

BROWN VEHICLES ON THE BURFORD BRANCH

- Martin Goodall

Milk traffic on the Burford Branch would have been sufficient in the nineteen-thirties to require two 'Siphon' Milk Vans each morning, and so a couple of Siphons were included in the list of rolling stock to be constructed for the layout. In fact, I built three vehicles – a 6-wheel 'Low Siphon', a 4-wheel 'Siphon C' and a 40-foot bogie 'Siphon F'.

Milk loadings would have been much lighter in the evenings, and so the third Siphon will be used by itself on one of the evening passenger trains. This does involve the use of some modeller's licence, as there appears to have been no Siphon working on the neighbouring Fairford Branch in the evening. Presumably, the much smaller number of loaded churns (if any) at this time of day could be adequately accommodated in the guard's van of the branch passenger train.

'Low Siphon' (Diagram O1)

Between 1879 and 1905, the GWR built 650 six-wheel 'Siphon' Milk Vans with slatted sides. Most of the early examples were only 6ft 8ins high in the body, and were consequently known as 'Low Siphons'. The first of these had single arc roofs and were put on Diagram O2. Following a change of roof style to the elliptical (or 3-centre) type, vehicles having this later form of roof were subsequently transferred to the now vacant Diagram O1 (originally used for some short 4-wheel slatted 'Siphons'). This version of the 'Low Siphon' became well-known to modellers as the subject of a K's kit, originally produced in whitemetal and later as a plastic kit by the same manufacturer.

The prototypes were built on four lots (486, 535, 547 and 690) between 1889 and 1893, and lasted in one or two cases to the mid-1940s, though most were condemned during the 'thirties. The running numbers of the vehicles constructed on these four lots were, respectively, 697 to 746, 951 to 970, 971 to 995 and 1991 to 2000. The branded load was originally 6 tons, but was up-rated to 10 tons after 1905; tare weights, as always, tended to vary, but seem to have been slightly over 10 tons. Notwithstanding their primary purpose of carrying milk in churns, these vehicles (and their successors) were used for carrying a variety of other perishable produce, including fish. Some readers may be aware of a well-known photograph of one of these 'Siphon' vans clearly branded "For Fish Traffic Only", with staff busily loading it with full milk churns!

The K's kit for the 'Low Siphon' was one of the oldest kits in my stock cupboard, having been bought as long ago as 1969. This was the original all-whitemetal version of the kit – even the roof was a whitemetal casting. Like other K's products of the period, the kit was rather basic, with no floor, no brake gear, and turned brass buffers which bore little resemblance to the prototype fittings. The missing details, however, could readily be added, and so I had no hesitation in using the kit as the basis for my model.

It is said that only about 10% of all the kits that are sold are ever built, so there are probably a good few of these 'Low Siphon' kits still out there somewhere. If you have one, maybe this article will persuade you at last to turn it into a model; if not, you may well find one in a club or society 'bring-and-buy' sale or at a swap-meet. I have recently bought a second kit in this way (part-assembled), which I propose to turn into another finished model in due course. The 'Low Siphon' was an attractive prototype which is well worth modelling.

Some work was needed to clean up the castings. The top slat or bar on one side had been twisted through 90°, and this had initially deterred me from tackling this kit, but I managed to straighten the errant casting with a pair of pliers without breaking it or causing any other damage. Contemplating the construction of a kit is a bit like standing on the edge of a swimming pool – sooner or later you just have to jump in. Perceived problems are often easier to tackle in practice than they might appear to be beforehand.

In this K's kit, the axle-guards and lower footboards were cast integrally with the body sides. If I had been fitting compensated suspension, the next job would have been to hack off everything below the solebars, but I decided to see if I could make this 6-wheel model work on P4 track without compensation. I have previously advocated a bold experimental approach to model-making, and I could not resist the challenge which this vehicle presented.

The approach I adopted was to build the model with a rigid 4-wheel chassis (having a 76mm wheelbase), with the middle wheels simply going along for the ride. Pin-point bearing cups were let into the outer axleboxes, and the centre axle-guards were filed back slightly to allow increased side-play on the middle axle (which was to be mounted on inside bearings). The opportunity was also taken to chamfer the edges of all six axle-guards to give them a finer profile.

The sides and ends of the body were assembled with 70° low-melt solder, using the methods which I described in MRJ No.84. The two outer wheelsets were located in their bearings at this stage, leaving a certain amount of slop on both axles. This is essential when using P4 wheels without compensated suspension. Testing of the model on the layout proved that in this form (without the middle axle fitted), the vehicle would run perfectly smoothly through points and crossings and over various bumps in the track. No extra weight was needed, as the body castings were heavy enough in themselves.

A floor of 60-thou styrene sheet was now cut to shape and stuck in place, and attention was turned to the mounting of the middle axle. Notorious as I am for my cavalier attitude to the finer points of "fine-scale" modelling, I did not have the cheek simply to leave the middle axle out altogether, as Chris Lamacraft did on his 'Low Siphon'. I take my hat off to him for having the courage to do this, and unless you looked quite closely at Chris's model, the omission was not really noticeable. (In the end, though, Chris did add the missing wheelset.)

Although the middle wheels in my model carry no part of the weight of the vehicle, they had to be mounted in such a way that they could be relied upon to stay firmly on the rails and to accommodate themselves to slight variations in rail level. Light downward springing of the axle was clearly desirable, but I wanted to ensure that side-play could also be achieved without the axle twisting horizontally out of its correct alignment at right-angles to the rails.

The pin-pointed axle was replaced with a blank-ended axle supplied by Ultrascale. Two bearing bushes having an inside diameter of 2mm were soldered to a suitable length of brass tube selected from a bag of K&S off-cuts. The tube was short enough to allow the axle plenty of side-play in its bearings. The axle was also given the ability to pivot, by soldering on top of the bearing tube and at right-angles to it a thinner piece of brass tube (again selected from the bag of K&S off-cuts), inside which a 1mm-diameter length of brass wire was a close sliding fit. The accompanying photograph illustrates the arrangement. The wire was cranked, so as to enable it to be effectively hidden behind the solebars, and was soldered at its

other end to a 30-thou nickel-silver plate, which in turn was super-glued to the under-side of the floor.

The plate was originally mounted inboard of the outer axle. This made the springing effect of the wire too fierce, and it was inclined to lift one or other of the outer wheel-sets off the track. The problem was solved by replacing the wire with a longer piece and re-mounting the nickel-silver plate beyond the outer axle. The middle axle is now sprung down with sufficient force to ensure that its wheels stay on the rails, without affecting the running of the other two wheel-sets.

Extensive testing of the model proved that the system works. It saved quite a lot of time and effort which would otherwise have been expended, not only in arranging some form of 6-wheel compensated suspension, but also in replacing all the underframe detail which would have been lost when the castings were hacked off below the solebars to make way for the compensation. The P4 wheels were later replaced with EM-profile wheels set to the P4 back-to-back gauge ('Coarse-scale P4', if you like, or even if you don't like!). This was not due to any problems encountered with this vehicle but followed my decision to fit EM-profile wheels to most of my stock. This makes this model an even more sure-footed beast than it already was.

Later, when looking at the model on the layout, I realised that each of the lower footboards slopes downwards from left to right. Closer examination showed that this was a fault in the original castings which was incapable of being corrected without major surgery, so I resolved to put up with the problem, which is not very noticeable unless you examine the model closely from track level (or photograph it from that angle).

Whether I add a particular detail to a model is governed primarily by how visible it is likely to be on the finished model or, to put it another way, whether its absence would be noticeable when the model is running on the layout. On the 'Low Siphon' I decided that the clasp brakes and their associated yokes and pull-rods would not be seen behind the lower footboards, and so these items were omitted. The stretcher rods between the axleboxes are also hidden by the lower footboards, although they might be glimpsed when the model is viewed from a low angle. I did originally add these items, using 0.7mm straight brass wire fixed to the axle-guards with super-glue. These fell off, and rebates were then drilled in the axle-guards in an effort to ensure a firmer fixing. When the stretchers later fell off again, they were not replaced.

The K's kit represented one of the Low Siphons which were not fitted with hand brakes, and this was a further time saver. Not a lot therefore remained to be done to complete the detailing of the model. A Dean/Churchward vacuum cylinder and V-hangers (ABS F.311) were stuck to the under-side of the floor. Vacuum and steam pipes were fashioned from 1mm brass wire, with thin copper wire soldered round the hose (supplied in profuse variety by Eileen's Emporium, at various exhibitions or from Unit 19, Highnam Business Centre, Newent Rd, Gloucester GL2 8DN). I would have preferred to use castings, but no-one (not even ABS) produces vacuum pipes which are tall enough.

The buffers I used were MJT 2308 two-foot passenger-type wagon buffers, which (although they are not 100% correct) capture the character and appearance of the prototype buffers a good deal better than the turned brass buffers supplied with the original kit.

The cast roof which came with the kit was badly mis-shapen and had a crack down the middle. Rather than mess about trying to refurbish it, I adapted a plastic roof moulding from a Ratio GWR brake third (Diagram T47). This needed to be shortened at one end, and a rebate was ground on the under-side to enable the roof to sit down correctly at that end of the vehicle. All the detail was scraped off the roof, and new rain strips were shaped from plastic micro rod. As an alternative, I prefer now to use 10-thou by 20-thou styrene strip laid on edge. The 'Low Siphons' were not equipped with any form of lighting, so the roof is devoid of lamp tops and pipes.

It is my usual practice to spray whitemetal models with car grey primer before applying the final livery. As I mentioned in MRJ No.84, it is essential to keep the can moving; otherwise far too much primer will be deposited on the model, and will clog the surface detail. One further detail remained to be added at this stage. This was the label clip on each side, consisting of two small pieces of 10-thou styrene sheet. I had forgotten these items earlier, and fortunately noticed their absence in the period between applying the primer and spraying the final livery.

This model was spray-painted with the other models in this batch. I decided to finish the 'Low Siphon' in mid-twenties condition; so the ends are brown as well as the sides, and the running number (1992) is repeated on the ends of the vehicle. The 16-inch 'G W' lettering was applied to planking which the company had added to fill in the space between two of the lower slats, so as to provide a panel large enough to take these letters. Positioning of the other lettering varied over the years, and so the 'Methfix' transfers (now supplied by the HMRS) were located by reference to published photographs.

The painting of the underframe was undertaken when all five vehicles had been completed. A 'modified' black colour was mixed from Matt Black and Dark Earth, and was applied by brush. A similar colour was originally applied also to the roof, but I later decided to give the vehicle a white roof, with the intention of weathering it down in such a way that the original white colour was not altogether obliterated. I used a spray can of Matt White for this purpose and, when this was dry, I brush-painted brown below the rain strips. Weathering of the model was deferred to a later stage, after the remaining detailing had been completed.

Final completion consisted of adding buff-coloured wagon labels on each side, pencilling in a representation of the wire label clip, and adding some milk churns to the interior. These vehicles rarely ran empty; they either had full churns on board for the journey up to London, or they were carrying empty churns on the return journey. The roof was then stuck on, and Smith's (W&T) LP5 screw-type couplings were fitted to the headstocks.