BR CLASS 20 DIESEL LOCOMOTIVE No. 20066

British Railways Class 20, otherwise known as an English Electric Type 1, is a class of diesel-electric locomotive. A total of 228 locomotives were built, between 1957 and 1968, of which 135 were constructed by English Electric at their Vulcan Foundry factory. The remaining 93 were outshopped by Robert Stephenson & Hawthorn Ltd from their works in Darlington.

The large number of Class 20s being built was, in the main, due to the failure of other early designs (in the same power range) to provide reliable locomotives. The locomotives were originally numbered D8000–D8199 and D8300–D8327. They soon gained the nickname "Choppers" from legions of railway enthusiasts across the country.

Originally, English Electric were chosen for the Type 1 design. They had been building rugged diesel engines for marine and other applications for some time and their 'straight six cylinder' engine had given good service in early LMS diesel shunters. In 1947 they introduced a 'Vee' type of engine with pairs of cylinders set 45 degrees apart driving a common crankshaft.

The 16-cylinder version (16SVT) of this engine had been used by LMS Chief Mechanical Engineer George Ivatt in the well-known LMS prototype main-line diesel electric locos 10000 and 10001 and also in the Southern Railway's 10201, 10202 and, finally, the uprated 10203. This proven engine series was adopted for the 1000 hp (750 kW) Type 1 locomotive using a 'half-size' block (i.e. 8SVT) Mark II diesel engine.

8 - number of cylinders
S - supercharged (actually turbocharged)
V - Vee form
T - adapted for railway use
Mark II (4-valve cylinder head)

The engine crankshaft was bolted directly to an English Electric 319-3C main generator with an output of 1070 Amps at 600 volts DC An English Electric 911-2B auxiliary generator, 'overhung' on the main generator, which produced 110 volts DC for the compressor, exhauster, traction motor blowers and battery charging.

The underframe consisted of two longitudinal, parallel box sections (each formed from two channel sections plated-over top and bottom to produce a box section), with welded 'transoms' forming a rigid frame. Part of the two underframe box sections were sealed off to provide the modest fuel capacity of 390 gallons and two of the 'transoms' also served as balance pipes between the two tank sections.

The power unit was mounted on the underframe together with auxiliaries (including engine-driven fan, oil pump and water pump and electrically-driven air compressor, vacuum exhauster, traction motor blowers, fuel pump). These were all protected by a long 'bonnet' or hood which was inset to give a 'running board' each side. A series of hinged access doors, along each side, allowed maintenance staff ready access to the

equipment. At the rear of the locomotive, a driving cab was provided, with duplicated driving 'desks' so Drivers could face the direction of travel as necessary.

The assembled locomotive was mounted on two 4-wheel bogies using welded-frame equalising-beam design with helical springs and 3 foot 9 inch diameter wheels. Overall length was 46 feet 9.25 inches with a weight 73 tons in working order. Top speed was set at 75 mph.

The four axles were each fitted with an English Electric 526/8D nose-hung 6-pole series-wound, force-ventilated DC motor rated at 600 Amps, 300 volts DC driving through a single reduction gear. The locomotives were equipped so that up to three Class 20s could be interconnected for multiple working from the leading cab using Electro-Pneumatic (EP) controls. This allowed much heavier trains to be worked.

Designed to work light mixed freight traffic, they had no passenger carriage heating facilities. Locomotives numbered up to D8127 were fitted with disc indicators, in the style of the steam era, at each end. When head codes were introduced in 1960 the locomotive's design was changed to incorporate headcode boxes. Although older locomotives were not retro-fitted with headcode boxes, a few of the earlier batch acquired headcode boxes as a result of accident repairs being necessary.

D8000 was delivered in June 1957 in overall green livery, with grey footplate, red buffer beams and a grey roof extending down the bodyside to the edge of the roof panels. The original batch of 10 locos bore the BR crest facing towards the nose on both sides, used yellow sans serif numerals, and had green cab roofs. Locos from D8010 had the correct pattern BR crest, white numerals and grey cab roof. This was adjusted after D8103 to include a small yellow warning panel, although the precise size and detail of such panels varied somewhat.

BR D8066 was built jointly by English Electric Vulcan Foundry and Robert Stephenson & Hawthorn Ltd works in Darlington being allocated Works Number E2962/8214. It was allocated to Sheffield Darnall shed (41A) when it entered service on 19th June 1961. It was outshopped with BR Green bodywork and a small yellow warning panel at each end.

During April 1964 it was reallocated to Tinsley depot. D8066 did not stay there too long as it came under Nottingham Division control on 15th January 1966 – but only for a week! On 22nd it was back at Tinsley. Nottingham Division control took over again from April 1968 until it's withdrawal from traffic.

Unusually for British designs, the locomotive had a single cab at one end which sometimes caused serious problems with visibility when travelling 'nose' first. In those circumstances the driver's view was comparable to that on the steam locomotives that Class 20s replaced. It became increasingly common, however, to find Class 20s paired together at the nose, so that their cabs were at the outer ends. This ensured drivers could see clearly the road ahead and any guard could observe their train, from the rearmost cab, as goods brake vans were phased out.

Class 20s saw limited service on passenger trains. A small number were fitted with a through pipe for steam heating, primarily for use when coupled with Class 27 locomotives on the West Highland Line. Otherwise their use was limited to summer relief services, particularly to Skegness (occasionally under the title of 'The Jolly Fisherman') starting from various places including Burton-on-Trent, Derby, Leicester and

Stoke-on-Trent.

Sometimes Class 20s were noted at other holiday resorts although, generally, they were on the east coast of England due to driver knowledge of both locos and routes. Station shunting pilot duties were undertaken from time to time as well as short distance diversions hauling electric-hauled trains over non-electrified lines.

During March 1970, D8066 was fitted with self-lapping Gresham & Craven EQ vacuum brake valves instead of the original brake valves. The EQ (equalised) system resulted increased granularity of control over the amount of vacuum level in the train pipe.

In other words, it became easier for drivers to get to and hold, adjust and then hold again etc. a certain level of braking effort. This was needed with the volume of partially-vacuum-fitted loose-coupled trains of goods wagons and the over-riding requirement to fit in with faster passenger trains. As a side benefit apparently, if used properly, it could also reduce experiencing a very rough ride by Guards in their vans at the back of freight trains.

During October 1970, D8066 entered works for scheduled overhaul and came out painted plain BR Blue livery with full yellow ends. It was renumbered 20066, as part of BR's Total Operating Processing System (TOPS) in February 1974. In January 1976 the loco went back into works to have train air brake equipment added to make it a dual (train) braked loco. The loco itself had always been air braked from new but could then only operate vacuum braked trains.

On a very busy 27th August 1979 (Bank Holiday Monday) 20066 was photographed coupled to 20182. They were waiting at platform 4 in Skegness station at the head of the 17:30 relief service back to Derby. They had arrived earlier in the day having brought hundreds of tourists on the 09:10 relief service from Derby.

According to the website: http://ltsv.co.uk/rd/number_detail.php?id=LT-20066, in January 1989, 20066 it was noted as allocated to Eastfield Depot in Glasgow. By January 1992, it was spotted at Cheriton hired by RFS Industries then sub hired to the Channel Tunnel Tracklaying Group (CTTG) and marked with the number 31. The following month it was noted as having been renumbered 34 with CTTG later renumbering yet again as 201. It was still active in 1993 with CTTG trains. [NOTE: other records indicate this loco might have been 201**1**66.]

Incidentally, track-laying and fitting-out stages of the Channel Tunnel construction were carried out by the Channel Tunnel Track Group, which hired twenty Class 20 locomotives from RFS Industries at Doncaster. The locos were given a classified overhaul, repainted into RFS hire livery of grey with blue and yellow bodyside bands, and numbered in the RFS 2001-2020 series prior to being shipped to the UK Channel Tunnel base at Cheriton in Kent. As well as working within the terminal sites in the UK and France, these Class 20s also operated right through the Channel Tunnel itself with works trains.

The transfer of light mixed freight from rail to road transport left British Rail with an oversupply of small locomotives. It was fortunate for the Class 20s which could work in multiple and so handle heavier traffic that remained to be moved by rail. Most spent the majority of their working lives coupled nose to nose in pairs to provide a more useful 2,000 hp.

By May 2000, 20066 was stabled as withdrawn at Bescot Depot, Walsall in the West Midlands. On 22nd January 2001 it was noted at the MoD's sidings at Longtown in Cumbria where it had been taken by road from Bescot.

On 28th February 2005, 20066 was noted in BR Blue again stabled at Barrow Hill Roundhouse Museum now owned by the Harry Needle Railroad Company (HNRC). In 2005 HNRC had acquired a large number of 20/0s and 20/9s from the stored Direct Rail Services (DRS) fleet.

By May 2008, HNRC had made operational eight of its Class 20s, of which two were on hire at Corus Steelworks in Scunthorpe, and sixteen in storage one of which was 20066. In 2010, after thorough overhaul, 20066 was hired to Corus Steelworks, Appleby-Frodingham. Later, Tata Group took over the steelworks resulting in the loco being repainted into Tata Dark Blue livery and gaining the number 82.

8th December 2012 saw it moved by road to RVEL's works in Derby for derailment repairs. By 2014 it appears to have moved to the Scunthorpe Steel Works before moving again to the nearby Stanton Ore Terminal by 2016. On 1st January 2019 the loco was noted as having been reallocated again. This time it was on hire as yard shunter at the Hope Cement Works in Derbyshire. On 9th November 2020, 20066 was noted out of use stored in one of the sidings.

As of 2024, most Class 20s had been withdrawn, but a small number remained in consistent mainline service with Balfour Beatty in addition to various charter operators such as LSL, Vintage Trains and RailAdventure. Industrial use of the Class 20 continued at Hope Cement Works with locomotives supplied by HNRC which, incidentally, has recently been acquired by Swietelsky AG (one of Europe's leading construction companies in the field of rail infrastructure). Several Class 20s, that usually operate singly, have been fitted with nose-mounted video cameras as a way of solving visibility problems.

Coming up-to-date, to ensure 20066 could attend the East Lancashire Railway's Summer Diesel Gala (27 – 29 June 2024) the loco underwent a total overhaul at HNRC's premises at Barrow Hill. After years of disuse, the engine was found to be badly worn in several areas requiring new pistons for example as well as other equipment needing to be replaced. The bodywork also needed a lot of attention to remove corroded sections as necessary.

All was completed in time enabling the loco to be repainted in plain BR Blue livery with small BR logo and full yellow ends plus the white disc indicators reinstated front and rear. After a successful weekend at the ELR, 20066 was towed back to HNRC's premises at Barrow Hill.

20066 was announced as the second visitor to the Swanage Railway's 2025 Diesel Gala & Beer Festival (9th - 11th May). Subsequently, it was announced that the loco would stay at Swanage for a while to help share the summer diesel work load with D6515.

Subsequently, 33053 was hired from HNRC to work alongside D6515 with 20066 returning to Barrow Hill. However, it was decided in April 2026 to re-hire 20066 for another period from it's new owner Shaun Wright.

It will be available for Driver Experience runs on Thursday 7th May between the Arne Road Road/Rail siding and Bridge 4 (just short of Worgret Junction). Then it is scheduled

to operate during the Swanage Railway's 2026 Diesel Gala & Beer Festival (8th - 10th May). Afterwards, 2066 is expected to stay for a while although, at the time of writing [23/04/2026], the length of hire has not been ascertained.

The loco's arrival and use is courtesy of Shaun Wright.

ACKNOWLEDGEMENTS

http://ltsv.co.uk/rd/number_detail.php?id=LT-20066
https://www.brdatabase.info/locoqry.php?action=locodata&type=D&id=8066&loco=8066
https://www.youtube.com/watch?v=05t3R_hqGpE
https://spotlog.org/LocoList/LocoList/Site?country=UK&site=HNRC%20Barrow%20Hill

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