Track Isolation.

WHY

In a DC system track isolation is important otherwise all trains will move when the speed controller is used.
The most common way of isolation is via the points, when the points are closed the points also break the power connection to one of the tracks, this isolates all power to this section, and therefore all locomotives in that section.

In Figure 1 tracks A, B, & D are live, track C is isolated because the points are set for straight through. This means that any train on the track CD has no power.
In Figure 2 tracks A, C, & D are live, track B is isolated because the points are set from the straight through. This means that any train on the track AB has no power.

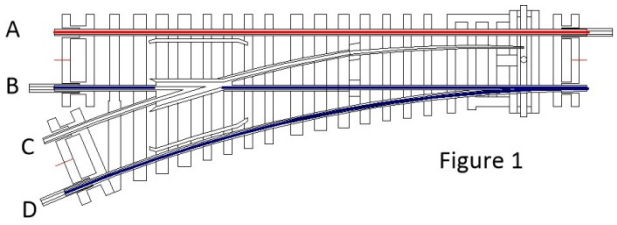


Figure 1

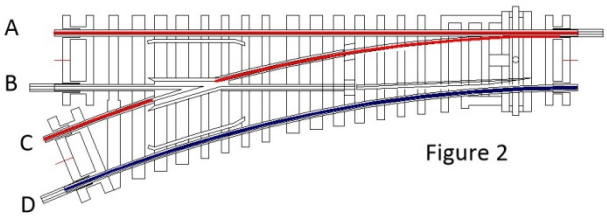
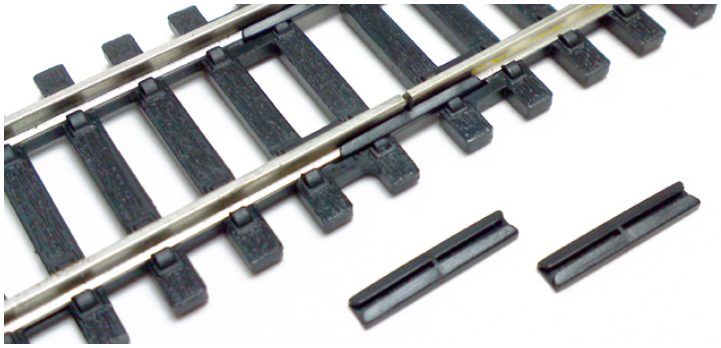


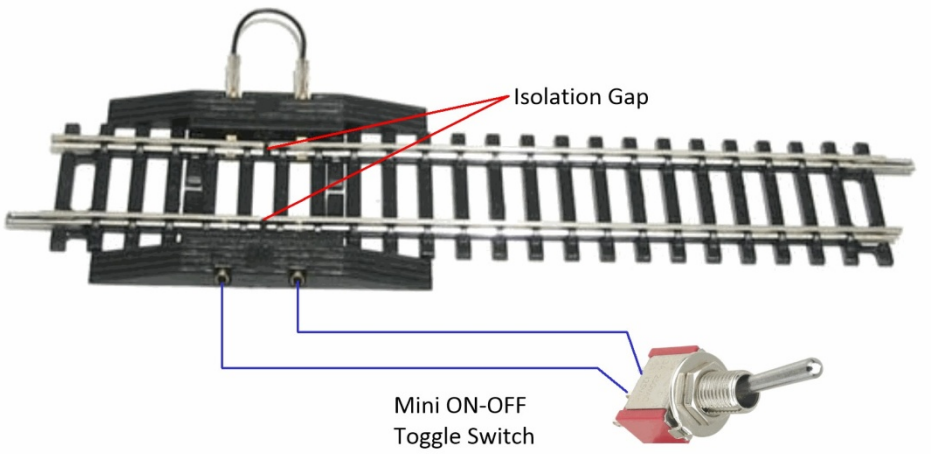
Figure 2

HOW

A more permanent way to isolate a section of track is to use plastic fishplates. These are used to join two tracks sections together with a 1mm gap. Most proprietary manufactures produce plastic fishplates.



Another way is to use a Track Isolator section as shown below. Here the left and right tracks have been separated & on the top track a loop of wire is used to continue the circuit. On the lower track a switch can be used to energise or isolate the right section of track.



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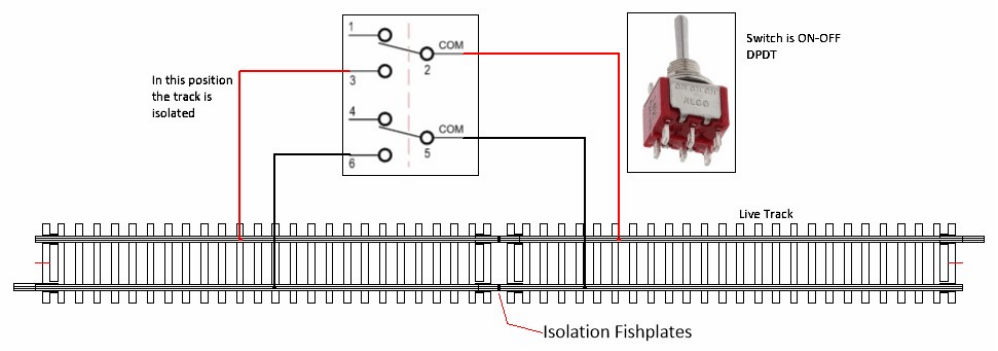
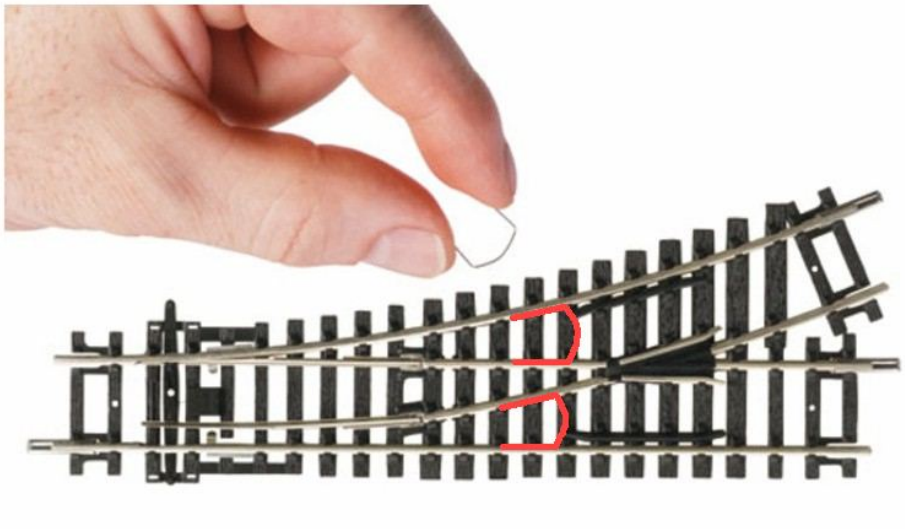
In this example only one track is being switched to create the isolation. The top track has a link to maintain the circuit. If you want to switch both tracks then use a double pole double throw switch as shown below.



In this drawing the isolation is created by using plastic fishplates and the connecting wires are either soldered directly to the track or a power connector clip can be used both left and right of the isolation point.

Power Connection Clips come in all shapes depending on the manufacturer, but the function is the same.

In a DCC system you do not want any section of track isolated as each train has a command code sent to it by the controller. Only when the Locomotive receives this code can it operate, that could be Forward or Reverse and at a specific speed. As you require all tracks to be live there are clips that are inserted into the points to complete the circuit on the tracks.



For more information on DCC systems so our DCC section.

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