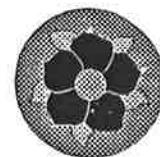




The CARIBOO

Published by the BC Rail Historical & Technical Society



Issue 17

July 1994

CARIBOO BEGINS FIFTH YEAR!

Rail traffic on the Tumbler Ridge Subdivision came to a halt recently when a 102-car coal train stopped and became trapped in heavy snow drifts. The train was buried for five days in the Whitford area as track maintenance crews from Mackenzie and Tacheeda laboured in minus 35 degree weather to free it.

Reaching the train took two days, and was a job in itself. Using ploughs (ballast regulators or front end loaders) and "cats", crews pushed through snowdrifts that were 16-18 feet high and more than 300 feet long. Tunnels were virtually closed due to ice buildup.

According to BC Rail Track Maintenance Supervisor Tim McMillan, "It was one of the worst storms in the history of the branch line." Crews had to dig out the cars with shovels and rerail them by hand. Work was slow-going, but crews managed to free up to 25 cars each day.

The track was cleared after five days. (BC Rail "Coupler")

A small blue building has been erected in the Squamish complex south of the car shop. It contains a computer attached to a 72-foot scale, which is capable of handling weights up to 200 tonnes. The scale is used for the "tare" (empty) weighing of cars and can also weigh loads or locomotives.

Prior to its installation, all cars repaired in Squamish were sent to North Vancouver for "tare" weighing. The scale makes it possible to shorten the "down" time of a car and get it back into service faster. ("Coupler")

As a result of an employee's suggestion, BC Rail has redesigned the posts on its centerbeam cars.

While being moved around the rail yard, the impact from coupling would often break the posts. The cars would then have to be returned to Squamish for repair. A new, two-piece welded centerbeam post was designed to solve the breakage problem. It stood up to the stresses of yard movement, but was expensive to manufacture (as it required an additional two hours of welding per post).

The new post is made by taking one long piece of metal and bending or pressing it into shape. Not only is the new post cheaper to produce, it requires no welding and takes less time to manufacture. The posts are stronger and do not break

when the cars are coupled.

As BC Rail sells centerbeam conversion kits to lumber companies and other railroads, the entire industry will now benefit from this design improvement. ("Coupler")

More relay rail was brought into the North Vancouver yard last December. This used, continuous welded rail (CWR) was pulled up from the mainline. It was spiked (recycled?) into place during the first quarter to replace older, lighter rail within the North Van yard. ("Coupler")

UPDATE: As of April 5, the following vans were stored at Squamish as unserviceable: 1876, 1877, 1880. (Andy Barber)

It was movie-making time again on BC Rail. The film crew on "State of Terror" used the business cars and four coaches, all pulled by Royal Hudson #2860. The rail portions for the Paramount/ABC Television project were shot between the North Vancouver depot and Porteau Cove on February 9. ("Coupler")

The new oriented strand board (OSB) plant being built in 100 Mile House by Ainsworth Lumber is expected to open in mid-1994. (Ed Note: see related item issue 16, page 1)
("Coupler")

The Williams Lake shops put in a new mobile yard repair (MYR) track that will enable the shops to make repairs without waiting for available spaces on the repairs in progress (RIP) track. ("Coupler")

The hog fuel trucks are busy. Five mills are on line now and things are running smoothly with four trucks running on a 24-hour schedule. ("Coupler")

BC Rail Timetable Four, the first railway timetable in North America to feature safety slogans on its pages, will soon be replaced by Timetable Five, taking effect April 1. The eye-catching, safety-oriented "catchwords" will be permanent fixtures in future BC Rail timetables. ("Coupler")

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CORRECTION DEPT.: The narrative detailing the history of PGE steam locomotive #160 which appeared on pages 21 and 22 of Issue 16 was reprinted with the kind permission of the BC Railway Historical Association. All rights reserved.

Some further clarification is required regarding some information contained within Richard Yaremko's all-door boxcar feature which appeared in Issue 15 (January 1994). On page 20, it is stated that CDS dry transfers are required to accurately letter the BCIT series 800100-119. This information is incorrect as the dimensional data included within the CDS sets is inaccurate. Richard advises that these cars may be lettered correctly using just one Herald King decal set. The Herald King decals contain all the correct dimensional data and boarding marks.

Apologies to Richard for inadvertently adding this item of misinformation to his otherwise informative feature.

Flashback...1970

The multi-million dollar manufacturing facilities and timber holdings of Canim Lake Sawmills Limited at 100 Mile House have been acquired by Weldwood of Canada Limited.

Canim properties, including a plywood plant and two log sawmills, were owned by the Jens brothers, and Canim Holdings Limited, a family corporation.

It is expected that Canim operations ultimately will provide a substantial amount of additional chips for the 750-ton-a-day pulp plant that Weldwood is planning at Quesnel (Mile 385) in partnership with two Japanese firms. ("*Coupler*", May 1970)

Just as the PGE has assisted mining development in British Columbia, so has the industry's growth made an impact on the operation of the railway. The railway reports that carloadings of mine products were up from a total of 92 in 1952 to 1,771 last year. Furthermore, the railway's inventory of gondola cars moved from 184 in 1959 to a present total of just under 600.

By starting up the mill at its Magnum Mine, 140 road miles north of Fort Nelson, Churchill Copper Corporation heralded a new producing mine for British Columbia and the first load of copper concentrates ever carried on the Pacific Great Eastern.

Churchill's concentrates are moved by truck to Fort Nelson and loaded into PGE gondola cars for shipment to Vancouver Wharves Ltd. in North Vancouver. Next stop is Japan, where Churchill has sold its production under a 10-year agreement with Nippon Mining.

The copper concentrates are moved via a three-compartment truck. These trucks are driven onto special loading platforms in Fort St. John where the ore is disgorged into PGE gondola cars waiting below. Ore is transported in the center

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All contributions are welcome. It is helpful if submissions are on a 3.5" disk in IBM WordPerfect, as a "flat" ASCII file, or typewritten.

All submissions are subject to editing as a condition of publication. Material will be retained unless other arrangements have been agreed upon in advance.

The editors encourage submission of photographs and illustrations which help reinforce the content of material submitted. Appropriate captions should be included. Photographs may be either black and white prints, colour prints, or colour slides.

Authors are responsible for all original statements made in their work. Submissions are accepted with the understanding that they are not under consideration elsewhere.

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compartment only, and trucks returning to the mine carry petroleum products in the end-compartments.

When the PGE extension to Fort Nelson is completed next year, Churchill's truck haul will be reduced by 250 miles, and the possibility is strong that additional concentrates will be moving into Fort Nelson from another source. Barely one mountain-top away from Churchill lies a high-grade copper property belonging to Davis-Keays Mining Limited. ("Coupler", June 1970)

FROM THE PUBLISHER: As the headline of this issue trumpets, our Society is now moving toward its fifth anniversary. From my viewpoint, that's quite an accomplishment. Those of us who have been members for a while have certainly noted many changes since the spring of 1990. Not the least of which is the surge in membership and on-going improvements to "The Cariboo". Little did I know that there were at least 100 others who shared my interest in the history of the PGE and its successor lines! As you might imagine, the workload associated with an organization of nearly 100 members is far greater than that associated with 10 or 12.

During the past several months, the editors and I drafted a future editorial project listing. A "to-do" list of sorts. This listing contains ideas for "Cariboo" features that we feel are "do-able" based on either information we have gathered or information that we have been provided.

As a follow up to this listing, I have written many of you requesting assistance. I've asked for your collaboration on a feature, the preparation of accompanying drawings or other illustrations, or just plain old assistance with research. To my delight, some of my letters have been answered with generous offers of assistance. The results of which have either recently been published or soon will be published.

Unfortunately, a number of my inquiries have received responses such as "too busy", nothing to contribute", etc. And worst of all, a number have been ignored altogether.

In today's world, we are all very busy. Whether young or old. Presently employed or happily retired. I happen to be 38 years old. My wife has a very active career. We have two school-aged daughters. And my consulting business is enjoying a tremendous upswing in business. And yes, I have interests other than BC Rail! In other words, I'm busy too!

The reason for our Society's existence remains its role as a conduit for the dissemination of accurate information (both historical and technical) to its membership. As a leader in a well know railway museum recently put it, "The Cariboo" is fast becoming the bible of PGE and BC Rail enthusiasts. Kind, yet accurate, words indeed. Without assistance from our readers, the information which our Society has been successful in gathering will remain merely as a pile of papers

in one man's garage.

Bottom line: Running the Society and publishing "The Cariboo" take both time and energy. More than that available from just a handful of editors and contributors. Instead, it takes the participation of the entire membership to continue to make this project a success.

If you have received a letter requesting your assistance, and have replied in the negative, please review your schedule again. I'm confident that you will find a few hours available to assist us sometime within the next few months. And if you have ignored our requests altogether, its time to "come clean". Drop me a note and I'm sure that we will be able to develop a mutually acceptable timetable for your contribution.

INTERCHANGE

ICE STORAGE DETAILS: David Morgan (20887 Alpine Ave., Maple Ridge, BC V3Z 1B9) is looking for plans/dimensions of the ice storage facilities at Squamish yard. Also wanted are any details relating to the PGE's ice reefer operations.

INFO REQUESTED: Recently BC Rail donated its former rules/instruction car #990242 (ex PGE #990242, exx PGE #X242, exxx PGE #623, nee MILW #4442) to the West Coast Railway Museum. She is an ex-Milwaukee Road coach with ribbed sides, and was acquired by the PGE in 1957. Upon acquisition, she was repainted and put to work on the mixed-trains to Squamish, Lillooet, and north of Prince George.

The WCRA is looking for a shot of the car in PGE colors (orange and green), as well as a photo of the car as MILW 4442. The WCRA plans to restore the car to its appearance as a coach. Long term plans will see the interior restored and operation with RSC-3 #561, troop sleeper #772, and miscellaneous freight cars to replicate a typical PGE mixed-train.

If you can assist with this project, please contact Grant Ferguson, c/o WCRA, Box 2790, Vancouver, B.C. V6B 3X2.

WEED SPRAYERS: Jerry Pitts (81 Robinwood Road, Hamden, CT 06517) is working on a feature article covering the history of chemical weed sprayers and their use by railroads over the years. In addition to railroad-owned cars, Jerry plans to include equipment owned by private companies such as Reade Manufacturing, Chipman Chemical, Allied Chemical, Nalco, US Borax, Horne & Boatright (Habco), SSI Mobley, and R.H. Bogle.

Please contact Jerry if you can assist him in his research, or would care to co-author a PGE/BCR-oriented feature for "The Cariboo".

TOP DOLLAR PAID for issues one through ten of "The Cariboo". Originals only, no photocopies, please. A.E. Roach, 6919 Harrison Lane, Alexandria, VA 22306

DRAFTING SKILLS needed to assist with the preparation of scale drawings for publication in future issues of "The Cariboo". The BC Rail Historical & Technical Society has dimensional data pertaining to numerous on-line structures. Your assistance is solicited to turn this information into scale drawings. Please contact Jim Moore (c/o "The Cariboo") if you can help with this project.

PAINT CHIPS: The BC Rail Historical & Technical Society has available prototype colour chip samples. "Cariboo" editor Andy Barber has generously donated a limited number of samples prepared from actual BC Rail paint supplies. Included are both greens, silver, red, white, blue, and yellow. Please send four dollars (either U.S. or Canadian) to "The Cariboo" editorial address. Limit one each. Available only to members in good standing.

INFO REQUESTED: David Woodall (966 King Street East, Oshawa, ON L1H 1H2) is modeling the Tumbler Ridge Subdivision, and welcomes correspondence regarding this subject from fellow BC Rail modelers. At present, David is interested in either kitbashing or scratchbuilding a model version of the GF6C locomotive. (Ed Note: The only mention I've ever noted regarding a model version of the GF6C was a snippet in the December 1993 issue of *Model Railroader*, page 162.)

INFO REQUESTED: Jim Pike (3951 Nelthorpe Street, Victoria, BC V8X 3Z2) is looking for colour photos of the ex Columbia & Cowlitz FM H-10-44 which was operated by the PGE (circa 1969). Jim would also like colour info and details of the cab logo for the MLW demo/lease RS-27 (circa 1973-75). Finally, does anyone know what the leased Morrison-Knudsen C-636s looked like while operated by the railway (circa 1971)?

INFO REQUESTED: I am interested in learning more two series' of freight cars formerly operated by the British Columbia Railway. The first is the former 20500-series boxcars, leased in the mid-1970s from the Jersey Central. The second is the former 800000-800079 series boxcars leased from the Atlantic & Western Railway. Any details concerning operating dates, ultimate fate, dimensions, photos, etc. will be sincerely appreciated. Jim Moore, c/o "The Cariboo".

PLEASE NOTE:
CLOSING DATE FOR
OUR NEXT ISSUE IS
SEPTEMBER 1, 1994.

WCRA CORNER

Cariboo Overnighter to Williams Lake: This trip is an excellent way to see all the scenery between Vancouver and the Cariboo on a leisurely weekend trip. Travel on a private car as part of BC Rail's *Cariboo Dayliner* to Williams Lake. Enjoy the fall colours and comfortable accommodations. One-way bus option available. Prices include transportation and overnight accommodation as well as most meals. Adult -- \$219, Senior \$209, based on double occupancy. Single supplement \$31.

Dates: Friday, October 14 through Saturday, October 15

BC Rail System Tour: Once again WCRA is offering it now-famous BC Rail nine day system tour. All-inclusive, all the way to Fort Nelson. For 1994, the program includes some new options, including one-way bus/one-way train packages. Prices for this all-inclusive trip starts at \$1588 for nine days, with an 8 day shortened-version as low as \$1378 (all prices based on double occupancy).

Dates: Saturday, September 17 through Sunday, September 25

For additional information, contact the WCRA at (604) 524-1011.

NEW PRODUCTS

Mike Jackson tells us that Intermountain Railway's Potash Corp. of Saskatchewan cylindrical hopper model has a built date of "2-80", putting it in the same batch of 4650 cubic foot as the group of cars purchased by BC Rail from Potash Corp of Saskatchewan. Definitely a must buy for our HO BC Rail modelers. The car is also available in CN and undecorated versions. Priced in the \$12-16 dollar range and worth it.

Laszlo Dora reports that E & C Shops now have their woodchip cars available. Their undecorated kit #0120 (ribbed side/dump ends) is correct for the Burlington Northern type seen in the North Vancouver yard. Reportedly, the BN cars carry 12"-deep loads of lead zinc concentrate from Vancouver Wharves (to ?) on BN trackage. The loads arrive from up points up north via ship. Any further details regarding this commodity, its origins and destinations would be appreciated.

CAR SHOP

Some time ago, we received an inquiry regarding the Athearn HO scale covered hopper model. Specifically, would this kit be a logical starting point for modeling the BCOL 2300 series? As background, the 2300-series consists of twenty cars built in 1972. Each car is rated at 4427 cubic feet.

According to Mike Jackson, the 2300-series has thirteen ribs. The Athearn car has 14. Mike goes on to say that, in his opinion, neither the Athearn hopper (nor one offered by Intermountain Models covered hopper) would be good starting place, unless you replaced the car sides and glue on 13 ribs. The alternative is to is to manicure yourself up to the elbows, sanding the ribs off the original sides. Even then, you would have to do some remodeling of the end frames.

It is interesting to note that, despite the fact that these three-bay models (the Athearn and Intermountain cars) are the same length as the 2300-series cars, they are 313 cubic feet greater in capacity (and therefore have more ribs). Mike speculates that perhaps the BCOL 2300-series was acquired for use on light rail trackage.

####

In view of the fact that our Society's membership has grown significantly over the course of the past 12 months, I feel that it would be helpful here to mention one of the more valuable freight car reference sources. In 1992, the Society of Freight Car Historians published *"BC Rail: Freight Car Roster and Pictorial"*. This soft-cover reference, which is thirty pages long, features over fifty photographs (most in colour) of BC Rail freight cars. The quality of the photographs included is very good, and each is accompanied by an informative caption. (Ed Note: A full review of this book appeared in Issue 8/April 1992.)

When modeling a specific freight car, there's nothing as helpful as a clear photograph of the prototype. And this book serves that purpose. Unfortunately, the accompanying roster which appears in the appendix is neither clear nor comprehensive. Nonetheless, this is a affordable reference tool that should be included in (at least) every post-1970 BC Rail modeler's library.

For availability and pricing, contact the Society of Freight Car Historians (POB 2480, Monrovia, California 91017). Be sure to mention *"The Cariboo"* when making your inquiry.

"The Cariboo" is published quarterly for enthusiasts and modelers of the Pacific Great Eastern Railway and its successor lines. A cycle of four issues (posted to North American addresses) may be obtained for \$18.00 in U.S. funds. For subscription information contact Jim Moore, 25729 Floral Court, Valencia, California 91355-2139, U.S.A.

MOTIVE POWER NOTES

Edited by Paul J. Crozier Smith

○ BC Rail has stored, as unserviceable, M420 #640, M420B's #684, #686, and #688 at Squamish pending the settlement of the insurance claim. (Ed Note: see related news item issue 16, page 1). Upon settlement, it is expected that they units will be retired.

During the interim, two GP40-2's are being leased from Helm Financial. Their numbers are HLCX 656 and 3060.

○ BC Rail has requested quotes on 2-4 high horsepower, 6-axle units, most likely General Electrics. In addition to these engines, the railway is soliciting proposals for the supply of two high horsepower, 4-axle units which could be used with a slug (for a master-slug-master combination). The result would likely see the remaining M420B's converted to high adhesion road slugs.

○ The three SD40-2's that were supposed to be leased to GTW (Ed Note: see related item issue 16, page 5), have temporarily been posted due to the derailment at mile 583 on February 26. SD40-2 #764 and Dash 8's #4607, #4615, and #4620 were damaged. Both #4607 and #4615 have been returned to service. Unit #4620 is still under repair at Squamish.

○ The Cat re-engining program has released #601 on March 8. RS-18's #629 and #603 are now undergoing rebuilding.

○ Restoration work continues on 2-8-0 #3716, with plans to have the locomotive operational again by April.

The membership of the BCRH&TS has grown significantly during the past few months. And much of our Society's growth can be credited to referrals by existing members.

A warm welcome to Duane Aborn (Ellington CT), Josef Beeler (Wiesen, SWITZERLAND), Glen Etchells (Burnaby BC), Mike Jackson (Oakland CA), David Larson (Vancouver BC), Lawson Little (Newark, ENGLAND), Mike Lawrence (Holland Landing ON), Doug Race (Garibaldi Highlands BC), John Riddell (Thornhill ON), Ken Rowlen (Waldport OR), Herman Skelton (Johnston IA), Hakan Tell (Gullringen, SWEDEN), David Woodall (Oshawa ON), and Harold Yaeger (Bartlett IL). Welcome aboard!

Limestone: An On-Line Industry

Jim Moore

Ed Note: This article is the first in a series spotlighting BCR on-line industries. Readers of *"The Cariboo"* are encouraged to submit articles or materials which can be developed into similarly oriented features.

Introduction

Have you ever wondered just what commodities the small group of BC Rail pressure-flow hoppers were carrying? Well, last summer, I found the answer. While driving northward on Highway 97 (The Cariboo Highway), I came upon a string of these hoppers spotted near mile 178, "Pavilion" siding. (Ed Note: Pavilion is 2213 feet in elevation, with a 1.7% grade northbound). This siding was formerly used as maintenance-of-way equipment storage location.

Pavilion siding, which is designed to hold up to six 2200-series pressure flow hoppers. They are spotted empty, awaiting a load of quicklime from Continental Lime Ltd.

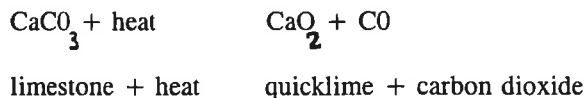
The Plant

Located about 12 miles north of the siding, Continental Lime produces quicklime as its primary product, and limestone as a secondary product. The physical layout of the plant is rather simple. A variety of concrete silos dominate the scene.

In operation for more than twenty years, the plant (see photos 1 and 2) sits at the base of a large limestone mountain. The limestone is the high calcium variety. Raw limestone is open-face mined by drilling and blasting. The large chunks of limestone are loaded into very large dump trucks for the short trip to the plant's crusher assembly, where it is broken into 2" x 1/2" pieces for processing.

The roasting process involves heat, so the larger the surface area of the raw limestone to be processed, the better the heat transfer efficiency. Pieces smaller than specified are not processed because their small size would plug up the kiln heater inlet openings. Instead, this material is sold for driveway and road surfacing applications.

Once the crushed limestone is of the correct size, it enters a huge horizontal rotary kiln via a series of conveyor belts. Hot air (about 900 degrees centigrade) enters the kiln at the opposite end. Inside the kiln, the limestone is converted to quicklime. The chemical transformation is:



Note that the reaction is reversible, so carbon dioxide is removed from the kiln as quickly as possible.

The cooled quicklime is then stored in large concrete silos (see photo 3) for transport from the plant to customers. Some of the out-bound trucks take their loads directly to customers. The remainder is trucked to Pavilion siding for transfer to the awaiting pressure-flow hoppers. Trimac Trucking handles virtually all of Continental's deliveries.

At Pavilion siding, the Trimac bulk carrier vehicle, itself a pressure-flow hopper, (see photo 4) is positioned close to the pressure-flow hopper car that is to be filled. It is then connected to transfer and return air hoses via a small utility truck (also owned by Continental) whose sole function is to serve as a mobile dust collector unit.

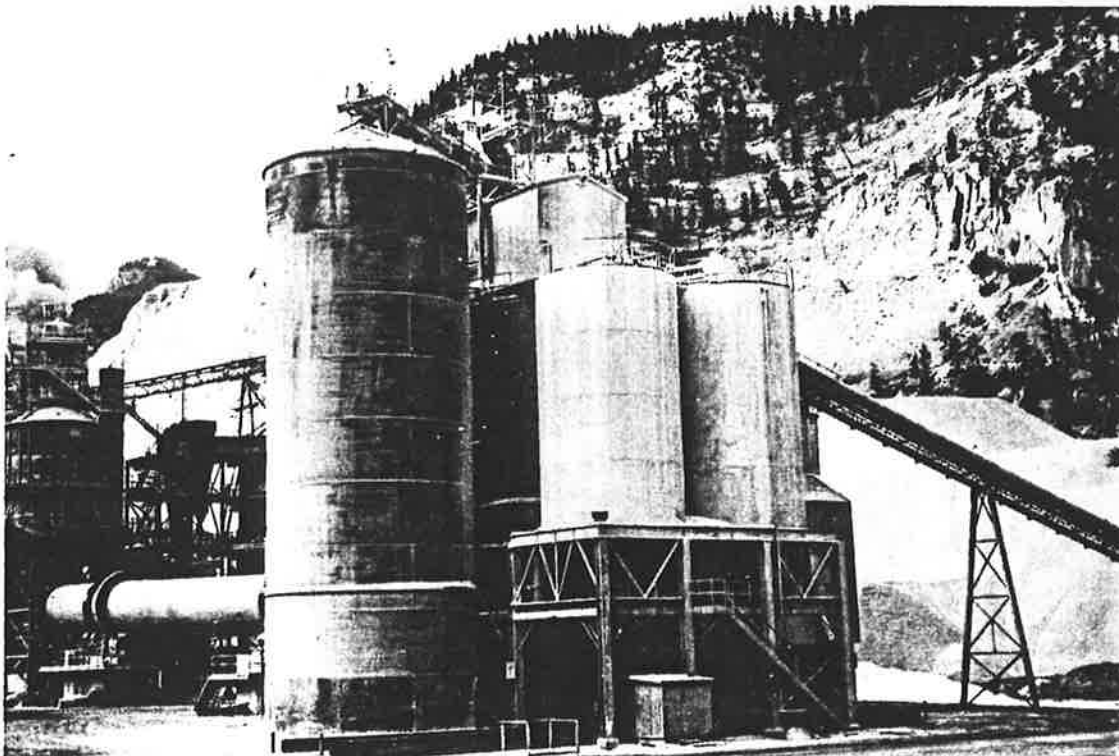
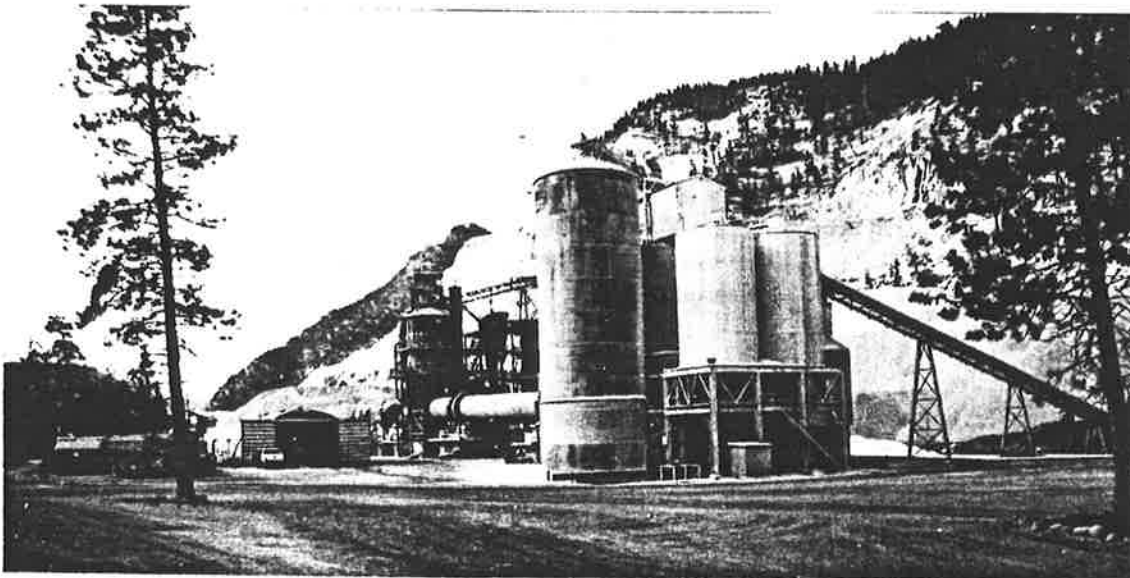
Once the proper piping connections are made, the Trimac driver starts up his air blower and opens the product discharge valves (see photo five). Quicklime is air-conveyed into the car roof manholes (see photo six), and discharged tangentially against the car's sides. The conveying air is "sucked" out of the car by an exhaust fan on the small truck, traveling through a dust filter-collector system.



Photo one (Jim Moore)

Photo two (center): Overview of Continetal plant. Note limestone mountain behind plant. Small office building is just to the right. (Jim Moore)

Photo three (bottom): Detail shot of concrete storage silos. Crushed stone is loaded on to beltway to right of silos. (Jim Moore)



Some dust does escape into the air, both during the loading and the subsequent unloading process. It is this dust that settles on the hopper catwalks.

Quicklime has a strong affinity for water, so when it rains, this dust will absorb the water creating a thermic reaction giving off considerable heat. It then behaves like liquid cement, caking and staining whatever parts of the hopper car it contacts.

The loaded pressure flow hopper cars then travel to various destinations. In some cases they are unloaded into storage silos (which Continental owns) for re-transfer to customers via truck.

Quicklime is used in the production of Portland cement, in fertilizers, and in the metallurgical industry. Calcium hydroxide is also used by pulp and paper mills in the treatment of effluent (waste water). It is introduced into a mill's settling ponds in order to return the water to a chemically neutral state, as lime is a highly alkaline substance.

Gibraltar Mines, Island Valley Copper, and Weyerhaeuser are some of Continental's customers. Golden Bear Mine, located near Smithers, is served by Canadian National. So a CN pressure-flow hopper (such as series 374xxx) could, and does, occupy a spot on the loading siding from time to time.

The Cars

BC Rail's 100-ton pressure-flow hopper fleet totals thirty in number. The first group received, 2201-2205, were built in 1970 by Procor. These cars measure 46-11 in length (over couplers), 15-1 in extreme height, and 10-8 in extreme width. Capacity is rated at 3000 cubic feet.

The second set of pressure-flow hoppers is numbered 2206-2230. Slightly larger than the first group, these cars measure 53-9 long, 15-1 high, and 10-7.5 wide. Capacity is rated at 3300 cubic feet. This group was built in March 1973 by Procor. Both sets of cars are leased from the manufacturer.

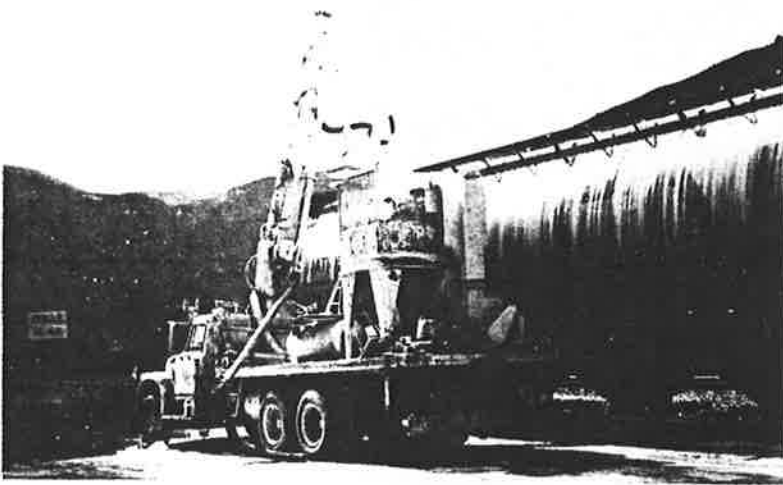


Photo four (Jim Moore)

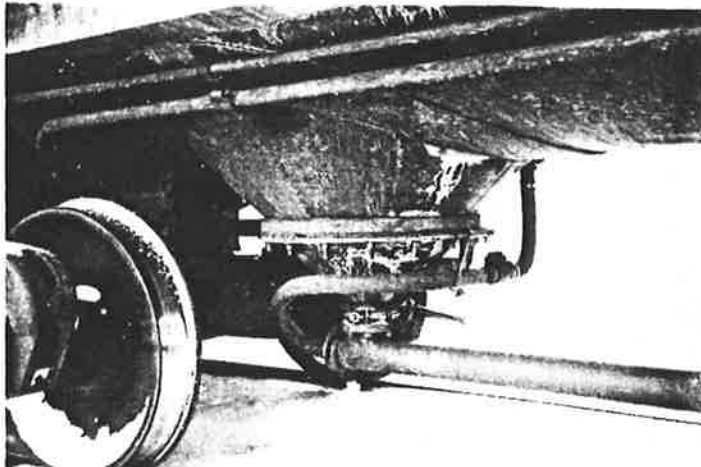


Photo five: lower left. (Ross Pugsley)



Photo six (Jim Moore)

BC RAILS PRESSURE FLOW HOPPERS

Article, Photos and Diagrams Marcel de Vlieger
Prototype photos Ross Pugsley

This car first caught my eye because of its intricate plumbing. As far as I know, no brass or styrene replica of this car has ever been commercially produced. The prototype is BC Rail's 53'9" pressure-flow hoppers (#2206-2230) described in the accompanying article on the limestone industry. It is a perfect example of an instance where a decal set is commercially available for an HO scale car which doesn't exist!

I wish to thank Ross Pugsley for assisting me with this project. Ross supplied me with photographs and data of the prototype. Without his assistance, this article would not have been possible.

Read the text completely before beginning assembly. Numbers within parentheses refer to parts contained within the Walthers kit. For further info, see the instruction sheet which accompanies the Walthers kit.

Car body

1. Start by removing the center section from the Walthers (#5200) funnel-flow tank car (photo 7). Make a mark 22 scale feet in from each of the car's end points. With a razor saw, carefully cut and remove this center piece (approximately 3 1/2 feet long). Clean up each of the sections using sandpaper and/or files. Cement the two shortened sections back together.
2. Cut a strip of .020" sheet styrene. Cement this strip along the inside circumference of each tank section to strengthen the joint. (see figure 1) Set this assembly aside and allow it to dry thoroughly.
3. Cut the car's metal weight so that it will fit within the new length of the tank.
4. Once the assembly in step two has dried, putty and sand this seam repeatedly. Repeat this procedure for the tank's upper and bottom seams. Using putty, also fill in the tank's manhole and vent holes.
5. Next fill the walkway mount holes. Putty and sand as necessary.
6. Again referring to figure 1, fabricate a saddle plate from .010" styrene. Install at the point where the tank assembly sits on the front and rear sill (#5 and #6).
7. Cement the tank ends (#3 & 4) in place. Note: Putty is not needed for this seam because these weld seams can be seen distinctly on the prototype.
8. Remove the brake wheel mounting pad (found on the car's "B" end) and sand this area smooth. Using putty, fill in the slot designed to accept the ladder support (#28). Sand as necessary. Note that the bottom center saddle (#15) is not required. Sand the area smooth.

Discharge chutes

9. Using .010" sheet styrene, fabricate five oval saddle plates about 6 scale inches larger in size than the top of the discharge chutes (see template 2). Cement these saddles in place along the bottom of the tank sub-assembly in such manner that they are equally spaced apart, with the end saddle plates against each bolster.
10. Drill a #60 size hole (on one side only) near the bottom of each of the discharge chutes sub-assemblies (see figure 1).

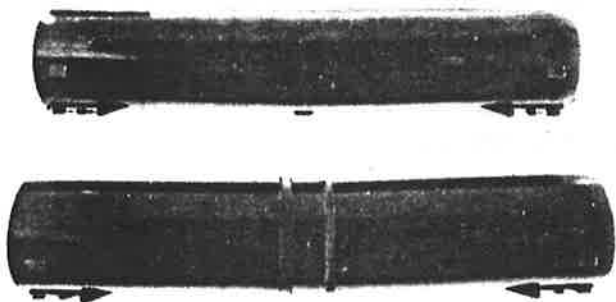


Photo seven (Marcel de Vlieger)

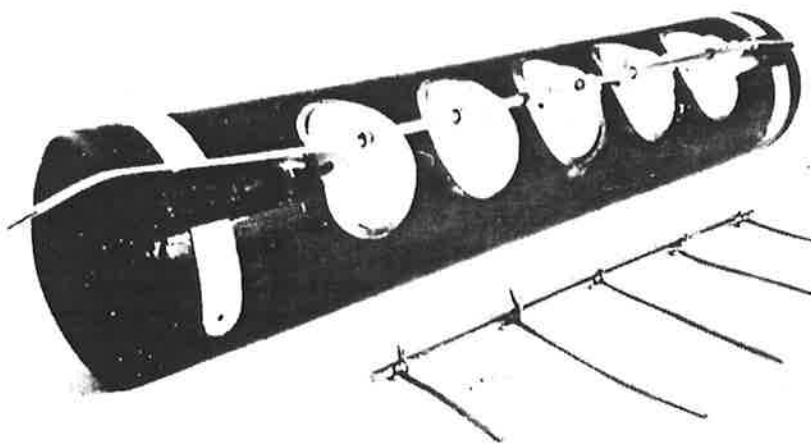


Photo eight (Marcel de Vlieger)

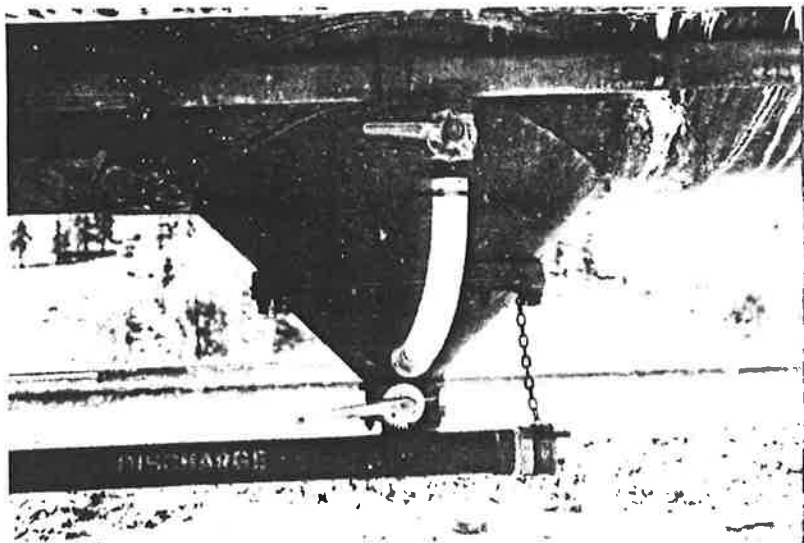


Photo ten (Ross Pugsley)

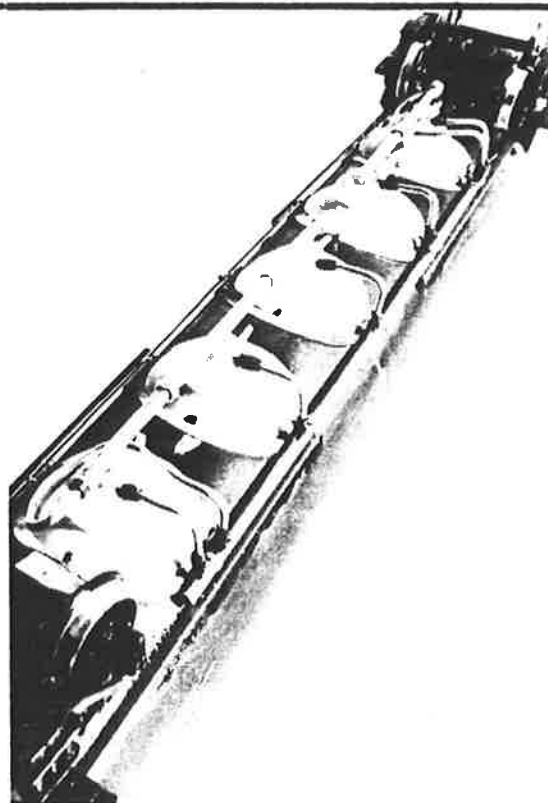


Photo nine: Note the 90° angle of the aeration hoses.
(Marcel de Vlieger)

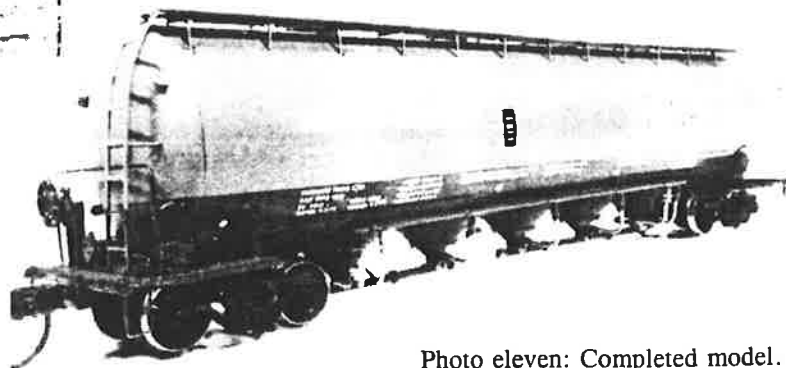


Photo eleven: Completed model.
(Marcel de Vlieger)

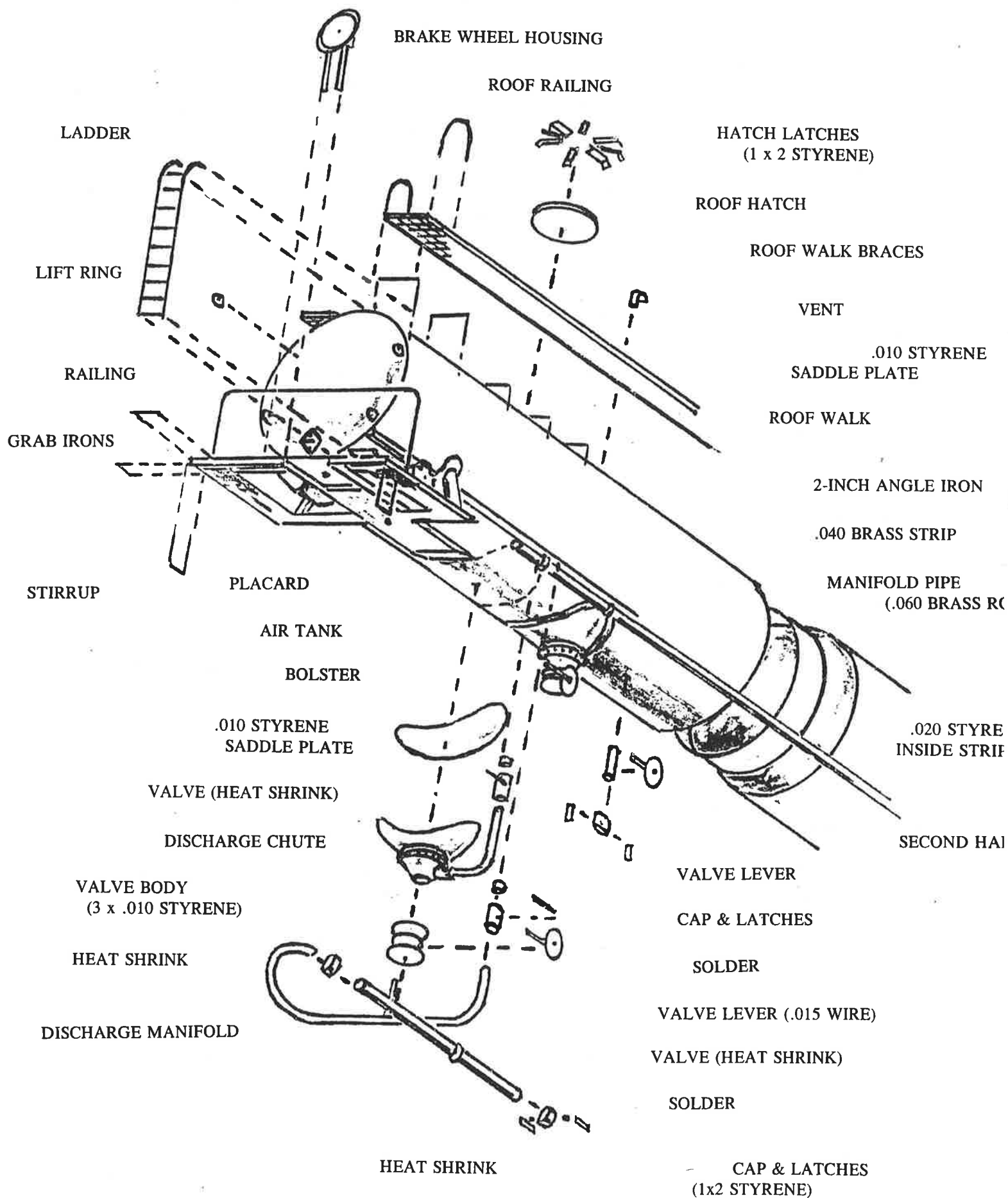


FIGURE ONE

These holes will accept the discharge hoses/aeration lines. Shape, by filing, the top face of each discharge chute to conform to the contour of the bottom of the tank. Using ACC, mount one discharge chute onto each of the saddle plates that you fabricated in step nine. Use a straight edge to ensure that all five discharge chutes are parallel. (see photo 8)

11. Cut a 5-9/64 inch long piece of 2x2 angle Plastruct. Position this so that it runs from the sill mount (near the upper edge of the saddle plates) towards the center of the car. The end at the sill mount must be filed so that it lays flat over the plate. Install the sill loosely (do not cement), and continue a small piece of 2x2 angle to the end of the tank. Do all 4 sill mounts in this manner (see figure 1)

Aeration lines

12. Now comes the tricky part. Create an upper manifold pipe using a piece of 1/16" brass rod 3-13/16 inches long. Using .005" brass shim stock, cut 1/4 inch long strips .040" wide for mount plates. Make a total of five.

13. Wrap these strips (mount plates) around the brass rod upper manifold pipe and solder in place as per template 1. (One side of the car only.)

14. Cut and solder in place (along the manifold pipe) five pieces of solder each 3/4 inch long. (Trim later.) These five pieces should be at right angles to the brass mounts. When completed, they will serve as the aeration hoses off the discharge chutes. (see photo 9)

When soldering, do not exceed a rating of 80 watts. Be sure to use plenty of resin along with a heat sink (alligator clip) to dissipate heat.

15. Cut a 1/16" length of .010" heat shrink stock. Shrink this piece down from the solder joints on the solder line. Accomplish this by passing your soldering iron carefully around the heat shrink. Use caution so as to not desolder the solder lines already in place.

16. Now cut a piece of .050" heat shrink stock longer than the piece used in step 15. Center this second piece over the previous heat shrink. This new piece will simulate a globe-type valve. Do all five lines with two valves per line (see figure 1).

17. Match the mounts from this pipe to the car body. Drill holes on the upper discharge chute saddle plates directly below the 2x2 angle to accept the upper manifold pipe. Cement in place.

18. Cut the solder aeration lines to length and shape to a right angle. Insert these in the previously (step 10) drilled holes on the bottom side of the discharge chutes (see figure 1). Cement in place with ACC, and adjust the valve accordingly.

19. Cut two 1/16" brass rods (as shown in template 1) for the lower discharge manifold. Cut seven pieces of heat shrink stock 3/64" long. Shrink at the inner portions of the rod for couplers and end caps. (These can be adjusted later.) As shown in template 1, solder 2 inches of solder to each end of the rod. Adjust the previous made end couplers.

20. In the discharge chute kit, there are two sizes of styrene disks. Create a "sandwich" by cementing a smaller disk between two larger disks. This assembly will become the bottom valve body and flanges. Cement this valve body on the bottom of the discharge chute. Do all five chutes in this manner (see figure 1).

21. Using ACC cement, glue the bottom discharge manifold assemblies to the bottom of the discharge chutes (directly onto the valve body). Connect the short manifold onto two chutes, and the longer manifold onto three chutes. The solder lines at the ends of the bottom discharge manifolds must be bent around and behind the end chutes and attached to the upper manifold (feed line). (see figure 1 and photo 10)

When soldering this, make sure the heat shrink valves are moved temporarily out of the way of the joint. Be careful not to melt the plastic body. Use a heat sink (alligator clip).

22. Cement a piece of 1x2 strip styrene for a brace from the chute to this line. Do both ends (see figure 1).
23. For the tank drain cock, cut a 1/4 inch length of 1/16" brass rod. Install a 3/64" piece of heat shrink stock for the cap. Add two 1x2 styrene strips 1/16" long for the latches.
24. Drill a #52 size hole within the open space between the bottom two discharge manifolds. Position this assembly in place so that it protrudes out 7/32" (see figure 1). Fasten with ACC. Now cement two latches (fabricated from styrene) for the inner end caps of the bottom discharge manifolds.

Sills

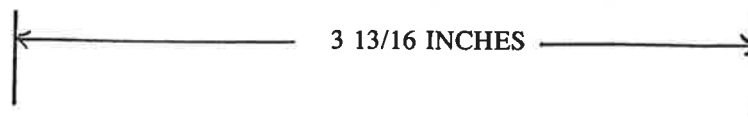
25. Remove the air tank mounts and grab irons from the end sills (#5 and #6). Cement the brake reservoir (#7 and #8) in the open portion of the sill, against the bolster (see figure 1). Install placard holder (#16) and triple valve (#11) in place. Using .015" wire, form new grab irons and stirrups. Cement in place with ACC.
26. Cut two pieces of 2x2 Plastruct angle 7/16" long. Cement these to the side of the brake wheel mounting (#9). Next cement the brake wheel (#10) in place. Fasten this entire assembly so that it sits inside and against the coupler pocket. This all should be 19/32" from the top of the platform. Do not install the end handrail (#36) at this time. Now cement the end sills (#5 and #6) in place.

Hatches (see photo 6)

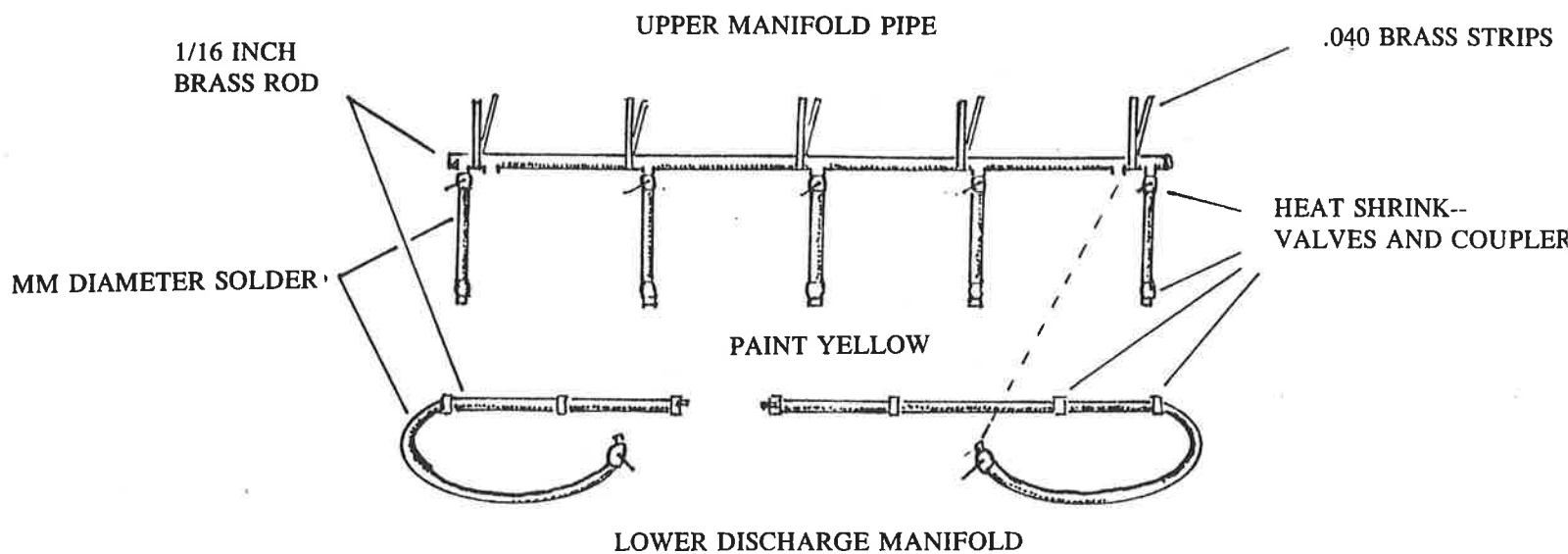
27. Draw a center line across the top of the car. File the top of the four hatches flat. Simulate hatch latches by cementing eight 1x2 styrene strips upon the circular covers (see figure 1).
28. According to prototype drawings, the two center hatches are located 37" from car's longitudinal centerline. The two end hatches are 108" from the centerline. You may have to adjust the hatch layout somewhat as the Walthers model is not exactly to prototype length.
29. Install a release valve (#33) at the center. Two vents can be made from scrap plastic sprues. Mount these between the last two hatches.
30. Using .020" styrene, make four lift rings (.060" x .060") for each tank end. Drill a #71 hole in each lift ring and install as shown in figure 1.

Roof walk

31. Place (do not cement) the roof walks directly beside the roof hatches. Mark a line the length of the car for both sides of the walk. Drill #78 size holes (13 total), spaced equally apart, on both lines to accommodate roof walk braces.
32. Using .015" wire, create 13 braces to fit the drilled mount holes. These braces should measure 1/4" high. Install (do not cement) the braces in place.
33. Cut the Detail Associates roof walk 1/8" longer than the length of the tank to extend on the "A" end only. Using ACC and a tooth pick, adjust and cement the first two braces. Once these have dried, cement the roof walk in place. Now adjust and cement the remainder of the braces in place.
34. Create an extra brace and install it half-way down the tank's end face, for a ladder brace. Drill mount holes for the ladder assembly. Test fit and remove.
35. Make two 3/32" radius hoop brackets. Drill and install at the protruding (right side) end of the walk (see figure 1).



3 13/16 INCHES



UPPER MANIFOLD PIPE

.040 BRASS STRIPS

1/16 INCH
BRASS ROD

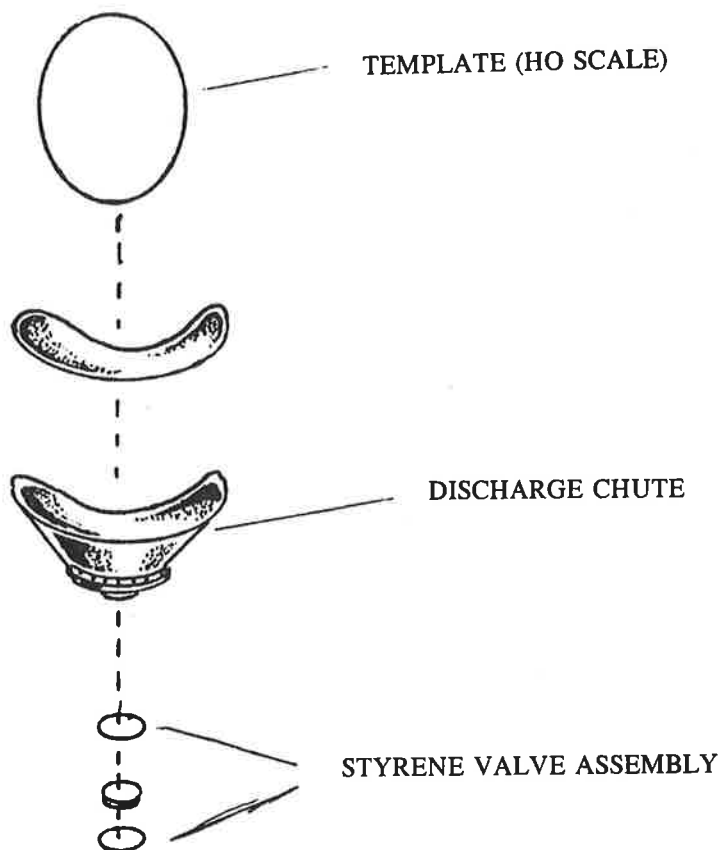
HEAT SHRINK--
VALVES AND COUPLER

MM DIAMETER SOLDER

PAINT YELLOW

LOWER DISCHARGE MANIFOLD

TEMPLATE ONE



TEMPLATE (HO SCALE)

DISCHARGE CHUTE

STYRENE VALVE ASSEMBLY

TEMPLATE TWO

Details

36. Install the discharge chute valve handles supplied with the discharge valve kit. Cement in place using ACC on the bottom discharge manifold, i.e at each discharge chute. (see figure 1, photo 10)

Next install a valve handle upon the center bottom drain cock of each discharge chute. Use 1/16" sections of .015" wire to represent the handles. Cement the remaining valves on the upper manifold pipe horizontally to the previous valve handles.

Paint

37. Carefully wash the car in a mild solution of liquid dish soap and water. Allow to air dry.

38. Paint the tank body following Herald King's decal instruction sheet. The light green colour is mixed using ten parts light green to three parts white. The dark green colour is mixed using ten parts dark green to one part white.

39. Since the 2206-2230 series cars were built in 1973, they have appeared in both the British Columbia Railway dogwood logo scheme (as shown in the Herald King decal H-231) (see photo 13) and in the newer BC Rail lettering scheme.

For this latter scheme, use Andy W. Scale Models "Freight Car Sheet" for the car's lettering and Herald King H-231 for the dimensional data.

Give the car a gloss coat before applying decals to eliminate possible "silvering". Once all decals have dried thoroughly, apply a sealant finish such as Dullcoat.

40. The aeration hoses are painted light pink to simulate a bleached red rubber hose. Prepare a mixture of red and white until visually appropriate. (see photo 5)

41. The second inner valve on upper line feed is yellow. Paint the discharge manifold handles and drain cocks silver. The end caps and latches are also silver. (see photo 5)

42. At the end of each aeration hoses (pink), paint a small silver band to simulate the hose clamp. (see photo five)

Finishing touches

43. Install the end ladder braces. Install the ladder (#17) as shown in figure 1. Shape the top end of the ladder so that it fits underneath the roofwalk. Adjust and cement the ladder braces in place using ACC and a toothpick.

44. Now install the end handrails (#36) in place. Install trucks and couplers.

45. The car should be weathered white to represent the lime. Pay particular attention to the areas around the top hatches and the bottom of the discharge chutes.

Your pressure-flow hopper is now ready for revenue service. With the intricate plumbing involved in this project, you are now ready to tackle almost any kitbash.

SEE PAGE 19 FOR BILL OF MATERIALS

BC Rail in the 90's - Patrol Cars

Eric L. Johnson

On the Squamish and Lillooet Subdivisions, patrolmen precede all though freights and passenger trains between North Vancouver and Garabaldi, and between D'Arcy and Kelly Lake. Operating out of Squamish, four Dodge hi-railers have replaced speeders on the North Vancouver/Garabaldi stretch, with the obvious advantages of efficiency and patrolman comfort. But eleven Fairmont speeders, operating out of Lillooet, will patrol the Anderson/Seton Lakes section, and the Lillooet/Kelly Lake section, for at least another year. With limited road access on these stretches, the hi-rails will not be quite so versatile, but they will be replacing the aging Fairmonts.



At Garabaldi, 09:15, December 29, 1993, patrolman Mo Bajwa cranks up the bogies of the Dodge hi-railer, with passenger Extra BC-31 North fast approaching from the south.



At the D'Arcy section buildings, patrolman Greg Davies is about to set out along Anderson Lake as passenger Extra BC-11 North nears D'Arcy; the time is 10:25, January 29, 1994.

SPOTLIGHT:

BCOL 2126 and 2127 William MacLatchy

Introduction

In the January 1994 issue of *"The Cariboo"* I requested information on a pair of hybrid covered hopper/boxcar cars which I reported as belonging jointly to the British Columbia Railway and the Milwaukee Road. Thanks to information that came in response to my request, I now know that this observation was in error.

Any interest (fascination?) I had with these two cars came as a result of a personal encounter with what now turns out to be #2126 one Victoria Day weekend in the early 1980s. I spotted #2126 at the Deep Creek bridge on the Prince George Sub just north of Williams Lake.

History

In October 1969, #2126 was built as Canadian National #399999 by National Steel Car Company. In July 1970, #2127 was built, also by NSC, and ran on Canadian Pacific.

In the middle of 1974, both cars were purchased by the British Columbia Railway and repainted. From the late 1970s through the early 1980s, BCR leased both cars to the Milwaukee Road (though the cars remained painted in BCR colours).

BCOL 2127 remain listed on the British Columbia Railway's roster as late as April 1986. BCOL 2126 was still on the roster as of October 1990.

Equipment Description

BCOL 2126, as built, had the following dimensions:

outside length	62 feet 3 inches
extreme height	15 feet 1 inch
extreme width	10 feet 2 inches
door	12 feet wide by 9 feet 1 inch high

BCOL #2126 has a listed capacity of 4480 cubic feet and 181 thousand pounds. It has the American Association of Railroad code "C113" and the AAR mechanical designation "LO" (covered hopper).

The Official Railway Equipment Register termed #2126 as a "covered hopper, convertible boxcar type". Apparently it regularly saw duty as a covered hopper. It had 7 inch cushion ends, a steel grill floor (which permitted loading by forklift when in boxcar configuration), and a manual/automatic hydraulic system.

BCOL #2126 was painted dark green with a white plug door. There was a large dark maple leaf on the door and large white "NSC" lettering to the right.

BCOL #2127, as built, had the following dimensions:

outside length	55 feet 1 inch
extreme height	15 feet 1 inch
extreme width	10 feet 6 inches
door	12 feet wide by 9 feet 1 inch high

BCOL #2127 had a capacity of 4023 cubic feet and 184 thousand pounds. It carried the AAR code "L153", and AAR mechanical designation "LO". The floor, hydraulics, and cushion were the same as #2126.

BCOL #2127 has a white car body and door. It sported a dark green maple leaf and "NSC" lettering.

Conclusion

While certainly interesting both operationally and visually, these experimental freight cars failed to capture the interest of either the railways or their customers. Nonetheless, I find the cars' hybrid design fascinating.



BCOL 2126
Prince George BC
June 6, 1974
Richard Yaremko

BCOL 2127
Dawson Creek BC
June 4, 1974
Richard Yaremko



Bill of Material

Alpine Railway Shops: 104 discharge chute kit

Andy W. Scale Models: AWS-1001 freight car decal sheet

Detail Associates: 6204 roof walk (2 required)
6218 hatches

Evergreen: 8102 1x2 strip styrene
9010 .010" sheet styrene
9020 .020" sheet styrene

Floquil: 10 black
11 white
40 dark green
48 light green
65 red
144 silver
51 blue

Herald King: H-231 BCR tank-type hopper

K&S Engineering: 162 1/16" brass rod (.060")
250 shim stock, brass (.005")
498 .015" wire

Plastruct: 101 2x2 angle plastic

Radio Shack: 278-1627 heat shrink assortment
solder, resin core (1 mm diameter)

Walthers: 5200 54' tank car, undecorated

Note: The discharge chute kit may be ordered directly from Alpine Railway Shops (RR#2, Kettleby, ON L0G 1J0, Canada). The price of the kit is \$4.85, inclusive.

GOOD LOOKING LUMBER LOADS

WITH THE C&S MODELS KIT

by Doug Davies

Modelling BC Rail means that many of the car loads are going to be directly or indirectly related to forest products. The loads can take the form of the raw material, logs, or intermediate products, chips and pulp, or finished products, lumber and paper. With regard to our project, the loads will be lumber.

Lumber is shipped in various forms ranging from surfaced (planed) and kiln dried to rough green. Lengths vary from 8ft. to 16ft, in Imperial measure, to various metric sizes for off-shore markets. Kiln dried lumber is usually shipped with a covering over it to prevent an increase in moisture content during shipping whereas green, undried lumber is shipped open to the air. Since the C&S "lumber" consists of solid blocks of wood, it would be difficult to simulate individual boards so we will stick to covered loads.

When I first assembled one of the C&S kits, I couldn't seem to get the wrapping tight enough around the wood. This resulted in the lifts (each of the wood blocks is the scale equivalent of one lift of lumber) always having bulges in the wrapping. When the lifts were stacked on the flatcars, they never laid straight resulting in a less than nice looking load. I knew there had to be a better way.

To complete this project requires the following: (see Photo 1)

- a) C&S Models lumber load kit
- b) Metal-handled X-ACTO knife
- c) 1mm wide black drafting tape
- d) ACC glue (Zap-A-Gap recommended)
- e) Gluing template/jig (see text)

Begin by carefully cutting out each of the individual pieces of lumber wrap. Use a sharp #11 X-ACTO blade for this. Each sheet contains wrappers of different sizes. Stack these in various piles by size as you proceed.

Next, using fine grit sandpaper, lightly sand the wood blocks to remove any slivers or "fuzz" that would prevent a tight fit of the wrapper.

To carry on from here, we have to construct what I call the gluing template/jig. It is fashioned from a piece of 3/16" Masonite 2" wide by 8" long. Lay one of each size of wood block on the jig and, using a sharply pointed pencil, trace the outline of the block on the jig. Stay as close to the edge of the block as possible, we don't want an oversize hole. There are various methods of cutting out the hole and the choice is up to

you. I drilled a hole in the middle of the rectangle large enough to accept a fine tooth jig saw blade and carefully sawed out the hole. Do this for all four sizes of wood blocks.

We are now ready to start assembling the lifts. Fold the wrappers along the fold lines as shown in the C&S instruction sheet. Use your fingernail to get a nice crease. Then, place the wrappers on a sheet of glass or a very smooth table top and go over each of the folds by rolling over them with a metal X-ACTO knife handle (Photo 2). This insures a very sharp crease that will conform exactly to the shape of the wood block.

Place the wood block into the folded wrapper and lightly press it into the appropriate hole in the gluing jig. If you encounter any difficulty in inserting the assembly, remove it and carefully file the hole sides until the assembly presses in with just a bit of resistance.

Spread a very light coating of Zap-A-Gap onto the exposed surface of the wood block. Using the end of the X-ACTO knife, fold each of the long sides of the wrapper over onto the wood block (Photo 3). Hold in position until the paper sticks to the wood. Next do the end flaps. Once the end flaps are stuck, roll over the block with the X-ACTO knife like using a rolling pin on a pie crust (Photo 4). This gets rid of any air bubbles and completely flattens the wrapper onto the wood block. The result is a perfectly square-sided "lift" of scale lumber.

Now, following the C&S instructions, cut and glue on the spacers that will separate the rows of lifts on the flatcar. You may want to cut the spacers in half length-wise to make them slightly thinner. The ones provided in the kit are about 8 scale inches thick. They should be about 3 inches thick (Photo 5).

Using the flatcar that will ultimately accept the load, lay out the bottom row of lifts. Lay on the next row to see how it fits. Do not use any glue yet. Do this with each successive row to make sure the fit is correct. Once you are satisfied, remove all but the bottom row and re-lay each row, this time gluing as you go (Photo 6). One word of caution: all of the blocks are not exactly the same thickness. It is a good idea to measure each block and put them into piles based on their thickness. If blocks of different thicknesses are put in the same row, the row will be uneven and not present a good appearance. Do the same for the other side of the car.

Use the 1mm wide drafting tape, not the thread provided in the kit, to band the lifts together. The kit instructions explain this very well. I prefer not to use the thread as it is too fuzzy and doesn't look like metal banding. The drafting tape can be purchased at any drafting or art supply store. The ends of the tape must be threaded in between the lifts. This is a tedious process but the results are worth it. Bring the ends of the banding together at the back of the stack and secure with a drop of Zap-A-Gap.

Once the banding is done, glue the two halves of the load together with vertical wood separators in between the halves as shown in Photo 7. The load is now ready for shipment.



Photo one

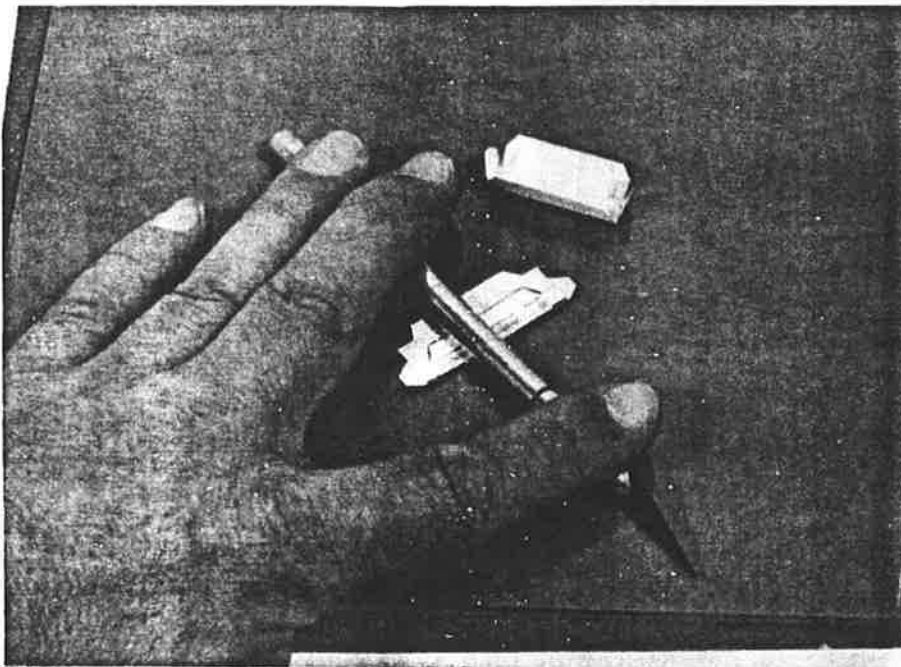


Photo two

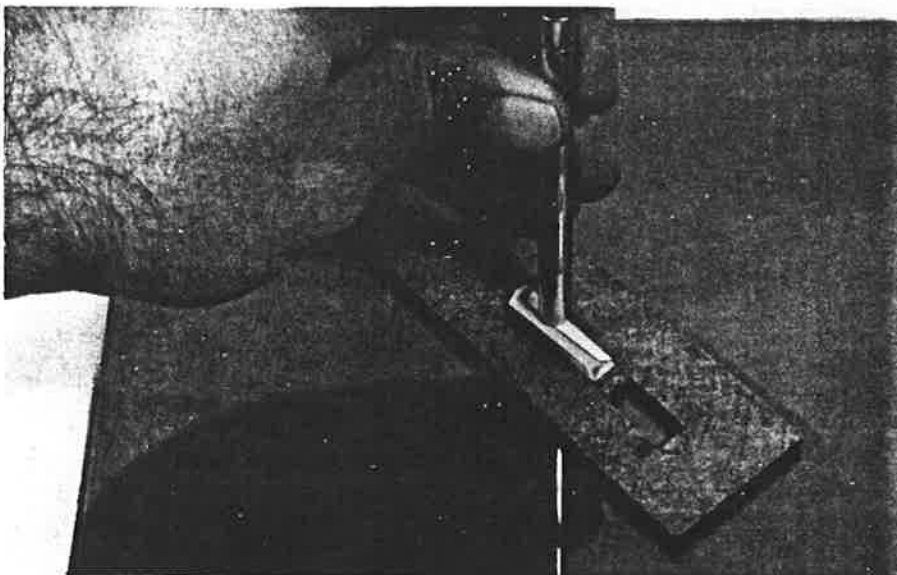


Photo three

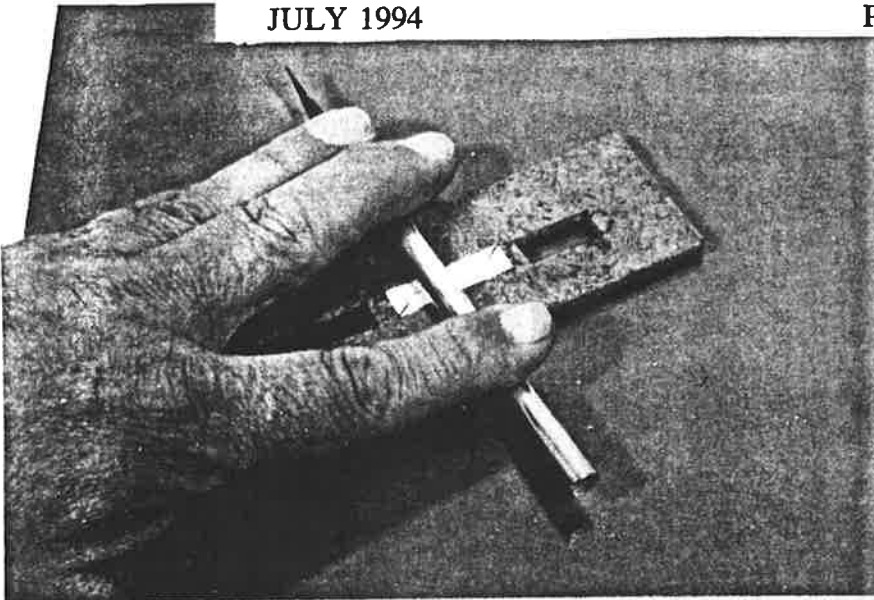


Photo four

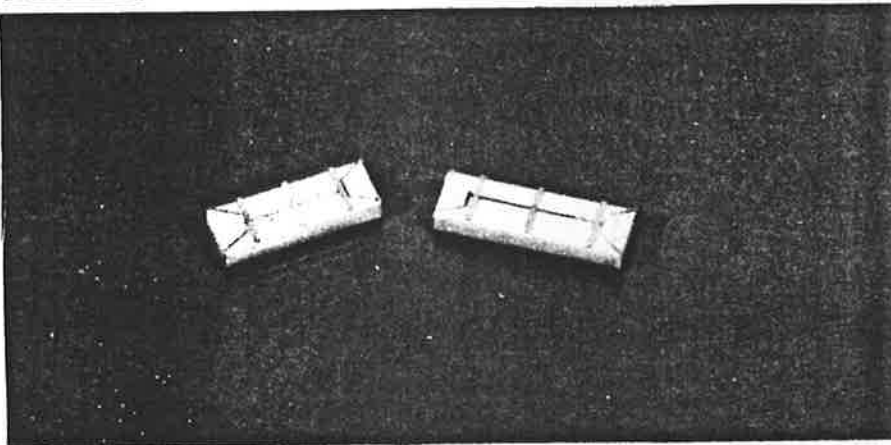


Photo five

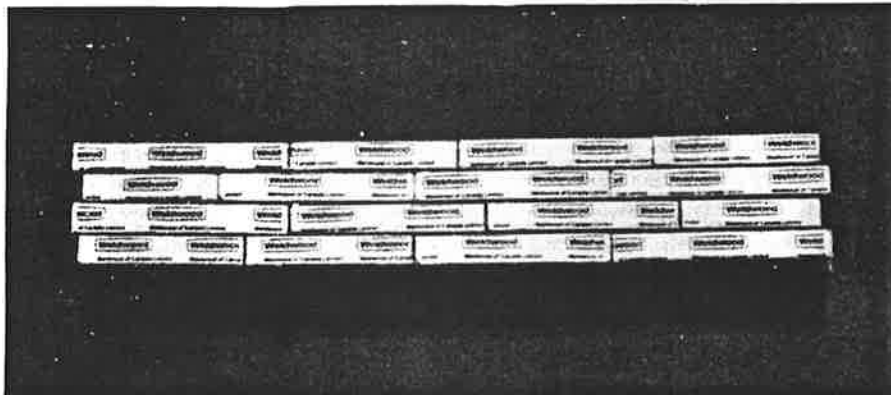


Photo six

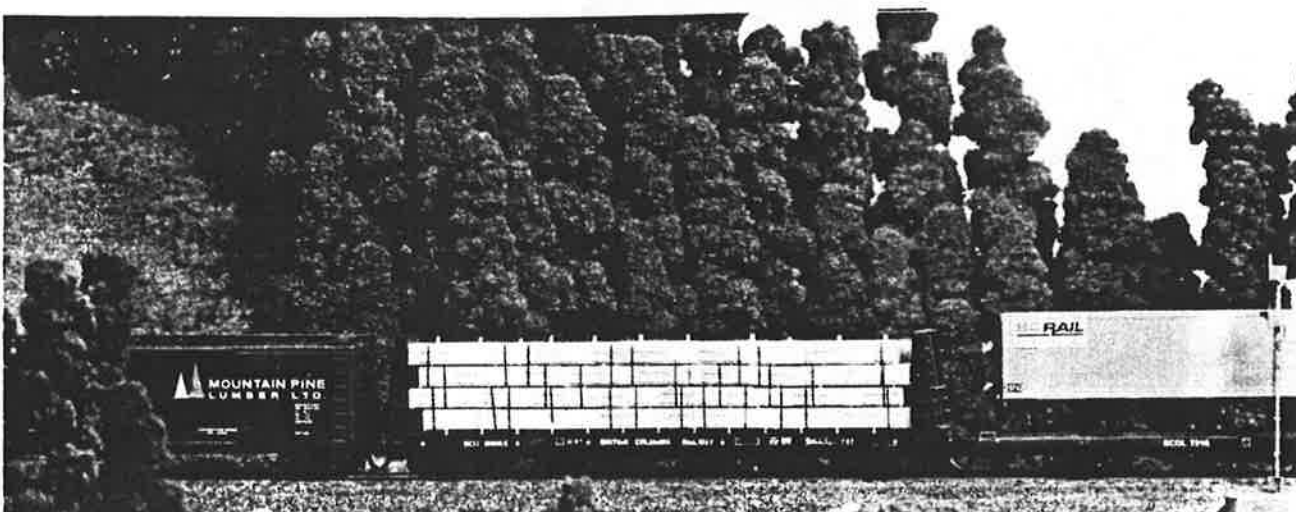


Photo seven

PGE-BCR HISTORICAL MOTIVE POWER REGISTRY (Part 4)

Compiled by Paul J. Crozier Smith

ROAD #	BUILDER	DATE	MODEL	SERIAL #	NOTES
736	EMD	11/78	SD40-2	776129-1	leased from Helm Financial 10/86, nee-Kennecott Copper 101
737	EMD	11/78	SD40-2	776129-2	leased from Helm Financial 10/86, nee-Kennecott Copper 102
738	EMD	11/78	SD40-2	776129-3	leased from Helm Financial 10/86, nee-Kennecott Copper 103
739	EMD	11/78	SD40-2	776129-4	leased from Helm Financial 10/86, nee-Kennecott Copper 104
740	EMD	11/78	SD40-2	776129-5	leased from Helm Financial 10/86, nee-Kennecott Copper 105
741	EMD	11/78	SD40-2	776129-6	leased from Helm Financial 10/86, nee-Kennecott Copper 106
742	EMD	11/78	SD40-2	776129-7	leased from Helm Financial 10/86, nee-Kennecott Copper 107
743	EMD	9/79	SD40-2	786246-1	nee-Oneida & Western 9950 5/87
744	EMD	9/79	SD40-2	786246-2	nee-Oneida & Western 9951 5/87
745	EMD	9/79	SD40-2	786246-3	nee-Oneida & Western 9952 5/87
746	EMD	9/79	SD40-2	786246-4	nee-Oneida & Western 9953 5/87
747	EMD	9/79	SD40-2	786246-5	nee-Oneida & Western 9954 5/87
748	EMD	9/79	SD40-2	786246-6	nee-Oneida & Western 9955 5/87
749	EMD	9/79	SD40-2	786246-7	nee-Oneida & Western 9956 5/87
750	EMD	9/79	SD40-2	786246-8	nee-Oneida & Western 9957 5/87
751	GMD	9/80	SD40-2	A3945	
752	GMD	9/80	SD40-2	A3946	
753	GMD	9/80	SD40-2	A3947	
754	GMD	9/80	SD40-2	A3948	
755	GMD	9/80	SD40-2	A3949	Wrecked 18/06/84 @ Mile 474.4, Retired 11/8 sold to GMD for parts on 7/85 order
756	GMD	9/80	SD40-2	A3950	
757	GMD	9/80	SD40-2	A3951	
758	GMD	9/80	SD40-2	A3952	
759	GMD	9/80	SD40-2	A3953	
760	GMD	9/80	SD40-2	A3954	Wrecked 18/06/84 @ Mile 474.4, Retired 11/8 sold to GMD for parts on 7/85 order
761	GMD	9/80	SD40-2	A3955	
762	GMD	9/80	SD40-2	A3956	
763	GMD	7/85	SD40-2	A4497	
764	GMD	7/85	SD40-2	A4498	
765	GMD	7/85	SD40-2	A4499	
766	GMD	7/85	SD40-2	A4500	
767	GMD	7/85	SD40-2	A4501	
800	Alco	10/64	C425	3392-08	Rebuilt from 808, Retired 12/90
801	Alco	10/64	C425	3392-01	nee-EL 2451 4/76, Retired 6/88
802	Alco	10/64	C425	3392-02	nee-EL 2452 4/76, Retired 7/93, Sold to Delaware Lackawanna 7/93
803	Alco	10/64	C425	3392-03	nee-EL 2453 4/76, Retired 9/92, Sold to Mohawk Adirondack & Northern 9/92
804	Alco	10/64	C425	3392-04	nee-EL 2454 4/76, Retired 4/91, Sold to Mohawk Adirondack & Northern 4/91

ROAD #	BUILDER	DATE	MODEL	SERIAL #	NOTES
805	Alco	10/64	C425	3392-05	nee-EL 2455 4/76, Retired 4/91, Sold to Mohawk Adirondack & Northern 4/91
806	Alco	10/64	C425	3392-06	nee-El 2456 4/76, Retired 4/91, Sold to Mohawk Adirondack & Northern 4/91
807	Alco	10/64	C425	3392-07	nee-EL 2457 4/76, Wrecked ??/86, Retired 12/86
808	Alco	10/64	C425	3392-08	nee-El 2458 4/76, Wrecked & fell into Seton Lake Mile 154.4 29/2/80, Raised 12/05/81 & rebuilt to 800
809	Alco	10/64	C425	3392-09	nee-EL 2459 4/76, Retired 1/90
810	Alco	10/64	C425	3392-10	nee-EL 2460 4/76, Wrecked @ Squamish 22/12/85, Retired 12/85
811	Alco	10/64	C425	3392-11	nee-EL 2461 4/76, Retired 7/93, Sold to Delaware Lackawanna 7/93
812	Alco	10/64	C425	3392-12	nee-EL 2462 4/76, Retired 12/90
1001	MLW	1/59	S-13	82548	Renumbered 501
1002	MLW	1/59	S-13	82549	Renumbered 502
1003	MLW	1/59	S-13	82550	Renumbered 503
1004	FM	5/49	H10-44	10L174	ex-ALX D1 /71, nee-Columbia & Cowlitz D1. Retired 5/75, Sold to Cascade Ventures for scrap 11/75
4601	GE	4/90	Dash 8-40CM	46296	
4602	GE	4/90	Dash 8-40CM	46297	
4603	GE	4/90	Dash 8-40CM	46298	
4604	GE	4/90	Dash 8-40CM	46299	
4605	GE	4/90	Dash 8-40CM	46300	
4606	GE	4/90	Dash 8-40CM	46301	
4607	GE	4/90	Dash 8-40CM	46302	
4608	GE	4/90	Dash 8-40CM	46303	
4609	GE	4/90	Dash 8-40CM	46304	
4610	GE	4/90	Dash 8-40CM	46305	
4611	GE	4/90	Dash 8-40CM	46306	
4612	GE	4/90	Dash 8-40CM	46307	
4613	GE	4/90	Dash 8-40CM	46308	
4614	GE	4/90	Dash 8-40CM	46309	
4615	GE	4/90	Dash 8-40CM	46310	
4616	GE	4/90	Dash 8-40CM	46311	
4617	GE	4/90	Dash 8-40CM	46312	
4618	GE	4/90	Dash 8-40CM	46313	
4619	GE	4/90	Dash 8-40CM	46314	
4620	GE	4/90	Dash 8-40CM	46315	
4621	GE	4/90	Dash 8-40CM	46316	
4622	GE	4/90	Dash 8-40CM	46317	
4623	GE	2/93	Dash 8-40CM	47180	
4624	GE	2/93	Dash 8-40CM	47181	
4625	GE	2/93	Dash 8-40CM	47182	
4626	GE	2/93	Dash 8-40CM	47183	
6001	GMD	11/83	GF6C	A4340	
6002	GMD	11/83	GF6C	A4341	
6003	GMD	12/83	GF6C	A4342	
6004	GMD	12/83	GF6C	A4343	
6005	GMD	12/83	GF6C	A4344	
6006	GMD	12/83	GF6C	A4345	
6007	GMD	12/83	GF6C	A4346	

British Columbia Railway Historical & Technical Society Prototype Colour Sample

The enclosed colour sample was produced using paints provided by BC Rail or its predecessor companies. As a result, it offers modelers a unique insight into the prototype's exact colour matches.

The British Columbia Railway Historical & Technical Society is indebted to Andy Barber for his careful preparation of these colour samples and to Laszlo Dora for providing the respective Floquil formulae.

red:	25 parts reefer orange	(110030)
	40 parts Socony red	(110187)
	1-2 parts roof brown	(110070)
yellow:	1 part reefer white	(110011)
	22 parts reefer yellow	(110031)
	3 parts reefer orange	(110030)
dark green:	10 parts BN green	(110035)
	3 parts engine black	(110010)
	1 part reefer yellow*	(110031)
	*optional	
white:	1 part dark blue	(110050)
	16 parts primer	(110009)
	480 parts reefer white	(110011)
blue:	10 parts dark blue	(110050)
	16 parts Conrail blue	(110058)
lt. green:	1 part engine black	(110010)
	4 parts primer	(110009)
	6 parts depot buff	(110087)
	11 parts reefer white	(110011)
	32 parts coach green	(110048)

Notes:

If preparing bulk mixes of more than 2 ounces, a measuring cup may be used. Add continuously to the cup, keeping a running total of the volume of liquid. The greens are often better if "bulk" mixed. The quality of bulk mixes usually lasts only a few months. To do an accurate small mix, use an old paintbrush handle end and count the drops. After each colour, wipe the stick and continue.

Prior to airbrushing, mix a bit of gloss or crystal cote into the mixture. Then add solvent until it comprises between 1/4 and 1/3 of the entire paint mix volume. This gloss will assist in producing a smooth finish.

Once completely dry, spray with a gloss to bring out the true colour of newly applied BCR paint. Since most BCR decals are the wet-type, you will have to gloss the model anyway since Floquil paints dry "flat". If using dry transfers, or if a faded paint job is desired, leave off the gloss coat. Once the decals have been applied, add the desired fixative agent (eg. gloss or dullcoat).