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W16. SR 25Ton Brake Van.

This document was produced by 'The Wagon Man' and was written for the FMES on line readership. 'The Wagon Man' is a Committee Member of FMES and has as his speciality producing scratch-built models of Railway Wagons in 5-inch gauge. This series of Articles includes his personal perspective on this fascinating branch of the hobby.

1. The Model, and its Exhibition Description Card of May 2026



Apart from the GWR (of course), towards the end of the "Big Four" era the LMS and the LNER had settled on a similar (maybe even identical) design of Brake Van, which was carried forward into BR days. The key distinguishing feature was that the Guard's Duckett (ie his look out) was placed centrally on the body.

The Southern design, though similar at first glance to the LMS/LNER/BR versions, had the duckett positioned at the LH end of the body. That is unless it was located at the RH end! A variant was produced for lighter lines which had shallower Solebars. There were also fitted and unfitted vacuum brake versions. All in all, research heaven for those wanting to produce an accurate model.

I like to model something which in full size had something unusual or unique about it. In the case of 55710, one of a batch to Diagram 1582, it was almost certainly the last Brake Van ever to be built by the Southern, being completed in January 1948.

I sometimes wonder why this variant was built – it was unfitted, and had no sanding gear (note the absence of the Sand Box Housing normally at each end of the Body) but its weight was 25 Tons. The ends were fitted with three Lamp Irons, as usual, in addition to those on the roof uprights.

The model is scratch built from metal and plywood, and uses completely conventional construction methods.

The Metal Strapping on the full size was reproduced using plastic sheet, and amply demonstrates the value of a simple drill jig. Some 250 rivets were consumed!

2. Supplementary Information

The model is scratch built, and was based on a drawing originally published in 4mm scale supplemented by reliable photographic evidence.

Though of conventional construction, some extra detail is given here.

The Underframes.

The underframes followed the usual well-established construction methods, and will not be discussed further here, other than the Solebars,

Solebars for previous models had been bent up from sheet steel. This is a long process, requiring a lot of heavy hammer work and considerable fettling to get them straight and square in all three dimensions.

In this model they were fabricated from three separate strips of steel (the Web and the Flanges), which were soldered together in the required [section.

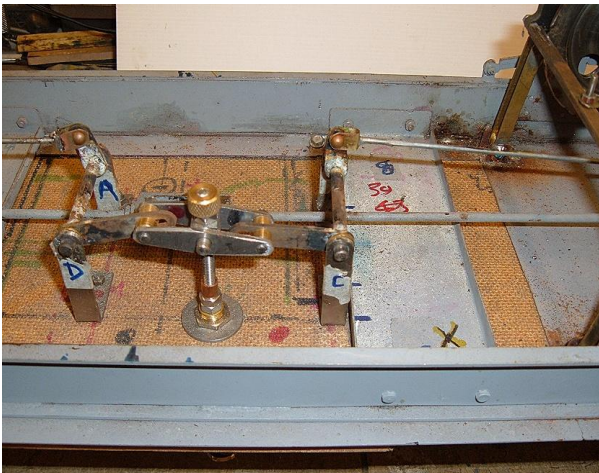
I encountered a few minor problems (inevitable with any new methods), but it resulted in a much better solution compared with bending from flat. It eliminates the physical effort and the fettling and I will be refining the method in future models.

The Brakes.

The Brake operating system equalising arrangements are identical to those described previously, although the actual physical configuration is driven by the central position of the Brake Standard in the Van. The photographs below taken during initial scheming resulted in the final arrangement. (NB. The thick grey rod is not part of the Brake system – it is part of the anti-snatch draw gear).

The vertical screwed rod goes through the floor to the Brake Standard and Operating Wheel.

The fabricated Solebars and Buffer Beam are also visible.



I must apologise for the poor quality of this photograph which shows the Brake Standard and Operating Wheel location topside.

Also visible is the Stove.



The Body.

The Body uses conventional methods, and its construction will not be discussed further. The photographs below were taken during the build.

The metal L section roof supports were milled to size from an aluminium section bought in the local DIY.

The Metal Strapping on the full size was reproduced using plastic sheet, amply demonstrating the value of even a simple drill jig. Some 250 rivets were consumed in the construction!



This interior view shows the Brake Standard location. It's a pity that when the Roof is on it is too dark inside to see anything, but at least I know it is there and is functional!

Also visible is the Stove. The flue is not yet fitted.

Finally, the Guard's Ducket Seat can be seen.

In full size it was all pretty austere!



Principal Reference Source.

“An Illustrated History of Southern Wagons, Volume 4 - Southern Railway.”

Four Volume set compiled by: G Bixley, A Blackburn, R Chorley, M King, J Newton.

Comment.

This model was not complex intentionally, as it was built as a fill in before my next project, whatever this was to be. However, it is a unique piece of history in full size which brought it to my attention. Although simple, the further I went the more I became fond of it. Truly, once the bug has bitten you have to continue with an absorbing hobby and always have to have something on the go!

By the way, the candidate for the next one has been identified and is already in the scheming stage. It will be more challenging and it will be unusual. One clue, two were built especially for the Somerset and Dorset Railway and were still in use in the 50s.

3. Wider Participation

This Section is for your feedback, experiences, what gave you the most satisfaction and anything else to help and encourage the next generation of model engineers of whatever discipline.

We would be extremely interested to receive your reactions and suggestions – these will be of great interest and most useful. And don't forget your suggestions for topics for the occasional Supplement.

Please send them via info@fmes.org.uk There is no closing date for submissions.

Many thanks in advance.

The Wagon Man

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