

# OPERATION OF 59TH JUNCTION PANEL AT 61ST TOWER

The 59th Junction interlocking plant is normally under automatic control, but if necessary it can be operated from the control panel in the 61st Tower, or in an emergency it can be controlled from the panel at 59th Junction or thrown by hand.

When the interlocking is under automatic control, SOUTHBOUND trains are routed through the plant in an alternating Englewood-Jackson Park sequence and all NORTHBOUND trains are routed through the plant on a first come - first served basis.

The Towerman at 61st uses the panel to take control of the interlocking: (1) when the normal sequence of southbound trains is to be interrupted; (2) when a train is to be routed through the cross-over; and (3) when a move against traffic is required.

This pamphlet contains a description of the 59th Junction panel at 61st Tower and instructions for its use.

METROPOLITAN

TRANSIT



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# CONTROL PANEL DESCRIPTION

Normally all lights on the panel (except the "Signal Fail" lights) show dimly. If a light (other than the "Signal Fail" lights) is completely dark, notify the Signal Maintainer. If all lights are completely dark, check the position of the "Panel Lights" switch.

The 59th junction control panel located in 61st tower contains the following items:

## TRACK DIAGRAM

The track diagram shows the location of switches, signals and the crossover in the interlocking. It also indicates track occupancy and the condition of signals and trips in the following manner:

- Track occupancy is indicated by the bright illumination of amber indicator lights (designated **(A)** on diagram)
- The condition of signals and trips is indicated by red signal indicator lights (designated **⊢(R)** on diagram)
  1. A steady bright red light indicates that the associated signal is displaying the "Stop" indication.
  2. A dim red light indicates that the signal is clear.
  3. A flashing bright red light indicates that the associated signal is:
    - a. Displaying the "Stop" indication but the trip is not in the tripping position, or
    - b. Displaying the "call-on" indication but the track trip manual release has not yet been operated.

## MANUAL-AUTO LEVER

The "Manual-Auto" lever is used to take manual control of the plant or to return the plant to automatic operation. An amber indicator light is bright when the lever is in "Manual" position and a green indicator light is bright when the lever is in the "Auto" position

## ROUTE SELECTION BUTTONS

There are two groups of route selection buttons. The group on the left controls northbound moves and the group on the right controls southbound moves.

Each group consists of three buttons. The button

marked "A" in each group controls the "A" route for that direction; the button marked "B" controls the "B" route; and the "Other" button controls special moves.

Route selection buttons are "push-pull" type buttons. Pushing a button establishes a route, while pulling a button cancels a route.

### **"LAST TRAIN" INDICATING LIGHTS**

Two lights, one amber and one green, are located with each group of route selection buttons. Amber lights indicate Englewood; green lights indicate Jackson Park.

A steady bright light indicates the last train. A flashing bright light indicates which route is established.

### **"NEXT TWO TRAINS" BUTTON AND LIGHT**

The "Next Two Trains" button is a push button with a white light in the button. It is used when two or more consecutive southbound trains are to be sent on the same route.

### **SWITCH LEVERS**

Three switch levers marked 1, 3 and 5 control the movement of their associated track switches. Each lever has three positions, C (center), N (normal) and R (reverse).

Each switch lever has two associated amber lights, one indicating the Normal position and the other the Reverse position.

When the plant is on automatic operation and a train initiates a route, the amber lights will become bright to indicate the position of the switches.

When the plant is on manual operation, the appropriate amber lights will become bright when the track switch has operated to the position called for by the lever. These lights will remain bright when the lever is in center position until the electric locking is released.

### **SIGNAL LEVER**

A signal lever marked 6 controls signals 6A, B and C. The lever has two positions, N (normal) and R (reverse).

### **BELL CUT-OUT SWITCH**

This is a two-position toggle switch which can be used to cut off the annunciator bell. It should be left "on" at all times.



## **PANEL LIGHTS SWITCH**

This is a two-position toggle switch for use of the maintainer. The panel lights must be left "on" at all times.

## **SWITCH HEATERS BUTTON AND LIGHT**

This is a push-pull type button with an associated red light above it. The button is pushed to turn on the heaters and pulled to turn them off. The red light becomes bright when the heaters are turned "on" and becomes dim when the heaters are turned "off."

## **INTERLOCKING POWER INTERRUPTION AND INTERLOCKING GROUND DETECTOR BUTTONS AND LIGHTS**

These are push type buttons with associated red lights above them.

In the event of a failure in a power source or a ground in the power system, the appropriate red light will flash bright and an alarm bell will ring. Depressing the button below the flashing light will cut off the bell and cause the light to become steady. The light will remain bright until the power source has been restored or the ground has been corrected.

Whenever the interlocking power interruption or the interlocking ground indication occurs, the Power Supervisor must be notified immediately.

## **MAINTAINER'S CALL BUTTON**

This is a push type button which, when depressed, operates a whistle at 59th Junction. Whistle signals are given as per Rule 131.

## **SIGNAL FAIL INDICATOR LIGHTS**

There are two red "Signal Fail" lights, one marked "In," the other marked "Out." If a failure occurs in the remote control system, either or both of these lights will come "on" and a bell will ring. This indicates that 59th Junction cannot be operated from the 61st tower panel. (Automatic operation of the plant is not necessarily affected.)

If this indication occurs, notify the Line Supervisor and the Power Supervisor immediately.

## **SIGNAL FAIL RESET BUTTON**

The "Signal Fail Reset" button is a push-type button with a red light in it. It is provided to restore the 61st panel to normal operating condition after a failure in the remote control system has been corrected.

When the red light in the button is bright and both signal fail lights are out, indicating that the system can be restored, proceed as follows:

Depress "Signal Fail Reset" button and hold until light in button becomes dim.

## CONTROL PANEL OPERATION

With the "Manual-Auto" lever in the "Manual" position, control of all switches, signals and trips in the interlocking is transferred to their respective buttons and levers on the panel. The Towerman is then responsible for setting up all routes. As soon as the need for manual control is over, the plant must be restored to automatic operation.

### PROCEDURE FOR TAKING MANUAL CONTROL

1. Make certain that Switch Levers (1, 3 and 5) are in C (center) position and that Signal Lever (6) is in N (normal) position.
2. Move "Manual-Auto" lever to "Manual" position. When amber light above "Manual" position becomes bright, control of the junction has been transferred to this panel.

### PROCEDURE FOR MAKING TRAIN MOVES AFTER ASSUMING MANUAL CONTROL

1. Set up desired route as indicated in Manipulation Chart (page 7)
2. Follow the move as the train involved progresses through the plant. To do this, each signal or switch lever that was operated to set up the route is cancelled immediately after the train has moved past the corresponding signal or switch and the route selection button is cancelled immediately after the train is clear of the junction switches.

Cancelling is done as follows:

- a. Place signal lever in N (normal) position.
- b. Place switch lever in C (center) position.
- c. Pull out route selection button and hold for two seconds.



## PROCEDURE FOR RESTORING AUTOMATIC CONTROL

Restore the plant to automatic control only when there are no trains in the plant and no route is set up. Restore the plant as follows:

Place "Manual-Auto" lever in "Auto" position. When green light above "Auto" position becomes bright, plant is on automatic operation.

## USE OF "NEXT TWO TRAINS" BUTTON

When two or more consecutive trains are to be routed to the same destination, use the procedure outlined below. If the trains are to be routed to Jackson Park, begin the procedure after the Englewood leader has passed. If the trains are to be routed to Englewood, begin the procedure after the Jackson Park leader has passed.

### PROCEDURE FOR USING "NEXT TWO TRAINS" BUTTON

1. Take "Manual" control of plant (See Procedure on page 4)
2. Depress the "Next Two Trains" button and hold it until a steady bright white light illuminates in the button.
3. Place the "Manual-Auto" lever in the "Auto" position.

After the first train has passed, the white light in the button will begin flashing, indicating that one more train will take the same route.

NOTE: If more than two trains are to take the same route, repeat steps 1, 2 and 3 at this time and continue repeating after each train until the next to last train passes.

After the second (or last) train passes, the flashing white light will go dim. This indicates that the next train will be routed automatically to the alternate branch.

### PROCEDURE FOR CANCELLING "NEXT TWO TRAINS" SELECTION

If it becomes necessary to cancel a route selected with the "Next Two Trains" button, use the appropriate procedure below:

1. If "Next Two Trains" light is steady bright
  - a. Take manual control.
  - b. Cancel both S.B. route selection buttons, one at a time.

- c. Restore automatic control.
- 2. If "Next Two Trains" light is flashing
  - a. Take manual control.
  - b. Cancel both S.B. route selection buttons, one at a time.
  - c. Depress route selection button for route to be followed by next S.B. train.

NOTE: Setting in a S.B. Jackson route will block northbound moves from Englewood. If next S.B. train is a Jackson do not set in route until train enters plant.

- d. Restore automatic control.

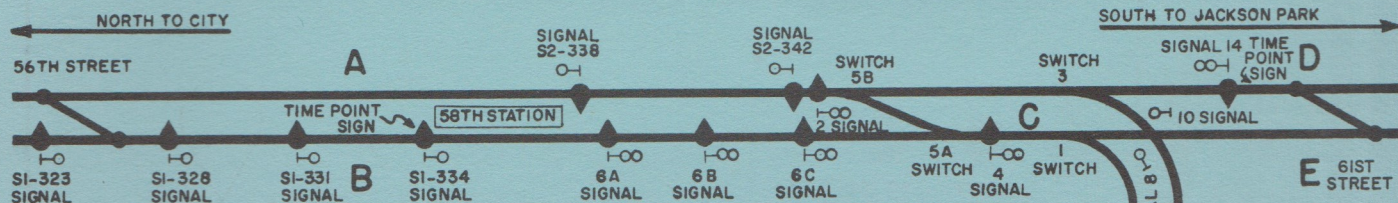
## **PROCEDURE IN EVENT OF FAILURE OF REMOTE CONTROL OR TRACK CIRCUIT**

In the event of failure of remote control or track circuit, the interlocking must be operated from the panel at 59th Junction (see "Panel Operation At 59th Junction" T&AP 65-3-T(3)). Follow the procedure listed below:

1. Notify the Line Supervisor and the Power Supervisor.
2. Leave "Manual-Auto" lever in "Auto" position until further notice.
3. When notified from 59th Junction, follow procedure for placing plant in manual operation.
4. Make next S.B. move manually (See "Procedure for Making Train Moves After Assuming Manual Control, page 4")
5. Move "Manual-Auto" lever to "Auto" position.
6. Keep in touch with person at 59th Junction until satisfied that plant operation is normal.



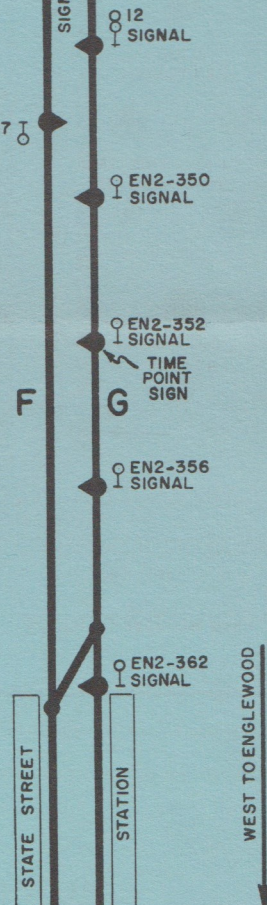
# 59TH JUNCTION INTERLOCKING 61ST TOWER CONTROL PANEL TRACK DIAGRAM



TRACK TRIP

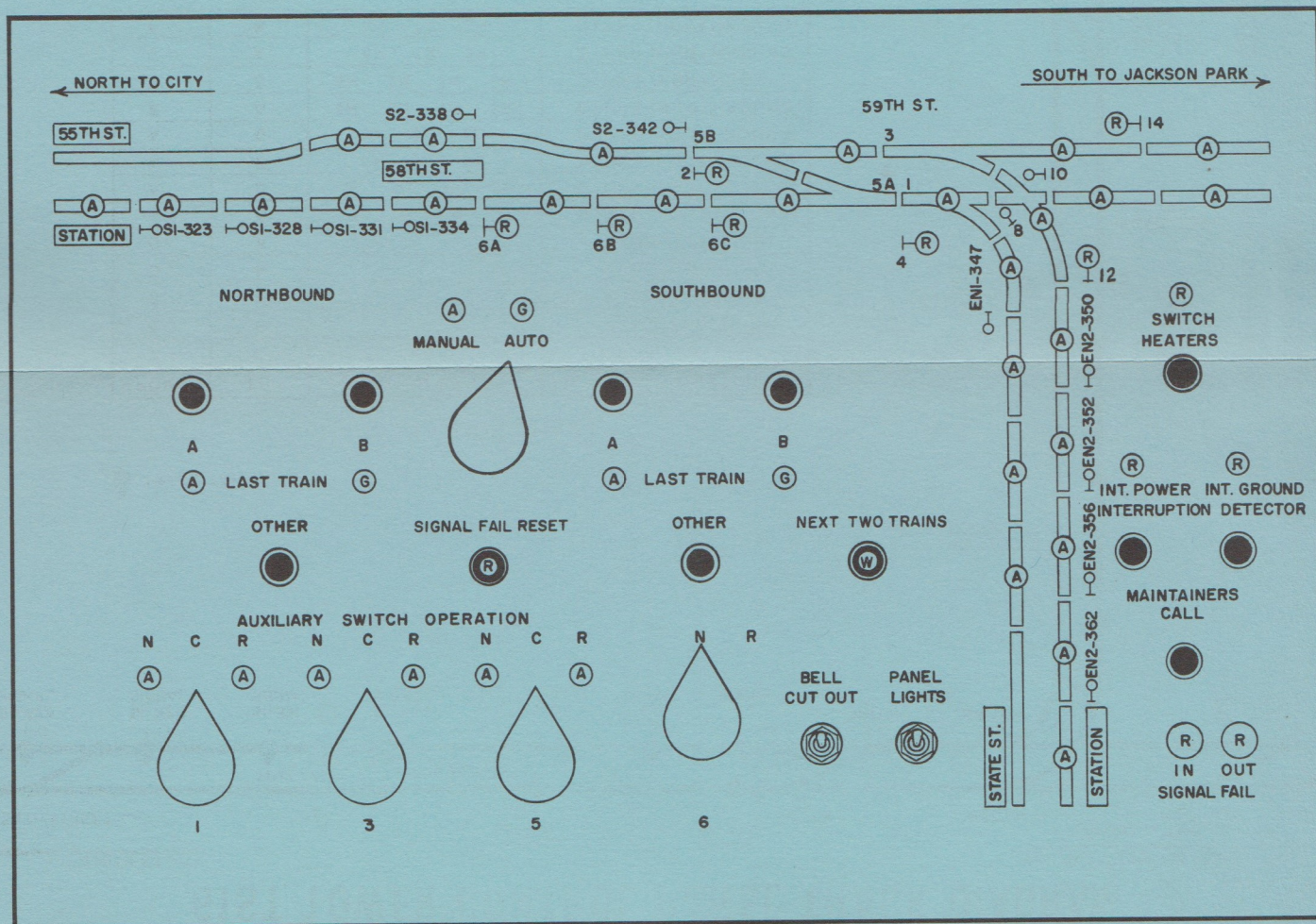
MANIPULATION CHART

FROM	TO	POSITION LEVER	PUSH BUTTON
B	C	6R	
C	E		B (SOUTHBOUND)
C	F		A (SOUTHBOUND)
D	A		B (NORTHBOUND)
G	A		A (NORTHBOUND)
A	D	3N 5N	OTHER (SOUTHBOUND)
A	E	6N 3N 1N 5R	OTHER (SOUTHBOUND)
A	F	6N 1R 5R	OTHER (SOUTHBOUND)
A	G	1R 3R 5N	OTHER (SOUTHBOUND)
E	A	6N 3N 1N 5R	OTHER (NORTHBOUND)
E	B	6N 3N 1N 5N	OTHER (NORTHBOUND)
F	A	6N 1R 5R	OTHER (NORTHBOUND)
F	B	6N 1R 5N	OTHER (NORTHBOUND)





# 61ST TOWER CONTROL PANEL





CHICAGO TRANSIT AUTHORITY  
TRAINING AND ACCIDENT PREVENTION DEPARTMENT  
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