

Train Mountain Seminars and Presentations

Welcome to the 2025 Train Mountain Triennial Seminar Program. We have a diverse set of topics and activity offerings for your education and enjoyment, all presented by young enthusiasts to seasoned professionals. Many presentations will be in the Central Station Hall of Flags (**CS-HOF**), on a nearby track spur or even on a train trip to the northside. **Enjoy** – *Allen Howard*

Tuesday June 24

11:00-12:00 **How to Train Your Solar Panels**, *Clay Smith*, Central Station Spur

1:00-1:30 **An Introduction to Tractive Effort Measurement**, *Dakota Clemens*, CS-HOF

1:30-2:00 **An Introduction to Video Production of Railroad Events**, *Jacob and Eli Nord*, CS-HOF

2:00-3:00 **Building the Barstock Electric, A Simple Electric Locomotive**, *Paul Jorgenson*, CS-HOF

Wednesday June 25

All Day **How Much Can Your Engine Push or Pull? Tractive Effort Measurement**, *DIY*, See location map

9:00-11:00 **Train Mountain Track Shop Open House**, *Track Shop Personnel*, TM Track Shop at K&W

1:00-2:00 **A Rail Bike Roundup**, *Steve Eddy*, CS-HOF

2:00-3:00 **Electric Locomotive Design Considerations Including Modern Power Control Systems**,
Mike Baker/Steve Smith (4QD), CS-HOF

3:00-3:30 **Next Generation Kick-Switch and Hinged Switch Point Design**, *Ed Sarber*, CS-HOF

7:00pm-8:00pm Live Steam Locomotives – Propane Firing Forum **Taking the “Pain” out of Propane**,
Bill Boller, CS-HOF

Thursday June 26

1:00-2:30 **Designing for the Future, 3D CAD and 3D Printing**, *John LaFavor*, CS-HOF

2:30-3:00 **Experiences Using LiFePO4 Batteries in an Electric Locomotive**, *Dave Silvernail*, CS-HOF

3:00-4:00 **An Introduction to: The Train Game - Rail Ops**, *Steve Eddy*, CS-HOF

CS-HOF is at Central Station in the Hall Of Flags

TRIENNIAL 2025 EVENTS

EVENT NAME: **How to Train Your Solar Panels**

DAY-DATE: Tuesday, June 24

TIME: 11:00am-12:00pm

LOCATION: Look for the event on a spur track outside the Train Mountain Visitors Center at Central Station

PRESENTER: Clay Smith

EVENT DESCRIPTION: Electric trains lend themselves to using solar panels to recharge locomotive batteries, especially when an AC charger is not feasible. Solar panel types and specifications along with charging different types of batteries will be discussed

ADDITIONAL INFORMATION: Bring your solar panel and battery questions for a lively discussion.

TRIENNIAL 2025 EVENTS

EVENT NAME: **An Introduction to Tractive Effort Measurement**

DAY-DATE: Tuesday June 24

TIME: 1:00-1:30pm

LOCATION: Hall of Flags, Central Station

PRESENTER: Dakota Clemens, Mike Baker

EVENT DESCRIPTION: Presentation of a bolt-on-rail gauge to measure the Tractive Effort of a locomotive.

ADDITIONAL INFORMATION: During the Triennial Train Meet, the Tractive Effort Measurement Gauge will be installed on a siding where an locomotive engineer can measure their locomotive's Tractive Effort. A Tractive Effort handout and a map to the gauge siding will be available.

TRIENNIAL 2025 EVENTS

EVENT NAME: An Introduction to Video Production of Railroad Events

DAY-DATE: Tuesday June 24

TIME: 1:30-2:00pm

LOCATION: Hall of Flags, Central Station

PRESENTER: Jacob Nord, Eli Nord

EVENT DESCRIPTION: Two teenage brothers, Jacob and Eli, discuss and demonstrate simple techniques for planning, recording, editing and finishing video projects. The brothers will discuss recording and editing techniques along with the importance of audio in the finished production. Equipment and editing applications will be presented. A sample of their creative work will be shown.

ADDITIONAL INFORMATION: Do you have a phone with a camera? Do you need a club video or would you like to just improve upon your family vacation movies. Come listen to Jacob and Eli talk about what they have done to create exciting action video productions.

TRIENNIAL 2025 EVENTS

EVENT NAME: **Building the Barstock Electric, A Simple Electric Locomotive**

DAY-DATE: Tuesday, June 24

TIME: 2:00-3:00pm

LOCATION: Hall of Flags at Central Station

PRESENTER: Paul Jorgenson, KE7HR

EVENT DESCRIPTION: A simple “ride on scale” electric locomotive was designed and built in 2015. Since then, it has run hundreds of miles on Train Mountain 7 ½ gauge track, pulling passengers and hauling pine needle cars. A discussion of the design goals, building, and parts will be presented. Made mostly of bar stock and constructed with simple tools or easily obtained “harder to machine” parts, the presentation will give those interested in constructing something similar ideas to make their own locomotive. There will also be discussion of other small electric locomotives that are available.

ADDITIONAL INFORMATION: After the discussion, the “Cave Creek and Northwestern 2015” will be outside the Train Mountain Visitors Center at Central Station to see it in action and answer questions.

TRIENNIAL 2025 EVENTS

EVENT NAME: **How Much Can Your Engine Safely Push or Pull, Tractive Effort Measurement**

DAY-DATE: Wednesday, June 25 **through** Friday, June 27

TIME: All Day

LOCATION: On a track near Farmersville Circle, maps are available

PRESENTER: Contact Mike Baker, You make your own measurement

EVENT DESCRIPTION: A Tractive Effort Measurement Gauge will be set up to allow you to measure your locomotive's static Tractive Effort.

ADDITIONAL INFORMATION: A Map and an additional handout will be available during an introductory presentation on Tuesday, June 24, at 1pm, in the Hall of Flags at the Central Station. The measurement is a stationary static measurement of the pulling or pushing capability of a locomotive until the drive wheels lose traction and slip.

TRIENNIAL 2025 EVENTS

EVENT NAME: Train Mountain Track Shop – Open House

DAY-DATE: Wednesday, June 25

TIME: 9:00-11:00am

LOCATION: Train Mountain Track Shop

PRESENTER: Train Mountain Track Shop Personnel

EVENT DESCRIPTION: The Train Mountain Track Shop will hold an Open House to present the materials, tooling and processes Train Mountain uses to assemble track panels. Track Shop personnel will be available to discuss additional Track Shop activities.

ADDITIONAL INFORMATION: The track shop is located at the K&W Railroad yard.

TRIENNIAL 2025 EVENTS

EVENT NAME: **A Rail Bike Roundup**

DAY-DATE: Wednesday, June 25

TIME: 1:00-2:00pm

LOCATION: Hall of Flags at Central Station

PRESENTER: Steve Eddy

EVENT DESCRIPTION: A human powered rail bike is gaining popularity by combining several aspects of exercise, fresh air, beautiful scenery, no-cost operation, low maintenance and just plain fun. This will be a hands-on demonstration of several different rail bike designs and their evolutions. Design documentation will be available for you to build your own.

ADDITIONAL INFORMATION: Come sit in the seats of several different rail bike designs.

TRIENNIAL 2025 EVENTS

EVENT NAME: Electric Locomotive Design Considerations Including Modern Power Control Systems

DAY-DATE: Wednesday, June 25

TIME: 2:00-3:00pm

LOCATION: Hall of Flags at Central Station

PRESENTER: Mike Baker and Steve Smith (of 4QD)

EVENT DESCRIPTION: Come join an informative presentation on the design of modern electric locomotives. Key aspects of a good design will be discussed.

ADDITIONAL INFORMATION: After the presentation, an modern electric locomotive will be available for viewing and further discussion with the presenters. The locomotive will be located on a track outside the Train Mountain Visitors Center at the Central Station.

TRIENNIAL 2025 EVENTS

EVENT NAME: **Next Generation Kick-Switch and Hinged Switch Point Design**

DAY-DATE: Wednesday, June 25

TIME: 3:00-3:30pm

LOCATION: Hall of Flags, Central Station

PRESENTER: Ed Sarber

EVENT DESCRIPTION: Ed will discuss and demonstrate the design of an improved kick switch and hinged switch point designs.

ADDITIONAL INFORMATION: A demonstration switch will be shown.

TRIENNIAL 2025 EVENTS

EVENT NAME: Live Steam Locomotives – Propane Firing Forum **Taking the “Pain” out of Propane**

DAY-DATE: Wednesday, June 25

TIME: 7:00-8:00pm

LOCATION: Hall of Flags at Central Station

PRESENTER: Bill Boller

EVENT DESCRIPTION: The Sept / Oct 2021 issue of ***Live Steam & Outdoor Railroading*** magazine featured the 2021 Narrow Gauge Meet at Train Mountain. An accompanying article, **Taking the “Pain” out of Propane**, was written in response to requests at the Train Mountain meet and published in the same issue of LS&OR.

This article was discussed frequently at the 2022 Triennial and continues to be of interest to not only those considering a change to propane, but also to those evaluating existing propane systems. Many engines have benefited from improvements using this information.

We have asked the author, TM member Bill Boller, to share technical insights about designing and improving propane firing systems at this year’s Triennial. This should be of interest to our many live steamers, regardless of experience. Please join us in discussing this valuable topic.

ADDITIONAL INFORMATION: An evening Van Shuttle Service to South Meadow will be available after the presentation.

TRIENNIAL 2025 EVENTS

EVENT NAME: **Designing for the Future, 3D CAD and 3D Printing**

DAY-DATE: Thursday, June 26

TIME: 1:00-2:30pm

LOCATION: Hall of Flags at Central Station

PRESENTER: John LaFavor of Pacific Design Shops

EVENT DESCRIPTION: With new technologies comes new opportunities and new challenges for how best to use them. This session will provide a foundation for learning 3D CAD to improve your hobby projects and give best practices to avoid common pitfalls. A live demonstration of 3D printing will show how you can take your 3D model and turn it into a product in a matter of minutes and what 3D printing can do for your train projects.

ADDITIONAL INFORMATION: There will be additional information on different 3D CAD software packages currently available in the marketplace, from free options to pro-options, their limitations and what to expect from each.

TRIENNIAL 2025 EVENTS

EVENT NAME: **Experiences Using LiFePO₄ Batteries in an Electric Locomotive**

DAY-DATE: Thursday, June 26

TIME: 2:30-3:00pm

LOCATION: Hall of Flags at Central Station

PRESENTER: Dave Silvernail

EVENT DESCRIPTION: A presentation of personal experiences of using prismatic Lithium batteries in an electric locomotive.

ADDITIONAL INFORMATION: After the presentation a Lithium battery powered locomotive will be available for additional discussion. The locomotive will be located on a spur track outside of the Train Mountain Visitors Center at the Central Station.

TRIENNIAL 2025 EVENTS

EVENT NAME: **An Introduction To; *The Train Game - Rail Ops***

DAY-DATE: Thursday, June 26

TIME: 3:00-4:00pm

LOCATION: Hall of Flags at Central Station

PRESENTER: Steve Eddy

EVENT DESCRIPTION: Want to try something different than just going round and round? Try *The Train Game-Rail Ops*. *The Train Game-Rail Ops* is a fun activity for all types of trains and operator skill levels. Come learn about the Train Game and how to play it at Train Mountain.

ADDITIONAL INFORMATION: *The Train Game-Rail Ops* is an online game that you play using your cell phone along with specially equipped Train Mountain rail cars. The Train Game is an application you install on your cell phone and is available for download on the Train Mountain website. The application utilizes Train Mountain's extensive Wi-Fi network and has additional features including live Train Mountain cameras and complete Train Mountain rail maps.