

Building A Double Slip Switch Using A Fast Tracks Assembly Fixture



Builders' Guide



Since 2003

Fast Tracks Users' Guide UG17

The latest version of this Builders Guide is always available for download from the Fast Tracks website at: www.handlaidtrack.com/documents.php.

This document has been designed to be printed on both sides of the paper and bound using spiral or cerlox binding.

This document may be freely reproduced as long as it is printed or electronically duplicated in its entirety without modification and is not made part of another document.

Written & Published by

Fast Tracks
312-B St. Patrick St.
Port Dover, Ontario
N0A 1N0 CANADA

Email: service@fast-tracks.net
Phone: 1-888-252-3895
Web: www.fast-tracks.net or www.handlaidtrack.com

This document was last updated on October 14, 2015

All content & images are copyright © 2015 Fast Tracks, All rights reserved.

DISCLAIMER: While we have made every effort to ensure that this users' guide is accurate, we cannot guarantee it to be 100% free from errors or inaccuracies. FAST TRACKS HOBBYWORKS INC., NOR ANY OF THEIR EMPLOYEES SHALL NOT BE LIABLE FOR ANY DAMAGES INCLUDING, BUT NOT LIMITED TO, DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR OTHER LOSSES ARISING OUT OF THE USE OF OR INABILITY TO USE ANY FAST TRACKS PRODUCT.

Thank You For Buying Fast Tracks Products!

Fast Tracks was born out of my frustration with building accurate and reliable turnouts by hand. I just felt that there had to be a better way. So after a lot of experimenting and trial and error I came up with a solution that worked so well, that I decided to offer track assembly fixtures for sale to other model railroaders.

I have spent a lot of time 'sweating the details' and have worked hard to produce the highest quality product possible. If you are not 100% satisfied with your Fast Tracks product, or are not getting the results that you expected, then please contact me directly at service@fast-tracks.net and I will try and help you out, or arrange to refund your money.

If you are happy with your Fast Tracks product, then please tell your friends! Despite our hyper-linked and over-connected society, I still rely mostly on satisfied customers and word of mouth to promote my products.

You will always find the latest version of these instructions on the Fast Tracks website at www.handlaidtrack.com/documents.php. I would suggest that you bookmark this address in your browser so that if you ever misplace or wear out these instructions you will be able to download another copy from our website.

We also maintain an online discussion forum about Fast Tracks products on our website at www.handlaidtrack.com/forums. There you will find a host of information & advice from myself and other customers. Why not drop by and tell us how you are making out with your hand laid track project?

I also publish a personal blog on the Internet at www.bronx-terminal.com. I regularly post images, videos and comments about the progress I am making with my personal projects, so stop buy and have a look!

Also, [Fast Tracks is on Facebook!](#) If you are a Facebook user, join our Fast Tracks page as I frequently update it with what is going on here during the day.

Again, thank you for your purchase. And please do not hesitate to contact me if you have any questions or problems with your product. I will do my best to reply within one business day.

Tim Warris & the staff of Fast Tracks
service@fast-tracks.net
www.fast-track.net



Craftsman Series Product

Slip Switch assembly fixtures are part of our Craftsman Series of tools and are only recommended for experienced modelers with advanced track building skills. This document assumes that the craftsman is familiar with basic track terminology and has mastered basic construction techniques and soldering skills.

If you are new to hand laid trackwork we would suggest that you start with simpler switches such as turnouts or wyes. Once you have mastered building this type of trackwork then you will be ready to take the next step and start building more complex switches.

The techniques required to build trackwork using Craftsman Series tools and supplies are not really any different than simpler switches - however the complex geometry of Slip Switches can make it more challenging to get great results.



Building Solid Frog Slip Switches in a Fast Tracks Assembly Fixture

This document details the construction of a solid frog type double slip switch in a Fast Tracks assembly fixture. A solid frog type slip switch has a frog built of solid, non-movable rail and is typical of a #6 or smaller Slip Switch. Slip Switches larger than #6 requires a moveable point frog assembly which is more complex to build and is covered in a separate document.

As the switch points in a Slip Switch are very short, it isn't possible to build this as a solid point switch. So the process outlined in this document details a simple technique for forming a hinged point type switch that has the switch points built as a single piece with the movable portion cut off later in the build. This allows for greater accuracy when forming the switchpoints.

There are 12 parts to building a double slip switch including:

1. Forming the guard rails
2. Pre-Building two sets of frog points
3. Placing pre-gapped PC board ties into the assembly fixture
4. Forming and installing the stock rails
5. Forming and installing four outer switch points
6. Forming and installing four closure rails
7. Installing the frog points and guard rails
8. Forming and installing four inner switch points
9. Cutting off the switch points
10. Soldering the switch points to the throw bar
11. Cutting the frog isolation gaps
12. Gluing the trackwork to the optional QuickSticks laser cut ties

We will cover each of these parts in detail. You should plan to spend approximately 4-5 hours over a couple of evenings building your first switch. With practice you should be able to get construction time down to as little as a couple of hours.

Tools & Supplies That You Will Need



1. Your Fast Tracks 3-Way Assembly Fixture (A standard turnout fixture is shown)
2. A new, sharp 10" Mill 2nd Cut file ([TL-0007](#))
3. A small triangle needle file ([TL-0002](#))
4. A small brush ([TL-0025](#))
5. Acid flux paste ([SP-0030](#))
6. Small diameter solder ([SP-0003](#))
7. A Weller WP35 watt iron ([WP35](#))with ([ST7](#)) tip
8. Xuron rail cutters ([769-2175B](#))
9. PC board ties
10. A sharp point marker or scribe ([TL-0011](#))
11. A copy of the tie template for your particular switch. (Not shown) You can download the most recent version of the template from our web-site at www.handlaidtrack.com/tie-templates.php

Additional Items Needed For Slip Switch Construction

In addition to these standard tools you will also need to the following items for building Slip Switches

1. NMRA Track Gauge
2. Jewelers Saw and spare blades
3. Rail Joiners matching the rail size you are using
4. Slip Switch PointForm tool
5. RailRoller rail bending tool
6. Well lighted work area and a bit of patience!

Soldering Techniques

We highly recommend that you carefully review and practice the soldering techniques detailed in our **Soldering Techniques** document (AN01) and/or **How To Solder Trackwork** video before you begin. You will find this document and video on the CD that was included with your order or on our website at www.handlaidtrack.com/documents.php.

Weathered Rail Warning!

We do not recommend the use of weathered rail for building trackwork using the Fast Tracks Assembly Fixtures. The weathering effect that is applied to the rail makes it very difficult to solder the PC Board ties to the rail. If you have a stock of weathered rail on hand, we suggest you use it for other areas of you layout and purchase non-weathered rail for building turnouts.

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.

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

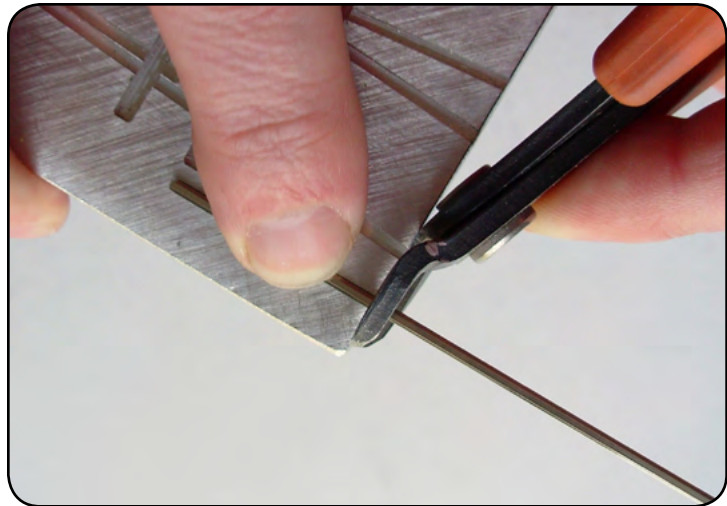
- **Using The Fast Tracks PointForm Tool** - www.handlaidtrack.com/documents/ug10.pdf
- **Using Fast Tracks PC Board Ties** - www.handlaidtrack.com/documents/ug09.pdf
- **Developing Good Soldering Techniques** - www.handlaidtrack.com/documents/an01.pdf

Forming The Guard Rails

Image 1

Step 1

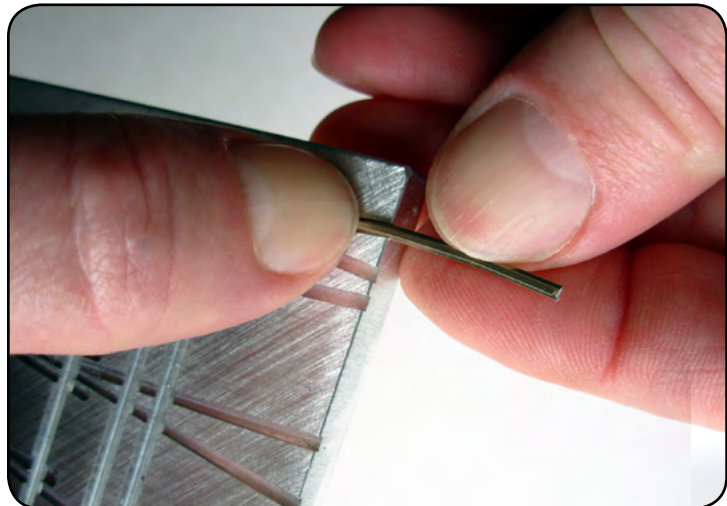
Insert a length of rail into the longest groove of the guard rail forming grooves found on the ends of the fixture. (Image 1) Cut four pieces of rail to size.



Step 2

To bend the flare onto the ends of the rail insert the rail into the groove and bend it until it is perpendicular to the end of the fixture. (Images 2 & 3) Test fit the guard rails in the fixture, if they are a bit tight adjust the angle slightly.

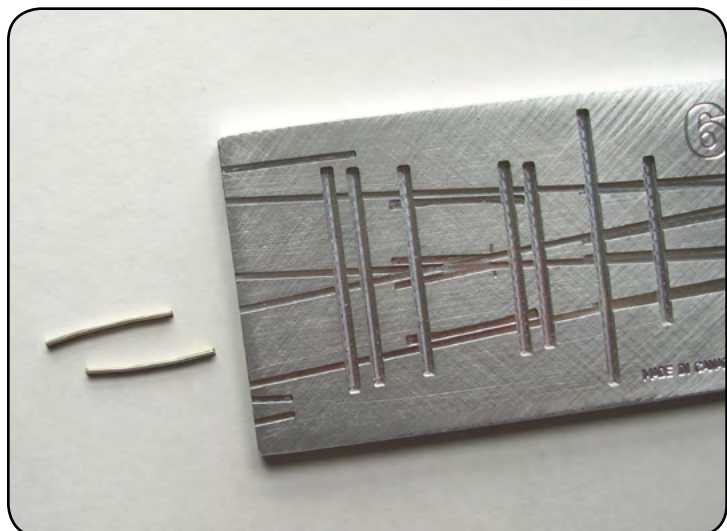
Image 2



Step 3

Set these pieces aside for now. We will solder them in place at a later step.

Image 3

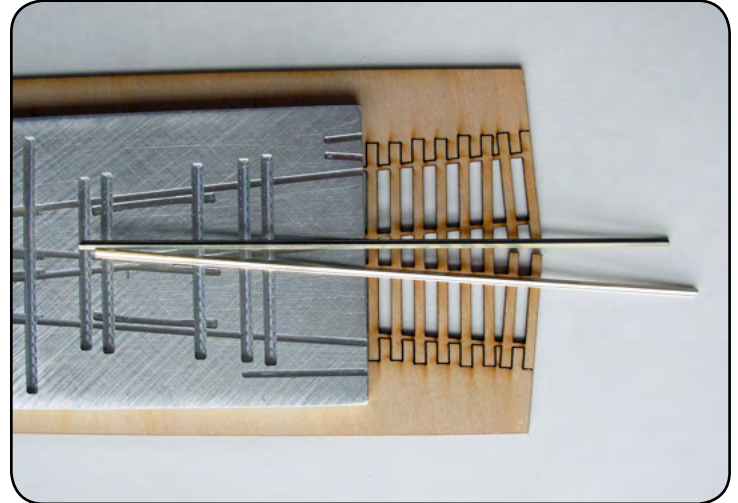


Pre-Build frog points

Image 4

Step 1

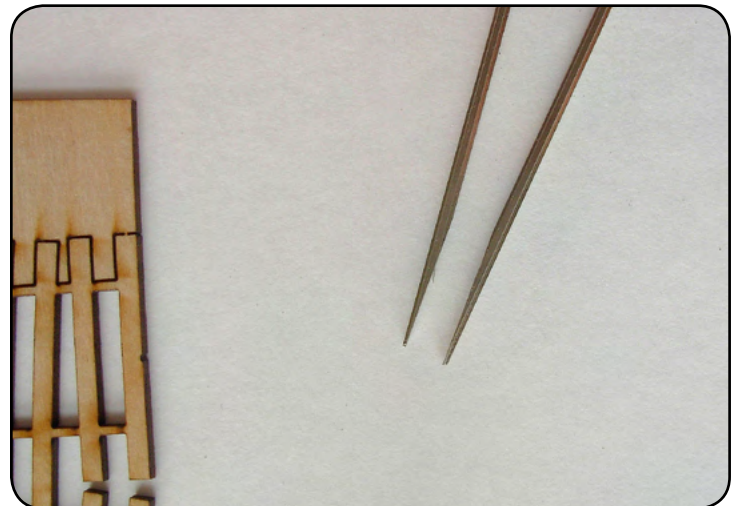
Cut two lengths of rail to form the frog point. If you are using our laser cut QuickSticks, set one under the fixture to ensure that the lengths of the rail extend about an inch past the ties. (Image 4)



Step 2

Using the method of your choice, form the frog point angles on the ends of the rails. (Image 5) The PointForm tool will make quick work of this.

Image 5



Step 3

Place the two halves of the frog point into the fixture, ensuring that you have a good fit. The two rails should form a long, sharp point. Be sure not to push the rails too far into the fixture as this will cause them to want to "roll over". Just slide them forward until they meet.

Apply flux to the top of the rails and carefully solder them together. (Image 6) Ensure that both rails are seated flat in the bottom of the grooves as the solder freezes.

Image 6

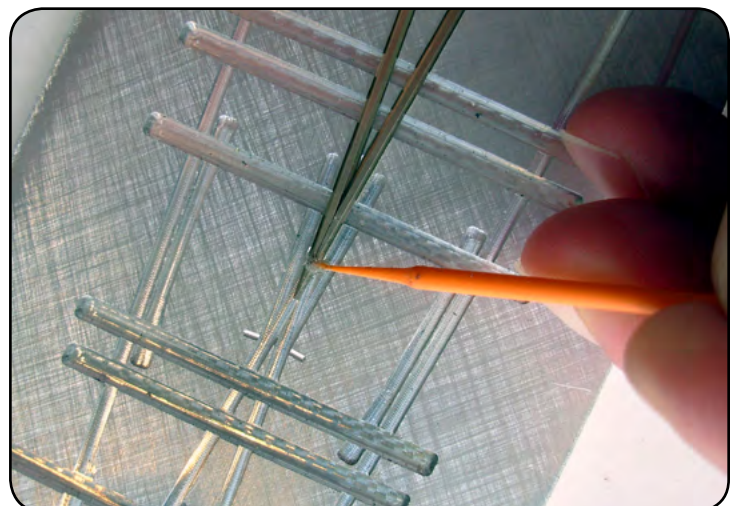
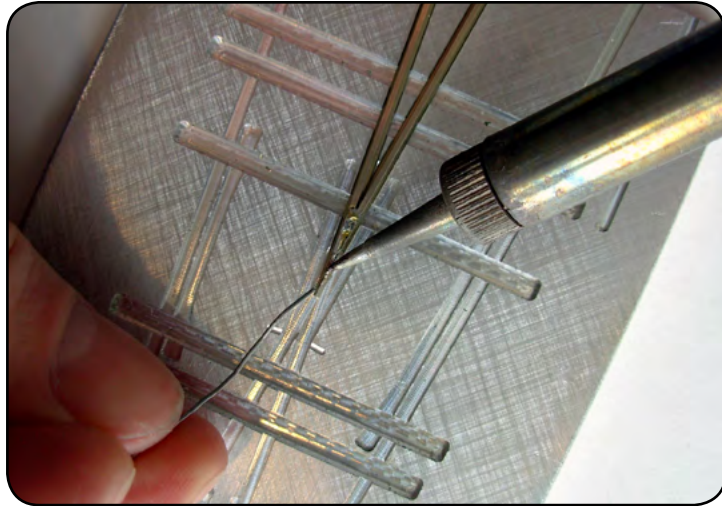


Image 7

Step 4

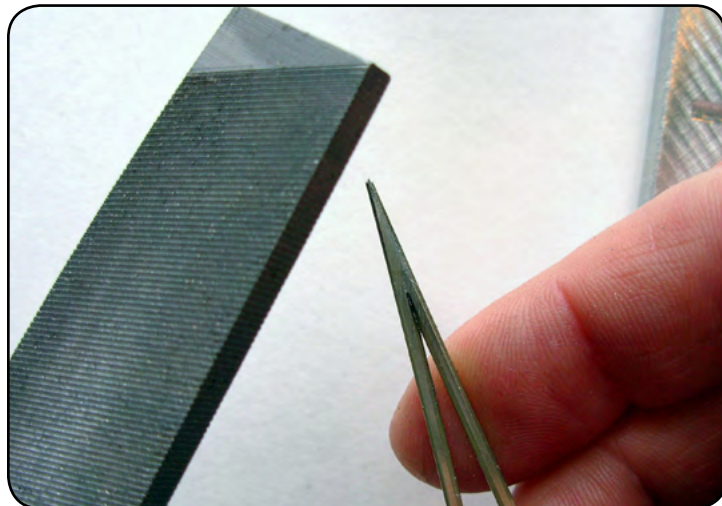
Let the iron sit on top of the rails for a few seconds to ensure the solder has had a chance to sweat in between the two halves of the frog, this will ensure a solid, strong solder joint. (Image 7)



Step 5

Remove the completed frog point from the fixture and carefully file the top of the rail to remove any excess solder. A few light passes with a large file will clean it off, don't be too aggressive with this step as it is possible to scratch the head of the rail. (Image 8)

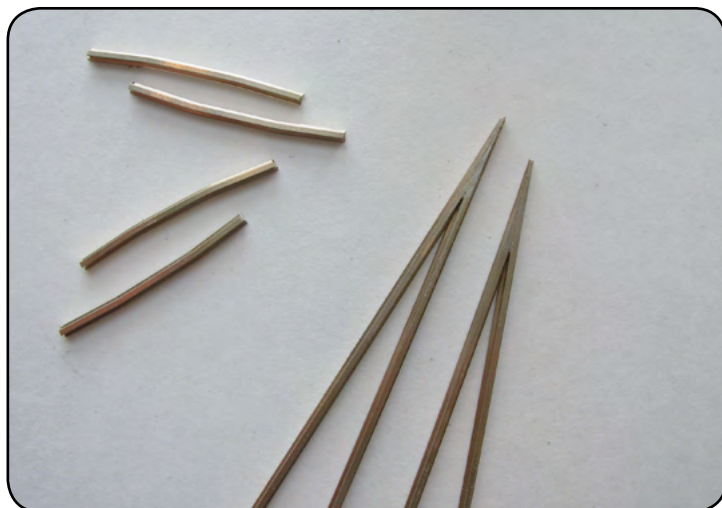
Image 8



Step 6

Repeat these steps to form a second frog point and set aside for now. (Image 9)

Image 9



Place the Pre-Gapped PC Board Ties Into the Assembly Fixture

Image 10

Step 1

Using the printable tie template or fixture as a guide, cut the PC board ties to length -- rail cutters work well for this.

Carefully file the isolation grooves into the surface of the PC board tie. This step is critical to ensure DC and DCC compatibility. The location of the grooves are shown on the tie templates. (Highlighted in Image 10.)

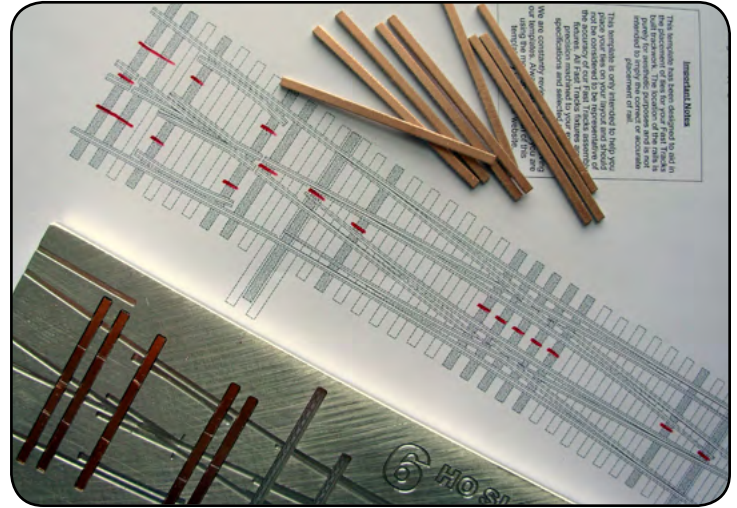
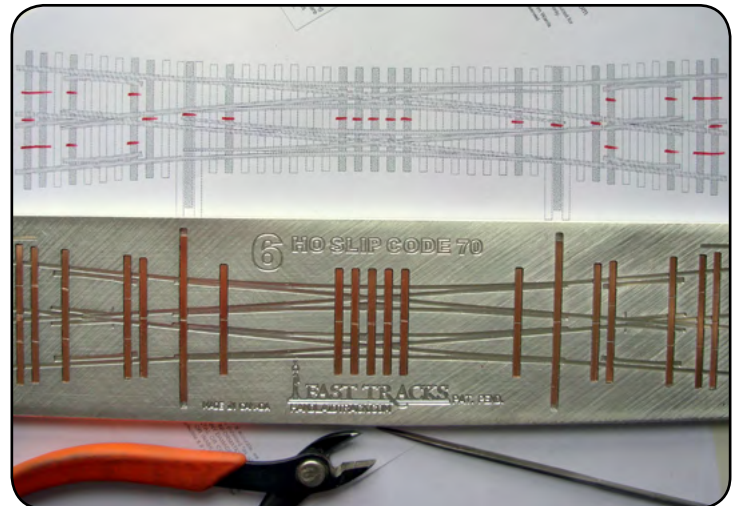


Image 11

Step 2

Confirm that the tie gapping is correct before proceeding to the next step. (Image 11)



Warning!



It is very important that you ensure that the isolation gaps are cleanly cut and that there is no conductivity between the two halves of the tie.

Failure to ensure complete isolation can result in an electrical short, which can cause equipment problems, overheating and the risk of fire.

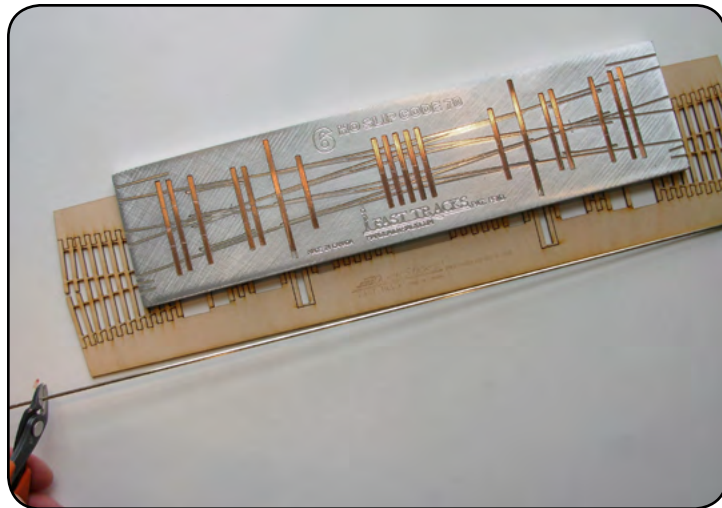
We recommend that you confirm that the two halves of the tie are electrically isolated by testing with a continuity tester. There should be no conductivity between the two halves of the tie if the gap has been properly cut.

Form & Install the Stock Rails

Image 12

Step 1

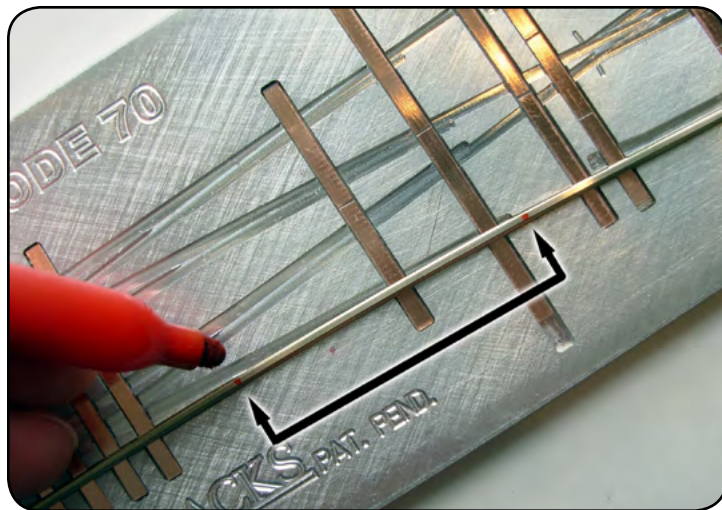
Cut a length of rail for the stock rail being sure that it protrudes at least 1" past the last wood tie on the switch. Use a QuickStick to measure the length if you are using QuickSticks.



Step 2

Place this rail into the fixture and mark the area where the base of the rail is to be removed to provide clearance for the switch points. This area extends from the end of the switch points just below the frog to where the two rail grooves diverge. This area is highlighted in image 13.

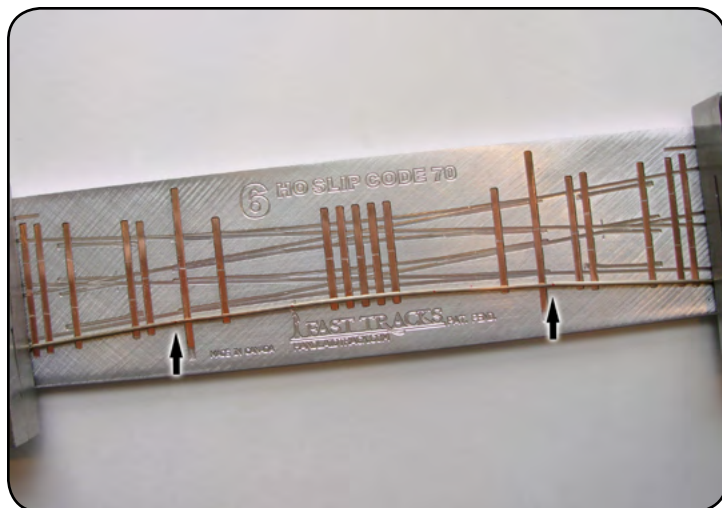
Image 13



Step 3

Using the filing method of your choice remove the base of the rail. Gently form the rail to approximately match the shape of the groove. Notice there is a slight "kink" where the switch points meet the stock rail shown by the arrows in image 14. You can use the fixture to gauge the shape of the rail.

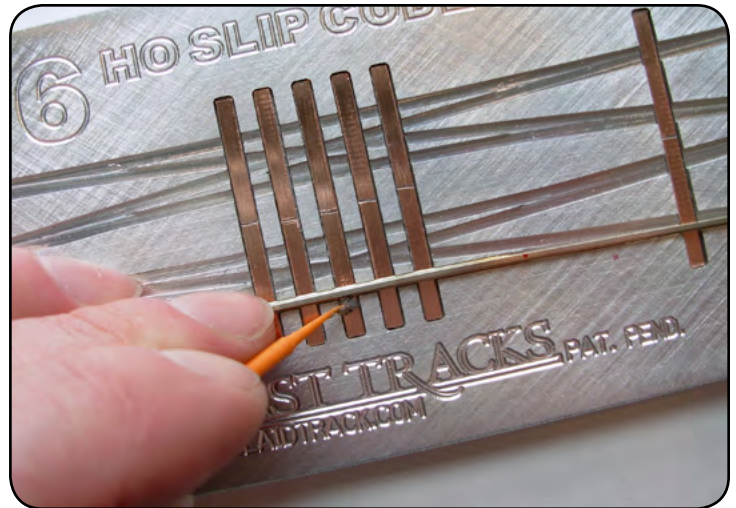
Image 14



Step 4

Place the rail into the fixture and apply flux to the center tie in the middle of the fixture. Be sure to get a little onto the base of the rail as well. A small amount is all that is needed. (Image 15)

Image 15

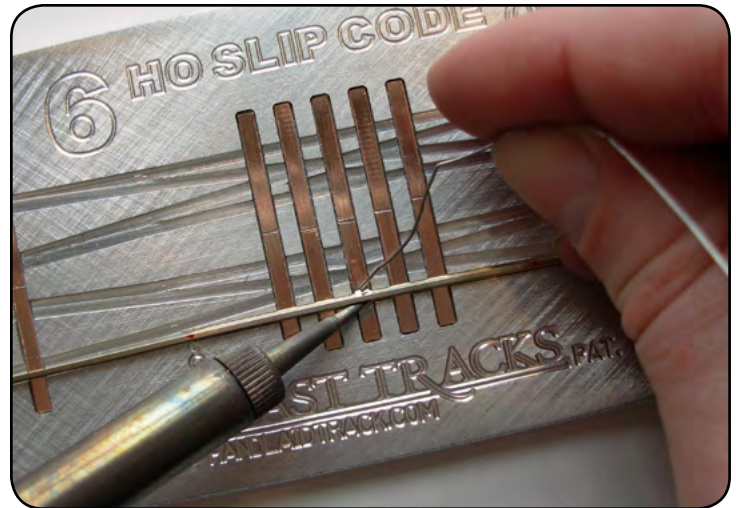


Step 5

Solder the stock rail to this tie only. This will hold the rail in place while you apply flux and solder the rest of the ties in place.

Notice that the iron is on the opposite side of the solder in image 16. This will allow the solder to "wick" under the rail and form a strong bond.

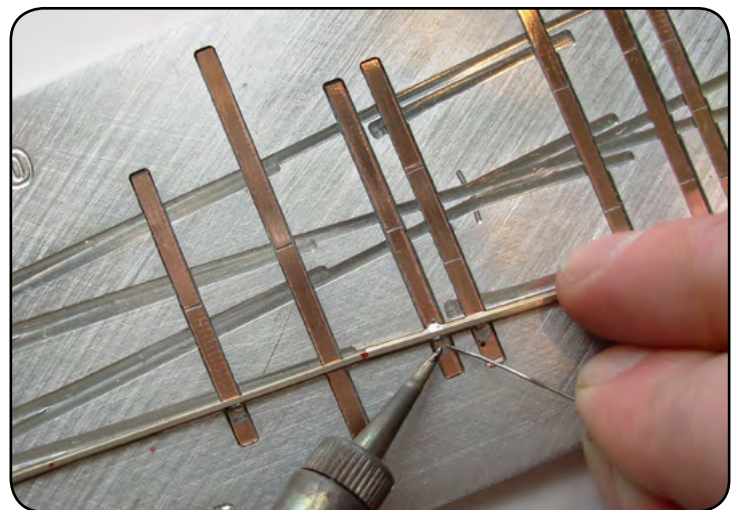
Image 16



Step 6

Flux and solder the remaining ties to the stock rail. Do not apply solder in locations where rail will be installed such as the guard rails or switch points as this will interfere with the accurate placing of the rail.

Image 17



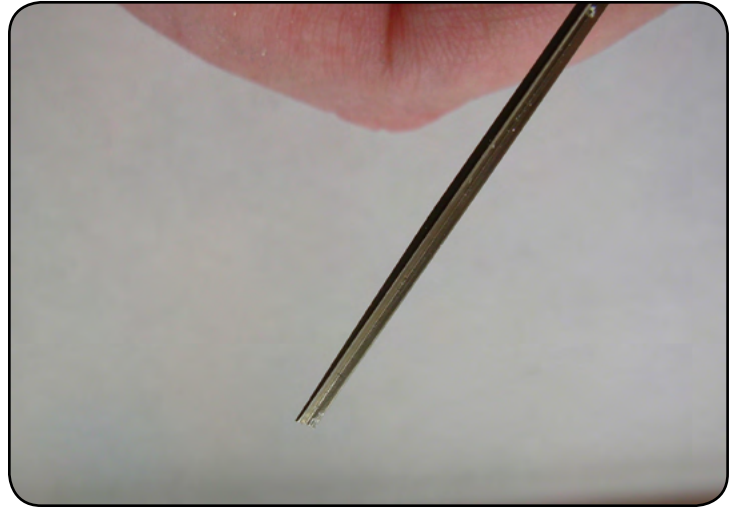
Form & Install the Four Outer Switch Points

Step 1

There are a total of eight moveable switch points in a double slip switch. We will start by forming the four outer points.

Start by cutting a length of rail that is at least the length from the center of the fixture to approximately two ties past the throwbar location. On the end of this length of rail form a switch point using the method of your choice. (Image 19)

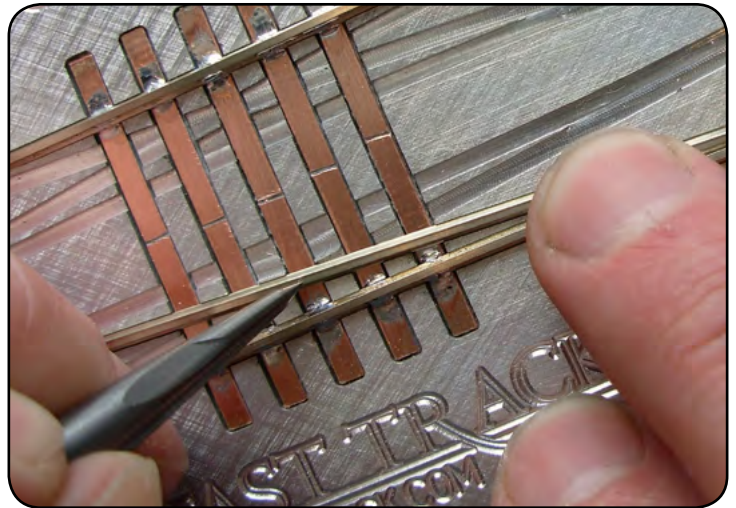
Image 19



Step 2

Place this rail in the appropriate rail groove in the fixture as shown in image 20. Carefully mark the location of the center of the middle PC board tie on the top of this rail. Try to be as accurate as possible.

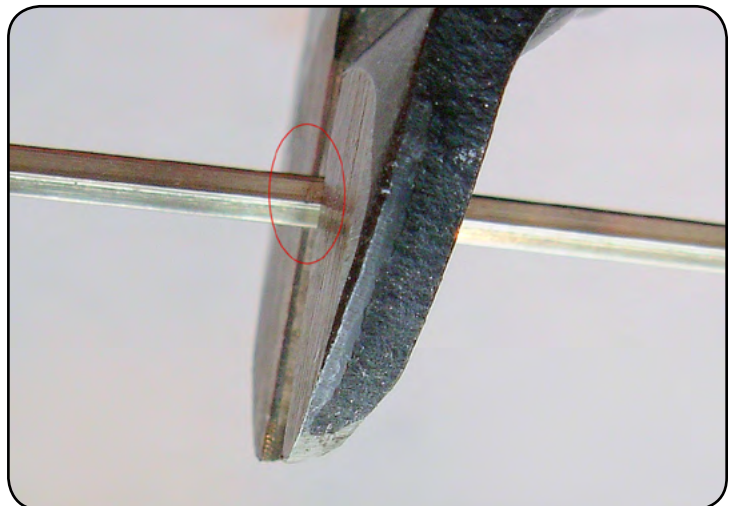
Image 20



Step 3

Trim the rail to length just slightly past this mark. We will accurately file it to length in the next step. (Images 21 & 22)

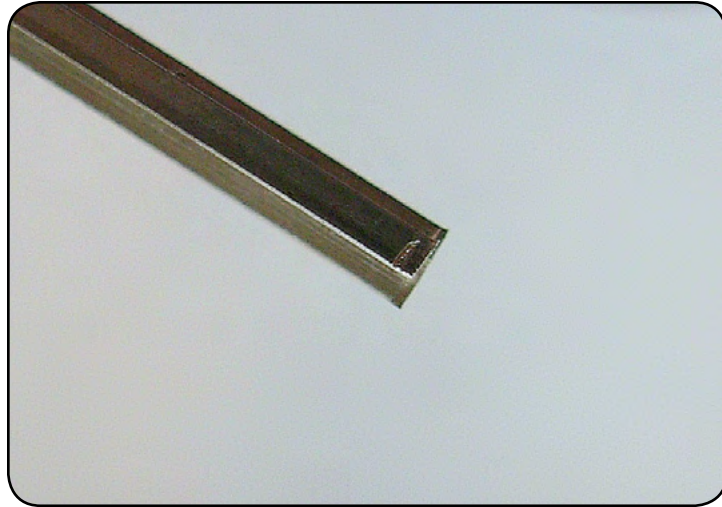
Image 21



Step 4

Notice how the rail has been cut just slightly beyond the mark to provide material for final filing. (Image 22)

Image 22

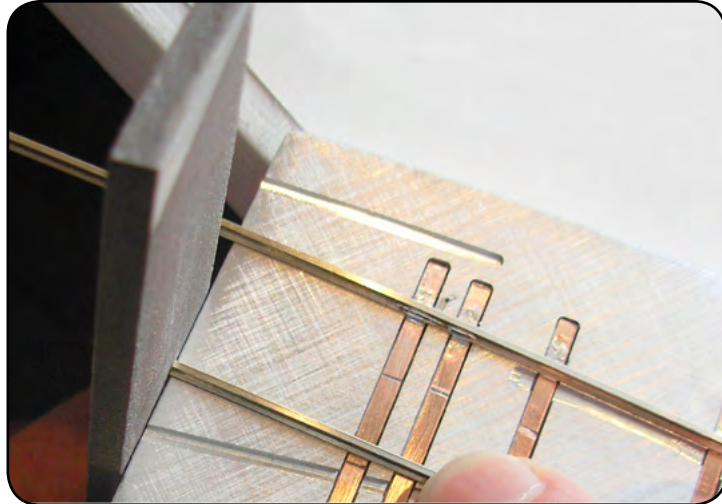


Step 5

The end of the fixture provides an accurate way of filing an angle on the end of the rail, allowing it to precisely mate with the opposing point. (Image 23)

Slide the rail to the opposite end of the fixture from where it meets the stock rail. Holding the rail firmly in the groove, file the end flush with end of the fixture. This is best accomplished with a large flat file using only a downward stroke while keeping firm pressure between the rail and the file. A few passes with the file is all that is needed to accurately form this angle onto the end of the rail. File down to the mark placed on the rail in step 2.

Image 23



Care should be taken here to keep the top of the rail as square to the filed face as possible. (Image 24)

Image 24



Step 6

Repeat these steps to produce the opposite point. When completed the two halves of rail should meet at the center tie to form an accurate angle. (Images 25-27)

Image 25

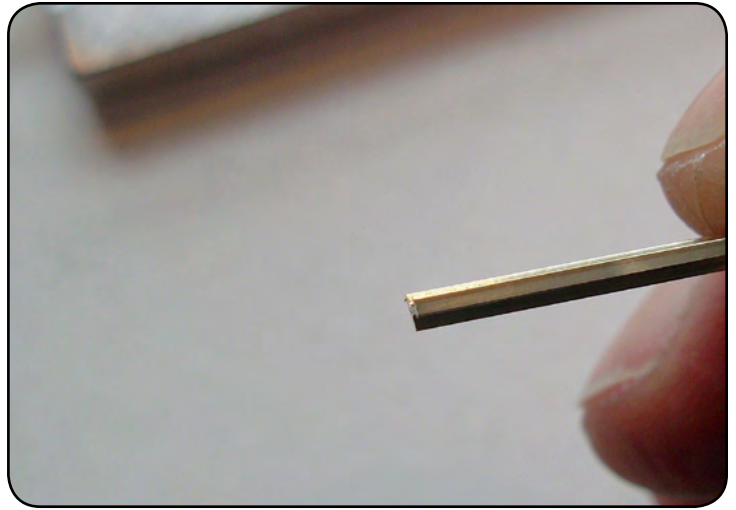


Image 26

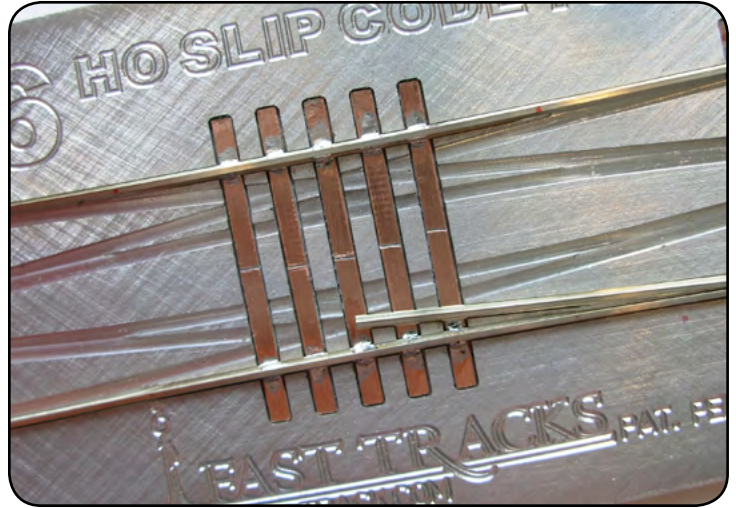
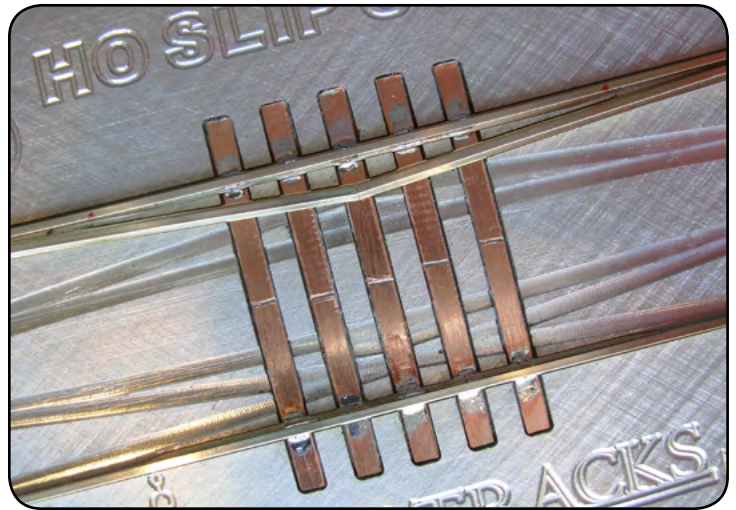


Image 27



Step 7

Apply a small amount of flux on the top of the rail at the joint and carefully solder the two halves together. This does not need to be a perfect solder joint, only enough to keep everything in place while the rails are soldered firmly to the ties. (Images 28 to 30)

Image 28

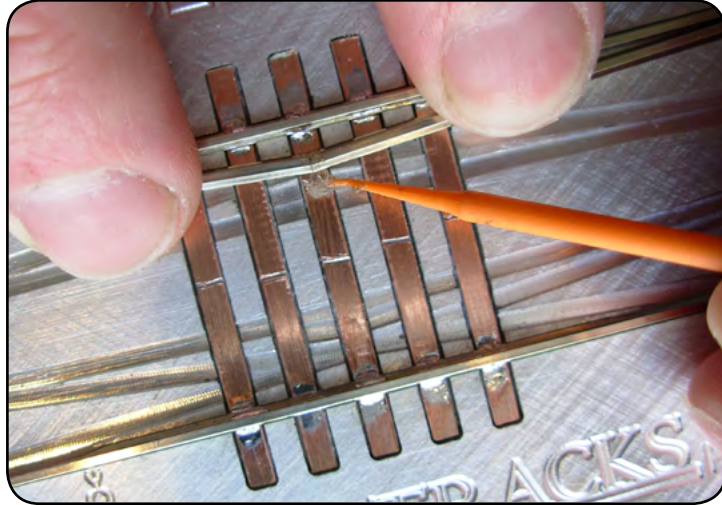


Image 29

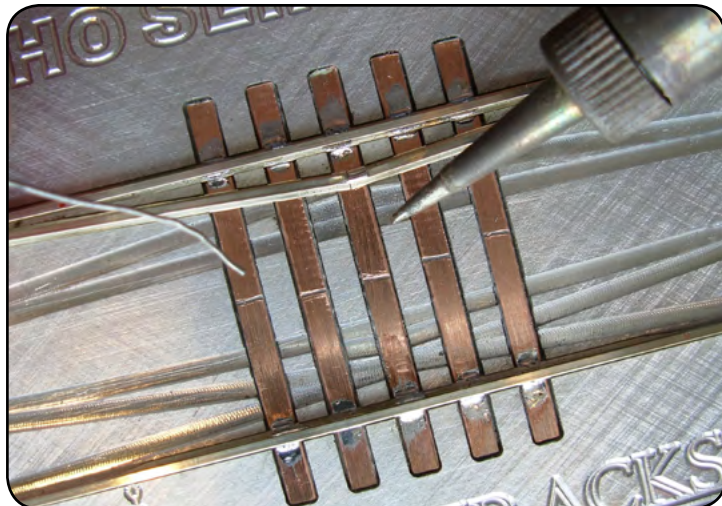
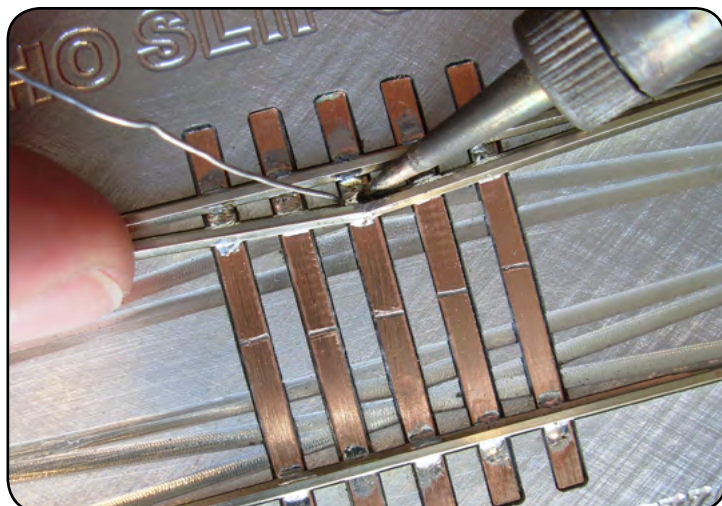


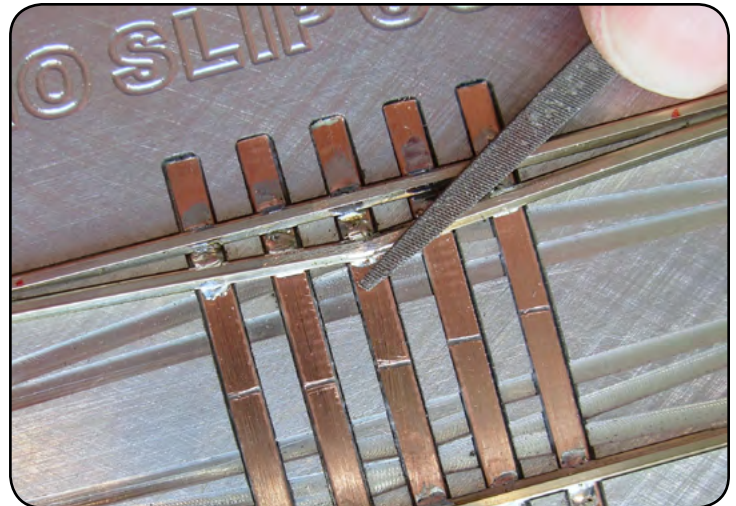
Image 30



Step 8

Once the rails are soldered in place, the solder on the top of the rail at the joint can be carefully removed with a small file. (Image 31)

Image 31



Step 9

Using a thin file, dress the switchpoints so they form a nice sharp transition to the stock rail. (Image 32 & 33)

Image 32

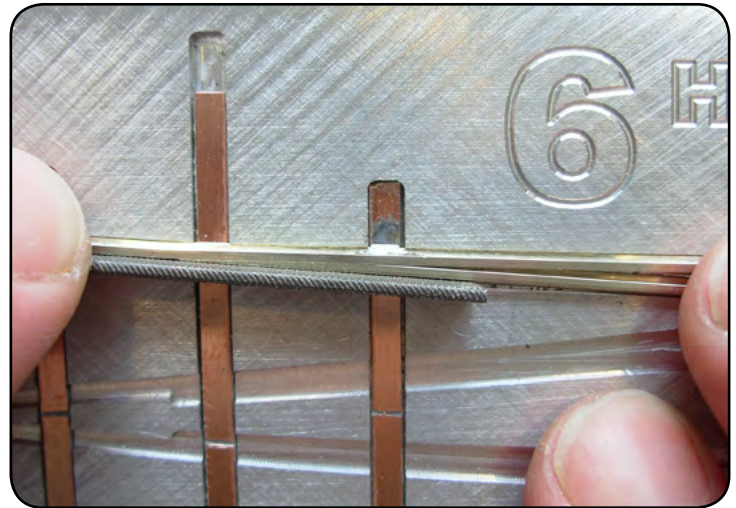
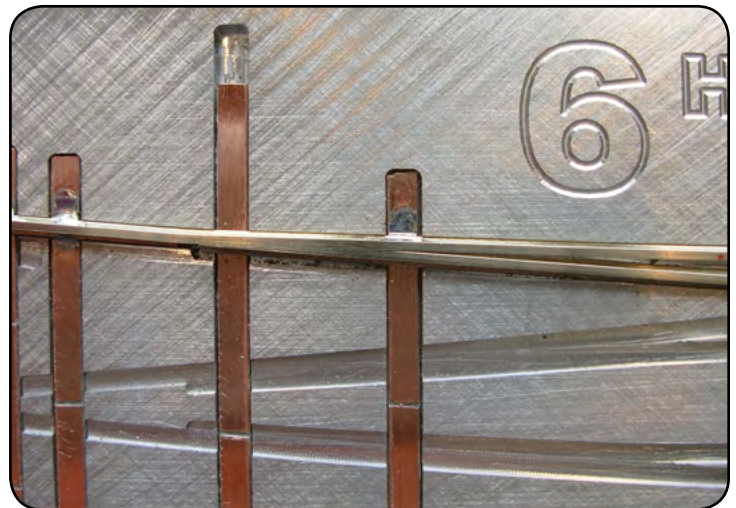


Image 33

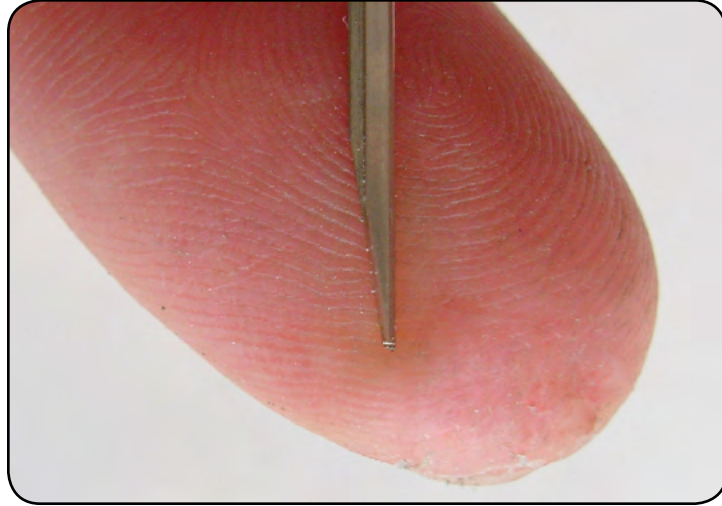


Form & install Four Closure Rails

Step 1

Cut a length of rail approximately half the length of the fixture. Using the method of your choice, form the secondary frog angle on the end of this length of rail. (Image 34) If you are using a Combo PointForm tool this angle is marked "Toad" on the tool.

Image 34



Step 2

Place this length of rail into the fixture and using the Flangeway tab of an NMRA gauge, space the angled end of this rail adjacent to the point rails that you previously soldered into place. (Image 35)

Image 35

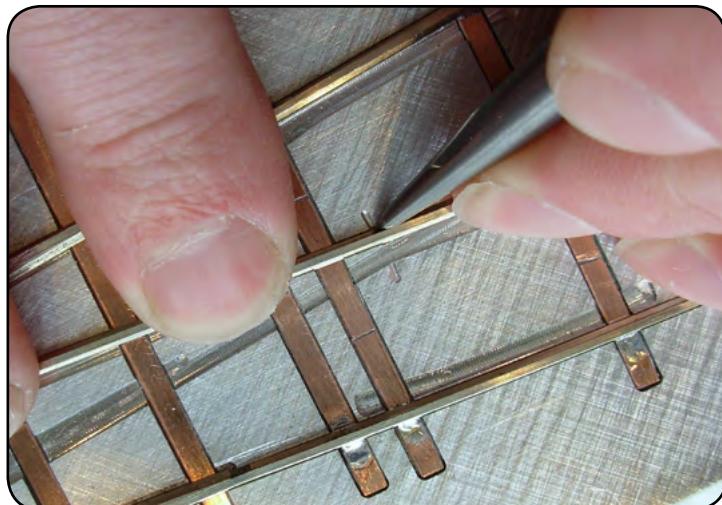


Step 3

While holding the rail firmly in place so as not to narrow the space between the angled end of the rail and the point rails, mark the location of the wing rail bend. (Image 36)

This location is identified on the fixture with a line that bisects the angle between the closure rail and the wing rail. A scribe or other sharp tool works well for this.

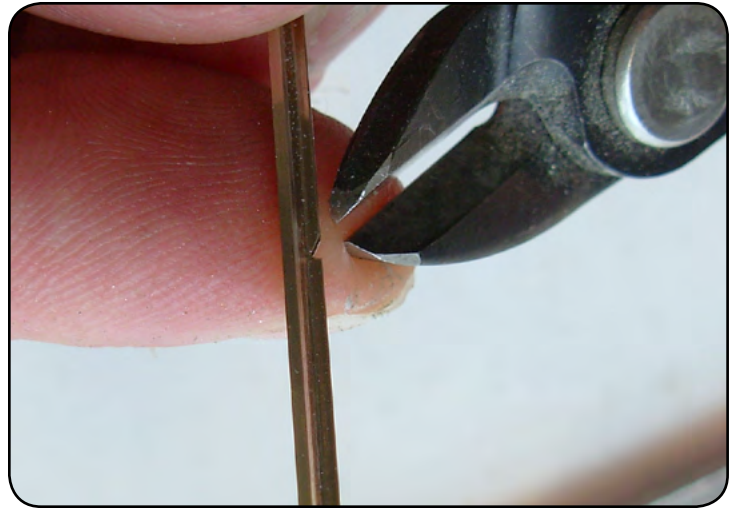
Image 36



Step 4

Using rail nippers, or a triangle file, remove a chink of rail at the location of the scribed mark. (Image 37) This will allow the rail to bend sharply.

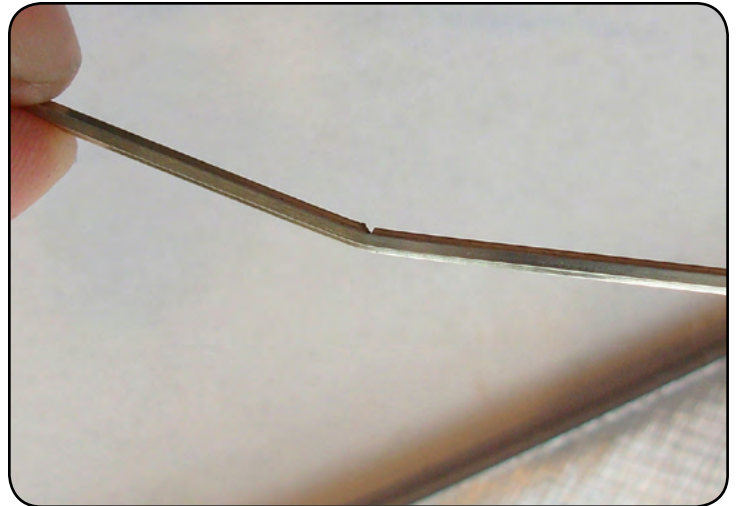
Image 37



Step 5

Bend the rail at the point where you removed the chink of rail. (Image 38) Use the fixture to confirm that the angle matches the groove as close as possible.

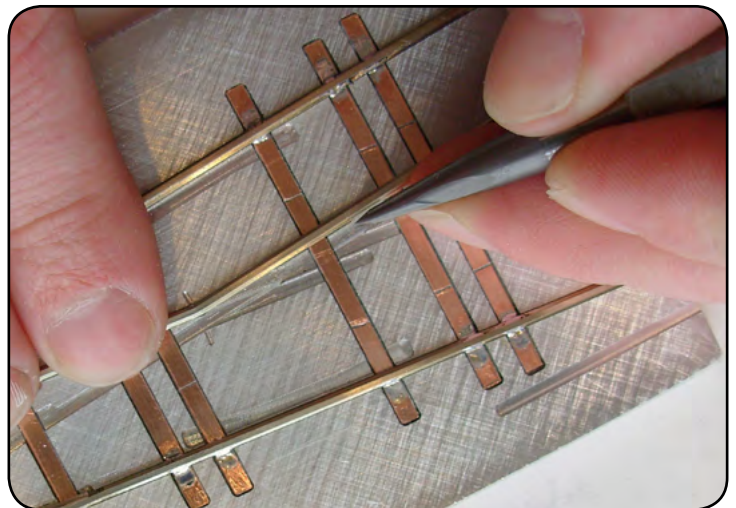
Image 38



Step 6

Once the wing rail is accurately formed, place the rail back into the fixture and mark the length of the rail. (Image 39) Cut it to length with rail nippers.

Image 39



Step 7

Confirm that an accurate piece of rail has been formed by placing it into the fixture. (Image 40) If it isn't a good fit, discard it and make another one. Taking extra time to produce precisely fitted wing rails will ensure smooth running trackwork.

Image 40



Step 8

This closure rail also has switch points that will close against it. The area where the switchpoints meet the rail will require the base of the rail to be removed to provide clearance as was done on the other stock rails. With the rail in the fixture mark the location where the base rail needs to be removed using the same technique as before. (Images 41 & 42)

Image 41

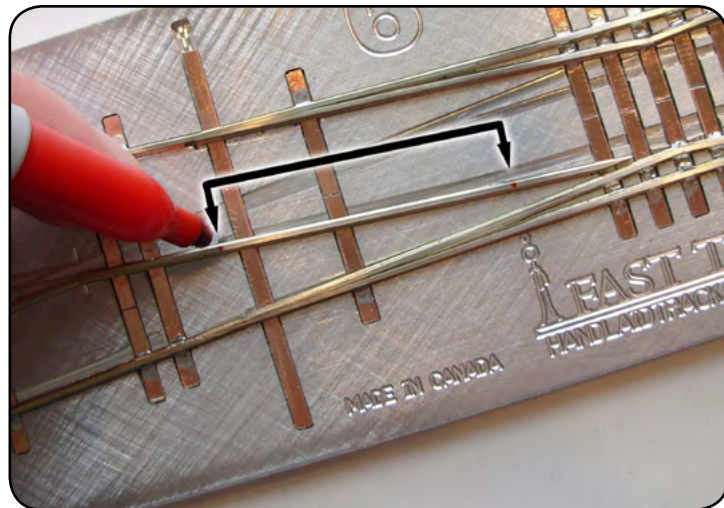


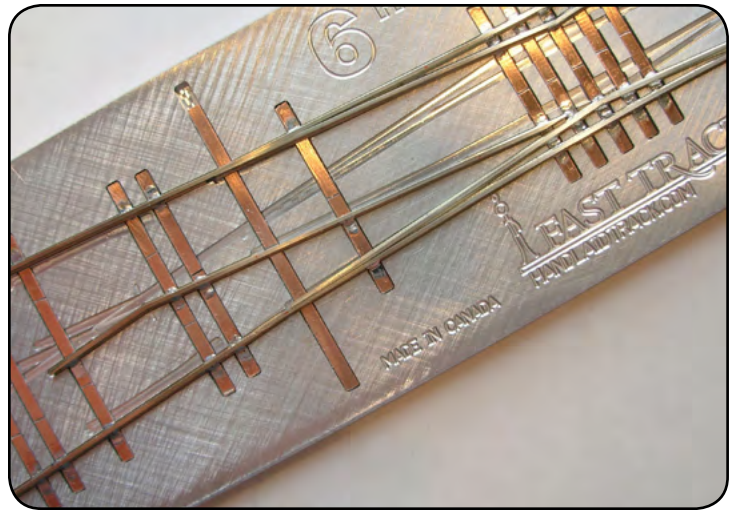
Image 42



Step 9

Place the completed rail into the fixture and solder it into place. (Image 43) Double check with an NMRA gauge that there is the correct amount of clearance at the angled end of the rail. The clearance should be .040" (1mm) to .050" (1.25mm).

Image 43



Step 10

Repeat step 1 to 9 to form the opposite closure rail. (Image 44)

Step 11

Construct and add two more closure rails on the other side of the slip switch.

At this point it is possible to confirm the operation of the trackwork with a set of wheels. They should roll smoothly through the entire frog section at the center of the trackwork. (Image 45)

Image 44

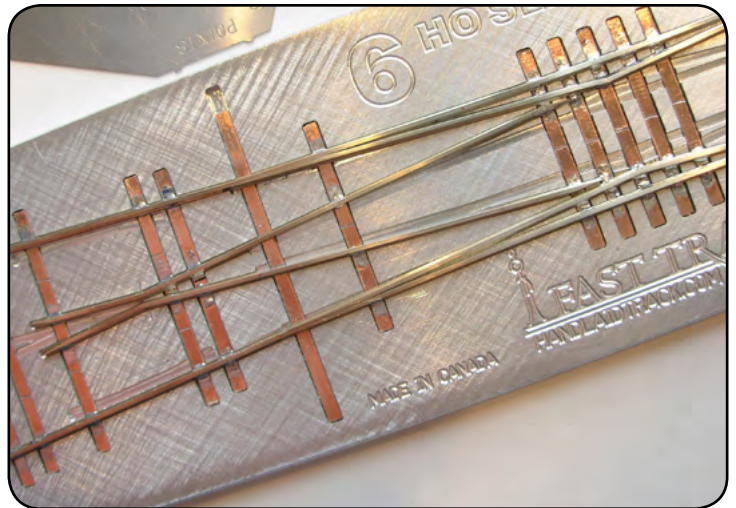
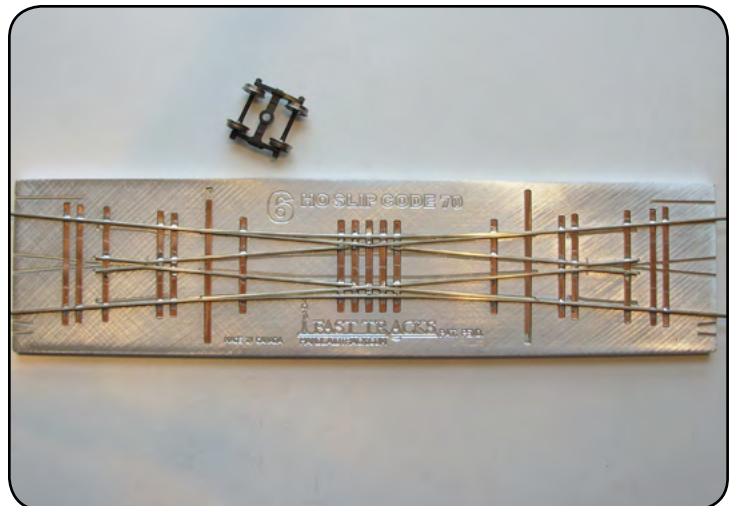


Image 45

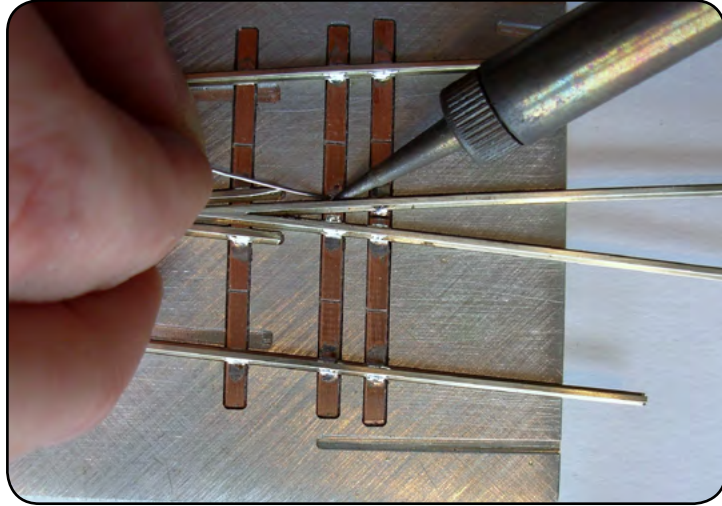


Install the Frog Points & Guard rails

Step 1

Place the pre-built frog points into the fixture as shown in image 45a. There may be some slight back and forth play between the rail and the fixture allowing the points to be slid forward toward the center. The ideal location for the points is as far forward as possible. Apply flux and solder in place.

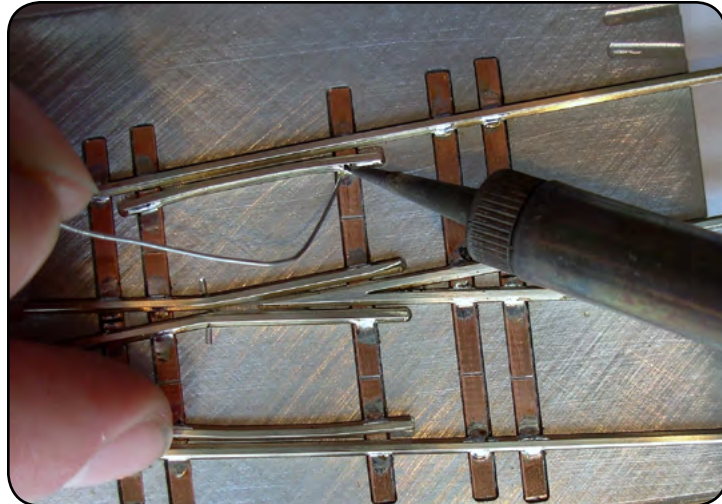
Image 45a



Step 2

Place the pre-formed guard rails in place in the fixture, flux and solder in place. (Image 45b)

Image 45b

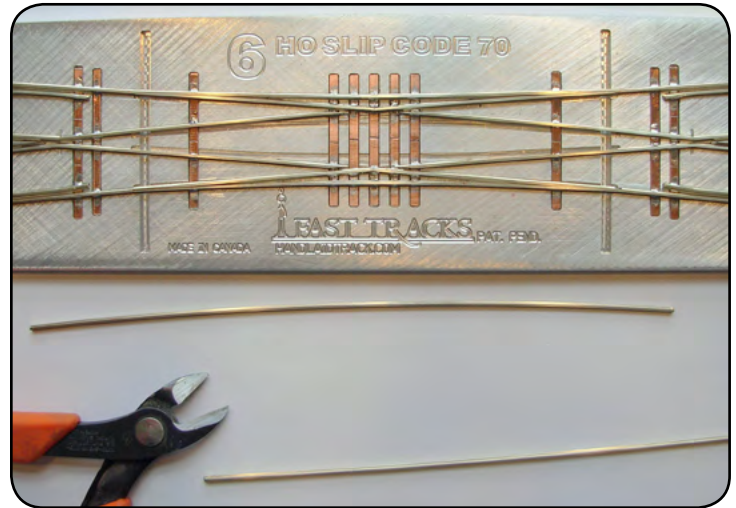


Form & Install Four Inner Switch Points

Step 1

Pre-bend a length of rail that is long enough to span a few ties past each of the switch points. (Image 46) It is important to pre-bend this rail so that the switch points fit properly. Our RailRoller rail bending tool is recommended for this task.

Image 46



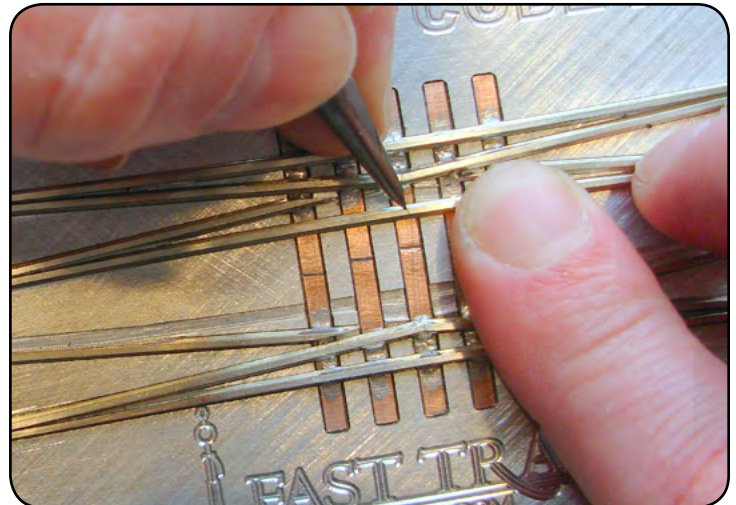
Step 2

Using the method of your choice, form a switch point on one end of this length of rail.

Step 3

Place this rail into the appropriate rail groove in the fixture. Ensure that the point is located properly at the throwbar, it should extend slightly past.

Image 47



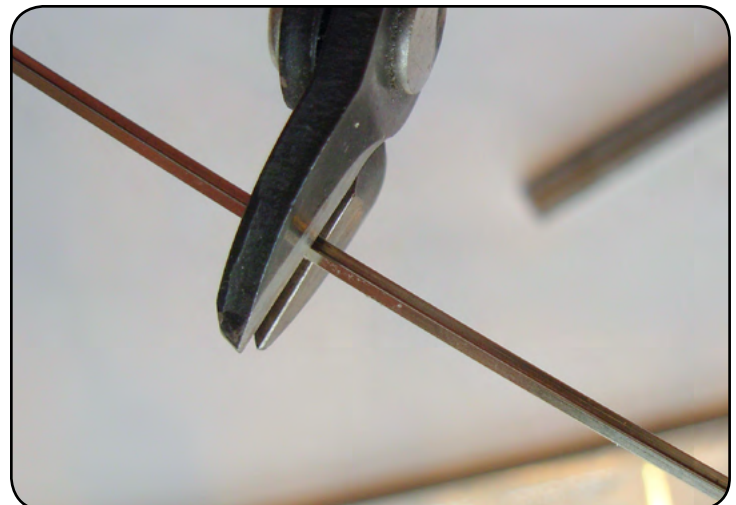
Step 4

As was done in the previous step, mark the centre of the centre tie on the head of the rail. (Image 47)

Step 5

Cut the rail cleanly at the line. There is no need to file an angle on the end as it needs to be square.

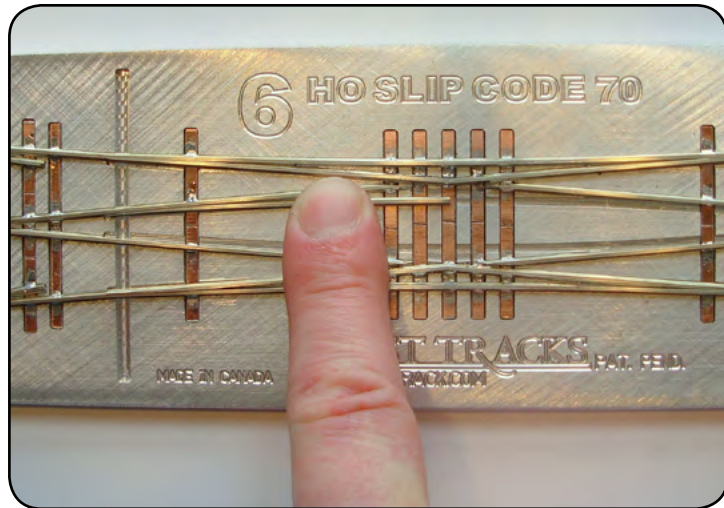
Image 48



Step 6

Confirm the fit in the fixture.
(Image 49)

Image 49



Step 7

Repeat this process to form a switch point for the opposite end.

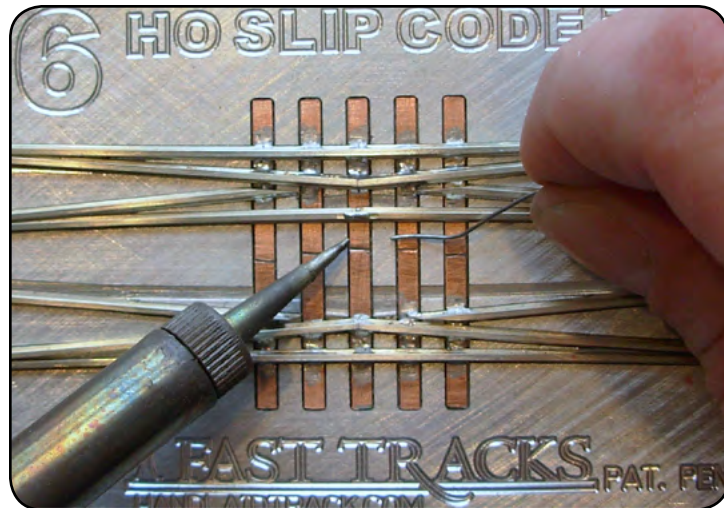
Step 8

Confirm the fit. (Image 49)

Step 9

Apply a small amount of solder on the head of the rail to hold both pieces steady in the groove.
(Image 50)

Image 50



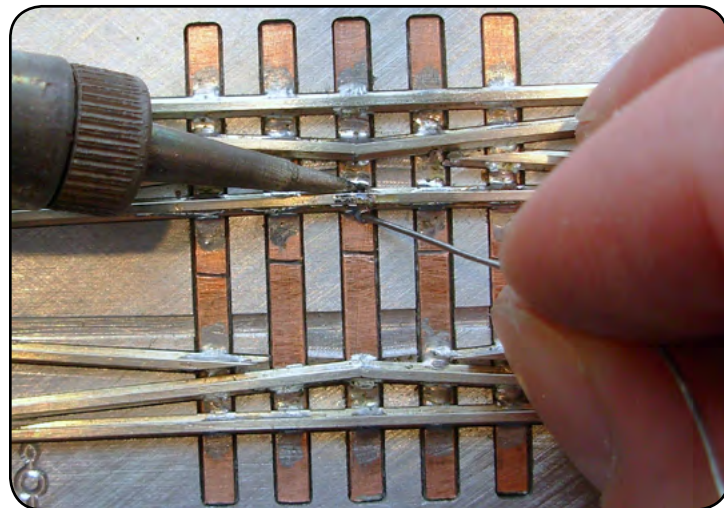
Step 10

Solder the rail to all of the ties in the center of the fixture. (Image 51)

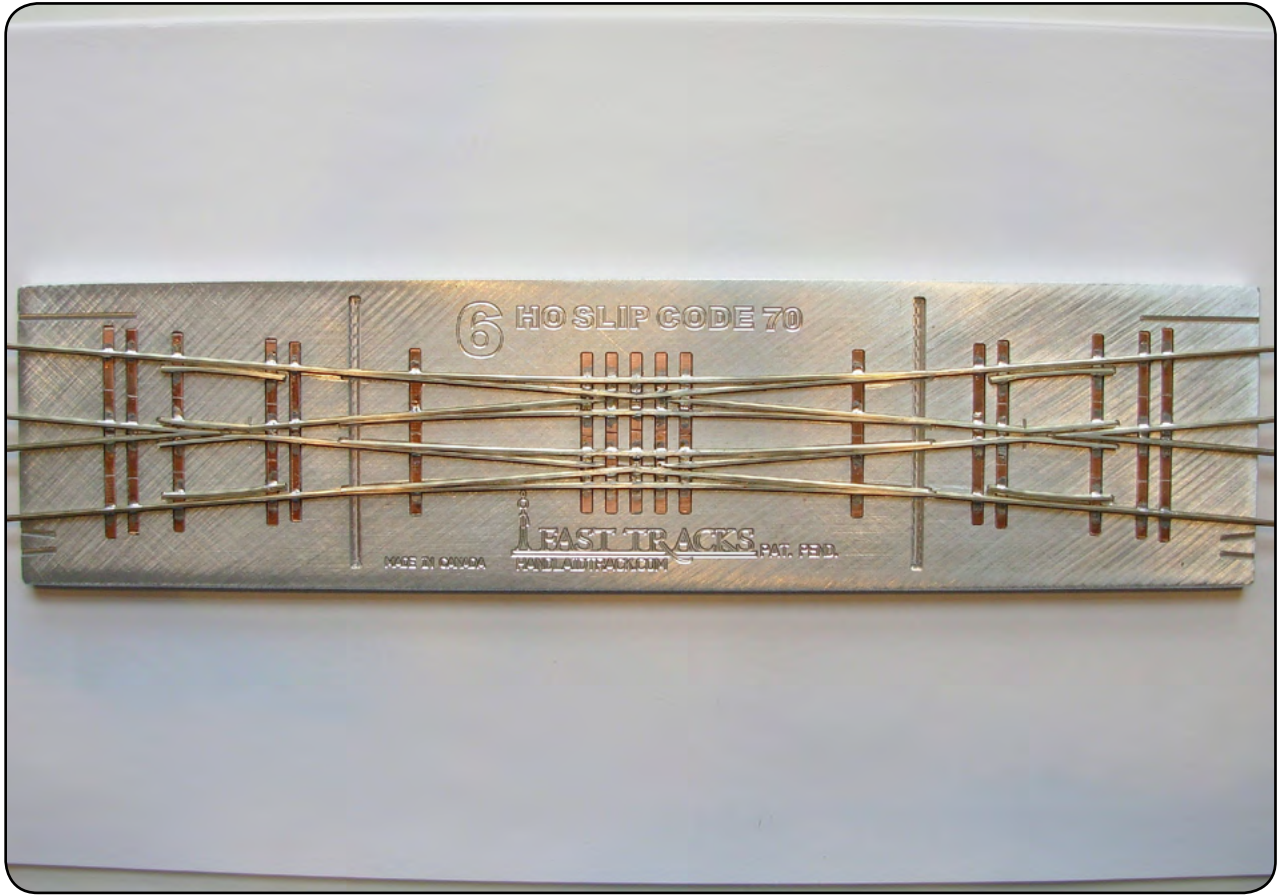
Step 11

Repeat these steps again to form and install the opposite side.

Image 51



This is what you should have so far.



Some exquisite fixture built trackwork built by Wayne Trask.

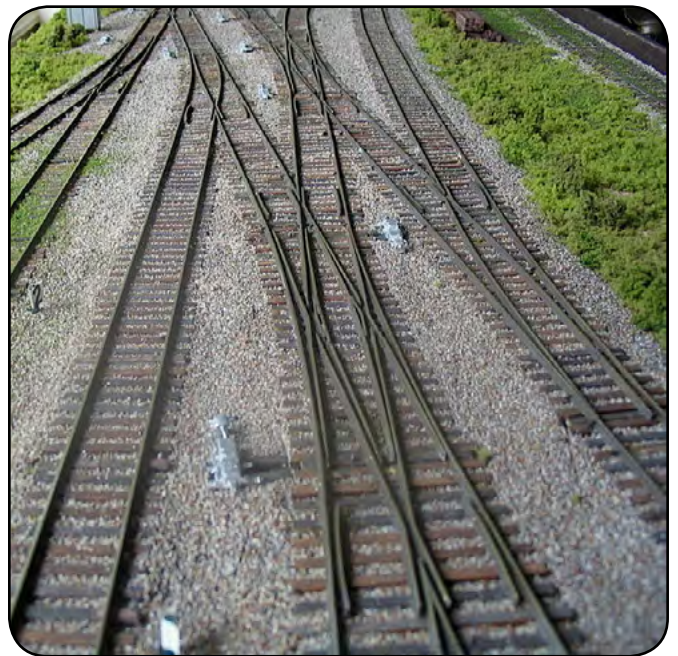


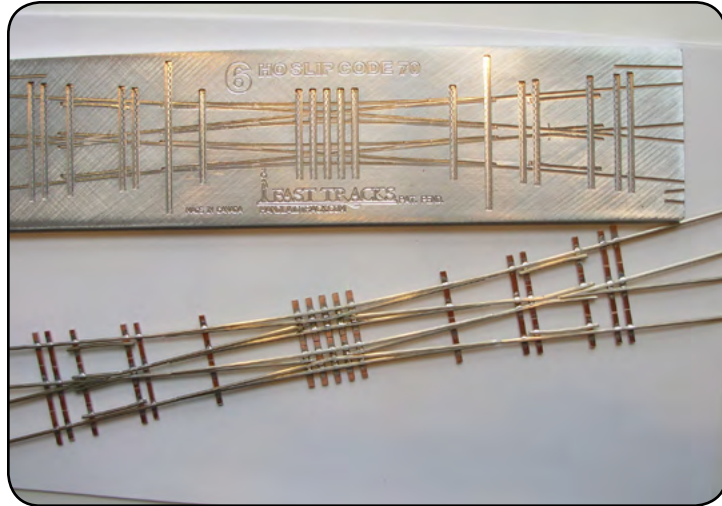
Image courtesy Wayne Trask

Cut Off the Switch Points

Step 1

Gently remove the slip switch from the fixture. It may be pretty snug, but wiggling the protruding rail should help work it free.

Image 52

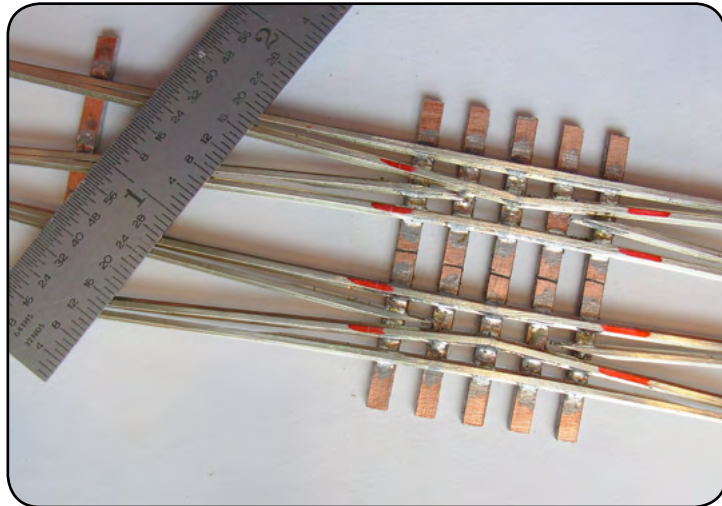


Step 2

The switch points need to be cut off about 1/2 a tie length (about 1/8") from the end of the last PC board tie in the middle tie group.

Mark the top of the rail with a marker and scribe a line in the ink at this location. (Image 53) The ink will help make the line more visible.

Image 53

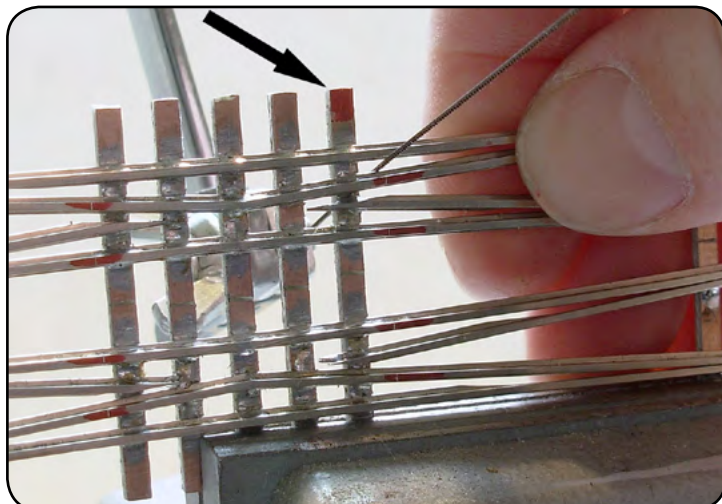


Step 3

Mount the switch into a vise, clamping it firmly onto the ends of the PC board ties.

Now carefully cut the points free using a jewelers saw. If you mark the one end of the PC board ties with a colored marker it will help to keep the cut points from getting mixed up.

Image 54



Step 4

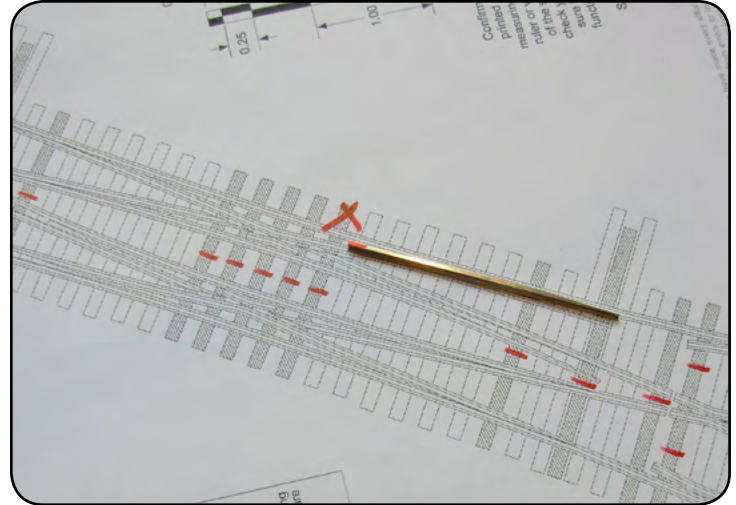
On a print of the matching tie template, mark this same tie and place the cut off point in its position on top of the drawing.

While you are working it is important to keep the loose points in their proper location.

You could also place the point in its correct location in the assembly fixture.

We will only cut the points from one side of the switch to help keep from mixing up the loose points.

Image 54



Step 5

The points are hinged using a rail joiner that has been cut in half.

It is easy to cut the joiners in half by placing it onto a length of rail and cutting it in two using a cut-off rotary tool. (Image 56) This can also be easily done with the jewelers saw by clamping the rail in the vise. Be sure to de-burr any sharp edges on the rail joiner.

Image 55

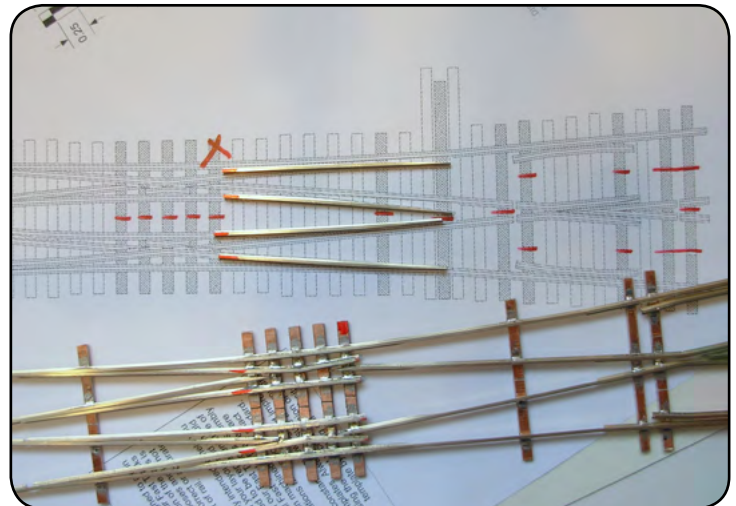
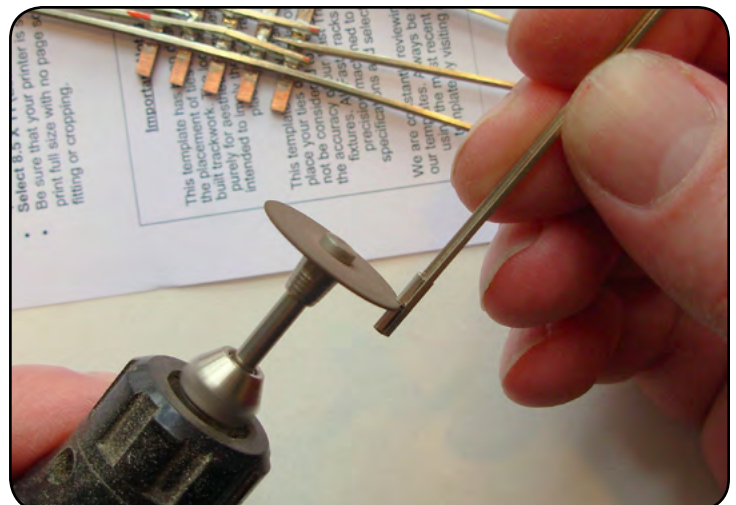


Image 56



Step 6

The cut rail joiner needs to be slid onto the end of the piece of rail protruding past the PC board tie on the slip switch. It can be difficult to get it in place as rail joiners are usually a pretty snug fit.

To make this step easier, slip the rail joiner onto a length of rail slightly shorter than the switch point. (Image 57) Using a PC board tie to support the rail and aid in aligning the bottom of the rails, slide the joiner onto the switch using a sharp tool. It may take a bit of wiggling to get it in place.

Step 7

Remove this piece of rail and replace it with the appropriate switch point. It should slide in place fairly easily now. Move the switch point side to side to ensure it will operate easily. (Images 58 & 59)

Image 57

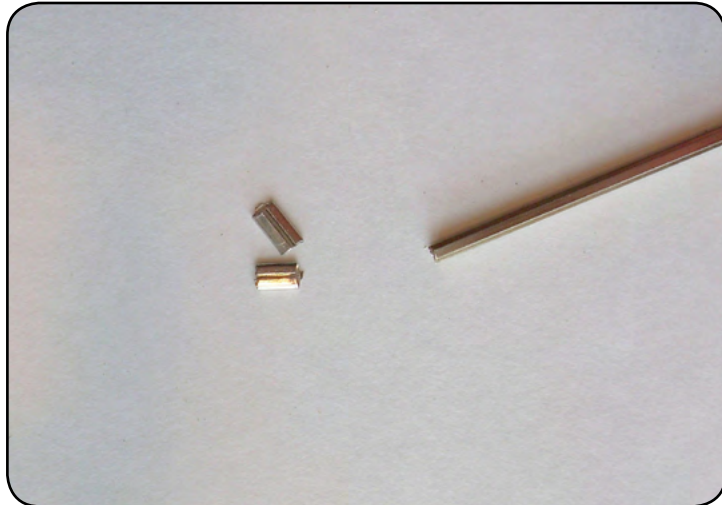


Image 58

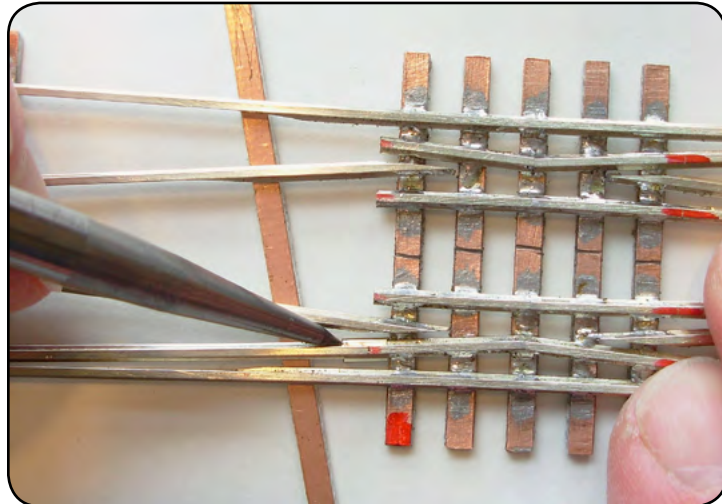
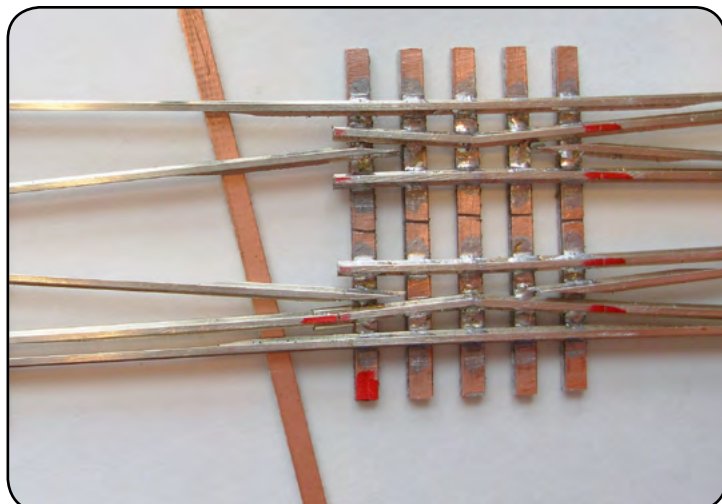


Image 59



Solder the Switch Points to the Throw Bar

Step 1

Return the trackwork to the fixture. (Images 61 & 62) The rail joiners will interfere with getting the track all the way into the grooves, but for this step it will not cause any problems.

Step 2

With this step we will be soldering only **two** of the four points in place.

Starting with one of the outer points, apply a small amount of flux to the rail and tie and lightly solder them together. (Image 63) Be very careful to not allow the solder to sweat under the rail, otherwise it will adhere to the stock rail.

Image 61

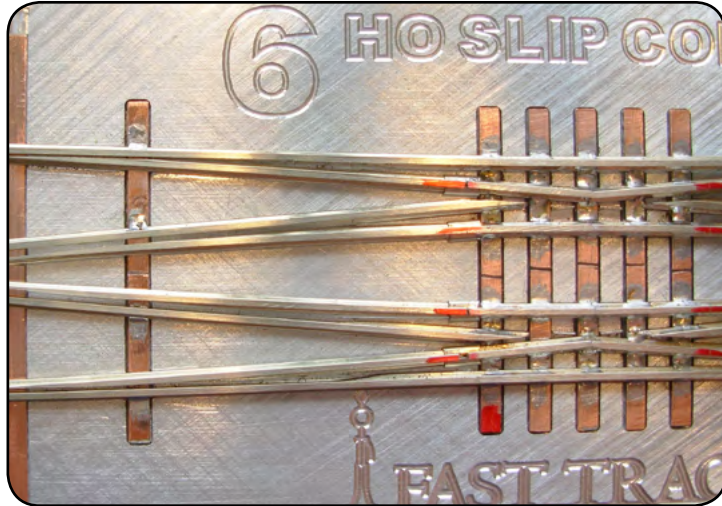


Image 62

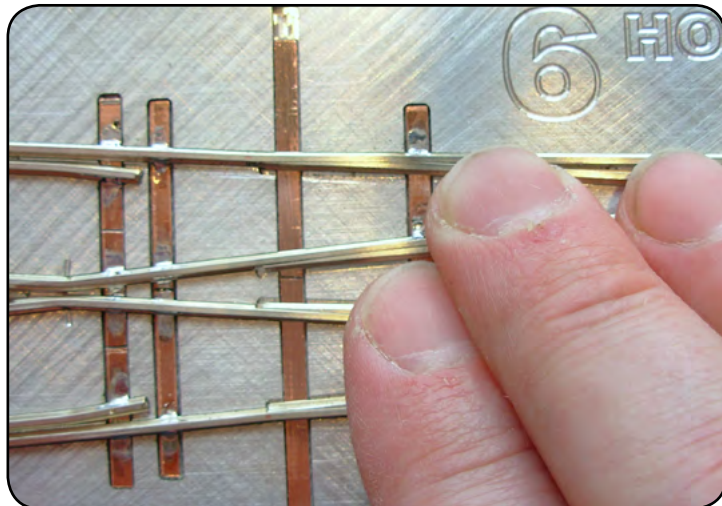
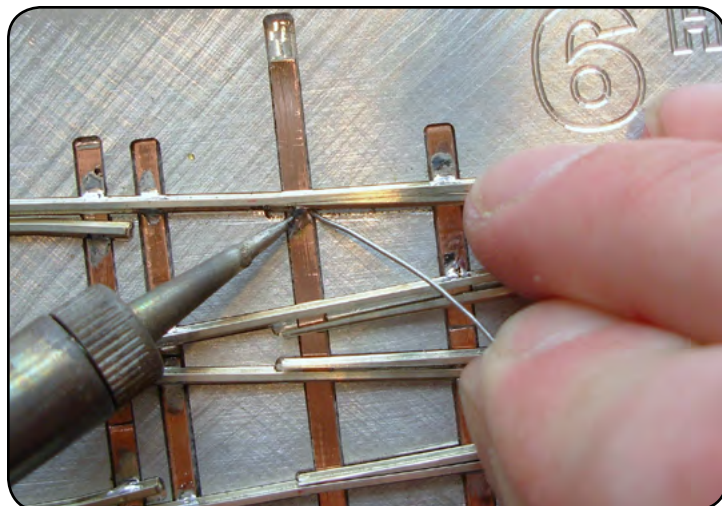


Image 63



Step 3

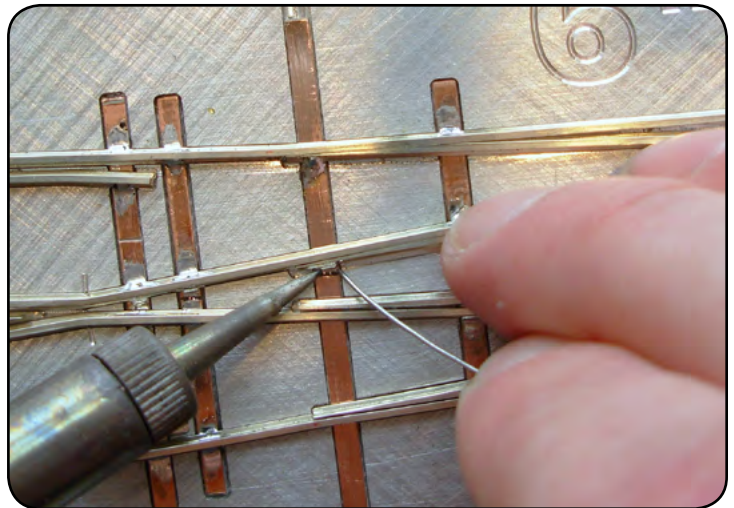
Working up from the first point that you soldered into place, apply a small amount of flux on the tie and rail and lightly solder it into place. (Images 64 & 64a)

Be certain that the point soldered in the previous step is seated firmly against the stock rail when soldering this point in place. It may take a lot of fingers to accomplish this. If you need more fingers, please visit our website at www.fast-tracks.net to order from our extensive selection of extra digits.

Image 64



Image 64a



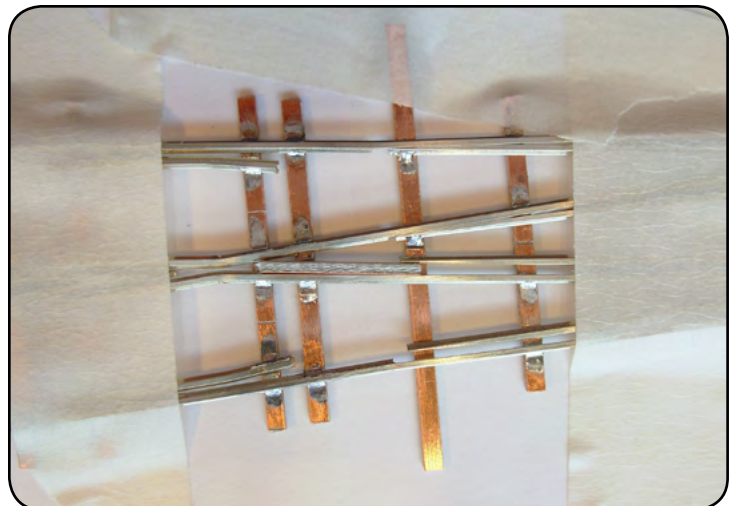
Step 4

With the first two points completed, we will now solder the next two points into place and take steps necessary to ensure that the throwbar stays reasonably square while soldering it in place.

It is easier to tape everything to a flat surface to free up valuable fingers for this step. (Image 65)

Ensure that the first soldered points are firmly seated against their stock rails and taped in place. Use a scrap piece of PC board tie to hold open the inner point, as shown in image 65.

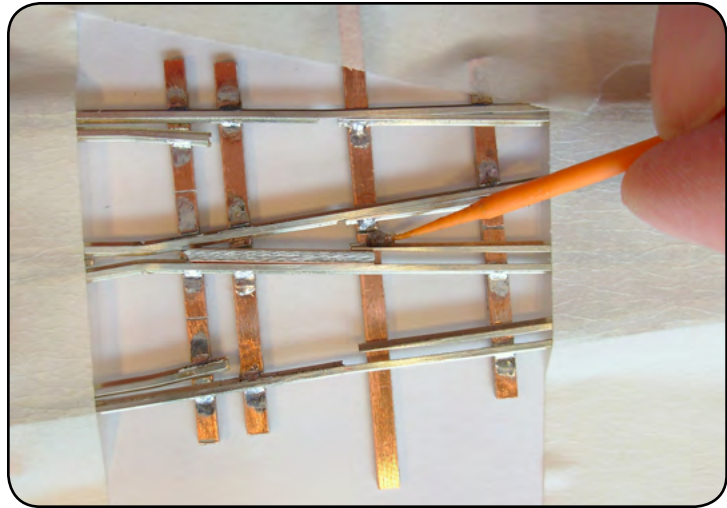
Image 65



Step 5

Lightly flux the tie and rail. (Image 66)

Image 66



Step 6

Solder in place. (Image 67)

Image 67

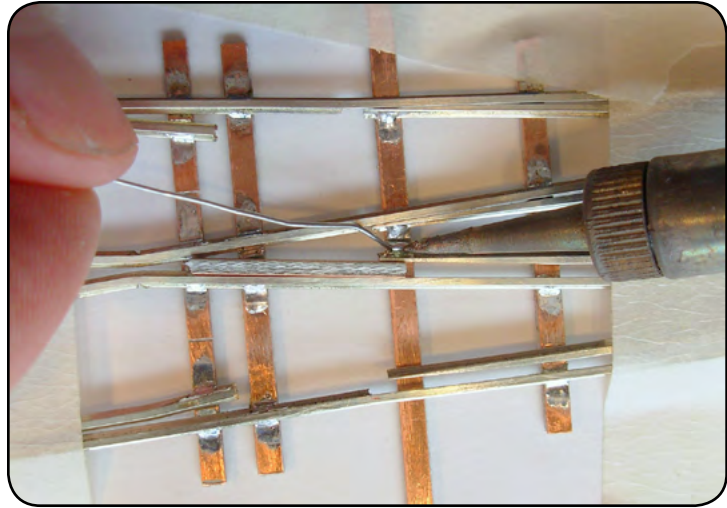
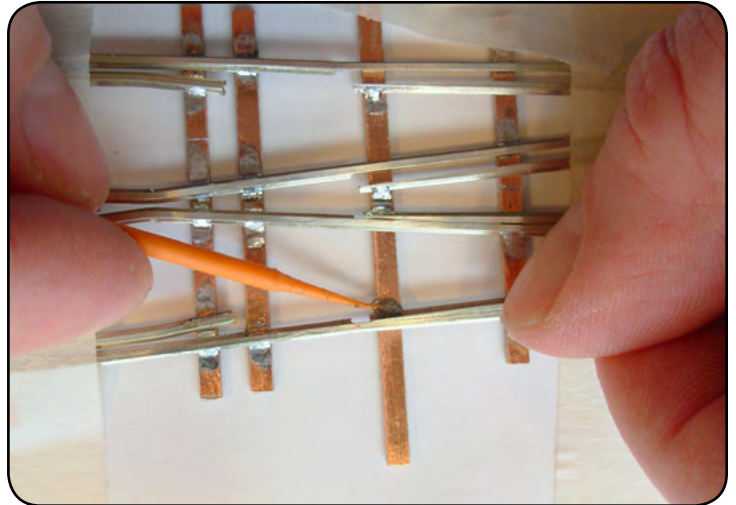


Image courtesy Wayne Trask

Step 7

Move the switch points over so that the points soldered in the previous step are firmly seated against their stock rail and tape them in place.

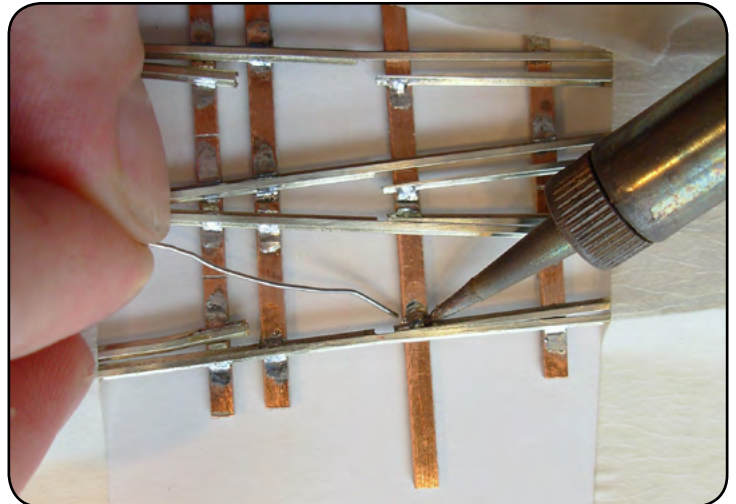
Image 68



Step 8

Lightly flux and solder this final point in place, again being careful not to solder the point to the stock rail. (Image 69)

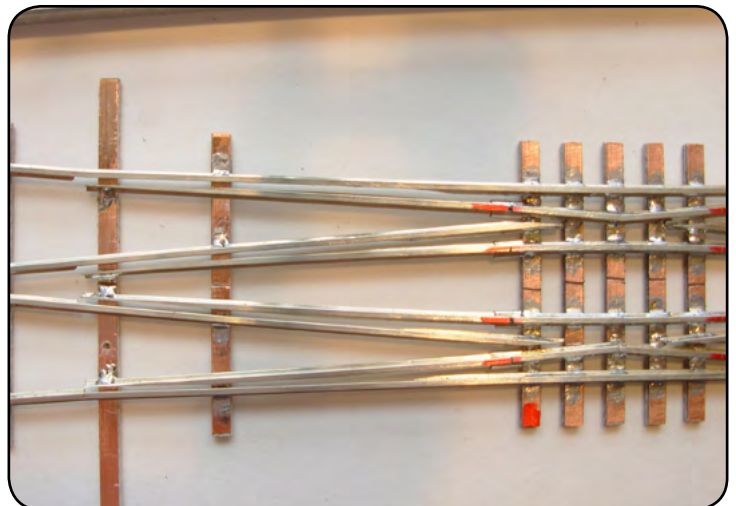
Image 69



Step 9

Repeat this step for the opposite side of the slip switch to complete all the switch points. Test to be sure that all of the points move freely. (Image 70)

Image 70



Step 10

Turn the trackwork over, flux and solder the bottom of the frog point to the PC board. (Image 70a) This will securely fix the frog points in place keeping them from lifting up. Heating the flux will cause it to “wick” between the PC board and the rail and will draw solder into the joint.

Hold the trackwork flat against the fixture while doing this to keep the top of the rail on the same plane while soldering. Care should be taken to ensure that the rail joints in the frog and wing rails do not become de-soldered.

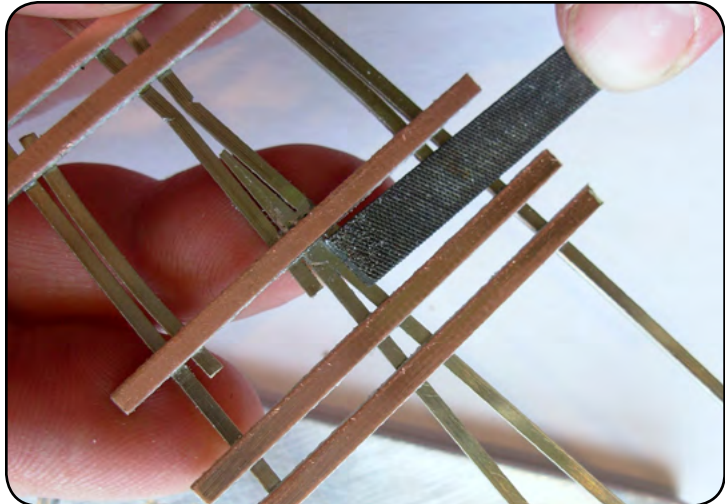
Image 70a



Step 11

File the base of the PC board ties to remove any excess solder. This will allow the QuickSticks to sit flat against the bottom of the rail in later steps. (Image 70b)

Image 70b



Cut the Frog Isolation Gaps

Step 1

Using similar techniques to cutting the points for the closure rails, cut the gaps in the rail for the frog isolation gaps. (Image 71)

Step 2

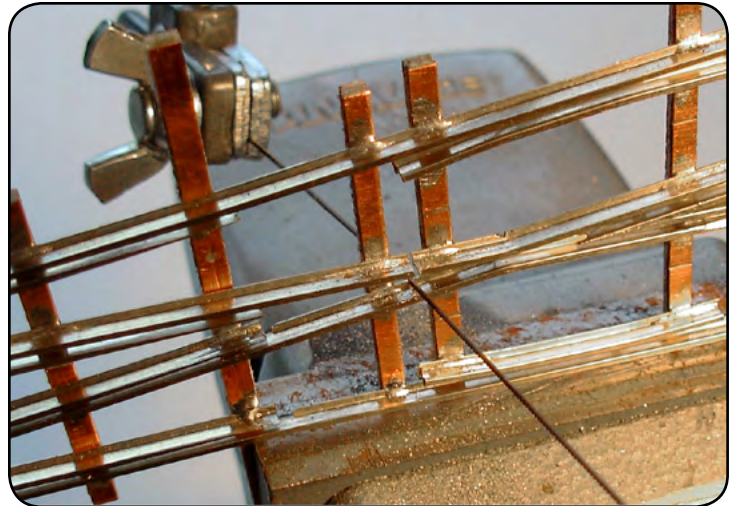
Securely clamp the switch into a vise onto the ends of the ties and using a jewelers saw slice through the inner rails above and below the two frogs.

There are two groups of two ties above and below the frog, Cut the gaps through the inner rails in between these two ties.

Step 3

When completed inspect the gaps to ensure there are no burrs causing a possible electrical connection between the frog and the other rails as this can cause shorting.

Image 71

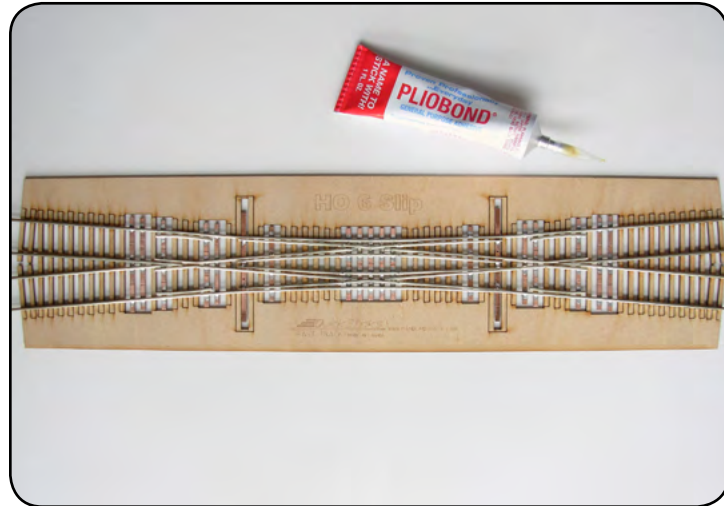


Glue Trackwork to the Optional QuickSticks Laser Cut Ties

Image 72

Step 1

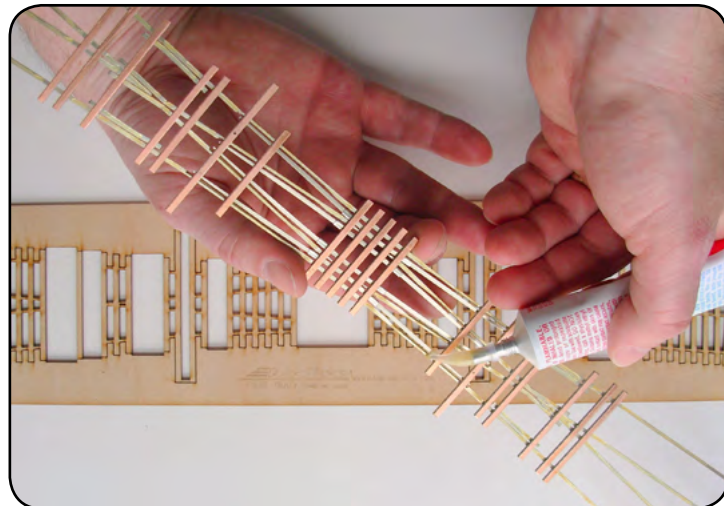
Pliobond is the adhesive of choice for gluing the completed trackwork to Fast Tracks laser cut QuickSticks. (Image 72) This is a contact type of adhesive that can be activated with heat.



Step 2

Using the micro tip included with the adhesive, carefully apply a bead along the bottom of the rails. (Image 73) Be sure not to apply adhesive to any moving part!

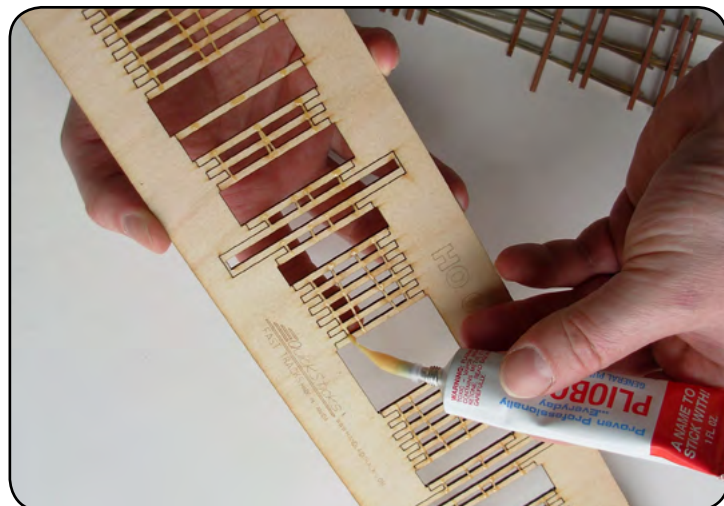
Image 73



Step 3

Apply a bead along the webs between the wood ties on the QuickSticks. Again do not place adhesive near any moving parts. (Image 74)

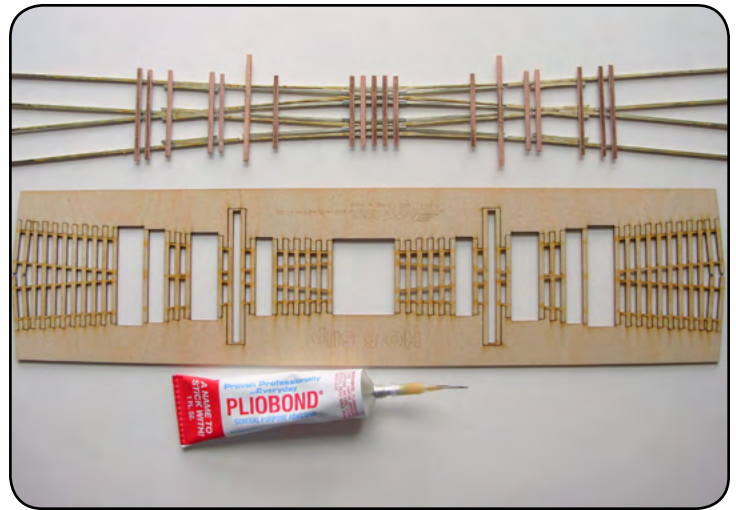
Image 74



Step 4

Let this sit for a few minutes to allow the liquid in the adhesive to evaporate. It should be tacky, but dry to the touch before proceeding onto the next step.

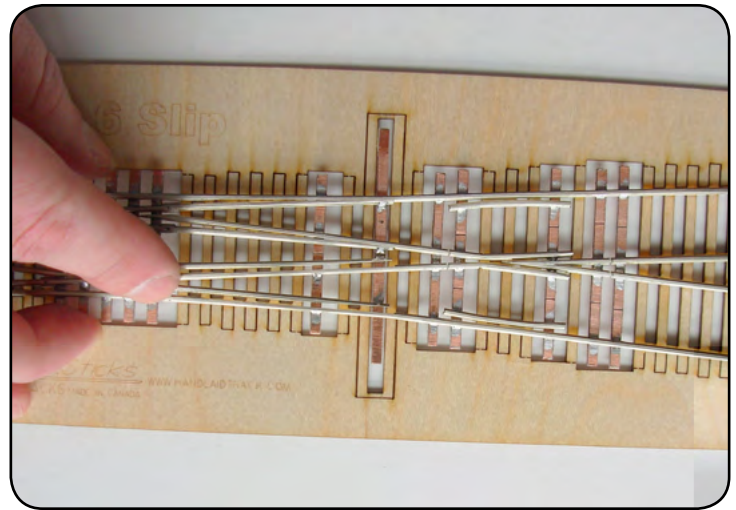
Image 75



Step 5

Using the throwbar tie to aid in aligning the rails to the ties, carefully place the switch onto the wood ties. Do not press them into place just yet. (Image 76)

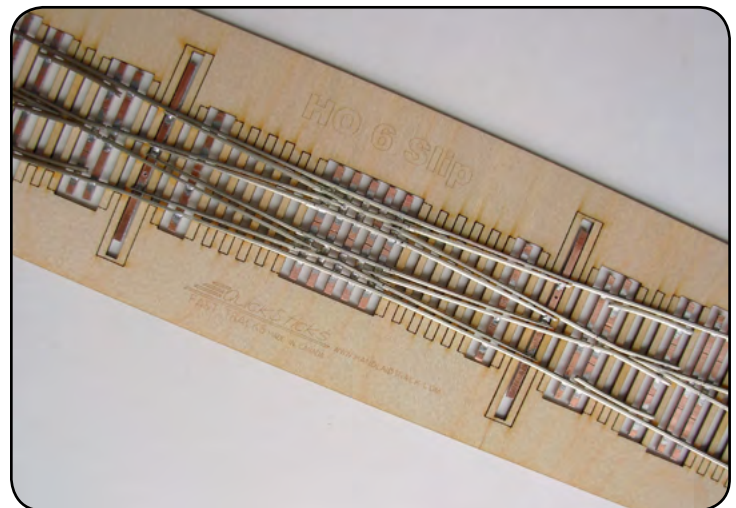
Image 76



Step 6

Confirm the alignment of the switch onto the ties, if you are satisfied with the alignment, press the trackwork firmly into place.

Image 77

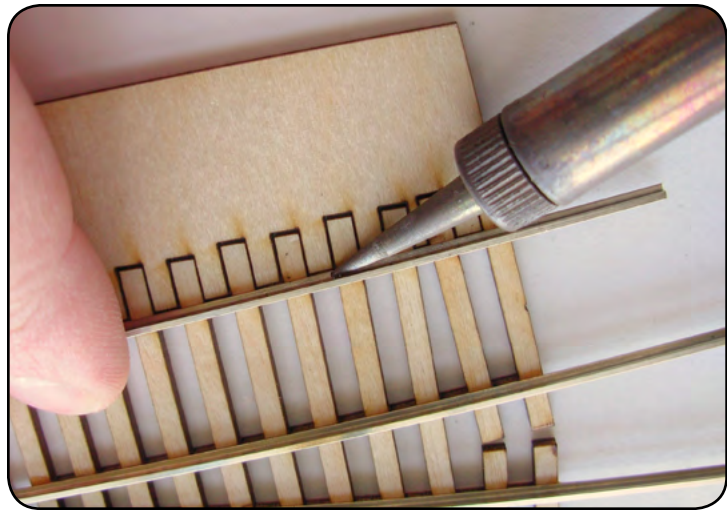


Step 7

Pliobond can be quickly set up by applying heat.

Using a hot soldering iron hold the tip onto the base of the rail for a second or so. This will activate the adhesive causing it to firmly bond together. (Image 78) Slowly work along all rails to set up the adhesive.

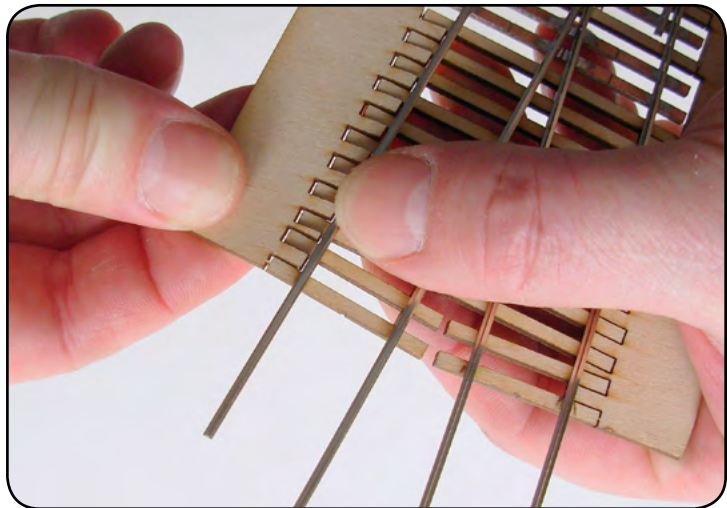
Image 78



Step 8

Firmly holding the ties to the rails, carefully break the wood frame off of the ties. (Image 79)

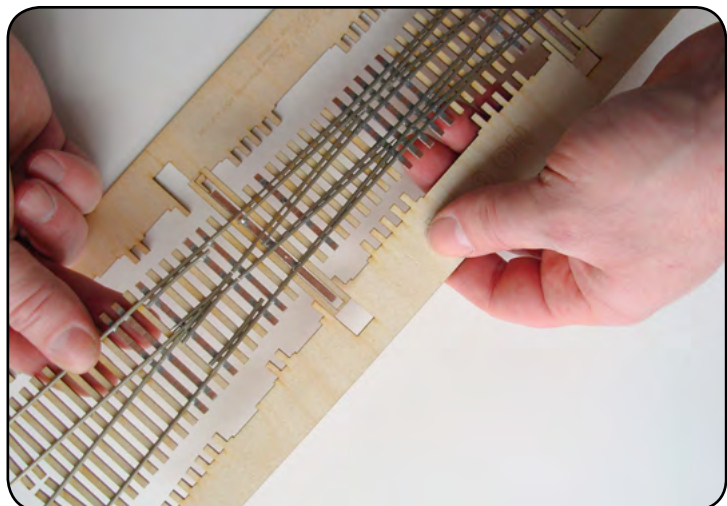
Image 79



Step 9

Discard the excess wood. (Image 80)

Image 80



Step 10

Your Slip Switch trackwork is now complete and ready to install!

