2010-10-16
ID Meet - Beamsville

Flex Track Installation

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Installing Flex Track

This clinic assumes you have a trackplan for your H.O. Scale layout and have drawn the track centre lines on to the layout's surface. Two strips of cork are contact cemented to either side of the track centre line. When dry, it is sanded level and the edges bevelled with either a sanding block or Exacto knife.

Tools & Materials Required

DAP "Clear" Dynaflex 230 Indoor/Outdoor (approx 60 linear feet of track in each tube)
Caulking gun
1 ½" wide putty knife
Disposable paper towels to clean tools
Sharpie marker
36 Map pins
Aluminum meter stick
Scale ruler and/or roller track gauges
Ribbon Rail track alignment gauges
Small files
Micro Engineering Code 70 flex track (un-weathered may be easier to curve smoothly)
Micro Engineering Code 70 nickel silver #26070 rail joiners
Evergreen .020" x .080" styrene strips #124

Set Up

1. If using weathered rail, clean the railhead with a bright boy. The shiny railhead makes it easier to see any misalignment against the dark brown ties.
2. Use a Sharpie to darken the cork's centreline, so it can be seen through the DAP.
3. It is VERY important to dry fit the track sections before spreading the caulking.
4. Mark the end of the flex track piece on the cork so the DAP is not applied too far.
5. File the bottom and edges of the base of the rail to make it easier to slide on the rail joiner. Ensure the ties are evenly spaced at the rail joiners. There is no tie plate on the last manufactured tie, which allows the rail joiner to slip on.
6. Run your index finger down the centre of the ties to help evenly space them.

Procedure for Straight Track

1. Use the caulking gun to apply one bead of DAP on each side of the centre line. Working time is only 20 minutes.
2. Spread the DAP evenly with the putty knife. It should be translucent, not opaque. If it is opaque, it is too thick and will ooze up between and on top of the ties, making it difficult to ballast later. Try to avoid getting it on the cork shoulder or beyond the end of the dry fit area previously marked with the Sharpie.
3. Carefully lay the flex track as accurately as possible into the DAP, watching the track centres at each end.

4. Use a spare cork strip to elevate the aluminum meter stick against the outside of the closest railhead.
5. While holding the meter stick firmly, (screws can be driven into the roadbed to secure the edge) beginning at one end, gently pushing the railhead tight against the aluminum meter stick.
6. Push a map pin into the roadbed, holding the far rail in alignment to the meter stick. Pins should be inserted along the far rail of the flex track approximately every 6 – 8 ties on alternating sides of the rail. Do not use pins on the closest rail. This rail will be used to sight along the railhead to ensure it is straight.
7. Allow the DAP to dry (clear) at least 90 minutes before removing the map pins.
8. If a second parallel track is required, wait until the first DAP has set up.
9. Use a scale ruler to ensure the second track is the proper distance apart (13' on the mainline and 14' on secondary track). Roller track gauges with appropriately spaced railhead grooves are also available. Leave a thumbnail thickness gap at all rail joiners to allow for expansion.

Procedure for Curved Track

1. Carefully pre-curve the flex track into the appropriate radius. Ribbon Rail track alignment gauges are pre-curved aluminum strips designed to fit between the railheads and will help create smoother curves. Un-weathered rail also seems to slide smoother through the plastic ties than weathered rail. Double track curves require transitional 16' spacing.
2. Follow the set up and straight track procedures, except the meter stick cannot be used on curves so the best alignment tools are the Ribbon Rail gauges and your eye.
3. Refer to NMRA Standard S-8 for track centres posted on the web site.

Installing Turnouts

Tools & Materials Required

$^{5}/_{16}$" Drill bit and drill
Mill file
Fast Track turnout ties or individual wooden ties
Tie jig, ½" masking tape
Sanding block
Needle-nose pliers and small spikes
White glue
Rail nippers
Exacto knife
Sharpie marker
Small files
Evergreen .020" x .080" styrene strips #124 & ACC glue

Procedure for Installing Turnouts

1. Turnouts can be prefabricated Fast Track assemblies or commercial turnouts.
2. Determine the centre of the throw bar at the headblock ties between the stock rails.
3. If using a Tortoise switch machine, drill a $^{5}/_{16}$" hole in the roadbed following their instructions.
4. With a Sharpie marker, mark the ends of the dry fit area required to fit the wood turnout ties.
5. The ties are glued to the cork using an evenly spread application of white glue.
6. Carefully lay the turnout ties into the white glue.
7. Using the end of a scale ruler, hold down the ties while slowing peeling off the masking tape.

8. The edge of the scale ruler can be used to align the straight portion of the turnout. An Exacto knife can be used to relocate ties.
9. Note the location of the headblock and PC board ties. The white glue must be removed from between them.
10. Sight along the tie alignment before the glue sets up, particularly if the turnout is within a ladder or crossover.
11. When the white glue is thoroughly dry, lightly sand and vacuum the turnout ties.
12. Broken ties may result if not sanded at a 45° angle. They must be replaced.
13. Use the edge of a mill file to create a shallow slot in the cork for the throw bar to move.
14. Determine the position of the switch stand. It may be necessary to remove the head block ties and overhanging throw bar on the opposite side.
15. Ensure all the appropriate gaps have been cut in the frog area.
16. A few carefully placed spikes will hold the rails in position.
17. Electrical gaps in the rail should be filled with styrene and ACC glue. When dry, they can be filed to the contour of the rail.

Installing Wire Drops

Every individual piece of rail must be powered. Rail joiners do not provide positive power feeds. It is important to use the correct #20 awg solid wire. The colour is determined by the usage of the polarity of the rail and frog.

Tools & Materials Required

$^{3}/_{32}$" drill bit and drill
Small file (flat tapered) to clean base of rail
Needle-nose pliers
Wire strippers
25 – 50 watt soldering iron and fine solder with rosin flux
#20 AWG solid wires – black, orange, red, white, purple

Soldering Drops

1. Drill a $^{3}/_{32}$" hole in the roadbed outside of the gauge, between two ties.
2. It is important that the rail be absolutely clean before attempting to solder the feeder wire. Filing can do this or use a wire wheel in a Dremel tool. However, use extreme care as a slip of the Dremel wire wheel will gouge several ties.
3. Remove about ½" of insulation from the wire.
4. Squeeze the wire tightly to flatten it into a beavertail shape. Clip the end square.
5. Bend the beavertail 90° and insert the opposite end into the previously drilled hole.
6. Hold the beavertail against the base of the rail.
7. Using a 25 – 50 watt soldering iron, heat the joint for 3 - 5 seconds and touch it with fine solder.
8. Tug on the wire from below to ensure it isn't a cold solder joint.
9. Quick work should prevent plastic tie damage and the joint should be nearly invisible.

Painting

Tools & Materials Required

Airbrush, compressor
Floquil Tie Brown #14

Floquil Rail Brown #07
Lacquer thinner
Eye dropper, Q-tips, pipe cleaners, cotton rag
Bright Boy track cleaner

Painting

1. In the airbrush paint cup add the Floquil Tie Brown and lacquer thinner in a 1:1 ratio. Backwash the mixture to ensure it is mixed
2. Airbrush the ties and rail from all angles. This step will also hide the rail joiners and feeder wires. Floquil Rail Brown can also be sprayed or brushed onto the web of the rail.
3. After cleaning the airbrush, polish the top of the rails with a Bright Boy after 60 minutes.

Finishing the Track

Tools & Materials Required

MLR Mfg #5008 Ballast spreader
Fine “quarried stone” ballast for mainline or fine reclaimed stone, cinders or slag for secondary tracks
Teaspoon
Small modelling paint brush
1” Paint brush or 1” foam brush
Putty knife
Water bottle mister with a few drops of dish detergent
Matte medium diluted with four parts water
1 litre size bottle with small pouring spout or eye dropper

Ballasting

1. Place the ballast spreader on the rails. There are small holes in the bottom, which permit the flow when the red dots are aligned.
2. Fill the ballast spreader with the appropriate ballast and pull it along the rail. If necessary, use the teaspoon to add additional ballast up to the top of the ties between adjacent mainline tracks and fill in any voids. Do NOT let ballast into the area between the head block ties.
3. Spread the ballast with the foam brush held at a 45^{o} angle.
4. Use the small paintbrush to clean the web of the rail and between the head block ties.
5. Use the 1” brush to manicure the ballast profile along the outside of the roadbed.
6. Mist the track from above. Spray upwards and allow the mist to settle onto the track. Spraying directly onto the track will blow the ballast out of its carefully manicured position.
7. Shake the matte medium, as it tends to separate in the bottle. Carefully drip it along the edges and between the rails. The ballast should appear fully soaked. “Mop” up any puddles on the plywood.
8. After the matte medium has dried, use a putty knife to manicure the edge and vacuum the debris.
9. Polish the top of the rails with a Bright Boy.