

Contact Penetration

The basic idea of adjusting the contact penetration is simple. However, some of the steps to perform this adjustment are strenuous.

Key Points

The following is a list of items to keep in mind when attempting to make adjustments to the contact penetration.

- Cotter pins may need to be broken to perform the adjustment.
- Ideal contact penetration is $7/8$ of an inch plus or minus an $1/8$. ($3/4 \pm 1/16$ for 2500 MVA)
- Penetration does not mean surface contact.
- Too much penetration may increase the chances of the pull rod hitting the blast tube.
- The arc chutes will have to be removed.

Safety

This procedure requires using the hand-operating lever. Before performing this procedure be sure that the breaker reservoir is emptied. Close the supply valve, and open the drain valve for the duration of the process. Open the control power switch.

Summary of Method

The following list is a summary of work needed to be done.

- Measure the contact penetration.
- Remove pins and cotter pins.
- Turn the pull rod.

Measuring Contact Penetration

This measurement can be made by using a 6" scale preferably with a depth gauge on it. Be sure to measure the contact penetration, not the surface contact. Even though $7/8$ " plus or minus an eighth is acceptable. ($3/4 \pm 1/16$ " for 2500 MVA)

Method

1. With the breaker in the closed position, measure the contact penetration.
2. If the contact penetration is too deep, shorten the length of the pull rod.
3. If the contact penetration is too shallow, lengthen the pull rod.

Adjusting The Pull Rod Length

Before the pull rod length can be changed, at least one cotter pin needs to be removed from pin holding the pull rod to the operating shaft. The bottom end of the pull rod adjusts in 180-degree increments.

Method

1. With the breaker in the closed position, remove at least one of the cotter pins holding the pull rod to the operating shaft.
2. With the breaker in the open position, one person should be in the high voltage compartment holding the moving contact assembly. It helps to wiggle the moving contact assembly while another person removes the pin through the pull rod and operating shaft.
3. When the pin is removed, slam the moving contact assembly into the stationary contacts.
4. Loosen the locking nut on the pull rod then adjust the length of the pull rod.
 - a. To lengthen the pull rod, unscrew the bottom end of the pull rod.
 - b. To shorten the pull rod, screw in the bottom end of the pull rod.
5. If the moving contacts won't come out of the stationary contacts, one person will have to move the shaft with the hand-operating rod while another person puts the pin back through the pull rod and operating shaft.
6. Open the breaker, close the breaker, and take another measurement.

7. Repeat the above steps until satisfactory results are achieved.
8. Replace the cotter pins.
9. Tighten the locking nut on the pull rod.

Recommended Manpower

Three People

Recommended Tools:

Long Screw Driver or pry-bar

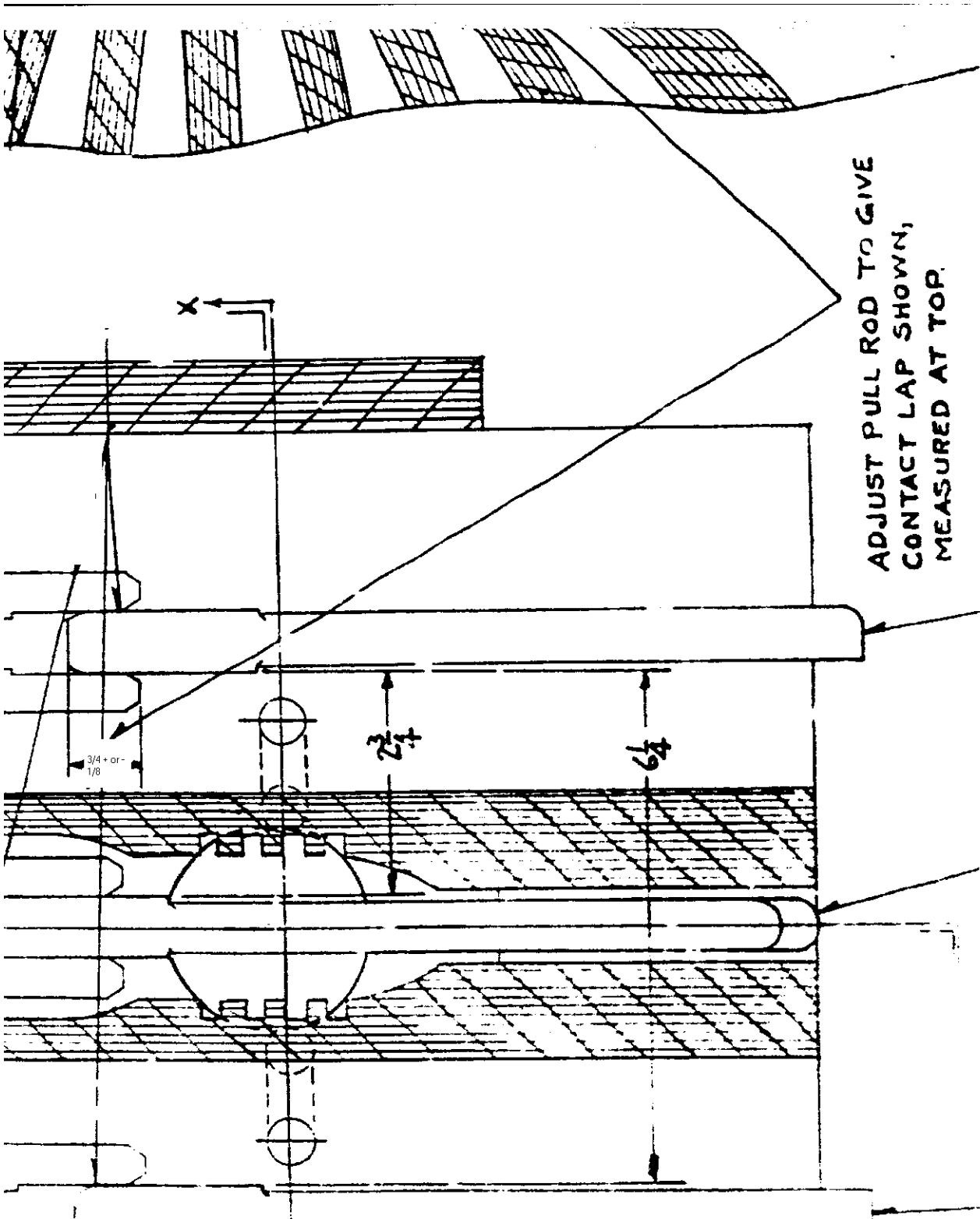
Rubber mallet

Pliers

Channel-locks

Regular flathead screwdriver

6" ruler/scale



ADJUST PULL ROD TO GIVE
CONTACT LAP SHOWN,
MEASURED AT TOP.