GWR 1358 – ex-Port Talbot Railway 0-8-2T

(Uploaded to RMWeb 15/7/21)

Introduction

In the 1970s, I first saw and photographed some British-built 2-8-2Ts working on privately-owned railways serving collieries in the Newcastle (NSW) area. Here are two of the images I took over the next few years.

I have an affinity for trains that ran in South- and Mid-Wales. My most recent scratchbuild was an 0-6-0ST described in Ref.6, which also includes a list of my other South Wales locos.

This project is aimed at producing another GWR absorbed loco design: a Sharp-Stewart 0-8-2T purchased in 1901 by the Port Talbot Railway (PTR) and operated by the GWR from around 1908 until just after Nationalisation, in 1948. See also Refs. 4 & 5. I chose to model GWR 1358 , the last survivor, as seen in photos of her from the 1930s, complete with top feed and parallel-bodied buffers. (See Ref.5) A drawing and photographs of the closely related Barry Railway (BR) version are found in Ref. 9. Its style clearly resembles that of the locos I photographed in NSW.

Apart from a weight diagram in Ref.2, I have found no modellers' drawings, but closely similar engines were also operated by the BR. Ian Beattie drawings of the latter class (in pre-grouping condition) are found in Ref.3. These were used as a basis, with such modifications as listed below and as seen in photos of the PTR examples. The Sharp Stewart GA of the PTR locos is found at Ref.7.

The resulting model is not aimed to be of museum quality, but to be a robust working model, capable of taking its turn among other South Wales types.

A major constraint on this project has been the poor availability (in Australia) of affordable parts from the UK, so most components have come from my stash of odds and ends, picked up from “bring and buy” stalls over many years or bought cheaply as “job lots” on eBay.

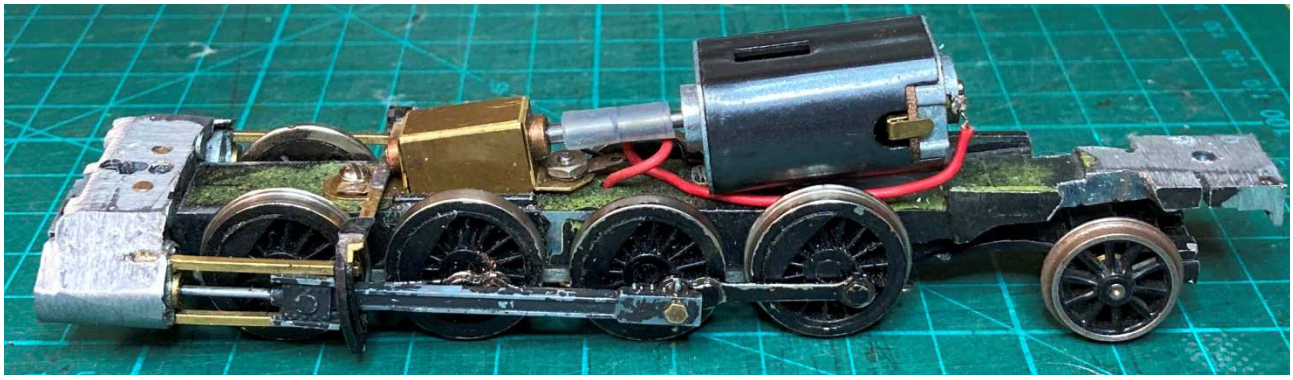
Construction – Chassis

The heart of any working model loco is its chassis, including its motor and gear train. In this case, I chose to use a 2nd-hand H0 cast chassis that came complete with wheels, a gearbox and a cylinder block. The wheels were scale 4’5” dia and the axle spacing was 5’0”+5’0”+5’0”. The actual PTR loco’s wheels were 4’3” dia, with spacing 5’3”+5’2”+5’0”. Not precisely the same, but near enough for practical purposes.

According to Ref.1, the PTR locos shared the same frame design as the BR examples, so the drawings in Ref.3 could be relied upon as published.

The H0 chassis was trimmed, front and rear. Cylinders were sculpted to a more appropriate shape, then re-mounted on the frame closer to the front driving wheels. Crossheads and connecting rods (left over from the H0 chassis used for making GWR 680 – see Ref.8) were then trimmed and fitted. A Hornby motion bracket was modified and mounted. The pony truck was adjusted and fitted. The rolling chassis was test-rolled on curved track and through points and adjusted where necessary to ensure reliable running. A simple Inexpensive) motor was then fitted. This motor was later found just too large to fit inside the firebox of the body and so was replaced by another held in my stock of spares. (It does feature in one of the construction images of the body.)

The original keeper plate under the chassis was replaced by a piece of PC board, to which were soldered phos bronze wire pickups. These were then connected to the motor.

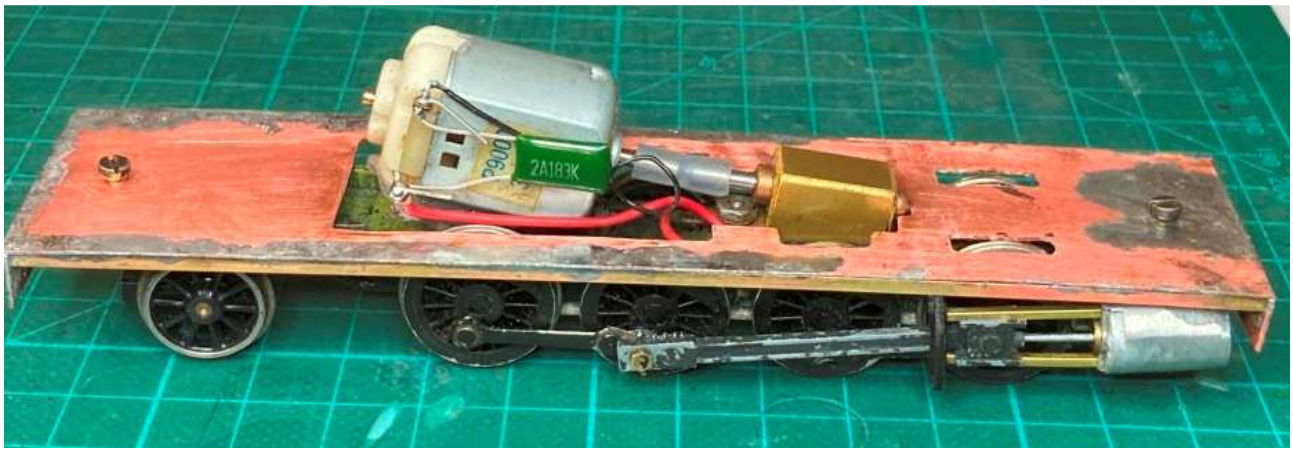


Construction – Body

According to Refs. 1 & 2, the visible differences in the post-grouping condition of 1358 and the drawings in Ref 3 were:

- Swindon bunker
- GWR boiler fittings
- GWR smokebox
- Square cab windows
- Buffers
- Top feed

The footplate and buffer beams were cut out from 0.5mm copper sheet and soldered together. Valences were made from 2.5 x 2.5 mm L-section modellers' brass and soldered into position.



Paper patterns for the cab front and rear were made from spare copies of the drawings in Ref 3. They were used to trace their shapes onto thin (0.2mm) brass sheet. They were then cut out. The cab front was soldered into place as a reference point for mounting the boiler.

Copper pipe was cut to length for the boiler, with much of the section concealed by the water tanks cut away or reshaped to make room for the motor and gearbox. This was then soldered to the cab front and footplate.

Wheel splashers for the front two wheelsets were fabricated from thin brass sheet and glued into place.

Dummy front frames were cut from thin brass and soldered into position.

The smokebox saddle was made from balsa. The smokebox from a Tri-ang Hall-class body was stripped of redundant moulded details, then attached to the front of the boiler.

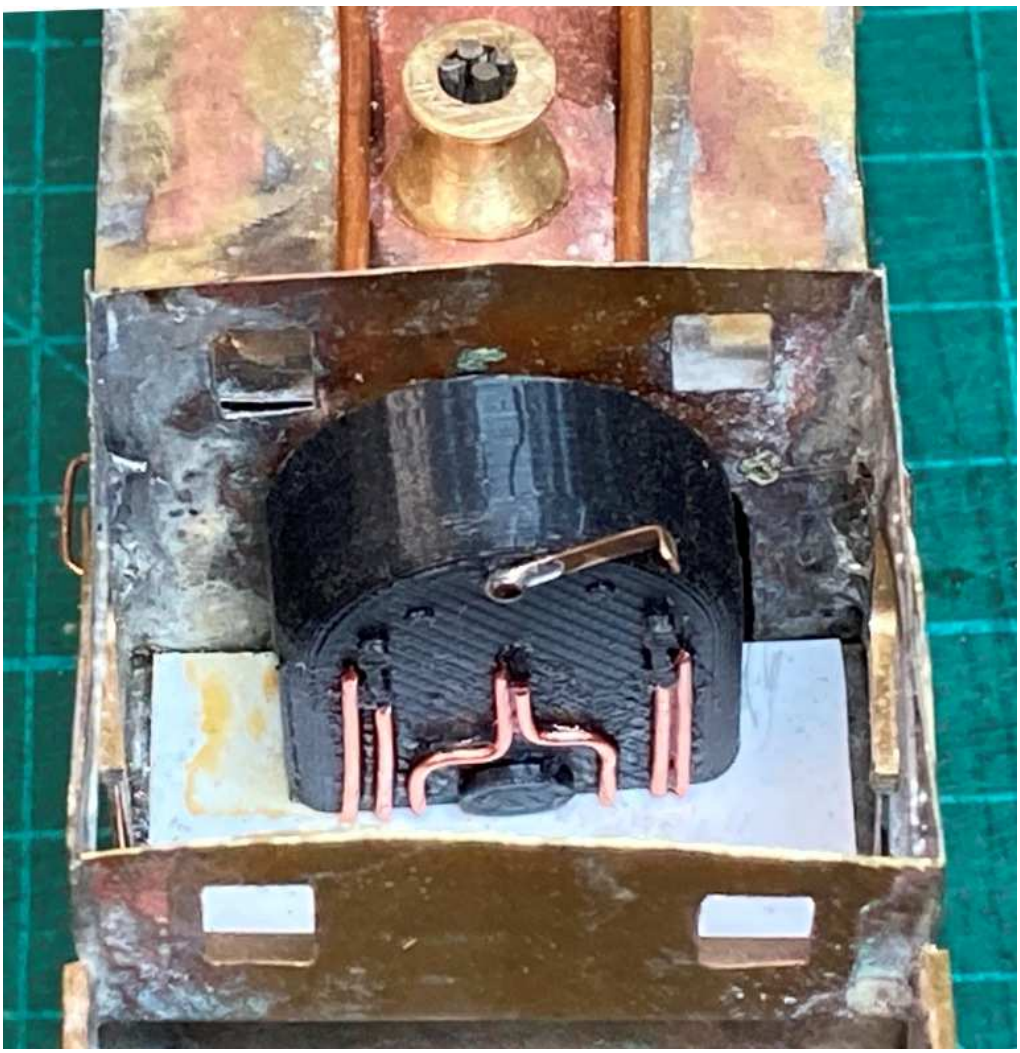
Curved fillets for the footplate valences were cut from thin brass and soldered into place.

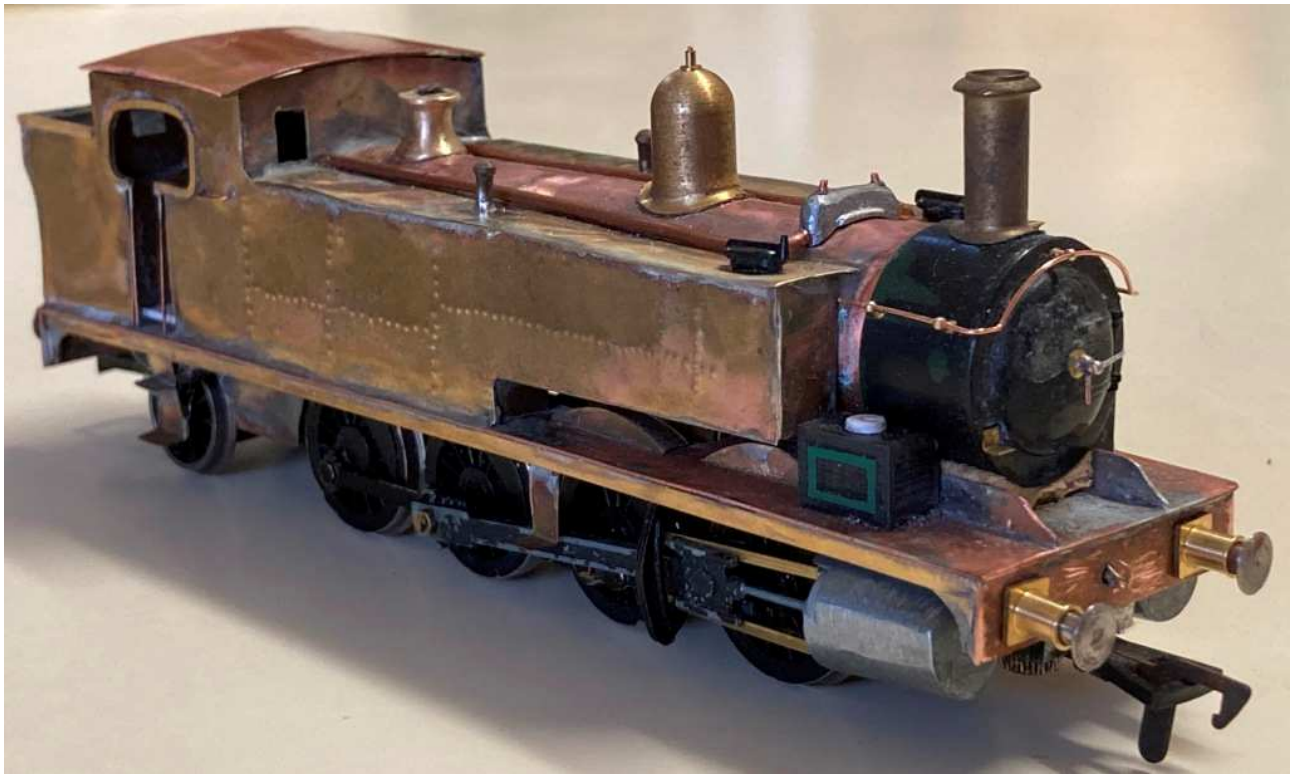
Paper patterns for the cab/bunker/tank components were used to prepare those parts, which were then soldered into position.

Beading, made from 1mm x 1mm U-channel brass, was formed to shape and soldered to the cabsides and bunker top. Handrails for the cab and bunker sides were bent up and soldered into place. Dummy rear frames were soldered to the rear of the footplate, under the cab, to improve the silhouette. Front and rear steps were made from scraps of brass sheet and soldered into place.

Details were added to the smokebox: dart, handrails and step. Cylinder sides were flattened, then sandboxes, cab floor, chimney, dome and safety valve were fitted.Tank fillers, tank vent, buffers and scale couplings were then added.

Top feed & pipes, cab roof, water balancing pipes & backhead were fitted.





Boiler bands, whistles, lamp brackets, reversing lever & handbrake completed the model.

The body was spray-primed. The chassis and wheels, as well as the footplate and steps were painted with Tamiya NATO black. The smokebox, tank tops and cab roof were painted with Humbrol matt black enamel. Tank sides and bunger were painted with Humbrol GWR green acrylic. Buffer beams, reversing lever and regulator handle were painted with Humbrol matt red enamel. “Brass” details were picked out in Humbrol “gold” enamel.

GWR lettering was made using HMRS Pressfix transfers. Cabside numbers were home-printed.

After allowing time for transfers etc to stabilise, the model was varnished with Humbrol satin clear and the windows were glazed.

Reflections

Estimated costs:

- Sheet brass: A$10
- Whistles: A$2
- Chassis, including wheels, gearbox & cylinders: A$10
- Motion bracket: $2
- Motor: A$0
- Boiler fittings: A$5
- Buffers: A$5 (Old stock)
- Tank fillers: A$2
- Couplings: A$5
- Copper pipe: A$2 (from local scrapyard)
- Modellers' brass: $20
- Tri-ang body: A$0
- Pony truck: A$5
- Paints & transfers: A$5

Total: A$75 (about GBP38)

Comparative price of a Hornby RTR GWR 2-8-0T in Oz: Around $270.

A body-only kit for a GWR/Rhymney Railway class R 0-6-2T from Nucast partners is listed at GBP89.50 (about A$156). After adding the local costs of motor, gearbox, wheels & axles, that cost would just about double.

Is my model good value for money? I think so!

Parts List

- Unbranded H0 rolling chassis from 2-8-4
- 2nd-hand pony truck frame & wheels
- 2nd hand brass chimney & dome
- 2nd-hand crossheads & connecting rods
- Hornby motion bracket (L6968, from 28XX)
- Home-turned brass safety valve cover
- Lima tank fillers (Part 5U015, from 45XX)
- Steel tank fillers – made from panel pins
- Slater's GWR Collett buffers
- Whitemetal top feed
- Brass scale couplings
- Hornby tension-lock couplings
- Misc. brass and copper sheet
- Copper plumber's pipe
- Smokebox from scrap Tri-ang Hall class body
- 12V motor from stock of spares
- 0.4mm dia phosphor bronze wire for pickup and handrails
- Commercial turned brass handrail knobs
- Whistles: Peter's spares
- HMRS transfers
- Home-printed numberplates
- Home-3D-printed backhead and sandboxes

References

1. RCTS "The Locomotives of the Great Western Railway – Part 10 – Absorbed Engines1922-1947 (RCTS, 1966)
2. J.H.Russell: "A Pictorial Record of Great Western Absorbed Engines" (OPC, 1978)
3. Railway Modeller, November, 1986
4. https://en.wikipedia.org/wiki/Port_Talbot_Railway_0-8-2T_(Sharp_Stewart)
5. http://www.gwr813.org/pagept27.html
6. https://www.rmweb.co.uk/community/index.php?/topic/162738-gwr-682-%E2%80%93-ex-cardiff-rly-0-6-0st/
7. https://www.gettyimages.com.au/detail/news-photo/drawing-of-0-8-2t-tank-locomotive-1900-drawing-of-0-8-2t-news-photo/90747154
8. https://www.rmweb.co.uk/community/index.php?/topic/154031-gwr-680-%E2%80%93-ex-alexandra-docks-0-6-0st/

9. Eric Mountford: “The Barry Railway – Diagrams & Photographs of Locomotives, Coaches & Wagons” (Oakwood Press, 1987)