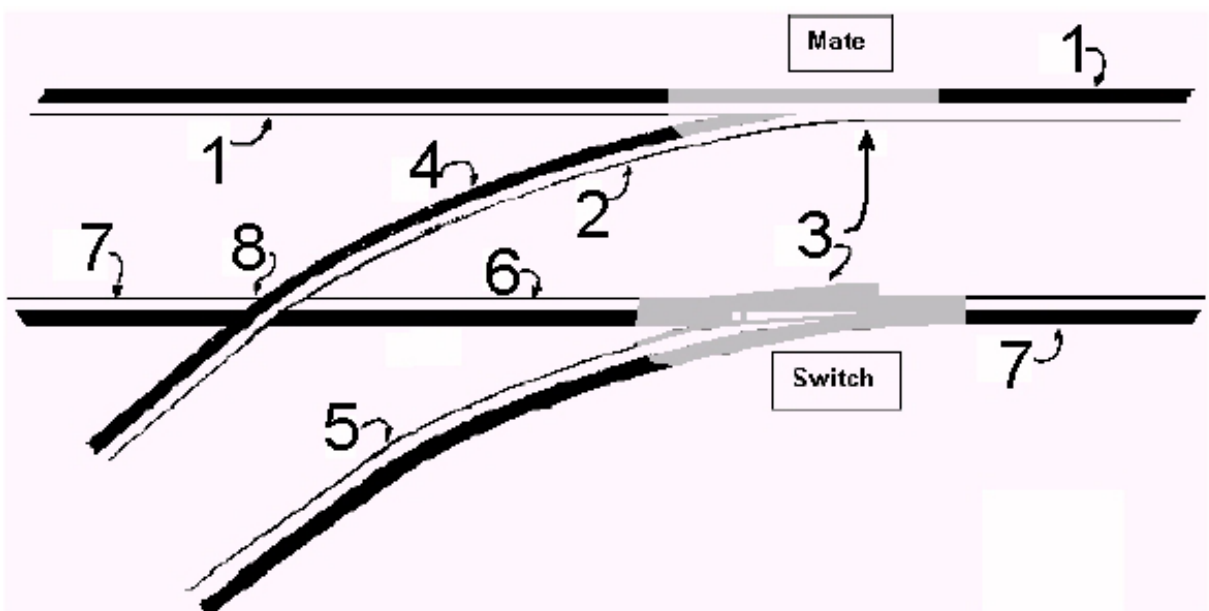


Trolley Tip - Single-point HO Switch Construction - by Bob Dietrich

This description of building an HO switch is based on a Dave Gairo article (switch.pdf) which can be found on the EPTC web site (www.eastpenn.org) on the "Modeling Tips" page. I use Richard Orr* girder rail instead of building the girder with a second T rail, and the points of Orr switches are used for convenience and reliability.

The points are all that is needed of the Orr switches, so start by cutting the switch close to the points. See the area shaded in gray in the drawing. Then follow this sequence:

- 1 Lay the straight outside running rail through the entire switch area.
- 2 Position the outside curved rail up to the mating of the straight rail but do not permanently spike it.
- 3 Using this mating locate the position of the switch, cut the straight rail and insert the switch. Positioning the switch requires drilling a hole for the throw rod. I usually drill down through the roadbed with a 1/4" bit, then I bore a 1 inch cavity up to within 1/8 inch of the surface providing enough space for switch machine linkage.
- 4 Trim the outside curved rail and permanently position it.
- 5 Lay the inside curved rail gauging it from the outside rail.
- 6 Now, keeping in gauge with the outside straight rail, cut and fit the inside straight rail from the point to the frog.
- 7 Cut and fit the straight running rail beyond the frog and beyond the point.
- 8 Using a motor tool, hacksaw blade, files, or whatever, cut the straight flange way for the straight rail through the railhead and flange of the curved rail.
- 9 Clean it up and attach a switch machine or spring to the point linkage and you are ready to go.



* Richard Orr, 6506 Western Ave., Omaha, NE 68132-1263, 402-551-3429, HO-scale trolley track components, switches, crossings, girder rail, etc.

Modifications to Orr Switches

This photo shows the cuts I made to use the Orr points and mate for larger radius switches. Be careful with the outside curved rail, it must be cut as close to the point pivot as possible without damaging it. Remember also that you'll probably be soldering a rail to this cut and you don't want solder to flow into the point (like I did).

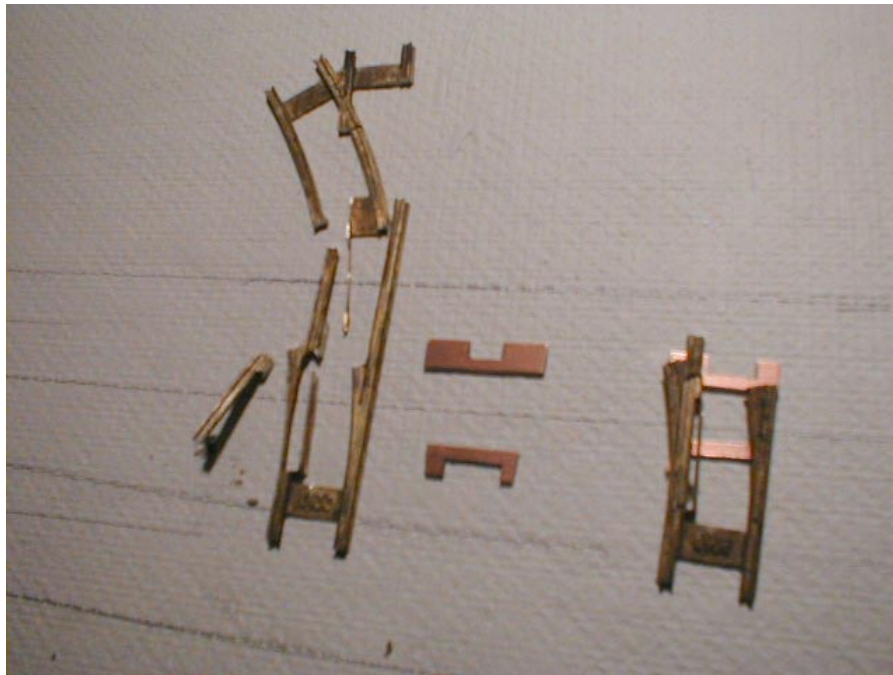
The curved rail at the mate side should probably be cut to the same length as the point side but I always cut mine a little shorter and the wheels float through it.



Orr Switch for Use in Unpaved Area

I have several single point switches on ties. These take some additional modification to the Orr switches. As you can see here I disassemble the switch and remove the excess flanges from the point guard. I also remove the square "box" around the point pivot and, in doing so, almost half of the pivot point gets removed. I found that this does not impair the operation of the switch point except that it is allowed to lift at the far end. This could cause derailment so I solder a small piece of brass to the bottom of the point, usually over the throw rod. This piece can be seen in the photo above, some filing is usually necessary on the bottom of the switch to assure a smooth operation with this piece in place.

Before removing the pieces of brass between the rails, reassemble the switch with a few PC board ties soldered to the rails and point guard. Check the track gauge and everything should still be in alignment. Don't try the funny shaped ties in the photo, I found they were unnecessary. Now cut the brass from between the rails and the switch is ready to mount. I glue wood ties to the roadbed between where the PC board ties will fall and spike the switch to those.



Modified Switch on Ties

Here is the result of really cutting into one of those Orr switches. As you can see most of the bulk is gone. The crossing is hand made.

