



Class 31 Diesel Locomotive

1 BACKGROUND	2
2 THE CLASS 31 DIESEL LOCOMOTIVE	3
2.1 BR Green	3
2.2 BR Rail Freight Grey with Sectors <i>with and without mini snow ploughs</i>	3
3 SCENARIOS.....	4
3.1 Class 31 Tutorial.....	4
3.2 Ribbleshead Ballast	4
3.3 Carlisle Special	4

1 Background

The British Rail Class 31 diesel locomotives, also known as the Brush Type 2 and originally as Class 30, were built by Brush Traction from 1957-62.

The Class 31 was one of the Pilot Scheme locomotives ordered by British Railways to replace steam traction. They were originally built with Mirrlees 1,250Hp and 1,365Hp engines and Brush electrical equipment, but the engines were not successful and in 1964 a programme of works commenced to re-engine the fleet with the 1,470Hp English Electric engines. The locomotives were originally known as Class 30, with re-engineered examples joining Class 31. The class was originally intended for service on the Eastern British Rail Region, but gradually became common in both the Western and London Midland regions too.

The first 20 locos (known as 31/0s), originally numbered D5500-D5519, were always easily recognisable as they did not have the Headcode box mounted on the roof above the cab, leading to the nickname "Skinheads". They were also nicknamed "Toffee Apples" from the shape of the control key which had to be taken from cab to cab when changing ends. These pilot scheme locos were non-standard in having Electro-Magnetic Multiple-Working control equipment, and were limited to 80 mph. The Class 31/0s had a Route Availability of 5.

The Sub Class (known as 31/1s), had much in common with the original 31/0s as they lacked the roof mounted headcode box, and were also limited to 80 mph (130 km/h), but were otherwise the same as subsequent locos. The whole sub-class had steam heating boilers fitted, had the Blue Star Electro-Pneumatic multiple-working controls as found on many other BR classes, and were classified as Route Availability 5.

The Sub Class 31/4s, numbered from 31401 to 31469, were conversions of 31/1s to which Electric Train Heating was fitted. They had an ETH index of 66, equivalent to 330 kW, which was sufficient to power trains of up to eleven British Rail Mk 3 carriages, in order to allow them to power long trains, whose service run would be worked by a larger locomotive, between depot and terminus, although in actual passenger service loads rarely exceeded four or five carriages. 330 kW accounted for about a third of the total electrical power output, and the conversion was such that none of the ETH power was ever available for traction even if the ETH was not being used at all. A nickname given to the 31/4s class was 'Ped' (Pedestrian) due to the lack of power. The traction power output of the 31/4 was therefore limited to a maximum of two-thirds of that of the non-ETH variants, which did not help the performance of an already somewhat underpowered locomotive, and late running of 31/4-hauled services was common.

Over 30 locomotives have been purchased for use on heritage railways, however some of these have been subsequently scrapped, see listings below. Of note are the first built, no. 31018, and the last built, no. 31327.

2 The Class 31 Diesel Locomotive

2.1 BR Green



2.2 BR Rail Freight Grey with Sectors *with and without mini snow ploughs*



3 Scenarios

3.1 Class 31 Tutorial

Drive the Class 31 to learn the controls

3.2 Ribblehead Ballast

Drive a CL31 locomotive as it hauls a train of loaded ballast wagons from Carlisle to Appleby and then on to Ribblehead.

- Duration 105 minutes
- Rating Medium

3.3 Carlisle Special

Drive a green Class 31 locomotive as it hauls an enthusiasts special from Settle to Carlisle.

- Duration 110 Minutes
- Rating Hard