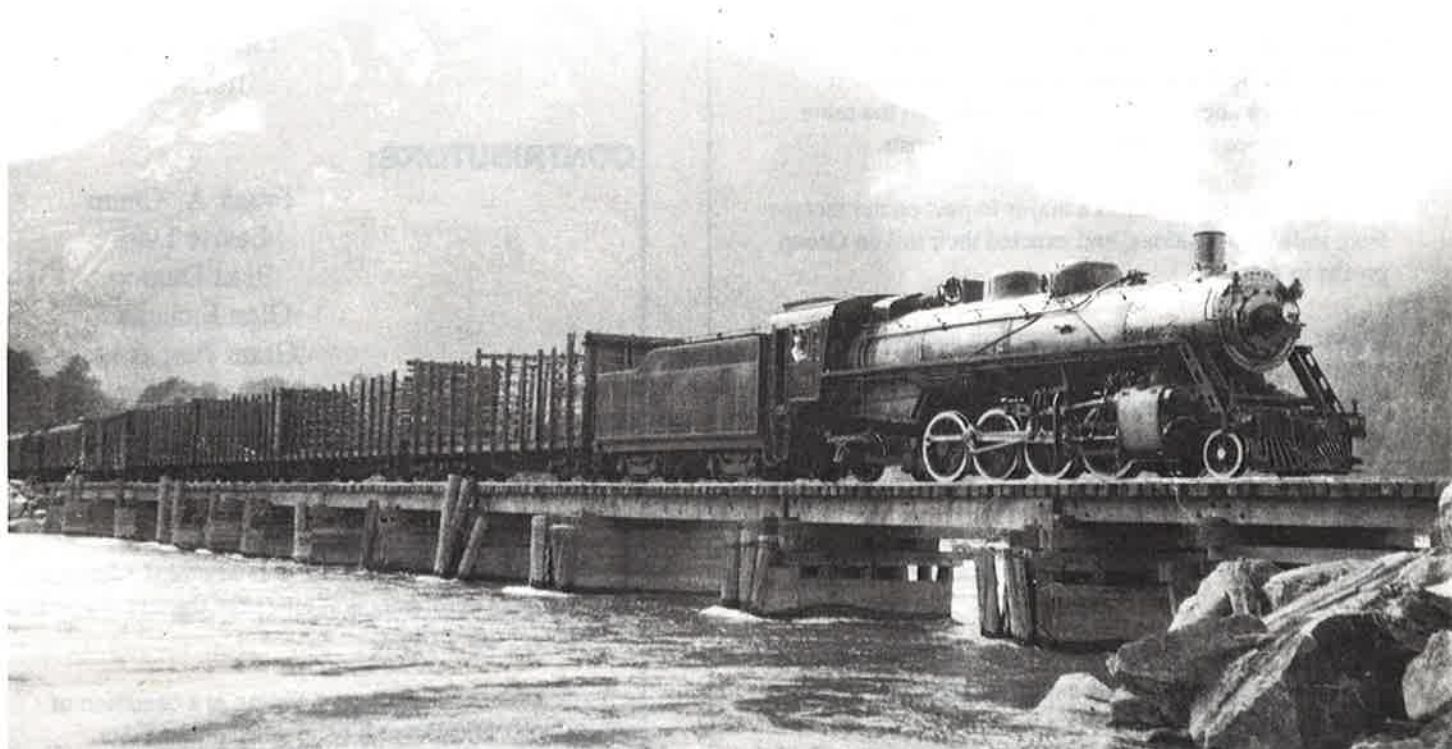




The CARIBOO



The British Columbia Railway Historical & Technical Society



Issue 31

January 1998

Evolution of Freight Car Fleet

Williams Lake Generating Station

Modeling N Scale Flatcars

IN THE NEWS

Edited by Jim Moore

1996 FINANCIAL RESULTS: Two bridge washouts on the Fort Nelson Subdivision, several grade failures, corporate reorganization costs, and severe winter conditions increased operating costs by several million dollars over 1995, making 1996 a particularly difficult year for BC Rail operations. But while repair crews worked non-stop to restore and maintain services, market downturns for many of BC Rail's principal customers meant lower shipment volumes and reduced revenues. At the same time, fuel price hikes increased operating costs.

Together, these factors had a major impact on net income from railway operations, and exacted their toll on Group profits in 1996.

On the plus side, BC Rail management successfully secured a number of new contracts which will complement the company's existing business, and further reduce its reliance on forest products and coal. These last two commodities alone generated more than 80% of BC Rail's revenue in 1996.

Some of the factors affecting BC Rail's core business in 1996 included:

- the imposition by the U.S. of a new quota system on B.C. lumber, restricting export of logs, and thereby reducing rail shipments.
- production difficulties and severe year-end weather conditions at coal mines served by BC Rail, which reduced production volumes.

On Our Cover...

Steam-era and early diesel-era freight equipment on the Pacific Great Eastern was dominated by flat, box, and stockcars often of wood construction. Locomotive #160 leads a mixed train across the Mamquam River bridge north of Squamish in this June 1946 W.C. Whittaker photo.

Bob Turner's article tracing the evolution of the railway's freight car fleet begins on page five.

The CARIBOO

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- a fall in the price of sulphur which, in turn, translated into reduced rail rates.
- lower demand for woodpulp as a result of soft markets and leftover stockpiles of woodchips from previous years.

As a result of the decreases in demand for pulp, many whole log chipping operations served by BC Rail in 1995 simply closed down in 1996. Pulp shipment volumes and values have continued to decline, reducing freight revenues further.

But BC Rail is fighting back. In line with its strategy of reducing dependence on forest products and coal, the company bid successfully to handle in-bound freight for the new Royal Oak/Kemess mine. At the same time, it is negotiating long-term contracts to ship the concentrated ore the mine will produce, while the new Imperial Metals gold/copper mine at Mount Polly has chosen BC Rail as its ore carrier.

In the southern region, the success of the North Vancouver lumber reload centre continues with a two-fold increase in export volumes since it opened in 1994. The centre was developed on behalf of Balfour Guthrie Forest Products Inc. as a customer service initiative. Opportunities to extend this kind of service to other customers and commodities are actively being pursued.

Northeastern B.C.'s Peace River country is becoming increasingly important as a grain-growing region. To make sure it can handle the extra freight BC Rail is adding more grain cars to its fleet. And while coal shipments are expected to decline when existing contracts with Japanese steel manufacturers expire in 1998, BC Rail is actively involved in joint ventures to develop new mines. Once in production, these mines will produce types of coal for which demand is growing rather than declining.

Vancouver Wharves' principal challenge is the replacement of potash traffic lost to the Port of Portland starting in 1997. To compensate, VW's strategic plan focuses on increasing pulp tonnage, further expansion of mineral concentrates exports and imports development of agricultural products traffic, consolidation of sulphur storage under long-term contracts, and increasing market share of fertilizers.

Business developments include completion of a long-term contract for the storage and handling of inbound South

American concentrates. Construction of a new facility for handling these concentrates was completed in early 1997. VW has engaged an experienced engineering company to advise on a proposed new specialty agricultural products facility. A design and build contract for pulp shed enclosures was awarded in 1997, as was a design and build contract for a concentrate building enclosure. (BC Rail *Coupler*) □

DASH 8 REPAIRS: The Southern Railway of B.C. (ex BC Hydro) received unexpected business in June. The lower Fraser Valley industrial line was chosen by General Electric for emergency repairs to both BC Rail and CP Rail locomotives.

Singh Biln, BCR's chief mechanical officer, stated that 13 GE locomotives have had faulty diesel-engine pistons replaced. Work on one was handled at BCR's Squamish shops, while 12 were repaired at the New Westminster shops of the Southern Railway of B.C.

GE has also used the shortline's facilities to do warranty piston work on CP Rail locomotives.

Another BC Rail unit needing new pistons is trapped north of Fort St. John by a line closure and will be returned to the Lower Mainland for repair once the line reopens. (see following story)

Biln said the problem with pistons affects many railways. At BC Rail, it showed up during the winter, while the failure rate of GE units tripled. Biln said that GE has borne the full cost of repairs and has temporarily supplied BC Rail with two locomotives to compensate for the loss of engine power during the cold-weather months. (Vancouver *Province*, July 15, via Glen Etchells and Frank Clapp) □

FT. ST. JOHN SUB OPENS: The rail line is passable and BC Rail trains are moving between Taylor and Chetwynd again.

BCR spokesman Barrie Wall said the work cost the company about \$15 million. "It became passable between Mile 707 and 709 at 2:15 pm Friday (July 25). The first train left Ft. St. John at 3:30 pm heading for Prince George -- 66 loaded cars and 39 empties."

Wall said the company isn't finished with the landslide, which began on June 2 and made the line completely unusable by June 5. "There's a lot of cleanup and strengthening to be done." Different BC Rail lines in the

have been down since early April, the result of three years of record rains.

BC Rail had been using the reload facility in Chetwynd, hauling customer's products there by truck and then moving them by rail. (*Alaska Highway News*, July 29, via Ross Pugsley) □

LONSDALE STATION UPDATE: PGE's original North Vancouver station has returned to its original site at the foot of Lonsdale Avenue. Built in 1913, the station was used on the North Shore Subdivision from the start of service in 1914 until 1928. At that time, the railway ceased operating on the isolated rail segment and a rail tunnel was constructed under the area connecting the PGE with CN facilities on the North Shore.

The station was then moved and used by C.H. Cates & Sons (a tugboat operator) for many years as an office. Subsequently, the structure was relocated to the city's Mahon Park where it became the original home of the North Vancouver Museum and Archives.

The structure will be restored by the Kiwanas, North Vancouver Museum and Archives, and BC Rail, and BC Heritage Trust. It reopened on September 20 as part of the North Shore Heritage week (PJCS and WCRA News) □

One of *The Cariboo's* more prolific contributors, Eric L. Johnson, has a new book entitled *The Bonanza Narrow Gauge Railway*. Published by Rusty Spike (Vancouver BC), this 164-page softcover work traces the history and operations of the Klondike Mines Railway.

Although my only previous exposure to the subject came as a result of reading one of Eric's previous books (*Mining Railways of the Klondike*, CRHA, 1995), I found his latest work both an interesting and quick read. It is chock full of historic black and white photographs, scale drawings (prepared by Eric), railway ephemera, and well crafted maps (again, prepared by Eric.) As further evidence of his scholarship, *Mining Railways* includes a detailed index, seven appendices, and a comprehensive bibliography.

For further information, I recommend contacting the author direct at: #112-2320 West Fortieth Avenue, Vancouver BC V6M 4H6. □

BC Rail has acquired former VIA Rail steam generator car #15483. It's prime purpose will be to provide back up

capability for the railway's steam locomotive program. It will also be used on diesel-powered charters that use the *Royal Hudson* passenger cars. (PJCS and WCRA News)

□

Thanks to Paul J. Crozier Smith, we are able to provide details regarding the heritage of the equipment presently in use on the new the *Pacific Starlight* dinner train service.

--kitchen/power car *Savoy* nee C&O #1953
Pullman 1950

--diner *Continental* nee C&O #1920 Budd 1947

--diner *Manhattan* nee NYC #406 Budd 1948

--diner *Apollo* nee C&O #1980 Built as a tavern car
Pullman 1950

--diner *Rainbow* nee ATSF #1371 Built as a
lounge/dorm car Budd 1937

--full-dome diner *Stardust* nee Milwaukee *Super Dome*
#58 Pullman 1952

--dome diner/lounge *Twilight* nee ATSF *Pleasure Dome*
#500 Pullman 1950

--dome dine *Moonglow* nee WP *Silver Feather* #812
Budd 1941

--diner/observation *Indigo* nee ATSF #1371 *Nambe*
Budd 1941 □

Mainline Modeler (June 1997) featured photos and scale drawings of Canpotex covered hoppers by BCRHTS member Patrick Lawson. The Canpotex fleet is composed to two car types: covered hoppers (North American Car) and cylindrical hoppers (National Steel Car). According to Patrick, the 3800 cubic foot hoppers are numbered PTEX 44600-44799 and PTEX 38200-38699, while the 4550 cubic foot hoppers are numbered in the PTEX 45900-46099 series. □

The July issue of CTC Board/Railroads Illustrated included the "1997 MLW Roundup" (a survey of Alco/MLW/BBD operators in Canada), and a photo essay entitled "Alcos and MLW's In Canada". □

We've signed up several new members thanks to our increasing presence on the Internet. Be sure to check out the BCRHTS website at
<http://129.93.226.138/tr/BCRH&TS/BCRH&TS.htm>

Thanks to Allen Szalanski for coordinating this activity.

Evolution of the Freight Car Fleet, from PGE to BC Rail, 1939-1994

Robert D. Turner

The PGE, and more recently BC Rail, has gone through many changes since the late 1930s. The railway has grown from being essentially a rambling back country operation serving small interior communities between Squamish and Quesnel to a major system reaching from North Vancouver all the way to Fort Nelson and Tumbler Ridge. Operational trackage has grown from a modest 347 miles in 1939 to 1635 miles in 1994. At the same time there has been a dramatic change in the economy of the Interior of British Columbia. The growth in traffic volume has been immense. Major changes have occurred in the type of traffic moved by the railway as well as in the types of equipment used. This article provides a brief summary of some of the changes in the types and numbers of freight equipment used on the railway between the late 1930s and the mid-1990s. In addition, the tables also summarize mileage and the number of locomotives operated by the railway. The information is drawn primarily from issues of The Official Railway Equipment Register (ORER) and other sources as noted in the tables.

The tables present generalized information and may not include out of service cars not reported in the ORER. Within any classification of equipment there are often several types of cars with, for example, different door or loading characteristics. In addition, the totals will not reflect retirements and replacements that occurred during a given year within a category except where the overall number of a type of car is effected. For example, during the 1950s nearly all wooden equipment was retired and replaced by newer, more reliable steel cars. Rolling stock from other railways, from leasers and from private car operators has been used on the railway during all of the time periods considered but this aspect of the railway's operations is not considered. Photographs from the periods reviewed show many foreign cars operating on the railway. The tables give an overview that I hope will be interesting background on the enormous changes that have taken place on the railway. I hope as well they will be useful to modellers in representing the equipment on the railway during different eras.

In preparing the tables, I compared the summaries of the ORER listings with more generalized information in PGE and BC Rail annual reports and noted minor differences in the total of types of cars and in the size of the overall fleet. Some differences are probably due to the use of different categories of equipment, retirements, inclusion or omission of out of service cars, and the fact that the ORER listings may not have been fully updated. As an example, the listing in the January 1972 issue is actually dated October 1975. Similarly, the annual report statistics are based on a fiscal year basis. In any event, the listings which are presented in summary tables and discussed below provide an interesting insight into the changes which occurred over the years in the general scope and nature of the railway's equipment.

The 1939 summary, for the first year considered, provides an insight into the Pacific Great Eastern Railway before its extension to Prince George in 1952. At that time, the railway was serving the small communities south of Quesnel. The economy of these towns was based largely on ranching, lumber production, and mining, and this is reflected in the composition of the small freight car fleet. Nearly half of the freight cars were 40-foot or smaller flatcars, about 20 percent 40-foot boxcars, and another 20 percent were stockcars, reflecting the importance of livestock shipments from ranching towns such as Williams Lake. Overall, it was a modest fleet of general purpose freight cars for handling a small volume of traffic. The railway's equipment roster remained stagnant through the war years despite the wartime demands for natural resource products. The only change of note in the 1946 listing was an increase of three refrigerator cars. However, within the next two decades, the rambling PGE would be transformed into a major regional railway.

The 1950s and early 1960s were a period of rapid growth of the railway following the extension to Prince George and the connection there with Canadian National Railways. Expansion followed with

trackage completed between North Vancouver and Squamish in 1956 and construction extended to the Peace River centres of Dawson Creek and Fort St. John in 1958. Forest industry expansion along the railway, general population growth, oil and gas and agricultural production in the Peace River, and mining developments all contributed to a growing traffic base. The 1953 (January) listing shows the beginning of this expansion with a substantial increase in the total amount of equipment on the railway, but major expansion is still in the offing. It is interesting to note that the listing does not yet show the completed trackage to Prince George being in service. Although it was formally opened on November 1, 1952, freight service did not start until the next year. Of note is the transition to diesel power with steam locomotives still rostered, but an equal number of diesels are in evidence. By 1953, the number of boxcars had almost doubled from 1946 and flat cars had increased substantially in numbers. The increase in 50 drop bottom gondolas likely reflects the construction activity and work on improvements to the line.

The 1959 listing shows dramatic changes. Since the late 1940s, the route mileage has nearly doubled and the freight car fleet increased by over four times over immediate post-war level to 1022 cars. This included the addition of over 200 boxcars, 151 gondolas, 60 hopper cars, and 288 flat cars (some of which were used in log hauling service although not classed as log flats). Freight cars were nearly all of steel construction with all but a few wooden-framed flat cars having been replaced. At the same time the railway was fully dieselized, and Budd RDCs had replaced the railway's obsolete fleet of standard passenger equipment.

By 1964, the next year presented in the tables, the freight car fleet had grown to 1341 cars and the makeup of the fleet had evolved. The first woodchip gondolas were in service and a number of other more specialized cars were in use. Notably, the TOFC (trailer on flatcar or piggyback) cars were also becoming important, but the number of stockcars remained little changed. Flatcars had increased in numbers and were still the most common single type of car in service. Overall, the railway was still dominated by 40-foot box and flatcars.

Change in the next few years was even more dramatic. By 1972, just eight years later, the freight car fleet numbered nearly 4000 cars, an increase of almost 300 percent in eight years. Trackage was completed to Fort Nelson in northern British Columbia in 1968. Most dramatic was the introduction of over 1570 50-foot boxcars and the stagnation in the number of the 40-foot boxcars. This period marked the beginning of the end of the 40-foot cars, many of which had been acquired second hand. Logcars increased to 343 from 58 and over 300 of a new type of flatcar, the bulkhead, were in widespread use, outnumbering standard flatcars on the roster. These bulkhead cars were used mainly for lumber shipments, and were much quicker and easier to load as well as being less subject to having loads shift during shipment. By this time, woodchip cars had become one of the most common cars on the railway with 738, or nearly 20 percent of the fleet, in service. Stockcars, once 20 percent of the fleet, had declined to just 14 cars or an insignificant .4 percent of the railway's freight equipment. TOFC cars had doubled in numbers.

If the changes by 1972 were dramatic, they were only the beginning of the remarkable development and evolution of the freight car fleet that was to occur. By 1976, the number of freight cars had doubled to well over 8000. The most significant changes were the addition of over 1000 50-foot boxcars of various types, 400 insulated boxcars, and 2178 bulkhead flatcars. Although bulkhead flatcars were used primarily for carrying forest products, they were versatile cars and were useful in moving many other commodities such as pipe and steel. Forty-foot boxcars were still in use but only in small numbers relative to the overall fleet. Standard gondola car ownership peaked at this time and subsequently has declined.

By the mid-1980s, the fleet had continued to expand to over 11000 cars. The increase reflected over 1000 new 50-foot boxcars and another 1775 bulkhead flatcars, making the bulkhead total nearly 40 percent of the fleet. Of the 4260 bulkhead cars, 2629 cars, or 24 percent of the entire freight car fleet, were cars 52'-8" in length between bulkheads and about 60-feet in overall length¹. Construction of new woodchip cars increased their numbers to nearly 1200 cars. In overall numbers, this period marked the

peak for the freight car fleet. The construction of the electrified Tumbler Ridge Subdivision and the development of the Northeast coal fields added an important new dimension to the railway. Rolling stock carrying both BC Rail and CNR logos was added. Although the Northeast Coal equipment was jointly owned, it was included in CNR equipment listings and was maintained by the CNR at Prince George.

A new type of flatcar, the centrebeam bulkhead (or centre divider car), of which 210 cars were in service, hinted at the important change these cars were to make in lumber shipments on BC Rail. Stockcars and reefers had become things of the past. These shipments had moved entirely to trucks although the railway, through its intermodal service, carried substantial numbers of refrigerated trailers.

By the mid-1990s, a decade later, the fleet had actually decreased in size but the simple numbers do not reflect capacity or utility. Larger or more functional cars, capable of faster loading and unloading or multi-platform intermodal (mostly TOFC) cars, gave a somewhat smaller fleet more efficiency. Indeed, between 1990 and 1995, the railway has purchased or upgraded 2,470 cars which represent nearly 30 percent of the freight car fleet.² This is most clearly reflected in the dramatic increase in centrebeam flatcars. In 1984 there were just 210 cars, by 1994 there were 2358, over 10 times as many. Many of these were conversions from existing bulkhead flatcars but there were also new, larger cars added during this period. At the same time, conventional bulkhead cars declined even more dramatically from 4260 to 1590 cars as shippers demanded the more efficient centrebeam cars which substantially reduced loading and unloading costs. Reflecting the reopening of trackage on the Dease Lake extension for log train service, logflats, including some with bulkheads, increased from 300 to 459. Many of these were also conversions of existing bulkhead flatcars. Overall, flatcars of all the major types totalled 4731 cars or approximately 50 percent of the freight cars in service. The shift in lumber shipments to bulkhead cars and other changes in traffic patterns contributed to the decline of 50-foot boxcars from 3665 to 2993. Only three 40-foot boxcars, except for some in worktrain service, remained on the railway by 1994. They were one of the last links with the traditions of the old days of the Pacific Great Eastern.

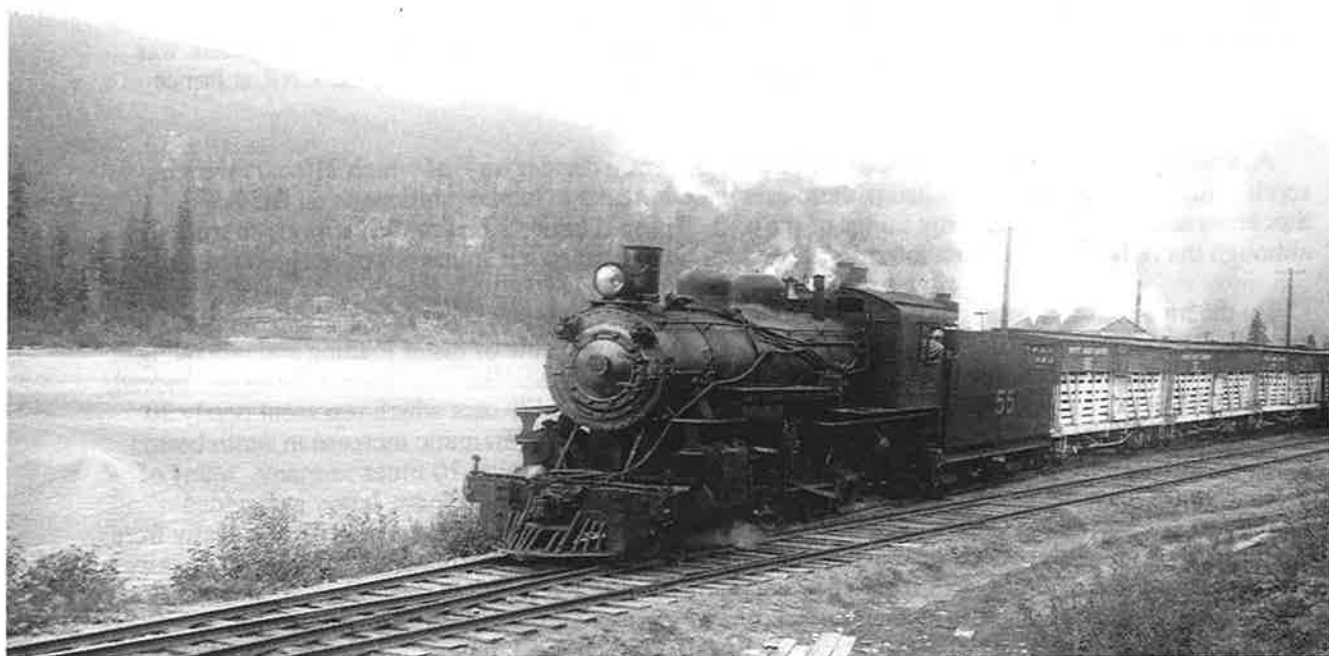
Paralleling the growth and evolution of the freight car fleet were many changes in the railway's locomotive roster. The most dramatic changes in the early years of the periods covered in this article were the conversion from steam to diesel power. It goes beyond the scope of this article to examine the locomotive fleet in any detail, but the accompanying table is helpful for comparing the changes evident in the freight equipment and the growth of the system. A steady growth in the number of units parallels the increase in size of the freight car fleet and the expansion of operational trackage. The decline in the number of units between 1984 and 1994 is a reflection of the arrival of new General Electric locomotives of higher per unit horsepower and the conversion of more old locomotives into yard slugs.

The last half century has seen enormous changes in a railway that was once a backwoods shortline and is now a major component of the North American rail network. Future decades will see more changes. One could speculate endlessly but we should see the continued growth of intermodal equipment and containerization, the replacement of the 70-ton, 50-foot boxcar fleet with larger 100-ton, 60-foot cars and the addition of more, large capacity centrebeam flats. Changes will be focused on efficiency and traffic needs and will determine to a large degree how effectively the railway will be able to compete with other carriers for key traffic in the future.

Acknowledgements: My thanks to Dave Manzer for providing copies of three of the Official Railway Equipment Registers used in preparing this article.

1. See "DW&P/CN 52-foot Bulkhead Flat," by Keith MacCauley in Railroad Model Craftsman, October 1990, pages 66-69, which includes plans and information on the very similar BC Rail cars.

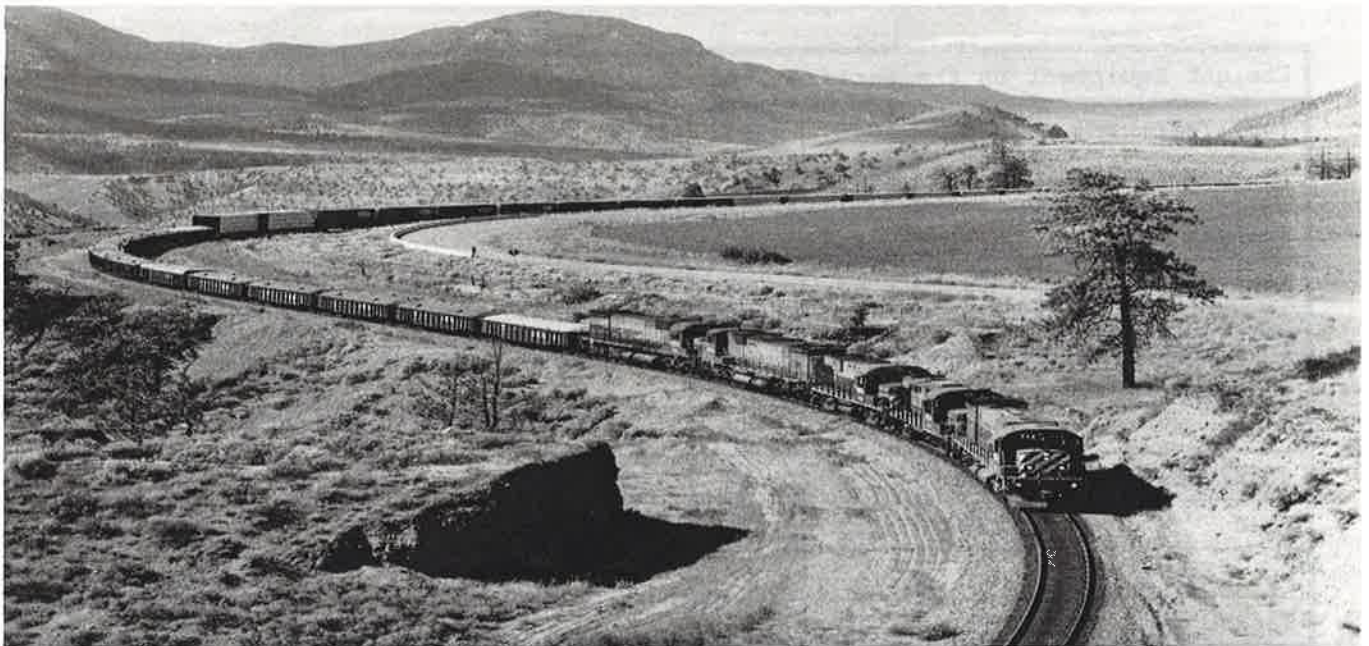
2. See The Cariboo, January 1995, page 3.



Wooden underframe stockcars were important to the railway in the early post-Second World War years. Wil Whittaker photographed PGE No. 55 and train at Parkhurst on September 15, 1945.



BC Rail freight, southbound along Williams Lake in July 1972. Note the number of CNR 40-foot and 50-foot boxcars, and one CPR box in the train. Equipment from other railways can compose a significant portion of the equipment in use on the railway. Robert D. Turner photo.



By the mid-1980s, main line trains typically were dominated by 50-foot boxcars, bulkhead flats, and other modern equipment such as these covered gondolas. The train is south-bound along the Fraser between Glenfraser and Fountain on its way to Lillooet. All of the locomotives are still in the two-tone green colour schemes. Robert D. Turner photo.



Intermodal traffic became increasingly important on the railway during the 1980s. This northbound train, with a substantial volume of trailer traffic, is nearing the south yard at Williams Lake in July 1989. Robert D. Turner photo.

Freight Equipment on the Pacific Great Eastern/B.C. Railway, 1939 to 1994									
Type\Year	1939 Oct PGE	1946 Jan PGE	1953 Jan PGE	1959 Oct PGE	1964 July PGE	1972 July BCRy	1976 Jan BCRy	1984 Oct BCR	1994 Oct BCR
Freight Cars									
Box (40-foot)	49	49	97	275	302	308	464	324	3
Box (50-foot)	-	-	-	-	-	1521	2616	3665	2933
Insul. Box	-	-	-	-	11	21	421	19	3
Stock	45	45	48	45	52	14	14	-	-
Refrigerator	3	6	13	45	33	24	21 ¹	2	-
Flat	123	123	174	411 ²	252	295	-	287	155
Log Flat	-	-	-	-	58	343	301	300	459
Tanks, oil	10	10	9	7	13	20	43	9	15
TOFC	-	-	-	-	49 ³	103	168	168	169
Bulkhead	-	-	-	-	2	307	2485	4260	1590
Ctr. Beam Flat	-	-	-	-	-	-	-	210	2358
Gondola	-	-	-	151	135	216	565	349	245
Woodchip	-	-	-	-	40	738	536	1198	1220
Gondolas, Drop bottom/Ballast	10	10	60	28	9	15	15 ⁴	100	100
Hopper Cars	-	-	28	60	91	75	51	37	50
Covered Hoppers & Pressure unloading	-	-	-	-	27	32	144	93	50 ⁵
Other	11	11	n/a	n/a	n/a	n/a	n/a	3	-
Total freight:	251	254	429	1022	1341	3982	8066	11034	9350
North East Coal									
BCNE (CNR/BCR)	-	-	-	-	-	-	-	648	609
Work Equipment & Cabooses									
All types	?	?	?	?	174	380	476	447	260
Cabooses	?	?	?	?	43	43	60	53	40

General Notes: This table does not include cars operated by companies such as Mountain Pine Lumber Ltd. (in 1974, 49 M.P.L.X. 50-foot cars) and Triangle Pacific (in 1974, 30 T.P.F.X. 50-foot cars), all owned by North American Car Corp., or leased cars used primarily in BC Rail service. Similarly, cars were owned by other major carriers, such as Union Pacific and Milwaukee cars used in

veneer service on BC Rail, are not included.

Footnotes:

1. 400 BCIT insulated, 52' 5" boxcars were listed under refrigerator equipment. These were the only standard reefers noted. In this table, the BCIT cars are included under insulated cars.

2. Includes 250 52'-6" flats.

3. Includes one auto flat and one bilevel auto flat.

4. Termed ballast cars in 1975.

5. Includes 25 grain hoppers.

Miles Operated, Locomotives and Passenger Equipment on the Pacific Great Eastern/B.C. Railway/B.C. Rail Ltd., 1939-1994 ¹									
	1939	1946	1953	1959	1964	1972	1976	1984	1994
Miles Operated	347	347	347	788.5	788.6	1112	1113	1504	1635
1) Locomotives									
Steam	12	12	13	-	-	-	2 ²	2	2
Diesel	-	-	13	38	45	74	107	126	115
Slug Units	-	-	-	-	-	-	-	5 ³	10
Electric	-	-	-	-	-	-	-	7	7
2) Self-propelled Passenger Equipment									
Motorcars	4	4	1	1	-	-	-	-	-
Rail Diesel Cars (RDCs)	-	-	-	7	6	6	5	6	11

1. Information is from The Official Railway Equipment Register except where noted.

2. Includes ex-CPR 4-6-4 "Royal Hudson" 2860 and ex-CPR 2-8-0 3716. Royal Hudson service was started in 1974 but the equipment was owned by the British Columbia government and operated by the BC Railway. Later, this equipment was transferred to BC Rail.

3. Slug units were not reported in the ORER for this year; details from BC Rail roster in Extra 2200 South, Issue 92, July-Sept. 1991.

WILLIAMS LAKE GENERATING STATION

John Pieti

Known locally as the Co-Generation Plant, the "hog fuel" facility opened in April 1993. Operated by North West Energy, the plant is officially called the Williams Lake Generating Station. North West Energy (Williams Lake) Corp. is owned two-thirds by Inland Pacific Energy Corp. and one-third by Tondur Energy Systems, Inc. The plant is located on the Mackenzie Ave. connector to Highway 97, directly northeast of the Timber West sawmill operation.

Because of the huge amount of wood waste (i.e., sawdust, bark, rotten wood etc.), in the Williams Lake area, and the subsequent burning of it in beehive-style burners, there was a serious flyash and air quality problem in the city and surrounding areas. Most of the mills had spent millions of dollars to upgrade their burners, often with limited results. A layer of ash could be found on local residents' vehicles on most days. Finally, the City enacted a law banning all beehive-style burners by 1997. So when proposals for a waste wood burning, electricity-producing plant came along, Williams Lake was a prime candidate.

Fuel for the facility is provided by the five major sawmills and three value-added plants. Jack Pine, Williams Lake Cedar, and Westech provide over 600,000 tons of it yearly. That works out to 70 tons an hour, 24 hours a day, 7 days a week. It generates 65 megawatts of electricity annually, which in turn is sold primarily to BC Hydro under a 25 year contract. To quote a NW Energy company brochure, "The plant is the largest biomass power plant in North America. The state-of-the-art facility is equipped with combustion and emission controls, including multiclones and an electrostatic precipitator. The plant has been designed to surpass the air emissions permit levels, which are already 5 times more stringent than existing regulations for wood waste fired boilers."

The plant requires a 60-day stockpile of fuel which is delivered by BC Rail under a five-year contract. Three tractor trailers are used, with two forty-eight foot trailers and three or four "B Trains", depending upon availability. Private contractors are also used, sometimes quite extensively, to cover for truck maintenance and busy periods. Currently, a maximum of three tractors are utilized by BC Rail, although the company has the capability of running four tractor trailers on three shifts. Each round trip takes approximately one hour depending upon where the load originates.

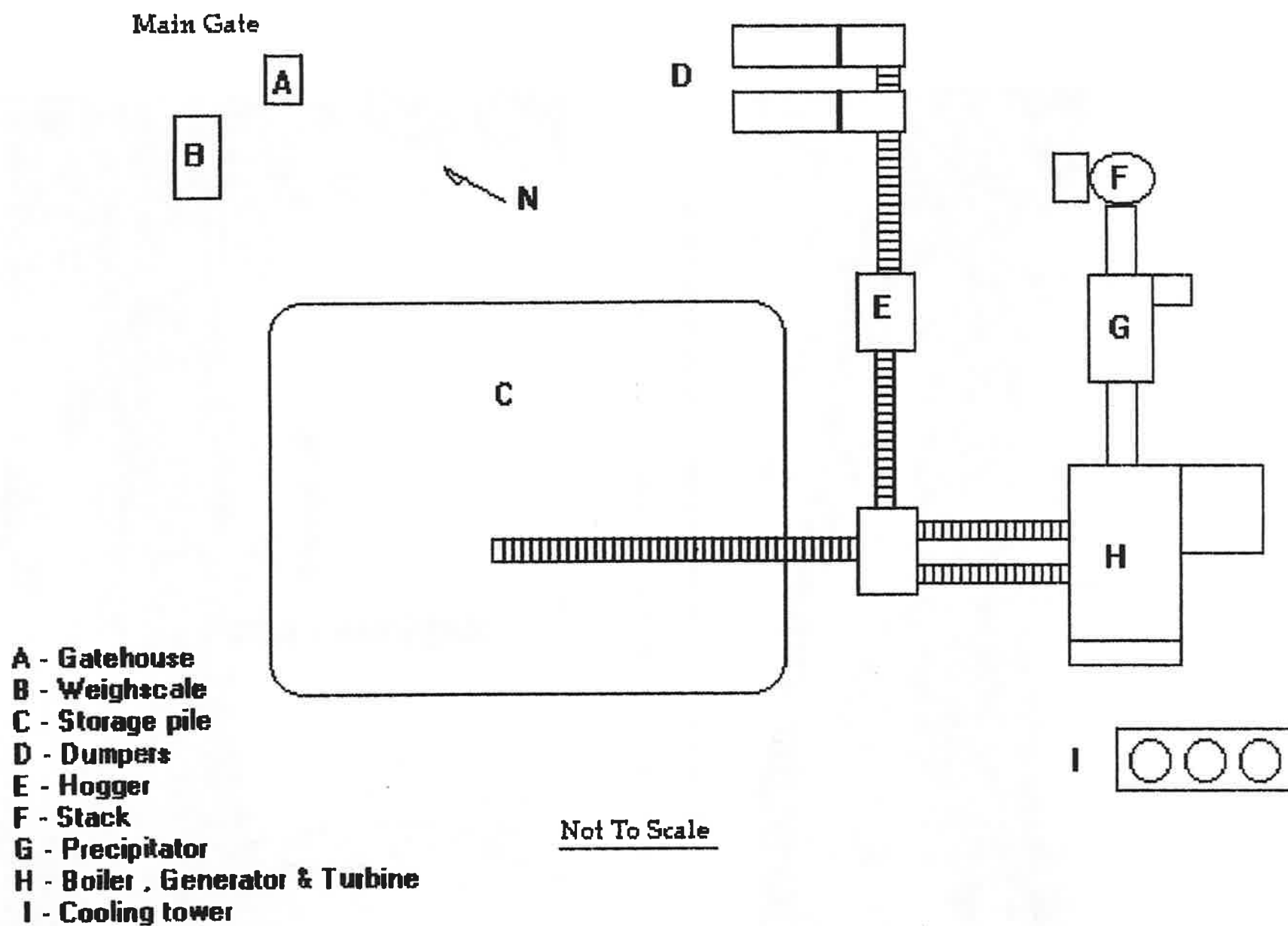
When the trucks arrive at the plant, they are backed onto the dumper which lifts the complete tractor trailer unit in order to dump the load onto a conveyor belt for movement to the hogger. There are a total of six conveyors running between the plant and storage areas, which range between 48 to 54 inches in width. The conveyor system is designed to handle 300 tons per hour, and is checked by T.V. monitoring and physical inspection. Any oversize material is filtered out as it makes its way to the burner.

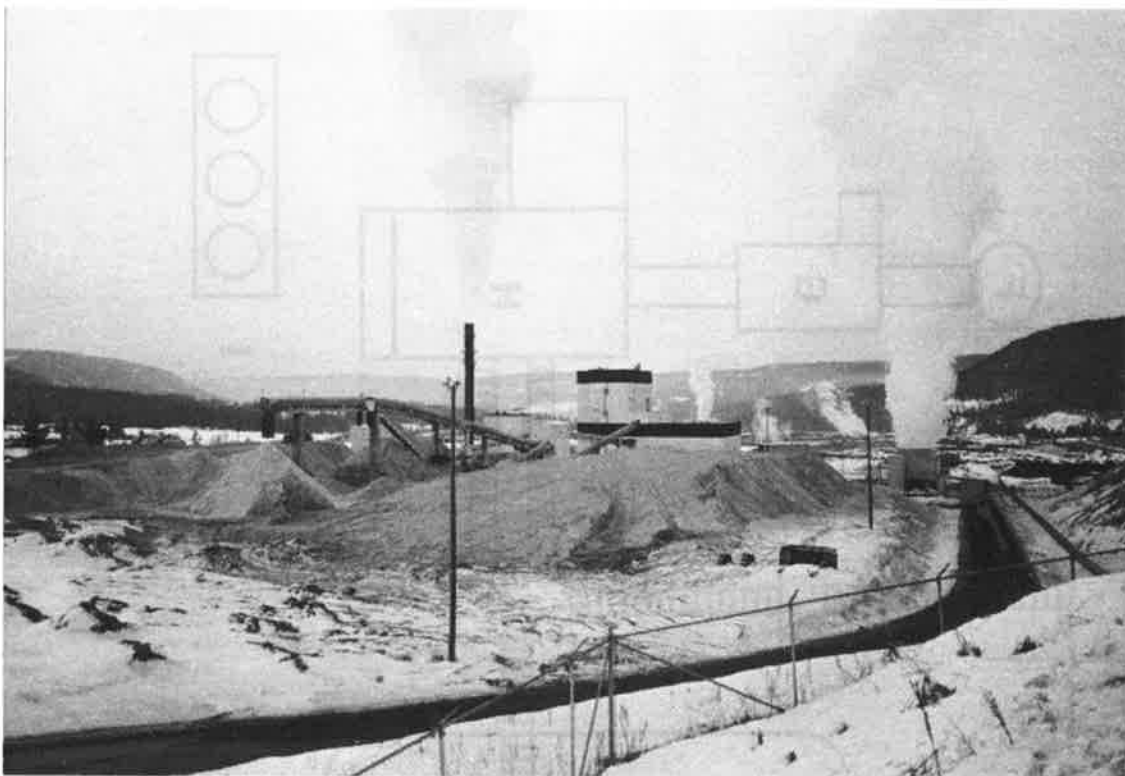
The plant generates 585,000 lbs. of steam per hour at 1,575 P.S.I. at 950 degrees F. This steam heats the boiler which turns the turbine, which turns the generator to produce approximately 72 megawatts of power at 13,800 volts. Five to six MGW are consumed by the plant, 67-68 MGW are sold to BC Hydro, of which 50-55 MGW is used by the City, with the sawmills consuming 30-35 MGW. The steam turbine and generator are both made in the U.S. by General Electric. Water to produce the steam is provided by the City at a rate of 1.2 million gallons per day. The water is treated in the cooling tower and recirculated up to 5 times before it enters the sewage system. A reduction of particulate emissions of 95% is achieved in part by the 5 field electrostatic precipitator. This translates into a burning system which is up to 500 times cleaner than the beehive burners.

The plant is completely computerized and requires only a staff of only 29 to run it. An additional 12-15 people are needed to haul hog fuel and transport ash to the land fill. Approximately 60-70 tons of carbon wetted down with waste water is trucked to the land fill daily where it is mixed with sand and gravel.

Tours of the Generating Station are not conducted by the plant due to the limited staff but can be arranged through the City of Williams Lake with Mr. Hugo Stahl, Economic Development Advisor. Phone: (250)392-2311.

I wish to thank Hugo Stahl, Louis Wiggins, Reg Polehoyke, and NW Energy for providing much of the information contained in this article. Special thanks to my daughter, Karyn, who taught me how to use WordPerfect and Paint

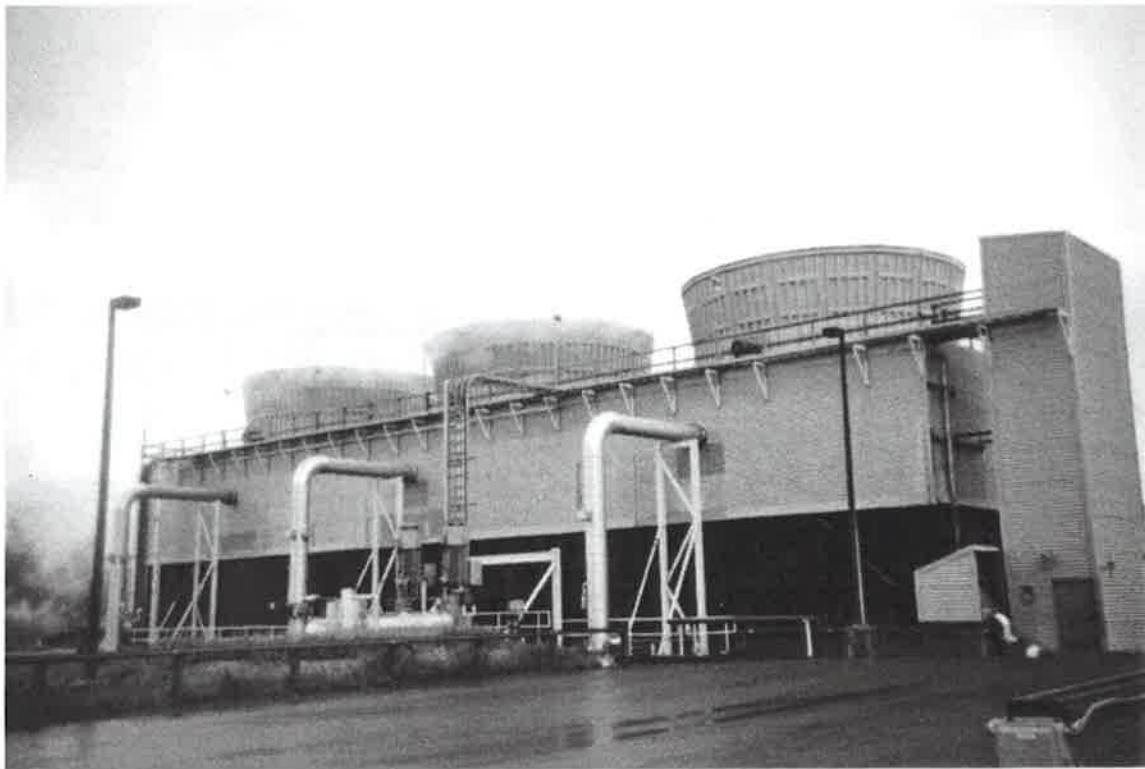




(top) Looking southward, an overview showing the 60-day stockpile of hog fuel.

(bottom) Boiler, generator and turbine buildings. Author photos.

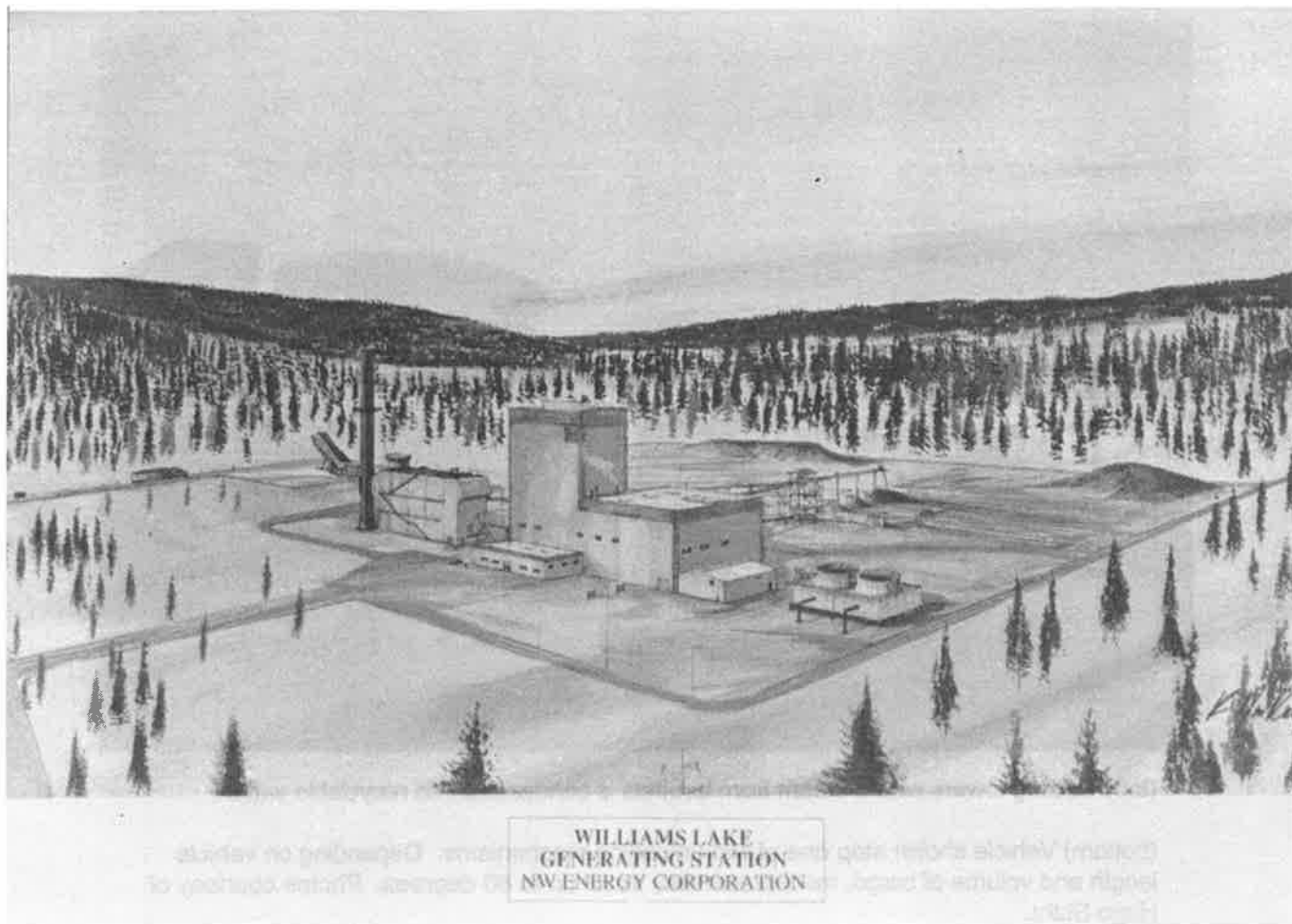




(top) Cooling towers where steam from turbines is condensed into recyclable water.

(bottom) Vehicle shown atop one of two unloading mechanisms. Depending on vehicle length and volume of cargo, mechanism may travel up to 80 degrees. Photos courtesy of Hugo Stahl.





(top) Artist rendering of plant. Courtesy of Hugo Stahl.

(bottom) One of the dual-trailer sets used by BCR to transport hog fuel. Author photo.





BCR FREIGHT CARS IN N SCALE

PART 3: THE 52'6" FLATCARS

by

Timothy J. Horton

Model Photography by Wayne Sutton

Almost one-half of BC Rail's carfleet is now comprised of bulkhead flatcars and centrebeam flatcars which are designed specifically for the shipment of dimensional lumber products. These specialized cars gradually replaced the standard flatcar in lumber service as shippers sought to take advantage of the economies offered by the newer cars. As late as the mid-1980s, however, one could occasionally see a standard flatcar loaded with lumber, usually destined for local markets.

Of course, these venerable cars are also called upon to move an incredible variety of other loads, and are frequently utilized in work service as well. They are occasionally adapted for a specific use, either temporarily with the addition of a wooden structure, or perhaps permanently with a new roadnumber and structural additions.

Many of these cars remain in service today with BC Rail. If modelled, they can add variety to your trains and the commodities they haul. This article will describe how to model one group of these flatcars in N scale.

The Prototype

The railway's fleet of standard flatcars can be divided into two distinct groups which differ in appearance. The earlier cars (PGE 1222-1473) were built by the National Steel Car Corporation between 1954 and 1965, and were delivered in the oxide red paint scheme with the Pacific Great Eastern roadname along the side sill. These cars were completed with riveted side sills and a wood floor. Length over the end sills was 52'6". In 1960, 31 of these cars were converted to trailer flatcars with the addition of end ramps and a trailer hitch. At a later date these cars were renumbered PGE 7000-7030. The later flatcars (PGE 1506-1510 and PGE 1511-1560) were of welded construction and measured 53'6" over the end sills.

<u>Car Series</u>	<u>Manufacturer</u>	<u>Date Built</u>	<u>L over End Sills</u>	<u>Construction</u>
1222-1244	National Steel Car	1954	52'6"	riveted sides
1245-1319	National Steel Car	1955	52'6"	riveted sides
1320-1470	National Steel Car	1956	52'6"	riveted sides
1471-1473	National Steel Car	1965	52'6"	riveted sides
1506-1510	Hawker Siddeley	1964	53'6"	welded sides
1511-1560	Vancouver Iron	1965	53'6"	welded sides

I decided to model six cars from the 1222-1473 series, and selected specific prototype cars which I had photographed. I learned from trackside observations that there was substantial variation in the relettering and stencilling of these cars. I wanted my models to reflect this variety, and working from the photographs would permit me to finish each car in the correct scheme.

The Model

Based on my experience with modelling the gondolas (see the October 1996 issue of *The Cariboo* for the previous article in this series), I selected the Con-Cor N scale flatcar for this project. Like the Con-Cor gondola, the flatcar consists of a styrene carbody with a metal underframe which snaps in. The body shell is nicely detailed and has riveted fishbelly sides and a wood deck which closely resemble the prototype. Unfortunately the model does not have end sills. This is to allow the truck mounted couplers to swing freely. I determined that the visual quality of the model could be enhanced with the addition of end sills (fabricated from strip styrene) and body-mounted couplers.

As with the gondolas, the main discrepancy between the prototype and the model is in the overall length of the car. The prototype flatcar measures 52'6" over the end sills, whereas the model scales out at approximately 48 feet in length. In constructing these cars I wanted a model which provided a good visual representation in N scale of the prototype, without resorting to scratchbuilding. In using the Con-Cor model I therefore chose to obtain the correct appearance through lengthening the carbody by the distance between stake pockets. By planning my cuts carefully I determined that from three body shells, two cars of correct length could be constructed. The extended model would have fourteen stake pockets, one less than the prototype, but I felt that this would not detract from the visual impact of the model.

Most of the procedures and techniques employed in this project are identical to those used in modelling the gondolas and were described in greater detail in the earlier article. As an additional reference you may wish to consult the article on the gondolas if you are planning to model the flatcars as described here.

The Carbody

I recommend that, if at all possible, you try to obtain undecorated shells which come unpainted. In the event that you do have to start with decorated shells, remove the factory paint and lettering with brake fluid. Rinse the model in warm water and repeat the process as necessary.

Assuming you are going to construct two cars utilizing three body shells, arrange them as illustrated in fig.1. It is important to plan your cuts carefully as once you have finished cutting, you will have six pieces. I labelled the cars as shown in fig. 1 and used masking tape to indicate where the cuts would be made. This eliminated any confusion and any errors when cutting and rearranging the parts. You can opt to cut the cars in half using a mitre box, or you can do it following the procedure described here. Lay the first body shell to be cut on its side. Line your Xacto sawblade up beside the stake pocket and cut through the side of the car. I made my cut a short distance away from the stake pocket to avoid damaging the rivet detail, and then sanded the edge back to where the joint was to be made. I wanted the joint line on the finished car to be next to the stake pocket on each side and between boards on the deck of the car.

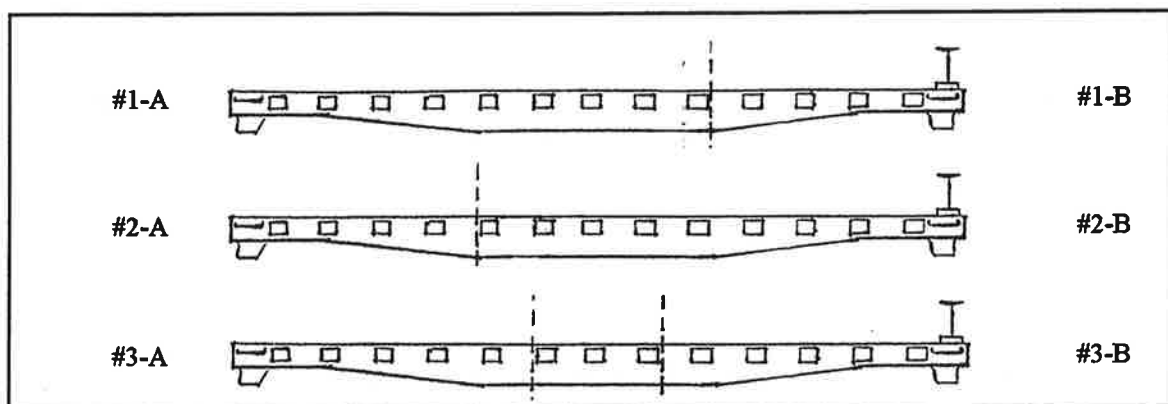


Fig. 1 Arrange the three body shells as illustrated above prior to making your cuts. Plan your cuts carefully and ensure that the joint will be between boards on the deck of the flatcar.

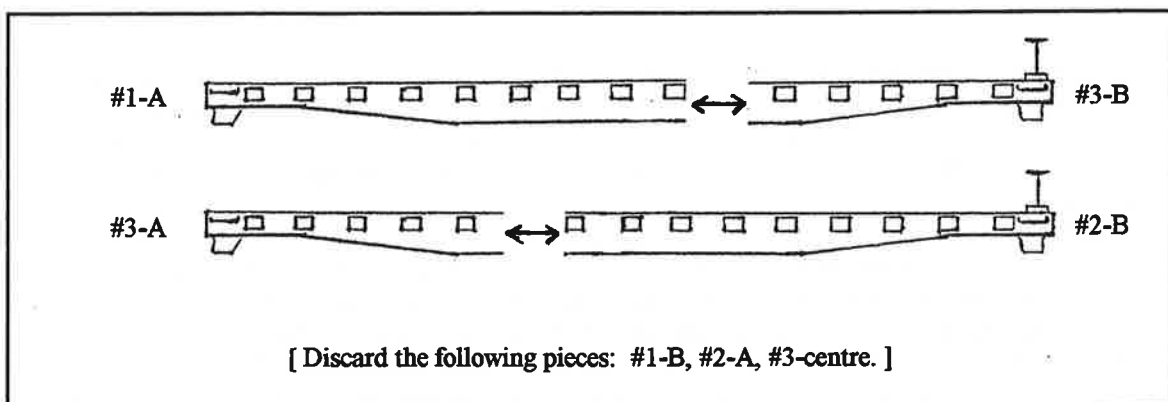


Fig. 2 After making your cuts, rearrange the parts as shown above and discard those which are not required.

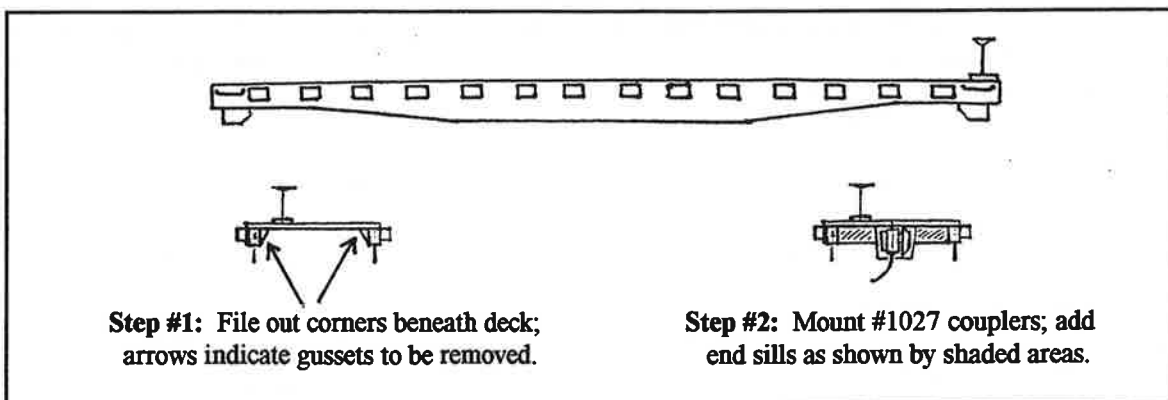


Fig. 3 File the corners beneath the end of the deck to receive the end sills. After mounting the Micro-Trains #1027 couplers, construct the end sills as shown above using .020" x .060" strip styrene.

Repeat this process on the opposite side of the car. If your first two cuts were located properly, you may now use these as a guide to achieve a square cut. Turn the shell face down and align your sawblade with the cuts on the bottom of each side. Complete the separation of the bodyshell by cutting through the deck of the flatcar. Repeat this process on the second and third bodyshells.

You now have six carbody sections of varying length. With each section, the edge to be joined should now be squared up and any irregularities removed. Prepare the edges to be joined with a flat needle file and wet sandpaper, or the NWSL True Sander if you have one.

Rearrange the parts as illustrated in fig. 2 and discard those which are not required. Test fit the sections together and hold them up to the light. This will show any imperfections in the edges which can then be attended to with a file or with sandpaper. You are now ready to glue the sections together. Use a plastic cement such as Plastruct, Testors, or Weldon which fuses the two surfaces to be joined. Apply the cement to both surfaces and let it stand for a few seconds. Press the two sections together and hold firmly, taking care to make sure that the joint is properly aligned. Do not disturb the small bead of cement and melted plastic which may ooze out of the joint. While the cement is drying, check regularly to ensure that everything is properly aligned by sighting along the deck and the bottom edge of each side. Allow the cement to finish hardening overnight.

Once the cement has hardened completely, sand the underside of the carbody smooth. This will ensure a good fit with the chassis later on. Now return to the bead of oozed cement which has hardened. Sand it flush and it will help to conceal your joint. As with the gondolas I built, some joints on my flatcars are more visible than others, while others are virtually invisible. The key is in ensuring a tight and square fit. Your paint job will help to conceal a good joint, but not a poor one.

Next prepare the underside for the end sills and bodymounting of the couplers. I usually attach my couplers after the car has been painted and lettered, but with the flatcars, the couplers must be installed now in order to facilitate construction of the end sills. File the comers underneath the end of the deck to a 90 degree angle as shown in fig.3. Assemble a pair of Micro-Trains #1027 couplers as per the manufacturer's instructions. Turn the carbody upside down and position the coupler to determine where the holes for the mounting screw and locating pin should be located. With the coupler in position, use a pin to mark the spots and drill through the deck of the flatcar with a #62 drill. Tap the hole for the mounting screw only in preparation for a 00-90 screw. Do not remove the plastic burr which results from drilling these holes as it can be used to conceal them after mounting the couplers.

The carbody is now ready to receive the Micro-Trains couplers. After mounting the couplers, the locating pin on top of the coupler box should be approximately flush with the deck of the flatcar, whereas the mounting screw will penetrate the deck and protrude beyond it. After testing to make sure that the couplers function properly, trim the coupler screw as close to the floor of the car as possible. Apply a dab of cement to each of the holes drilled for the locating pins and mounting screws.

With the couplers now firmly attached, it is possible to add the end sills. Using Evergreen .020" x .060" strip styrene, fabricate two pieces to go on either side of the coupler as shown in fig.3. They should fit snugly between the coupler box and side sill. They should also fit up against the underside of the edge of the deck and be flush with it.

The final step in constructing the carbody is to attach the brakewheel. The British Columbia Railway flatcars are equipped with a vertically mounted brakewheel which can be lowered to the level of the deck. The vertical brakewheel which comes with the Con-Cor car is a good representation of our prototype and can be used as is, or you may wish to upgrade your models with the substitution of a Micro-Trains vertical brakewheel. Likewise, the cast stirrups could be removed from the model and replaced with Micro-trains stirrups. I elected to use the Con-Cor brakewheel and cast stirrups as they are a lot sturdier. With the addition of the brakewheel, the carbody is now ready for painting.

The Underframe

The Con-Cor flatcar utilizes the same underframe as the gondola. It snaps into place beneath the original bodysell and is held in place at each end where the holes for the bolster pins are located. Now that you have lengthened the carbody, the bolsters are further apart and you must cut the underframe in half. The underframe lends a good amount of weight to the model. You can cut the underframe in half and move each end out to the desired location, leaving a gap of approximately 3'6" in the middle. Alternatively you could cut and rearrange the underframe halves in a manner similar to what was done with the carbody in order to produce a full length underframe. I chose the latter method in order to produce a heavier car. The joint in the underframe is well concealed by the fishbelly sides and is not apparent unless the car is flipped over completely.

I cut each underframe to be used in half, taking care to avoid the cast air reservoir and brake detail. I then dressed each underframe piece with a #10 mill bastard file to ensure a good fit with the carbody. Pay particular attention to the edges of the underframe and to the top surface. With the tip of a round needle file, clean out the bolster pin hole, particularly along the ridge inside the hole. These steps are important to ensure that the carbody will eventually sit level on its trucks.

Each car requires a pair of Micro-Trains #1001 Bettendorf trucks (without couplers). The package contains a pair of adapters which are designed specifically for Con-Cor cars. Remove the adapters from their sprue, trim away any flash and insert them through the top of the bolster pin hole on the underframe. I use the tip of a round needle file to jam them in as hard as possible. Using a sharp Xacto #11 blade, slice off the protruding part of the adapter until it is flush with the underframe surface. It is important to make sure the holes in the adapters are aligned vertically, or your bolster pins will go in on an angle and the carbody will not sit level on the trucks. Attach the trucks to each underframe section and check to make sure that the trucks swivel freely. You may find that the wheel rims touch the underneath of the carbody. This can be rectified with use of the Delrin washer which is supplied with the trucks in order to raise the carbody, or it can be rectified with the use of low profile wheelsets.

Painting

The prototype cars were delivered to the Pacific Great Eastern Railway painted in mineral brown (red oxide) with the roadname lettered in full along the side sill beneath the stake pockets. After 1972, many of the cars were repainted in dark green and relettered for the British Columbia Railway with the new roadname lettered in microgramma bold extended typeface. Over the years there have been variations in the style of numbers and letters used for the roadnumber and roadname, as well as the appearance of the consolidated stencils and reflector dots. In addition, some cars received ACI plates and/or inspection dots. Since 1990, repainted cars are decorated with the current BC Rail logo which is located between stake pockets. Most cars which have been reshipped appear to have had the brakewheel lowered to a level flush with the deck.

Depending on the era you wish to model, a variety of paint schemes are possible. It is recommended that you work from photographs in order to produce a correctly lettered car (see figs. 4-7). As I am modelling the 1985 scene, I decided to letter all six of my cars for the British Columbia Railway. During my trackside observations I have never spotted one of these cars in their former PGE lettering. As they require periodic shopping for replacement of the deck timbers, it is possible that they were all repainted within a few years of the railway's change of name.

Prior to painting, the carbody should be washed in warm soapy water and scrubbed gently with an old soft toothbrush. Stand it out to dry on a paper towel. When the car is dry, wrap a small piece of masking tape around the draft gear to keep paint out of the coupler box. Meanwhile the paint mix can be prepared. For BCR dark green I mix one part of Floquil Black, one part of Reefer Yellow, and four parts of # 110040 Dark Green. For the deck timbers I selected a dark brown.

Apply the dark green paint in even strokes with an airbrush across and along the various surfaces of the carbody. Ensure that the bottom edge of the side sills, the end sills and all surfaces of the stake pockets receive an adequate coat of paint. When the paint is completely dry, examine the carbody under a light to check for any areas which have not been covered properly. Mask the sides of the car by placing tape on the top of the stake pockets with the edge up against the side of the car. The deck can now be painted dark brown. Use a paintbrush to repaint the brakewheel and its shaft dark green. Complete the paint job by sealing it with a coat of Micro Gloss in preparation for the decals and dry transfers.



Fig. 4 BCOL 1336 at Squamish in February 1994. The brakewheel at the far end of the car has been lowered. Note the condition of the wood deck. *Photograph by Timothy J. Horton*

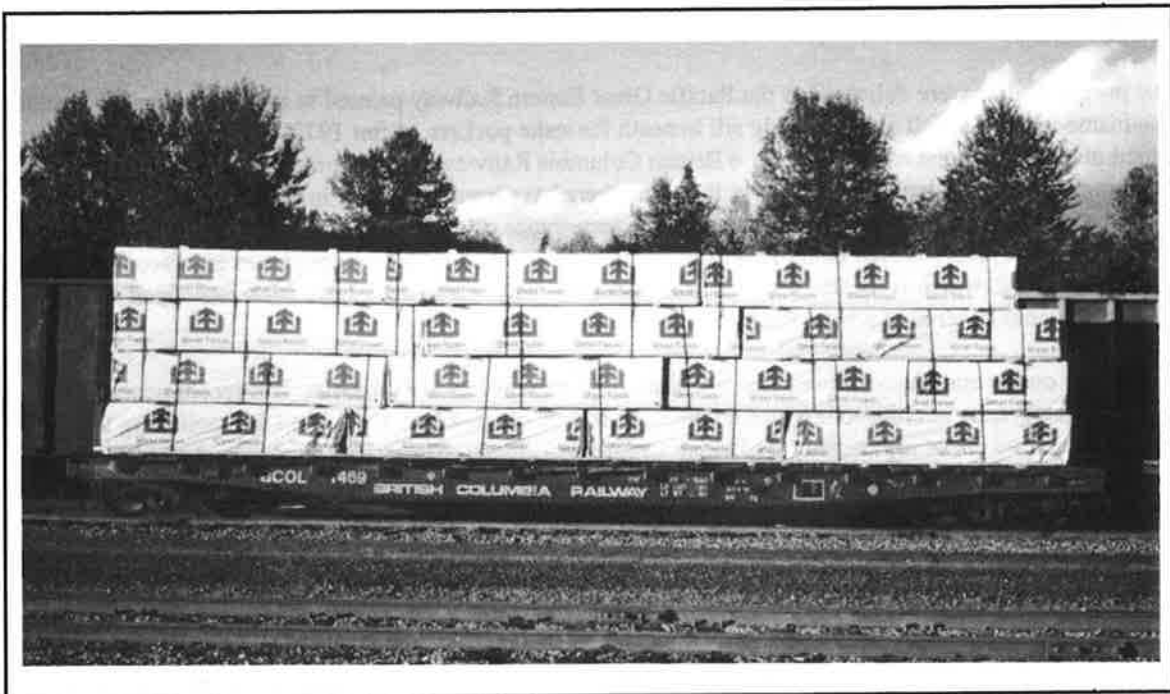


Fig. 5 BCOL 1469 with a West Fraser plastic wrapped lumber load at North Vancouver on September 3, 1986. Note the amount of dunnage required to secure the load. *Photograph by Timothy J. Horton*



Fig. 6 Another view of BCOL 1469 loaded with West Fraser lumber at North Vancouver on September 3, 1986. This view shows the appearance of the end sills. *Photograph by Timothy J. Horton*

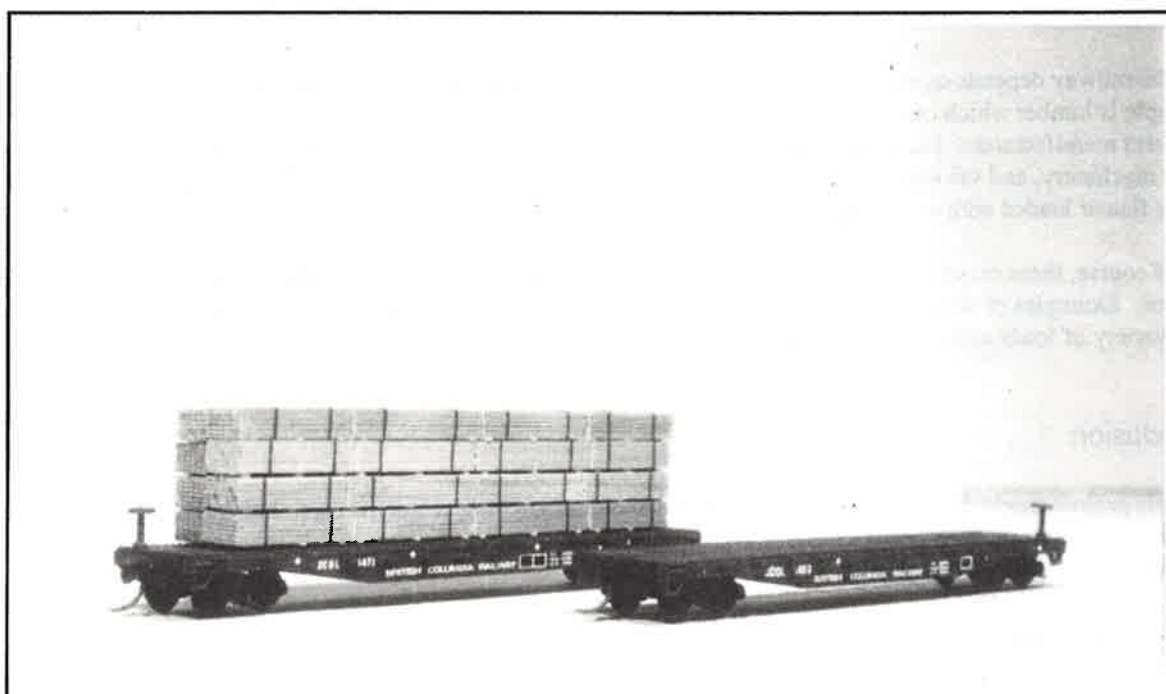


Fig. 7 N Scale models of BCOL 1471 and 1469. Note the differences in application of the roadnumbers, consolidated stencils, and reflector dots, based on photographs. *Modelled by Timothy J. Horton*

I found the lettering of these cars for the British Columbia Railway to be quite a challenge. In order to obtain the British Columbia Railway lettering in the right size and typeface it was necessary to cut up a 20" herald from the Microscale locomotive set (#60-783). The roadnumber and consolidated stencils were obtained from the CDS bulkhead flatcar set (N-255) or the woodchip car set (N-238), and dimensional data was borrowed from the CDS set for Canadian Pacific flatcars (N-105). From my photographs I observed that several cars I wished to model required ACI plates or black and yellow inspection dots. These were obtained from Microscale sets #60-2 and #60-193 respectively.

Having acquired the necessary lettering, I discovered an even greater challenge in applying it. The task of holding the car on its edge with one hand and applying the dry transfers accurately with the other proved to be an impossible one. It is in situations like this that one discovers the ability to develop a new way of doing things! After presenting the problem to several colleagues in the hobby, I was introduced to Microscale's Clear Trim Decal Film (TF-0). I learned that the dry transfers could be applied to the decal film and then transferred to the model as a decal, thus ensuring the highly accurate placement I was after. This method also simplified the creation of specific roadnumbers which were much easier to assemble on the decal film prior to their transfer to the model. When your dry transfers have been transferred to the decal film, apply all of the required decals and seal the carbody with a coat of Micro Flat.

Completion

It is now time to test fit the two underframe halves with trucks. Note that the section with the air reservoir should go at the "A" end, away from the brakewheel. Cement in place with CA adhesive, taking care to ensure that adhesive does not enter the top of the bolster pin hole at each end. Your flatcar is now ready for revenue or work service on your layout.

Service

The railway depends on its standard flatcars to carry an infinite variety of different loads. The most obvious example is lumber which can be wrapped (see figs. 5 and 6) or unwrapped. Lumber loads are available from several different manufacturers. Other common loads are structural steel items such as beams, girders, pipe and steel rod; large machinery, and vehicles such as bulldozers, graders, and tractors. I have even seen a photograph of a 1300-series flatcar loaded with a tugboat!

Of course, these cars are often used in work service. Several flatcars have been adapted for a specialized company service. Examples of these include an outfit car (with portable building on top), a panel track car, and a wheel car. The variety of loads which these cars can legitimately carry seems endless.

Conclusion

This project taught me a lot about kitbashing and about researching prototype cars. I also learned a valuable technique in lettering cars through use of the Clear Trim Film. The next article in this series will offer several methods of creating BCOL tankcars in N scale.

Acknowledgments

Prototype data and information was obtained from the July 1980 issue of the Mechanical Department's *Revenue Freight Car Catalogue*. The author is indebted to Wayne Sutton who photographed the models.

BILL OF MATERIALS [For Two Cars]

Con-Cor	#1201	50ft Steel Flatcar (undecorated)	3 cars
Evergreen	#123	.020 x .060 strip styrene (for end sills)	1 pkg
Micro-Trains	#1027	Body Mount Short Shank Coupler (2 pair)	1 pkg
Micro-Trains	#1001	Bettendorf Trucks w/o couplers (2 pair)	2 pkg

Decals and Dry Transfers:

CDS	#N-105	dry transfer set for CPR flatcars
CDS	#N-255	dry transfer set for BCOL bulkhead flatcar
Microscale	#60-783	decals set for BCR two tone green locomotives
Microscale	#TF-0	clear trim film for converting CDS dry transfers

Gondola Article Correction

Printed below is a replacement drawing for figure 3 of Tim Horton's N scale gondola article which appeared on page 13 of Issue 27.

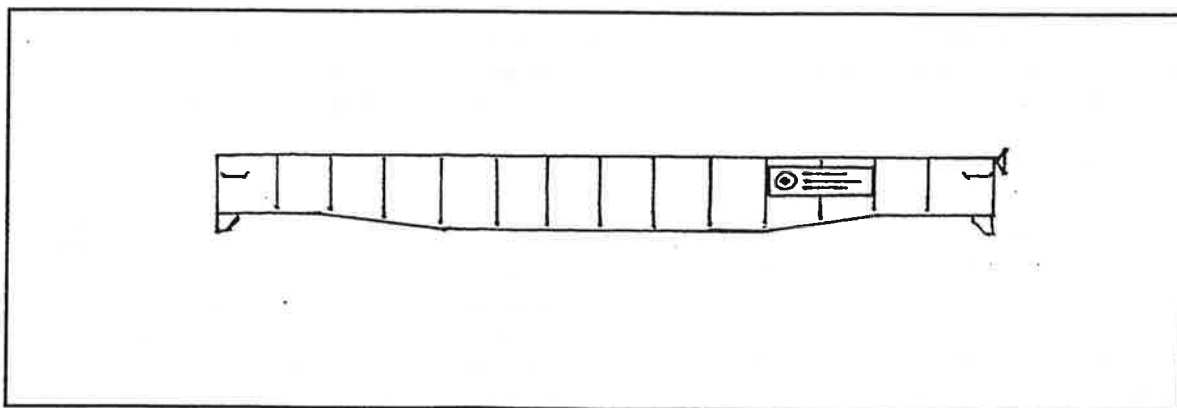


Fig. 3 If you wish to model a car which received a British Columbia Railway letterboard, manufacture one from .010" x .156" strip styrene and locate as shown above. This was the typical location; refer to prototype photographs for alternate locations. (drawn to scale: 1:160)

MOTIVE POWER NOTES

Edited by Paul J. Crozier Smith

- **Leased Units Update:** The following locomotives were on the property in July: GECX B23-7 #2002 (ex WP U23B #2257), GECX Dash 8-40B #8002, HLCX SD40-2m #6224 (ex MP #758), MPI SD45m #9020 (ex SP #9090), and MKCX SD40M2 #9052 (ex UP #3018).

HATX SD45-2m #753 (ex CSX #8966) departed in June while MKCX #9052 was returned at the beginning of August. HLCX #6224 (renumbered to HLCX #6401) and MPI #9020 returned to Helm Leasing on August 25.

Boise Locomotive (ex Morrison Knudsen) MK5000C #9903 arrived on August 23 on a 90-120 day lease. She is one of the 5000 hp CAT rebuilds that saw demonstration testing on both the Union Pacific and Southern Pacific, and has initially been assigned to pusher duty. Sister #9902 is scheduled to arrive via lease in October, at which time both units will be assigned to through freight service between North Vancouver and Prince George.

- **CAT Rebuilds:** Although delayed until 1998, BC Rail still intends to convert RS-18s #621 and #630 to the CAT standard. As of August, #621 is stored unserviceable while #630 continues to soldier on. The latter unit was spotted in August working the Prince George yard still in the two-tone green colours. (Mike Jackson)
- **B36-7 News:** The B36-7 rebuild program continues. As of mid August, #7484 (#3601) was in the Squamish backshops. #3602 and 3603 were in service. #7487 was undergoing cab upgrade (and renumbering to #3604). #7488, 7489, 3607-10, 7494 were in service. #7495 was stored unserviceable. #3613 was in service. #7497 wrecked/retired. #7498 and 3616 were in service.

Unit #3607 is now the designated power on the *Pacific Starlight* dinner train, and sports the new lighting strip paint scheme and ditchlights on both ends.

There has been some confusion about #3609/7492. Unit 7492 was renumbered last year in anticipation of its short term lease to CP Rail. BC Rail reportedly wanted its own number on it prior to the lease.) The plans fell through and the engine continued to operate on BCR until April.

Because the unit had not gone through the upgrade program, and therefore could not be assigned to lead service, it reverted to its previous road number (#7492).

#3613 was released from Squamish shops in August following her rebuild. She was rolled out in the new paint scheme with the lightning strip. (WCRA News)

- **Dash 9 Upgrades:** The following Dash 8-40CM's have been upgraded to Dash 9 status: #4601, 4603, 4604, 4611, 4612, 4616, 4617, 4618, 4620, 4622.

INTERCHANGE

B36-7 Info Requested: James Green (#15--39754 Government Road, Squamish, BC V0N 3G0) is seeking information regarding the General Electric B36-7 locomotives which arrived via lease on BCR during November 1995.

Photographs Wanted: Paul J. Crozier Smith (1148 Balmoral Rd, Victoria, BC V8T 1B1) is seeking photos to assist in the modeling of BC Rail's leased General Electric B23-7, B36-7, C30-6, and Dash 8-40B.

Subscriptions to *The Cariboo* are available for \$20 USD or \$24 CDN for a cycle of four issues. Overseas rates available upon request. In Canada, send check or money order (payable to "Andy Barber") to Andy Barber, 3718 Marine Vista, Cobble Hill, B.C. V0R 1L1. All others send check or money order (payable to "Jim Moore") to BCRHTS, 25852 McBean Parkway, Suite 187, Valencia, California 91355 USA. Sample issues are available for \$5 USD or \$6 CDN.

NEW PRODUCTS

Edited by Brad Dunlop

I'd like to comment on a couple of items regarding this issues column. In Issue 29 I included an item mentioning a M-420 by Fletchco Scale Products. Since then, I received further information which is included herein.

The other item that's been on my mind is whether or not there is any interest in making mention of locomotives and rolling stock that, while not owned directly by the PGE/BCR, may have been fairly regular visitors. While this could possibly cover much more space than we have here, it could also help during periods when we do not have the luxury of reporting so many direct PGE/BCR products and still maintain the "historical & technical" concept. I'm most interested in receiving reader opinion. Please write me either at my home address or via email.

Sometimes the great advantage (i.e., its immediacy) of the Internet is offset by other conflicting priorities. A case in point is new release information in the Walthers Online Catalogue, where the manufacturer's names are listed, but their address etc. is not. The obvious reason for this is to encourage purchase of the products through Walthers. It just makes me unable to fulfill one of my regular objectives of publishing direct contact information.

- Fletchco Scale Products (9 Smolkin Street, Arnprior ON K7S 3R9, 613-623-2899, E-mail: fletch@istar.ca) has released the following announcement:

"Kits now include Posi-Lok castings Say goodbye to the old flat resin pieces and say hello to 3 dimensional pieces that interlock with each other, and make assembly faster and easier."

"HO SCALE (all models retooled) Jordan Spreader conversion kit. Convert Walthers spreader using these new low blades and side blades. CN and CP prototype. MSRP CD \$3.00." (Ed Note: An article on producing a PGE version is forthcoming, right Dan?)

"M-420 CN, M-420 BC Rail, M-420R P&W. A great series of locomotive kits for these engines and now easy to model. Includes one piece CAB and POSI-LOK castings so it is much easier to assemble

than flat resin kits. Features correct lights, dynamic brake details (BC Rail units), easy to follow instructions. CN and BC Rail versions come with the Zero Weight transfer truck sideframes, designed to work with Athearn U-Boat (four axle) drive. If enough interest is shown, the M-420B for BC Rail will be run as well. Kits are sold undecorated, MSRP CD \$39.99."

"52'6" BULKHEAD FLATCAR KIT. This kit is based on the prototypes used by CN, DW&P, and BC Rail. It is less trucks and couplers and sold undecorated, MSRP CD \$19.99."

"Product information sheets available for any of the above products."

- Halifax Railworks (153 Elgin St. W. Arnprior, ON Canada K7S-1N9, E-mail: fletch@istar.ca, (613) 623-2899). Issued the following news:

"All of our fine products are made from the latest technology in resins the plastic/co-polymer/polymer compounds. This stuff acts similar to plastic, and can be glued using model cement, however we do recommend the use of cyrcanolate adhesives to re-enforce the joints afterward. Kits are sold undecorated, but can be ordered painted and ready to run, or to suit your specs, at additional cost. All products are in HO scale. Prices are specified in Canadian dollars, suggested retail price."

"These products will be distributed by Fletchco Scale products, due to my irregular work schedule."

"#100 MLW RS-23/S-13. This model will be available with 2 one-piece cabs and parts that interlock together, and will fit on a commercially available drive. One cab is an RS-23 and the other is an S-13 cab. This unit is one in the same except for the trucks and various types of fuel tanks. A real beauty of an Alco, RS-23's were used by CP Rail, Windsor & Handsport, and GWWD. Modeled as an S-13 versions range as CN, BC Rail, and the GWWD. Kit includes illustrated instructions. Price expected \$39.99 (or less)." (Ed Note: The S-13 version of this kit should match PGE/BCR #1001 - 1003 and renumbered BCR #501-503.)

- Custom Finishing (379 Tully Road, Orange, MA 01364, 508-575-0367, Fax 508-575-0880) Has announced these new releases in HO scale:

"Kershaw Model 26 Ballast Regulator (#7027), MSRP US \$76.95 + \$5.50 S&H or \$6.50 outside Continental USA. Constructed of Certified American Pewter. Includes decals, windows and etched brass windshield wipers. Features include "a moveable front plow and Side Wings, as well as a rear broom which raises". The release states BCR had six of these units.

"Procor Pressure Flow Retrofit Kit (#316), MSRP US \$12.95 + \$3.50 S&H or \$4.50 outside Continental USA. "A Pewter kit for converting a Walthers tank car into a Pressure Flow car". Includes 5 discharge chutes, top hatches, all plumbing pipe, valves and walkway braces."

"National Steel Car 62.5 foot High-Stake Log Car (#318), MSRP US \$19.95 + \$5.50 S&H or \$6.50 outside Continental USA. Also made of American Pewter. Includes separate grab irons and details. Less trucks and couplers." (Ed Note: According to my information, the three prototype High-Stake Log Cars (#10000-10002) were built by Vancouver Iron & Engineering and delivered in May 1966. The rest of these cars, #10003 and up, were built by National Steel Car, Hamilton ON. The PGE received 81 of these cars (series 10003-10083) in September 1966, 40 in October (series 10084-10123) and a further 27 (series 10124-10150) in November 1966, for a grand total of 151. This model represents an important era of raw log exportation in British Columbia's history which has now been significantly curtailed due to job losses in the forest manufacturing industry in and a decreasing supply of logs.)

- Tichy Train Group (POB 39, Plainview, NY, 11803-0039) now offers a HO scale outside braced USRA clone box car (#4034D), MSRP US \$16.50. As with the Funaro & Camerlengo 40-foot all-steel boxcar mentioned in Issue 30 of *The Cariboo*, this kit looks to be a good starting point for kitbashing PGE/BCR MOW "Outfit Cars"
- Structures (POB 561, Seffner, FL 33583-0561) now offers a "Beehive" style slash burner in O scale as part of its McCabe Lumber Company series. The kit (#17121), MSRP US \$84.85, includes laser cut components.
- Railway Express Miniatures have announced a series of MOW vehicles in N scale. Expected delivery date is September 30, 1997. #2001 Heavy Duty Speeder and Crew Car, MSRP US \$9.95; #201 Kershaw

Tie Crane and Tie Cart, US \$10.95; #2012 Fairmont Tie Cart (Ed. Note: Push Car?) 2 for US \$5.95; #2021 Pyke Utility Crane, US \$9.95; #2031 Box Van High Rail Inspection Vehicle, US \$12.95; #2041 Burro Crane, US \$17.95; #2042 Bucket Hook and Magnet (Cranes), US \$4.95; #2051 Swingmaster with Loading Bucket US \$13.95.

As always, consult prototype photos to ensure an exact match.

- Walthers (<http://www.walthers.com/>), has announced the following HO scale centerbeam flat car lumber load kits, MSRP US \$5.98 each. (#932-1100) undecorated, (932-1102) Slocan, (932-1105) Pope & Talbot, release date, November 19, 1997. (932-1110) West Fraser, (932-1111) Northwood, (932-1112) Weyerhaeuser, (932-1113) Finlay Forest Products, (932-1114) Tolko Industries; release date December 28, 1997.

(Ed Note: *Cariboo* publisher Jim Moore had the following observations on the Slocan load: "This product is designed to fit the HO scale Walthers Centerbeam Flatcar. It is of thick-walled, two piece plastic construction, joined at the center. White stock with two colour printing, in this case black and red. Marking reproduction is good, close to prototype. Certainly easier to use than the wood block and paper wrapper alternative. Suspect the load could be cut down to fit other CBF or bulkhead flats.")

Walthers also now has in stock (932-4762), BC Rail 50' Insulated Box, MSRP US \$9.98.

- Rivarossi (Model Expo) now has several different roadnames of the Alco S-2 diesel switcher available in N scale. The only Canadian road listed so far is the Canadian Pacific (#5060), MSRP US \$89.99. Possibilities for kitbashing PGE/BCR S-13 #1001-1003, later renumbered #501-503?
- Life-Like PROTO2000 (1600 Union Avenue, Baltimore, MD 21211 USA or 140 Applewood Crescent, Concord, ON Canada, L4K 4E2) has a 8000 gallon Type 21 Riveted Tank Car in HO scale, release date September 30. I believe representatives of the following cars, at least, of this series may have been seen in PGE/BCR train consists at one time or another. Would this kit be a starting point to kitbash some of the PGE/BCR rag-tag fleet of tank cars? I don't know, but I'm sure someone could fill us in vis-

à-vis a product review and/or modeling article.
MSRP US \$13.00 for single cars, US \$52.00 for 4-Packs.

(#21269) SHPX #8747, black with white; (#21270) SHPX #8751, black with white; (#21271) 4-Pack - SHPX, includes #8769, #8772, #8783 and #8795.

(#21282) Shell Oil Co. #1409, black with red and yellow logo; (#21283) Shell Oil Co. #1453, black with red and yellow logo; (#21284) 4-Pack - Shell Oil Co. - includes #1477, #1482, #1517 and #1536.

- The Walthers' online catalogue now lists the following detail items by JnJ Trains in N scale, delivery TBA. #12, drop step Alco - etched brass, US \$3.00; #33, windshield wipers, ALCO style - etched brass, US \$3.00; #446 shell, - Alco C420 low hood, undecorated, US \$20.00; #488 sideframe - Alco RSC US \$5.00; #2008 frame upgrades - RS3/11, RSD4/5, RSD12, and GP7/9 US \$9.95; #495 sideframe - Alco 2-axle, US \$5.00.

Also listed is a new production run of the Spectrum GE 70-Ton 660 hp Diesel Switcher in HO scale (Ed Note: Starting point for kitbashing PGE #552-557?) available January 1, MSRP US \$47.95.
(#81101, undecorated)

PRODUCT REVIEWS

N SCALE BOX CARS: Two new N scale products have recently come on the market which will be of interest to PGE/BCR modellers whose time period is 1952 or later. Both are 40-foot box cars; one from Micro-Trains, the other from Deluxe Innovations.

Micro-Trains released its door-and-a-half outside-braced box car (stock #29080) as Pacific Great Eastern #4101. The prototype is one of 25 single-sheathed box cars purchased by the railway from Chicago Freight Car & Parts Limited in early 1952 for use during construction of the Prince George extension. These cars are believed to have originally come from the Missouri-Kansas-Texas (Katy), and were initially assigned numbers 4076-4100. To distinguish these cars from the 4000-series steel box cars, they were soon thereafter renumbered as 4101-4125. By 1958, all had been assigned to work service (OCS), generally by adding an "X" prefix to the car number.

This renumbering made way for the 4101-4300 series of steel box cars arriving from National Steel Car.

The Micro-Trains car is not an exact model of the prototype car, but certainly captures its appearance and feel. The widths of the individual panels in the side differ between the model and the prototype, and this has required that the lettering be adjusted to fit between the exposed braces. The result on the model is very convincing. One could probably try to modify the ends on the model to change them from the 5-5-5 Murphy style to the 8-7 Murphy end found on the prototype, but its hardly worth the trouble since the sides will still not match. For those of us modeling the PGE in the 1952-58 period, I consider this car to be a "MUST HAVE".

For several years now, N scalers have been teased by magazine advertisements for the Deluxe Innovations 1944 AAR 40-foot box car. This car has now hit dealers' shelves, and it is the undecorated version (stock #140000) which interests us. The model has been produced with 10-panel riveted lap-seam sides, a 6-foot door, a diagonal-panel roof, an 4-3-1 interim Improved Dreadnaught ends. In December 1947, the PGE purchased 75 new steel box cars from the Canadian Car Company. The differences from the model are a rectangular-panel roof and the Canadian-style 4-3-3/4 interim Improved Dreadnaught ends with the top rib having the rolling pin shape rather than being rectangular. One way to correct the model would be to cut out the roof and replace it with an Intermountain rectangular-panel roof from the 1937 AAR car. My preliminary measurements indicate that it should fit right into place. In early 1960, nine of the prototype cars (#4075, 4066, 4069, 4074, 4068, 4073, 4071, 4064, and 4063) were rebuilt at Squamish into roller-bearing equipped steel stock cars and renumbered (in order) #5000-5008. During their lifetime, this series of car wore virtually all versions of PGE lettering, from the caribou herald up to the grey/black/white map herald. Some of them even made it into light green with the "British Columbia Railway" dogwood logo.

For those who may be a little more adventurous, combining parts from a Micro-Trains 40-foot PS-1 box car and the Deluxe Innovations 1944 AAR car would yield a very credible model of the PGE's 4101-4300 series of steel box cars built by national Steel car in January 1958. The prototype had 10-panel riveted lap-seam sides, an 8-foot door, a PS-1 style roof, and NSC-3 ends. As the NSC-3 end is somewhat similar to a PS-1 end, replacing the sides of a Micro-Trains car with a pair

cut from a Deluxe Innovations car, adjusting the profile of the lower side and then replacing the 6-foot door with an 8-footer would produce a very close model, the sides of a Con-Cor 40-foot car might also work (and already features an 8-foot door), but the rivet detail on the Deluxe Innovations car is much finer. This series of freight car was delivered in the "stacked" Pacific great Eastern lettering scheme.

A quick review of the C-D-S lettering catalogue indicates that it should be possible to correctly letter any of the steel 40-foot box cars, although it may require a bit of creative combining of lettering sets. Note that all the steel box cars had safety-grid roofwalks and were originally delivered with 8-rung ladders rather than the U.S. 7-rung style. (Greg M. Kennelly)

OUT WEST LUMBER LOADS: Observations and comments on John Bruce's review of the Out West lumber loads (Issue 30, page 27):

- a) By experience, a finished stack of planks (10 strips of wood) will range in height from 19 inches to 26 inches, which will cause problems when loading the car due to the height variations. The end result will be a sloppy load, as illustrated in the product literature. I used a solvent-based wood glue which enables the removal of a strip should it prove necessary so as to achieve an average height of 22 inches. (Many stacks will come out to this height, which appears to be the average.)
- b) Because the width of the planks vary, when gluing together a 10-strip bundle, ensure that they are all flush on one side. Lay each bundle on its side, and with your finger nail, force all of the strips into correct position. Once the bundle is dry, it may have to be carved should it be too wide.
- c) Due to variations in colour, I recommend a coat of paint so as to make the appearance more consistent. First colour the board ends as instructed, then spray each bundle with a thin wash of paint to achieve a recently cut appearance.. The oak grain will still be visible and the coloured ends will look better. Apply banding as instructed. (Laszlo Dora)

WALTHERS' BC RAIL STANDARD 72-FOOT CENTER BEAM BULKHEAD FLATCAR: Modelers have strongly endorsed this car from Walther's by the clearest message

available: It has sold out within days at most hobby stores!

At US \$12.95 per car (\$39.95 per 3 pack), this car is very good value for the BC Rail modeler in HO scale. My car had a few imperfections, all of which were easily remedied.

- a) The stirrup step on the right-hand side of the brake end was angled inward. This appears to be due to flash or excess plastic not cleaned out during construction and gluing of the car on the assembly line. This is corrected by carefully prying the sill away from the car floor at the "B" end. Clean out excess plastic and re-glue. I used a single-edge razor blade for this, with excellent results.
- b) Overgluing was noted at the top of the bulkheads where it meets the Center Beam. Trim and touch up with paint.
- c) The wheels may rub against the bottom of the car. If this is the case, a spacer washer between the bolster and carbody will easily solve the problem

These problems can be expected on the "Opera Window" version as well, since the same parts and construction methods are used. (Michael Jackson)

CUSTOM FINISHING PRESSURE FLOW HOPPER KIT

This is a pewter kit for converting a undecorated Walther's 54-foot Funnel Flow tank car (#932-5200) into a Pressure Flow tank hopper. The kit includes five discharge chutes plus all piping and roof hatches. Roofwalk supports are also included, but no roofwalk. You will have to find a plastic or stainless steel roofwalk that is suitable. This kit (#316) is available from Custom Finishing (Ed note: See this month's Product News column), and is definitely worth the price.

For those of you who plan to kit-bash this car, permit me to offer you a time-saver. On the Walther's shell, proceed as follows: Glue the tank halves together, but don't glue on the end caps. Now, measure in 3 ½ inches from each end. Mark this distance on the shell. Remove the center portion. What remains is a correct length. Glue the two halves together. Carry on from there as per Custom Finishing instruction sheet. It's a fun and challenging model. (Michael Jackson)

Mountain Pine Lumber Box Car Update

David Barone

The January 1996 issue of *The Cariboo* contained an informative article on the history of Mountain Pine Lumber Ltd. and its fleet of leased freight cars. Since the article was published, I have come across further information regarding the Mountain Pine cars.

At a recent show I discovered a slide of a car not listed in the original article. MPTX 2203 is a forty-foot insulated box car leased from Procor in the mid 70's. I believe these cars were in service from 1973 until 1980-81. MPTX 2203 is painted a darker aqua blue color that closely matches the color mix referred to by Herald King as 'Wedgewood Blue'. Until recently I was under the impression that Wedgewood Blue was the light sky blue paint seen on the MRCX, USLX, and USEX cars. Based on the photo of the MPTX car, and a color sample I mixed using the Herald King formula, I now believe that Wedgewood Blue was a darker shade of blue used only on the MPTX 2200-2229 and MPLX 1000-1029 series cars.

An undecorated Walthers 40' plug door reefer (932-3300) would be a good starting point for a HO scale model of the MPTX cars. The biggest discrepancy I see is the Walthers car has four side panels while the prototype has five. Remove the roof walk, shorten the ladders opposite the brake wheel end, add the details of your preference, and you could have a model that closely resembles the prototype.

The recommended paint formula for Wedgewood Blue is one part Floquil Light Blue (110051) and two parts GN Sky Blue (110056). I added a small drop of BN Green (110035) to my mix. If you want to paint one of the light blue Evan-built cars, I recommend one part GN Sky Blue (110056) and three parts White (110011), which closely matches the color of MRCX 107.

As stated in the original article, Herald King at one time produced a set of decals for the fifty-foot MPLX cars, set PR-34. If you can find this set, it could be modified for the MPTX car. Presently I am completing decal artwork covering all the MP boxcar variations, details of which will be announced in a future issue.

Car Number	Car Type	Overall Length	Inside Length	Inside Height	Door	Leased from	Painted	Lettered Mtn. Pine
MPTX 2200-2229	RB	45'-5"	40'-6"	9'-1"	8' plug	Procor	Wedg. Blue	Yes
MPLX 1000-1049	RB	57'-10"	50'-1"	9'-6"	10' plug	North American	Wedg. Blue	Yes
NADX 60550-60562	RBL	67'-9"	60'-0"	9'-11"	10'+5' doubleplug	North American	?	?
NADX 60564-60600	RBL	67'-9"	60'-0"	9'-11"	same		?	?
NADX 60602-60623	RBL	67'-9"	60'-0"	9'-11"	same		?	?
MRCX 100-145	RB	60'-3"	52'-5"	10'-5"	8'+8' doubleplug	Evans	*Light Blue	
USEX 2001-2037	RBL	57'-10"	50'-1"	9'-10"	10' plug	Evans	Light Blue	Yes
USLX 13000-13004	RBL	60'-3"	52'-5"	10'-5"	8'+8' doubleplug	Evans	Light Blue	Yes

*Note: MRCX 100-145 are ex British Columbia Railway cars from the series BCIT 800200-800649. Only some of these cars were painted and lettered for Mountain Pine. Many simply had the BCR logo painted over and MRCX reporting marks added. These cars were leased to MP in 1980, and some were still in service as of August 1996.

Back Issue Sales

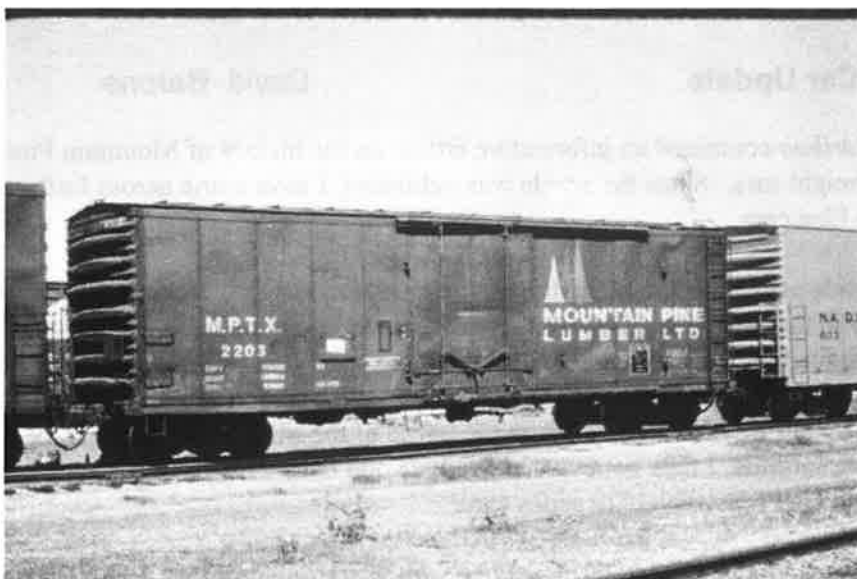
If you've missed any of the first 30 issues of *The Cariboo*, limited quantities of each issue remain available. Each issue is \$6 CDN or \$5 USD including shipping. Send a cheque or money order (payable to "Jim Moore") to Ray Konrath, 2166 Lannon Way, Sidney, B.C. V8O 2K0 Canada. A flyer describing each of the back issues is available from Ray.

Next Issue

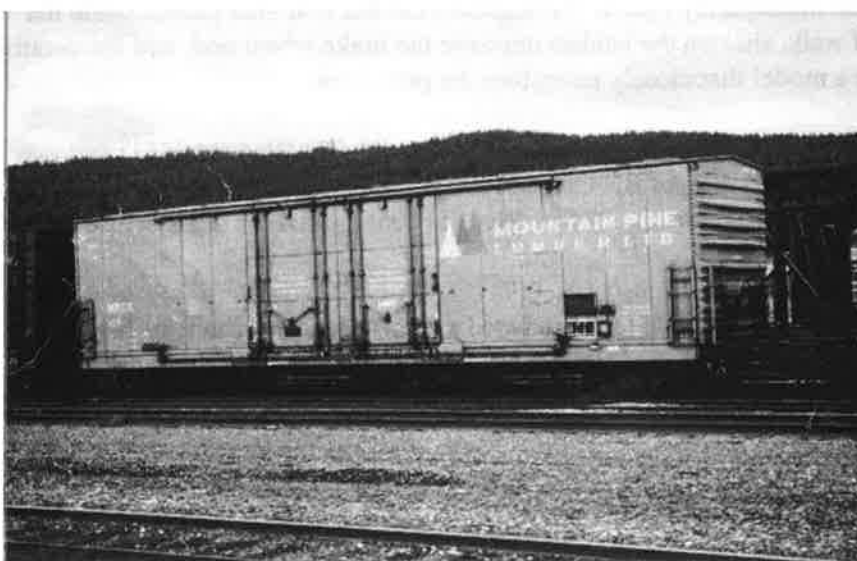
Erik Porter and Jim Moore present a profile of PGE hoppers

Laszlo Dora shows us how to model the CRS-20 locomotive

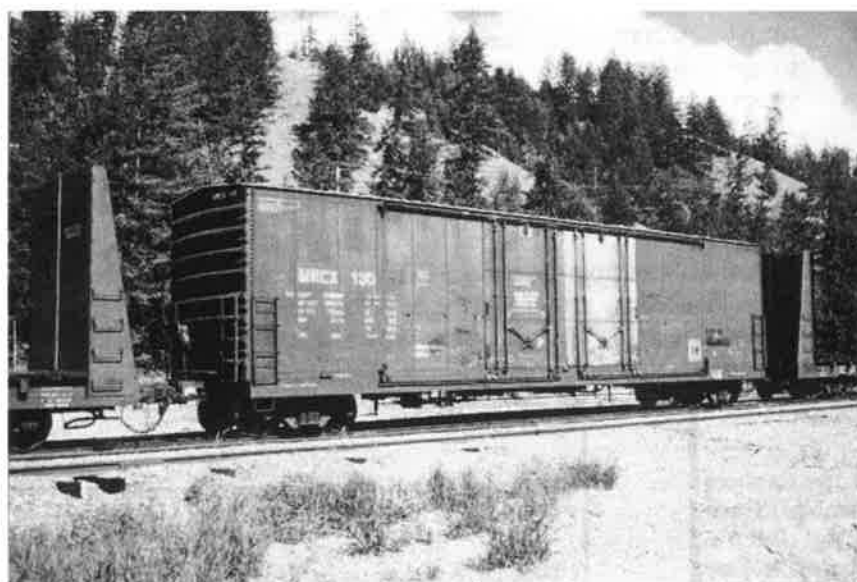
Lawson Little traces the history of PGE's Clinton



MPTX 2203
Galesburg IL
April 29, 1977
D.P. Holbrook Photo
David Barone Collection



MRCX 107
Williams Lake BC
July 19, 1996
David Barone Photo



MRCX 130
Macalister Siding BC
June 1988
David Barone Photo