

GWR Outside Framed Toad

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At Guildex 2003, Bill Parker (WEP Models) had on display his latest kit for an early, outside framed, 10T Toad as built between 1886 and 1905. Perfect for my embryo 1900 God's Wonderful industrial shunting layout. His comprehensive notes give some of their history but chapter and verse can be found in Atkins, Beard and Touret's definitive volume on GWR wagons.

So what comes in the flat pack? Seven A4 pages of instructions including exploded diagrams and scale drawings of side and end elevations; A sheet of brass some 16.5 by 11.75 inches containing many exquisitely etched parts.

It arrives folded in half but this is too big to fit into my Leaky riveting machine. However, the sheet has been designed so that the various parts - ends, sides, etc., can easily be identified so it is a simple matter to cut the sheet into manageable portions.

Along with the etched sheet come wire, glazing material and the usual bag of bits containing white metal casting for oil and grease axle boxes, brake standard, chimney and brass bearings. There is also a set of white metal casting for buffers, which were scrapped and replaced with some self contained sprung buffers from Haywood. To be fair, the housings are quite good and, once drilled out will be useful. White metal buffer heads, for me though, are a step too far. There are no axle box springs in the bag, of which, more later.

This is a complex and ingeniously designed kit that has etched parts to make all the outside framing, many parts being handed. Reading the instructions is, I would suggest, mandatory if one is not to make a complete hash of it all. There are not many rivets but it pays to press them out before detaching any parts. On several occasions the instructions exhort one to "dry run" the fitting of parts before final assembly. It is a wise precaution.

The standard of the original drawings for the etcher must be of a very high order because it is necessary to open out the many slots and or file chamfers on the tabs to get a smooth fit. The parts fit so well that it is also necessary in many cases to file the cusps off. All encouraging signs of a well designed kit.

I began, as the instructions suggest, with the sides, ends and veranda partition by fitting all the framing and, as far as possible, the strapping. The instructions suggest fitting the strapping after construction but I think it is better to complete as much work on the parts as is possible while they in the flat.

There is much folding up of channel sections to make the framing. Mostly one can use a vice with steel shoulders but some are the full length of the vehicle and require greater care to fold up. Scoring the etched bend lines until a 'witness' mark appears on the reverse is essential. I found (and Bill suggests) that bending one side to a right angle and then simply start the second bend was all that was necessary. A pair of smooth faced pliers can then be used gently to achieve a near 90% bend for the second side. It is far easier to fit them by easing the tabs in place and then gently squeezing with the pliers to get the framing square and right angled on both sides.

Once the tabs are started into the slots, turn the whole thing over and, using the jaws of the pliers either side of the tabs and in-line with the etched timber, gently push down until seated. I found it unnecessary in most cases to solder these tabs in place. This is a constant feature of WEP kits and makes for construction with little cleaning up to do. Again the pliers come into play and all that is required is a slight twist on each tab. Alternate the twists as you progress along. Use smooth face pliers with flat ended jaws (I ground the ends of mine to be flat) and press the joint against your thumb before twisting. Tough on the thumb but worth it.

Soldering of the framing was only necessary where the etched timbers form part of the windows or the tops of the of the veranda sides.

The under frame for the most part follows Bill's normal practice of separate, fold-up inside bearings for the wheels, one of which is a compensation unit. However, here are two great improvements and one (in my opinion) retrograde step with this kit.

The first improvement. The springs, together with their 'J' hangers, are made up from several etched laminates. This is a neat way to make structurally strong, accurate, springs and hangers and is to be the norm for all future kits.

These can be put together and fixed to the axle guards before folding up the under frame itself. The instructions suggest using some .5mm wire



through the holes in the 'J' hangers. Instead, I used a couple of lace pins. The heads held everything in place easily with the spring face down so that soldering was from the rear.



Solder cream and an RSU makes this job easy. The same pins were then used to help fix the spring to the axle guards and again, soldered from the rear. The top laminate is the one that is etched for the spring leaves. It has a nice long sprue on its convex face that holds it to the etch. Keep this intact so that when soldering up the

laminates one can wrap it around the centre of the spring to make the centre strap. The laminates produce a strong unit that has the delicate and slender look of the originals.

The second improvement. The compensated wheel supports are designed so that they can be fitted after painting the body. It helps that there is little brake detail to get in the way but is useful in not gumming up the bearing during painting.

The retrograde step. There are no marks of any kind to line up the under frame when soldering it to the floor so some care with the mark I eyeball and a vernier scale are necessary.

There is evidence that the design of this model changed during development. The sides have several etched indentations that match up with the tabs on the ends. Also there are etched tabs in the under frame that look as though they were meant to space the part between the solebars perhaps, but are not long enough. Neither is mentioned in the instructions.

Now for a problem, which I have to say in my experience, is not normal with WEP kits and anyway is easily rectified. The van sides have a number of etched indents along their lower edges that marry up with protrusions in the floor pan (Part No: 70). The indents are missing at each end and so do not match the floor.

It is a simple matter to offer up the sides (Part No: 1), mark the areas and file the indents in place. However, Bill is going to rework the artwork to fix this and the

problem of the overlong part No: 56 on the veranda end (which is already mentioned in the instructions). Would that all manufacturers were commitment to such levels of excellence.

Care is needed in fitting the sides to the floor (Part No: 70) but it is not onerous given a modicum of planning. It is important that the sides are fitted closely to the floor or the ends and roof will not fit correctly. Filing down the cusps here is important to get a good fit.

The casting for the brake handle is quite delicate so take care. I clumsily broke the handle and had to drill out the housing and fit some wire instead. I also added a door handle (Slater's - usual disclaimer) to each gate in the veranda since these are very visible in the photographs I have.

The solebars are handed and so cannot be fitted incorrectly. Not so! They also need to be the right way up, a fact that escaped me until I came to fit the step supports. So it was a case of unsolder the parts and start that bit again. Make sure you have the holes at the bottom. Also, the extended tabs on the sides are too long and will need cutting back before soldering to the solebars.

For ease of fitting, the corner seats need to be assembled before fitting in the van but, if you are modelling a later version you may need to replace them with lockers made up from scrap etch or plasticard.

The roof. Access is needed after painting to fit the window glass so I made the roof removable by fitting long phosphor bronze spring strips to bear on the inside of the van. Ideally, the kit could be improved by the addition of two or three formers to help hold the roof to shape. The photograph shews this along with the wheel bearings/compensation unit and the couplings.



The roof has the inside planking etched in and these shew through on the top. There is a school of thought that maintains the roof planking was visible through the canvas. I have yet to see any pictures to support this view. However, I shall wait to see what it looks like when painted and, if necessary, add a layer of tissue "canvas" to hide it.

The wheel sets need packing out with washers (I use 5BA brass washers from Eileen's Emporium - usual disclaimer) or there will too much side slop in them causing the van to oscillate laterally.

Very carefully open out the holes in the tabs on the under frame where it takes the pivot for the compensated unit until you can just get some 0.9mm rod in it. Any slop here and the van body will not be parallel with the track.

The completed van was sent off to Ian Hopkins paint shop for painting, lettering and weathering.

Verdict? An excellently designed kit that goes together well, was fun to build, and produces a faithful replica of the original but not, I think, a kit for the beginner.

BILL PARKER'S REPLY

Having read your report on the Toad, agree with most things that you have said, as usual you are thorough in your assessment. The slots in the etch should really take the mating parts without the need to open up the slot, but you have hit the nail on the head, the tolerances are that tight that any variation in the etching process across the brass sheet can cause a slight cusp on the inside of the slot, what I recommend in these instances is that a corner is cut of the brass sheet and eased into the slot, this pushes the cusp out and allows the part to mate correctly.

The business of the missing cut-outs and over length part. The only explanation I can come up with for these is the most elementary of mistakes, the art work was corrected and closed down on the CAD without saving the drawing, and on going back to the drawing to correct one or two other parts it was printed off assuming that everything had been corrected, as I said to the many purchasers at Telford, I ran out of time to build up the "correct" finished model for the exhibition.

I can only apologise to these people for the additional work that they have to do to correct my mistakes luckily it is remedial. Needless to say, the art work has definitely been corrected now and a new tool will be produced for future kits.

As an aside, the planked roof, I have some photographs showing planking detail underneath the canvas albeit not very well pronounced but definitely there.

Many thanks Raymond for your build review was usual very fair, I refuse to comment on the buffers, one of these days I will have to bite the bullet and do something about them.