


OPERATION OF POWER-OPERATED SWITCHES AT DIAMOND CROSSOVERS ON THE DAN RYAN




Diamond crossovers with power-operated switches are located north of the following stations: Sox-35th, 47th, Garfield, 69th, 79th, 87th, and 95th.

Each crossover is operated from control panels located in boxes adjacent to the crossover. The boxes have switch locks.

Track circuiting protects the approach to crossovers by providing a flashing red cab signal aspect on trains approaching a reversed crossover.

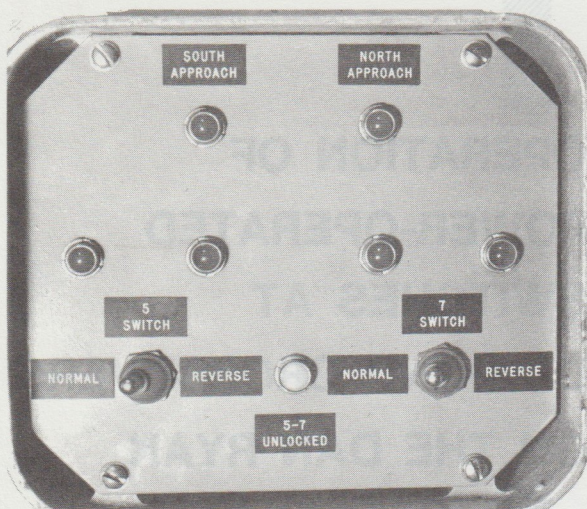
Protection against operation of a switch under a train is also provided by track circuits which lock the switch when a train is in the circuits. The circuits extend along both tracks and through the crossovers from a point approximately 100 ft. in advance of each crossover to a point approximately 100 ft. beyond the crossover. Therefore, a train within 100 ft. of any switch point locks the switch and prevents its operation from the control panel.



METROPOLITAN

TRANSIT





DESCRIPTION OF CONTROL PANEL

The following items are found on the control panel:

- APPROACH INDICATING LIGHTS

There are two green lights, one labelled SOUTH APPROACH, the other labelled NORTH APPROACH. If a light is "off" it indicates that a train is approaching the crossover from the direction indicated. If a light is "on," no train is approaching from that direction.

- SWITCH POSITION INDICATING LIGHTS

Two lights above each switch lever indicate the position of the switches in each crossover. A green light "on" indicates the switches are in normal position. An amber light "on" indicates the switches are in reverse position.

- SWITCH OPERATING LEVERS

A two position switch, normal and reverse, is provided for each crossover. The switches are numbered to correspond to the numbers on the switch machines they operate.

- SWITCH "UNLOCKED" LIGHT

A white light is provided which indicates whether the switches can be operated. If the light is "on," the switches are unlocked and can be operated.

If the light is "off," it indicates either

- (a) A train is occupying the track circuits governing the crossovers (switch will be locked), or
- (b) One or more track circuits affecting the crossover are defective (switch will be locked), or
- (c) The bulb is burned out (switch will not be locked).

PROCEDURE TO OPERATE A CROSSOVER:

NOTE: Step 1 not necessary when throwing switches from reverse to normal position.

1. Check the green track occupancy indicating lights, (marked SOUTH APPROACH and NORTH APPROACH)

- If both lights are lit it indicates that no trains are in approach to the crossover in either direction. Proceed to step 2.
- If either light is "off," the crossover must not be operated.

EXCEPTIONS:

- (a) If a train is already standing in the approach to the crossover, one light will be out. However, if no train is approaching on the other track, the crossover may be operated.
- (b) If a light is out and after a reasonable wait no train approaches, the crossover may be operated if the person operating it is satisfied it is safe to do so (bulb may be burned out).

2. Check the white "UNLOCKED" light.

- If the light is "on," it indicates that the crossover is unlocked and can be operated. Proceed to step 3.
- If the light is "off" and a train is in the circuit, the "Unlocked" light will come on when the train clears the circuit. Then, proceed to step 3.

NOTE: If a train is stopped within the track circuits governing the crossover and cannot move to clear the circuits, it will be necessary to hand crank the crossover switches.

- If the light is "off" and no train is in the circuits, proceed to step 3.

3. Move the appropriate operating lever to the desired position. (Operate the lever whose number corresponds to the number on the switch machines you wish to operate.)

- If throwing switches from normal to reverse position, wait one minute after moving lever for the time release to run out. Switches on both ends of the crossover should then throw. The green indicating light (normal) goes "off" and the amber indicating light (reverse) comes "on" when the switches have thrown to reverse position.
- If throwing switches from reverse to normal position, switches on both ends of crossover should throw as soon as lever is moved. The amber indicating light (reverse) goes "off" and the green indicating light (normal) comes "on" when the switches have thrown to normal position.

NOTE: When "Unlocked" light is "off" with no train in the circuit and operating lever is thrown:

- (a) If switches throw, "Unlocked" light bulb is burned out. Report to Radio Dispatcher or Line Supervisor.
- (b) If switches do not throw, track circuit is defective and it will be necessary to hand crank switches. Report to Radio Dispatcher or Line Supervisor.