



- SUGGESTIONS FOR INSTALLING TURNOUTS -

Sn3 #6 Turnout

Part #'s PBL-1030 (LH) & PBL-1031 (RH)



02/05/09 Revision

SPECIAL FEATURES

These turnout have an incredible amount of molded-in detail with prototypical spacing and placement of scale size turnout ties, featuring wood grain, tie plates, and correctly sized and located spikes. They also feature a cast, all metal frog for good electrical performance and appearance, snap action, sprung switch rails and optional positioning of headblock ties on either side of the turnout.

PARTS INCLUDED

The following parts are included with this Sn3 Turnout:

- 1 - Turnout
- 1 - Headblock Tie Extension set
- 1 - Wheel set Gauge/Point set

OPERATION

This turnout conforms to NMRA Standards. Installed properly, it will provide smooth, trouble free operation for your trains indefinitely, providing the wheel sets on your locomotives and rolling stock also meet NMRA standards for gauge and flange depth. Although in recent years we've seen immense improvements in wheelset quality control, if a certain car, or worse yet, locomotive persists in derailling in one particular place, the possibility exists that the problem could be an out of gauge wheelset. Which is why, packed with your turnout you will find a plastic wheelset gauge for checking and correcting this problem. If both wheel flanges do not drop into the grooves of the wheelset gauge, whether too narrow or too wide, it might be possible to twist one of the wheels to loosen it and slide it along the axle until both wheel flanges drop into the grooves. As a matter of good practice, always check the gauge of wheel sets before you place any new equipment on your layout.

The NMRA has available an "Sn3 Standards Gauge made of indestructible stainless steel. We highly recommend you own one. And yes, we stock them.

PRELIMINARIES / DECISIONS...

You have probably already discovered that there is an over-center device built into the turnout that allows you to throw the switch point rails manually (push points one way or the other with your finger) and they'll "stay put". But oils in your fingers will cause the rails to oxidize in short order. So unless you enjoy cleaning track, in the long run, you will likely be using some sort of "switch machine" to get the job done. Unless you think that's never going to happen, we recommend you remove the plastic retainer and spring from the underside of the turnout for use with most throw mechanisms.

THROWBAR MECHANISMS

Now turn your attention to the plastic throwbar. It has holes at either end and in the center where a wire throw linkage can be inserted from below. We, personally, have been using the "Bellcrank" method all along because once adjusted correctly it's unobtrusive and pretty much maintenance free. (See "BELL-CRANK" diagram. Note that the cover plate beneath the throwbar must be removed when using the center hole.)

If you are using rail joiners to line up your rails, (which we recommend. See "Electrical", to follow.) attach them to the appropriate rails at the track ends. The end ties don't have spike detail and they are

slightly thinner to allow installation of your rail joiners without forcing these ties below the other ties.

MOUNTING METHODS - SPIKING OR GLUING?

These turnouts can be mounted to the roadbed either by spiking or gluing. We're not big on spiking because, unless GREAT CARE is excercised, it's all too easy to warp the plastic tie structure which in turn can adversely affect the turnout's gauging, almost invariably making the gauge tight. But if spiking is your preferred method, there are SIX pre-started holes located on the turnout's underside you will need to drill through first. These are located on, (Counting from the turnout's "point" end.), ties #3, #19, and #31. Use a 3/64 (#56) drill to drill through these holes.

We prefer gluing our track and turnouts in place. Why? Well, for one thing, "scale" spike heads are almost never that. Though some are pretty small, they can never be made to look exactly like the carefully tooled plastic ones already moulded in place. In addition, we like the idea of keeping the "rolling noise" of our trains to a minimum in order for the sounds created by our FSS and more recently our Tsunami equipped locomotives to shine through. This requires use of some sort of noise reducing material, (like cork.) for roadbed, with no "mechanical connection to it. (Read: spikes.) Ties on these turnouts, like those of our our Flex-Track, are made of an acetal plastic to which most model glues won't stick well. However, a flexible cement such as Weldwood Acrylic Contact Cement works perfect for this application! (Local Ace Hardware stuff. Doesn't stink. Doesn't dry immediatly, allowing for easy positioning of the turnout once its applied to roadbed only, and water cleanup. We love it!)

If you elect to try this method, you will need to visit your local hardware store and procure some **DAP WELDWOOD ACRYLIC LATEX CONTACT CEMENT**, some cheap 1" brushes, a bucket for water, and a weight. (A smooth brick will work great here, but make sure it's flat. Get several bricks while you're at it! They're a cheap method of holding track in place too.)

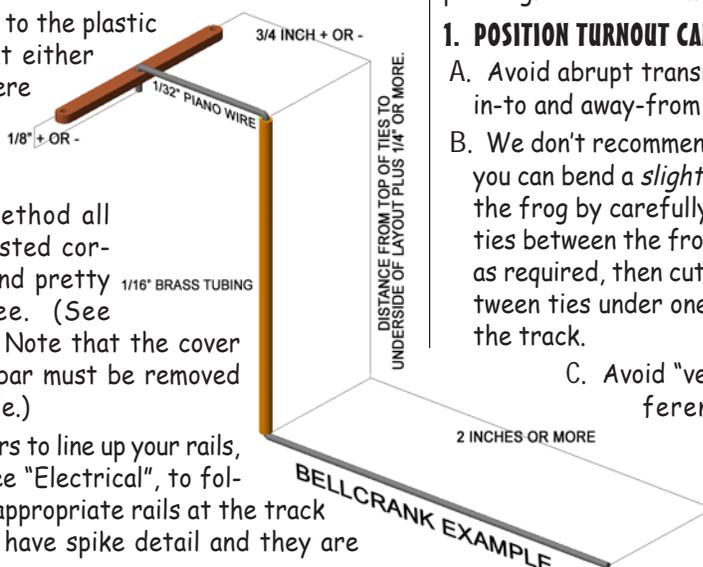
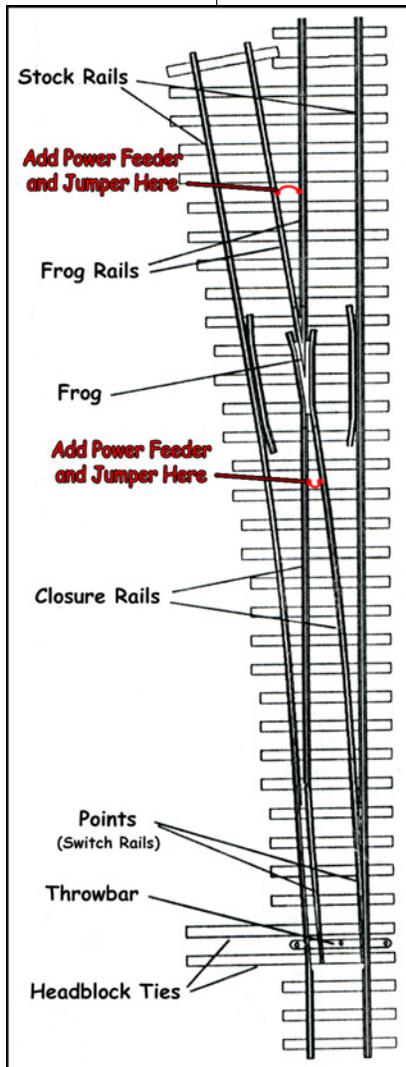
And, of course, the CORK, which we stock. At this writing flexible 3'-0" sections were \$1.45 ea; Sheets (for yards) were \$3.90 ea.

PREPARATION: THE FINAL STEPS BEFORE INSTALLATION...

OK, now that you've made decisions as what you're going to use for roadbed, how you're going to activate your turnout, and how you're going to secure it to your roadbed. Needless to say, reliable, trouble free operation will only result from careful planning. Here's the method we employ:

1. POSITION TURNOUT CAREFULLY:

- A. Avoid abrupt transitions. (Read: Make any curves leading in-to and away-from turnout gradual.)
- B. We don't recommend this, but if absolutely unpreventable, you can bend a *slight* curve in the tangent track just beyond the frog by carefully cutting through the last four to seven ties between the frog rails using a razor knife. Trim tie ends as required, then cut out every other plastic "connector" between ties under one or both frog rails, and carefully curve the track.
- C. Avoid "vertical curves". Any and all height differences at roadbed junctures must be avoided! Sand roadbed as required using a sanding block to eliminate these. (Really nice sanding blocks are available from your local automo-



tive paint supply house in 6", 8", 10" and longer increments, as is pre-cut, self adhesive, non clogging sand paper in #60 to #180 grit finishes. Just the ticket for this purpose.)

D. Once you've got the "kinks" out, and everything's smooth as the proverbial baby's bottom, temporarily set your turnout in place, carefully aligned with the tracks it is to feed. Draw a loose outline of it on the roadbed, with a special note as to where the throwbar will end up, and mark a box around this area. Then set turnout aside while you:

1. Dig out the area under the throwbar. Not 100% necessary, but unless your bellcrank is dead on, it could drag on the roadbed when installed and cause you no end of grief as a result. Better safe than sorry.

2. INSTALLING TURNOUT. . .

A. If you're using the Acrylic Contact Cement method, brush the stuff ONTO YOUR ROADBED ONLY in the area you've previously defined.

1. Don't brush it on the turnout !
2. Don't get any of it closer than 1/2" from that throwbar area !

B. Use plenty of the stuff. Then drop your brush in that bucket of mildly soapy water and set turnout in place, kind of squishing it around a bit to make sure the cement wicks up around the ties.

1. BE CAREFUL to keep cement clear of the moving switch rails and throw bar.

C. Once you're certain it's aligned properly, using a "Q" tip, clean up any excess glue that may have crept up into the moving points, then set weight atop it, and allow time for cement to cure. (Half hour minimum. More is better than less here.)

D. Once cement has for-sure set up, we recommend you run a flat file across it on the oblique as the frog casting might be a little high. (This will also make the frog casting color match the rail color better.) Easy does it here. Don't snag the guard rails !

You can now connect up the adjoining tracks.

3. ADDING THE HEAD BLOCK TIE EXTENSIONS

You will need to glue these in place before you ballast. They can be located on either side of the turnout as space requirements dictate. Clip off the plastic connectors between them and insert the "pins" at their ends into the slots located at the ends of the headblock ties on the turnout. (If you dress these carefully, the joint should be nearly invisible.) Pot these in contact cement too.

ELECTRICAL: POWER HOOKUP

Ideally, electrical power should be in the form of "feeder wires" soldered to the track. Refer to Plate #1. Rail joiners are "O.K." but over time can oxidize to the point their connection is no longer functional. CAUTION - Be careful when soldering wires to rails! Resistance soldering works great. But it's also possible to use a small, 40 watt or so, HOT soldering iron by applying the heat *quickly* to avoid melting the plastic spikes and ties. (Practice on some scrap rail cuttings first !) Pre-tinning the wire end can help reduce soldering time.

Power is fed to the center section of the turnout via "power routing". The switch rails (points) are soldered to a silver-plated throwbar providing both polarity switching and power from the stock rails to the center section of the turnout (frog and frog rails) as the switch assembly is thrown from side to side. Although each turnout is tested for proper power routing prior to leaving the factory, over time, the inside surface of the stock rails and the points will likely get dirty or oxidize from moisture in the air causing a loss of electrical contact. For this reason, electrical contact to the center section of the turnout (power routing) is not guaranteed, and it is recommended that turnouts be power routed through switch machine contacts or via a separate electrical switch. Note that Plate #1 shows a jumper wire soldered in place before and after the frog, which is a wise preventative measure.

ELECTRICAL: Track Connections

Although it is beyond the scope of these suggestions to address all the variables associated with track wiring, here are a few pointers regarding which tracks should be connected with metal rail joiners and which should use plastic insulated rail joiners (or rail gaps).

1. Passing Sidings

When two turnouts are used in a passing siding configuration, both tracks should be insulated between the turnouts.

2. Crossover

When two turnouts are used for a crossover, the crossover track should be insulated.

3. Dead-end Branch (Siding)

For a dead-end branch track, if you don't insulate the branch track from the turnout, you can take advantage of the turnout's power routing feature to automatically switch the branch track on / off as the turnout is thrown. With the turnout set for the main track, the main is powered and the branch is dead; With the turnout set for the branch track, the main (beyond the turnout) is dead and the branch is powered.

4. Continuous Branch:

For a long continuous branch track you would probably want to insulate the branch so a power feed for a separate block could be used. This would allow separate trains to be operated simultaneously on the main and branch tracks. For other situations there are a number of books available with instructions and wiring diagrams.

WEATHERING YOUR TRACK

Most metal parts of the turnout can be weathered to match the Weathered Flex-Track by using Rail Weathering Solution, (Part # ME-RW.) The metal throwbar is silver plated, and will require several applications, or simply paint it. Do not weather in areas where electrical contact is required such as the points, stock rails adjacent to the switch points, and ends of the metal throwbar that slides under the stock rails. Remove weathering from rail tops using a PBL-RCR "Glistening Pad" or as a last resort, a Bright Boy. (The glistening pad has much finer abrasive material and won't make scratches on your railheads that eventually fill with gunk, which is picked up by wheelsets resulting in "scratchy" sounding electrical connections between wheels and track.)

Alternatively, once you've secured your flex-track and turnouts to the road bed, less the ballast, you could spray the ties and rail with Floquil's Rail Brown paint. It is available in a 5 oz. spray can. Again, as mentioned in the previously, do not paint areas where electrical contact is required. Remove paint from the tops of the rails with a cotton swab moistened in solvent. Finish off the tops of the rails with one of our glistening blocks. You can mix your own rail color but make sure you use a paint that dries dead flat. Add ballast after weathering is completed.

Good Modelin' to you ! Your pals at P-B-L...

OTHER PBL TRACK RELATED PRODUCTS

Flex-Track

(Flex-Track is sold in bundles of 6 - 36" lengths of track)

PBL-1000 - Sn3 Flex-Track, Code 70, Weathered

PBL-1001 - Sn3 Flex-Track, Code 70, Unweathered

PBL-1002 - Sn3 Flex-Track, Code 55, Weathered

Turnouts

PBL-1030 - Sn3 Turnout, LH, Code 70, #6 Unweathered

PBL-1031 - Sn3 Turnout, RH, Code 70, #6 Unweathered

PBL-1032 - Sn3 Stub Switch, LH, Code 55, #6 Weathered

PBL-1033 - Sn3 Stub Switch, RH, Code 55, #6 Weathered

Track Supplies

ME-RW Rail Weathering Solution

NMRA Standards Gauge for "Sn3"

PBL-RCF - 'Glistening' Pad "Fine" for Polishing Railheads

PBL-RCR - 'Glistening' Pad - "Regular" Removes Track Weathering

PBL-016 - 3 Point Coupler Height / Track Gauge - Brass

PBL-193 - Operating Scale Switch Stand - Brass

PBL-1040 - Harp Switchstand (D&RGW/RGS) Brass

ME-26055 - Rail Joiners, Code 55, Metal, 50 ea.

ME-26070 - Rail Joiners, Code 70, Metal, 50 ea.

ME-26071 - Rail Joiners, Code 70, Insulated, 12 ea.

ME-26056 - Rail Joiners, Code 55, Insulated, 12 ea.

See these and more on the web at www.p-b-l.com