



The Mail Car

Newsletter of the St Lawrence Division – NMRA

Issue no. 54 – May 2009

St. Lawrence Division web site: www3.sympatico.ca/gd.knowles/sld/sld_index.htm

From the Superintendent's Desk

By Peter Joyce

Well, the Woodstock Turn was most enjoyable and rewarding. The clinics were informative and well presented, the raffle had lots of worthwhile items and the model contests had many beautiful entries.

The SLD did itself proud once again: our results are reported elsewhere in this issue by Grant Knowles.

Due to a number of factors, our appearance at the Kingston Rail-O-Rama was not as successful as it could have been, and is an area your executive will pay more attention to next year. My thanks go to those members who made the effort and represented us – well done!

Continued on page 2

NFR Convention Contest

By Grant Knowles

The 2009 NFR annual convention, the Woodstock Turn, took place in Woodstock Ontario on the weekend of April 17 – 19th. One could not have hoped for better weather as the sun shone the whole time and the temperatures were very pleasant. Since there will be extensive coverage of the convention events in the next issue of the Flimsy, I would like to focus this article on the SLD achievements there.

The convention agenda was along the regular format with clinics on Friday and Saturday, layout and prototype tours on Saturday afternoon followed by the banquet in the evening. Sunday had the AGM first thing followed by layout tours in the afternoon. The added

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Peter Nesbitts B&B Plow Flanger took the First Place Prototype Freight with a Merit Award of 106 points and the President's Award for best kit built model and the Narrow Gauge Award.

Photo: Grant Knowles

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The Mail Car is published five times a year by the St. Lawrence Division – NMRA.

Opinions expressed are those of the editor or the individual authors and are not necessarily those of the St. Lawrence Division–NMRA

Copy Deadlines

September Issue - August 15
November Issue - October 15
January Issue - December 15
March Issue - February 15
May Issue - April 15

Special thanks to Beate Herzig for proof-reading and general nit-picking. All pictures without special credit by Andreas Mank.

Continued from page 1 “From the Superintendent’s desk”

Our May meeting (Saturday May 30th) will be held in Carleton Place. In the morning we will have our meeting at the Carleton Place Public Library, and we (I) have extended an invitation to MVAR (and possibly Merrickville) club members to attend as our guests. This is a tremendous opportunity for us to recruit new blood into the division, perhaps by emphasizing the NMRA 6 month trial membership.

Lunch will be at the local eateries, much as we do in Ottawa, and in the afternoon we will visit three local layouts

Layout 1: The Rio Grande Southern is a one acre and 3600 linear foot G scale layout. Both steam and diesel reside on this layout with numerous bridges, trestles, sidings, grades and mountain scenery still under development.

Layout 2: The Algoma and Rideau is a HO scale layout depicting the transition era. This DCC layout is about 95% complete with a seven foot high mountain, trestle, tunnels, hidden staging, a quarry, mine, abattoir, power steam house, etc.

Layout 3: This DCC HO scale 'Northland' layout is still under construction and development but fully operational. Notable grades, curves, tunnel portals and long trains can be seen on this modern era layout.

Eric Halpin, the MVAR president and local organiser suggests the following timing: Layout 1 @ 12:30-2:30 pm; Layout 2 @ 1:30-3:30 pm and Layout 3 @ 3:00-5:00 pm. It takes 25 minutes to go from layout 1 to 2 and 35 minutes from 2 to 3. Tour 3 is on the return leg to Ottawa so there is no double tracking. Detailed instructions will be distributed at the meeting.

Eric also would like to note that NO SHOES are permitted on hardwood or carpets of the home of layout 2. Please remove shoes on entering and carry them to train room.

It should be a great wind-up for our season, so lets all do our best to attend. And do not forget to bring your KitBusters model for show and tell, as well as to show off for our guests.

I hope to arrange a clinic (subject to be determined) and we will be having a discussion on the way ahead for our next year of modeling Saturdays – bring your ideas!

To those unable to attend the May meeting, I wish you a pleasant summer in pursuit of **“The World’s Greatest Hobby”**

KitBuster Plaster Kits 101

By Grant Knowles

The past SLD season success has far exceeded my expectations!

When we proposed the Laser Structures 101 program last May, I had conservatively set my hopes on having a dozen members interested in the program. I had not in my wildest dreams expected 47 takers and to have most of those follow through until the end! My hat is off to all of you for taking on this challenge.

At the March Meet, we had an informal discussion pertaining to what went well with the Laser Structures program and what we should consider for next season. Once again I was (delightfully) surprised to find that you were all game to continue with the theme though with a slight twist. With practice comes confidence and with that you have demonstrated the desire for more freedom in selecting your next project.

So based on your input, it looks like our project for next season will be the construction of a **Plaster Based Structure**. Once again this project will be supported through a series of clinics / workshops that will build upon what we learned this year while focusing on those items specific to plaster based models.

Some of our members have already taken the initiative to see what is out there in the market place in the way of plaster kits. The number of plaster structure suppliers is far more limited than what we have seen with laser kits, fortunately though, all produce very high quality products so we shouldn't have a problem locating the "perfect" kit. Another change for next year is that we will open up the boundaries and suggest you locate and source your own kit - if you wish. This in part is because not all plaster manufactures make kits in all scales thus we will not be able to find "one kit that fits all tastes". Therefore you may have to search around to find the supplier in your "niche" in order to locate the type and scale of model that suits you. None the less, I will bring along a list of suggested suppliers to the May meet and we can explore the option of consolidating orders with a supplier (or two), etc.

Also, since this is a "club" activity, I am extending the invitation to the membership to come forth and help assist with the program in any shape or form. Any and all assistance will be greatly appreciated.

So if you are interesting in participating in this program next season, do come out to the May meet as we'll review the scope of the project there and refine our plans for next season.



Selwonk Shipping was build from a plaster kit.
Photo: Grant Knowles

Continued from page 1 “NFR Convention Contest”

bonus was the local Train Show on Sunday that had an extensive line up of dealers and layouts on display. My favourite, the Model Contest took place on Saturday with submission / display in the morning and judging (by Peter Nesbitt and his team) in the afternoon. The awards were handed out at the banquet.

I was pleased to see that eight versions of the Silver Plume Bakery appeared in the Appearance Contest category across the O, S and HO scales. The “collection” of similar structures certainly stirred up interest with the membership. At the last minute I created a single page description which was posted with the models that described what the SLD was up to with the Laser Structures 101 program. The icing to the cake was that Chris Lyon won the “ID Freelance Award, Best in Freelance Appearance” for his Pool Hall. Congratulations Chris.



Structure Display for the Appearance Contest at the Woodstock NFR convention. Eight Silver Plume Bakeries found their way to the display.

Photo: Grant Knowles

The SLD participation in the contest did not stop there. At least half of the models submitted in the Appearance Contest were from SLD members! Here is a summary on how the models placed in their respective categories:

- Stan Conley - First Place Freelance Freight – Superior Detritus Company Boxcar.
- Peter Joyce - First Place Prototype Traction – Montreal & Southern Counties #609
- Grant Knowles - First Place Prototype Steam - Colorado & Southern 2-8-0 #50
- Peter Joyce - First Place Prototype Caboose - Montreal & Southern Counties #508
- * Note, Peter also won the ID Prototype Award, Best in Prototype Appearance
- David Steer - First Place Prototype Refrigerator – Hanrahan Refrigerator
- Alex Binkley - First Place Prototype Freight – Flat Car
- Alex Binkley - Second Place Prototype Freight

The SLD members also had a good showing in the Judged contest with a number of Merit Awards and plaques being issued. The following identifies their success here.



Montreal & Southern Counties # 609 earned Peter Joyce first place in the Appearance Contest for Prototype Traction.

Photo: Grant Knowles

- Peter Nesbitt - First Place Prototype Freight - B&B Plow Flanger (O scale)
- Merit Award: 106 points
- President's Award (best kit built model)
- Narrow Gauge Award
- Peter Nesbitt - Scratch Built Freight - D&RGW Reefer #55 (O scale)
- Merit Award: 104 points
- Vice President's Award (Best scratch built model)
- Peter Nesbitt - Scratch Built Freight - B&B Boxcar 3056 (O scale)
- Merit Award: 101 points
- Peter Nesbitt - Scratch Built Freight - B&B Boxcar 3078 (O scale)
- Merit Award: 101 points
- Ron Newby - Scratch Built Structure - Beaver Creek Company Store (N Scale)
- Merit Award: 97 points
- Chris Lyon - First Place Colour Prototype - Print
- Chris Lyon - Second Place Colour Prototype - Print
- Chris Lyon - First Place Black and White Prototype - Print
- Chris Lyon - First Place Colour - Print Model
- (Taken on Bill Scobie's Sn3 Rio Grande & Southern.)
- Chris Lyon - First Place Colour Transparency Prototype
- Chris Lyon - Second Place Colour Transparency Prototype
- Chris Lyon - Third Place Colour Transparency Prototype

Over all the SLD had a strong presence in both contests and once again demonstrated we are a force to be reckoned with! It would be greatly appreciated if all our award winners could bring out their models and the awards to the May meet for everyone to admire.

There is additional information and photographs on the SLD web site.

NMRA Dates

SLD Meetings		NFR-NMRA Convention	
May 30, 2009	Carleton Place Public Library 101 Beckwith Street Carleton Place		TBD
			SLD Workshops
			TBD
September 26, 2009	TBD		

Signals for the Shadetree and Nepean

Part 3: Tying it all together

By Andreas Mank

In the first instalment (January 2009 **Mail Car**), the assembly of the signals was explained. The second instalment (March 2009 **Mail Car**) of this series covered the basic electronic circuits to drive the signals. This instalment will tie it all together by explaining how to logically relate the signals to each other and to the possible routes on the layout to achieve the desired signal aspects.

The signal aspects used in Canada convey both route information and track occupancy information. As the Shadetree and Nepean is not equipped with block occupancy detectors, the signal will only convey route information. If one desires occupancy detection as well, it is a straightforward extension of the principles discussed here to take that information into account. All that is required is a block occupancy detector that provides a logic signal output.

A complete list of the signal aspects used by Canadian Railways and their meaning can be found in the Canadian Trackside Guide and will not be repeated here. The starting point is the track schematic with the signal placements for the Shadetree and Nepean given in figure 1.

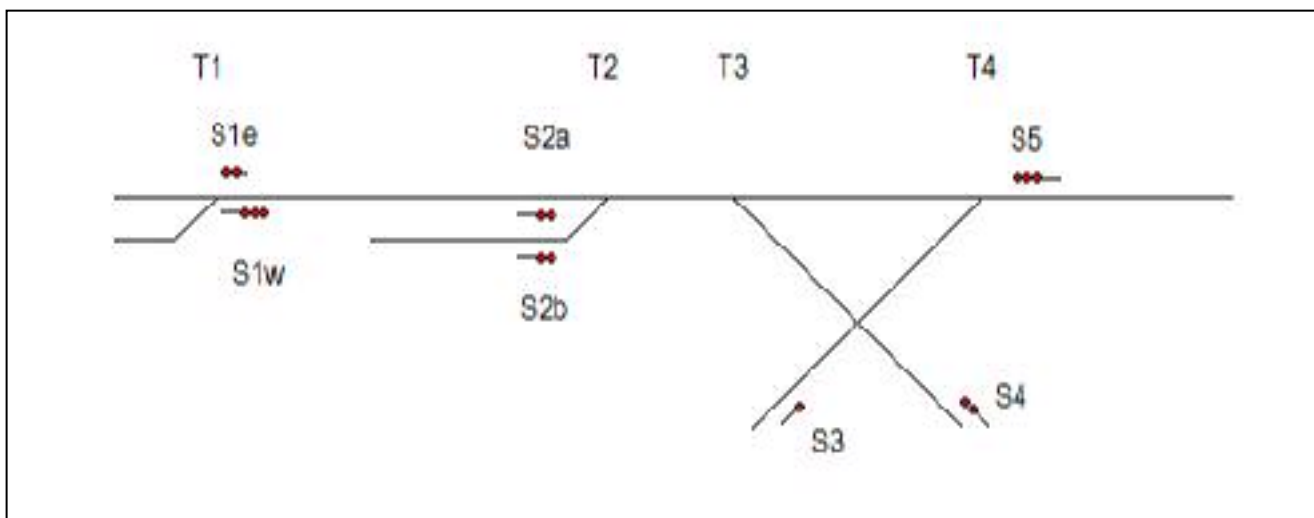


Figure 1: Schematic of the signalled part of the Shadetree and Nepean.

From the schematic, it is now necessary to build up a table of logic conditions that need to be fulfilled to result in a certain signal aspect displayed. The inputs to the logic are the turnout routings, indicated by the letters “N” for normal and “R” for reverse. Based on the possible routes, it is now possible to prepare a table with all possible signal indications. The complete table for the Shadetree and Nepean is given in table 1.

I will now use the case of signals 2a and 2b (combined on a signal bridge as shown in figure 2) to illustrate the principle in more detail.

Let us discuss signal 2a first. The easiest possibility is that turnout T2 is set to reverse (T2R). Signal 2a must display STOP, as the turnout is routed to the alternate route. Similarly, if both T2 and T3 are set to normal, but T4 is set to reverse, no train should enter the interlocking through S2a and it should display STOP. The logic condition therefore is:

$$T2R \text{ or } (T2N \text{ and } T3N \text{ and } T4R)$$

There are two other possible cases:

$$T2N \text{ and } T3N \text{ and } T4N$$

$$T2N \text{ and } T3R$$

The first case takes a train through all normally aligned turnouts, therefore it will result in the aspect CLEAR. The second case takes a train through a diverging route. After the turnout, the train may resume track speed, therefore the indication is SLOW TO CLEAR.

Signal	Location	Aspects	Name	Cause
S1e	Dwarf	Y/R	Medium to stop	T1N
		R/fY	Slow to stop	T1R
S1w	Yard exit	Y/R/R	Clear to stop	S2a R/R and Exit requested
		G/R/R	Clear Signal	S2a G/R and Exit requested
		R/G/fY	Medium to Slow	S2a R/G and Exit requested
		R/R/fY	Restricting Signal	Switching move requested
		R/R/R	Stop Signal	all others
S2a	Bridge left	R/R	Stop Signal	T2R or (T2N and T3N and T4R)
		G/R	Clear Signal	T2N and T3N and T4N
		R/G	Slow to Clear	T2N and T3R
S2b	Bridge right	R/R	Stop Signal	T2N or (T2R and T3N and T4R)
		R/G	Slow to Clear	(T2R and T3N and T4N) or (T2R and T3R)
S3	Single Head at crossing	R	Stop Signal	T4N
		Y	Clear to Stop	T4R
S4	Dual Head at Crossing	R/R	Stop Signal	T3N
		R/G	Slow to Clear	T3R and T2R
		Y/G	Clear to medium	T3R and T2N and T1N
		Y/Y	Clear to slow	T3R and T2N and T1R
S5	Triple Head	R/R/G	Slow to Clear	T4R
		R/G/R	Medium to Clear	T4N and T3N and T2R
		Y/G/R	Clear to medium	T4N and T3N and T2N and T1N
		Y/Y/R	Clear to slow	T4N and T3N and T2N and T1R

Table 1: Table of all possible signal indications for the Shadetree and Nepean. Any combinations not listed in the table will lead to STOP indications. The LED colours are shown in the column “Aspects” ordered from top to bottom, i.e. R/G/fY means Red over Green over flashing Yellow



Figure 2: Signal Bridge with 2 two-headed searchlight Signals. The aspects indicate that turnout 1 is aligned normal and turnout 3 is diverging.

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Continued from page 7: “Signals for the Shadetree and Nepean”

Now let us discuss Signal 2b. The conditions for signal 2b are very similar as for signal 2a, except that turnout 2 needs to be reversed for any moves to occur. As all moves proceed through the diverging route on turnout 2, most indications will be more restrictive than on signal 2a. The possible combinations are:

T2N
T2R and T3N and T4R
T2R and T3N and T4N
T2R and T3R

Either of the first two conditions results in a STOP indication; either of the final two conditions results in the indication SLOW TO CLEAR.

I will leave it to the interested reader to work through all possible combinations. Briefly, I will touch upon Signal 1w at the exit of the yard. It is slightly different in that its aspects are driven by the aspects of Signal 2a immediately down the line. In addition, the default display on signal 1e is STOP unless a route out of the yard is requested. To facilitate this scheme, 3 pushbuttons were installed in the control panel for the yard, one button to request a route for a departing train, one button to request a switching move, as the approach doubles as the yard lead and the third button to reset either request. Pressing either pushbutton for a movement will also drop both S4 and S5, the inbound signals, to STOP as long as the route is set to connect to the yard.

The implementation of this logic was done using hardwired logic circuits. I was able to standardize mostly on NAND circuits. Using the auxiliary contacts on the Tortoise switch machines Don employs on the Shadetree and Nepean, I generated a L(ow) signal for a reverse turnout and an H(igh) signal for a normally aligned turnout. The only difference in the circuits shown in the last instalment is that I equipped the PCB for the basic drive circuit with a connector as seen in figure 3. There are 15 identical and interchangeable drive circuits for the 15 LEDs that plug into receptacles on the three main logic boards. The three logic boards and the timer board are mounted and pre-wired on a piece of hardboard. I tested the circuit before installation, as seen in figure 4. Thorough testing of all possible aspects ensured that the only work required at installation was wiring.

The hardboard with the circuit components was mounted in a convenient location under Don’s layout as shown in figure 5. Installation of the signals on the layout, including all the wiring took about 5 hours. After feeding the wires

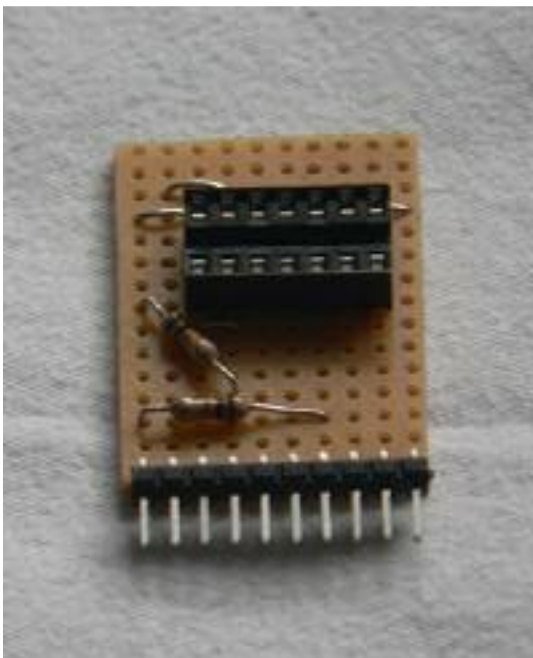


Figure 3: Connectorized basic drive circuit for searchlight signal.

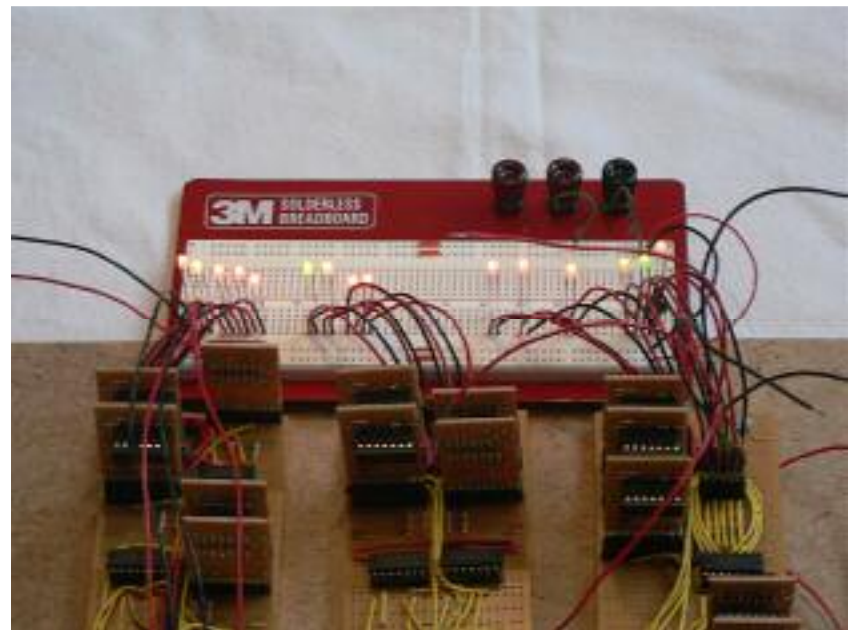


Figure 4: Testing the circuit. The Breadboard holds the 15 bi-colour LEDs that stand in for the real signals during initial testing.



Figure 5: Installed drive circuitry beneath Don's benchwork

through the scenery shell, the signal masts were pressed into holes drilled into the scenery. The signal bridge and the dwarf signal were glued to the scenery using Microscale Micro Liquitape. Underneath the layout the wires from the LEDs were connected to terminal blocks and from there connected to the circuitry.

Everything is powered by a dedicated 5V DC power supply. The first operating session with the new signals active occurred on April 24, and according to Don, everybody was pleased.

As you can see in the pictures, the amount of wiring on the boards was extensive. I would consider the wiring for the Shadetree and Nepean to be the most complex one I would approach this way. Anything with more complexity, and it would be better to program the logic on a PC and drive the signals from there. In the September **Mail Car**, I will discuss options for that approach.

Last run on the Boncherre and Braeside



Top:
Don, Grant and Alex are enjoying on last run on the B&B.

Photo: Peter Nesbitt

Right:
The proud owner of the B&B, looking ahead to this new adventure.

Photo: Andreas Mank

Recently, news reached the editor that the B&B will be moving to a new home. Peter invited a few friends for a last chance to operate the B&B in its old home. Peter is looking forward to a larger basement and possible improvements to the layout. As the layout was not designed to be moved, it will be interesting to see how it works out. Peter promised to keep us apprised through a series of articles in the upcoming editions of the Mailcar.



Display Table

By Grant Knowles

The March Display Table theme was a little more challenging this month as it required members to dig through their past to find the “toy trains”. Remarkably, most of the models on display catered towards this theme.

Michael Rozeboom brought out quite an interesting collection of Marx O scale (and other sizes) trains that his family has been collecting over the years. Many of the items were in next to pristine condition.

Manufactures continue to bring out new and exciting products. Stan Conley had a partially boxcar kit from Full Circle Models (www.fullmodels.com). They have come out with a couple of neat boxcars in HO and On30 scales that are based on laser cut cardboard! The interior structure of the car is made of interlocking cardboard pieces that are then overlaid with pre-printed side panels. The detail is terrific and the laser cutting top notch. The kit includes a resin floor, trucks, couplers and all the details required to



complete the model.

Stan also had his Silver Plume Bakery kit out. Stan has chosen to build his as the Tweed News. The building sports a detailed front room with many of the fixtures made for paper! Though it looks finished, Stan states there is more work to be done.

Bill Meredith has been very busy over the past few months with his model business. This month he had four very intriguing projects on display. The first was the styrene master for the HO scale hart Convertible Ballast Car. Bill was approached by Jack Burgess at the Naperville show to produce a kit for the Yosemite Valley #6. These cars were operated on dozens of railroads including the CPR, CNR, AT&SF, UP, B&O, etc. Additional details are currently being produced and Bill expects the kit to be on the market by summer.

Next up Bill had a partially assembled master for the B&O gondola that will sport steel coil covers. This has been an on going project that has presented many challenges. It too will be out this summer.

The third model was that of an HO scale V&T Combine #1. This was a pre-production sample of the kit that will include brass etchings and resin trucks that will utilize Tichy bearings.

The fourth and final model is a Sn3 production sample of the ET&WNC Hopper. This kit will be available later this spring.

Mike Hamer also brought out his Silver Plume Bakery project. Mike outfitted his store as Barber Shop with the name “Barber Bill” who promises no “meek” cuts. Mike also another recent creation of his – the Boileau’s Radio Repair. This was built from the FOS Pressman Radio Repair laser structure kit. The only change Mike made was to recess the exterior staircase slightly.

Bill Meek demonstrated his patience for small parts with an HO scale Jordan old farm wagon that he has almost completed. I

tried to convince Bill to assemble my half finished since he did such a nice job. His response was along the lines – “I will build something like this only once in my lifetime!” so I guess I am on my own.

David Steer once again demonstrated the depth of this railroad collection with a Lionel Hudson 2065. Dave states this was a gift from someone who knew he was into trains.

Chris Lyon brought out his (still working) first train set – a clockwork powered Hornby Goods Set 20. This train has been pounding the rails of its circular empire reliably since 1955!



Our resident S scale enthusiast brought out a glorious 4-8-4 Northern made by American Models. Alex Binkley identified this model was available in High Rail and scale version to which this is the latter version.

Peter Nesbitt had an HO scale wind up Santa Fe Pull-Push train that had never been out of the box on display.

This completes our review of the March Display Table. It was great to see some of the old train sets that we were baptized into the hobby with.



Next Division Meet

St Lawrence Division – NMRA

When:

Saturday, May 30, 2009

Where:

Carleton Place Public Library
101 Beckwith Street,
Carleton Place

Doors open at 9:00 am -- Admission \$5.00

What's on:

Morning:

Division Business

Clinic

- Grant Knowles:
*Introducing Plaster
Kits 101*
- tbd

Display

- Contest Models

Door Prizes

- You never know what to expect!

Afternoon:

Layout Tours

