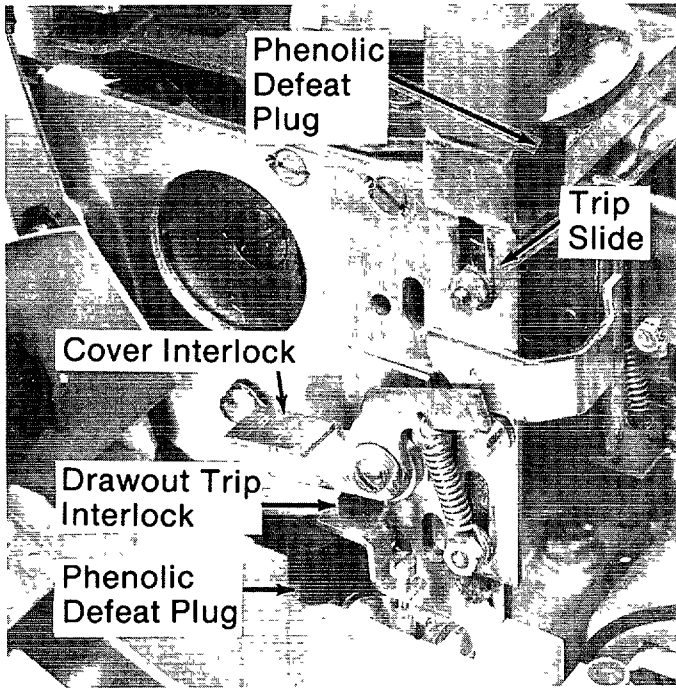


Fig. 3. View of breaker with old bell alarm removed and defeat plugs in position.

3. Remove the bell alarm mounting screws and, dropping the unit down, pull it out from underneath the trip slide extension as shown in Figs. 4A and 4B.

4. Check the replacement unit to verify that it is in the lockout condition shown in Fig. 1. If it is not, proceed as follows:

- a. Hold the breaker position lever down.
- b. Push the trip arm down.
- c. Release the breaker position lever.

5. Install the replacement bell alarm in the reverse order of removal of the old unit. See Figs 4A and 4B.

6. Hold the unit as shown in Fig. 5.

**NOTE:** It is important that the trip arm is above the breaker latch and the insulation is forced over as shown.

Install, but do not fully tighten, the mounting screws. Push the unit up until the screws are at the midpoint of the slots in the frame and tighten the screws to a torque of 15-20 inch-pound.

Temporarily remove the defeat plug holding up the trip slide and push the slide down fully to reset the lockout; then, hold up the trip slide and reinsert the defeat plug. Thread the leads through the access hole.

**CAUTION:** IF THE BREAKER IS EQUIPPED WITH AN UNDERVOLTAGE RELEASE DEVICE, IT MUST BE ENERGIZED OR OTHERWISE DEFEATED DURING THE FOLLOWING ADJUSTMENTS OR TESTS TO PREVENT TRIPPING OF THE BREAKER LATCH.

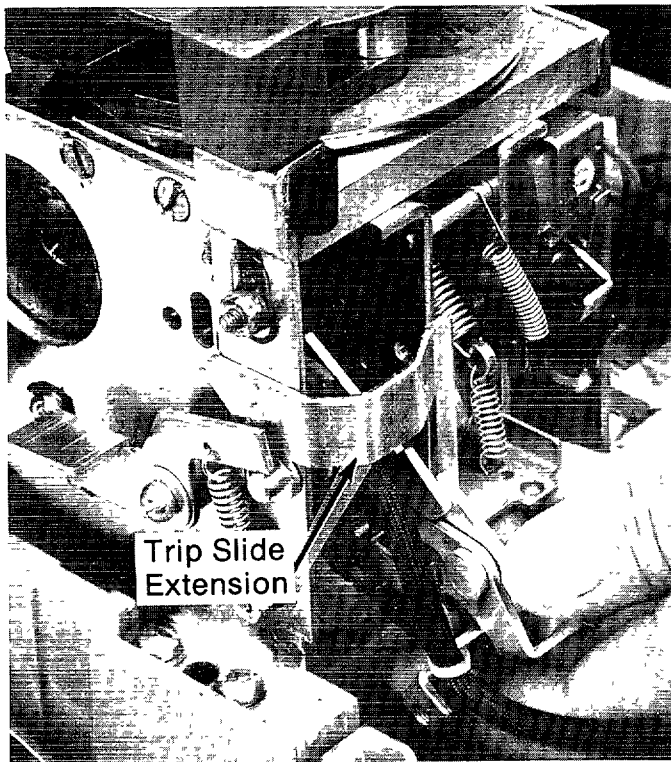


Fig. 4A.

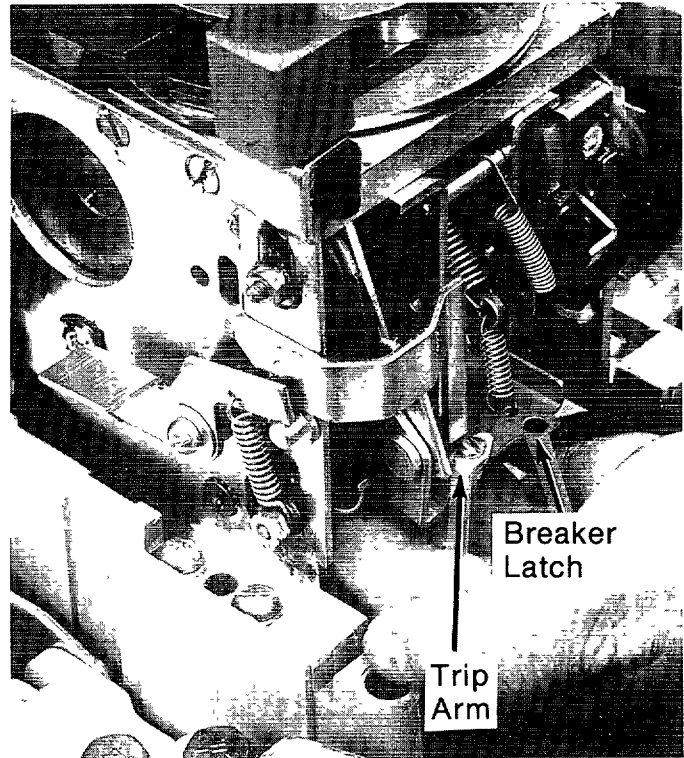


Fig. 4B.

Fig. 4. Removing or replacing bell alarm device under trip slide.

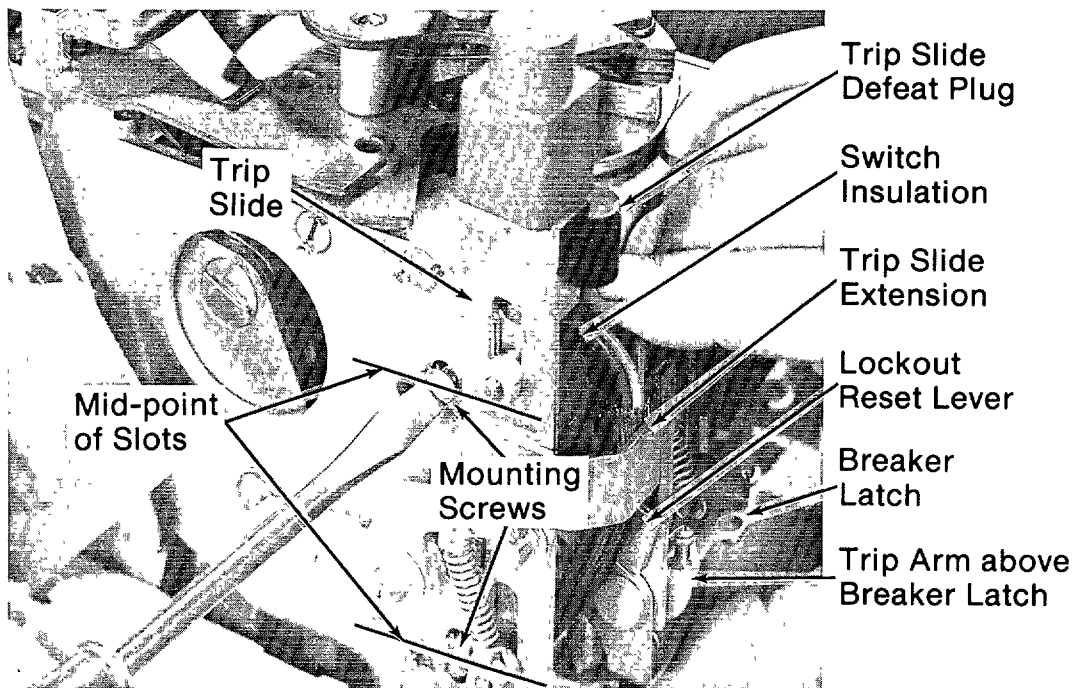


Fig. 5. Holding device while installing mounting screws or adjusting unit position. Trip arm must be above breaker latch.

7. Place the breaker cover in position on the base and cycle the handle twice to partially charge the springs and reset the breaker latch; then, remove the cover.

8. To check trip arm hook clearance, push trip arm down, Fig. 6, and observe the gap as the hook passes the latch on the breaker position arm. The gap should be 0.05 to 0.07 inch. If the gap is incorrect, grasp the unit as shown in

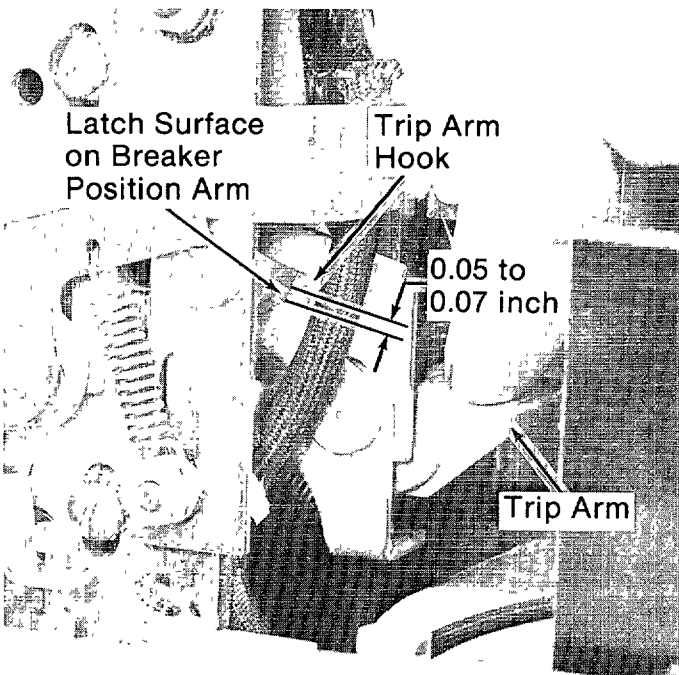


Fig. 6. Trip arm hook clearance.

Fig. 5, loosen the mounting screws, and push the unit UP to INCREASE the gap and DOWN to DECREASE it. When the gap is correct, retighten the screws to the torque specified.

9. Reinstall the trip unit. As shown in Fig. 7, use a screwdriver to hold the trip unit trip bar extension down in contact with the breaker latch. Then, push the bell alarm trip arm down to observe the free travel. If the free travel is not as shown in Fig. 8 (0.03 to 0.05 inch), adjust it by using small nose pliers to bend the extension up or down.

10. Reposition the breaker cover on the base and cycle the handle once more to close the breaker contacts. Remove the cover.

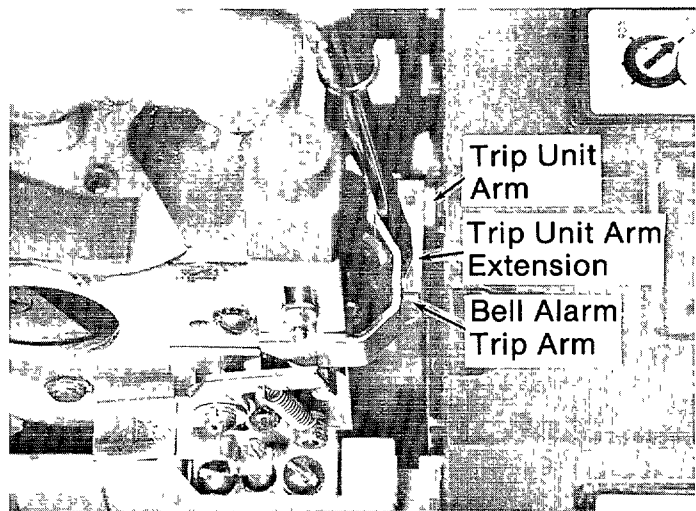


Fig. 7. Checking free travel of trip arm.

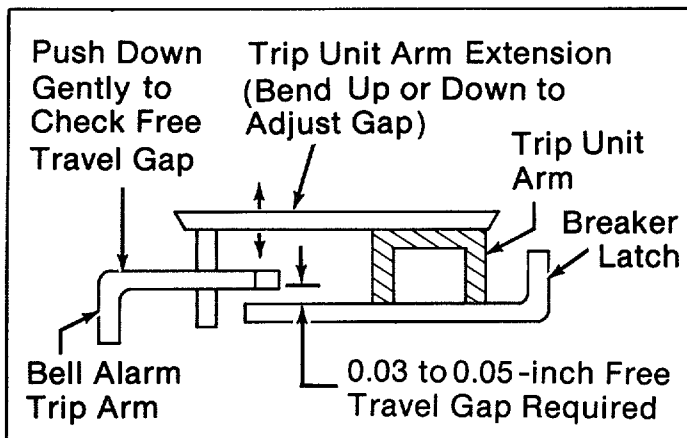


Fig. 8. Checking free travel of trip arm (view from load end of breaker).

## Functional Checks

**CAUTION:** TO PREVENT INJURY TO PERSONNEL, KEEP HANDS AWAY FROM THE BREAKER CONTACT ARMS WHILE MAKING THESE CHECKS.

1. Use a screwdriver to slowly push the trip unit trip bar extension down until the breaker contacts open. Observe that the breaker latch is now being held down by the trip arm.
2. Check the switch circuit to be sure that yellow to brown is CLOSED, and that yellow to purple is OPEN.
3. Remove the defeat plug under the trip slide and push the slide down fully to reset the lockout. Check the switch circuit to be sure that yellow to brown is now OPEN and that yellow to purple is CLOSED.

## Possible Problems and Corrective Actions

1. Bell Alarm Fails to Reset—Check trip slide extension to be sure it contacts lockout reset lever. Bend extension if required, making sure slide does not bind up on switch leads.
2. Bell Alarm Fails to Lock Out—Either gap set in Step 8 (Replacement Instructions) is too small or the gap set in Step 9 is too great. Recheck and readjust as required.

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. These instructions are intended for use by qualified personnel only.

**NOTE:** Repeat functional checks if adjustments were made in Items 1 and 2 above.

## Final Assembly and Checks

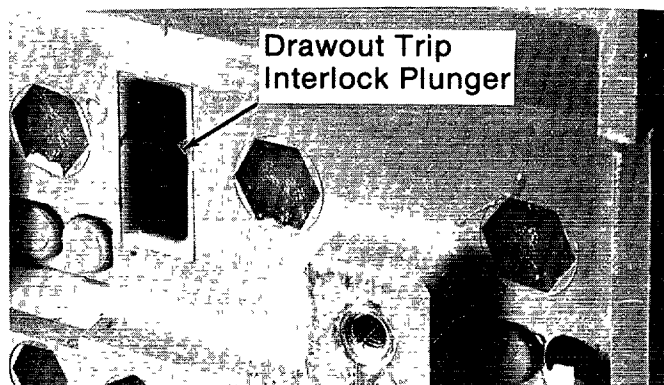
1. Check to be sure the defeat plugs have been removed from under the trip slide and drawout trip interlock (if so equipped)
2. Install the breaker cover, cover mounting screws, and trip unit escutcheon.

**CAUTION:** IF THE BREAKER IS EQUIPPED WITH A DRAWOUT TRIP INTERLOCK (SHOWN IN FIG. 9), THE INTERLOCK MUST BE DEFEATED BY PUSHING IN AND HOLDING THE PLUNGER DEPRESSED DURING BREAKER OPERATION.

3. Push the OFF button all the way down to reset the bell alarm.

**NOTE:** If the button can not be depressed, the trip slide defeat plug was not removed in Step 1 above.

4. Cycle the handle three times to charge the breaker; then push the ON button to close the breaker contacts.
5. Push the OFF button to open the breaker contacts.
6. If the breaker is equipped with a drawout trip interlock, repeat Step 4 and then release the plunger to open the breaker contacts.



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