



CARM Toronto Chapter - What are you working on?

October 7, 2020

Hello everyone:

Welcome to our **Third Year Anniversary** edition of the CARM Toronto Chapter Members' celebration email letter of *What Are You Working On?*

October 7, 2017 – October 7, 2020

Three years ago, we wanted to set up a platform where our local chapter members could informally show other members *what they had been working on?* via an old fashion, easy to read letter, that could be printed or read online, with pictures and short descriptions written by you that would let us all share together our projects and their ups and downs, oopsies and successes, etc., that you were going through in pursuit of this great hobby. It's three years later and we have one of our biggest letters yet! So, *thank you* to you and everyone else for just jumping in and submitting photos and texts and stories for each of the past letters and letting us know what you were working on – and don't stop! Its been wonderful meeting you via email and do I hope to meet more of you in the coming future editions of our letter (*hint, hint!*). Send something in, it really is easy to do, and yes, we really do want to hear from all of you! This is us; this is our membership; this is what we have been working on in this great model railroading hobby!

Happy Anniversary to All of You!

Now, let's get to it and see what everyone has been working on.

Grab your tea and cookies *and read on!*



1. **John Bigham – “25 mph through Sharbot Lake”**: In our last letter John started us off with a B&W photo of his Geep; this time he sends a photo of his Tenshodo Royal Hudson and he writes:

James, sometimes you just have to cut your losses. I'm running out of time to be bothered spending any more trying to get what is probably a pretty worn out \$190 (1973 \$) piece of (used) brass running around 22" curves with DCC. I stand to be accused of exorbitant scenery expenses (and numerical infidelity), but that's about what this old Tenshodo Royal Hudson has become, making one last trip, rodless and at a measly 25 mph through Sharbot Lake on the old CPR mainline, on her way to meet the scrapper's torch at Angus.
- John



Photo credits: John Bigham

Well, needless to say, John's email just fired me up with a whole bunch of questions! You can read more of our conversation further on in the letter....

2. **Walter Reid – Detection Circuit:** Walter has been solving an operations issue with flat cars – click on the video link in his description below to see what the problem was and how he solved it!

My most recent project is building a detection circuit for my stub end yard. Operators have a hard time seeing the back tracks, especially flatcars, and crunch them into the bumpers.. The signal changes to yellow with one car length left to the end, and red when less than half a car length. This signalling system solves that.

<https://youtu.be/6aDu7DJyFRk>

If someone knows how to source the plans for a CN 4 track signal bridge (older riveted type) please let me know. Saw this one near the Ford plant in Oakville. Would like to upgrade the signal bridge.



Photo and Video credits: Walter Reid

3. **Hal Huhn – Layout Expansion?:** Hal, like my family, has been busy in the garden this summer, but he writes to let us know:

We have purchased a new furnace, and the installation will put my train on hold. However, after the new furnace is installed, I will have some extra space for my layout. I look forward to sending you information in the future.

*Thank you.
Hal*

Hal, we look forward to more news from you once your furnace is in!

4. **Ed Freeman – Nipissing Southern Railway Van:** Ed sends us photos of his kit he just completed using various parts to assemble the final project. His description reads:

Finally got around to putting together a caboose for my Nipissing Southern Railway. Took a Sylvan kit and added Taurus ladders, CNR storm doors from Black Cat, and caboose marker lights. Only awaiting the paint shop to locate decal letters for lettering. Will be nice to have a proper caboose for the Nipissing Southern instead of using vans borrowed from other lines.





Photo credits: Ed Freeman

5. **Richard McQuade – Commanda General Store – “The Exciting Conclusion”:** Richard showed us the prototype research he does in a previous letter for a submission he did for his great Cheese car. In our last letter, he gave us the history of a building he has been working on (he says) for 30 years, and that he is almost ready to complete it. In this letter he writes to us about the final progress:

Commanda General Store – The Exciting(?) Conclusion

In last month’s newsletter I introduced the Commanda General Store kit and the changes I made to it. Readers may recall that I used the basic plan drawings but that was about it. The only types of materials not used for this model were plaster and resin. This building is the ultimate in composite materials construction. So why is this “exciting”? It’s exciting because I actually finished it – a rare occurrence for me. As I mentioned last time, some of my unfinished projects (like this one) are roughly as old as our youngest child and he just turned 30, so this is big deal! Ok, so I didn’t finish the interior. I didn’t think it could be seen because of how it will be sited on the layout but when I took it to its location I was proven wrong. But I still count it as finished!

At some point after I install it properly on site and add details I'll send photos but now I'm onto other things – as in more unfinished projects.

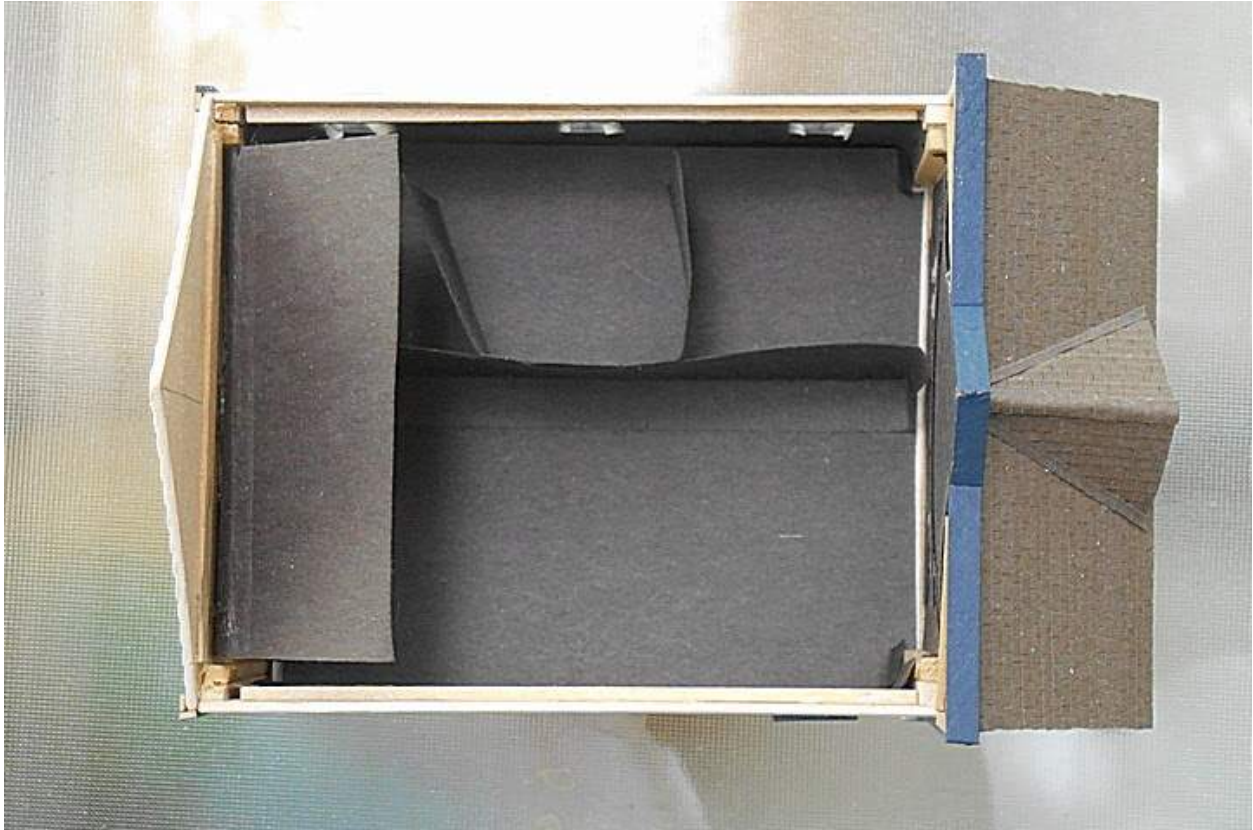


Photo 1. This shows the 2nd floor with construction paper “walls” and floor covering. I always make my buildings light proof so that if I want to light them later I won't get light leaks. Also, some plastic buildings will “glow” if a light is installed because their walls aren't always completely opaque.



Photo 2. The completed building is waiting for the “building mover”. I painted it with blue trim because I got tired of seeing green trim on white buildings and because of Covid-19 the hobby shop was closed so I couldn’t buy red. Signage will be added when I finally decide on what to call these. I might call the little one, “Rose’s Apothecary” (transplanted from Schitt’s Creek.)



Photo 3. The shingles don't match because of recent roof repairs (or I could say that I ran out of one colour but who would admit that?)



Photo 4. The building will be against the backdrop and angled with the front and this side facing the viewer. A seldom modelled feature is lightning rods complete with ground wires which were common features especially on wooden buildings. The insulators are from my childhood beaded belt (what foresight!) and .015" wire, the ground wires are .008". The window shades are from file folders, the curtains are tissue. Notice that the two buildings plus the little one at the back all use different siding and together with the peeling paint (a happy accident!) and the different shingles suggest that the building has its own history.

Photo credits: Richard McQuade

6. **Bruce Leckie - Dirty 30 On30 Modular Gang:** Bruce sends us some great photos of his work on his *Dirty 30 On30 modular gang*. I do not know how big Bruce's module is but I do hope he sends us more photos for the next letter!

Good day, James.

Keeping busy with modules for the Dirty 30 On30 modular gang. I just finished Coralie Cove and I am starting on a pair of transition modules (the go between the detailed yards and towns). See the attached pictures.

Image 015 (below) is the Harbour showing a small freighter and Kriskot Fish. All structures are scratch built from Clever Models (clevermodels.com) textures, downloaded and printed at a local printshop.



Image 759 (below) shows another view of the wharf and seagulls from Miniprints(miniprints.ca)



Image 559 (below) shows the town, perched on a raised ridge



Image 551 (below) is another view of the town



Image 635 (below) is Rowan's resort. Not seen in this photo are the Muskoka chairs from Miniprints.



Hope this helps with the news email. – Bruce

All Photo credits – Bruce Leckie

7. **Richard Morrison – Restored 1904 Station in Uxbridge:** Richard sends us these photographs of the model he designed and built, inside and out, from a recent trip with his family:

On July 23, my wife and I visited the restored 1904 station in Uxbridge, now home to the York Durham Heritage Railway.

We took photos and measurements and I spent about 140 hours over the next seven weeks scratch building this HO replica.



The windows on the restored station are modern, so I just used what I had in the scrap bin. The model features lift-off roofs so I can detail the interior later. I won't be running any passenger trains for a few months so the passengers will have to wait. I'll blame Via.



Photo Credits: Richard Morrison

8. **John Bigham – Working on the signals – Perseverance!** After receiving John's email with his Tenshodo Royal Hudson I asked him if he had completed the sand loader at Highland Creek Sand and Gravel that he had submitted some time ago. He confirmed he had and then he gave me an update on the signals we see in the photographs that he submitted. John writes about each set of signals below each of the photographs here:



Yes, James, that sand pit module was mostly done with my last submission. I'm still working on a couple of figures in static poses to give it some "life." What doesn't show is the software for the three Arduinos that control the four semaphores at that junction, which replicates the one at Harrowsmith ON north of Kingston and south of Sharbot Lake. I hate to admit that that job, which began in April, was really only completed yesterday to what appears a reliable state. I had begun with John Armstrong's All about Signals, but what I'd ended up with was almost 600 lines of code too complex to debug. After five weeks of trying to make it work, I was on the verge of throwing in the towel and leaving the signals static when some brilliant light dawned that had things working in three or four days. But only sort of, it turned out. The little bugs stewed for another ten weeks before I finally bit the bullet last week and tried a few refinements--inspired by reprogramming my fleet of LokSound-equipped locos--that now seems to have all the bases covered--in 75 lines! It's almost enough to make one want to learn how Chubb's C/MRI does it.



Last night I started on those two long-ignored Sharbot Lake bracket signals that appear in the shot of the Hudson. Earlier last the week I got around to replacing in situ the two 0603 leds, one on each signal, that had mysteriously given up the ghost after a year in service. Now, which power lead is the anode? Next, the servo brackets needed more substantial travel stops to prevent them tearing the arm pivots off the masts the way the sand pit servos had done to those semaphores. The only explanation I could come up with was that the long inter-Arduino connections, up to 12', had been capturing electrical noise that would too often drive the servos nuts, so after repairing the signals and then having the problem repeat itself I put 0.1uF caps on all the Arduino terminals, added 5ms of debounce to all the software input reads, and for good measure set the unused Arduino

terminals to grounded outputs. And then repaired the signals again! Hard to take a photo of that kind of time and enthusiasm gobble. Now, maybe I need to learn something about how to use serial communications between the Arduinos and whether that could have avoided the problem and a whole bunch of wiring. This is definitely not a hobby for people lacking perseverance

Photo Credit: John Bigham

9. **Ian McIntosh – More MoW:** One of the submissions we often request is railfanning images and we are lucky to receive a couple for this addition of the letter.

We were on a sightseeing trip to Tyrone Mills north of Bowmanville, various other interesting small places, down to Bond Head at the lake, then headed east to Port Hope via Lakeshore Boulevard. At the corner of Lakeshore and Lakeshore and Stephenson we got lucky.



There's an old slightly tilted bridge over 2 CN tracks and 75 metres north is a 2 track CP level crossing. To the west on the CPR is a siding that had 2 MOW vehicles. The long ballast adjuster is CP 5206105.



The short one is Saint Lawrence and Hudson Railway (a CP subsidiary) #2211 49. The CN tracks had a westbound container freight then an eastbound work train with a Herzog Railway Services of Canada Ltd loco HZGX169 pulling an equipment car carrying a digging machine, about a dozen old tie cars, and another Herzog MPM IV car on the end. Plus a discussion with another railfan who is now a CARM member. A very worthwhile half hour.

- Ian



Photo Credit: Ian McIntosh

10. Lloyd Leonard – Axles and DCC Conversions: Lloyd sends us word that he is currently working on updating his rolling stock like many of you are too – and his email has me very curious to know more! He writes:

*Starting an axle replacement on a number of PROTO 2000 LOCOMOTIVES..
Also attempting DCC conversion of a couple of other Locomotives... a Rapido FP-9 and an Atlas Classic RS-3*

11. **Andrew Malette - CNR S-3-a 3702:** Actually, Andrew has updated us on three of his projects in this addition of the letter, but if you have time, go check out the *June 23, 2018 What are you working?* on letter to see the beginnings of his CNR S-3-a 3702! Andrew provides us the following update on his current projects:

Hi James,

As promised, other than getting back into resin casting for kit production, these are what I have been working on.

The station at Park Head which was ex-coach 3174. Having those turned down ends on the roof was a bit of a challenge until my friend Jamie Bothwell suggested combining two On30 coaches to get the proper length. With the correct length, the windows were off so Jamie laser cut new strips for me. I just finished inserting them. They will have to be built up but what a timesaver!



I also started the scenery on the upper level. Much more has to be done.



And I finished off CNR S-3-a 3702. It still needs weathering which I will do when I find my pan pastels which have decided to hide somewhere in the train room.



There is now a correct bridge over the Potawatami River as well.

Cheers,

Andy Malette

12. **Bernard Hellen - 3D Printing in Various Scales:** Bernard has been growing his 3D hobby printing business for model railroaders including getting ready for Halloween! Check out his latest 3D model offerings below.

Hi James,

Good morning. Happy Fall and thanks for the reminder! I'd love to submit and have a lot of exciting news to share (if you will permit me). I have attached a number of images and you are free to use whichever ones you feel work best.

October Submission:

It's been an exciting and very busy summer as I expand the 3d printed offerings available for my hobby business at <http://miniprints.ca/>. Miniprints produces craftsman-quality details 3D-printed for your model railroad layout in N, HO, S and O scales. (pics of ravens and skeletons attached).



For the N Scalers, there are now 16 different N scale miniprints available including African Elephants, Bald Eagles, Beavers, Bighorn Sheep, Bison, Bull Moose, Canada Geese, Caribou, Cougars, Donkeys, Great White Sharks, Llamas and Manatees, Mountain Goats, the Loch Ness Monster and the Sasquatch. (pics of N scale animals attached).



...and he has even done an N Scale Sasquatch too!

For the HO scale crowd, miniprints monthly launched, offering a miniprints-of-the-month club. A special Halloween collection containing two ghosts, the Headless Horseman, two ravens, two vultures and lots of pumpkins (figures come unpainted) will be sent out to subscribers on October 15th. More information on the miniprints monthly subscription club can be found at <https://miniprints.ca/subscriptions/> (pics of Halloween collection attached).



*I have written an article that will be published in the Oct/Nov/Dec Issue #73 issue of The Canadian. This will be sent to CAORM members and is entitled **Model Railroading and 3D Printing – the Future is Now**. Watch for it coming soon.*

*And finally, CAORM members receive 10% off on all regular priced items at <http://miniprints.ca/>. Please use code **CAORM10** and make your model railroad layout come alive!*

*Thanks James and please let me know if you need anything else.
Cheers, Bernard*

13. **Malcolm Back – Grand Canyon Railway:** Malcolm sends us a project he did based on a business trip he took in 2018 that inspired him to create project that would help him keep the memories of that trip.

This project was inspired by a trip to Tucson Arizona in 2018. It was a “business” trip to the annual Tucson Gem and Mineral show and my Mineral Glossary book launch. We took the opportunity to visit some of the local tourist sites that we had never seen including the Grand Canyon (GC). We stayed at the Railway Hotel in Williams and then took the train into the GC Park. We rode in the two different dome cars on the trip in and the return trip. They are the Mary Colter and the Fred Harvey.



They started life as inexpensive Bachmann models, decorated in the CNR Black and Grey scheme. I stripped of the lettering and then air brushed the model for the GC

scheme. I custom printed my own decals for the lettering and the insignia. Whenever they run on my layout, they bring back great memories of our trip.



All Photo Credits: Malcolm Back

14. **Walter Reid – Railfan Photo of CP Heritage Unit:** Walter managed to get a good photo of one of the CP updated paint schemes people have been keeping an eye out for. Walter writes:

Caught my first heritage unit!!



And he also sends along some great video of his Bayview railfanning. Click this link to see more *Railfanning in 4k Bayview Junction and Burlington West 2020 09 24*

<https://youtu.be/p-323MkzPV8>



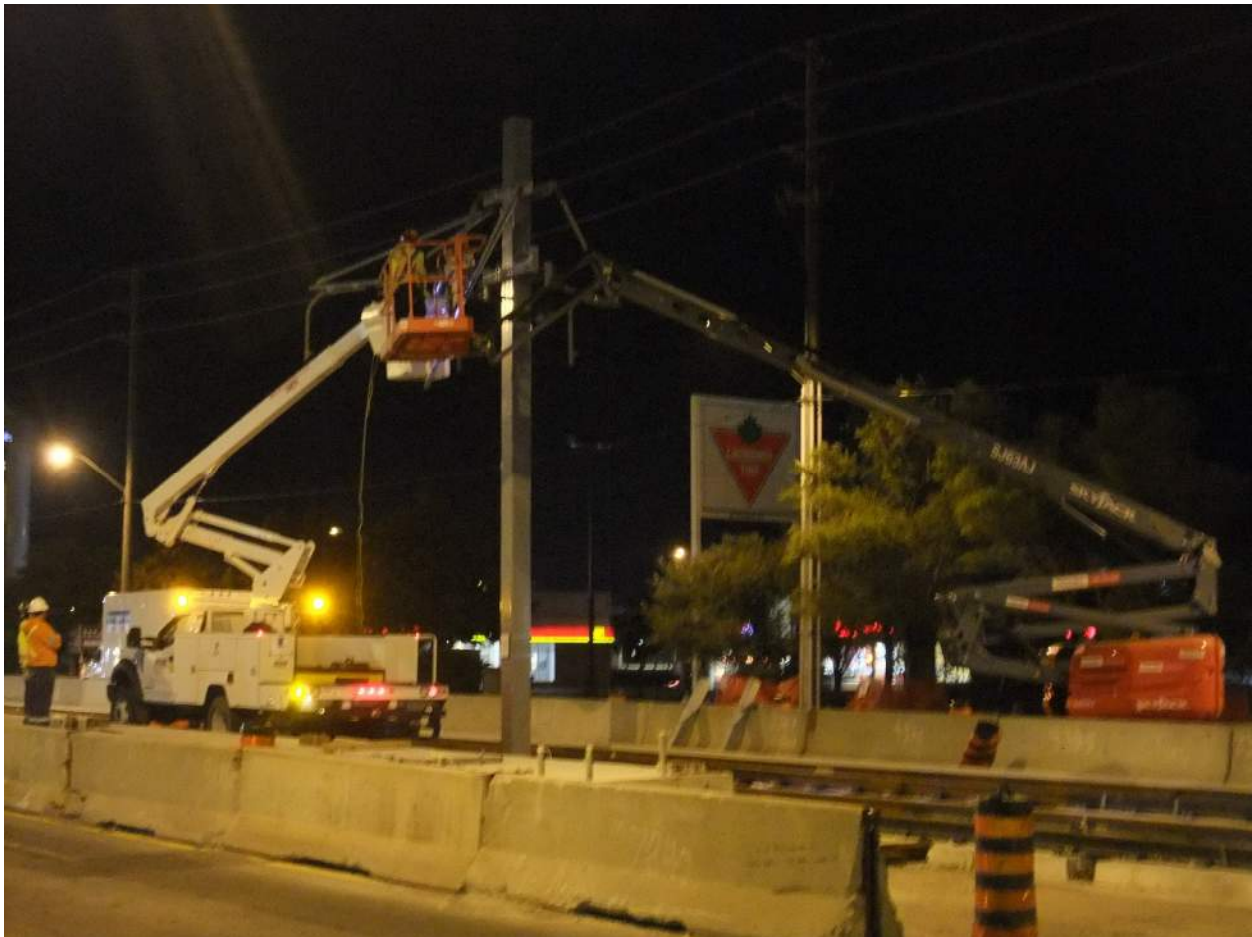
15. **Ian McIntosh – Eglinton Crosstown:** In our last email letter Ian Jameson sent us pictures of his first attempt at doing a street car with catenary overheads. As an interesting tie-in, Ian McIntosh now sends us some railfan images of the crews installing the new Eglinton Crosstown catenary overheads

These photos are by the Hakimi-Lebovic Eglinton Crosstown LRT station near Warden Ave. The Metrolinx description was:

Crews will be performing adjustments to the OCS (Overhead Catenary System) cables along Eglinton Avenue East between Leslie St and Don Mills Road and between Hakimi and Warden Avenue. Overhead catenary is the system installed overtop of the rails of a light rail system, to provide operational power to the LRVs (Light Rail Vehicles). Cables will be adjusted overhead using a high rail vehicle.



They used two cranes, one on a white hi-rail truck (with rubber and flanged wheels) and the red one self-propelled. I had hoped to see their yellow hi-rail vans, but not this time because they needed cranes.



Two guys did all the work and several others watched, including keeping an eye on me on the sidewalk two street lanes away.

Photo credits: Ian McIntosh

16. John Rylaarsdam - Prototype Research: John is one of our members who is at that very early stage of planning a new layout and we look forward to more submission from John on his progression. Currently, he is doing the research for the area that he wants to model and he provides us with an update on the research:

I am doing prototype research:

- *Late 1929 through mid-1930/31.*
- *Primary area: eastward from North Bay to Brent (CNR), southward from North Bay to South River (CNR), southward into Algonquin Park (Fassett Lumber Co. Railway from Fossmill), and eastward into the park from South River (Standard Chemical Co. Railway), as well as T&NO and CPR in or near North Bay.*
- *Supporting areas: CNR eastward from Brent toward Ottawa, westward toward Capreol, and southward toward Toronto; T&NO northward toward Cochrane.*

Materials assembled so far:

- *Scans of CNR employee timetables for the Northern Ontario Division 1929, 1926, 1935, Montreal Division 1929, 1935, and a public timetable 1929. Some pages are hard to read or missing.*
- *A CNR book of operating rules for 1929 in hard copy.*
- *The entire ORER for 1930, purchased as a CD of JPEG files from Westerfield.*
- *Topographic maps of the area, mostly produced much later than my era.*
- *Books on Brent, Fossmill, and the Fassett Lumber Co. Railway with photos, maps, air-photos, and some useful history.*

Materials I would like to find:

- *Detailed maps of North Bay, Fossmill, Brent, Kiosk, South River, Callander, Powassan, etc., hopefully showing arrangement of tracks. (Something resembling the Sanborn maps in the US?)*
- *Track schematics that would help me make sense of employee timetable information, such as the following notes for North Bay. (I'm not even sure what the documents I need would be called, or where to begin looking.)*

1. (a) **NORTH BAY**—North Bay Yard extends from yard limit board East of Transfer Yard to yard limit board West of North Bay.

(b) All trains must obtain Terminal clearance at North Bay.

(c) The position of the first switch West of North Bay Passenger Station is normal when set for the Northerly track, which track is C.N.R. exclusive main track. This switch must be considered a "turnout" and speed of trains through it must not exceed ten (10) miles per hour.

The Southerly track from this switch to connection with T. & N.O. Ry. is T. & N.O. exclusive Main track and movements over this track are governed by T. & N.O. Time Table and Staff Systems. C.N.R. trains or engines must not use T. & N.O. exclusive track except as authorized by T. & N.O. Ry. and must have in their possession copy of T. & N.O. current Time Table.

The two-arm semaphore signal located six hundred and forty (640) feet East of first cross-over switch, passenger station, the northerly arm governs the approach of west-bound trains on C.N.R. main track and the southerly arm governs the approach of westward trains on the T. & N.O. exclusive track. Single semaphore signal located at Commercial Street, West of passenger station, governs the approach of Eastward C.N.R. trains. These signals are for the protection of trains occupying main tracks at the station. Normal position of these signals is proceed. Trains finding semaphore signal in stop position, must stop clear of the signal and must not proceed until signal is restored to normal position.

(d) Train Nos. 1 and 47 will arrive at North Bay and Nos. 2 and 46 will leave North Bay on the T. & N.O. exclusive track via the second cross-over East of the Passenger Station. The movement between the cross-over switch and the Passenger Station on the T. & N.O. exclusive track will be made under the protection of Semaphore governing the approach of trains on that track.

Speed of trains through cross-over will not exceed ten (10) miles per hour.

Speed of trains through cross-over will not exceed ten (10) miles per hour.

- Documentation of the signalling system(s) in use on the CNR subdivisions in the area: ABS, PBS, or something else, and what signals were where.

I have been developing a database of a lot of the information in the employee timetables, and software to simulate operations in the area. This will include code to help me get a better idea of operational details involving locomotive tractive effort, train weight, track curvature and grade. The published mathematical models I've found may be too modern for my era, so I'm not sure how valid my results are so far. For example they suggest that deceleration is a LOT greater than acceleration. It's nice to see that stopping is easier than getting up to speed, but I'm not sure I believe the results I've produced so far. The experiments continue.

17. **Ian Jameson – “I like all things electric and electronic”:** In the last few letters we have seen many of Ian’s electric projects that he has been working on and installing onto his layout, including putting his hand to building his first catenary section. He gives us a new update on his electric projects in this letter and he writes to us:

*Good morning James
I have been working on a few things.*

“As you may not know I like all things electric and electronic. I have purchased some electronic items from Viessmann in their E-motion series and in time will get the ‘lighted’ firemen hooked up and placed in my burning buildings section, my e-fountain will get hooked up and placed into my City square and my helicopter drone pilot will get hooked up and put into the park section.

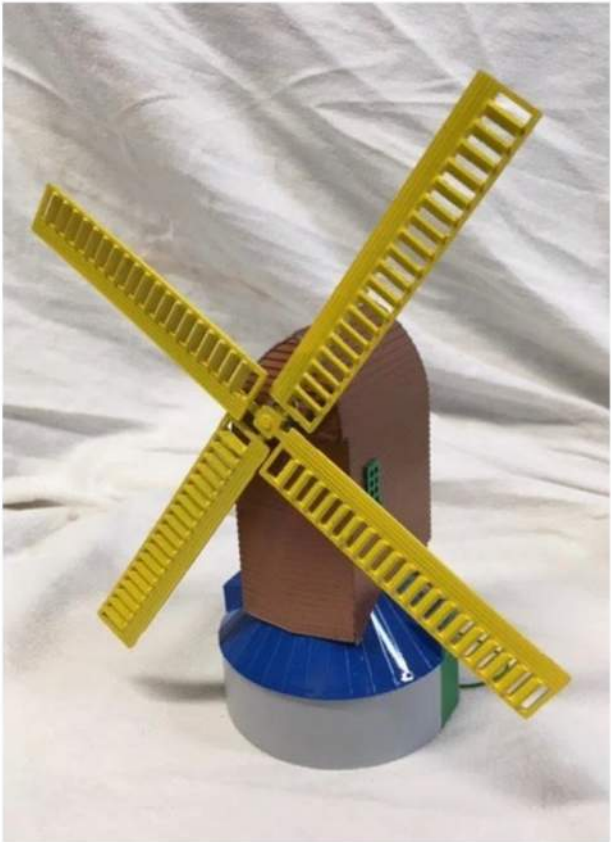
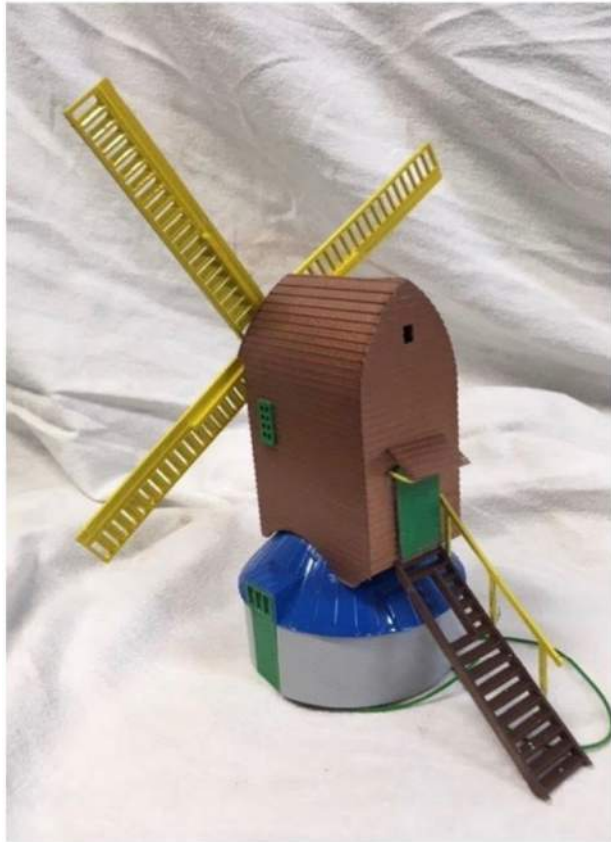


Sometime ago I got an old DM series sound effects module from the Innovative Train Technology Company at one of the model railroad flea markets that has two barnyard sounds for when my trains roll through the countryside. One features cows and pigs and the other features roosters crowing in the morning. I built a small enclosure box

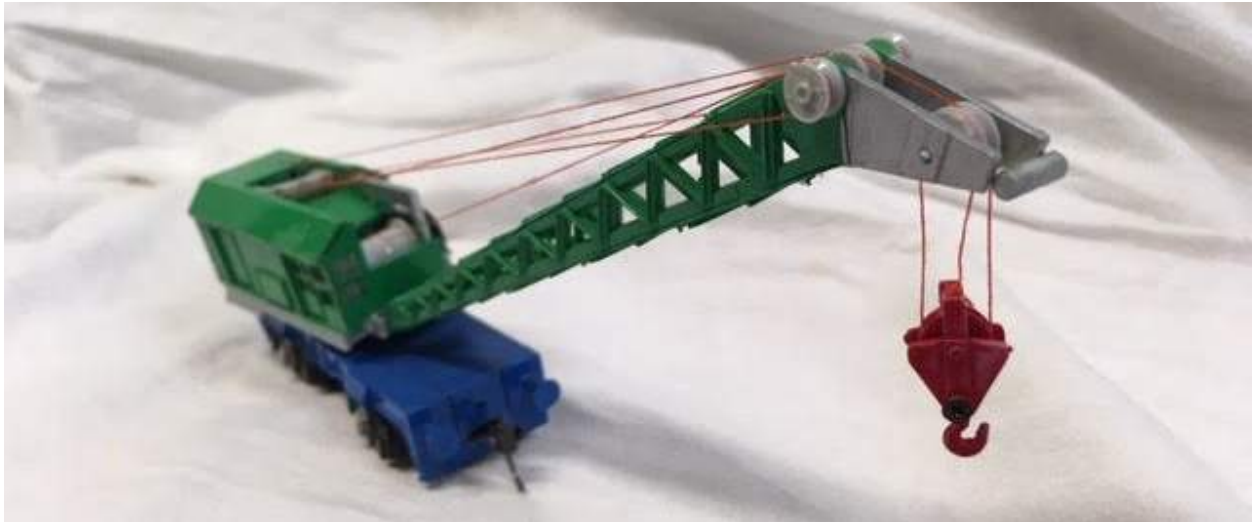
repurposing an old plastic container that used to have long deck screws in it and added two momentary power buttons to activate the 9-18 Volt powered module to produce the 15 second sound bytes.



I built a Dapol Kitmaster C016 Windmill kit adding an old motor to it to power the wind vanes so that they will move. I need to finish the windmill with some flowers and people and other accessories.



Also from Dapol Kitmaster, I built a C028 15 Ton Hydraulic Diesel Crane for the track. I need to finish the detailing and add lights and markings.



On a recent getaway holiday to Thornbury, I took along some tools and supplies and partially completed a Kibri kit HO 38354 for an 'Apartment House with Balconies'. I need to add lights and people and other detail accessories.



Sadly I did not get any further in taking my mock-up of the catenary overhead system for my street car loop and getting it built into my layout. It seems that I get started on some small project as part of my layout and don't quite follow it through.



Be safe and well.
Ian

Photo credits: Ian Jameson

18. **Mike Walton – Croal Viaduct Continues with the 3D Printing of the Railing:** 3D printing is becoming more and more popular in the model railroad hobby, both commercially and personally. As noted in the previous letters Mike is taking advantage of the downtime to do some changes which includes his new Croal Viaduct. Part of this new project includes new methods of designing and building construction on his layout which includes learning about and fabricating with a 3D printer. His reports are excellent, filled with great educational notes and humour. In this letter Mike tells us the process he did to print his fine detailed railing for the bridge after he decided to not try photoetching:

Railing and End Plate Design Concepts (mainly my work).

I felt that with railings only an .018" x .014" cross section we were pushing the limits of SLA printing process. I therefore spent some time exploring the photo etching option thinking that the railings produced by this process would be more robust.

Photo Etching option

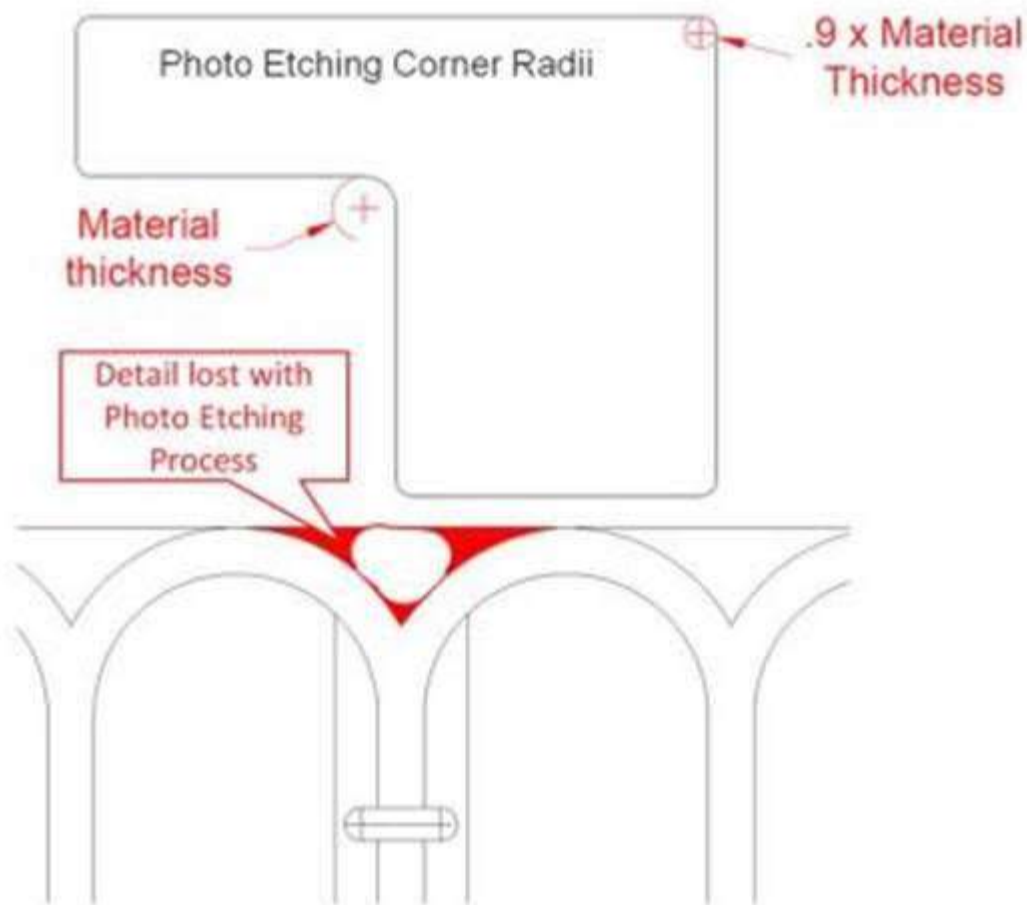
I looked into purchasing the Pro Etch kit from Micro Mark or using the do it yourself option shown in <https://www.youtube.com/watch?v=NntLi4KcLII> .

The Micro Mark kit (https://www.micromark.com/Micro-Mark-Pro-Etch-Photo-Etch-System_2) looked to be a good option at \$119.95 but when I went to buy one I found they were out of stock



I was advised by a reliable source that the results from the Micro Mark system might be disappointing. I therefore looked into subcontracting the work to Micro Tech . The Micro Tech website is excellent and provided some good insight into the pros and cons of photo etching, see <http://microetchtech.com/guidelines-chemically-etching-part-dimensions>.

From this website I extracted the information below and concluded the photo etching option was a no go.

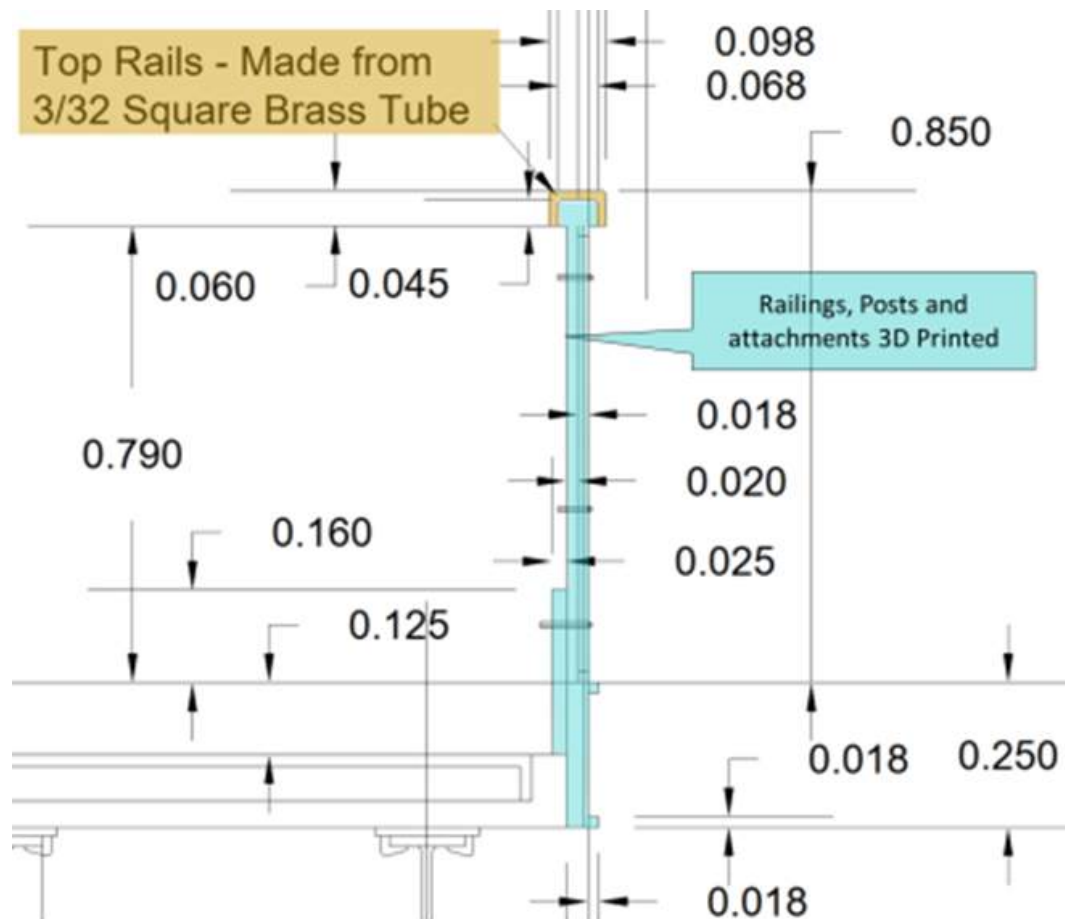


To get the level of detail required, the railings would have to be wafer thin. A few days later Micro Mark advised me that they had the kit in stock but I cancelled the order, good timing is everything 😊 .

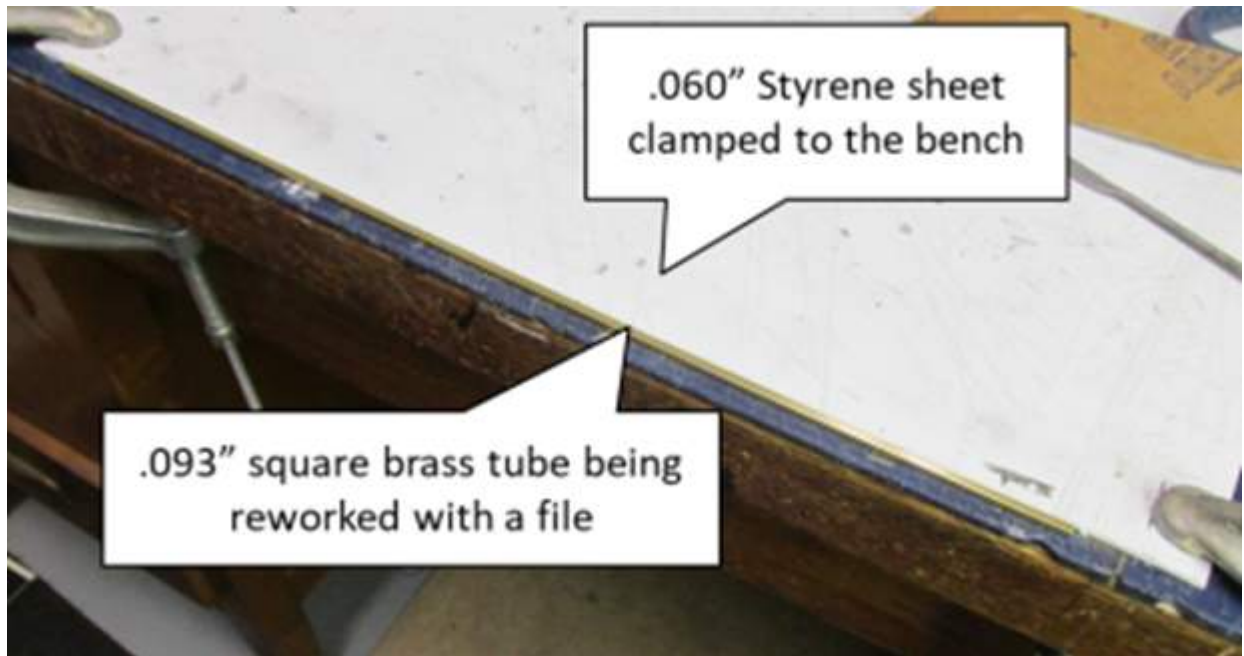
The Hybrid Option

I concluded that even if we could print the fine railings, strength would be an issue. I therefore decided that the top rail would be best partially made from brass for strength and rigidity. As it happens, Credit Valley RR had suitable K&S 3/32 dia. brass square tubing in stock although it isn't shown in the K&S catalogue. I have since been told that K&S are often willing to supply to order if you buy about 20 , 12" lengths as they are basically a chop shop and don't extrude the brass sections themselves.

A section through the hybrid design is shown below.



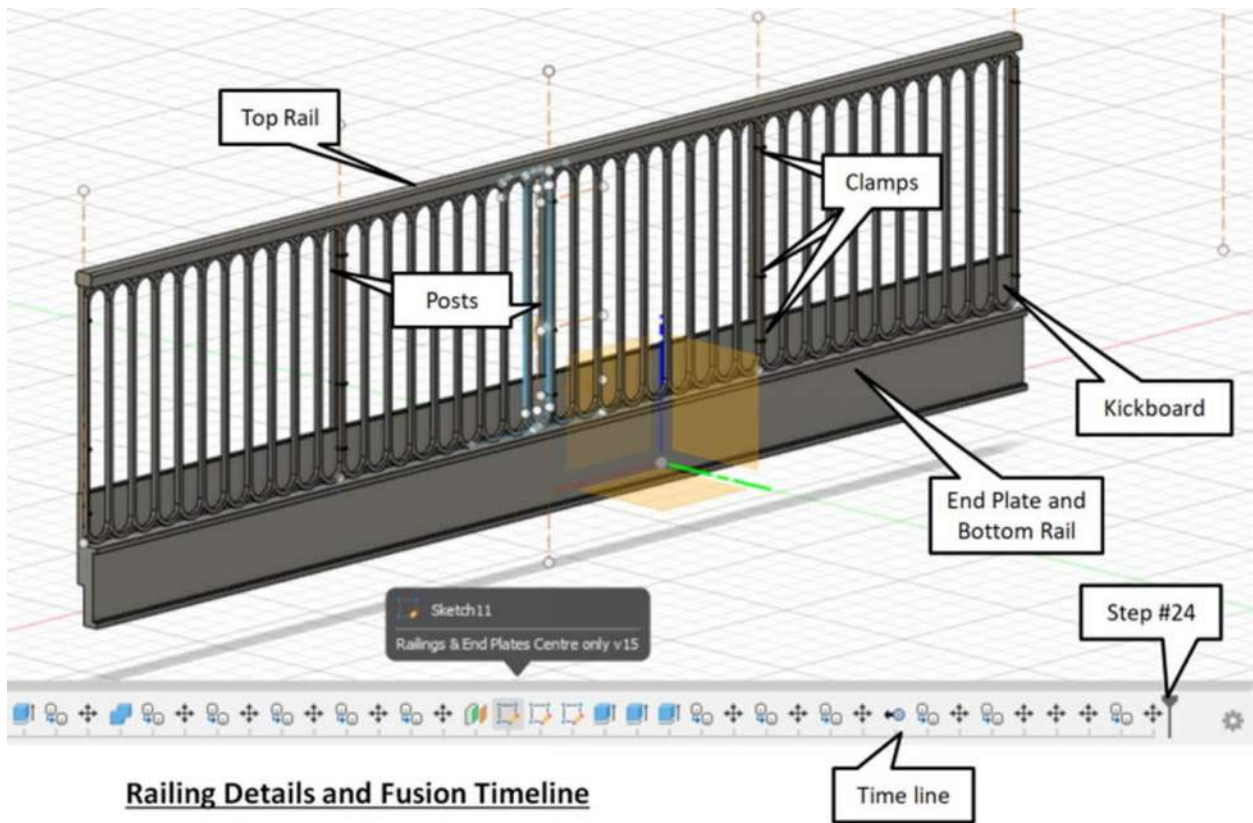
I was able to remove one side of the box section with a file using the simple set-up shown below.



Railing Design in Fusion.

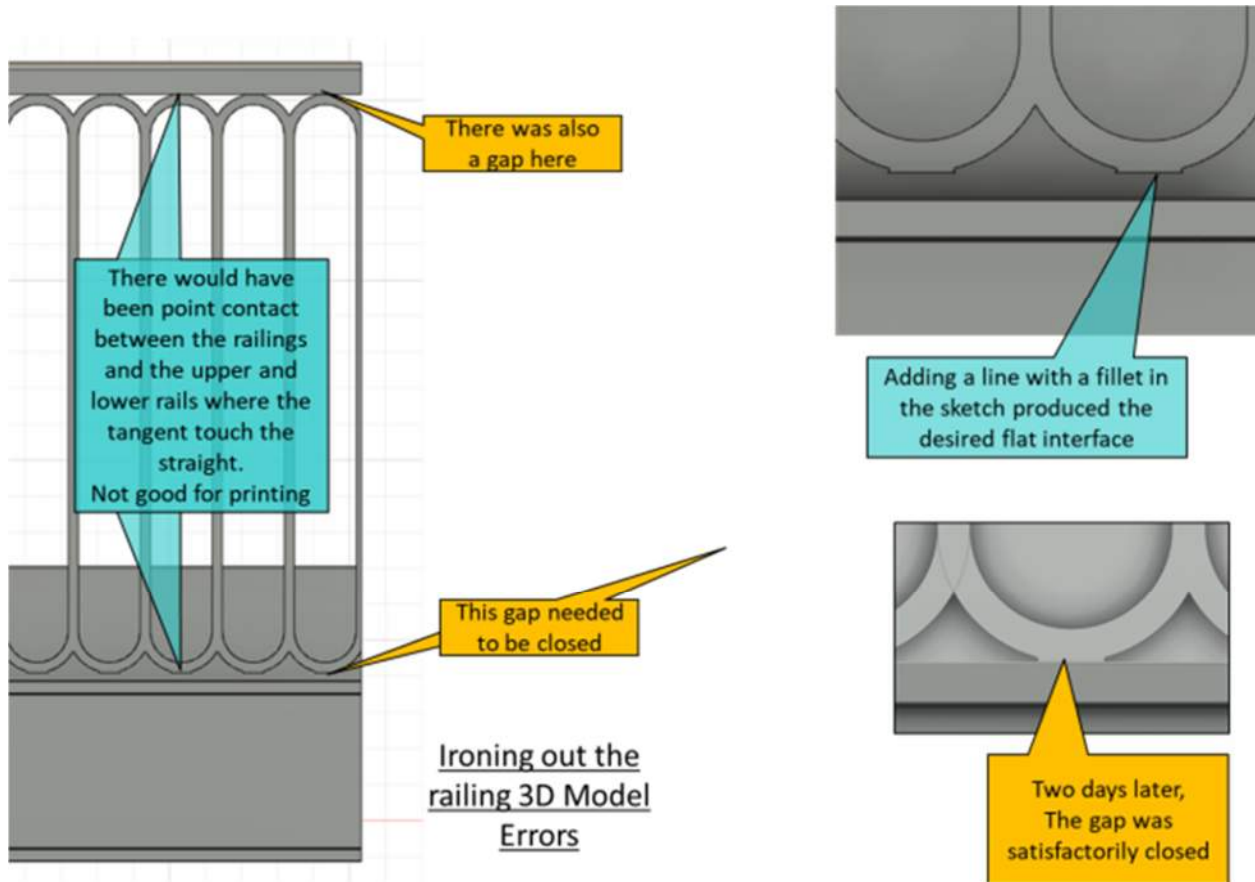
The railing design was much more complicated than the decking, my first Fusion design project. This gave me the opportunity to play with a few more Fusion features, time well spent I felt J.

Hindsight is always 100%. Fortunately, Fusion 360 allows you to go back in time the correct the errors, sometimes J. The diagram below shows elements of the railings the Fusion time line.



Solids are generally create by drawing a cross section in a sketch and then extruding it into a solid, this would be two steps on the timeline. If you wish to change a solid, the best way to do it is to go back on the timeline to the sketch and edit it, the solid will be updated to agree later in the timeline for printing.

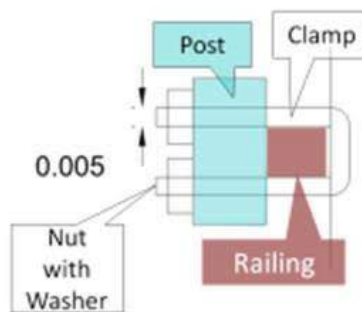
As an example, having progressed with the model I realised that there were a couple of problems, see below.



I was able to go back in the timeline to edit the sketch to correct the errors.

Attachment of railings to the post.

I pushed the design limits to see just much detail can be incorporated when modelling the railings to post attachments, see below.

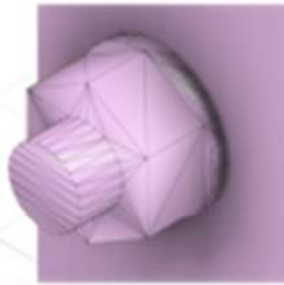


Clamp Installation

The sketch below shows how the level of detail deteriorates as we step through the process



As defined in Fusion



stl exported from Fusion



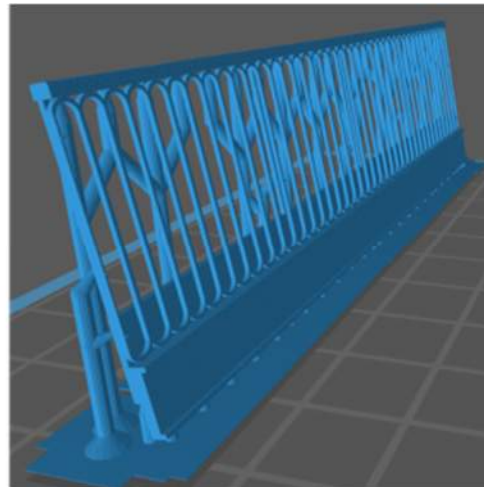
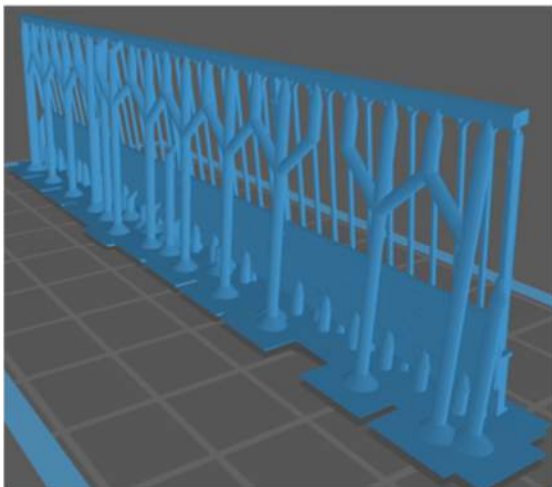
Sliced model as printed

Comparison between nuts and washers, Fusion, solid and sliced for printing

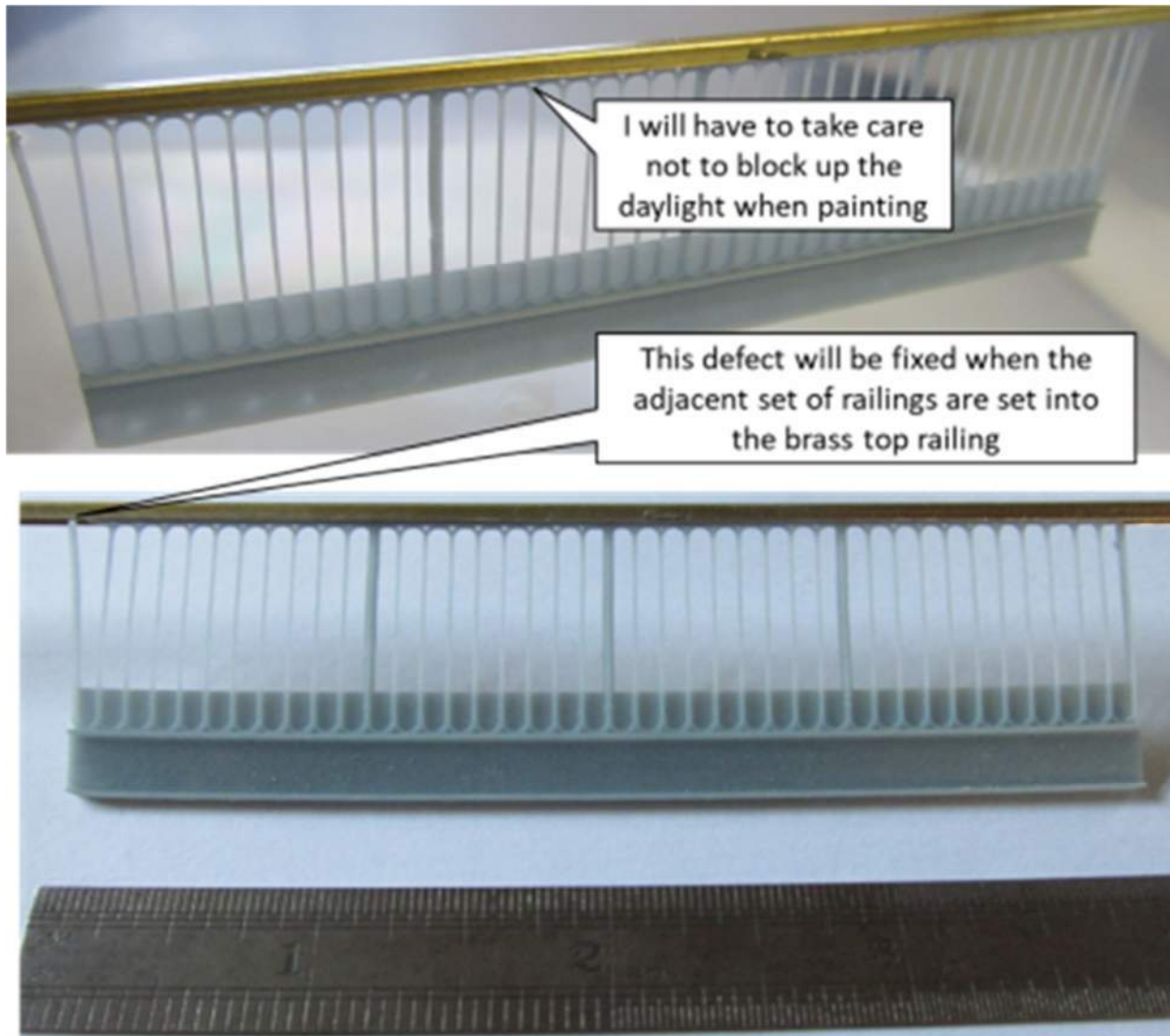
The slices for printing were set at .005 mm (.0002") but clearly something of the definition is lost on the slicing process. In reality this doesn't really matter because the printed nuts are so small. At about .010" across, that they are barely visible to the naked eye. A dot created with a fibre tipped pen would be perhaps be more visible.

Printing the Railings and End Plates.

The model was set up at 20° in ChiTu so that the supports could be attached to the posts and upper rail, there were no supports to the delicate railings to avoid damage when separating the model from the supports.



To my great relief, the very fine railings printed perfectly. I believe that the railings tend to be sucked into position during the printing process and appears to have been the case.. The picture below shows them with the brass top rail in place.



The hybrid design worked well. The brass top rail is a little oversized but has an immense contribution to the strength of the railings and I feel quite comfortable exposing it to the abuse it is bound to get on an operating layout.

My next concern is the painting, I don't want to hide all this lovely detail. I think I likely use sprayed enamel, I need to think about that J

Printing Problems.

Things went terribly wrong after printing the good set of Beams and Railings. I made three attempts to print a second set of railings but the printer printed to 1% completion and stopped, it seemed that the first layer was sticking to the bottom of the tank. I read on the internet that wiping the bottom of the tank with Rain-X can sometimes fix the problem. This makes sense, but some other suggestions seen on the internet don't.

The other problem I discovered was that the resin is extremely sensitive to UV light. I inadvertently left the tank on the table and where the sunlight fell on the resin, a "rice pudding" skin formed in about 15 minutes. Most of my printing had been done in the evening, I think I'll keep it that way.

While SLA (resin) printing facilitates a higher degree of detail than FDM (Fused Deposition Modelling), it is messy and less convenient. Also it's a bit like what Mr. Colman said of his mustard, his profits came from what people threw away. This is why I plan to print in batches at night.



All photos, diagrams, report, by Mike Walton.

19. **Gerald Harper – Multiple Progress:** Gerald has, in my mind, been very busy and brings us up to date on his current work with this great article of photos and descriptions on “*What have I been doing August September 2020.*”

The last couple of months have seen a lot of progress on a multiplicity of little things. On my Anyox On3 layout one success was making a cab view ride which is now posted on You Tube as “Anyox cab view ride 1”. Then Harold and I focussed on adding little bits of scenic detail which in their own right make a scene as well as enhancing the general overall scenery that a cab ride would notice. Two examples are given. One is a way side shed which has a broken hand car in it which the crew are puzzling over how to repair it or how to report it as broken.



The next area I have been working on is the soccer field and its environs. In a small northern town like Anyox the residents had to make their own entertainment and soccer is a cheap way of achieving that provided there is some flattish ground. A couple of the school kids are practising now before the stand fills up with the supporters of the rival teams of mine workers and smelter workers.





On the shelf above my work bench I have had several HO locomotives in various stages of repair or rebuilding. I decided the time had come to finish them even though I have more than enough other HO locomotives for the layout. Both the ones I have now finished are one of a kind CP locomotives which never came out in manufacturers models. CP 9581 is an AC4400 which was almost the last of the first batch delivered by GE. All that batch were equipped with GEs' new high adhesion truck and the whole batch were painted in the Twin Flags scheme. The next batch were to be equipped with an improved super high adhesion truck and to be painted in a new "secret" beaver logo scheme. As CP wanted an advertising opportunity to promote the new paint scheme and logo they took one of the previous order into their shops and repainted and decaled it and sent it on a cross Canada tour of promotion. Hence 9581 became a one of a kind with the new

Beaver logo but the old trucks so it differed from every later unit. This one was scratch built from a KATO shell from under a C&NW Dash (married to a shell from an Athearn AC4400) substantially modified by kit bashing. Finally I added DCC.





The second unit I have been working on and just delivered to the Sweetgrass Subdivision is a GP38 which was repainted by CP to reflect their historic heritage predecessor railways. CP 3005 was painted in the colour scheme of the Esquimalt and Nanaimo Railway which was CP's subsidiary on Vancouver Island. Aside from repainting it has also had DCC installed.



It has seen some heavy usage and locomotive wash shed visits so the paint is starting to peel off.

GH

Photo credits: Gerald Harper

20. Dave Fleming – G-Scale Layout Possibility: Its always nice to touch base with Dave. I do not see him as often as I used to when we both volunteered elsewhere, so one of the perks I get from editing this letter is that we still keep in touch with what we are working on - even when we are working far too much elsewhere! Dave mentions that:

At the park where I live, the owner has expressed enthusiastic support for installing a G-scale layout somewhere on the grounds.

21. William Waithe – Hard-Wiring N Scale Locomotives: Willie has been working on how to surpass the spring contact in N Scale locomotives with a hard-wired solution to pick up the current from the rails for more reliability. In this addition of the letter, he gives us a portion of the article that will appear in full in the next issue of The Canadian.

Most N scale locomotives (except for the latest models which are hard wired) depend on a spring contact between a phosphor bronze strip fitted into a groove in the locomotive frame and a metal contact in the trucks to pick up current from the rails. This contact point is tenuous and sometimes fails to conduct electricity because of dirt, insufficient pressure of the spring strip or outright dislocation at the contact point. This often leads to the locomotives hesitating or stalling. To remedy this problem, Terry Danyleyko and I devised a system to hard-wire our locomotives while still allowing easy removal of the trucks for locomotive and truck maintenance without having to undo the wiring. We cut off 23 mm. from each end of the phosphor bronze strips and then soldered a piece of 29 AWG stranded flexible from the end of the remaining truncated strip to the metal structure of the truck. It is critical that the wire (after soldering) between the two pieces is of a length which permits free movement of the trucks when the locomotive is negotiating a curve. Through trials, we found that [20mm](#) is just right.

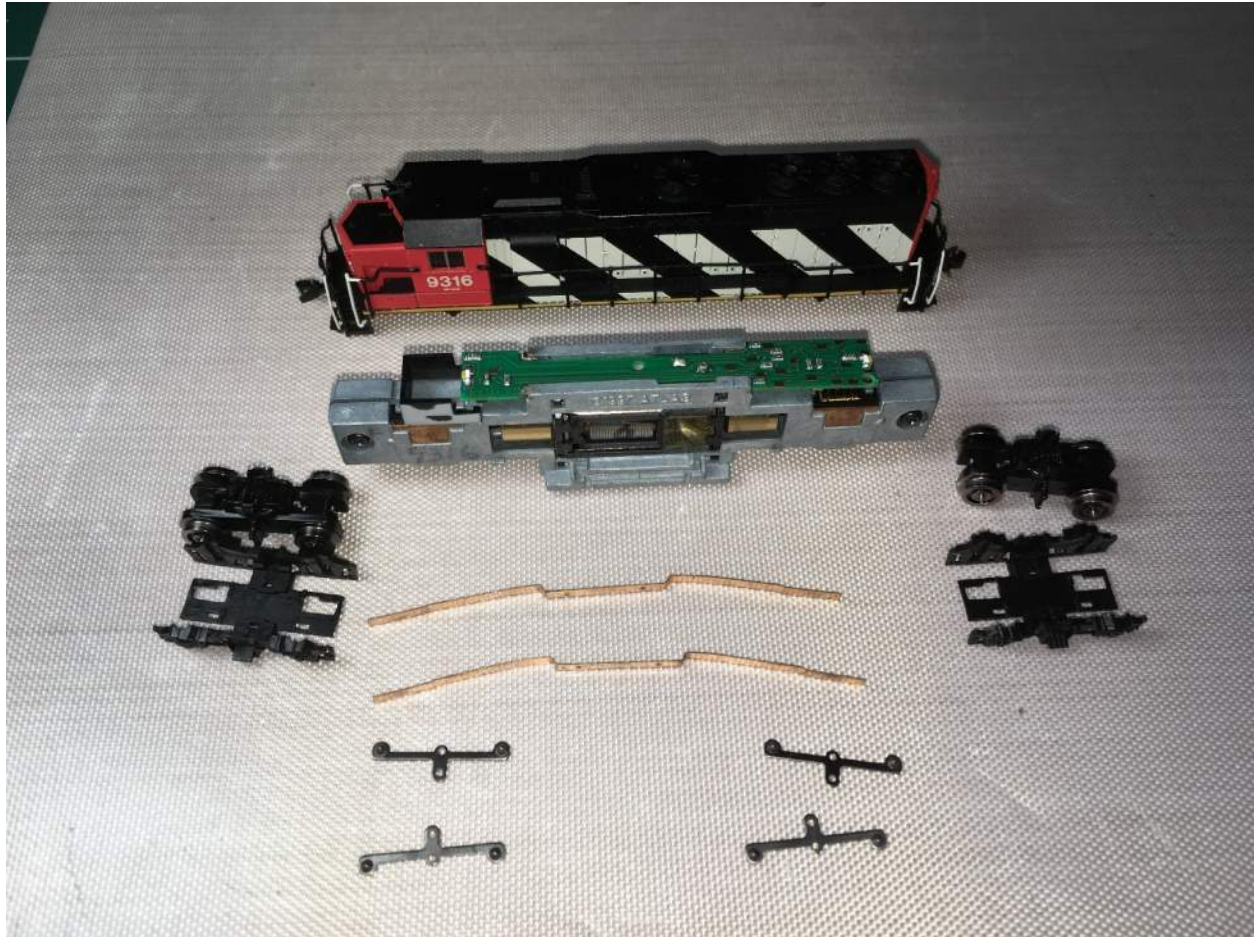
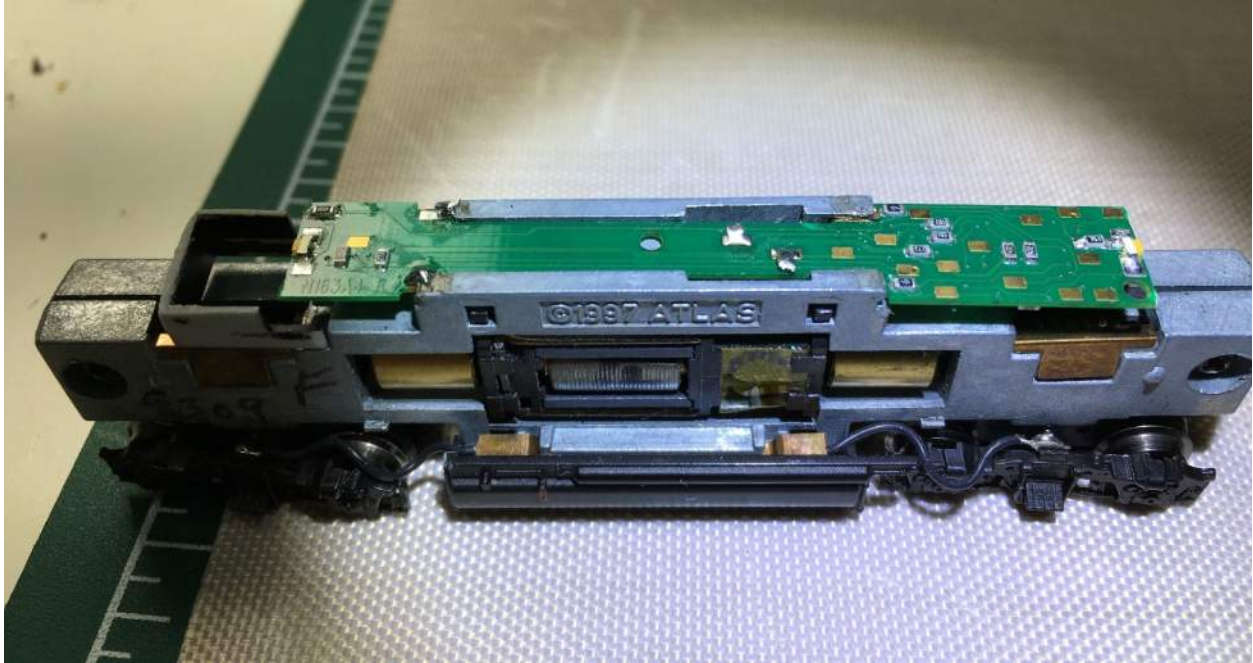


Fig. 1 The dis-assembled locomotive. Note the phosphor bronze strips and the metal contact pieces of the trucks below them.

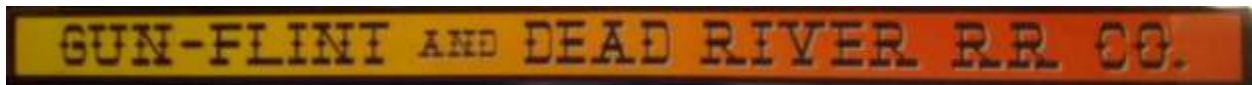


Fig/ 2 The final assembled locomotive frame. Note the black flex wire between the ends of the truncated phosphor bronze strips and the trucks. The whole assembly of trucks and strips is simply removed for maintenance by pulling the strips with the trucks attached from the grooves in the locomotive frame.

A full article will appear in a coming issue of The Canadian.

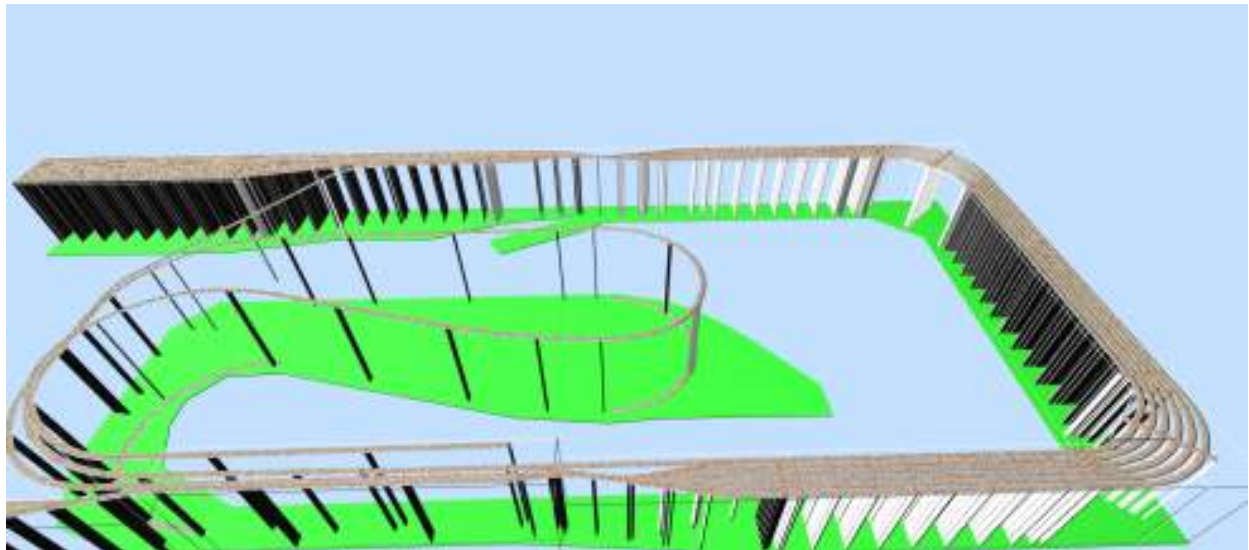
Photo Credit: William Waithe

22. **Sim Brigden – Gun-Flint and Dead River RR CO.:** Sim always has an interesting submission and this time its all about the track that he *bought by the pound!*

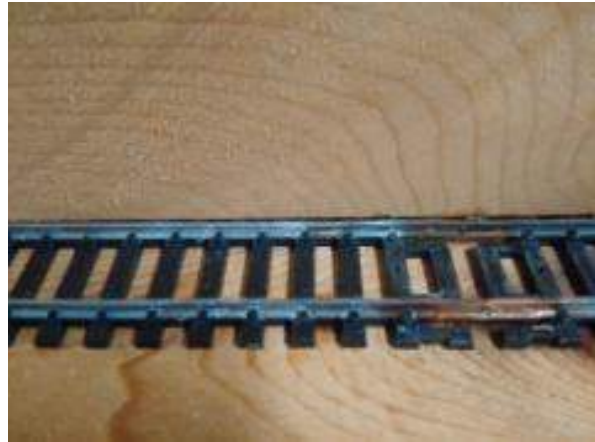


Crap Track!

My layout design incorporates four different levels plus 4,000” of staging yard track.



That’s about \$500 worth of flex track. Being cheap, I bought old brass snap track by the pound and soldered it five pieces to a length using a cedar jig with a kerf in it to keep the length straight.



It's not just brass, it's corroded, black brass that's been sitting in mouldy basements for decades.

Truly crap track:



Photo credits: Sim Brigden

23. **Dave Woodhead** – In the 2020.07.05 *What Members are working on?* email letter Dave sent us a photo of a bunch of pieces laid out on a table. In this letter we get to see the final product and more! Also, if you have not been on his website before, please do take some time to look at it via this link that he sent:

<http://www.davidwoodhead.com/page7.html>

Dave sends this letter with recent updates to us:

Hi, James - here's what we have -

Back in July we left the Madoc and North Hastings crew puzzling over the assembly of some vintage wood ore car kits, and we're pleased to report they were completed, though somewhat behind schedule. The plastic stake castings were replaced by wood with separate stake pockets, so everything blends nicely with the staining approach taken. Trucks are On3 C&S archbars by San Juan, nice and heavy duty but still fitting the 1890s timeframe.



After these were done, we continued on a roll with work on four more of the Prairie Locomotive Works outside -braced ore cars, adding to the two already in service. These ones are injection molded plastic, and come with sprung On30 trucks which were widened to On3 with new wheelsets. After some distressing of the plastic surface, the cars were sprayed with Tamiya Light Tan, then randomly brushed with Polly Scale Roof Brown and miscellaneous weathering. On3 Kadees and new brakewheels on steel music wire shafts were also added (after the photo was taken!). Now we have a total fleet of ten ore cars, and the yards are getting crowded!



Also on the rolling stock front, this crane was finally detailed (including a new winch, couplers, and weathering). It was acquired at the Kimberton, Pennsylvania narrow gauge show some years ago and has languished by the turntable ever since. Only thing is, it

won't make it through the tunnel from one side of the layout room to the other, so crews must be warned before they take it anywhere!



- David Woodhead, Toronto

Photo Credits: Dave Woodhead

24. **James Rasor - Z Scale Models:** During the call for letters, I asked:

Question for all of you: *Does anybody model in Z scale?* I see the Z scale rolling stock in Panther Hobbies when I am daydreaming about my next N Scale purchase and I was therefore wondering if one of our members models in Z scale and if they would consider submitting something for the letter? We have not had a Z scale item yet.

Dave Woodhead replied:

And furthermore, not quite Z scale, but here are a couple of Nn3 trucks that run on the 6.5 mm gauge - couldn't resist though I'm not at all tempted to build anything in that scale! They're sitting on an On3 frog.



Photo Credits: Dave Woodhead
- *David Woodhead, Toronto*

Editor's note: "Very Cheeky!"

25. **Mike Walton – Work on the Garden Railway:** Mike sends out these amazing reports on his layout's operating sessions. Of course he has been on hold for the summer, but he has been using the down time to work on may projects some of which he covers under his latest 6th Report on the work in progress while the 216th Operating session is on hold - Aug 25th 2020. In this report he updates us on the Garden Railway progress:

Work on the Garden Railway.

Fortunately I'm not permanently locked to this hopeless little screen, I like to get out and work on the garden.

Construction of St Peter's Way

At the Steam Up on Formby Gorge on July 2nd, one operator (Peter) tripped badly in the narrow hidden pathway. Fortunately he wasn't seriously injured but decided that we really need to widen a narrow pathway to avoid unnecessary tumbles.



Excavation work for St Peter's Way

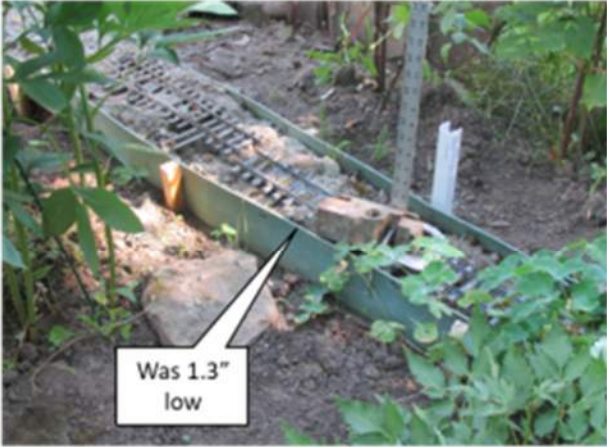
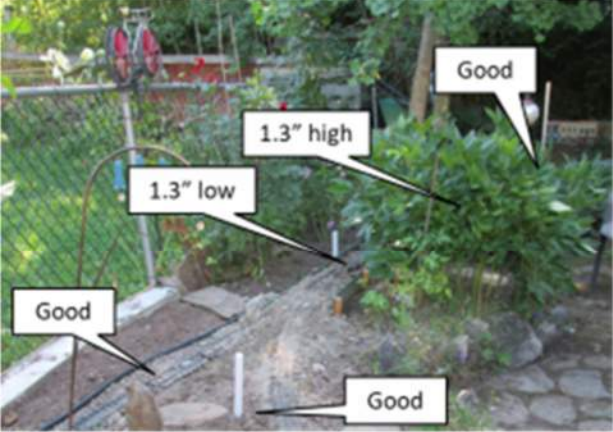
Construction work on St Peter's Way is now finished, you can see the original paving stones, the new ones will likely weather to match. If you paid full attention to my previous reports you would know why I chose to call it St Peter's Way 😊.





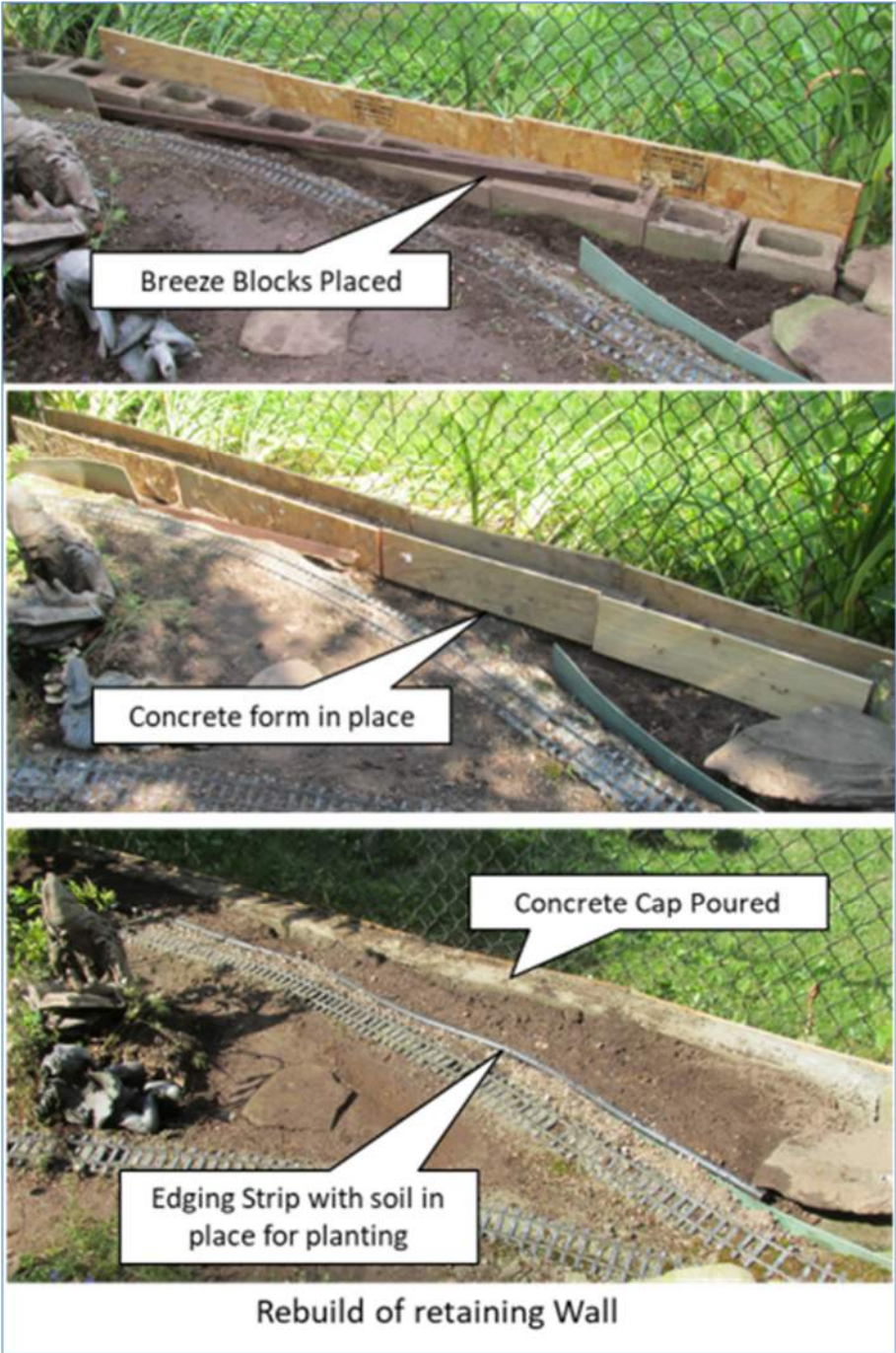
I'm particularly pleased with the fake rocks. Made from a blend of Concrete Quick-Mix and peat moss, they should weather nicely. Now it's lovely to walk down the path without focusing on where you walk.

Re-grading the Tracks.
Work continued on the re-grades covered in previous reports

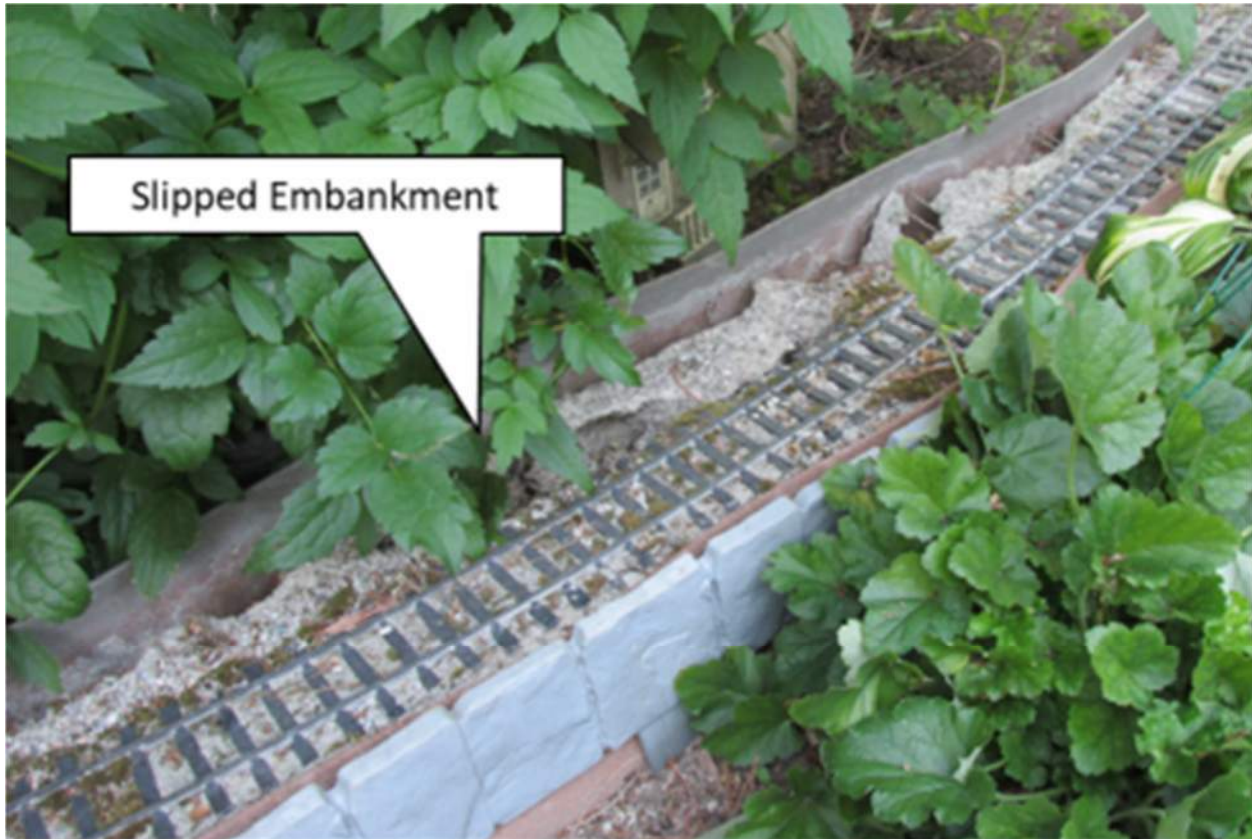


Re-grading the tracks August 2020

The civil engineering got quite serious in some places



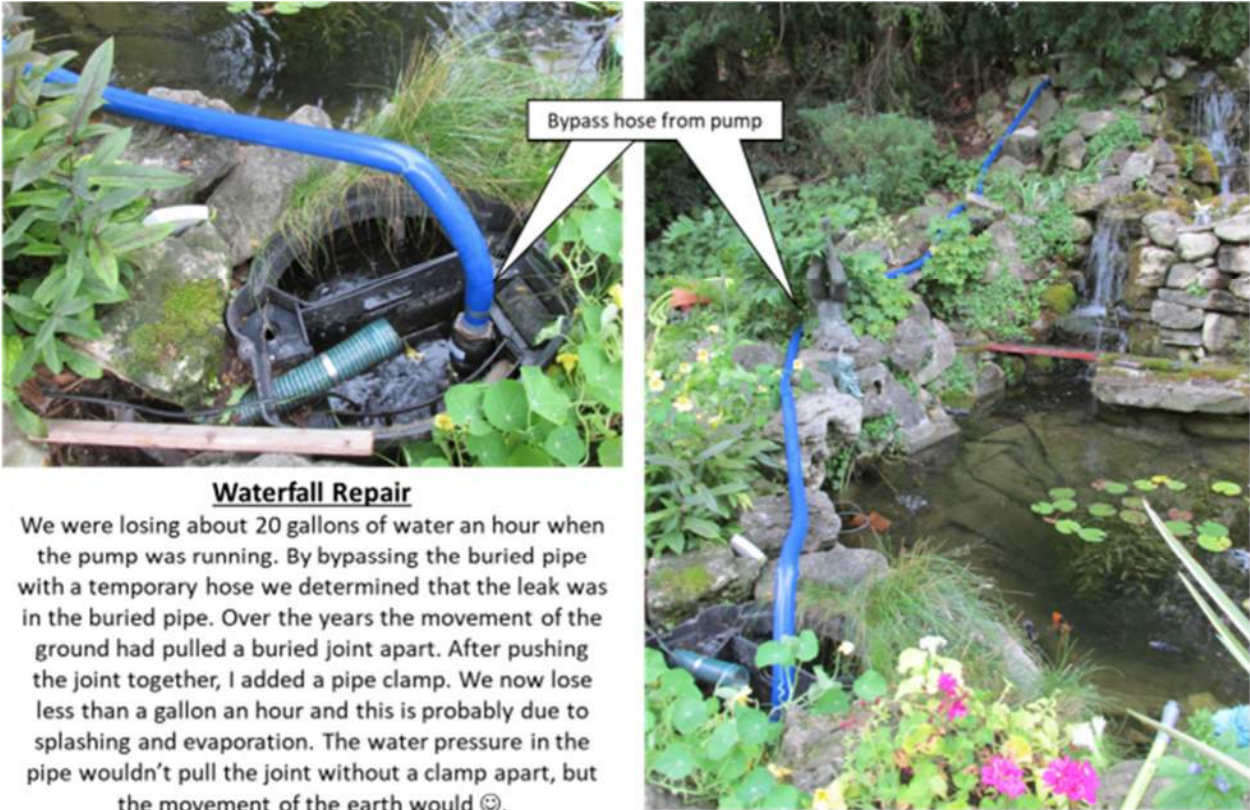
In some places nature had taken its course. On one occasion I was delayed for a few hours on Wigan station by a similar problem there.



Fixing the Slipped Embankment - August 2020

Fixing the Waterfall.

As if I didn't have enough to do, the waterfall sprung a leak, actually it's been leaking for some time but the leak got far worse.



Next Session.

We'll me again -----etc ----- 😊

All photos, diagrams, and drawings credit: Mike Walton

26. **David Hicks – Carona City & Yard:** David sends us some great photos of his layout's yard stating the following:

Always too much rolling stock!

I wanted an overgrown tired yard.

All turnouts are manual





CARM

ZONE 2
Toronto Chapter

What are you working on?





Photo credits: David Hicks

27. Ian McIntosh - CARM Toronto Chapter Directors:

Hey, did you know that as of October 1, 2020 we have elected new Directors for the CARM Toronto Chapter?

The Toronto Chapter just elected new officers for 2020 to 2023; They are:

Chair: Richard Morrison richarddmorrison@yahoo.ca
Secretary: Walter-Joseph Grabowski carm.toronto.secretary.walter@gmail.com
Treasurer: Ian Jameson carmtoronto.ianjameson@gmail.com

Thank you William Waithe, James Razor, and Joan McIntosh for serving the past three years.

*- Ian McIntosh
CARM Chapter Support*



Psssst! Did you know that one of our Toronto members is the new CARM Chapter Support for all of CARM across Canada? Ian McIntosh does an amazing amount of work in the background that most of us do not know about, including me, and now he has the official position of being the person who helps provide support and communication between the Chapters including sending out the membership lists that I use to make sure our *What are you working on?* email letter gets to you! If you see him or email him, send him a *thank you* and congratulations!

28. James Razor – My Travelling Toolbox: Similar to Hal, my summer has been full with work, our family garden, and my family in British Columbia. Which leads me to travelling and my *travelling model railroad tool box* that I use both at home and that I carry with me to work on other people's layouts. It started off as something I bought from Micro Mark, then modified as I needed over the years: adding foamy cut-outs to hold the pliers, plastic dividers to hold the tools, thinking and re-organizing, re-doing the foamy cut outs to hold the pliers, finding more room to fit in my new favourite tool, changing the hinges when I blew the original one out (by packing too much inside of course!), emptying it and cleaning it out to remove all the pencil shavings, ballast, dirt, etc., and re-putting it all back together again after re-doing the foamy cutouts to hold the pliers (I just never get them right...). Definitely one of my favourite things that I always seem to be working on?

Photo on the next page....

Railroad Modeler's Tool Chest

Item #: 81501
List Price \$96.55
Our Price \$74.95

List Price \$96.55
Our Price \$74.95

QTY:

Railroad Modeler's Tool Chest includes: 6 inch stainless steel rule, 2 needle files, razor saw, sanding stick, swiss hammer, snap knife, needle nose plier, swivel head pin vise, slotted and Phillips head miniature screwdrivers, 3 drills, #1 knife handle, #5 knife and razor saw handle, aluminum miter box, 3 knife blades and fitted wooden chest.

SMALL SCISSORS
NEEDLE PLIERS
RAIL CLIPPERS
SPRUE CLIPPERS
ASSORTED TWEEZERS
MECHANICAL DIVIDERS
PENCIL
PENCIL SHARPENER
WIRE BRUSH
NAIL FILES
SANDING STICK
DUSTING BRUSH
MINI CLAMPS

EXACTO BLADES
PIN VICES / DRILL BITS
MINI SCREWDRIVER
ASST EXCEL KNIVES
EXCEL BURNISHER
EXCEL AWL
OLFA KNIFE
OLFA BLADES
MINI MITRE
MINI CALIPER
CORK BACKED RULER
N SCALE RULER
EYE DROPPER

Photo Credit: James Rasor



That's our October 2020 addition of what some of our CARM Toronto Chapter Members are currently working on.

Now, go look at your stash of projects, or dust off your layout, or grab that railroad book you have been meaning to read from cover to cover, or sort and label your railfanning work, or work on that railroad presentation, or install that first decoder, or write about the first train you ever saw or road on, or teach your family how to be operators, or teach them how to solder or ballast a track, etc., etc., and have fun! It's one of the greatest pastimes that you can enjoy either alone, with friends, or with family ...and it keeps your mind active and healthy!

And.... don't forget, we would like to hear from every one of you about what our *CARM Toronto Chapter Members* have been working on so please do send me a photo and a quick 75 word maximum description (*or even just a written description*) about what you are currently working on and we'll get it in the next **CARM Toronto Chapter - What are you working on?** chapter email letter.

How do you do it:

Step 1: Send me a single photo or even just a description of your:

- present model railroad project,
- or your most recent prized model railroad purchase,
- or your model railroad layout photo or layout drawing,
- or your most recent prized railfan photo,
- or your current model railroad scratch-built project,
- or your favourite model railroad rolling stock,
- or your latest model railroad operating session,
- or your research model railroad sketches,
- or your custom model railroad track build,
- or your first model railroad decoder install,
- or your latest model railroad weathering project,
- or the most recent model railroad disaster that happened to you,
- or your model railroad landscape project,
- or your model railroad lighting project,
- or the model railroad area you just pulled apart to start all over again!
- or any model railroad related item that you have been working on.



- It doesn't have to be perfect, professional, etc., etc., etc., just something you had fun with and want to share with us for this hobby we share together.

Step 2: Include a brief description, 75 words maximum; or less if you want, that's okay too!

Step 3: Don't have a camera? That's okay! Just send me a 75 word description of what you are working on. You do not always need a picture - the goal is to hear from all of you and we really do want to hear from you!

Step 4: Updates from you! Yes, we would love to have updates on items our fellow members have submitted previously for the letter – do let us know your progress since your last submission.

Step 5: Go ahead, submit something again! Did you submit last time? Wonderful! Please do so again and again and again! This is about us staying in touch and having fun together, even if it is just through this letter sometimes.

Step 6: Send it to me at: CARMtoronto.jamesrasor@gmail.com

I will then take the information, put it together with the other submissions and issue it in the next "**CARM Toronto Chapter - What are you working on?**" email letter along with the other members' news every few months.

Let us know what **you** are working on, have fun, and **stay in touch!**

Yours truly,

James Rasor, "[What Are You Working On?](#)" email Letter Editor

CARM Zone 2 - Toronto Chapter

For more information on the *Canadian Association of Railway Modellers* go to <http://www.caorm.org/>