

# FLIMZIE

*The Newsletter of the Rock River Valley Division  
Midwest Region, National Model Railroad Association*



**February 2024      Volume 57, Number 6**

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The Rock River Valley Division, RRVD, is a local division of the Midwest Region of the National Model Railroad Association, NMRA. The RRVD serves NMRA members in areas of Green and Rock Counties of Wisconsin, and Boone, Jo Davies, Lee, Ogle, Stephenson, Whiteside, Carol, DeKalb and Winnebago counties in Illinois. The RRVD holds monthly meetings typically the first Sunday afternoon of each month, September through May. Starting in September, we will be meeting at the **Paulson's Agriculture Museum, 6950 Belvidere Rd, Caledonia, IL 61011**. The meetings consist of various clinics on model railroading, model contests, and drawings for door prizes for NMRA members. All are welcome. The meeting starts at 1:00 PM, and the doors open at 12:30 PM.

## **2024 BoD & Chairman Directory**

Please use the following address to contact the RRVD organization or any of the following officers:

**Rock River Valley Division, NMRA  
PO Box 2213  
Loves Park, IL 61131-2213**

### **Superintendent:**

Marty Hendrickx  
815-978-7326  
[superintendent@rrvd-nmar.org](mailto:superintendent@rrvd-nmar.org)

### **Assistant Superintendent:**

John Mann  
[asstsuperintendent@rrvd-nmra.com](mailto:asstsuperintendent@rrvd-nmra.com)

### **Paymaster:**

Myron Peterson  
[ructic@gmail.com](mailto:ructic@gmail.com)

### **Chief Clerk:**

Steve Faivre  
815-761-5070  
[smfaivre@gmail.com](mailto:smfaivre@gmail.com)

### **Director:**

Gary Loiselle, MMR  
815 / 963-8326  
[hofreight@gmail.com](mailto:hofreight@gmail.com)

### **Director:**

Doug Loy  
815 / 765-2046  
[delsclho@yahoo.com](mailto:delsclho@yahoo.com)

### **Director:**

Ken Peterson  
779 / 348-2961  
[poplarken53@gmail.com](mailto:poplarken53@gmail.com)

**Director (Past Superintendent):**

Ray Dyreson  
815 / 335-7046  
815 / 494-0205  
[raydyr@aol.com](mailto:raydyr@aol.com)

**Show and Sale Chairman:**

Doug Loy  
815 / 765-2046  
[delsclho@yahoo.com](mailto:delsclho@yahoo.com)

**Flimzie Editor:**

Ken Peterson  
779 / 348-2961  
[poplarken53@gmail.com](mailto:poplarken53@gmail.com)

**Membership Chairman:**

Ken Mosny  
815 / 965-4871  
[kenmosny@gmail.com](mailto:kenmosny@gmail.com)

**Clinics Chairman:**

Ron Johnson  
779 / 774-5431  
[rondjohn@earthlink.net](mailto:rondjohn@earthlink.net)

**Contest Chairman:**

Ray Dyreson  
815 / 494-0205  
[raydyr@aol.com](mailto:raydyr@aol.com)

**Layout Tours Chairman:**

Bert Morris  
815 / 520-1307  
[winxxx1115@gmail.com](mailto:winxxx1115@gmail.com)

**Division Publicity Chairman:**

Joe Whinnery  
815 / 398-8973  
[phowhin@yahoo.com](mailto:phowhin@yahoo.com)

**Nomination and Election Chairman:****Advancement Chairman:**

Gary Loiselle, MMR  
815 / 963-8326  
[hofreight@gmail.com](mailto:hofreight@gmail.com)

**Show and Sale Registrar:**

Ken Mosny  
815 / 965-4871  
[kenmosny@gmail.com](mailto:kenmosny@gmail.com)

**Office Vacancies**

**Division Publicity Chairman.** This person would be responsible for contacting organizations (newspapers, local ad flyers, TV stations public announcements, magazines, etc.) that would publicize our meets, train shows, and other activities. If you are interested in serving in this capacity, contact Marty Hendrickx, 815-978-7326, [superintendent@rrvd-nmar.org](mailto:superintendent@rrvd-nmar.org).

**Flimzie Deadlines**

The Flimzie is published once per month on the first of the month. It will be placed on the RRVD website for anyone that wants to read it.

The content for the Flimzie comes from you, our readers. Please submit your articles, pictures and editorial comments to the Editor, Ken Peterson, [poplarken53@gmail.com](mailto:poplarken53@gmail.com), no later than 10 days before the 1<sup>st</sup> of the month, i.e., Jan 21, 2024, for a Feb 1<sup>st</sup>, 2024, publication.

## From the Superintendent By Marty Hendrickx

Hello all! Well, the holiday season is over, and we all survived the nasty taste of winter we experienced this January. Fortunately, the long-term weather pattern seems to indicate the mild weather we had been having before the recent cold snap is returning. I think most of us don't mind winter as long as it is not 10+ inches of snow and sub-zero temperatures.

The planning for our upcoming Rock River Valley Train Show is well underway and we are hoping for another successful show. It has been a little stressful as we had to move it up two weeks because Easter is very early this year, the same weekend as we usually have our show. We have lost several vendors because of conflicts with other shows that normally occur on the weekend we had to move our show to. One of those things you cannot do anything about, so we have been actively recruiting new vendors and display layouts with some success. We have also expanded our advertising for the event as we are running an ad in the Northwest suburbs of Chicago. The ad we are running will drop to about 60,000 mailboxes a few weeks before the show, so we are hoping to see a significant increase in attendance from this area. This area is at most only an hour and half away from Harlem High School and with the lack of good quality shows in the Chicago area; we are excited to see how this ad works.

We will be having lawn signs, posters and flyers at our February and March meets and I would ask everyone to pick up some of this advertising. My house is close to the entrance of my subdivision, so a lawn sign works well. If you put a lawn sign somewhere other than your yard, you need to get permission from the landowner. I find most people are accommodating if you ask. Brochures can be distributed to your barber, local pizza place, taqueria, restaurant, gas station, even ask your wife if her beauty shop will put one up. (Some wives do encourage their husband's hobby) Flyers can go to your local hobby shop or bring them along if you are attending a train show.

We also really need your help setting up and running the show. Regardless of your ability or the amount of time you can contribute, we can use you. So please sign up. There are sign-up sheets at our February and March meets. If you cannot attend but want to help, please let me know. This goes for anyone even if you are not an NMRA member. If you assist us, you will get free admittance to the show, which since you are part of the crew would entitle you to early admittance and shopping.

We have not decided on our June Junket as of this writing. Several ideas we have talked about are a trip to the Mid-Continent Railway Museum in North Freedom, WI or a barbeque at the Rochelle Train Park to be followed up with

layout tours in the DeKalb/Sycamore area. Nothing has been decided so if you have a preference or suggestion, please let Bert Morris or myself know.

Well, that is about it for the moment. I hope to see as many of you as possible at our meets in February and March. We have some great clinics and layout tours scheduled which I'm sure you will find interesting and entertaining.

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## From the Editor By Ken Peterson

Friends of the Flimzie, I need to point out that this publication is for you and by you. All the articles that appear here are written by members of the RRVD. If you don't submit articles for publishing, there is no content. When I took over as the editor, I wanted to change the Flimzie from a quarterly publication to a monthly one. Without articles from you, I may have to switch the Flimzie back to quarterly, or even occasionally, based on when I get content. This will be completely up to you.

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## LED Streetlight Made from Battery Powered Christmas Lights by Ken Reinert

This past Christmas I saw an advertisement in a Menards flyer for battery powered 15 string Christmas lights. They were just over two dollars and I thought it was an economical way to buy LEDS. I figured I could use them to light buildings but after I saw their shape, they might make good streetlights with some modification. **Photo 1**

I gathered up the following items to be used to convert the LEDS to make a reasonable looking older style metal post light to be used on a recent addition to my layout:

- 3 /16" brass tube
- 5- minute epoxy
- LED lights cut from battery power supply.
- Testors plastic cement
- Finish washers

After gathering my supplies **Photo 2**, I needed to cut the brass tubing to length and to the proper shape to make the light post and arm to hold the

lamp/LED. I used a razor saw and small miter box to cut the tube 3 ½" long with a 45-degree angle to make an elbow for the lamp arm. **Photo 3** The lamp arm was then cut 1 ¼ " long from the start of the angle. The next step is to cut the lamp arm to allow the LED to be positioned. The lamp arm is notched so that the longer edge of the angle cut is on the top with the lamp notch on the bottom. **Photo 4.**

After cutting the brass tubing to size and filing burrs on the cut ends to make smooth passage for future wire threading, it is time to prepare the LED by cutting one free from the light string. The first step is to cut a portion of the green heat shrink tubing enclosing the wires feeding the LED. Strip the tubing about 3/16" below the bottom of the LED exposing the wire solder connections to the LED. **Photo 5** Clip the wires where they contact the LED leads. Fold the LED leads 90 degrees away from the LED. Clip the plastic insulator separating the leads so that it is even with the bent leads. **Photo 6**

The next step is to prepare the feed wire to supply power to the LED. I used telephone supply wire. The reason being that it can be fed through the tube, and it has different colors to help maintain polarity distinction. First feed the wire through both the post and arm leaving about an inch and a half protruding through the arm. **Photo 7**

Now that the wire is through the tubes it is time to solder the post to the arm forming a 90-degree angle by aligning the 45-degree cuts. I positioned the post upright in a vice to hold it vertical and held the arm in position with an alligator stand. **Photo 8** You can also pull on the feed wire to hold the assembly together. Apply flux to the joining surfaces before soldering. Do not hold the iron on the joint too long. The wire insulation might melt.

Pull the wire through the tube assembly by pushing from one end and pulling from the other making sure that you check the wire insulation is not melted. (I never had it happen). Strip the wire ends about 1/8" and tin the leads. **Photo 9**

It is now time to connect the wire leads to the LED. Since the LED is polarized electrically, one needs to determine which lead is positive and which negative. I made a simple tester using an old 9-volt battery. The LED will light when the negative and positive leads are correctly hooked up. Make sure you mark the polarity so when you solder your colored coded leads you remember which is which. I usually make the darker lead negative and the lighter positive. On my tester red is positive and black is negative. **Photo 10**

After the leads are soldered to the LED **Photo 11**, they need to be dressed at a 90-degree angle and tucked close together and even twisted tighter so they can be pulled and pushed into the arm. Make sure they do not short to each

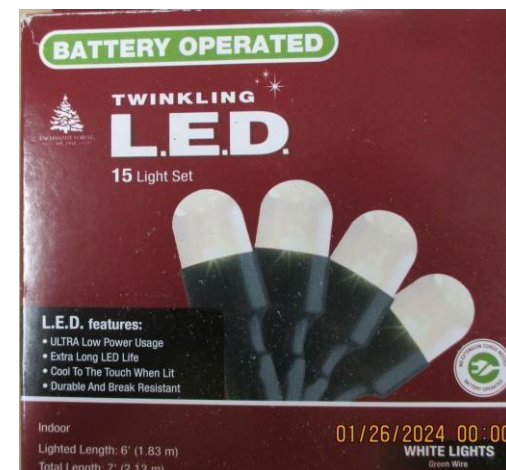
other or to the tube arm. To make sure they would not short, I covered them with Testors plastic cement. Let the glue harden before pulling the wires into the tube. **Photo 12**

After glue is hard and dry pull and push them into the arm making sure that the wires go into the tube and under the arm cap. I then clamped the post horizontally into the vice so that the arm opening faces up. Mix-up a small batch of five-minute epoxy and fill the arm opening to secure the LED to the arm. **Photo 13**

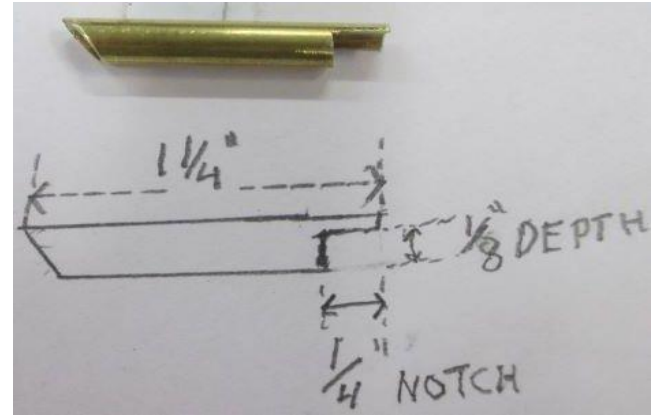
It should be noted that you can check for electrical continuity at any time during the assembly process by using the battery test device to make sure the LED lights up. The next step is to attach the trim washer used as the lamp reflector. Simply press it over the LED and secure with a dab of super glue. **Photo 14**

I next cleaned up the excess epoxy with a file and painted the assembly green. It should be noted that DC power is needed to power the streetlight. Make sure to check the voltage supply. A resistor is needed .to prevent burning out the LED. See the chart **Photo 15.** For slightly higher voltage use 1K ohm resistor.

See **Photos 16 and 17** for finished lights installed on my layout.



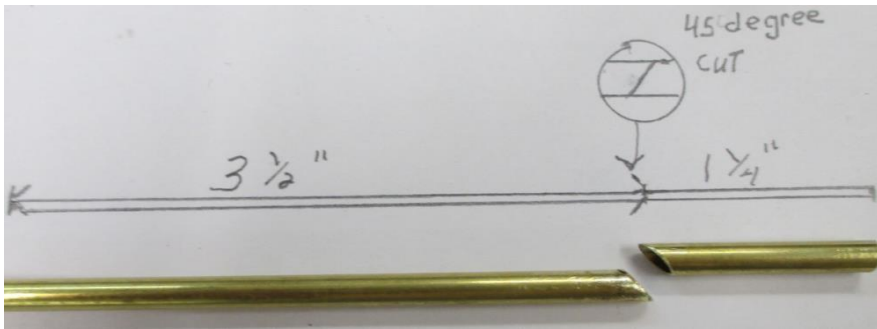
**Photo 1**



**Photo 4**



**Photo 2**



**Photo 3**



**Photo 5**



Photo 6

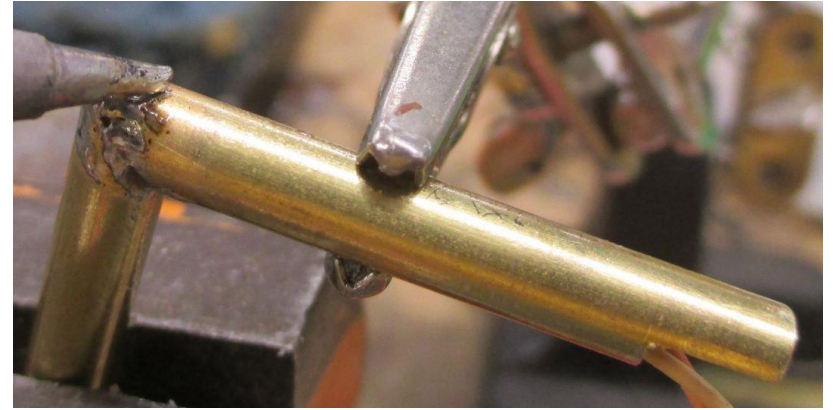


Photo 8

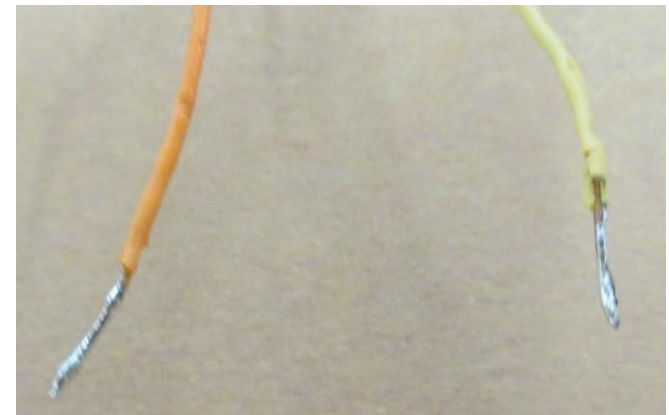


Photo 9



Photo 7

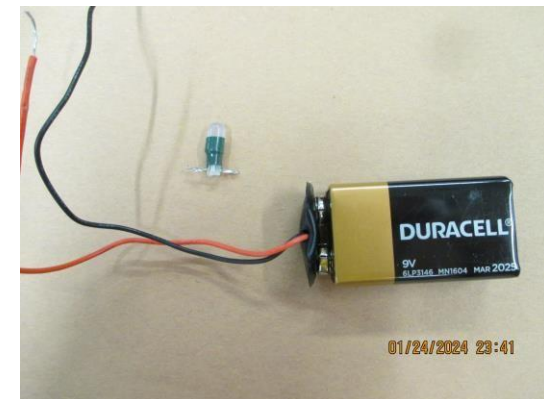


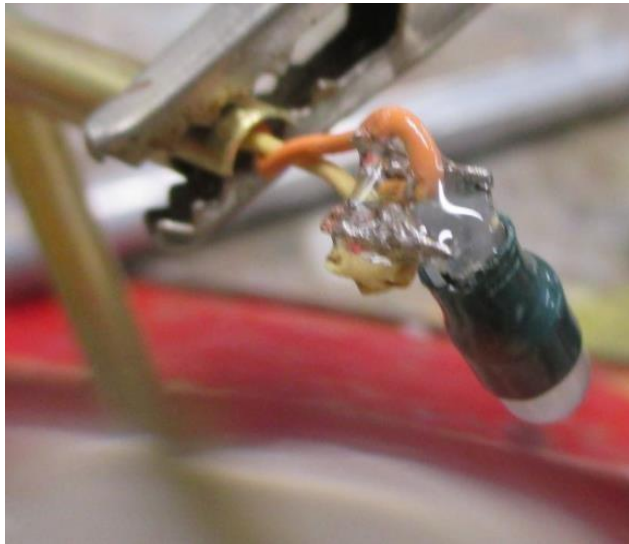
Photo 10



**Photo 11**



**Photo 13**



**Photo 12**



**Photo14**

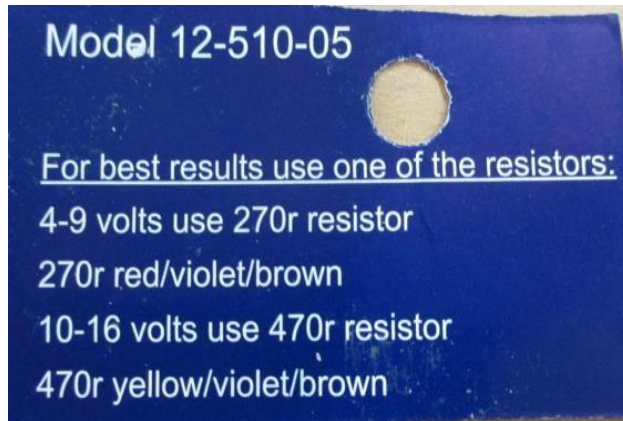


Photo 15



Photo 17



Photo 16

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## What are Arduinos? by Ken Mosny

In December, Tom Ose came to the RRVD meet to do a clinic. The clinic was well attended and seemed to generate a lot of interest, so I decided to do this follow-up.

Some time ago, a few of us trekked south near my youth stomping grounds of Peoria to the Illinois Valley Division for workshop clinics about using Arduino micro controllers hosted by Tom. Sure, you can read all you want about how to do stuff like this, but a workshop provides an opportunity that actually **compels** you to do it. It is sort of like going to school where you are forced to do interesting stuff whether you like it or not. Anyway, I learned a lot. I have built electronic devices before to do this or that, but with the advent of DCC, I stopped building train control devices. I could just buy what I needed at a fraction of the effort and cost to build it even if I could get the components. Besides, these devices seemed way too complicated, anyway. My focus shifted from electronics in the hobby to model building. I also used to do some hobby computer programming, but that fell by the wayside, too. I guess what stirred my interest in Arduinos was the low cost, which can be less than \$5, ease of programming, availability of projects on the internet to get you started, and versatility of using a micro controller instead of a dedicated circuit to do something. Since the cost of the Arduino is so low, it



becomes practical to actually use an Arduino to do even simple tasks like blinking the lights at grade crossing or flashing an LED to simulate an arc welder.

In 2003 the Arduino project was created in Italy to make a low-cost computer to teach computer programming and control to students not in science, engineering or technology and without electronics experience. As such, the electronics are pretty simple for the novice and the focus is on programming applications with a building block modular approach to the actual circuitry. As an open-source platform, anyone has access to information to develop applications and there are lots of them on the internet.

Why use an Arduino instead of a dedicated circuit? To many, me included, it can seem like overkill. However, think about it. Suppose I want to blink grade crossing lights. When making a dedicated circuit with a flip flop or an NE555 timer, the blink rate is set by timing components like resistors and capacitors. If I don't like the rate of blinking, I must physically change the components or make them adjustable (\$\$\$). Since the Arduino is controlled by software, I just change the blink rate by changing a timing number in a program. If I really want to be more realistic, I can simulate the on/off intensity change of incandescent bulbs in the program instead of having an abrupt on/off of most simple blink circuits. Do you want a three-position semaphore? Old ways require stops or switches with all the inherent tinkering to limit blade travel and speed. A cheap \$5.00 miniature servo controlled by an Arduino will do it easily without all that hardware by using software to control the three stop positions and speed. Of course, an Arduino is also universal and can be easily recycled. If the project changes, you just load a different program.

This article is not meant to tell you exactly how to build something with an Arduino. My skill in using these things is nowhere near that yet. I'll just give a brief introduction and hopefully pique your interest. First of all, an Arduino is a micro controller which is really a type of computer. An Arduino has all the basic computer functions: inputs to sense what is going on, memory to store information and program instructions, a processor to decide what to do according to the program instructions, and outputs to make something happen. The difference between a micro controller and a computer is rather fuzzy, usually a matter of size, speed, and capability.

Below are pictures of Arduinos. **Photo 1** is called an Arduino Uno. This one is probably the best to use if you are just going to play around and develop something because it has jumper wire sockets for inputs, outputs, power, reset, etc., and you can use it without soldering to the board. You can also plug shields into it, but more about that later. They are readily available for \$5 to \$10. **Photo 2** is called the Arduino Nano shown with its USB cable. Once you figure out what your circuit and program are, you can use this smaller and less costly version for the actual application if you want.

Functionally, it is the same as the Uno and I have seen them for under \$3 each. There are also other versions like the more powerful Arduino Mega.

To get started with experimenting, I recommend an Arduino starter kit, **Photo 3**, for about \$30 from Amazon and others. You usually get an Arduino Uno, breadboard, jumper wires, motors, LEDs, distance sensors, photocells, keypad, display, remote key fob and lots of other neat stuff in the kit. You will also need a desktop or laptop computer running the free Arduino IDE software for writing and uploading programs. You connect the computer to the Arduino through a USB cable which provides enough power for many projects and allows your computer to communicate with the Arduino. Once you are satisfied that your Arduino project works, the USB cable is disconnected, and the Arduino is powered by external power which can be just a 9v battery or a wall wort. The Arduino will continuously run the program until the power is turned off. It will restart by itself when the power is turned back on.

Arduino programs are called "sketches". Don't ask me why they don't call them programs, but they just don't. When you install the Arduino IDE software on your computer from <https://www.arduino.cc/en/Main/Software>, you will also find some sketches and projects to get you started and be successful from the beginning. A typical starter kit includes what you need to do these projects. A sketch is just a list of instructions typed into the Arduino IDE program using a very rigid but recognizable format called syntax. The IDE software will then compile the sketch and check for things it does not understand like syntax errors and missing stuff. When the sketch is successfully compiled, the IDE software loads the sketch into the Arduino where it is permanently stored until you change it. For example, to give you an idea of what a sketch is like, here is a simple sketch to randomly blink an LED to simulate a welding arc:

```
int ledPin = 9; // LED connected to digital pin 9

void setup() {

  pinMode(ledPin, OUTPUT);

}

void loop()

{

  int i,count;

  count=random(10,60);

  for (i=0;i<count;i++) {
```

```

digitalWrite(ledPin, HIGH); // set the LED on

delay(random(60));

digitalWrite(ledPin, LOW); // set the LED off

delay(random(200));

}

delay(random(800,2000));

}

```

If you have done some programming, you probably get the gist of what this program does without exactly knowing the details of the syntax. The Arduino software language simplifies programming with functions like “random(200)” which picks a random integer from 0-200 to flash the LED randomly. Before you get too concerned about a lot of strange typing, you can find lots of sketches on the internet that you can use as is or as a framework to modify to do something else. Much of the typing can become copy and paste from other programs. As you gain experience, you will write your own sketches easily. The arc welder circuit using this sketch is shown in **photo 4**. The hardware is just an Arduino, a resistor and an LED driven by output pin 9 on the Arduino.

If you want to do more complicated tasks, interface circuit boards called “shields” plug into the inputs and outputs of the Arduino Uno to sense and do lots of things. There are shields to sense GPS, play sound files, become a cell phone, communicate via Wi-Fi, drive motors, and on and on. You don’t have to build this stuff. There are even sketches for the Arduino to communicate with DCC. Because the Arduino is open source, anyone can develop applications and hardware for it, and they do.

On the NMRA website you can watch *A Gentle Introduction to Programming an Arduino* at <https://www.nmra.org/clinics/gentle-introduction-programming-arduino>. You need to log in as a member to view it. It is a long video, but John is entertaining and explains the basics as they can be applied to our hobby.



Photo 1

Photo 1



Photo 2



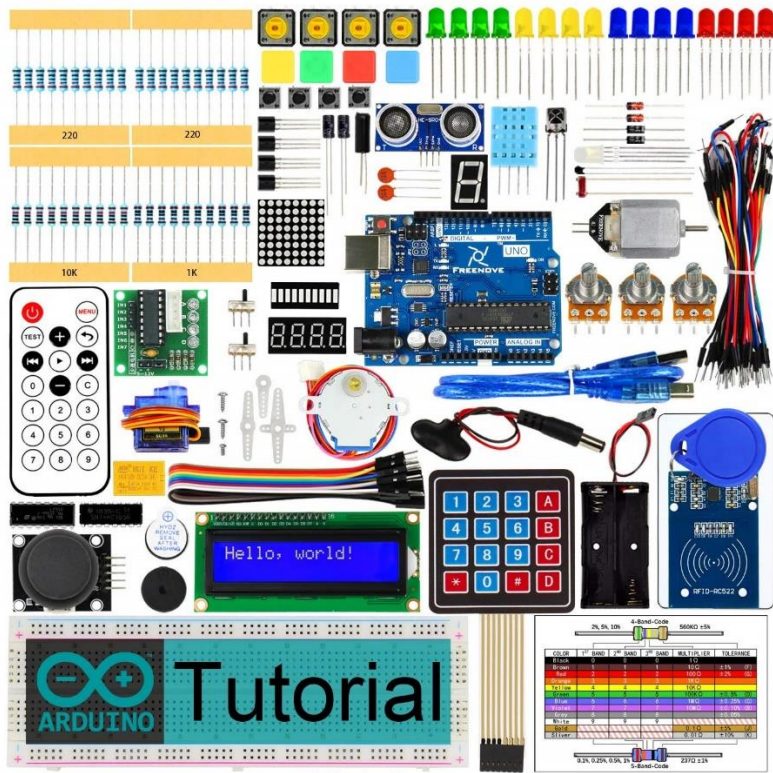


Photo 3

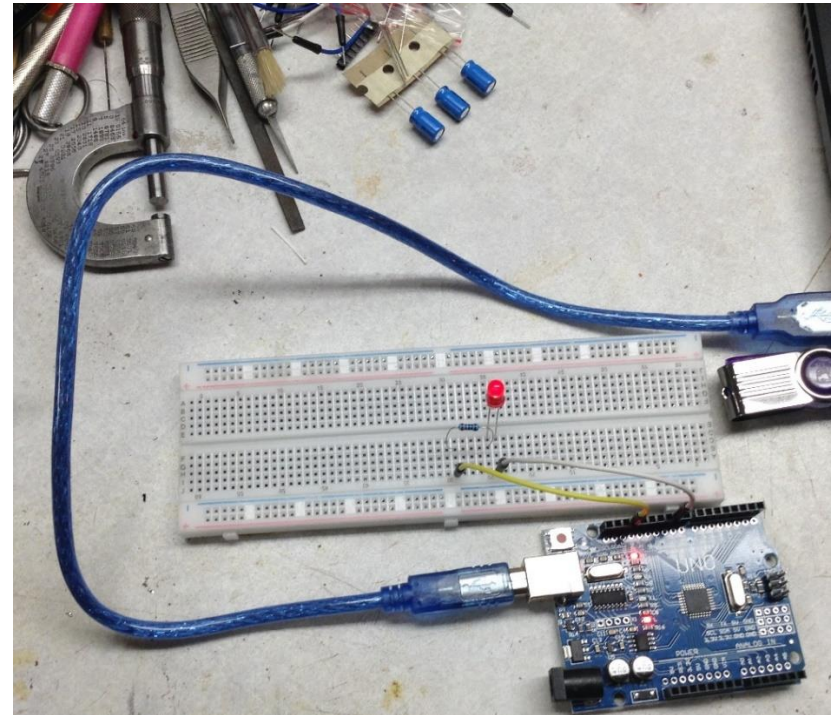


Photo 4

## What Are Friends For? Chapter 28 Gary D. Loielle

I started my last chapter with a question. Let's try that again. Is there something that you have heard or seen that gets you thinking about memories of friends and/or times past? For example for me.....'ALCO'.....or...' open load'.....My thoughts are of Tom Maladecki and Charlie Wickhorst. Occasionally I travel HWY 251. On the west side of the highway and south of Prairie Hill Rd., there is a company that is still serviced by rail. **(Photo 1)** It is just down the tracks from the grain loading facility by Jack's Tire Co. Each time I pass there, I think of John Swanson of Beloit. One of the scratch-built, finely detailed, and built to scale structures on John's layout was (is) that building. **(Photo 2A,2B)**. FYI, John's layout was one of the layouts in the premier issue **GREAT MODEL RAILROADS 1991**. **(Photo 3)** I have an autographed copy. **(Photo 4)** John was also a published author. He had a number of scratch building, construction articles

published in **RAILROAD MODEL JOURNAL** in the early 2000's. **(Photo 5)** (No longer in print) Unfortunately for us in the RRVD and this hobby, we lost John on 3-21-2021.

Here is another one for you. Take a look at **Photos 6 and 7**. Someone went to a lot of work to paint all that brick and get the mortar lines to stand out. I'm not sure that I would use the same colors, especially if I was doing an industrial type of structure for my layout. I think I would consult Dennis Blunt.

Several years ago, maybe a decade, Dennis developed a system called **Bricks Like Magic**. If you are or were a reader of **Mainline Modeler** magazine, Dennis had an article in the November 2002 issue titled **Booster Power for Your Steam Locomotives**. **(Photo 8)**. His article was about the steam locomotive in the picture, but what caught my eye was the building behind it. I was able to capture a few more examples of his technique during his last Division open house. **(Photos 9A,9B,9C)**

I also still have my copy of the handout Dennis provided describing the "How to" and materials needed. **(Photo 10)** My picture somewhat dates this. When have you recently seen anything printed with the look of a schoolhouse ditto machine print?

I believe Charlie Wickhorst used this technique on his Guinter Scale building flat. **(Photo 11)** I have used the **Bricks Like Magic** process. **(Photo 12A, B)** I obviously have room for improvement. If you don't try, your learning curve is going to be flat. WAFF, Gary



**Photo 1**



**Photo 2A**



Photo 2B



Photo 4

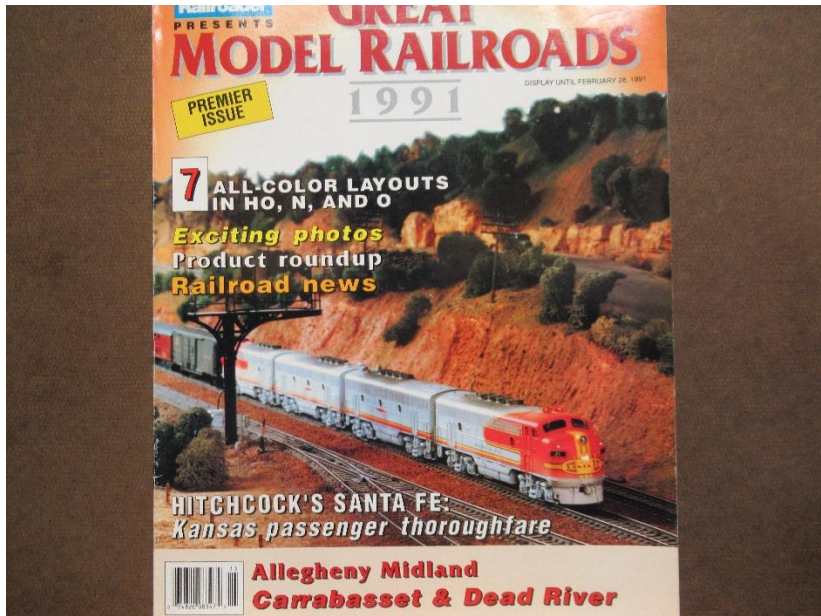


Photo 3

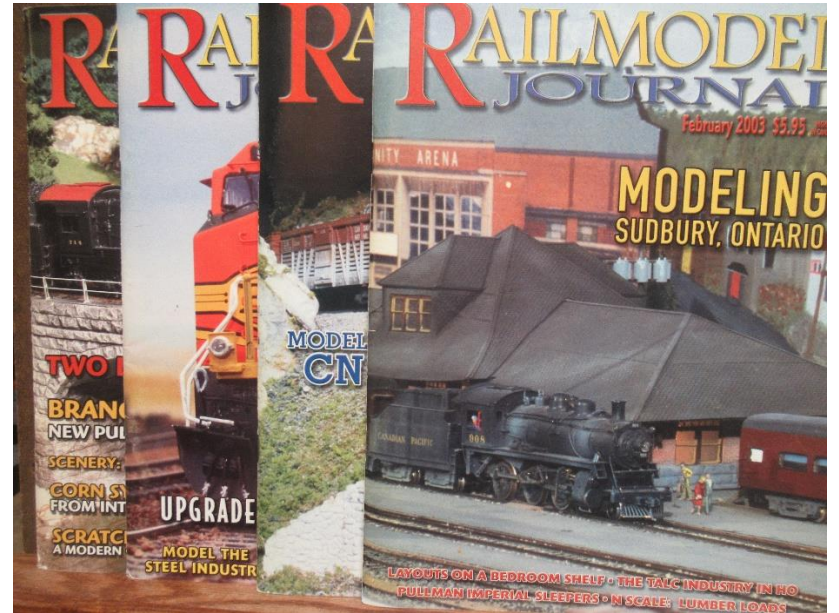


Photo 5



Photo 6

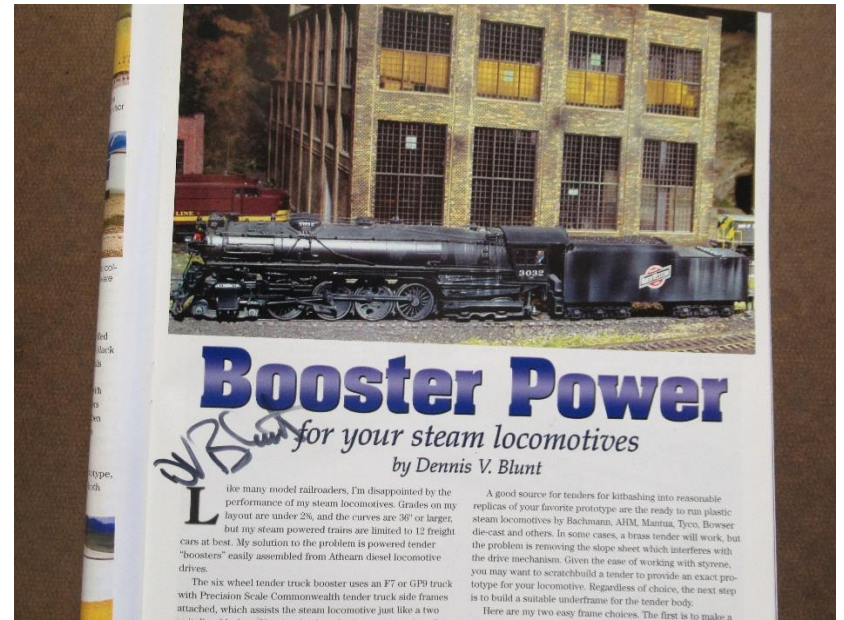


Photo 8



Photo 7



Photo 9A



Photo 9B

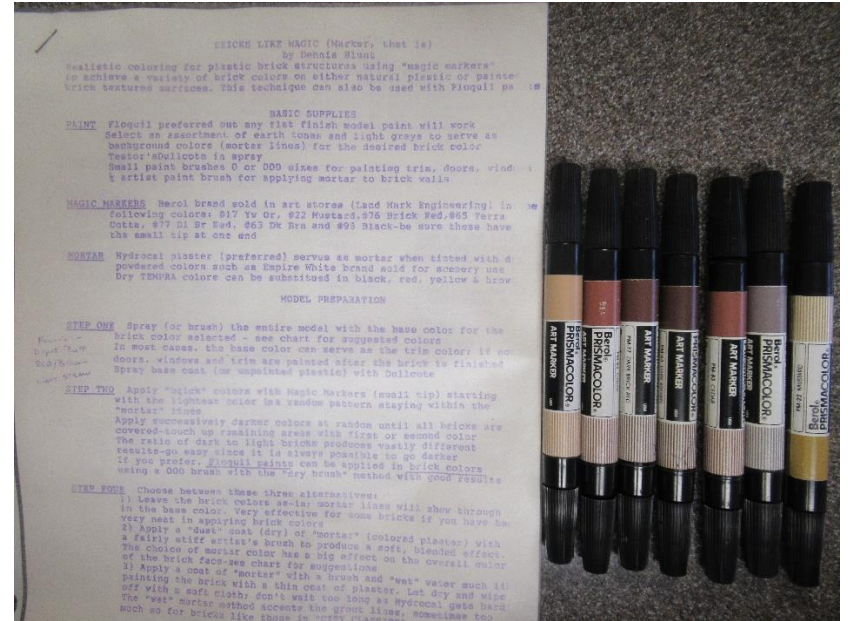


Photo 10

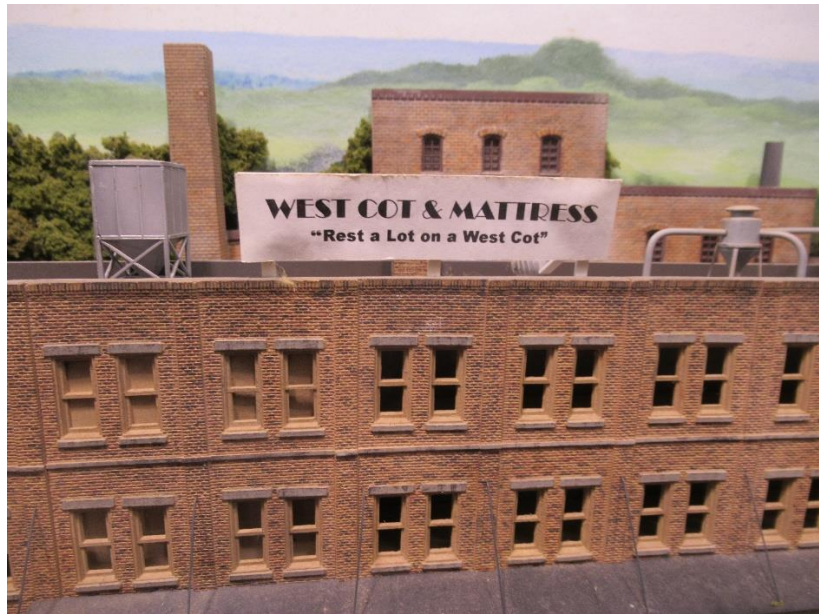


Photo 9C



Photo 11



Photo 12A



Photo 12B

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