

# What's the Answer?

An open forum for the discussion of maintenance and construction problems encountered in the signaling field. *Railway Signaling* solicits the co-operation of its readers both in submitting and answering any questions of interest.

TO BE ANSWERED IN A SUBSEQUENT ISSUE

(1) Which of the following methods of wire distribution do you prefer at interlocking plants—(a) aerial cables on iron posts, (b) individual wires in trunking, (c) underground in conduit or parkway cable? Why?

(2) What special maintenance work on signals and interlockers do you recommend in advance of winter weather?

(3) Does floodlighting of interlocking track layouts increase safety and facilitate operation? Will such lighting interfere with signals?

(4) What safety measures are enforced to protect signalmen from electric shocks? How should breathing be restored artificially in a man who has been knocked unconscious by accidental contact with a high-voltage circuit?

## Should Track Circuit Polarities be Staggered?

*“What benefit is derived by transposing the polarity of adjacent track circuits?”*

**Alternating Polarity of Adjacent Track Circuit Provides Greater Protection Against False-Clear Failures and Helps to Locate Defective Insulated Joints**

IT is our practice to distinguish between transposing one track circuit and “staggering” or alternating the polarities of two adjacent track circuits. That is, where only one track circuit is involved we prefer to use the word “transposing.” Where the polarities of two track circuits are involved we refer to the

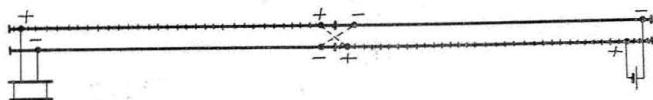


Fig. 1—Transposition made to reduce foreign current troubles to minimum

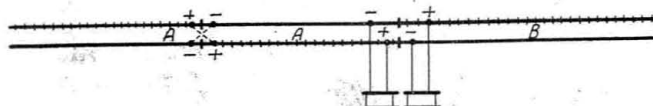


Fig. 2—Transposition made to make polarities of rails in circuit A opposite to polarity of adjacent rails in circuit B

practice as “staggering” or alternating when referring to opposite polarities on adjacent rails. Accompanying sketches illustrate the application for both sets of conditions.

In general, with no train on the track circuit, the

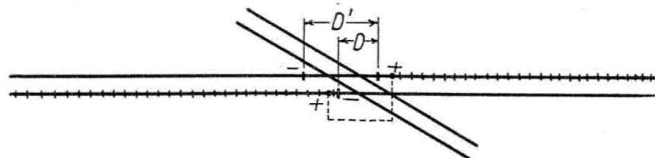


Fig. 3—This transposition is made to reduce length of dead section—With the transposition the dead section is length  $D$  and without transposition dead section would be length  $D'$

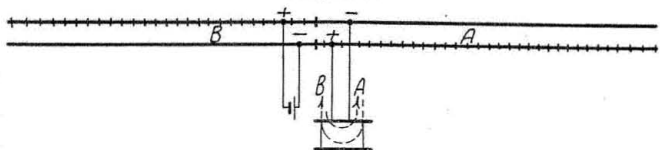


Fig. 4—Polarities of adjacent rails are alternated in order to lessen the chances of relay A being energized from battery B when circuit A is occupied should either one or both insulated joints break down

latter is less liable to fail and cause a signal to assume the “stop” position when an insulated joint breaks down if the rails on each side of the joint are of the same polarity. But with this condition there is greater danger of a false-clear failure than would be



