NTRAK Modular Railroading Society, Inc.

N-Scale Modular Railroading

Tips N SCALE Techniques

Tools & Supplies Needed for a Model Railroad

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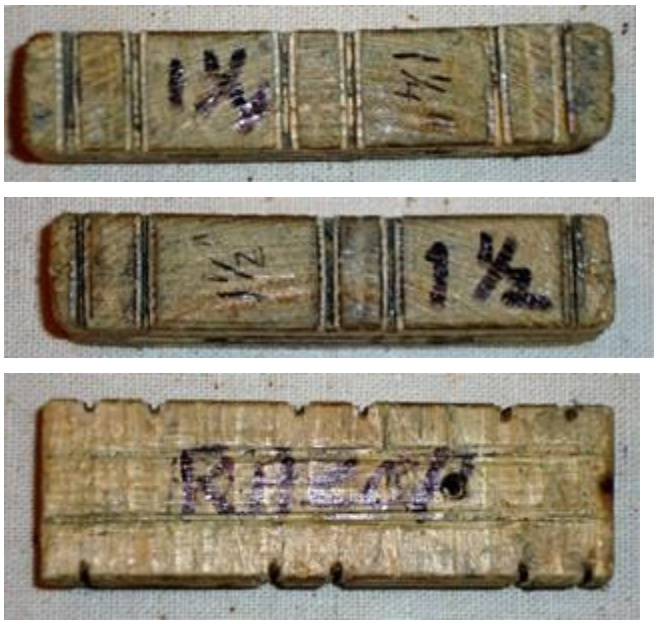
Two of the first things a new model railroader discovers are that they want something better than a loop of track on the dining table or floor and that building and maintaining a model railroad and the associated rolling stock requires tools and supplies.

On the last page of this TipsNTechniques, you will find an organized list of the tools and supplies that are needed for various activities involved in building a layout and keeping its engines and cars operating smoothly. Most of these items are self-explanatory. Some are not absolutely required but make that particular task easier to accomplish.

The list includes three custom made tools that are easy to build. Here are the instructions on how to make them:

Track Spacing Tool



When laying parallel tracks most modelers want to maintain a constant space between them. For example, an NTRAK module has three main tracks, each 1½" apart. The trick is to lay the outer-most track first, make sure that the straight sections are truly straight, and that the curved sections maintain the desired radius throughout the arc. A simple jig can be made from a scrap piece of 1" x 4" lumber (which is really ¾" x 3½"). Cut a block that is 1" high and 4½" long (and obviously, ¾" thick.) Sand the block to eliminate any splinters. Next, take three pieces of Atlas 5" sectional track, lay them parallel to each other and glue them firmly to another scrap of wood. Measure the spacing closely so that they meet the N-Trak specs of 1½" from rail to corresponding rail.

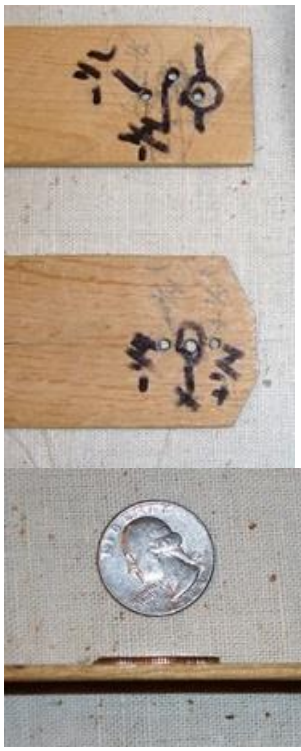
Once the glue has dried, take a Sharpie or other marking pen, color the rail heads, then place the wood block across the tracks at a 90° angle and tap the block firmly with a hammer. This action will leave black indentations on the bottom of the block showing where the six rails are. Then, simply deepen those indentations with a coping saw or thin blade back saw. Deepen them only 1/32" which is enough to let the rails fit in the grooves, but not so deep that the tool hangs up on rail joiners or the plastic molded spikes.

Note that the pictures are of my original tool which I didn't make quite long enough and, as a result, the 1½" side only has one rail of the 3rd track. The 1¼" side is the recommended spacing for N-scale yard tracks.

Then, since you have already laid the outer track where you want it, all you have to do is to glue down the 2nd and 3rd tracks, align the rails of all three tracks in the jig, and slide the jig along the outer track, thereby

automatically repositioning the other two tracks to their proper place and with the proper spacing. If the outer rail is straight, the other two will also be straight. Work curves from the largest to the smallest. Using the tool to align tighter radius parallel tracks will minimize any variance in the outer track. Working from a smaller radius to a larger radius will magnify any deviances, so avoid that situation.

Arc Drawing Tool



To make sure your curves have a constant radius, you need a drafting tool. Take a piece of 2x4 lumber and rip a 38" long piece that is between 1/8" and 3/16" thick. Sand it completely. Draw a line down the center of the strip from one end to the other. Drill a 3/32" hole through the stick on the center line about 1" in from one end and mark that hole as the zero point. Then take a measuring tape and mark 1" intervals on the strip starting 9" from the hole and continuing to the other end of the strip. Label these marks showing the distance in inches from the original hole. Drill 3/32" holes at the centerline for each 1" mark. Finally, drill the same size holes ¼" each way from the "zero hole", but slightly off center, and one hole on the centerline that is ½" from the zero hole and closer to the end of the stick. Clearly mark the hole that is ¼" closer to the end of the stick as +¼" and the other one as –¼", and finally, mark the hole that is ½" closer to the end of the stick as +½".

Now you have the equivalent of a long radius compass. Simply find and mark the focal point of your curve, place proper origin hole over the focal point and then tap a small nail through the tool and into the surface of the layout. Place your Arc Drawing Tool pencil in the hole with the radius you want and draw the arc. Obviously if you want a 25½" radius curve you put the nail in the hole ½" back from the zero mark and your pencil in the 25" hole. If you want a hole that is 25¾" radius. Put the nail in the -1/4 hole and the pencil in the 26" hole.

I have two of these compasses, one 4' long for long radii of 20" to 46" and one 2' long for tight radii of 9" to 22".

HINT: If you have clearance problems with the tool from skyboards or other obstacles, reverse the tool, putting the pencil where the nail should be and the nail where the pencil should be. That way the tool only extends an inch past the arc you're trying to draw.

Rail Joiner Tool

Most modelers have a preferred way to install rail joiners to pieces of track. Some use hemostats, some a flat blade screwdriver, and others a small pair of needle nose pliers. I use a customized flat blade screwdriver that has a notch in the tip and is bent about 75°. Find a small, flat blade screwdriver with a grip that feels good in your hand. Cut the notch with a Dremel tool that is just wide enough to fit over the rail and about 3/32" deep. Heat the tip of the screwdriver Rail Joiner Tool with a propane torch until it is red hot, place the tip in a vice about ½" then bend the tip about 75°. Let it cool and then you have a wrist-friendly tool that easily slides rail joiners into place.

Author
Steve Gillett of the Northeast Oklahoma N Scale (NEONS) club is the author of this TipsNTechniques.

Tools and Supplies Needed to Build and Maintain a Model Railroad

Benchwork

Tools	Supplies
Wood Working	
circular saw	1 1/4" course thread Philips
drill motor	head screws
wood drill bit set	1 5/8" course thread Philips
wood paddle drill bit set	head screws
counter-sink bit	2 1/2" course thread Philips
#1 Philips head bit	head screws
#2 Philips head bit	wood glue
belt sander	plastic wood
palm sander	assorted grit sandpaper
tape measure	circular saw blades
pencils / Sharpie	latex paint
assorted clamps	
asst Philips & flat screwdrivers	
bar level & torpedo level	
T-square	
putty knife	
paint brushes	
* optional tools / supplies	
table saw *	drill press *
chop saw *	router & router bits*
Metal Working	
drill motor	3-in-1 oil
tape measure	screws, nuts
flat metal file	washers, lock washers
round metal file	grinding discs
metal dril bit set	metal cutting discs
punch	
hack saw	
crescent wrench	
asst screwdrivers	
hammer	
* optional tools / supplies	
Dremel tool & accessories *	bench grinder *
	drill press *

Track

Tools	Supplies
Laying Flex Track	
Xuron rail cutter	track
large, bent-tip hemostat	cork roadbed
small, bent-tip hemostat	track nails
long metal straight edge	white glue
pencils / Sharpie	rags
scissors	rail joiners
soldering iron	insulated rail joiners
needle nose pliers	solder (rosin core)
small hammer	soldering flux
wallpaper seam roller	
assorted metal mini-files	
tape measure	
NMRA track gauge (N-Scale)	
* optional tools / supplies & ** custom made tools/jigs	
Dremel tool & accessories *	track spacing tool**
rail joiner tool**	arc drawing tool**
Laying Kato Unitrack	
caulk gun	Loctite Power Grab adhesive
putty knife	assorted short track pieces
drill	
1/2" paddle bit	
Ballasting	
assorted brushes	ballast
spray bottle	denatured alcohol
pipette / syringe / eye dropper	Woodland Scenics scenic cement
large, flat blade screwdriver	black, dk brown or rust paint
shop vac	
#2 tin can w/ plastic snap-on lid	
Track Maintenance	
NMRA track gauge (N-Scale)	denatured alcohol
Bright boy	
assorted metal files	

Continued next page…

Tools and Supplies Needed to Build and Maintain a Model Railroad (Cont'd)

Scenery

Tools	Supplies
Foam Elevation Landscaping	
rasps	foam sheets
box knife	water soluble contact cement
weights	sand paper
sanding block	latex paint
paint brush or roller	
shop vac	
Ground Cover	
spray bottles (2)	denatured alcohol
pipette / syringe / eye dropper	Woodland Scenics scenic cement
strainer	gound cover
Trees & Shrubs	
small plastic tubs	white glue
	tree stalks
	tree & shrub greenery
	tree glue
Buildings	
sprue cutter	AC (super glue)
Xacto knife	
emory cloth	

Power

Tools	Supplies
Wiring	
soldering iron	12g to 18g 2-conductor zip cord
spare soldering tips	20g 2-conductor solid bell wire
small, flat-blade screwdriver	Euro-terminal strips
wire cutter	solder (rosin core)
wire stripper	soldering flux
needle nose pliers	small Philips screws
3/32" drill bit	electrical tape
drill motor	wire clamps
#1 Philips head bit	zip ties
#2 Philips head bit	assorted Philips head screws
hair dryer	heat shrink tubes
	liquid tape
General Electrical	
voltmeter	
power strip(s) (15amp fused)	
grounded extension cord(s)	
alligator clips	
Rolling Stock Maintenance & Repair	
small tweezers	spare trucks and wheel sets
small hemostats	spare couplers & parts
small flat blade screwdriver	AC (super glue)
magnetic pick-up snake	tape weights
magnifying glass	Kaptan tape
foam holding trough	powdered graphite
Xacto knife	tooth picks
wheel cleening tool	Labelle 108 lubricant
coupler height gauge	Q-tips
coupler assembly jig	denatured alcohol