

BR STANDARD CLASS 4MT 2-6-4T 80078

The British Railways (BR) Standard Class 4 tank was one of the range of BR Standard classes built during the 1950s. On the nationalisation of British Railways in 1948 the London Midland Region had a number of ex-London, Midland and Scottish Railway 2-6-4T and the Western Region a number of GWR Large Prairie 2-6-2T types. These tank engines were particularly suited to commuter and secondary services although, particularly in Scotland and on the Southern Region, the situation was not good with large numbers of pre-grouping types struggling on.

A series of 155 Class 4 tank locomotives was ordered, based largely on the ex-LMS Fairburn 2-6-4T engines with some modifications. The history of this class could be tracked back through to the LMS/BR Class 4 2-6-4T locomotives dating to the original Fowler design in 1927.

Design work was done at Brighton, with the overall programme being overseen by Robert A. Riddles. The principal modifications to the Fairburn design involved reduction of their 'kinetic envelope' to enable them to fit into BR's universal L1 loading gauge. To do this, the side tanks and cab were made curved compared to the straight-sided Fairburn design.

The biggest mechanical change was a reduction in cylinder size, to 18 ins, which also reduced their cross-section, and a compensating increase in boiler pressure from 200 to 225 psi. The bunker contained 3½ tons of coal and the two side tanks had 2,000 gallons of water. In full working order these locos weighed 88 tons 10 cwt and had a Route Availability of RA4. The Driving Wheel diameter was 5 ft 8 ins with two outside cylinders having dimensions of 18 in diameter and 28 in stroke. The boiler was superheated and the loco was equipped with two sets of Walschaerts valve gear operating piston valves. Tractive Effort was calculated to be 25,520 lbf.

Between 1951 and 1956, 130 of the class of 155 were built at Brighton (80010-80053, 80059-80105 and 80116-80154), another fifteen (80000 – 80009 plus 80054 - 80058) at Derby Works and a further ten (80106 - 80115) at Doncaster Works. The first to emerge was 80010 from Brighton in 1951. Fifteen that were due to be constructed in 1957 were cancelled, due to impending dieselisation, and the last five would have been too had they not been at an advanced stage of construction when the order came to cancel them.

80078 was outshopped from Brighton Works on 2nd February 1954 at a cost of £17,364. It was allocated straight away to 33A Plaistow Shed on BR Eastern Region's former London Tilbury & Southend Railway route. Maintenance records show that 80078 received an intermediate repair at Stratford Works during October 1956 and, during the four-week period ending 15th December 1956, it was re-allocated to 33B Tilbury Shed. It remained on this line, for just over 8 years, helping operating the intensive suburban commuter services using the Class's renowned electric-like acceleration. The route was fully electrified with the last scheduled steam service from Fenchurch Street with ex-LMS 3-Cylinder Stanier 2-6-4T number 42501 hauling the 18:10 to Thorpe Bay on 15 June 1962.

80078 had a heavy overhaul at Darlington Works in December 1960 with its maintenance responsibility being taken over by Crewe Works in June 1962. On 23rd June 1962, 80078 was on the move again, this time to 30A Stratford Shed but this was only temporary as it then moved to the former Great Western Shrewsbury Shed (89A) and operations over the

former Cambrian Railways system. It was sent to Derby Works for a General Repair in November 1962. Under boundary changes on 30th December 1962 this shed was moved from Great Western Region to London Midland Region control.

From 23rd February 1963 a final transfer was undertaken to 89B Croes Newydd Shed near Wrexham. All this time its duties consisted mainly of local passenger services and pick up goods trains. It is very likely that it would also have traversed the line now owned by the Severn Valley Railway. The SVR owns 80079 and, when operational, helps haul their services between Kidderminster and Bridgnorth.

80078 was placed in store in March 1965 before being withdrawn from Capital Stock on Saturday 24th July 1965 after a working life with BR of just over 11 years 5 months. On 26th March 1966 it was noted, by the Stephenson Locomotive Society, as being condemned at Shrewsbury.

After withdrawal, 80078 languished in various scrap lines until it arrived at Barry Scrapyard, in June 1966. The (then) Southern Steam Group reserved the loco so that funds could be raised. By November 1972, enough money had accumulated to purchase it and, on 20th September 1976 a low loader from Leicester Heavy Haulage extracted it from Barry after being there for over 10 years. The journey was somewhat tortuous including repairing a broken propshaft on the tractor unit. Arrival at Swanage occurred, eventually, on Thursday 23rd September 1976 with lots of onlookers pushing the loco straight into the Goods Shed.

A 'Boiler Appeal' was started to finance replacement of all 157 small tubes at £10 each although restoration wasn't started until 1978. It was then soon stripped and restoration work began in earnest. After steady progress during the 1980s, and following financial difficulties at Swanage in 1990, 80078 was sold to a group known as PROJECT 78 in September 1991.

The new owners continued restoration work, including the dispatch of the engine's boiler to R K Pridham Engineering, in Devon, for its refurbishment. Another major landmark occurred in October 1994, when 80078 was the first locomotive to take up residence in the Swanage Railway's new Herston engineering works. However, in order to inject new life into the project, the owners decided that an amalgamation with Southern Locomotives Limited would be a good idea and the transfer of ownership was completed during November 1995.

Following hydraulic and steam tests the boiler was fitted to the frames in September 1999. On the 1st October, 80078 was transported on a low loader the short distance from Herston Works to Norden road/rail terminal where it was unloaded onto Swanage Railway metals. 80078 had its first steaming on the Swanage Railway a few days later and operated until 2010 when its boiler certificate expired.

In 2012 Southern Locomotives Limited (SLL) sold 80078 to Stewart Robinson who removed the locomotive from the Swanage Railway for overhaul. At the time of the sale SLL had spent £773,000 on the restoration of West Country pacific Sir Keith Park and had little cash reserves for further work on their locomotives.

80078 is now nominally based at Mangapps Railway Museum at Burnham-on-Crouch in Essex where Mr Robinson progressed the overhaul of the locomotive returning it to steam in May 2017. It was taken out of service shortly afterwards due to a split left hand cylinder casting being discovered which had occurred prior to arrival at Mangapps Railway.

It was back in traffic around Easter 2018 and is regularly on hire to other heritage railways including the Mid Hants, Spa Valley and Swanage. The locomotive hauled some test trains on the Mid Norfolk Railway in November 2020 prior to being based there in the summer of 2021.

On 22nd October 2021 it was hired again by Swanage to help with seasonal train services. It was transported by S A Smith Haulage of Biggleswade and before offloading, at Norden road/rail terminal, a small fire was lit to save time on warming the boiler slowly.

Information compiled by Peter Sykes 13th November 2021