EMPLOYES' GUIDE TO
POWER ISOLATION
RAPID TRANSIT SYSTEM
CONGRESS ROUTE

METROPOLITAN TRANSIT CTA

Chicago Transit Authority

This guide explains the methods for isolating power on the Congress Route of the Rapid Transit System through the use of Power Isolating Switches, Disconnect Switches, and Tie Breakers.

These switches and breakers are to be opened or closed only on orders from the Power Supervisor. They must never be opened or closed unless all power in the entire power section has been cut off. The established rules must be followed when calling power "off" or "on".

POWER ISOLATING SWITCHES

The purpose of Power Isolating Switches is to cut the power off a trolley rail between any two crossovers in the same power section. Power can be cut off a trolley rail between a crossover and the end of a power section by opening the Power Isolating Switches at the crossover and opening a breaker in the substation. After Power Isolating Switches have been opened, power can be restored to the balance of the power section.

Power Isolating Switches are in gray boxes located at emergency crossovers. (See diagram for location of switch boxes.) The boxes are identified by two numbers, one above the other, on the door of the box. The upper number is the number of the power section; the lower number is the number of the box. Each box contains two single-blade, single-throw, knife-switches. Both switches must be thrown when power is to be cut off or restored.

Wherever Power Isolating Switches are located, there are short gaps in the trolley rail. A car will bridge these short gaps between the dead rail and the live rail. Therefore, after power has been isolated, the man who opened the switches is responsible at his location for guarding against a train bridging the gap.

DISCONNECT SWITCHES

The purpose of Disconnect Switches is to isolate a feeder section from a substation which may have cable trouble, so that the section can be fed from other substations.

A Disconnect Switch is installed in each feeder cable leading from the substation to the trolley rail. Each switch is identified by a number showing the power section it feeds and a letter showing the cable that feeds it. The switches are in gray boxes located near the track served and in the vicinity of a section gap. (See diagram for the location of Disconnect Switch boxes.) Each box contains two or more single-blade, single-throw, knife-switches.

TIE BREAKERS

The purpose of Tie Breakers is to connect the eastbound and westbound trolley rails in order to balance the power in the two sections.

Tie Breakers are under the control of the Power Supervisor. They are located at Lombard Avenue, at Homan Avenue, and at Morgan Street.

When directed to open Power Isolating Switches or Disconnect Switches, employes must inquire if there are any Tie Breakers in the area.

CHICAGO TRANSIT AUTHORITY
TRAINING and ACCIDENT PREVENTION DEPARTMENT
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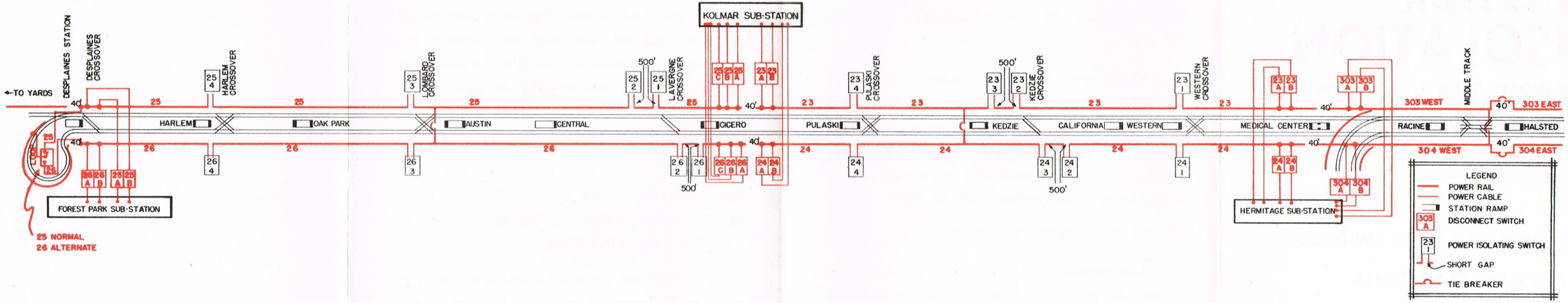
DIAGRAM OF CONGRESS ROUTE BETWEEN HALSTED AND DESPLAINES



EXAMPLE OF ISOLATION OF A PORTION OF A POWER SECTION

To isolate power westbound between the Lavergne Crossover and the Lombard Crossover:

1. Call for power "off" in Power Section 25.
2. Inquire if there are any Tie Breakers in the area.
3. Open Power Isolating Switches 25-2 and 25-3.
4. Call for power "on." Power will be restored to all of Power Section 25 except that portion lying between Power Isolating Switches 25-2 and 25-3.