

BR DIESEL ELECTRIC SHUNTER 08476 (D3591)

The BR Class 08 diesel shunter was based on the 1944 LMS 0-6-0 design, but fitted with 4ft 6in diameter wheels. These had been used previously on the Bulleid design of diesel shunter for the Southern Railway in 1949. The British Transport Commission (BTC) required the general arrangement of its diesel shunters to be the same as several previous types but conforming to the L1 loading gauge restriction. This permitted use in virtually all locations except where prohibited by axle load or wheelbase.

The Class 08 height was 12 ft 8½ in. and 8 ft 6 in wide. In working order they weighed 47 tons and had a theoretical maximum speed of 20 mph but this was reduced to 15 mph to ensure traction motors did not spin too fast. Most locos were fitted with an English Electric 6-cylinder engine providing 400 bhp with an EE electric transmission giving a tractive effort of 35,000 lb.

The structural design was based on a sturdy underframe frame 29 ft 3 in long over buffers. A full width driving cab (at one end) was fitted with two driving positions allowing drivers to change sides to ensure shunting instructions could be viewed. The equipment compartments were accessed by outside doors from running plates on either side. Forward from the cab these were electrical equipment, power unit bay and a cooler group at the front. By today's standards the cabs were very basic, noisy and extremely draughty which meant they could be very cold in Winter.

A basic hot water radiator system was installed but did not help until the engine rose to working temperature after some time in operation. In latter years some examples had electric heaters added to supplement the engine coolant system.

A number of items were manually operated, including the fuel transfer pump, taking gas oil from the main tank to the header (service) tank for distribution to fuel injectors. One of the driver's jobs was to use this pump to maintain 'his' supply. One speedometer and ammeter was provided, on a hinged central column, and had to be turned around depending from which side the driver was working.

At the design stage it was agreed to install the established English Electric (EE) six-cylinder 6KT power unit, set to deliver 400 bhp. EE also supplied their type EE801 generator fitted to one end of the power unit. Its output supplied two EE nose suspended traction motors driving the outer wheelsets through double reduction gears. BTC orders for the first batch of standard shunters was placed in 1949 with the construction contract being awarded to BR Derby works. The first loco, number 13000, emerged on 3rd October 1952 and was allocated 'on paper' to Tyseley but actually worked for several weeks at Toton near Nottingham.

Over the next few years numerous follow-on orders were placed but, due to the volume of these orders, Derby could not cope with the demand. So BR Works at Darlington, Crewe, Doncaster and Horwich, all assisted with the build. Construction continued until the final loco, D4192, emerged from Darlington in September 1962 which meant a total of 996 locos had been placed into service.

When construction was underway it was decided that some 26 similar locos, to be

allocated to Southern Region, would be fitted with revised gearing giving a higher maximum speed of 27 mph as well as waist height air connections to couple to the brake pipes on post-1951 multiple units. These were classified under TOPS in 1973 as Class 09.

171 other locos were constructed with different engines and transmissions. In 1955, locomotives D3117 to D3122 entered traffic fitted with Crossley 6-cyl ESNT6 engines and two Crompton Parkinson traction motors. The same year, D3137 to D3151 entered service with Blackstone 6-cyl ER6T engines and GEC traction motors, as did D3439 to D3543; D3473 to D3502; D3612 to D3651 and D4049 to D4094. Another batch, D3152 to D3166 had Blackstone engines but used two BTH traction motors. These became Class 10 under the TOPS system. In all, some 1,193 shunters entered BR service and allocated to depots across the whole country.

When built originally the Class 08 shunters were fitted with air operated loco brakes and vacuum exhausters for train working although dual braking equipment was installed on later builds. Subsequently, most of the original vacuum only locos were modified for dual brake operation and some had their vacuum exhausters removed leaving them air brake only. Some standard Class 08s were also modified with SR style high level air connections.

A large number of early withdrawals passed to industrial use while a handful were exported. Withdrawals continued through the 1980s and 1990s with the preservation movement purchasing a sizeable number. Most heritage railways have at least one operational Class 08.

Although the need for large-scale shunting work on the main network has long since gone some Class 08 and 09s remain in operation to this day and, perhaps, for many years to come. No realistic replacement design appears to be on the drawing board.

This particular loco was built at BR Crewe and outshopped on 17th December 1958. It was first allocated to Newton Heath depot [26A] in Manchester bearing the number D3591. Almost 10 years later, it was re-allocated to nearby Longsight depot [9A] during week ending 6th July 1968.

Just three years later it moved all the way to 66A Polmadie depot in Scotland in week ending 27th November 1971 but stayed there less than 5 months before going across Glasgow to Eastfield depot [65A] during the 5 week period ended 1st April 1972. A further move to Ayr depot [67C] occurred in the 5 week period 30th December 1972 and, whilst there, D 3591 was renumbered under the TOPS system in June 1974 to 08476.

08476 was transferred to Dunfermline Townhill depot in 1983 but, after a working life of over 26 years, was withdrawn finally from Capital Stock on 9th September 1985 at Thornton Junction.

At some stage in its latter BR career 08476 had been overhauled during which it received Engine No. IH4335 which is believed to have been built originally at EE's Stafford works. It still carries the same power unit to this day.

It was put on a BR tender list and, after a successful bid, 08476 arrived at Swanage in March 1986. The loco was put back into working order and repainted into all-over plain Green BR livery by June 1987. A renumbering to its original D 3591 took place at the same time. The loco was heavily involved in many Permanent Way and other works trains during many decades and proved to be quite a reliable machine.

D3591 left Swanage for the Shackerstone Railway on Thursday 23rd July 2009 for a

contracted engine overhaul. On 17th July 2011 the exterior was, by then, in green undercoat and the engine was freshly painted grey. It was completed in the latter half of 2011 and returned to Swanage.

Over the weekend of 24th/25th March 2012, the railway held a "Railway At Work Weekend" which included an added bonus for members of the Swanage Railway Trust. D3591 (08476) was coupled a Queen Mary bogie brake van and worked a shuttle service between Norden and the ground frame near Motala kennels.

On Wednesday 27th February 2019 both D3591 (08476) and fellow Class 08 08436 were used in top and tail mode on a train of two Queen Mary bogie brake vans on a tour of the lines and sidings of the entire Swanage Railway. It was chartered by the Branch Line Society for it's members.

GW Railwayana Auctions sale, in March 2020, had an interesting item as Lot No. 148. An oval cast iron works plate "Built Crewe 1958", measuring 10½ in x 6 ins had 08476 chalked on the back. It was sold for £220.

More recently, D 3591 was sidelined with various problems and in need a thorough general overhaul.

It was moved to sidings at Norden where the railway's Crane Group assessed the likely work involved. This was agreed and work has now started so that D 3591 can return to operational condition as soon as practicable. Anyone willing to join the group and volunteer their time to help speed the work would be much appreciated.

BIBLIOGRAPHY

Previous editions of the Swanage Railway Stock Book

https://en.wikipedia.org/wiki/British_Rail_Class_08

<https://brdatabase.info/locoqry.php?action=locodata&type=D&id=3591&loco=3591>

<https://dieselalmanac.uk/Loco/D3591.html/>

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