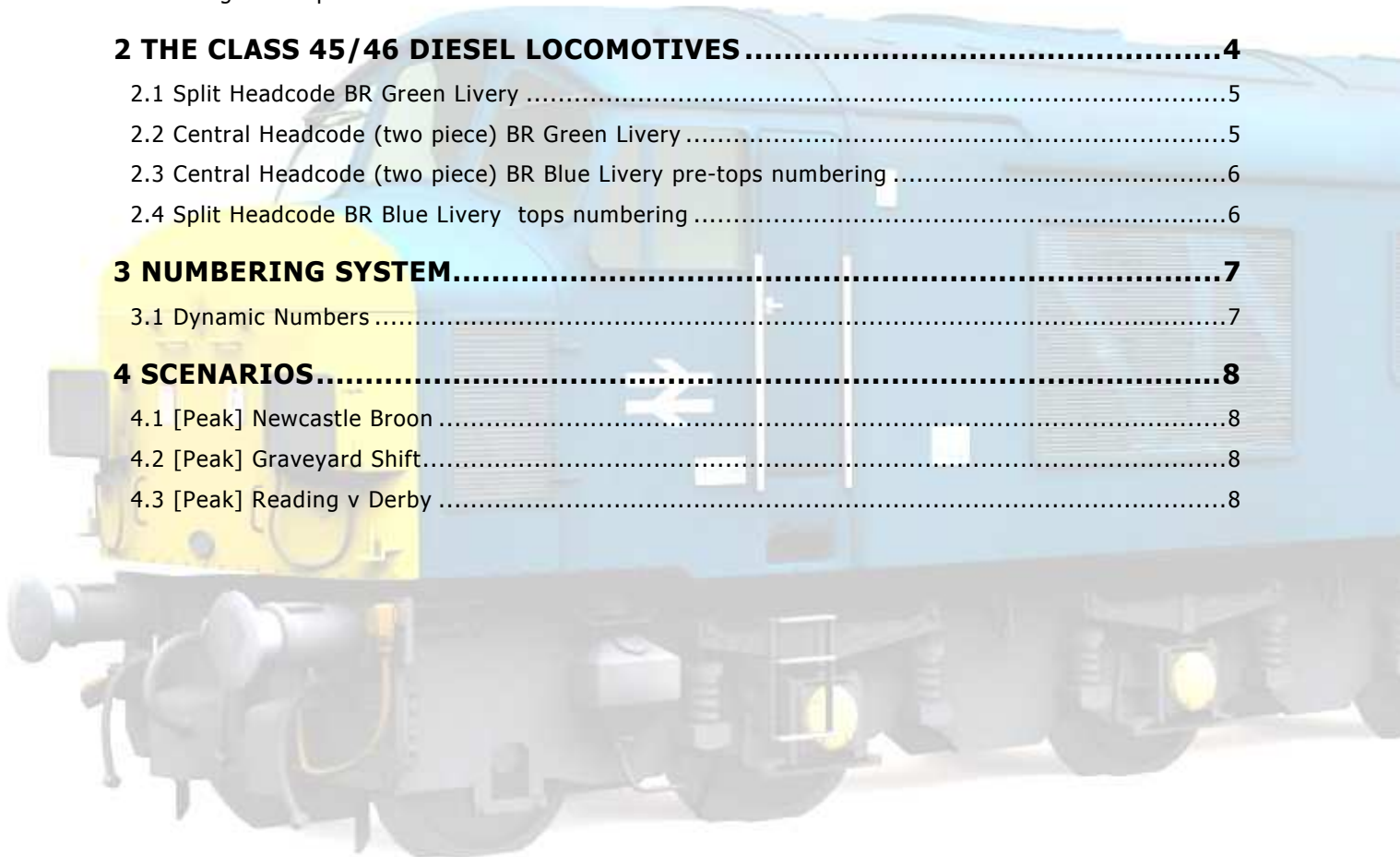


Class 45/46 Peak Diesel Locomotives

1 BACKGROUND	2
1.1 Class 45/46 Heritage	2
1.2 Sulzer 12LDA28B Diesel engine	3
1.3 Nose End Variations	3
1.4 Design and Specification	4
2 THE CLASS 45/46 DIESEL LOCOMOTIVES	4
2.1 Split Headcode BR Green Livery	5
2.2 Central Headcode (two piece) BR Green Livery	5
2.3 Central Headcode (two piece) BR Blue Livery pre-tops numbering	6
2.4 Split Headcode BR Blue Livery tops numbering	6
3 NUMBERING SYSTEM.....	7
3.1 Dynamic Numbers	7
4 SCENARIOS.....	8
4.1 [Peak] Newcastle Broom	8
4.2 [Peak] Graveyard Shift.....	8
4.3 [Peak] Reading v Derby	8



1 Background

1.1 Class 45/46 Heritage

The British Rail Class 45 & 46 also known as the Sulzer Type 4 diesel locomotives were built by British Rail at their Derby and Crewe Works between 1960 and 1963. Along with the similar class 44 locomotives they became known as "Peaks". The class 45s became the main traction on the Midland mainline from 1962 and their introduction allowed considerable acceleration of the previous steam powered service.

When initially put into service the locomotives were fitted with multi-unit working and steam heating boilers for passenger service. Numbered D11-D137 In the early 1970s fifty were fitted with electric train supply in place of their steam heating boilers, and assigned to work services on the Midland Main Line from London St Pancras to Nottingham, Derby and Sheffield. These locomotives were renumbered as Class 45/1.

The Class 45s remained the main source of power on the Midland mainline up to 1982 when they were relegated to secondary services following introduction of HSTs on the route.

The great majority of Class 45s were withdrawn between 1981 and 1988 and the last was withdrawn from service by 1989.

The Class 46 design was structurally the same as the preceding Class 45 build, and had the same Sulzer engine, but differed in the fitment of a Brush generator and traction motors, in place of the Crompton Parkinson equipment fitted to the Class 45. The Class 46 were built from 1961-1963 at British Railways' Derby Works and were initially numbered D138-D193. With the arrival of TOPS they were renumbered to Class 46. Fifty-six locomotives were built. The first was withdrawn in 1977 and all of them were withdrawn by 1984.

Class 46s were regular performers on passenger turns, particularly North East-South West, Trans-Pennine and secondary North East-London trains, and depot allocations reflected this with locos at Gateshead, Cardiff and Plymouth .

Freight workings were also quite often worked over long distances, particularly "clay hoods" carrying china clay from Cornwall to the area around Stoke-on-Trent.

1.2 Sulzer 12LDA28B Diesel engine

The engine of the Class 45 /46 was a marine type slow revving diesel, a Sulzer 12LDA28B with a bore of 280mm and a stroke of 360mm. This gave 22 litre per cylinder or 264 litres for the whole engine. The unit was turbo charged and intercooled and gave 2500hp at 750rpm. The layout of the engine was in two banks of 6 cylinders and was unusual in that it was not a V type, i.e. sharing the same crankshaft, but two parallel banks of 6 cylinders geared together from two separate output shafts.

Class 45s were the updated versions of the Class 44 locomotives, the latter having a 2300hp non-intercooled version of the same engine. i.e. the 12LDA28A. The later class 47 had a modified version of the same engine, a 12LDA28C.

1.3 Nose End Variations

The original ten pilot scheme Peaks that eventually became Class 44 were fitted with headcode discs and gangway doors.

With the decision to use a system of four characters alpha/numeric train identification the production locomotive orders saw changes to their designs to accommodate the new train identification system.

For the Peaks the initial change was the adding of two boxes on the nose end, thus D11-D15 had Split headcode boxes whilst retaining the gangway doors.

The planned use of the gangway doors never reached their expected usage, with the Peaks this is not surprising considering how few workings required a pair of the big Type 4's.

Consequently from D16 (Derby) & D68 (Crewe) the doors were no longer incorporated into the nose, but for the time being the headcode boxes remained on the outside edges of the nose front. D16-D30 and D68-D107.

The next change in the nose end design was to bring the two headcode boxes into the center of the nose, but retaining the central break between what had been the two separate headcode displays. D31-D67, D108-D173.

The final production variant of the headcode panel was to bring the headcode panel together as one unit, with no central split in the display. This final variant would become the standard, particularly when locomotives were refurbished or required accident or corrosion repairs. D174-D193

Following the discontinuance of train identification by the four character alpha/numeric displays in the early seventies, the headcode displays were plated over with two small marker lamps fitted, additionally many of the grab rails and fittings were removed.

1.4 Design and Specification

Power type	Diesel-electric
Builder	British Railways' Derby Works and Crewe Works
Build date	1960–1963
Total production	183
Configuration	1Co-Co1
UIC classification	(1Co)'(Co1)'
Wheel diameter	3 ft 9 in (1.143 m)
Minimum curve	5 chains (100 m)
Wheelbase	59 ft 8 in (18.19 m)
Length	67 ft 11 in (20.70 m)
Width	8 ft 10½ in (2.71 m)
Height	12 ft 10 in (3.91 m)
Weight	133 long tons (135 t)
Fuel capacity	840 imp gal (3,800 l; 1,010 US gal)
Prime mover	Sulzer 12LDA28-B
Multiple working	★ Blue Star
Top speed	90 mph (145 km/h)
Power output	<i>Engine:</i> 2,500 bhp (1,864 kW) <i>At rail:</i> 2,000 hp (1,491 kW)
Tractive effort	<i>Maximum:</i> 55,000 lbf (245 kN)
Train heating	<i>45/0:</i> 46 Steam <i>45/1:</i> Electric Train Heat
Locomotive brake force	63 LTf (628 kN)
Train brakes	Vacuum, Locomotive Air

2 The Class 45/46 Diesel Locomotives

The following Class 45/46 Locomotives are available this Add On.

2.1 Split Headcode BR Green Livery



2.2 Central Headcode (two piece) BR Green Livery



2.3 Central Headcode (two piece) BR Blue Livery pre-tops numbering



2.4 Split Headcode BR Blue Livery tops numbering



3 Numbering System

3.1 Dynamic Numbers

The locomotive models included have a dynamic numbering system implemented; this lets each locomotive be customized to represent the locomotive of your choice.

Double clicking on the locomotive in the scenario editor will open a fly out top right. The locomotive number is made up of 15 digits.

Eg #D#126&3V18#16A

These can be edited

produces a blank suitable where no nameplate is fitted

~ produces a black blank suitable for headcode blanks

@ produces a domino dot.

The first 6 digits represent locomotive numbers eg. 45#147 or #D#82#

The seventh digit uses the symbols obtained by Shift+numbers 1 to 0 to select from a range of supplied nameplates.

Digits 8,9,10,11 are used to replicate the illuminated headcode. Eg 1A73

The final four digits are used for the front mounted shed allocation plate.

For single digit shedcodes eg 5A enter 5##A

For double digit shedcodes eg 16A enter #16A

4 Scenarios

4.1 [Peak] Newcastle Broon

Booking on at Newcastle Central to take over a parcels train that has arrived overnight from Haymarket. The station is busy at 8:00 in the morning, watch some of the station activity while you wait for your booked departure time of 08:05. The run to York is approximately 80 miles and will take around 100 mins.

- Date 1967
- Rating Hard
- Duration 100 minutes
- Season Autumn
- Start Location Newcastle Central
- Peak Livery BR Green

4.2 [Peak] Graveyard Shift

Night-time run from York to Newcastle. Book on at York shed at 9:00 pm. Your Peak is waiting in the out-road fully fuelled. Collect your GUV vans from the parcel depot and make best time to Newcastle

- Date 1969
- Rating Hard
- Duration 100 minutes
- Season Winter
- Start Location York Shed
- Peak Livery BR Green

4.3 [Peak] Reading v Derby

Its cold waiting in a snowstorm for your booked excursion to arrive at Oxford, Peak hauled 1Z07 is running a little late ...make sure you get the Derby supporters to reading on time.

- Date February 1969
- Rating Easy
- Duration 40 Minutes
- Season Autumn
- Start Location Oxford Station
- Peak Livery BR Green