



So, you want to lay track...

We will be touching on:

- **Planning (briefly as this is a topic by itself)**
- **Roadbed**
- **Laying track**
- **Ballasting track**
- **Soldering track wires**
- **Trouble shooting track problems**
- **Adding small details**
- **Cleaning up**

Planning

What you will need:

- **Define what you want to do**
- **Building new or re-vamping existing track work**
- **Make a to-scale track diagram**
- **Gather all the track components needed**
- **Create a track wiring plan (save this for future reference!)**

Materials

Materials used to lay track:

- **Sub-roadbed- plywood, spline**
- **Roadbed- cork, Homabed, Woodland Scenics**
- **Track- flex track, snap track, rail and wood ties**
- **Track nails or spikes**
- **Rail joiners- solid or insulated**
- **Ballast**
- **Light oil**
- **Glue- white glue (“wet water”)**
- **Track feeder wire**
- **Rosin core solder**
- **Paint- rust color**

Standards...They work

NMRA has developed Standards for track and wheels that allow interchange of products across all manufacturer's products.

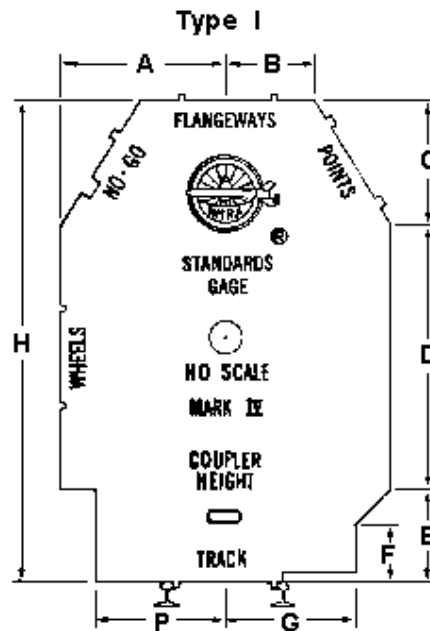


Fig. 1

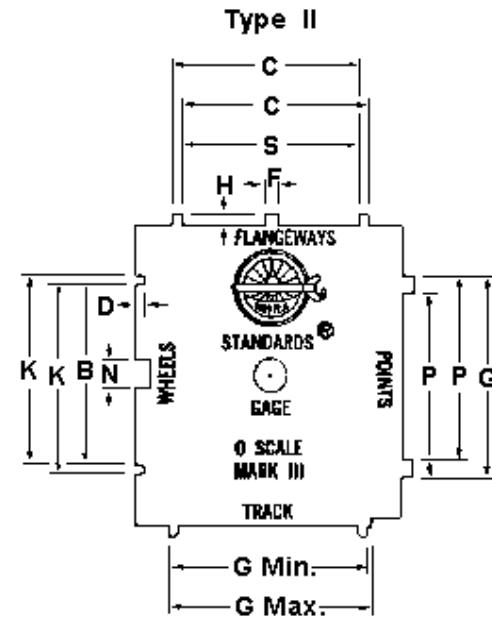
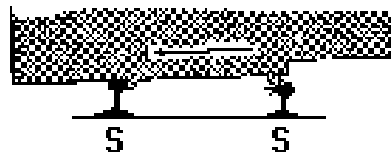
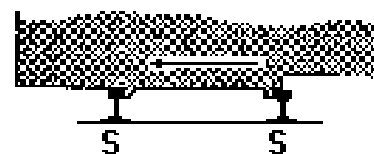


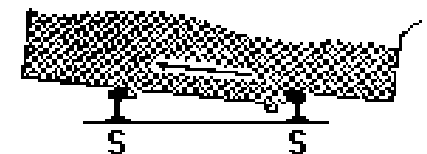
Fig. 2



A. Track Gage Too Narrow



B. Track Gage Correct



C. Track Gage Too Wide

National Model Railroad Association Standards and Recommended Practices can be found at: <http://www.nmra.org/standards/sandrp/consist.html>

NMRA Standard S-8

This STANDARD lists Track Center Distances and provides for Side Clearances required for various curvatures with three size categories of models.

- **Class II** - Includes small **four-wheel truck diesels**, geared and other small steam locomotives with short end overhangs typical of old-time, logging and branch lines and equivalent rolling stock.
- **Class I** - Includes longer steam locomotives typically with two-wheel trailing trucks, larger four and six-wheel truck diesels and equivalent rolling stock.
- **Class Ia** - Includes the largest steam locomotives with four-wheel trailing trucks, articulated locomotives, those with rigid wheelbases in excess of 20 feet, full length passenger cars and other long rolling stock.

Layouts constructed to one of these classes should accept models of its own and smaller classes, but larger models can expect clearance problems on a layout built to a smaller classification. See STANDARD [S-7](#) and [RP-11](#).

TRACK CENTERS in CURVES - 'HO' Scale			<i>Psssst.....use 2 inch centers</i>								
Radius-Inches	Tang.	158	79	53	40	32	26 1/2	23	20	18	
Class II	2 1/16	1 13/16	1 13/16	1 13/16	1 7/8	1 15/16	2	2 1/16	2 3/32	2 1/8	2 3/16
Class I	2 1/16	1 13/16	1 7/8	1 15/16	2	2 1/16	2 1/8	2 3/16	2 5/16	See note 8	
Class Ia	2 1/16	1 13/16	1 31/32	2 1/8	2 1/4	2 3/8	2 1/2	See note 8			

NMRA Recommended Practices RP-11

Class: M

Diesel Locos to 60' long with two four-wheel trucks, suburban, postal and baggage cars to 60' with diaphragms, standard cars to 50' long with regular couplers or with cushion under frames and regular couplers

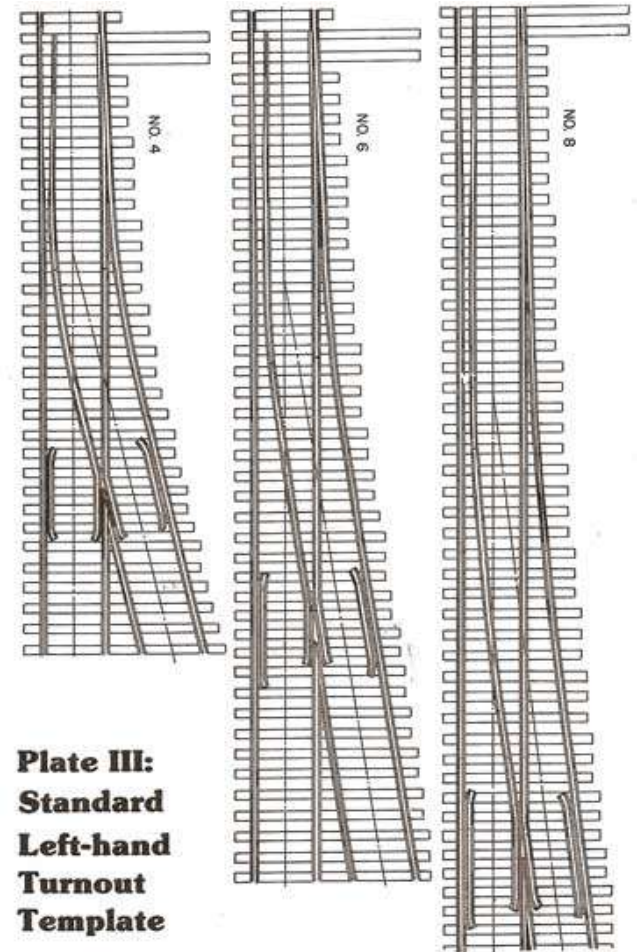
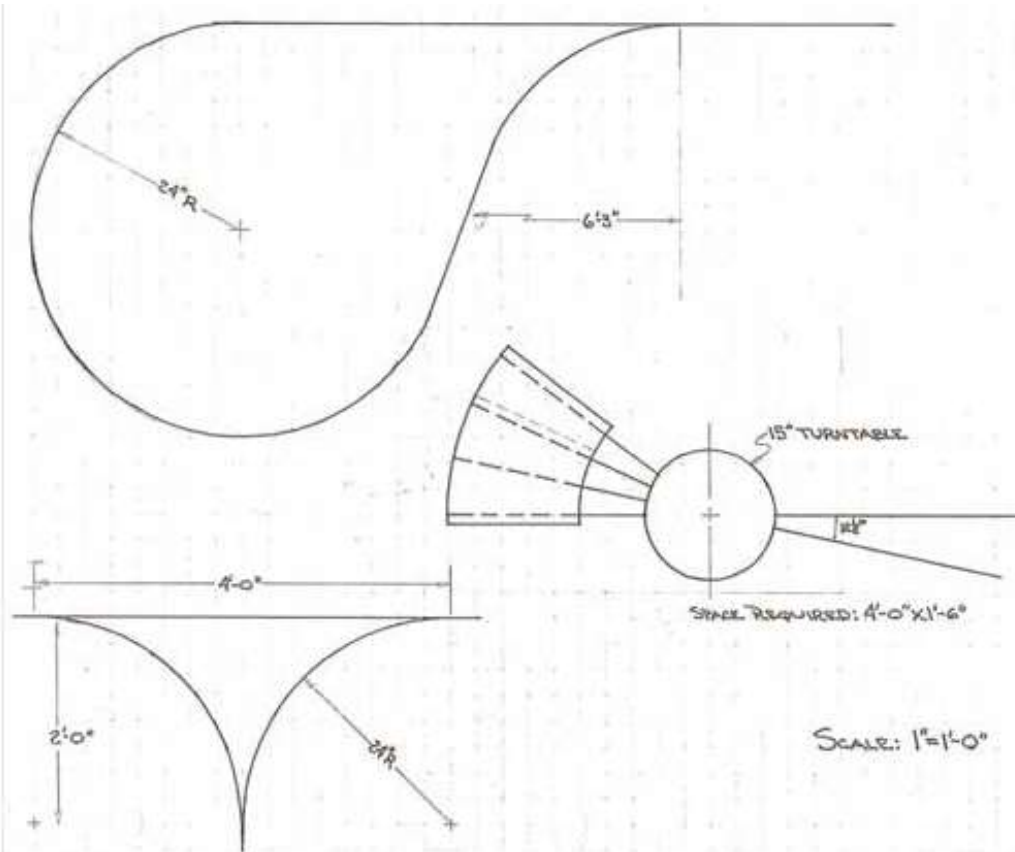
HO Scale

- **Minimum turnout #6**
- **Minimum radius 23"**

In "real life" these HO Scale standards and practices are boiled down to:

- **Broad curve 30" radius and #6 or #8 turnouts**
- **Conventional curve 24" radius and #5 or #6 turnouts**
- **Sharp curve 18" radius and #4 turnouts**

Allow enough space



**Plate III:
Standard
Left-hand
Turnout
Template**

When laying out the track location check on how much space is needed and how much clearance from the track is needed.

Let's get to Laying some track!

Things that need to be done BEFORE flopping that bundle of flex track on the bench work:

- **Sub-roadbed is down- plywood table top, plywood cookie cutter, spline construction**
- **Track center lines are drawn**
- **Turnout locations are marked**

Roadbed



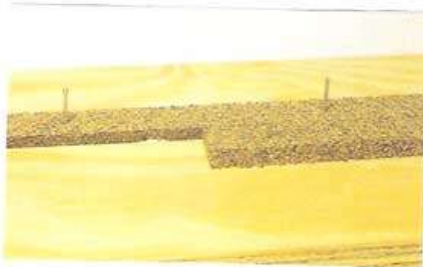
Roadbed comes in two pieces that need to be separated



Using the track center line glue roadbed to sub-roadbed



Use small nails or tee pins to hold roadbed in place. Note staggered joints.



Commercial switch blocks are available or you can make your own.



Laying Track



Fig. 9-16. Flex the end of the track into position, then mark the long rail at the point where it is even with the other rail end.



Fig. 9-17. Use rail nippers or a razor saw to cut the rail at the mark.



Fig. 9-18. Make sure the joint is tight and square, then solder the rails at each joint.

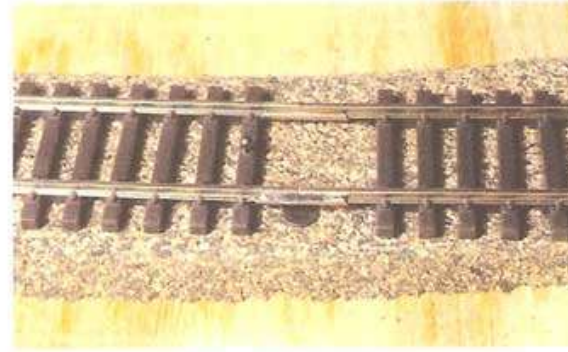


Fig. 9-19. The finished solder joint should be shiny, with solder along both rails and into the rail joiner.



Fig. 9-20. Give the railhead a couple of passes with a needle file to make sure the joint is smooth.



Fig. 9-21. Finish the joint by filling the gap with a couple of ties under the rail joiners.

Ballasting Track



Fig. 12-17. Use a small cup to sprinkle ballast between the rails.

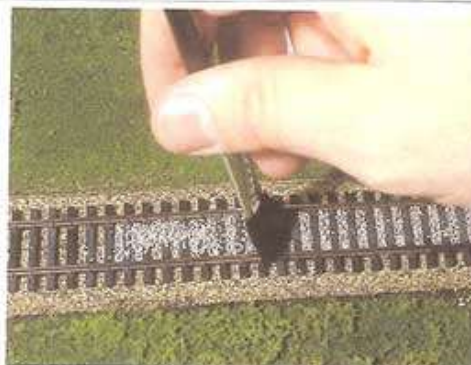


Fig. 12-18. Use a soft, flat brush to distribute the ballast evenly between the ties.



Fig. 12-19. Add ballast on the sides, using just enough to cover the cork roadbed.

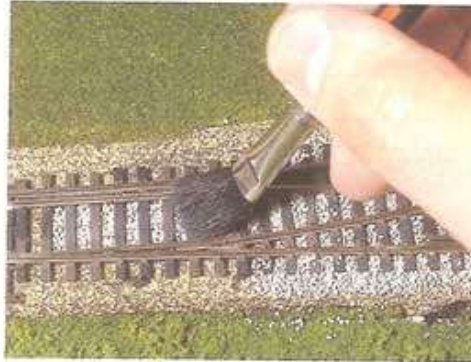


Fig. 12-20. Make sure that ballast in and around turnouts doesn't interfere with the points, flangeways, or throw bar.



Fig. 12-21. After soaking the ballast with rubbing alcohol, apply a heavy coat of diluted white glue.



Fig. 12-22. Use a damp cotton swab to soak up glue from the ties under the turnout points.

Ballasting Track



Central Vermont track

Arrival and departure tracks

Yard track

Note different colors of ballast used to represent different types of track or different railroads.

Troubleshooting track problems



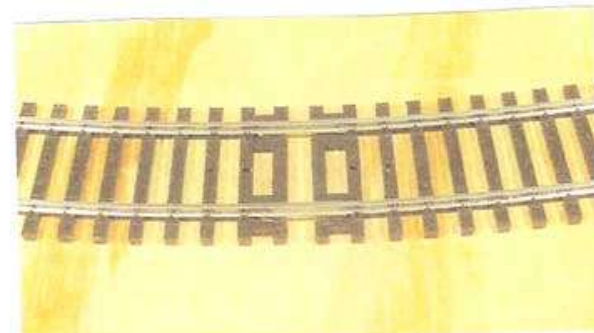
Track joint forced into a too tight radius. Note open joint.



Rail joiner misaligned. Rail has slide over joiner.



Leave small gaps in straight track to allow for expansion and contraction



Push rails together in the joiners tightly on curves. Solder these joints.

Add some details



Cleaning up

After the track has been completed and the ballast has dried the next steps will be to test all the work that has been done.

The track must be cleaned (remember all the wet glue you used?). A Bright Boy track eraser can be used to scrub the residue off the top of the railhead.

Now that you have soaked the turnouts with water and white glue don't forget to get them un-stuck ! Now you know what the light oil was for.....grins



Remember to always watch your signals !

(that is because the dispatcher gave you clearance only to the next signal)