



NYCSHS Issues E-zine

An added focus for the Society on NYC Modeling



Andy Szabo's beautiful layout captured with an easy to do professional set of photos. Read about his layout and learn how he improved his photo quality with a very small investment.

The NYCentral Modeler focuses on providing information about modeling of the railroad in all scales. This issue features articles, photos, and reviews of NYC related models and layouts. The objective for the publication is to help members improve their ability to model the New York Central and promote modeling interests.

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The NYCSHS provides considerable information about the NYC Railroad very useful for modelers. Pages 2 & 4.

New York Central's Berkshire Division By Andy Szabo

Photos by the author except where noted.

When I started the layout in 1993, I didn't know much about the New York Central. So, I named the layout the Magnolia Northern Division, as seen on the control panel. Now that I am better educated in things NYC, I imagine my layout depicting the Auburn Branch in the mid-to-late 1950's, somewhere between Rochester and Syracuse, New York, although I haven't modeled anything specific to the area. That will have to wait for the next layout. I've spent eighteen years building and operating this layout, and although it is essentially complete, it still keeps my interest, so I have no immediate plans for demolishing it in order to build a more prototypical one.

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New York Central Extra Board

Read About Our Authors



Andy Szabo "New York Central's Berkshire Division" - Page 1



Andy's fascination with railroads began with his older brother's Lionel trains, a permanent 12' x 8' layout in their parent's basement. Andy switched to HO scale in his early teens, but his interests didn't settle on the New York Central RR until a few years later. In the interest of full disclosure, Andy does admit to a short, misguided period when he,

Andy, has been actively involved at the Arizona Railway Museum (www.azrymuseum.org) for about a dozen years. He is currently Locomotive Foreman, Board Member, and the organization's secretary. As Locomotive Foreman, Andy leads a small but dedicated crew that maintains and operates a 1943 Plymouth ML8 gas/mechanical locomotive, a 1950 Baldwin DRS-6-6-1500 six-axle diesel-electric locomotive, and a Switchmaster diesel-hydraulic car mover. Andy also serves as Vice-Chairman for the City of Chandler Arizona's Museums Advisory Board, where he represents the railway museum.

Andy graduated in 1982 with a BS in Electrical Engineering from Philadelphia's Drexel University, where he spent much time gazing out classroom windows at Conrail's GG1 and E44 electrics on the elevated ex-Pennsy freight line. Andy worked in high-end consumer audio manufacturing for about thirteen years, taking him from New Jersey to Florida and Arizona. Since 1993, Andy has served as General Manager for a precision metal fabricator, where he provides reproduction parts for the preservation of rolling stock at the museum.

Geoffry Bunza "Crossbucks and Crossing Gates" - Page 24



Geoff Bunza started as a model railroader when he received a Mantua train set for Christmas at age six. Interest in the New York Central was cemented when riding on a NYC fan trip to Harmon in November 1966, behind an S-motor 110. He fed his interests through college becoming a member of the Tech Model Railroad Club (TMRC) at MIT while getting his doctorate and three other degrees in Electrical Engineering.

He has collected Lionel HO trains for many years, interesting him in realistic model animation and lighting. He models the New York Central Railroad and the Great Northern, paying little heed to timeframe. Geoff has been diverted from model railroading over the years by engineering and management challenges in computer design, automatic test systems, electronic design automation, and starting five companies. He is blessed with his wife, Lin, and two terrific sons. He is a life member of the NMRA and holds an Extra Class amateur radio license.

Crossbucks and Crossing Gates by Geoffrery Bunza Photos by author



For the last few years, I have been experimenting with new materials and techniques in the hopes of improving some of my modeling, and of achieving better results in scale lighting, movement, and sound, since my great interest (besides the New York Central) is in model animation. Experimentation implies that not everything is likely to work out well, particularly with early trials. So, I started with old materials from my scrap box, and, in this case, it meant starting with some old Plasticville (now Bachmann) crossing gates and crossbucks. Yes, you read it right. These had not graced my layout or diorama for over 20 years! But they were expendable. What

I wound up with was so much better (by operation, looks, and cost) than the alternatives, that they are the standard for me, and there is still room for improvement!



First, a little history: crossing gates were put in place to protect crossings, as a supplement to the

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flagman who was stationed there to warn traffic. They became increasingly important as vehicular traffic increased. Originally, they were manually operated by the flagman-come-gateman. To ease the operation, counterweights were added for balance, and a geared, hand-crank mechanism was sometimes used. Later, pneumatic operation allowed the gateman to remain somewhat more comfortably in a crossing shack, which was sometimes elevated. From there he could operate the gates remotely, protected from the weather. Electric motors replaced the pneumatic mechanisms, and are still in use today. Gates were originally painted white, very often with black stripes (with vertical, forward, and reverse stripes all in use). Yellow and black were sometimes used later. Today, white with red reflective stripes are common. From very early on, three red lights were mounted along the arm of the gate. FRA regulations specified that the endmost light was to remain on steady, and the two inward lights were to flash alternately.

Crossbucks with warning lights evolved, too, with even more variations. These included simple signs, diamonds, crossed boards, and rectangles, with and without one, two, or four lights. Colors started with

black on white, but also included red and yellow variations. I tried to stick with a variation that looked good and was easy to model. Both the gate and the crossbuck signal I will describe appeared in videos of the New York Central, and were likely used from the 1940's through the early 1960's. The modeled gate is of the pneumatic type, which is great for me as my next step will be to animate its movement and add a crossing bell sound.



*Greenpoint Ave., Blissville, New York, from the web site
<http://www.trainsarefun.com/lirr/trestles/lirrrestles.htm>*

Crossbucks

Now, let's model the crossbucks - they're easy and make a great one-evening project! We're going to start with a Bachmann Plasticville crossbuck. (Figure 1)



Figure 1: Unmodified Plasticville crossbuck

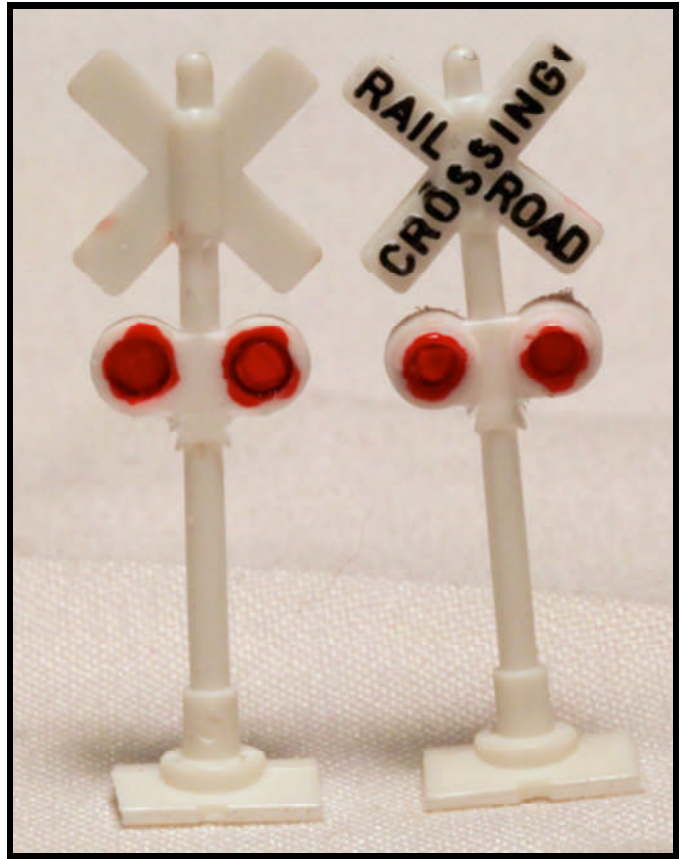


Figure 2: Clear red acrylic paint applied to lenses

Trim the bottom of the light housing to make the top and bottom of the light enclosure symmetric, and file smooth. Make sure that the red plastic lenses are fully seated, and seal them in by applying Tamiya X-27 clear red acrylic paint (Tamiya No. 81027) to both sides of the lenses. Make sure that there are no holes or cracks around each lens. (Figure 2)

Now trim off the original crossbucks and file the pole for a symmetric, tapered fit. Get a Tichy set of crossbucks, cut off the Tichy crossbucks from their pole, and file the back flat. Also file a flat on the original Bachmann pole in an appropriate location. Note that the prototype placed these at varying heights to suit the situation on site. (Figure 3)

Two 0603 surface mount device (SMD) light emitting diodes (LED's) will be used for the lights. The 0603 denotes the size of the LED in inches (.060 by .030 inches – that's tiny). You can learn how to wire these yourself by looking through a clinic I gave at an NMRA division meet in Oregon (http://home.comcast.net/~gbglacier/Clinics/SMDLED_Clinic_1.5.pdf), in an article in

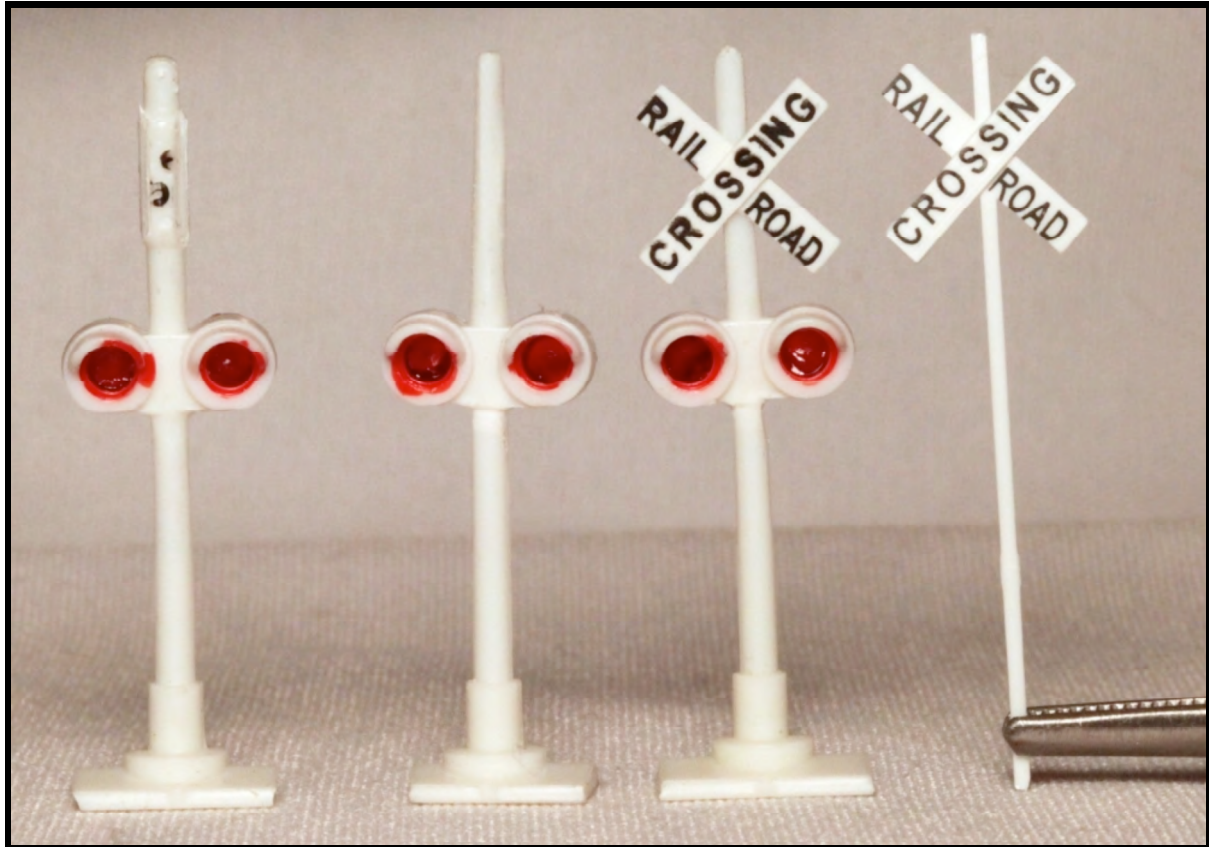


Figure 3: Modifications to the combined Plasticville (left) and Tichy (right) crossbucks



Figure 4: SMD pre-wired LED

the February 2012 issue of *Model Railroad Hobbyist* (<http://model-railroad-hobbyist.com/>), and from other sources on the web. Pre-wired white or red LED's can be obtained from several vendors to make your life a bit easier. I often use a European vendor, ledbaron (<http://stores.ebay.com/ledbaron>) to get pre-wired 0603 and 0402 white LED's at a reasonable cost (about 47 cents each). They are wired with 38-gauge enameled magnet wire (thinner than a human hair), which allows you to embed them in models quite easily. (Figure 4)

Drill a No. 70 hole (or a very small hole) into the base to run the LED wires. (Figure 5) Next, drill a shallow 1/16th-inch indentation in the back of each lens, wide enough to fit the LED, and glue a pre-wired LED into the indentation so that the LED will illuminate forward through the lens. Use a clear glue to hold them in place. After drying, layer a coating of white Elmer's glue over the back to seal off everything and to hold the wires in place. (Figure 6)

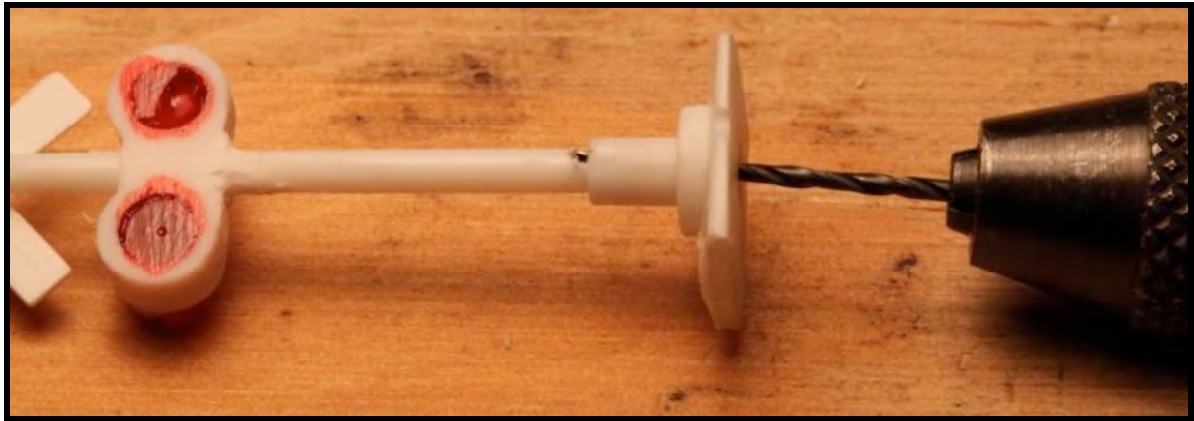


Figure 5: Drilling a No. 70 hole into the mast base for the LED wires; note the exit location of the drill bit

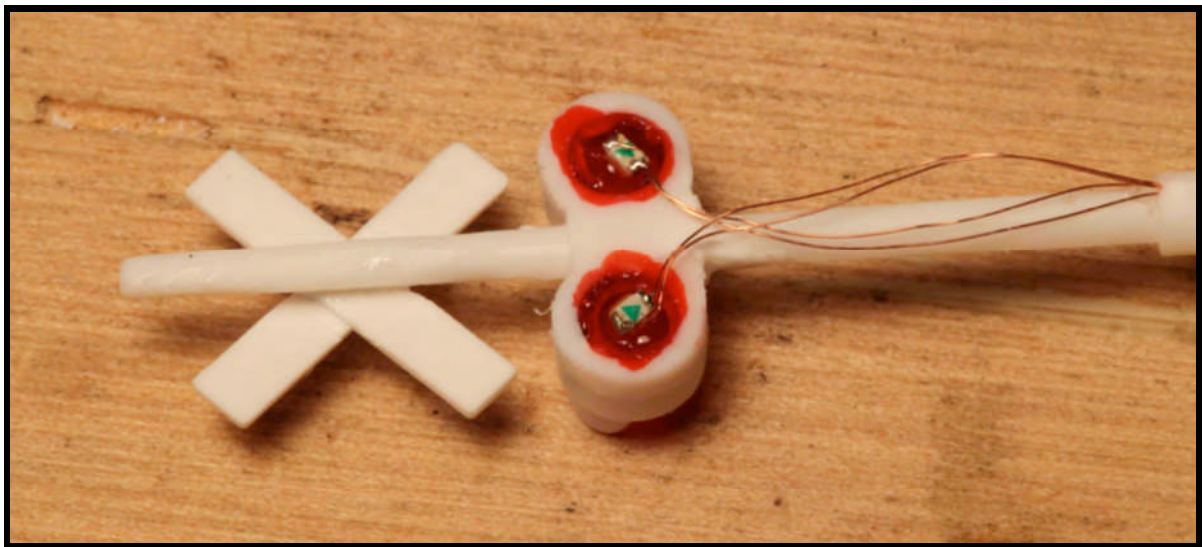


Figure 6: Gluing the LED's into the drilled indentations on the back of each lens

Now paint the pole white, and paint over the wires to hold them in place against the pole and hide them. Finish by painting the light housings and base a dark charcoal gray or black; the LED's are bright so thoroughly cover the housing with paint. You can also add a small placard below the lights indicating the number of tracks in the crossing. The base can also be trimmed down, if you wish. I glue a thin piece of cut steel flashing, or steel shim stock (about .001 thick)

to the bottom, and embed a small magnet, obtainable from Radio Shack (P/N 64-1895) or elsewhere, in the “ground” where the crossing will be located. The magnet will hold the signal in place, but if a 1:1 scale worker (me!) knocks it over, you can simply put it back in place with no damage. You can guess why I learned to do this!

The completed crossbuck compares well with commercially made crossing signals and costs about \$2.00. (Figure 7)

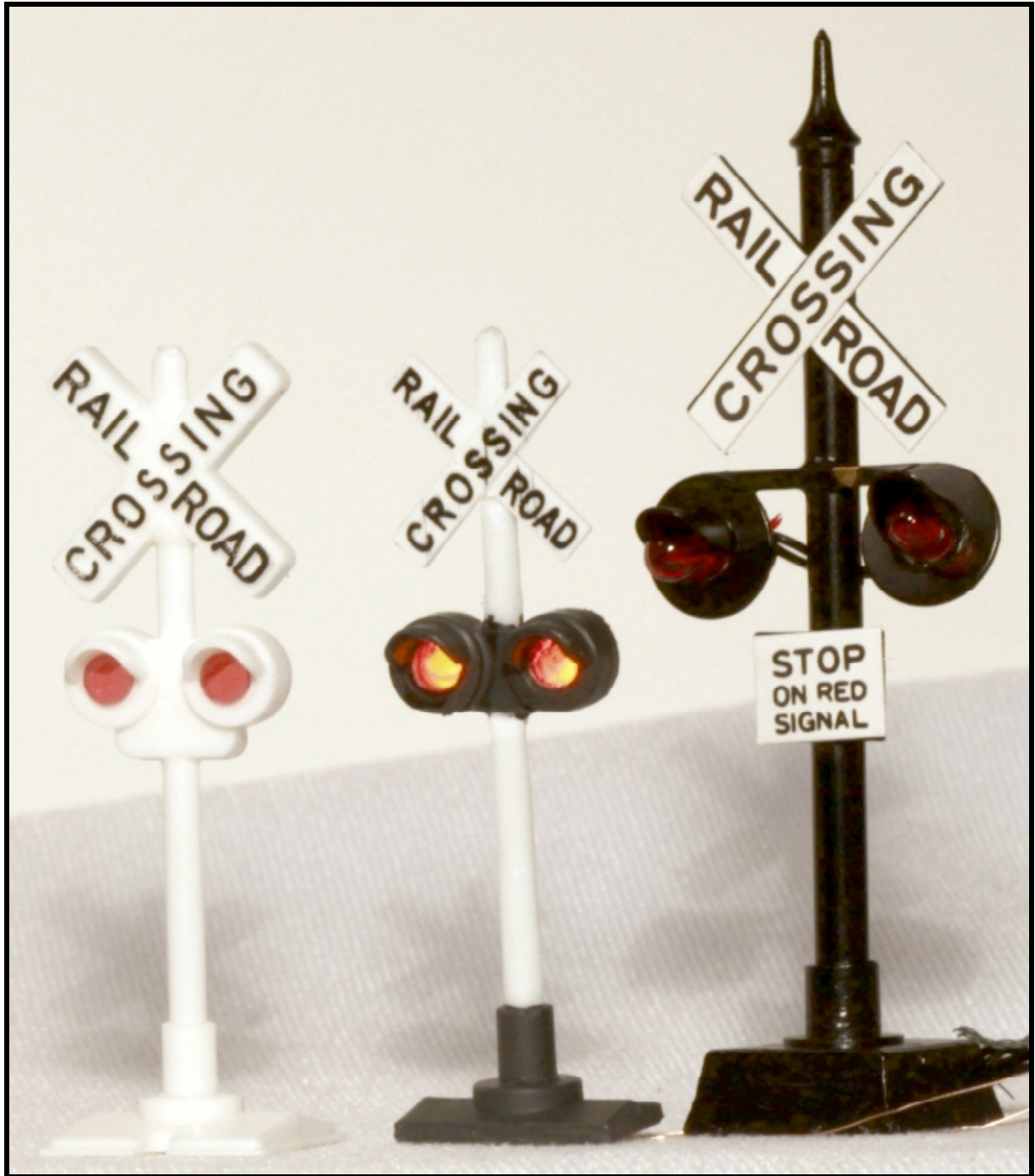


Figure 7: The completed crossbuck (center) compared to a stock Plasticville (left) and commercially made illuminated signal (right)

You can drive the LED's with a very simple flasher circuit, which will work quite well with a supply voltage range from 4 to 9 volts. (Figure 8)

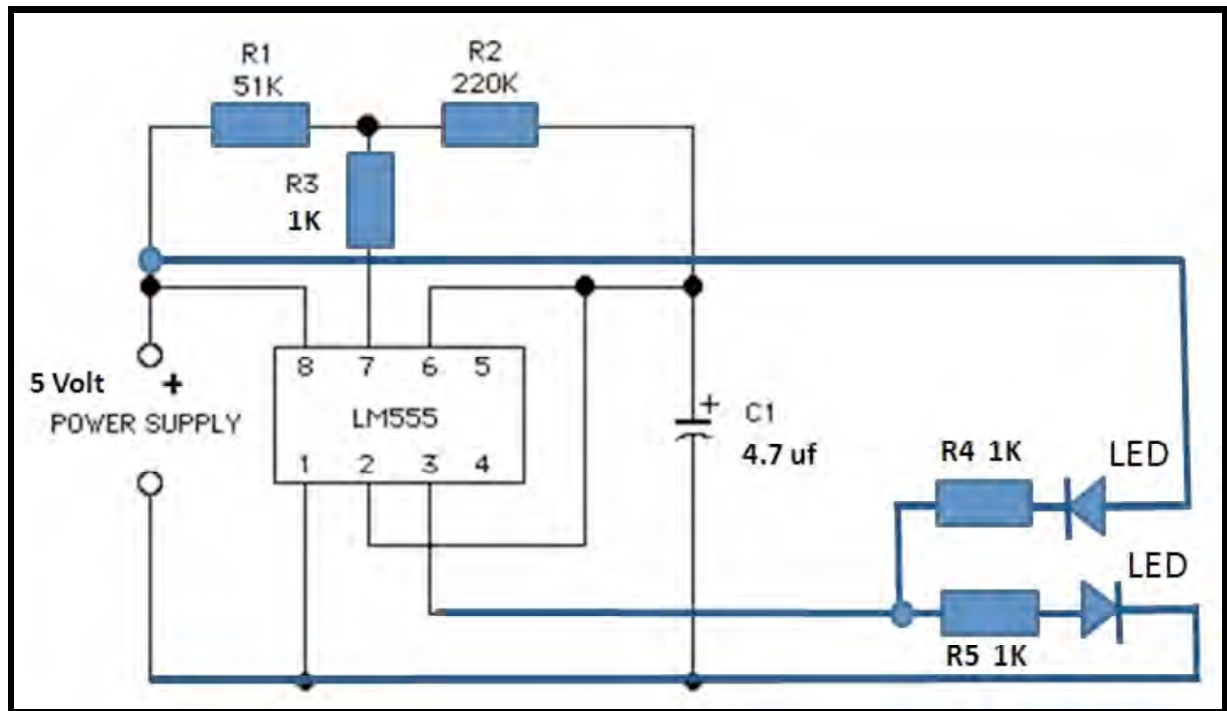


Figure 8: Flasher circuit

Crossing Gates

The Bachmann Plasticville crossing gate was never really appealing to me, but I was on a roll with my experimentation, so I thought I would try to improve the gate. (Figure 9) Besides, what

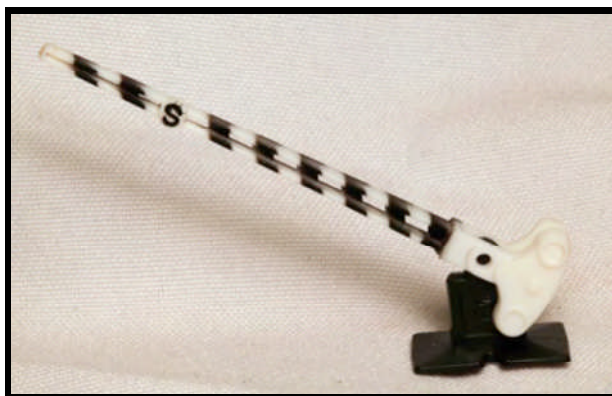


Figure 9: Unmodified Plasticville crossing gate

I really wanted to do was to model a gate with the three appropriate lights on it - operating! A prototype pneumatic gate has two long boards comprising the arm, with a set of reinforcements between them. In my model, I simplified the reinforcements to a number of spacers depending on the length of the arm. The length of the arm was determined by what it was guarding: a pedestrian walkway would be quite short, two lanes of a road much longer.

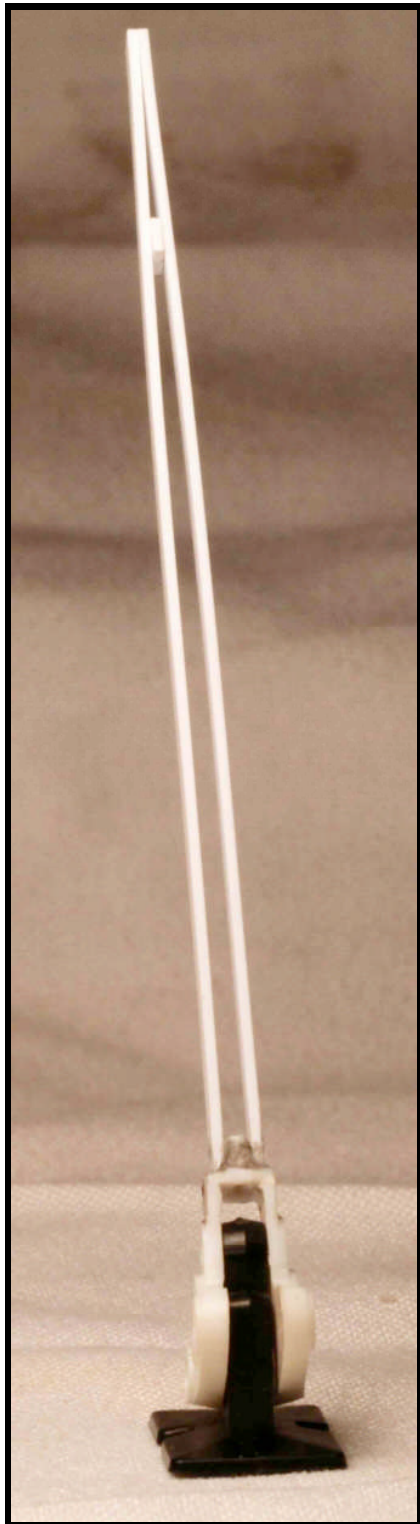


Figure 11: New arms attached



Figure 10: Cut off the gate arm, leaving a short stub

Start by cutting off the original arm back just after the pivot point, and leave a short stub of the arm. (Figure 10) Flatten it with a file but leave as much of it in place as possible. The new arm will be glued to the flattened stub. Get two styrene strips, 0.125 thick - 1/8-inch long by 0.20 thick by whatever length you need for the arm. Glue the strips together at one tip **only** and let dry. Place the pair in a vise, and taper one side with a long file, then the other, so you have a barely perceptible taper towards the glued end (glued end smaller). You can taper them even after you glue them to the arm pivot base, but it's easier if you do the tapering first.

Glue the wide end of the tapered arm to the pivot base where you flattened it before. Begin adding spacers between the arms with scrap slivers of plastic. (Figure 11) Space them to coincide with the placement of where the three arm lights will be attached. The spacers should be notably less than the width (0.125-inch) of the arm, even with the top edge, but not extending all the way to the

bottom. Add 8" scale decal stripes to both sides of the arm.

Next, glue three, red, pre-wired 0402 LED's on the arm (yes, they are even smaller than the ones we used in the crossing flashers before). I put them on the spacers I added to reinforce the arm spacing. I have also learned to buy only white LED's, and color them as I needed with either permanent marker pens or Tamiya clear paint. Both techniques work very well, but the marker ink dries faster. Remember that the end light stays on steady when activated, while the two inner lights typically alternate. They do not have to be synchronized with the crossbuck flashers, but the same circuit shown above can drive all the flashing LED's at the crossing. Drill a No. 66 hole through the base, and thread the wires through the hole. Position the wires underneath the spacers along the arm. A drop of glue will hold the wires in place.

Using black or a dark charcoal gray, finish painting the pivot base and the counterweights, and protect the decals with a clear overcoat. Total cost is about the same \$2.00 as for the crossbucks. The three lights on the arm look amazing. (Figure 12)

Next for me is an actuating mechanism and a detector - more experimentation to come!

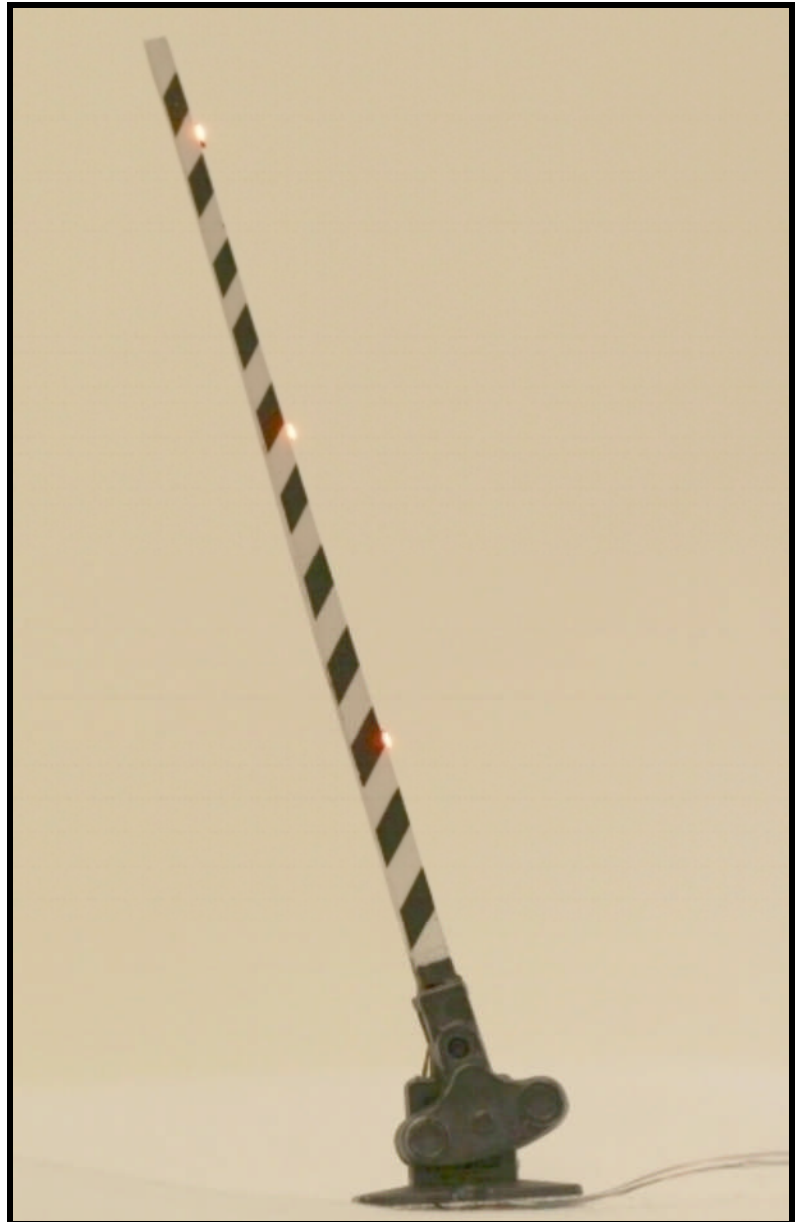


Figure 12: The completed crossing gate with lights