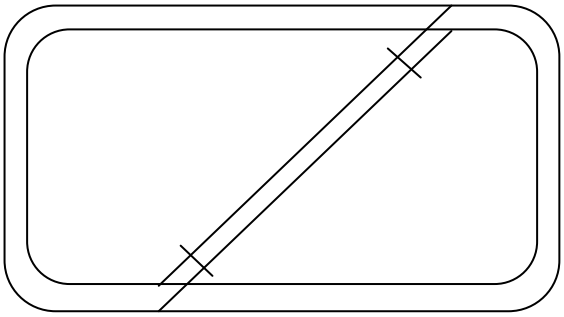
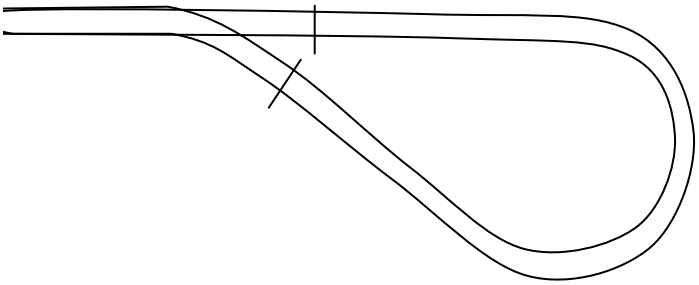
IRREGULAR FEATURE

Electrickery pt 4

Looping the loop

One of the most common problems encountered by most, but especially the inexperienced, is that mystery short circuit every time the points are set to use a certain piece of track. A quick quiz on the shape of the layout or getting a track plan will usually show a reverse loop. This is where the track comes back on itself so that a train travelling along the line would be turned around and then be going the other way on the same track. (See diagrams) A good way to test for this is to run your finger along one rail around the layout through all the points, if you can get back to where you started but going in the other direction without taking your finger off then you have a reverse loop (your finger will also now be on the other rail). This shows the problem, if your finger can get to the other rail so too can the electricity which means there is a short circuit. In the left diagram it's quite easy to see that if a train was running anticlockwise and took the track through the middle it would then end up running clockwise. In the right is a typical loop used to turn a whole train.





Having diagnosed the problem how do we get around it? To start, the track that is causing the problem, in this case the one through the middle, must be isolated from the rest of the layout. The power to this section can then be fed via a reversing switch fed from the mainline so that it can always set the correct polarity for the direction of the train to enter and leave.

Most books and magazines that I have seen will recommend this method but there is one big flaw and that is that the train has to stop in the reversing section and both the normal direction switch and the one feeding the section must be changed before proceeding. While this works it is not really the best way, especially if the section is used regularly, the necessity to stop each time disrupts the flow.

The solution is simple; the extra reverse switch should be powered from before the normal direction switch. If access can not be gained to the input of the normal direction switch (perhaps you are not sure about opening your new controller and voiding the warranty) don't despair, just insert a diode bridge before the extra switch so that its' input will always be the same regardless of the main direction switch output. Now when you wish to send a train through the reverse loop just set both switches to suit the direction of travel and while the loco is in the loop change the normal direction switch without adjusting the speed. The train will continue on through the loop and back along the mainline without hesitation.

This problem also applies just the same to DCC and a special dedicated reversing booster can be used for the section. This is one place where analogue wins hands down; a switch and diode bridge is much cheaper.

Catch you down the track....Tony Mikolaj.