NTRAK Modular Railroading Society, Inc.

N-Scale Modular Railroading

Tips N SCALE Techniques

Compact Train Storage System

June 1, 2020

Many model railroaders choose N Scale because of space limitations for their layout. Often, those limitations also apply to storage space for rolling stock, tools, and other accessories associated with the hobby. Here is a method to organize and store lots of rolling stock in a small area.

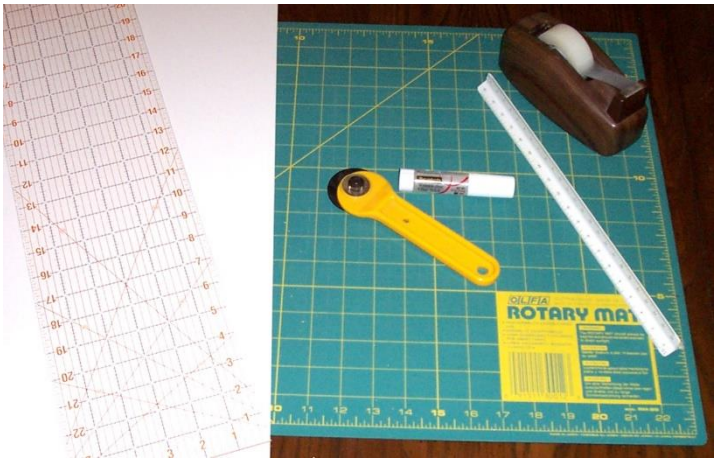
Standard cookie sheets are nominally 17” long, 11” wide and 1” deep (interior measurements.) When packed properly, a single cookie sheet can hold around 2800 scale feet of rolling stock (sixty-five 40’ box cars or fifty-two 50’ box cars or any combination of cars.) These cookie sheets can be stored in racks built between the shelves of a closet. The photo below left shows how 22 sheets are stored in a 19” wide strip between the top and bottom shelves of a closet. That’s enough storage for over 1200 cars!

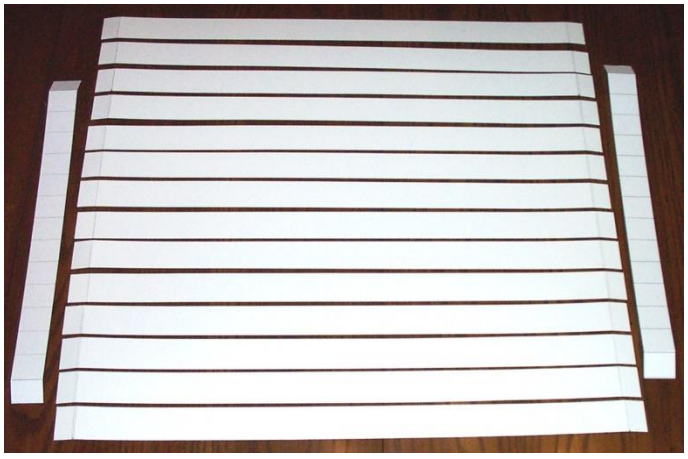
Part I -- the Cookie Sheets

Be sure to get full sized cookie sheets that are the standard 1” depth. Next, purchase two 12”x18” compact foam sheets for each tray from your local craft store (Michaels, for example.) Buy them in pairs of the same color so the tray is color coded for easy identification of the train you want. Trim one sheet to fit in the bottom of the tray. Leave the other one at full size to place over the tray, keeping dust and debris off the cars (photo above right).

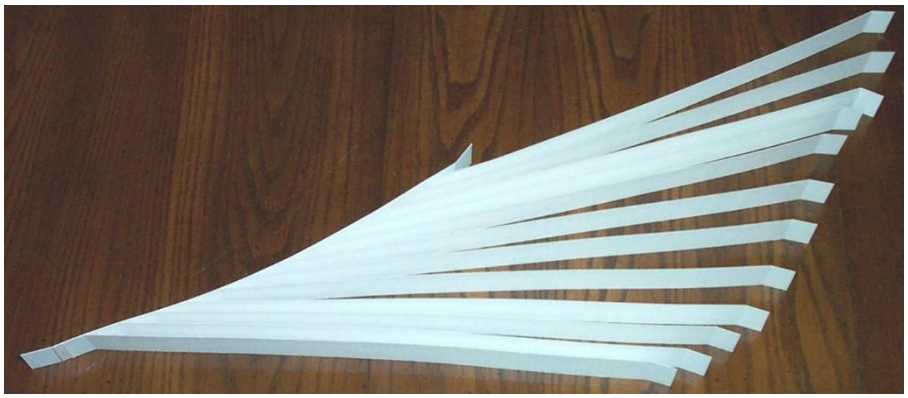
While at your favorite craft store or Walmart, also purchase a sheet of poster board (acid free preferred, but not required.) I have had this system in place for more than 10 years and have found that the poster board protects

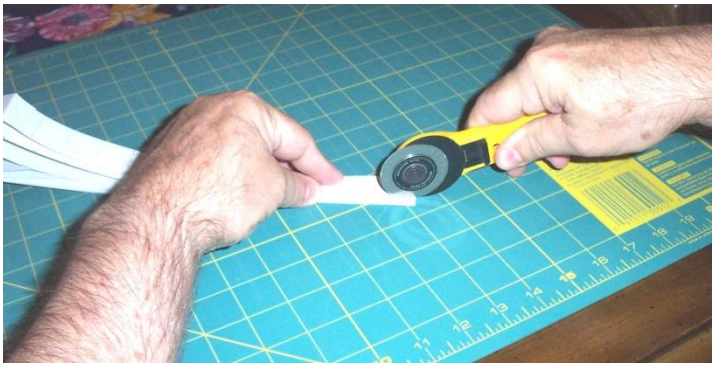
the sides of the cars from wear without damaging the paint. Mark the poster board and cut fourteen 1" wide strips that are 18.17" long and two that are 1" wide by 12.33" long. I cut my poster board with one of my wife's old fabric rotary cutters, but an X-Acto knife and straight edge will work just fine (photo below left).





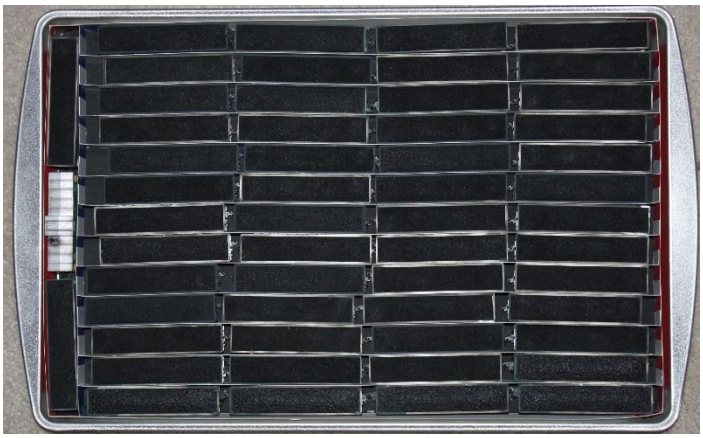
WARNING – don't use her good rotary cutter on poster board or it may be the last thing you ever do! Score both ends of each strip ¾" from the end and crease to form glue tabs. Mark lines on the short strips every 0.833" (photo above right.) Those marks indicate where each of the interior grid strips will go. Use a glue stick to attach the 12 interior long strips to one short end strip, placing the crease marks of the tabs over each 0.833" mark (bottom center photo). Fold each of the 12 interior strips back against its glue tab, apply glue to the other end strip and attach it to the interior strips aligning the crease marks with the spacing marks on that end strip. If you have measured and glued correctly, the grid should lie flat. Fold it the other way to be sure it is rectangular. Attach the top and bottom end strips. Nip the bottom corners of the grid so it will fit easily in the tray and reinforce the corners with Scotch tape (bottom left and right photos).





For most trains with a mix of car types and sizes, a 13 horizontal row grid is the best (photo, next page).

For unit trains, however, some minor grid modifications can increase storage capacity. For example, a row in the standard 13 horizontal row grid has room for four 46' BethGon CoalPorters with one inch left over. By shortening the twelve interior 1" strips by 0.833", a vertical row can be added at one end allowing space for two more coal gondolas and a caboose (photos below).

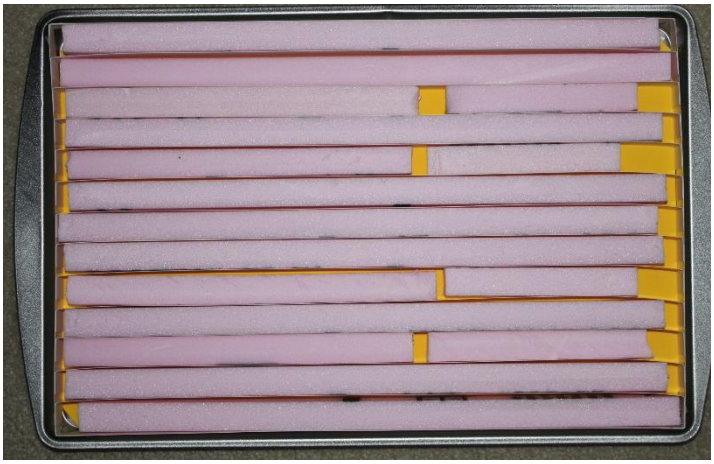


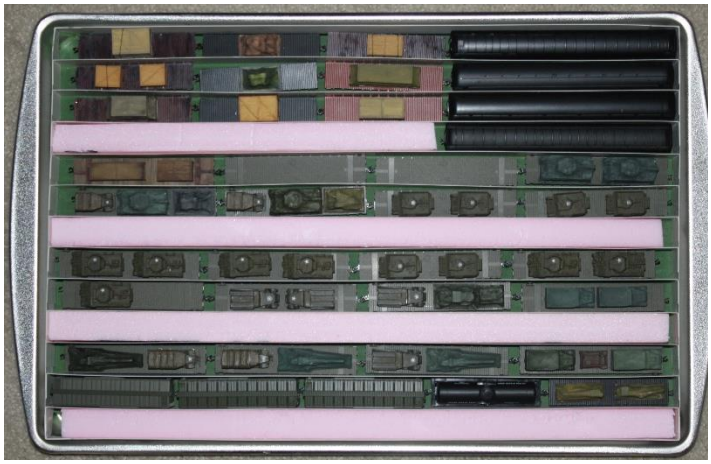
Unit grain trains with 55' 3-bay hoppers have room for only three cars per row, but the leftover space allows for four vertical rows that will house two hoppers each (photos below).

And, if you get fancy, there's room for two 40' cars at the end of the vertical rows. Note that the Grain Train grid and the passenger grid are essentially the same, with four vertical rows. If a tray is to hold excess height box cars, auto racks, bi-level passenger cars, TOFCs and/or well cars with containers, make the grid for that tray

with 1¼" wide poster board strips rather than 1" wide strips so the whole car will be protected. The wider strips will not cause a clearance problem when stored in the rack.

Vacant spaces should be filled with blocks of ¾" foam. These fillers are made by cutting 1" wide strips from a sheet of ¾" extruded insulating foam and then cut these 1" x ¾" bars to the length of the empty space (photos below 13, 14 & 15.) The foam is available at Home Depot. Foam fillers add stability to the grid and keep the cars from moving around on the sheet. As you add cars to your train, just trim the filler to the size needed and use the cut piece somewhere else.





If you have special cars with fine details that you want to protect, you can always leave them in their jewel cases and forget the foam and grid (photo below).

Finally, attach adhesive labels such as Avery #5160 (1" x 2 5/8") to the front of each tray to identify its

contents. Microsoft Word is pre-programmed for these labels so that they can be easily printed and even color coded (photo).

Part II – the Closet Storage Rack

Closets with double clothes racks usually have a lower shelf about 40" off the floor and an upper shelf about 80" off the floor, leaving around 39" between the shelves for the rack. Before building the rack, the existing shelves and their runners need to be reinforced since, when fully loaded, the weight of 20+ trays can be up to 100 lbs. Drive some long screws through the shelf support brackets and into the wall studs and screw the shelves to the support brackets.

For the shelf racks, space the vertical boards 19¼" apart and secure to existing horizontal shelves with screws. (Use standard 12" x ¾" shelving boards for the vertical supports.) To make the runners that hold the trays, rip a 1 x 4 into ¾" strips. You should get four strips per board. Chop the ¾" x ¾" strips into 11" long runners. Drill pilot holes for the screws and sand. Glue and screw the runners using 1 ¼" screws and spacing them with a 7/8" gap between the top of one and the bottom of the one above it. This gap will allow adequate room for high clearance cars and the top piece of foam. (Hint: Make a spacer jig that is 7/8" tall. After you screw and glue the lowest runner, place the jig on top of that runner and place the next runner on top of the jig, screwing it in place. Move the jig and continue up the wall. Make a taller jig if you want more clearance between some of the shelves) (photo).

This storage rack can also be built in modular form by simply screwing a 20¾" piece of shelving across the top and bottom of the vertical boards and attaching a piece of 3/16" hardboard to the back of the rack. The module can then be placed not only in a closet, but under your layout or anywhere. The modular version of this system can be built to any height and can be made portable by attaching wheels to its bottom and/or a handle to the top. Just remember that when loaded, it can become VERY heavy.

I keep my engines in their jewel case boxes and store them on cookie sheets without foam or a poster board grid (photo below). The jewel cases are placed on their side so the engines are stored wheels down to maintain balanced lubrication. Locomotive trays with engines stored in this manner require additional clearance. The space between runners meant for a locomotive tray and the runners above it should be increased from 7/8" to 1½". Engines that have extra tall boxes can be stored on their side or you could install one set of runners with even more clearance.

Most of my cars are assigned to specific train consists. When I want to run a particular train, I pull out the tray (or trays) holding that train, grab the appropriate engines from the locomotive tray and I'm ready to place cars on the track. Having the rolling stock stored in the trays rather than in their jewel case boxes makes train setup and tear-down much faster and easier. A friend who uses my system stores cars by type in the trays. For example, he has trays for 40' box cars, for 50' box cars, for reefers, etc. Another friend has trays for each railroad, trays for ATSF cars, trays for SP, trays for UP, etc.

The trays are handy when travelling to train shows with my NTRAK club. As indicated above, a storage rack can be made as a portable module. This can be taken one step further by installing a hardboard door to the front and a handle on the top. I built a storage box similar to the closet rack, but with only five slots (photo below.) The 5-slot design yields a travel case that is not too heavy when loaded and will easily fit in the trunk of a car. If you build one of these, give the top shelf enough clearance so that a locomotive tray will easily fit. When it's time to travel to a train show, all I have to do is pick four trays with the trains I want to run at the show, load the engines on the top tray along with my DCC throttle and spare batteries, slide the trays into the travel case and I'm ready to go.

Author

Steve Gillett of the Northeast Oklahoma N Scale (NEONS) club is the author of this TipsNTechniques. It was originally published in the September/October 2010 issue of N Sale Magazine.