

Class 50

BRITISH RAIL

Built in the 1960s using state of the art technology, the Class 50 was expected to be a real success story. Although plagued by problems throughout their career on BR, the locomotives have survived to become the enthusiast's favorite diesel.

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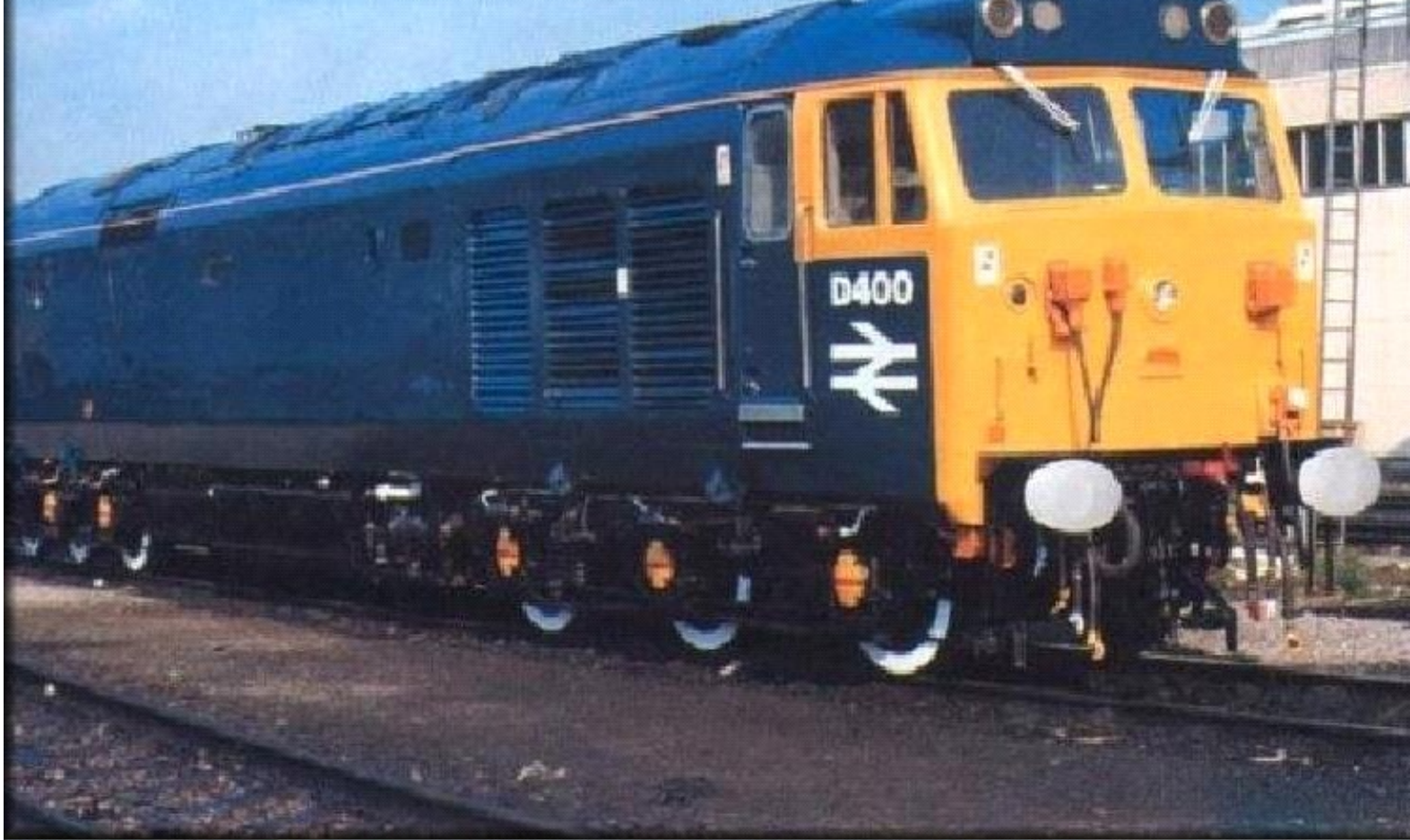
Pic. 1 ABOVE

When introduced in 1967, the Class 50 was designed to be more versatile, faster and more powerful than any other Type 4 then in BR service. The British Railways Board's own design panel decided the outline shape of the locomotive and English Electric developed the interior.

Pic. 2

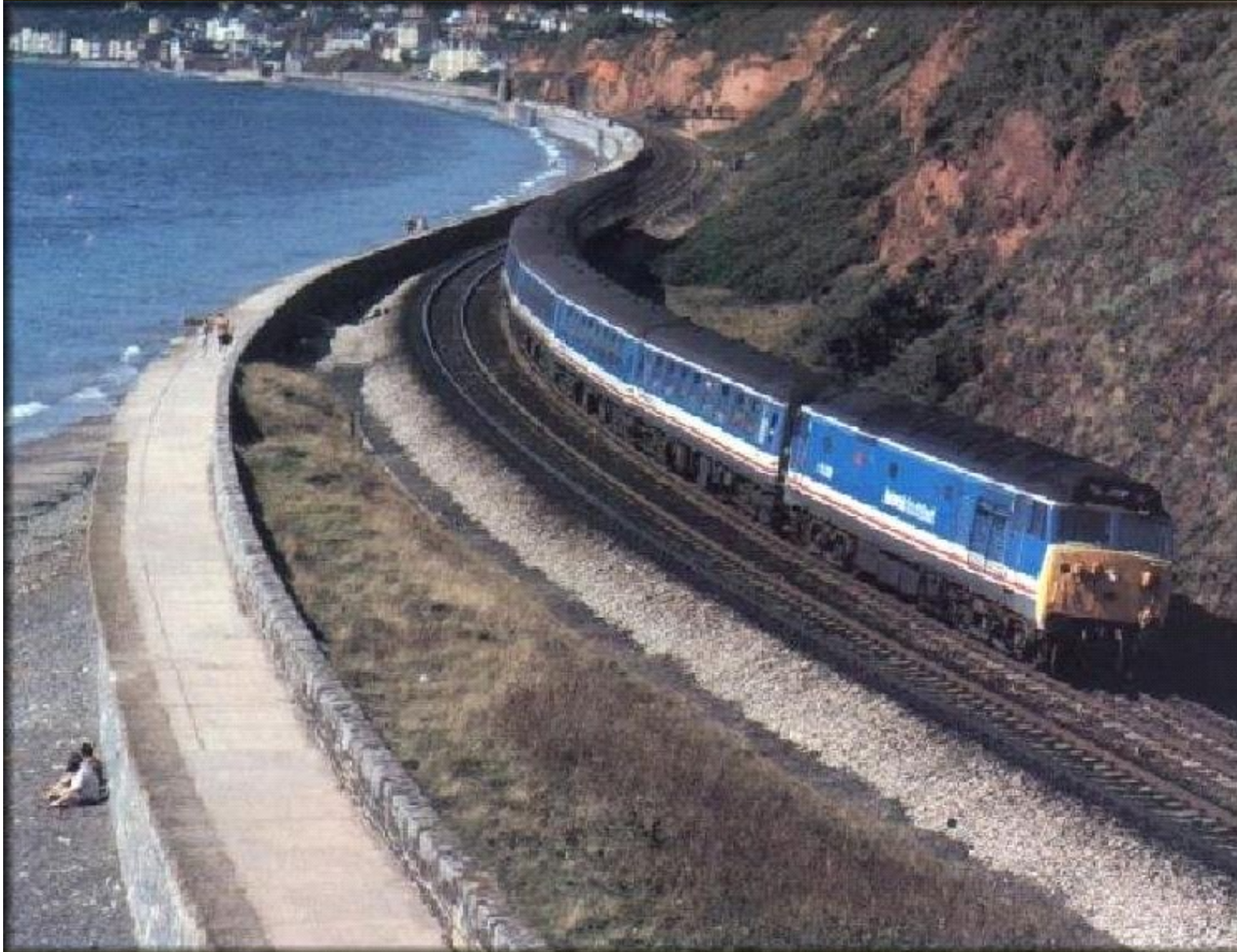
On 28 September 1991 the pioneer of the Class 50, No D400, stands at Laira shed in Plymouth. For its last few months in service this locomotive was returned to its original appearance, including repainting in rail blue livery and removal of its Fearless nameplates.





Pic. 3
At Carlisle station in August 1970, Class 50 No 407, later named Sir Edward Edgar, and No 413, later named A gin court. prepare to depart with the 08.00 Euston Glasgow. From May 1970 until May 1974 expresses over Shap and Beattock summits were usually double-headed. This gave them greater power to accelerate away from speed restrictions associated with the electrification work of the line to Glasgow.

Pic. 4
While working on the Western Region, No 50022 Anson hauls a train of Mark 1 coaches through the Cornish countryside. The Class 50s started arriving on the WR in 1974 after having worked on the London Midland Region since 1967.

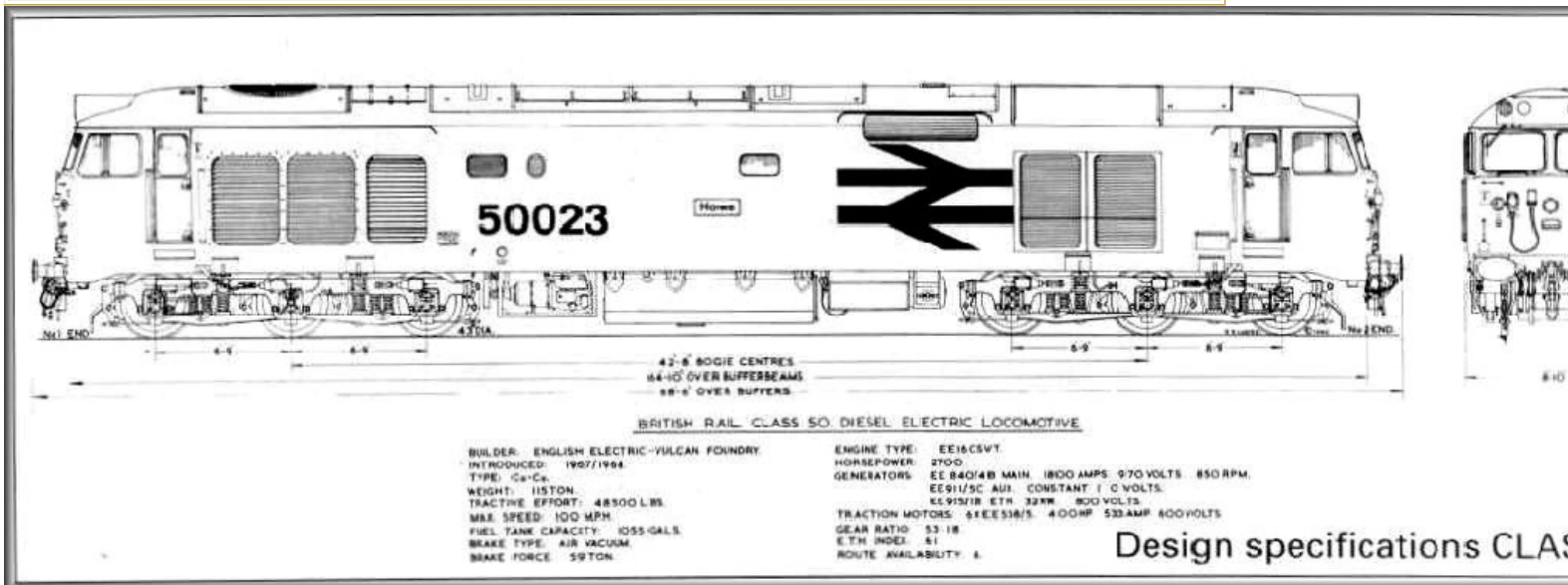


Pic.5

On 19 August 1989 No 50028 Tiger rolls through Langston Rock with the 09.33 Plymouth Brighton service. The 50s were expected to cope with 100mph passenger services and 1500 ton coal trains. Because the class was used so intensively it had a reputation for failure, but possibly no more so than any other class performing such arduous tasks.

Pic. 6

When introduced in 1967, the Class 50 was possibly the most technically advanced class of diesel locomotive in the world. It was the first BR diesel fitted with electronics in the control system in place of traditional relays. But these complicated systems gave rise to severe maintenance problems in service.



LOCO LIST

There were 50 members of the class and all were named after warships or shore establishments. *No 50007 Sir Edward Edgar was originally named Hercules

50001 Dreadnought
50002 Superb
50003 Temerarious
50004 St. Vincent
50005 Collingwood
50006 Neptune
50007 Sir Edward
Elgar*
50008 Thundered
50009 Conqueror
50010 Monarch
50011 Centurion
50012 Benbow
50013 Agincourt
50014 Warspite
50015 Valiant
50016 Braham
50017 Royal Oak
50018 Resolution
50019 Raillines
50020 Revenge
50021 Rodney

50022 Anson
50023 Howe
50024 Vanguard
50025 Invincible
50026 Indomitable
50027 Lion
50028 Tiger
50029 Renown
50030 Repulse
50031 Hood
50032 Courageous
50033 Glorious
50034 Furious
50035 Ark Royal
50036 Victorious
50037 Illustrious
50038 Formidable
50039 Implacable
50040 Centurion
50041 Bulwark
50042 Triumph
50043 Eagle
50044 Exeter
50045 Achilles
50046 Ajax
50047 Swift sure
50048 Dauntless
50049 Defiance
50050 Fearless

KEY FACTS

Class 50

BR Nos: D400-D449, 50001-50050. 50 locomotives Designer:

English Electric Built: Vulcan Foundry, Newton-le-Willows 1967/68

Introduced: 1967

Service: Express passenger and freight services: Crewe Glasgow, Paddington Penzance,

Waterloo Exeter Livery: Originally rail blue, sector liveries from 1986

Special features: Multiple working capability

Withdrawn: 1987-1992

TECHNICAL FILE

Wheel arrangement: Co-Co

Weight: 117 tonnes

Height: 12ft 10314in

Width: 9ft 1'14in

Length: 68ft 6in

Maximum speed: 100mph

Wheelbase: 56ft 2in

Bogie wheel base: 13ft 6in

Fuel tank capacity: 1055 gallons

Engine horsepower: 2700hp

Engine type: English Electric 16CSVT

Tractive effort: 48,500lb

Route availability: 6

Heating type: Electric

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Class 50

BRITISH RAIL

Built in the 1960s using state of the art technology, the Class 50 was expected to be a real success story. Although plagued by problems throughout their career on BR, the locomotives have survived to become the enthusiast's favorite diesel.

In 1966 the electrification of the West Coast main line (WCML) from Euston to Manchester and Liverpool was completed. However, because of financial restraints the stretch northwards from Weaver Junction, near Warrington, to Glasgow over the hilly summits of Shap and Beattock remained unelectrified. This meant diesel traction would still be needed north from Crewe.

In 1965, tenders were invited by the British Railways Board (BRB) for new WCML diesel traction, as a stop gap until full electrification to Glasgow was completed. Brush/Sulzer, Brush/English Electric and English Electric (EE) working alone put forward tenders and, after much deliberation, the BRB decided to adopt the EE design.

Design panel

Major advances had been made in rail traction technology since the first generation of diesel-electric locomotives, built in the late '50s and early '60s. EE based its specification on the 1962 prototype DP2 and the BRB brought in their newly formed design panel to finalize the external appearance of the new locomotive. The board also asked for additional features, such as slow speed control, and this led to numerous changes from the basic EE specification. With these factors in mind EE designed a new Type 4, still based on the DP2 but incorporating many refinements.

The established EE 16CSVT power unit of 2700hp was used, driving an EE generator group powering six EE traction motors. The locomotive design also incorporated electric train heating, dual train brakes (air/vacuum) and rheostat (electric) brakes on the locomotive itself.

In November 1965 a final agreement was reached between English Electric and BR for a fleet of 50 Type 4 (Class 50) locomotives, principally for WCML use. To avoid BR having to find some £30m to buy the locomotives a novel leasing agreement was arranged. The locomotives would remain EE property and be leased to BR through a subsidiary company known as English Electric Leasing Ltd. A small plate was fitted to each locomotive recording this arrangement.

The construction contract was awarded to Vulcan Foundry at Newton-le-Willows and work began in January 1967. The first locomotive, carrying the running number D400 and painted in rail blue livery, emerged on 4 September 1967 and was allocated to Crewe depot. Over the following 13 months the remaining 49 locomotives were delivered and placed in service on the northern section of the London Midland Region (LMR), powering passenger, van and freightliner services.

Class 50 operations

Following the introduction of accelerated schedules north of Crewe in the late 1960s, all 50 locomotives of the class were fitted with 36-pin control jumpers, which enabled up to three locomotives in multiple to be controlled by one driver. The equipment was experimentally fitted to the first two locomotives. Full multiple working of two locomotives provided 5400hp, enabling trains of up to 16 vehicles to climb Shap and Beattock at near electric speeds (85mph).

Although the Euston Glasgow accelerated schedules were a major improvement, a change of traction between electric and diesel was still required at Crewe. To save time and reduce costs submissions were made for electrification north from Weaver Junction to Glasgow, and work began in 1970.

During the period of electrification the changing point from electric to diesel traction gradually moved northwards, reducing demand for the Class 50s on main line passenger work. The electrification of the WCML was completed in 1974, and over the next two years the need for Class 50s on the WCML was completely eliminated.

At the same time the Western Region (WR) was seeking replacement traction for its 2700hp Class 52 Western locomotives. The Class 50s were

moved to the WR at Bristol, Old Oak Common (London) and Laira (Plymouth) progressively from the end of 1972. At the same time the English Electric Leasing arrangement finished and BR bought the locomotives at very favorable terms.

Western working

Soon after the arrival of the class on the WR, the BRB naming policy for selected main line locomotives was resurrected. The 50 locomotives were allocated names associated with either Royal Navy shore establishments or ships.

On the WR the Class 50s were used mainly on the London Bristol and London West of England routes, where their performance was generally poor. A number of factors contributed to this; the drivers were not familiar with diesel-electric traction and maintenance staff were not used to the equipment, particularly the electronics. This had not happened when the class was introduced on the LMR because drivers had the benefit of English Electric riders travelling with them, which increased their technical knowledge of the class.

By 1977 the Class 50s had become so unreliable that diagrams were introduced based on just 55% availability. Major remedial work was needed and BR agreed that total refurbishment was the only answer. A lot of the complex electronic equipment was removed, along with the rheostatic braking, and a more effective air management system was installed. The work of refurbishment was carried out by BREL at their Doncaster works between 1978 and 1983. Work took on average five months per locomotive to complete.

Meanwhile, the introduction of High Speed Train (HST) sets to the WR reduced the requirement for individual locomotives on the Bristol and West of England routes. This allowed the class to take over the Waterloo Exeter line from the lower powered Class 33s, as well as working some Paddington Birmingham/Worcester duties and inter-regional services between Birmingham and the West. During the mid-1980s, as further services were transferred to HST operation, the Class 50s became the normal motive power for Paddington area outer suburban express duties.

Even after the costly refurbishment programmed, the performance of the 50s was not good. With the general decline in locomotive requirements the Class 50s were deemed surplus to requirements and withdrawal began in February 1987. By October 1990 the remaining 30 locomotives were concentrated at Laira depot and under BR's sector ownership became the property of Network South East for use on their Waterloo Exeter line.

During the last few years of operation the Class 50 locomotives developed something of a cult following, with enthusiasts monitoring virtually every move. When withdrawal was announced, many preservation groups set about fund-raising. While the class will go down in railway history as one of the most followed diesel classes of all time, regrettably it has not been one of the most successful in terms of operation.

Livery details

When constructed in the mid-1960s the Class 50s were the first complete diesel class to be finished in the new corporate rail blue livery. This remained until August 1980 when a revised basic livery of blue body with wrap-around yellow ends, large numbers and BR logo was applied to some examples. A further livery change occurred from 1986 when Network South East was formed and their red, white and blue business livery was applied to its locomotives.

Three locomotives are of special livery interest: No 50007 was repainted in mock GWR green: No 50015 was repainted in Civil Engineers' Dutch livery, and No 50050 was repainted by Laira in almost original rail blue livery, and for its find! few months in service ran with its original number 0400.

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Main Line Diesel



Production of the Class 50s began in February 1966, the first loco rolling off the production line in September 1967. Delivery of the fleet took 14 months, all being delivered to Crewe for working on the West Coast Mainline. From 1972, after electrification of the West Coast Main Line, the fleet transferred to the Western Region for working on the Paddington-Bristol and other West of England services. Withdrawal of the Class 50s started in the late 80's, when HSTs began to take over services.

50007 was brought into service in May 1968 and operated on the West Coast lines until reallocated to Laira, Plymouth after an overhaul at Doncaster in April 1974. In February 1984 50007 was officially named 'Sir Edward Elgar' at a ceremony at Paddington. She was withdrawn from service in March 1994 and arrived at the Midland Railway - Butterley July 1994.

Status: Non - Operational (repairs to engine are being carried out)

Specification:

Class Introduced: 1967

Wheel Config: Co-Co

Weight: 117 tonnes

Length: 68ft 6ins

Max. Speed: 100mph

Engine: 2700hp English Electric 16CSVT

Tractive Effort: 48500lbs

Braking System: Dual (Vacuum & Air)

Number Built: 50

**British Rail Class 50 - 50007 - 'Sir Edward Elgar'****Information Hot Line: 01773 570 140**©2012-13 Midland Railway-Butterley - All Rights Reserved - Website Design ©2012-13 [SJM Websites](#) - All Rights Reserved[Home](#)[Attractions](#)[Events](#)[Activities](#)[Galleries](#)[Contact & Find Us](#)[Enthusiasts & Members](#)

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(January 2014)

Fifty **British Rail** (BR) **Class 50 diesel locomotives** were built by **English Electric** at their **Vulcan Foundry Works** plant in **Newton-le-Willows** between 1967 and 1968. These locomotives were supplied to haul express passenger trains on the, then non-electrified, section of the **West Coast Main Line** between Crewe and Scotland. They were originally hired from English Electric Leasing, and were eventually purchased outright by BR around 1973. Before gaining their 50xxx **TOPS** numbers these locomotives were known as **English Electric Type 4s** and numbered in the D4xx series. The class were nicknamed "Hoovers"^[*note 1*] (sometimes shortened to "Vacs") by **rail enthusiasts** because of the distinctive sound made by the inertial air-filters originally fitted. These proved unreliable, and were removed during mid-life refurbishment, but the "Hoover" nickname stuck. Once the electrification from Crewe to Glasgow was completed the locomotives were moved to services in the south west of England, and eventually retired from service in 1994. The fleet was been replaced by the **InterCity 125** on most of the routes it operated, except the **West of England Main Line**, on which it was replaced by the **Class 159** "South Western Turbo", and on the West Coast Main Line, which was electrified.

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Description [edit]

Introduction [edit]

The Class 50 fleet design was developed following trials with a prototype which used a body similar to a **Deltic** but modified to house the single diesel engine and cooler group. It was developed as a private venture by English Electric and was trialled under a contract with **British Rail** largely on routes out of Kings Cross. BR gave the locomotive the reporting reference **DP2**.^[2]

Unusually BR did not initially purchase the production batch of locomotives, but agreed to lease them from **English Electric**. **EE** manufactured all fifty locomotives at its **Newton-le-Willows** plant, delivering them in the new corporate **BR Blue** livery with yellow cab fronts. From 1973 onwards, the locomotives were renumbered into the range 50001-50050, to conform with the **TOPS** system. With the exception of the first-built locomotive, which was renumbered to 50050, the rest of the fleet retained the last two digits of their number.^[3]

| British Rail Class 50 | |
|--|--|
| <div>50015 <i>Valiant</i>, as preserved at the East Lancashire Railway in 2008.</div> | |
| Type and origin | |
| Power type | Diesel-electric |
| Builder | English Electric at Vulcan Foundry |
| Build date | 1967–1968 |
| Total produced | 50 |
| Specifications | |
| Configuration | Co-Co |
| UIC classification | Co'Co' |
| Gauge | 4 ft 81⁄2 in (1,435 mm) standard gauge |
| Wheel diameter | 3 ft 7 in (1.092 m) |
| Wheelbase | 56 ft 2 in (17.12 m) |
| Length | 68 ft 6 in (20.88 m) |
| Width | 8 ft 10 in (2.69 m) |
| Height | 12 ft 9 in (3.89 m) |
| Axle load | 19 long tons 10 hundredweight (19.8 t; 21.8 short tons) |
| Locomotive weight | 115 long tons (117 t; 129 short tons) |
| Prime mover | English Electric 16 CSVT |
| Engine type | 16 cyl , 246 litres (15,000 cu in) Diesel engine |
| Traction motors | 6 English Electric type 538/5A axle-hung nose-suspended 400 hp (300 kW) traction motors |
| Multiple working | ■ Orange Square |
| Performance figures | |
| Maximum speed | 100 mph (160 km/h) |
| Power output | <i>Engine</i> : 2,700 bhp (2,010 kW) |
| Tractive effort | <i>Maximum</i> : 48,500 lbf (216 kN) <i>Continuous</i> : 33,000 lbf (147,000 N) @ 23.5 mph (37.8 km/h) ^{[1]} |
| Train heating | Electric Train Heat |
| Train brakes | Dual (Air and Vacuum) |
| Career | |
| Operator(s) | British Rail |
| Number(s) | D400–D449; later 50001–50050 |
| Nicknames | Hoovers |

The class were built for working passenger services on the [West Coast Main Line](#) (WCML) north of [Crewe](#), to [Preston](#), [Lancaster](#), [Carlisle](#) and [Glasgow Central](#). Services south of Crewe would generally be worked by an [electric locomotive](#), with the Class 50s taking over for the journeys that continued north.^[4] Initially trains were hauled by a single locomotive, but once the electric service was introduced as far as Preston trains were often [double-headed](#) to help match the performance of the electric locomotives and to deal with the steep gradients on the route, such as [Shap](#) and [Beattock](#). The ability to operate using [multiple working](#) had been part of the locomotive's initial design brief, but only two of the class had the facility from new, but with the introduction of the regular double headed duties, this facility was fitted to the whole class.^[5]

By 1974 the northern WCML was electrified, and the Class 50 fleet was displaced by new [Class 87](#) electrics. The fleet was transferred to the [Western Region](#), working mainline passenger services from [London Paddington](#) along the [Great Western Main Line](#) to destinations such as [Oxford](#), [Bristol Temple Meads](#), [Plymouth](#) and [Penzance](#).^[6] It was not unusual for locomotives to work services on other routes, such as the [Birmingham New Street](#) to [Bristol Temple Meads](#) corridor. The introduction of the Class 50s on these routes enabled the last remaining, non-standard, [diesel hydraulic "Westerns"](#) to be withdrawn.^[7]

In the late-1970s, following a period where the policy of locomotive naming had been abandoned, BR were persuaded to name the class 50s after Royal Navy Vessels with notable records in the First and Second [World Wars](#). As a result, the first locomotive naming occurred in January 1978, when 50035 was named *Ark Royal* by the captain and crew of then current [aircraft carrier HMS Ark Royal](#). The rest of the fleet was named during the course of the next few years.

From 1977, British Rail introduced the [Class 253 High Speed Trains](#) onto the Great Western Main Line which began the displacement of the Class 50 fleet onto other routes, such as services to [Birmingham New Street](#) from London Paddington and [Bristol Temple Meads](#). The class also found work on the [West of England Main Line](#) from [London Waterloo](#) to [Salisbury](#), [Exeter](#) and [Plymouth](#). However, due in part to the over-complexity of the design, the class was plagued with reliability problems. As a result, the decision was taken in the late 1970s to refurbish the entire fleet.^[8]

Refurbishment [\[edit\]](#)

To deal with increasing reliability problems, the Class 50 fleet was refurbished at [Doncaster Works](#) between 1979 and 1984. Doncaster had taken responsibility for the fleet after BR completed the purchase of the locomotives from English Electric. The work involved simplifying the complex electronics and removing redundant features such as slow speed control and rheostatic braking.^[9] In addition, the air intake fan arrangement was modified, because the original setup often prevented fresh air from entering the engine room and stale, oil mist-filled air from escaping, leading to many main generator failures. This was in part due to the moisture in the air in the UK: dust and other particles would lodge in the filter system and become 'gummed up' with moisture, preventing circulation which in turn also hampered the intended engine compartment pressure levels which then meant 'filtered' air could not be evacuated by the intended means. The filtration system was fundamentally sound and widely used in other countries; the problems arose because relative humidity had not been taken into account at the design stage.^{[10][11]} This modification eliminated the characteristic "sucking" noise which had earned the "Hoover" nickname.^[12]

Externally, the locomotives all received high-intensity headlights, which changed the appearance of the front end. Starting with 50006, the first six locomotives were outshopped in the standard BR Blue livery.^[13] However, in 1980, 50023 *Howe* became the first to be outshopped in a revised livery with wrap around yellow cabs, large bodyside numerals and BR logo, in a livery that became known as [BR Blue Large Logo](#).^[14] The final loco to be refurbished was 50014 which was released to traffic in the latter half of 1983.^[15]

Following refurbishment, the fleet was concentrated at two depots; [Laura](#) in Plymouth, and [Old Oak Common](#) in west [London](#). The class were again used for Western Region services on the [GWML](#) out of Paddington, and on the West of England Main Line from Waterloo to [Salisbury](#) and Exeter.^[16]



In 1984, 50007 *Hercules* was repainted into lined [Brunswick green](#) livery and renamed *Sir Edward Elgar*, to commemorate the 150th anniversary of the [Great Western Railway](#) (GWR). Four [Class 47](#) locomotives were similarly treated, and a [Class 117 diesel multiple unit](#) (DMU) was repainted in chocolate and cream livery. As a result, 50007 quickly became a favourite with [rail enthusiasts](#). Another locomotive repainted in a special livery was 50019 *Ramillies*, which was repainted in a variation of BR Blue by staff at Plymouth Laura depot.

In 1986 the West of England Main Line came under the control of the [Network SouthEast](#) (NSE) sector, which saw the introduction of their bright blue, red and white livery. The first locomotive in this livery was again 50023 *Howe*. The NSE livery had two versions; the original had upswept red and white stripes and the ends, with a white cab surround; the revised livery introduced in 1988 had the red and white stripes continue to the body ends,

with a blue cab surround. In the revised livery the blue became a darker shade.^[17]

Towards the end of the 1980s, the fleet could be found mostly on the West of England route, as well as fast services from Paddington to Oxford. Some locomotives were also transferred to the civil engineers department to work maintenance and engineering trains. Around this time, the first locomotives were withdrawn, starting with 50011 *Centurion* in early 1987. This locomotive's nameplates were later transferred to 50040, which was previously named *Leviathan*. A further two locomotives, 50006 *Neptune* and 50014 *Warspite* were withdrawn in 1987, followed by a further five locomotives (50010/13/22/38/47) in 1988.^[18]

In 1987, consideration was given to using the class on freight trains. To this end, 50049 "Defiance" was renumbered to 50149, equipped with modified Class 37, lower-g geared bogies and outshopped in the new trainload grey livery with Railfreight decals. It was

based at [Plymouth Laira](#) depot, and tested on local [china clay](#) trains in [Cornwall](#) as well as heavy stone trains to London from Devon quarries.^[19] The project was, however, not an outstanding success, and by 1989, the locomotive had returned to its original identity. Ironically, the electronic anti-[wheelslip](#) equipment (with which, the entire class had originally been built) which would have been key to the success of this experiment had been removed during the refurbishment process.^[20]

At the start of the 1990s, the reliability of the fleet became a problem again. By this time, the class was solely used on the West of England route, having been replaced on the Oxford route by Class 47/7 locomotives. Arguably, the Class 50s were not suitable for the stop-start service pattern of Waterloo-Exeter services, nor to the extended single-line sections of this route, where a single locomotive failure could cause chaos. Therefore the decision was taken to retire the fleet, temporarily replacing them with Class 47 locomotives, which were in turn replaced by new [Diesel Multiple Units](#). From 1992, the Oxford route was worked by [Class 165](#) and [Class 166](#) units, whilst [Class 159](#) units were introduced onto the West of England route in 1993.

By 1992, just eight locomotives remained in service, these being 50007/008/015/029/030/033/046/050. Several of these locomotives were specially repainted to commemorate the run-down of the fleet. The first-built locomotive, 50050 *Fearless* was renumbered D400 and painted in its original BR Blue livery. Two other locomotives, 50008 *Thunderer* and 50015 *Valiant* were also repainted, the former in a variation of BR Blue (the same as 50019 had previously carried), and the latter in "Dutch" civil-engineers grey/yellow livery. Of the final eight locomotives, three were retained until 1994 for use on special railtours, these being 50007 *Sir Edward Elgar*, 50033 *Glorious* and 50050 *Fearless*. 50007 was returned to working order using parts from 50046, which surrendered its recently overhauled power unit and bogies. By this time, 50050 had been repainted into Large Logo livery and 50007 also received a repaint into GWR green as the 1985 paint was wearing very thin. The final railtours operated in March 1994, during one of which 50033 was delivered for preservation at the [National Railway Museum](#). The final railtour operated with 50007 and 50050 from London Waterloo to Penzance and returning to London Paddington. Both locomotives were later preserved.

Class list ^[edit]

| Number | | Name ^[21] | Date named | Notes |
|----------|-------|-----------------------------|---------------|--|
| Pre-TOPS | TOPS | | | |
| D400 | 50050 | Fearless | 23.08.78 | Carried nameplate 04.08.78 - 07.08.78. Preserved by the D400 Fund ^[22] |
| D401 | 50001 | Dreadnought | 10.04.78 | |
| D402 | 50002 | Superb | 21.03.78 | Preserved by the Devon Diesel It also In the Middle Of being Restored At The South Devon Railway In Buckfastleigh ^[23] |
| D403 | 50003 | Temeraire | 09.05.78 | |
| D404 | 50004 | St Vincent | 09.05.78 | |
| D405 | 50005 | Collingwood | 05.04.78 | |
| D406 | 50006 | Neptune | --.09.79 | |
| D407 | 50007 | Hercules | 06.04.78 | Renamed Sir Edward Elgar on 25.02.84. Now owned by Boden Rail Engineering Ltd. Original name <i>Hercules</i> reapplied. |
| D408 | 50008 | Thunderer | 01.09.78 | Preserved |
| D409 | 50009 | Conqueror | 08.05.78 | |
| D410 | 50010 | Monarch | 16.03.78 | |
| D411 | 50011 | Centurion | --.08.79 | First to be withdrawn. |
| D412 | 50012 | Benbow | 03.04.78 | |
| D413 | 50013 | Agincourt | 19.04.78 | |
| D414 | 50014 | Warspite | 30.05.78 | |
| D415 | 50015 | Valiant | 21.04.78 | Preserved: owned by the Bury Valiant Group |
| D416 | 50016 | Barham | 03.04.78 | |
| D417 | 50017 | Royal Oak | 24.04.78 | Preserved at the Plym Valley Railway (formly) now own by Boden Rail |
| D418 | 50018 | Resolution | 06.04.78 | |
| D419 | 50019 | Ramillies | 18.04.78 | Preserved at the Mid Norfolk Railway |
| D420 | 50020 | Revenge | 07.07.78 | |
| D421 | 50021 | Rodney | 31.07.78 | Preserved, privately owned. |
| D422 | 50022 | Anson | 20.04.78 | |
| D423 | 50023 | Howe | 17.05.78 | Scrapped in 2003 at Barrow Hill |
| D424 | 50024 | Vanguard | 15.05.78 | |
| D425 | 50025 | Invincible | 06.06.78 | Scrapped at Old Oak Common in October 1989, after derailment at West Ealing in August 1989, as a result of vandals placing an object onto the track, causing the loco to overturn. |

| | | | | |
|------|----------------|--------------------|----------|--|
| D426 | 50026 | <i>Indomitable</i> | 29.03.78 | Privately Preserved ^[24] |
| D427 | 50027 | <i>Lion</i> | 17.04.78 | Preserved at the Mid Hants Railway . Moved from the North Yorkshire Moors Railway on 13 June 2012. |
| D428 | 50028 | <i>Tiger</i> | 10.05.78 | |
| D429 | 50029 | <i>Renown</i> | 26.10.78 | Preserved: owned by the Renown Repulse restoration Group ^[25] |
| D430 | 50030 | <i>Repulse</i> | 10.04.78 | Preserved: owned by the Renown Repulse restoration Group ^[25] |
| D431 | 50031 | <i>Hood</i> | 28.06.78 | Preserved: operated by the Class 50 Alliance ^[26] |
| D432 | 50032 | <i>Courageous</i> | 07.07.78 | |
| D433 | 50033 | <i>Glorious</i> | 26.06.78 | Preserved |
| D434 | 50034 | <i>Furious</i> | 06.04.78 | |
| D435 | 50035 | <i>Ark Royal</i> | 17.01.78 | First to be named and preserved: owned by the Class 50 Alliance ^[27] |
| D436 | 50036 | <i>Victorious</i> | 16.05.78 | |
| D437 | 50037 | <i>Illustrious</i> | 08.06.78 | |
| D438 | 50038 | <i>Formidable</i> | 05.05.78 | |
| D439 | 50039 | <i>Implacable</i> | 20.06.78 | |
| D440 | 50040 | <i>Leviathan</i> | 15.09.78 | Scrapped at Sims Metals, June/July 2008. |
| D441 | 50041 | <i>Bulwark</i> | 08.05.78 | |
| D442 | 50042 | <i>Triumph</i> | 04.10.78 | Preserved at the Bodmin and Wenford Railway |
| D443 | 50043 | <i>Eagle</i> | 28.06.78 | Scrapped for spares in 2002 at Blaenavon |
| D444 | 50044 | <i>Exeter</i> | 26.04.78 | Preserved: owned by the Class 50 Alliance ^[27] |
| D445 | 50045 | <i>Achilles</i> | 12.04.78 | |
| D446 | 50046 | <i>Ajax</i> | 11.10.78 | |
| D447 | 50047 | <i>Swiftsure</i> | 26.05.78 | |
| D448 | 50048 | <i>Dauntless</i> | 16.03.78 | |
| D449 | 50049 50149 | <i>Defiance</i> | 02.05.78 | 50149 carried during experimental Railfreight period (see text). Preserved: owned by the Class 50 Alliance ^[27] |

Portuguese locomotives [edit]

See also: *CP Class 1800*

The [Portuguese](#) Railways, [CP](#), bought ten locomotives similar to the BR Class 50. These locomotives, designated by CP as "Série 1800" (numbered 1801–1810), entered service in 1968.

Like the British Class 50s, they were equipped with an English Electric 16 CSVT engine and produced 2700 hp (2020 HP at the wheels). Unlike the BR locomotives upon which electronic control is extensively used, the Portuguese locomotives employ conventional control gear (the only exceptions being stepless control of tractive effort by a solid-state load regulator and the use of a very effective out-of-balance wheel-slip detector). The main generator and the traction motors are identical to those used on the BR Type 3 and Deltic locomotives. Contrary to BR Class 50, the Portuguese Série 1800 locomotives were built to be as much compatible with the smaller [Série 1400](#) (themselves similar to BR Class 20) as possible and also to use as many common components as possible.

They were the only diesel locomotives in [Portugal](#) authorised to run at 140 km/h. The CP Série 1800s were all withdrawn in 2001 and (as of 2012) several have been cut up, and the future of the rest is unclear.

Locomotive 1805 has been preserved in operational condition by the [Portuguese National Railway Museum](#) at [Entroncamento](#). It was repainted at the CP workshop at Contumil near [Porto](#). Since the 1980s it had been painted in CP's corporate orange livery; it has been repainted in its original distinctive blue livery. It is fully functional, and while still an integral part of the National Railway Museum, is set to return to service pulling tourist trains in the [Douro River](#) Line.

Preservation [edit]

Class 50 locomotives proved popular with [rail enthusiasts](#), with eighteen locomotives saved for preservation and several subsequently registered for use on the mainline.

An ambitious project involving preserved Class 50s was "Operation Collingwood", an engineering charity established in the early 1990s. The aim had been to train young engineering [apprentices](#) by getting them to rebuild railway locomotives and Class 50s were chosen both for the fact that they were a British design throughout and that all were named (so the apprentices would derive some pride from rededication ceremonies at the completion of their work). To this end, Operation Collingwood purchased and stored 50001, 50023, 50029, 50030, 50040 and 50045. All except 50029 and 50030 were heavily stripped examples sold to scrapyards for



En route from Barriero to Vila Real de Santo António on 27 November 1990, 1805 pauses at Ermidas Sado where it was booked to cross over with a northbound train.

final cutting up. The intention was to restore them by using industrial sponsorship money to build an engineering centre and overhaul the components, making brand new ones where necessary to overcome lack of availability of some parts unique to the original design. These ambitions failed when sponsorship did not reach the required level and the project lost various key people. The charity was wound up in 2002; 50001/023/040 and 045 were sold back to scrapyards and their state as little more than bodysells deterred most further preservation attempts. 50045 was scrapped to provide spares for preserved 50026, and 50001 met a similar fate. A private individual made an attempt to restore 50023 using some parts from 50001 but this was abandoned and the shell was cut up a few years after the initial purchase. 50040 could have been suitable for [cosmetic restoration](#), but after many years untouched and in a derelict state at the Coventry Railway Centre, it finally had all remaining parts stripped for spares and was transported to Sims Metals of Halesowen and scrapping. The cutting of the derelict hulk was completed by Wednesday 2 July 2008. 50029 and 50030 were in far better mechanical condition, and were sold to a preservation group for full restoration.

50043 *Eagle* was purchased in almost working order (the main generator had failed, a very common Class 50 problem) but it was never intended for restoration. Instead the power unit was gutted to provide parts for preserved [Class 40](#) no. 40118 as the two share a very similar design of diesel engine. *Eagle* was then subjected to a further bout of stripping when electrical and other parts were sold to various Class 50 preservationists. Although cosmetically very smart, the loco was by this stage unrestorable and although an ambitious private individual did try, this effort soon came to naught and it was scrapped to provide parts for 50026 *Indomitable*.

Once preserved, 50002 became the first class 50 to operate a train for a private excursion on the South Devon Railway (April 1992), while 50031 was the first to operate a train for fare paying passengers (Severn Valley Railway May 1992). 50031 was also the first to operate on the mainline, hauling the Past Time Railtours Pilgrim Hoover train from Birmingham International to Plymouth on 1 November 1997. Since then several other members of the class have also been passed for use on [Network Rail](#) (was [Railtrack](#)) lines (including 50044, 50049 and 50050). However with changes in the UK's Rail Access regulations (requiring fitment of additional equipment: [TPWS/OTMR/GSMR](#)) some of these locos are no longer of a standard to continue mainline operation. Only 50044 & 50049, along with the repainted 50007 are presently passed for mainline running. The owners of 50008 & 50026 aim to restore the two to mainline use in the near future.

One locomotive, 50017, was hired to [Venice Simplon Orient Express](#) (VSOE) to work the *Northern Belle* service from [Bath](#) to [Manchester Victoria](#). As part of the contract it was painted in [LMS](#)-style maroon livery. Following this, the loco spent many years dumped at Tyseley locomotive works before being sold to a private individual. The loco has now been restored to working order at the [Plym Valley Railway](#).

In 2003 the [National Railway Museum](#) decided to dispose of 50033, subject to a suitable owner being found due to an inability to commit to maintenance and storage costs. After spending a period on loan to the [North Yorkshire Moors Railway](#) in 2004 the locomotive was moved to the [Swindon Steam Railway Museum](#). However, soon after it was sent on to the [Tyseley Locomotive Works](#) as part of a proposed move to the RailSchool project and [Royal Docks Heritage Railway](#) in [North Woolwich](#), London. However, this scheme soon fell by the wayside, and 50033 languished at Tysley for several years before finally being sold on to [Vintage Trains](#) in 2013.

In 2005, 50031 and 50049 were on long term hire to [Arriva Trains Wales](#) (ATW), for use on special services in connection with events at the Millennium Stadium, and over the summer period saw regular use on the Monday to Saturday "[Fishguard](#) Flyer" from Cardiff to Fishguard and return, in connection with the ferry sailing to Ireland. One of the two locomotives was used for the service each day, along with 4 [Mark 2](#) coaches, the short formation and high power leading to very good performance. This arrangement lasted for one year. At the end of this period 50031 failed whilst working an ECS (Empty Coaching Stock) train, again for ATW.

During the summer of 2008 50044 "Exeter" was fitted with [OTMR](#), and the [TPWS](#) fitted previously was commissioned. In October 2008 '44 was re-registered for mainline use, and operated its first revenue mainline train on 18 October 2008, when it worked, in multiple with 50049 "Defiance" on a railtour from Manchester Piccadilly to Minehead.

Several owning groups have ceremonially re-dedicated their locomotives to the warships whose names they carry. The HMS *Hood* Association rededicated 50031 *Hood* at the [Mid Hants Railway](#), unveiling new crests. The crew of HMS *Exeter* re-dedicated D444 *Exeter* at the [Severn Valley Railway](#) a year before the vessel was decommissioned, unveiling a crest and early-BR-style nameplates. The captain of HMS *Ark Royal* performed the re-dedication ceremony for 50135 *Ark Royal* at the *Eastleigh 100 Open Days*.

List of preserved locomotives [[edit](#)]

| Numbers (current in bold) | | | Name | Livery | Location | Notes |
|---------------------------|--------------|---|-----------------|---------|---------------------------------------|--|
| D400 | 50050 | - | <i>Fearless</i> | BR Blue | Yeovil Railway Centre | First-built locomotive and currently under restoration |
| D402 | 50002 | - | <i>Superb</i> | BR Blue | South Devon Railway | Being cosmetically restored to unrefurbished condition |
| D407 | 50007 | - | <i>Hercules</i> | BR Blue | Washwood Heath TMD | Owned by Boden Rail Engineering Ltd. The GWR 150 name <i>Sir Edward Elgar</i> and GWR Green livery have both been replaced and the original name, <i>Hercules</i> , has been reapplied <p>Operational, Mainline Certified.</p> |
| | | | | | | Re-entered preservation in 2006. Repainted by ELR 2009- |

| | | | | | | |
|------|--------------|--------------|--------------------|---------------------------------|----------------------------------|---|
| D408 | 50008 | - | <i>Thunderer</i> | BR "Laira Blue" | Washwood Heath (Hanson) | 2010 Awaiting main gen attention |
| D415 | 50015 | - | <i>Valiant</i> | BR Blue Large Logo | East Lancashire Railway | Only Class 50 to carry "Dutch" civil-engineers livery in BR ownership. Preserved by Bury Valiant Group Operational |
| D417 | 50017 | 50117 | <i>Royal Oak</i> | Network SouthEast (Original) | Plym Valley Railway | Operational, Mainline Certified. Previously used to operate VSOE Northern Belle . |
| D419 | 50019 | - | <i>Ramillies</i> | BR Blue Large Logo | Mid-Norfolk Railway | Under overhaul |
| D421 | 50021 | - | <i>Rodney</i> | BR Blue Large Logo (Black Roof) | Tyseley Locomotive Works | Currently stored unservicable |
| D426 | 50026 | - | <i>Indomitable</i> | Network SouthEast (Revised) | Severn Valley Railway | Operational and fitted with OTMR and TPWS equipment for mainline operation. Requires GSM-R Radio. |
| D427 | 50027 | - | <i>Lion</i> | Network SouthEast (Revised) | Mid Hants Railway | Operational |
| D429 | 50029 | - | <i>Renown</i> | BR Blue Large Logo (Black Roof) | Peak Rail | - |
| D430 | 50030 | - | <i>Repulse</i> | BR Blue Large Logo | Peak Rail | - |
| D431 | 50031 | - | <i>Hood</i> | BR Blue Large Logo | Eastleigh works (Arlington Rail) | Under assessment. |
| D433 | 50033 | - | <i>Glorious</i> | BR Blue Large Logo | Tyseley Locomotive Works | Previously at Swindon Steam Railway Museum . Now owned by Vintage Trains . |
| D435 | 50035 | 50135 | <i>Ark Royal</i> | Non-prototypical Load-Haul | Severn Valley Railway | Currently under repair at Eastleigh works |
| D442 | 50042 | - | <i>Triumph</i> | BR Blue | Bodmin & Wenford Railway | - |
| D444 | 50044 | - | <i>Exeter</i> | BR Blue | Severn Valley Railway | Currently awaiting a power unit repair at Brush, Loughborough. Mainline Certified. |
| D449 | 50049 | 50149 | <i>Defiance</i> | BR Blue Large Logo (Black Roof) | Severn Valley Railway | Currently undergoing a power unit repair at the Severn Valley Railway. Mainline Certified. |

Gallery [[edit](#)]



50035 *Ark Royal* at [Doncaster Works](#) on 27 July 2003. This locomotive carries [BR Blue Large Logo](#) livery, and is preserved on the [Severn Valley Railway](#).



50021 *Rodney* behind 50017 *Royal Oak* at [Tyseley Locomotive Works](#) on 21 November 2004. The latter is painted in non-standard [LMS](#) maroon, a legacy from when it was hired to work the [VSOE Northern Belle](#).



50019 *Ramillies* on a ballast working near [Hardingham, Mid-Norfolk Railway](#), June 2009



50015 'Valiant' in Bury, [East Lancashire Railway](#)



50008 'Thunderer' in Bury, [East Lancashire Railway](#)



50007 Sir Edward Elgar
at the Midland Railway
Centre in 2007

References, literature and notes [[edit](#)]

Notes [[edit](#)]

- [↑] after [The Hoover Company](#), the name "Hoover" being a [genericized trademark](#) used to apply to all makes of [Vacuum cleaners](#) in the UK

References [[edit](#)]

- [↑] <http://www.auran.com/trainz/database/class50t.html>
- [↑] Class 50s in Operation. D Clough ^[*page needed*]
- [↑] Class 50s in Operation. D Clough ^[*page needed*]
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- [↑] BR Locomotive Problems Working Group Minutes
- [↑] English Electric Traction for Egypt - EE Co Publicity Document E438 1961
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- [↑] Class 50s in Operation. D Clough ^[*page needed*]
- [↑] Class 50 The Large Logo Years. I Horner
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- [↑] "Class 50 Locomotive Names" . Class50.com. Retrieved 2 October 2010.
- [↑] <http://www.d400fund.org.uk/>
- [↑] <http://www.devondiesels.org.uk/>
- [↑] <http://www.50026.com/>
- ^a ^b Locomotives owned by [Renown Repulse Restoration Group](#)
- [↑] Locomotives operated by the [Class 50 Alliance Ltd](#) (Accessed 2009-01-28)
- ^a ^b ^c Locomotives owned by the [Class 50 Alliance Ltd](#) (Accessed 2009-01-28)

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Further reading [[edit](#)]

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External links [[edit](#)]

- [50015 Bury Valiant Group](#) - Information on D415/50015 based at the East Lancashire Railway
- [The Fifty Fund](#) - Supporters group for the locomotives owned and operated by [The Class 50 Alliance Ltd](#) . - Information on all class 50s and specific coverage of 50031 Hood, 50035 Ark Royal, 50044 Exeter and 50049 Defiance all nominally based at the Severn Valley Railway
- [The Fifties](#) – extensive information on names, liveries and history, plus comprehensive photo gallery
- [Class 50 loco-by-loco photo gallery](#)
- [Class50.net](#) – pictorial guide to Class 50s preserved or under restoration
- [English Electric Archive](#) – archive gallery dedicated to English Electric Type 4 and Type 5 diesel locomotives



Wikimedia Commons has
media related to
British Rail Class 50.