



# Installation of Power Break® Circuit Breakers and Type HPC High Pressure Contact Switches in NEMA 1 Enclosures, 800-1600 Amperes

## General

These instructions describe the installation of GE 800-1600A frame size Power Break® insulated case circuit breakers and 800-1600A type HPC high pressure contact switches in NEMA 1 enclosures. Table 1 shows the type breaker or HPC switch which is suitable for installation in the various enclosures. Enclosure catalog numbers with "TPB" prefix will accept only appropriate Power Break circuit breakers. Enclosure catalog numbers with "TPC" prefix are only for HPC switches with catalog number prefix "THPR." All enclosure catalog numbers with a "B" in the suffix are only for bottom fed (line bottom) devices and must be used with devices having a "B" in the suffix of the catalog number. For example, enclosure Cat. No. TPB1600BE is for an electrically operated 1600A bottom fed Power Break circuit breaker.

Use of bottom fed enclosures and devices eliminates the need for looping cables from one end of the enclosure to the other. Refer to enclosure rating label on inside of enclosure door to be sure you have the correct device for installation.

Enclosure Cat. No. For Circuit Breakers	Suitable with Power Break Circuit Breaker Types TPSS, THSS, TPM, TPMM, THMM, TPR, TPRR, THRR	Max Ampere Rating
TPB800 TPB1600	Top feed, manually operated	800A 1600A
TPB800B TPB1600B	Bottom feed, manually operated	800A 1600A
TPB800E TPB1600E	Top feed, electrically operated	800A 1600A
TPB800BE TPB1600BE	Bottom feed, electrically operated	800A 1600A

Enclosure Cat. No. For HPC Switches	Suitable for use with Type "THPR" HPC Switches	Max Ampere Rating
TPC800 TPC1200 TPC1600	Top feed, with or without electric trip, with or without integral ground fault	800A 1200A 1600A
TPC800B TPC1200B TPC1600B	Bottom feed, with or without electric trip, with or without integral ground fault	800A 1200A 1600A

Table 1

## Conduit Openings

1. If conduit openings are to be made in the enclosure top and/or bottom endwalls, it is recommended this be completed before mounting enclosure to the wall.
2. Depending on the method by which conduit openings are to be made, you may find it easier to remove the enclosure endwalls to add. First remove enclosure door by removing the hinge screws (See Fig. 1).
3. Next remove either top or bottom endwall (but not both since sidewall stability will be greatly reduced). Add conduit openings to endwall which has been removed. Now replace this endwall. Be sure all mounting screws are replaced. Torque to 40-50 lb.in.
4. If required, remove other endwall, add conduit openings and replace endwall. Torque screws to 40-50 lb.in.
5. For easier cable and device installation, do not reattach door until installation is completed.

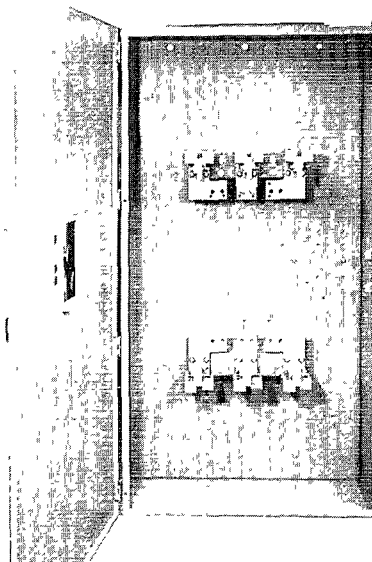


Figure 1

*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.*

## Enclosure Wall Mounting

**NOTE:** Enclosure weighs between 270 and 485 lbs. depending on size and must be adequately supported. Be sure all six mounting holes are utilized. Weights and mounting dimensions are given in Table 2.

1. Lifting plates are provided and are assembled to the inside of the enclosure near the top for shipping purposes. Remove the two lifting plates and reassemble to the outside of the enclosure sidewalls as shown in Figure 2.
2. Remove the two enclosure mounting plates from the enclosure and reassemble to the outside of the rear wall, one at top and one at bottom, using the same screws, washers, and nuts. Key-slotted holes are on 12.00 inch centers. Use 3/8 in. diameter bolts (not provided) to mount enclosure to wall. See Fig. 2 and Table 2.

## Circuit Breaker Installation

Once line, load and neutral cables have been terminated within the enclosure, the device may be installed. (Device may be installed before pulling and terminating cables, but it is easier to cable without the device in place.)

1. Observing correct line end orientation, hang circuit breaker from upper center circuit breaker terminal by placing over 1/2-13 threaded stud (800A) or two studs (1200A and 1600A) on top end sub-base assembly (see Fig. 3). Assemble flat washer, Belleville conical washer and nut over stud(s). Do not tighten at this time, line-up the remaining circuit breaker terminal holes with the holes in the remaining mounting pads, assemble 1/2-13 hex-head bolts with flat washer and conical washer into tapped hole(s) in straps. Tighten all terminal bolts to 300-400 lb in. (25-33 lb -ft) torque.

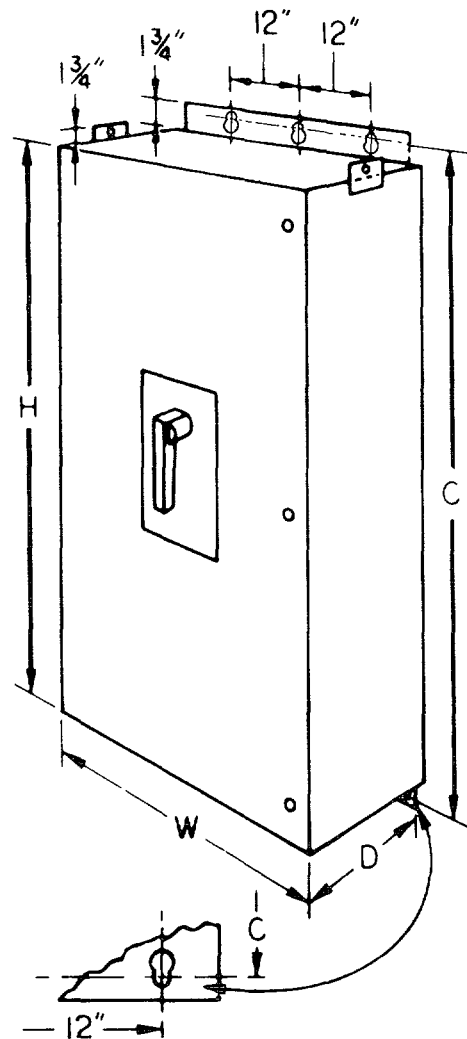


Figure 2

Table 2

### ENCLOSURE DIMENSIONS AND WEIGHTS

Enclosure Catalog Number	Max. Ampere Rating	Dimensions (Inches)				Weight (lbs.)
		H	W	D	C	
<b>CIRCUIT BREAKER ENCLOSURES</b>						
TPB800, B, BE	800	51-1/2	29-1/2	14-1/2	53-1/2	270
TPB1600, B, BE	1600	86	39	14-1/2	88	485
<b>HPC SWITCH ENCLOSURES</b>						
TPC800 TPC800B	800	62-1/2	29-1/2	14-1/2	64-1/2	310
TPC1200 TPC1200B	1200	86	39	14-1/2	88	485
TPC1600 TPC1600B	1600	86	39	14-1/2	88	485

## HPC Switch Installation

Installation of the HPC switch is similar to the Power Break circuit breaker, except straps have clearance holes for the 1/2-13 bolts. Assemble 1/2-13 hex-head bolts with (1) flat washer through the holes from the underneath side. Place flat washer and conical washer over bolt and assemble nut. Tighten all terminal bolts to 300-400 lb in (25-33 lb -ft.) torque. Additionally, install door interlock per instructions GEH-3493 provided with the HPC switch.

## Final Installation Checks

1 Check all cable/lug connections. Lug screws should be torqued to within the range specific for the "across flats" dimension of the lug screw in question.

Dimension "A" (in.)	Tightening Torque Pound-Inches
3/16	100-200
7/32	120-150
1/4	150-200
5/16	225-275
3/8	300-375

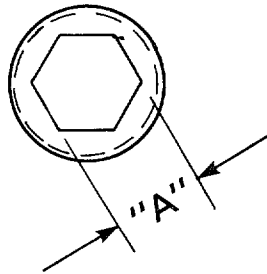


Figure 3

2. Check all hex-head bolts/nuts securing lugs to straps and straps to breaker/switch pad. These 1/2 inch diameter bolts should be torqued to 300-400 lb.in. (25-33 lb -ft)

3. For HPC switches, attach larger line shield provided with enclosure. Discard smaller line shield which was assembled to switch

4 If equipment ground fault protection is provided and a neutral current transformer (c/t) is used, be sure to connect the neutral c/t line side to the line side of the neutral - see rating label on enclosure door and Figure 4.

5 If the device is used as Service Equipment, bond the neutral to the enclosure on the Line side using the bonding strap provided with the neutral kit. Attach the "service disconnect" label provided to the outside of the door near the operating handle. (Discard label if device is not being used as service equipment.)

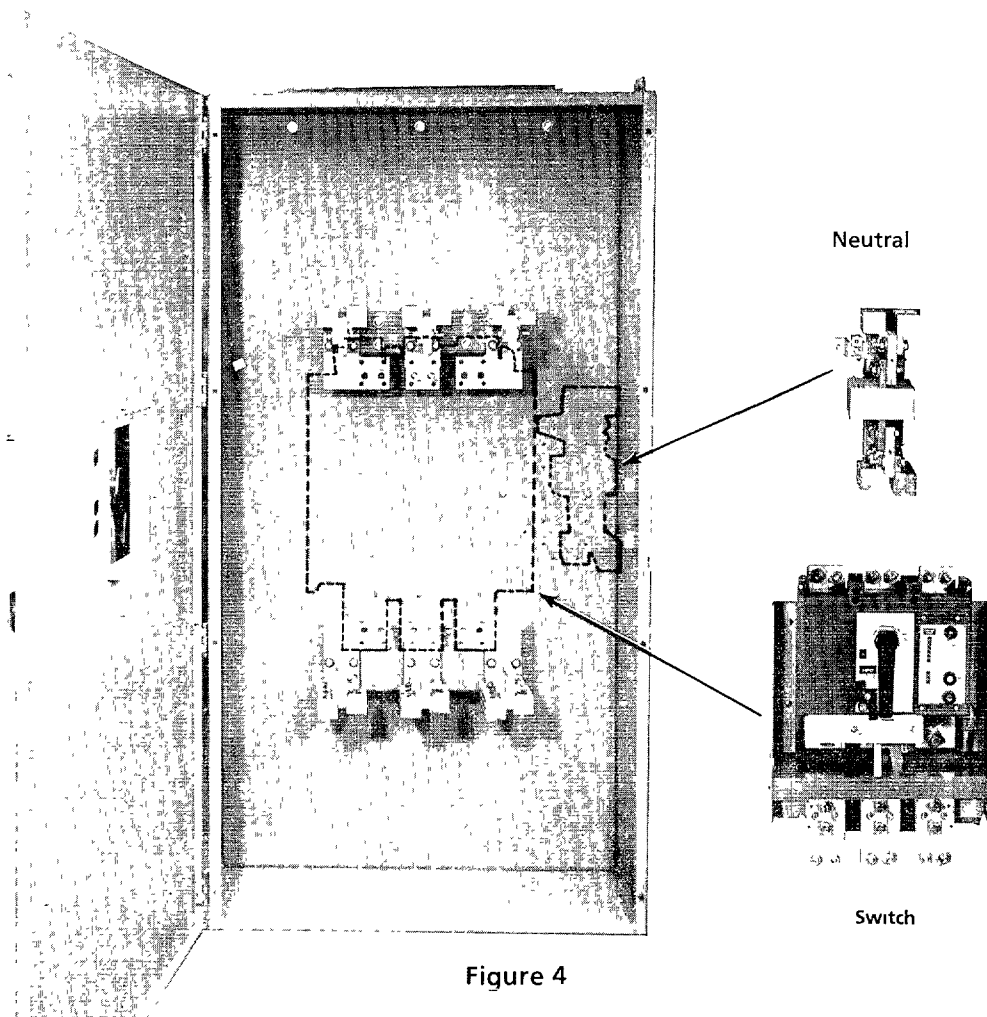


Figure 4

6. HPC switches with Integral Ground Fault and Test Function (Switch Cat. No. Suffix "G3T") require removal of the filler plate on the enclosure door (adjacent to the handle opening). Replace the filler plate with the test instruction nameplate. See Figure 5.
7. Devices with integral ground fault protection (both Power Break circuit breakers and HPC switches) are required to be checked in accordance with Art. 230-95(c) of the 1978 National Electrical Code (if the approving authority so requires). Effective January 1,

1981 UL Std 1053 requires instructions and a report form. Refer to instructions packaged with the Power Break circuit breaker and HPC switch starting on or before January 1, 1981.

8. Reattach enclosure door if not done previously. On HPC switch enclosures, adjust door interlock per Figure 6 or Instruction GEH-3493 provided with HPC switch. Do not attempt to operate HPC switch with enclosure door open since device is interlocked with door.

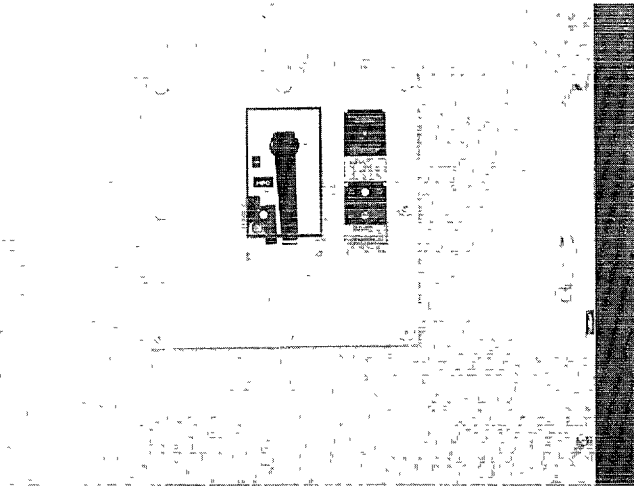


Figure 5

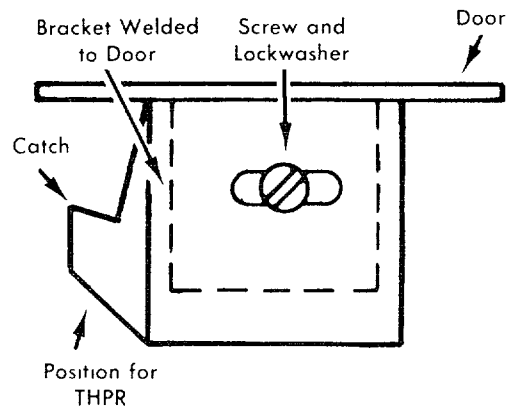


Figure 6

GENERAL  ELECTRIC