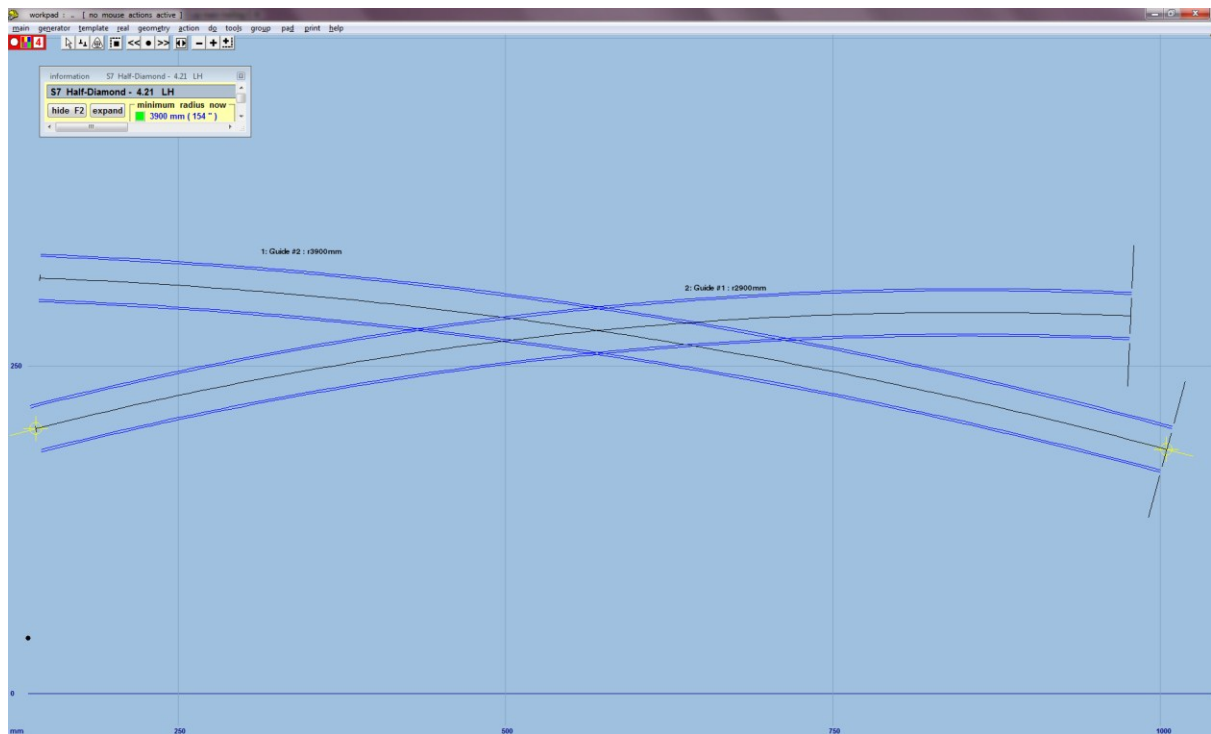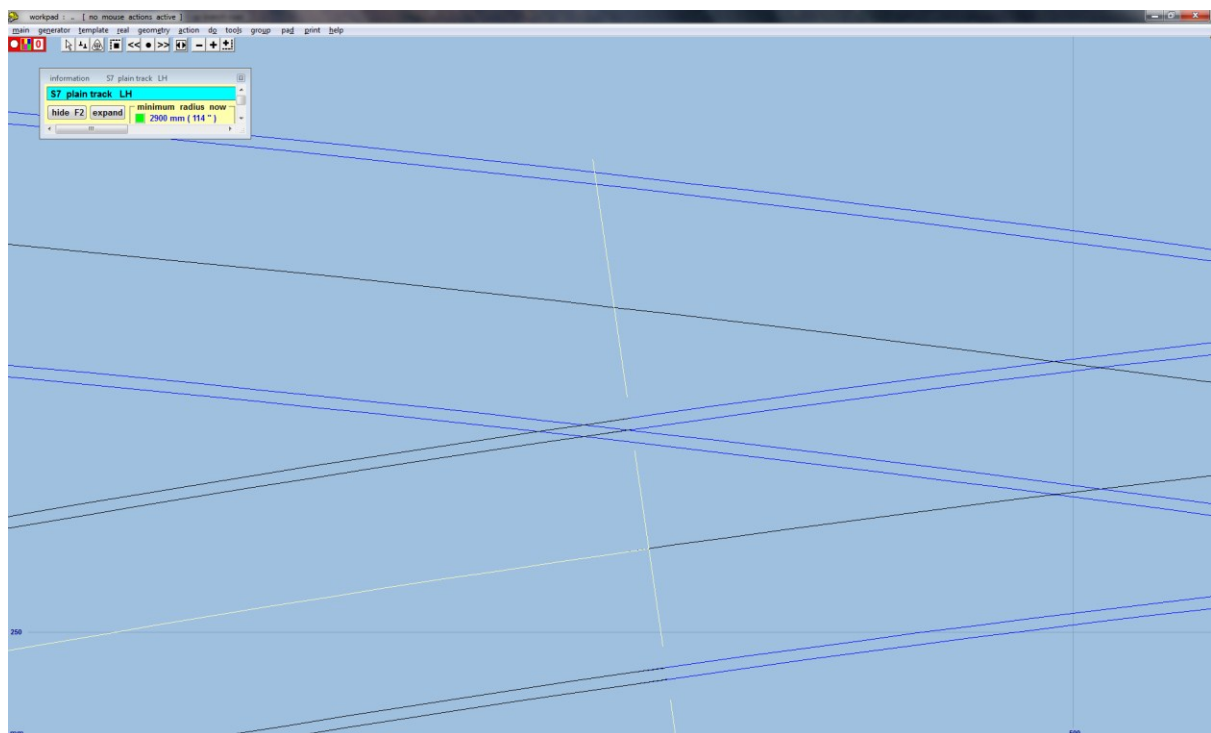# Irregular Diamond Quick Help – for Templot 0.91c

Start off with two curves, one 2900mm and the other 3900mm:



Left click on Guide 1 and select copy from control from the popup menu. Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust the length of the plain track until it is on the inside of the first vee:

Select main → store & background (CTRL-V). Left click on Guide 1 and select copy from control from the popup menu. Then select geometry → peg positions → peg on joint (Ctrl-1). Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust the length of plain track until it is on the inside of the second vee:
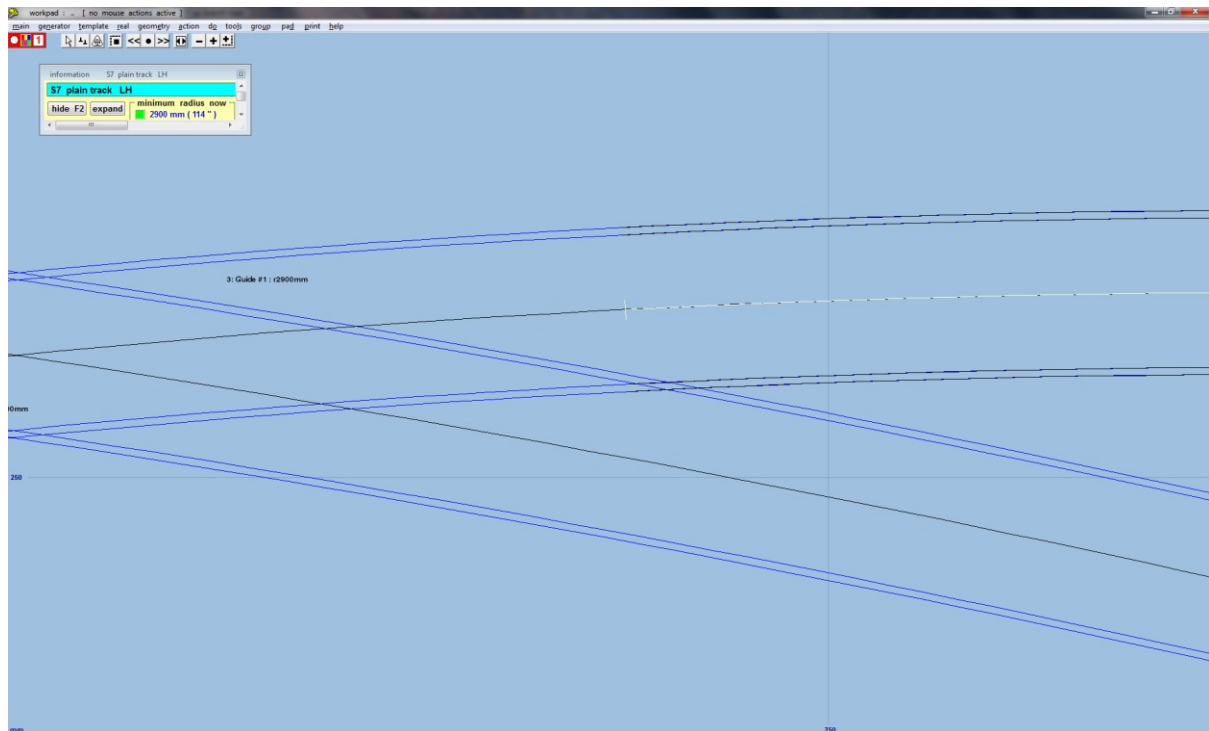


Select main → store & background (CTRL-V). Left click on Guide 1 and select delete from control from the popup menu. Then select geometry → track centre-lines only:
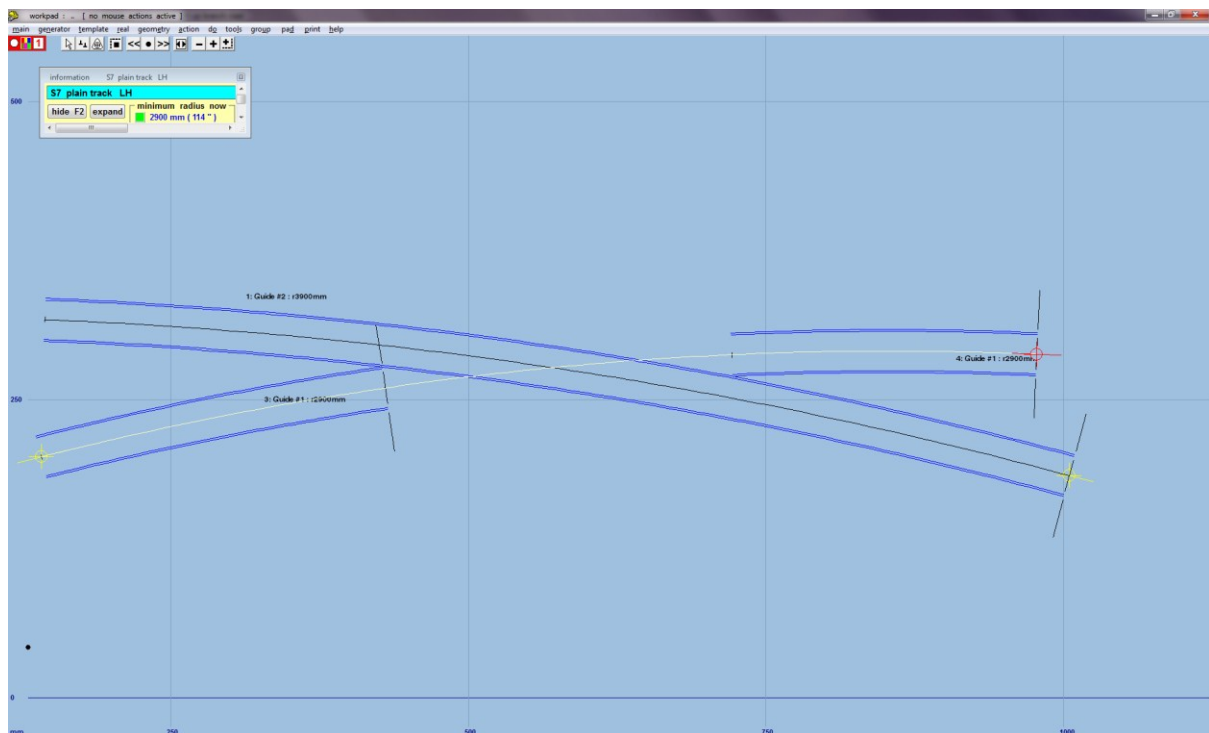
Select main → store & background (CTRL-V). Repeat the last 3 steps for Guide 2:
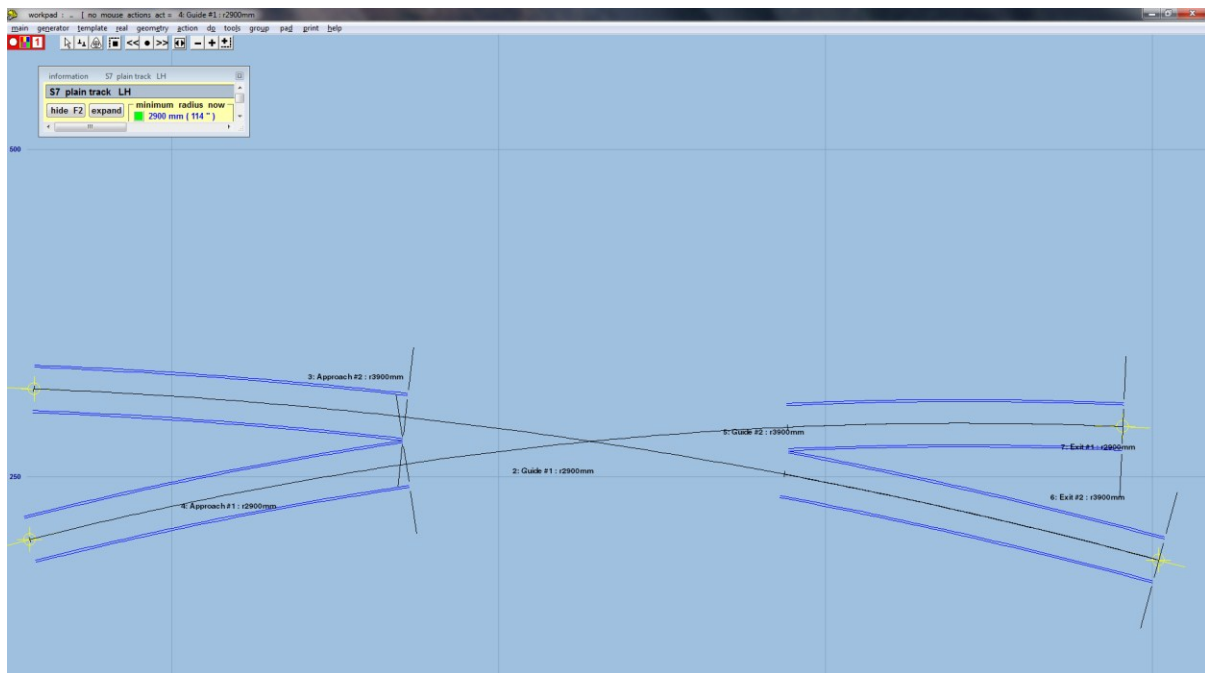


You might want to rename each of these templates. Left click a template, and select rename... from the popup menu, and perhaps save your work.

**Repeat from here for the second half of the diamond.**

Use template → new template (quick set)...(CTRL-Q) to create a B6 turnout. Use real → timbering → no timbering to hide the timbering for this template. Use template → switch options... to change the switch to a BH or FB 9ft. straight heel switch. Use template → V-crossing options... to set the V-crossing geometry to Curviform crossing. Left click on Guide #2 and select peg/align tools → align control template over, and snake onto peg → facing – facing from the popup menu. Use action → mouse actions: geometry →snake through peg (6) to snake fine point of vee to where Exit #1 and Exit #2 cross:
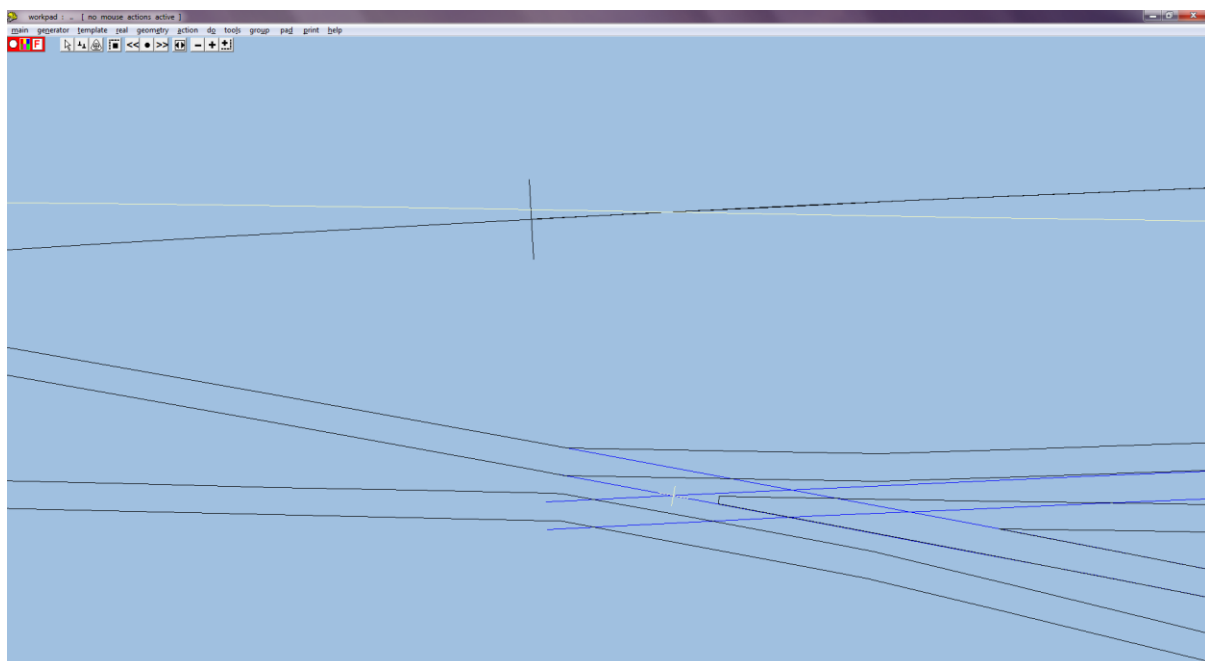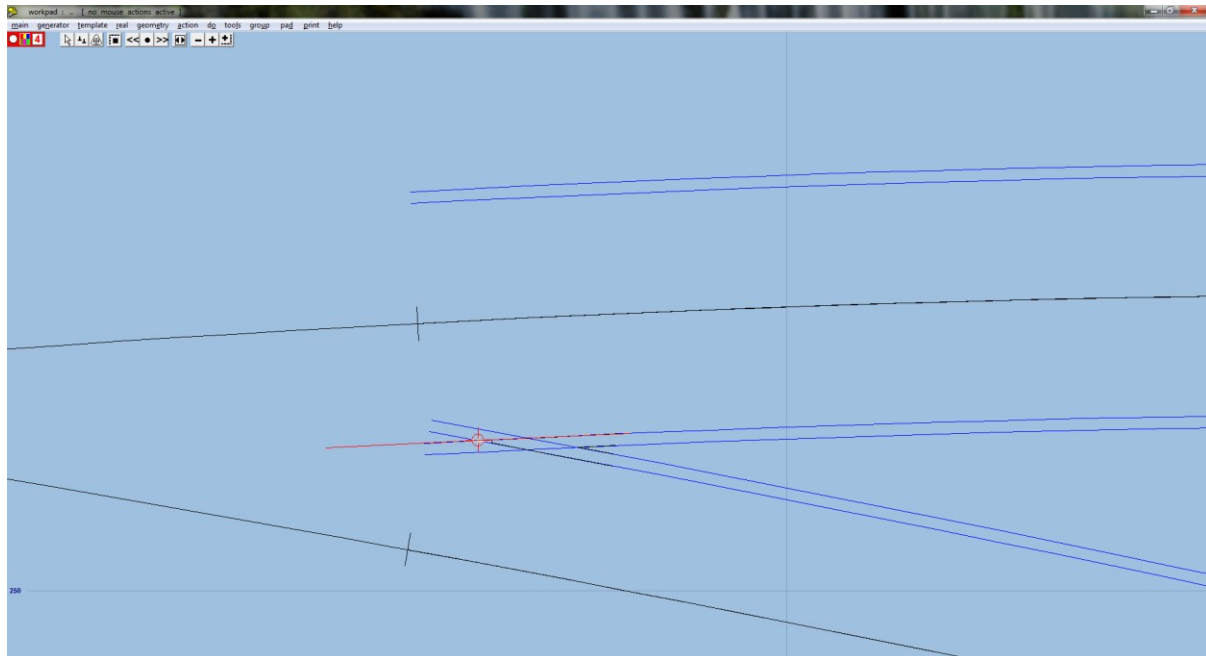
Set geometry → peg positions → peg on FP (CTRL-4). Set action → F5 V-crossing angles → any angle and action → F5 sizing options → length locked. Use action → mouse actions: real → adjust turnout size only (F5) so that the vee of the turnout matches that of the crossing formed of Exit #1 and Exit #2. Finally, unset geometry → track centre-lines:
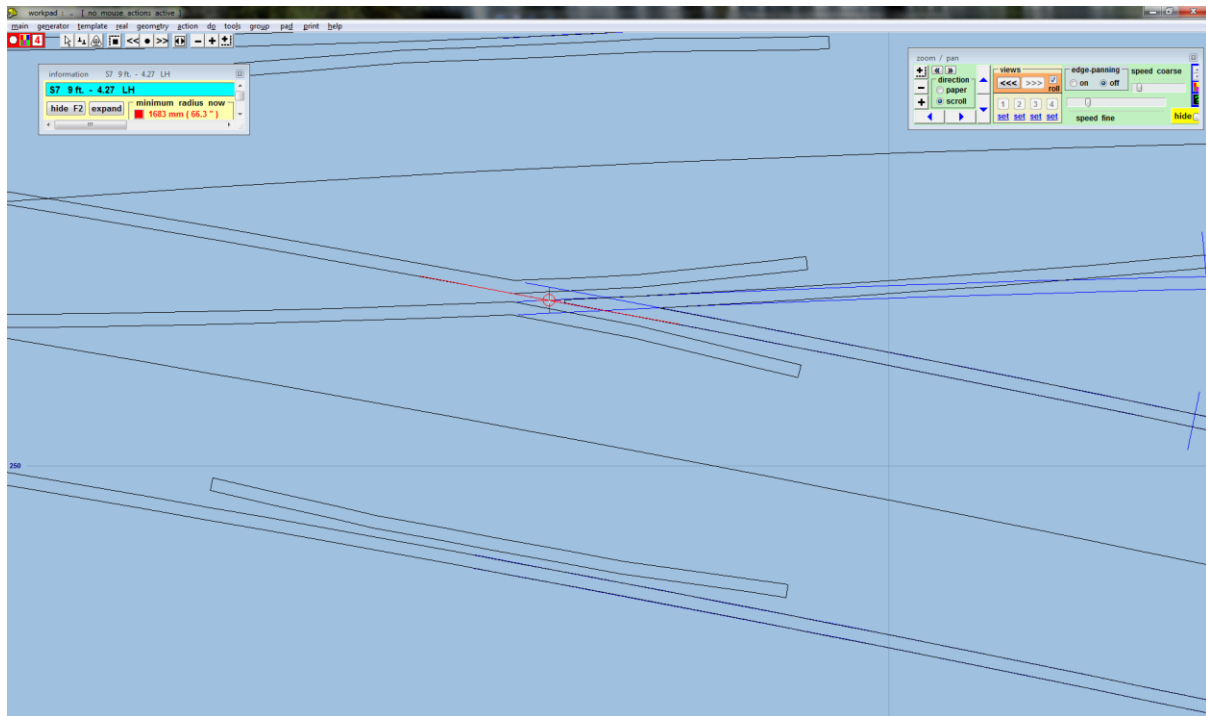


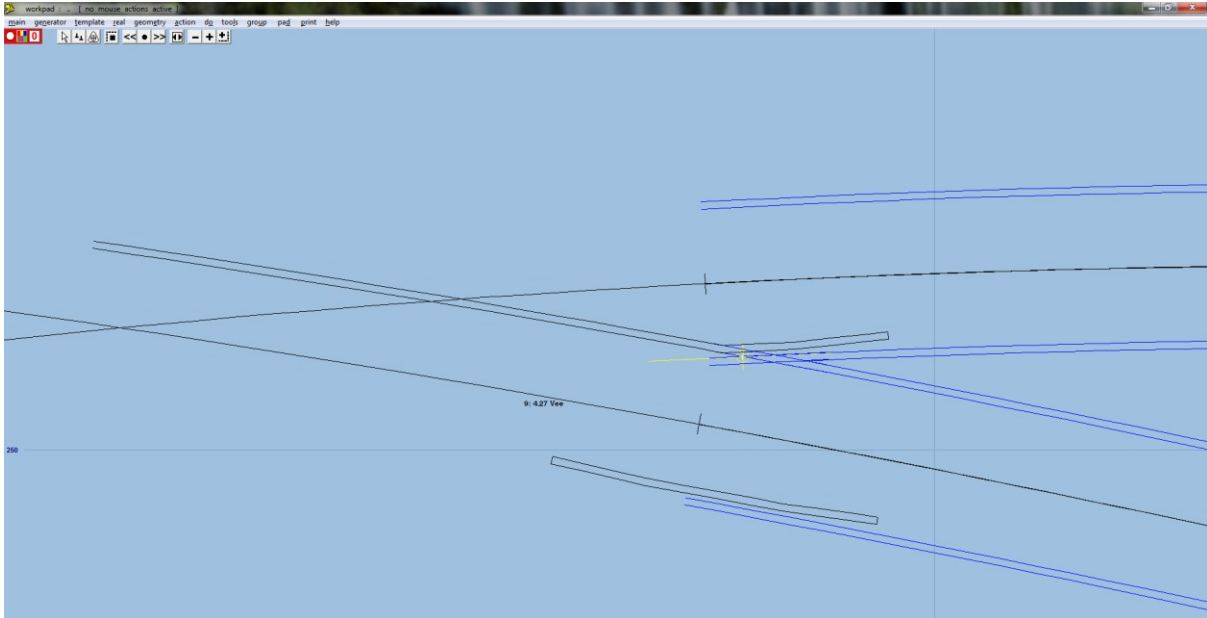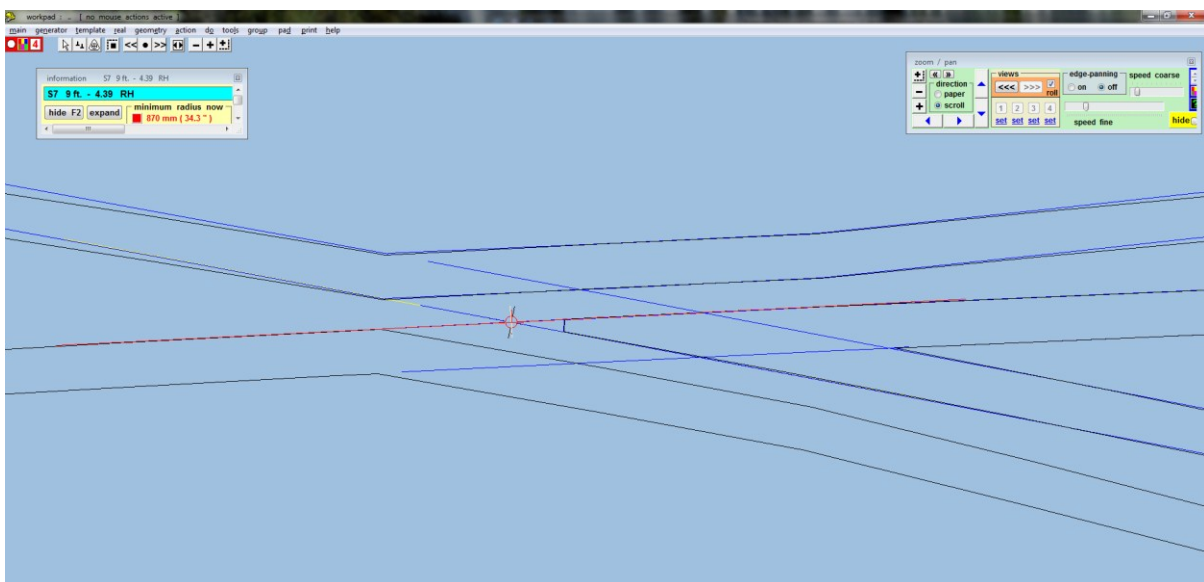*See the note at the end of the document when the template is within a transition.*

Use do → parking bay → bay 1 : park template (CTRL-P). Set geometry → peg positions → peg on FP (CTRL-4). Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust the length of plain track until just the vee is visible. Use do → omit rails and joint marks...(CTRL-O) and remove all rails and joints except for the vee.

Use main → store & background (CTRL-V). Left click on the just stored template, and select rename from the popup menu to give the template the name of 4.27 Vee. Use do → parking bay → bay 1: retrieve "no-name" (CTRL-R) and set geometry → peg positions → peg on datum (CTRL-0). Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust the length of turnout to extend just beyond the wing and check rails. Use do → omit rails and joint marks...(CTRL-O) and remove all rails and joints except for the main-road crossing rail and the main-road check rail. Use action → mouse actions: geometry → adjust blanking length (3) to length of crossing rail:
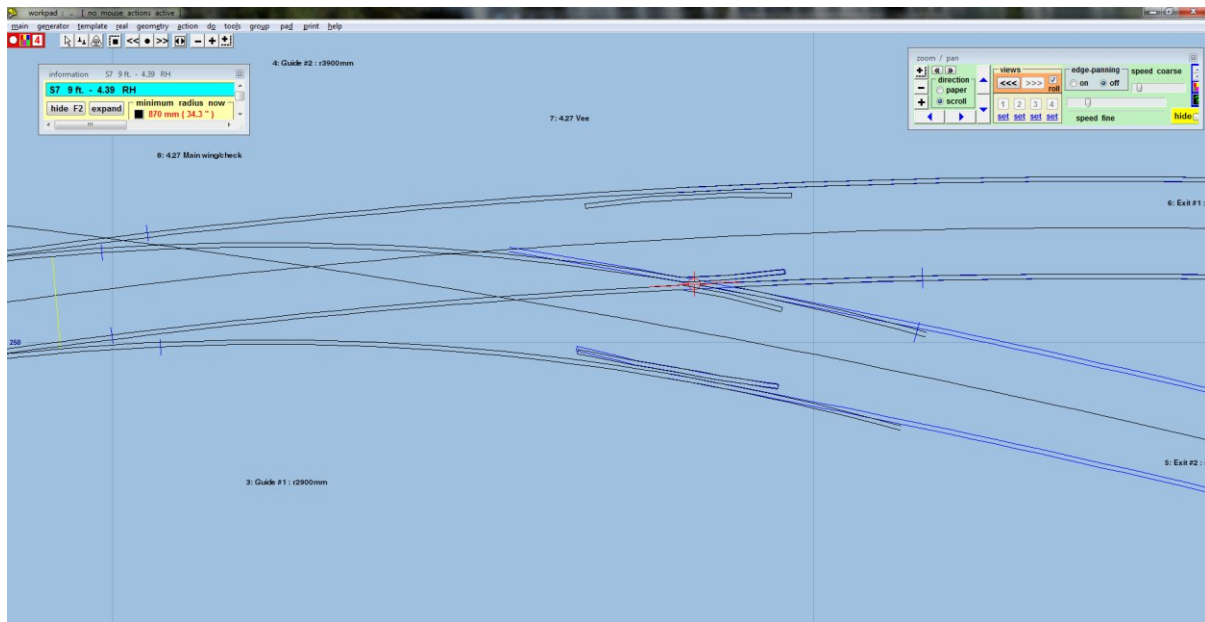


Use main → store & background (CTRL-V). Left click on the just stored template, and select rename from the popup menu to give the template the name of 4.27 Main wing/check. Use do → parking bay → bay 1: retrieve "no-name" (CTRL-R) and set geometry → peg positions → peg on datum (CTRL-0). Left click on Guide #1 and select peg/align tools → align control template over, and snake onto peg → facing – facing from the popup menu.  Use action → mouse actions: geometry →snake through peg (6) to snake fine point of vee to where Exit #1 and Exit #2 cross:
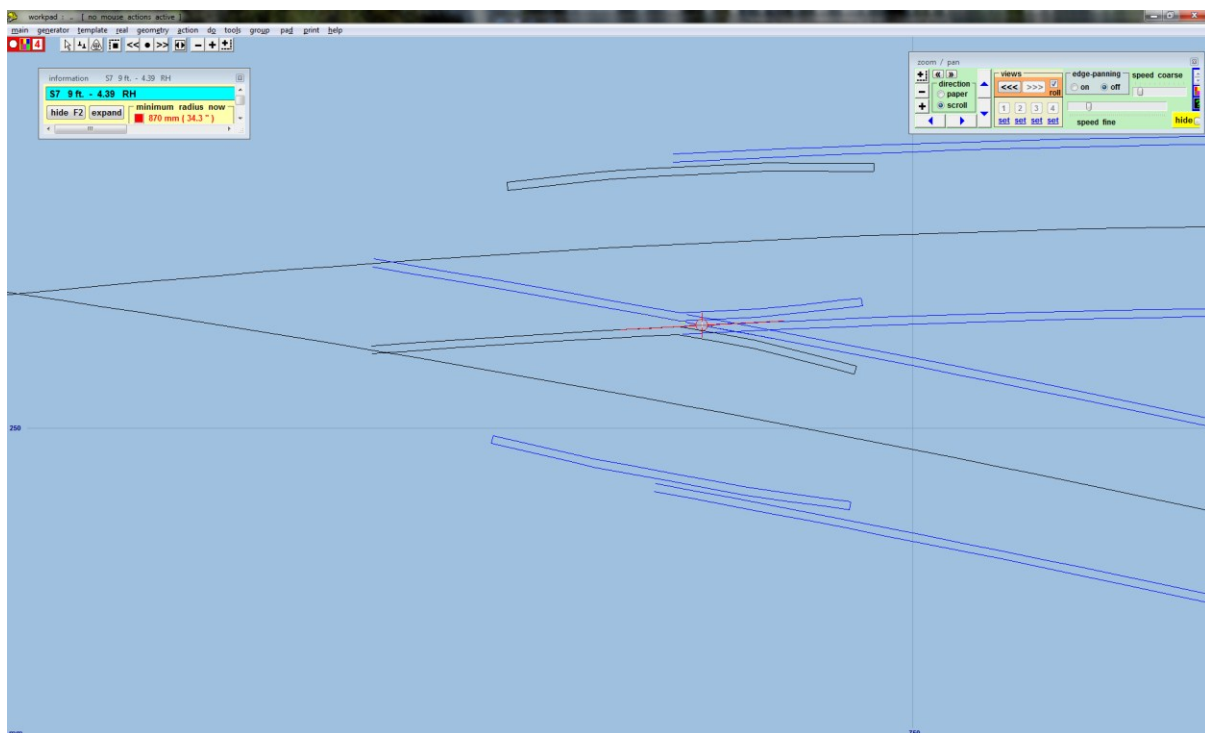
Set geometry → peg positions → peg on FP (CTRL-4). Set action → F5 V-crossing angles → any angle and action → F5 sizing options → length locked. Use action → mouse actions: real → adjust turnout size only (F5) so that the vee of the turnout matches that of the crossing formed of Exit #1 and Exit #2:
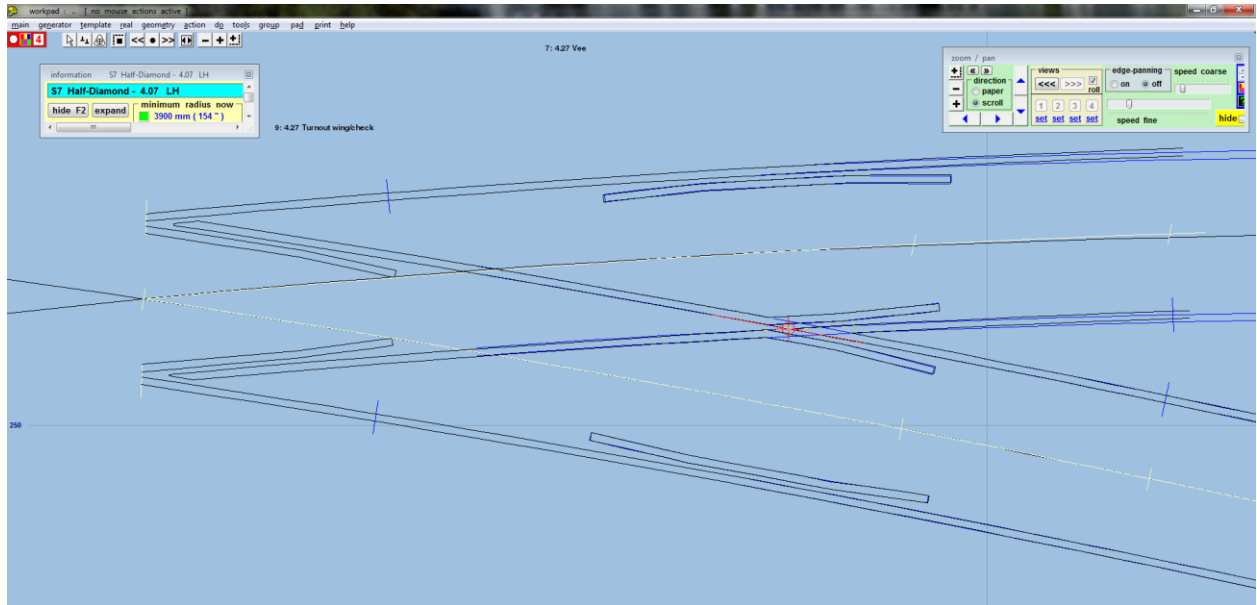


*See the note at the end of the document when the template is within a transition.*

Use do → parking bay → bay 2 : park template. Use do → omit rails and joint marks...(CTRL-O) and remove all rails and joints except for the main-road crossing rail and the main-road check rail. Use action → mouse actions: geometry → adjust blanking length (3) to length of crossing rail:

Use main → store & background (CTRL-V). Left click on the just stored template, and select rename from the popup menu to give the template the name of 4.27 Turnout wing/check. Use do → parking bay → bay 1: retrieve "no-name" (CTRL-R). Set geometry → peg positions → peg on FP (CTRL-4). Use template → convert turnout to half diamond (CTRL-K). Set geometry → peg positions → peg on FP (CTRL-4). Set geometry → track centre-lines. Use action → mouse actions: real → adjust turnout size only (F5) so that the deflection point of the diamond matches that of the crossing formed of Guide #1 and Guide #2:



*See the note at the end of the document when the template is within a transition.*

Use do → parking bay → bay 1 : park template (CTRL-P). Use do → Unset geometry → track centre-lines. Set geometry → peg positions → peg on datum (CTRL-0). Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust the length of turnout to extend just beyond the wing and check rails. Use do → omit rails and joint marks...(CTRL-O) and remove all rails and joints except for the main-road crossing rail and the wing rail joints. Use action → mouse actions: geometry → adjust blanking length (3) to length of crossing rail:



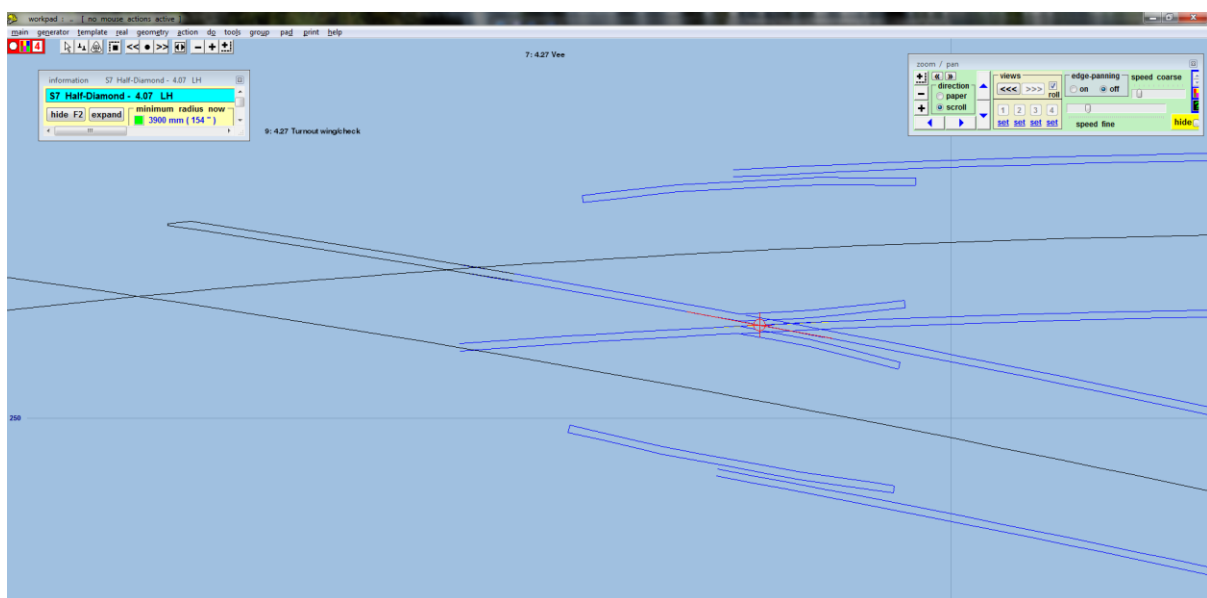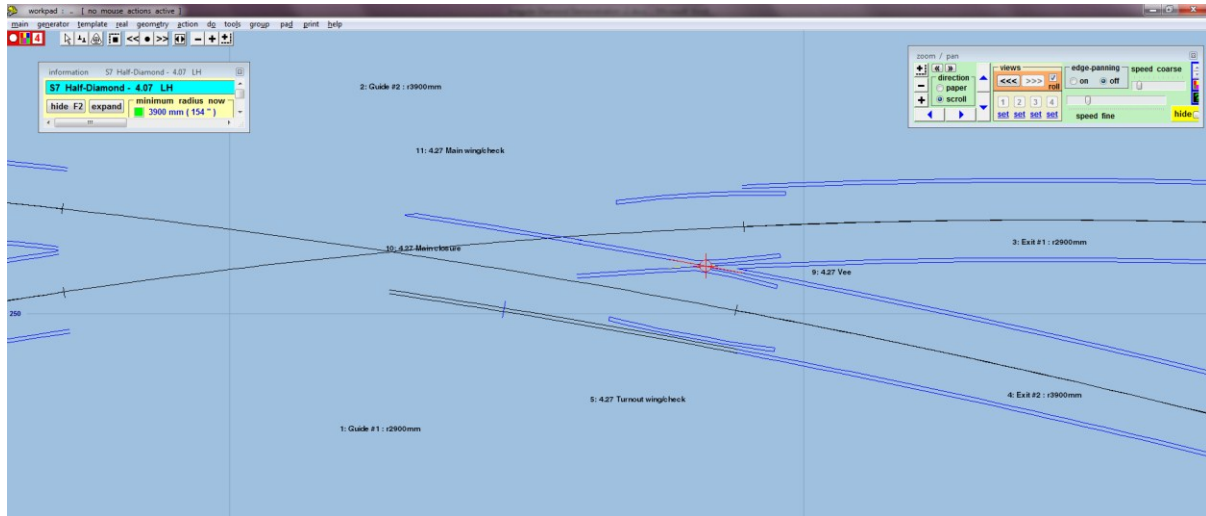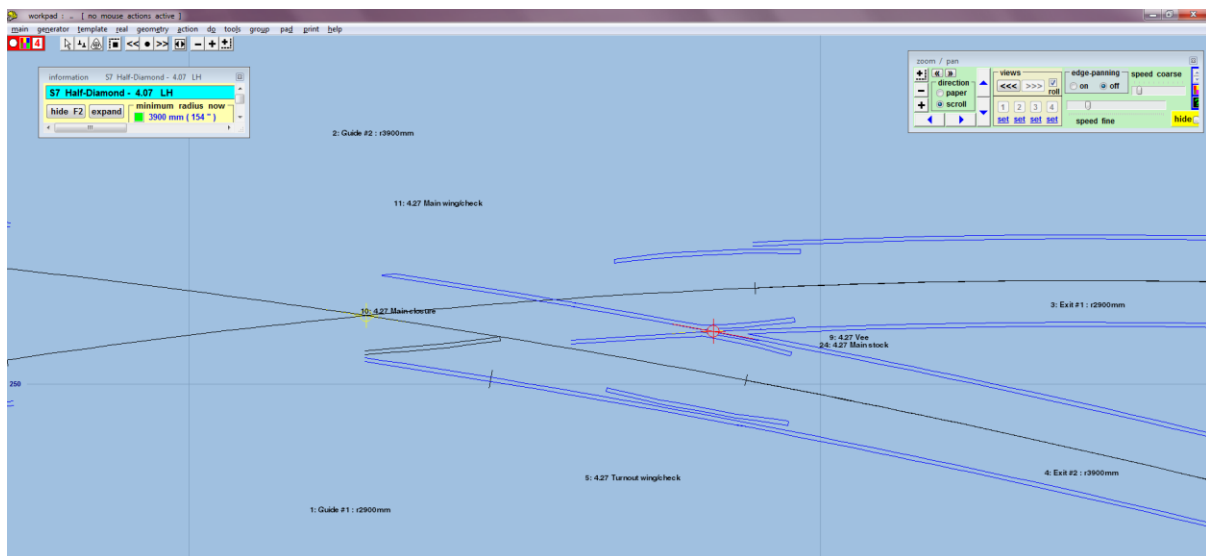*You may need to temporarily show the timbers for this template to see the vee rail joint.*

Use main → store & background (CTRL-V). Left click on the just stored template, and select rename from the popup menu to give the template the name of 4.27 Main closure. Use do → omit rails and joint marks...(CTRL-O) and remove all rails and joints except main-road stock rail and K-crossing stock rail joints. Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust the length of template so that it just meets that of Exit #1. Use action → mouse actions: geometry → adjust blanking length (3) to adjust the blanking to ensure the K crossing is visible:
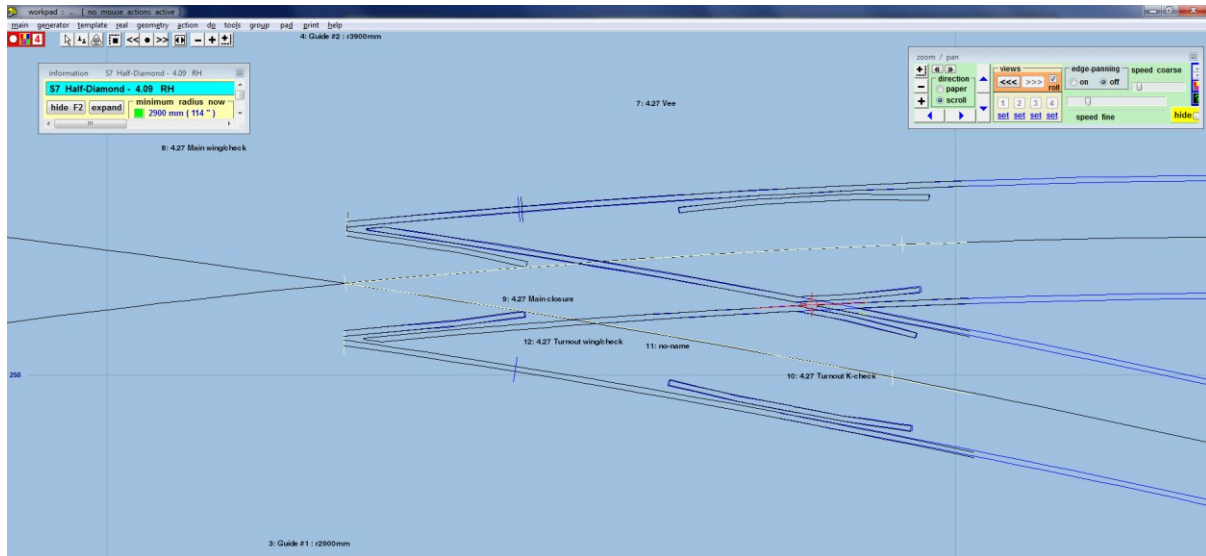


Set geometry → peg positions → peg on datum (CTRL-0). Use main → store & background (CTRL-V). Left click on the just stored template, and select rename from the popup menu to give the template the name of 4.27 Main stock. Left click on the Guide #1 template and select delete to the control from the popup menu. Use action → mouse actions: geometry → move peg (8) to align this templates peg over the peg for 4.27 Main stock. Use main → store & background (CTRL-V). Use do → parking bay → bay 1: retrieve "no-name" (CTRL-R). Set geometry → peg positions → peg on datum (CTRL-0). Use do → omit rails and joint marks...(CTRL-O) and remove all rails and joints except main-road check rails. Do template → invert handing (CTRL-X), and left click on the Guide #1 template and select peg/align tools → snap the control template onto background template → at peg from the popup menu. Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust length of template to that of just the check rail. Use action → mouse actions: geometry → adjust blanking length (3) to adjust the blanking to just include the check rails:
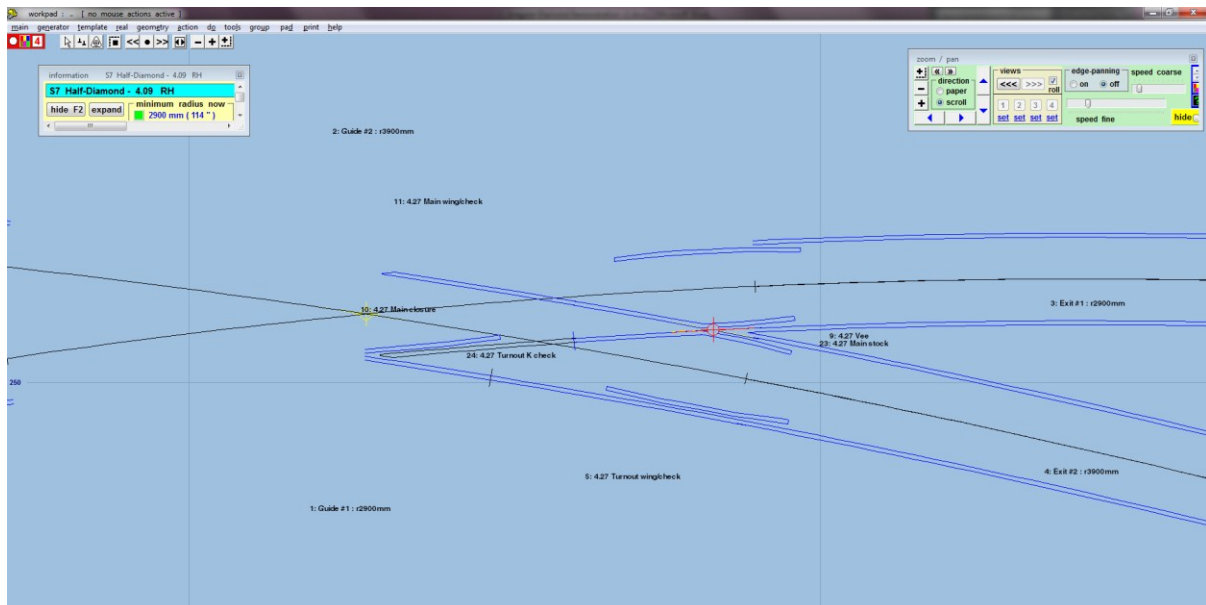


*Note this isn't required for switched diamonds.*

Use main → store & background (CTRL-V). Left click on the just stored template, and select rename from the popup menu to give the template the name of 4.27 Turnout K check.  Do geometry → notch → reset notch on pad datum. Use do → parking bay → bay 2: retrieve "no-name" and set geometry → peg positions → peg on FP (CTRL-4). Use template → convert turnout to half diamond (CTRL-K). Set geometry → peg positions → peg on FP (CTRL-4). Set geometry → track centre-lines. Use action → mouse actions: real → adjust turnout size only (F5) so that the deflection point of the diamond matches that of the crossing formed of Guide #1 and Guide #2:



*See the note at the end of the document when the template is within a transition.*

Use do → parking bay → bay 1 : park template (CTRL-P). Unset geometry → track centre-lines. Set geometry → peg positions → peg on datum (CTRL-0). Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust the length of turnout to extend just beyond the wing and check rails. Use do → omit rails and joint marks...(CTRL-O) and remove all rails and joints except for the main-road crossing rail and the wing rail joints. Use action → mouse actions: geometry → adjust blanking length (3) to length of crossing rail:
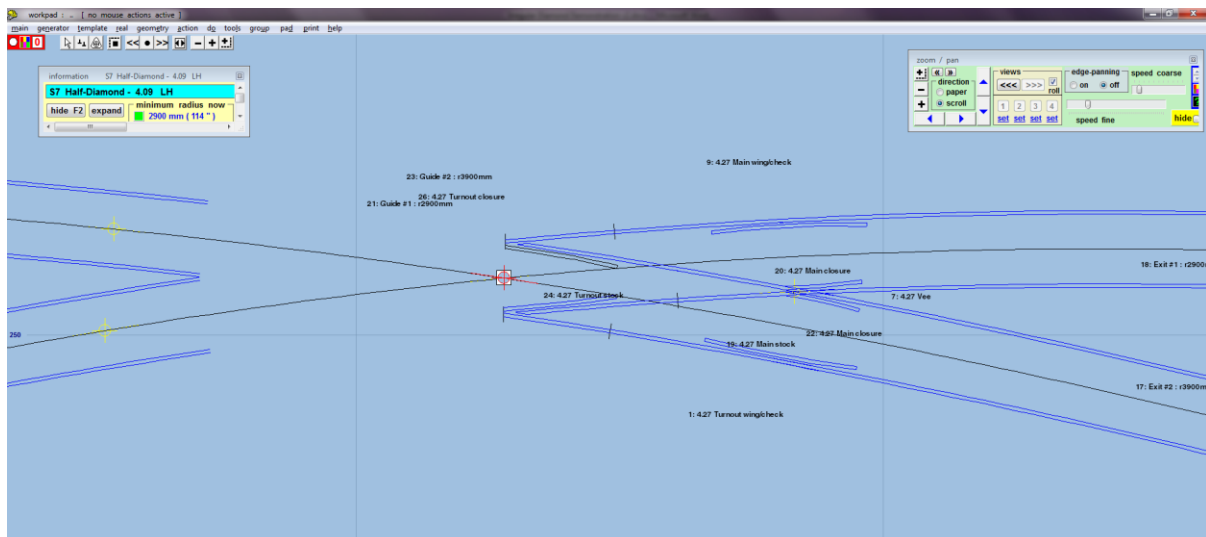


*You may need to temporarily show the timbers for this template to see the vee rail joint.*

Use main → store & background (CTRL-V). Left click on the just stored template, and select rename from the popup menu to give the template the name of 4.27 Turnout closure. Use do → omit rails and joint marks...(CTRL-O) and remove all rails and joints except main-road stock rail and K-crossing stock rail joints. Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust the length of template so that it meets that of Exit #1. Use action → mouse actions: geometry → adjust blanking length (3) to adjust the blanking to ensure the K crossing is visible:
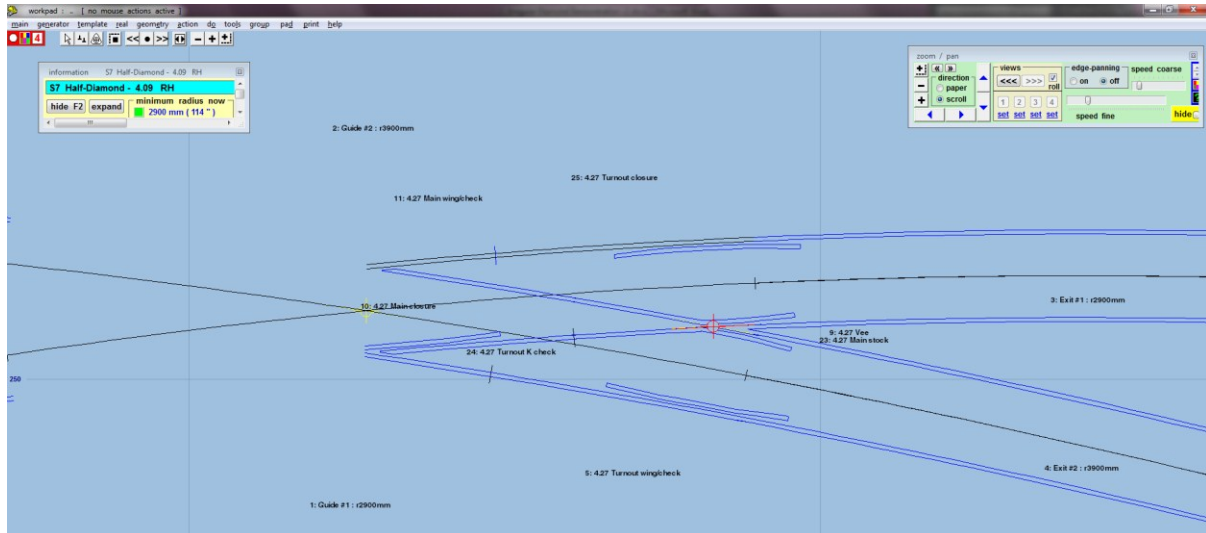


Set geometry → peg positions → peg on datum (CTRL-0). Use main → store & background (CTRL-V). Left click on the just stored template, and select rename from the popup menu to give the template the name of 4.27 Turnout stock. Left click on the Guide #2 template and select delete to the control from the popup menu. Use action → mouse actions: geometry → move peg (8) to align this templates peg over the peg for 4.27 Turnout stock. Use main → store & background (CTRL-V). Use do → parking bay → bay 1: retrieve "no-name" (CTRL-R). Set geometry → peg positions → peg on datum (CTRL-0). Use do → omit rails and joint marks...(CTRL-O) and remove all rails and joints except diagonal-road check rails. Do template → invert handing (CTRL-X), and left click on the Guide #2 template and select peg/align tools → snap the control template onto background template → at peg from the popup menu. Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust length of template to that of just the check rail. Use action → mouse actions: geometry → adjust blanking length (3) to adjust the blanking to just include the check rails:



*Note this isn't required for switched diamonds.*

Use main → store & background (CTRL-V). Left click on the just stored template, and select rename from the popup menu to give the template the name of 4.27 Main K check.  Do geometry → notch → reset notch on pad datum.  Left click on 4.27 Main wing/check and select delete to the control. Use action → mouse actions: geometry → adjust blanking length (3) to adjust the length to near the joint mark. Use main → store & background (CTRL-V). Left click on 4.27 Turnout wing/check and select delete to the control. Use action → mouse actions: geometry → adjust blanking length (3) to adjust the length to near the joint mark. Use main → store & background (CTRL-V).:
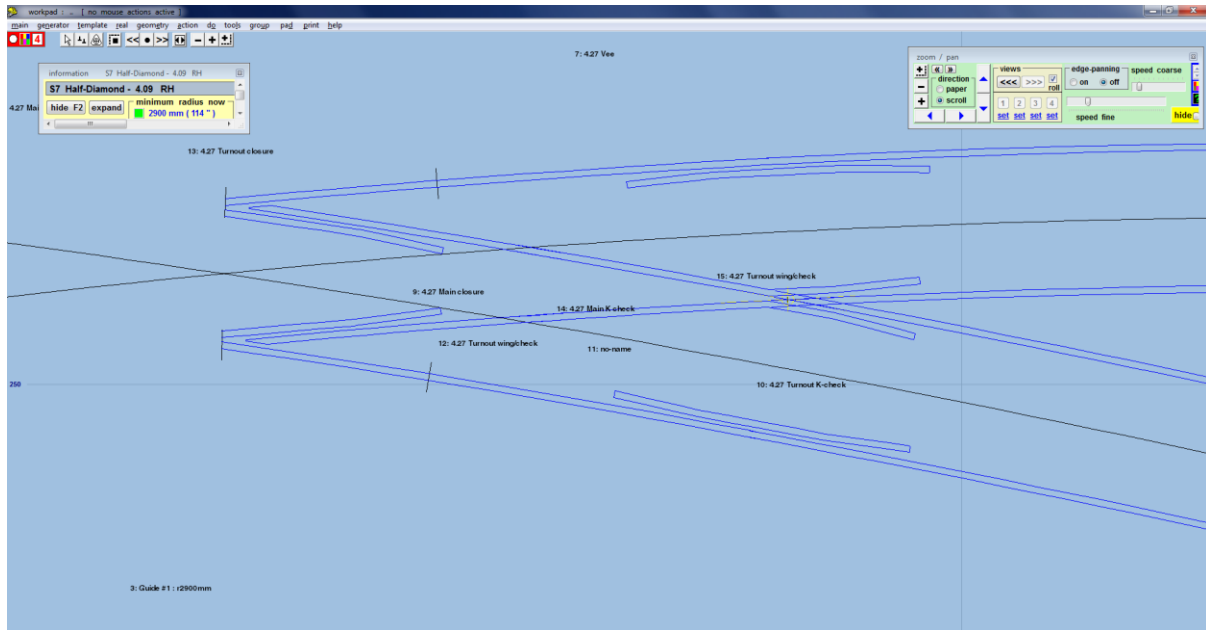


Left click the Exit #1 template and select delete to the control from the popup menu. Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust length of template to just meet the free end of the vee. Use main → store & background (CTRL-V). Left check the Exit #2 template and select delete to the control from the popup menu. Use action → mouse actions: geometry → adjust plain-track length (F4), and adjust length of template to just meet the free end of the vee:
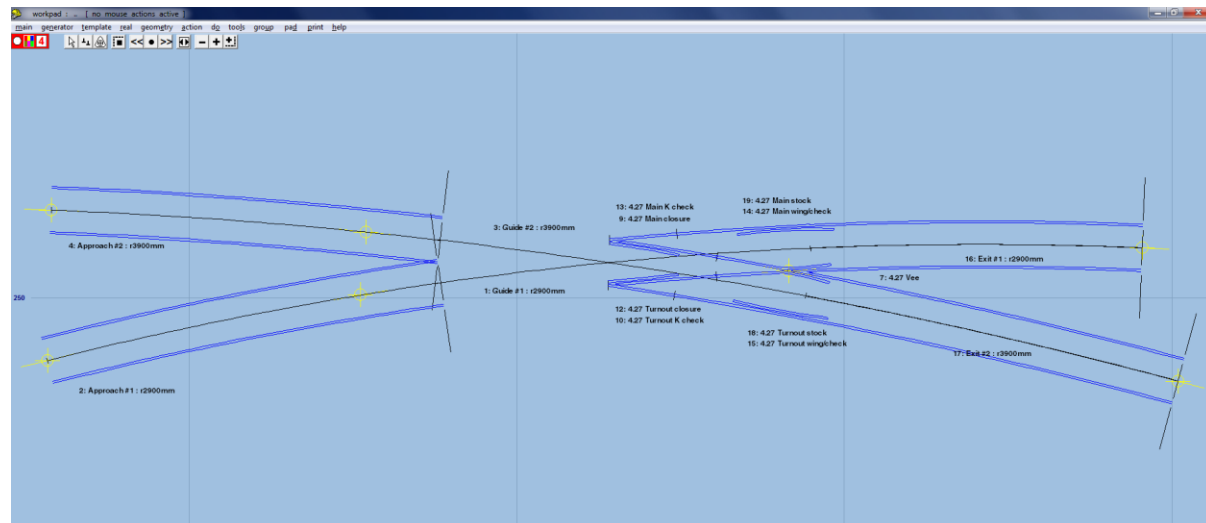


*Note: the exit rails #1 and #2 might not line up directly with the appropriate stock rails at the vee. This can be accommodated during construction, or if it offends too much, duplicate the Exit #1 and Exit #2 and make these longer (into the diamond), and omit the appropriate rails.*

Repeat for 2<sup>nd</sup> half of diamond – generally the same, only the handing of the initial turnouts will be different, and align control template over, and snake onto peg → facing – facing will generally by align control template over, and snake onto peg → facing – trailing, and vice-versa:
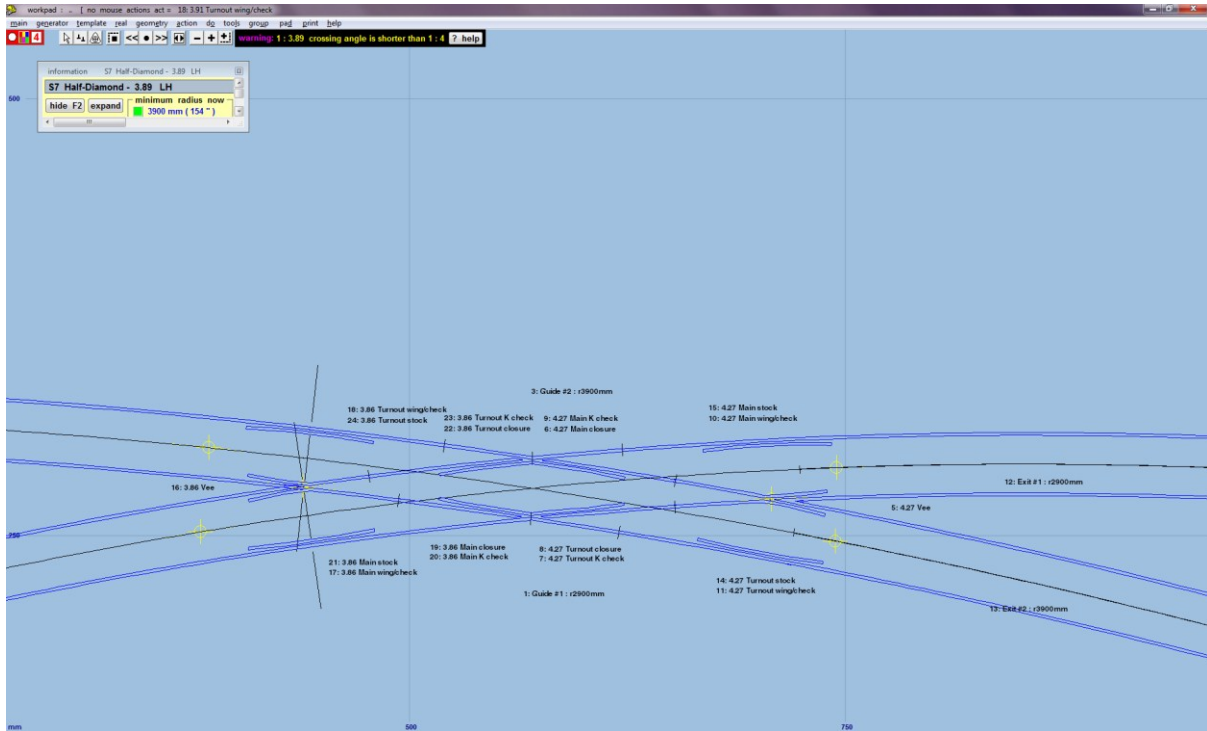


The following templates should have their timbering shown: 4.27 Main wing/check, 3.86 Main wing/check, 4.27 Main closure and 3.86 Main closure. The style should be equalized – constant with timbers centralised. Although you might want to double check with your chosen prototype company for exact timbering data.
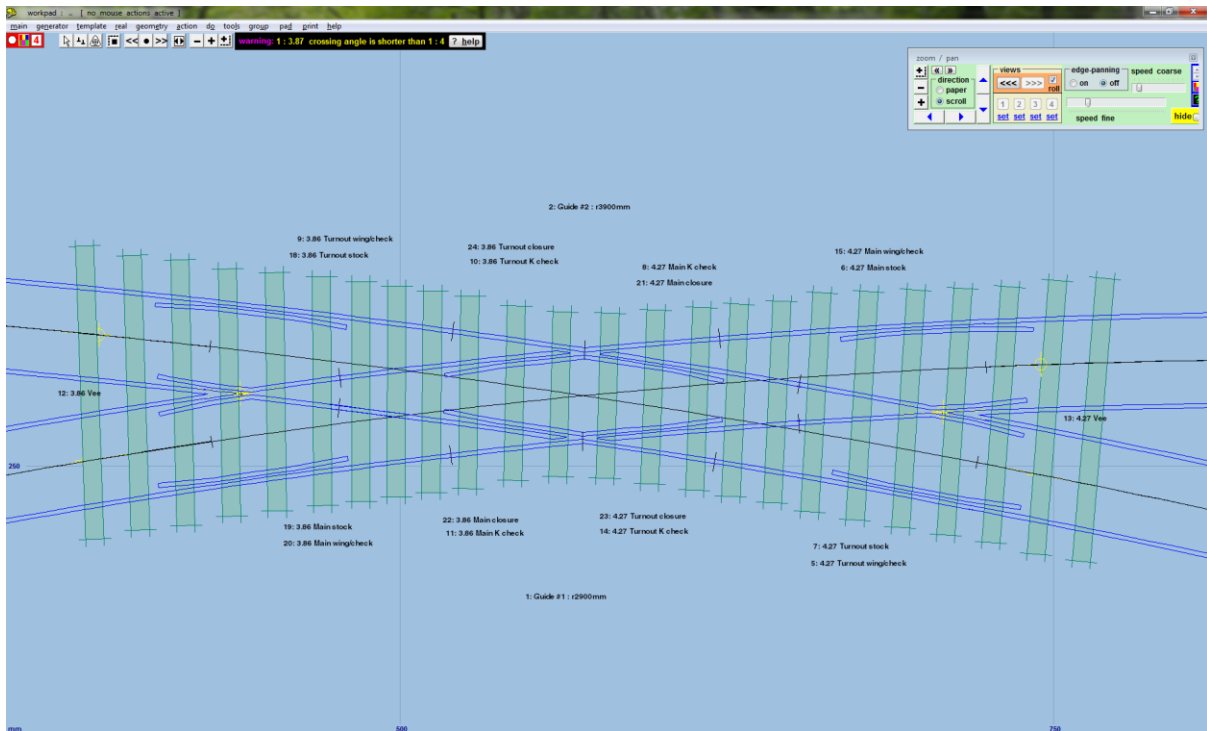
To get the Vee rail joints on the turnout roads it's necessary to show timbering on the Turnout closure templates (real → timbering → equalized – constant), and then omit all of the sleepers by using the shove timbers tools (real → shove timbers (CTRL-F10)), and click the omit all button.

## Transitions

If the diamond is within a transition zone, it is necessary to reposition the transition start location when modifying the size of a turnout or diamond's crossing and the peg is at the fine point (FP). Use action → mouse actions: geometry → move transition start (SHIFT-CTRL-F3), to reposition the start of the transition after adjusting the size. I've found that you need to readjust the size of the vee after adjusting the start of the transition, and then go back to adjusting the start of the transition, and back to adjusting the size of the vee, until both line up. This may also apply if the turnout is within a slew.