

**Canadian Train Set**  
for  
**Transport Tycoon Deluxe**  
and  
**The Patch**

**User Guide**

v0.2

December 2005

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## **Introduction**

Welcome, to the Canadian Train Set v0.2, ...

this release of the set contains many more engines, passenger, mail and freight cars and other features compared to v0.1. It is compatible with the temperate and arctic climates and although far from complete is already a stand alone train set in its own right, containing more than 150 vehicles (80 by vehicle ID). Apart from standard gauge rolling stock, it does also contain a complete set of narrow gauge engines and wagons together with the Narrow Gauge Track System by Cornelius and new train depots by lifeblood.

In this release, you will also find built in Snowline and New Cargo/Industries features, as well as AI management and locomotive upgrade plans.

# Requirements and How to Use

## TTDPatch

Patch version :

- alpha 57+ for Windows or DOS – required
- alpha 61+ recommended (for animated steam engines)
- alpha 64+ recommended (for automatic vehicle upgrade feature)
- alpha 67+ recommended (for extra 2 lines of vehicle detail information, with earlier versions some information may not be shown in full)

Patch Flags in ttdpatch.cfg :

The following patch flags are mandatory and must be set as follows :

- **newtrains on**
- **electrifiedrailway on**
- **unifiedmaglev** n, where n = 1 or 2 (either value accepted)
- **multihead 0**
- **trainrefit on**

The following patch flags are highly recommended and should be set as follows :

- **wagonspeedlimits on**, to operate trains with more appropriate speeds.
- **tracktypecostdiff on**, to have a distinct cost structure for normal, electrified and narrow gauge track systems.
- **newcargos on**, to have additional built in cargos available.
- **newindustries on**, to have additional built in industries available.
- **tempsnowline on**, to have built in snow line height feature available.
- **startyear 1921**, recommended to use early model rolling stock.

The following patch flags are required or recommended, in order to have automatic renewal/replacement of locomotives (for a more detailed description, see later in this guide) :

- **autorenew [-mm]**, mm=number of months before end of locomotive life
- **autoreplace on**
- **enginespersist off**
- **forceautorenew off**
- **gotodepot on**
- **servint [ddd]**, ddd=number of days between servicing

Graphics File (.grf) :

- **CanSetw.grf** (for Windows)
- **CanSetd.grf** (for DOS)

Place graphics file (CanSetw or CanSetd) into ...\\NEWGRF directory (sub directory of game) and add the following line at the **end** of the graphics configuration file (newgrf.cfg) found in the game directory :

```
...
newgrf/CanSet[x].grf [n] [n]
...
```

Note: replace 'x' with 'w' for Windows version, or 'd' for DOS version. 'n' are optional parameters to set / change snowline in temperate and arctic climate as well as to have internal new cargo/industries feature activated. For details see further on.

## **The Canadian Train Set vs Other Sets**

The Canadian Train Set (CanSet) is not compatible with any other train set (except the USset, see further down). You should place the CanSet with the highest priority (at the bottom) in the newgrf.cfg file and not have any other train sets activated while using this set. You will not have any vehicles from other sets available anyway, but they could potentially interfere with the proper functioning of the CanSet. In this release there are already 80 vehicle IDs in use and once complete will occupy all 116 vehicle slots.

The only set, the CanSet is currently compatible with is the USset. But as it already contains many vehicles there will not be many US vehicles available. Once complete there won't be any vehicles available from other sets including the USset.

The following vehicles from the USset will be available with this release (v0.2) :

### **Standard Gauge (Engines)**

2-8-2 'Mikado' (Steam)  
2-8-0 'Consolidation' (Steam)  
CLC H24-66 'Train Master' (Diesel)  
BBD EMU (Electric)  
BBD Jet Train (Turbine)

### **Standard Gauge (Wagons)**

Flat Car (Lumber)  
Heavy Duty Flat Car  
Steel Coil Car  
Centrebeam Flat Car  
RoadRailer  
End-of-Train Device

## Narrow Gauge Rail System

The Canadian Train Set (CanSet) contains some narrow gauge rolling stock; 3 steam engines, 2 diesel engines and a complete set of passenger, mail and freight wagons. The AI makes extensive use of the Narrow Gauge Rail System (see further on).

The **Narrow Gauge Track System** (NGRails) by Cornelius, essential to operate narrow gauge rolling stock, has been included in the Canadian Train Set; thus providing a complete solution without the need for an external graphics file (.grf) to have narrow gauge tracks. Many thanks go to Cornelius for allowing the CanSet to have the Narrow Gauge Track System integrated into the Canadian Train Set.

Why should you use Narrow Gauge ? It could be to your advantage. Like the USset, The CanSet has a distinct cost structure; i.e. purchase costs are low but running costs are high and you need to maintain profitable services otherwise the running costs will bankrupt you.

The AI knows all about that, if it builds those ridiculous lines, that do not run more or less directly to their destination, they won't be making any money. Now, with the Narrow Gauge Rolling Stock and Track System; building tracks is cheaper than standard gauge; purchase costs are lower and so are the running costs compared to standard gauge. That means, your dollar will go further especially in the early years.

## **The Canadian Train Set and the AI**

As we all know, the AI is rather stupid when it comes to building rail networks. But to help things along a bit, there is a small recipe book for the AI included in the Canadian Train Set. It gives the AI a fair chance to build reasonable rail services.

For passenger services, the AI will choose between narrow gauge for small short lines; or standard gauge for medium to more extensive services.

For freight services, the AI will choose the narrow gauge system, except for iron ore, steel and paper, which it implements using the standard gauge track system.

In addition, if you have 'AutoReplace' enabled, the AI will upgrade its fleet of locomotives to more powerful and faster ones when they become available.

If you observe some rather stupid choices of rolling stock, report it and maybe better choices can then be suggested; after all the AI is a fast learner, but it needs to be told.



## Random Liveries

There are many vehicles, that have their liveries selected at random. This may be different liveries for the various railway companies (e.g. CNR, CPR, VIA etc) or simply different liveries for wagons and their load. This is indicated in the **Vehicle Purchase Detail Window**; e.g. :

### 'Livery (at random) : TH&B, CNR or CPR'

If you like to purchase a particular livery; you buy the vehicle until you get what you want and then sell the others for a full refund. The liveries on offer are dependent on climate and/or current year.

New Rail Vehicles	
	Budd/CC&F RDC (Diesel)
	MLW RS18 (Diesel)
	GMD GMD-1 (Diesel)
	GMD GP9 (Diesel)
	MLW C424 (Diesel)
	Heavyweight Passenger Coach
	Heavyweight Mail Car
	Lightweight Passenger Coach

Cost: \$29,585 Weight: 125t  
Max. Tractive Effort: 278kN  
Speed: 120kmh<sup>-1</sup> Power: 1,750hp  
Running Cost: \$15,234/yr  
Capacity: N/A  
Designed: 1954 Life: 25 years  
Max. Reliability: 75%  
Usage: freight service  
Livery (at random): TH&B, CNR or CPR

Build Vehicle      Rename

New Rail Vehicles	
	GMD F59PH (Diesel)
	GMD GP9 (Diesel)
	MLW C424 (Diesel)
	GMD SD40-2 (Diesel)
	MLW M636 (Diesel)
	GMD GP9u (Diesel)
	GMD GP38-2 (Diesel)
	Heavyweight Passenger Coach

Cost: \$39,842 Weight: 154t  
Max. Tractive Effort: 377kN  
Speed: 120kmh<sup>-1</sup> Power: 3,000hp  
Running Cost: \$21,834/yr  
Capacity: N/A  
Designed: 1968 Life: 25 years  
Max. Reliability: 65%  
Usage: freight service  
Livery (at random): CNR 'end cab', CNR 'wide cab', CPR or CPR 'Red Barn'

Build Vehicle      Rename

New Rail Vehicles	
	Gondola
	AutoRack
	Intermodal Flat Car
	Hi-Cube Boxcar
	Double Stack Container Car
	Covered Hopper
	Ore Hopper
	Woodchip Car

Cost: \$1,295  
Weight: 20t (45t)  
Capacity: 50 crates of goods (refittable)  
Max. Speed: 135kmh<sup>-1</sup>  
Usage: container freight wagon  
Livery (by lead engine): CNR, CPR or TTX  
Livery (at random): by load (containers)  
Cargo (refit to): food (50 t)

Build Vehicle      Rename

## Company Liveries

There are many vehicles (locomotives and wagons), that come in liveries of the various railway companies (e.g. CNR, CPR, VIA etc). Engines, that do not carry cargo, are selected at random (see earlier in this guide); the ones with cargo can be refitted to other liveries, passenger coaches can in most cases be refitted to the various company liveries or, like freight wagons, take on a livery depending on the locomotive they are attached (e.g. If the locomotive is CNR, then the majority of wagons, if not all, are CNR too). Some liveries are also dependent on the type of wagons in the train (e.g. add a Steam Generator Unit (SGU) to a BBD LRC-3 and you get VIA 'blue' passenger coaches). All these options are indicated in the **Vehicle Purchase Detail Window**; e.g. :

'Livery (by lead engine) : CNR, CPR or TTX'

'Livery (refit to) 'stainless steel' or LRC'

'Livery (at random) : by load (containers)'

New Rail Vehicles		New Rail Vehicles	
	GMD GP9u (Diesel)		GE AC4400CW (Diesel)
	Workspoor RAM TEE (DMU-4)		GMD SD75i (Diesel)
	BBD LRC-3 (Diesel)		GE P42DC (Diesel)
	GMD GP38-2 (Diesel)		Heavyweight Passenger Coach
	GMD/EMD SD60 (Diesel)		Heavyweight Mail Car
	GMD F40PH-2 (Diesel)		Lightweight Passenger Coach
	GMD F59PH (Diesel)		Lightweight Mail Car
	GE AC4400CW (Diesel)		Bi-Level Passenger Car
Cost: \$44,822 Weight: 115t Max. Tractive Effort: 348kN Speed: 125mph Power: 3,700hp Running Cost: \$21,135/yr Capacity: N/A Designed: 1980 Life: 25 years Max. Reliability: 60% Usage: passenger transport Livery (refit to): 'stainless steel' or LRC Note: add a SGU for VIA 'blue' pax coaches		Cost: \$123,920 Weight: 121t Max. Tractive Effort: 401kN Speed: 105mph Power: 4,200hp Running Cost: \$41,704/yr Capacity: N/A Designed: 2002 Life: 25 years Max. Reliability: 55% Usage: passenger transport Livery (refit to): 'Renaissance' or LRC	
Build Vehicle	Rename	Build Vehicle	Rename

  

New Rail Vehicles	
	GMD GP40-2(W) (Diesel)
	GMD GP9u (Diesel)
	Workspoor RAM TEE (DMU-4)
	BBD LRC-3 (Diesel)
	GMD GP38-2 (Diesel)
	GMD/EMD SD60 (Diesel)
	GMD F40PH-2 (Diesel)
	GMD F59PH (Diesel)
Cost: \$51,520 Weight: 133t Max. Tractive Effort: 238kN Speed: 87mph Power: 1,997hp Powered Wagons: +1hp Weight: +20t Running Cost: \$39,415/yr Capacity: N/A Designed: 1976 Life: 15 years Max. Reliability: 67% Usage: passenger transport Note: attach LW pax coach to get RAM TEE	
Build Vehicle	Rename

  

New Rail Vehicles		New Rail Vehicles	
	Express Car		Intermodal Flat Car
	Steam Generator Unit (SGU)		Hi-Cube Boxcar
	Caboose		Double Stack Container Car
	Boxcar		Covered Hopper
	Reefer		Ore Hopper
	Small Coal Hopper		Modern Ore Car
	Bethgon Coal Hopper		Woodchip Car
	Early Tank Car		3 Bay Coal Hopper
Cost: \$1,585 Weight: 15t (15t) Capacity: N/A Max. Speed: 90mph Usage: special purpose wagon Livery (by lead engine): CNR or CPR Note: add a Caboose at the end of freight trains for increased level of safety		Cost: \$1,458 Weight: 20t (45t) Capacity: 50 crates of goods (refittable) Max. Speed: 85mph Usage: container freight wagon Livery (by lead engine): CNR, CPR or TTX Livery (at random): by load (containers) Cargo (refit to): Food (50 t)	
Build Vehicle	Rename	Build Vehicle	Rename

## Company Liveries (continued)

If you like to build a train depicting a particular railway company, you need to start with the lead engine. The liveries on offer are also dependent on climate and/or current year.

The following is an example of randomised vehicle liveries (the bare trays) and randomised load (the containers). The freight wagons will get their livery when purchased and retain that livery throughout their live. The load (containers) will be different each time a wagon receives new cargo.



Refitting liveries of entire trains is sometimes also offered. In the following example, CPR MLW 636 engines (train 1) with modern ore cars attached can be refitted to 'Cartier' ore cars and at the same time the engines take on the 'Cartier' Livery as well (train 2).



## Snowline

The Canadian Train Set has built in the ability to change the snowline in either the arctic or temperate climates to what ever level desired. No other .grf-file is required. The 'snowline' feature is deactivated by default, to activate this feature you need to do the following :

### Set Patch Switch ...

in the Patch Configuration File (ttdpatch.cfg) you need to turn on the 'tempsnowline' switch :

**tempsnowline on**

Note : if not set to 'on' the following 'snowline' parameter will have no effect.

### Set CanSet parameter [snowline] ...

in the New Graphics Configuration File (newgrf[w].cfg) you need to specify the first parameter of the CanSet[w].grf file

. newgrf/Cansetw.grf [**snowline**] [new cargo/industry]

the parameter takes the following values :

0 – no snow

- in temperate, there will be no snow (same as the default)
- in arctic, same as level 16, you will get a dusting of snow on mountain tops (you cannot really turn off snow in arctic)

1 .. 16 – snow line, works both in temperate and arctic climates

- 1 = snow down to sea level
- 16 = just a dusting of snow on mountain tops
- other values (2 .. 15), anything in between

255 – use the default

- in temperate, there will be no snow
- in arctic, the default snow level of 7

Note: if you wish to use other parameters (described elsewhere), you will need to either specify this parameter as desired or use '255' the default as place holder.

## New Cargos/Industries

The Canadian Train Set (CanSet) has built in the ability to have the arctic cargos of **paper** and **food** as well as the arctic industries of **paper mill**, **printing works** and **food processing plant** available in the temperate climate too. Food is accepted by the following town buildings : hotel, stadiums, shopping centre and some shops. On the other hand, the temperate cargos of **iron ore** and **steel** as well as the temperate industries of **iron ore mine**, **steel mill** and **factory** are available in the arctic climate. No other .grf-file is required. The 'new cargo/industry' feature is deactivated by default, to activate it you need to do the following :

### Set Patch Switch ...

in the Patch Configuration File (ttdpatch.cfg) you need to turn on the 'newcargos' and 'newindustries' switches :

**newcargos on  
newindustries on**

Note : if not set to 'on' the following 'newcargo/industry' parameter will have no effect.

### Set CanSet parameter [new cargo/industry] ...

in the New Graphics Configuration File (newgrf[w].cfg) you need to specify the second parameter of the CanSet[w].grf file

. newgrf/Cansetw.grf [snowline] [**new cargo/industry**]

the parameter takes the following values :

- 0 – feature deactivated (default).  
(will not interfere with other new cargos/industries defined elsewhere in other .grf's)
- 1 – adds paper industry (paper, paper mill and printing works) in temperate climate.
- 2 – adds food industry (food, food processing plant and town buildings accepting food) in temperate climate.
- 4 – adds iron ore/steel industries (iron ore, steel, iron ore mine, steel works and factory accepting steel) in arctic climate; at the same time the factory also accepts livestock and wheat.
- 8 – (adds future industry 1)
- 16 – (adds future industry 2)

If you would like to have more than one industry you need to add the parameter values together; e.g. to have paper and food, specify '3', for all industries, specify '255'.

Note: This feature is still under development and will be enhanced further. If you wish to use other parameters (described elsewhere, but not yet defined/implemented), you will need to specify this parameter as desired, use '0' the default as place holder.

Warning : You should not have any other graphics files that add/modify cargos/industries activated as they will interfere with the proper functioning of this feature. Further, if you do use other .grf's with new cargos and industries, the CanSet may not cater for those cargos and you may not be able to transport them.

## Automatic Upgrading of Locomotives

Automatic renewal and/or upgrading of locomotives in time can be enabled. There are many ways how to configure this feature and it depends on your strategies in relation to vehicle breakdown, train servicing and automatic train renewal.

Here is one way how to enable this feature. Take the following consideration into account :

- Trains need to go to a depot for servicing on a regular basis. To achieve this you can put a depot or 2 in the order list and set the service flag. These depots should be strategically placed, good places are near station exits.

To configure this feature, the following patch switches need to be set for a working solution :

- **enginespersist off**, recommended, to remove obsolete engines from the vehicle purchase list.
- **gotodepot on**, required to add depots to the order list of trains.
- **forceautorenew [off/on]**, required, set to **off**, if depots have been added to order list; or set to **on**, if trains need to be forced to visit a depot when vehicle renewing is due.
- **servint [ddd]**, required, if trains have depots in their order list with service flag set; set service interval in number of days [ddd]. The lower the service interval the more often trains visit the depot for servicing. As a guide, set it to between 1 and 3 years (360 to 1080 days) if you have vehicle breakdown set to off otherwise a much lower interval will be required.
- **autorenew [-mm]**, required, to have this feature enabled. This switch also specifies, when automatic renewal or replacing of vehicles takes place. As a guide, set it to about twice the service interval, negative in months; or calculate it as follows service interval (servint) in days divided by 13.8 rounded to the next whole number and specify it negative in order to get the vehicles renewed/replaced before they get too old.
- **autoreplace [on/reliability]**, required, to have 'AutoReplace' enabled. If all the above switches have been set, but 'AutoReplace' is not; then automatic renewing of vehicles will still take place, but only if the locomotive in question has not become obsolete; i.e. obsolete engines will only be renewed or upgraded if 'AutoReplace' is enabled. As a guide , for the CanSet, specify 75 % reliability instead of on, which defaults to 80 %.

Sample configuration :

- **enginespersist off**
- **gotodepot on**
- **forceautorenew off**
- **servint 1080**
- **autorenew -78**
- **autoreplace 75**

# **Contributions**

## **Graphics/Art**

Dan MacKellar (DanMack)  
uzurpator  
mnorman  
NS37

Narrow Gauge Track System  
by Cornelius

Standard and Narrow Gauge Train Depots  
by lifeblood

## **Coding**

OzTransLtd

## **Project Management**

Dan MacKellar (DanMack)

... and everybody forgotten to mention

## Rolling Stock – Standard Gauge

Overview of standard gauge rolling stock. Some locomotives have yet to be included in the set.  
Information by Dan MacKellar.

### STEAM LOCOMOTIVES

**4-6-4T X10a Class** - These ten tank engines (Class X10a) were built in 1914 for the Grand Trunk Railway. They were used around Ontario and Quebec on suburban passenger runs. Not very high in HP, they can only haul a few coaches but they can do so very well. Available 1914 (1920).

**2-8-0 'Consolidation'** - The Consolidation was the most popular wheel arrangement in North America. Both CN and CP had large numbers of these locos for both branch and mainline duties. It offers a small loco for your short runs at the beginning. Available 1920.

**2-8-2 'Mikado'** - The Mikado is a good engine for those long-distance fast freight hauls. Overall a good general purpose loco. Again, both CN and CPR had versions of this wheel arrangement. Available 1915 (1920).

**4-6-2 'Pacific'** - Pacific's also saw double duty in Canada both as freight and passenger haulers. Canadian Pacific owned many, as did CNR. Both will be represented. Available 1915 (1920).

**2-10-2 'Santa Fe'** - The Santa Fe type was for many years the most powerful locomotive in Canada. CPR used theirs mainly in the mountains, CNR used theirs all over. This loco will also be available in both CN and CPR liveries. Available 1918 (1920).

**U1 4-8-2 'Mountain'** - The Mountain type is again one that was favoured by CN over CP. Like the Northern, CPR only had 2 4-8-2's, CNR had 74. This loco will also be available in streamlined and non-streamlined versions. Available 1925.

**2-10-4 'Selkirk'** - The 'Selkirk' type was the largest loco on Canadian soil. Canadian Pacific took the first order in 1928, second order in 1938 and the last 6 were ordered in 1948. These locos were designed for hauling passenger trains over the Rockies. Will likely have streamlined and non-streamlined liveries. Available 1928 (streamlined in 1938).

**4-6-4 'Hudson'** - The Hudson type was Canadian Pacific's mainstay for passenger power in later years. CN preferred the Northern type, only having 5 Hudson's. Liveries for this loco will be available in both streamlined and non-streamlined versions. CN Version may also be available. Available 1930.

**U2a Class 4-8-4 'Confederation'** - What Hudson's were for CP, Northerns (called 'Confederations') were for CN. The Northern type could be found all over the system hauling both freight and passenger. CPR only had 2, CN had over 150. CNR still rostered one for excursions until 1981. Available 1938.

**U4a Class 4-8-4 'Confederation'** - Originally intended to include only one class of Northern, but since there's enough space, the U4a has been included too. The streamlined U4a Class Northern is part of a class of 10 that were built in 1939 to haul the Royal Train. Available 1939.

**F2a Class 4-4-4 'Jubilee'** - Looking for a locomotive to haul the new, lightweight 'Chinook' passenger train, CPR looked to the past and the 4-4-4 design. There were 2 classes of Jubilee, the F2a Class (included in the set) and the later built and more numerous Class F1a. Available 1938.



## Rolling Stock – Standard Gauge (continued)

### ELECTRIC LOCOMOTIVES

**GE Boxcab** - CNR had several boxcab electrics for passenger service around Montreal. Several interurbans around the country (Mainly in Ontario) also used these. The boxcab will be able to be used for both passenger and freight. Available 1917 (1920).

**GE Steeplecab** - Interurban lines around North America used these. There weren't many in Canada, but several rail roads in Ontario and Quebec used them. A lot of industrial/mining lines had these as well. Available 1920.

**Wooden Interurban Motor Coach** - Interurbans were an alternative to the heavier, more costly steam railways. Running nice and cleanly between cities all over Canada, the interurban car became a standard sight. These cars are refittable to mail, goods, food and gold. Can haul an express car or 2 as well. Available 1918 (1920).

**Steel Interurban Motor Coach** - Wooden interurbans gave way to heavier, faster steel cars, and Canada's interurbans followed their American counterparts. Available 1931.

**CC&F Electric MU** - In the 1950's, the boxcabs around Montreal were supplemented by a number of EMU's from Canadian Car and Foundry. These cars lasted in commuter service until 1995. Available 1952.

**GMD GF6C** - In the 1980's, the British Columbia Railway built a heavy coal branch into the mountains around Tumbler Ridge, BC. This marked the first, and so far only use of heavy electric in Canada. General Motors delivered 7 GF6C's in 1984 for use on this branch. These units were put into storage in 2000 and all except one have now been scrapped. Available 1984.

**Bombardier EMU** - By the 1990's, the older boxcabs and EMU's were wearing out. The Montreal Commuter Agency (STCUM) purchased a number of EMU's from Bombardier to replace the ageing electrics. Available 1994.

### DIESEL LOCOMOTIVES

**EMC 'Doodlebug'** - The Gas Electric car, or 'Doddlebug' was a standard on branch lines from the early 1920's to the late 40's. They were built by several manufacturers. The one in the set is based on an Electro-Motive car from the early 20's. Available 1920.

**CLC/CNR '9000'** - Canadian National had the distinction of owning the first mainline diesel in North America. No. 9000 was a two-unit loco that was eventually separated and both units were scrapped in 1946. It's distinction can't be overlooked however. Available 1928.

**ALCo/MLW S2** - After the 9000, Canada's rail roads contented themselves with steam until ALCo brought out the S2 switcher. Both CN and CP purchased numerous units from both ALCo and it's Canadian subsidiary, MLW. Available 1943.

**Budd RDC** - The Budd RDC (Rail Diesel Car) was a replacement for the numerous doodlebugs in the late 40's. Many still toil on in commuter service, VIA Rail actually still rosters 5 cars. Liveries - CNR, CPR, VIA (After 1976), BC Rail (after 1976) Available 1949.

**MLW FA-1** - While CNR preferred the F7 over MLW's FA-1, CPR owned a number of MLW FA-1's and no F7's. The FA-1 is similar in speed and HP to the F7, but offers a freight cab unit for CP until the C-Liner and the FP9. Available 1950.

## Rolling Stock – Standard Gauge (continued)

### DIESEL LOCOMOTIVES (continued)

**GMD FP7** - Four feet longer than an F7A, the FP7A had a steam generator to heat passenger cars. The FP7 can haul both passenger and freight. Uses standard F7B units Available 1950.

**MLW RS3** - MLW's RS3, like its ALCO counterpart, was designed to compete with GMD's GP7. Owned by CPR, CNR, Ontario Northland and Pacific Great Eastern (BC Rail), the RS3 wasn't as numerous as the GP7/9, but nonetheless was a common sight on branch lines in Canada. Available 1953.

**FM/CLC 'C-Liner'** - The FM 'Consolidation' line was about as popular in Canada as the Train Master was. CNR purchased the Passenger CPA16-5 and the freight CFA16-4. CPR only used the freight version. Available 1954.

**GMD GP9** - The GP9 was the most popular road switcher in North America. CN and CP purchased large numbers of these units as well as their predecessor, the GP7. Livery - CN, CP, ACR (Arctic), ONR and TH&B (temperate climate only). Available 1954.

**FM/CLC H-24-66** - The 'Train Master' was Fairbanks Morse's 'Big Engine'. FM locos were built in Canada by the Canadian Locomotive Company in Kingston, Ontario. FM/CLC was always third place in Canada behind GMD and MLW. Only 21 Train Masters were sold in Canada. 20 to CP and 1 to CN. Available 1956.

**MLW RS18** - The RS18 was MLW's answer to the GP9, just as the RS11 was from ALCo. The RS18 was a jack of all trades, seeing use on both passenger and freight trains. Some CN RS18's were rebuilt in 1967 for short-haul passenger service between Windsor, ON and Quebec City. Liveries - CN, CP, CN 'Tempo' (1967-1978) Available 1956.

**GMD SW1200RS** - In the mid 1950's, a more heavy-duty switcher was needed. Both CNR and CPR had branch lines that were run by steam that needed to be replaced. The result was the SW1200RS unit. Distinctly Canadian, these units were switchers that thought they were road units. Able to reach speeds of 65MPH, these engines were at home both on the road and in the yard. Available 1957.

**MLW RSD17** - The RSD17 was the Canadian version of ALCO's RDS15 - Only one was built. After demonstrating on BC Rail, CN and CP, this orphan was eventually adopted by CP and given the number 8921. She received a low nose in the early 90's, the 'Empress of Agincourt' was retired in 1995. It currently resides at the Elgin County Railway Museum in St. Thomas, Ontario. Available 1957.

**MLW FPA-4** - Seeking to compete with GMD for the passenger loco market, MLW produced the FPA-2 and FPA-4 units, only CN received the latter. These units went to VIA Rail and were retired by 1989. Available in both CN and CP and later VIA Rail. Available 1958.

**GMD GMD-1** - CN was in need of a light branch line loco in the late 1950's and turned to General Motors for the 'Canadian' Road switcher. The GMD-1 was the result and could be seen all over the CNR from the prairies to the East Coast to Vancouver island. CNR still has some of these locos on roster today. Liveries - CNR Green, CNR Stripe, Northern Alberta. Available 1958.

**MLW C424** - The C424 was built for both CN and CP. CN retired theirs by 1989, but CP's toiled on until 1999. MLW's answer to GMD's GP35, it enjoyed more popularity than its General Motors rivals. Liveries - CNR, CPR Available 1964.

## Rolling Stock – Standard Gauge (continued)

### DIESEL LOCOMOTIVES (continued)

**United Aircraft/MLW Turbo Train** - First built for CNR in 1967/68, the Turbos were some of the first locos to go to VIA Rail in 1978 - and some of the first to be retired too. These trains were fast, however they weren't that reliable, leading to their early retirement. Available 1967.

**MLW C630M** - The C630M (and later M630) model was the first big diesel loco by MLW. Sold in Canada to CN, CP and BC Rail, these big diesels were seen until their retirement in the mid 1990's. Available 1967.

**GMD SD40-2** - The SD40 is the predecessor to the very popular SD40-2. The SD40 and later SD40-2's are the most popular heavy road switcher in Canada. Liveries - CN (2 variants), CP (2 variants), ONR, BC Rail Available 1968.

**MLW M636** - The M636 was Montreal's version of ALCO's C636. The M636 was purchased in Canada by CN, CP and the Cartier Mining Railway. CPR had such bad luck with their M636's that aside from one M640 in 1971, they never purchased MLW again. Liveries - CNR, CPR, Cartier, BCRail (arctic climate only) Available 1970.

**MLW M640** - The M640 was an experiment between CPRail and MLW. The lone M640, no. 4744, was built on the end of CPR's last order of M636's. In later years, the M640 was used as a test bed for AC Traction, one of the first locomotives to be so equipped. It's preserved at the Canadian Railway Museum in Delson, Quebec. Available 1971.

**GMD GP40-2** - Canadian National was the only purchaser of the GP40/GP40-2 in Canada. Available in both wide cab and standard cab versions. A GO Transit livery is also planned. Available 1974.

**MLW/BBD M420W** - The MLW M420W was the first locomotive built with the now common 'Wide Nose' cab. The M420W was a reliable locomotive, and many still live on on short lines all over North America. Livery - CNR Available 1976.

**GMD GP38-2** - Canadian National and Canadian Pacific both purchased the GP38-2, although only CN purchased the wide cab version. Many of these locomotives still remain on both rail road's rosters. Liveries - CNR, CPR, ONR Available 1980.

**BBD 'LRC'** - VIA Rail was created as a subsidiary of CN in 1976. In 1978 it became its own entity. Searching for a new train to capture the imagination of the public, VIA went to Bombardier, the successor to the Montreal Locomotive Works. The result was the 'LRC' - Light, Rapid, Comfortable. The LRC units lasted until the GE P42DC's arrived in 2001. They were the last mainline passenger ALCo-powered engines in North America. Available 1980.

**BBD HR616** - Bombardier and CNR developed the full cowl car body on the HR616 (High Reliability, 6 axles, 16 cylinders). The car body on these units (and all full-cowl Canadian units) is called the 'Draper Taper'. The car body is slightly angled behind the cab to give better visibility. Available 1982.

**MLW RS18M** - Canadian Pacific began rebuilding its RS18's in 1980 and completed in 1989. The result was the RS18u. These units were used on branch line and yard service until all MLW units were retired from in 1999. Livery - CP. Available 1984.

**GMD GP9u** - Both Canadian National and Canadian began rebuilding their GP7's and GP9's in the early 1980's. By 1993, there wasn't a high-nosed Geep left on either road. These units can literally be found all over both systems in yard service, local service and sometimes even mainline service. Liveries - CN and CP. Available 1986.

## Rolling Stock – Standard Gauge (continued)

### DIESEL LOCOMOTIVES (continued)

**GMD F40PH-2** - Amtrak originally received the F40 in the 1970's. They didn't arrive on VIA Rail until 1987, when the second-hand FPA4's and most of the FP9's were retired. Paint schemes available will be VIA Rail. Available 1987.

**GMD/EMD SD60** - Canadian National purchased a number of 'full car body' SD50 and SD60's from GMD in the mid 1980's. SD60's were also delivered to CPR's subsidiary SOO Line. Liveries available will be CNR 'SD60F' and SOO Standard cab. Available 1986.

**GMD F59PH** - GO Transit, looking to replace it's earlier GP units, and not finding the 6 F40PH's they purchased up to the task, they ordered the F59PH from GMD in 1988. Externally similar to an F40, these units had a separate engine driving the power unit. They're a popular commuter engine used all over North America. Liveries - GO Transit (F59PH), West Coast Express (F59PHi) Available 1988.

**GE C40-8M** - General Electric never really got a toehold in Canada until the 1990's. Aside from a few 44 Ton and 70 Ton models on CNR, Canadian roads never embraced GE. Main reasoning for this was all units sold in Canada had to have a certain percentage of Canadian parts. CN worked around this by having their C40-8M's (full car body) assembled at Bombardier's old plant in Montreal. Available 1990.

**GMD SD75I** - Canadian National needed new power to replace its ageing M630 and M636's. They purchased 26 SD70I units from GMD in 1995. 170+ similar (300HP more) SD75I units followed between 1996 and 1999. Available 1995.

**GE P42DC** - VIA Rail was needing new motive power in 2001 to replace its ageing LRC units. They turned to General Electric for new power in the form of the P42DC. Available 2001.

**GE C44-9W** - General Electric finally surpassed GMD in Canada in the late 1990's. CN purchased the DC version of GE's 4,400HP unit, the C44-9W in 1996-98 while CP opted for the higher tractive effort of the AC unit. Liveries will be CN. Available 1997.

**GE AC4400CW** - General Electric finally surpassed GMD in Canada in the late 1990's. Canadian Pacific, who had never owned a GE diesel finally bit in 1998 with an order of 81 AC4400CW's. CP now rosters nearly 400. Liveries will be CP Rail. Available 1997.

**GM SD90MAC** - General Motors answered GE's AC4400 and AC6000 series with the SD90MAC. The SD90's were originally built with 4300HP and can be upgraded to 6000. Only CP currently rosters the SD90MAC. Available 1999.

**Bombardier 'Jet Train'** - Bombardier unveiled the 'Jet Train' a couple years back for high speed rail service in the US and Canada. No sales have been made yet, but it's very possible VIA Rail may invest in a few in the future. That said, the Jet Train will be in a variant on the VIA 'Renaissance' scheme. Available 2004.

## Rolling Stock – Narrow Gauge

A note on Canadian Narrow Gauge. By 1920, the only narrow gauge in Canada was the White Pass and Yukon Railway in the West and the Newfoundland Railway in the East. The Newfoundland Railway was taken over by Canadian National in 1949 when the province joined Confederation and was abandoned 40 years later. The White Pass was built during the gold rush in the Klondike and lasted hauling freight until 1982 when the mining industry collapsed. It was rejuvenated in 1988 as a seasonal tourist line. It currently runs over 40 miles of the original 110 mile route.



**4-6-0 'Ten Wheeler'** – Available 1910 (1920).



**4-6-2 'Pacific'** - The Newfoundland Railway had a number of small Pacific's built for them by Baldwin in 1920. No. 593 (ex NR 193) is the sole survivor. Available 1915 (1920).



**2-8-2 'Mikado'** - For freight service, the Newfoundland Railway had a number of Mikado's, also built by Baldwin. These were also used on the White Pass & Yukon railway. Available 1915 (1920).



**GMD NF 210** - When CNR was looking to 'dieselise' the 42" gauge Newfoundland Railway, they turned to General Motors. 9 'NF110's' were built between 1952-1953 and 38 'NF210's' were built from 1956-1960. Also called "Mutant Geeps", these locos, along with the G8's killed steam on the island. Available 1954.



**GMD G8** - The G8 was originally intended for export service, and was considerably smaller than the NF110/210's. Nevertheless, 6 G8's found their way to Newfoundland and lasted until 1988. CN also had 5 standard gauge units. Available 1956.

Locomotives	ID	Year		Speed		Power	TE	Weight
		(from)	(to)	(km/h)	(mph)	(hp)	(kN)	(t)
4-6-0 Ten Wheeler	16h	(1910)	1951	96	60	900	76	80
4-6-2 'Pacific'	0Dh	(1915)	1955	112	70	1625	95	90
2-8-2 'Mikado'	0Fh	(1915)	1955	88	55	1850	125	113
GMD NF210	51h	1954	1986	104	65	1200	300	103
GMD G8	53h	1956	1986	96	60	875	137	69

Wagons	ID	Year		Speed			Weight
		(from)	(to)	(km/h)	(mph)		(t)
Passenger Coach (wood)	59h	1920	1950	104	65		30
Mail Car (wood)	5Fh	1920	1950	104	65		30
Passenger Coach (steel)	37h	1940	--	104	65		30
Mail Car (steel)	63h	1940	--	104	65		30
Boxcar	5Eh	1920	--	96	60		20
Reefer	64h	1920	--	104	65		20
Coal Hopper	66h	1920	--	88	55		20
Tank Car	62h	1920	--	88	55		20
Livestock Car	5Dh	1920	--	88	55		20
Ore Car	6Dh	1920	--	80	50		15
Log Flat Car	60h	1920	--	88	55		15
COFC Flat Car	40h	1955	--	104	65		15
Van	2Ch	1920	--	96	60		20

## Rolling Stock – Narrow Gauge (continued)

<b>Wagons</b>	<b>ID</b>	<b>Cargo</b>	<b>Refittable to</b>
Passenger Coach (wood)	59h	Passenger (30)	--
Mail Car (wood)	5Fh	Mail (25)	Valuables/Gold (25)
Passenger Coach (steel)	37h	Passenger (37)	--
Mail Car (steel)	63h	Mail (30)	Valuables/Gold (30)
Boxcar	5Eh	Goods (30)	Grain/Wheat (25), Food* (25), Paper* (25), Steel* (25)
Reefer	64h	Food* (25) / Goods (30)	Goods (30) / Food* (25)
Coal Hopper	66h	Coal (20)	--
Tank Car	62h	Oil (15,000)	--
Livestock Car	5Dh	Livestock (20)	--
Ore Car*	6Dh	Iron Ore* (25)	--
Log Flat Car	60h	Wood (25)	--
COFC Flat Car	40h	Goods (30)	Food* (30)
Van	2Ch	--	--

\* Cargo may not be available due to climate and/or new cargos/industries selected.

## **Frequently Asked Questions (FAQ)**

(Once they have been asked they will be put here)

## Known Issues and Unfinished Work

- 1) **Company Trains** – at the moment, only the Vans and the 'Double Stack Container' wagons have company liveries defined and these are selected according to the lead engine they are attached to. These is a Demo, will be enhanced further in v0.3.
- 2) **FP7 locomotives and Heavyweight Passenger Coaches** – make HW's refitable to other liveries, at the moment they get time dependent liveries only.
- 3) **Tempo Passenger Coaches (CNR/VIA)** – after 1978 available with MLW RS18 engine and generally available for refitting with all other engines, where there is **NO** active wagon livery override defined, the wagon livery override has priority and refitting to VIA Tempo is not available. A solution will be implemented in v0.3.
- 4) **AI Management** – quite a reasonable solution has been implemented, although some more tweaking will be necessary. If the USset is active you will encounter problems, as the AI management feature is not compatible with the USset, due the USset's own AI Management.
- 5) **Auto-Renewing Vehicles** – Unless you use the AutoReplace feature of the patch, locomotives that have become obsolete will not be renewed.
- 6) **Narrow Gauge Track System and New Stations** – The 'New Stations' graphics (newstatsw.grf) are not compatible with the Narrow Gauge Track System. Monorail tracks are shown instead of narrow gauge tracks. This fault is with the 'New Stations' graphics and not the CanSet.