Although cheaper in first cost the latter design proved more costly to maintain and gradually fell out of favour. Both designs can be made operational by modellers wishing to have working facing point locks in their trackwork. The drawings 2-66 and 2-67 give details of working model versions of these locks.

Switch blade detectors can also be seen in Photo 2.36. Two circular rods are attached to the ends of the blades and connected to individual detectors in a housing adjacent to the track, unfortunately out of shot. This could provide an alternative method of moving the blades by connecting them to a variant of the under baseboard drive unit.

Obtuse crossing flange guides are just visible in Photo 2.12 in the slip on the left of the picture. These were used where long wheelbase 6-wheel vehicles were in frequent service to ensure that the flanges did not take the ‘wrong’ road. A rotating arm with a cam action raised and lowered them in conjunction with the blades of the turnout. The linkage to the blades at the far end can just be made out. They could be an additional feature on a period layout.

2.7 Universal turnouts

Very few, if any, layouts would normally include these types of turnout. Their use is generally confined to club layouts and test tracks where the ability to operate rolling stock of varying standards on the same tracks is an advantage. As described in Part 1, Section 1, Standards, over the years standards based on the 32mm track gauge have gradually been refined. However, there are still many items of rolling stock with wheelsets built to the earlier standards, including tinplate models that are still able to operate. Universal turnouts, having no check rails, allow a great degree of flexibility in the standards catered for and can be found on some club layout and test tracks.

2.7.1 'Tinplate' Turnouts

Of the two varieties, the 'tinplate' design illustrated in Figure 2-68 bears little resemblance to the prototype but is the easiest to make as it only has one moving part. The switch blades, closure rails and wing rails form a single unit pivoted about the centre of the turnout.

Assembly is fairly straightforward. The easiest version to build has the rail soldered direct to copperclad sleepers. Initially only a skeleton number of sleepers are laid down until the clearance for the turnout unit joining strips is established. The two stock rails and crossing are made as described earlier and set out in their positions.

The distance from the rebate in the curved stock rail to the nose of the crossing is measured and a length of rail approximately 20mm longer is cut off. A blade is filed in one end to sit neatly into the rebate and the position of the crossing nose marked at the other end. The rail is notched and bent at that point to form a dummy wing rail and sit snugly against and in line with the crossing. Clips hold it there while the joining strips are soldered into place. The centre is gauged from the straight stock rail while the pivot is drilled through the joining strip and the timber.

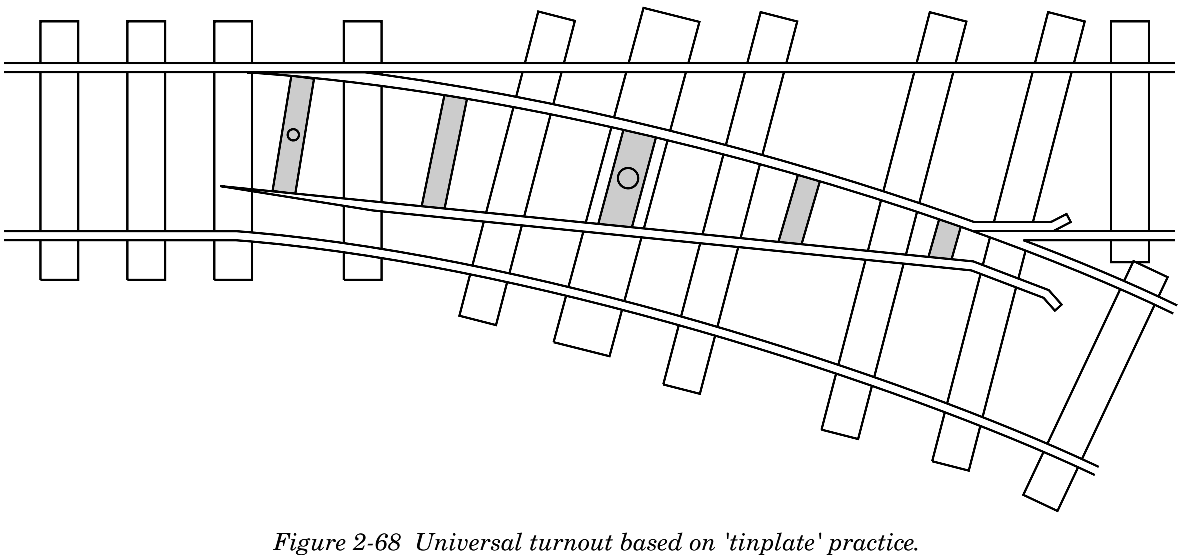


Figure 2-68 Universal turnout based on 'tinplate' practice.
Note the extra wide timber in the middle to act as a pivot point for the moving portion.

Compiled by P. Curzon, K. Sheale
Drawings by P. Curzon, K. Sheale

The unit is turned about the pivot sufficiently to provide 3mm or more clearance at the blade and the crossing. The curved blade unit is measured and shaped and held in place by clips at each end and by gauges from the curved stock rail while being soldered to the joining strips.

2.7.2 Swing Nose Crossings

A prototype swing nose crossing is shown in Photo 2.8 on page 2-2-14. Modelling these is more difficult because of the complication of the additional moving parts. The initial step is to make or obtain a drawing of a normal turnout to fit the location. Locate the point where the gap between the wing rails is at least 3mm, normally about 2 to 3 sleepers forward of the crossing nose, and mark the centre. See Figure 2-69.

Draw the shape of the new crossing Vee and from the dimensions make up a unit as shown in Figure 2-70. The crossing angle will be smaller than that of the conventional turnout but the point and splice rails are filed up and soldered as described earlier. The pivot strip and connection for the operating linkage are soldered into place to complete the assembly.

Using the drawing as guide, begin constructing the turnout by setting out the straight and curved stock rails. Locate the nose of the Vee at the new position and, using three track gauges as shown in Figure 2-71, mark and drill the pivot point. It should be appreciated that with the Vee gauged from the straight stock rail the distance A is less than gauge.

The pivot post should be a close fit in the strip to avoid any movement in the Vee when a train is passing over it.

Wing rails are made as described in 2.6.2.2 but the elbows need to be rebated slightly particularly in flat-bottomed rail. This is to accept the nose of the Vee in order to provide a smooth path for wheels. The first 3mm or 4mm should be a snug fit against the Vee and the remainder of the wing is

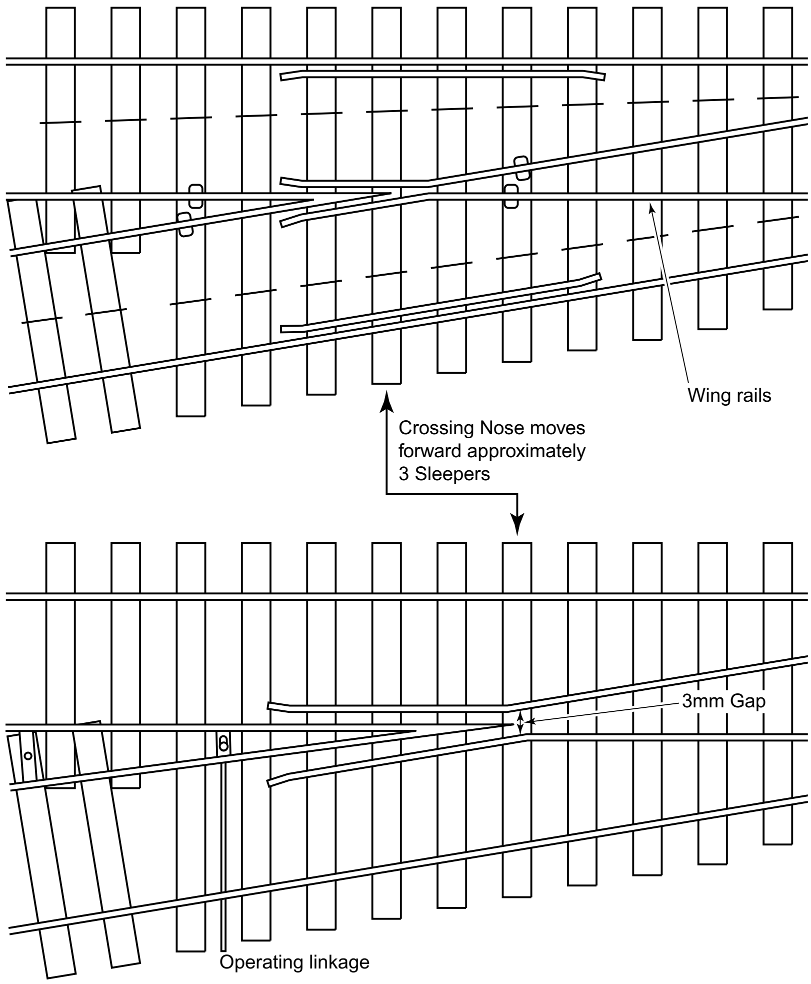


Figure 2-69 Setting the wing rail gap at 3mm.

angled out to provide a flange entry. Photo 2.8 shows the shape aimed for.

Secure the straight wing rail in position then move the crossing nose into gauge from the curved stock rail. Position and secure the curved wing rail. The ends of the Vee next to the running rails may need to be relieved slightly to allow for the movement through an arc as the turnout is operated.

Closure rails and blades can be of any suitable type as described earlier. The important requirement is that the blade movement be 3mm or greater to allow for the passage of older standard wheelsets.

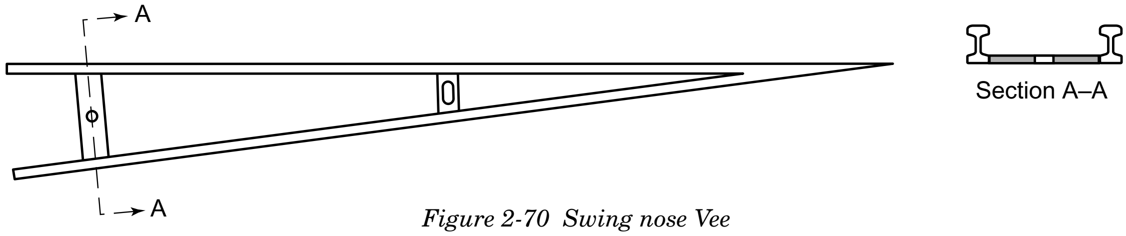


Figure 2-70 Swing nose Vee

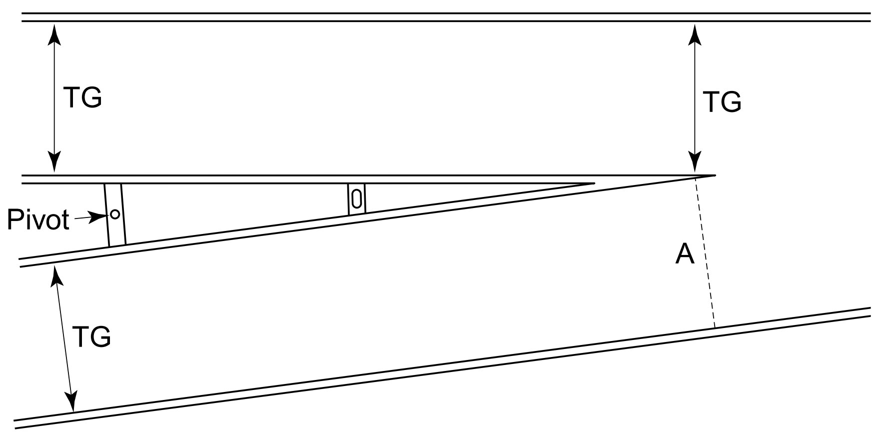
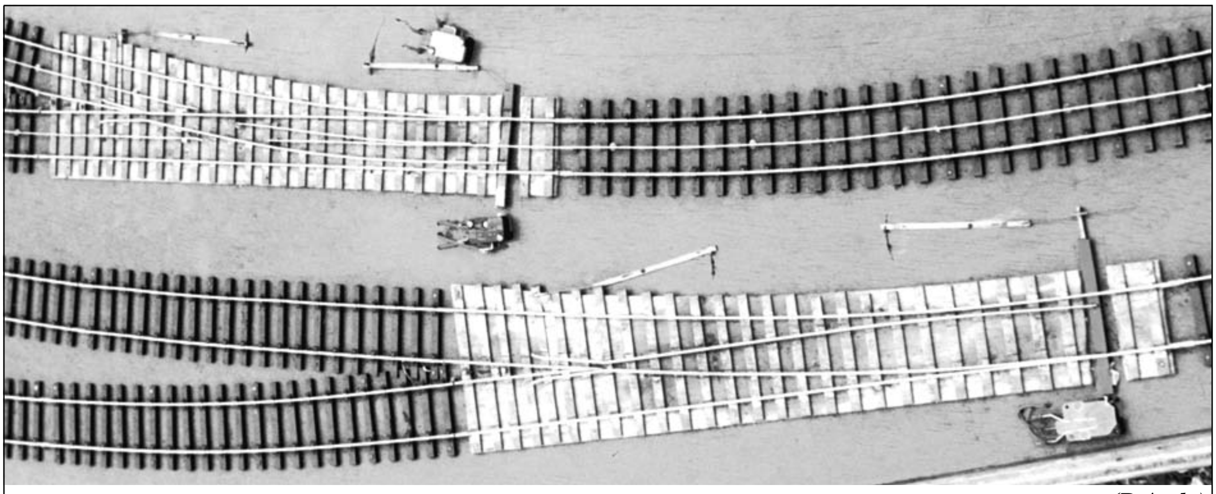
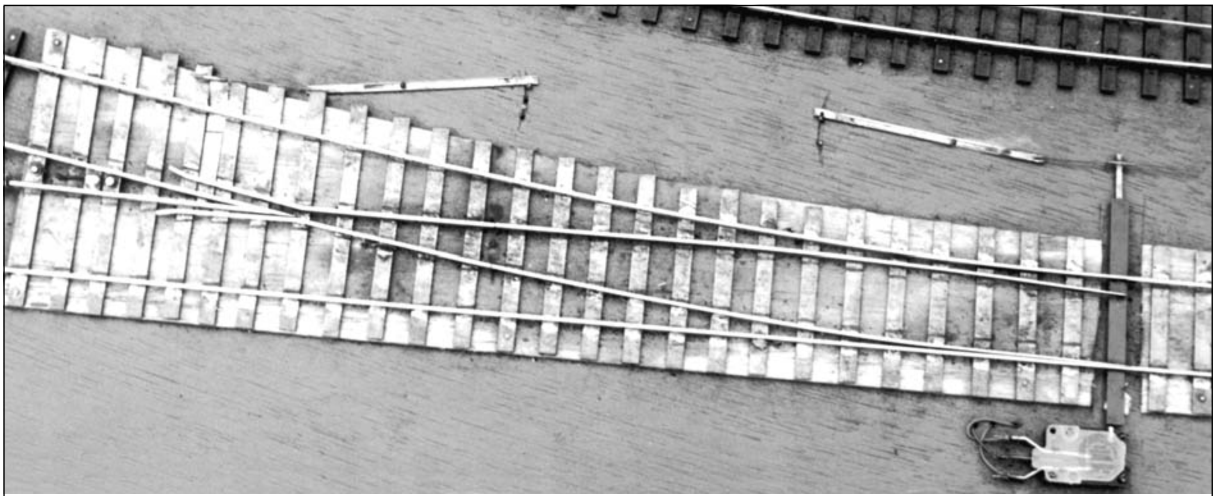


Figure 2-71 Setting in position.



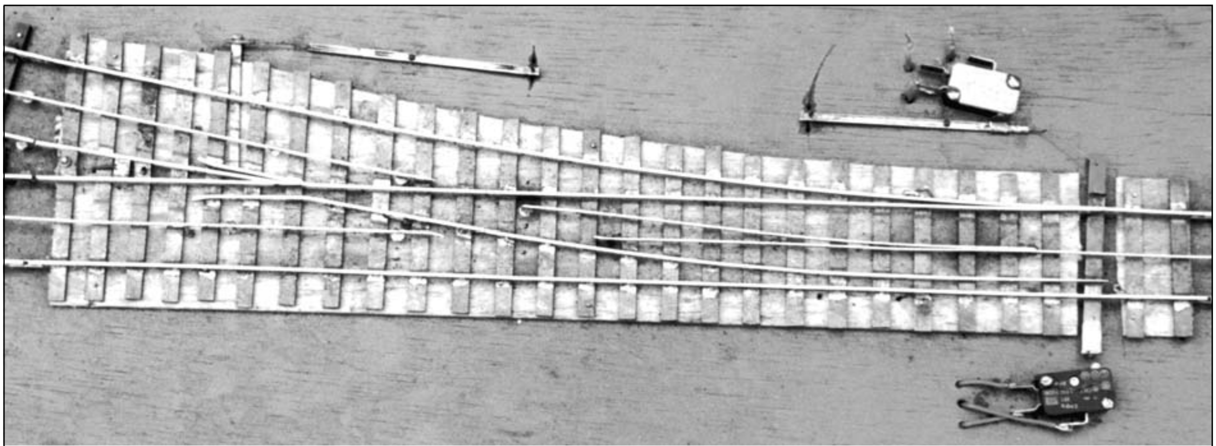
(D.Astle)

Photo 2.37 Two of the swing nose crossing turnouts used on the East Midlands Group test track which provide running for all standards using 32mm gauge.



(D. Astle)

Photo 2.38 Close up of the two rail version.
The micro-switch controls the crossing polarity.



(D. Astle)

Photo 2.39 Close up of the three rail version.
The second micro-switch feeds the centre third rails in the loops.

(D. Foster)

Photo 2.40 The templates illustrated are of laser cut steel and are 32mm wide. They come in a range of radii and are useful both to draw the curves and to aid assembly of track and pointwork