

SUPPLEMENTARY INSTRUCTIONS



LOW VOLTAGE METAL ENCLOSED SWITCHGEAR THREE POSITION DRAWOUT TYPE

STATIONARY STRUCTURE

The stationary structure for three position drawout circuit breakers differs from the structure for single position drawout circuit breakers as described in I.B. 32-100-1 in the following respects:

1. The circuit breaker compartment doors may be closed and latched with the circuit breaker in either the connected, test, or disconnected position. (Page 7 of I.B. 32-100-1 gives a complete description of connected, test and disconnected positions). The distance the circuit breaker operating mechanism extends through the opening in the compartment door (Fig. 1) provides a visual indication of which position the breaker is occupying.
2. Type DB-50 and type DB-25 compartments have a latch on the right hand rail which secures the circuit breaker in the connected position. This latch is automatically released by inserting the levering device into the compartment preparatory to withdrawing the circuit breaker. (See page 11 of I.B. 32-100-1 for operation of levering device). Fig. 2 for type DB-50 and Fig. 3 for type DB-25 compartments show the levering device in position for moving the circuit breaker in or out of connected position and illustrate the manner in which the latch is released. (The circuit breaker element has been omitted in Fig. 2 and Fig. 3 to permit a better view of latch details).

CAUTION: The automatic rail latch is in addition to the positioning pin on the left side of the breaker element. The latter must still be operated manually as described on page 10 of I.B. 32-100-1.

REMOVABLE ELEMENTS

The type DB-15, DB-25, DB-50, DB-75 and DB-100 circuit breakers for three position drawout mounting differ from the single position drawout mounting circuit breakers described in I.B. 32-100-1, I.B. 33-850-1 & 2, I.B. 35-230-C3 and I.B. 33-850-4 & 5 in the following respects:

1. Operating Mechanism - Type DB-15, DB-25, Fig. 4 and Type DB-50 Fig. 5.

A rectangular extension is welded to the front of the operating mechanism, enclosing a longer handle shaft, close-open indicator assembly, and push button hand trip details. The removable operating handle is not used for manual tripping and is not supplied with electrically operated breakers.

NOVEMBER, 1958

WESTINGHOUSE ELECTRIC CORPORATION
ASSEMBLED SWITCHGEAR DEVICES

EAST PITTSBURGH PLANT

EAST PITTSBURGH, PA.

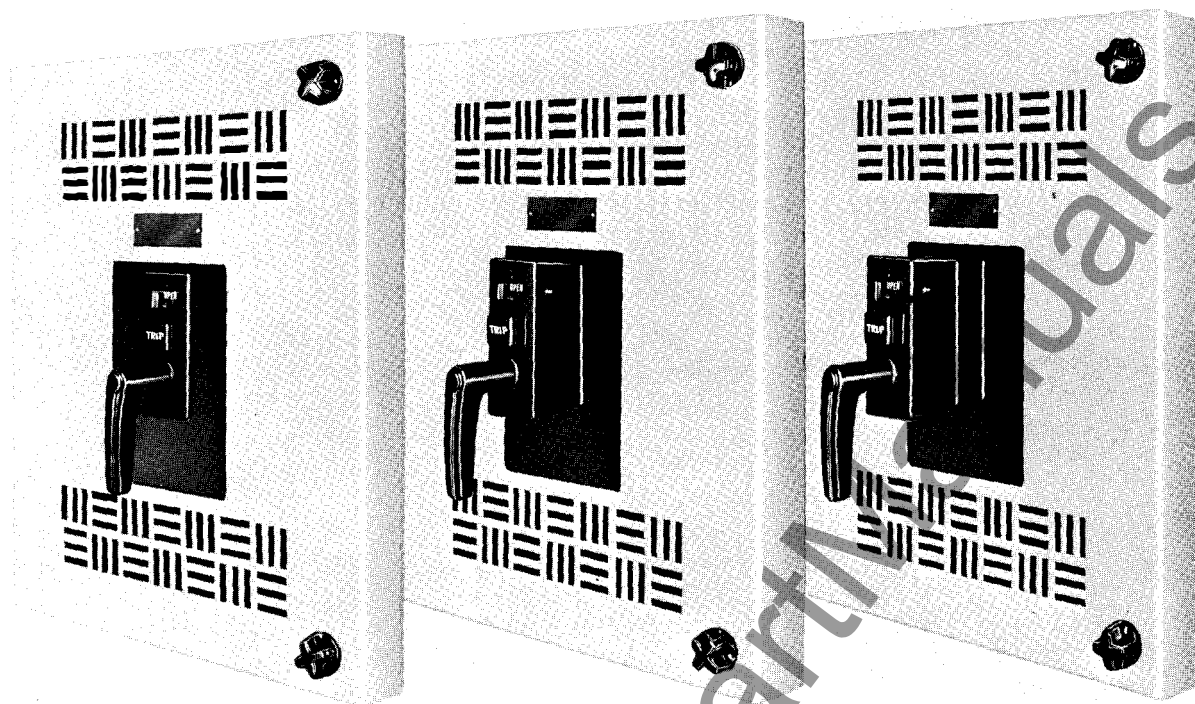


FIG. 1 - Type DB-25 Shown in all Three Positions. The Position of the Breaker in the Compartment is Indicated by the Light Colored Lines.

The space between the mechanism extension and the stationary compartment door is covered by a movable escutcheon plate. Straight line motion is secured by means of pantograph links.

MAINTENANCE: Oil the pantograph links if friction develops. Check for loose bolts.

2. Operating Mechanism - Type DB-75 or DB-100 Fig. 6

A rectangular extension is welded to front of the operating mechanism, enclosing the close-open indicator and the push button hand trip details. The removable maintenance handle is located below and behind this extension.

The space between the mechanism extension and the stationary compartment door is covered by a movable escutcheon plate. Straight line motion is secured by means of pantograph links.

MAINTENANCE: If friction develops oil the pantograph links. Check for loose bolts.

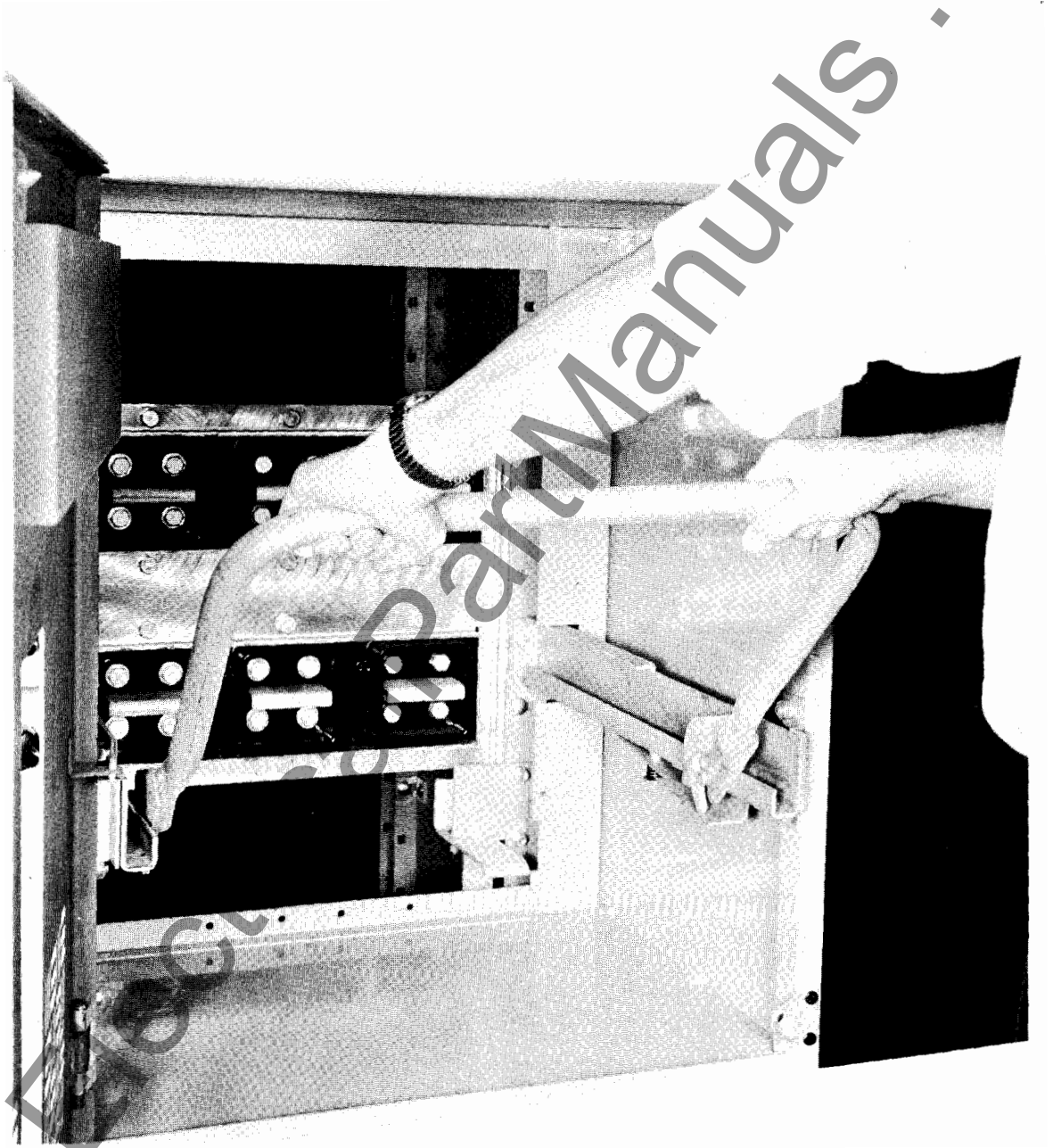


FIG. 2 - Type DB-50 Compartment Showing Automatic Rail Latch Released by Levering Device.

3. Alarm Switch - Fig. 7 Type DB-15 or DB-25 or Fig. 8 Type DB-50

The location and the operating principle are the same as the standard switch described on page 30 of I.B. 35-850-1 & 2 or page 26 of I.B. 35-230-C3. However the switch units are mounted vertically rather than horizontally and two switch units can be supplied.

MAINTENANCE: Clean the switch contacts when necessary. Check for loose bolts.

4. Type DB-50 Control Relay Fig. 9

The control relay mounts directly under the auxiliary switch. It is a single-coil, mechanical tripping device with the coil suitable for continuous duty. The operation sequence is outlined in Fig. 10. The contacts should normally last the life of the breaker, but are replaceable if necessary.

The relay trip pin and relay toggle release are designed so that the relay trips at approximately the same time as the breaker latches. The relay is not adjustable.

Inspection: Make certain all circuits are not energized. Manually lift the core of the operating solenoid to the fully closed position. While still holding core in closed position, raise the relay causing the close coil circuit to open. Release both core and trip pin. The relay linkage and trip pin should reset without any noticeable friction.

Maintenance: Remove screw in front cover plate. Remove cover by grasping it at the bottom and pull down and out. Check for loose screws, especially at contacts. Replace cover and check for loose mounting bolts.

5. Outline Dimensions

Fig. 11 Type DB-15 Three Position Circuit Breaker.

Fig. 12 Type DB-25 Three Position Circuit Breaker.

Fig. 13 Type DB-50 Three Position Circuit Breaker.

Fig. 14 Type DB-75 Three Position Circuit Breaker.

Fig. 15 Type DB-100 Three Position Circuit Breaker.

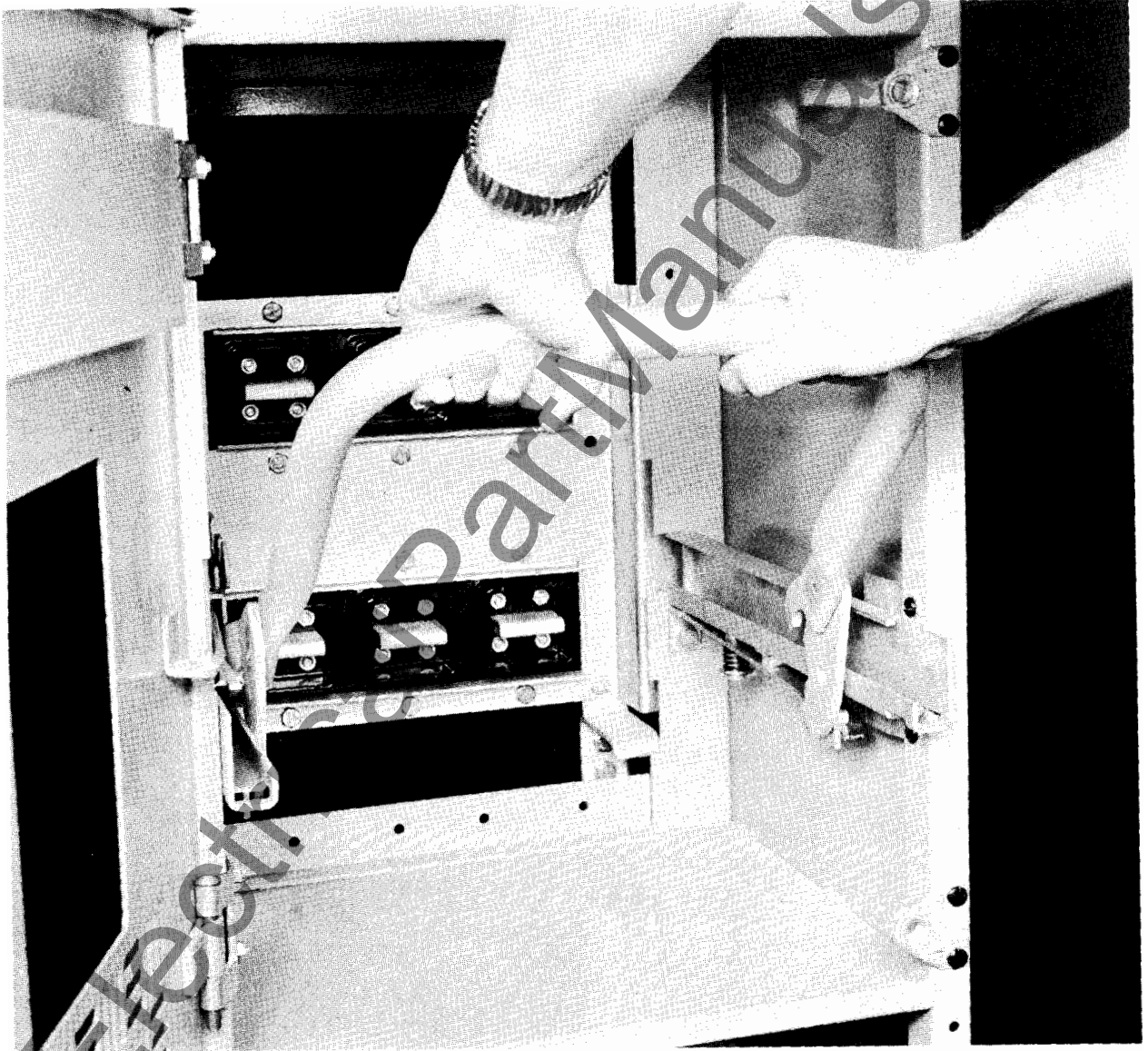


FIG. 3 - Type DB-25 Compartment Showing Automatic Rail Latch Released by Levering Device.

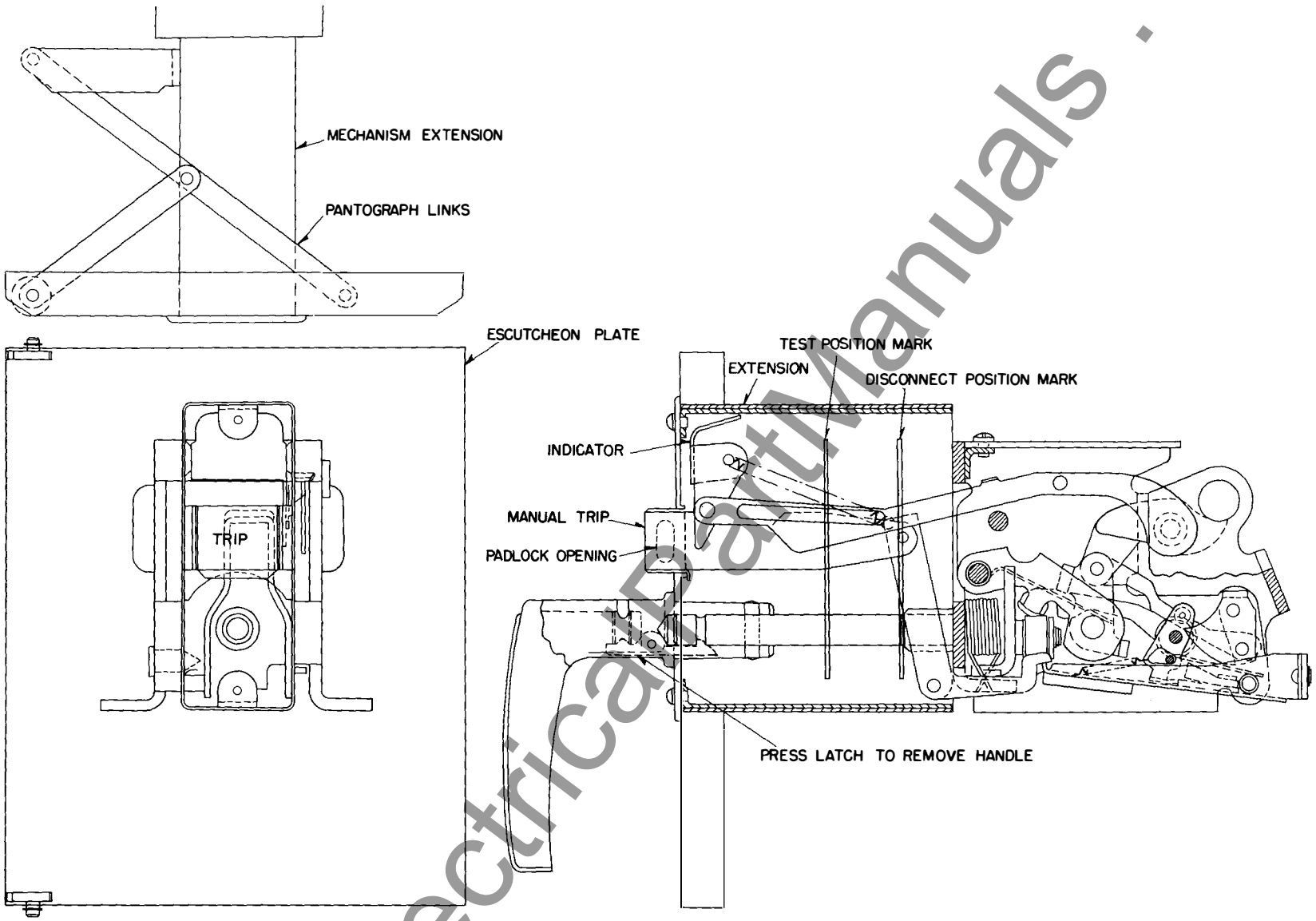


FIG. 4 - Type DB-15 and DB-25 Three Position Operating Mechanism.

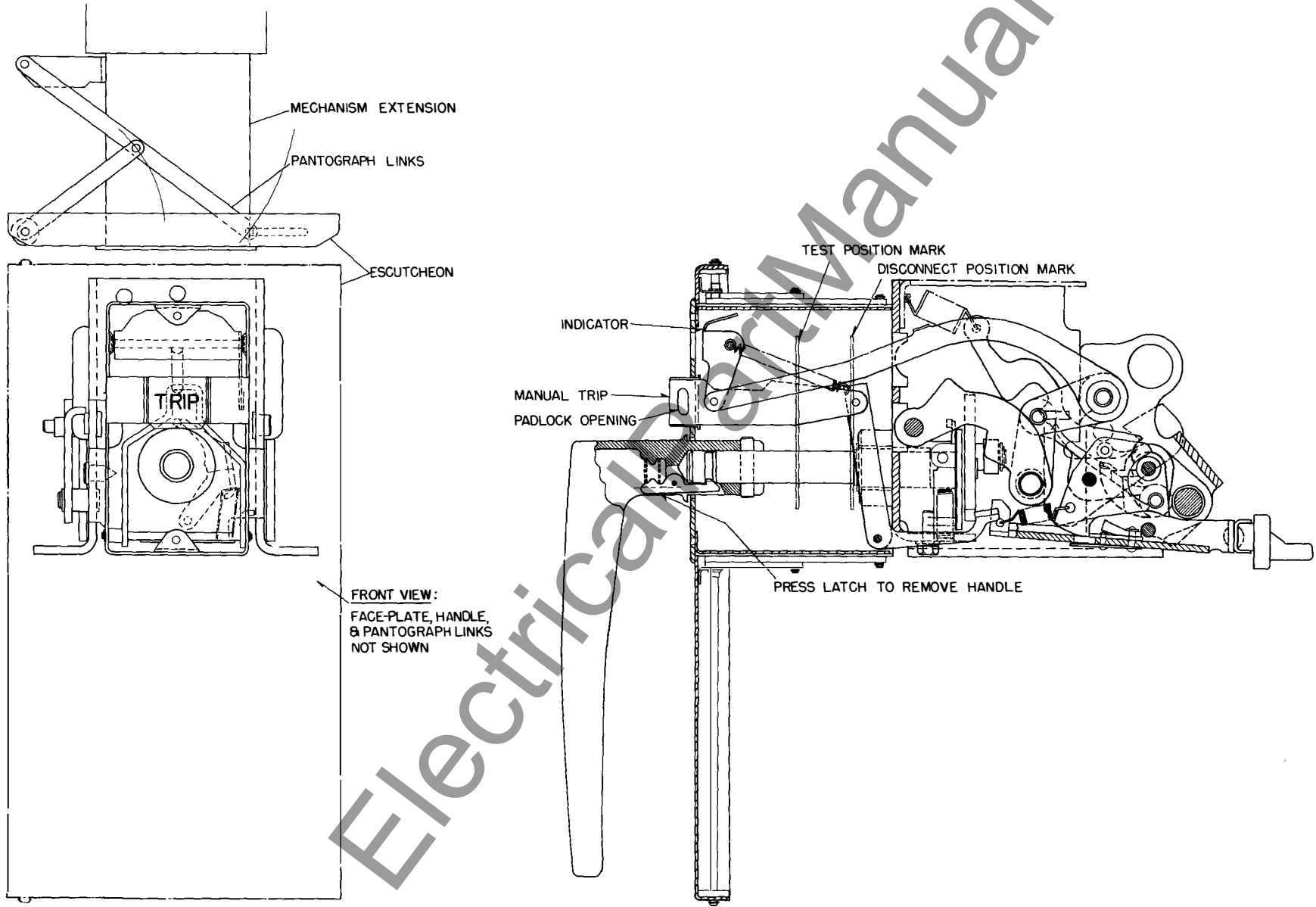


FIG. 5 - Type DB-50 Three Position Operating Mechanism.

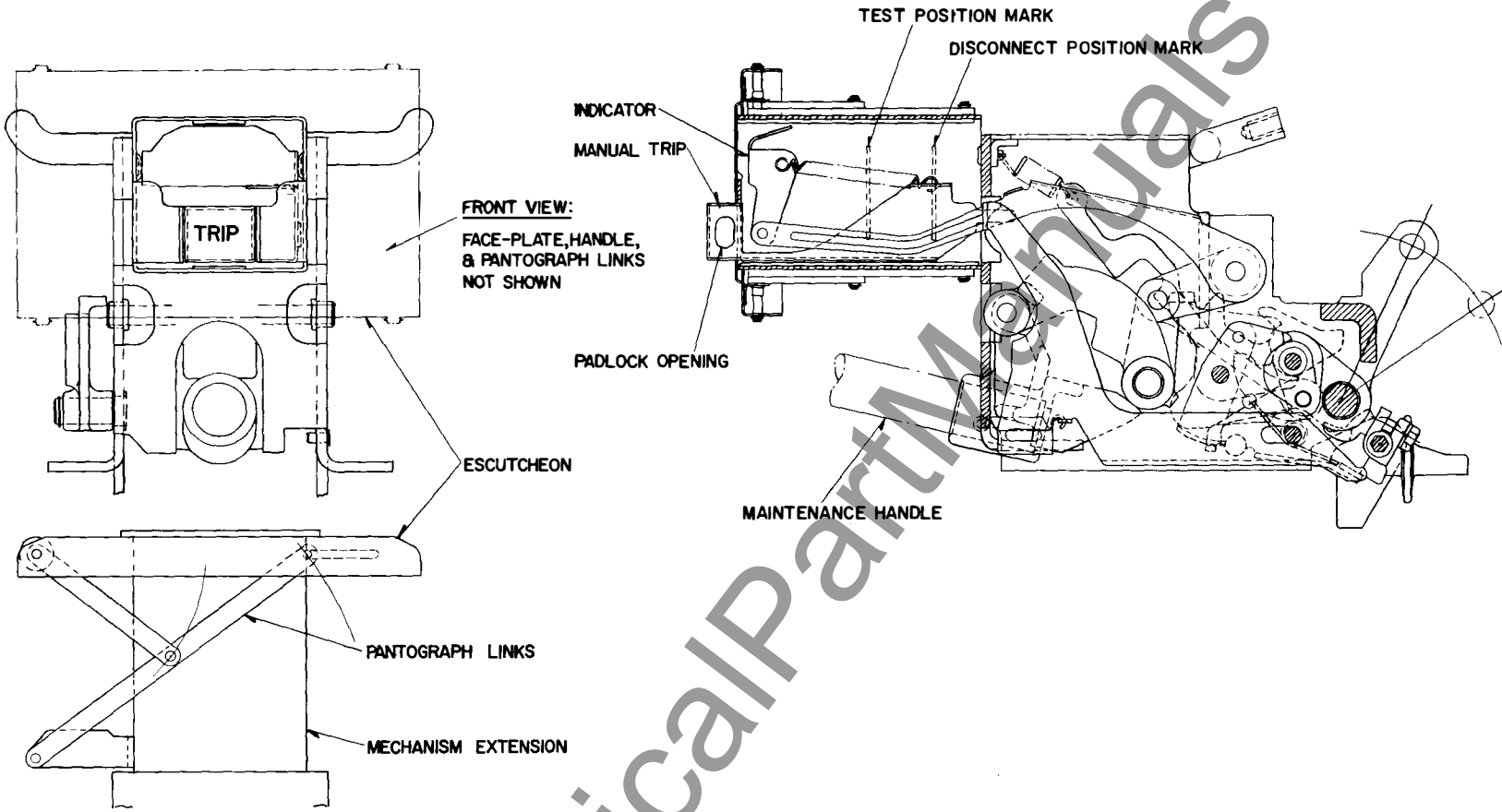


FIG. 6 - Type DB-75 and DB-100 Three Position Operating Mechanism.

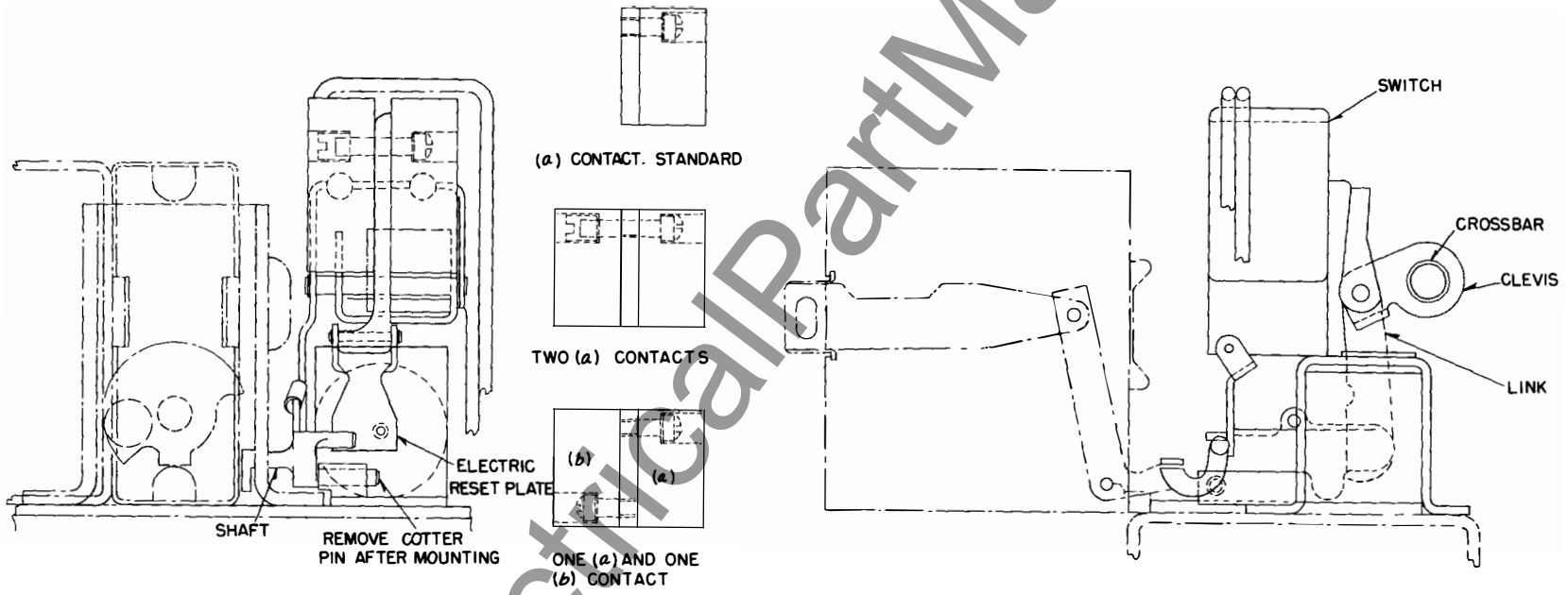


FIG. 7 - Type DB-15 and DB-25 Alarm Switch Attachment.

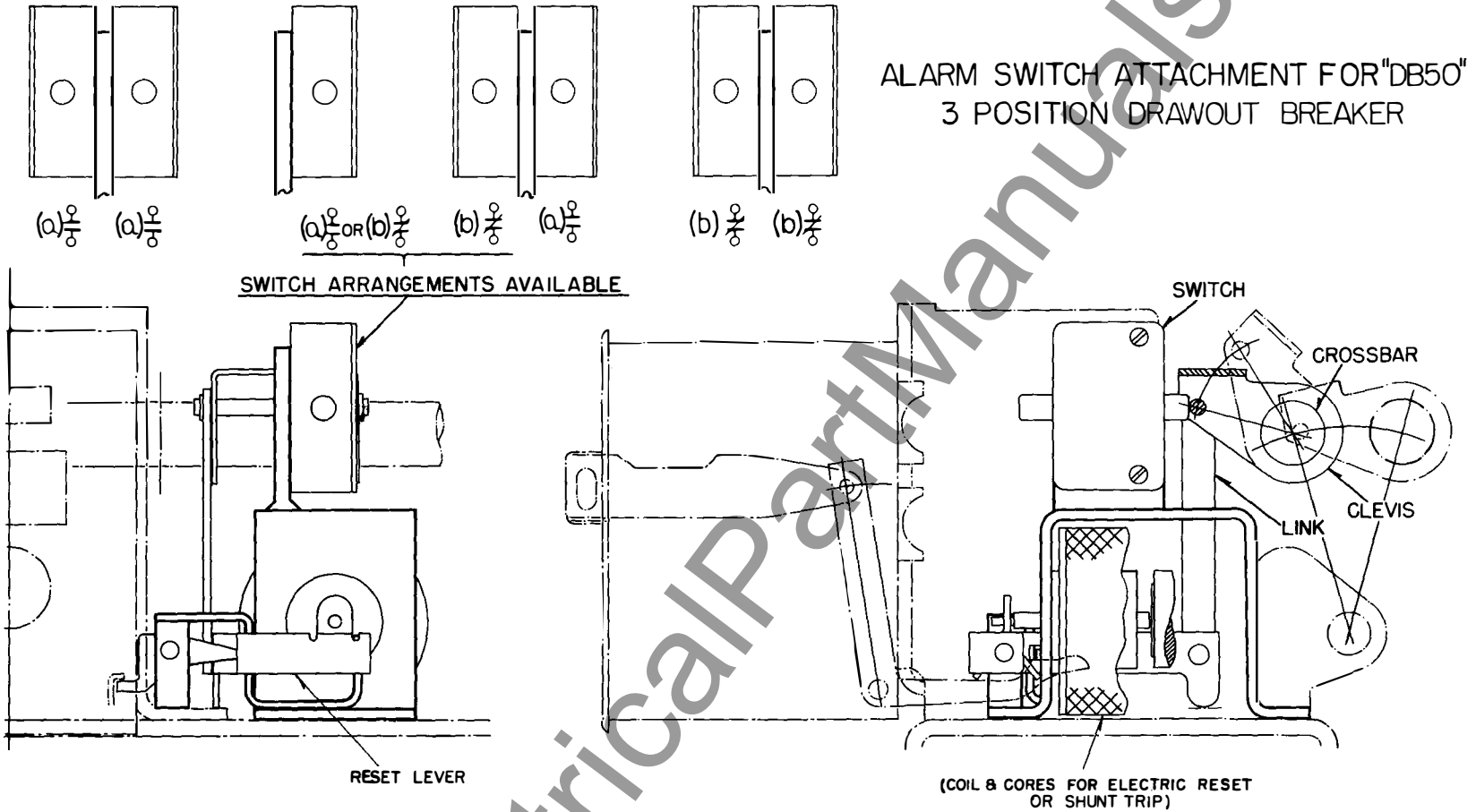


FIG. 8 - Type DB-50 Alarm Switch Attachment.

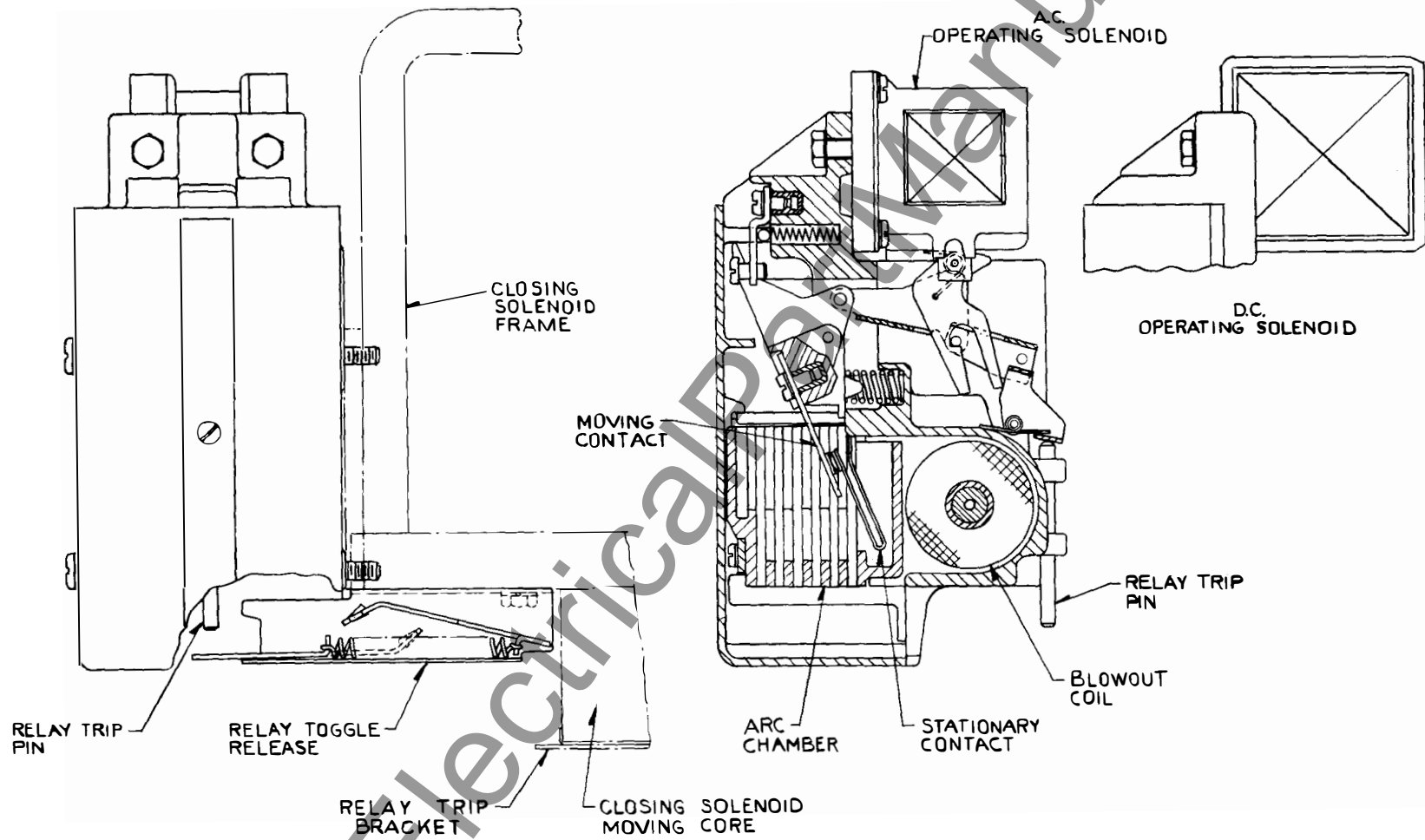
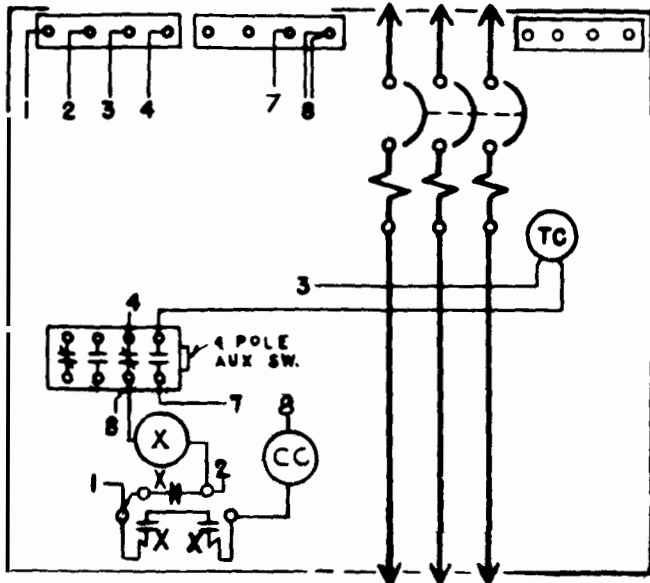


FIG. 9 - Type DB-50 Control Relay.



CONNECTION DIAGRAM (FV)

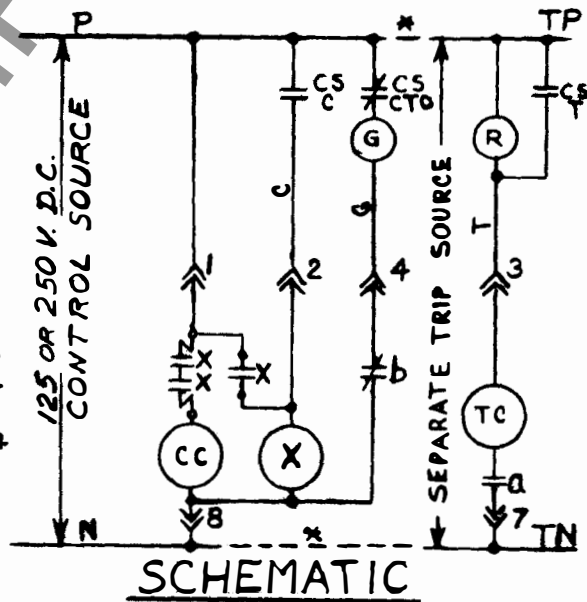
LEGEND

- CC-CLOSING COIL
- TC-TRIP COIL
- X-CONTROL RELAY
- CS-CONTROL SWITCH
- R- RED LAMP (CLOSED)
- G- GREEN LAMP (OPEN)
- a- AUXILIARY SWITCH CONTACT (MAKE)
- b- AUXILIARY SWITCH CONTACT (BREAK)

NOTE
 * REMOVE DASHES FOR SEPARATE TRIP & LEAVE DASHES FOR COMMON TRIP.

"DB" BREAKER OPERATION SEQUENCE

CONTROL SWITCH CS-C CLOSED
 "X" RELAY PICKS UP & SEALS IN THRU AUX. CONTACT "X".
 CLOSING COIL ENERGIZED THRU. "X" CONTACT, CLOSING BREAKER.
 IN CLOSING, BKR. CLOSING MECH. MECHANICALLY UNLATCHES "X" CONTACTS FREE OF "X" ARMATURE INTERRUPTING CLOSING CIRCUIT.
 WITH BREAKER IN CLOSED POSITION, THE BREAKER MECH. IS LATCHED CLOSED BUT "X" CONTACTS REMAIN UNLATCHED FROM "X" ARMATURE.
 WHEN BKR. IS TRIPPED, CLOSING MECH. DROPS, PERMITTING "X" LATCH TO RESET PROVIDED "X" COIL IS DE-ENERGIZED.



SCHEMATIC

FIG. 10 - Type DB-50 Typical Diagram.

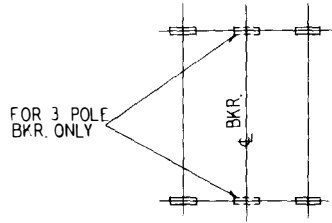


FIG. 1
FRONT VIEW OF STUD LOCATIONS FOR MOUNTING 3 POLE BREAKER WITH 2 OR 3 OVERCURRENT TRIPS, OR 2 POLE BREAKER WITHOUT REVERSE CURRENT TRIP

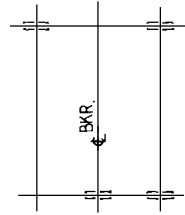


FIG. 2 - NEMA STD.
FRONT VIEW OF STUD LOCATION FOR MOUNTING 2 POLE BREAKER WITH 2 OVERCURRENT TRIPS AND REVERSE CURRENT TRIP

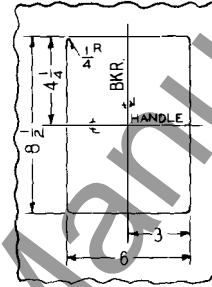


FIG. 3
CUTOUT IN DOOR

THE FOLLOWING ATTACHMENTS CAN BE SUPPLIED WITHOUT INCREASING OVERALL DIMENSIONS:

1. AUXILIARY SWITCHES (8 CIRCUIT MAX.)
2. UNDERVOLTAGE TRIP
3. OPERATION COUNTER
4. ALARM SWITCH
5. ELECTRIC LOCKOUT
6. SHUNT TRIP

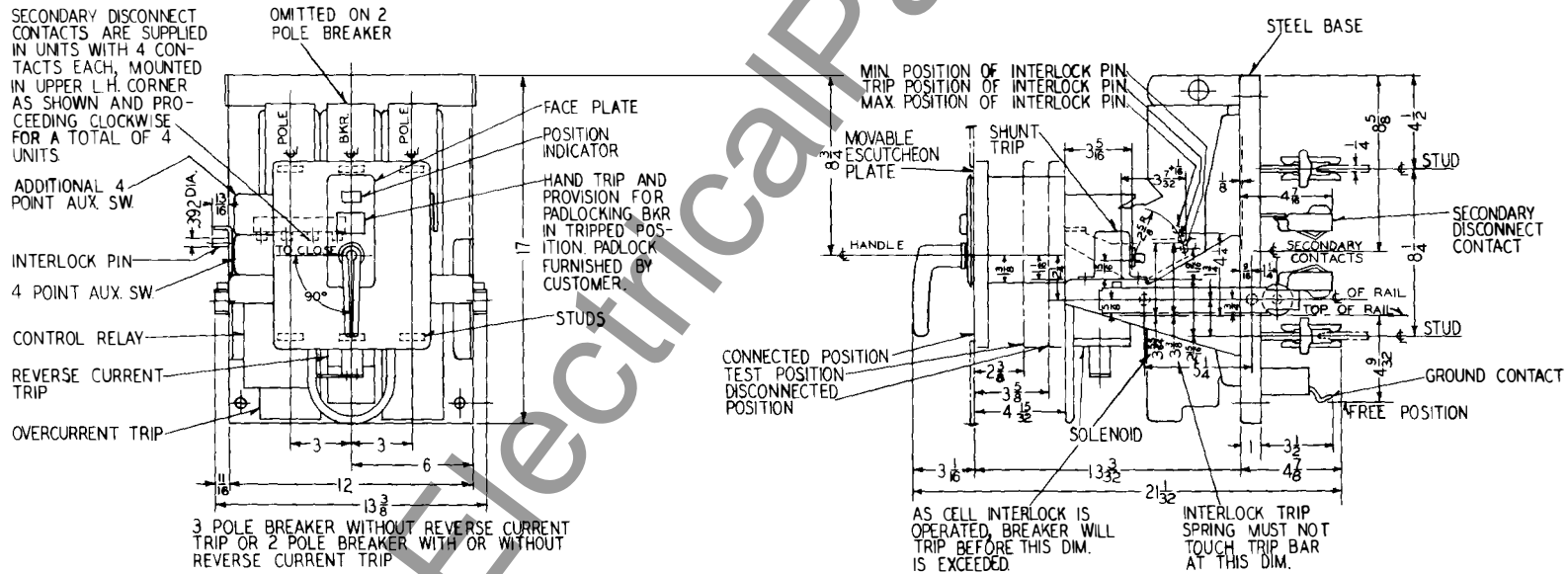


FIG. 11 - Type DB-15 Outline Dimensions.

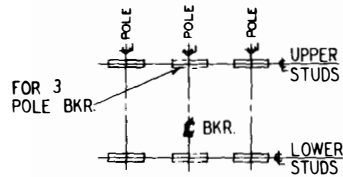


FIG. 1

FRONT VIEW OF STUD LOCATIONS FOR MOUNTING 3 POLE BREAKER WITH 2 OR 3 OVERCURRENT TRIPS OR 2 POLE BREAKER WITHOUT REVERSE CURRENT TRIP

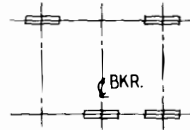


FIG. 2 NEMA STD.

FRONT VIEW OF STUD LOCATIONS FOR MOUNTING 2 POLE BREAKER WITH 2 OVERCURRENT TRIPS AND REVERSE CURRENT TRIP

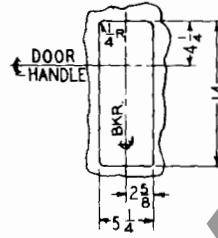


FIG. 3
CUTOUT IN DOOR

THE FOLLOWING ATTACHMENTS CAN BE SUPPLIED WITHOUT INCREASING OVERALL DIMENSIONS:

1. AUXILIARY SWITCHES (2 CIRCUIT MAX.)
2. SHUNT TRIP
3. UNDERVOLTAGE TRIP (WITH OR WITHOUT TIME DELAY)
4. ALARM SWITCH
5. ELECTRIC LOCKOUT
6. OPERATION COUNTER

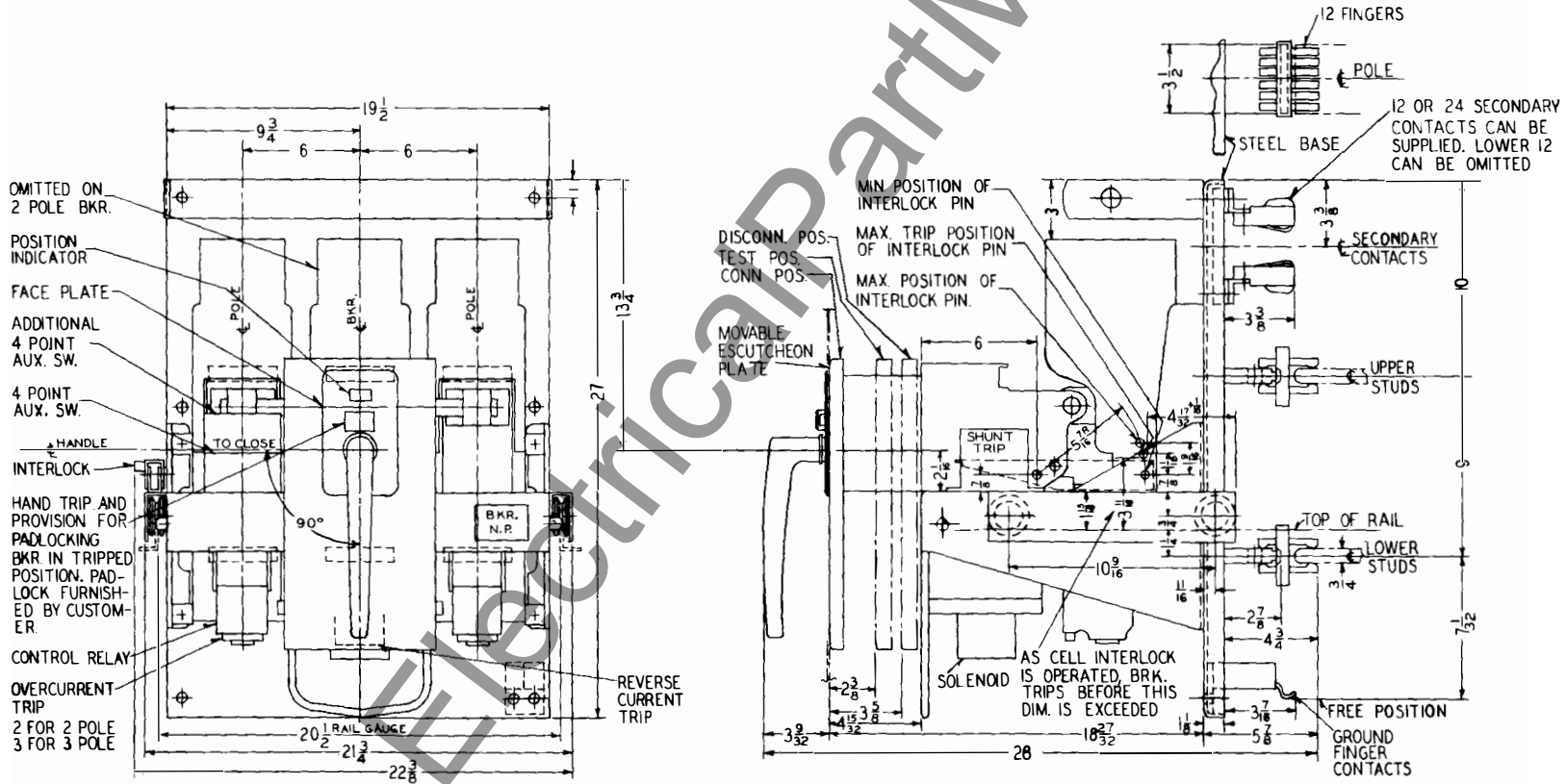
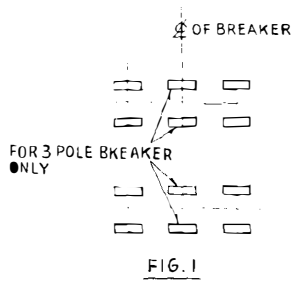
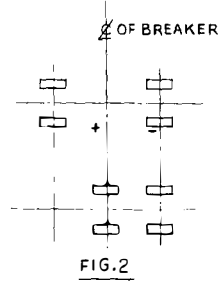


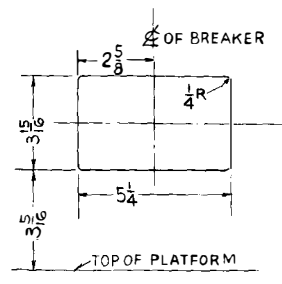
FIG. 13 - Type DB-50 Outline Dimensions.



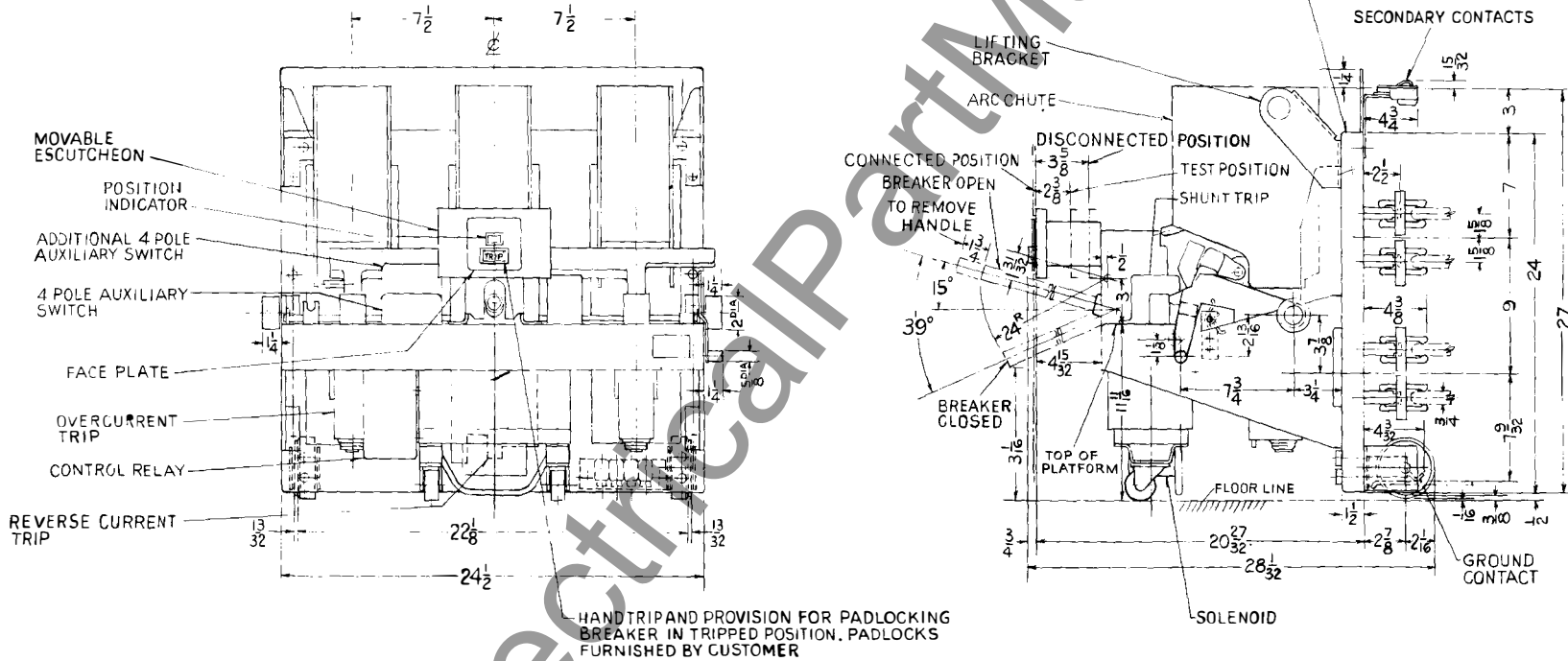
FRONT VIEW OF STUD ARRANGEMENT FOR 3 POLE BREAKER WITH 2 OR 3 OVERCURRENT TRIPS OR 2 POLE BREAKER WITHOUT REVERSE CURRENT TRIP

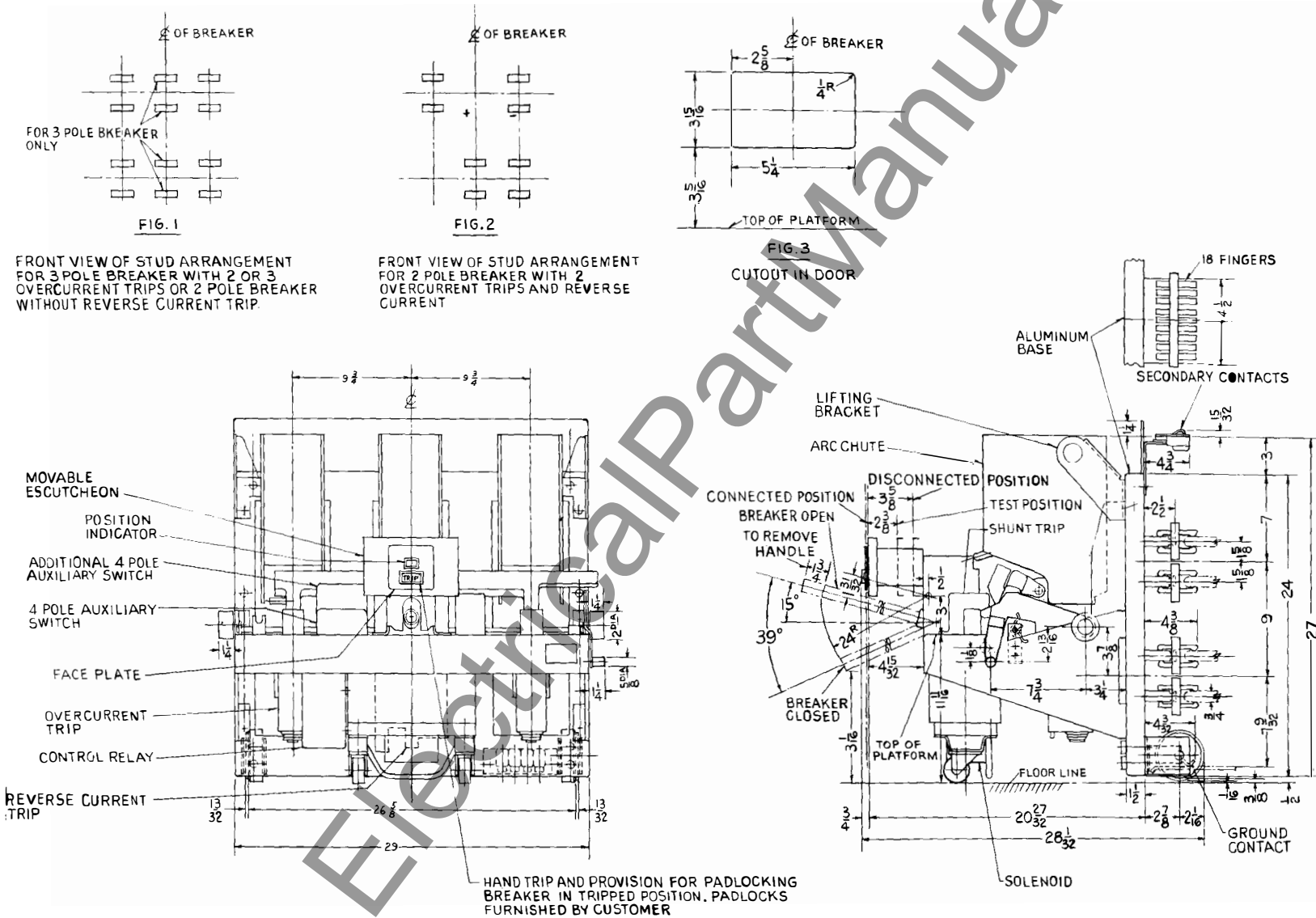


FRONT VIEW OF STUD ARRANGEMENT FOR 2 POLE BREAKER WITH 2 OVERCURRENT TRIPS AND REVERSE CURRENT



CUTOUT IN DOOR





www.ElectricalPartManuals.com

www.ElectricalPartManuals.com

www.ElectricalPartManuals.com