THE "CANADIAN"

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CANADIAN ASSOCIATION OF RAILWAY MODELLERS

FALL 2020 ISSUE #73

IN THIS ISSUE

THE MODEL

THE PROTOTYPE

a quarterly publication of the "Canadian Association of Railway Modellers"

THE CANADIAN ASSOCIATION OF RAILWAY MODELLERS
Founded October 15, 2003
Founding Members: John Johnston, Peter Moffett, David King, Lex Parker

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COVER PHOTO TOP BY PETER MUMBY: Model of CP Caboose 437451 with streamlined cupola.

COVER PHOTO BOTTOM BY PETER MUMBY: Only two cars, specifically 437442 and 437451, were repainted in the multimark scheme with their streamlined cupolas intact. 437451 was in transfer service in Windsor, Ontario when I encountered it in August of 1978.

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observation platform
john johnston: editor

HOPE EVERYONE IS STAYING SAFE:

I hope all of you are staying safe as we continue to live under the threat of this global pandemic. It looks to be an interesting Fall Season as we come to grips with how to maintain our model railroad groups with all of the social distancing and other rules.

I still don't see an avenue for Model Railroad Shows to start up again. My group has talked about our Copetown Show and the demographics of our attendees which trends toward being older and we have decided that a show in February 2021 looks like a non-starter.

I know that the HOMES Club here in Hamilton still hasn't started back and there will be no Layout Tour this Fall.

We had to cancel our Toronto Convention and you will notice a lack of Chapter Reports in this Issue. Gerald in his Report talks about opportunities for online gatherings and that is definitely something worth pursuing.

I had my grandsons here for a couple of days and over an 8 hour period spread over 2 days, we ran an entire operating session of 22 trains and had a lot of fun doing it. Operating sessions with my club group are still somewhere in the future.

I did find out something interesting during the operating session. That is "there's no substitute for youthful eyes". I had been experiencing an intermittent problem with derailments on the head end of my passenger trains and while 12 year old Nathan was running the passenger train the lead car derailed as it entered the yard. He mentioned it, and I told him it had been happening periodically and I had meant to take a look at it and figure out why. He quickly replied, "its because the glad hand is hitting the pilot of the engine". Three or four experienced operators including me, have run that train, encountered the same problem and hadn't identified it. My 12 year old grandson with young eyes and being at rail height, saw it right away. Now it's an easy problem to solve.

JOHN JOHNSTON: EDITOR

CHAPTERS

TORONTO CHAPTER: It is with great pleasure that we introduce to you the newly elected officers to lead our Chapter for the next three years:

Chair: Richard Morrison (by majority vote)
Secretary: Walter Joseph Grabowski (by acclamation)
Treasurer: Ian Jameson (by acclamation)

Thanks to all of the candidates who agreed to stand for election for your interest and support of the Chapter and thanks to those who participating in the voting.

We envisage a starting date for the new officers of 1 October.

PUBLICATION SCHEDULE FOR *THE CANADIAN*

***The Canadian* is published four times per year. Submission by authors or Chapters should be submitted by the following dates.**

Spring Issue: February 1 **Summer Issue: May 1**
Fall Issue: August 1 **Winter Issue: November 1**

Chairman's Report

We are now into a new modeling season, if traditional winter seasonality is still relevant, which I think it probably isn't. Notwithstanding my opinion, a lot of modelers are doing incredible work and communicating their enthusiasm about their results. The only things that are holding us back are multi-person operating sessions and conventions, chapter meetings and other physical gatherings of people not part of the same social bubble. I have been privy to a number of discussions as to whether the Covid 19 risk has reduced to the level where operating sessions can resume and in all cases the decision was to opt for discretion and hold off a bit longer. I think we would be wise to adopt this approach for quite a while longer. In the meantime one of our Board members, Ian McIntosh has been putting in a lot of time investigating and developing concepts for on line meetings and maybe even a full fledged convention. I hope he can make it happen as it will give more of our membership the opportunity to participate than just the already WiFi linked subgroups. It also provides the possibility to bring more of our more distant members into the network that is provided by the local Chapter groups.

The recent membership figures for CARM also show that we are growing, albeit slowly. I had expected a decline due to the inability to network at shows, chapter meetings etc. but that is not the case. It is good to know that our members feel that CARM provides benefits that justify bringing new people into the group. It is also encouraging to get the response of members to topics such as the revamping of our governance documents. We held one Board meeting during the period since my last comments in the Canadian and at it discussed the work of the subcommittee that is drafting a new By-law No 1 and Guidelines for Chapters. As a result of that meeting the subcommittee continues its work with a lot of good input from several members and hopefully will soon have a good document to bring back to the Board.

If we are able to hold a virtual convention then we will also need to hold a virtual annual meeting and election of real (not virtual) Board Members. While no date has been proposed yet for such an event I encourage everyone to consider whether volunteering for a term as a Board member would be rewarding. It is not an onerous demand on ones' time and allows one to be close to the pulse of the hobby in Canada.

I suspect that with all this extra modeling time available to us we have been turning to more scratchbuilding, customization and other tweaking of our models. Micro Trains and Kadee are both well known names in the model railroad parts and models manufacturing business and both are based in the State of Oregon in relatively small towns. Both of those towns have been severely impacted by the forest fire raging through the western USA. While there are no reports that the factories have been damaged it is possible that their employees homes and lives have been disrupted so there might be delays in deliveries of their new products. I hope they are all safe. I recently saw a very small video camera advertised on the internet and decided that it might fit in the cab of one of my locomotives and so I could get a cab ride video, which might actually be useful if we are going to put on a virtual convention. The camera took a long time to arrive due to the backlog of mail ordered products generally and when it did eventually arrive the instructions that were with it were in tiny print and meaningless, as they were a literal translation of the original Chinese. After finding third party instructions on line I was able to make it work and its size was ideal for my purposes (see picture). One example of the results is posted to YouTube as "Anyox cab ride volume 1". That film shows the quality of the scenery along the line to determine its effectiveness. Another video I took on my HO layout was simply a run around every line to check for cleanliness and problems. It showed very dramatically the need for a thorough vacuuming all along the line but particularly through the tunnels and it also revealed a tiny kink in one rail exiting a switch, which switch had caused occasional derailments for years. All my previous examinations viewed from top down had failed to identify this kink but the view longitudinally showed it up. As the camera only cost $13 it was worth it just to find that problem and eliminate the need to replace the switch.

A previous video camera run through one of my tunnels showed up a derailed freight car that had probably been there for months. It had come off the rear of one of my unit trains which did not have a FRED. Cabooses and FREDs serve a very useful purpose on model railways to confirm the end of the train is intact. So on that note I will end and wish you good modeling. **GERALD**

PHOTO BELOW: Mini videocamera on flatcar.

Bruce County Museum Railway

PART 6

TAKING SHAPE: THE MODEL STRUCTURES

ARTICLE AND PHOTOS BY RANDY SCHNARR

The Bruce County Museum Railway (BCMR) exhibit, an HO layout modelling the five major towns along the GTR/ CNR Southampton Sub was a volunteer driven community project commissioned by the Bruce County Museum to illustrate the railways of Bruce County as they appeared in their heyday.

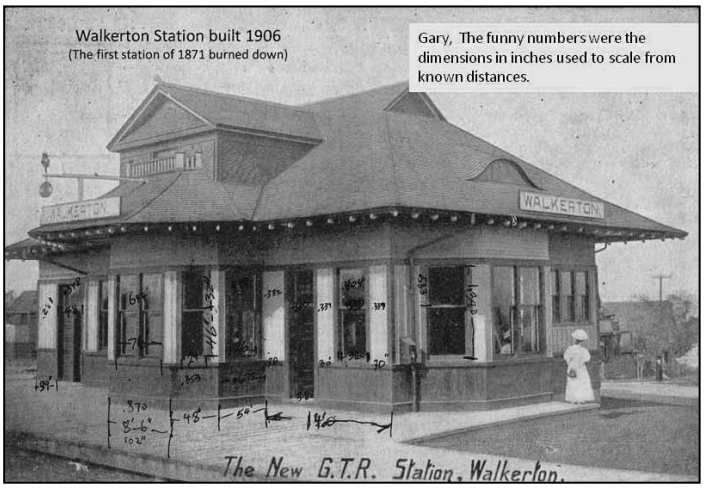
The exhibit is designed to give the younger generations a feel for what the railways were like from the 1920's to the late 1950's and for the older generation to re-live the experience. This is the final article in the BCMR series and addresses the scratch building of 95% of the structures in the exhibit. Since most of those structures no longer exist, modelling the buildings to replicate the originals was a bit of a challenge. Our project started with research to locate good photos of railway buildings and nearby commercial structures.

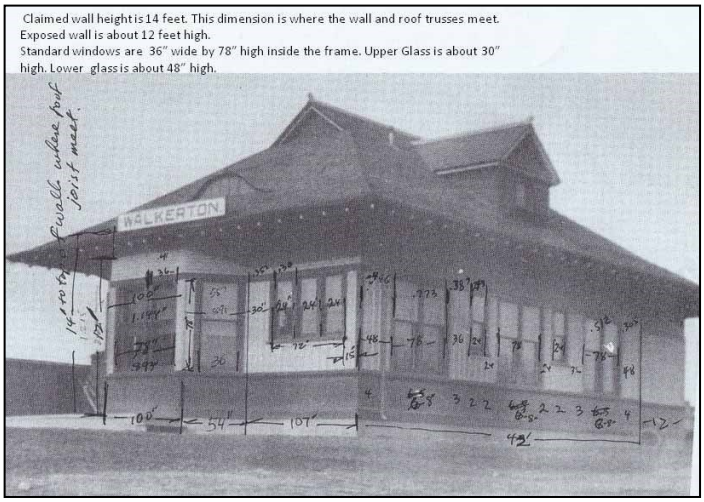
SCALING THE PLANS: WALKERTON STATION

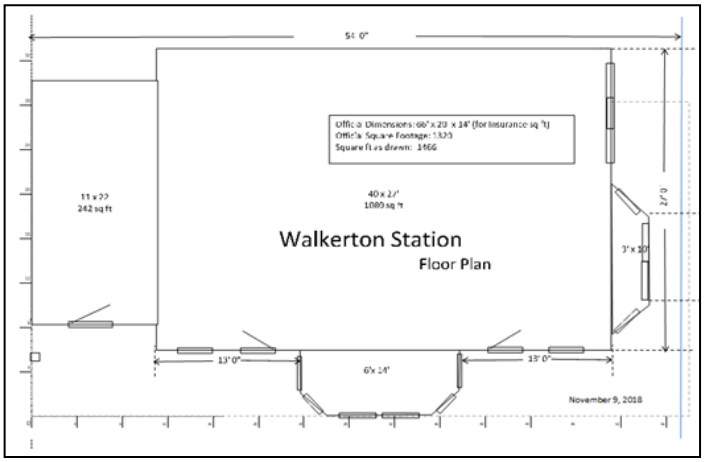
The Walkerton station was scaled using Bruce County Museum archive photos and known dimensions. Scaling from perspective photos can be a bit tricky because the dimensions appear shorter as they recede from the closest point. A good elevation photo is much easier to calculate from. Window dimensions were assumed to be the same as the existing Southampton station which was also built in 1906 and we worked from there.

The Southampton and Walkerton station models were built by Mike McCullough of Southampton. Mike spent a lot of time measuring and recording the intricacies of the elaborate Southampton structure.

With the Southampton dimensions on record, Mike was able build the Walkerton station based on the perspective views and a floor plan. Buildings were then constructed from sheet styrene. Windows, doors and shingles were purchased components. Paper shingles were applied by hand.



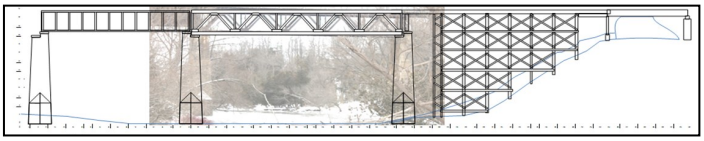




COMPLETED MODEL OF WALKERTON STATION

PAISLEY BRIDGE

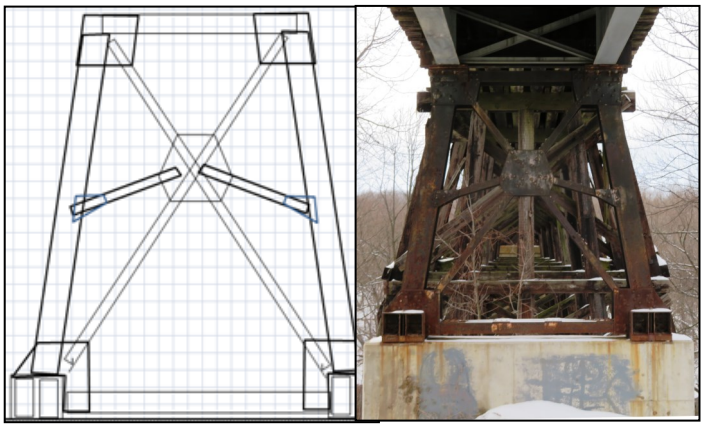
The Paisley bridge was a lot easier to determine dimensions. Derek Wills and Bob Funston made a few trips to Paisley to take measurements. As with many models, our bridge was subject to "selective compression". The original rails are 60 feet above the water, while our model is 50 feet. Scaling everything in excel helps to get proportional dimensions that represent the original very convincingly.



ABOVE: EXCEL DRAWING LAYERED OVER A PHOTO OF THE BRIDGE.

Some elements could be scaled exactly, like the single steel trestle that runs next to the road. We were able to take a good elevation image. Scaling from there was easy. Drawing the trestle in Excel made it easy to identify, draw and fabricate each of the 40 components. The final drawing was printed in 1:87 scale, so that production and assembly of the individual parts was easier to comprehend. The bridge construction was a joint effort.

Mike McCullough built the warren bridge and the girder section from scratch. Central Valley components made replication a bit easier. Derek Wills built the wooden structure from scaled lumber, and the single steel trestle, two concrete piers and retaining wall were my responsibility.

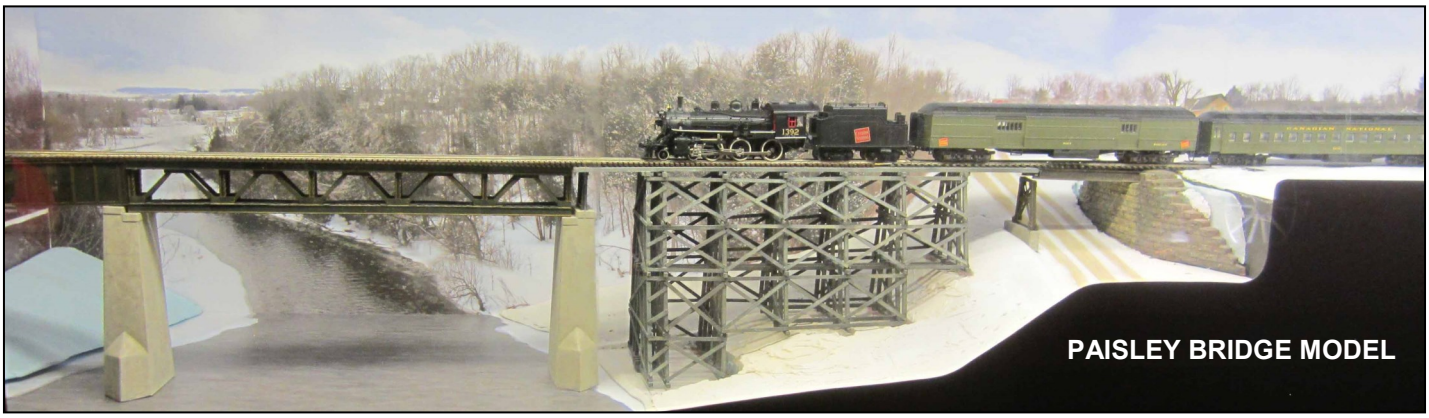


ABOVE: PHOTO OF THE STEEL TRESTLE AND THE SCALE DRAWING DONE IN EXCEL

Some models were open to our imagination... like the Hurricane Hazel Train Wreck. Larry Ker worked his magic with micro LEDs to create a credible scene of the fatal accident during the very destructive storm. Micro LEDs installed in the headlights of the pickup trucks and the hand lanterns held by the two men standing at the scene, provide enough light in the darkened diorama to achieve the effect of the midnight horrors. A spot light shines on the bell which was saved and is now mounted in the center of the helix.

PHOTO ABOVE: HURRICANE HAZEL TRAIN WRECK

PHOTO BELOW: CN PASSENGER TRAIN ON THE PAISLEY BRIDGE

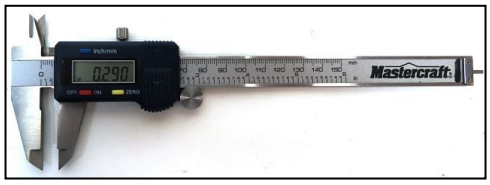


Tools, Materials and Techniques:

All tasks are easier with the right tools, materials and plans. Some of the early research in this project included a visit with members of the Bluewater Modellers: Brian Swanton, Stan McLellan, Tom Hakala, Clive Morgam and Mike Marchal, the team that built the N-scale diorama of the Canadian Pacific terminal in Owen Sound for the Grey Roots museum. They provided an extensive list of contacts, tools, materials and techniques used to produce their model structures. The information saved time and made our efforts more productive.

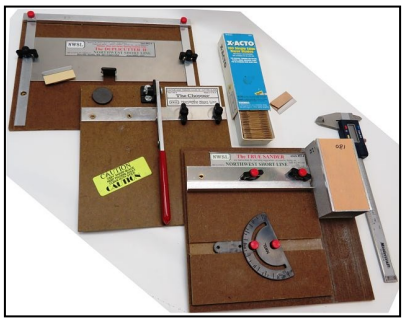
Measuring/Scaling;

HO scale ruler, calculator and vernier caliper. In my model shop, the vernier caliper is the most frequently used measurement tool in both imperial & metric measurements. The vernier is very handy for marking materials to be cut and for sizing drill bits for setting screws of any diameter. Once you're on to it, using 3.5 mm per scale foot is the easiest way to calculate accurate dimensions. CTC sells them as low as $20.



Cutting Tools

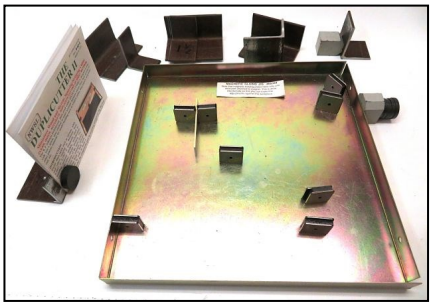
A Duplicutter for cutting wood strips, decking etc. A Chopper for cutting wood strips to length, ties etc. A True Sander for square clean joints in wood and styrene. Razor Blades with steel backs for clean cuts in wood and styrene. X-Acto Knives.



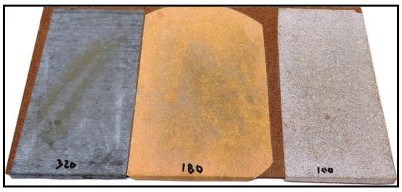
Enkay Push Drill: This little jewellers drill is extremely handy for drilling small holes, especially when there is one for each drill bit starting at 0.010" (0.25 mm) dia drill bits. Cost: $8-10 each.

Clamps: A variety of clamps. Surprisingly, elastic bands seem to get the most frequent use.

Magnetic Gluing Jig: This steel tray with precision magnets provides the extra hands to hold walls in place for gluing. The larger "L" shaped pieces are cut and squared from steel bed frames to provide more ways to hold & glue components.



1"x30" Sander: A handy tool to remove material quickly. Great on metals like brass and steel.



Sanding Board: Three grits of sand paper glued to a piece of masonite provide a handy flat sanding surface. It is very convenient to touch up cut styrene . This is one of those inexpensive "tools" that finds very frequent use in model building.

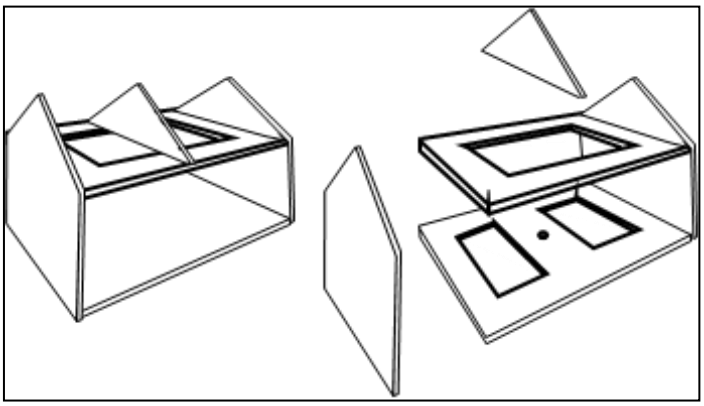
Assorted Tools: Most work benches will have good knives, square, vise, dental picks, screw drivers, fine saw, files, pliers etc. Great modelling tools.

Techniques

"Building with Styrene": A great book for model building by Evergreen. When fitting Windows & Doors, first drill the hole then square with a knife and files. Styrene is easier to use than wood. It also does not warp when weathered with washes. Model Structures are most resilient when framed with a floor and ceiling panel. Use the magnets with steel 90 degree angles to hold parts for accurate assembly.

A good frame will keep your structures aligned and easi-

er to assemble. You may even want to place floors and interiors with LED lighting ...all possible with a good solid structure. The sketches indicate the type of bracing used in structures which paid off when handling them for painting, weathering and mounting. Model materials provided to our modellers included a 1/8" plywood base and ceiling to ensure buildings were square and rigid.



Material Sources

As provided by Brian Swanton, plus a few we developed during the BCMR project.

Boats, Cars, Trucks, People: Sylvan Scale Models, Seaport Model Works, Walthers, Model Tech Studios.

Doors, Windows, Building Details: Tichy Models, Grandt Line, Model Tech Studios.

Railway Structures: Kanamodels, Osborne Models, Mount Albert Scale Models, Model Tech Studios.

Bridge Structures (Canadian Trestle): Hunterline, Central Valley for laced girders.

Styrene/ABS sheet (patterned) & Channels: Evergreen, Plastruct.

Wood: Mount Albert Scale Lumber Products/Fast Tracks, Stockade (Guelph)

Roofing Shingles: GLS Laser Cut Shingles.

Trees & Plants: Woodland Scenics, Scenery Express (see Super Trees), JTT Miniature.

Decals, dry transfer: Black Cat (Winnipeg), Ozark Miniatures.

Turnout Machine: RailCrew/Rapido. Features switch stands with moving targets.

ON/OFF Remote Uncouplers: RailCrew/ Rapido. Remote uncoupling for Kadee couplers when you want it.

Photo Copies, large (for structure plans): UPS office in Owen Sound can print up to 42" wide.

Backdrops: On-site photos photoshopped and linked. A sign printer can produce a seamless backdrop.

Glue & Adhesives: Most common glues used on BCMR models. CA(cyanoacrylate) glue which bonds most materials where some moisture is present. White/Yellow glue for wooden models, slow to cure. Water based, can be thinned for scenery. Solvent cement for styrene. Can be thick or thin. Thin provides cleaner joints. Requires clamping. Contact Cement: This is a thick rubber-like glue. Will hold poorly matched pieces of different materials. 3M Super 77: Spray adhesive used to hold track in place, signs on buildings, paper backdrops etc.

In Closing

Industrial buildings and railway structures in the exhibit exceeded expectations. Original plans were to use "stand in" plastic stations and industries, but, as word got around, model builders came together to build true replica models of the originals.

Many thanks to our "scratchbuilding" modellers:

Mike McCullough of Southampton built the Southampton and Walkerton Stations, Southampton industrial buildings and the warren and girder bridges in Paisley. Denny Snider of Durham built Mildmay station, Co-op buildings (PE and Mildmay), Southampton Engine House and coal shed. Judith King of Port Elgin built the Port Elgin and Paisley stations. Tim Schmidt of Hanover built the Walkerton freight shed and coal sheds. Tom Marcotte of Southampton built the two ships at the Southampton

railway dock. Derek Wills of Southampton built the wooden pile trestles for the Paisley bridge. Other contributors to structures were Gord Eagles, Paul Maurer and Larry Ker. My part in the structures was to provide drawings, photos, building materials, tools, and guidance when requested.

As of this writing, The Bruce County Museum has submitted the "Riding the Rails" (BCMR) exhibit to the Ontario Museum Association as a candidate for their Award of Excellence. If you ever get a chance to visit the Bruce County Museum in Southampton, you will be amazed at the many excellent exhibits on site. To have the BCMR exhibit selected above all others is a tribute to the interest in our railway history and to model railroading as a hobby.

This is the final article on the Bruce County Museum Railway. I hope you have enjoyed reading the stories and that someday you may even find your way to Southampton to see the final product in person. The project has been a phenomenal learning experience combined with amazing camaraderie centered on the greatest hobby in the world. I even learned a bit of history in the process. Randy Schnarr

The Brotherhood of Tiny Plastic Trainmen

By Richard Morrison

I have more than a dozen turnouts in my yard controlled from a panel on the front of the fascia. I have difficulty determining which toggle throws which turnout, so I thought of putting a scale "sign" bearing the number of each turnout beside it, where a switch stand would normally be. They looked ridiculous.

Instead, I contacted the Brotherhood of Tiny Plastic Railroad Trainmen (BTPRT), and the accompanying photos are the result.

I had to do some hard bargaining with tiny plastic union leaders who demanded that their tiny plastic members be handsomely compensated for standing track side holding signs. Their collective agreement says each standing plastic figure must be replaced after 8 hours, and is entitled to a 30-minute lunch break and two 15-minute coffee breaks. During these breaks, only another fully paid-up member of the BTPRT union may hold the sign.

I accidentally knocked over one of them last week and there was a huge kerfuffle.

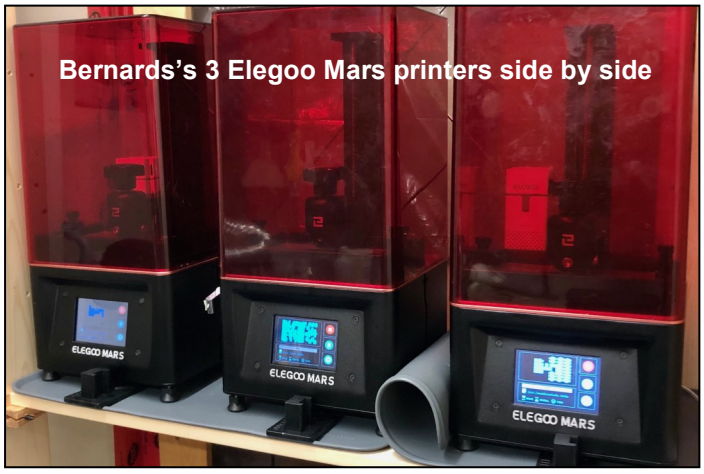
MODEL RAILROADING & 3D PRINTING THE FUTURE IS NOW

TEXT AND IMAGES BY BERNARD HELLEN

A number of years ago I was looking for an HO scale beaver to complete a pond scene on my layout. I googled… nothing. I found model moose, deer, bears, even wolves, but no beavers. The beaver is iconic. A Canadian symbol. The beaver (and its pelt) lured explorers to this land. Heck, the beaver is so important it's even on the shield of the Canadian Pacific Railway. So… I wondered, *'Why no HO scale model beaver figures?'*

So what to do if no one makes a 1:87 size beaver? Happily in this day-and-age of 3D printing almost anything is possible and if you can't find it – you can make it. And that's exactly what I did with the help of 3d modelling software and an online printing service. A couple of weeks after sending my design off to print, a package arrived and the pond scene was complete!

Fast forward to February of this year and the purchase of an Elegoo Mars, my first 3d resin printer. I'd always been interested in 3d printing, but was scared off by high prices and I wasn't very impressed with the quality I had seen in FDM (or filament style) printers.

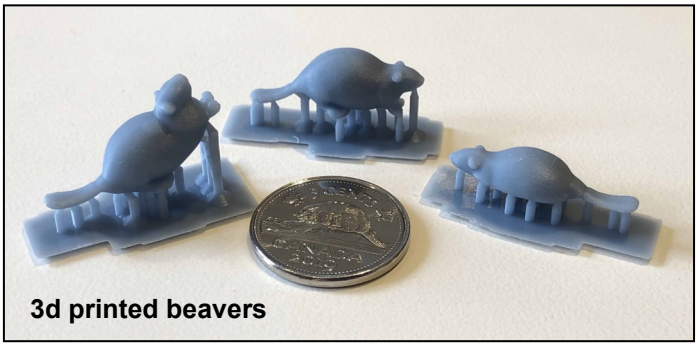


Bernards's 3 Elegoo Mars printers side by side

There is a wonderful Facebook group called 3D Printing for Model Trains and I started to see what these newer generation of resin printers were capable of; blew my mind! What really got me was a post by Kurt Bainum where he showed the level of detail he was getting printing HO scale windows and doors. Then I started watching YouTube videos and as they say, the rest was history. I was hooked.

I become a model railroad manufacturer

Like many, my primary income was put on hold due to COVID-19 and I found myself with both extra time on my hands and the need to earn a little extra income. I started printing my own beavers and offering them for sale. The beaver, led to more and more animals and before I knew it, the requests and suggestions were rolling in. It seems that there is always a mini layout detail that someone wants, that isn't commercially available.


3d printed beavers

I started a website offering my 3D printed critters at https://miniprints.ca/ and since beginning in April 2020, have shipped over 250 orders to modellers in Australia, Canada, France, Italy, Norway, the United Kingdom and the United States. It's not a crazy big business (yet) but it's really fun to experience a different side of the hobby and see some dollars come in instead of the usual outflow.

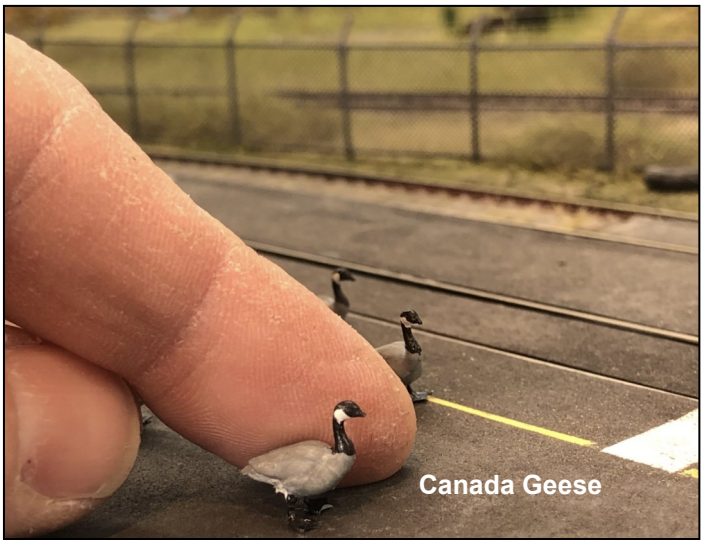
The goal of the business is to offer high quality 3D printed model railroad details that are not readily accessible or not produced in the same quality/detail. We offer prints in all scales from N, HO, S and O scale and have had a number of OO scale orders from the UK. Most of the over 70 items available are animals, and most of those are as a result of specific requests. We have produced N Scale Llamas for someone modelling an Ecuadorian railway; HO Scale Macaque monkeys for a Himalayan mountain railway; Muskoka chairs for a resort and, armadillos for a modeller in Texas.


Macaque monkeys

We thrive on unique customer requests and the weirder,

wilder and more wonderful, the more fun it is!!! A few requests have not made it to production and are not printable, but make for some pretty funny stories.

Future plans include continuing to build out what is probably the largest collection online of model railroad animals and expanding into human figures both by the 3d scanning of people and by using a number of software packages.


Canada Geese

How 3D printing will change the hobby

We are living in an age, where hobbyists no longer need to rely on what is commercially available from a handful of big established manufacturers. Now we can all have a Star Trek replicator in the basement.

3D printing allows model railroad modellers to achieve results that were just not possible in the past. Models now can become even more realistic and super-detailed. In addition, specific detail items that were not commercially-viable to produce before can be custom created. 3D printing works very well for small production runs and one-offs. Items that were scratch-built in the past can be produced in quantity. Need 100s of custom windows and doors for that unique building; then 3D printing may be the way to go.

Custom details that you (and only you) would need to model that very specific scene from your favourite movie are now within reach - if you can dream it, and you want it on the layout, you can probably produce it (or find some who can). I also find that the detail that can be achieved, even with an inexpensive resin printer, tends to be much better than the standard plastic (injection molded) figures that are commercially available.

Like my **miniprints.ca** business, small hobby manufactures are filling niches that weren't viable before. All of this means that we as modellers have yet another tool at our disposal to help achieve the realism and uniqueness that we all hope for our layouts,

The good, the bad and the very, very messy

So is 3D printing for you? You already know most of the 'good.' You can pretty much make anything you need for your layout, quickly, (relatively) inexpensively, and in the comfort of your own home. Printers are readily available starting at $200-300, and it's ton of fun.

In order to better understand the question of '*if it's for you'*, it's a good idea to also know a bit more about some of the pitfalls. 3D printing is frustrating. Very frustrating. This is not a plug and play proposition and there is a pretty steep learning curve. Prints fail, so you redesign and reprint only to have them fail again. It's not uncommon to run a print numerous times, in different configurations to get the one perfect print needed. 3D printing is best suited to people that do not mind learning through trial and error, and lots and lots of experimentation.

If you just want to build the layout and run trains, then 3D printing is not for you. It's a time consuming process, with a lot to learn and becomes a bit of an obsessive hobby unto itself. I have to admit that in the past 6 months, I've spent much more time with the 3D printer than I have with the layout.

It's also extremely toxic and smelly. A separate, well ventilated room, and an understanding partner are required as well as full PPE. Expect to use proper safety equipment including eye protection, nitrile gloves and a proper ventilator. It's also very, very messy, and the resin gets everywhere. Post processing cleaning is best done using 99% Isopropyl Alcohol which I must warn you may be difficult to find these days.

SIDE BAR: SLA Resin 3D Printers

Stereolithography (SLA) is an additive manufacturing operation that prints 3D objects by using a photochemical process. Concentrated UV light is projected up through a vat of liquid photosensitive resin. The UV light cures the liquid resin, hardening it, and forming the shape of the printed object, layer by layer.

The advantage of SLA printing is that it is very precise and 3D printed objects can be created with extremely high quality, finely detailed features and complex geometrical shapes. Perfect for our small model railroad objects. The disadvantage of SLA printing is that it tends to be more expensive than other 3d printing methods.

3 Popular Starter Resin Printers

Anycubic Photon Zero $229 CDN https://www.anycubic.com

Elegoo Mars $279 CDN https://www.elegoo.com/

Phrozen Sonic Mini $359 CDN https://phrozen3d.com/

Where to find model files

So you're intrigued, and think that you want to make the jump into 3D printing however you have no idea where to find 3D printable files. You have a couple of options.

If you are good with computers and have some basic design skills the best option is to design your 3D printable files from scratch. There are lots of free programs that you can use and the program you use really depends on the type and complexity of design and your skill level. One of the simplest to learn and use is Autodesk's Tinkercad https://www.tinkercad.com/. More advanced design software options include Fusion 360, SketchUp, and Blender.

Another popular option is to download ready-to-print files from the Internet. There are a wide variety of paid and free sites where files are readily available. One of the most popular sites is https://www.thingiverse.com/. I have found that while a number of good railroad items are available at thingverse.com, not all files are print-ready and some will require modifications.

Next Steps

Here is a handy list of resources to further explore 3D printing and the model railroad hobby:

This group is for those who are using 3D Printing as another tool for Model Railroading. You can discuss what works and what doesn't, and share your work. https://www.facebook.com/groups/3DModelTrains

The World's #1 3D Printing Magazine for Beginners and Professionals. https://all3dp.com/

I present a 5 minute segment on IT's TRAIN TIME on the journey from computer design of a miniprint through the process of 3D printing to final model.
https://youtu.be/V5i8R3gcsxU?t=824

As part of the excellent NMRA Gateway convention on Thursday, July 16th, I presented an online clinic on the steps I use to realistically paint my miniprints 3d printed miniatures to make my model railroad come alive. It was my first time ever presenting a clinic and it was a lot of fun. The one-hour clinic was streamed live on Facebook and YouTube:
https://miniprints.ca/clinic/

Biography

Bernard models the G&W Quebec Gatineau shortline railroad in HO scale from Montreal to Quebec City. He's always loved the scenery aspect of the model railroading hobby. Super-detailing a scene to create a prototypically accurate miniworld is a wonderfully obsessive trip down the rabbit hole that occupies many enjoyable hours.

Recently due to COVID-19, like many modelers, Bernard has discovered extra time to model and has started a mini business selling 3d printed animals at https://miniprints.ca. He lives in Toronto with his wife, two sons and two Field Spaniels. You can read about his adventures in the hobby at
https://qgryinhoscale.wordpress.com/

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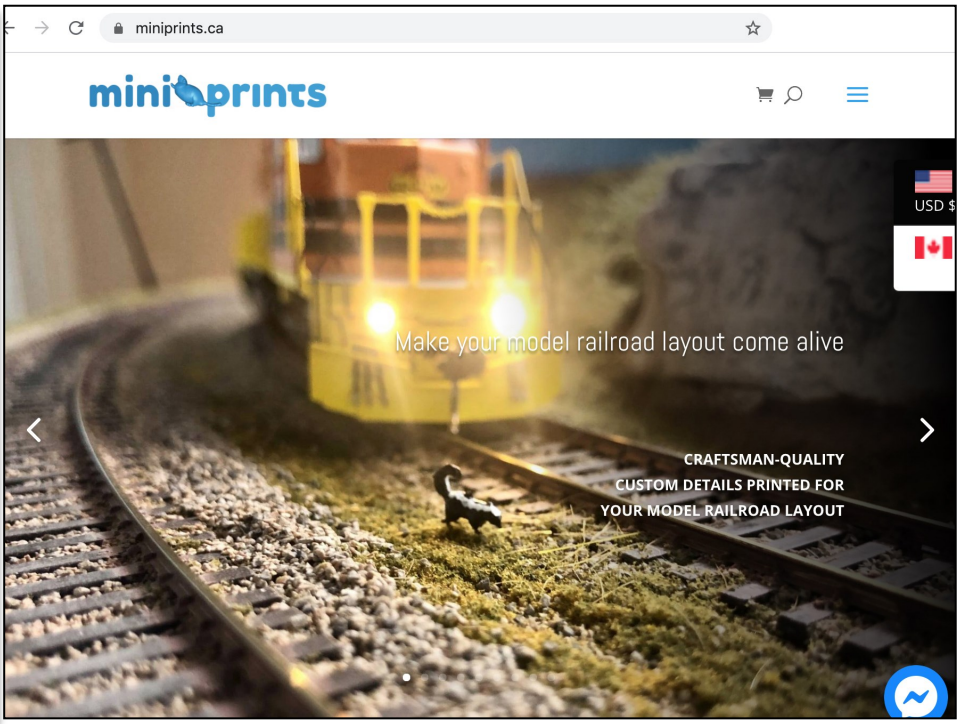


HOW BERNARD USED 3D PRINTING ON HIS OWN *QUEBEC AND GATINEAU* HO LAYOUT

PHOTO LEFT: OVERVIEW OF THE LAYOUT. White arrow points to the location of the small stream and beaver dam.

PHOTO BELOW: Close up of the stream and beaver dam on the far right of the stream.

PHOTO ABOVE: Close up view of the beaver dam before the beaver is placed on the layout. If you look closely, you might see a fish swimming in the murky waters of the stream.

PHOTO RIGHT: You can see the 3d printed beaver just after he left his home to recalibrate his satellite dish.

EDITORS NOTE: When I queried Bernard's use of the satellite dish, he forwarded me the following link.

https://www.cbc.ca/news/canada/thunder-bay/beavers-with-satellite-1.5680189

As they always tell us, there's a prototype for everything.

CPR

Slanted Streamlined Center Cupola Caboose

By George Dutka and Peter Mumby

I purchased a brass Overland Models CPR slanted cupola caboose a few years ago from the Bob Bowes collection. It was painted CP colours when I got it but lettered for his home road. The lettering was dry transfers so they were easy to remove by scraping. These brass cabooses are hard to find these days so I was happy to acquire it.

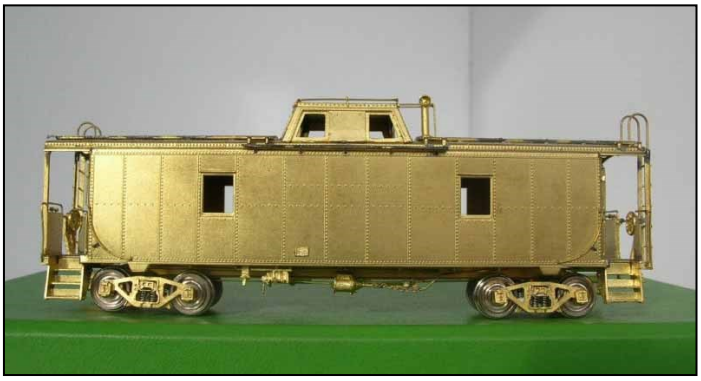
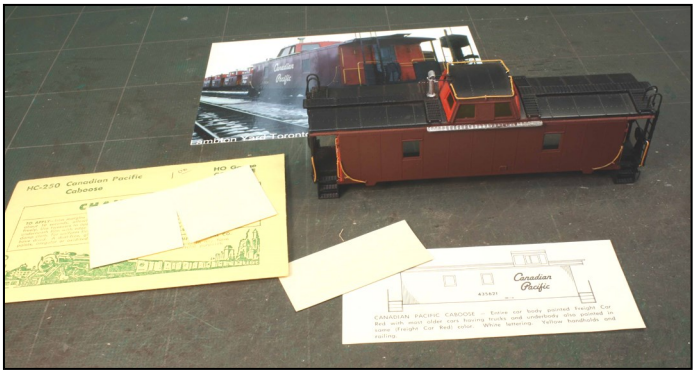


PHOTO ABOVE: Overland Models Brass CPR slanted cupola caboose.

Peter Mumby encountered one of the prototype cabooses back in August 1978, here is his comments. "I recently finished reading the Morning Sun book "Canadian Pacific Caboose Color Guide" by Manny Jacob. This is a veritable treasure trove of photos and data for anyone who has ever evinced an interest in the tail end of CP freight trains. In one section of the book Manny describes the 50 streamlined cabooses built in 1953. Three of these vans were scrapped by 1966, and 45 were rebuilt in 1968/69 with wide vision cupolas. This left only two cars, specifically 437442 and 437451, to be repainted in the multimark scheme with their streamlined cupolas intact. 437451 was in transfer service in Windsor, Ontario when I encountered it in August of 1978."



Painting and Lettering the Model

Once the underframe was removed from the body it was painted Princess Auto Dynamic Cast Iron gray. This is a product auto restorer's use to give added old engine parts a new steel look. I also painted the truck frames this colour. No other weathering or painting is done to the underside.

The caboose and cupola ends are CP red. Only the body and cupola sides needed repainting. I sprayed the sides with Floquil Tuscan red followed by a gloss coat before decaling. The roof cupola sidewalks and smoke stack needed touching up with Floquil old silver. I was modeling my caboose with a script style lettering using a photo dated 1965 that Peter gave me to work from. The handrails are yellow-gold which I replicated using Floquil DRG&W yellow. The end platforms, steps and ladder are black so these areas are brush painted using Floquil engine black.

Peter has a great collection of decals which I made use of. The caboose is lettered using Champ decals HC 250 script. Although these are old decals they still worked very well. Once all the decals are applied, I gave the whole model another coat of gloss coat followed by a coat of Model Master flat clear. I like this Model Master product as it gives one a dead flat finish. The coat of gloss prior to the final coat I feel helps hide the decal film's edges.

PHOTO ABOVE: The body sides are painted Floquil Tuscan Red.

PHOTO LEFT: My prototype photo, decals, and model are laid out for the decaling process.

Finishing off

The caboose wheels got a coat of Dollarama acrylic cinnamon brown which is a rusty looking colour. This was done using a small brush. The trucks are coated lightly with Bragdon light rust. I added a Juneco cast metal conductor on the tail end platform. The roof and end platforms got a light coat of Bragdon soot (a black tone). I ran my brush along the body's seams on the side with Bragdon dark rust. I really like how this caboose turned out. One needs to work from a prototype photo for your era to get the subtle changes these cabooses got in lettering and paint schemes.

Bragdon powders for light weathering

PHOTO BELOW LEFT: Juneco conductor on end platform.
PHOTO BELOW RIGHT: Finished model and prototype photo.

Don Janes also has a finished model of this caboose with CPR Block Lettering on his Green Mountain Division layout.

PHOTO ABOVE: CPR Slanted Streamlined Cupola Caboose brings up the rear of a freight on the White River Division Layout of George Dutka set in northern Vermont. (see article on page 14)

PHOTO LEFT: 3d Beaver sits atop the Beaver Dam on Bernard Hellens Quebec & Gatineau layout. (see article on page 10)

PHOTO BOTTOM RIGHT: Member of the Brotherhood of Tiny Plastic Trainmen holds a turnout sign on the layout of Richard Morrison. (see article on page 9)