



# The Interchange Our 43rd Year

Ottawa Valley Associated Railroaders — OVAR

November 2003

Issue 379

## Building a modern rail barge slip



This view of the ferry slip at Pillsbury Point near Prince Rupert illustrates the configuration and environment of a rather ancient slip tower. It also illustrates that even a lordly road locomotive may be relegated to the mundane task of switching the contents of a barge. In this case, it is the CN Aquatrain, which still operates between Prince Rupert and Alaska. (Scott Duffus photo)

*Editor's Note: Last month Tom presented a proposal for Prince Rupert — this month we continue with his plans to build a barge slip for his module.*

by Tom Patterson

Canada is surrounded on three sides by large bodies of water, and is well renowned for its innumerable inland lakes, both large and small. Little wonder, then that Canadian railway operations have historically included the shipment of rail cars over water. Vessels have ranged from modest barges of 6 to 8 car capacity to self-powered ferries which could carry well over 40 cars.

Interesting though these operations may be, most have gone the way of LCL, way

freights and mixed trains. Highway transportation has reduced the instances of rail barge and ferry movements drastically. In fact, the rail barge service between Prince Rupert and Alaska stands out as an exception.

The article suggests how we might ignore history by incorporating a modern rail barge slip within our pikes. Many modern slips have been built recently to support the BC Ferries service between the mainland and Vancouver Island, and although they do not handle rail traffic, they are nonetheless impressive structures. All are constructed of steel piping or columns and concrete, and can be modelled easily using plastic shapes and sheets. Although all of these slips are of similar general design, there does not seem

to be a standard form. Rather, they seem to be built for the specific location, which will give us license to adapt the configuration to our own needs.

A set of scaled, generic plans will appear next month to guide the design and construction of the Rail Barge Slip. However, you will probably find that you will want to

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*plus much more*

# More on the UP licensing issue

by Hugh Laing

THE INTERCHANGE has carried an item on Union Pacific Railroad charging licensing for royalties on the use of their trademarks and logos by model train manufacturers.

Lionel will contest the action by Union Pacific due to the fact Lionel has documentation from years ago that granted Lionel the free use of UP trademarks and logos.

This might also provide Lionel blanket use not only of UP logo's but also the UP family including, SP, MP, WP, as well as DRG&W and maybe others.

Lionel always sought the owner's permission for using various trademarks they have put on its products over the years. This policy may bear dividends for Lionel in the future as other railroads are watching the UP case unfold to see if they should make similar demands from model manufacturers.

Lionel had Kelloggs Corn Flakes, UPS and Kraft reefers that were cataloged but never produced. The respective trademark owners refused to grant Lionel permission with out charge for their use.

Lionel has had a policy over the years not to pay the owner for the use of trademarks. Lionel considered the publicity they generated for the owner as ample return for their use. At the moment, it is unknown how UP's action may affect other manufacturers such as Atlas, K-Line, Weaver or MTH or other scale makers with regard to future items in respect of UP charging for their trademark use on locos and rolling stock.



OVAR Chair Denis Rule presents Brian Earl with a plaque in recognition of his work with the RAILFAIR raffle layouts. For the past several years, Brian has worked with students from Michael Corkery School to construct the layout, which is a CHEO fundraiser.

(Ian Cranstone photo)

## Grand scale railroading

Although many of us have constructed (or are in the process of doing so), few of us have done so in the massive scale of October presenter Rod Johnston. His topic was on his model railroad, which now runs some 400 feet of 1" to the foot scale trackage throughout his backyard.

Rod is also a manufacturer, operating his own company called Riding Railkits Inc. These are not kits for the faint of heart, or for those will empty wallets, as a quick perusal of his web site will reveal:

[www.ridingrailkits.com](http://www.ridingrailkits.com)



Rod Johnston's four-wheel switcher.

The GP9 he had on display was a mere U.S.\$5995, with a dummy unit a bargain at U.S.\$3895. The four-wheel switcher is listed at U.S.\$1995. His starter set (think giant train set), including four-wheel switcher, two gondolas complete with trucks and couplers, and 126' of track to form a 20' radius circle is a mere U.S.\$3795! By the way, also add shipping from LA and the usual taxes...

Hmm, think I'm sticking to HO!

### For the Record

October Meeting:

135

Current membership:

180

REMEMBER IF YOU CAN'T  
MAKE THE DINNER PLEASE LET  
PETER JOYCE KNOW

### THE INTERCHANGE

wants to know what you're  
doing on your model railroad

## TIMETABLE

Upcoming events of particular  
interest to OVAR members

November 29: OTTAWA – St. Lawrence Division NMRA Meet, St. Anthony's Soccer Club Hall. Info: Stan Conley (613) 523-8237, e-mail: [sconley@ccs.carleton.ca](mailto:sconley@ccs.carleton.ca)

[www.cyberus.ca/~g\\_knowles/sld/sld\\_index.htm](http://www.cyberus.ca/~g_knowles/sld/sld_index.htm)

December 2: OTTAWA – Bytown Railway Society Regular Meeting, 7:30 p.m. Info: [www.ovar.ca/bytown](http://www.ovar.ca/bytown)

December 3: CORNWALL – Moccasin Model Railroad Club, Nativity Hall, 7:30 p.m. Info: Jacques Thuot, e-mail: [jthuot@cnwl.igs.net](mailto:jthuot@cnwl.igs.net)

December 6-7: TROY, N.Y. – Rensselaer Polytechnic Inst Open House, New England Berkshire & Western (NEB&W) will be open to the public, 12-4 p.m. Info: [railroad.union.rpi.edu/open\\_house.asp](http://railroad.union.rpi.edu/open_house.asp)

February 21: OTTAWA – MODEL TRAIN FLEA MARKET, St. Anthony's Soccer Club Hall. 10 a.m.-2 p.m. Info: Denis Rule (613) 823-3440, e-mail: [derule@sympatico.ca](mailto:derule@sympatico.ca)

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# Another area modeller becomes a manufacturer

by Bill Meredith

Last fall after being laid off, I along with a good friend in Wyoming started a model train manufacturing company called The Cimarron Works. The premise of the company is to manufacture On3 and Sn3 railroad equipment that came from the 1880-1920 period. The kits would be resin using high-end processes which would be packed with fine injected plastic castings. Runs would be limited.

We have found, as have others; that the model train industry is becoming polarized. On one end are the RTRs out of China; on the other, limited run high end resin kits. The Cimarron Works was incorporated in the State of Wyoming.

This past summer I produced kits for several resin On3 and Sn3 freight cars. These cars were all DSP&P prototypes and include 27' box, reefer, and coal cars. The masters were all carefully crafted from styrene and brass. From these masters RTV molds were produced and from the molds resin castings were made.

The National Narrow Gauge Convention was held the following week in Denver where we began the marketing of our kits. The show was a success and business was reaffirming. The icing on the cake came when Dave Steer, Bob Stears, George Sebastian-Coleman and I managed to arrange a cab ride on the Georgetown Loop RR. Few things can compare to coming down the mountain in the cab of that loco and then crossing that huge viaduct to unexpectedly find one Bill Scobie trackside doing some railfanning. (When Bill recognized those in the cab the expression on his face was truly priceless.)

Back in February, I began to build five DSP&P Sn3 Mason Bogie 2-8-6's. These locos were built up from the kits I manufactured some years back. As I was "between careers" I had some time to put into these things. The prototypes for this type of loco on the DSP&P numbered a staggering four and all were scrapped by 1888. I have sold these off but I have enough parts on hand to build two for my own layout (which I might add now has 80'+ of handlaid code 55!).

Producing product in resin has several benefits and several pitfalls. Each has to be taken into consideration when planning projects.

One key benefit is that production runs can scale with demand. An RTV (room tem-

perature vulcanizing rubber) mold can typically withstand 35 resin pours after which it will start self destructing. This self destructing is a result of the resin attacking the RTV itself. This is an unavoidable side affect of the process. The RTV also picks out *every* detail on the master. The RTV is also flexible and some under cutting is allowed. In essence, you can get a lot more detail in a resin model than is physically possible in injected molded styrene.

The down sides of resin and RTV products are also extensive. Mold deterioration (RTV is also very expensive) and tedious manual processes of mold filling are also noteworthy. It is a time-consuming process that has a steep learning curve.

Every once in a while someone asks me "why not just do the kit in injected plastic?". Yes, it can be done. I have done this kind of thing before and they were quite successful. The answer has to do with volume. Finding a cheap die cutter to make the equivalent of an HO standard gauge wood boxcar with trucks will still set you back \$20K for starters. So, how many of these things do you think you can sell? In Sn3 and On3 the market is limited. A popular car (that may or may not have been done already) will likely sell 1,500 units total over a 4 year term. HO standard gauge you can multiply that number by ten, again assuming that the kit has not already been done. So, getting back to narrow gauge, the cost to get the dies done per car is about \$14. The cost to fill the dies on a per car basis is about \$1, maybe less. Using some fundamental product management skills your fixed cost on a per car basis (adding in the box, wire, lettering etc.) would approach \$20 a car. Then you will have to factor in dealer discounts (typically 40%). Your selling price now approaches \$40 per car.

The up side of all this is that these numbers only apply for the first 1,500 kits; fixed costs for any kits thereafter reduce to \$6 a kit and you would still be selling for \$40. Then you make money. Let's hope you don't have to eat in the meantime.

The kits that we produce are made from styrene masters. Each project is carefully drafted using AutoCAD and from that, mathematically precise engineered patterns are produced. Building a pattern for a freight car requires a lot of planning and precision. Each part is fabricated to within 0.005" tolerance, as any mistake you make

once will be copied onto every subsequent resin casting. Use of a Vernier caliper and a calculator is mandatory. I also use a milling machine to make the patterns. With a milling machine I was able to slot the frame members for ease of assembly and I was able to create highly effective shiplap for floors where the ends are visible.

The patterns also have to be functional. When building up the floor pattern you have to take into consideration that the model is functional. What couplers will be used? The infrastructure has to be engineered into the pattern to allow for trucks and couplers. Intermediate sills have to be positioned to enable free wheel movement. It is key to understand the subtle differences between a prototype and a functional model.

When a pattern is made you must also consider how the resin will fill the molds. For the kits that we did, we had to alter the pattern as the resin behaved non-characteristically in certain areas of the car sides. The thickness of the areas of each part has to be relatively consistent. Filling a large mold that has small pieces emanating from it will cause problems and the molds will not fill out.

I should mention that I don't actually make or fill the molds. I have this farmed out to an organization that does this full time. I made a conscious decision to avoid these aspects and to focus on the patterns and running the business. The patterns for the kits that we produced took me almost 10 weeks of solid effort. It is important to know that you get out whatever you put in.

The general market reaction to the kits has been generally positive. Bob (my partner) and I have a long list of prototypes itching to be modeled. While we will not be producing anything considered "main stream narrow gauge" we will be supplying kits of the lesser-known and more obscure prototypes that could not support the capital expense of injected dies. It is important to understand that this is a business that just so happens to be in the area of model trains. It requires a sizable amount of time and capital to get products out the door, and while I encourage folks to look into resin casting, it is not a simple or cheap process. You need to understand why you would want something cast and why the costs and benefits carefully. If you are only looking for a small handful of models you may be better off building all of them from scratch.

## Modern rail barge slip

*continued from page 1*

adapt the dimensions to your situation. Accordingly, the construction tips avoid specific measurements. Be absolutely sure that you know the dimensions of your interpretation of these drawings beforehand! To help in this adaptation process, I have included a number of photographs, which depict the general configuration and components of these slips. You will note that these slips are designed for two level ferries, and are significantly more intricate than my one level interpretation.

### Construction — Overview

The slip described herein is composed of five unique parts:

- The slip;
- The two tower platforms;
- The two outer towers, which house the counter balance blocks and towers, and support the bridge;
- The inner counter balance towers; and
- The bridge.

Each part is assembled separately, and then combined to form the complete structure.

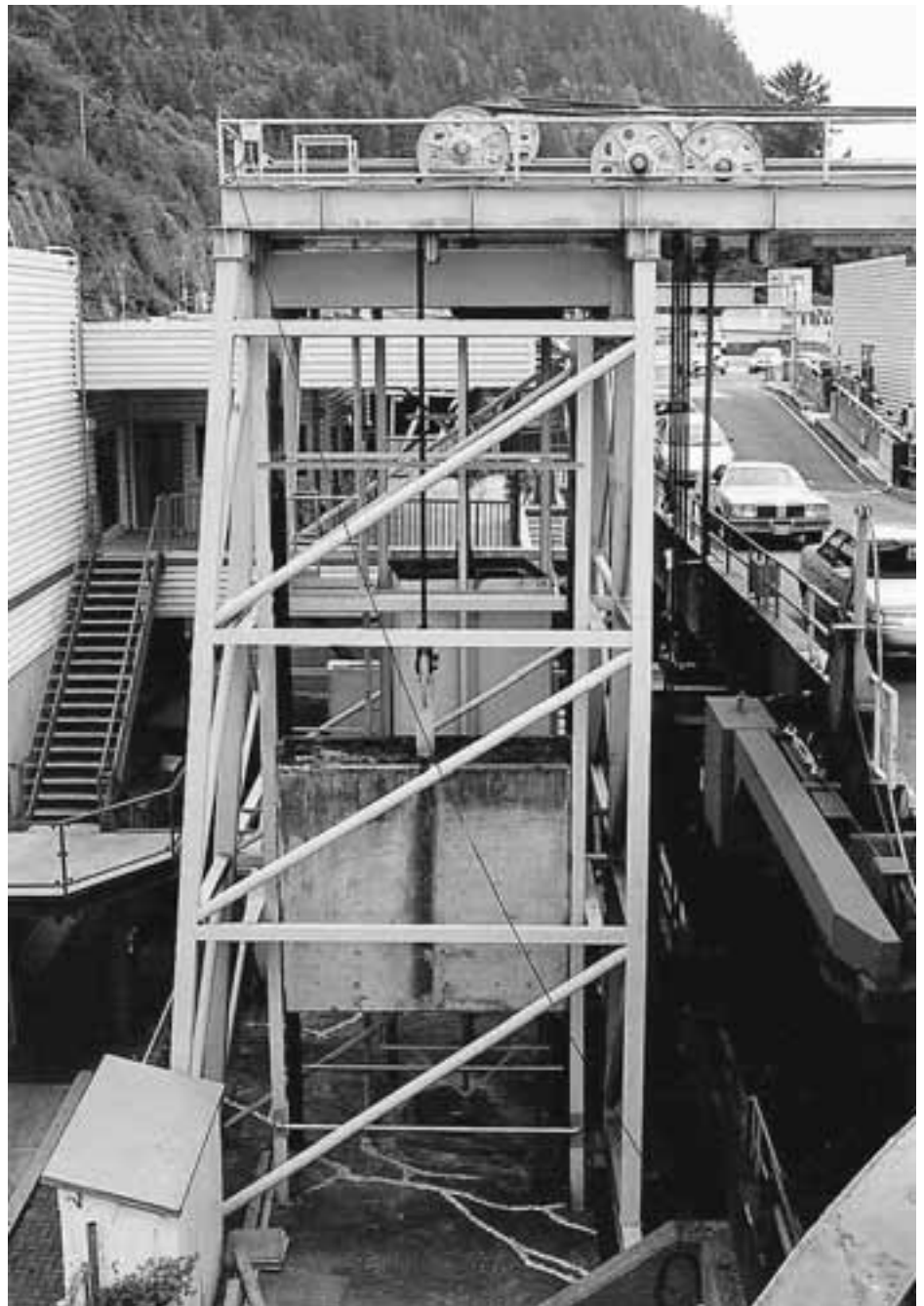
In order to render the construction descriptions for each part more readable, the topic of painting and weathering is grouped into one section. However, it is essential to paint and weather each section as it is built. Waiting to paint and weather the Rail Barge Slip until it is built is definitely not recommended!

### Construction — Slip

The slip is the easiest component of the Rail Barge Slip to build, and is most critical in terms of rail alignment, so it is best to start with it. The first vital decision is the barge(s), which will be used, and their height above the “water” level. This will set the location and height of the rails, which approach the barge. In fact, it is best to acquire the barge first of all so that there are no ugly surprises after final assembly of the slip!

For the slip, I suggest using a piece of basswood, approximately 20 scale feet wide to accommodate two tracks and walkways on both sides. The rails should be spiked directly into the basswood. Rail-height walkways between the rails and between both tracks should then be added. These walkways could be made to simulated wood planks or steel sheeting.

The length of the slip must be at least the depth of the outside towers. A slight gradi-



**The network of pulleys, cables and counter weights is probably the most visually engaging aspect of the slip tower. To be effective, your model does not need to be as elaborate as this example at Horseshoe Bay — it is designed for two level slips. To note are the flood lights attached to the horizontal beam. (Tom Patterson photo)**

ent downwards towards the barge may be incorporated. Railings may be added on both sides of the slip.

### Construction — Platforms

The platform construction is also relatively straightforward. They are composed of two laminated sheets, each about one scale foot thick, so that the resulting platform is approximately 2 feet thick. If you cannot locate or create ABS sheeting of approximate-

ly 1/8" thick, you may want to build the two platform layers with thinner sheets, or use basswood. The platform width and depth must accommodate the outside tower “footprint”, plus approximately 3 feet of walkway around the outside tower, if you wish this addition. Obviously, it is essential to establish the dimensions of both towers beforehand! It is also important to decide whether cylindrical or square vertical members will be used for the outside towers. The

latter option is easier to deal with.

These two platform sheets actually form a template for the vertical members of the two outside and inside towers, and for the pipe pilings which support the platform. Locate and clean out the holes on the top sheet to accommodate the 8 vertical members for both towers, and, on the bottom sheet, the 4 holes for the supporting pipe pilings. You may want to make one spare top template for the towers to help stabilize the top of the tower structures while the glue is setting.

The platform supporting pipes are made from 2 or 3 foot diameter plastic tubes. The height should be such as to render the platforms roughly level with the slip. It is best to drill holes in the “water” to accommodate short lengths of piping which fit snugly inside the supporting pipes. This will help position the platform, and provide some structural strength for the final installation. However, you may not want to glue the platforms permanently to the “water” base. One never knows when the layout must move! In any case, delay attaching the supporting piles to the platforms until final assembly so that the platform may be used as a base for tower construction. Nevertheless, the piling “guide pipes” may be built onto to “water” at this time, and the actual pilings located. Use the bottom platform sheet as a template to stabilize these pilings while the piling cross braces are being attached.

Next, the 1 foot diameter (or less) cross brace pipes will be added, one cross brace between each pair of supporting piling pipes, at an angle. Being a bit concerned about the strength of the base, I would drill holes in the pilings, at an angle, to accommodate the cross braces, and glued them in place.

Once the platform support pilings are in place, they should be weathered. Then, the top and bottom platform sheets can be glued together, but not to the pilings at this time — You now have the base upon which you can build the towers.

### Construction — Inside Tower

Now the fun begins! All of the towers would be fragile, and must be built absolutely vertically. A “leaning tower” is very obvious, so take your time. The first step is to build two counter weights, which, for my version of this model, would be about 2 foot by 5 feet by 5 feet. I would build “boxes” from the same plastic sheeting used for the platform. An alternative would be to laminate pieces of plastic sheeting to simulated a stack of steel sheets. Attach 2 lift rings on the

counter weight top to align with the pulleys on the bridge. (This may take some planning and foresight!)

The counter weight guide channels come next, and are built from 1 foot “L” shapes. Be sure to extend the length of the vertical “L” shapes 3 feet longer than the outside tower so that they may be attached to the interior of the bridge. Outside bracing consists of 6” “L” shapes, attached to the outside of the inner tower.

Once the inside tower is set, it is time to consider the stairway from the platform to the bridge, and their railings. This stair way can “wrap” around the inside tower, and depending upon the tower height that you have decided upon, two or more landings will be required to allow a change in stairway direction. Alternatively, you may decide that this stairway would best be attached to the inside of the outside tower. In my case, I will not have sufficient space for this type of stairway, so I would use a vertical safety ladder.

### Construction — Outside Tower

The outside tower would be built using the same methods as for the pilings. I would opt for 1 foot square shapes for the vertical members, although 2 foot members could be used for a larger structure than I intend to build. Also, some prototype outside towers were designed with the rear vertical mem-

bers at a slight angle (approximately 10 degrees off the vertical) no doubt for a wider base and better stability. I will not use this option due to the added complexity, but it would add an effective visual affect.

I suggest 6” diameter piping for the bracing. The first and most important step would be to join the 4 vertical members with 6” diameter horizontal piping in the middle of the vertical member. The vertical members should be drilled to accommodate the horizontal braces, and the platform templates used to ensure proper positioning and verticality. Although the prototype does not have horizontal bracing near the top of the tower, mine would improve strength. The angled braces are next, and are added in similar fashion as those for the platform support. Note that the angled braces all have the same “bottom right to top left” orientation.

If you intend to add an “inside” set of stairs and landings, now is the time to do it.

The outside tower must be “capped” with a rectangular frame built from 1 foot “I” beam material, or square plastic shape. This frame must have interior bracing of the same material to which the tops of the interior tower will be attached.

*This article will be continued in the December INTERCHANGE as Tom begins the construction of the bridge.*



The relationship of the two outer tower and the horizontal bridge is depicted by this shot of the Langsdale slip on the Sunshine coast near Gibson's. This slip would appear to support one ramp only, and is the closest to the interpretation suggested by this article. Notice also that this slip features an internal stairway, while others have vertical ladders. (Tom Patterson photo)



Extra details applied to Taylor kit by Rob Rolfe resulted in CHAIRMAN'S CHOICE model in October.



Steve Watson had heavy ONR & ACR presence, including Atlas ACR GP7.



Pat Brewer presented ONR train, trailed by silver caboose.



Three-truck MDC shay was displayed by Fern Leroux.

## ACR & ONR featured in October

Ian Cranstone photos

Our theme for the evening was northern Ontario railways and naturally the ONR gained a lot of attention although regional railways gained some passing attention.

**Rob Rolfe** won the CHAIRMAN'S CHOICE for his CNR 40-foot wood boxcar. It was one of the old Taylor kits to which Rob added a lot of extra details. He also showed a deft touch with the weathering.

**Steve Watson** brought out several N scale ONR pieces including an Algoma Central three-bay hopper that was acquired from the ONR. He also had an Atlas GP7 and a series of ONR freight cars in paint schemes for the different eras of the railway. As well there was a couple of ACR gondolas with scrap loads.

**Pat Brewer** has fond memories of the ONR from his early days in Matheson, Ont. He displayed a P2K GP9 and a caboose and boxcar in the development road schemes.

**Fern Leroux**, Mr. ONR, brought out a three-truck Shay locomotive that he noted went through several owners before coming to work at Abitibi Power & Paper Co in its wood operation in Iroquois Falls. Fern said the MDC kit was quite a challenge to assemble. Brian Earl painted it.

**John LeBlanc** had an ONR boxcar that he built from a McKean kit. He said it had a full brake gear except for the cut levers. John also had one of the most unusual items



S scale ACR gondola was constructed, painted and lettered by Alex Binkley, resulting in this impressive model.

seen on the display stand in some time. It was a CNR F7A that had crashed to the floor. John decided it might as well be good and wrecked. The result was just too good to throw away, he says.

**Alex Binkley** had an S scale ACR gondola that he made from an American Models kit, painted and lettered with C-D-S transfers. It was weathered with chalk. He also had a Procor 23,000 gallon tank car that he made from a Downs Models kit and SGS decals. The car needs to be weathered.

**Peter Cunningham** displayed a Borden's Milk Car that he scratchbuilt on an Accucraft chassis with Athearn express reefer trucks. Quite a unique model.

Also on the display stand where a couple of structures that **Bill Scobie** has built for **Tom Hood's** layout. One was a series of DPM kits arranged into a large industry and the other was a Walther's station kit that Bill said he "slightly modified" to resemble a Canadian Northern structure. Both were quite striking. Scobie also brought out a couple of albums full of railway pictures from his latest foray into the western reaches of North America.

While not exactly on the display table, the final layout built by **Brian Earl** and his students for the OVAR raffle was on display. It was a beautiful N scale pike that the students had obviously put a lot of work into. He garnered lots of attention at RAILFAIR.



CNR F7A was helped along by John LeBlanc after plunge to floor to create this wreck.



Peter Cunningham scratchbuilt model of Borden's milk tank car.



RAILFAIR 2003 raffle layout was on display, days before finding its new home.



Bill Scobie presented two structures bound for Tom Hood's layout, including this substantial Canadian Northern station.



## Next Meeting

# The Eclectic Railfan Tracks, Trains & Trams

*presented by*

**Normand Levert**

**Display**

t.b.a.

**Tuesday, December 9**

St. Anthony Soccer Club Hall  
523 St. Anthony Street, Ottawa  
(just off Preston Street at the Queensway)

Doors open at 5:30 p.m.  
Dinner served at 6:30 p.m.

**Admission: \$20.00**

Includes dinner, facilities, program expense, taxes and gratuities.  
Free parking.

**Please note:**

If you cannot attend the meeting after saying you would, please call Peter Joyce at 841-1950. Thank you.



## OVAR Directory

**2003-2004**

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### THE INTERCHANGE November 2003 — Issue 379

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**Submission of Articles:**

THE INTERCHANGE welcomes your submissions that may be of interest to club members. Please send them to one of the departments listed above. Material submitted can be handwritten, typewritten, on floppy diskette, or sent via e-mail.

**Copy Deadline:**

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**Printing and Copying:**

Impression Printing, Smiths Falls

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