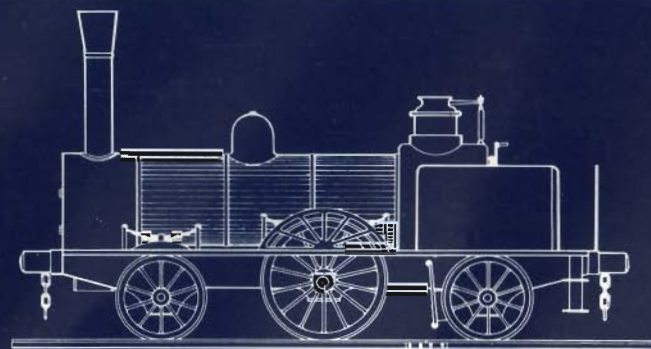


# POWER PARADE



 VicRail Public Relations \$4.00

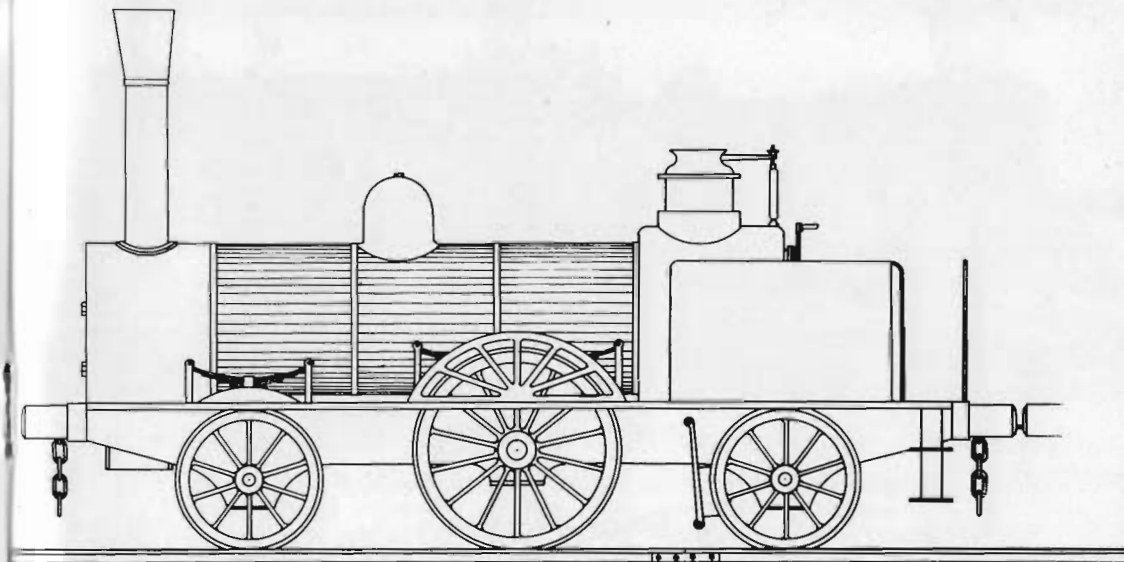
First published nearly thirty years ago, this edition of "Power Parade" brings the story of the development of railway locomotives in Victoria up to date.

To retain the historical flavour of steam locomotives, technical details of them have been retained in imperial measurements.

To make it easier for enthusiasts wishing photographs of the locomotives, negative numbers are listed with the details. Copies can be obtained from VicRail public relations.

Special thanks to Gerald Dee, Doug McLean, Lloyd Rodgers, Andy George, and John Phillips for their assistance in compiling this edition.

VicRail Public Relations.

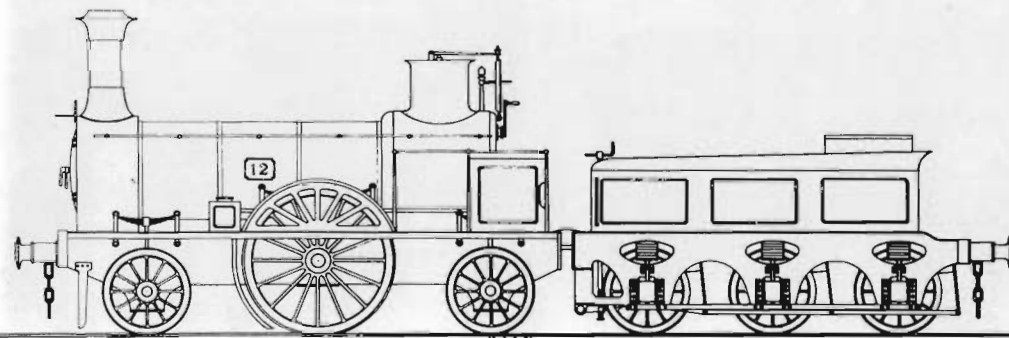


#### Passenger, 2-2-2 tank type

Built in Melbourne in 1854 by Robertson, Martin, Smith and Company. Hauled the first Melbourne and Hobson's Bay Railway Company's train when the line was officially opened on September 12, 1854. The first orthodox locomotive to be built and run in Australia. Neg. H. 2621.

#### Passenger, 2-2-2 type

Built by George England and Company, of London, in 1857. The original No. 1 of the Victorian Railways Department and its first passenger engine. Went into service in January, 1859. Later, renumbered as 12, and converted about 1871 to 2-4-0 type. Sold to Yarrowonga Shire, 1890, and worked Katamatite Tramway. Returned to V.R., 1893, and renumbered 528. Sold, 1904. Neg H.2622.





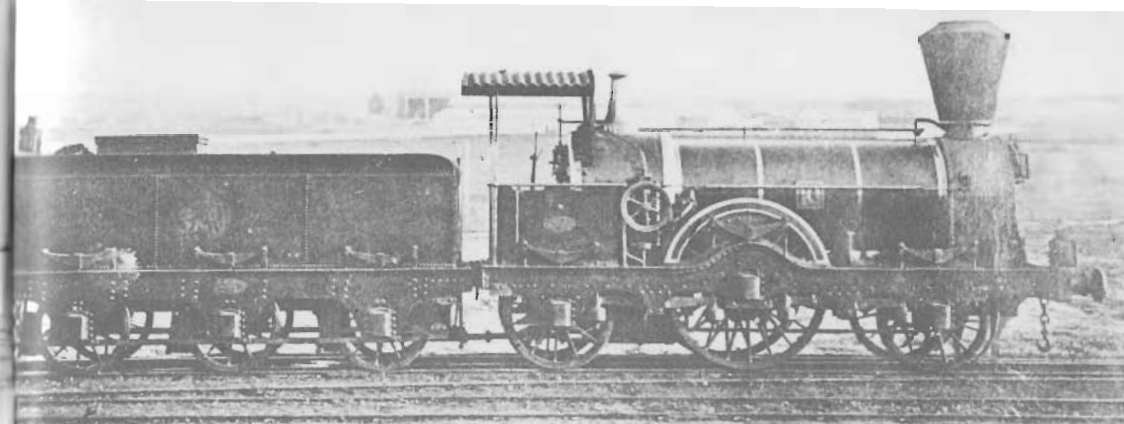
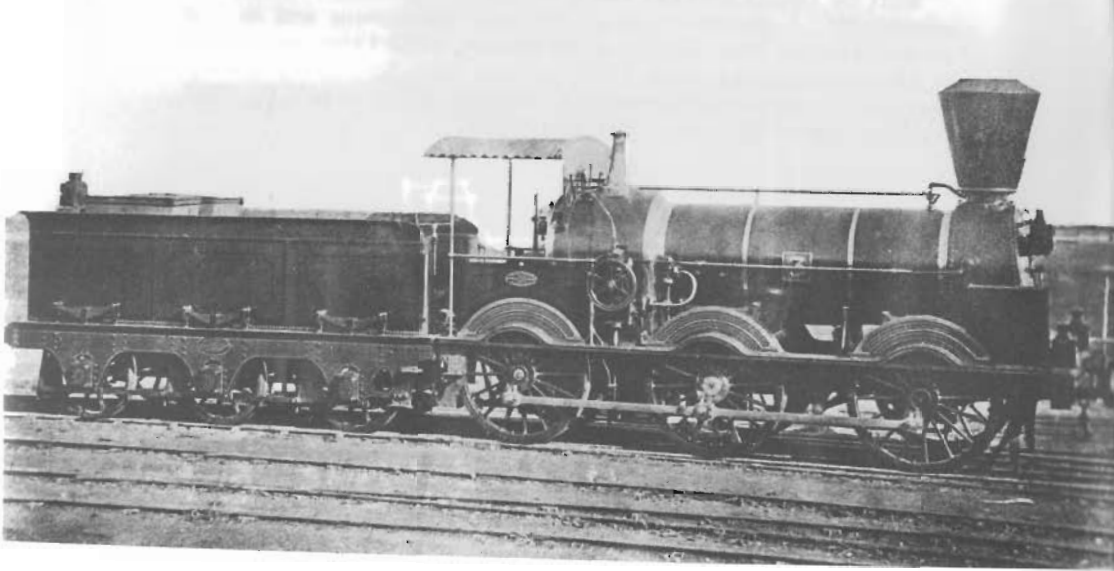
### Goods, 0-6-0 type.

They were the first goods engines of the Victorian Railways.

Nos. 2, 3, 4, 5 were built in 1857 by George England & Company, London. They were placed in service in January, 1859. Re-numbered in 1860 as Nos. 11, 13, 15 and 17. Later known as V class. Neg. H.2433.

### Goods, 0-6-0 type.

Nos. 1, 3, 5, 7, 9 were built in 1859 by Beyer Peacock, Manchester, England. Placed in service in 1860. Later known as P class, these engines were rebuilt early this century. The last of them was scrapped in 1921 after having run 1,257,136 miles. Neg. H. 1061.



### Passenger, 2-2-2 type.

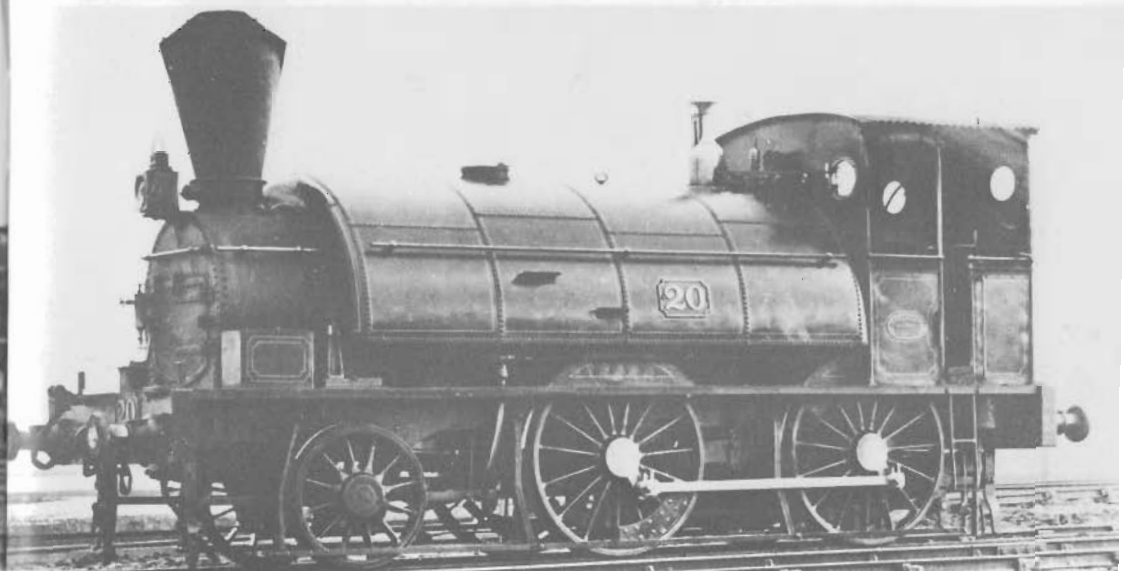
Nos. 2, 4, 6, 8, 10 were built in 1859 by Beyer Peacock, Manchester, England. Placed in service in 1860. They were known as "singles," from their one pair of 6'0" driving wheels. These engines were rebuilt as 2-4-0 type (with smaller driving wheels) between 1870 and 1874, and were later known as J class. The last of them (No. 6) was scrapped in 1916. Neg. H. 1063.

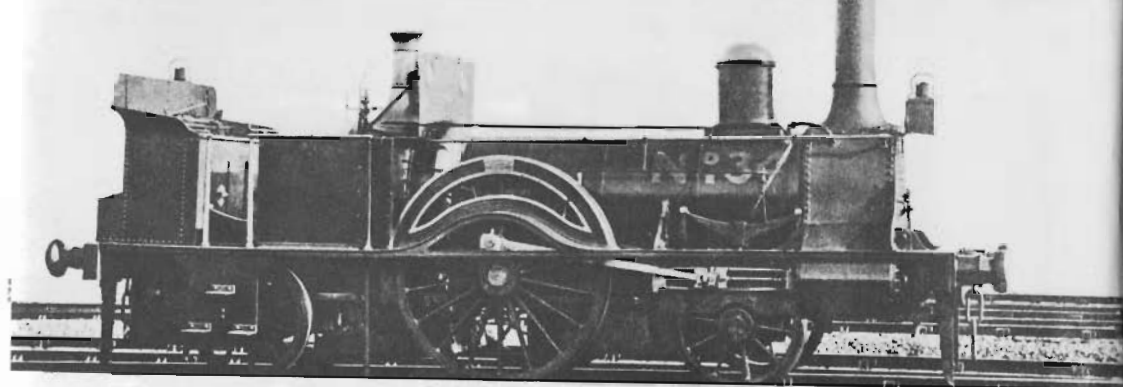
### Passenger, 2-4-0 saddle tank type.

Nos. 14, 16, 18, 20, 22, 24, 26 built in 1860 by George England & Co., London.

Nos. 28,30,32 built in 1860 by Slaughter Gruning, Bristol, England.

Placed in service in 1861. Later known as L class. These were the only saddle tank locomotives used by the Department. The last of them (No. 20) was scrapped 1906. Neg. H. 1938A.





#### Passenger, 2-2-2 tank type

Nos. 34 (Titania) and 36 (Oberon) built by Robert Stephenson, Newcastle, England, 1855.

Nos. 38 (Typhoon) and 40 (Sirocco) built by Stothert & Slaughter, Bristol, England, 1855.

Nos. 42 (Hurricane) and 44 (Cyclone) built by R. & W. Hawthorn, Newcastle, England, 1855.

These engines were taken over from the Geelong & Melbourne Railway company in 1860. The names were changed to numbers after they were taken over. The last of them (Nos. 34 and 36) were sold in 1889. Neg. H. 1060.

#### Goods, 0-6-0 type

Nos. 23 to 33 (odd numbers), built by Slaughter, Gruning & Company, Bristol, 1861.

Nos. 35 to 57 (odd numbers) built by Robert Stephenson, Newcastle, England, 1862.

Nos. 19, 21 and 59 to 69 (odd numbers), built by Beyer Peacock, Manchester, 1866-1871.

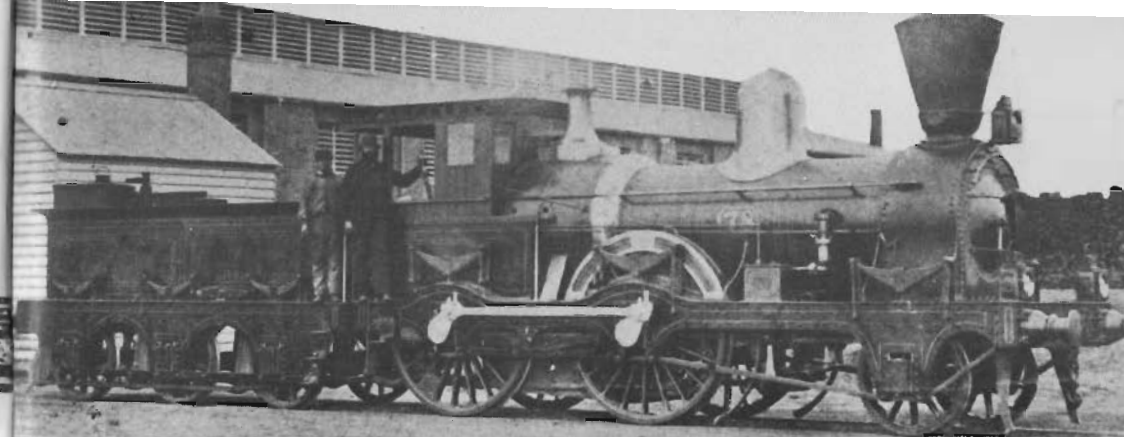
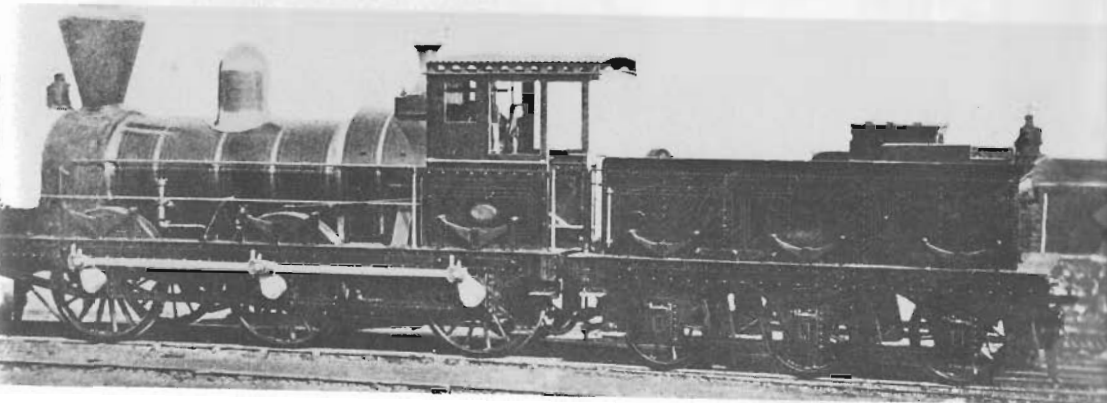
Nos. 71 to 81 (odd numbers), built by Yorkshire Engine Company, Leeds, 1870.

Nos. 127 and 129, built by Victorian Railways, Williamstown Workshops, 1879.

Nos. 131 to 143 (odd numbers), built by Phoenix Foundry Company, Ballarat, 1878-1879.

Nos. 145 to 149 (odd numbers), built by Beyer Peacock, Manchester, 1877.

Later known as 0 class. The last of them (Nos. 135) was scrapped on 10.6.1922. Neg. H. 1062.



#### Passenger, 2-4-0 type

Nos. 46 to 70 (even numbers), built by Beyer Peacock, Manchester, 1862.

Nos. 72 to 96 (even numbers), built by R. & W. Hawthorn, Newcastle, England, 1862.

Nos. 102 to 112 (even numbers), built by Beyer Peacock, Manchester, 1871.

Nos. 186 and 188 built by Phoenix Foundry Company, Ballarat, 1880.

They were later known as B class. The last of them (No. 76) was scrapped in June, 1917. Neg. H. 1049.

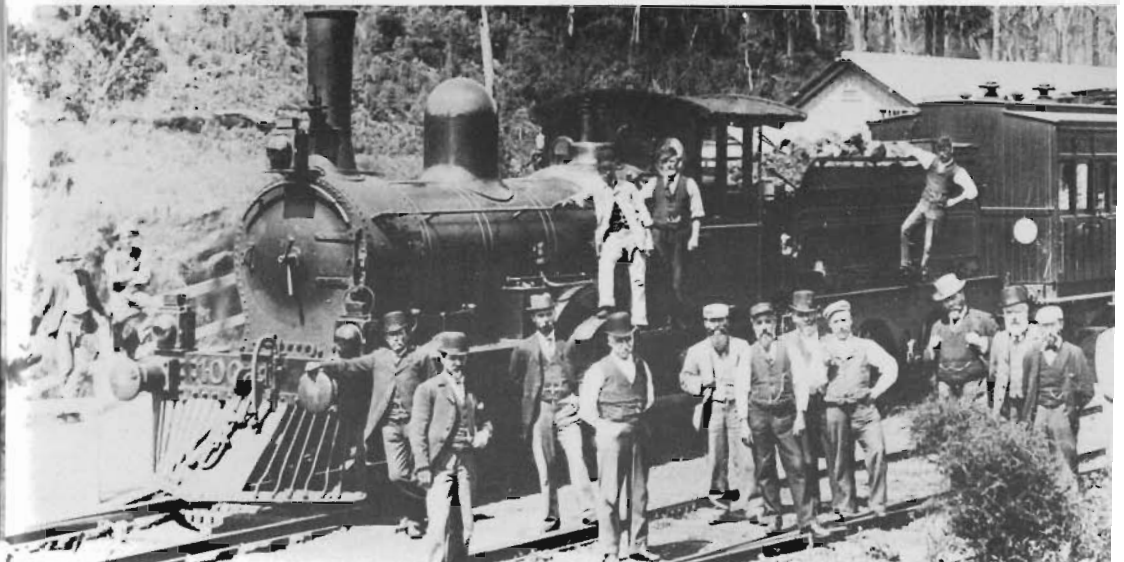
#### Passenger, 2-4-0 type

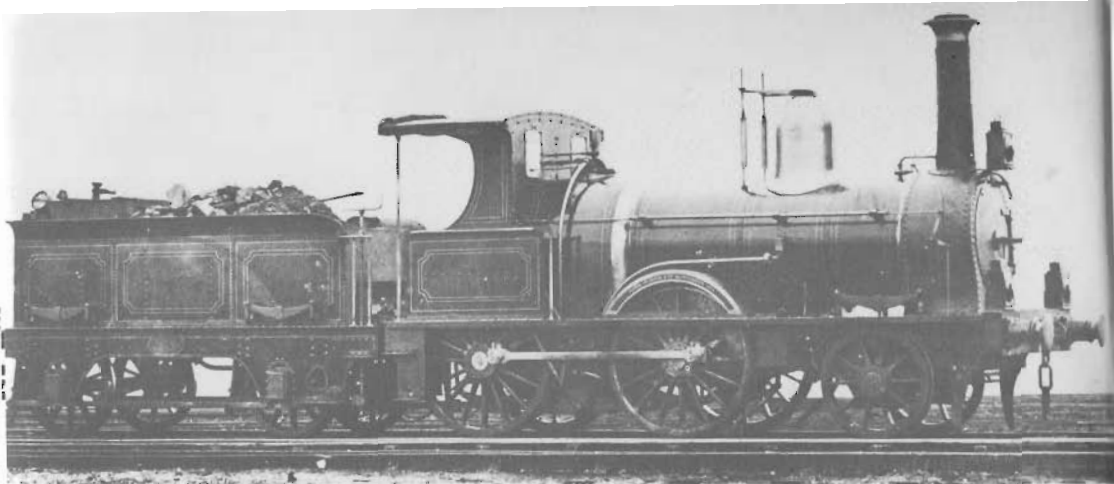
No. 100, built in 1871 at Williamstown Workshops. The first engine to be built by the Victorian Railways Department.

Classed as E in 1886, later unclassified.

Rebuilt in 1904, scrapped in 1916.

For many Years No. 100 was the Commissioners' special tour train engine. Neg. H. 1154.





**Passenger, 2-4-0 type**

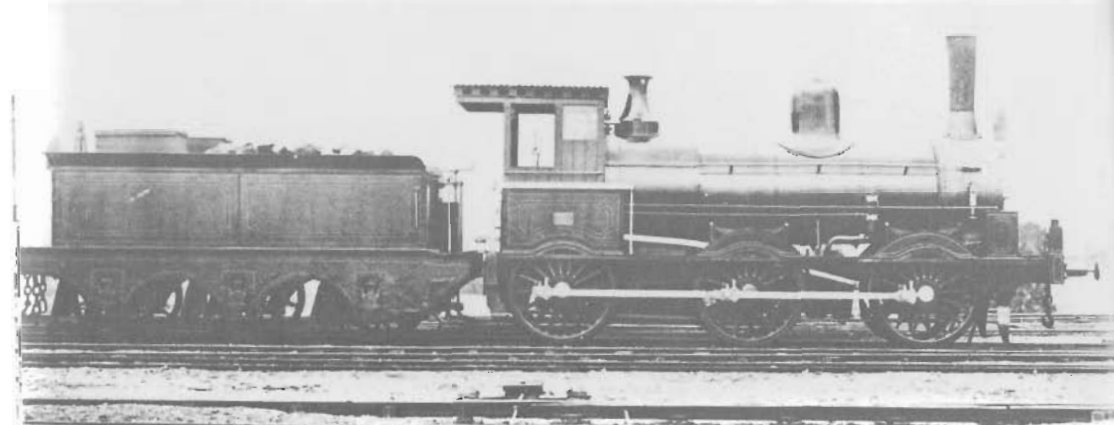
No. 98 built by Beyer Peacock & Company, Manchester, England, 1873.

Nos. 126 to 144 (even numbers) and 166 to 184 (even numbers), built by Phoenix Foundry Company, Ballarat, 1876-79. They were later known as F class.

Nos. 172-184 (even numbers), were rebuilt as 2-4-2 tank engines in 1910-11, and were classed as F Motors. The last of the F class tender engines (No. 138) was scrapped in 1925; the last of the F Motors (No. 176) is preserved at North Williamstown Railway Museum. Neg. H. 1943B.

**Goods, 0-6-0 type.**

Nos. 83 to 101 (odd numbers), built by Phoenix Foundry Company, Ballarat, 1873. These were the first of more than 350 locomotives built for the V.R. by Phoenix between 1873 and 1904. They were later known as Q class. The last of them (No. 99) was sold in September, 1908. Neg. H. 2393.

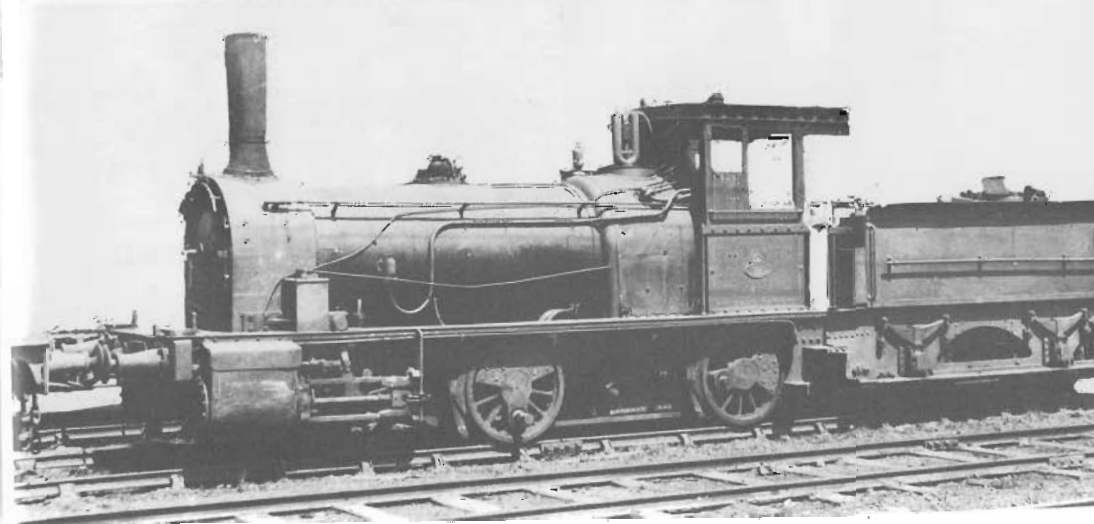


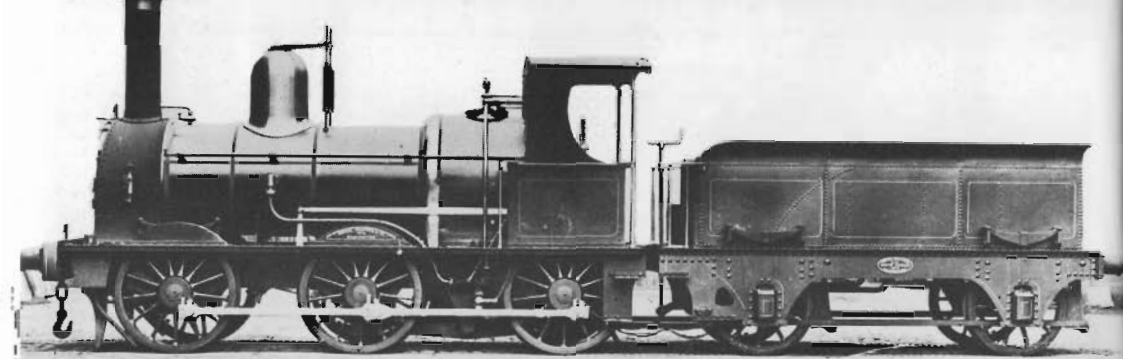
**Goods, 0-6-0 type for light lines.**

Nos. 107 to 123 (odd numbers), built by Phoenix Foundry Company, Ballarat, 1874. They were later known as U class. The last of them was scrapped in 1908. Neg. H. 1083.

**Goods, 0-6-0 type.**

Nos. 103 and 105 built by the Victorian Railways at Williamstown Workshops, 1873. They were the second and third engines built by the Victorian Railways. These engines were in the unclassified group. No. 103 was scrapped in 1921 and No. 105 in 1924. Neg. H. 1671.





**Goods, 0-6-0 type.**

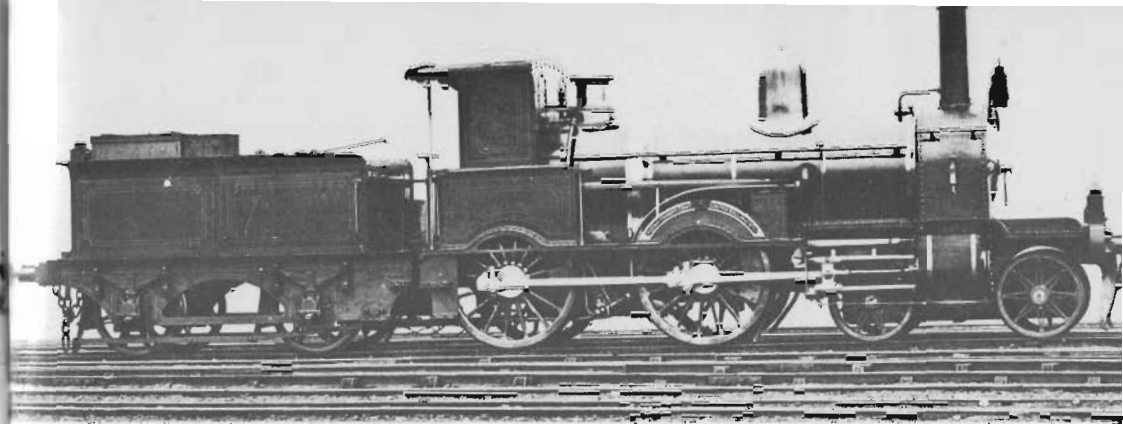
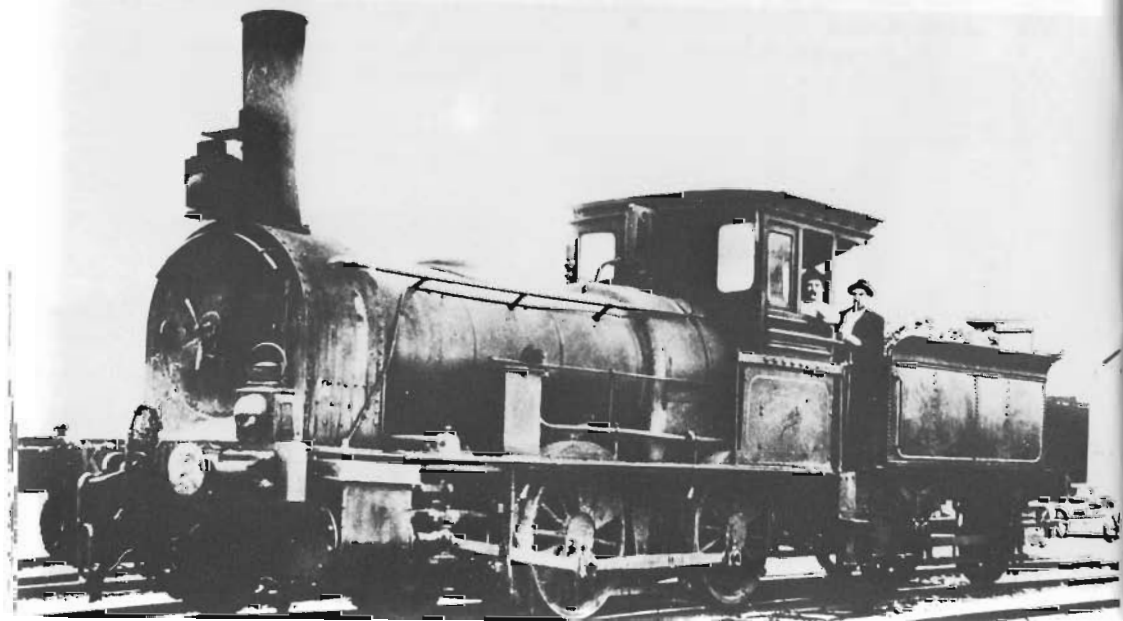
Nos 125 built by Beyer Peacock, Manchester, 1873.  
Nos. 249 to 283 (odd numbers), built by Phoenix Foundry, Ballarat, 1884.

Nos 1, 2, 3 and 4, built by Beyer Peacock, Manchester, 1875-77, were taken over from the Deniliquin and Moama Railway Company, when the Deniliquin line was acquired in 1923.

Later known as T class. Some of them were re-numbered in 1923. These engines, with one exception 265 re-numbered T 94, have been either scrapped or sold. No. 267 sold to the now defunct Kerang and Koondrook Tramway in 1921. T 94 is preserved at the North Williamstown Railway Museum. Neg. H. 1069.

**Passenger, 2-4-0 type for light lines.**

Nos. 114 to 124 (even numbers), built by Phoenix Foundry, Company, Ballarat, 1874. They were later known as K class. The last of them (No. 118) was scrapped in 1905. Neg. H. 2424.

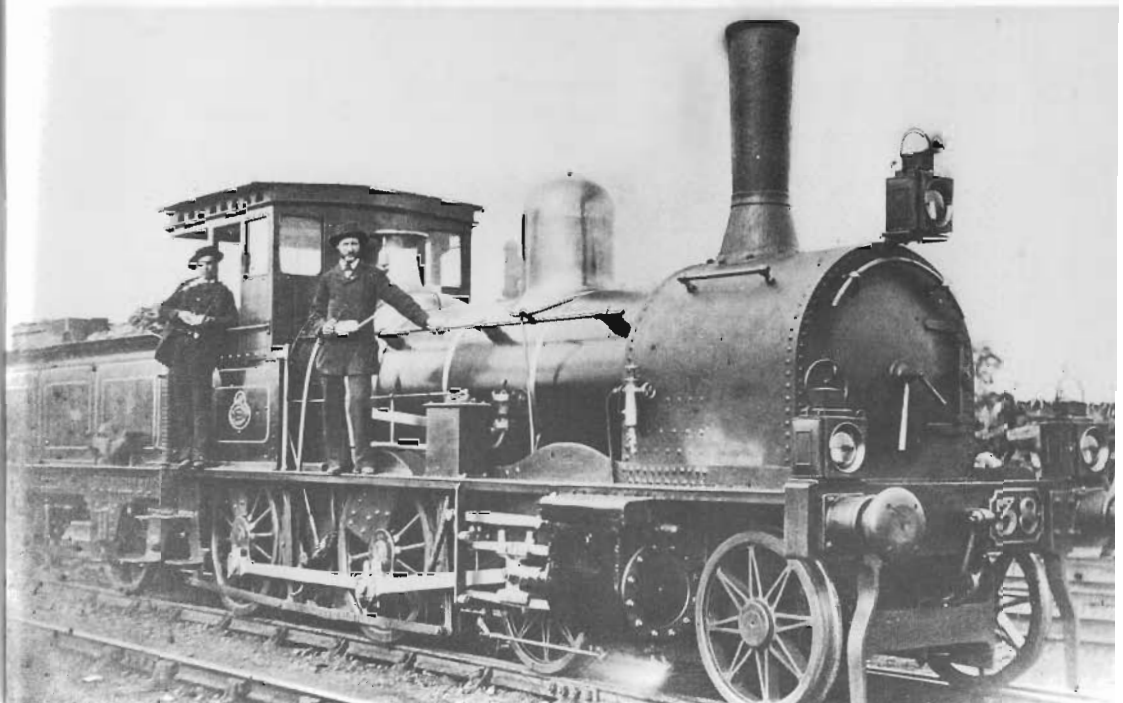


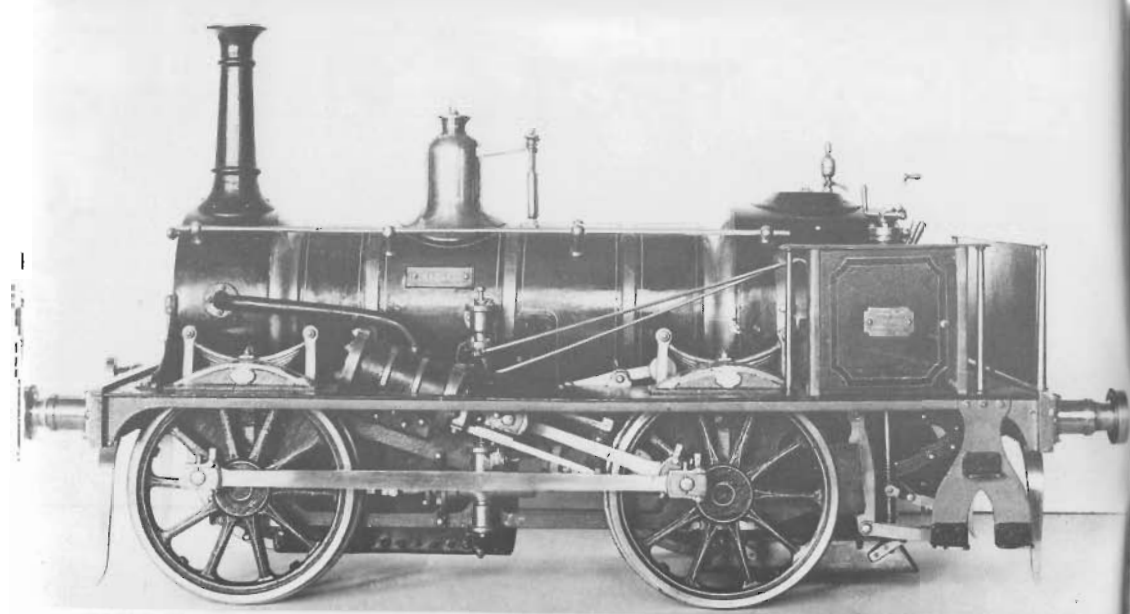
**Passenger, 4-4-0 type.**

Nos. 146 to 160 (even numbers), built by Phoenix Foundry, Company, Ballarat, 1877. They were later known as H class. The last of them (No. 158) was scrapped in 1916. Neg. H. 1936 B.

**Passenger, 4-4-0 type.**

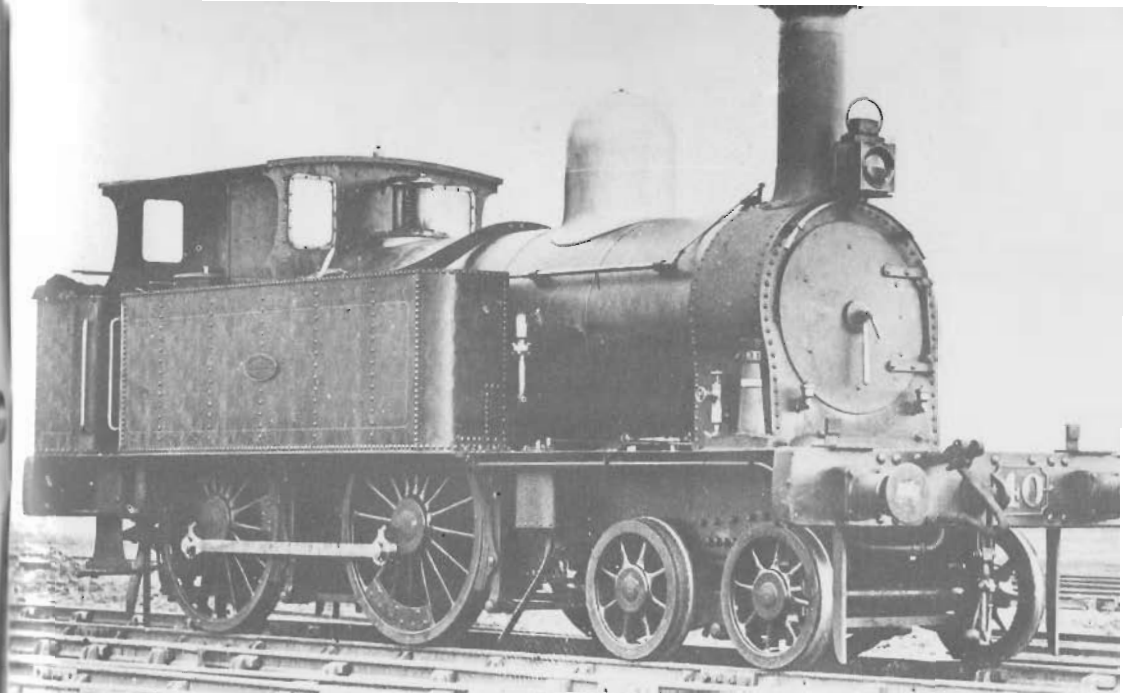
Nos. 38 and 44 built at Williamstown Workshops, 1876. No. 44 was rebuilt with a 130 lb. domeless boiler in 1882. They were later known as G class. Both scrapped in 1904. Neg. H. 2394.





**Pier shunting engines, 0-4-0 well tank type.**

Nos. 5 and 24, built by Robert Stephenson & Sons, Newcastle, England, in 1857 and 1874 respectively. These engines were taken over from the Melbourne & Hobson's Bay United Railway Company in 1878. They were withdrawn from service in 1904. This photograph is of a model of No. 5, which is now on display at the Museum of Applied Science, Melbourne. Neg. H. 1609.



**Passenger, 4-4-0 tank type.**

No. 40 built by Beyer Peacock & Co., Manchester, England, in 1878.

Nos. 210 to 240 (even numbers) and 312 to 320 (even numbers), built by Phoenix Foundry Company, Ballarat, 1884-86.

Later known as M class. They were rebuilt as 4-4-2 tank engines, 1900-07. The last of them was scrapped in 1922. Neg. H1937.



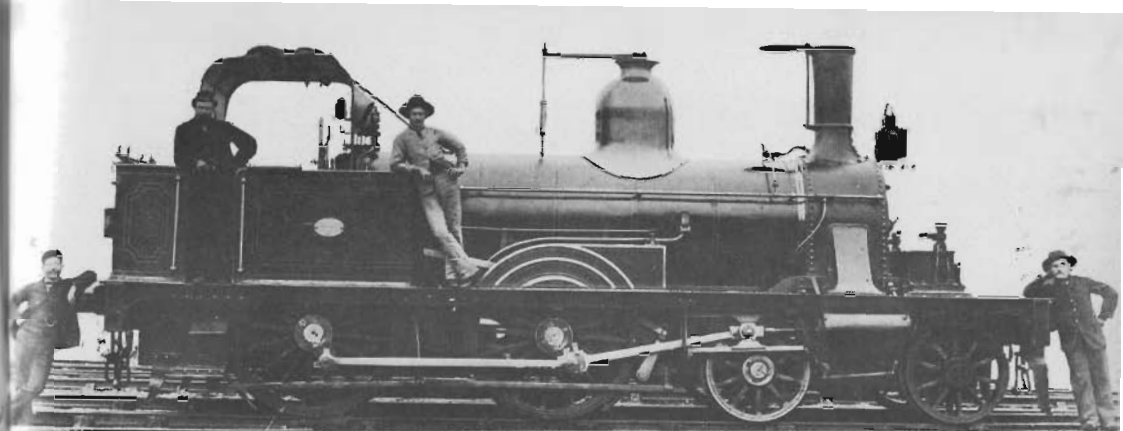
**Goods, 0-6-0 type.**

No. 151, built by Beyer Peacock & Company, Manchester, 1878.  
Nos. 157 to 195 (odd numbers), 247 and 285 to 351 (odd numbers),  
built by Phoenix Foundry Company, Ballarat, 1881-86.  
Nos. 11, 13 and 443 built by Beyer Peacock, Manchester, 1884  
and 1888, were purchased from railway contractors.

These locomotives were classified in 1886 as R class. From 1889  
they were known as Old R class to distinguish them from a later type  
known as New R class. The last of the Old R class (No. 317) was  
scrapped in 1944. Neg. H. 1936A.

**Passenger, 4-4-0 type.**

Nos. 162 and 164, built by Rogers Locomotive Works, Paterson, N.  
J., U.S.A., 1877. These were the first V.R. locomotives imported from  
U.S.A. They were later known as D class, but were unclassified in 1888.  
They were scrapped in 1907. Neg. H. 1934.



**Passenger, 4-4-0 well tank type.**

Nos. 278 to 288 (even numbers), built by Robert Stephenson &  
Company, Newcastle, England, 1870-77. These were taken over from  
The Melbourne & Hobson's Bay United Railway Company, in 1878.

Nos. 42, 262 to 276 (even numbers ) and 306 to 310 (even numbers),  
built by the Phoenix Foundry Company, Ballarat, 1882-83.

Nos. 290 to 304 (even numbers), built by Robison Bros., Melbourne,  
1880.

They were later known as C class.

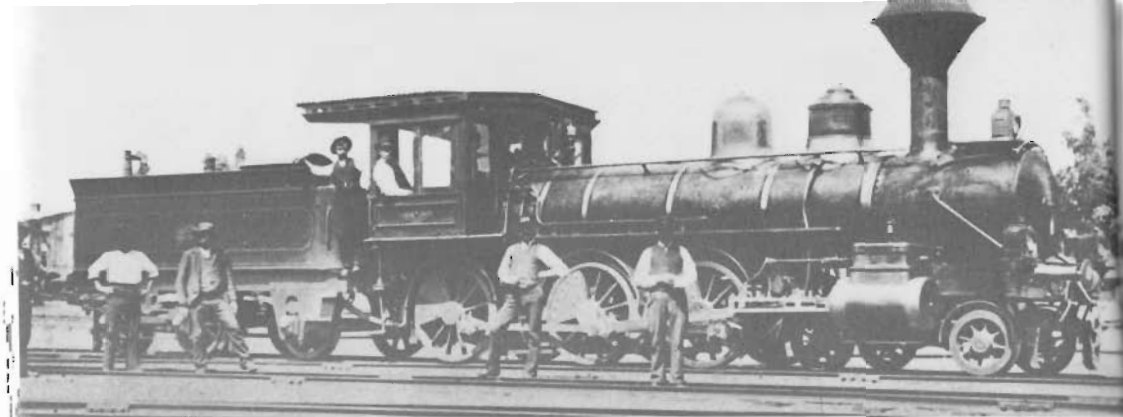
The last of them (No. 294) was scrapped in 1916. Neg. H. 1075.

**Passenger, 2-4-0 well tank type.**

Nos. 242 to 260 (even numbers), built by Robert Stephenson  
& Co., Newcastle, England, 1858-70. These engines were taken over  
from the Melbourne & Hobson's Bay United Railway Company in  
1878. They were later known as N class. Four of them were rebuilt  
as motor engines, 1893-95. The last of them (No. 254) was scrapped  
in June, 1906. Neg. H. 2389.







**Goods, 4-6-0 type.**

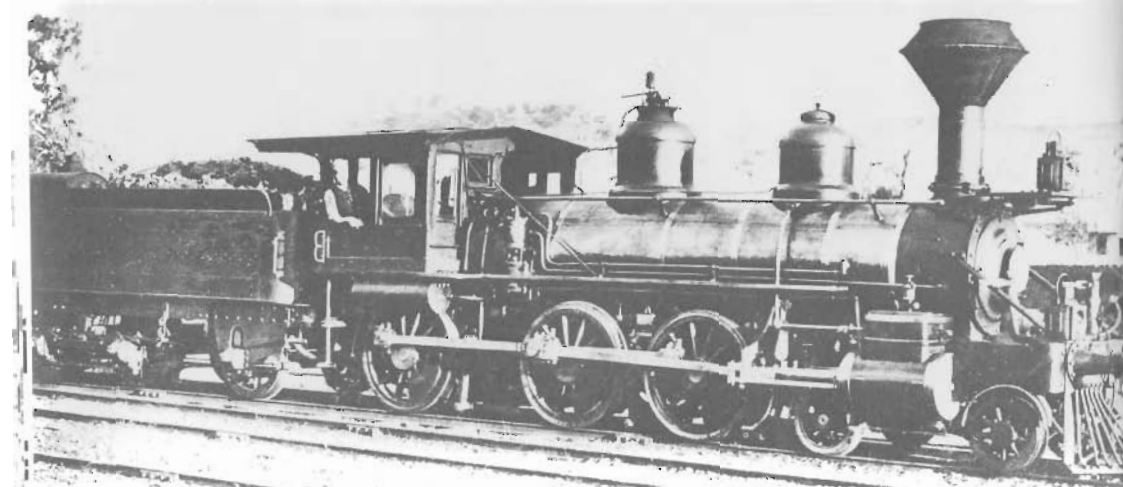
Nos. 197 to 215 (odd numbers), built by Phoenix Foundry Company, Ballarat, 1883. They were later known as S class. The last of them (No. 197) was later rebuilt and was reclassified as W class in 1908. Neg. H. 1776. W. 197 as rebuilt and reclassified as W was scrapped in 1926.

**Goods, 4-6-0 type.**

Nos. 153, 155 and 217 to 235 (odd numbers), built by The Baldwin Locomotive Works, Philadelphia, Penn. U.S.A., 1879-83.

These were later known as W class.

S 197 (built by Phoenix Foundry Company, Ballarat, 1883) was later rebuilt with a W class boiler, and was reclassified as a W in 1908. All these engines were scrapped or sold between 1924 and 1926. Neg. H. 1766.

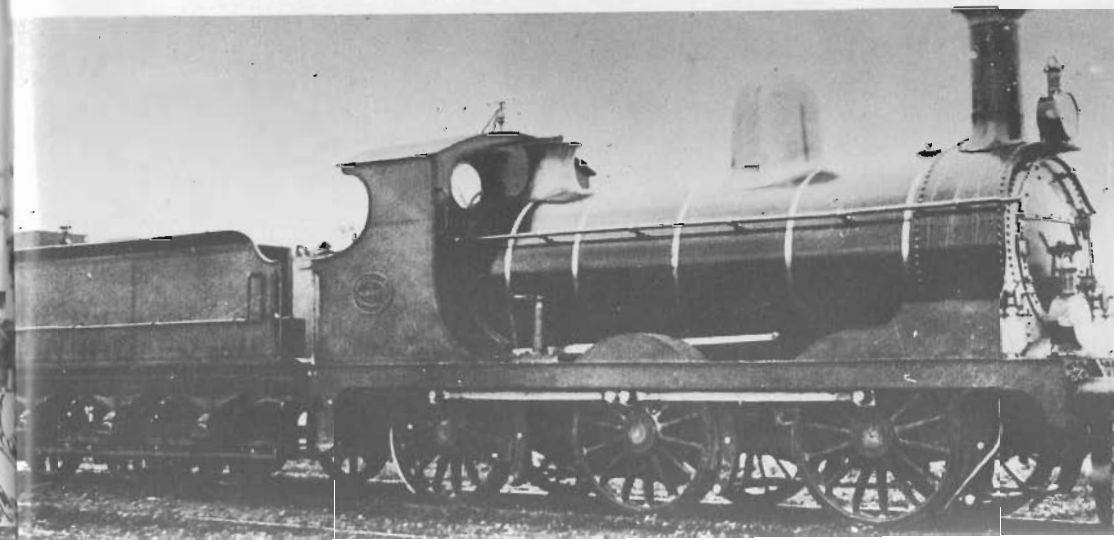


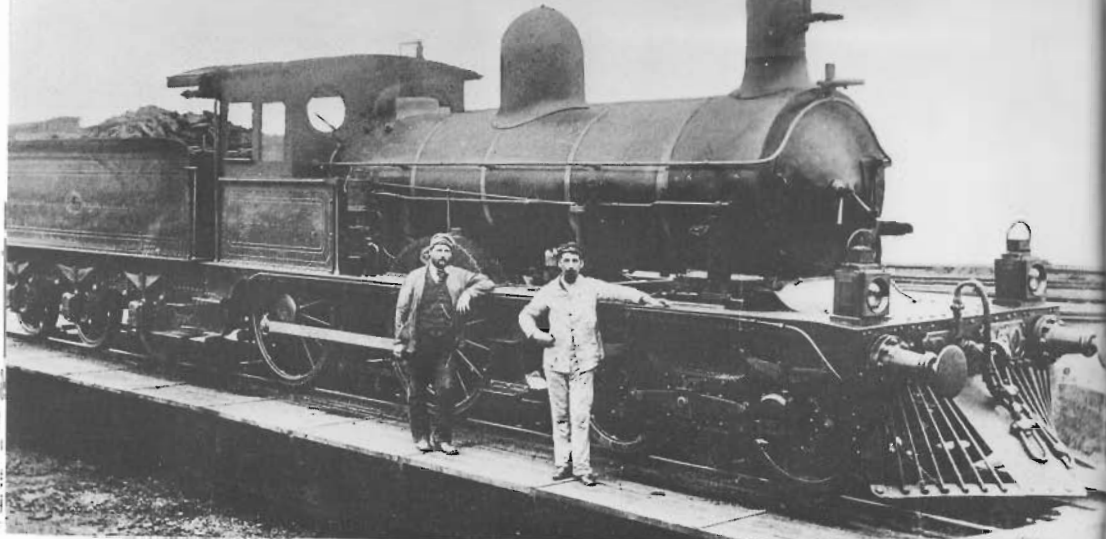
**Passenger, 4-4-0 type.**

Nos. 190 to 208 (even numbers), built by Beyer Peacock & Co., Manchester, England, 1884. They were later known as old A class. Between 1900 and 1902, they were rebuilt with standard 175 lb. per sq. in. boilers. The last of them (No. 206) was scrapped in 1924. Neg. H. 1070.

**Goods, 0-6-0 type.**

Nos. 237 to 245 (odd numbers), built by Societe St. Leonard, Liege, Belgium, 1883. They were later known as the Belgian R class. The last of them (No. 239) was scrapped in 1920. Neg. H. 1764.



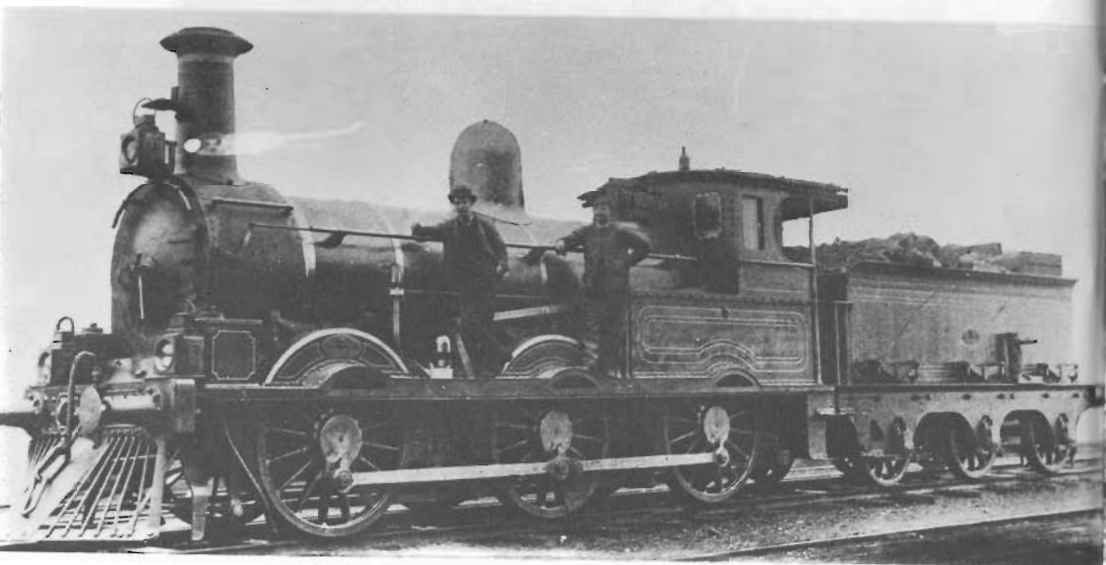


**Passenger, 4-4-0, D class (2nd series).**

Nos. 82, 92, 122, 242, 244, 248, 250, 260, and 322 to 344 (even numbers), built by Phoenix Foundry Company, Ballarat, 1887-88. They were rebuilt with 160 lb. sq. in. boilers, 1904-09. Nos. 328, 330 and 340 were re-numbered 190, 191 and 194 respectively in 1923. The last of them (no. 194) was scrapped in 1928. They were known as D class. Neg. H. 1769.

**Goods, 0-6-0 type, X class.**

Nos. 353 to 381 (odd numbers), built by Phoenix Foundry Company, Ballarat, 1886-87. The last of them (No. 373) was scrapped in 1920. They were known as X class. Neg. H. 1772.



**Suburban Passenger, 2-4-2 tank type, E Class (2nd series).**

No. 426 Pattern Engine, built by Kitson and Company, Leeds, England, 1888.

Nos. 346 to 394 (evens), built by Phoenix Foundry Company, Ballarat, 1889-1890.

Nos. 12, 34, 36, 428 to 460 (evens), built by Phoenix Foundry Company, Ballarat, 1892-1894.

Nos. 472 to 520 (evens), built by Melbourne Locomotive and Engineering Works (David Munro and Company), 1892-1894.

Total number in class: 71.

3 converted to 0-6-2 tank type shunting engines, 1898 and 1906. 20 sold to South Australia Railways, 1920-21.

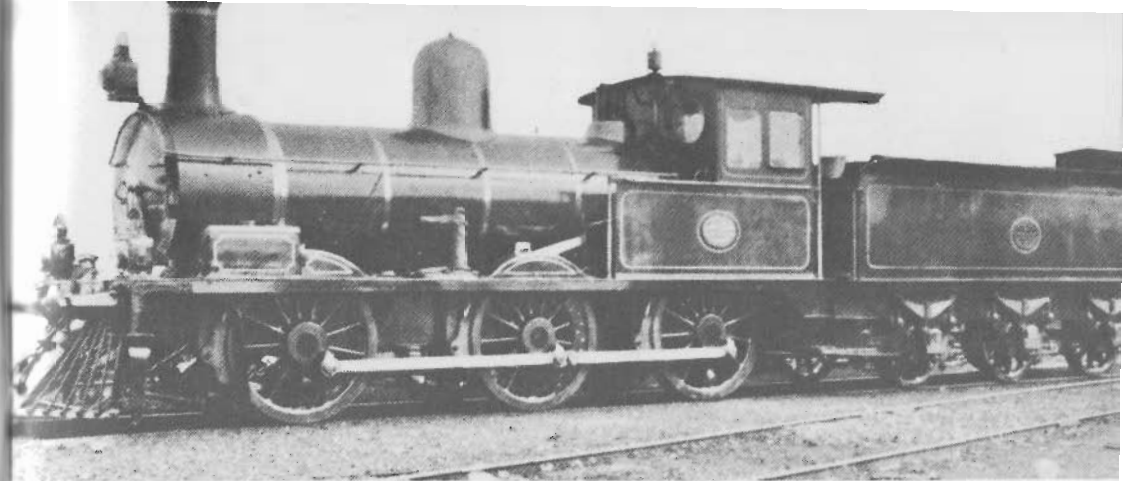
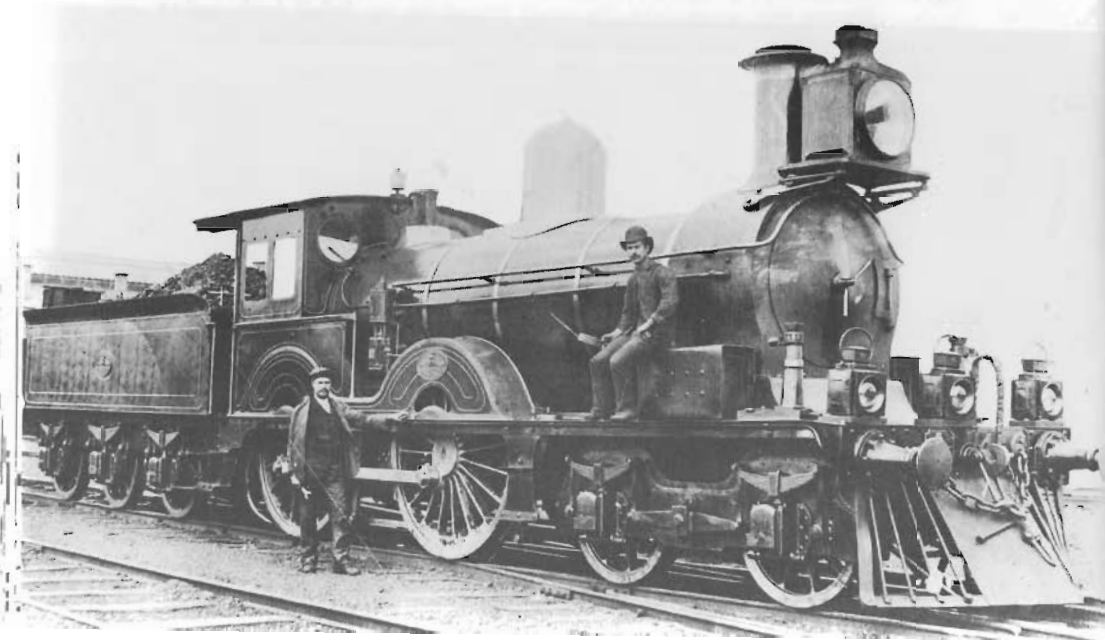
In 1920's the remaining E's were converted to 0-6-2 tank type shunting engines, and renumbered. E. 236 is preserved at the North Williamstown Railway Museum. Neg. H. 1090.

**Passenger, 4-4-0 type, New A Class.**

Nos. 396 to 424; built 1889-1891 by Phoenix Foundry Company, Ballarat.

Number in class: 15.

The last, No. 412, was scrapped in February, 1925. Neg. H. 1084.



**Goods, 0-6-0 type, New R Class.**

Nos. 447 to 495 (odds), built 1889-1891 by Robison Bros., Campbell and Sloss, South Melbourne.

Number in class: 25.

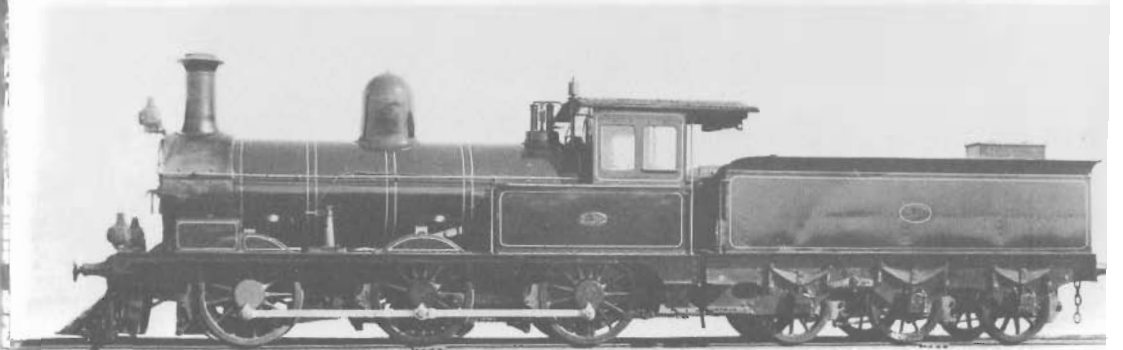
Rebuilt 1905-1910 with larger boilers and cylinders and reclassified as R<sup>Y</sup>.

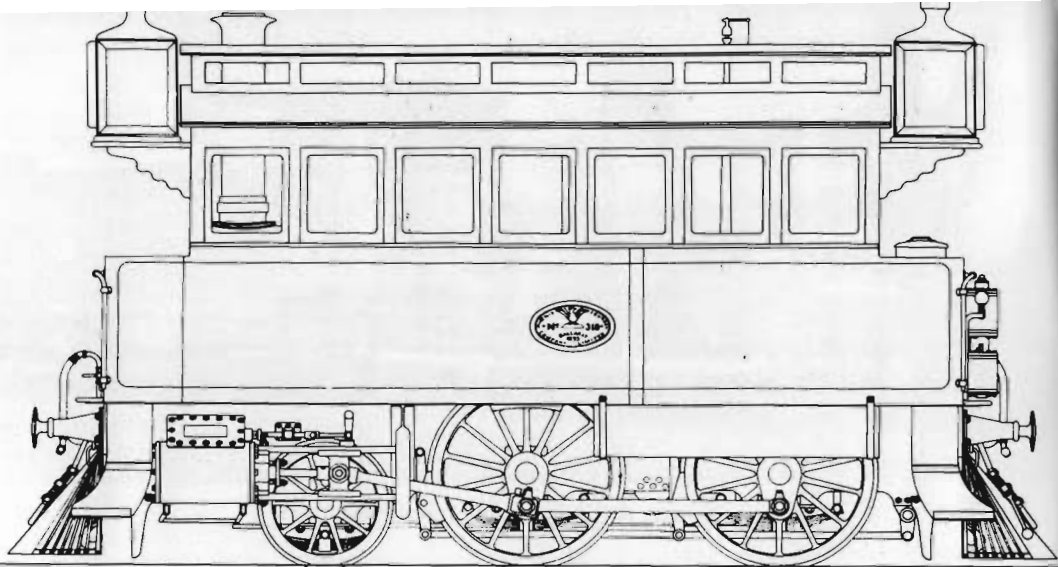
Reclassified as Y, 1924-1931. Neg. H. 3188.

**Goods, 0-6-0 type, Y Class.**

No. 445 Pattern Engine, built 1888 by Kitson and Company, Leeds, England.

Nos. 383 to 441 (odds) built 1889 by Phoenix Foundry Company, Ballarat. Number in Class : 31. Y 108 (originally Y 395) is preserved at the North Williamstown Railway Museum). Neg. H. 1091.





**Passenger Motor Engine, 2-4-0 tank type, Z Class,  
Nos. 522 and 524.**

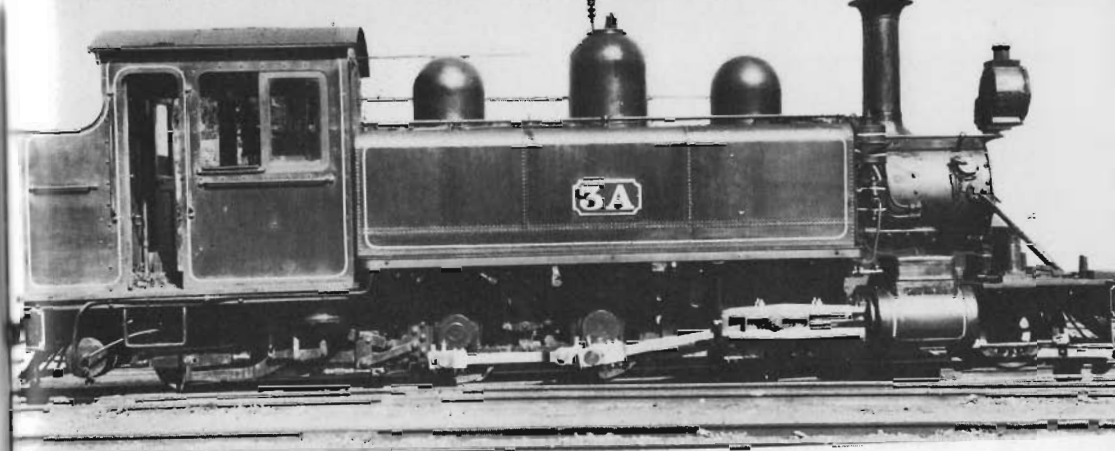
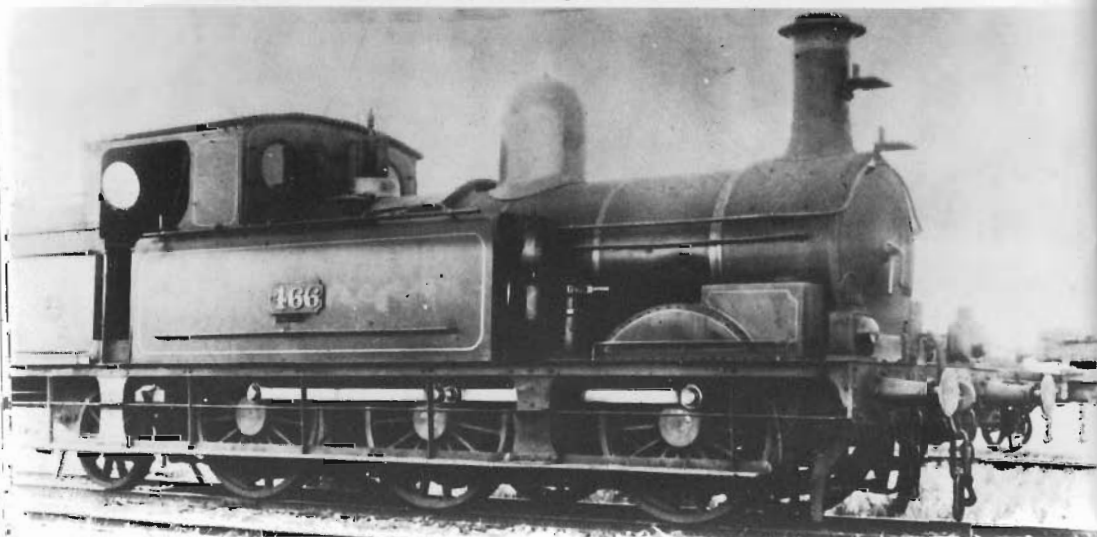
Built 1893 by Phoenix Foundry Company, Ballarat. Scrapped in 1910 and 1911. Neg. 10a/4.

**Goods, 0-6-2 tank type, E<sup>E</sup> Class.**

Nos. 462 to 470 (evens), built by Phoenix Foundry Company, Ballarat, 1893. Number in original Class: 5. This total was increased by conversions of the 2-4-2 tank type E class between 1898 and 1923.

In the late 1920's, the E<sup>E</sup>'s were reclassified as E (3rd series), shunting engines. E. 369 is preserved at the North Williamstown Railway Museum.

E. 371 is stored, at Newport, pending restoration by the Castlemaine and Maldon Railway Pres. Society. Neg. H. 3189.



**2-6-2 tank type 2'6" gauge, N A Class.**

Known as Class N<sup>A</sup>.

Nos. 1A and 2A, built 1898 by Baldwin Locomotive Works.

Nos. 3 to 17, inclusive, built at Newport Workshops, 1900 to 1915.

Nos. 2A and 4A were compound locomotives.

These 17 narrow gauge engines worked on Wangaratta – Whitfield, Ferntree Gully – Gembrook, Colac – Beech Forest – Crowes, and Moe – Walhalla branch lines. 4 were transferred to the Emerald Tourist Railway Board on 1.10.77, Nos. 3, 6, 7, 8\*, 12 and 14 are preserved in operating service by the Puffing Billy Preservation Society.

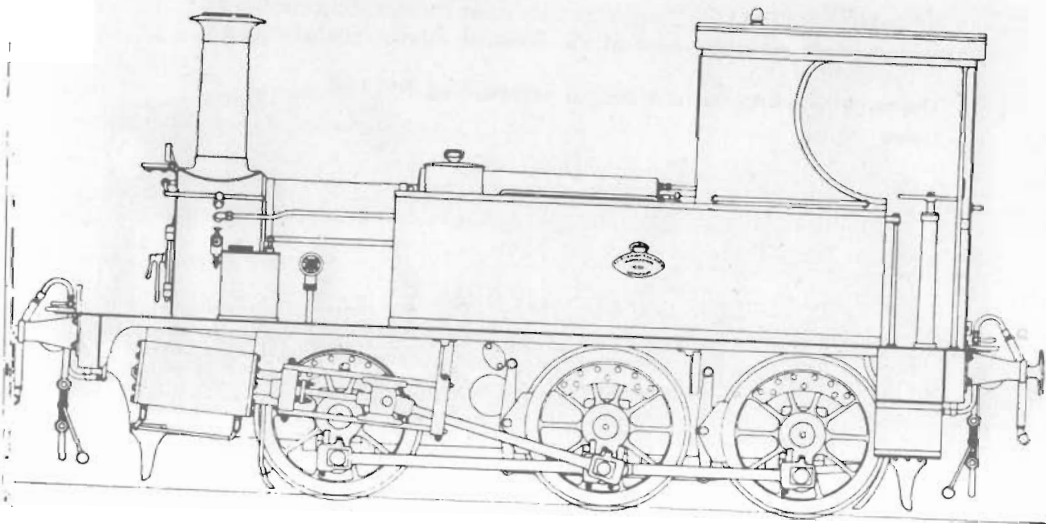
3\* Returned from Loard Mayors Camp at Portsea, Vic. (Awaiting restoration – long term). 8A returned from Park at Beaumaris Vic.

8\* Presently (1981) undergoing restoration to operating condition. All locomotives are under care of the Emerald Tourist Railway Board.

The remaining Engines have been scrapped. Neg. RS. 124.

**Goods Motor Engine, 0-6-0 tank type, Z Class, No. 526.**

Built 1893. This was the first locomotive built at Newport Workshops. Converted to No. 3 loco. steam crane in 1904 and removed from service in June 1978. Presently (June 1981) undergoing restoration at Newport Workshops for display at the Science Museum of Victoria, Melbourne. Neg. H. 2354.



**Goods, 2-8-0 type (compound cylinders) V Class, ( 2nd Series).**

No. 499 Pattern engine, built 1900 by Baldwin Locomotive Works, Philadelphia, U.S.A.

No, 501 to 529 (odds), built 1901-1902 by Phoenix Foundry Company, Ballarat.

No. in class: 16.  
Converted to simple expansion cylinders 1912-1913.  
(Renumbered) 200 to 215.

The last, No. 200 (ex 499), scrapped in January, 1930. Neg. H. 1095.

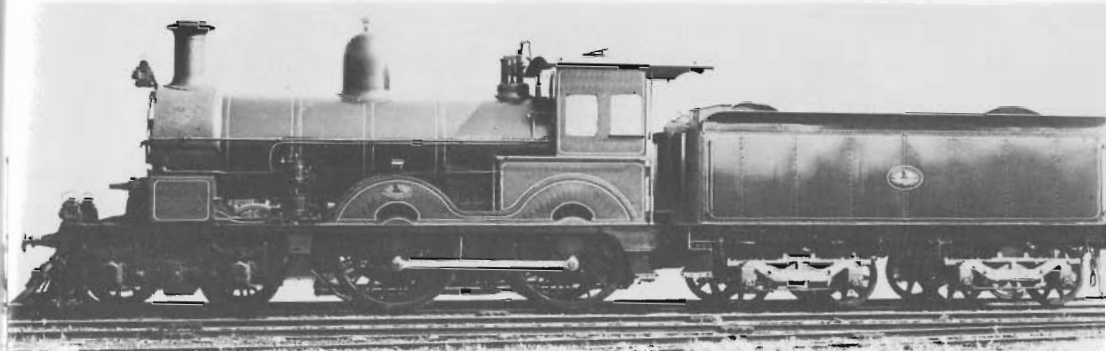
**Passenger, 4-4-0 type, AA Class.**

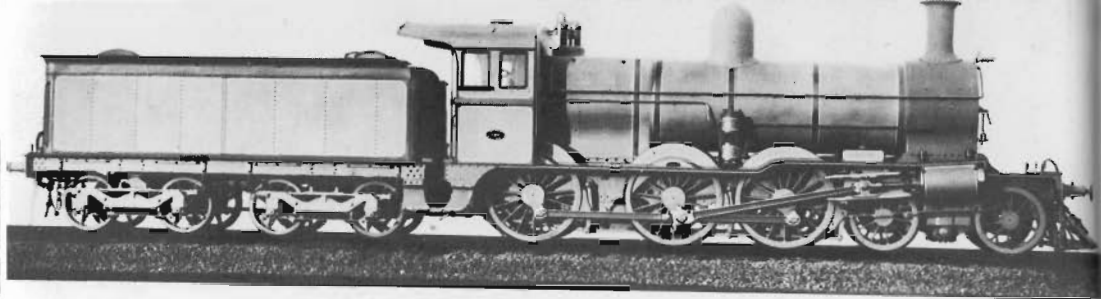
Nos. 530 to 558 (evens), 562 to 570 (evens), built 1900-1903 by Phoenix Foundry Company, Ballarat.

Number in class: 20.

(Renumbered) 542 to 74, 544 to 75, 548 to 76, 550 to 77, 562, to 82, 566 to 84, 570 to 86. Others unaltered.

The last, Nos. 74, 75, 84, 86, (ex 542, 544, 566, 570), were scrapped in January, 1932. Neg. H. 1094.





### 4-6-0 type, D<sup>D</sup> Class.

Built 1902-1920.

(138) Newport Workshops, 1902-1920.

(7) Phoenix Foundry Company, Ballarat, 1904.

(20) Baldwin Locomotive Works, Phila., U.S.A., 1911.

(20) Beyer Peacock and Company Limited, Manchester, England, 1911-1912.

(20) Walkers Ltd., Maryborough, Q'land., 1913.

(40) Thompson's, Castlemaine, Vic., 1914-1916.

(8) Ballarat North Railway Workshops, 1919-1920.

(8) Bendigo North Railway Workshops, 1919-1920.

Total number in class: 261.

Reclassified 1929 to 1951 D<sup>1</sup>, D<sup>2</sup>, D<sup>3</sup>.

D<sup>2</sup> 604 (originally DD 795) is preserved at North Williamstown Railway Museum. Neg. H. 1010.

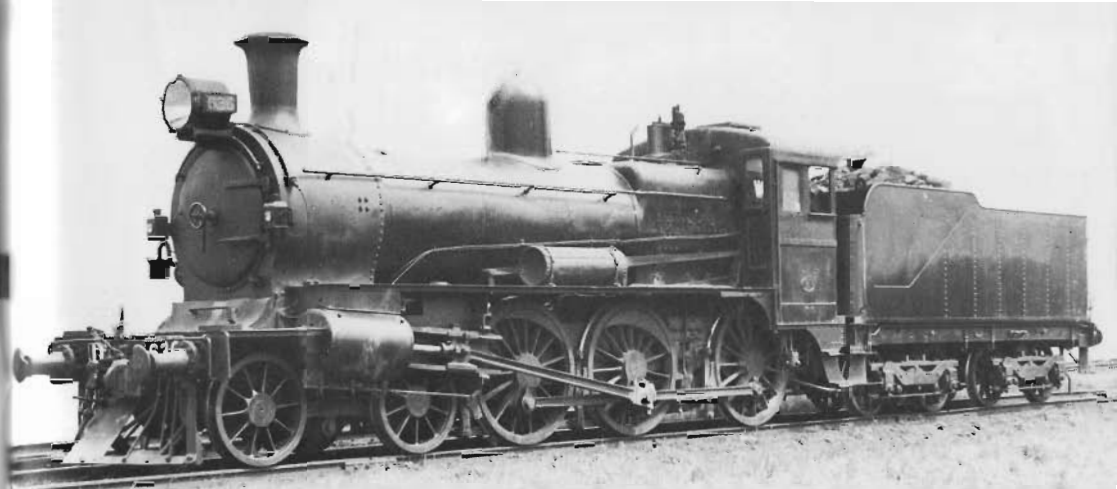
### Suburban Passenger, 4-6-2 tank type, D<sup>E</sup> Class.

Built at Newport Workshops, 1908 to 1913.

Number in class: 58.

Converted to D<sup>4</sup> class shunting engines.

D<sup>4</sup> 268 is preserved at North Williamstown Railway Museum Neg. RS. 118.



### D<sup>3</sup> Class, Type 4-6-0:

Group: Nos. 606 - 699

Cylinders (2), 19" diameter, 26" stroke (some 18" diameter)

Wheels, coupled, 5' 1 11/16" diameter

Wheelbase, rigid, 13'; engine and tender, 48' 6 7/8"

Length overall: 58' 3 3/8"

Weight in working order:

Engine, 57 tons 6 cwt.

Tender, 42 tons 5 cwt. TOTAL: 99 tons 11 cwt.

Adhesive weight: 41 tons

Axle load (max.): 13 tons 14 cwt.

Boiler heating surface:

Flues and tubes, 1,241 sq. ft.; Firebox, 123 sq. ft. ] All-steel

Superheater, 228 sq. ft. TOTAL: 1,592 sq. ft. ] boiler

Grate area: 25 sq. ft.

Boiler pressure; 170 lb. per sq. in. (some 180 lb. per sq. in.)

Tractive effort at 85% boiler pressure: 22,600 lb. (some 21,480 lb.)

Tender capacity: water, 4,200 gal.; coal, 5 tons

Built at Newport, Bendigo and Ballarat Workshops; Baldwin Locomotive Works, U.S.A.; Beyer, Peacock & Co. Ltd., England, Thompsons (Castlemaine) Ltd.; and Walkers Ltd., Queensland, 1902-20.

D<sup>3</sup> 639 (originally D<sup>3</sup> 658, renumbered on June 4, 1958) was the last of the class in service and is still on the register.

D<sup>3</sup> 635 is preserved at the North Williamstown Railway Museum.

Other members of class preserved at country locations in Victoria. Neg. RS 942.

## A<sup>2</sup> Class, Type 4-6-0:

Group: Nos. 816–939 (Stephenson Valve Gear)  
Nos. 940–999 (Walschaert Valve Gear,  
converted to oil-burners 1945–46)

(Particulars apply to 940–999 only.)

Cylinders (2), 22" diameter, 26" stroke  
Wheels, coupled, 6' 0 15/16" diameter  
Wheelbase, rigid, 13' 4"; engine and tender 53' 7"  
Length overall: 63' 6 3/4"  
Weight in working order:

Engine, 72 tons 7 cwt.

Tender, 49 tons                      TOTAL: 121 tons 7 cwt.

Adhesive weight: 52 tons 2 cwt.

Axle load (max.): 17 tons 10 cwt.

Boiler heating surface:

Flues and tubes, 1,564 sq. ft.; Firebox, 145 sq. ft.

Superheater, 331 sq. ft.            TOTAL: 2,040 sq. ft.

Grate area: 29 sq. ft.

Boiler pressure: 185 lb. per sq. in.

Tractive effort at 85% boiler pressure: 27,480 lb.

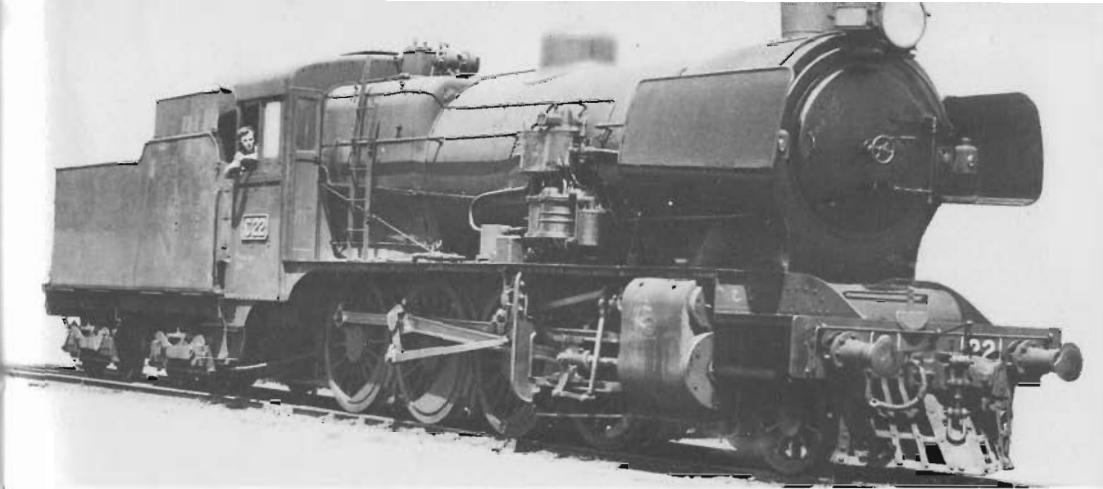
Tender capacity: water, 4,700 gal.; oil, 1,500 gal.

816-939 built at Newport Workshops, 1907–15; 940–999 built at Newport, Ballarat and Bendigo Workshops, 1915–22.

A<sup>2</sup> 986 made the final run of the class, between Newport and North Melbourne, on December 2, 1963. A<sup>2</sup> 995 is preserved at North Williamstown Railway Museum.

A<sup>2</sup> 964, 986 and 996 preserved at Reservoir, Moe & Echuca respectively. Stephenson Link A<sup>2</sup> 884 preserved at the North Williamstown Railway Museum, Newport.

Neg. M 1062.



## C Class, Type 2-8-0:

"Consolidation"

(Converted to oil-burners 1946–49)

Group: Nos. 1–26

Cylinders (2) 22" diameter, 28" stroke  
Wheels, coupled 5' 1 11/16" diameter  
Wheelbase, rigid, 17'; engine and tender, 55' 2 1/2"  
Length overall: 65' 3"  
Weight in working order:

Engine, 81 tons 10 cwt.

Tender, 47 tons.                      TOTAL: 128 tons 10 cwt.

Adhesive weight: 71 tons 18 cwt.

Axle load (max.): 18 tons 10 cwt.

Boiler heating surfaces:

Flues and tubes, 1,915 sq. ft.; Fire box, 175 sq. ft.

Superheater, 338 sq. ft.            TOTAL: 2,428 sq. ft.

Grate area: 32 sq. ft.

Boiler pressure: 200 lb. per sq. in.

Tractive effort at 85% boiler pressure: 38,400 lb.

Tender capacity: water, 4,700 gal.; oil, 1,500 gal.

Built at Newport Workshops, 1918–26.

C10 was withdrawn from service in 1962, and is preserved at North Williamstown Railway Museum. It was the last of the class in service.

Neg. RS 832.

## K Class, Type 2-8-0:

### "Consolidation"

#### Group: Nos. 140–192

Cylinders (2), 20" diameter, 26" stroke

Wheels, couple, 4' 7 3/16" diameter

Wheelbase, rigid, 15' 6"; engine and tender, 50' 2 5/8"

Length overall: 60' 3 3/8"

Weight in working order:

Engine, 62 tons 7 cwt.

Tender, 42 tons 5 cwt.      TOTAL: 104 tons, 12 cwt.

Adhesive weight: 53 tons 2 cwt.

Axle load (max.): 13 tons 10 cwt.

Boiler heating surface:

Flues and tubes, 1,317 sq. ft.: Firebox, 125 sq. ft.

Superheater, 238 sq. ft.      TOTAL: 1,680 sq. ft.

Grate area: 25 3/4 sq. ft.

Boiler pressure: 175 lb. per sq. in.

Tractive effort at 85% boiler pressure: 28,650 lb.

Tender capacity: water, 4,200 gal.: coal, 5 tons.

Built at Newport Workshops, 1922–46.

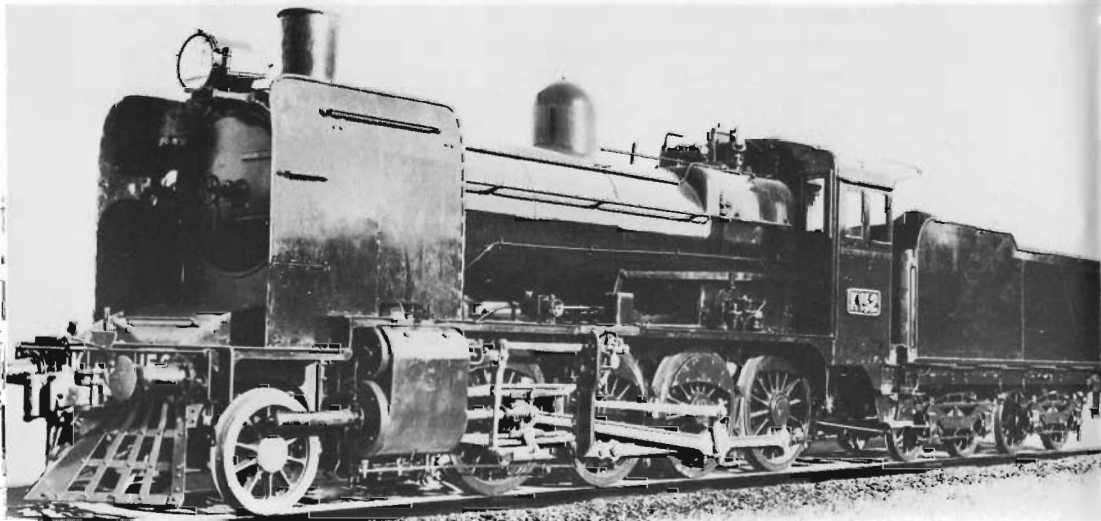
K162 was the last steam engine in service. It was withdrawn from service as the Ballarat North Workshops pilot in March, 1979. K158 was scrapped in June 1978, the last of the class to be scrapped.

K153, K184 and K190 are used for special steam train service while K151, K157 and K162 are, at present, in storage.

K165 is preserved at North Williamstown Railway Museum.

Several members of class preserved at country locations in Victoria.

Neg: RS 708.



## N Class, Type 2-8-2:

### "Mikado"

#### Group: Nos. 400–499

(Particulars apply to 430 and onwards group only.)

Cylinders (2), 20" diameter, 26" stroke

Wheels, coupled, 4' 7 3/16" diameter

Wheelbase, rigid, 15' 6"; engine and tender, 58'

Length overall: 67' 5 1/4"

Weight in working order:

Engine, 76 tons

Tender, 48 tons 13 cwt.      TOTAL: 124 tons 13 cwt.

Adhesive weight: 54 tons 11 cwt.

Axle load (max.): 13 tons 17 cwt.

Boiler heating surface:

Flues and tubes, 1,250 sq. ft.: Firebox, 203 sq. ft.

Superheater, 324 sq. ft.      TOTAL: 1,777 sq. ft.

Grate area: 31 sq. ft.

Boiler pressure: 175 lb. per sq. in.

Tractive effort at 85% boiler pressure: 28,650 lb.

Tender capacity: water, 4,700 gal.; coal, 6 tons, or oil, 1,500 gal.

Nos. 400–432 built at Newport Workshops, 1925–51.

Nos. 450–499 built at North British Locomotive Co., Scotland, 1949–51.

N432 was the last steam locomotive built at Newport Workshops.

N468 and N475 made the final run of the class on October 8, 1966.

N432 is preserved at North Williamstown Railway Museum.

Nos. 461, 465, 471, 474, 477, 485, 490, 491, 494 and 495 were sold to the South Australian Railways in 1950–51, becoming the 750 Class.

Neg. M 7744.



## G CLASS

Garratt Type: 2-6-0-0-6-2:

(2' 6" Gauge)

Group: Nos. 41 and 42

Cylinders (2 x 2), 13¼" diameter; 18" stroke

Wheels, coupled, 3 ft. diameter

Wheelbase, rigid, 6' 9"; TOTAL: 44' 6"

Length overall: 49' 10"

Weight in working order: 70 tons 3 cwt.

Adhesive weight: 56 tons 5 cwt.

Axle load (max.): 9 tons 9 cwt.

Boiler heating surface:

Flues and tubes, 955 sq. ft.; Firebox, 99 sq. ft.

Superheater, 180 sq. ft. TOTAL: 1,234 sq. ft.

Grate area: 22 3/5 sq. ft.

Boiler pressure: 180 lb. per sq. in.

Tractive effort at 85% boiler pressure: 27,630 lb.

Tank capacity: 1,680 gal.

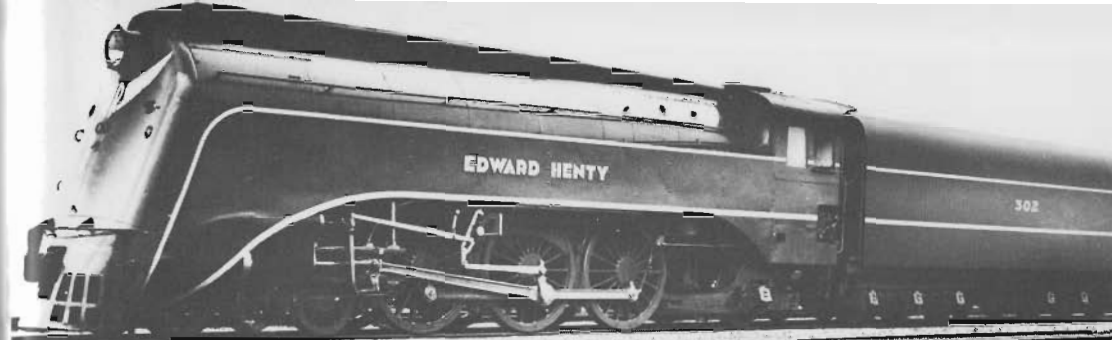
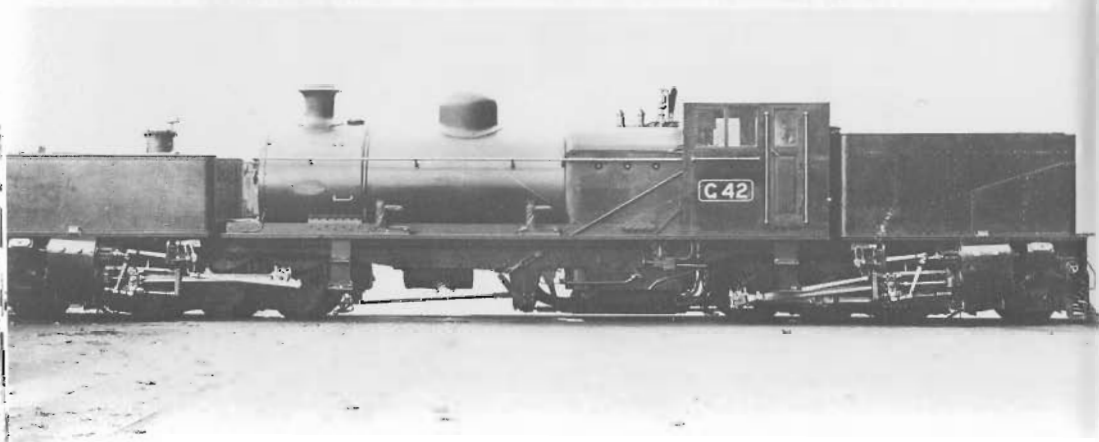
Coal capacity: 3½ tons

Built by Beyer, Peacock & Co. Ltd., England, 1926.

G41 was scrapped in October 1964. G42 is preserved at the Menzies

Creek Narrow Gauge Railway Museum.

Neg. RS 123.



S Class Type 4-6-2:

"Pacific" (Converted to Oil-burners 1951–52)

Group: Nos. 300–303

300 Mathew Flinders

301 Sir Thomas Mitchell

302 Edward Henty

303 C. J. Latrobe

Cylinders (3), 20½" diameter, 28" stroke

Wheels, coupled, 6' 0 15/16" diameter

Wheelbase, rigid: 13' 4"; engine and tender, 76'

Length overall: 85' 6"

Weight in working order:

Engine 114 tons 10 cwt.

Tender 109 tons 7 cwt. TOTAL: 223 tons 17 cwt.

Adhesive weight: 70 tons 10 cwt.

Axle load (max.): 23 tons 10 cwt.

Boiler heating surface:

Flues and tubes, 2,861 sq. ft.; Firebox, 292 sq. ft.

Superheater, 570 sq. ft. TOTAL: 3,723 sq. ft.

Grate area: 50 sq. ft.

Boiler pressure: 200 lb. per sq. in.

Tractive effort at 85% boiler pressure: 41,670 lb.

Tender capacity: water, 12,600 gal.; oil, 2,000 gal.

Built at Newport Workshops, 1928–33.

The S class locomotives were streamlined in 1936–38 to haul "Spirit of Progress".

The first of class to be scrapped was S301, in October 1953 with S300 the last in September 1954.

Neg. RS 320.

## X Class, Type 2-8-2:

"Mikado"

Group: Nos. 27–55

26 equipped with boosters:

X32, scrapped in 1957, fitted with Stug equipment for pulverised fuel (brown coal) firing.

Cylinders (2), 22" diameter, 28" stroke

Wheels, coupled, 5' 1 11/16" diameter

Wheelbase, rigid, 17'; engine and tender, 67' 0 3/4"

Length overall: 77' 4 1/4"

Weight in working order:

Engine, 102 tons 19 cwt.

Tender, 82 tons 8 cwt. TOTAL: 185 tons 7 cwt.

Adhesive weight: 74 tons 10 cwt.

Axle load (max.): 19 tons 1 cwt.

Boiler heating surface:

Flues and tubes, 2,364 sq. ft.; Firebox, 251 sq. ft.

Superheater, 492 sq. ft. TOTAL: 3,107 sq. ft.

Grate area: 42 sq. ft.

Boiler pressure: 205 lb. per sq. in.

Tractive effort at 85% boiler pressure: 39,360 lb.

Tractive effort of booster, 9,000 lb. TOTAL: 48,360 lb.

Tender capacity: water, 8,600 gal.; coal, 9 tons.

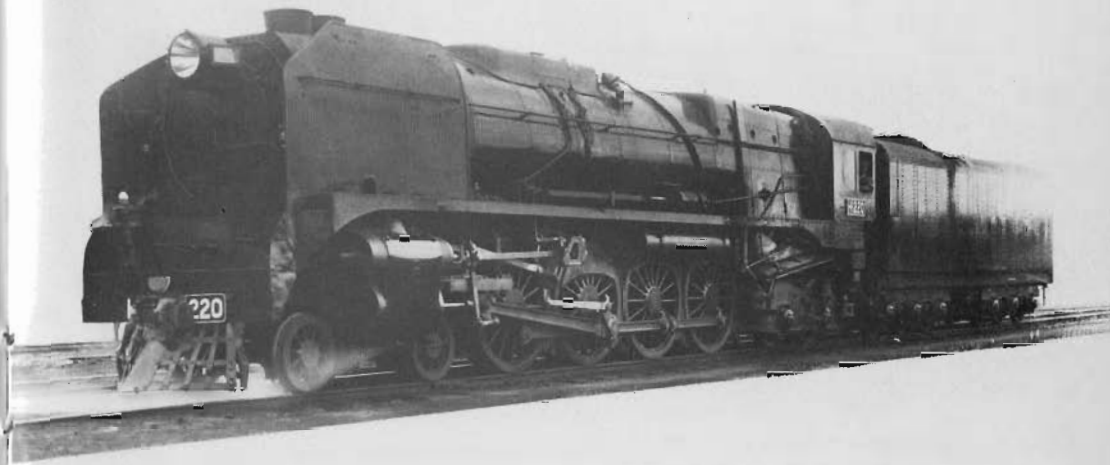
Built at Newport Workshops, 1929–47.

X36 only member of Class not fitted with Franklin Booster.

In 1957 X43 was the first of the class to be scrapped.

X36 was withdrawn from service in 1961 and is preserved at North Williamstown Museum.

Neg. RS 811.



## H Class, Type 4-8-4:

"Pocono"

No. 220

Cylinders (3), 21 1/2" diameter, 28" stroke

Wheels, coupled, 5' 7" diameter

Wheelbase, rigid, 17' 6"; engine and tender, 82' 1"

Length overall: 92' 5 3/4"

Weight in working order:

Engine, 146 tons 10 cwt.

Tender, 113 tons 11 cwt. TOTAL: 260 tons 1 cwt.

Adhesive weight: 92 tons 12 cwt.

Axle load (max.): 23 tons 5 cwt.

Boiler heating surface:

Flues and tubes, 3,613 sq. ft.; Firebox, 367 sq. ft.

Superheater, 780 sq. ft. TOTAL: 4,760 sq. ft.

Grate area: 68 sq. ft.

Boiler pressure: 220 lb. per sq. in.

Tractive effort at 85% boiler pressure: 55,000 lb.

Tender capacity: water, 14,000 gal.; coal, 9 tons.

Equipped with mechanical stoker MB type, Standard Stoker Inc.

Built at Newport Workshops, 1941.

H220 is preserved at North Williamstown Railway Museum after being withdrawn from service in 1958.

Neg. RS 947.

## R Class, Type 4-6-4:

"Hudson"

Group: Nos. 700–769

Cylinders (2), 21½" diameter, 28" stroke

Wheels, coupled, 6' 0 15/16" diameter

Wheelbase, rigid, 12' 10"; engine and tender, 67'

Length overall: 77' 3¼"

Weight in working order:

Engine, 107 tons 12 cwt.

Tender, 79 tons 16 cwt. TOTAL: 187 tons 8 cwt.

Adhesive weight: 50 tons 10 cwt.

Axle load (max.): 19 tons 10 cwt.

Boiler heating surface:

Flues and tubes, 1,958 sq. ft.; Firebox, 285 sq. ft.

Superheater, 462 sq. ft. TOTAL: 2,705 sq. ft.

Grate Area: 42 sq. ft.

Boiler pressure: 210 lb. per sq. in.

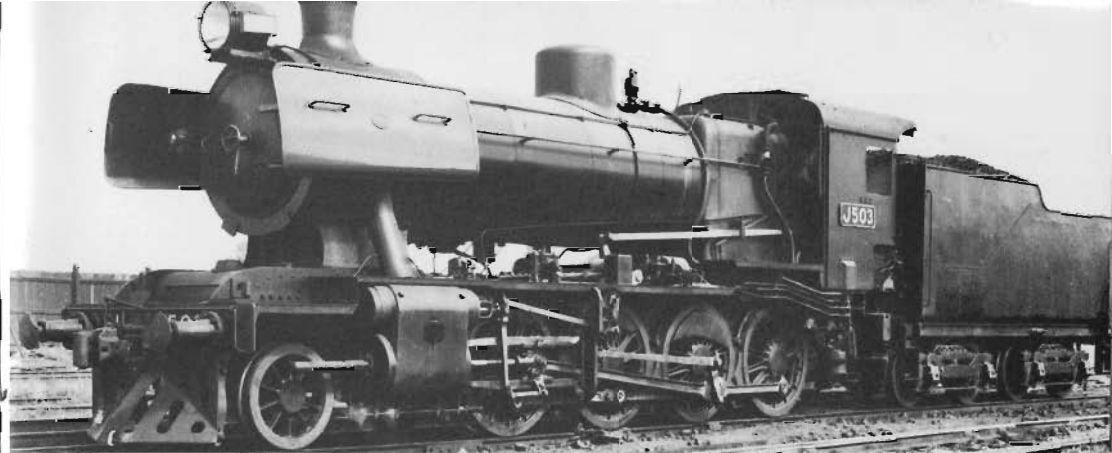
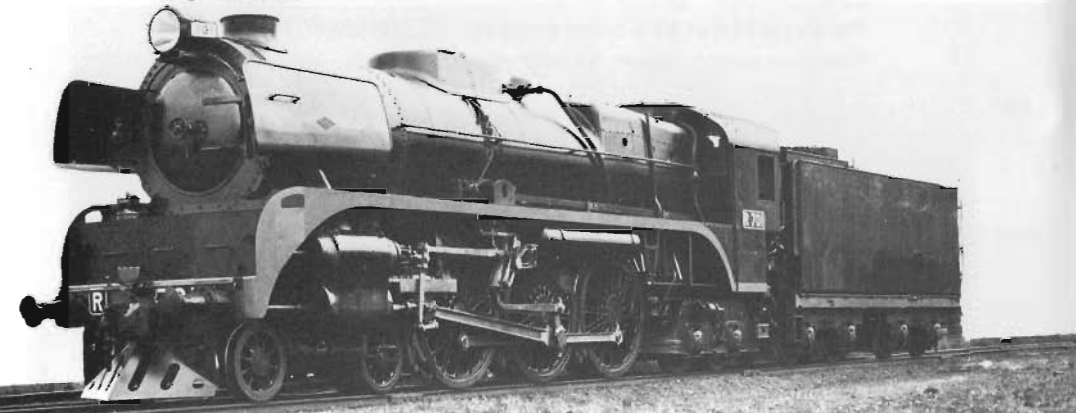
Tractive effort at 85% boiler pressure: 32,080 lb.

Tender capacity: water, 9,000 gal.; coal, 6 tons.

Equipped with mechanical stoker MB-1 type, Standard Stoker Co. Inc., R707 was fitted with Stug equipment for pulverised fuel (brown coal) firing, between 1954 and 1957.

R704, which is preserved at North Williamstown Railway Museum was exhibited in the Industrial power Section of the Festival of Britain at Glasgow in 1951. R755 was the first of the class to be scrapped. Presently (July 1981) restoration work is being carried out on some of the retained members of this class, Nos. 700, 707, 711, 753, 761 and 766, with a view of eventual return to operating service for steam excursion traffic.

Neg. RS 934.



## J Class, Type 2-8-0:

Group: Nos. 500–529 (coal burners)  
530–559 (oil burners)

Cylinders (2), 20" diameter, 26" stroke

Wheels, coupled, 4' 7 3/16" diameter

Wheelbase, rigid, 15' 6"; engine and tender, 50' 8 3/4"

Length overall: 60' 5½"

Weight in working order:

Engine, 66 tons 19 cwt.

Tender, 45 tons 16 cwt. TOTAL: 112 tons 15 cwt.

Adhesive weight: 57 tons 7 cwt.

Axle load (max.): 14 tons 10 cwt.

Boiler heating surface:

Tubes, 1,317 sq. ft., Firebox, 118 sq. ft., Arch Tubes, 9 sq. ft.,

Superheater, 238 sq. ft. TOTAL: 1,682 sq. ft.

Grate area: 31 sq. ft.

Boiler pressure: 175 lb. per sq. in.

Tractive Effort at 85% boiler pressure: 28,650 lb.

Tender capacity: water, 4,200 gal. (coal burners), 4,100 gal. (oil burners); coal, 7 tons; oil, 1,500 gal.

Built by Vulcan Foundry Ltd., Newton-le-Willows, Lancashire, England, 1953–54.

The J class locomotives are suitable for turning on 53 ft. turn-tables. J559 was the last steam locomotive to enter service with VicRail. First of the class to be scrapped was J523 in November 1967, while last to be scrapped was J538 in June 1978.

J541 was sold to the Castlemaine and Maldon Railway while J515 is in storage at Newport Workshops.

J556 is preserved at North Williamstown Railway Museum, numbered as J559.

Several members of class preserved at country locations in Victoria. Neg. RS 1065.

## Electric Suburban

### Goods Locomotive

#### Nos. 1100 and 1101

Total weight: 50 tons  
Tractive effort, starting: 24,400 lb.  
Tractive effort, continuous: 14,160 lb.  
Speed at continuous rating: 16 m.p.h.  
Maximum permissible speed: 40 m.p.h.  
No. of driving wheels: 8  
Adhesive weight: 100%  
Wheel diameter: 42"  
Bogie centres: 17' 3"  
Bogie rigid wheelbase: 8' 6"  
Length overall: 36' 4½"  
Height above rail level with pantograph lowered: 14'2"

Built at Newport and Jolimont Workshops, 1923.

Both Locomotives scrapped in July 1955.  
Neg. RS 135.



## E Class Electric Suburban

### Goods Locomotive

#### Group Nos. 1102–1111

Length overall: 11,950 mm  
Width overall: 3,030 mm  
Height overall (above rail level, pantograph down): 4,330 mm  
Total mass (fully equipped): 56 t  
Power rating: 460 kW  
Tractive effort, starting: 108 kN  
Tractive effort, continuous: 63 kN  
Speed at continuous rating: 25 km/h  
Speed maximum: 65 km/h  
Bogie pivot centres: 5,486 mm  
Bogie axle centres: 2,590 mm  
Wheel diameter: 1,067 mm  
Gear ratio: 79:18  
Number of driving wheels: 8  
Minimum curve radius: 100 m  
Traction Motors: 4 No. General Electric Co. Ltd., Type 237A

Built at Victorian Railways' Newport and Jolimont Workshops,  
1928–1929.

Nos. 1104 and 1105 scrapped May, 1981.  
Neg. 77–1110.

## F Class Diesel-Electric

### Shunting Locomotive

Group: Nos. 201–216

Length overall: 9,340 mm  
Width overall: 2,780 mm  
Height overall (above rail level): 3,800 mm  
Total mass (fully equipped): 51 t  
Power rating: 260 kW  
Tractive effort, starting: 148 kN  
Tractive effort, continuous: 49kN  
Speed at continuous rating: 12 km/h  
Speed maximum: 32 km/h  
Axle centres: 1,753 mm  
Wheel diameter: 1,232 mm  
Gear ratio: 79:16 and 70:16  
Number of driving wheels: 6  
Minimum curve radius: 100 m  
Fuel oil capacity: 2,660 litres  
Lubricating oil capacity: 295 litres  
Cooling water capacity: 640 litres;  
Engine: English Electric Type 6KT, 4 stroke diesel

Built by English Electric Co. Ltd., Bradford, England, 1951.  
Nos. 206, 210 and 214 Scrapped June 1981.  
Neg. M 10080.



## B Class Diesel-Electric Main-Line Locomotive

Group: Nos. 60–85

Length overall: 18,700 mm  
Width overall: 2,980 mm  
Height overall (above rail level): 4,270 mm  
Total mass (fully equipped): 114 t  
Power rating: 1,193 kW  
Tractive effort, starting: 267 kN  
Tractive effort, continuous: 178 kN  
Speed at continuous rating: 17.7 km/h  
Speed maximum: 133 km/h  
Bogie pivot centres: 10,363 mm  
Bogie axle centres: 2,007 mm  
Wheel diameter: 1,016 mm  
Gear ratio: 59:18  
Number of driving wheels: 12 Co-Co.  
Minimum curve radius: 100 m  
Fuel oil capacity: 4,550 litres  
Lubricating oil capacity: 750 litres  
Cooling water capacity: 840 litres  
Engine: General Motors Model 16-567BC, two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd., Sydney, N.S.W.,  
1952–1953.

Locomotive B60 named "Harold W. Clapp".  
Locomotive B62 first Diesel Electric locomotive in Australia to run  
1 million miles. September 1952 – December 1957. Commemoration  
plaques fitted to locomotive.  
Neg. 77-2019.

**L Class Electric  
Main-Line Locomotive  
Group: Nos. 1150–1174**

Length overall: 18,140 mm  
Width overall: 2,980 mm  
Height overall (above rail level, pantograph down): 4,220 mm  
Total mass (fully equipped): 99t  
Power rating: 1,790 kW  
Tractive effort, starting: 209 kN  
Tractive effort, continuous: 112 kN  
Speed at continuous rating: 48 km/h  
Speed maximum: 120 km/h  
Bogie pivot centres: 9,754 mm  
Bogie axle centres: 2,184 mm  
Wheel diameter: 1,016 mm  
Gear ratio: 63:16  
Number of driving wheels: 12  
Minimum curve radius: 100 m  
Traction Motors: 6 No. English Electric Type 519  
Built by English Electric Co. Ltd., Preston, England, 1952–1953.  
Locomotive L1150 named "R.G. WISHART".  
Neg. 79-2813.



**T Class Diesel-Electric  
General-Purpose Locomotive  
Group: Nos. 320–346 & 413**

Length overall: 14,710 mm  
Width overall: 2,870 mm  
Height overall (above rail level): 3,880 mm  
Total Mass (fully equipped): 70 t  
Power rating: 708 kW  
Tractive effort, starting: 169kN  
Tractive effort, continuous: 125 kN  
Speed at continuous rating: 15.3 km/h  
Speed maximum: 100 km/h  
Bogie pivot centres: 8,077 mm  
Bogie axle centres: 2,438 mm  
Wheel diameter: 1,016 mm  
Gear ratio: 63:14  
Number of driving wheels: 8  
Minimum curve radius: 100 m  
Fuel oil capacity: 3,400 litres  
Lubricating oil capacity: 490 litres  
Cooling water capacity: 820 litres  
Engine: General Motors Model 567C, Two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd., Sydney, N.S.W., 1955  
No.413 purchased from Portland Cement Co., 1969 and converted  
from 1067 mm gauge to 1600 mm gauge at Newport Workshops.  
Neg. RS 1621.

**S Class Diesel-Electric  
Main-Line Locomotive  
Group: Nos. 300–317**

Length overall: 18,720 mm  
 Width overall: 2,980 mm  
 Height overall (above rail level): 4,270 mm  
 Total mass (fully equipped): 116 t  
 Power rating: 1,342 kW  
 Tractive effort, starting: 285 kN  
 Tractive effort, continuous: 239 kN  
 Speed at continuous rating: 15.3 km/h  
 Speed maximum: 133 km/h  
 Bogie pivot centres: 10,363 mm  
 Bogie axle centres: 2,020 mm  
 Wheel diameter: 1,016 mm  
 Gear ratio: 59:18  
 Number of driver wheels: 12  
 Minimum curve radius: 100 m  
 Fuel Oil Capacity: 6,280 litres  
 Lubricating oil capacity: 750 litres  
 Cooling water capacity: 795 litres  
 Engine: General Motors Model 16-567C, two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd., Sydney, N.S.W.  
 Nos. 300–309, 1957–1958; Nos. 310–317, 1960–1961.  
 Locomotives 314 and 316 written off in 1969.

No.	Name	No.	Name
300	Matthew Flinders	309	William Lonsdale
301	Sir Thomas Mitchell	310	George Higinbotham
302	Edward Henty	311	Sir Ferdinand Von Mueller
303	C. J. Latrobe	312	Peter Lalor
304	George Bass	313	Alfred Deakin
305	Hamilton Hume	314	Sir John O'Shannassy
306	John Batman	315	Sir Charles Gavan Duffey
307	John Pascoe Fawkner	316	Sir Andrew Clark
308	Sir Redmond Barry	317	Sir John Monash

Neg. PR 4529.



**T Class Diesel-Electric**

**General-Purpose Locomotive**

**Group: Nos. 347–366**

Length overall: 13,540 mm  
 Width overall: 2,870 mm  
 Height overall (above rail level): 4,240 mm  
 Total mass (fully equipped): 70 t  
 Power rating: 708 kW  
 Tractive effort, starting: 169 kN  
 Tractive effort, continuous: 150 kN  
 Speed at continuous rating: 12.1 km/h  
 Speed maximum: 100 km/h  
 Bogie pivot centres: 6,909 mm  
 Bogie axle centres: 2,438 mm  
 Wheel diameter: 1,016 mm  
 Gear ratio: 63:14  
 Number of driving wheels: 8  
 Minimum curve radius: 100 m  
 Fuel oil capacity: 3,400 litres  
 Lubricating oil capacity: 490 litres  
 Cooling water capacity: 680 litres  
 Engine: General Motors Model 567CR, two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd., Sydney, N.S.W. 1959  
 and 1962. Nos. 347–356, 1959; Nos. 357–366, 1962.  
 Neg. M 6914.



## W Class Diesel-Hydraulic

### Shunting Locomotive

Group: Nos. 241–267

Length overall: 9,340 mm  
Width overall: 2,930 mm  
Height overall (above rail level): 4,270 mm  
Total mass (fully equipped): 49 t  
Power rating: 485 kW  
Tractive effort, starting: 120 kN  
Speed maximum: 32 km/h  
Axle centres: 1,905 mm  
Wheel diameter: 1,232 mm  
Number of driving wheels: 6  
Minimum curve radius: 100 m  
Fuel oil capacity: 3,270 litres  
Lubricating oil capacity: 105 litres  
Cooling water capacity: 420 litres  
Engine: Originally: all Mercedes-Benz Model MB 820 B, 4 stroke diesel. Later: 10 No. changed to Detroit Diesel Series 12V-149, Model 9123-7005, two-stroke (1973–1977)

Built by Tulloch Ltd., Sydney, N.S.W., 1959–1962.  
W257 and 267 have been scrapped.  
Neg. 77-1018.



## M Class Diesel-Hydraulic

### Shunting Locomotive

Group: Nos. 231, 232

Length overall: 8,450 mm  
Width overall: 2,890 mm  
Height overall (above rail level): 3,720 mm  
Total mass (fully equipped): 31 t  
Power rating: 112 kW  
Tractive effort, starting: 78 kN  
Tractive effort, continuous: 45 kN  
Speed at continuous rating: 6.5 km/h  
Speed maximum: 20 km/h  
Wheel diameter: 1,230 mm  
Number of driving wheels: 6  
Minimum curve radius: 100 m  
Fuel oil capacity: 1,680 litres  
Lubricating oil capacity: 27 litres  
Cooling water capacity: 45 litres  
Engine: General Motors Series 6-71 Model 6080, two-stroke diesel.

Built at Victorian Railways' Newport Workshops, 1959.  
Neg. PR 3251.



## V Class Diesel-Hydraulic

### Car-Shunting Locomotive

No. 56

Length overall: 6,320 mm  
Width overall: 2,870 mm  
Height overall (above rail level): 3,700 mm  
Total mass (fully equipped): 22 t  
Power rating: 30 kW  
Tractive Effort, Starting: 48 kN  
Speed maximum: 16 km/h  
Axle centres: 3,200 mm  
Wheel diameter: 920 mm  
Number of driving wheels: 4  
Fuel oil capacity: 68 litres  
Lubricating oil capacity: 7 litres  
Cooling water capacity: 14 litres  
Engine: Fordson Major, four-stroke diesel.

Built at Victorian Railways' Newport Workshops, 1959.  
Neg. M 10546.



## Y Class Diesel-Electric General-Purpose Locomotive Group: Nos. 101–175

Length overall: 13,440 mm  
Width overall: 2,930 mm  
Height overall (above rail level): 4,200 mm  
Total mass (fully equipped): 65 t  
Power rating: 485 kW  
Tractive effort, starting: 159 kN  
Tractive effort, continuous: 78 kN  
Speed at continuous rating: 16 km/h  
Speed maximum: 65 km/h  
Bogie pivot centres: 6,198 mm  
Bogie axle centres: 2,590 mm  
Wheel diameter: 1,067 mm  
Gear ratio: 80:17  
Number of driving wheels: 8  
Minimum curve radius: 100 m  
Fuel oil capacity: 4,550 litres  
Lubricating oil capacity: 470 litres;  
Cooling water capacity: 590 litres;  
Engine: General Motors Model 6-567C, two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd., Sydney, N.S.W.,  
1963–1968. Nos. 101–120, 1963; Nos. 121–125, 1964;  
Nos. 126–150, 1965; Nos. 151–175, 1968.

Note: For Nos. 151–175: Power rating = 559 kW  
Engine: General Motors Model 6-645E.

Neg. M 9205

## X Class Diesel-Electric

### Main-Line Locomotive

#### Group: Nos. 31–44

Length overall: 18,530 mm  
Width overall: 2,950 mm  
Height overall (above rail level): 4,270 mm  
Total mass (fully equipped): 114 t  
Power rating: 1,343 kW  
Tractive effort, starting: 285 kN  
Tractive effort, continuous: 239 kN  
Speed at continuous rating: 17 km/h  
Speed maximum: 133 km/h  
Bogie pivot centres: 10,058 mm  
Bogie axle centres: 2,019 mm  
Wheel diameter: 1,016 mm  
Gear ratio: 50:18  
Number of driving wheels: 12  
Minimum curve radius: 100 m  
Fuel oil capacity: 6,820 litres  
Lubricating oil capacity: 920 litres  
Cooling water capacity: 795 litres  
Engine: General Motors Model 16-567E, two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd. Sydney, N.S.W., 1966 and 1970. Nos. 31–36 Built 1966–67. Nos. 37–44 Built 1970.

Note: For Nos. 37–44: Total mass = 116 t; Power rating = 1,640 kW  
Engine: General Motors Model No. 16-645E

Neg. PR 4578.



## T Class Diesel-Electric

### General-Purpose Locomotive

#### Group: Nos. 367–412

Length overall: 13,540 mm  
Width overall: 2,870 mm  
Height overall (above rail level): 4,250 mm  
Total mass (fully equipped): 70 t  
Power rating: 708 kW  
Tractive effort, starting: 169 kN  
Tractive effort, continuous: 150 kN  
Speed at continuous rating: 12.1 km/h  
Speed maximum: 100 km/h  
Bogie pivot centres: 6,909 mm  
Bogie axle centres: 2,438 mm  
Wheel diameter: 1,016 mm  
Gear ratio: 63:14  
Number of driving wheels: 8  
Minimum curve radius: 100 m  
Fuel oil capacity: 3,400 litres  
Lubricating oil capacity: 490 litres  
Cooling water capacity: 605 litres  
Engine: General Motors Model 567CR, two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd. Sydney, N.S.W., 1964–1968. Nos. 367–386, 1964; Nos. 387–396, 1965; Nos. 397 & 398, 1966; Nos. 399–406, 1966–1967; Nos. 407–412, 1968.

Note: For Nos. 399–412: Power rating = 820 kW

Engine: General Motors Model 645E.

Neg. M 9622.

## H Class Diesel-Electric General Purpose and Hump-Shunting Locomotive

Group: Nos. 1–5

Length overall: 13,540 mm  
Width overall: 2,870 mm  
Height overall (above rail level): 4,870 mm  
Total mass (fully equipped): 82 t  
Power rating: 820 kW  
Tractive effort, starting: 199 kN  
Tractive effort, continuous: 150 kN  
Speed at continuous rating: 14.2 km/h  
Speed maximum: 100 km/h  
Bogie pivot centres: 6,910 mm  
Bogie axle centres: 2,438 mm  
Wheel diameter: 1,016 mm  
Gear ratio: 63:14  
Number of driving wheels: 8  
Minimum curve radius: 100 m  
Fuel oil capacity: 3,500 litres  
Lubricating oil capacity: 490 litres  
Cooling water capacity: 605 litres  
Engine: General Motors Model 645E, two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd., Sydney, N.S.W.,  
1968–1969.  
Neg. PR 4036.



## X Class Diesel-Electric

### Main-Line Locomotive

Group: Nos. 45–54

Length overall: 18,530 mm  
Width overall: 2,950 mm  
Height overall (above rail level): 4,270 mm  
Total mass (fully equipped): 116 t  
Power rating: 1,640 kW  
Tractive effort, starting: 285 kN  
Tractive effort, continuous: 239 kN  
Speed at continuous rating: 17 km/h  
Speed maximum: 133 km/h  
Bogie pivot centres: 10,058 mm  
Bogie axle centres: 2,019 mm  
Wheel diameter: 1,016 mm  
Gear ratio: 58:18  
Number of driving wheels: 12  
Minimum curve radius: 100 m  
Fuel oil capacity: 6,820 litres  
Lubricating oil capacity: 920 litres  
Cooling water capacity: 795 litres  
Engine: General Motors Model 16-645E, two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd. Rosewater, South Australia  
1975–1976.

Locomotive X45 named "EDGAR H. BROWNBILL".  
Neg. 75-4415.

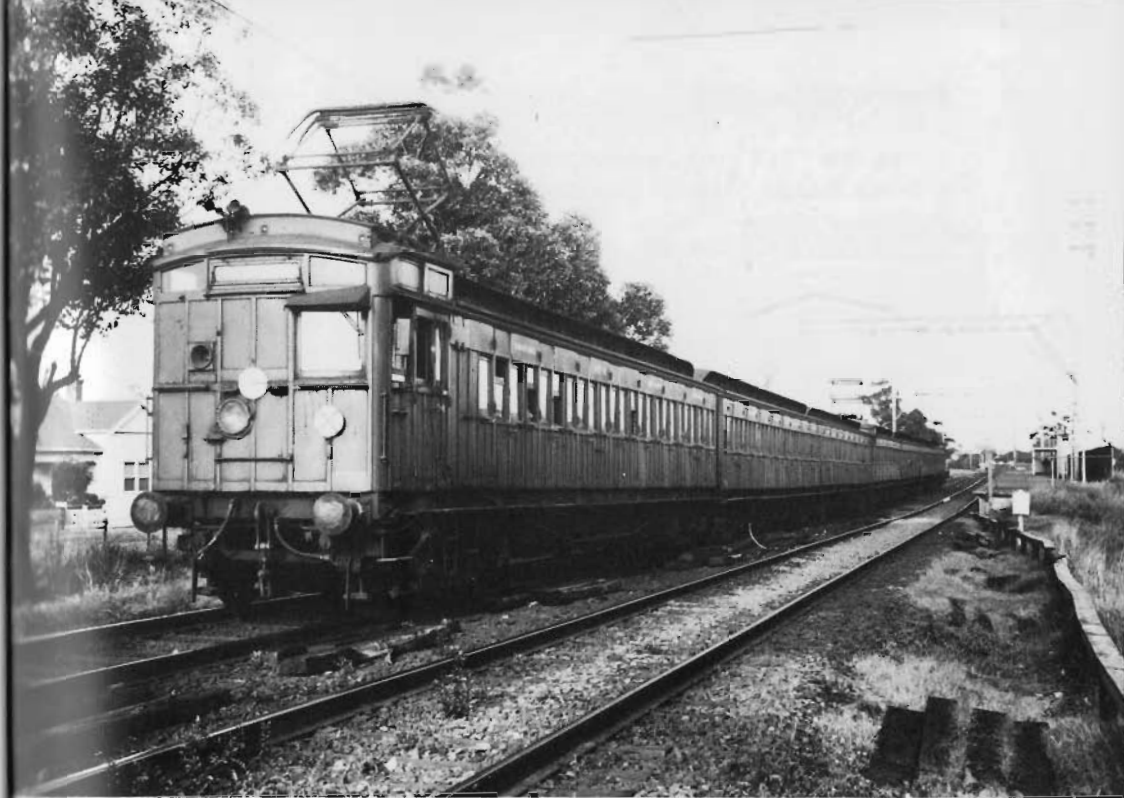
## C Class Diesel-Electric Main-Line Locomotive

Group: Nos. 501–510

Length overall: 20,730 mm  
Width overall: 2,970 mm  
Height overall (above rail level): 4,250 mm  
Total mass (fully equipped): 135 t  
Power rating: 2,460 kW  
Tractive effort, starting: 330 kN  
Tractive effort, continuous: 289 kN  
Speed at continuous rating: 23,4 km/h  
Speed maximum: 133 km/h  
Bogie pivot centres: 12,317 mm  
Bogie axle centres: 1,905 mm  
Wheel diameter: 1,016 mm  
Gear ratio: 59:18  
Number of driving wheels: 12  
Minimum curve radius: 100 m  
Fuel oil capacity: 10,130 litres  
Lubricating oil capacity: 920 litres  
Cooling water capacity: 1,120 litres  
Engine: General Motors Model 16-645 E3, two-stroke diesel.

Built by Clyde Engineering Co. Pty. Ltd. Rosewater, South Australia  
1977–1978.

Locomotive C501 named "GEORGE BROWN".  
Neg. 78-4.



### Electric Swing Door

For nearly a century electric swing door trains, known commonly as "dogboxes" operated on the Melbourne suburban network.

Upon electrification of the suburban system, most of the swing door carriages had an extra two compartments added and stronger steel frames added to the new motor carriages.

The final trip of the swing door trains was made on Saturday January 26, 1974 between Port Melbourne and Flinders Street.

Carriage 8M is on display at the North Williamstown railway museum.

Neg. PR 4372.

## Electric Sliding Door

The first "Tait" train entered service on January 4, 1910. Named after the then Chairman of Commissioners, Thomas (later Sir Thomas) Tait these suburban trains were based on American and German suburban rolling stock. The introduction of sliding doors allowed them to be a foot wider than the swing door stock and allowed for communication between compartments. Originally were used on steam locomotive hauled suburban passenger services.

A total of 190 carriages were constructed up to 1914, these becoming trailers or driving trailers after electrification.

Between 1914 and 1918, 176 motor carriages were constructed and on October 6, 1918, Australia's first electric train ran between Newmarket sub-station and Flemington Racecourse. The official opening took place on May 28, 1919.

Being progressively retired to-day (1981)

Neg. PR 5792.



## Harris Trains

Named after a former Chairman of Commissioners, Norman C. Harris, the blue and yellow Harris trains entered service on March 15, 1956.

The Harris trains have four traction motors driving each motor coach of 190 hp compared to 140 hp in the Tait trains.

Thirty Harris trains entered service between 1956 and 1959 and another 30 between 1961 and 1971.

Neg. 73-2106.

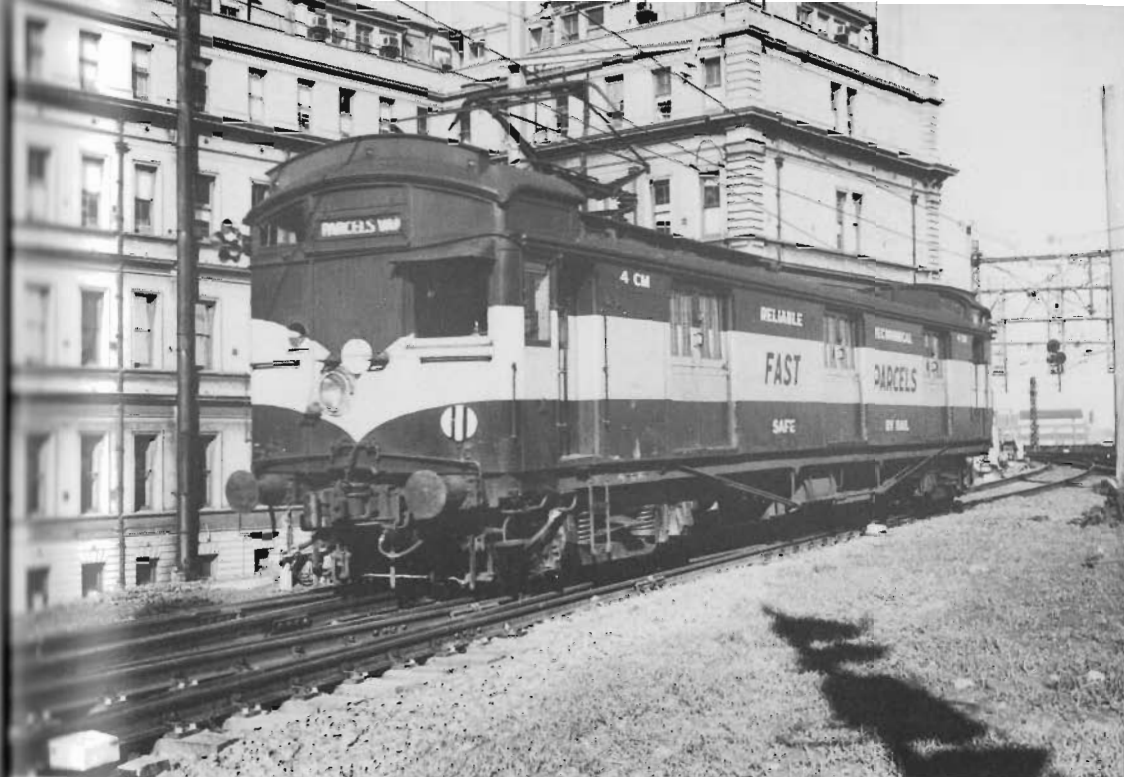
## Stainless Steel Trains

The stainless steel trains were launched at Spencer Street on December 20, 1972, after which a high-speed test run to Pakenham took place.

A four carriage set entered regular service on December 24, 1972 on the St. Kilda line.

A stainless steel train seats 560, compared to 540 in a Harris. The maximum load of a stainless steel train is 1500 passengers, 300 more than a Harris.

Neg. 76-511.



## Parcels Coaches

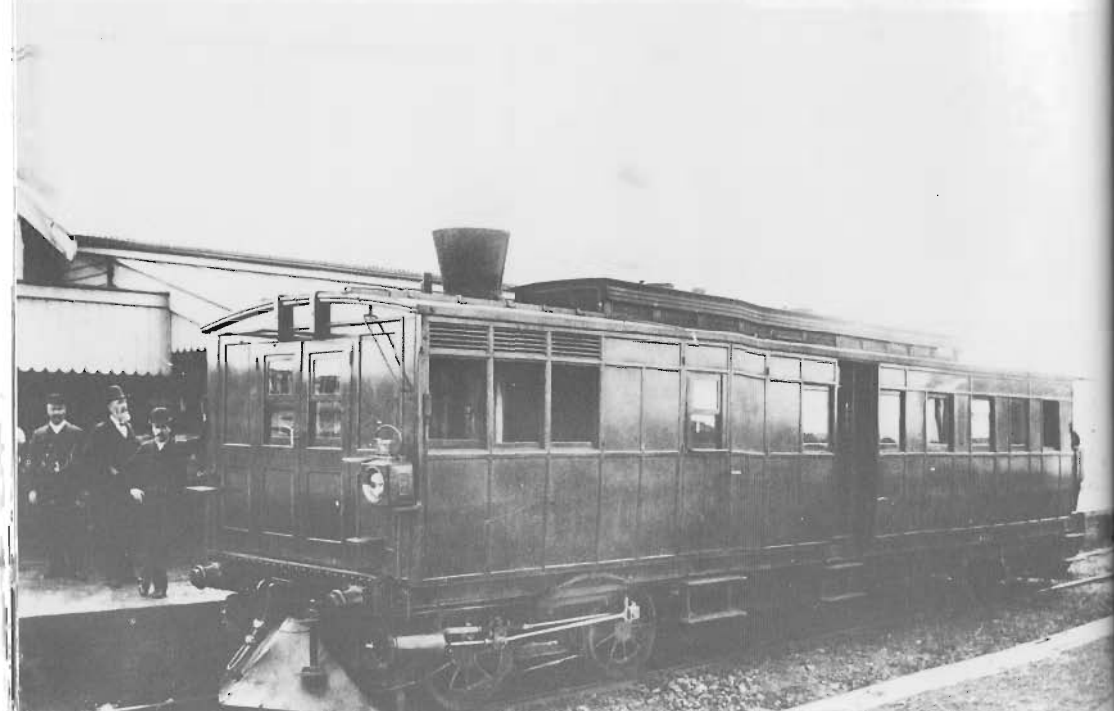
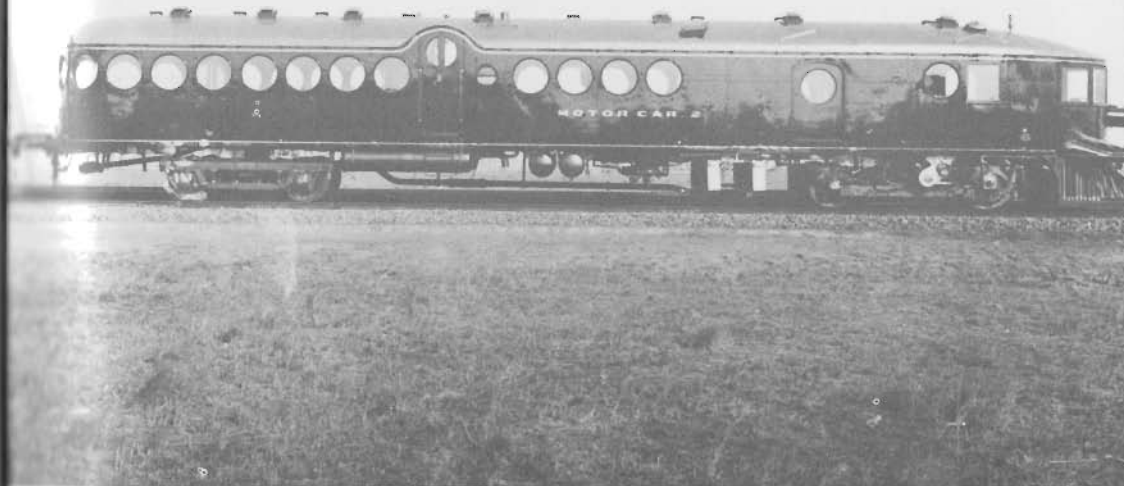
Special parcels coaches have been used on the suburban network since 1921. In 1960 the livery was changed to blue and gold, the same colour scheme as the Harris Trains.

Neg. 78-837.

### Rowan Car No. 1

The advent of the rail motor car on the Victorian Railways dates from May, 1883, when Rowan's steam car was placed in temporary service. The vehicle was a combination of engine, cabin and compartment for 40 passengers. It was purchased from Captain F. C. Rowan, of Melbourne. The power plant, built by Kitson and Company, of Leeds, England, consisted of a vertical boiler and motor engine fitted into a car designed by W. R. Rowan, of Copenhagen. The vehicle was mounted on six wheels, of which four were coupled drivers.

Neg. H 1047.



### McKeen Car

Two petrol rail-motors were purchased from the McKeen Company, of Omaha, U.S.A. in 1911. Each car carried 73 passengers. The vehicles went into regular service on May 13, 1912; one working on the Ballarat-Maryborough line, and the other between Hamilton and Warrnambool.

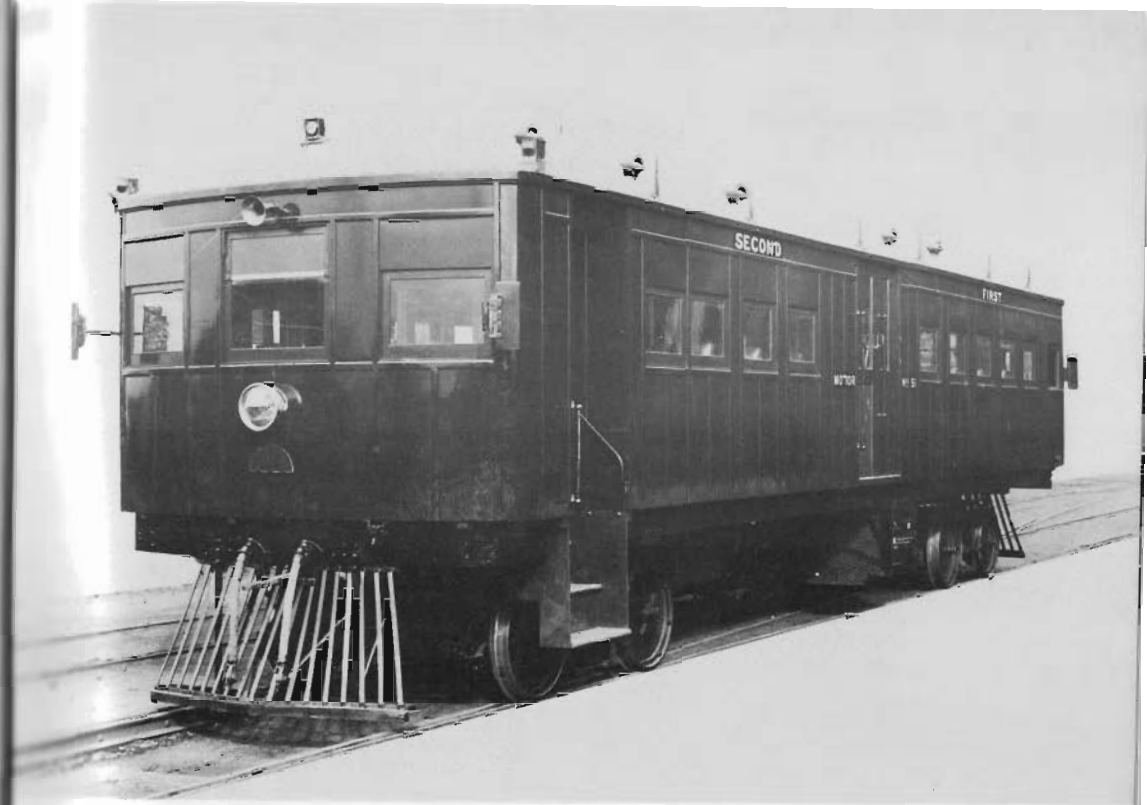
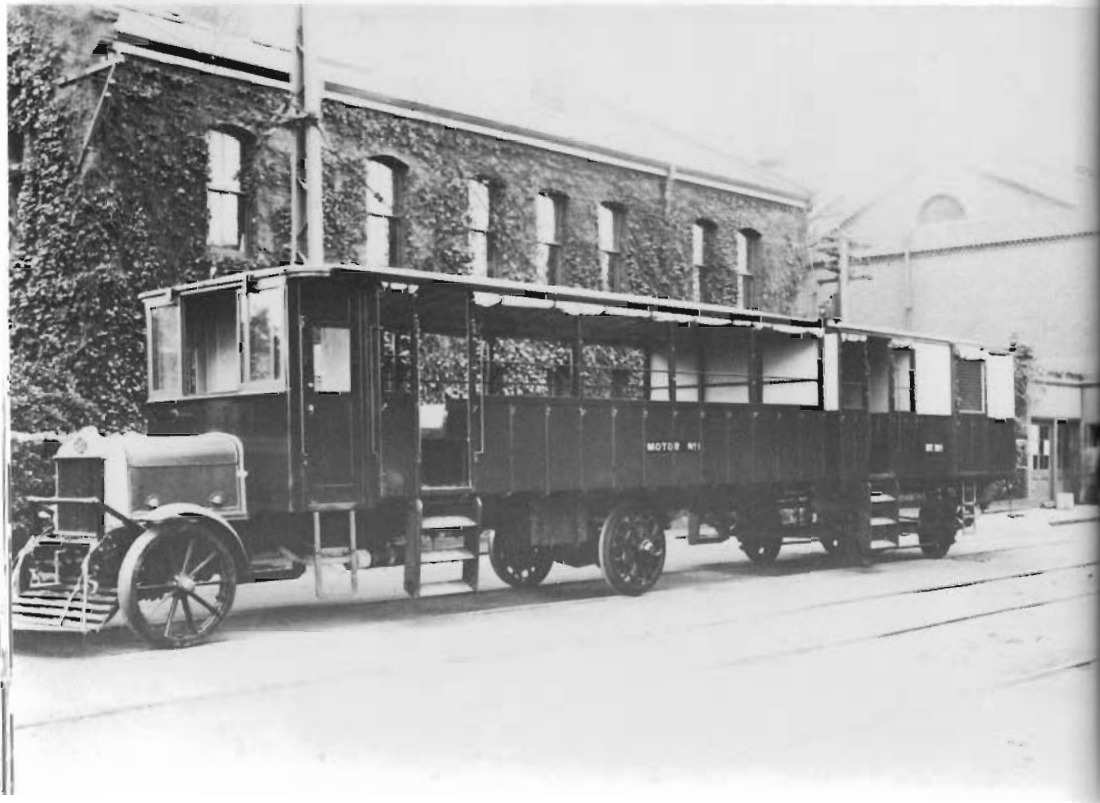
After about three years, the McKeen cars were withdrawn from traffic. In 1919, the engines were removed and the cars converted for ordinary passenger train use.

Neg. H 1963.

### Single-Ended Rail Motor Car and Trailer

Powered by a 45 h.p. engine, the A.E.C. rail motor cars, which went into service in 1922–25, were built on a converted road motor chassis. The Bodies were built at Newport Workshops. There was accommodation for 32 passengers in the motor section of the vehicle, and 28 in the trailer. There were 19 cars and 24 trailers. They ran on country branch lines.

Neg. H 2069.



### Double-Ended Rail Motor Car

This rail motor car was powered by a 80 h.p. Leyland engine. The bodies and underframes were built at Newport Workshops. The cars went into service in 1925–26. There were four and they had accommodation for 27 1st class and 29 2nd class passengers. They ran on country branch lines.

Neg. RS 172.



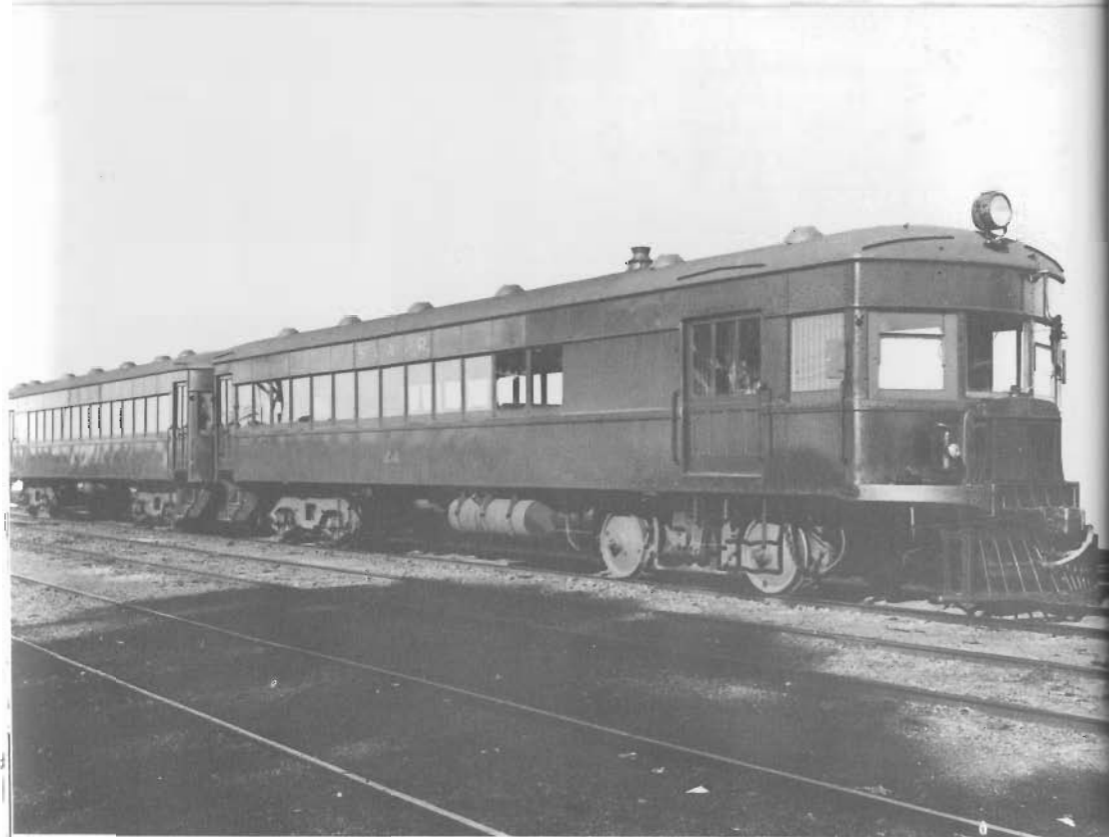
## Brill Rail-Motor

Built at Islington Workshops, South Australia, in 1927, they entered service with VicRail on June 4, 1928. They were used between Toolamba—Echuca—Deniliquin, being withdrawn from service in 1947 following a level crossing accident, and scrapped in February 1951.

Rail Motor 44 was a six cylinder, 190 h.p. single-ended, Winton petrol driven engine rail motor. The motor car was 58 feet 6" long and weighed 30 tons. It carried 61 passengers, 22 in first class.

The trailer, MT 200 was also built at Islington. It weighed 25 tons, seated 65 passengers, 26 in first class. It was removed from the register on November 26, 1973.

Neg. RS 169.



## Diesel Rail Car

102 H.P.

Group: Nos. 1—12

Tare weight; 18 tons 17 cwt.

Length overall: 54' 4 1/8"

Width overall: 9'

Height above rail level: 10' 7 5/8"

Capacity: Passengers — 18 1st class

22 2nd class      TOTAL: 40

Van — 2 tons

Bogie pivot centres: 34' 6 1/2"

Bogie rigid wheelbase: 8'

Wheel diameter: driving 33"; trailing 30"

No. of driving wheels: 2

Tractive effort: 2,969 lb. max.

Transmission: hydraulic coupling and epicyclic gearbox

Max. permissible speed: 45 m.p.h.

Power units supplied by Walker Rail-Car Co., Wigan, England; bodies built by Martin & King Pty. Ltd., Victoria; and assembled at Newport Workshops, 1948—49.

All withdrawn 1981.

Neg. RS 946.

## Diesel Rail Car

153 H.P.

(with trailer)

Group: Nos. 20–34

Tare weight: 21 tons 8 cwt.

Length overall: 56' 4 3/8"

Width overall: 9'

Height above rail level: 10' 7 5/8"

Capacity (excluding trailer): Passengers — 18 1st class  
22 2nd class  
TOTAL: 40

Van — 2 tons

Trailer Capacity: Passengers — 16 1st class  
22 2nd class  
TOTAL: 38

Van — 2 tons

Bogie pivot centres: 33' 6 1/4"

Bogie rigid wheelbase: driving 10' 6"; trailing 8'

Wheel diameter: driving 36"; trailing 30"

No. of driving wheels: 2

Tractive effort: 4,130 lb. max.

Transmission: hydraulic coupling and epicyclic gearbox

Max. permissible speed: 50 m.p.h.

Power units supplied by Walker Rail-Car Co., Wigan, England; bodies built by Martin & King Pty. Ltd., Victoria; and assembled at Newport Workshops, 1948–53.

All withdrawn 1981.

Car No.22 preserved at the North Williamstown Railway Museum.

Neg. RS 850.



## Diesel Rail Car,

280 H.P.

(Centre power unit)

Group: Nos. 80–91

Tare weight: 46 tons 10 cwt.

Length overall: 121' 8 1/4"

Width overall: 9' 6"

Height above rail level: 11' 8"

Capacity: Passengers — 38 1st class  
56 2nd class TOTAL: 94

Van — 2 compartments, 1 ton each

Bogie pivot centres: 40' 1 1/4" articulated at centre bogies

Bogie rigid wheelbase: central bogie 12' 6"; end bogies 9'

Wheel diameter: 36"

No. of driving wheels: 4

Tractive effort: 6,285 lb. max.

Transmission: hydraulic coupling and epicyclic gearbox

Max. permissible speed: 60 m.p.h.

Power units supplied by Walker Rail-Car Co., Wigan, England; bodies built by Martin & King Pty. Ltd., Victoria; and assembled at Newport Workshops, 1950–52.

All withdrawn 1981.

Car No.85 held at Newport Workshops, (July 1981) pending display at the North Williamstown Railway Museum.

Neg. M 1715.



## Diesel-Electric Rail Motor

Group: Nos. 56, 58, 59, 60, 62, 63, 64

Length overall: 18,500 mm

Width overall: 2,990 mm

Height overall (above rail level): 4,250 mm

Total mass (tare): 47 t

Power rating: 205 kW

Tractive effort, starting: 34 kN

Speed maximum: 95 km/h

Bogie pivot centres: 27,432 mm

Bogie axle centres: driving 2,590 mm

trailing 2,438 mm

Wheel diameter: driving 1,067 mm

trailing 920 mm

Fuel oil capacity: 750 litres

Engines: 2 No. General Motors Series 71, 6 cyl. each, two-stroke diesel, geared together in parallel, mounted transversely.

Originally built at Victorian Railways' Newport Workshops, 1928–1931. Converted from petrol-electric to diesel-electric in 1952. New seating arrangement, 1976: 12 first, 22 economy class = 34 passengers.

## Motor Trailer (MT)

Group: Nos. 26, 27, 28, 29, 30

Length overall: 18,460 mm

Width overall: 2,990 mm

Height overall (above rail level): 4,040 mm

Total mass (tare): Nos. 26, 27, 28; 22 t

Nos. 29 and 30; 24 t

Bogie pivot centres: 13,410 mm

Bogie axle centres: 1,905 mm

Wheel diameter: 840 mm

Passenger capacity: Nos. 26, 27, 28: 22 first, 40 economy class:

TOTAL: 62

Nos. 29 and 30: 27 first, 50 economy class:

TOTAL: 77

Built at Victorian Railways' Newport Workshops, 1930.

Neg. 79-203.

## Diesel-Hydraulic Rail Motor

### Group: Nos. 40–43

Length overall: 24,260 mm  
Width overall: 2,880 mm  
Height overall (above rail level): 4,190 mm  
Total mass (tare): 63 t  
Power: normal rated: 956 kW  
          continuous rated: 500 kW  
          continuous through transmission: 400 kW  
Tractive effort, starting: 70 kN  
Speed maximum: 112 km/h  
Bogie pivot centres: 16,154 mm  
Bogie axle centres: 2,590 mm  
Wheel diameter: 940 mm  
Fuel oil capacity: 1,365 litres  
Engine oil capacity: 45 litres  
Cooling water capacity: 136 litres  
Engines: 2 No. Cummins Engine Co. Series NTA-855-R, 6 cylinders each, 4-stroke diesel, turbo-charged; one engine driving to the inner axle of each bogie through Voith Turbo Transmission Type T113r.  
Passenger capacity: 20 first, 36 economy class: TOTAL: 56

Built by Tulloch Ltd., Sydney, for P.T.C. of N.S.W., 1971–1973.  
Purchased from P.T.C. of N.S.W. by Victorian Railways, 1974.

Neg. PR 5509.



## Diesel-Electric Rail Motor

### Group: Nos. 55 and 61

Length overall: No.55: 20,200 mm, No.61: 20,000 mm  
Width overall: 2,990 mm  
Height overall (above rail level): 4,250 mm  
Total mass (tare): 51 t  
Power rating: 205 kW  
Tractive effort, starting: 34 kN  
Speed maximum: 95 km/h  
Bogie pivot centres: 27,432 mm  
Bogie axle centres: driving: 2,590 mm  
                          trailing: 2,438 mm  
Wheel diameter: driving: 1,067 mm  
                          trailing: 920 mm  
Fuel oil capacity: 750 litres  
Engines: 2 No. General Motors Series 71, two-stroke diesel, 6 cyl. each, geared together in parallel, mounted longitudinally.  
Passenger capacity: 63 No., one class.

Car No.55 assembled at Victorian Railways' Newport Workshops, 1928. Car No.61 built Newport Workshops, 1930. Converted from petrol-electric to diesel-electric in 1952. Major overhaul with engine relocation and new seating arrangement, 1978.  
Neg. 78-3888.

### Single Truck, "California" type,

#### Combination Car

Length: 30' 0"

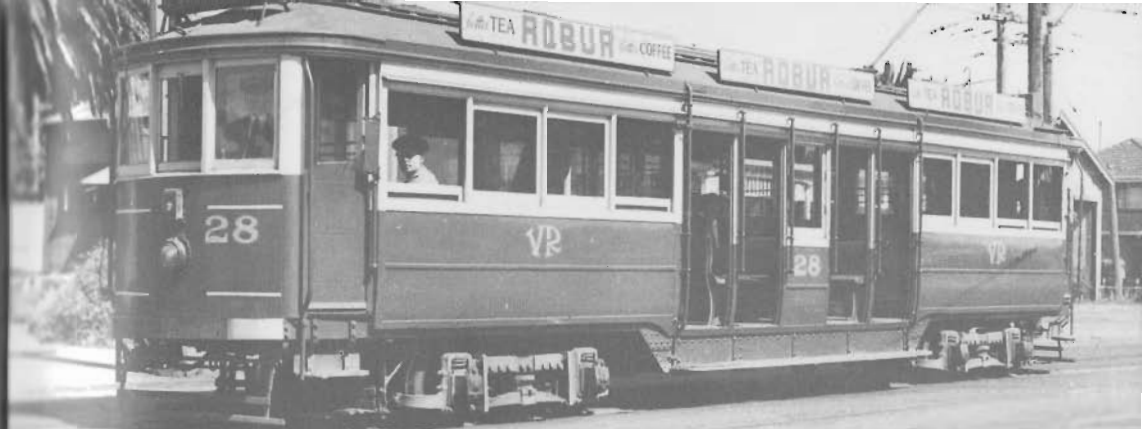
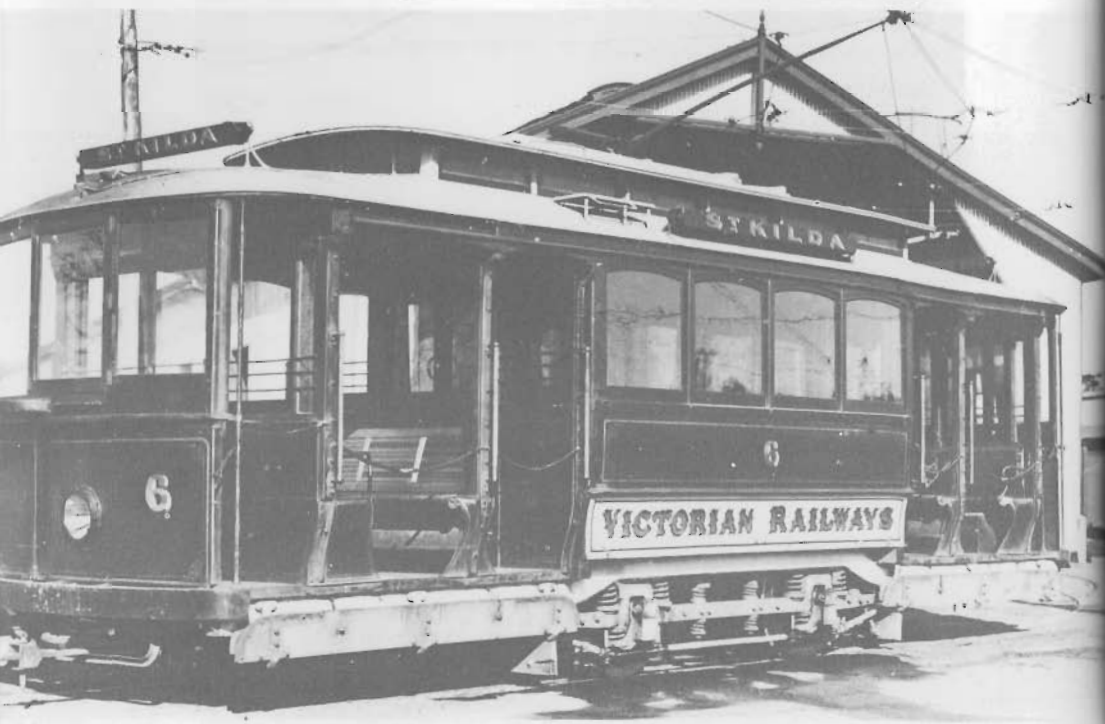
Weight: 10 tons 5 cwt.

Seating: 40

Road numbers: 1-7. Seven cars in class.

Built at Newport Workshops 1907 as replacement for trams destroyed by fire at Elwood Depot.

Neg. H 1691



#### Double Truck, Combination Car

Length: 44' 0"

Weight: 16 tons 14 cwt. 0 qts. 14 lbs.

Seating: 52

Road numbers: 28-43, 48-49

Built at Newport Workshops 1917-1923.

Neg. 50a - 67.

#### Double Truck

Length: 48' 4"

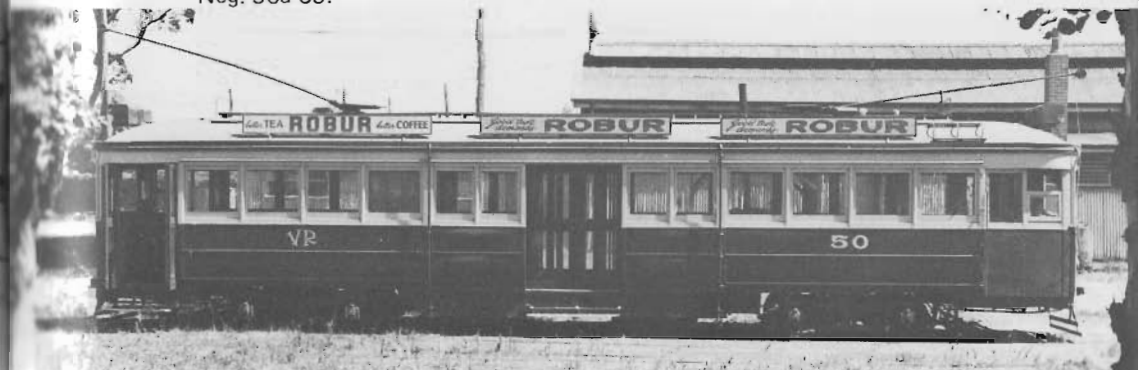
Weight: 19 tons 2 cwt.

Seating: 52

Built at Newport Workshops in 1921, originally similar to Double Truck, Combination Car. Converted to either one or two man operation in 1938 (50) and 1934 (51).

Road numbers 50-51.

Neg. 50a-65.



## Double Truck, Saloon Car

Length: 45' 0"

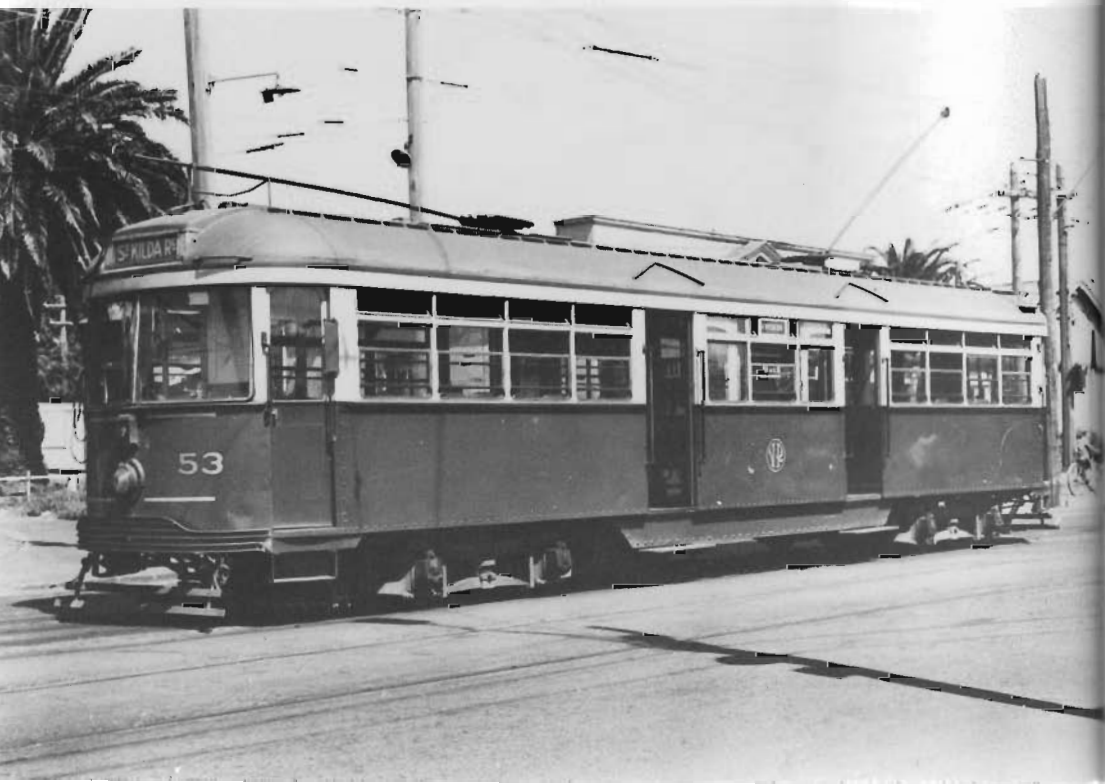
Weight: 17 tons 12 cwt.

Seating: 48

Road numbers: 52-54.

Built at Newport Workshops 1942. Sold to M.M.T.B. in 1959.

Neg. 50a-68.



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VicRail Public Relations Division,  
67 Spencer Street,  
MELBOURNE VIC 3000

Printed by:  
VicRail Printing Works,  
North Melbourne.

National Library of Australia  
card number and ISBN:  
ISBN 0 7241 3323 2