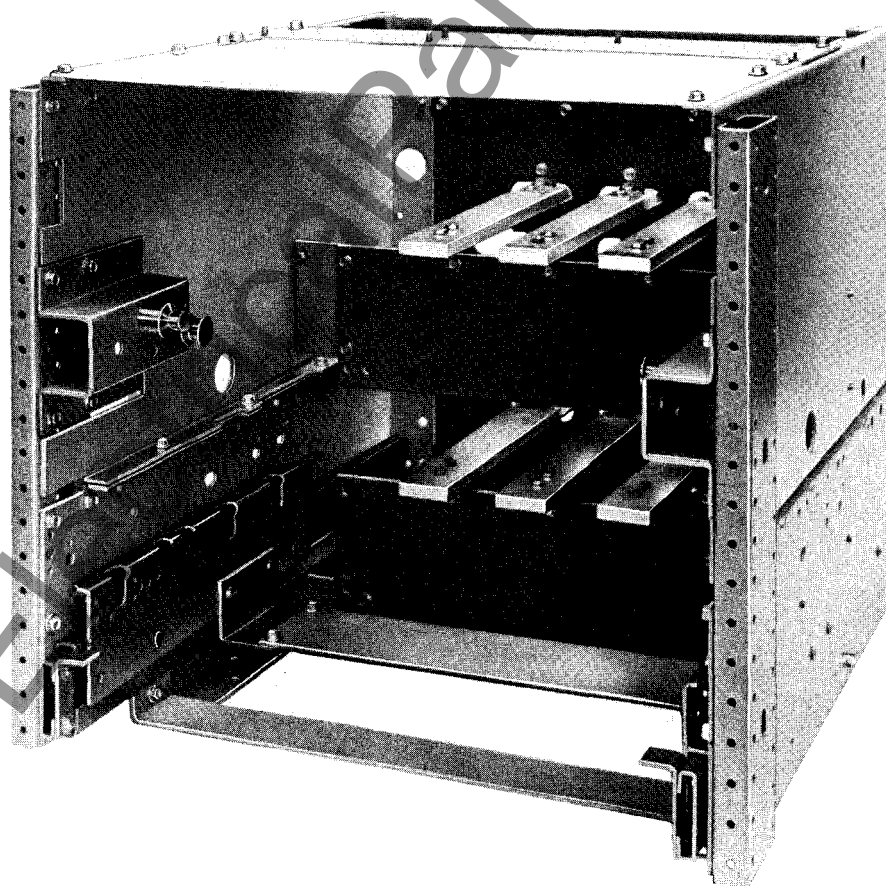




Power Circuit Breakers

Draw Out
Substructures For
Type AKR-30S And
AKRU-30S Draw Out
Breakers And
Accessories



DESCRIPTION

The substructure, Figure 1, is a self-contained framework suitable for installation in separate compartments of a switchboard and serves as a receptacle for AKR-30S or AKRU-30S circuit breakers.

The draw out feature permits activation of a new feeder, rapid replacement of a circuit breaker, and facilitates inspection of draw out breakers without de-energizing an entire switchboard.

The following accessories are available for field installation and are described in this publication.

- Secondary Disconnects
- Programmer Disconnect
- Neutral Sensor Disconnect
- Key Interlock Mounting
- Door Lock
- Instrument Transformer Mounting Hardware
- Shutters
- Position Switch

SUBSTRUCTURE INSTALLATION

Before installing, study this publication and make sure venting requirements and local codes are fully complied with.

ALTERNATIVE NO. 1 SHELF MOUNTING

The substructure is designed to be placed on a level shelf or appropriate supports. Fasten securely with at least (2) $\frac{1}{2}$ " bolts, nuts, and lockwashers each side through the holes shown in Figure 1 and located on the outline drawing, Figure 16.

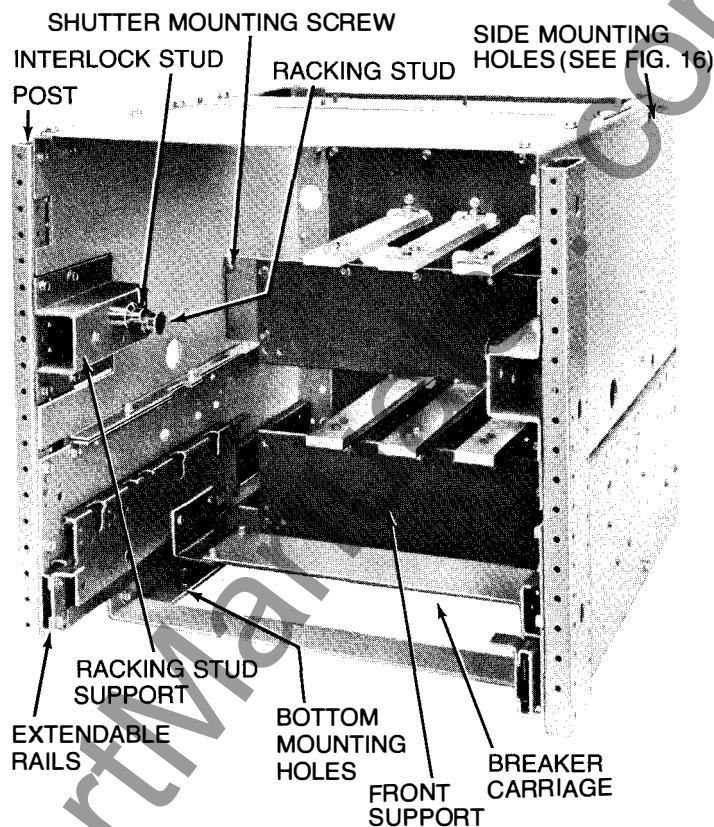


Figure 1

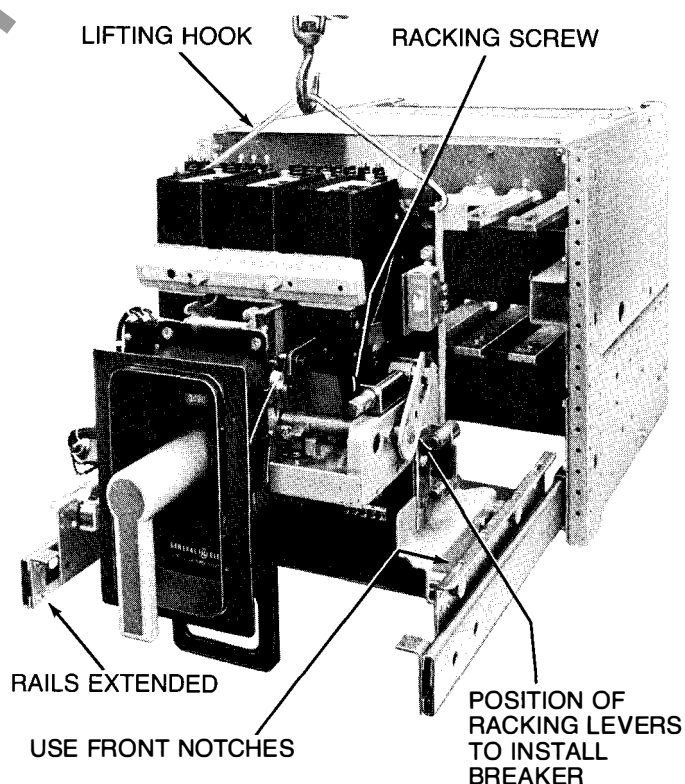


Figure 2

ALTERNATIVE NO. 2 SIDE MOUNTING

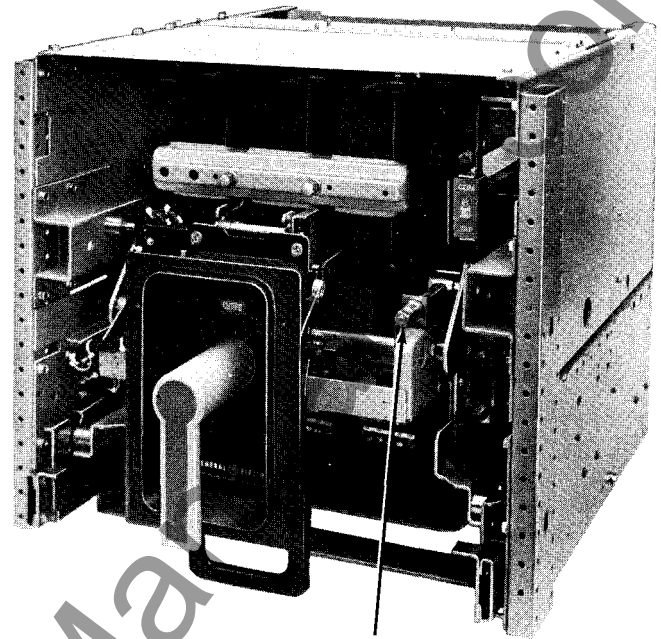
The two posts (1" × 3") outside the front end of the unit and racking stud supports may be removed and the unit and racking stud supports attached to similar compartment frame members located 20" apart. Additional posts must be located at the rear to pick up the $\frac{9}{16}$ " holes located in each side. In either case, the unit must be mounted squarely and securely to assure proper draw out operation.

DRAW OUT OPERATION

The substructure contains extendable rails and a movable carriage. On each inner sidewall are brackets containing studs operated on by the breaker racking levers. Before installing the breaker, make sure the racking screw is in the extreme counterclockwise position or else the unit cannot be racked into compartment.

Pull the carriage out of the compartment extending the rails. Use the lifting hook (343L882G1) as shown in Figure 2, or other means, and position the breaker so that the studs on each side drop into the front notches. Remove the lifting hook and roll the breaker in as far as possible as shown in Figure 3, then close the compartment door.

Position the racking tool (343L883G1) through the hole in the door as shown in Figure 4 and turn the crank clockwise to rack the breaker in. Disconnect, test, and connected positions are shown by the label on the breaker escutcheon with respect to the door closure plate.

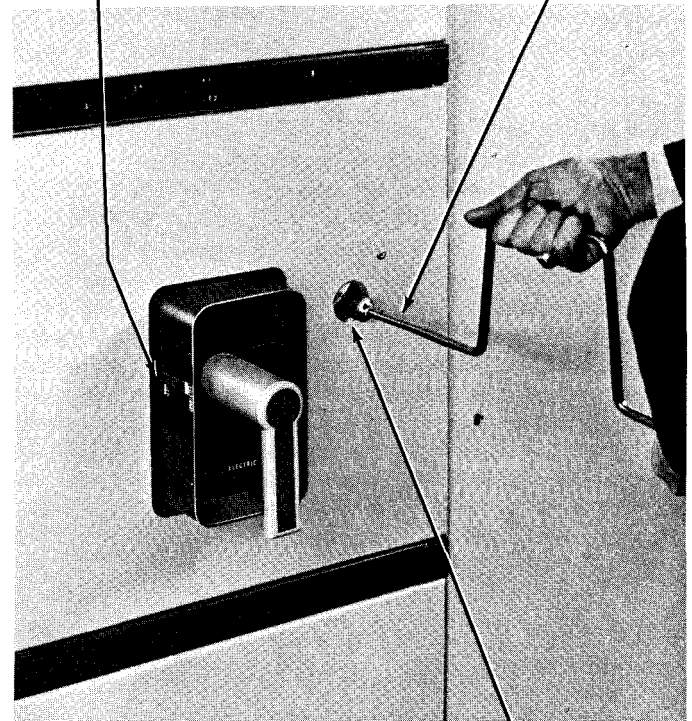


RACKING SCREW

Figure 3

CARRIAGE POSITION LABEL ON BREAKER ESCUTCHEON

RACKING TOOL



RACKING TOOL ACCESS HOLE IN DOOR

Figure 4

CAUTION—To avoid electrical hazard, make sure primary and secondary circuits are not energized while working in the compartment to install any of the following accessories.

ACCESSORIES DESCRIPTIONS AND INSTALLATION

SECONDARY DISCONNECT

Kit contains one molded block with (7) contact strips, (2) $\frac{1}{4}$ -20 \times $\frac{1}{2}$ " long thread forming mounting screws, washers, wire ties, and a grommet for one of the $1\frac{1}{4}$ " dia. wiring access holes.

The unit is attached to the support piece forming the top of the compartment as shown in Figure 5 in the location desired with (2) $\frac{1}{4}$ -20 screws and washers. Locate the unit with the #10 wiring screws to the rear of the compartment.

MICROVERSATRIP® REMOTE FUNCTION DISCONNECT

Kit contains the disconnect sub-assembly, (2) $\frac{1}{4}$ -20 \times $\frac{1}{2}$ " long thread forming screws, wire ties, and a grommet for one of the $1\frac{1}{4}$ " dia. wiring access holes. Attach to the right side racking stud support as shown in Figure 6.

NEUTRAL SENSOR DISCONNECT

Kit contains the disconnect subassembly, (2) $\frac{1}{4}$ -20 \times $\frac{1}{2}$ " long thread forming screws, wire ties, and grommet for one of the $1\frac{1}{4}$ " dia. wiring access holes.

Attach to the right side racking stud support as shown in Figure 6. Unit studs are made for attachment of the customers wiring using crimp type terminals for #6 screws. Anchor the wires, with sufficient loop, to the wire tie anchor at the top of the block. Wire can also be anchored to the barrier using the hole at top rear.

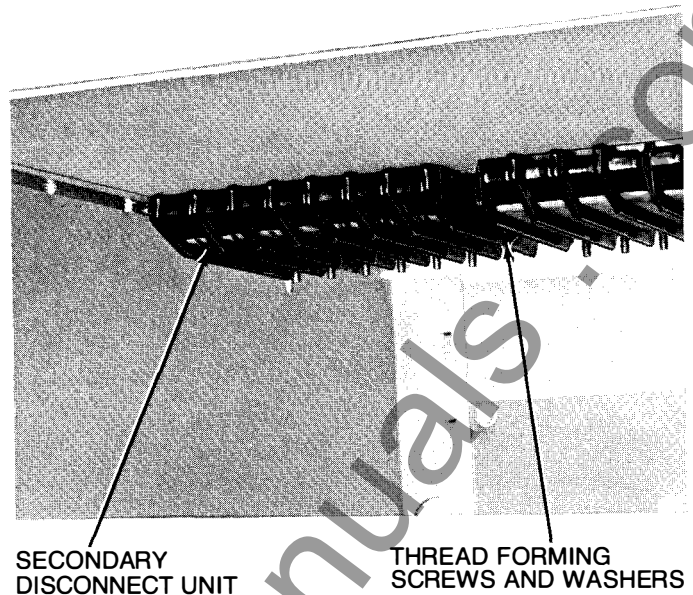


Figure 5

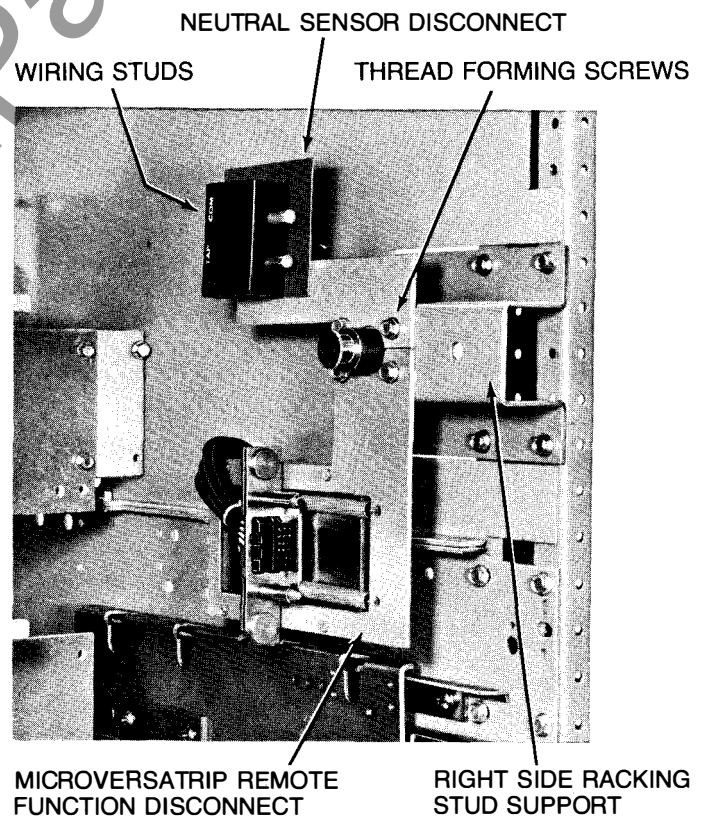


Figure 6

MOUNTING BRACKET FOR KEY INTERLOCK

Kit contains the mounting bracket assembly, (2) $\frac{1}{4}$ -20 \times $\frac{1}{2}$ " long thread forming mounting screws, and two $\frac{1}{4}$ -20 \times $\frac{3}{8}$ " long pan head screws and lockwashers.

Attach to the left side racking stud support as shown in Figure 7.

The lock can be any of the following:

With bolt extended, Key:	BBC Key interlock	Superior Key Interlock
1 lock Removable	FROE 304448-101	B7003-1-OE-101
2 lock Top removable Bottom retained	M2FROEW 304448-101	B7003-2-OEW-101
2 lock Both removable	M2FROEE 304448-101	B7003-2-OEE-101

With the interlock actuated (bolt extended), the trip ramp shown in Figure 7 holds the breaker tripped.

DOOR LOCK

Kit contains a door lock assembly, door hook, and carriage mounted actuator. Fabricate holes in the door as shown in Figure 16 and attach the hook with hardware as shown in Figure 8. Attach the lock to the frame side and actuator to the carriage as shown in Figure 9. The door will be unlocked only in the breaker disconnected position, but if the defeat slot is provided in the door, a screwdriver can be used to unhook the lock in other positions.

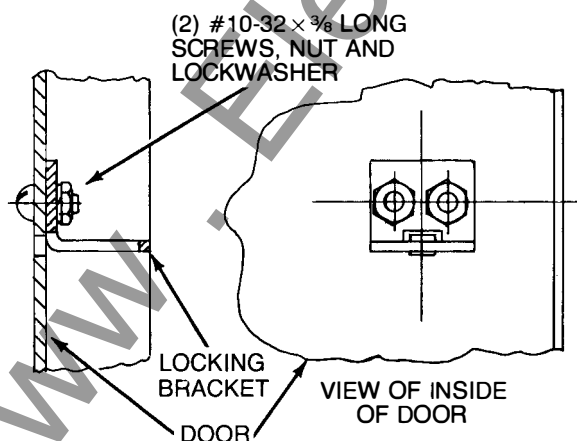


Figure 8

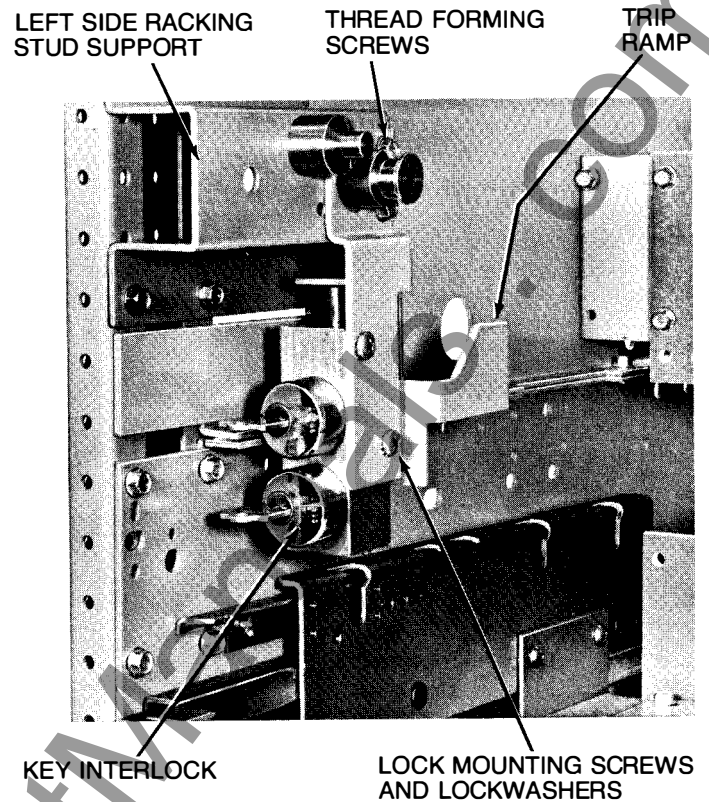


Figure 7

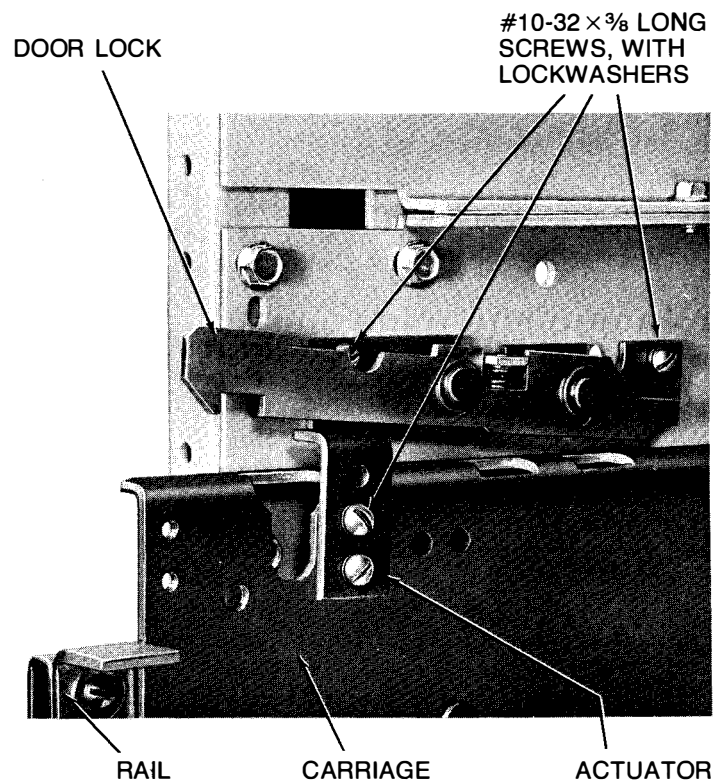


Figure 9

INSTRUMENT TRANSFORMER MOUNTING KIT

Kit consists of studs, nuts, and lockwashers to mount the transformers as shown in Figure 10. Wire ties and a grommet for one of the 1¼" dia. wiring access holes are also provided.

The transformers, GE type JCH-O must be ordered separately and are located around the compartment load studs.

Catalog Number	Current Ratio	
	Primary:	Secondary
631 × 27	100:	5
631 × 28	150:	5
631 × 29	200:	5
641 × 91	250:	5
631 × 30	300:	5
631 × 31	400:	5
641 × 92	500:	5
631 × 32	600:	5
631 × 33	800:	5

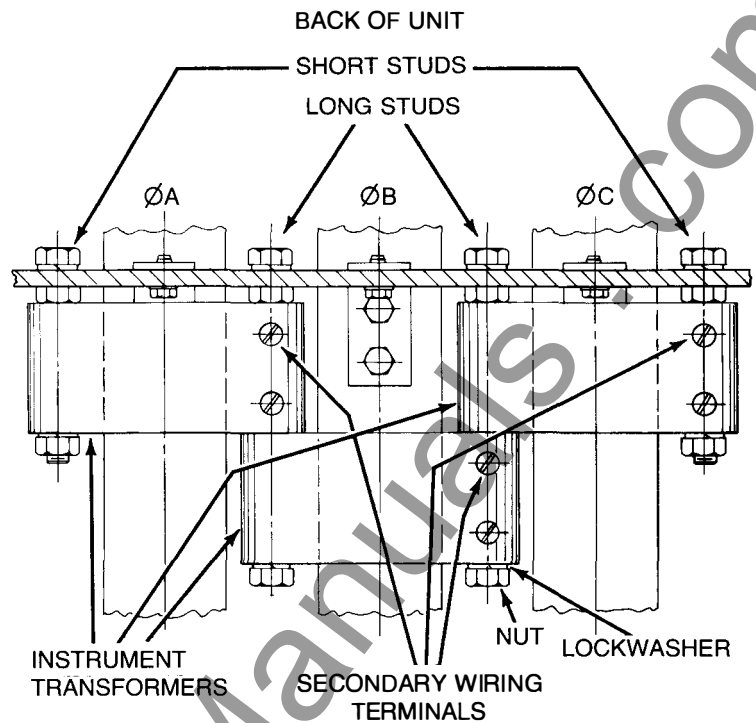


Figure 10 Top partial view of load conductors

SHUTTERS

Units shown in Figures 11, 12 have keyholes in each side flange for attachment to screws already in the substructure.

To install the unit, the racking stud supports must be removed from both sides as shown in Figure 13. Accessories mounted to these supports need not be disassembled but any wire connected accessories will have to be held out of the way. Maneuver the shutter into position over the mounting screws as shown in Figure 14, allow the slots to drop over the screws and tighten the screws firmly. Push both operating levers toward the shutter and slowly release to check free operation.

Reinstall the racking stud supports installing the screws nearest the front of the unit first to properly locate the studs, and tighten to 40 lb. inch torque.

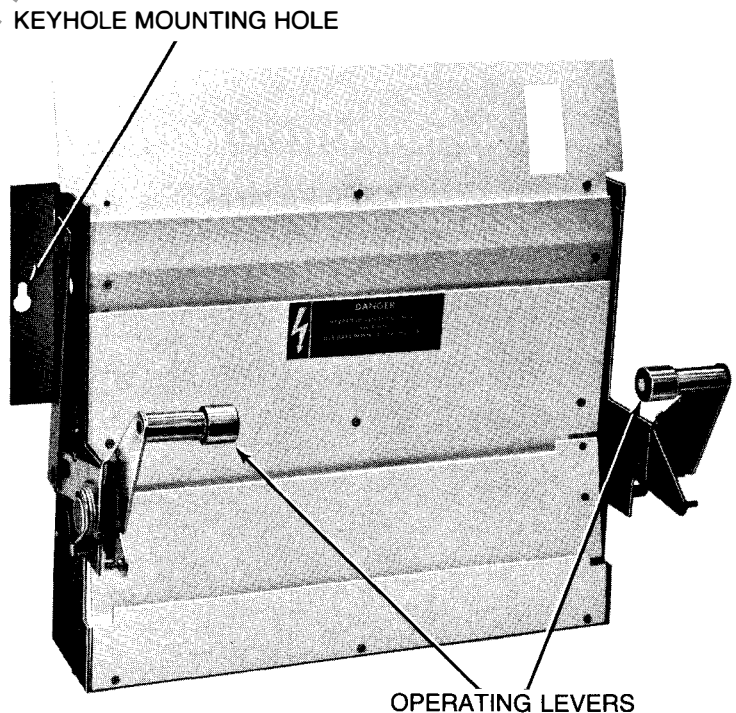


Figure 11 Non-fused unit shutter

POSITION SWITCH

Kit consists of the switch assembly, (2) $\frac{1}{4}$ -20 \times $\frac{1}{2}$ " long thread forming screws, wire ties, and a grommet for one of the $\frac{1}{4}$ " dia. wiring access holes. Attach the unit as shown in Figure 15.

KEYHOLE MOUNTING HOLE

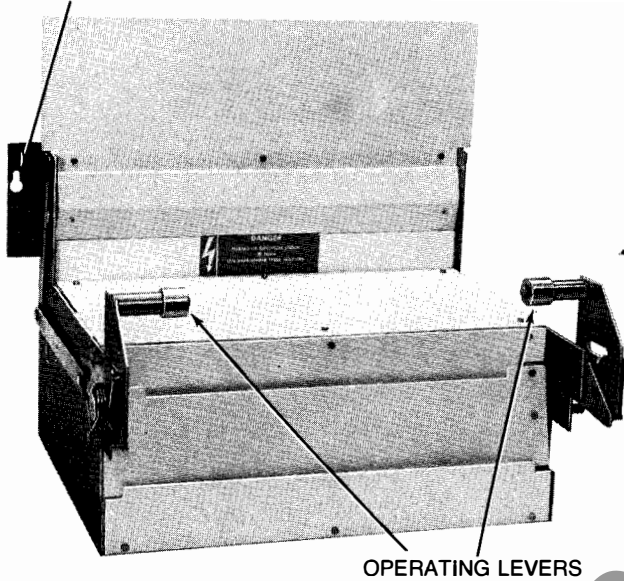
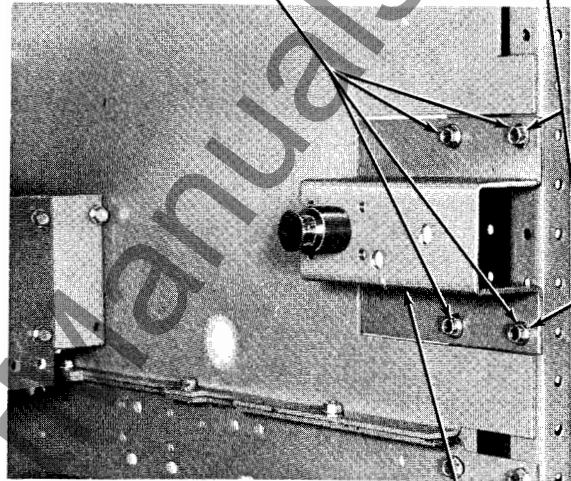


Figure 12 Fused unit shutter

SUPPORT MOUNTING
SCREWS

RE-INSTALL THESE
SCREWS FIRST



RACKING STUD SUPPORT

Figure 13 Right side shown

SHUTTER MOUNTING SCREWS

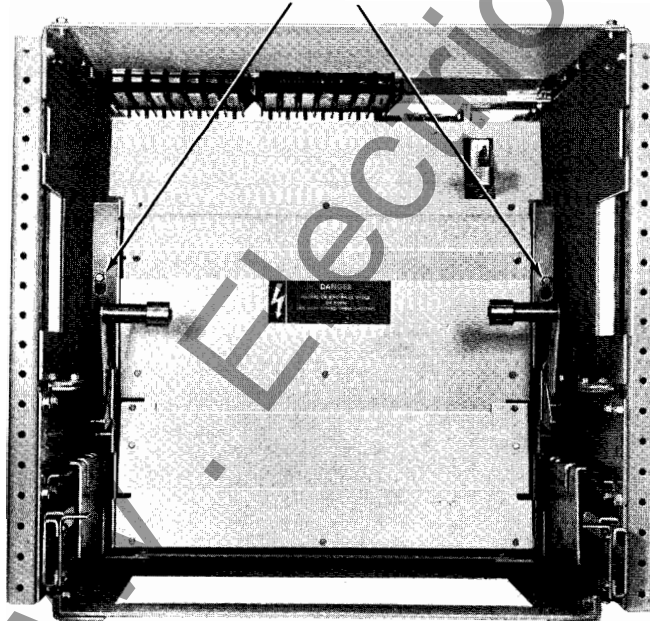


Figure 14

SWITCH ASSEMBLY

THREAD FORMING SCREWS

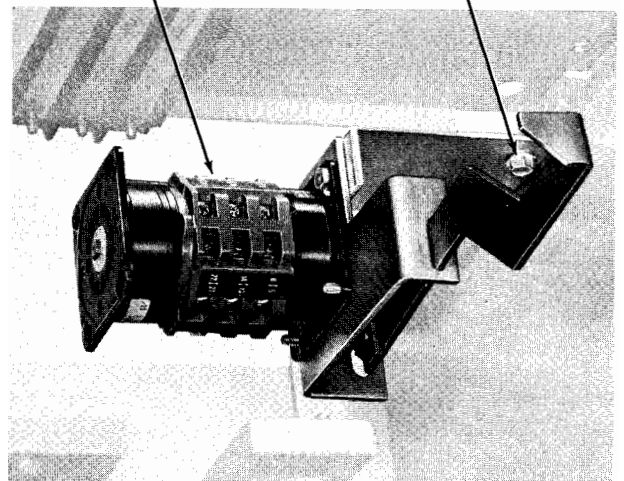


Figure 15 View of right rear of compartment

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GEH-5026 0185 PSA

GENERAL  **ELECTRIC**

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.

For further information
call or write your local
General Electric
Sales Office or . . .

General Electric
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41 Woodford Avenue
Plainville, CT 06062 U.S.A.

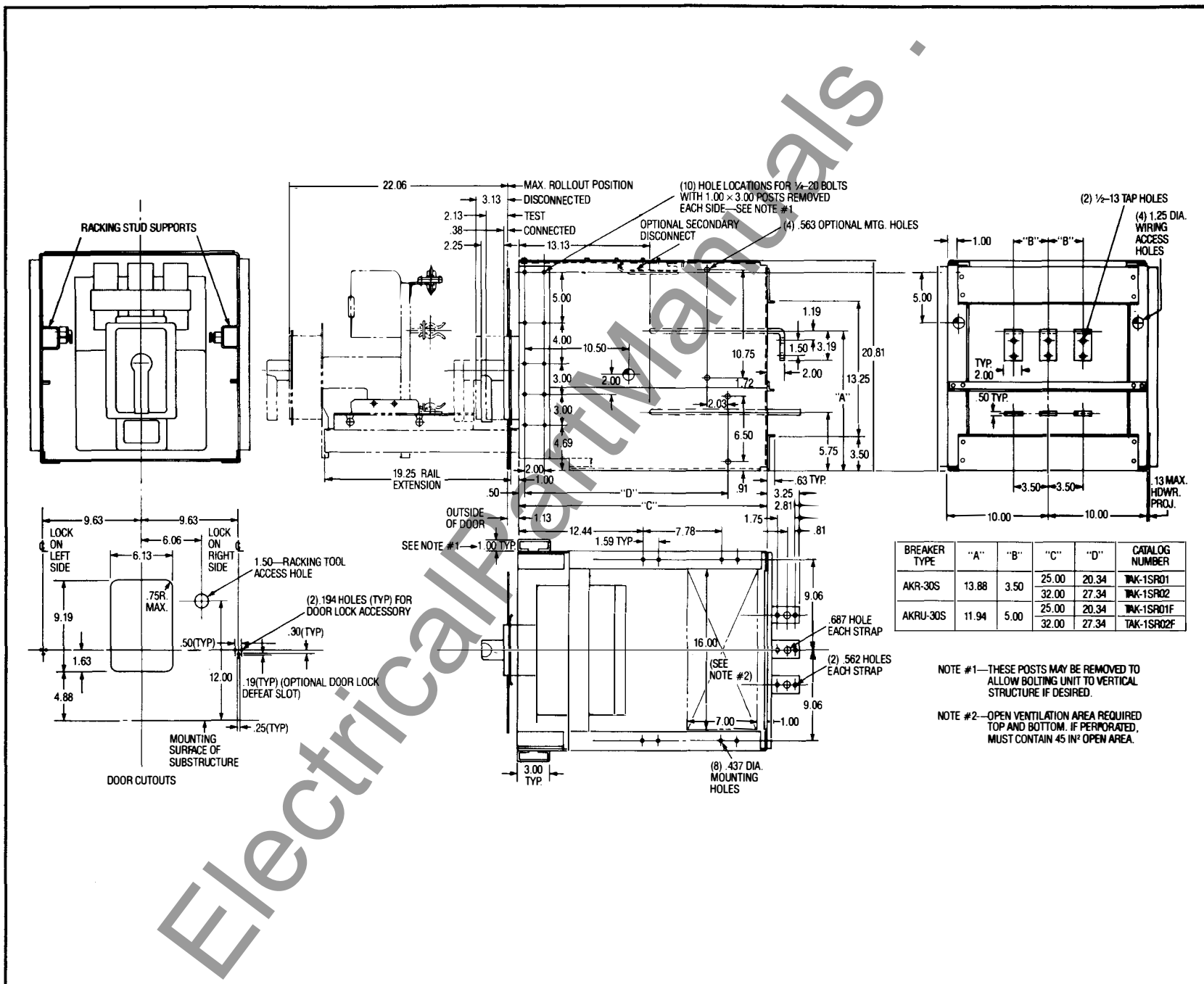


Figure 16