

GRAND TRUNK ALL TIME ROSTER NOTES

This summary had its origin because the compiler wanted a comprehensive and comprehensible picture of Grand Trunk locomotives.

In the all time roster, as is the compilers style, each locomotive is listed only once. This gives an accurate overall picture of the railway's roster and makes it easy to follow any individual locomotive through renumberings, rebuildings and transfers.

Any engine is easily traced in most tables by use of the reference number as listed in the all time roster.

There are still a few details and corrections to be added but that won't happen for a while.

The history is arranged as follows:

1. All time roster notes
2. All time roster summary 1853-1923
3. Named locomotives
4. All time summary of dimensions & technical data
5. 1873 renumbering
6. 1874-1878: 1874 renumbering of standard gauge engines
7. 1890-1893: C>, GWR, MRC and N&NW engines
8. 1898-1901: 1898 renumbering
9. 1902-1903: 1902 renumbering
10. 1906-1909: 1904, 1905, 1906 & 1907 renumberings
11. GTR 1910-1923 notes
12. GTR 1910-1923 roster with technical data.

No records have been found for the renumbering of Great Western engines to the Grand Trunk. It has been reconstructed from other sources. Therefore there is some guesswork.

The numbering of Northwestern Grand Trunk engines 1-25 is guesswork.

The source of Detroit Grand Haven & Milwaukee engines 219-222 and 225-231 is guesswork.

The primary source is original GTR documents. The GTR roster in the Railway & Locomotive Historical Society bulletin 147 by William D. Edson and Raymond F. Corley has been used as a reference, but where that roster differs from official GTR documents, the GTR documents have been followed. It is possible they had access to different documents, official records have been known to be inconsistent. The Grand Trunk was good at record keeping. There are no blanks to speak of, unlike the Canadian Northern. In fact, the GTR had such an aversion to blank spaces that handwritten notes usually filled them. But no records are perfect. Some errors are obvious. That is the reason for some of the "?s".

Old records were hand copied, often many times, so errors were inevitable. Even typed or printed records usually had their origin this way. One set of records I had trouble with was because the writer did not close the top loop of his "eights", making them look like "sixes".

I have previously advanced the theory that the locomotives acquired with the Montreal & Champlain in 1872 were possibly numbered 356-368 instead of 328-340 as bulletin 147 suggests. The locomotives bought second hand from the Great Western in 1871 started at 341. This is not necessarily an issue: the Midland engines acquired in 1884 and the Northern & Northwestern group acquired in 1888 had lower numbers than the Great Western engines of 1882. However, there were already 1871 engines occupying the 328-340 series, and the likely disposal of the M&C engines in the 356 group might explain why new engines above 356 were not numbered sequentially.

However, evidence is that the C&SL, M&L and M&NY engines were in fact numbered 323-340. This creates a conflict with other engines in the same number series at the same time. However, the GTR seemed to have a hard time settling on numbers in the 1871-1874 renumberings. There were other short term number conflicts during this period. These engines would likely have not strayed from their original assignments. In correcting this information, they are

listed slightly out of numerical order to preserve the reference numbers.

The all time roster is designed to be spread across two pages in order to make the history reasonably complete, a new column has been inserted for every year in which a significant number of locomotives were renumbered or acquired second hand. The exception is the 1881 renumbering of the 200 series Baldwin engines to the Canada & Grand Trunk, as this did not immediately change the numbering system of either the Canada & Grand Trunk or the parent road.

Only the all time roster gives complete details of builders and renumberings. In other lists, this is, of necessity, compressed.

The renumberings are dated from when they were planned, not when the numbers were applied. In many cases, however, the application must have been immediate. The fire had hardly been dropped on the old engine, before the GTR was painting its number on a new one.

In the type, cylinder and driver columns, where there are two numbers, the first represent the dimensions as built, the second the final dimensions. There may have been intermediate dimensions: for example, nearly all the 2-2-2s went through an intermediate stage as 4-4-2s, before becoming 4-4-0s. Two were never changed beyond 4-4-2s, they are so listed. Many engines had their driver size changed more than once.

The dimensions table gives detailed information on rebuilding. The all time roster and the named locomotives gives dimensions "as built", the other tables give current dimensions.

The Grand Trunk numbering system at any moment in time makes a lot of sense. Until 1898, as was the fashion of the time, locomotives were grouped, roughly, by builder and by source, in a more or less solid block of numbers, starting at one. Therefore, for example, all the Great Western engines were grouped together, regardless of type or builder. Of course, nearly all GWR standard gauge road engines were built by Rhode Island. One suspects that

a gold framed oil portrait of the Rhode Island GWR salesman hung on the walls of the builder's head office.

After 1898, engines were numbered, again roughly, by cylinder size and type. After 1904, they were also classified by the same system. On the Grand Trunk, driver size was not usually a consideration in numbering or classification: driver sizes were mixed together in an endless jumble. Therefore one number might have 63" drivers, the next 69", the next 58", and the next 70". The 100 and 200 series 4-6-2s of the 1910 numbering scheme were an exception to this. Also, when acquired GWR locomotives were separated by passenger type (66" wheels) and freight type (54" wheels). This orderly grouping disappeared with rebuildings.

Finally, after 1912, when older engines were superheated and/or simplified, cylinder size was not necessarily a criteria, either.

With all the rebuildings, engines that were a group in 1888 were not a group in 1898, and engines that were a group in 1898 were not a group in 1904, hence, the need for renumbering to stay consistent with GTR ideas.

Another factor in renumbering was the reluctance of the GTR to apply road numbers above 1000 for locomotives. Thus from 1898 to 1905, about 900 Canadian locomotives occupied the number slots 1 to 999. The US engines were numbered separately until 1898, then they were given numbers above 1000. When the Canada Atlantic engines were formally acquired in 1905, they were given 1300 series numbers, the first Canadian engines numbered above 1000, because there was no other place for them. It was not until 1910 that all engines series were integrated.

Secondary rosters have been compiled to show the development of GTR locomotives and the numbering system.

A roster has been compiled for 1873. When the GTR decided to convert to standard gauge, it wanted it's standard gauge roster to start at 1. This meant a lot of renumbering, since, unlike the GWR, the GTR converted a lot of it's broad gauge engines. A false start

was made in 1873, many engines were renumbered twice that year in a complicated dance of numbers, as the list shows.

The list for 1874-1878 shows the completed conversion program and later developments.

The list for 1890-1893 shows the addition of C>, GWR, MRC and N&NW engines, before most of these engines were disposed of and before large numbers of new and bigger engines were bought to replace them.

The 1898-1901 list shows the major renumbering that took place in 1898 which recognised the large number of earlier engines that had been rebuilt.

The 1902-03 list shows that the GTR was not altogether happy with its 1898 scheme. That year saw the beginning of numbering switchers below road engines and starting at 1.

Separate lists for the 1904 renumbering to accommodate new engines, still keeping the numbers below 1000 for Canadian lines, and the 1905 addition of CAR engine have not been included, since these changes are pretty well accommodated by listing the 1906 renumbering. The few GTW engines renumbered in 1907 to accommodate the 1000 series ten wheelers are included in notes, rather than a whole separate column/list.

Other time slots have been omitted as they largely mimic the periods chosen.

Finally, the 1910-1923 list shows the final configuration of GTR engines. There were relatively few changes within this time period. The 801-805 series USRA 6 wheel switchers were renumbered to 1824-1828 to fit into the switcher series. The PO&N engines acquired in 1910 were numbered 2334-2338 and 2531-2533 and the three 2-6-0s returned from the GTP in 1916 were numbered 2533-2535. Most PO&N engines were disposed within a year.

The 1910-1923 roster includes technical details and dimensions not included in the all time technical data list. More information is

available for engines that lasted to 1910 and later. For example, weight on drivers, grate and heating surfaces are not included in the all time list as they are not available. However, 4-4-0s would have about 66% of their weight on the drivers, 2-6-0s would have about 85%. Most early engines had a grate area of about 17 sq. ft. and a heating surface of about 1000 sq. ft. plus or minus.

The CGR/CNR leased engines were numbered separately, and where renumbered by the CNR in 1919. CGR engines 508-522 were initially renumbered to 1508-1522 when leased to avoid conflict with GTR 2-8-2s. The other CGR/CNR numbers did not create a conflict with GTR numbers.

In the all time technical summary, the changes in cylinder size have been included to demonstrate this need for renumbering in line with GTR policies. The GTR was very good at detailing rebuildings. It is not necessarily that they did more of this than other railways, they just documented it better. And, on the GTR, rebuilding usually meant renumbering/reclassification.

Changes in driver size is also included, as driver size roughly determines the use of engines as passenger, freight, dual service or switchers. Most GTR road engines were of the 63 inch drivered dual service type. The GTR had very few road engines with drivers smaller than 63 inches, and those were mostly from the Canada Atlantic or from the US components.

What the system lacked was long term planning. This was true of most railways, ie, the CPR until 1912. But the 1910 GTR renumbering also suffered from lack of long term planning. By 1923, 2-8-2s and 0-8-0s, groups most likely to be receive additional engines, were hemmed in. The highest numbered 4-6-0 was 439, the lowest 2-8-2 was 440; the highest 2-8-2 was 607, the lowest 2-8-0 was 616. The highest 0-6-0 was 1851, the lowest 0-8-0 was 1873; the highest 0-8-0 was 1899, the lowest 4-4-0 was 1909.

The leased Canadian Government 2-8-2s were left with their CGR numbers, since they would not fit in otherwise.

By contrast, the CPR and Canadian Northern numbering schemes of 1912 lasted, with little modification, until the end of steam.

I have never seen a Grand Trunk roster that includes the Canadian Government/Canadian National engines leased 1919-1922, but they are included in GTR records. The CGR engines were renumbered to the CNR system in 1919, but the lease continued. Another 10 4-6-2s, bought by the CNR in 1920, were also leased. All these engines were "sold" to the GTR in 1922 (the Canadian government already had effective control) but were not renumbered. All were "reaquired" in 1923.

Engines of the Canada Atlantic are also included from 1898, although the CAR was not formally acquired until 1905, because the CAR engines were, roughly, renumbered into the GTR scheme from 1898 for joint Montreal-Ottawa services.

The interesting aspect of this was that, when the CAR engines were renumbered into the 600 series in 1898, they conflicted with only few tank switchers, which would not conflict for dispatching purposes. But the GTR then added road engines in the 600 series which would seem to defeat the purpose of the CAR renumbering. The issue was finally resolved in 1905, when the CAR engines were renumbered into the 1300 series.

The US engines are listed separately until 1898, the CAR engines until 1905.

Otherwise, only engines actually owned or at least seemingly assigned GTR numbers are included, from the date of acquisition. These dates are indicated in the list of GTR components. Usually, only the last pre GTR identity is included. Details of component railways will be the source of another roster. Information with question marks is uncertain or unsubstantiated.

The driver sizes of many engines in the 1890 roster are just guesses, since data hasn't turned up. The guesses are based on the premise that the GTR would pretty quickly replace the low 54" drivers of GWR freight engines, the larger 66" drivers of the GWR passenger engines might be left until later. However, the driver

sizes might not have been enlarged until later. Changing the cylinder size from the standard 16x24 of the GWR to 17x24 would compensate for increasing driver size from 54" to 63".

The following engines, sold to the Grand Trunk Pacific, were acquired by the Canadian National in 1920 and not taken into stock but scrapped in 1920: GTP 14 and 38; scrapped in 1923: 1, 2, 5, 7, 8, 9, 10, 15, 17, 18, 20, 21, 22, 23, 25, 30, 31, 32, 34, 35, 36, 37, 39, 40, 41, 42, 43; and scrapped in 1925: 24 and 44.

The remaining A/I-6, A3/I-8, E/E-7, and F/O-9 engines were superheated by the Canadian National.

The class D 2-8-0s, sold to the Grand Trunk Pacific were simplified and superheated by the GTP/CNR: 20x28, 180 psi.

The remaining D2/N-4 engines were simplified and superheated by the Canadian National.

The S-1-b and S-1-d engines leased by the GTR had Elesco feedwater heaters and stokers applied by the Canadian National.

The following M1/M2/S1 engines were converted to 0-8-2 by the Grand Trunk Western in 1936-1937: 480/3515, 481/3516, 482/3517, 495/3520, 496/3521, 497/3522 and 498/3523.

The following S-1-f engines were converted to 180 psi and 53,100 lbs tractive effort by the Canadian National: 3405, 3407, 3413, 3430-3431, 3434-3444, and 3447-3454, and S-1-g numbers 3518-3519.

Vanderbuilt tenders were applied to 3527 and 3531 in 1925 and 3466 and 3508 in 1926. 3508s tender transferred to 3455 in 1936.

The following K-3 engines were leased to the Central Vermont from about April 1925 to July 1927 and numbered 234-238: 5604-5608.

Canadian Government 508-522/1508-1522 were class P4-2G; CGR 770-781 were class F8-4; and CGR 2850--2948 were class M1A.

Twenty of the twenty one engines leased from the GTP circa 1913 to 1920 are listed last. Traffic on the GTP never developed as expected, so it makes sense some were leased back to the parent. There is no explanation for the conflict of GTP 100-102 and GTR 100-102. GTR construction number 1310, built as 582 in 1899, was sold to the GTP as number 50, then leased back to the GTR. I have a photo of number 50 with Grand Trunk Pacific lettering at Brampton.

Ontario Foundry 1-6 (GTR 88-93) and Ontario Foundry 15-20 (GTR 203-208) are both listed by the same names.

Abbreviations:

Where there is no entry in acquired column, engines acquired new.

B: built as broad gauge (5ft 6in) engine.

?: information missing, conflicting or apparently in error.

(...): numbers or classes assigned or apparently assigned, but not applied.

NB: new boiler

RB: rebuilt

RT: retired

S: simplified (without superheating)

SH: superheated

SSH: simplified and superheated

NSH: built with superheater

SS: sold for scrap

WR: wrecked

X: scrapped

74.6 stands for 74 5/8 inches, a size favoured by the GTR

84.3 stands for 84 1/4 inches.

Components and sources:

A&StL: Atlantic & St. Lawrence (acq July 15, 1853)

StL&A: St. Lawrence & Atlantic (acq 1 July 15, 1853)

Q&R: Quebec & Richmond (acq July 15, 1853)

A&F: Arbroath & Forfar (Scotland)

WB&C: Wood, Black & Company (contractors)

GTR: Grand Trunk or built by GTR

DE: Detroit Extension: from 1859

MD: Michigan Division (the Detroit extension)

L&NW: London & North Western (England)

BB&G: Buffalo Brantford & Goderich (1853-1856) to B&LH

B&LH: Buffalo & Lake Huron (from 1856 acq 1870)

C&StL: Champlain & St. Lawrence (1836-1857) to M&C

M&L: Montreal & Lachine (1847-1857) to M&C

M&NY: Montreal & New York (1850-1857) to M&C

M&C: Montreal & Champlain: (from 1857, acq June 14, 1872)

Pen: Peninsular (1869-1873) to NWGT

Port Huron & Lake Michigan (1871-1873) to NWGT

Chicago & Lake Huron (1873 -1879) to NWGT

Chicago & North Eastern (1875) to NWGT

NWGT: Northwestern Grand Trunk (1879-1880) acq 1879, renamed C> 1880

C>: Canada & Grand Trunk (1880, renamed Grand Trunk Western in 1900)

GTW: Grand Trunk Western

MAL: Michigan Air Line (acq October 1877)

S&H: Stratford & Huron (to PD&LH)

PD&LH: Port Dover & Lake Huron (acq November 28, 1879)

GWR: Great Western Railway of Canada (acq August 12, 1882)

D&M: Detroit & Milwaukee (to DGH&M)

DGH&M: Detroit, Grand Haven & Milwaukee (acq 1882 with GWR)

MRC: Midland Railway of Canada (acq January 1, 1884)

NRC: Northern Railway of Canada (1858-1879) to N&NW

H&NW: Hamilton & North Western (1873-1879) to N&NW

N&NW: Northern & North Western (acq February 24, 1888)

TS&M: Toledo, Saginaw & Muskegon (reno 1888 to C>)

CS&M: Cincinnati Saginaw & Mackinaw (Toledo Saginaw & Mackinaw until 1890)

CVR: Central Vermont Railway (acq 1898) not included here

OA&PS: Ottawa Arnprior & Parry Sound (to CAR)

V&PL: Vermont & Province Line (to CAR)

CAR: Canada Atlantic Railway (acq October 1, 1905)

PO&N: Pontiac Oxford & Northern (acq 1910)

Panamá: Panamá Railway, engines bought 1917

CGR: Canadian Government Railways (engines leased 1917-1919)

CNR: Canadian National Railways (engines leased 1920)

PRR: Pennsylvania Railroad

Disposals

CNoR: Canadian Northern Railway

CPR: Canadian Pacific Railway

CRHA: Canadian Railway Historical Association

GNC: Great Northern Railway of Canada

GTP: Grand Trunk Pacific

MRNS: Midland Railway of Nova Scotia

QRL&P: Quebec Railway Light & Power

TG&B: Toronto Grey & Bruce

T&NO: Temiskaming & Northern Ontario (GT engines not on T&NO roster, construction only)

Grand Trunk Railway Classes (applied 1904)

A: 4-6-0

B: 4-4-2

C: compound 2-6-0

D: 2-8-0

E: simple 2-6-0

F: switchers: 0-4-0, 0-4-0T, 0-4-2T, 0-6-0, 0-6-0T, 0-6-4T, 0-6-6T, 0-8-0

G: 0-10-0T (GTR called them decapods), and electrics for St. Clair Tunnel

H: 4-4-0, 18x24

J: 4-4-0, 17x24

K: 4-4-2T, 4-6-4T

L: 4-4-0, 14x22

M (1st): 4-4-0, 16x26

M (2nd): 2-8-2

N: 4-4-0: 16x24

O: 4-4-0: 17x22

P: 4-6-2