



# POWER-BREAK<sup>®</sup> GENERAL

DISTRIBUTION EQUIPMENT DIVISION — Plainville, Connecticut 06062

## CIRCUIT BREAKER DISASSEMBLY AND REASSEMBLY FOR 600-1600 FRAMES WITH SOLID STATE PROGRAMMER

**NOTE:** UL Listing is voided when the circuit breaker is modified to add an accessory.

**WARNING:** When installing accessories, the breaker must be completely de-energized and disconnected from the electrical circuit. This is mandatory because breaker must be "ON" during certain stages of installation and testing.

### CIRCUIT BREAKER DISASSEMBLY

#### Manual Circuit Breakers

1. Cover Removal — see Fig. 1.
  - a. Press the OFF button on the circuit breaker.
  - b. Remove Four cover mounting screws.
  - c. Remove the breaker cover.

*Note: All breakers having solid state programmers are equipped with mechanical interlocks that automatically trip the breaker when the cover is removed with the breaker closed.*

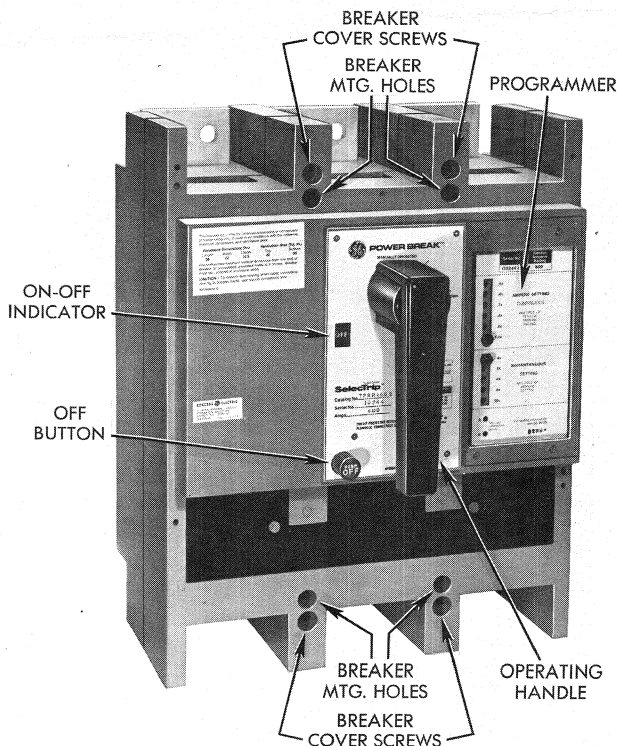


Fig. 1. Manual Circuit Breaker

2. Solid State Programmer Removal.

*Note: All programmers are mechanically interlocked to trip the breaker if removed.*

- a. Loosen captive programmer support mounting screw, Fig. 2.
- b. Slide programmer assembly beyond retaining screw as shown in Fig. 3. *Do not remove retaining screw.*
- c. Disconnect electrical plug and remove programmer, Figs. 4 & 5.
- d. When flux shifter replacement is required, refer to page 3.

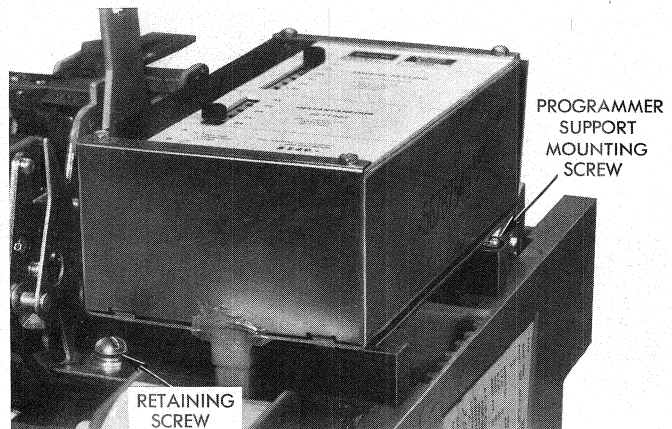


Fig. 2

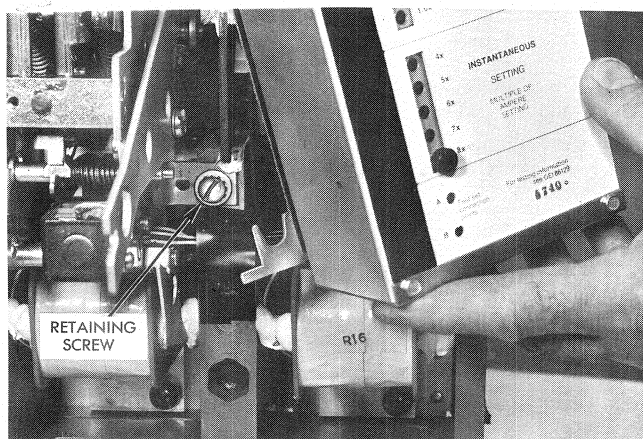


Fig. 3

*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.*

instructions

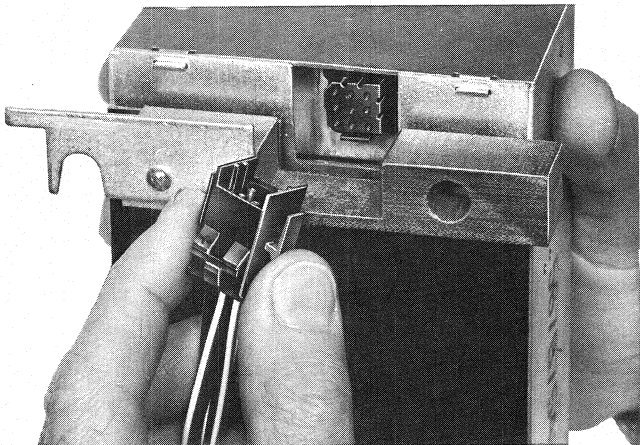


Fig. 4. Removing/Replacing Electrical Plug from a Selectrip Programmer

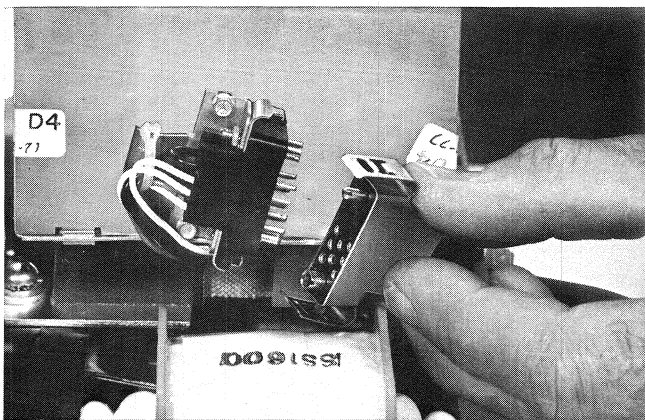


Fig. 5. Removing/Replacing Electrical Plug from a Versatrip Programmer

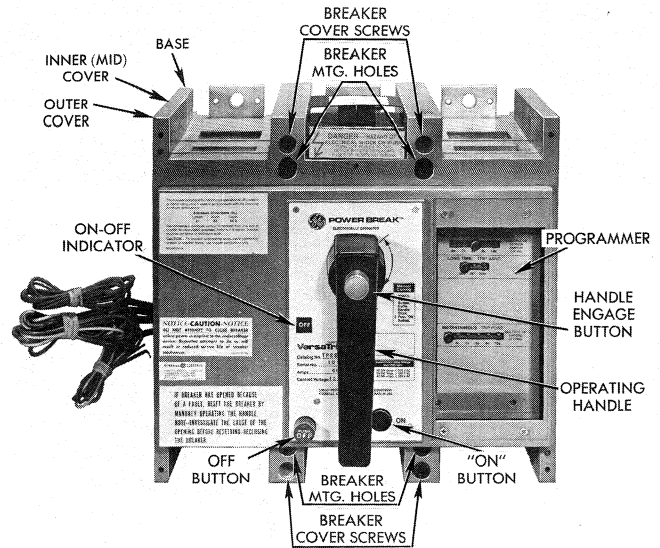


Fig. 6. 600-800A Frame Electrical Breaker

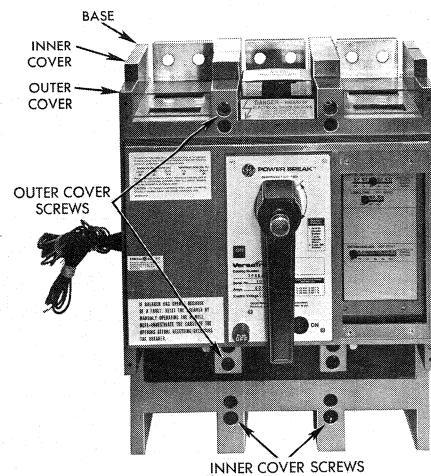


Fig. 7. 1200-1600A Frame Electrical Breaker

## ELECTRICAL CIRCUIT BREAKERS

### 1. Outer Cover Removal.

- Press the off button on the circuit breaker.
- Disconnect all external leads from the terminal board.
- Remove Four outer cover mounting screws (Fig. 6 & 7).
- Remove outer cover.

### 2. Inner Cover Removal

- 1200-1600A Frames only — Remove two inner cover mounting screws. (see Fig. 7).
- Loosen captive Inner cover lock screw as shown in Fig. 8.

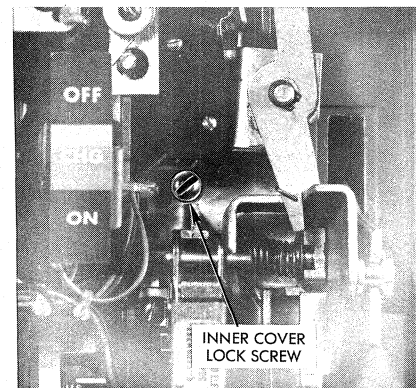


Fig. 8. Inner Cover Lock Screw

- c. Remove inner cover.
3. Solid State Programmer Removal
    - a. Remove programmer as outlined in Manual Circuit Breakers.
    - b. When flux shifter replacement is required refer to flux shifter device section below.

## CIRCUIT BREAKER REASSEMBLY

### Manual Circuit Breakers

1. Solid State Programmer Installation
  - a. Connect electrical programmer plug, see Figs. 4 and 5.
  - b. Reinstall programmer, see Fig. 3 and secure support mounting screw, see Fig. 2.
2. Cover Installation
  - a. Verify that all connections are secure and breaker is free of debris.
  - b. Verify that breaker is "OFF".
  - c. Position manual handle at the home position (6 o'clock) on the cover. Align cover mounting screw holes with breaker base and install four cover screws. Secure with 50 to 60 inch pounds torque.

### Electrical Circuit Breakers

1. Solid State Programmer — Install as outlined in Manual Circuit Breakers.
2. Inner Cover Installation
  - a. Verify that all connections are secure and breaker is free of debris.
  - b. Slide the Inner Cover Assembly onto the breaker base. Ensure that the crossbar hook engages the drive stud as shown in Fig. 9.
  - d. Tighten inner cover lock screw to 10-in.-lbs. max., see Fig. 8.
  - e. 1200A-1600A Frames only — Replace two (2) inner cover mounting screws, see Fig. 7. Tighten to 50-60 inch pounds torque.

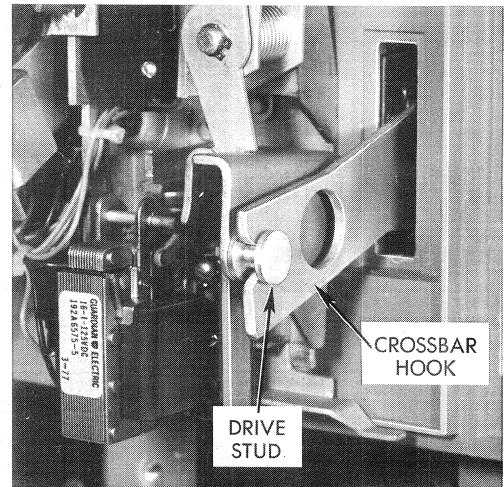


Fig. 9

3. Outer Cover Installation
  - a. Position handle at the home position (6 o'clock) on the outer cover. Align outer cover mounting screw holes with those of the inner cover and install four cover mounting screws, see Figs. 6 and 7. Secure with 50 to 60 inch pounds torque.
 

*Note: Ensure control terminal board properly engages cover retaining slots.*
  - b. Reconnect control and power wiring.

### FLUX SHIFTER DEVICE

For use with solid state trip units only. The flux shifter coil assembly may be replaced as follows:

1. Disassemble breaker per instructions on pages 1-3. Remove solid state programmer.
2. Remove wire wraps and tape securing flux shifter leads.
3. Remove two round head screws that mount flux shifter assembly to side frame.
4. Cut flux shifter control leads in the center of their run to the plug. Splice in leads of the new flux shifter. Polarity of wires must be respected. Insulate splice.
5. Test flux shifter coil and connections as follows:
  - a. Reset flux shifter plunger.
  - b. Apply 9VDC to appropriate plug pins as shown in Figs. 10 and 11.

Check pin holes B & E with 9V test battery.

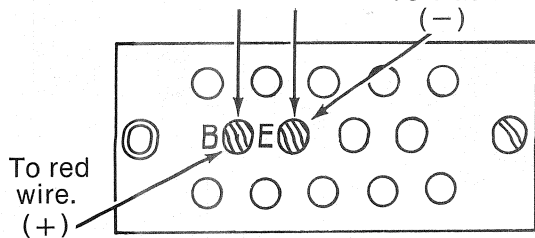


Fig. 10. Versatrip Plug Test  
(Female Receptacle)

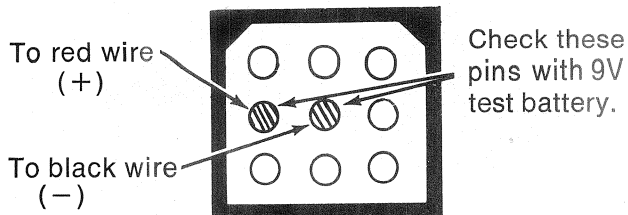


Fig. 11. Selectrip Plug Test—For New Black  
Colored Plugs Only.  
(Male Receptacle)

6. Mount flux shifter to side frame using the two round head screws. Tighten securely.
7. Reassemble circuit breaker.

## MOUNTING PLATE

The mounting plate is used as the anchor position for the shunt trip, blown fuse trip and undervoltage release accessories. It is only required when any of these accessories are supplied and may be replaced/installed as follows:

### REMOVAL

1. Remove breaker cover (and Inner cover on electrically operated breakers) per instructions on pages 1-3.
2. Remove three (3) mounting plate retaining screws and isolation barrier, see Fig. 12.

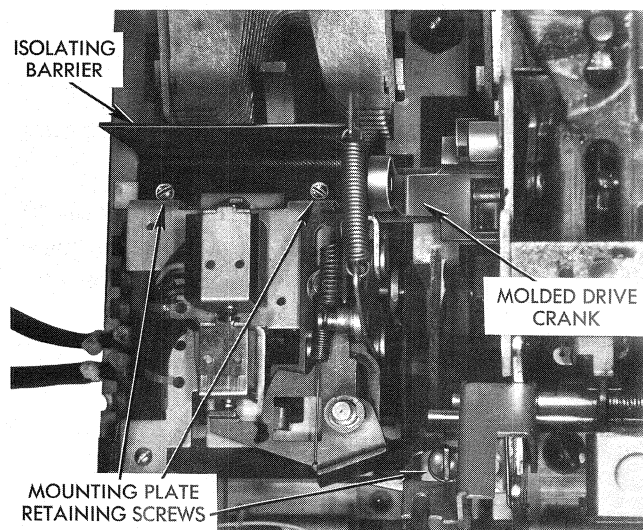


Fig. 12

3. Lift out accessory mounting plate and remove molded drive crank. (Fig. 12).

*Note: If equipped with a shunt trip, the cut-off auxiliary switch assembly located under the accessory mounting plate must also be removed. To accomplish this remove the two bracket retaining screws as shown in Fig. 13. These screws are made easily accessible by first removing the left pole arc chute.*

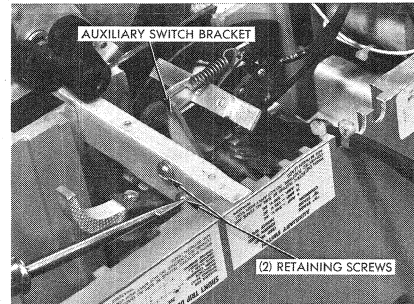


Fig. 13

## INSTALLATION

1. To install mounting plate first replace molded drive crank onto mechanism drive pin engaging roll pins into slot in drive crank.
2. If the mounting plate is equipped with a shunt trip device, install the cut-off auxiliary switch by replacing its two (2) bracket retaining screws, see Fig. 13 and left pole arc chute.
3. Place mounting plate in position so that its two (2) operating studs engage the molded drive crank, see Fig. 12.
4. Position isolating barrier between mounting plate and crossbar, see Fig. 12.
5. Replace three (3) retaining screws, see Fig. 12 and torque to 20 inch pounds (2 small screws) and 75 inch pounds (large screw).
6. For initial installations only remove knockouts in cover (manual breakers) or inner cover (electrical breakers) as shown in Fig. 14. This action is required to accommodate the molded drive crank and trip paddle.
7. Reassemble the breaker per pages 2 and 3.

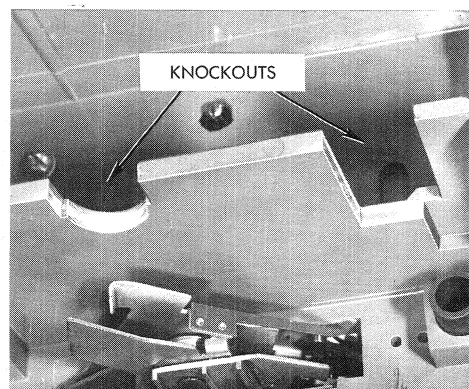


Fig. 14