

Discovering Gauge '3' Notching Up Several Scales : GRS kits and onward! By John Candy First Published in Newsletter 79 December 2009



Model railway mania bit me at the age of three, when I was given a Hornby '0' gauge clockwork set. Having chased that around the floor for a couple of years, I was given the Hornby Dublo 'Duchess of Montrose' set for Christmas. For the next 50 years I settled down to 4mm modelling, graduating through plastic, white metal and etched brass kits, interspersed with scratch-building. The only other model railway club of which I have been a member is the East Sussex Model Engineers and that was back in the late 60's/early 70's but commuting to the City made it difficult to make time to attend the early evening meetings. Upon retirement, I was lured by the prospect of having the time and cash to embark on a larger scale garden railway. After reading a few magazines and scouring the internet for inspiration, I became interested in the offerings of Garden Railway Specialists (GRS) of Princes Risborough.

My wife agreed to the proposal to spend large sums of money on some big toys (and possibly ruin our garden), so we set off from Cambridgeshire to Princes Risborough.

Having spent a pleasant afternoon discussing my proposals with Michael and David at GRS, we returned home with a large consignment of wagon kits, track and a kit for a Wisbech & Upwell tram locomotive (GER class G15/LNER Y6). The Y6 kit was in fact made up of a combination of parts from more than one kit (which Michael gathered together) utilizing the body parts from an electric Gauge 3 kit and the chassis of a 'Cheddar' live steam tram (both body and chassis requiring considerable modifications including gauge conversion from 45mm to Gauge 3) but that is another story which I shall relate later, along with other more recent locomotive acquisitions.

Gauge 3, perhaps more than any other, caters for a whole range of interests which happily coexist and share resources under the umbrella of The Gauge 3 Society. The value of membership of a Society, which brings together a whole range of diverse skills and expertise which are shared amongst the members, cannot be overstated. If a problem is encountered or an elusive drawing, photograph or modelling component is required, a message posted on the new G3 Forum (www.G3Forum.org.uk) will usually bring a swift response : Try it if you haven't already!

The big attraction of Gauge 3 for me was the ability to not only operate live steam but to have locomotives large enough to accommodate radio control and batteries, for those occasions when I perhaps didn't want to bother with steam, to run on an indoor track when required or for an impromptu running session when young relatives suddenly appear and want to 'play trains'.

All this was now more than six years ago. Since then, the locomotives and rolling stock have grown in numbers but the large stack of track (more than 350 ft at the last count....and growing at an alarming rate) still awaits attention. Even as a 4mm modeller, I always preferred building stock to running trains, so I decided to build a decent amount of stock before laying track. Rather than rush into building the railway, I wanted to 'get it right' first time and it is only now that the first steps are being taken towards laying down a track to cater for both steam and battery operation. Hopefully, within the next two years I shall be in a position to host a 'Get-Together' for Society Members.

Meanwhile, the stock construction continues apace and I will share with you a few of my experiences with both kits and scratch building (you will already have seen my article on the Great Eastern van, in the previous Newsletter, which outlined the methods I use for 'batch-building' wagons).

The 'first generation' GRS wagon kits which are currently being phased out (basically, pre-cut plastic card with vast quantities of white metal detailing) required a fair degree of skill and care to produce an acceptable model (a reasonably well-equipped workshop being useful, though not essential). With some modifications and extra detail, the kits are a sound basis for a super-detailed model (that is not to say that they are not perfectly acceptable as supplied, provided you are not a 'rivet-counter').

Having built several of the 'first-generation' kits , I was pleased with the results, although the wagons were time-consuming to build. Much of the time was spent in studying photos and drawings since the assembly instructions provided by GRS are very basic and research is essential if an accurate model is to be produced.

The more recent wagon kits released by GRS are of resin mouldings with white metal and lost wax brass fittings. The big advantage with these kits is the one-piece moulding of body, headstocks and solebars. The strapping, rivets and other body detail are moulded on, saving the laborious measuring, cleaning, trimming and fixing of these parts, which accounted for a good deal of the time involved with construction of the earlier kits. The downside being that any alterations to the kits require great care when removing detail from the resin castings.

My first experience with a GRS resin kit was that for the GWR 20 ton (Toad) brake van which in-

volved several modifications to meet my requirements and it is with this kit which I shall start this series of reviews.

'TOADS' closely observed : Constructing the GRS GWR brake van kit.

I obtained the new resin version of the GRS Great Western 'TOAD' when it first became available (it replaced the etched brass version in the GRS range). The kit is intended to represent diagram AA21 vans which were financed by the government in 1939/40 and were vacuum brake fitted. Visually the main external difference from non-fitted vans is the presence of the vacuum cylinder, positioned on the verandah end between the sandboxes (on non-fitted vans there is a bench filling the void between the sand boxes).

I required a van built prior to 1937 since I wished to use the large 16 inch lettering which was discontinued on the GWR at the beginning of 1937.

Having consulted a number of sources, including 'A History of GWR Goods Wagons' and 'The 4mm Wagon Part 3' and with the benefit of advice from GWR expert John Lewis, I came to the conclusion that utilizing the majority of the parts in the kit, my model should be to either dia AA 19 or AA20. These diagrams made use of RCH buffers, draw-gear, and axle boxes. Earlier diagrams used combinations of J-hangers , GW buffers (including self-contained) and OK type axle boxes which are not supplied in the kit. I eventually settled on a diagram AA20 van built to a Lot which was delivered just before the change to small lettering. A photo of the van in ex-works condition, on a coal train at Leamington Spa, confirmed the application of 16" lettering.





Some main points to watch when looking at different GWR brake van diagrams (from AA13 onwards when the diagonal side strapping was abolished) are:

- 1) The arrangement of the side T -angle stanchions: Do they tuck-under to meet the sole bars or are they 'straight-down' (change occurred from AA23).
- 2) Are the axle boxes GWR turret/'OK' pattern or RCH split type and what the type of springing is fitted (variations in hanger types)?
- 3) Does the metal sheeting cover the lower planks along the sides and to what depth?

4) Are the step boards below the entrance gates level with the bottom of the solebar or just above the solebar lower flange (a change to the lower position took place in conjunction with point '5' below)?

5) Are the full length step-boards mounted in the higher or lower position (change to lower position I' 3" above rail level took place early in the construction of AA20)?

- 6) Which step-board brackets are rods and which are steel angle?
- 7) The position of the stove chimney (on centre-line or offset from AA 13 onwards).
- 8) Whether the end windows are single-pane or split horizontally.
- 9) Different methods of fixing the full length handrails.
- 10) Type of buffers: GW self-contained, GW ribbed or RCH standard ribbed.

I am not going to examine all the permutations in detail because it is complicated with a myriad of variations and modifications I suggest you read 'A History of GWR Goods Wagons' (Atkins,

Beard, Hyde & Tourret).

I am going to describe how to produce an accurate diagram AA 19 or AA20 version and the modifications to the kit to produce an accurate AA21. Starting with the kit as it is intended to be constructed ... AA21. The most obvious deviations from the prototype were:-

a) The end stanchions too far apart (this applies to all diagrams).

b) The entrance gates flush with the side sheeting rather than slightly inset (this applies to all diagrams).

c) The two middle stepboard supports each side should be angle and not rods.

d) The step-board mountings are in the higher position which was discontinued during the construction of AA20.

e) There are too many rivets on the plating (both ends) and the bolt heads on the corner plates on the non-verandah end extend too far up (there should be none above the end window base level).

f) The sand boxes are set too low in the verandah ends.

g) The door between van body and verandah has an external frame (applies to all diagrams but I decided not to try to correct this as it would not be that prominent).

Missing details:

1) Drawgear faceplate on headstock; lamp irons; door handle.

Modifications all versions : Carefully carve away the end stanchions and sand smooth. Score planking on the non-verandah end where stanchions removed.

Replace stanchions with plastic card at 33mm centres, using brass rivets to detail (I in fact removed all the end rivet detail and replaced with brass rivets using photo to locate correctly).

Carefully cut away the access gates with a razor saw and relocate with a slight inset from the side sheeting (0.5mm is about right). You then need to build up the base of the gate section on the outside with thin plastic, to reinstate the outer edge of the floor flush with the side sheeting.

Modification <u>AA21 only</u>: Raise height of verandah sand boxes so that tops are just level with top edge verandah end.

Modifications AA20^{**} and AA21 : The stepboard brackets need to be modified. Use the cast brass 'rods' supplied to support the lower steps at the outer ends by gently reshaping so that the lower step is supported such that the upper surface is 17mm above rail level. The two inner supports need to be fabricated from 1/18th brass angle, mounted behind the solebar, with the flange towards the centre of the wagon. To improve the appearance of the step-boards, I added the toe-boards to the rear of the stepboards using thick plastic card (make in three sections since you need to leave the axlebox fronts clear). It should be noted that the step-boards taper towards the ends from about 1 inch in from the ends and slightly 'rounding' the edges of the boards will much

improve the appearance. (** Some of the earliest Lot of AA20 vans did have the steps in the higher position so check against your photo.).

The upper step-board also needs to be lowered so it is level with the solebar lower flange and adding a thickness of plastic card to the surface of the brass improves the appearance (** same comment as above in relation to AA20).

Modification <u>AA 19 only</u>: The step-boards are in the higher position but the middle supports need to be replaced by 1 *18th* angle.

Modifications AA 19 and AA20 : Remove the brake cylinder and upper sections of the sand boxes from the verandah. Construct from plastic card the planked bench which runs full width and fabricate new sandbox tops. I replaced the cast sandbox operating gear with a set fabricated from brass rod (see photo' for all this detail).

Additional detail AA *19/20/21* : Sand box operating lever hanging down from roof adjacent to cabin door; sanding pipes with brackets and brake gear safety hoops; additional brake operating rods and compensators.

Buffers: Check the photograph of your chosen van since most appear to have had buffers with just two side ribs, so you may need to modify the RCH four-rib type supplied.

Roof: I dislike the standard GRS method of attaching the roof with two prominent screws. You may need to obtain access at some stage to renew or clean the glazing so it is inadvisable to glue the roof in place. I drilled three1/32inch holes at intervals on each outer end and on the cabin end within the verandah. With corresponding holes drilled into strips of thick plastic card glued to the inside of the roof, I inserted short lengths of brass wire flush with the outer surfaces. A spot of GWR grey and you have invisible fixings which can easily be removed when the roof needs to be detached.

Chimney: The stove in all three diagrams was off-centre in relation both to the width and length of the cabin. Lateral positioning of the chimney for all three diagrams is in line with the right hand end stanchion as viewed from the non-verandah end. The chimney location in relation to the end, from photographic evidence, appears to differ from that shown in some published drawings. At some point (one source suggests commencing with AA20) the stove was moved further from the end of the van. I based my positioning on a photo of AA20 and centred the chimney 82mm from the <u>roof</u> end and this is about a scale 15 inches further in than shown on a 1918 Swindon drawing of AA 15. A photo taken of a new van in 1919, however, shows the chimney in a different position to that on the Swindon drawing!

The best advice, as always, is to choose your subject and model using a photograph of that van."

Summing up:

All-in-all a very satisfactory kit (bear in mind that, as supplied, it is intended as a sturdy garden railway item and not for museum display) which with a little effort can be turned into an accurate scale model. An enjoyable project and required considerably less time and effort than the older style of GRS kit. I wonder why GRS chose AA21 as the basis? Without the vacuum cylinder (or with it supplied as a separate fitting rather than an integral moulding) the kit could be far more easily adapted to earlier versions, particularly since the supplied transfers are for the pre-1936 lettering style. The dimensional discrepancies (particularly the end stanchions) do not spoil the overall effect of the kit as supplied and the majority of owners would probably neither notice nor care!