

How to build a better model railroad the first time

Part 2 Track planning:

For those who prefer to build a 4'x8' layout, there are already many track plans available. For me to draw, one here would be superfluous. The two things I do recommend for 4x8 tables are taken directly from master track planner John Armstrong's excellent book "Track Planning for Realistic Operation." First, visually dividing the table with a backdrop, or hills, down the middle, and second, a clever trick Armstrong used to get easy access to both sides of a 4x8, without moving the table. He suggested cutting 45 degree sections off both sides at one end of the 4x8, which creates a point in the center of that end. This new, 90 degree, point was then pushed up against two walls where they meet to form one of the room's corners. The table then jutted out at 45 degrees to both walls. Those cut off pieces of the plywood were then attached to the other end, so you ended up with the same table area. Armstrong left the sharp point sticking out at the very end of the re-formed table. I recommend rounding this off for safety. If you bump your hip against it, or your running child hits his head on it, round is much more forgiving than sharply pointed!

From this point on I'm assuming you have adopted the "long and skinny shape that I recommended in Part 1.

NOTE:

In several places I've used a common generic term and then followed with the equivalent model railroad term (in parenthesis) this is simply to acquaint you with the term. For more on this subject see my post "Model Railroad Terminology."

The track plan should be a simple main line along the wall(s) with wider benchwork at the corners. The wider portion can be used for reversing loops to allow continuous running, or rail yards, stations, large industries, or anything that requires more depth than the narrower regular sections. Your mainline can be single or double track. Most real railroads use single track, and have passing sidings at intervals to let faster trains overtake ("pass") slower trains, and eastbound trains get past ("meet") westbound ones. Each rail-served customer along the line should have a siding where cars can be parked ("spotted") to be loaded or unloaded. Your main line doesn't need to be straight. You can include very large [think three-to-five feet] radius curves. Armstrong called these "cosmetic curves." They aren't strictly necessary, but trains sure look great on them. However, do provide some logical reason for the curve. For example, on my own layout, the main line skirts the waters of Lake Washington. Real railroads don't build curves, or anything else, that they don't have to. Curves cost money to build, and they slow trains down. "As far as a railroad civil engineer is concerned, the best route is "straight as an arrow, and flat as a pancake." Mother Nature seldom permits this. Curves, grades, and tunnels are sometimes needed. Just make sure they look necessary by building appropriate scenery.

You also have a choice about what to do at the ends of your main line. Some modelers have loops at both ends for continuous running. Others have a loop at only one end, and a yard at the other, where trains can be switched, engines serviced and turned around and a new train made up to head back in the other direction. Some (including virtually all real railroads) have no loops, but yards at both ends. These three configurations are called, logically, “Loop-to loop”, “Point-to loop” and “Point-to point.” It’s your choice, and it depends on how much you like breaking down trains sorting the cars and making up new trains. Many modelers, including myself, have a “yard within a loop” at one or both ends. They can switch cars or not, as they choose. Sometimes it’s nice to just “let em’ run.” Other times I can run and switch very much like the real railroads (“prototype”)

Within these general recommendations, you should be able to draw your own track plan to fit your particular space.

If you elect to have a single track main line and reversing loops, they will need some special wiring. Otherwise they create a short circuit between rails. This is true whether you are using traditional DC control or DCC control. [I strongly recommend going with DCC right from the start.] If you opt for a double track main line and reverse loops at both ends. They won’t create the short circuit as long as a train can’t go around the loop(s) and wind up going the opposite direction on the same track. If it goes west on one main line track, through the loop, and then east on the other main line track then your entire main line is really a stretched and distorted oval. The bad news is that as soon as you install a crossover from the east to the west line, you also create a reversing loop just like the one on the single track main line. In fact you create two reversing loops. You are going to need crossovers to let

trains pass or meet each other. So unless you want to just let a single train travel back and forth, you are going to have to confront the dreaded reverse loop. Fortunately it's not that hard, and I'll explain it in another installment. There are also online references on wiring reverse loops, as well as other posts on the forum.

Traction Fan