

IN THIS ISSUE

WINTER VIRTUAL EVENT	1
THE CAB AND THE CABOOSE	2
TIMETABLE	3
CALIFORNIA ZEPHYR TOUR	5
AP CORNER	8
TOOLS AND TIPS	9
ATHEARN LOCOMOTIVES	11
MEMBER PROJECTS	15
NMRA-X	16
JUST BRAG	16
GSD INFO	16

The WHISTLE POST

The Official Publication of the Garden State Division of the NMRA Northeastern Region

Winter Event to be Online February 27

In a pattern that is unfortunately continuing, the GSD will meet virtually for the Winter Event the morning of Saturday, February 27. We will again be using FreeConferenceCall.com as our host. Details on using this service can be found on Page 3.

There will be two clinics, an opportunity for members to discuss their latest projects during the Just Brag segment, and a layout tour.

Joe Valentine is constructing a very large layout based on the DL&W Morris & Essex line in NJ. He will present a clinic on the construction of the Orange Freight House located on the main line in Orange, NJ.

Jim Homoki will discuss his experience in developing a timetable for his layout, the requirements for the Chief Dispatcher achievement certificate, and hopefully provide some tips for those considering a timetable for their own layout.

Following the clinics, members are invited to discuss one of their latest projects as part of the Just Brag feature.

The event will conclude with a tour of Tom Wortmann's HO Scale Mohawk, Salem, and Kensington, shown above. The MS&K is set in the early 1960's and is owned by the Erie railroad as a bridge route.



www.nergsd.com



THE CAB by President Chuck Diljak

What to do, what to do...

Over the holidays, I received the sad news that a good friend, Jan Wescott, passed away. Jan received an Honorary Life Membership with the NMRA for her work as the Education Chair and later as Member Services Chair for the National organization. Prior to her work at National, Jan was active with the Cajon Division and the Pacific Southwest Region boards. When I met Jan at the National Convention in Cincinnati in 2005, she asked me to join her Membership Services team.

This simple request by Jan started me down the path of volunteering my time to the NMRA. I continue to volunteer because I have ideas to help the organization, skills I can bring to the organization, and am willing to work on those ideas using those skills. Re-designing *The Whistle Post*, helping organize the 2018 Erie Limited and 2020 NERx conventions, helping re-brand the Northeastern Region, and leading the GSD these last three years are just a few examples.

The NMRA relies on all of its volunteers to make it operate. It needs volunteers to get the work of the NMRA done. Webmasters, newsletter editors, treasurers, secretaries, event organizers, social media specialists, member services, clinic organizers, Achievement Program leaders, and on and on the list goes.

Every year there is an election of the GSD board, consisting of all volunteers. The President, Vice President, Secretary, and Treasurer serve one year terms and Directors serve two years. There is no restriction to the size of the board, demonstrated over the years as it has grown and contracted. People leave the board while others come aboard, bringing fresh ideas, skills, and energy to get the work done. Every year, it is an opportunity for our members to volunteer and help the GSD become a better division in the NMRA by joining the board.

I am asking you the same thing Jan asked me 15 years ago: Are you willing to volunteer and join the GSD board? I would love to hear from you. Email me at nmra_chuck@yahoo.com.

Thank you, Jan.



THE CABOOSE by Editor Jim Homoki

Binge Modeling

I'm on a binge, not one that leaves you with a headache the next morning, but with more time than usual available for the hobby I've been able to jump deeper into a few modeling activities than I would normally be able to.

Currently I am going through a good number of locomotives, to the detriment of, well, everything else. The logic is I bought them, so now is the time to either use them or dispose of them. I already have enough to run the layout, but there are many really neat ones sitting in boxes, a few that need sound installed, a few that need repairs, many that need old grease cleaned out of the gearboxes, and all need DCC programming. This will provide spares as well as allow for power to be swapped out for variety.

Working on one type of project at a time leads to efficiencies. Does anyone make only one tree at a time when there is a forest to create? Especially with sound installations, it is much easier to continuously work on several locomotives. Even with notes being taken, over time I end up forgetting which decoder fits best in which locomotive, as well which speaker was used. Working on more than one is definitely a time saver in the long run.

Programming is part of this effort. I find the factory settings entirely too loud, and prefer to make as many function keys common between locos as I can. These options vary between manufacturers and the decoder model, so again, doing several over a period of a few weeks becomes more efficient.

The extra step of speed matching is another detail better done as a group. Fortunately, several locomotives I own have identical drives, so this becomes easy with JMRI. Just duplicating and writing a good file is all that is needed for these. The one-off locomotive models still take a lot of time, but is still easier when my head is in programming mode using JMRI or the Lok Programmer.

I won't complain here about the locos that had problems, but to be fair a few that were at least 20 years old were found to run beautifully right out of the box.

Concentrating my efforts on common tasks works well for me. However you want to approach your modeling, have fun! **WP**

The Timetable *Upcoming Events*

Amherst Railway Society Virtual Railroad Hobby Show January 30 and 31
www.railroadhobbyshow.com

GSD Winter Event Saturday February 27 9AM-12PM to be held virtually on FreeConferenceCall.com Details in this issue of the Whistle Post.

GSD Spring Event Saturday May 1 9AM-12PM Joint Meet with the NJ Division to be held virtually on FreeConferenceCall.com

GSD Summer Event Saturday July 24 (tentative) 9AM-12PM to be held virtually on FreeConferenceCall.com

NMRA 2021 National Convention "Rails by the Bay" Santa Clara, CA July 4 - July 11 <https://www.nmra2021.com/>

Northeastern Region 2021 Convention "Mill City 2021" October 8-11, 2021 Westford, MA <http://www.millcity21.org/>

MidEastern Region 2021 Convention "Mount Clare Junction" October 21-24, 2021 Hunt Valley, MD <https://mtclarejct.com/>



Until it is safe to hold an in-person event, the GSD will be using FreeConferenceCall.com (FCC) to hold virtual meets. The GSD has assembled documentation on using FCC and can be found, here: <https://tinyurl.com/GSD-FreeConferenceCall>

The documentation includes sections on how FCC works with a smartphone/tablet, personal computer, or with a web browser. There is even a chapter on conference call etiquette.

When you are joining a virtual GSD meet using FCC, enter "gsdtrains" when prompted for the meeting ID. Or, you can use the following link to join the meeting:
<https://join.freeconferencecall.com/gsdtrains>

The meeting will open up at 8:30 to provide participants a chance to test their connections.

Notice of Elections

In accordance with the Bylaws, all Officer positions and three Director positions are up for election in 2021. Officer positions are one year terms, while Director are two year terms. To run for an Officer position, the member must be in good standing and have served two years (one term) as a Director. Any member in good standing may run for a Director position.

Becoming a member of the GSD Board is an opportunity to make a difference within the NMRA. It is an opportunity to present new ideas and implement them, creating a stronger organization for the membership.

Interested members should send their name, address, and phone number to Nominations Chairman Chuck Diljak at nmra_chuck@yahoo.com. The deadline for this election cycle is April 1. Officers and Directors will be installed at the Spring Event to be held in May.



If you missed the virtual NER convention held December 1-4, the activities were recorded and are available on the [NMRA's YouTube channel](#). Just look for "NERx" in the video titles.



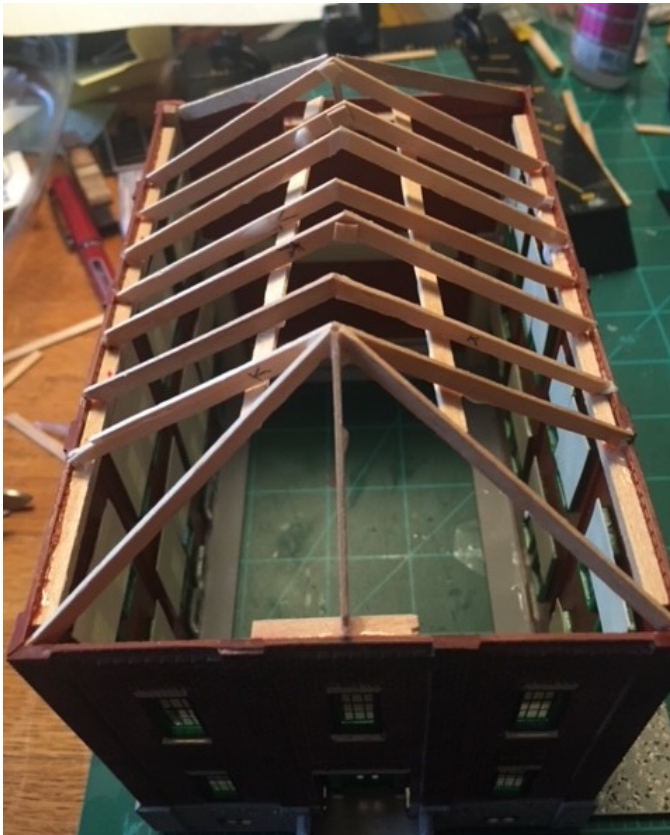
If you are not getting notifications of new issues of the NER Coupler, sign up on the NER website <https://nERNMRA.org/> Full color print editions as well as a PDF edition are available.

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On this page you'll find the Orange Freight House prototype as well as a few model construction photos. Joe's DL&W layout runs from Hoboken to Scranton for a total of about 412 actual feet point to point. One of the stops along the way is Orange, NJ, at one time one of the busiest freight yards. The freight house is still there but the milk tracks are not.

Joe started with the Walthers freight house and modified both the office roof and the freight house roof. The windows were cleverly modified by Jim Walsh.^{WP}

Right: The Orange Freight House as it currently exists



Above: Rafter construction on the Orange Freight House

**Right: A view of the completed office
Section of the freight house**



The California Zephyr Tours the HD&O

Article and Photos by Scott Dunlap

It's the Summer of 1953 and the Chicago, Burlington & Quincy, the Denver & Rio Grande Western, and the Western Pacific railroads have one of their California Zephyr's on a nationwide tour. Today it is running on the rails of the Hudson, Delaware and Ohio. Let's take a look.

The California Zephyr Consist Touring the HD&O

Locomotive/Car	Name/Number	Railroad
F3A	801A	Western Pacific
F3B	801B	Western Pacific
Baggage Car	Silver Coyote	CB&Q
Vista-Dome Chair Car	Silver Sage	Western Pacific
Vista-Dome Chair Car	Silver Stirrup	CB&Q
Vista-Dome Chair Car	Silver Scout	Western Pacific
Vista-Dome Dormitory-Buffer-Lounge		
	Silver Chalet	CB&Q
Diner Car	Silver Banquet	D&RGW
6-5 Sleeper	Silver Gull	D&RGW
10-6 Sleeper	Silver Glacier	D&RGW
16 Section Sleeper	Silver Larch	CB&Q
Vista-Dome Buffet-Lounge-Observation		
	Silver Penthouse	CB&Q

The California Zephyr ran from Chicago, Illinois to Oakland, California. A cross-bay ferry service was provided to San Francisco up until 1958. After that transfers were handled by motor coach. The train was the successor to the Exposition Flier and began service in March of 1949. Like its predecessor, it was a joint venture of the Chicago, Burlington & Quincy, the Denver & Rio Grande Western, and the Western Pacific railroads.

The Burlington handled the Zephyr from Chicago to Denver, Colorado. From Denver, it ran on the Rio Grande to Salt Lake City, Utah. There it was handed off to the Western Pacific which took the train the rest of the way to Oakland.

The Budd Company provided six new ten-car sets for the train, three owned by the Burlington, one by the Rio Grande, and two by the Western Pacific. Each set consisted of a baggage car, three Vista-Dome chair cars, a Vista-Dome dormitory-buffet-lounge car, two 10-6 sleepers, a diner, a 16 section sleeper, and a Vista-Dome buffet-lounge-observation car. Additional cars were added including a 10-6 sleeper that was owned by the Pennsylvania Railroad and used for connecting service to New York City. Many of the California Zephyr's cars and locomotives have been preserved in museums around the country and a few of the diners were still in use by Amtrak at least as late as 2015.

The Zephyr's main competition came from the Santa Fe's San Francisco Chief and the City of San Francisco, which was operated by Chicago and North Western Railway (later the Milwaukee Road) the Union Pacific, and the Southern Pacific. Of the three, the California Zephyr had the most scenic route and the train was scheduled so that the best portions would be visible during the daylight hours.

The last original California Zephyr with service between Chicago and Oakland ran in March of 1970. After that versions of the train, with different names, ran only as far west as Salt Lake City, and on reduced schedules. With the creation of Amtrak, things got more confusing. In April of 1983, Amtrak began running its own California Zephyr, albeit on a different route, a service that continues to this day.

More information about the California Zephyr can be found at this website: calzephyr.railfan.net.

Left: The California Zephyr passing Gilberton Yard on its way to Pittsburgh.

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Would This Happen?

In the October issue of the NER Coupler, I had an article about a fictional tour of the B&O's Capitol Limited touring the Hudson, Delaware and Ohio. In my original draft, I cited a real-life example of such a tour that was done by the Santa Fe in 1956 to introduce their new El Capitan. When I wrote that article I assumed that such tours were a rare occurrence since the El Capitan tour was the only one that I knew of. But Jeff Paston, the NER Coupler editor, told me that such promotional events were not as unusual as I thought. And to prove it, he sent me pictures, all taken in upstate New York, which showed new trains on tour from the Burlington Route, Chicago & North Western, and the Union Pacific.

At The Model Railroad Club the Hudson, Delaware and Ohio is the Class 1 railroad on our HO layout. The HD&O's runs from Hoboken to Pittsburgh where it connects with the Baltimore and Ohio. With that in mind, it might make sense for the B&O to do a promotional tour with its most important train on a friendly connection. On the other hand, a California Zephyr tour on the HD&O would have been less likely since the rival Pennsylvania Railroad handled a car from the train between Chicago to New York.

The California Zephyr model featured here was the property of our friend and fellow club member, Ed Majury. Sadly Ed passed away last August. This article was written in his memory.[WP](#)



Above: After passing Ashland the train continues heading west.

Below: Slowing down as it prepares to stop at Summit.



Above: The Zephyr making good time as it approaches Ashland.



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Above: A brief stop in Jim Thorpe. Upper right: After stopping at Jim Thorpe the California Zephyr is back up to speed. Lower Right: Meeting up with an HD&O passenger train arriving in Bellefonte. Below: Passing Cliff Tower.



AP Corner

By Chuck Diljak



Above: Steve Ascolese, recipient of the NMRA Golden Spike

Before I discuss anything else in the AP Corner, I must correct an oversight from 2020.

You may remember that Steve Ascolese gave a presentation on what he did for the NMRA Golden Spike Award at our last in-person GSD meet, last February. Steve completed the requirements for the award in 2020 and filed the paperwork with the Northeastern Region. Then, the pandemic hit. And, since Steve is the Achievement Program Chairman for the GSD, his Golden Spike certificate was mailed directly to him. When Steve developed health issues in 2020, his Golden Spike certificate was forgotten by me. For all of these reasons, we missed the opportunity to publicly recognize Steve for his tremendous work! Congratulations Steve and we wish you a speedy recovery!

What does it take to earn your own Golden Spike?

- Display six pieces of rolling stock, which have to be a little more than a “shake the box” kit. Painting, decaling, weathering, or a little super-detailing of a kit is what will meet this requirement.
- Construct eight square feet of layout, complete with structures and scenery.
- Complete five structures. Like cars, they are looking for more than building the kit right out of the box. Like rolling stock, painting, decaling, weathering, and detailing are things you can do here.

- Include three types of trackage, which can all be the same. They do not need to be scratchbuilt. But, they do need to be operational, have the proper roadbed, and have ballast. The installed trackage must be wired to allow for two trains to operate simultaneously. And, you must provide for one electrical feature, such as a powered turnout or lighting in the structures.
- Any NMRA member can verify your completed all the work. They are not evaluating your work. It is a “check the box” exercise using the form found on the nmra.org website.

I bet there are many GSD members that have already completed the requirements for the Golden Spike on their home layouts or the club layouts they belong to. If you have, contact me at nmra_chuck@yahoo.com and lets get you the same certificate Steve earned.**WP**

Below: A scene from Steve’s former N scale Emmaus & Western Railroad, used to satisfy some of the Golden Spike requirements



TOOLS AND TIPS: GET A GRIP

By JIM WALSH

There comes a time in most projects when we could use a hand - literally. However, we don't always have somebody assisting us and can never grow more hands. At times like that we can use help holding things together in order to continue a task. Clamps can fill this need for us and have been doing it for a long time. Clamps are available in a variety of styles and sizes. A handy tool for layout construction, the Quick-Grip clamp has the advantage of one handed clamping operation and quick release. Introduced in 1989, this clamp is used repeatedly during layout construction and it is great for temporarily holding benchwork together. On rare occasions, I need to use C-clamps for a particular project. It reminds me of the not so good old days and I immediately appreciate the Quick-Grip clamp. There are even Quick-Grip clamps sized for smaller projects and model construction.



Left: Although the Quick-Grip is very common, other manufacturers offer this style of clamp like the Jorgensen E-Z Hold. Also shown is a pair of smaller Irwin Quick-Grip Micro Bar Clamps that are 4 inches and a good size for model construction.

(All photos by Jim Walsh)

Below: Clamps are often used during layout construction to temporarily hold the benchwork together. Here a Quick-Grip clamp secures a riser as some new subroadbed is added to Joe Valentine's layout.



Also useful for modeling projects are spring clamps that hold joints while glue cures on the model. They vary in size and clamping force but with all clamps too much clamping force could damage or destroy a model. One popular spring clamp is a clothespin since they are effective, inexpensive and readily available. They can also be rearranged to make a better shape for a spring clamp. Other devices using a spring force to close are self closing tweezers. They come in a variety of sizes and shapes and could also function as clamps. However, they are most often used to hold small detail parts as they are added to a model.

Painters tape is useful for holding parts together, securing assemblies to a work surface or keeping parts secure when spray painting. For painting, the tape is attached to a piece of scrap wood with the adhesive side facing up and the parts are stuck to the adhesive side. Sometimes you can use rubber bands to hold an assembly together until the glue sets. This is best used for round parts like tanks but it may also work for other shapes as well. Another simple way to hold parts together while the glue cures is by applying weights. Although I have used exercise weights anything can work as long as it applies enough force to hold parts together without causing damage. It could be unopened canned food, a bag of rice, or a container of sand, stones, nuts and bolts or even water but be careful not to spill it. Ankle weights are versatile and can adjust to different shapes.

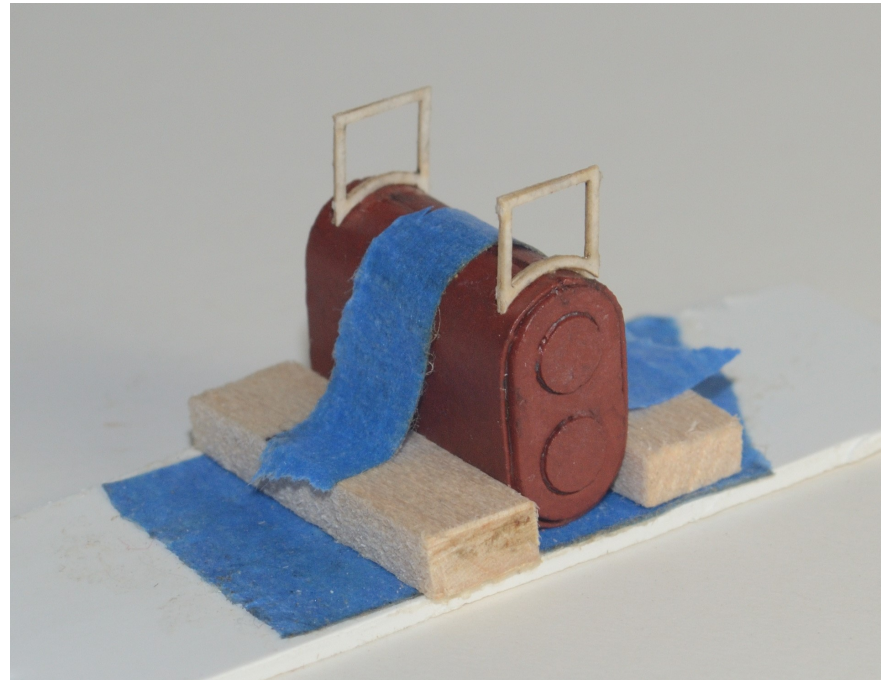
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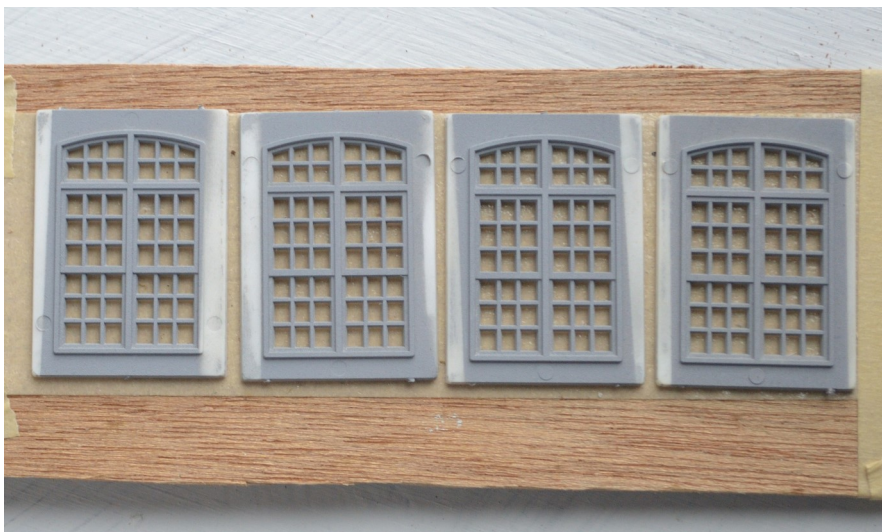
Left: For model construction, plastic spring clamps and clothespins can clamp parts together for gluing. Clothespins can be used as they come or modified as shown to have a flat clamp end. For holding small detail parts during assembly, there are various sizes and shapes of self-closing tweezers.

Below: Styrene and wood strips are used with painters tape to securely position an HO oil tank. This simplifies the delicate task of attaching and then painting the tank supports.



Before you start an assembly select a clamping or holding method and plan it well before you execute. Taking the time to make a good plan will save a catastrophe and a glue mess. Even when you use fast grab or instant glues, you can benefit from planning and securing the parts as you assemble them. For your next project make a plan to use clamping and holding techniques for the assemblies and keep control of the project.[WP](#)

Left: Painters tape and masking tape are often used to keep parts in place when spray painting. Here window castings are secured to a scrap of wood with masking tape and ready for an application of spray paint.



ATHEARN LOCOMOTIVE PROJECTS WHILE STAYING AT HOME

By TOM CASEY

With the 'Stay at Home' advisories, and not having my own model railroad to work on, I decided to go thru all the Athearn locomotives I've acquired principally for parts and see how many of their drive mechanisms in their original configuration I could bring up to my operational standards. This included fine tuning the motors, lubrication, cleaning and gauging the wheel sets, and painting the inner truck side frames, the locomotive chassis, and any additional weights black to reduce distracting reflections

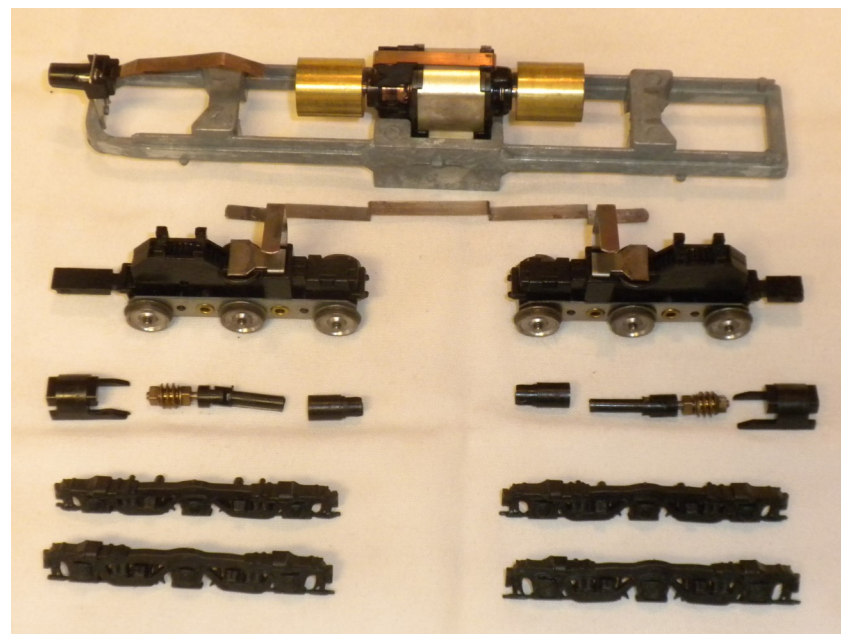
Background

Over the years of going to swap meets I've acquired a fleet of used Athearn locomotives. My principle motivation was to acquire them as a source of parts or to upgrade the drives in older models I custom painted and detailed for specific prototypes. Ever since I started in this hobby I've been partial to Athearn products for their ease of assembly and disassembly for maintenance and repair. As a kid I liked to assemble and disassemble things to gain an understanding of how things worked.

I graduated from Lionel O gauge trains to HO scale model trains in the late 1950's when I was given an Athearn train set which consisted of a Hustler loco, a Erie Flat car, a New Haven box car and a Southern Pacific caboose. At the time I also liked to build plastic model ships and airplanes. When I became a teenager my parents felt I was old enough to take the bus on my own which I did to go to Saturday afternoon movies. On one of these trips I spotted a store that had HO scale trains in the window. A very patient sales clerk showed me several car kits from several different manufactures. Being familiar with Athearn from the train set I had been given I bought a Santa Fe refrigerator car kit for \$1.29, which was just about the money I had for the movie. I caught the next bus home eager to build it. While I had no difficulty with the car body, assembling the trucks was another matter. I had never encountered having to assemble sprung trucks. I forget the details as to how I did it but I do remember having to hunt down the springs that flew away. Luckily there were extra springs in the packet that the truck kit came in.

The original Athearn locomotives with the rubber band (hi-fi) drives could be partially disassembled for cleaning and replacing broken rubber bands but the motor could not be dissembled and reassembled. (I now refer to these as 'Yellow Box' models.) This was true of model locomotives made by other manufactures at the time. (Athearn did provide a gear drive at the same time they provided the rubber band drive for almost twice the price. I never saw one of these and they were out of my price range anyway.) Then at some point Athearn replaced their drive mechanism using a delrin plastic like components to provide a gear driven system with all wheel electrical pickup and a new style of motor. (I believe this was about the same time they changed to 'Blue Boxes'.)

This new motor could be easily dissembled for cleaning, lubrication, and replacing worn brushes. Over the years Athearn continued to improve their drive components adding flywheels (originally cast and more recently turned brass). Athearn replaced most cast



Above: Disassembled parts of a typical Athearn diesel locomotive (photos by the Author)

side frames with outside axle bearings with more detailed plastic side-frames with internal axle bearings. Another great thing about the Athearn 'Blue Box' locomotives was the exploded parts diagram showing how the locomotive was assembled and of course how it could be disassembled.

Many new components including the entire chassis with motor and drive train could be easily swapped into older locomotive shells. Hence my interest in purchasing newer used Athearn locomotives at swap meets. I look under them for plastic side frames, inner axle bearing, and visible brass flywheels. Some components from the older (post rubber band drive models) like worms, gears, and bearings are rarely worn out and can be used in the latest drive mechanisms. Rather than disassembling for their parts when I get them I keep them together and then cannibalize them for the specific parts I

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need when I need them. I've also been able to pick up the newer Athearn motors at swap meets. I presume they were removed and replaced with expensive can motors.

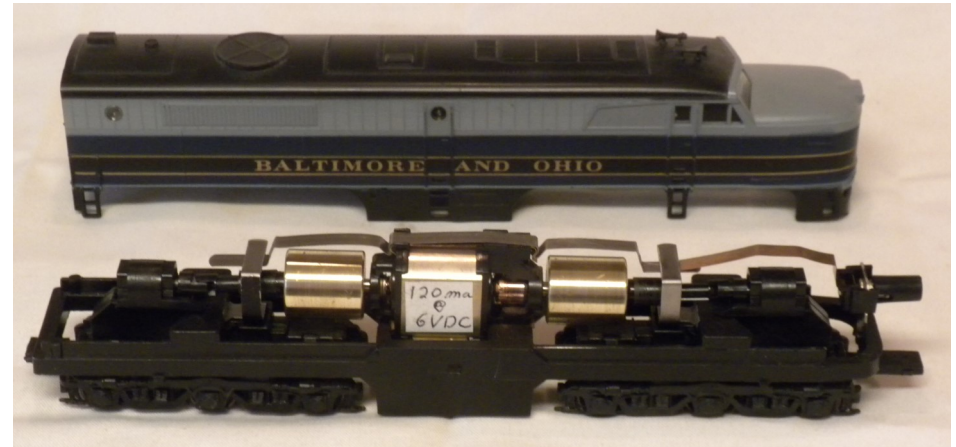
Fine Tuning the Motor

I start by removing the headlight clip and power connector clip between the trucks and the top of the motor. I then disconnect the rest of the drive train from the flywheel-motor assembly. If the locomotive chassis is already painted I leave the motor on the chassis. I then remove the drive shaft that connects to the worm gear assembly from the flywheels. I don't remove the flywheels. I use a voltage regulated power supply set at 6 volts direct current (6VDC) to power up the motor. If the motor runs I note the amperage it draws. This is my base line measurement, as I fine tune the motor its amperage draw should drop.

Once cleaned and lightly lubricated, the newest of Athearn motors running with just its flywheels as a load can draw as little as 100 milliamps (100ma). If after this fine tuning process, I can't get motor's current draw to be less than 200ma, it becomes a candidate for parts. As a generality the speed of DC motors like Athearn's is linearly related to the voltage applied and the amperage drawn is dependent on the load on the motor. The motor should run in both directions with just 6 volts. If not give the motor shaft a turn to see if that will be enough to start it.

To start the fine tuning process, I lubricate the bearings on either end of the motor with the smallest drop of light oil I can. (I use Labelle #108, a light oil safe for plastics.) That should reduce the current draw a bit. Commutators invariably need cleaning. (Never lubricate a commutator.) To clean the commutator I take a small flat screw driver whose blade width will fit within the width of the commutator. I cut a width of fine sand paper (say 320 grit or finer) the width of the screw driver blade several inches long. I fold this sand paper strip over the screw driver blade holding it against the shaft of the screw driver with my fingers. With the motor running, I lightly press the side of the sandpaper covered screw driver blade against the commutator. This will start to polish the commutator. As the brushes have invariably worn a slight trough into the commutator, the center of the commutator will be the last area to polish clean. Once completed this should have reduced the current draw of the motor as well. To test the motor under load I cut a piece of fine sand paper the same width as the flywheel and use it to polish the flywheel. If the motor-flywheel assembly still runs without a load at the same current draw, I place a sticker on the side of the motor noting the current draw at 6VDC. Example 150ma @ 6VDC. When I'm looking for a replacement flywheel-motor assembly, I select the one with the lowest current draw.

After this if an Athearn motor is drawing more than a quarter amp (250ma)



Above: Reassembled drive with motor current draw noted

lubricated at one time. The commutator and the brushes slowly wear down one another. In this instance the fine dust from this action was captured by the lubricant, filled the gaps in the commutator, and was diverting some current away from the coils in the armature. I removed the motor-flywheel assembly from the chassis by pushing up on the motor mounting pads from underneath. I used the back of the tip of a fine hobby knife to gently remove this motor brush paste from the gaps in the commutator. Once I had done this, lightly oiled bearings, and polished the commutator the motor drew only 150ma at 6VDC.

In three other instances this clogging of the commutator wasn't the problem. I removed the motor-flywheel assembly from the chassis. I removed the flywheels by grabbing them and twisting them in opposite directions. One would always come off first. To get the other off I clamped the motor shaft in a vice and twisted the other flywheel off. Inspecting the motor closely I found a hair line crack in the Delrin plastic casting holding the bearing at the non-commutator end of the motor. I presumed that as a result of this crack the bearing was misaligned and binding on the motor shaft increasing the current draw. As the plastic holding the bearing on the commutator end is thicker, I have yet to find a crack causing bearing mis-alignment on this end. (These cracks may be the result of a manufacturing defect or someone not having used a plastic friendly lubricant on the bearings.) These three motors are now a parts source for the repair of other motors.

In another instance the motor wasn't drawing any current at all. Upon investigation I found that a brush was missing. Using my cache of motor parts I replaced both brushes and installed matching brush springs so that the pressure on the armature would be even on both sides. With the motor running I could start my fine tuning process.

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Dis-assembling the Motor

With the flywheels removed you can easily dis-assemble the motor by removing the electrical clip on the top and bottom of the motor. But be careful these clips hold in the brush spring and the commutator brush itself. Springs have a habit of taking to the air if one is not careful. Do one side at a time and tap out the brush if it does not come out by merely tipping the motor over. Safely set aside the brushes and springs. The springs should look identical to press the brushes on to the commutator with equal pressure. If not I find a matching spring from other motors that are now parts sources. The bushes should also look identical. Note that the end of the brush which touches the commutator has an arch in it to match the commutator. The end in contact with the spring is flat. When you reassemble the motor make sure the arched end of the brush is oriented properly to sit on the commutator with no visible gap.

The newer Athearn motors have flat sides to fit in the newer narrow hood locos. Most have a brass colored component that encloses the armature. Earlier Athearn motors did not have flat sides and were a bit wider, bulbous, and gray. While the Delrin plastic end pieces look similar to those on the flat side motor there are minor differences that makes it difficult to interchange these parts into the newer motors. They held the field magnets in differently. For this reason, I wasn't able to use these older components to salvage those newer motors with the cracked Delrin components. The brush springs and brushes are interchangeable.

Re-mounting Flywheels and the Different Sizes of Flywheels

I was reluctant to remove a flywheel for fear that I would not get it back on aligned properly. I was worried that if I was not be able to get the flywheels back on centered on the shaft, then they would introduce additional vibration and noise into the loco. I did have this problem with Athearn's original cast flywheels which were mounted on a plastic shaft which in turn slipped onto the armature shaft. But as it turned out the remounted brass flywheels centered themselves on the shaft with any additional vibration.

They press fit back onto the armature shaft to a point, then I used a C-clamp large enough to fit the flywheel-motor assembly to gently press them on the rest of the way, being careful to leave space between the motor and the flywheel. I did not want to squeeze the motor as that could crack one of the Delrin motor components. I was careful that the pressure from the clamp was in line with the shaft so as not to inadvertently bend the armature shaft.

I've encountered two different lengths of Athearn flywheels. Both are 0.80" in diameter with the shorter ones being 0.84" long and the longer ones being 0.925" long. The shorter ones are necessary in the F-7 units for clearance reasons. The longer flywheels do slightly increase the motor's current draw. Several of Athearn's longer hood units have room for a motor with longer

flywheels so when the opportunity arises I'll swap out the flywheel-motor assemblies, especially when there is a significant reduction in current draw.

Over the years Athearn has been improving their motors and that may explain some of the variation in the motor's current draw when I've finished my fine tuning process. Both stronger field magnets and finer wire in the armature's coils which would allow more turns in the armature coils would reduce current draw. The problem is one can't tell by looking at one of their newer flat side motors whether it will have a lower current draw or not. I take my chances and won't know till I get it on to my work bench for testing. I've also been told that the last generation of motors for Athearn 'Blue Box' locos had skewed armatures which would allow them to run smoother at low speeds i.e. no cogging. I may have some but won't know until I disassemble the motor to inspect the armature, and I'm not going to do that unless I have another reason to do so.

Painting the Inner Truck Side Frames

The inner truck side frames are made from steel and easily reflects light distracting from the appearance of the model. I paint these shiny steel with a flat black paint from a spray can. While my primary reason for painting these steel surfaces is to eliminate the visual distraction of light reflection, a secondary benefit is to reduce the likelihood of rust. While not a rust resistance paint, it seems to do the job.

To paint these inner metal side frames I remove the plastic side frames and disassemble the trucks, if not already done in previous steps. I then pry off the cover under the truck so I can now remove the wheel sets. I remove the third clip so I can separate the two sides, remove the gears, and set them aside.

I mask the portions of the metal contacts used to conduct power, and spray the metal inner side frame from several angles to cover all the surfaces (and edges) that might reflect light. Once dry I remove the masking tape and scrape the edges that provide electrical contact with the bearings on the axles. I forgot to do this once and it took me a while to figure out why the loco would not run on my test track.

Cleaning and Lubricating the Trucks

With the trucks disassembled it is a good time to inspect, clean, and lubricate the wheelsets. Check the wheelsets with the NMRA gauge. If they need adjustment just grab the wheels and twist in the opposite directions while gently pulling or pushing along the axis of the wheel set. Check the gauge at three or more points around the wheel set. Every once in a great while I found a wheel-axle set where the wheel is not in a plain perpendicular to the wheel. Discard the wheel-axle set and replace it with another.

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If a wheel-axle turns freely in its gear-axle, check for a crack in the Delrin plastic gear-axle. If cracked discard and replace it. If no crack is found, I have found that a small dab of Walter's Goo on the end of the axle to be pressed into the gear-axle will do the job. Gauge and adjust the wheel set immediately before the Goo sets up. To prevent the Goo from gluing the axle bearing against the wheel I place a small drop of light oil (Labelle #108) between the bearing and the wheel. The oil will prevent the Goo from gluing the bearing to the axle.

Wheel sets from older Athearn locos with cast metal side frames can be modified for use in the newer Athearn locos. Their axles extended further out from the wheel as the bearings were cast into the side frame. With the bearing inside the wheel on the newer locos the axle extends further inside the wheel. The wheel is tightly mounted on its axle, but I have been able to gently push the axle thru its wheel with the use of a 'gear puller' tool. The older gear-axle can be cut down to the size of the newer gear-axle.

Many of these used wheel sets have dirt on their wheel treads. Now is the opportunity to clean them. I also paint the outward facing portion of the wheel a rusty color. The prototype wheels are not painted to ease detection of flaws in the wheel before it leads to a catastrophic failure.

Inspect the gears. Earlier production gears sometimes had a remnant of a casting sprue between a pair of teeth. (I have not encountered this problem lately, I presume Athearn resolved this production problem.) This would sometimes cause a momentary binding as the gears meshed. I removed the sprue remnant with a needle file. A bit of grit stuck in the gear would have the same result. When I start to re-assemble the trucks, I place the gears individually on their stud and test that they spun freely. Then I place all the gears on their studs and spin them thru several revolutions to see that there was no binding. I'd place a small drop of light oil between the gear and its mounting stud.

I then attach the other side of the inner truck frame and hold it in place with smaller of the three different clips which will ultimately hold the truck together. I install the wheel sets making sure that I've remembered to scrape any paint off the metal portion of the inner side frame that will be in contact with the axle bearing to ensure electrical continuity and making sure the bearing fit down into their slots. I clip on the bottom clip that holds the wheel sets in place. Placing the truck on a piece of track I place a few small drops of gear lubricant (Labelle #102) on the gear teeth that will engage the worm. I roll the truck back and forth so that the lubricant will spread itself over all the teeth in the gear tower.

The final test is to place the truck on a three foot section of track and push it gently along the length of the track in both directions to see if there is any momentary binding in the truck. If not then it's good to go and I remount the plastic side frames on the trucks. If there is any binding disassemble and re-inspect the truck components for the cause.

Painting the Chassis

Many of the Athearn chassis come already painted black but some like those under their Alco PA-1s don't come painted. To do so remove the motor from the chassis. The motor mounts are made of some sort of firm but flexible material, however either age, exposure to lubricants, or both make these brittle. Unless fairly new they will break while attempting to remove the motor. Best to have a supply of replacement motor mounts before attempting to remove the motor. I found it easiest to remove the motor by pushing up on the motor mounts from under the chassis. (Once the motor is removed this is a good opportunity to do further work on the motor if necessary.)

With the motor removed, mask the electrical contacts for the trucks and the motor and spray paint the chassis from every direction to coat all of its surfaces. I dangle it with a paper chip and twist the chassis about to cover all surfaces. Within a minute or two it is dry enough to be hung out to thoroughly dry.

I also paint the super weights in the Athearn F-7 locomotives black to eliminate the metal weights some being easily seen through the porthole windows.

Re-assembly (i.e. Putting Humpty Dumpty Back Together Again)

If I've removed the motor-flywheel assembly or I'm replacing it, I reinstall it by placing the motor mounting pads on it. I scrape the chassis under the motor so it will make a good electrical contact. I lubricate the prongs on the pads and the holes they will be forced into with spit. It will not adversely affect either the pad or the chassis. It is environmentally friendly and I always have a readily available source with me. I then press the motor-flywheel assembly onto the chassis.

Next I attach to the motor-flywheel assembly the component of the drive train that the worm gear assembly slips into. I then remount the trucks to the chassis, reinstalling the worm gear assembly and the clip that holds the truck to the chassis. Be sure the electrical strap between the trucks and top of the motor is on the right side of the loco when facing forward. If not the loco will run backwards when it should run forward. Make sure the electrical clip extending from the top of the motor isn't fouling a flywheel. If it is, turn it end for end. I install this clip so that it is pushing up against the electrical clip from the trucks. Reinstall the clip holding the headlight.

With the loco assembled, I turn it over and place a small drop of light oil between the wheel bearing and the wheel. Reinstall the loco shell and test it on your layout or test track.

The objective of this whole process is get the loco performing at its best as originally designed. Installing DCC control, body mounting Kadee couplers, and/or adding body details involve other tasks. Happy model railroading! **WP**

NEXT DIVISION EVENT

THE WINTER EVENT WILL BE
HELD VIRTUALLY!

TIME:
9:00 AM to 12:00 PM

DATE:
FEBRUARY 27, 2021

LOCATION:
ONLINE USING
FREECONFERENCECALL.COM.
THE LARGER YOUR SCREEN,
THE BETTER.

COST:
FREE (BUT YOU HAVE TO BUY
YOUR OWN COFFEE AND
DONUTS!)

WEBSITE FOR MEETS:
SEE PAGE 3
[HTTP://WWW.NERGS.D.COM/](http://www.nergsd.com/)

AGENDA:
INTRODUCTION
TWO CLINICS
JUST (BRING 'N) BRAG
LAYOUT TOUR

Member Projects



Above: Kai Ebinger constructed this Metcalfe *paper* engine house for his layout. It was easily weathered with Pan Pastels.

CLUB CAR

Garden State Model Railway Club
575 High Mountain Road, North Haledon, NJ 07508 www.gsmrrclub.org

The Model Railroad Club
295 Jefferson Avenue, Union, NJ 07083 <http://tmrci.org>

New York Society of Model Engineers
341 Hoboken Road, Carlstadt, NJ 07072 www.modelengineers.org

Pacific Southern Railway Club
26 Washington Street, Rocky Hill, NJ 08553 www.pacificsouthern.org

Ramapo Valley Railroad Club, Allendale Community for Senior Living,
85 Harrenton Road, Allendale, NJ www.ramapovalleyrailroad.com

Bound Brook Presbyterian Railroad Club (BBPRR), Bound Brook Cemetery Office Building
500 Mountain Avenue, Bound Brook, NJ 08805 billandmartha3@verizon.net

Staten Island Society of Model Railroaders, Train Club Room, 3rd Floor, Staff House, Seaview Hospital, 460 Brielle Avenue, Staten Island, NY <http://sismrinc.tripod.com/index.html>

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Deadlines for submissions to the Whistle Post are four weeks prior to the next Division event, as announced in the prior Whistle Post.

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~~just~~ ~~Bring 'n~~ Brag



In the good old days when we met in person at GSD events, we always had a "Bring 'n Brag" segment. This segment is where members would informally talk about a model they brought to the event. For our virtual meets, since there is no need to bring anything, the segment will be called "Just Brag."

Send photos and descriptions, as well as your name, of the projects you worked on during this time of

restricted meetings. You can send them to nmra_chuck@yahoo.com.

During the next virtual event, your photos will be included in the "Just Brag" segment of the program. If you are in attendance during the event and would like to talk about the project, we will instruct you how to do so. Otherwise, one of the hosts will use the description you provided to talk about your model railroad project.

You have bragging rights!

NMRA Virtual Conventions continue under the nmra-x banner. Find the date and time of the next group of presentations on the NMRA Facebook page or the NMRA home page.

nmra 
virtual model railroad convention

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