Sunrise Herald

February 2023 Volume 16 Number 2

Sunrise Division Officers

Superintendent……William Boorman
Asst. Superintendent……Dennis Hagen
Secretary……Bob Hochstetter
Treasurer……Dave Clifford
Program Chair……Gary Myers
Division AP Chair……Position open
Youth Coordinator……Position open
Education Chair……Stewart Jones
Modular Layout Chair……Larry Stephens
Herald Editor……Bob Hochstetter

In the Herald

Layout of the Month

This month's three photographs are from Bob Rothgery's HO scale layout. They were taken by Gary Myers during the August 6, 2022 Sunrise Division layout mini-tour.

February Meeting Notes

The regular monthly meeting of the Sunrise Division of the National Model Railroad Association was held February 2, 2023 at Holy Love Lutheran Church. Signing in to the Zoom portion of the meeting began around 6:40 p.m. Superintendent William Boorman called the meeting to order at 7:03. Nineteen members attended in person and three joined via Zoom.

Introductions were the first order of business. Along with an introduction, William asked each attendee to tell what they were doing on their layouts. Most attendees seemed to be getting back to modeling after the holiday season.

The meeting concluded at 8:59 p.m.

Next Meeting

The next meeting will be Thursday, March 2, 2023 in person at Holy Love Lutheran Church, 4210 S Chambers Road, Aurora, Colorado. Mask wearing is optional for all attendees. The meeting will start at 7:00 p.m. The meeting will also be streamed on Zoom with sign-in between 6:30 and 7:00.

Video of the Month

In keeping with the theme of extremely high railways from last month, this month's YouTube video is of the Qinghai Tibet Railway. The railway traverses China from Beijing to Lhasa in Tibet. This video details the engineering challenges faced during its construction.

https://www.youtube.com/watch?v=uTSpdD6MswA

Upcoming Tool Time

March--Scaling Photos—Stu Jones

Upcoming Clinics for 2023

March - Layout Planning - William Boorman
April - Signaling - Stewart Jones
May – Safety in (Model) Railroading – Dave Clifford
June – 1903 100' DG Turntable - Gary Myers
November – Auction – Rich Flammini

Upcoming Show 'n' Tell Themes for 2023

March – Anything Scratchbuilt
April – Foreign Railroad (non US)
May – Yard Engines
June – Industrial Structure
July– Special Purpose Car
August – Weathered Model
September – Photos/Media
October – Streetcars/Trolleys
November – Anything Goes
December - Cabooses

In an attempt to reduce problems, we continue to ask that Show 'n' Tell photos, Clinic presentations, and Tool Time photos be taken before the meeting and sent to Gary Myers (garymyers06@comcast.net) for presentation at the meeting and to the editor for inclusion in the Sunrise Herald (rlhoch422@gmail.com). (Ed.)

Announcements

The Foothills Society of Model Railroaders swap meets.
Green Mountain Presbyterian Church
12900 W. Alameda Parkway
Lakewood, CO
9:00 a.m. -11:30 a.m.
(303) 989-0087 or (303) 985-1491
The meets are held on the third Saturday of odd numbered months.

Announcements continued

Rocky Mountain Train Show - Spring 2023
April 1st & 2nd
Sat 8:00 AM - 9:00 AM - Pre-Registerd TCA/NMRA Members
Sat 9:00 AM - 5:00 PM - Public
Sun 9:00 AM - 4:00 PM - Public

National Western Complex
4655 Humboldt St.
Denver, CO 80216

Exhibit Areas
Expo Hall, Hall Of Education - East, Hall Of Education - West, Stadium Hall

Larry Stevens announced that the modular layout will be set up at the Rocky Mountain Train Show.

Rocky Mountain Region Convention
Albuquerque, NM
November 11 and 12, 2023

Module Report

Modular Layout Chair, Larry Stevens, reported that no additional work had been done on the modules since last month.

Tool Time

William Boorman presented this month's Tool Time on wire strippers.

This first stripper is one that can be found in any big box hardware store. It can strip wires from 8 gauge down to 26 gauge.

The next stripper is handier for the smaller wires used in model railroading. I can strip wires from 10 to 20 gauge.

Both of the above strippers can leave you with unintentionally cut strands as illustrated here.

The next type of stripper can strip the wire and remove the cut portion of the insulation in one motion.

That stripper also has the advantage of being able to strip the insulation from the middle of a wire as illustrated above.

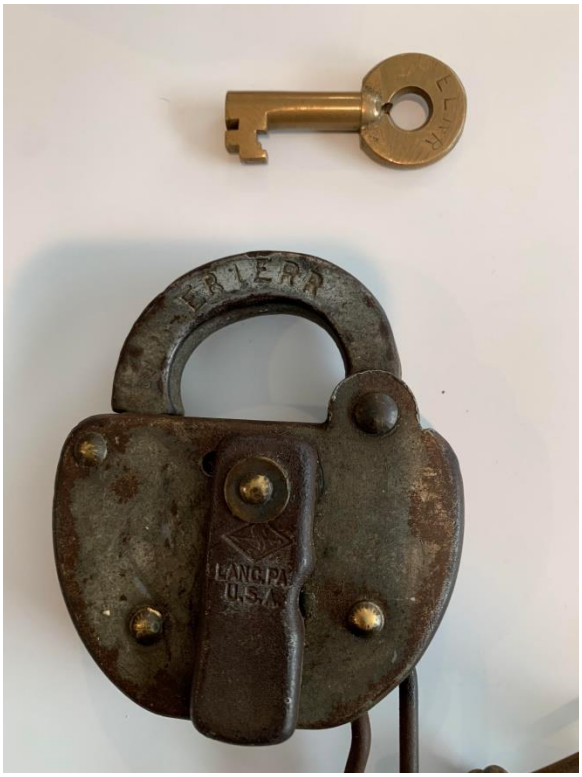
William's favorite stripper, however, is this one that strips the insulation and leaves an exact length of wire exposed each time.

The sliding stop indicated above is adjustable from 1 to 12 eighths of an inch (one-eighth to-1 ½ inches).

Show 'n' Tell

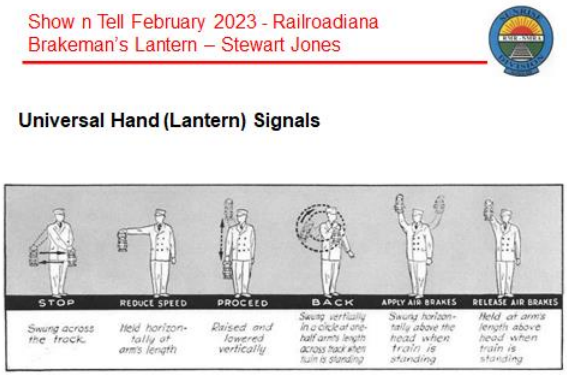
This month's Show and Tell segment featured Railroadiana

Bill Johnson showed this luggage rack from the New South Wales Railway. If you look carefully at the ends of the rack, you can see NSWR in the design.



Dave Clifford showed this Erie Railroad switch lock and key.

Stu Jones showed this lantern and the following accompanying commentary.



Rich Flammini followed with a picture of himself wearing a Peru Rail cap that he purchased on a trip to Peru.

John Keiss showed this Milwaukee Road (Chicago, Milwaukee, St. Paul and Pacific Railroad) item. A discussion ensued regarding its purpose. Suggestions were as an oil can or as a kerosene can.

Last were these Missouri Pacific Lines pencils. I (Bob Hochstetter) noted that these were so old that some of the pencil's adhesive was breaking down allowing the pencil to separate into two halves.

CLINIC

The February clinic was presented by Gary Myers, Achievement Program Chair of the Rocky Mountain Region. His presentation included all of the requirements for the engineer-electrical certificate and numerous examples of the paperwork submitted by applicants. His presentation follows in its entirety.

Achievement Program: How to Earn Your Engineer-Electrical Certificate

Gary Myers
AP Chair
Rocky Mountain Region

Who should apply?

Anyone who has:

a layout or wired modules
installed decoders
installed lighting
built some miscellaneous circuit

REQUIREMENTS

1. Construct and demonstrate on own or club layout, the satisfactory operation of an electrical control system
2. Wire and demonstrate the electrical operation of at least three switches
3. Wire and demonstrate the electrical operation of at least three devices
4. Prepare a schematic drawing of the propulsion circuitry of the model railroad in (1)
5. Prepare schematic drawings identifying the wiring and components of the items under (2) and (3)
6. Submit the Statement of Qualifications (SOQ)

1. Construct and demonstrate on own or club layout, the satisfactory operation of an electrical control system

Minimum Layout Requirements:
- DC Layouts – 5 independent electrical blocks
- DCC Layouts – Gaps, switches to maintain polarity, support troubleshooting
- One mainline passing siding
- One reverse loop, wye, turntable or transfer table
- 3 track yard with switching lead independent of main
- 2 storage tracks for locomotives (independent operation)
- Power supply with protection (circuit breakers, short indicator)

2. Wire and demonstrate the electrical operation of at least three switches

Acceptable Switch Types:
- Turnout
- Crossing
- Crossover
- Single or Double Slip
- Gauge Separation Turnout
- Double Junction Turnout
- Three-Way Turnout
- Gauntlet Switch
- Spring Switch
- Operating Switch in Overhead Wire

None of these items have to be scratchbuilt

3. Wire and demonstrate the electrical operation of at least three devices

Device List:
- Control Panel for at least 4 turnouts
- Track Occupancy Panel for at least 5 blocks/sections
- Cab Control with 2 Power Supplies for at least 5 blocks
- Engine Terminal with electrically powered turntable or transfer table with 3 interior and 2 exterior storage tracks that can be powered on/off
- 2 Turnout Junctions with Interlocking Signals for protection
- Constant Lighting (High Frequency Lighting)
- Electronic Throttle with Inertia and Braking
- Grade Crossing with actuated Warning Indication
- 2-Way Block Signaling with detection for at least 5 blocks
- Operating Overhead Wire
- Installation of advanced electronic/computer control
- Design, installation of mechanical, electrical display
- Design, installation of layout lighting control
- Installation of Command Control Receiver (non-plugin decoder)
- Installation of Command Control Throttle Buss line for at least 2 Throttles at at least 3 separate locations

3. Wire and demonstrate the electrical operation of at least three devices (continued)

Device List (Commercial Assembled complete units not Acceptable):
- Construction and Installation of Sound System
- Construction and Installation of Signaling System
- Development and Installation of CTC System
- Installation and operation of onboard video system
- Computer generated block detection information
- Hard-wired (Computer) Controlled Layout Operation
- Electronic Throttle with Inertia and Braking
- Development and Demonstration of Layout Computer interface
- 2-Way Block Signaling with detection for at least 5 blocks
- Operating Overhead Wire
- Installation of advanced electronic/computer control
- Locomotive Warning Flashers
- End of Train Devices

4. Prepare a schematic drawing of the propulsion circuitry of the model railroad

Schematics should be electrical schematics, not layout drawings
- CAD
- Computer Designed (e.g., VISIO)
- Drawing Board
- Hand Sketched

5. Prepare schematic drawings identifying the wiring and components of the items under (2) and (3) railroad

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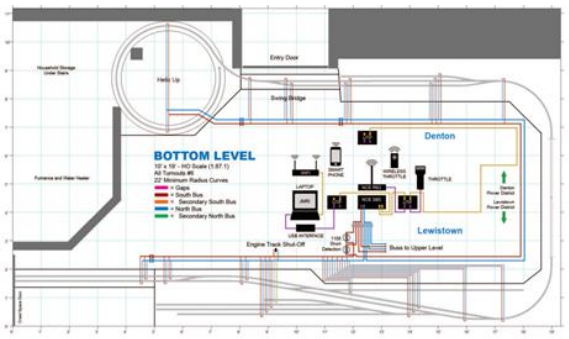
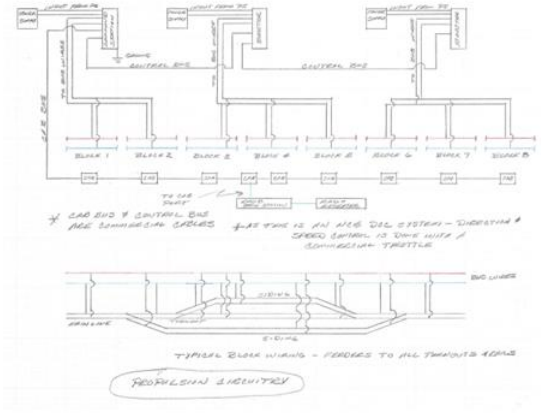
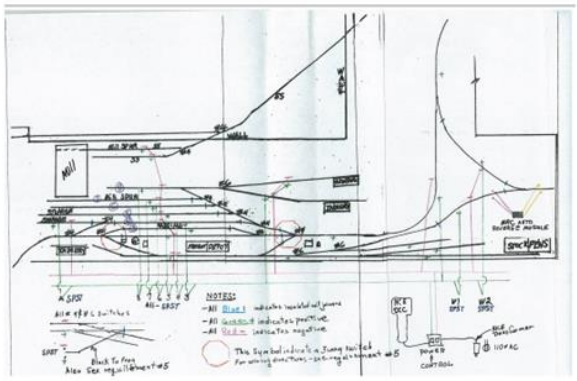
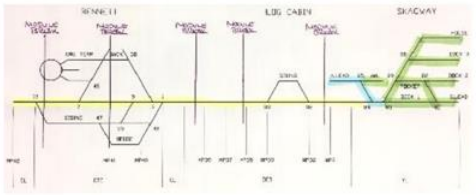
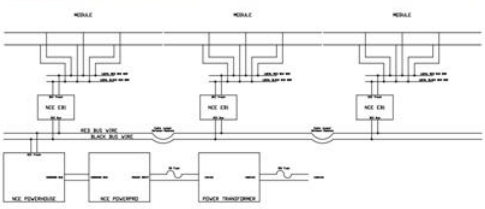
- CAD
- Computer Designed (e.g., VISIO)
- Drawing Board
- Hand Sketched

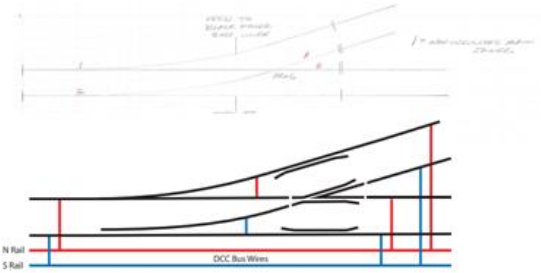


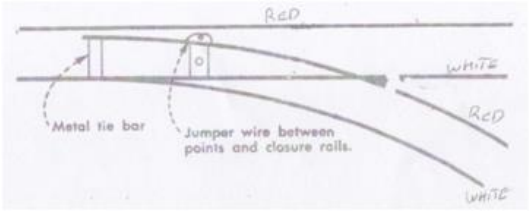


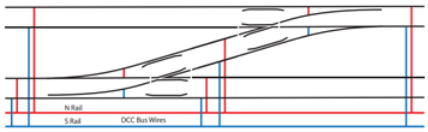


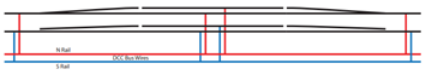


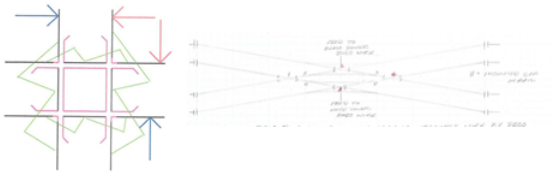


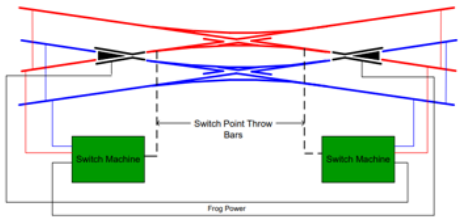


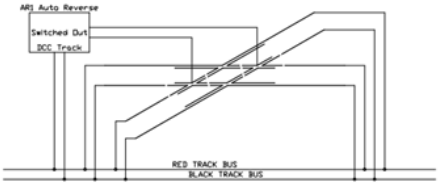


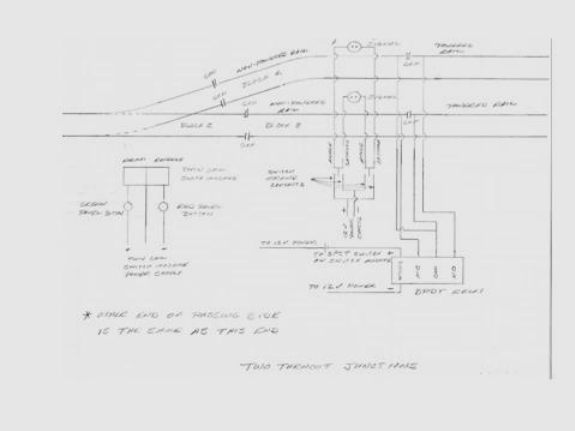


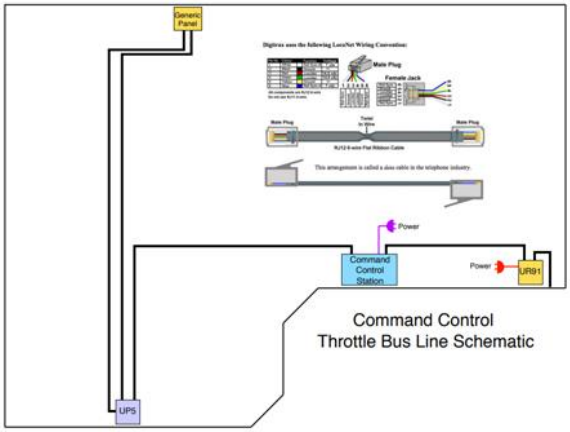


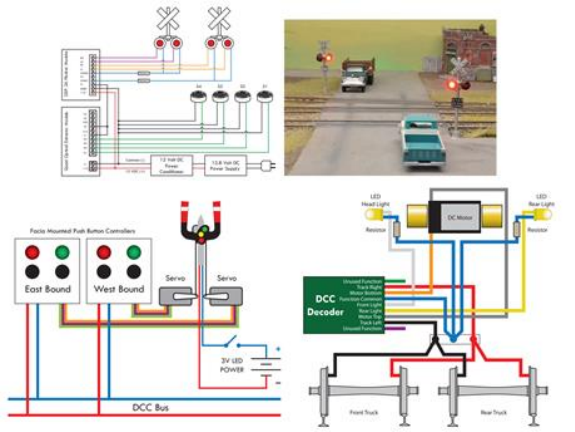


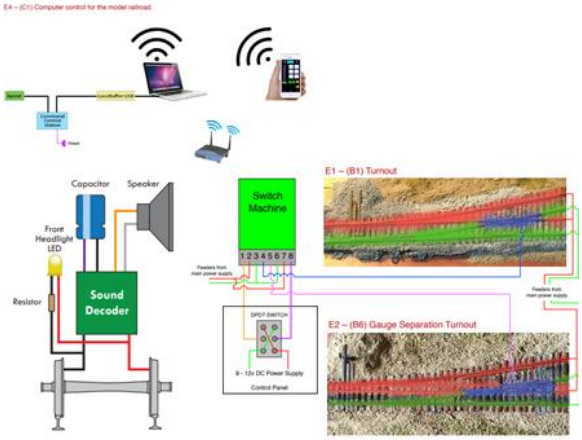












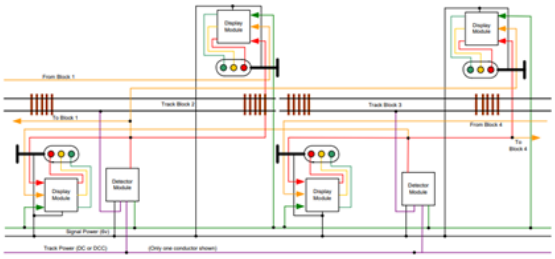


Figure 13 Typical Single Track Block Wiring

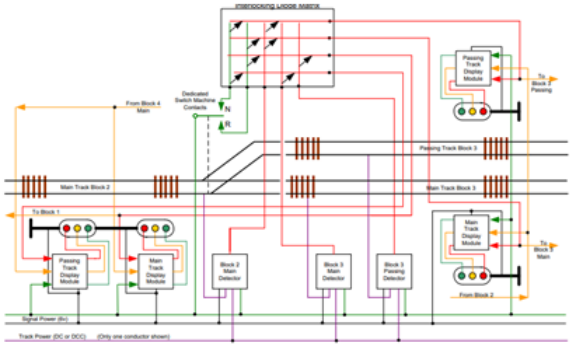
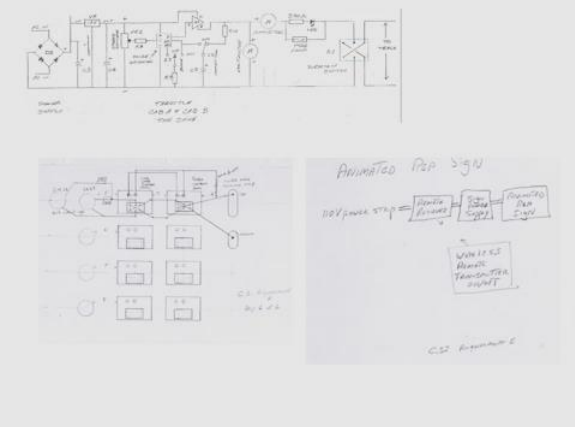
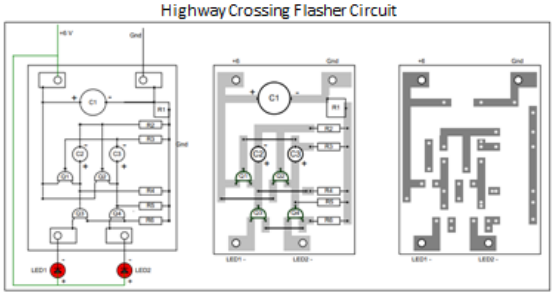


Figure 14 Sample Interlocking Wiring



Highway Crossing Flasher Circuit

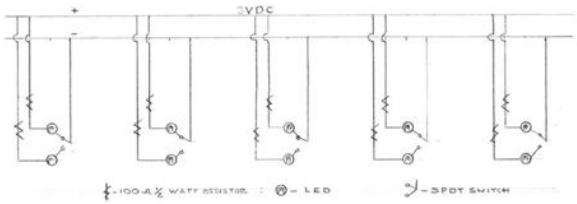


Component	Description	Radio Shack	All Electronics	DeMar Electronics
R1	1K Variable Resistor	271-280		
R2-R3	100 K ¼ watt Resistor	271-1347	*	*
R4-R5	1.2 K ¼ watt Resistor		*	*
R6	150 Ohm ¼ watt Resistor	271-1109	*	*
C1	100 mf Electrolytic Capacitor 35 V	272-1028	*	
C2-C3	10 mf Electrolytic Capacitor 35 V	272-1025	*	
Q1-Q4	PNP Transistor: 2N2907 or equivalent	276-1604 *	PN2907	

Section 5: Electrical Turnout Position

Turnout positions using LED lights are in place for five turnouts in the Barton power district. The LED's are Panasonic T-1 ¾ 4 volt 5mm bulbs.

Power is furnished from a 3VDC buss.

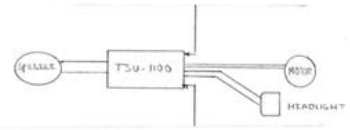


Note: The SPDT switches are either the contacts on a Tortoise switch machine, or, for switch machines without auxiliary contacts, the third pole on a 3PDT toggle switch. Both methods insure the LED lights align with the direction the position control toggle is thrown.

5. Command Control Receiver

The command control receiver, a Soundtraxx TSU-1100 (steam) was wired in a vintage brass 2-8-0 locomotive. The receiver receives DCC commands from the throttle for the direction and speed of the locomotive, turning on and off the headlight, and activating the whistle, bell, and various steam locomotive sounds.

The receiver receives power and DCC signals through the rails, with the left rail furnishing one side of the circuit conducted through the tender trucks and the other side of the circuit from the right rail through the locomotives drivers.



6. Submit the SOQ

What do you need to do?

- **Include the layout schematic from Part 4**
- **Include the schematics of the 3 track switches and 3 devices in Part 5**
- **For 3 switches and 3 devices in Part 5, include**
  - **Description**
  - **Method of Construction**
  - **List of Commercial Components**

What if I don't want to participate in the Achievement Program?

Schematics could be a useful diagnostics tool. Troubleshooting, repairs, new components added in at a later time, will be easier with good, comprehensive and accurate records.