Signal Training Bulletin

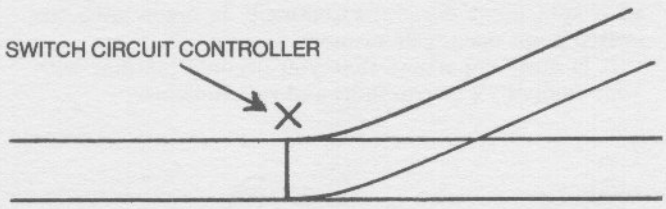
COMMITTEE G: Education & Training
Communication & Signal Division, AAR

A-3 Switch Circuit Controller

Approved June 1975

Definition: A device for opening and closing electric circuits, operated by a rod connected to a switch, derail, or movable point frog.

Symbol:



TRACK LAYOUT WITH SWITCH CIRCUIT CONTROLLER

Description: The switch circuit controller is a mechanism contained in a metal box usually mounted securely with bolts and/or lag screws on the track tie. It consists of a group of electrical contacts that are moved by a cam and rocker arm arrangement connected to a shaft that is turned by a rod attached to the switch point, derail or movable point frog, similar to that illustrated in Figures 1(a) and 1(b).

In the type illustrated, the cams are independently adjustable for the purpose of accurate contact positioning. When a switch point is moved, the cams of the switch circuit controller move the rocker arm and actuate the electrical contacts. The contacts open or close, depending on the adjustment of the cams. The adjustment is determined by the requirements of the particular circuit.

Purpose and Application: Over the years, many modifications have been made in the design and construction of switch circuit controllers. As a result of this, there are many different models currently in use on the various railroads. However, they all provide a means to insure that switches, derails and movable point frogs are in proper position before displaying signals permitting trains to proceed. This is accomplished by breaking the control circuits through a contact or contacts of the switch circuit controller. The cams in the switch circuit controller are adjusted so that circuits are opened or closed, as required, for various positions of the switch, derail, or movable point frog.

Signal Department personnel are responsible for the installation, adjustment and maintenance of the switch circuit controller and connections. A switch circuit controller is shown in Figures 1(a) and 2 attached to the switch point.

General Information: It is most important that you become familiar with your company's instructions and requirements.

Detailed Operation: Reference should be made to manufacturer's brochures and catalog for information concerning operation of particular switch circuit controller.

Switch layout with switch circuit controller

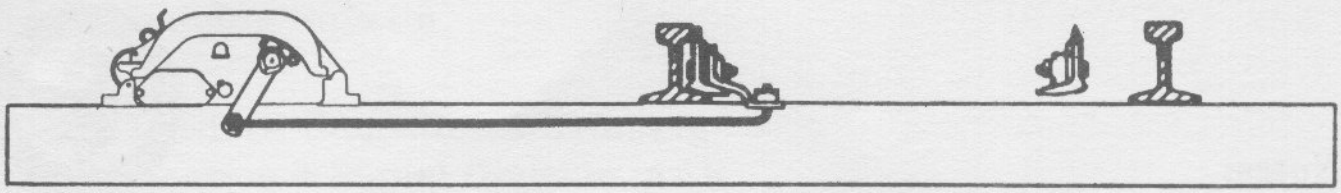


Figure 1 (a)

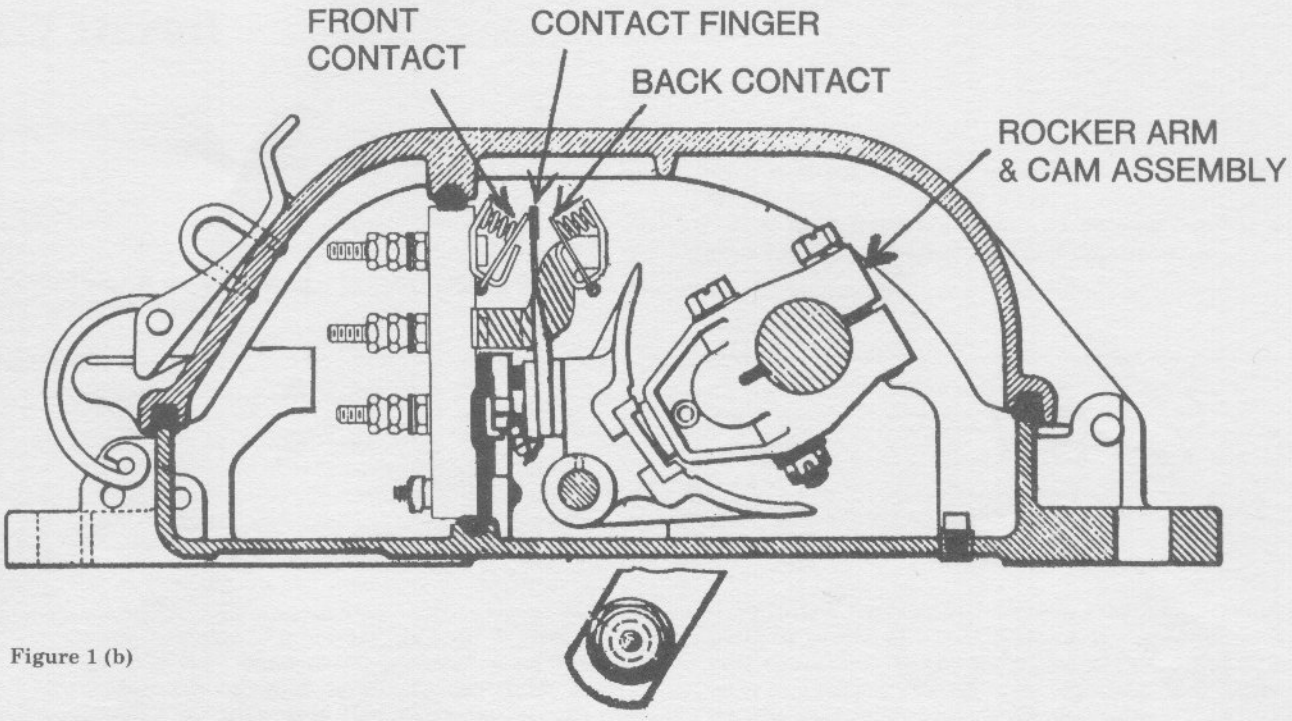


Figure 1 (b)

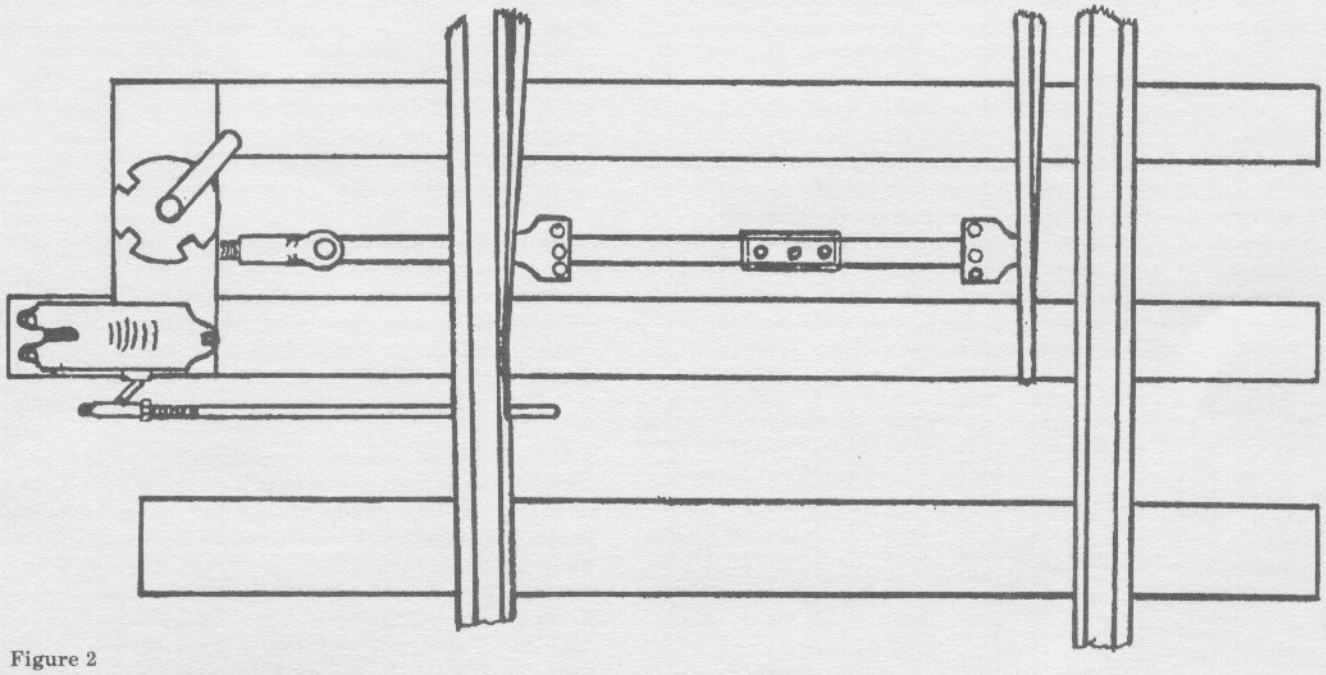


Figure 2