

# Installing the Faller Car System on an Existing Layout

by Blaine Bachman



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## Background

When the N scale version of the Faller Car System (FCS) came on the market, my layout was already in construction and the scenery was mostly complete in the area where I wanted to install the FCS. Making it even more difficult, the modeled road is a winding alpine two lane highway on a slight grade. Finally, I had no faith that I could create a decent, smooth surface with Faller's highway compound under even the most ideal conditions (not their fault, but mine). I therefore decided to construct much of the roadway off-layout using familiar materials and techniques.

## Proof of Concept

I wanted to build my roadway from styrene so as to obtain the smoothest surface possible. My idea was to sandwich the guide wire between two sheets of plastic, so to make sure that the idea would work, I built a test section of roadway by gluing a piece of the wire to one sheet and then gluing a sheet of thin plastic over it. Testing showed that the bus-mounted magnet could reliably follow the wire through the plastic. Just to make sure, I painted the roadway and after it dried I tested it again; the bus continued to work perfectly.

## The Pattern

Moving on to the actual installation, the first practical problem was determining how to create an accurate pattern of the existing roadway. Pondering this for a few days, I came up with an idea that may not be original (I've been reading model railroading magazines for 30 years): I could create a fairly accurate pattern using Post-it® Notes laid over the existing roadway and overlapped in shingle-like fashion.

Since I wanted a roadway that was approximately 27 scale feet wide, I went shopping for 2" Post-its. Back at the layout, I quickly laid out the pattern and for good measure ran a couple of strips of transparent tape down its length before lifting it from the layout.



## Road Construction

Moving to the workbench, I traced and cut the subroadway pieces out of fairly thick styrene (about 0.080"). I had on hand several large pieces of white styrene salvaged from some sort of trade booth display; you can find similar material at an industrial plastics supplier, possibly even in their scrap bin. Using long pieces of thick material minimizes joints in the subroadway ensuring a smoother road with less chance of abrupt grade changes that could snag the magnetic following shoe on the FCS vehicles.

I used the subroadway as a more exact pattern for cutting the road surface out of thin 0.010" styrene. When doing this, plan the joints between surface pieces away from any subroadway joints, and leave a tiny bit of overlap between road surface sections to allow final exact fitting at the layout.

## Demolish the Existing Road

At this point, I tore up the existing roadway and prepared the area for the eventual installation of the new plastic subroadway. In my situation this was fairly easy as all of the scenery shapes are made of foam beadboard. A Stanley Surform® Shaver (21-115) works great for smoothing the beadboard.





## Install the Wire

Using a small combination square set at  $\frac{1}{2}$ ", I marked the wire position on the subroadway by holding a pencil against the end of the ruler while I ran the square down the edge of the plastic. Resetting the gauge to  $1\frac{1}{2}$ " and running the gauge down the same edge of the plastic, I marked the wire location for the opposite lane.

To install the steel wire, I decided to melt it into the surface of the subroadway using a 30W soldering iron. This is perhaps controversial in environmental and health terms, but I made sure to do this in a well ventilated area and took steps to avoid breathing any fumes released in this process. The goal here is to set the wire into the subroadway so that it is level with the surface of the plastic; after a little practice, I figured out the right combination of pressure and movement to get the wire embedded at the right depth.

I also left about  $\frac{1}{4}$ " of extra wire at each subroadway joint for later fitting at the layout. To better bond the wire to the plastic, I ran a bead of thin CA along the wire. After the glue dried completely, I sanded the top surface of the subroadway as smooth as possible.

## Put it all Together

Next, I installed the subroadway on the layout using latex Liquid Nails construction adhesive, placing various weights where necessary to keep it where I wanted it. I also attached a 2" x 2" plastic splice plate under each joint using generous amounts of *Faller Pro* liquid plastic cement and made sure that the overlapping wires were arranged side by side. I left the whole thing to dry overnight.

After checking the subroadway installation and sanding the joints, I attached the roadway surface using thin CA. In retrospect, plastic compatible contact cement would probably have been better, particularly in reducing the number of unglued voids between the two sheets of plastic. At the joints in the surface material, it was a simple matter to overlap the two pieces of plastic and follow the visible outline of the piece underneath to trim the piece on top, forming a near perfect joint. When I did end up with a noticeable gap, I filled it with spot putty.

With the surface firmly attached and gaps filled, I sanded the road lightly, paying special attention to the joints. At this point, I unboxed the vehicle and took it for several test drives just to make sure everything worked as expected. Thankfully, it ran problem free.

## Final Touches

To finish up, I painted the road using Faller's supplied paint. Even using a foam brush, the brush strokes were visible, and stippling with the brush left a visible rectangular pattern on the road surface; but I felt I was on the right track. I found a long strip of open cell foam rubber and used it to stipple the still wet road surface, giving it a fine pebble-grain surface which made it look very much like asphalt.

A winding alpine road needs striping to keep everyone in their assigned space. I tried a variety of techniques including paint pen (messy and sloppy) and dry transfers (expensive and difficult) before obtaining a roll of 1/32" wide white crepe Chartpak® graphics tape. This sticks quite well to the fresh road surface. Using the tape, I ran a line down the center and one near each edge of the roadway, about 1/8" from the edge, to mark the shoulder of the road. After weathering the road using pastel chalks, I sealed everything with a coat of clear flat finish.

## **Variations**

1. Before laying the wire, install Faller's junction controllers and stopping modules to provide additional viewer interest on the layout.
2. Install the steel wire after the subroadway is attached to the layout; this eliminates fitting the wire joints, allowing you to build your FCS circuit with one or two long pieces of wire.
3. Create a cobblestone road using the thin patterned sheets from Plastruct for the road surface; find the thinnest sheets available, otherwise the magnetically-guided steering might become unreliable. I have also heard from modelers who created a detailed road surface with the computer and used a good quality color printer to print it on matte photo paper which is then glued to the subroadway.