THE "CANADIAN"
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CANADIAN ASSOCIATION OF RAILWAY MODELLERS
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OTTAWA CONVENTION WILL OFFER MANY GREAT PROTOTYPE AND LAYOUT OPPORTUNITIES

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

THE CANADIAN ASSOCIATION OF RAILWAY MODELLERS

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FRONT COVER:

Photo Top: Soo #6054 & 6018 at Smiths Falls on the CPR. Photo by Bernard Goodman.

Photos Bottom: Traffic on the Lyon Valley Northern, Chris Lyon's HO model railroad. Photos by Mike Hind.

CHAPTERS

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CARM
"DO NOTHING OR DO SOMETHING"
A TOUGH CHOICE

Prior to retiring in 2000 I was a senior executive and as a member of the management team was often faced with tough decisions. There were often many solutions but they invariably boiled down to just two choices, *do something, or do nothing*. The "do something choice" was often fraught with risk for both those in leadership positions and the organization, while the "do nothing" choice, maintaining the status quo, eliminated risk but never tackled the underlying problem. CARM's very existence is the result of four individuals deciding in 2003 that it was better to do something than to do nothing and David, Peter, Lex, and I made the decision to leave the NMRA and form the Canadian Association of Railway Modellers. We decided to "do something".

Today CARM is facing one of those tough decisions and it must decide to do something or to do nothing. Membership has been on a steady decline for the last several years and it is time to recognize the problem and decide whether we are going to do something to reverse it or do nothing and maintain the current status quo. I will share with you my personal insights into what is happening and the direction I think we should consider. What needs to happen after that is that you need to give some thought to how we proceed. CARM was designed as a membership driven organization and the final decision will rest on your shoulders. We are considering putting out a questionnaire or poll in the next issue to give the membership the opportunity to share their insights.

BACKGROUND

Since the formation of the NMRA back in 1935, model railroaders have belonged to organizations at the local, regional, and national level as a means to network and share with fellow modellers. CARM was formed to create this type of network for Canadian modellers, to give Canadian modellers a means to meet with others, to share their ideas and accomplishments, and to grow the hobby in Canada. Formed in late 2003, the membership of CARM grew quickly until by 2006 the membership was approaching the 600 number. Conventions in St. Catharines, Montreal, and Winnipeg attracted over 200 delegates. A newsletter and a website were created. The future seemed bright.

Today that brightness has dimmed. The membership has dropped by about 25% and is hovering just over the 400 mark and convention attendance has dropped by about 40% to between 100 and 150 delegates. The difficult question facing the leadership of CARM is whether this is a result of their actions or whether the environment is changing and the relevance and usefulness of organizations such as CARM are being brought into doubt. I will leave it to you the membership to pass judgement on the leadership question since as Chair for the past 7 years I bear a great deal of responsibility for that, however, I will share my thoughts on the environment we are facing today and the impact I believe it is having.

THE CURRENT ENVIRONMENT

CARM follows a traditional organizational model. An Executive at the top is responsible for day to day operations at the National Level including nationwide services such as the newsletter, conventions, the website, finances, membership, and an awards/recognition program. Local organizations, in our case Chapters, report to the National Executive and are responsible for local services such as organizing meets, layout tours, attendance at train shows, and recruiting new members. In an effort to reduce the politics in the organization and place as much power as possible in the hands of the membership, we made the decision that we would not create Regions and the infrastructure needed to make them operate. It can be debated whether this was a wise decision as it left us with a National Executive located in southern Ontario and a lack of National Leaders elsewhere in Canada. This has led to problems communicating and interacting with members thousands of miles away.

By the mid part of the decade, around 2005-2006, the full impact of security changes to airline travel as well as economic issues were beginning to impact convention attendance. The NMRA convention, always a bellweather for our hobby has lost attendance and is now attracting just over 1000 attendees when the norm used to be close to 3000. CARM has seen a similar drop in attendance and in our case it is even more problematic given the smaller size of our membership and the fact that conventions have a critical mass of numbers when it comes to getting free meeting rooms etc. What has protected us so far is the early and wise decision to use Universities as the site for our conventions. A decision which has allowed us to keep registration and room rates very reasonable.

We have also felt the impact of the Internet. Every day, thousands and possibly tens of thousands of modellers go online to various Forums and talk to one another in virtual real time, sharing ideas and photos and getting the latest news from manufacturers. Those same modellers can find websites which contain a wealth of information on their favourite prototypes and get most of the information that they need to model "*XYZ*" Railroad (name any railroad and there is information on the Internet). There is even a model

railroad magazine, fully funded by manufacturers, available on the Internet which runs over 100 pages and rivals anything put out by MR or RMC. All of this networking, sharing, and information is available for *FREE*.

It is the issue of *FREE* which has had the greatest impact on traditional organizations. In order to create our newsletter, pay for bandwidth and storage for our website, mail out your membership card, etc., we need to charge a fee, in CARM's case $36. Many modellers are looking at the wealth of information and instant communication available on the net for FREE versus the limited information and communication available for $36 and aren't seeing value in a CARM membership, or an NMRA membership or any number of other types of membership. This same impact is being felt by the historic hobby publications such as Model Railroader which have suffered significant drop offs in their sales.

Overlaying all of these other environmental issues has been the growth of scale specific organizations, magazines, meets, conventions, and websites. Last years Narrow Gauge Convention and last years N Scale Convention both rivaled the NMRA's in size.

WHAT HAS WORKED FOR CARM AND WHAT HAS NOT WORKED

1. Our limited infrastructure has worked, allowing us to keep costs low and be fiscally responsible, our decision making is quick and effective since the Executive are in close geographic proximity, and the organization has not suffered from political infighting. Our limited infrastructure has not worked in that we have had difficulty attracting members outside Southern Ontario since we lack the infrastructure to attend train shows etc., to recruit members.
2. Chapters have been very effective where there are sufficient members in an area to justify creating a Chapter. A prime example would be the Vancouver Island Chapter which has been quite active but one the negative side it is one of only two Chapters outside of Southern Ontario.
3. The newsletter gets positive feedback and has attracted many great articles but has relied very heavily on the work of two individuals, myself and Ted Rafuse.
4. Our attempts at creating a presence on the Internet have been mixed. The website attracts visitors but is labour intensive, and our attempts to create a Forum was heavily used by around 15 regulars but couldn't cut into the success enjoyed by well established Forums such as Atlas, Railwire, Trainboard, and Canadian Model Trains.
5. Our awards/recognition program, the Canadian Railway Craftsmen was well thought out and documented and Lex Parker, Peter Moffett, and Dave Burroughs all took turns trying to make it successful. The bottom line is that any modeller interested in that type of recognition is going to go with the gold standard in the hobby which is the NMRA's Master Model Railroader program. We simply couldn't attract participants.
6. All of our conventions have been successful. The concern with conventions is the diminishing attendance numbers and the point at which we no longer are attracting enough people to make a convention financially viable.

DO NOTHING OR DO SOMETHING

Doing nothing, or maintaining and trying to improve on the status quo is certainly an option, however I suggest that if we do nothing we shall see the following outcomes. Our membership numbers will continue to decline slowly. As numbers decline certain fixed costs will start to rise, such as printing the newsletter and the calendar where we are currently near a price breakpoint. What that means is that less product will cost us more per member. Higher costs per member raise the possibility of a dues increase. A dues increase usually means a reduction in membership renewal. I am sure you can see the death spiral being created in this scenario. The continued slow decline in membership would raise questions about the financial viability of running conventions where your target audience is small and spread across a country as large as ours. If we pursue this option we must stop the decline in membership and start to recruit new members. The current Executive has made numerous attempts to accomplish exactly that. We ran promotional campaigns, remember the free shirt for a new member campaign, we have run ads in Model Railroader, Canadian Railway Modeller, and Railroad Model Craftsmen at a cost of thousands of dollars, we have attended train shows. The only effective tool was train show attendance where one on one dialogue with fellow modellers met with good success. The problem with this approach is that it is labour intensive requiring a large number of volunteers right across the country. We were never able to attract sufficient volunteers to create that type of infrastructure. I do not believe that doing nothing is a viable option.

That leaves us with the choice of doing something. I will focus on two possible choices available to us. The first choice would be to accept that CARM was a good idea whose time has passed and shut it down. The second choice would be to re-invent CARM to reflect today's environment. I will speak to the first choice briefly and then dwell more extensively on the second choice.

If we were to shut CARM down, and that would have to be the membership's decision, there would be a number of financial issues which would have to be addressed, such as members who have paid dues for future years. These funds are currently being held in reserve for those future years and a refund process would have to be worked out. The funds are in the bank and none of that is problematic.

If we re-invent CARM, the membership has to adopt a specific set of goals acceptable to the majority. I believe that the goals we set out back in 2003 are the goals which we should aspire to in 2010 and in the future. As a reminder, those goals are: **...to inspire....to foster fellowship among railway modellers throughout Canada....to provide a forum for the exchange of ideas and skills between railway modellers....to promote the hobby of railway modelling in Canada....to be inclusive of all scales and interests....to work in co-operation with other organizations.**

If we re-invent CARM we need to focus on a narrow service delivery model. That focus would be on networking and sharing. This narrow service delivery model would reduce our need for a large number of volunteers.

If we re-invent CARM we must maintain our most successful service which is our Chapters.

If we re-invent CARM we need to eliminate entirely the concept of dues and create a FREE membership model.

MAKING THE RE-INVENTED CARM WORK

CARM would become an Internet based organization. New members could sign up on the Website, though we would continue to encourage Chapters and members to seek out new members at Train Shows. The newsletter would be in electronic format only. Conventions would be sponsored by local groups in a manner similar to the Narrow Gauge and N Scale conventions where individuals are responsible for their own accommodations and the convention fee covers common space such as clinics etc., and where the convention is generally held in conjunction with a train show. Chapters and local meets would continue to be encouraged and would act as a conduit for information to individuals who do not have Internet access. Some form of communications tool (forum) would be added to the website to facilitate communication between members.

There would be no dues. Funds to maintain our web presence would come from prudent use of current reserve funds, donations from members, joint sponsorship of train shows such as Copetown, and from sale of advertising space on the website. Local groups would be responsible for all convention costs and would keep all convention profits.

When the Founding Members created CARM we were driven by one major philosophy. We wanted CARM to be driven by the Members and not by the Executive. We believed that the way to create a strong, vibrant Canadian organization was to have activity at the grass roots level and minimal guidance from the top. This single philosophy guided every decision we made. This approach has had mixed results. It would be easy to look at this through rose coloured glasses and suggest that we have been successful since, on the whole, the Chapters we do have are strong, active, and have excellent Member participation. The truth is however, that the majority of our Members do not belong to Chapters. The reason for this is simple. Canada is the second largest country in the world, over 3000 miles from coast to coast and we have just over 400 members. Many of our members are hundreds of miles from their nearest fellow member. Organizing a Chapter and holding meetings is extremely difficult. The Internet approach is our best opportunity to overcome these geographic problems.

I will be recommending to the Executive that a questionnaire be circulated to the Membership to seek your input with a view to having something ready for Ottawa next year. That being said, I have shared my thoughts with you to create a starting point for discussion and not as conclusions.

I am sure there are many other ideas that you might have. You may disagree totally with those that I have put forward here. Either way, it is time for you to be heard. It is time to do something. Send me an email at editor@caorm.org or write to me at John Johnston, 41 Glenview Place, Hamilton, ON, L9C 6H9. Become a part of the vocal majority, let me here from you.

John Johnston, Editor

CP Manifest freight led by SD40-2 #6044 in Smiths Falls, Ontario. Photo by Bernard Goodman

CHAIRMAN'S REPORT

Here we are again in another model railroading season, the weather is getting cooler, the leaves are starting to change colour and trains shows have started. All of these things combined means that very soon we will be spending more times in our basements, workshops or layout rooms. For those of you who don't have a layout at your home you may belong to one of the many clubs. No matter what your passion is in this hobby there is a place for you to gather and absorb information as well as give a little back to the hobby. it's exactly that I would like to address.

We all find it easy to take from this hobby but in order for the hobby to grow we all need to give back a little. We are all great resources for others as we have been collecting facts, skills, tips, hints and general knowledge since a very young age even if we were not directly involved in model railroading until recently. Most of us learned how to use a screwdriver, a hammer or a saw at some time in the past and low and behold that is a skill that we can use in building a layout, a module or even a smaller project. We also have the ability to pass that skill onto someone else that is willing to accept a gift of your time. It is amazing how passing along one simple skill can perpetuate the hobby, build self esteem and just make you feel good. It can be contagious!

It's not say that every skill, talent or piece of knowledge that you have will be wanted by everyone out there but I'm sure that someone will appreciate it. Not every skill, talent or piece of knowledge that you have will be the best that is available as there are many people who get to become experts, or perceived experts, in a particular skill, talent or piece of knowledge. Don't be discouraged this expert can't be everywhere all of the time so there is both the need and space for all of us.

Volunteering is the one thing that everyone of us can do. There will be limits to how much time we can or are willing to offer but that's okay as we all have a life outside of model railroading. Volunteering for an hour once in a year will help, an hour a month is great, an hour a week is fantastic and an hour a day would just be incredible! Volunteering can take on many faces and it doesn't always mean that you need a unique skill, talent or piece of knowledge. You could help at a local meeting of a chapter, club, group or show by manning a door, that doesn't take much skill. You could set up and take down chairs for a meeting, that doesn't take much talent. You could hold a piece of wood in place while someone fastens it down, that doesn't take much knowledge. You might even now be thinking that you could do one of the things that I mentioned or something completely different and that's great.

As you can now see volunteering doesn't mean that you have to make a huge commitment but it does show you something, we are social creatures and we need to get out there and not spend all of our time by ourselves. Once you get started down the path of volunteering you may find that you enjoy it so much that you want to do more. That's not a problem as there is always lots that can be done at your local club, show or organization and in most cases they we be pleased to get the offer. Just don't be discouraged if your offer for a particular task is not excepted as we all of a limits to our skill, talent or piece of knowledge as we may be trying to take on too much. So start small with the volunteering and you will be happily surprised on where this can lead you.

Until next issue, happy modelling!
David

TRAINS & TULIPS

The Canadian Railway Convention

Ottawa, May 20-23, 2011

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Convenor: Mike Hind
hind_mike@yahoo.ca
613-821-3741
By mail at:
PO Box 108, #2681 Derby St.,
Metcalfe, ON
K0A 2P0

UPDATES

Visit our website
www.caorm.org/2011_ottawa

To reserve your place & receive more information about the **2011 Convention, complete both sides** of the tear-off form below and forward it to **Mike Hind (contact info above)**

.....

I am interested in receiving more information and a registration form for the **"Trains and Tulips"**
2011 Canadian Railway Convention to be held in Ottawa, Ontario, Canada, May 20-23, 2011.

NAME:_____ PHONE: (_____)_____

MAILING ADDRESS:_____ CELL: (_____)_____

_____EMAIL: _____

_____POSTAL CODE: _____

(Please see over for more opportunities to custom design your attendance at the Convention!)

Convention participation is open to all with an interest in trains (model or otherwise). Current members of the Canadian Association of Railway Modellers (CARM) will have preference for limited tours and clinics.

Not a CARM member yet!!?? No Problem! A range of membership choices is available by visiting the CARM website at www.caorm.org, clicking on 'Members' tab, then 'New Memberships' and following the directions for your choice of membership level. For as little as $20, you can become a CARM member and join us for the 2011 Convention and all its activities and events!

We are planning for your enjoyment and look forward to your participation in 2011!!

I would prefer further information to come to me via: Circle one: CANADA POST EMAIL

I will be accompanied by my partner: Circle one: YES NO

I/We will be needing residence accommodation: Circle one: YES NO

As a convention participant, I am most interested in:_____

My partner is most interested in:_____

Special Needs to accommodate my/our attendance:_____

Other suggestions for your enjoyment?_____

CHAPTER REPORTS

Golden Horseshoe Chapter:
The Golden Horseshoe Chapter held a meeting on September 25th in Niagara Falls hosted by Rick Duggin who joined CARM that day. In the absence of Tony Czerneda, Chair of the Chapter, Tom Allan chaired the meeting and read a letter from Tony to those present.

Two clinics were presented. Ralph Renzetti presented a clinic on weathering. Those present enjoyed the presentation and had many questions. The second clinic was a hands on clinic on scenery presented by Ron Pullano. Members took part in doing scenery on a mountain using low expansion insulation foam, plaster cloth etc. The members also enjoyed this clinic and the Chapter's thanks go to both Ralph and Ron for their clinics.

Pete Moffet – National Secretary/Treasurer was present and introduced to the group. David King the new chair of CARM also attended and addressed the group. Our thanks also go to Rick Duggin for allowing us to use his basement for this meeting. After the meeting four layouts were available at the homes of Pete Watson, Will Boyle, Stan Conron and Ron Pullano.

The next Golden Horseshoe Chapter meeting will be held in March. That meeting will be our Annual General Meeting as well as election of officers for the Chapter. More info to follow at a later date. For information contact: Tom Allan at 905-575-9326 or tomallan@mountaincable.net

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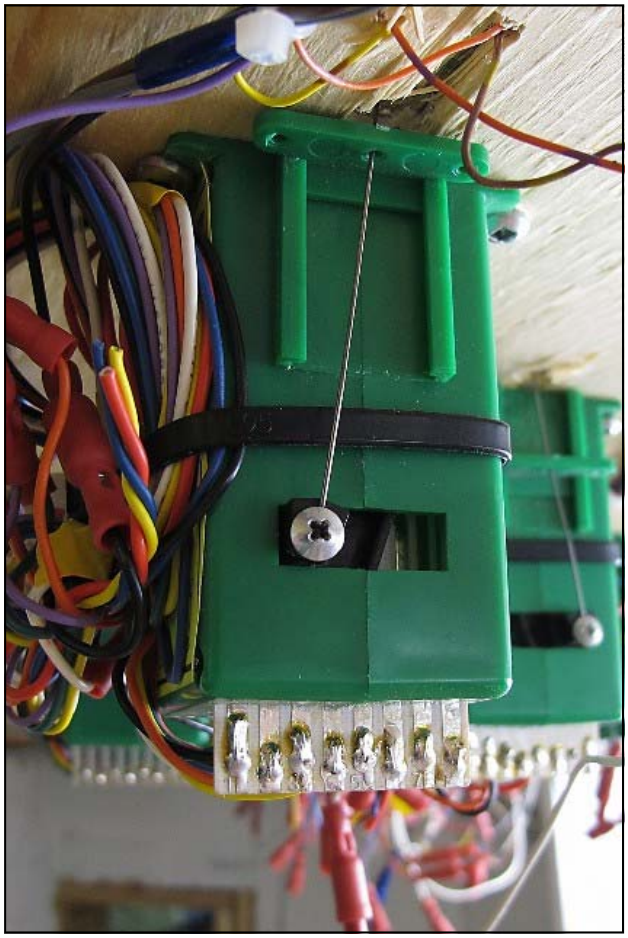
Tortoise Switch Machines, Mounted Horizontally

by David King

Have you ever used the Tortoise Switch Machines manufactured by Circuitron™. These are a wonderful stall motor slow motion switch machine that will operate at a low DC voltage. I have found that these units are very reliable and trouble free for many years. Because of this I have been using them for many years on both portable and fixed location layouts without any issues except one. It is that exception that has prompted me into writing this article and include a solution that works for me and may work for you.

You ask, what is that exception? Well on my Colorado & Wyoming Railway I have found that if you mount the Tortoise Switch Machine in the standard vertical orientation the connection board and sometimes part of the machines housing sits below the edge of the facia. This is both a visual distraction as they are easy seen but also there is a possibility of damage when someone reaches across the lower level and can catch an arm or shirt sleeve on the connection board. If the connection board is damaged or broken off the unit may need to be replaced or repaired, neither of which is fun, also the person who got caught is embarrassed or hurt and you feel bad because you know this is preventable. I have found I feel stupid if I'm the one who causes the damage but even worse if it happens to one of my guests.

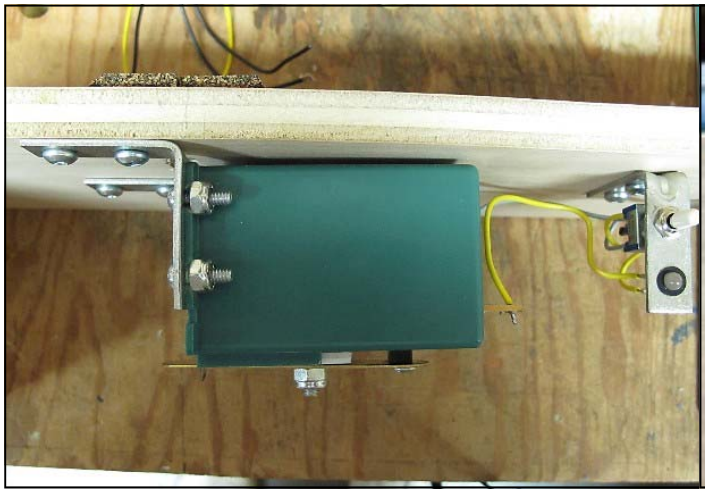


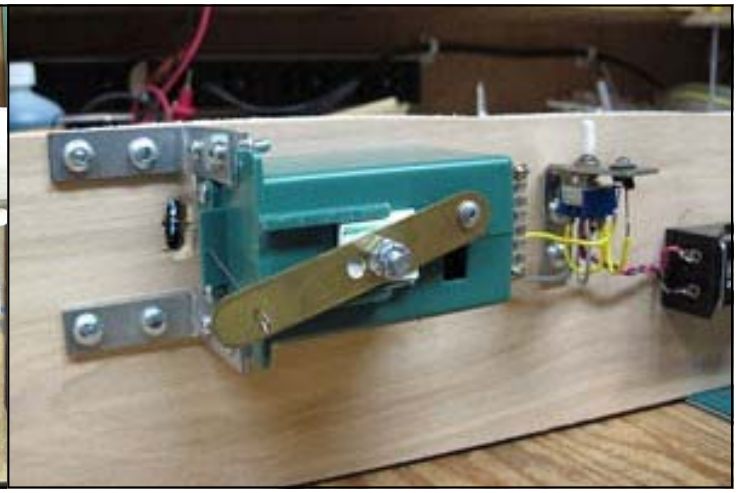
Traditional Mounting - photo right

We need to take a quick look at the traditional mounting so that we can see what the Tortoise looks like when mounted and in operation. In the image below we can see that the Tortoise is attached to the underside of the layout and that the height required for clearances below is about 3-1/4". In most conditions this would be fine but when the layout is portable or you just don't have the height this is not the best choice. As shown in the image on the right we can see that a plastic tie has been added to keep the wires from hanging too low below the layout level.

Horizontal Mounting - photos below

This method of mounting was borrowed from my friend Justin, with permission, and only needed a minor modification to work on my layout compared to his. Justin models in N scale where I model in On30. As you will soon see that this mounting method should work in most scales. The finished device is shown in the images below.





Parts Needed - chart below

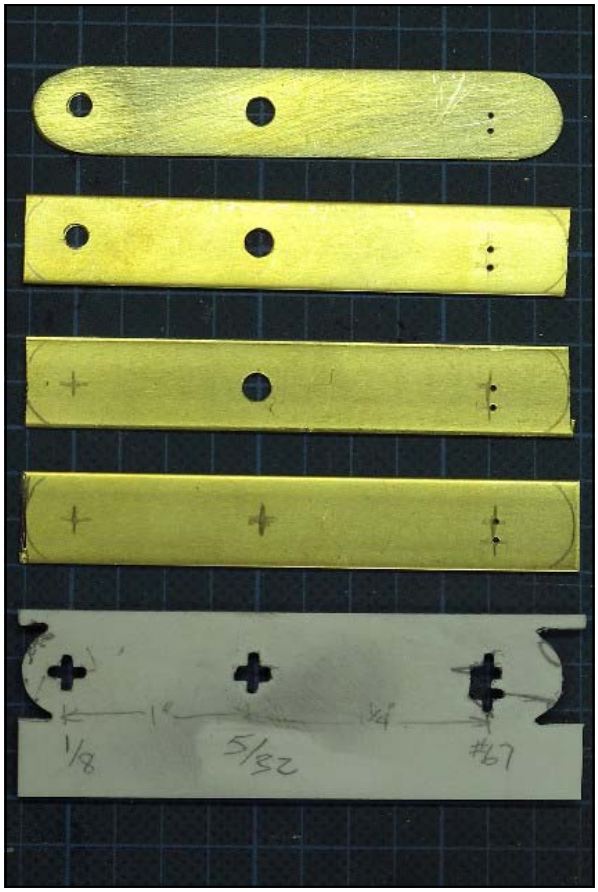
In order to build this horizontal mount we will need to acquire the necessary parts from at least two sources. Here is the list of parts and the required number of pieces to convert one Tortoise Switch Machine.

Quantity	Description	Source
2	1-1/2" L brackets, Stanley #30-3165	Hardware Store
4	#6-32 x 1/2" round headed screws	Hardware Store
4	#6-32 nylon insert nuts	Hardware Store
4	#8 x 1/2" pan head wood screws	Hardware Store
2	#4 x 3/8" pan head wood screws	Hardware Store
1	#8-32 X 1/2" flat head screw	Hardware Store
1	#8-32 nylon insert nut	Hardware Store
1	K&S brass strip #3512419, 1/2" x 12" (makes 4 brass bars)	Hobby Shop
1	0.025" steel wire (various lengths as needed)	Hobby Shop
	0.060" styrene sheet (cut into small pieces)	Hobby Shop

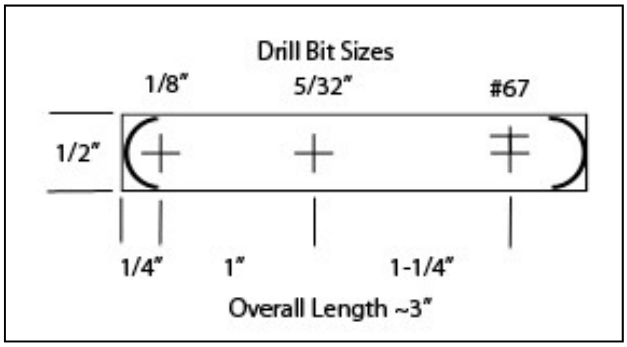
This may look long and if need you may substitute any of the items as you see fit. Also you can save some money if you need to do this numerous times as buying in quantity should save you a little bit of cash.

Custom Fabrication - photo right

The custom fabrication of parts is minimal and really there are only two items that need to be fabricated. These are the brass strip lever arm and the styrene pivot mount. The brass lever is the most complicated of the items so we will cover that first.



As shown here in the image on the right we walk through each step. **Step 1**, Using the K&S brass strip we will need to cut the 12" strip into four lengths of approximately 3" each, I just used a hacksaw. **Step 2**, Since I made many of these I set myself up as if this was an assembly line and created a jig made from styrene as shown in the bottom of the image. In the jig I cut out the rounded ends and also cut out slots so that I could mark cross hairs where holes need to be drilled. A detailed drawing with all of the measurements is located below. **Step 3**, Once all of the brass strips were marked I drilled the two small holes on the right side using a #67 drill bit. This is where the throw wire will attach later. **Step 4**, Next I drilled out the center hole using a 5/32" drill bit. This is the pivot point on the lever. **Step 5**, I drilled out the far left hole using a 1/8" drill bit. This is where the movable arm of the Tortoise will be attached. A video of this step is located on my website. **Step 6**, is to round off the two ends of the brass strip. I used a vertical bench sander for this operation. I like the rounded shape so that no sharp edges are left to catch on anything. Again a video of this is located on my website. **Step 7**, This is the final step and all I did was sand down all of the surfaces to get rid of any metal burrs and sharp edges.



This template with these measurements is used for my On30 lay-out. For N scale use exchange the 1" and 1-1/4" measurements to move the 5/32" pivot hole closer to the #67 throw wire holes.

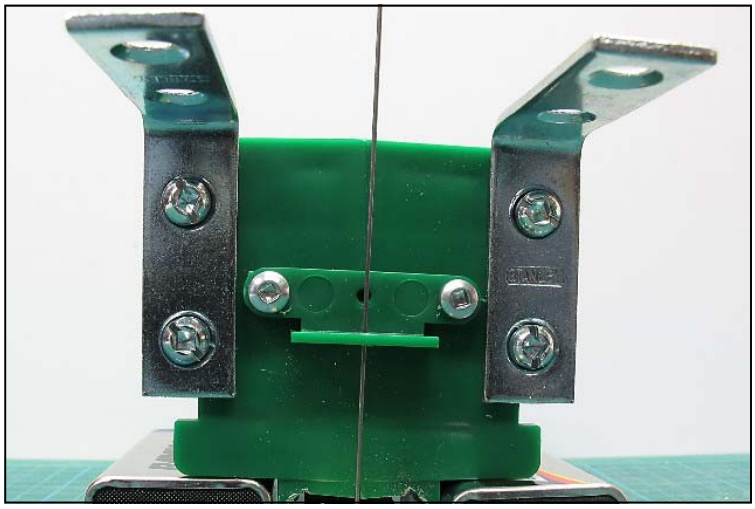
To fabricate the styrene pivot block as shown in the image on the right. **Step 1**, Take your sheet of 0.060" styrene and cut out a long 3/4" wide strip. **Step 2**, From this strip cut out a piece 15/16" long and file or sand off the edges of this piece so they are slightly rounded. **Step 3**, From the strip of styrene cut out another piece 5/8" long and file or sand off the edges of this piece so they are slightly rounded. **Step 4**, glue together the two pieces so that the 3/4" sides are lined up and the smaller piece is centered on the larger piece. **Step 5**, Mark a center point on the top of the smaller piece and drill a 5/32" hole through both pieces. **Step 6**, Now turn the piece over so the larger piece is facing you. You now need to use a countersink bit and drill into 5/32" hole in the pivot block and create a counter sink deep enough for the #8-32 flat head screw so it sits flush with the styrene pieces.

Assembly - photo below

That's it for the major fabrication of pieces for this project. Now we need to assemble all of the pieces into a completed unit ready for mounting under the turnout on the layout. As shown in the following image I have all of the pieces and tools laid out. I find this a useful step as it makes sure I have all of the pieces needed to complete the assembly without the need to start searching and wasting time looking for something when in the middle of a project.

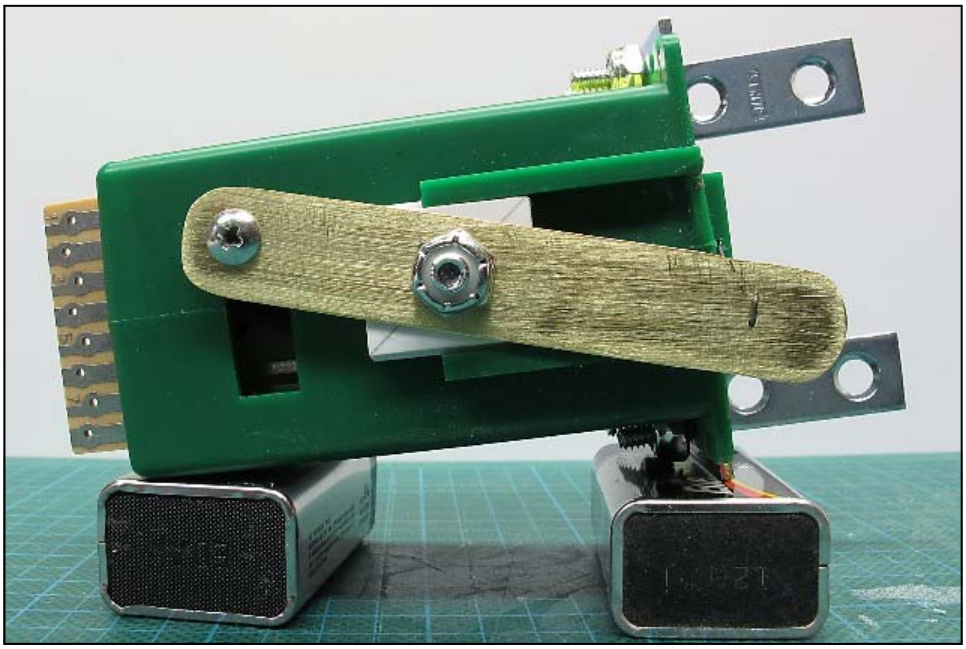
This image of the pieces and tools may look a little intimidating as there seems to be a lot of items here but there is one tool missing. Not shown is my cordless drill with a 7/32" drill bit and a brass lever arm. The final assembly can be done in any order that works for you but here are my steps. To make each of these steps clearer a video for each of the assembly steps is located on my web site.

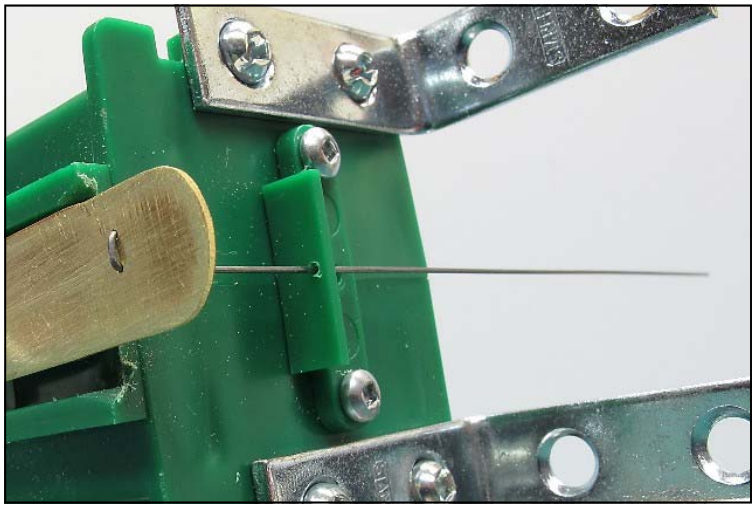
Step 1a, I install the green plastic guide that is supplied with the Tortoise Switch Machine to the face but first I need to make a couple of modifications to the guide. I drill a #47 hole into the small clip in the middle as this will be the hole for the throw wire when installed at the end of the assembly. **Step 1b**, I then increase the size of the two outside pre-manufactured guide using the 7/16" bit, this will allow for the two #4 x 3/8" pan head wood screws to be used. **Step 1c**, now hold the plastic guide against the Tortoise and drill a pilot hole with the pin vice and a 1/16" bit. **Step 1d**, Using the proper screwdriver install one of the #4 screws snugly. **Step 1e**, Drill the second pilot hole and install the second screw.



Step 2a, I next install the two L brackets to the mounting feet of the Tortoise using the four #6-32 x 1/2" round headed screws and the four #6-32 nylon insert nuts. **Step 2b**, using one of the #6 screws and the proper screw driver insert this screw into one of the holes near the middle of the L bracket and start threading on one of the #6 nuts. **Step 2c**, Place this against the mounting foot on the Tortoise and tighten the screw and nut, you will need a wrench to hold the nut while tightening, until the bracket is snug. **Step 2d**, Align the bracket so the hole beside the one you just used is lined up the mounting foot. **Step 2e**, There will not be a hole in the plastic foot so you will need to use the drill with the 1/8" bit to make a hole for the screw. **Step 2f**, Now you can install the second #6 screw and nut as you did the first one. **Step 2g**, Repeat steps 2b to 2f for the other L bracket.

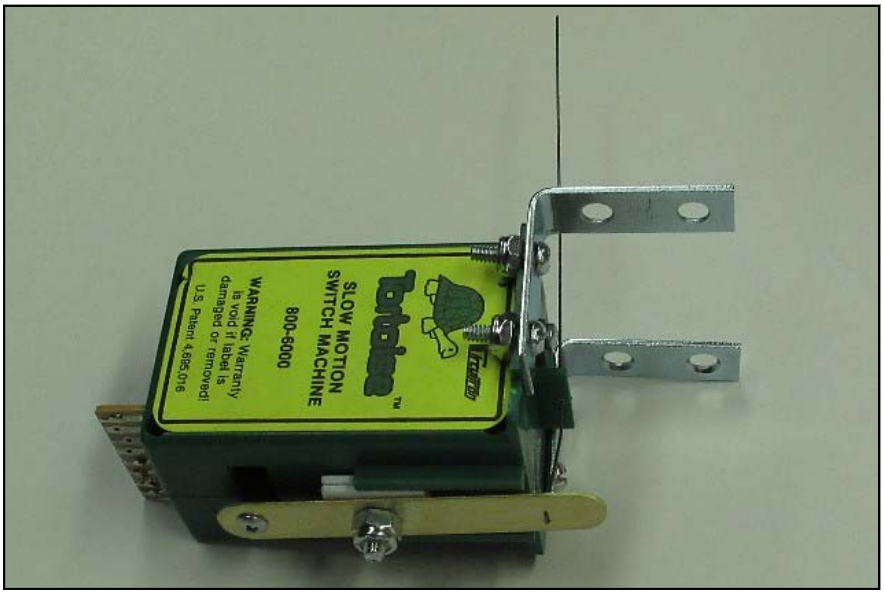
Step 3a, Now I attach the pivot arm and start by assembling the brass arm to the styrene pivot block I built earlier. Start by using the #8-32 X 1/2" flat head screw and inserting it into the pivot block, make sure the screw head is flush with the bottom of the block. **Step 3b**, Now I add the brass lever to the screw, I usually find that the clearance is so small that I hold the screw with the proper screwdriver lightly thread it onto the brass lever. **Step 3c**, Next I thread on the #8-32 nylon insert nut and using a wrench and the screwdriver I tighten this down all the way and then back off the nut about 1/2 a turn to allow the lever to move freely. **Step 3d**, I then cut, using a small hobby knife, and file away the green plastic on the Tortoise to open up the top or the pivot slide cannel and insert the assembled pivot arm. **Step 3e**, Using the supplied screw with the Tortoise I attach the brass lever using the 1/8" hole to the movable arm of the Tortoise.





Step 4a, I cut a piece of the 0.025" steel wire using a good pair of pliers, don't use flush cutting pliers or rail nips as the steel wire will damage the cutting blade of these tools, to a length a little longer than I will need when installing this finished unit under my turnout. **Step 4b**, I now bend a small squared off hook into the bottom of the wire to fit the spacing of the two #67 holes that were drilled into the brass lever earlier. I use a small pair of needle nose pliers for this. **Step 4c**, I now insert the wire into the bottom of the brass lever and guide it through the plastic guide. **Step 4d**, Once the wire is fully inserted I bend the end of the hook to secure the wire so it will not fall out of the brass lever. **Step 4e**, I usually put a small kink in the steel wire between the brass lever and the plastic guide so that the wire extents straight up parallel with the original mountain face of the Tortoise.

Believe it or not you should now have a fully assembled Tortoise Switch Machine ready for horizontal mounting under your layout. The final assembly is shown on the right.



Testing Your Assembled Tortoise

Before installing the new assembly I like to test its operation so that I know it will operate smoothly without any binding of the assembled parts. To perform this test I just use a nine volt battery and a couple of jumper leads. All you need to do is connect one of the jumper leads to one of the outside terminal strips, #1 or 8 on the Tortoise, and the other test lead to the other outside terminal. Than connect the leads of the two jumpers to the terminals on a nine volt battery. Once the arm has moved fully reverse the two leads on the battery and the Tortoise will now swing in the other direction. Make any final adjustments if anything is binding and now you can mount the Tortoise under your layout.

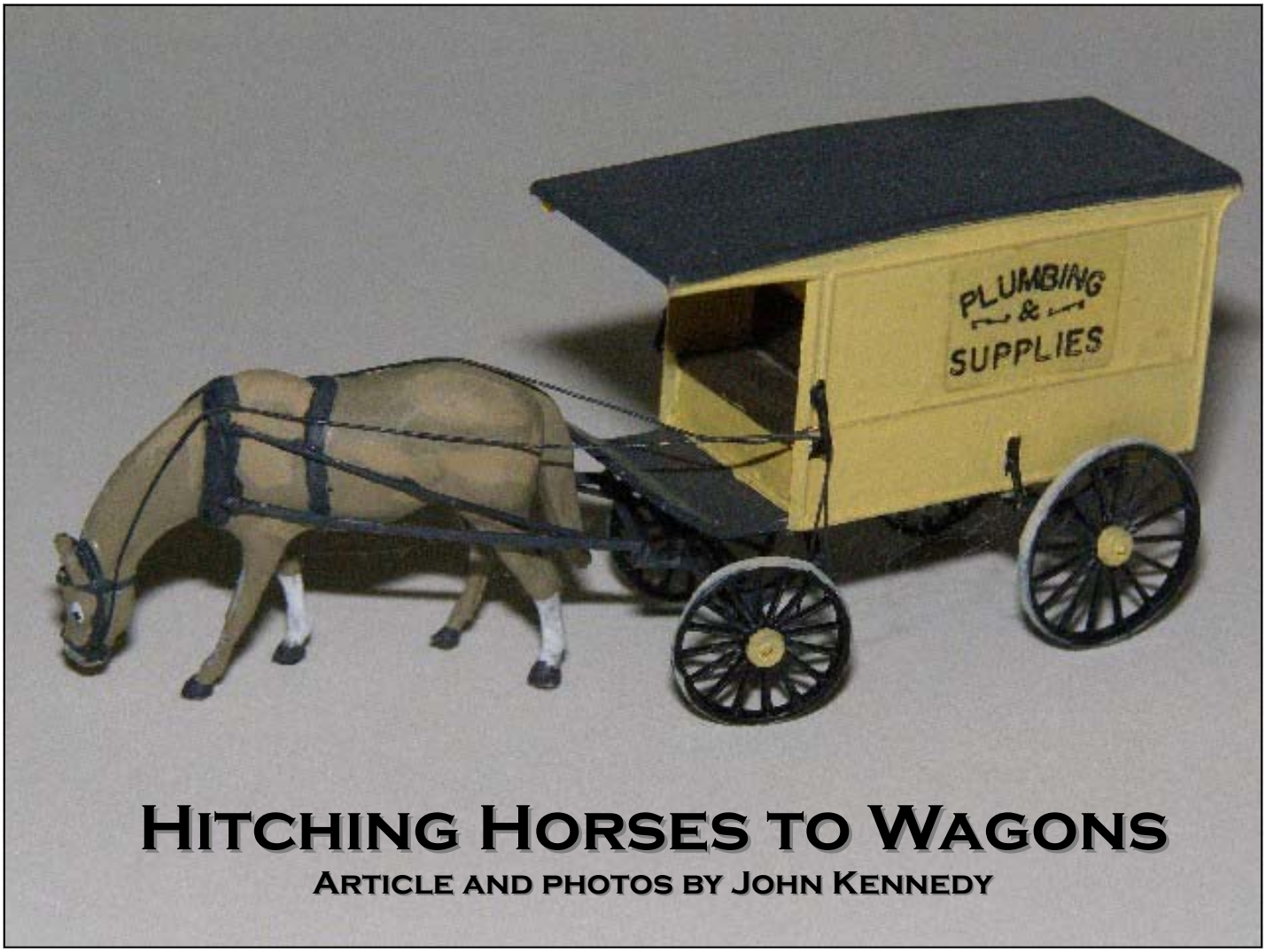
Tools I Used

Cordless Drill Vertical Sander
Colet (for the #67 bit)
Hobby Knife
Wrenches
Needle Nose and Wire Cutting Pliers
Two Jumper Leads

#67, #47, 1/16", 7/64", 1/8", 5/32"
Two Pin Vices
Small Flat File
#1 Philips, #0, #1, #2 Robinson Screwdrivers
Sandpaper
Nine Volt Battery

Wrap Up

That's it for now I hope you enjoyed this and if you have a need to mount a Tortoise Switch Machine in a horizontal position here is the possible solution for you. Remember that I have a number of supporting videos for this on my website at *www.kingerland.com* in the *Model Railroading* page listed in the *Clinics, Tips and How-To* section.



Hitching Horses to Wagons

Article and photos by John Kennedy

INTRODUCTION

Many of today's modelers have never seen a horse in harness, except for possibly a carriage in a tourist area. If you model in the 1930's, as I do, most real-world work, whether it was done in rural or urban areas, was done by horses. However, most models of horses and wagons on layouts do not have the harnesses connected to the wagons. As such they look "unfinished". This article is in three parts: the first to provide some information on the functions of horse harnesses, the second on building a light wagon and hitching it to a single horse, and the third on building a heavier wagon and hitching it to a team of two horses. For parts two and three, I will be using Jordan kits, which come with horses.

To build these wagons you will need: A Jordan light delivery wagon: kit No. 101; A Jordan old farm wagon: kit 107; The two figures in the farm wagon kit, or two Broadway Imports Limited engineer/fireman seated figures. Wire for the harnesses, I use 24 stranded for the reins, and 18 stranded for the traces. A sharp hobby knife. Small files. ACC, I use Zap-a-Gap, which in addition to having the ability to fill small gaps, has a setting time long enough to enable you to make some positioning changes. Further, it leaves a very thin film, which means that it becomes invisible when painted over. Five-minute epoxy (if putting "glass" windows in the back of the delivery wagon). Fine sandpaper. Paint, including primer. Paint brushes, a number 5/0 and a 0 or 1/0.

PART 1: THE FUNCTIONS OF HORSE HARNESSES

The harness has four basic functions, PULLING, STABILIZING, BRAKING, and STEERING. I will explain each.

The pulling mechanism, the collar and traces is always the "front part of the harness", since the horse needs to be able to pull the vehicle with the harness as he walks forward. The collar allows him to lean his weight forward and pull the vehicle with traces, which are attached to the collar on one end and to a singletree on the wagon on the other end or, for a two-horse team, the collars of each horse at one end and a pair of doubletrees on the wagon.

The stabilizing mechanism, the tug loops and belly band are the "middle part of the harness" negotiating between the front (pulling) section and the back (braking) section of the harness. First, it supports and stabilizes the shafts by holding them in place with the tug loops as the horse moves forward or stops so they don't jump up and down or side to side. This function helps to stabilize and control the motion of the vehicle behind the horse. The second part of the harness is to help hold and stabilize the breeching, or braking mechanism, in place. Finally, the mid-section of the harness helps to stabilize the reins on

their long trip back from the horse's head to the driver's hands.

The braking mechanism, the breeching prevents the rolling vehicle hitting the horse from behind when the horse stops walking forward. In order for the vehicle to stop when the horse stops, the harness has a brake built into it. The breeching, which is the part of the harness over and around the horse's rump, provides this braking function. The breeching is always the "back part of the harness."

The steering mechanism is formed by the bridle, bit and reins. The bit is the pivotal part of the steering mechanism. It is a piece of metal held in just the right place in the horse's mouth by the bridle part of the harness so that pressure from the reins will place pressure on sensitive parts of the horse's jaw and cue him to stop or turn. Releasing the pressure rewards the horse for completing these actions. When the horse is moving forward with minimal pressure on the reins, there is no pressure on his mouth. The reins connect the bit in the horse's mouth to the driver's hands.

The reins normally come into the driver's hands across the back of the hands and down between the thumb and the first finger. The reins will have five or more feet of length beyond the hands so that the driver can fasten them to the wagon when he gets off. Driving is accomplished by using the reins to give signals to the horse. Shaking both reins gently up and down to signal the horse to start. Shaking both reins up and down more quickly and with more force to signal the horse to go faster. Pulling on the left rein to signal the horse to turn left. Pulling on the right rein to signal the horse to turn right. Pulling on both reins to signal the horse to stop.

HO model horses for wagons almost always have the collar, bellyband, and bridle cast on as an integral part of the horse. Jordan horses have the collar and bridle cast on. Some Jordan horses have complete bellybands cast on, while, on others, only the top half of the bellyband is present. A few model horses have some or most parts of the breeching section of the harness cast on as part of the horse. Jordan horses either have no part of the breeching part of the harness, or a small part of it across the back of the horse. While we will be providing the tug loops, traces, and reins as we "hitch" the horse(s) to the wagons, we will not be modeling the breeching part of the harness.

PART 2: A SINGLE HORSE DELIVERY WAGON

THE HORSE

The kit is a Jordan Light Delivery Wagon. When you open the kit, you will find that there are three horses; two lighter horses, one of which is moving, the other with head down and eating something from the ground; and a heavier standing horse. Each of the horses comes in two halves. Given the size of the wagon, I'd suggest that you pick one of the lighter horses. The heavier horse is the same as one of the two horses that comes with the farm wagon kit.

Start by carefully cutting the horse of your choice from the sprue. Remove excess material with a knife or files. Sand the flat side of each half of the horse with fine sandpaper. When you are satisfied with the fit of the two halves, put ACC on the flat edge of one half of the horse, then place it on the work surface. Carefully place the other half of the horse on top, then pick up the horse to make the final adjustments. First make sure that the two halves of the horse's snout fit properly, and that the bridle parts match up. Then make sure that the two halves of the back of the horse's body line up. Hold the two halves of the horse together for a minute or two until the ACC sets. Put it aside to dry. Clean up the horse using a knife and files. Be careful in trimming the bottom of the hooves to ensure that the horse stands firmly upright. If you choose to use the heavy horse, shave/file/or sand the strip of harness off the rear of the back of the horse. This horse does not have a bellyband that goes right around the horse. If you want to complete the bellyband, you will have to paint it freehand.

Harnesses were made of leather, almost always brown or black. The easiest way to paint the horse is to paint the harness first! Make sure that your paint covers all of the harness, even if it goes on to the body of the horse. Horses come in all colours, with the most common being shades of brown, gray, black, and white. Paint the horse in your choice of colour, running the paint up to the base of the harness. The small brush is of help here and, yes, you will probably need to do some touch up. Many horses have contrasting colours on their mane (neck hair), tail and one or more of their lower legs. I dry brush white and black to get this effect. The hooves get painted black.

THE WAGON

It is much easier if you leave the wheels on their sprues until after you have painted them. The choice of colour is yours, but the edge of the rims should be done in a grey or grimy black.

Put together the two sides, the top and the back of the wagon, leaving the floor to be installed later. If you decide to put "glass" in the windows in the back of the wagon, now is the time to do it. First, paint both the inside and outside of the wagon. Cut a piece of the window material to fit comfortably inside of the back of the wagon, but short enough so that it will not interfere with the installation of the floor later. Mix a small amount of five-minute epoxy. Use a pin to spread a very thin amount of the epoxy on the inside of the wagon back. Keep it well away from the edge of the windows. After about three minutes, put the window material in place and press it against the epoxy with a toothpick or small screwdriver. Your may want to paint the inside of the window material. If you do, be very careful in painting near the window openings.

Yes, make sure that you have painted the seat and floor before you install it!

. I prefer to add the wheels after the undercarriage is added to the wagon body. It lets me glue the wheels on one at a time, which enables me to make fine adjustments before the ACC dries. If you follow this route, you need to replace the kit directions 13 and 14.

13: Discard the longest of the three axles. Cement the longer of the remaining two axles to the rear spring assembly, making sure that the axle is parallel to the edge of the rear spring hanger.
14: Cement the rear spring assembly in place, with the rear spring hanger flush with the end of the body base.
15: The same as in the kit directions.
16: Ignore step 16 for the present.

17: Follow step 17, but do not glue the wheels on the axles.
18: The same as in the directions.
19: Now finishing painting the body, including the fifth wheel assembly.
20: Glue the rear wheels to the wagon

HITCHING THE HORSE TO THE WAGON

Cut a three-inch length of the two wires for the harness, and carefully separate the wire into single strands. You will need three strands of the finer wire, and two strands of the larger wire for the horse. Paint the wires the colour you have chosen for the harness.

In the full-size world, a horse is harnessed and then "hitched" to the wagon. In our model world, it is much easier to do the opposite: attach pieces of the harness to the wagon and then "hitch" them to the horse. Start by making and attaching tug loops to the shafts. Take one stand of the fine wire and cut it in half. The shafts on the fifth wheel assembly have little strength, so you will need to start the construction of the tug loops using something with a slightly larger diameter than a shaft. I use a miniature screwdriver. Bend one of the two pieces of wire around the chosen tool and twist the two ends around each other until you have a length of woven wire with the loop end almost as small as the tool it was wound around. Slip the tug loop off the tool and push it over the end of one of the shafts for about 1/8 inch. Position the tail of the loop pointing up. Carefully holding the loop against the shaft, twist the tail until the loop is snug against the shaft. Twist the tail so that it is pointing slightly forward and slightly inward. Put a touch of ACC to cement the tug loop to the shaft.

PHOTO 2:

Make up the second tug loop and attach it to the other shaft. ***See Photo 1.*** Now glue the assembly to the fifth wheel pivot, making sure that the assembly is pointing exactly in the direction you want it to be. This, of course, depends on which horse you have selected to use. Now is the time to glue, one at a time, the front wheels to the axles, being careful to ensure that all four wheels are touching a horizontal surface. You are now ready to start hitching the wagon to the horse.

Put the wagon on a horizontal surface and put the horse between the shafts. If necessary, bend the shafts up or down, keeping the two horizontal to each other, and bend the tug loops so that they fit snugly against the bellyband. ***See Photo 2.*** Make sure that the horse is positioned standing upright and facing straight ahead. Glue the tug loops to the bellyband. Use a sharp knife to cut off the ends about 1/8 inch above the shafts.

The thicker wires are the traces. With one end of one piece of the wire facing towards the front of the horse, place the other end on the top edge of one end of the singletree. Glue it to the singletree. Shape the wire up across the bellyband to the collar. Again ***see Photo 2***. Glue to the collar. Glue as well to the bellyband to add stability to the model. Follow the same instructions for attaching the second trace to the other shaft. Use fine scissors or a sharp knife to cut off both traces at the front of the collar. At this point, the wagon and horse should have the stability to be picked up as a single entity

Glue the driver you have chosen to the seat of the wagon. I chose a Broadway Imports figure for this wagon.

We will start fastening the reins by attaching them to the driver's hands. Our reins are the fine wires. Take one rein and bend a 90-degree angle about seven or eight feet from one end. Drape the angle over one of the driver's hands in a way that approximates the description given above. Glue the rein to the hand and let dry. Now shape the wire with your finger forward and down across the bellyband and collar to the side of the horse's mouth. When the shape of the rein looks "natural", glue the rein to the bellyband and collar, and finally to the side of the horse's mouth. ***See Photo 3***.

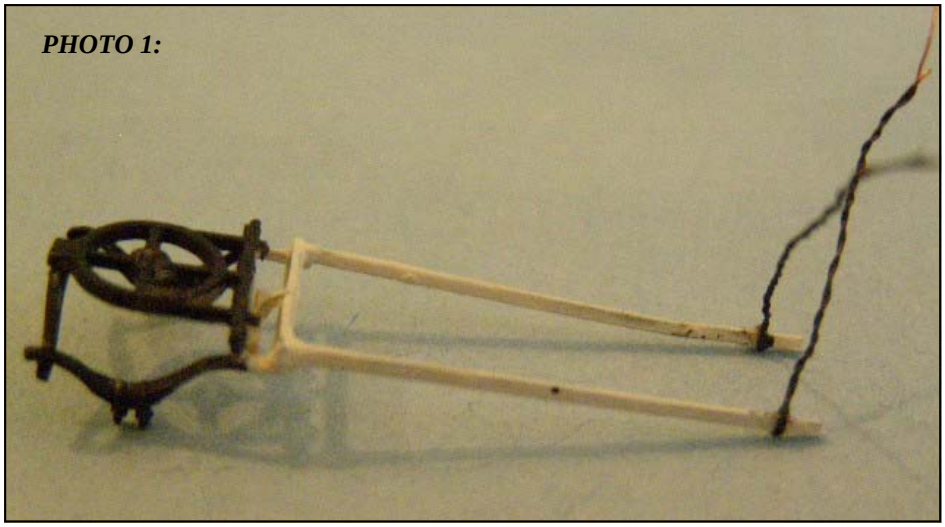


PHOTO 1:

PHOTO 3:

Cut off the wire at the horse's mouth.

Go through the same process for the second rein. When finished, go back and shape both reins below the driver's hands so they appear to be falling down to the wagon floor. Trim.
Do any necessary touchup painting and your model is finished.

Note: If you decided early in the process to use the horse grazing at the side of the road, you have the option of using a driver or not. If you opt for the driver, the process is the same as above. If you decide not to use a driver, you must secure the reins to the wagon. Start by bending a 90 degree angle in both reins. Run both reins through the same hole at one of the top corners of the front panel so that the reins fall down on the inside of the panel. Follow the instructions above to attach the reins to the horse. Come back and shape and trim the end of the reins falling to the floor. The photo at the beginning of this article shows reins pulled through a side handle on a similar wagon.

PART 3: A FARM WAGON WITH A TWO HORSE TEAM

The kit is a Jordan old farm wagon. When you open the kit, you will find parts for two horses, two seated figures, and a wagon. The kit contains as well parts that enable you to build a wagon pulled by either a single horse or a two-horse team. The tooling on the wagon is, for me, the finest of all the many Jordan kits that I have made. The two horses are the same as the heavier horse in the delivery wagon kit. The figures are made from multiple parts, which are quite fiddly to put together and result in a figure, which is 6' 3" tall--without the hat!

THE HORSES

Each of the horses comes in two halves. Start by carefully cutting one of the horses from the sprue. Remove excess material with a knife or files. Sand the flat side of each half of the horse with fine sandpaper. When you are satisfied with the fit of the two halves, put ACC on the flat edge of one half of the horse, then place it on the work surface. Carefully place the other half of the horse on top, then pick up the horse to make the final adjustments. First make sure that the two halves of the horse's snout fit properly, and that the bridle parts match up. Then make sure that the two halves of the back of the horse's body line up. Hold the two halves of the horse together for a minute or two until the ACC sets. Put it aside to dry. Clean up the horse using a knife and files. Be careful in trimming the bottom of the hooves to ensure that the horse stands firmly upright. Shave/file/or sand the strip of harness off the rear of the back of the horse. The horse does not have a bellyband that goes right around the horse. Complete the bellyband by painting it freehand.

Make the second horse.

Harnesses were made of leather, almost always brown or black. The easiest way to paint the horses is to paint the harness first! Make sure that your paint covers all of the harness, even if it goes on to the body of the horse. Horses come in all colours, with the most common being shades of brown, gray, black, and white. Paint the horses in your choice of colour, running the paint up to the base of the harness. The small brush is of help here and, yes, you will probably need to do some touch up. Many horses have contrasting colours on their mane (neck hair), tail and one or more of their lower legs. I dry brush white and black to get this effect. The hooves get painted black.

THE WAGON

Once again, it is much easier if you leave the wheels on their sprues until after you have painted them.

The construction of the wagon goes well following the instructions. However, I prefer to add the wheels after the undercarriage is added to the wagon body. It lets me glue the wheels on one at a time, which enables me to make fine adjustments before the ACC dries. If you follow this route, you need to replace the kit directions numbered 7, 8, and 9.

7. One of the two axles is longer than the other. This is the rear axle. Glue this axle to the rear transverse spring. Make sure that the axle is parallel to the bottom of the wagon. Glue the other axle to the steering yoke, making sure that the axle is parallel to the cross member at the front of the yoke.
8. Bend the two trees (doubletrees) on the tongue (shaft) down 90 degrees. Glue the shaft to the steering yoke. Paint this assembly and set it aside.
9. Return to steps 10 to 13 in the directions.
10. Now is the best time to paint the wagon.
11. Glue the large rear wheels, one at a time, to the wagon

HITCHING THE HORSES TO THE WAGON

Cut a three-inch length of the two wires for the harness, and carefully separate each wire into single strands. You will need five strands of the finer wire, and four strands of the larger wire for the horses. Paint the wires the colour you have chosen for the harness.

In the full-size world, a horse is har-

nessed and then “hitched” to the wagon. In our model world, it is much easier to do the opposite: attach pieces of the harness to the wagon and then “hitch” them to the horse. Start by making and attaching tug loops to the shaft. Take one stand of the fine wire and cut it in half. The shaft on the fifth wheel assembly have little strength, so you will need to start the construction of the tug loops using something with a slightly larger diameter than a shaft. I use a miniature screwdriver. Bend one of the two pieces of wire around the chosen tool and twist the two ends around each other until you have a length of woven wire with the loop end almost as small as the tool it was wound around.

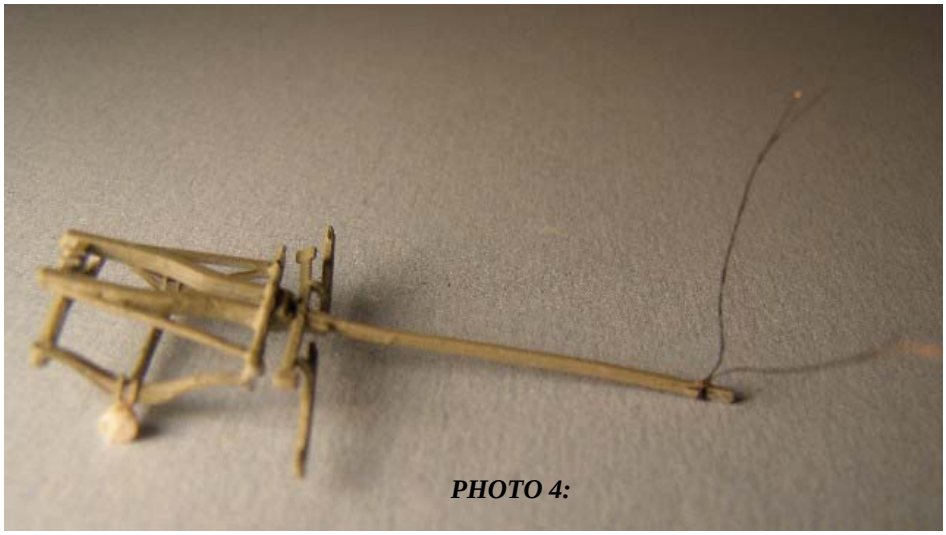


PHOTO 4:

PHOTO 5:

sure that all four wheels are touching a horizontal surface. Glue the hubs to the four wheels. You are now ready to start hitching the wagon to the horses.

Put the wagon on a horizontal surface and put one horse beside the shaft. Bend the end of the tug loop on that side of the shaft to fit snugly against the bellyband. ***See Photo 5***. Make sure that the horse is positioned standing upright and facing straight ahead. Glue the tug loop to the bellyband. Use a sharp knife to cut off the end of the tug loop about 1/8 inch above where it starts to be glued to the bellyband.

It is easier to install the traces on the first horse before we attach the second horse. The traces are the thicker wires. Slip one end of a trace into the hole on the outside end of the doubletree behind the horse. Glue it with a touch of ACC.

Slip the tug loop off the tool and push it over the end of the shaft for about 1/8 inch. Position the tail of the loop pointing up. Carefully holding the loop against the shaft, twist the tail until the loop is snug against the shaft. Twist the tail so that it is pointing slightly forward and slightly out. Make up the second tug loop and attach it to the shaft in front of the other tug loop. ***See Photo 4***. Use a touch of ACC to cement the tug loops to the shaft.

Glue the yoke assembly to the fifth wheel. Align the axle with the middle cross member of the platform. Now is the time to glue, one at a time, the <u>front</u> wheels to the axles, being careful to en-

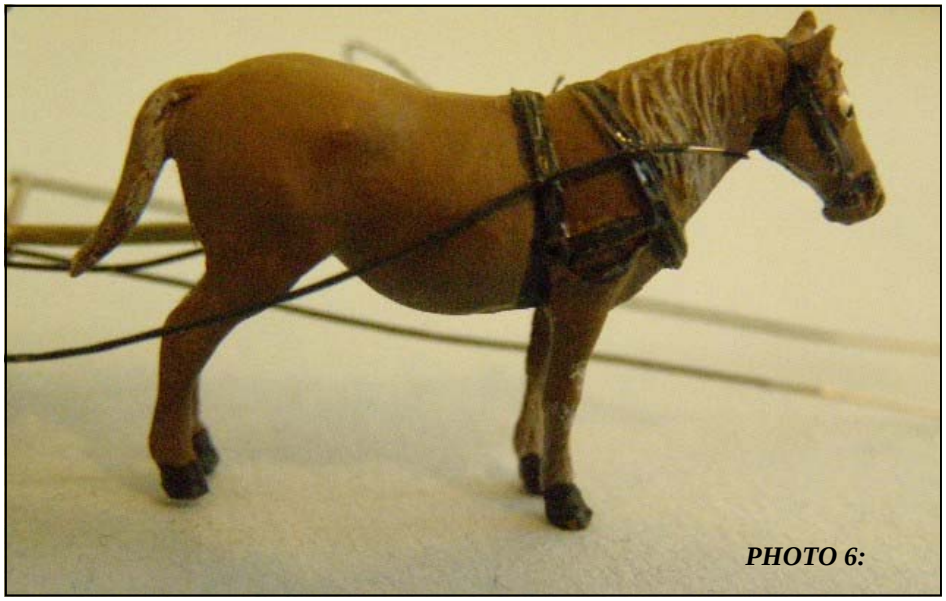


PHOTO 6:

Shape the trace up across the bellyband to the collar. ***See Photo 5***. Glue to the collar. Glue as well to the bellyband to add stability to the model

Take a second trace and shape it over the tug loop and down and into the hole at the other end of the doubletree. Glue it with a touch of ACC. Shape the trace back up across the bellyband to the collar. Glue to the collar and bellyband. ***See Photo 6***. Use a sharp knife or fine scissors to cut off both traces at the front of the collar.

Repeat the process to attach the second horse to the wagon. At his point, the wagon and the horses should have the stability to be picked up as a single entity.

Glue the driver you have chosen to the seat of the wagon. I chose and built one of the figures that came with the kit.

We will start fastening the reins by attaching them to the driver's hands. Our reins are the fine wires and we will attach them one horse at a time. Take one rein and bend a 90 degree angle about seven or eight feet from one end. Drape the angle over one of the driver's right hand in a way that approximates the description given above. Glue the rein to the hand and let dry. Now shape the wire with your finger forward and down across the right side of the horse's bellyband and collar to the side of the horse's mouth. When the shape of the rein looks "natural", glue the rein to the bellyband and collar, and finally to the side of the horse's mouth. Cut off the wire at the horse's mouth.

Go through the same process for the second rein on the left hand and side of the same horse. When finished, go back and shape both reins below the driver's hands so they appear to be falling down to the wagon floor. Trim if needed. ***See Photo 7***

Repeat the same process to fasten the reins to the second horse.

Do any necessary touchup painting and your model is finished. ***See Photo 8***.

PHOTO 7:

PHOTO 8:

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2011 CARM NATIONAL CONVENTION: May 20-23

Ottawa, Ontario: Algonquin College Residence & Conference Centre. 1385 Woodroffe Ave, Ottawa, ON, K2G 1V8. Meet 'n' Greet, workshops, clinics (model and prototype), layout tours, non-rail tours, train show and vendors, displays and modelling contests, banquet, good but inexpensive accommodation in nearby residence. Open to CARM members and all railroaders and model railroaders. Info: www.caorm.org/2011_ottawa or Mike Hind hind_mike@yahoo.ca or 613-821-3741 or Mike Hind, PO Box 108, #2681 Derby St, Metcalfe, ON, K0A 2P0

2012 CARM NATIONAL CONVENTION: Regina, Saskatchewan

Ontario, Copetown, Feb 20: CARM presents the Copetown Train Show. Sunday, February 20, 2011, 10 am to 4 pm. Copetown and District Community Centre, 1950 Governor's Road, just east of Hwy. 52. Operating Canadian prototype layouts Displays by model craftsmen Railway Special Interest Groups Canadian Model Manufacturers Displays and Sales Photo Vendors Refreshments available on site. Admission:$5.00. Info at www.caorm.org

Ontario, Sudbury, Nov 6, 7: 13th Annual Sudbury Modular Railroad Club Sudbury Train and Hobby Show. Howard Johnson on Bradey Street: Sat. 10am to 5 pm. Sun 11am to 4pm. Vendors: Layouts: Other Displays: Modelers Corner: World's Greatest Hobby: Northern Ontario Railroad Museum and Heritage Center. Fare: Adults $5, Children $3, Family $10 Info: sudburymodelrailroading.com/show/index.html or sudburymodelrailroading.com/

Ontario, Guelph, Nov 7: Guelph Model Railroad Society, Pacific Western Railroad Open House. 10am to 5 pm. 50 Crimea Street (west of Edinburgh Road North, near GEXR tracks) 2400 sq ft, 750 foot mainline Fare: Adults $5, Under 12 free Info: www.trainweb.org/gmrs or 519-856-4983 or 905-878-5009

Ontario, Kitchener, Nov 7: Kitchener Model Train Show. Bingeman's Marshall Hall, 425 Bingeman's Centre Drive (exit Connestoga Parkway east to Wellington / Bingeman's Centre Drive). Over 150 vendor tables, operating layouts, lunch counter. 10 am to 3 pm. Fare: Adults $4, children under 12 free with adult, parking free. Info: www.thetoyshow.homestead.com or www.woodstockshow.com/ or www.toyshow.blogspot.com/ or Ian Ward toyshow@kwic.com 519-426-8875.

Ontario, Ancaster, Nov 14: Rail-Ops Club TH&B Model Railroad Flea Market. 10 am to 3:30 pm. **NEW** Marritt Hall, **NEW** Ancaster Fair Grounds, 630 Trinity Road. (Exit Highway 403 south at Highway 52 / Trinity Road, on right past Wilson Street / Highway 2/53). Operating layouts, over 120 tables. Fare: Adults $5, under 12 free. Info: John Henwood 905-335-9112

Ontario, Guelph, Nov 20: Royal City Model Railroaders Layout Tour. 10 am to 5 pm. Details to be announced. 4971 Wellington Road 29, RR#2 Guelph (Take Highway 7 east from Guelph 3 miles, turn South at County Road 29, go 1 mile, look for signs.) 2009 had 9 layouts. Fare: Free. Info: www.royalcitymodelrailroaders.com/

Ontario, Whitby, Nov 20, Nov 21: Pine Ridge Railroaders Fall Model Railroad Show. Sat. 10am to 4:30 pm. Sun. 10am to 4pm. Father Leo J. Austin School, 1020 Dryden Boulevard (southwest of Taunton Road and Anderson Street) Display layouts, exhibits and vendors Fare: adults $5, under 14 $2, under 5 free. Info: www.trainweb.org/prrc/fallshow.htm or (2009) Stephen Pees 905-728-3218

Ontario, Toronto, Nov 20/21: Toronto Christmas Train Show. Sat. 11am to 4pm. Sun. 10am to 4pm. International Centre, Hall 3, 6900 Airport Road 70000 sq ft of layouts and vendors. Everything for the rail fan, modeller, historian or toy train collector, model and toy trains, kits accessories controls, scenery, track, switches, books, videos, DVDs, slides, photos, prints, paintings, real railroadiana, preowned older trains, anything railroad. Info: www.antiquetoys.ca or Doug Jarvis dougjarvis@sympatico.ca 905-945-2775

Ontario, Aberfoyle, Dec 4/5: Aberfoyle Junction O Scale Model Railway Show. #128 Brock Road, Village of Aberfoyle. 1.5 km north of Hwy 401 exit #299. Quonset hut at southern village limits. 10 am to 4:30 pm Large "O" Scale layout. Adults $8, Students & Seniors $6, Children $5. For info Craig Webb 905-527-5474 or www.aberfoylejunction.com

Ontario, Belleville, Dec 4/5: Belleville and Brighton Model Railroad Clubs, Quinte's 15th Annual Quinte Christmas Model Railroad Show. 10am to 4pm each day. Quinte Secondary School, 45 College Street West (From 401, turn south at exit #543 Highway 62, right at College Street West, on south side) 11,000 sq ft of vendors, layouts, and displays largest show east of Toronto to the Quebec border. Fare: adults $5, seniors $4, students $4, children $2, family $10, free parking. Info: Paul Martel pmartel@cogeco.ca 613-968-9270

Ontario, London, Dec 12: London Model Train Show. Centennial Hall, 550 Wellington Street, London (opposite Victoria Park just north of downtown) operating layouts, vendor tables - model trains, videos and railroad memorabilia. Fare: Adults $4, children under 12 free with adult. Free parking on the lot beside Centennial Hall for all customers arriving before 1 pm. Info: www.londontrainshow.blogspot.com/ or Ian Ward toyshow@kwic.com 519-426-8875

Ontario, Paris, Jan 11: Paris Junction 2010 Model Train Show. Paris Fairgrounds, Silver St., 10am to 4 pm. Admission $4. WOD Member $3. Children under 10 free. Contact: John Moseley, 519-455-1311 or j.moseley@sympatico.ca.

LAYOUTS AT THE OTTAWA CONVENTION

UPPER LEFT: Mike Hamer's Boston & Maine
UPPER RIGHT: Carl Swail's Bristol & Elk Lake
RIGHT CENTRE: Don Leger's Shadetree & Nepean RR
BOTTOM RIGHT: Grant Knowles' Colorado & Southern
BOTTOM LEFT: Michel Boucher's Delaware & Hudson
BOTTOM CENTRE: Dave Venables' St. Francis Valley RR