

EMERGENCY OPERATION OF KIMBALL TOWER

When the interlocking plant at Kimball Avenue Terminal is in manual operation, all interlocking switches and signals are under the control of their respective controlling levers, located on a control panel in the tower.

In order to operate switches and signals to establish a route through the interlocking, it is necessary to operate the levers in the proper sequence. Line the switches first, check the switch indication to be sure that the desired switch is lined, then position the signal levers as needed. Incorrect operation of the levers will not result in the establishment of conflicting or opposing routes or other unsafe conditions, because the interlocking of the circuits prevents the operation of switches and signals except when all conditions are favorable.

METROPOLITAN

TRANSIT



CHICAGO TRANSIT AUTHORITY

SWITCH OPERATION

A switch may be operated normal or reverse by positioning its lever, provided the switch is not locked. A red indication light is located above the switch lever, and when illuminated indicates that the switch associated with the lever is locked and cannot be manipulated by the lever.

An amber indication light located above either the normal or reverse positions of the switch lever will illuminate to indicate that the track switch has moved to correspond to the position of the switch lever.

Always make certain that the position of the switch lever corresponds to the lighted normal or reverse indication light.

SIGNAL OPERATION

Once a route has been determined by positioning of the switches, the signal levers may then be positioned. The amber indicating light above the lever position will illuminate, indicating that the signal can clear, and the red indicating light will go out when the signal has cleared in the field.

With the interlocking plant in manual operation, the interlocking signals will continue to display the "danger" aspect after each train passes until the signal levers have been restored to normal and then positioned for another route.

A flashing red indication light will appear above the signal lever any time the signal indicates "danger" and the track trip is not in the tripping position. This indication will appear after a train has accepted the signal and will continue until the trip is again in the tripping position.

Always check the lever indication lights to determine the position of the controlled functions.

Signal levers may be restored to the normal position at any time after the front of the train has passed the signal, but the track trip will remain in its clear position until the entire train has passed over it. The amber signal indication light will go out and the red indication light will illuminate as soon as the front of the train passes the signal and the signal displays the "danger" aspect.

If a signal lever is restored to normal with a train in the approach, the signal will display a "danger" aspect and the amber indication light on the panel will go out. However, the switches in the route cannot be released until a predetermined time has elapsed.

PROCEDURE TO CHANGE A ROUTE

Restore to normal the signal levers which had been operated for the original route. The red indication light will illuminate, the amber indicating light will go out.

The red indication light above the switch lever will be illuminated while the required time interval is running out.

When the red switch indicating light goes out, the switch lever may be operated to change the route and the signal lever may be positioned for the change of route.

CALL-ON SIGNALS

A Call-On aspect has been provided on Signals 2R, 4R, 6R, 14R, 6L, 10L, and 14L. The track immediately preceding the signal must be occupied before a call-on aspect can be displayed.

REVERSE MOVEMENT SIGNALS

One reverse movement signal, R10, has been provided for moves against the normal direction of traffic. Before this signal can be cleared, all switches in the route must be in the proper position, all opposing signals must indicate "danger," and there must be a train in the immediate track circuit in the approach to the signal.

TRACK TRIPS

All track trips at home and approach signals are controlled by the same signal lever as their associated signals.

All track trips will be cleared automatically for any reverse move.

Any improper position of the track trip will prevent the associated signal from displaying a proceed aspect.

EMERGENCY SWITCH RELEASE

Emergency switch release buttons have been provided under each switch lever to permit operation of the track switches when they cannot be operated by normal manipulation of the switch levers. The procedure for operating these emergency switch release buttons is outlined in the section "Emergency Procedures."

POWER-OFF

A flashing red light at the power interruption button on the panel indicates that there has been a failure of the power on which the plant was operating. This failure will also cause a bell to ring. When the flashing red light appears, routes for which signals have been cleared cannot be changed until the power interruption button has

been operated. When the button is depressed the bell will cut-out and a steady red light will appear on the indication lamp. This indication will persist for approximately thirty seconds. At the expiration of this time interval, the light will be extinguished, indicating that the power restoring feature has been reset and switch locking will be released.

GROUND DETECTORS

A steady red light at either of the ground detector indications on the panel shows that a ground has occurred on the power system. This condition will cause a bell to ring. The corresponding ground detector button can be depressed to cut-out the bell. However, the lamp will remain lighted until the condition has been corrected.

The maintainer should be called.

MAINTAINERS CALL

The button designated "Maintainers Call," when pushed, operates a whistle to call the maintainer.

APPROACH ANNUNCIATOR

A single stroke bell is provided, to ring when a train enters any normal approach to the plant. This bell can be cut-out by depressing the button designated as approach annunciator button.

PANEL LIGHTING SWITCH

A three-position toggle switch is provided to dim the panel indication lights during manual operation or to extinguish the lights during automatic operation.

BELL CUT-OUT SWITCH

A two-position toggle switch is provided to cut-out all power-off and ground detector bell indications.

TROUBLE RESET BUTTON

To be used to reset trouble alarm sent to Power Supervisors Office.

OUT OF SERVICE LIGHTS

When the Out of Service Light for the #1 or #2 Platform Track is illuminated, trains cannot be routed into or out of the corresponding platform track by signal indication. Return track to service on Platform Panel.

NEXT TRAIN SIGNS

When on manual operation the "Next Train" signs must be operated manually.

Operate the Auto-Manual key to the Manual position and then select the next train to leave on the adjacent key.

EMERGENCY PROCEDURES

If trouble occurs while the interlocking plant is on automatic operation, it is more desirable to operate the plant from the tower than it is to hand crank the switches. Go to the tower, place the Master lever in the Manual position, then observe the panel indicating lights to determine the cause of the trouble.

There are three common causes of trouble:

1. **TRACK CIRCUIT FAILURE.** This is indicated when a track detector circuit light is illuminated and there is no train in the circuit.
 - a. Place all home signals, reverse movement signals, and approach signals associated with the switch at "danger."
 - b. Place the switch control lever in the position to which you desire to move the track switch.
 - c. Break the seal on the emergency switch release button directly below the switch lever on the panel, push the button in and hold it for about two seconds until the red indicating light above the panel illuminates. Pull the button out and hold it in this position until the amber indicating light above the switch lever position illuminates, indicating that the track switch has moved to the desired position. (If the emergency release light does not appear, recheck Step A. When all conditions have been met, another attempt may be made.)
 - d. Position the appropriate signal lever for the desired route, then momentarily depress the Call-On button. The call-on aspect will appear on the signal in the field and the red indication light above the signal lever position will begin flashing.

The emergency release must be operated for each change of switch position during emergency operation.

NOTIFY THE SIGNAL MAINTAINER TO RENEW THE SEAL.

2. **DEFECTIVE TRACK TRIP.** This is indicated by a flashing red light above the signal lever. This means that the track trip in the field is clear, but the signal is set at danger.
 - a. Check the track trip to determine cause of defect.
 - b. Call a Signal Maintainer.

3. SWITCH FAILED TO COMPLETE ITS MOVEMENT. This is indicated by the absence of an illuminated amber light above the normal or reverse position of the switch lever.
 - a. Check for an obstructed switch point.
 - b. Operate the switch lever to its opposite position to reset the Overload Relay.

OPERATION OF SWITCH MACHINES BY HAND CRANK

If any of the above listed troubles cannot be corrected by tower operation of the plant, it will be necessary to operate the switch machines by hand crank.

1. Unlock the hasp and insert the crank (this removes power from the switch motor and a Signal Maintainer must be called to restore it.)
2. Position the switch by operating the crank in the desired direction (clockwise or counter-clockwise) as far as it will go.
3. Check the switch points.
4. Flag the train.

Any time that the switch machines are being operated by hand crank, it is preferable to route all trains into and out of the #1 Platform Track. This will reduce the number of switches that must be cranked, and also reduce the possibility of error.

CHICAGO TRANSIT AUTHORITY SIGNAL SECTION

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