

SSI Data Preparation

Track Circuit Interrupters and Wide-to-gauge Trap Points

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Track Circuit Interrupters and Wide-to-gauge Trap Points

1. Introduction

This document covers track circuit interrupters and alternative arrangements for wide-to-gauge trap points where interrupters cannot be used.

2. Track Circuit Interrupters

2.1 Principles

Track circuit interrupters are used to register that a vehicle has made a movement through trap points lying in the trapping position. An interrupter being broken by such a movement indicates that:

- the vehicle may still be foul of the line at the trap points, even if it is not detected by the associated track circuit,
- and/or
- the vehicle may be foul of adjacent lines.

Track circuit interrupters are similarly used at run-back catch points, and occasionally may be used where a movement colliding with buffer stops can foul adjacent lines.

It is current practice to use only insulated interrupters. These can be used either without or with a relay.

2.1.1 Track Circuit Interrupters without a Relay

A track circuit interrupter without a relay is bonded directly in series with the associated track circuit. This arrangement can only be used when:

- the type of track circuit permits this
- and
- all signals reading over the track circuit prove the track circuit clear
- and
- no adjacent lines can be fouled.

When the interrupter is broken the track circuit is held occupied as far as the Interlocking is concerned which in turn replaces any protecting signals. Until the incident is reported, the Signaller has just the track circuit indication remaining occupied to show that something is amiss. No additional or changed data is required.

2.1.2 Track Circuit Interrupters with a Relay

The track circuit interrupter remaining intact is monitored by a normally energised relay, and the state of the relay is in turn input into the Interlocking. This is combined with the track circuit within which the interrupter is positioned such that the track circuit is put to the undefined state if the interrupter is broken. This in turn will replace any protecting signals which continuously prove this track circuit clear. Those protecting signals which read over this track circuit but do not continuously prove it clear (e.g. those with permissive, time-of-clearing or delayed replacement conditions) will need to directly prove the interrupter input.