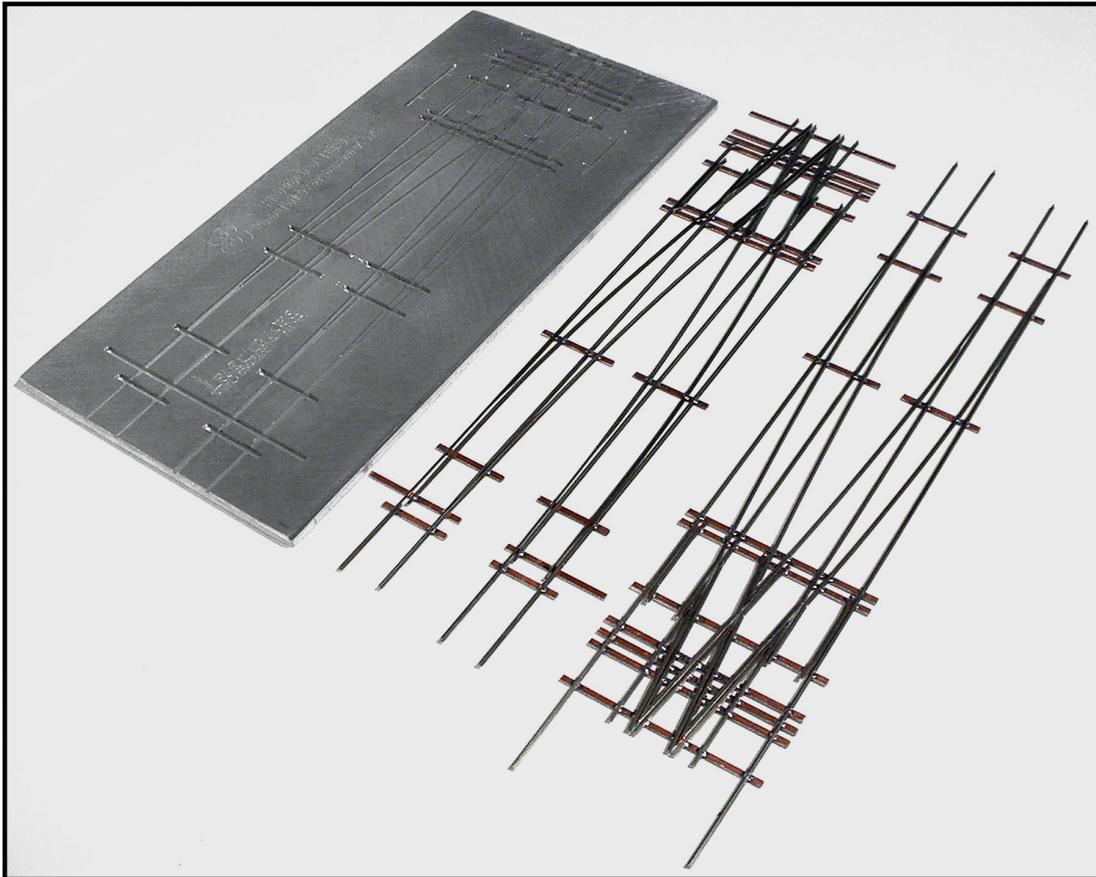


USERS' GUIDE – UG07

Constructing Crossovers Using Fast Tracks Assembly Fixtures



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Fast Tracks Crossover Construction Users' Guide

These instructions cover the crossover portion of the turnout construction process and final assembly. Please refer to the “Constructing Turnouts Using Fast Tracks Assembly Fixtures” users’ guide (UG01) for additional construction instructions.

The images shown in this document may not be your specific fixture, however these instructions are suitable for all Fast Tracks Assembly Fixtures for crossovers.

The latest version of this guide and all related documentation is always available for download from the Fast Tracks website at www.handlaidtrack.com/documents.html

This document was last updated April 12, 2004.

Related Documents

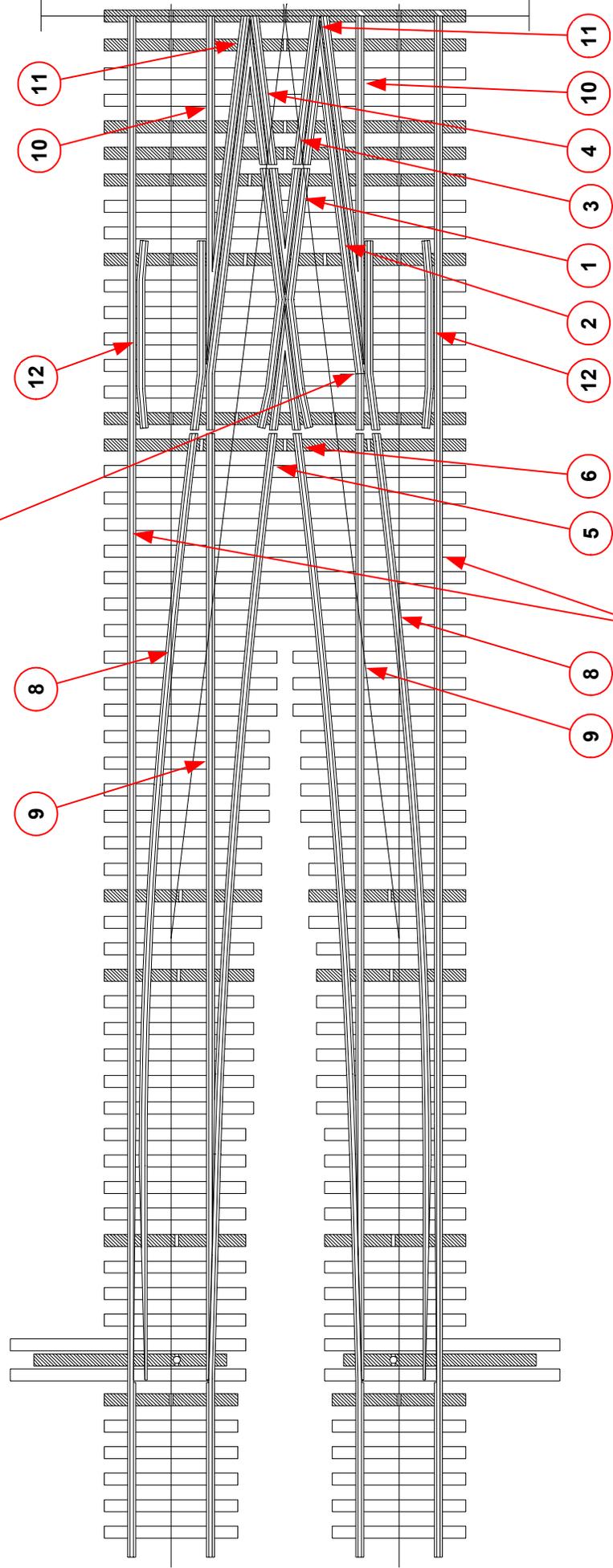
The following documents are referred to in this document and will be needed during construction. You may want to print out copies of them now.

They will be included on the documentation CD that you received with your fixture, or you can download the latest version from our website.

Document ID	Document Title	Download The Latest Version at:
UG01	Constructing Turnouts Using Fast Tracks Assembly Fixtures	www.handlaidtrack.com/documents/ug01.pdf
UG03	How To Use The Frog Point Grinding Jig	www.handlaidtrack.com/documents/ug03.pdf
AN02	Stock Rail Preparation & Placement	www.handlaidtrack.com/documents/an02.pdf

Crossover Rail Reference

Note: Two separate pieces of rail are used here.



Note: The #7 rails are cut short on one half of the crossover and extended on the second half. Refer to step 7 for more information.

Building A Crossover With Your Fast Tracks Assembly Fixture

Building a Crossover/Double Crossover (hereafter just referred to as a 'Crossover') with a Fast Tracks assembly fixture for Crossovers is similar to building a standard turnout. I suggest that you first construct a few standard turnouts with your fixture to get a good feel for the process before moving on to a crossover or double crossover.

Looking at the photo on the front page of this users' guide you will note that a crossover is constructed in two halves and then joined together as detailed in the final steps of this instruction manual. I recommend that you carefully review this and all of the related documentation before you begin, and then work carefully and methodically taking your time to complete each step.

Step 1

Begin by forming the frog points for the crossover as shown in image 1. Make a left and right point using two separate pieces of rail.

For best results we recommend that you use the Fast Tracks frog point grinding jig for crossovers to construct all of the frog points. For details on how to use the frog point grinding jig refer to "How To Use The Frog Point Grinding Jig" users' guide (UG03).

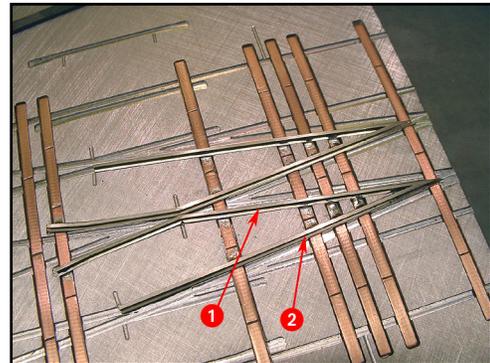


Image 1

Using the printable tie template for your crossover (available for download at www.handlaidtrack.com/tie-templates.html) determine the appropriate length of rails #1 & #2 and cut the rails at least 1/2" longer than required. You will trim them to the correct length later.

Note that the #2 rail is only the wing rail and not the complete wing/closure rail as in a standard turnout. Two separate rails are used when building a crossover to make construction easier. Cut the length of this rail as precisely as possible using the registration mark on the fixture. Solder the rail to the ties.

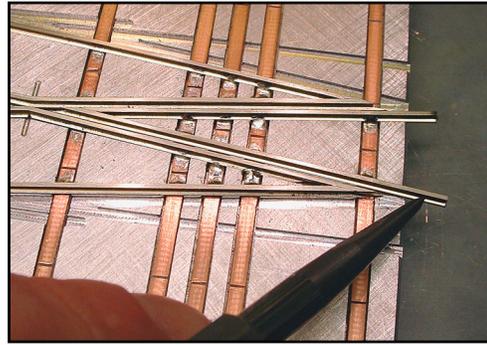
Step 2

Repeat step one for the opposite side of the crossover.

Step 3

Form a frog point with the #3 and #4 rails. (Refer to the Crossover Rail Reference drawing at the beginning of this document for the location of these rails.) The rails should extend past the edge of the fixture a bit as shown in image 2. Solder the rails in place.

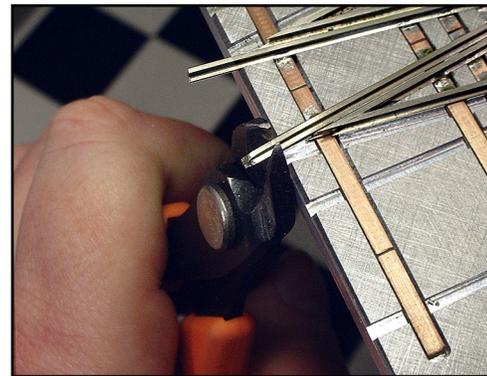
Image 2



Step 4

Using rail nippers carefully cut the rail using the fixture as a guide. (Image 3) This step must be done carefully as this determines the quality of the final joint. Leave the rail slightly longer as you will file it to the final length in the next step.

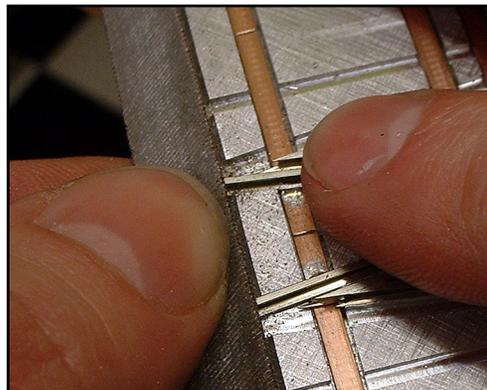
Image 3



Step 5

File the rails to length using a fine, sharp file. A triangle type file as shown in image 4 will work best. While holding the rail firmly in the fixture use short strokes to file the rail flush with the edge of the fixture. The goal is to form a nice sharp edge on the rail. The proper angles will be formed automatically.

Image 4

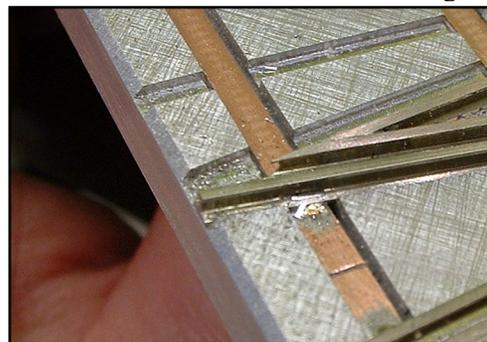


File the rail until it is flush with the fixture being careful not to file into the aluminium. Refer to Images 4 & 5.

Step 6

Add the #5 and #6 rails and form a frog point. Be sure to remove some of the base of the rail in the area of the switchpoints. Refer to the Stock Rail Preparation & Placement document (AN05) for more details about how to remove the base of the rail for the switchpoints.

Image 5



Step 7

Add the #7 rails. A registration mark is engraved on the fixture for cutting these rails to length. (Image 6)

When building a crossover one half of the assembly has the rails cut at the registration mark, and other half will extend well past the end of the fixture. This will allow the two halves to be securely joined together by overlapping these rails as shown in the following steps.

Step 8

Add rails #8 through #12 as shown on the rail reference drawing using the assembly techniques detailed in the turnout construction users' guide. (UG01)

Step 9

Build the second half of the crossover following steps 1 through 8. Remember at step 7 that the #7 rails need to extend well past the end of the fixture – long enough to fit the first half that you built. See Image 7.

Image 6

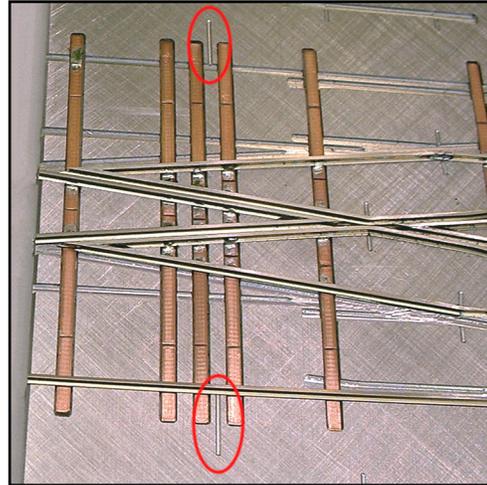
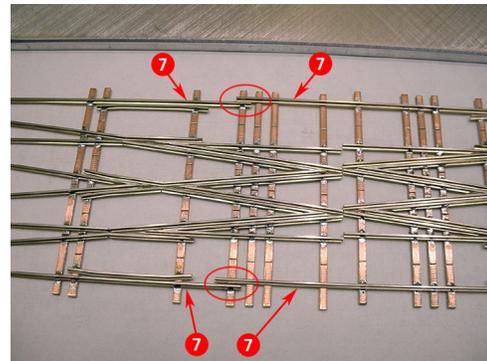


Image 7



Step 10.

Carefully mark and cut to length the #7 rails. (Image 8) I suggest cutting the rails slightly longer and then checking the fit. Repeat this procedure removing a little at a time until you have a good fit between the two halves.

Ideally there should be no gaps in the rails where the two halves meet. A small gap in the outer rails (the #7 rails) is acceptable, but the center rails should be a precise fit.

Using a long straightedge align the outer #7 rails and carefully solder them into place. (Images 9 & 10)

Step 11

Add the remaining crossover tie in place at the center of the crossing using the tie template for reference and solder it into place.

Some "fine turning" may be required once the assembly is complete using a small flexible file to ensure that all of the points are smooth.

Step 12

Add the four guardrails and you are finished!

Image 8

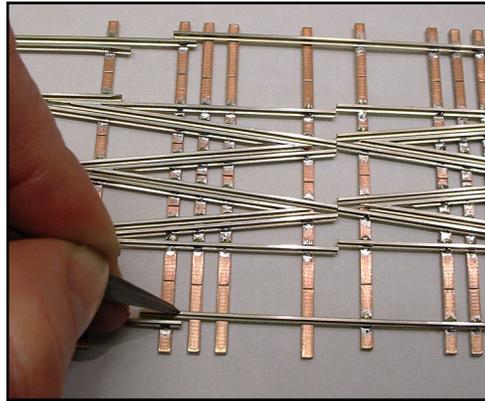


Image 9

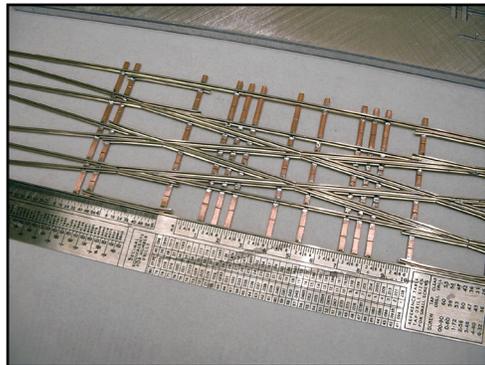


Image 10

