Diesel-Mechanical, 0-4-0 Shunting Locomotive

No. D2269, *Perseus*

This locomotive was one of a lot of three manufactured by The Vulcan Foundry, under contract to The Drewry Car Co., in the last quarter of 1949.

Power is furnished by a Gardner "6L3," a four-stroke, compression-ignition oil engine (diesel) designed for marine, stationary and rail traction duties, first introduced in 1932. The engine develops 153 B.H.P. at 1,200 R.P.M., has a swept volume of 1,105 cu. in. (18 litres) and weighs nearly two tons.

The drive is through a Vulcan-Sinclair hydraulic coupling embodied in the engine flywheel (which transmits no useful torque whilst the engine is idling), thence through a Drewry-Wilson, four-speed, epicyclic gearbox and a jackshaft mounted reverse and reduction gear unit, rendering all four speeds available in either direction. Final drive from the jackshaft to the road wheels is by balanced cranks and coupling rods.

The locomotive weighs approximately 24 tons, has a top speed of 14 M.P.H. and can exert a maximum tractive effort of 12,680 pounds (assuming a 75% overall efficiency).
Although strictly there is no mechanical connection between the engine and the road wheels, it is termed "diesel-mechanical" because the speed reduction is effected by a mechanical gearbox, as distinct from a torque converter in the case of a diesel-hydraulic locomotive.

The severe curves often found in British works and industrial complexes demanded locomotives with a very short wheelbase, and this is why the 0-4-0 arrangement was so common; as well as four being the minimum number of wheels. To avoid lock-buffering (the buffers of

different vehicles becoming caught with each other) on poor track or on curves, 0-4-0 industrial locomotives usually had very large buffers.

The design of this locomotive is similar to that of the B.R. standard type first built in 1955 and later known as Class 04. They were six-wheel coupled, with a Gardner "8L3" engine of 204 B.H.P. and an overdrive gear giving them a top speed of 29 M.P.H. In appearance they were obviously from the same stable but were fitted with numerous enhancements to enable them to work trains over B.R. running lines.

In 1949, diesel locomotives were an uncommon sight. British Railways introduced new classes of steam locomotive after this date and continued to build them until 1960. It was not until the late 'fifties that diesels appeared in significant numbers on the main line.

Perseus began its working life along with one of its siblings, No. 2270 *Pegasus*, at William Cory & Sons, Ltd., Gallions Jetty, Essex, and was joined in 1955 by No. 2566, *Priam*. *Perseus* was registered by the British Transport Commission as being fit to run over B.R. metals.
In 1967, *Perseus* was transferred to Renwick, Wilton & Dobson (Fuels), Ltd., Exmouth Junction, where a new Coal Concentration Depot was established to allow services to be withdrawn from many small stations. It worked there until 1993, when the little British domestic coal still being produced was taken away from rail transport.

Thus, within the lifetime of this locomotive, the two once major industries with which it was involved — "King Coal" and "the iron backbone of the British commercial economy," formerly employing 1½ million men — have been reduced to ruin.

On a happier note, *Perseus* was brought to Christow in 1993. When it was rerailed on 25th August, it was the first locomotive since 1960, and the first ever diesel, to reach Christow. After it has been overhauled, it will work engineering trains on the Exeter & Teign Valley Railway as part

of the general reconstruction of Great Britain's railway system. When *Perseus* leaves here, it will do so on its own wheels and under its own steam.

The locomotive was superficially renovated in 2000 and a general overhaul began in 2011.