Generic Turnout Assembly Instructions

Thank you for purchasing this Easy Build Finescale Turnout kit. Please read through these instructions thoroughly prior to beginning assembly, ensuring that all components of the kit are present and that, prior to assembly, you have the appropriate tools required.

If in the event that any parts are missing please contact British Finescale directly at sales@britishfinescale.com

Parts Included

- Turnout Base
- Crossing 'V' (frog) Point and Splice Rails
- Code 75 Rail including 2 Stock Rails and rail for Check, Closure and Wing Rails
- 2x pre machined Switch Blades
- Tie Bar

Tools and Materials Required

Although the components are largely preformed and gauges are not required, a few simple tools and facilities will be required to facilitate construction including:

- Super Glue
- Track Cutters, Fine Razor Saw or Hobby Drill with disc cutter
- Flat Nose Pliers
- File
- Tweezers
- A suitably sized flat surface.
- A soldering iron with a small tip and suitable solder and flux to attach additional wires to switch rails, etc.
- Electrical Feed wires (decoder wire is recommended)

Anatomy of a Turnout

To aid assembly, please familiarise yourself with the names of the key parts that make up a turnout by watching the YouTube video below:

Please use this link: https://www.youtube.com/watch?v=e-lkBl7QmfQ

Or

Scan the QR code:

Rail Orientation

The bullhead rail used in this kit has a top and a bottom which differs in thickness/width (the top is wider).

It is VERY important to insert the rail into the chairs in the correct orientation. Otherwise difficulty will be experienced in sliding the stock, check and crossing V rails into the chairs and doing so may cause damage to the chairs of the track base. Please familiarise yourself with the rail orientation and, if necessary, mark the top of the rail with a felt tip pen to aid correct assembly. The switch blades have a lug on the bottom which is located into the tie bar so incorrect orientation should be obvious.

Turnout Templates

To aid layout construction, full size PDF templates for all FinetraX turnout kits are available on the web site.

Assembly

Having familiarised yourself with these instructions, let assembly begin..!

Filing and Cleaning Rail Ends

Once the rails are cut to the required length, it is VERY important that the rail ends are cleaned up with a small file (a needle file is ideal for this). Both the foot and web of the rail must be slightly 'chamfered' to allow free and easy insertion of the rail into the chairs. Failure to properly clean and chamfer the rail may result in difficulty threading the rail into the chairs, causing breakage of the chairs.

Cutting and Bending Check Rails

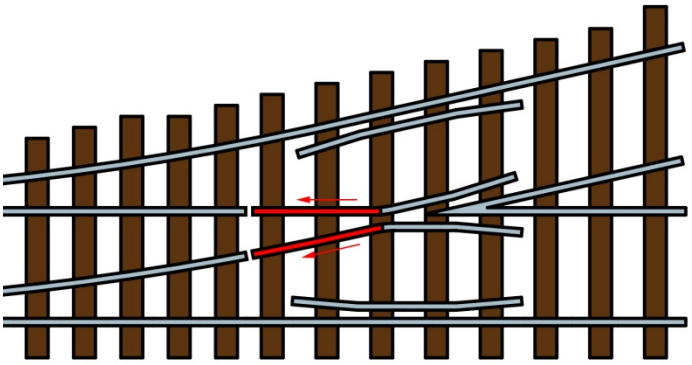
Check rails must be cut to length and two small bends (flares) put on each end. The bends can be easily put onto the check rail using a pair of small pliers. The appropriate full size template for your kit should be downloaded, printed and used to ensure correct length and bends for the check rails. Downloadable templates for each kit are available at www.britishfinescale.com.

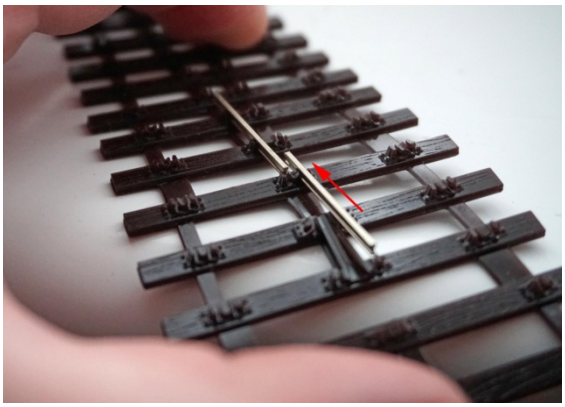
Cutting and Bending Wing Rails

Wing Rails must be cut to length and a small bend (flare) put in each. The bends can be easily put onto the wing rails using a pair of small pliers. The appropriate full size template for your kit should be downloaded, printed and used to ensure correct length and bends for the wing rails. Downloadable templates for each kit are available at www.britishfinescale.com.

Cutting and Fitting Closure Rails

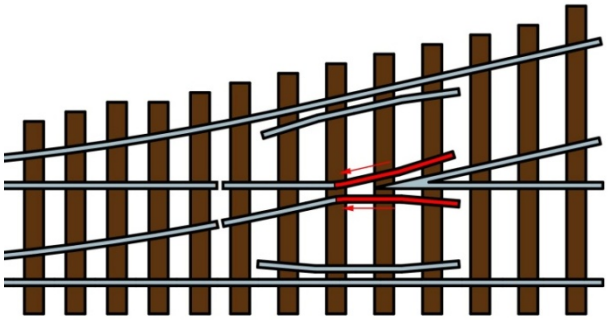
Closure Rails must be cut to length against the appropriate full size template for your kit. Thread the closure rails in from the 'knuckle' (see Anatomy of a turnout and downloadable template) and towards the tie bar end of the turnout. You will need to slightly and carefully bend the plastic turnout base in order to make clearance for the rail (otherwise the chairs around the Crossing 'V' will be in the way of the rail). This is easily done on the edge of the desk or work top you are assembling on. WARNING – DO NOT over bend the plastic turnout base otherwise there is a risk of snapping the base! Only bend just enough to allow the rail to slide in.

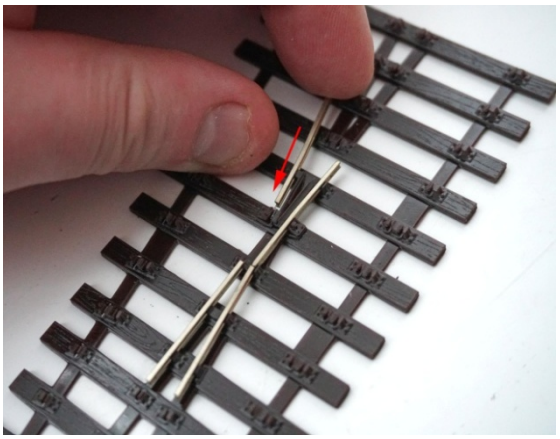




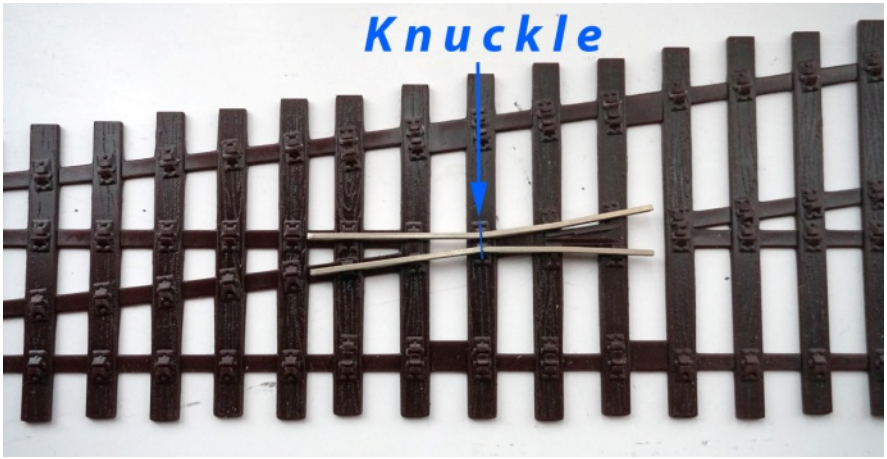
Fitting Wing Rails

Wing Rails can be threaded in towards the closure rails as shown below.





IMPORTANT! The join between the Wing Rails and the Closure Rails MUST be located exactly at the 'Knuckle' position. This position will be different for each kit, so you MUST refer to the downloadable template for your kit which will show the exact position of the knuckle. There is also a small indentation on the plastic base indicating the precise position of the 'Knuckle' join.

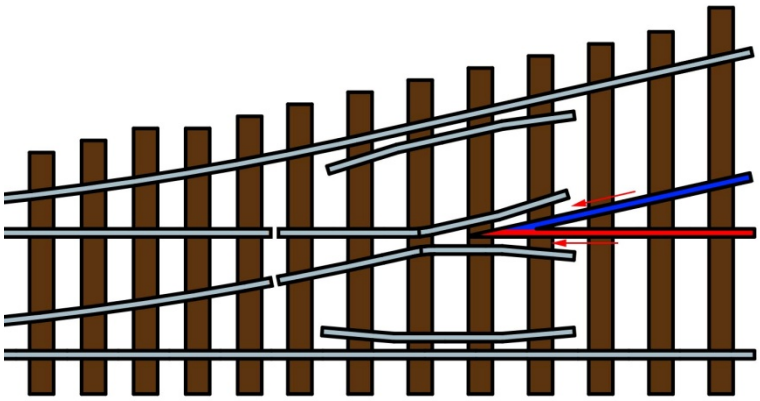


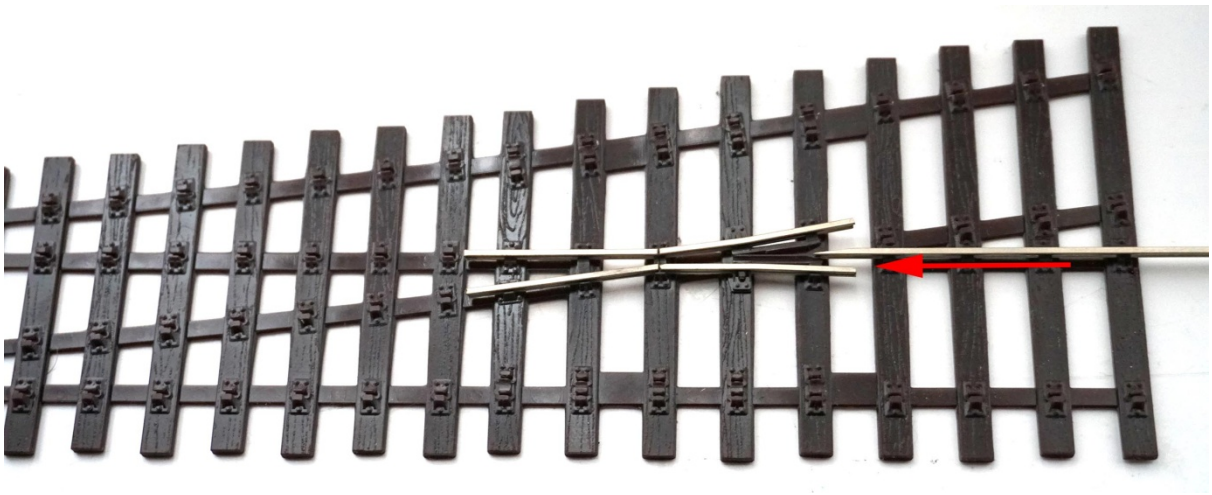
Fitting Crossing 'V' (frog) Point and Splice Rails

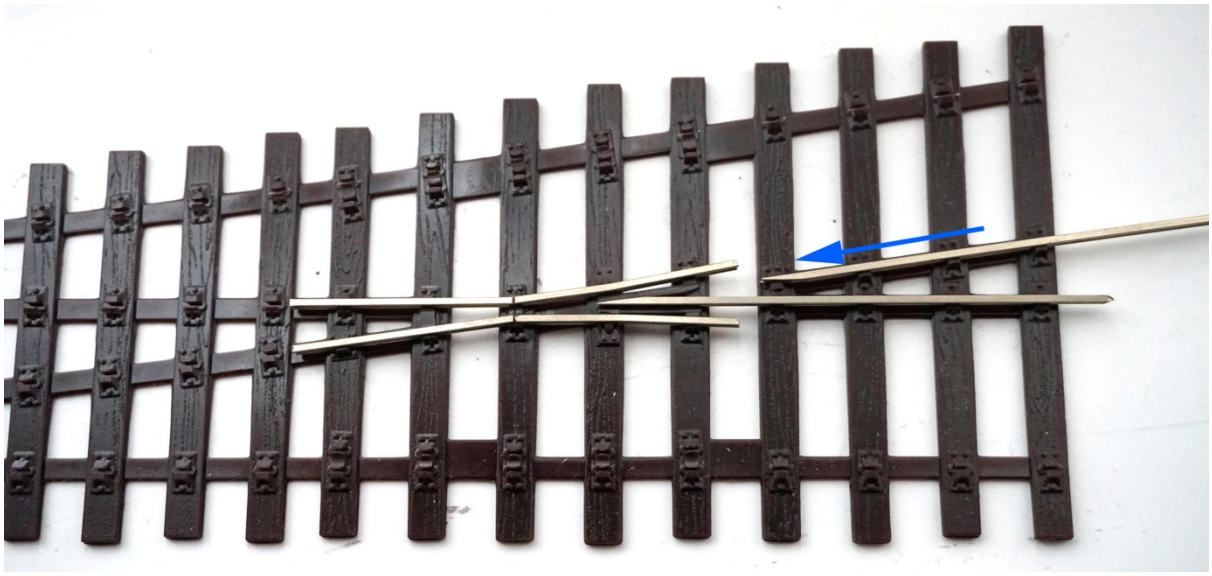
Commonly referred to as the 'frog', this is made up of two pieces of rail called the **Point** and **Splice** rails. These have the ends of the rail machined to a point at the correct angle, and come included, pre machined, in the kit. These are 'handed' one left and one right, please ensure you instead them in the correct orientation (see 'Rail Orientation').

The Point rail is located on the 'main road' and is inserted first and pushed all the way until it stops (it will wedge in). You should find the point of the V on 2 thirds over that sleeper/timber.

The Splice rail that is on the diverging route is then inserted and pushed until it butts up to the first Point rail.

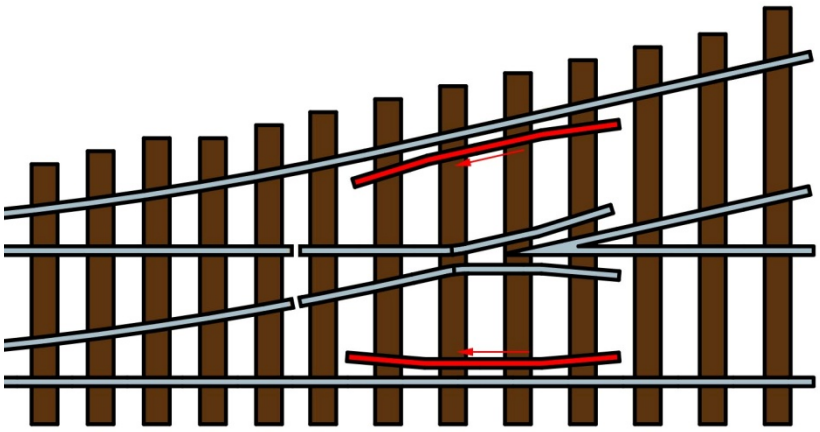


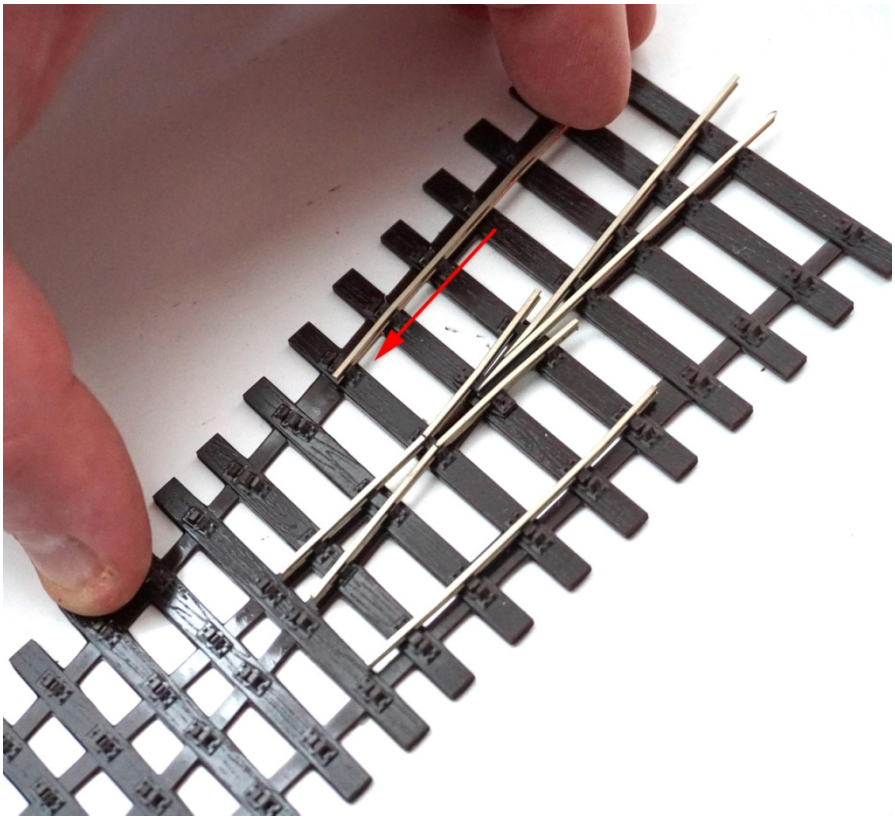




Fitting Check Rails

The Check Rails can be threaded in one at a time taking care to guide the end of the Check Rails through the slots in the chairs. Check against the downloadable template for correct alignment.





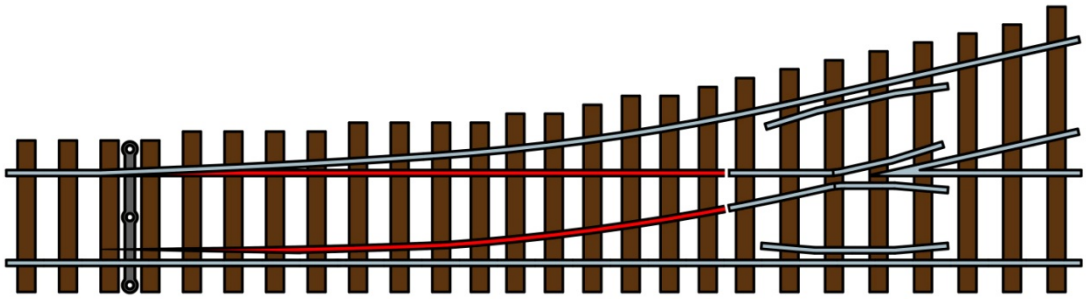
Fitting Switch Blades and Tie Bar

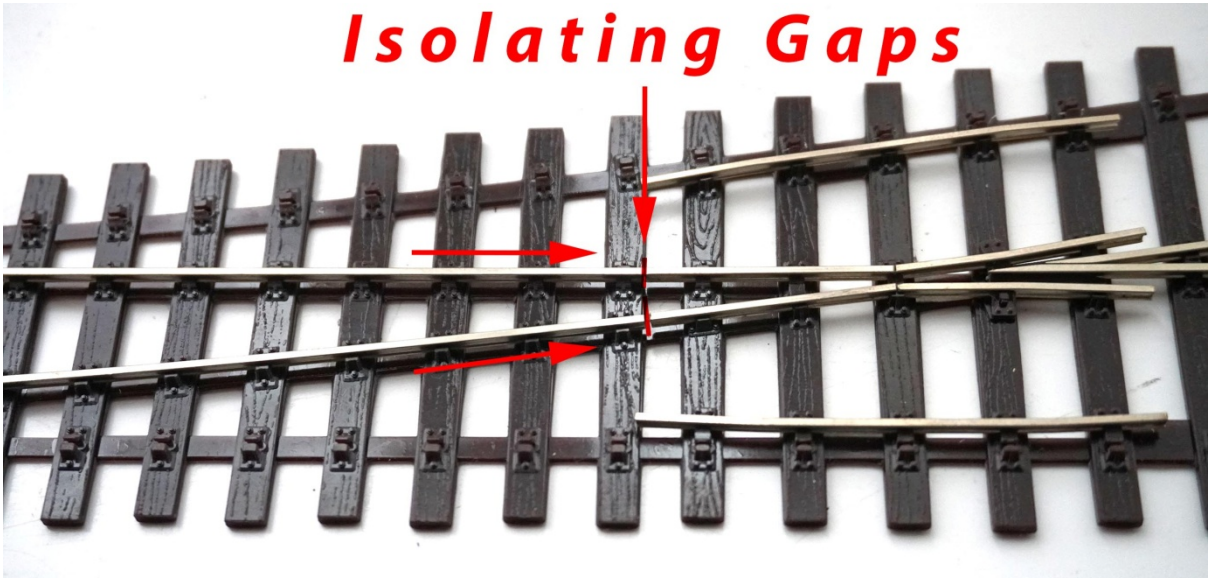
The switch blades are packaged with a plastic protector fitted to the end to prevent damaged to the small chair plates at each tip. Carefully slide each switch blade out of the protective clip.

The tie bar should be placed into position between the timbers on the base between the last 2 slide chairs (see diagram).

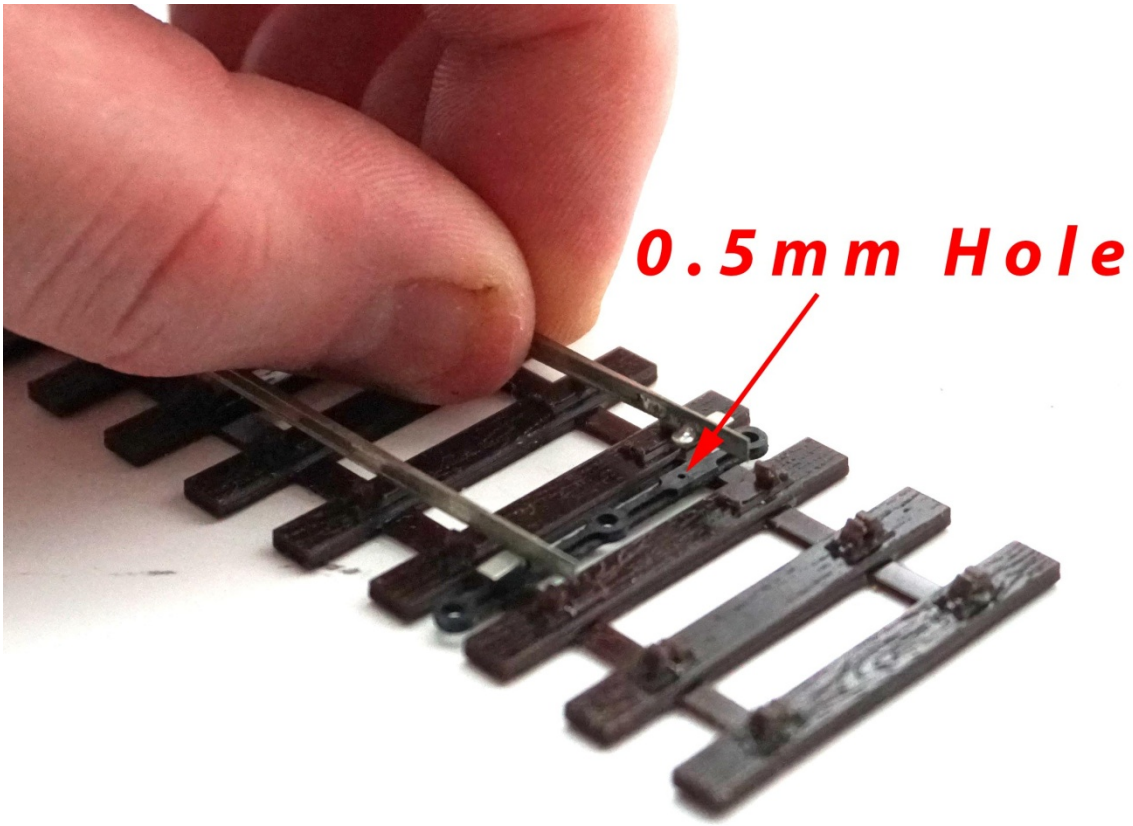
Each Switch blade can be offered up to the base and cut to length so that when the ‘pin’ on the tapered end of the switch blade it located into the 0.5mm hole in the tie bar, there is also an ‘isolating gap’ between the switch blade rail and the closure rails (about the thickness of 2 sheets of paper). Once cut to size and rail filed and chamfered, each switch blade can

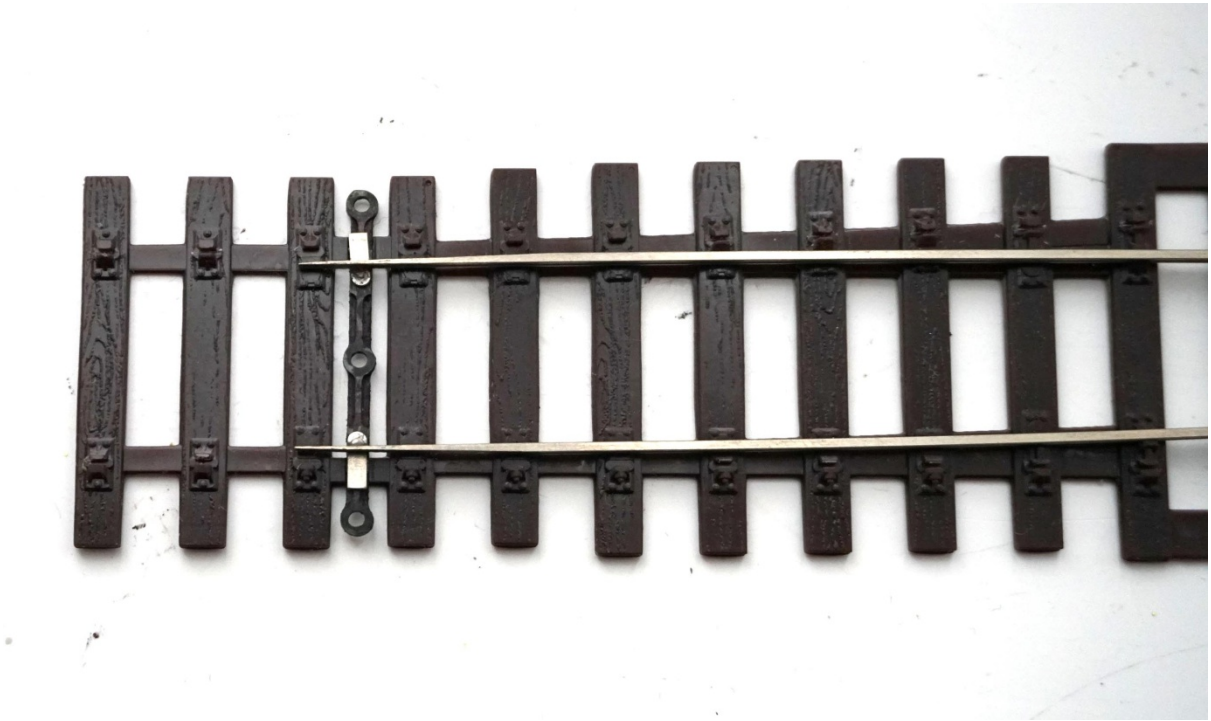
be slid into the chairs and into place.





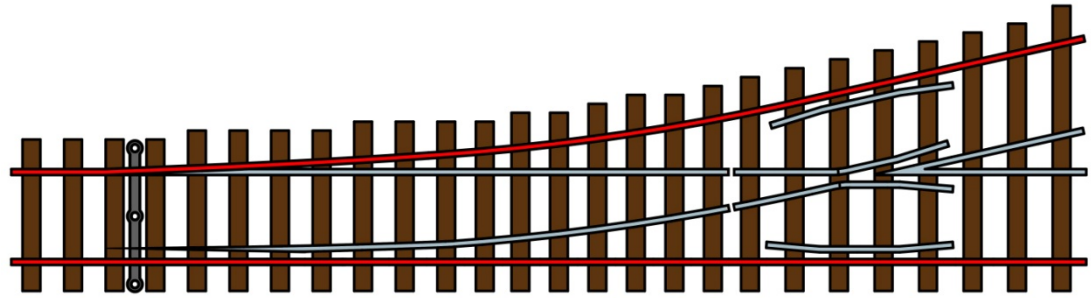
The pin under the soldered switch blade chair plate should line up and be inserted into the small 0.5mm hole in the tie bar.

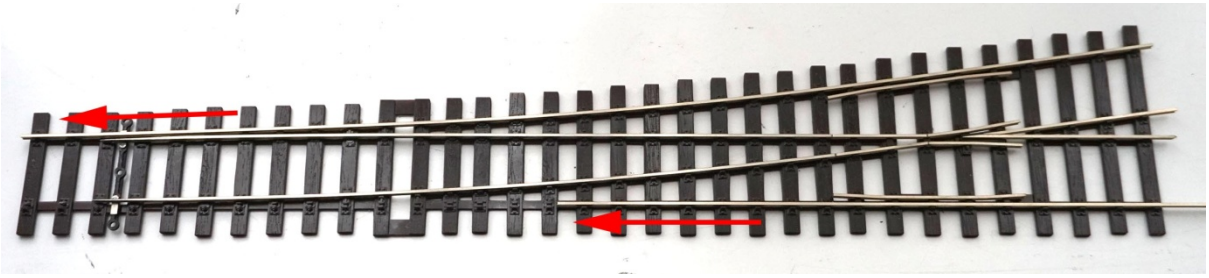

0.5mm Hole



Fitting Stock Rails

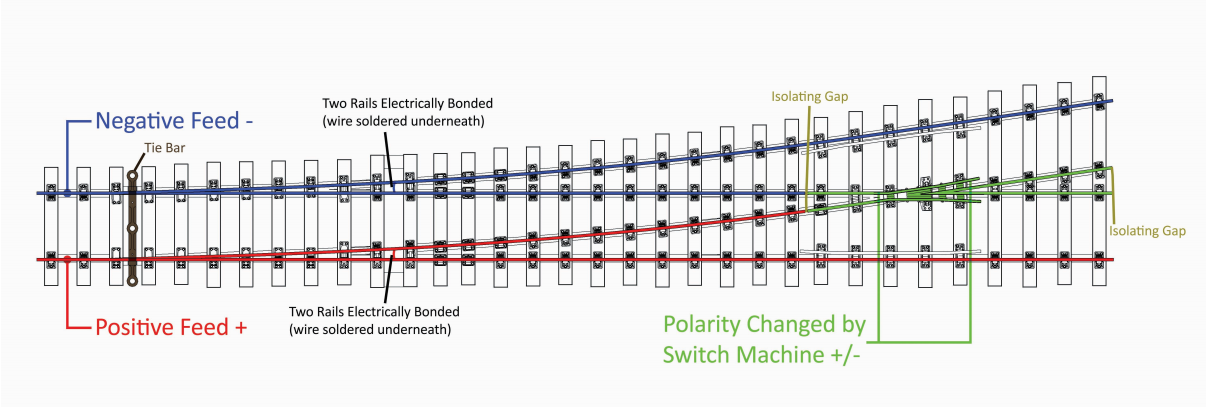
Once the switch blades are in place, both stock rails can be inserted from either end of the turnout. Care must be taken so each stock rail slides over the soldered chair plate of the switch blades. The chair plate must be free to slide under the stock rail when operating the switch blades.





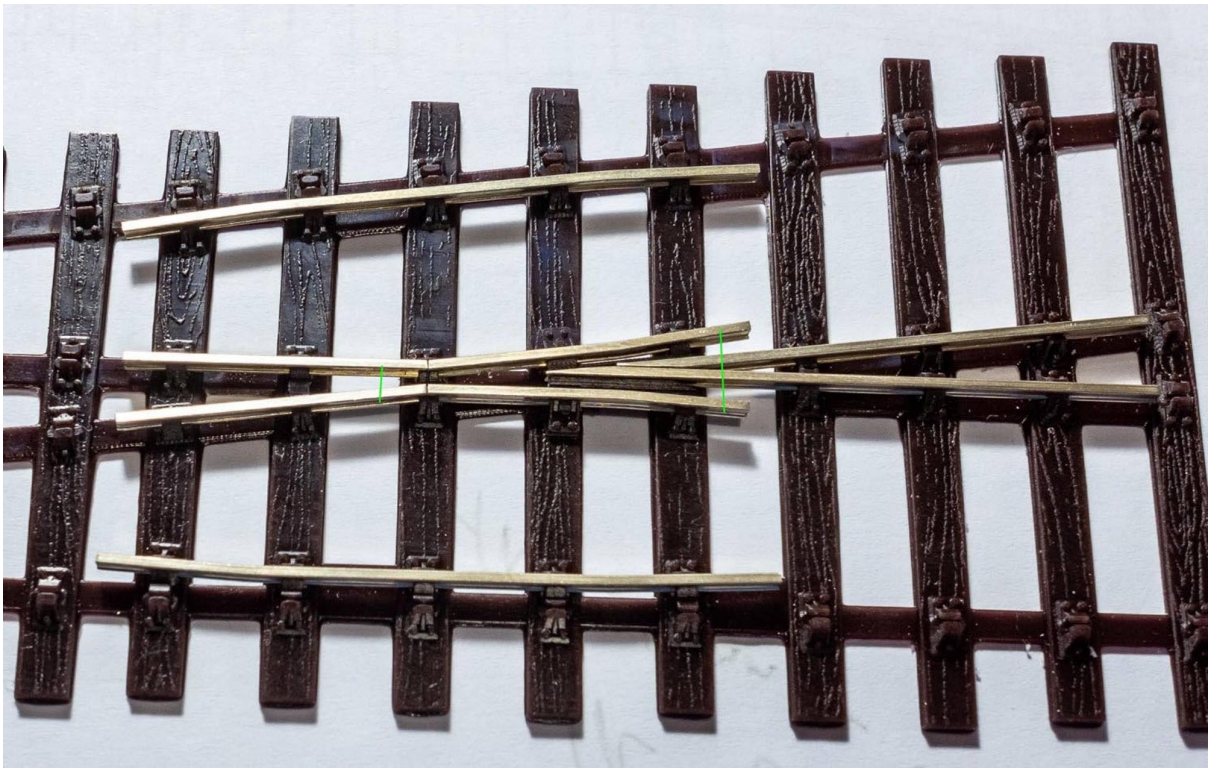
Electrical Wiring

Please refer to the diagram for suggested electrical connection. A positive feed wire should be soldered to one stock rail, and negative feed wire to the other stock rail.



Each switch blade should be electrically bonded to its adjacent stock rail by soldering a small piece of wire between them under the rails at the point shown in the diagram.

One wire should also be soldered to the bottom of the crossing V ‘frog' rails and wing rails and another wire soldered to the bottom of the closure rails as indicated below in green:



Fixing the Rails in Place

Once happy with all of the rail positions (checking especially the 'knuckle' location), the rails can be permanently fixed in place using a small amount of super glue on one or 2 chairs for each piece of rail.

Laying the completed Turnout

The completed turnout can be installed into the layout and fixed into place using PVA glue or Copydex. Please ensure no glue gets into the switch blade or tie bar area otherwise this will restrict movement or create unnecessary friction.

Ensuring the Plastic Base is Flat

Depending on environmental temperature, slight curving of the plastic base may be experienced. It is important to ensure that the completed turnout lay absolutely flat on the baseboard surface to guarantee smooth running of trains. This can be accomplished by use of weights or temporary 'pins' to ensure flatness while the turnout is being glued in position.