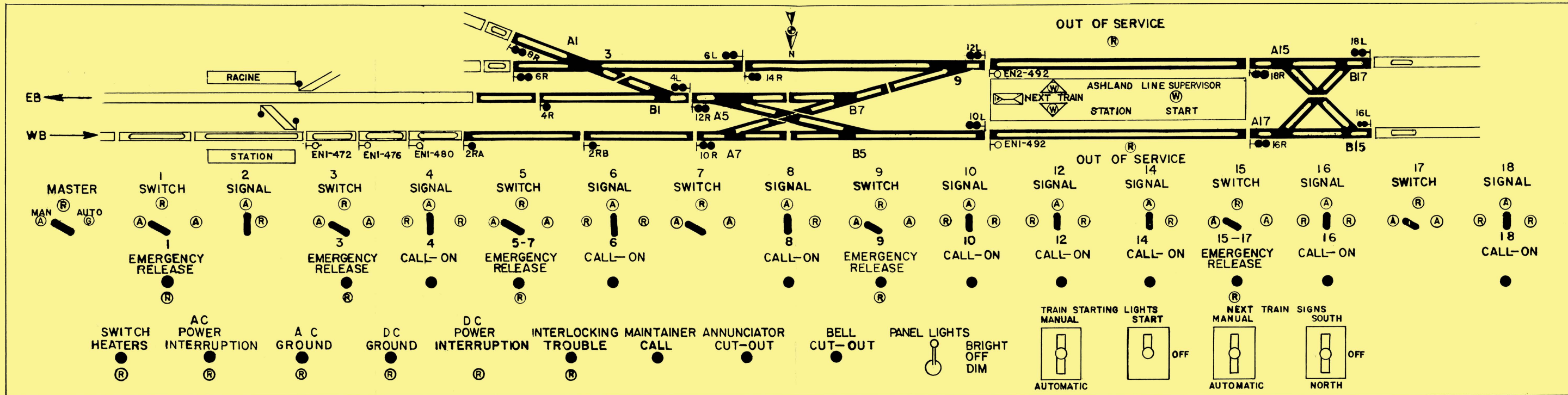


63rd-ASHLAND INTERLOCKING CONTROL PANEL



operating the track trip manual release, the red light associated with the signal lever will begin flashing. When the train clears the signal, the light will become steady.

If a call-on signal is given but not used, it is cancelled by returning the signal lever to the "danger" position.

EMERGENCY SWITCH RELEASE BUTTONS

Emergency switch release buttons, located beneath their associated switch control levers, permit operation of the switches from the control panel in the event of track circuit failure. (Switches 5 and 7 operate from the same emergency release button, as do switches 15 and 17). A red indicating light, located below each button, illuminates when the buttons are operated.

SWITCH HEATERS BUTTON AND LIGHT

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

POWER INTERRUPTION AND GROUND DETECTOR LIGHTS AND ASSOCIATED PUSH BUTTONS

These are four red lights designated "A.C. Power Interruption," "D.C. Power Interruption," "A.C. Ground" and "D.C. Ground." Each of the lights, except the "D.C. Power Interruption" light, has a push-button associated with it.

In the event of a failure in a power source or a ground in the signal and switch power system, the appropriate red light will begin to flash and an alarm bell will ring (except in the case of a "D.C. Power Interruption.") Depressing the button associated with the light will cut off the bell and cause the flashing red light to become steady. Once illuminated, a light remains on until the power source has been restored or the ground has been corrected.

Whenever any of these lights comes on, the Power Supervisor must be notified immediately.

INTERLOCKING TROUBLE INDICATION

When the interlocking is on "Automatic," an indication of power trouble is relayed automatically to the Power Supervisor's office. When this occurs, the red light under the words "Interlocking Trouble" lights. After the trouble has been corrected, the button above the red light is depressed and the light goes "off."

DESCRIPTION OF CONTROL PANEL

The interlocking control panel contains the items listed below: (see diagram)

TRACK DIAGRAM

The track diagram shows the location of all switches and signals in the interlocking. White lights in the track line illuminate to indicate a route lined up and locked; red lights in the track line illuminate to indicate track occupancy or track circuit failure, and go out when the circuit is cleared.

"MASTER" LEVER

A two-position lever, "Manual" and "Automatic." When the lever is in the automatic position, a green indicating light illuminates; when the lever is in the manual position, an amber indicating light illuminates. A red indi-

cating light under the word "Master" indicates whether the lever can be moved. When the red light is "on," the lever is locked. When the red light is "off," the lever can be moved.

SWITCH LEVERS

Switch movements are controlled by individual control levers for each switch and crossover in the interlocking (odd numbered levers).

Each lever has two positions, normal (to Towerman's left) and reverse (to Towerman's right). An amber indicating light is associated with each of the lever positions which illuminates to indicate that the track switch has moved to correspond to the position of the switch lever.

A red indicating light is located above each switch lever. When illuminated, it indicates that the switch associated with the lever is locked and cannot be manipulated by the lever.

SIGNAL LEVERS

The display of signals is controlled by nine levers on the panel (even-numbered levers). Lever 2 controls two interlocking approach signals (2RA and 2RB). Levers 8 and 14 each control one westbound move signal (8R and 14R). Levers 4, 6, 10, 12, 16 and 18 each control two signals, one for eastbound moves and one for westbound moves. (4L and 4R, 6L and 6R, etc.) Normal (danger) position is center (vertical); clear position is to the right for R signals and to the left for L signals.

Each signal lever has an amber indicating light associated with it. The amber light illuminates whenever the signal lever is positioned to clear a signal and the position of the switches in the interlocking is such that the signal can clear.

A red light is associated with the "clear" (reverse) position(s) of each lever. The red light is illuminated when the associated signal is at danger and goes out

when the signal clears. The red light flashes whenever the signal indication and the trip position do not correspond.

TRACK TRIPS

All signals within the interlocking, except Signal 4R, have a track trip and a track trip manual release.

CALL-ON BUTTONS

A call-on aspect has been provided for signals 4L, 6L and R, 8R, 10L and R, 12L and R, 14R, 16L and R, and 18L and R.

The call-on button for each of these signals is a push-type button. If a route has been properly established and a train is stopped in approach to one of the above-mentioned signals and the signal does not clear, the towerman must depress the appropriate call-on button. When the Motorman acknowledges the call-on signal by

MAINTAINER CALL

A push-type button is provided which, when depressed, operates a siren. Siren signals are as per Rule 131.

ANNUNCIATOR CUT OUT

As trains approach the interlocking, a single stroke bell sounds. This bell can be cut out by depressing the Annunciator Cut-Out button. The bell sound is restored by pulling out the button.

BELL CUT-OUT

A push-pull type button is provided to completely cut-out all power off and ground detector bell alarms. No bell can sound while the button is pushed in. The bell is restored by pulling the button out.

PANEL LIGHTS SWITCH

A three-position toggle switch is provided to dim the panel lights or to turn them off during automatic operation. The panel lights must be on during manual operation.

TRAIN STARTING LIGHTS

There are two switches: one a two-position toggle switch with its "up" position labelled "Manual" and its "down" position labelled "Automatic;" the other a two-position toggle switch with its "up" position labelled "Start" and its "down" position labelled "Off." There is also a white light on the diagram of the station labelled "Line Supervisor Start," which illuminates shortly before the starting signal illuminates on the platform and goes out when the starting signal is cancelled.

The "Automatic-Manual" switch is normally kept in the "Automatic" position. It is placed in "Manual" position only if the Line Supervisor instructs the towerman to give train starting signals locally. The procedure for giving starting signals locally is:

1. Place "Automatic-Manual" switch in "Manual" position.
2. When you wish to give a train the starting signal, place the "Start-Off" switch in the "Start" position (up).
3. When the train leaves, cancel the starting signal by moving the "Start-Off" switch to the "Off" position (down).
4. Repeat steps 2 and 3 above for each train until notified that the Line Supervisor will resume control of

starting signals. Then, make certain "Start-Off" switch is in "Off" position (down) and move "Automatic-Manual" switch to "Automatic" position (down).

NEXT TRAIN SIGNS

There are two switches: one a two-position toggle switch with its "up" position labelled "Manual" and its "down" position labelled "Automatic;" the other a three-position toggle switch with its "up" position labelled "South," its "center" position labelled "off" and its "down" position labelled "North."

When the plant is placed on automatic operation the two-position switch is placed in the "Automatic" position and the three-position switch is placed in the "off" position (center).

When the plant is under manual control, the two-position switch is placed in the "Manual" position and the three-position switch is operated to the "South" (up) position or "North" (down) position as required.

OUT-OF-SERVICE LIGHTS

Platform tracks can be taken out of service by operation of controls in a cabinet on the platform. When a platform track is taken out of service, a red light illuminates to indicate the affected track. Only one track at a time may be taken out of service. While a track is out of service trains cannot be routed into or out of the track by signal indication.

When the master lever is in the "Manual" position, control of all switches, signals and trips in the interlocking is transferred to the panel. The towerman is then responsible for setting up all routes. When the towerman is not on duty, the master lever must be in the "Automatic" position.

PROCEDURE FOR TAKING MANUAL CONTROL

1. Request permission from the Line Supervisor to take manual control.
 2. Upon receipt of permission, move the master lever to the "MAN" (Manual) position. When the amber indicating light comes "on," manual control has been established.
- NOTE: Transfer from automatic to manual can be made at any time.

PROCEDURE FOR PLACING PLANT ON AUTOMATIC OPERATION

NOTE: If emergency switch operation is being used, tower must remain on manual operation until track circuit failure is corrected by maintainer. Notify Line Supervisor of situation.

1. If no emergency switch operation is being used, request permission from the Line Supervisor to place plant on automatic. If permission is granted . . .
2. Allow any moves in progress to be completed.
3. Check that no call-on signal is displayed.
4. Place all signal levers and switch levers 15 and 17 in normal position.
5. Check the "Master Lever" lock light (red).
 - If light is "on," recheck steps 1 through 4 above.
 - If light is "off," move master lever to "AUTO" (Automatic) position. When the green "AUTO" light comes "on" the plant is on automatic operation.
6. The Towerman must remain on duty until one inbound move and one outbound move have been completed satisfactorily.

PROCEDURE FOR ESTABLISHING ROUTES

1. Consult manipulation chart to determine sequence of lever operation for desired move or combination of moves.
2. Operate levers in the sequence indicated.

PROCEDURE FOR CHANGING ROUTES

1. Restore to normal all signal levers which had been operated for the original route (the red light associated with the signal will illuminate and the amber light will go out).
2. Check red indication light above levers for switches which will be moved. (Light will be on while required time interval is running out.) When light goes out, go to step 3.
3. Operate switch lever and signal levers in sequence indicated in manipulation chart.

EMERGENCY SWITCH OPERATION

When the switches in a route are locked as a result of track circuit failure (indicated when a red light appears on the track diagram and there is no train in the circuit), the switches can be moved by operation of the switch levers in conjunction with the emergency switch release buttons.

The following procedure must be followed:

1. Be sure that all signals associated with the switch are at danger.
 2. Place the switch lever in the position to which the track switch is to be moved.
 3. Break the seal on the appropriate emergency switch release button.
 4. Push the button in and hold it until the red light below the button comes on, indicating that emergency control is in effect (about 2 seconds). (If the light does not come on, recheck step 1, then make another attempt.)
 5. Pull the button out and hold it until the amber indicating light above the switch lever position comes on, indicating that the track switch has moved to the desired position.
 6. If other switches must be positioned, follow steps 1 through 5 above for each switch.
 7. Position the appropriate signal lever for the desired route, then depress the appropriate call-on button.
- NOTE: The train must be in the circuit in approach to the signal before depressing the call-on button.
8. Repeat the above procedure for each change of switch position until the track circuit failure is corrected.
 9. Notify Signal Maintainer to renew any seal that has been broken.

OPERATION OF SWITCH MACHINES BY HAND CRANK

If switches cannot be moved by operation of the control panel, it will be necessary to operate the switch machines by hand crank.

1. Using the switch key, unlock the hasp and insert the crank.
2. Position the switch by operating the crank in the desired direction, as far as it will go.
3. Check the switch positions.
4. Place the switch point block in the open point.
5. Flag the train through the switch.
6. Continue hand operation until a Signal Maintainer clears the trouble and restores power to the switch machines involved.

**OPERATION
OF
63rd-ASHLAND
INTERLOCKING
PANEL**

