Sunrise Herald

February 2026 Volume 19 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……Gerry Meltzer
Youth Coordinator……Position open
Education Chair……Stewart Jones
Modular Layout Chair……Adam Crews
Herald Editor……Bob Hochstetter

In this issue:

Layout Photos of the Month

Mike Fyten's Kaw Valley Railroad is featured this month. The S Scale layout is loosely based on the Kansas City, Kaw Valley and Western Railroad. Originally an interurban line, it ran between Kansas City, Kansas and Lawrence, Kansas. The time period is the 1950's and uses steam and diesel motive power, plus a gas electric doodlebug.

The photographs were taken by the Editor during the Mid-Continent Regional meeting in August 2025.

Minutes of the February Meeting

The regular monthly meeting of the Sunrise Division of the National Model Railroad Association was held on February 5, 2026, at Holy Love Lutheran Church. Superintendent William Boorman conducted the meeting. The meeting was called to order at 7:02 p.m. Twenty-seven members attended the meeting in person, and one member streamed the meeting on Zoom.

The meeting began with self-introductions and describing current modeling projects.

Treasurer Dave Clifford announced that the Division members' contributions to Holy Love Church for 2025 totaled $590.

Regional President, Gary Myers, reminded everyone of the upcoming Rocky Mountain Regional Convention to be held in South Dakota. He listed the many convention activities that are planned for the event. He also noted that convention shirts are now available for purchase.

Gary asked for volunteers to fill Regional Board director positions, the vice-president position and the secretary position.

Modular Layout Chair Adam Crews reminded us that the TECO (Train Expo Colorado) model train show is February 28th and March 1st in Colorado Springs.

William adjourned the meeting at 8:58 p.m.

Submitted by Bob Hochstetter, Secretary, Sunrise Division

Tool Time, Show 'n' Tell, the Clinic, additional announcements, and more are included in this issue of the Herald. *(Ed.)*

Next Meeting

The next meeting will be Thursday,
March 5, 2026, in person at Holy Love Lutheran Church, 4210 S. Chambers Road, Aurora, Colorado. 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

This 13-minute video of the 1880 Train of South Dakota offers a preview of the excursion planned for the Rocky Mountain Regional Convention in May. *(Ed.)*

South Dakota's 1880 Train: A Historic Steam Ride Through the Black Hills
https://www.youtube.com/watch?v=C9sbOJzu52A
If you find a video that you think our members might enjoy, please send me the link. *(Ed.)*

March Meeting Themes

Tool Time
Tools for Coal on Hoppers - Larry Stephens

Show 'n' Tell
Tractors

Clinic
DIY DCC Throttle—Dave Clifford

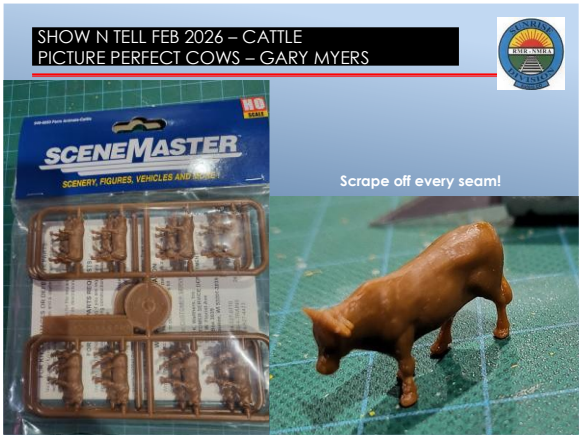
Show 'n' Tell

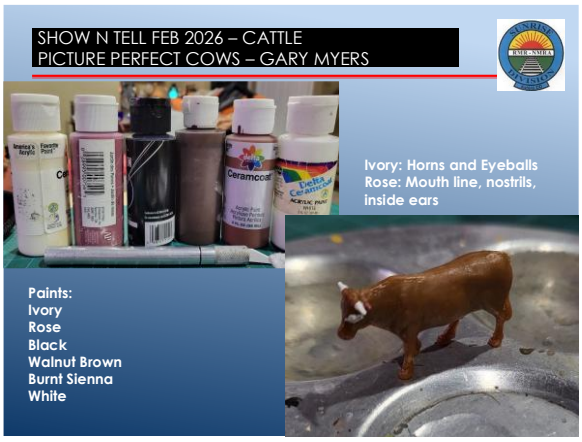
February's Show 'n' Tell subject was Cattle.

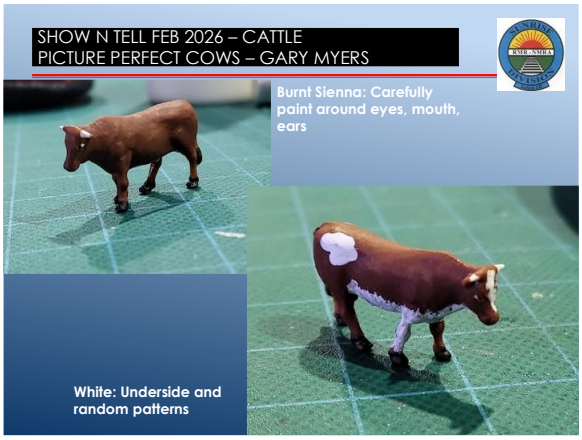
When Rich Flammini lived in Minnesota, he was an active member of the New Brighton Connection Model Railroad Club. For this month's Show 'n' Tell, he brought this HO stock car that was produced to celebrate the club's 30th anniversary in 2008.

Bill Johnson showed this picture that he calls "The Great Escape." Bill said that the Trix stock cars are prototypically correct for the Union Pacific Railroad.

Gary Myers turned his Show 'n' Tell into a mini-clinic on preparing model cows for use on a layout.







NMRA

SUNRISE DIVISION RMR - NMRA Aurora CO

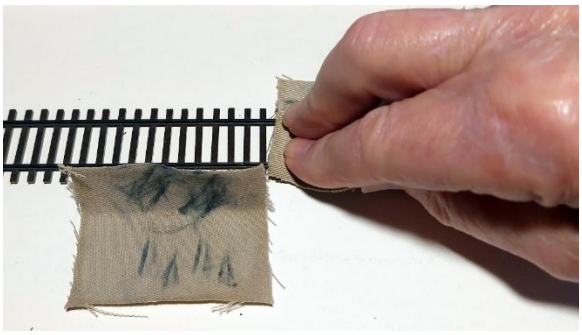
Larry Stephens presented the Tool Time portion of the meeting and sent the following write-up to accompany his photos.

Track Cleaner from Scrap/Junk

Track cleaning is probably the last thing we want to spend time on, but it is the first thing to do before running trains for an operating session or a train show. On the Sunrise modules we have used a track cleaner with a roller. This one is from Center Line Products. It costs about $125. It does clean but takes some time.

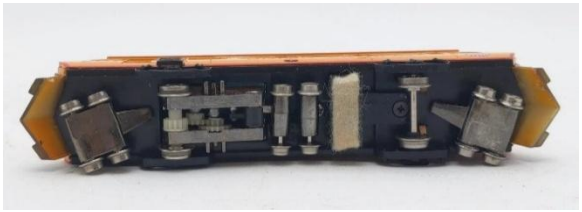
We use the Walthers car with an abrasive pad. It does clean as it is porous and will hold some alcohol for cleaning. It is best at cleaning track with newly laid ballast as it removes any glue that might be on the track. Cost about $35.

I use a simple inefficient but great cleaning method. I use cut cloths with alcohol. I drag them across the rails, changing the location of the pad as I go by the rail, I am not fond of doing it this way.



Some of the track cleaning cars on eBay.

$25



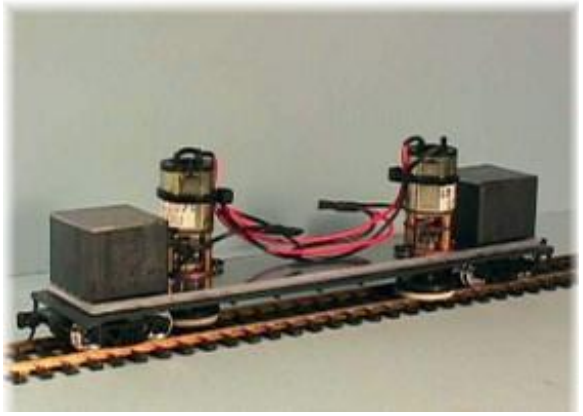
$100

The trouble with most of these is that the better they clean, the sooner a propriety cleaning pad is needed.

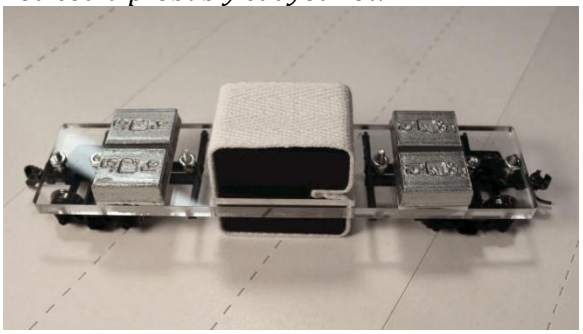
One of the cleaning cars that Adam has.

$184 DCC ready

I would say it's probably one of the best. Made by MNP with car by ACCURAIL. Again, you need to buy additional pads at $7 for 12. I've watched a YouTube on this car.
https://www.youtube.com/watch?v=zCdO-7onhIE&list=UUhD02AAg3NxFbAAmAy38I6Q

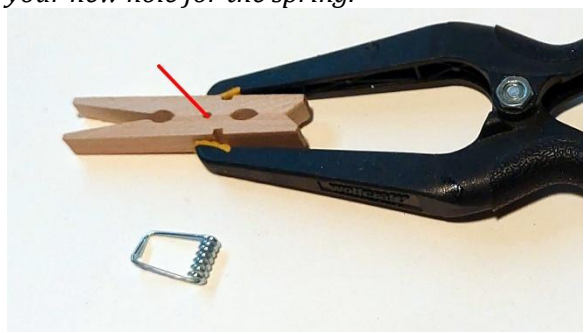


I came across this one that goes for $80. Shine-o-Matic. https://ppw-aline.com/collections/
https://www.youtube.com/watch?v=2-7mGEECnfU
Simple and looks to be effective. Again, you need to buy additional material at $6 for 3 yards. Not too bad.
You could probably cut your own.

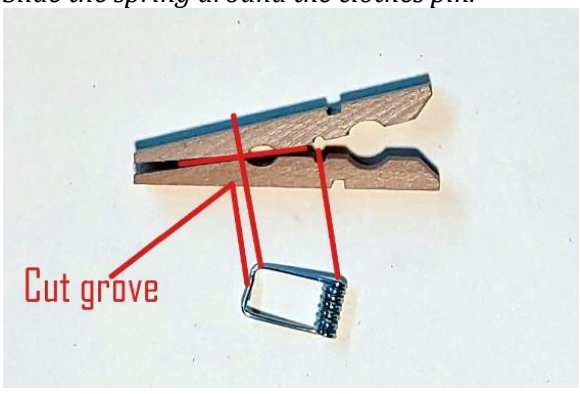


After some attempts to make my own, I finally have success and it's a simple design. For many, it will cost nothing but your time. The only cost is the wipes, 200 for about $5. My guess, I would use about 20 per day at the TCA show. Unlike some proprietary pads, these pads will be available as long as we have arms.
The parts you need. The clothes pin is 2 inches long. You will also need double stick tape and a screw.

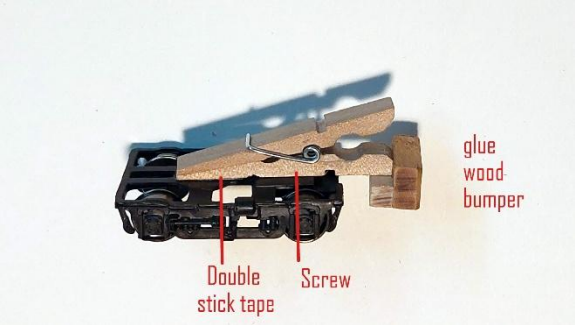
Drill a hole the size of the spring. This will be your new hole for the spring.



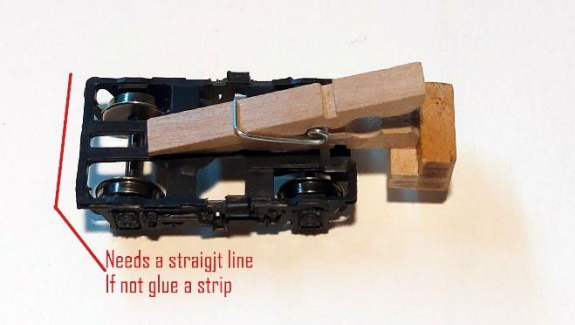
Modify the clothes pin: Remove and sand the horizonal red line for a flush fit. Cut grove so spring arm is flush with the clothes pin. This will make the clothes pin flush with the truck. Slide the spring around the clothes pin.



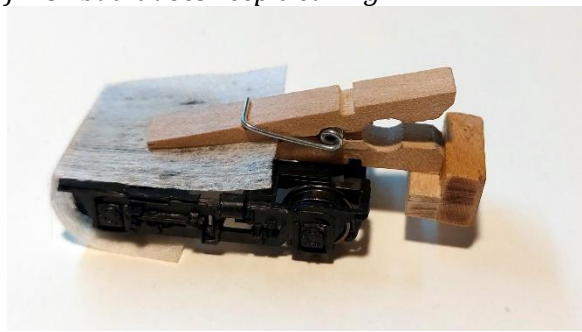
Make sure the truck has a flat surface. Drill a hole in the truck for the small screw you are going to be using. Put the screw in the right side and put double stick tape in the left side. Make a bumper so you can push the cleaner with an engine.



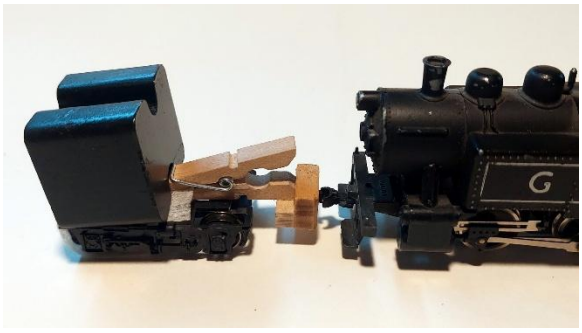
Top view



Insert an alcohol pad all the way in and fold under the wheels. You can use the pad eight times. Placed back and then forward (2) turned over (2 more) turn the pad around for another 4 uses. Alcohol may dry out before you finish but it does keep cleaning.



You can use it by pushing by hand for short sidetracks, yard, set up tracks, test tracks and so on. It can be pushed by an engine on longer tracks by adding weight to the track cleaner. I don't use Kadee's as this setup allows faster changing of pads.



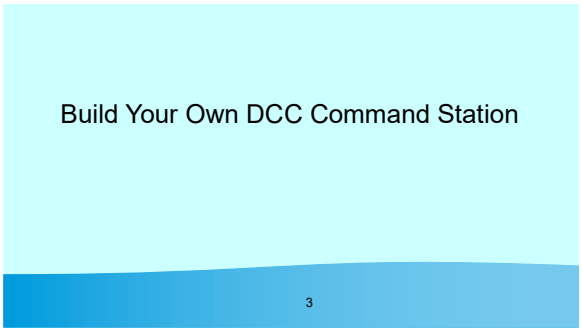
There are pros and cons for every one of the above cleaners.

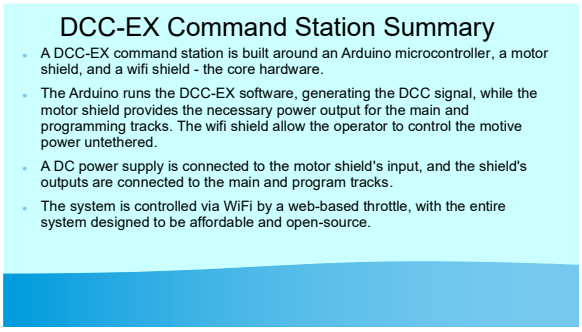
Pros
Inexpensive and easy to reorder pads (Walgreens)
Cleans with the best of them
Easy to make several for faster cleaning

Cons
Goes forward only
Small pad and the design mean more intervention
Nothing to patent Larry Stephens

Clinic

Dave Clifford presented this month's clinic. It is reproduced here in its entirety.





Some Preliminaries To Know And Understand

- Metric Prefixes
- The ASCII Code
- The Major Components Of A Computer System
- Computer Programming Basics

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Metric Prefixes

Prefix	Symbol	Power of 10	Numerical Value
tera	T	10**12	1,000,000,000,000
giga	G	10**9	1,000,000,000
mega	**M**	**10**6**	**1,000,000**
kilo	K	10**3	1,000
hecto	h	10**2	100
deka	da	10*1	10
--<unit>--	(none)	10*0	1

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Hexadecimal ASCII Codes (Decimal 000-255 = x'00' - x'FF')

- x'00' to x'09' ... x'0A -x'0F' = 00… 09 … 10.. 15
- Hex Char Binary
- X'30' = '0' = 0011 0000
- x'39' = '9' = 0011 1001
- x'41' = 'A' = 0100 0001
- x'61' = 'a' = 0110 0001

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Major Components Of A Computer System

- Input Unit
- Output Unit
- Central Processing Unit (CPU)
- Arithmetic and Logic Unit (ALU)
- Memory Unit (Primary/Secondary)

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Computer Programming Basics

- A computer must have a program to function
- The program is created by software developers/engineers
- The developer uses computer instructions to develop a program to execute functions (e.g. - load, calculate, store, set, etc.) that control the computer's output ports

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Major Components

- Arduino Mega 2560 Microcontroller
- Arduino Motor Shield 8874 Power Controller
- ESP8266 Wi-Fi Shield

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Arduino Mega 2560 Microcontroller

- The Arduino Mega 2560 (256 KB) is a microcontroller board based on the ATmega2560. It has 54 digital input/output pins (of which 15 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

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Pulse Width Modulation (PWM):

- An electronic technique that controls the average power delivered to a device by varying the duration of a square wave's "on" time (the pulse width) at a fixed frequency.
- By rapidly switching a signal between fully on and fully off, the on-time proportion, or duty cycle, effectively simulates different analog voltage levels. This method is widely used to control things like the brightness of LEDs, the speed of DC motors, and the position of servo motors

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Analog Inputs

- Analog inputs on an Arduino measure a continuous range of voltage, unlike digital inputs which only read HIGH or LOW states. This capability is essential for working with sensors that output a variable voltage, such as potentiometers, temperature sensors, and light sensors.

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UARTs

- A UART, or Universal Asynchronous Receiver-Transmitter, is a fundamental serial communication protocol used extensively with Arduino boards for communication with computers and other devices

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USB Connection

- A USB-B connector on the board allows a user to use a USB-B to USB-A cable to connect the Arduino to a computer – particularly to download the program to execute.

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Arduino Motor Shield

Reverse polarity protection

Fault detection in addition to overcurrent reporting for extra safety

Alternative power in and out solder pads for different connector types

Stackable (Support multiple Power Districts)

Optional OLED header to connect a display directly to the shield

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Arduino Motor Shield

- Track power and DCC signal controlled by motor shield
- Rated for 5 Amps of continuous output current
- No need to cut traces or bend out pins for stacking onto the EX-CommandStation
- 2 outputs (Main and Programming Track or 2 Mains)
- Single power supply input powers the shield, the Arduino, and the track (motor output)!
- 5V and 3.3V compatible
- Virtually no voltage drop, even at high currents

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ESP8266 WiFi Shield

- Arduino WiFi Shield connects your Arduino to a wireless network
- Connection via: 802.11b/g network i/f
- Encryption types: WEP and WPA2 Personal
- **ONLY AT Version 1.7.4 is known to work reliably.**
- **Look at the start-up log by connecting the serial monitor**

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DCC-EX Command Station Software

- DCC-EX - https://dcc-ex.com/index.html#gsc.tab=0-EX
- GitHub - https://github.com/DCC-EX

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Components Parts List of DCC Command Station

- $50 - Arduino Mega 2560 Process Controller
- $45 - Arduino Motor Shield 8874 Power Controller
- $18 - Arduino Wi-Fi Shield 8266 Wireless I/F
- $7 - 2004 20x4 LCD Display
- $15 - 15V 5A Power Brick

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Components Parts List of DCC Command Station

- $19 – Gray Plastic Enclosure Case -
  - uxcell 165mm x 120mm x 68mm
- $10 - Power Connectors/Sockets (barrel)
- $4 -Two (2) Male to Female Jumper Leads (WiFi)
- $15 - Bezel for LCD (eBay)

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Total Cost of DCC Command Station Parts

- **$183 – Approximate Cost**

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Purchasing Parts

- DCC-EX Store
- Amazon
- E-Bay
- Mouser Electronics

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Assemble The DCC Command Station

- Place the Arduino Mega on a flat surface
- Stack the Motor Shield on top of the Mega
- Stack the WiFi Shield on top of the Motor Shield
- Add the connector from the motor shield to the LCD display
- Add the WiFi jumper cables between the Arduino and the WiFi Shield (Mega pins 18,19 (Tx,Rx) to WiFi (Rx, Tx) - Cross-Connect
- Connect the Female Barrel connectors to the Motor Shield

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Arduino Mega 2560
4.61 inches long x 2.36 inches wide (117mm x 60mm)

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ESP8266 WiFi Shield

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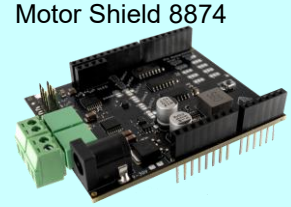
Motor Shield 8874



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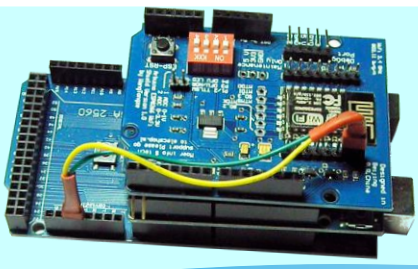

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Install the DCC-EX Software

- The repository, CommandStation-EX, contains a complete DCC-EX EX-CommmandStation sketch designed for compiling and uploading into an Arduino Uno, Mega, or Nano.

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Programming the Command Station
DCC EX-Installer

- EX-Installer is a Python based, cross-platform installer for the various Arduino based DCC-EX products.
- Binaries will be made available to allow EX-Installer to be run on:
  - Windows 10/11
  - Linux graphical environments
  - macOS

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Programming the Command Station
The config.h file

- Config.h is used to configure the command station
- Defines the motor shield, wifi shield and LCD characteristics.
- e.g - #define WIFI_SSID "DCC-EX"

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Config.h values

- #define MOTOR_SHIELD_TYPE EX8874_SHIELD
- #define ENABLE_WIFI true
- #define WIFI_SSID "DCC-EX"
- #define WIFI_PASSWORD "choochoo"
- #define WIFI_HOSTNAME "dccex"
- #define WIFI_CHANNEL 1
- #define IP_ADDRESS { 192, 168, 1, 200 }
- #define LCD_DRIVER 0x27,16,2
- #define SCROLLMODE 1 #define SCROLLMODE 1 is by page (alternate between pages)

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Test Your Setup

- Plug In the Track Power (provides power to all components)
- Turn on the power brick
- Read the LCD display for messages
- Stay tuned for next episode to see the system in operation

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Cost Analysis Comparison

- Digitrax EVOXD Evolution Express Advanced 5A/8A Duplex Starter Set contains:
  - Command Station
  - Throttle
  - Radio Transceiver
  - Power Supply
  - $655 MSRP

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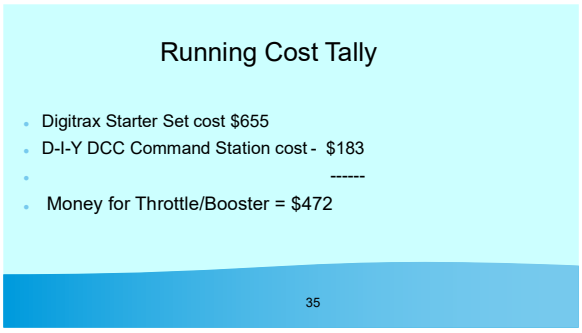
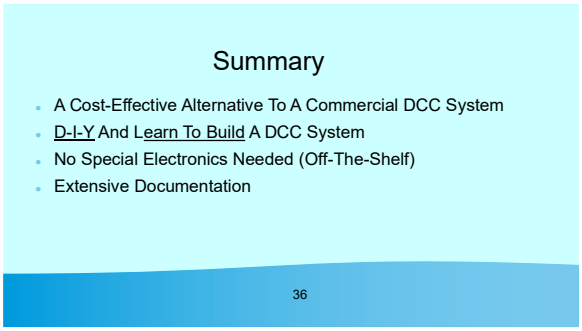




This column is devoted to showcasing the modeling efforts of Sunrise Division members. It can be anything—benchwork, wiring, weathering freight cars, depots, etc. *(Ed.)*

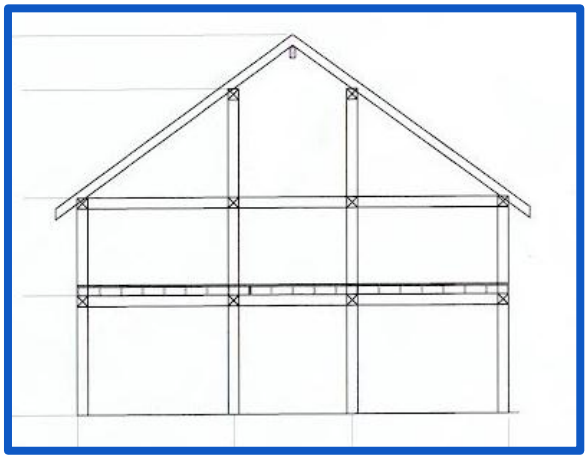
Dennis Baucom is scratch building an HO scale barn. Here in Dennis' own words are the background story that he told at the Division meeting and some of the terrific CAD drawings that he has made to build it.

My layout starts with Main Street of George Iowa, a town of about 1100. It is about fifty miles southeast of Sioux Fall SD. I also want to include the family farm. The first structure that I am trying to scratch build is the barn that was on the farm my wife grew up on. It was six miles southeast of George. The train that ran through town was part of the Illinois Central Railroad. It started in Sioux Falls and went-down through George. It tied into the line that went from Sioux City, Iowa to Chicago, Illinois. There was also a branch that went down to Council Bluffs, Iowa and Omaha, Nebraska.

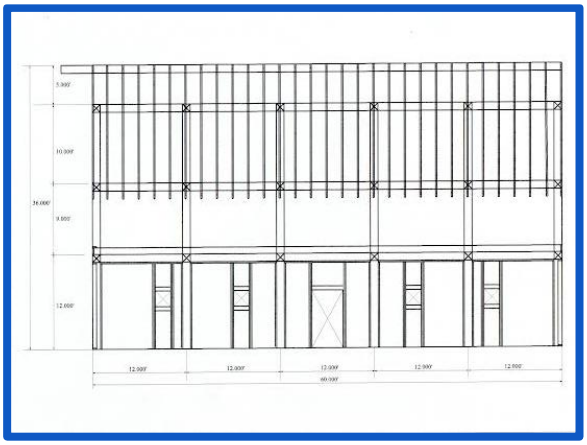
The barn was built in approximately 1920. They grew alfalfa, corn, oats, and soybeans. Her grandfather and dad used it to raise hogs, cows and chickens. They also stored alfalfa and straw in the hay loft. Her grandparents lived there at the time it was built. Her dad grew up on the farm. Her dad took over farming after he got married and raised a family of 5 children. This was the era where there was no running water, had an outhouse and a one-room school one mile north of them. Both my wife and her dad attended the one room school through sixth grade. Our boys enjoyed playing in the barn when we went back on vacation.

This is a picture of the actual barn door from that barn hanging over our fireplace. An oil painting of the barn is on the door. It is looking north at the south side from the road. The white structure on the side is the corn crip. The well pump in the foreground is from the well they had. They eventually got rural water and did not need the pump anymore. The well did cave in, so her parents let

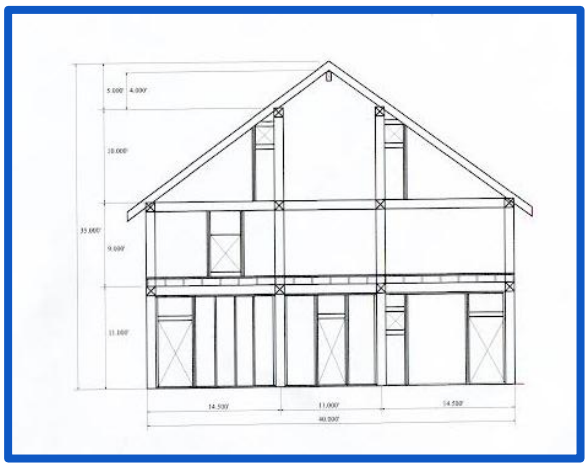
us have the pump. It is sitting on a wooden platform in the corner of our backyard.



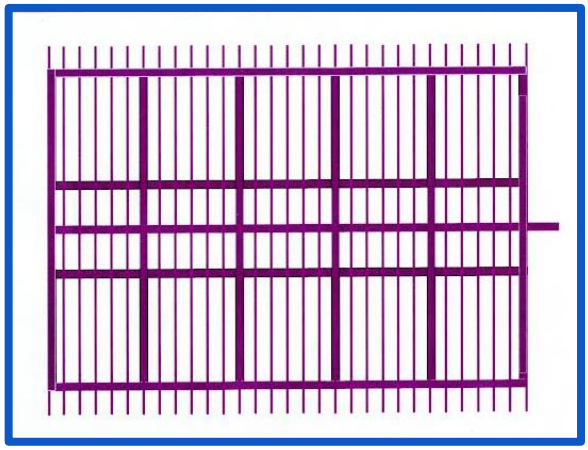
Interior framing



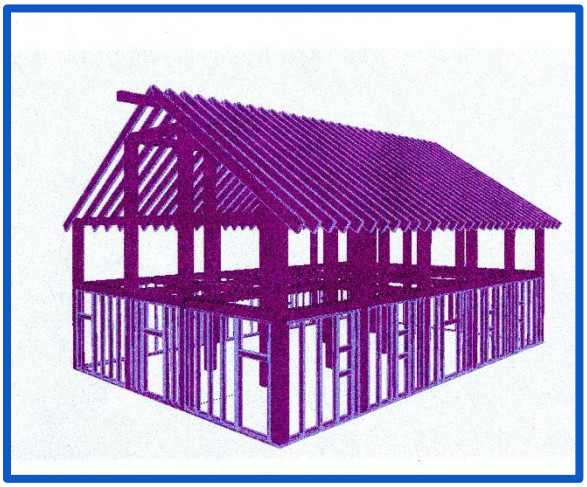
North/ south wall framing



West wall framing



Roof framing



3D Barn image

Neil Mc Gowan's Leadville, Salida, and Climax R.R. layout

2026 RMR CONVENTION

May 13-16 • Rapid City, SD.

Wednesday, May 13
Visit local attractions. (Not included in convention registration.)

Thursday, May 14
South Dakota State Railroad Museum
1880 Train to Keystone and back
Museum Tour, Yard Tour, Evening Social

Friday, May 15
Homestake Mine
Mine Tour, Clinic, Northern Hills Railway Society Layout Tour

Saturday, May 16
Black Hills Railway Layout Tour/Ops Session

Convention Location
Best Western Ramkota Hotel
2111 N LaCrosse Street,
Rapid City, South Dakota 57701

Clinics are included in your registarion.

Win a chance to ride in the cab of a 2-6-6-2 Mallet!

For more information and to register use the QR Code or go to: https://www.rmr-nmra.org/2026%20Convention/Home2026.html

COLORADO

RAIL PROTO MEET

October 16-18, 2026

Island Grove Event Center

421 N 15th Ave., Greeley, CO

Model Displays—Clinics—Hands on Stations

Vendor Room—Layouts

$35—Early Registration

www.corpm.org

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COLORADO MODEL RAILROAD MUSEUM

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NORTHERN COLORADO DIVISION NMRA

Front Range
MODEL RAILROAD & TOY TRAIN SWAP MEET

Since 1982

2026 Swap Meet Dates

Jan 17 **Mar 21** ***May 9***
Jul 18 **Sep 19** **Nov 21**

(3rd Saturday of Odd numbered months)

8:30 AM to 11:00 AM

Location

Green Mountain Presbyterian Church
12900 W Alameda Pkwy
Lakewood, Colorado 80228
(Corner of W Alameda Pkwy & Mississippi - East Door, Lower Level)

Admission

$3.00 Adult, Under 16 – Free
(Doors open to Buyers – 8:30 AM)

Sellers Table Fees

Full table (8 ft) - $14
Half table (4 ft) - $7 Round table - $10
(Doors open to sellers – 7:30 AM)

Contact Information

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