



Great Northern Railway Stirling Single

Officially known as the Class G, fifty-three Stirling Single locomotives were built for the Great Northern Railway (GNR) were built between 1870 and 1895. Although similar in appearance, many small changes and improvements were made to each locomotive as operational experience dictated. During the late part of the 19th century, Stirling Singles worked the world's fastest trains regularly attaining speeds of 110 km/hr while hauling loads of 200 tons. The 8 foot diameter drive wheel reflected Stirling's belief that better traction could be realized by putting a heavy load on a large single wheel rather than spreading it out on several smaller ones. Another important factor in selecting single wheel configuration was his wish to eliminate the need for coupling rods as they had a tendency to bind.

You will note that when studying the profile of this locomotive that there is no steam dome. For economic reasons, Patrick Stirling elected to utilize a horizontal perforated steam collection pipe located inside the boiler at the top and running its full length instead of a more conventional steam dome. This unusual arrangement

proved to be completely successful in practice delivering a sufficient volume of dry steam to drive the cylinders at very high speeds for long time periods.

The relatively long boiler of the Class G was fitted with a beautifully shaped safety valve casing and running boards that swept over the huge driving wheels becoming an integral part of the picturesque slotted splashier covers. These distinctive features combined with their ethereal beauty and performance, have earned the Stirling 8 Footers an honored place among the most famous express locomotives in railway history. Unfortunately after 1895, the trains loads had increased to the point that the Class G's were no longer able to remain in first line service and they were replaced by more modern designs.

Aster chose to model the first of these locomotives, The GNR #1 built at Doncaster in 1870, which is preserved in working condition at the National Railway Museum in the UK and can be occasionally be seen in steam.



Photo by Dave Stick

Specifications

Scale/Gauge: 1/32, Gauge One (45 mm)

Total Weight: 3.3 kg

Dimensions: Length O.B. 504 mm

Width 78 mm

Height 127 mm

Wheel Arrangement: 4-2-2

Driving Wheel Dia. 76 mm

Pilot Truck Wheels Dia. 35 mm

Trailer Truck Wheels Dia. 43 mm

Tender Wheels Dia. 36 mm

Engine:

Cylinders: 2 x Cylinders (outside of frame)

Bore: 10 mm x Stroke 18 mm

Valve Gear: Stephenson Valve Chest Inside of the Frame

Steam Port: 1.2 mm. Cut-Off 85%, Lap 0.7 mm. Travel 3.8 mm

Boiler: Type "C" Type for Alcohol Burning

Water Capacity: 99 cc at 80% Full

Pressure: 3 KG/CM2 at Normal Working

Fittings: 1 x Safety Valve, Pressure Gauge, Water Gauge, Throttle Valve, Blower Valve. By-Pass Valve

Axle Driven Pump: Mounted on the Leading Driver Axle, Pump Bore 5 mm x Ram Stroke 4 mm

Lubricator: Roscoe Displacement Type Mounted on the Smoke Box

Burner: 3 Wick Tube Alcohol Burner

Water Tank Capacity: 200 cc. Hand operation Water Pump Mounted. Pump Ram 8 x Stroke 12

Fuel Tank Capacity: 90 cc of Alcohol

Minimum Radius: 1.2 meters

