16MM SCALE DE WINTON

Steve Holland Builds and Modifies The New Slaters 16mm Kit

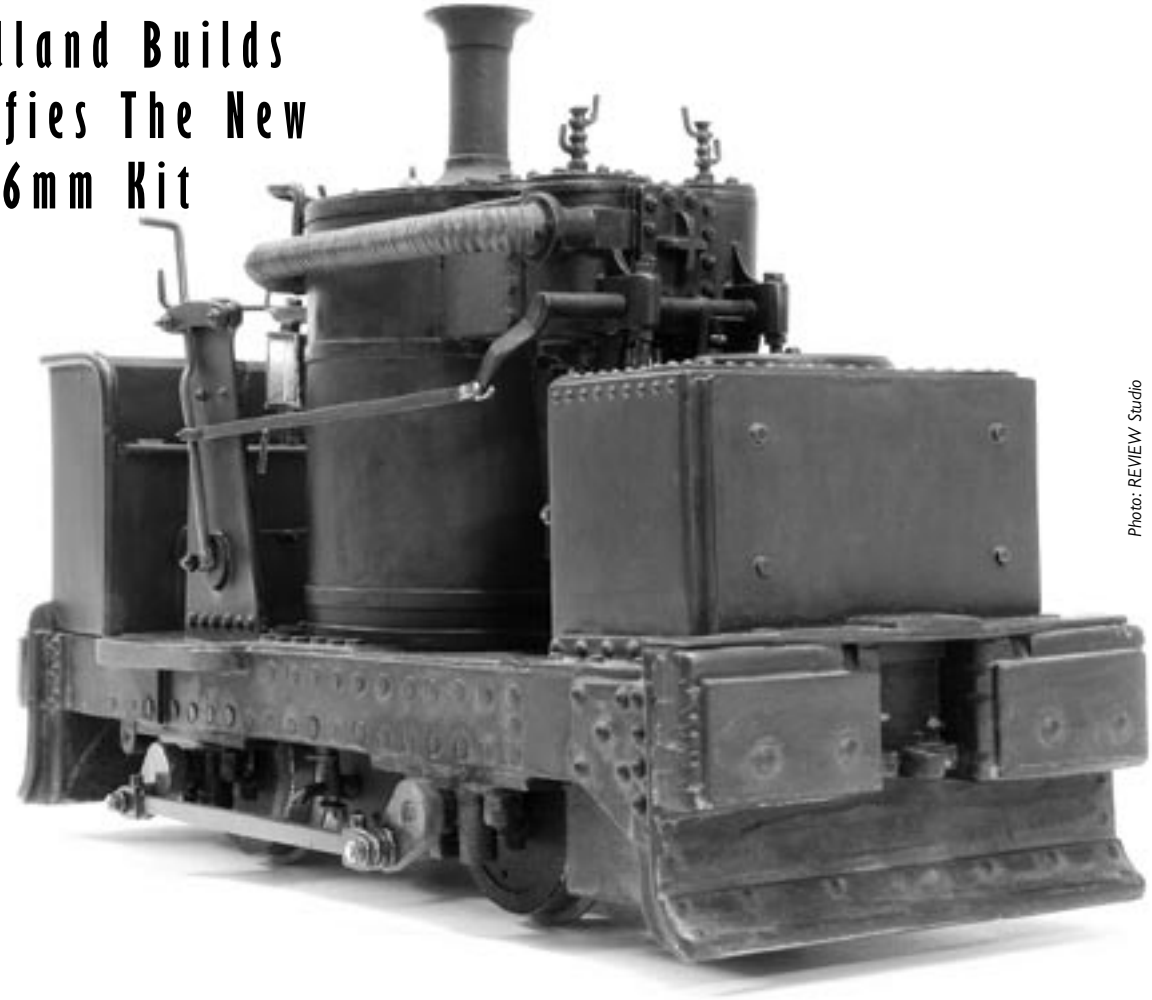


Photo: REVIEW Studio

I AM ONE OF those terrible characters who dabble in more than one scale, being unable to settle on one for a long period of time. My personal favourites are 7mm/ft and 16mm/ft. With one or two exceptions, most of my modelling tends towards the North Wales slate industry plus the Festiniog and Welsh Highland railways. When Slater's Plastikard Limited announced that a De Winton 0-4-0 vertical boilered loco was to be produced in 16mm scale, I knew that I had to get one.

For a long time now it has been very difficult to get an accurate 16mm scale model of any loco. With one or two exceptions most 16mm scale locos could only be described as live steam toys or caricatures, bearing little resemblance to any known prototype and hurtling round gardens with a turn of speed that would not disgrace a Gresley A4 Pacific. I will now hide behind the sofa until the bullets stop flying from the direction of the live steam mob! A 16mm scale model railway in the conventional sense (by that I mean indoor, with scenery and operable at scale speeds) has always required scratchbuilding, certainly on the locomotive front.

The Slater's De Winton kit is the first attempt that I can recall of a manufacturer treating a 16mm subject with the same attention to detail as 4mm or 7mm kits enjoy. This is to be expected, as Slater's are known for their quality kits in the smaller scales.

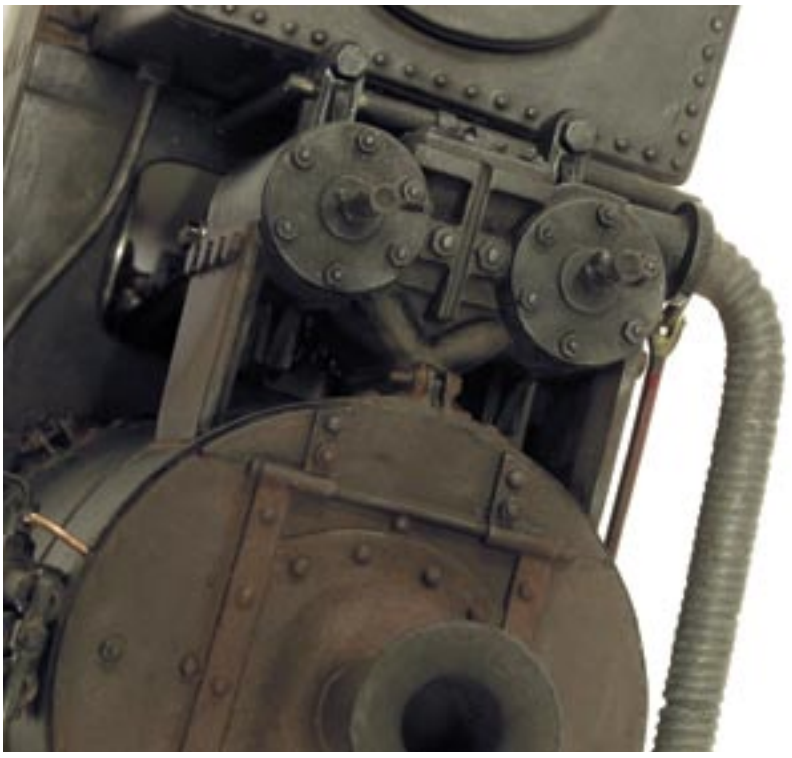
The parts come in a stout cardboard box, with a photograph of a partially completed model on the top - I suspect this model was built from the test etches and castings as the firebox and brakeshoes are missing. On opening the box, the purchaser is confronted with some very impressive resin mouldings for the main bodywork (boiler, footplate, tank and bunker), plus some superb lost wax castings. All of the functional or vulnerable parts are cast in brass or nickel silver. White metal is used for the more substantial parts such as the chimney and main steam pipe. Etches are provided for the coupling rods, functional inner chassis and pickups. The coupling rods

ORIGIN OF THE SPECIES

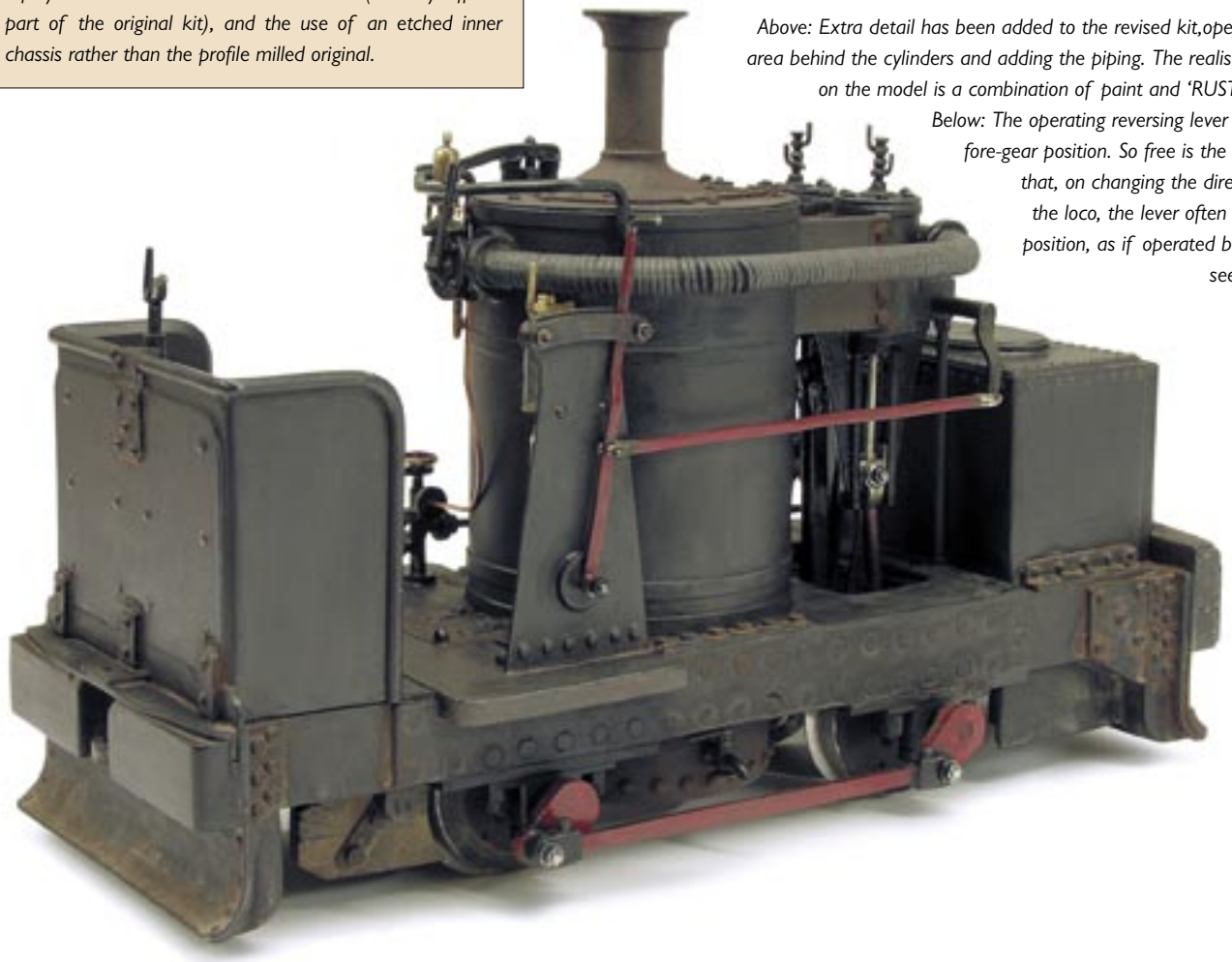
This 16mm scale De Winton kit was originally produced by David H Smith, who did all the pattern making and origination. It was reviewed in issue 20 of the REVIEW.

The use of simple-to-assemble, high quality, resin components for the 'body', with lost wax and whitemetal fittings was intended to produce a kit that was as easy to assemble as possible. However, from the point of view of the manufacturer, this caused a few problems; some chassis components required machining individually, and the resin parts had to be ordered in fairly large batches. One 'batch' was sold fairly quickly but it was decided not to tie up a lot of capital in a second batch which was not going to sell so well. When Slater's approached David to acquire the kit, it seemed sensible to let them do so – the resources and selling power of a much larger manufacturer could achieve the necessary sales.

Before handing over the patterns etc., David made one significant improvement – adding the details of the steam pipes between the boiler and cylinder (as mentioned by Stuart Baker in his article 'Detailing a De Winton' in REVIEW 45 – now out of print). Slater's have made other alterations to the manufacturing processes, notably the incorporation of a fully machined and assembled crank axle (the only difficult part of the original kit), and the use of an etched inner chassis rather than the profile milled original.



Above: Extra detail has been added to the revised kit,opening the area behind the cylinders and adding the piping. The realistic finish on the model is a combination of paint and 'RUSTALL™'. Below: The operating reversing lever is in the fore-gear position. So free is the linkeage that, on changing the direction of the loco, the lever often changes position, as if operated by an unseen hand!



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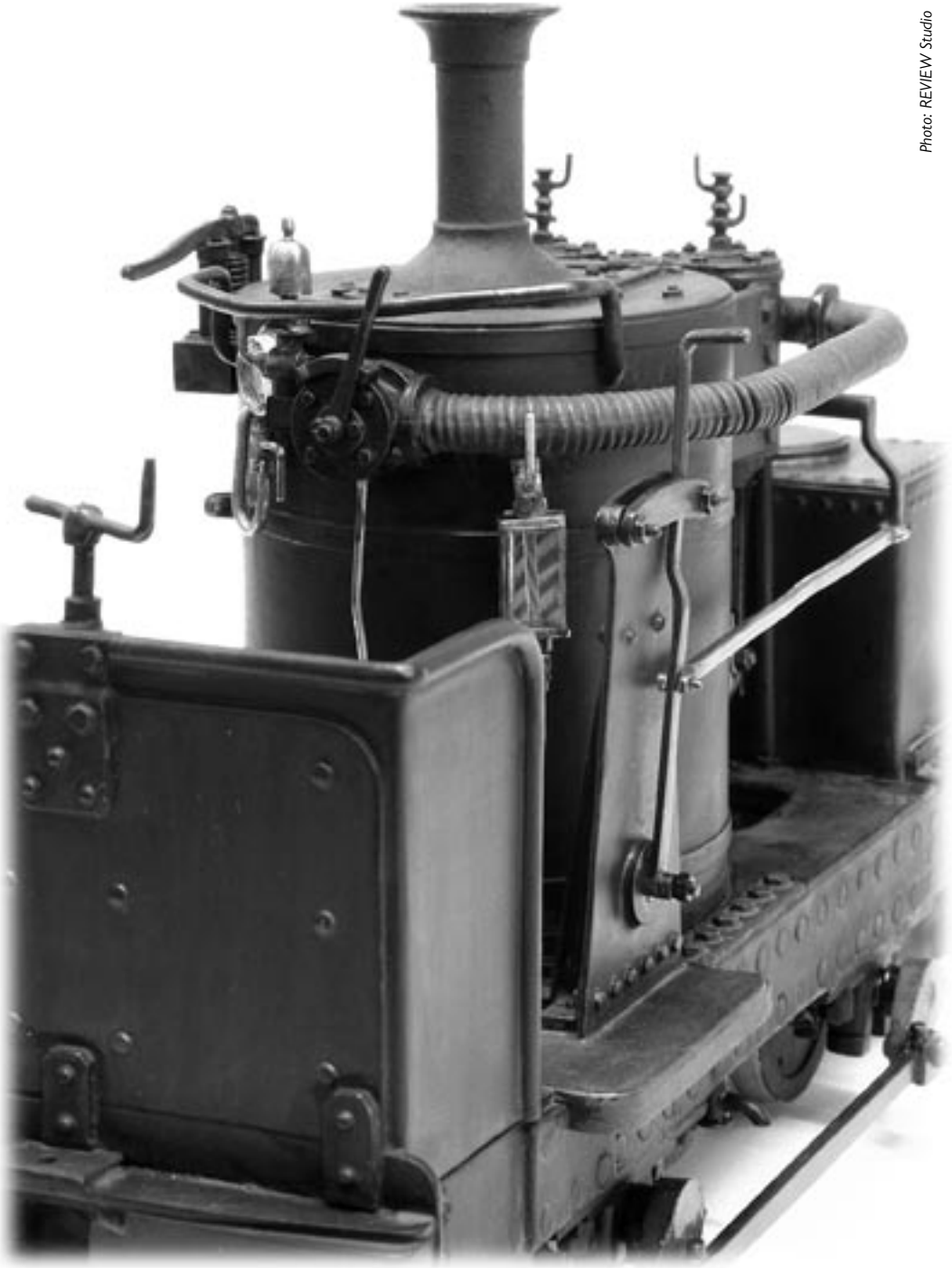


Photo: REVIEW Studio

are etched in steel; phosphor bronze is used for the pickups. A nice touch within the brass inner chassis etch is the inclusion of a 'Chaloner' nameplate for use on a display base.

Slater's have carried out some of the potentially difficult work for the purchaser. The kit comes with a pre-assembled Faulhaber coreless motor and gearbox mounted on the rear axle; the crank axle is CNC machined and fully assembled. Nickel silver castings used for the connecting rods have the big ends drilled and tapped 10BA, and valve gear components have all the eccentric straps drilled and tapped 14BA.

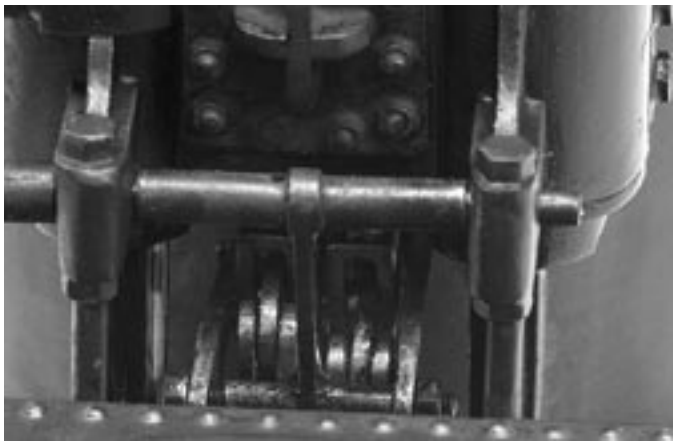
The instructions provided are as equally impressive as the components. Twelve A4 pages give a history of De Winton and 'Chaloner' in particular, with details of all known surviving De Wintons. Health and safety advice is given on the handling of the resin castings and other materials - do not ignore these, as the dust created by resin is potentially hazardous. Methods of preparing the components for assembly are outlined, and there is, also, a full parts list. All of the castings are drawn, named and numbered to enable easy identification - this is especially important for the valve gear where the parts look very similar. All of the foregoing has taken the instructions to page 5; the actual assembly is covered from page 6 onwards. Lots of clear line drawings plus helpful text cover the stages involved. I followed these with a couple of deviations to suit my personal preferences, outlined below. The last page of the instructions covers the painting and finishing of the model.

There were some items and advice that the instructions omitted:

❖ It is best to loosen the screw securing the gear to the back axle when testing the coupling rods and valve gear. This is because coreless motors may be damaged by shock loading along the armature such as that caused by binding valve gear in conjunction with the worm gear used in the gearbox. Do not try the chassis on power until you are satisfied that all of the tight spots have been found and eased. I found this out the hard way (*"This motor is no more, it has ceased to be..."* to misquote a certain Monty Python), so I installed a Mashima can motor in my De Winton after I got the chassis running smoothly.

❖ Place some temporary packing between the crank webs when pushing the outside cranks on to the crank axle. It would be very easy to distort this axle if too much pressure was used when adding the cranks.

❖ All of the big end and eccentric straps need individually identifying



Fully functioning valve motion – Left: full back (reverse) Right: full fore (forwards). Note how the position of the valve spindles alters – just like the real thing!

to ensure that they stay with their respective connecting or eccentric rod. They also need to retain their correct orientation to each other to avoid binding if the valve gear is dismantled and reassembled.

With the exceptions outlined above, these instructions are some of the best I have seen - if only they were all this good.

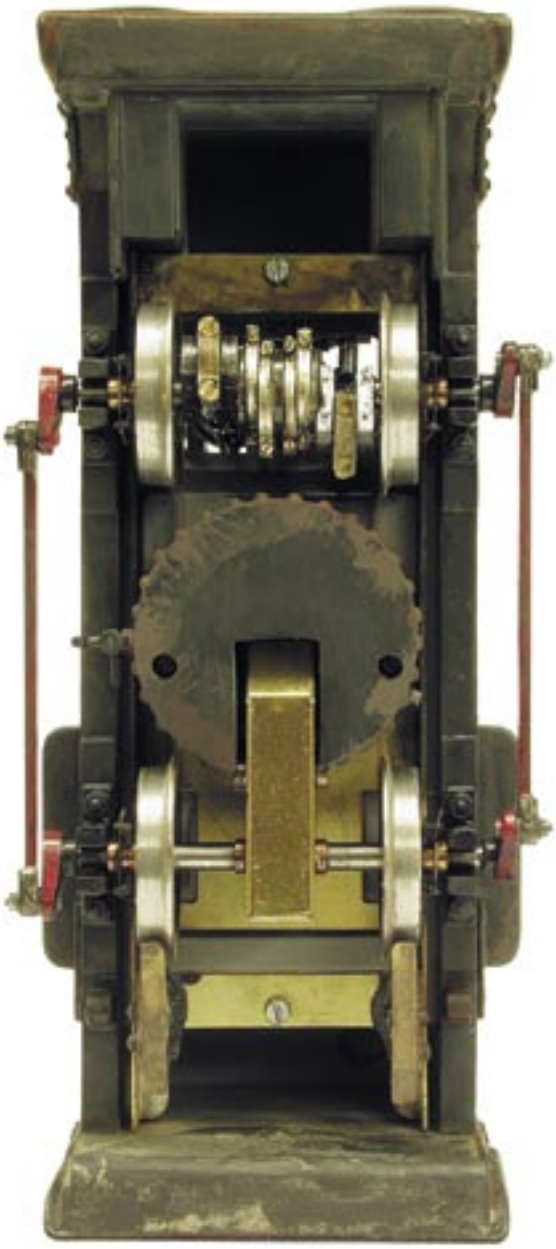
VALVE GEAR

The valve gear would be quite acceptable assembled as intended, but I wanted to make the valve gear fully functioning and this is possible with a little extra work. There is a part of the casting for the expansion links (part N8) which obstructs the curved slot. This was carefully removed with needle files. A piece of 2.5mm brass tube had two slices cut to fit between the slots in the valve heads (part N10), and holes were drilled through each valve head to take a piece of 1.5mm brass rod. One of the slices of tube was then put into an expansion link slot which, in turn was put into a valve head. A short length of 1.5mm brass wire, which passed through the valve head and the brass tube, then secured the expansion link. Four further lengths of the 2.5mm brass tube were then put into the cylinder block; two were to enable the valve heads to move up and down without wearing the resin casting and two were for reverser crank bearings. A 12BA screw was used to secure the reversing lever to the quadrant and allow it to move. When the valve gear is fully connected, friction in the valve gear drags the reversing lever to full forward or reverse; depending upon the direction the loco moves in.

I also wanted to be able to remove the motor and gearbox without disturbing the valve gear. This is very easy to arrange. A bracket for the brake blocks was made from some of the waste chassis etch, as they would prevent the rear axle from being removed if they were fixed permanently. This is secured to the loco by the rear body fixing screw. Instead of securing the ashpan to the brass inner chassis, its fixing screw holes were drilled right through then counterbored to take 10BA screw heads. About 8mm of the screw thread needs to protrude above the top of the ashpan. When the boiler was finally glued to the resin chassis, the inner brass chassis was used as a guide to drill holes in its bottom for 10BA screws. I did not bother to use a tap to thread these holes, as the resin was soft enough to 'self tap'. The ashpan is now fixed from below and can be removed to allow the motor, gearbox and back axle to be withdrawn from the loco after the coupling rods have been disconnected.

There is very little that can be added to the kit. I decided to remove the centre from the water gauge casting and make it see through. A water gauge glass was made from a scrap of fibre optic cable with some clear styrene for the gauge glass protectors. A piece of white 20 thou styrene was used for the sightscreen behind the

Photos: REVIEW Studio



Photos: REVIEW Studio

Above: The underside of the model,showing the revised drive arrangement and removable brake blocks. Right: Boiler lagging bands and clamps were added as shown.

gauge glass. Bits of brass tubing, wire and nuts were used to cobble up the blower feed by the safety valves and a blow down tap on the firebox. Boiler band clamps were made from some strip styrene plus some 16BA nuts and bolts. That was about it for superdetailing; everything else came with the kit.

I have thoroughly enjoyed building this locomotive and the valve gear is fascinating to watch in action. It captures the look and character of the prototype, having a presence that smaller scales lack. This is a true multi-media kit and the use of materials appropriate to their function makes a refreshing change to struggling with small delicate whitemetal parts used in all the wrong places. I have a slight reservation about the use of a coreless motor with a worm gear on the armature; perhaps an all spur gearbox would have been a better option, similar to the Portescap motor / gearbox units. Having said that, it was entirely my own impatience that caused the problem with the motor. Providing it is not used to test the motion until all of the binds are found and eased, it will be up to driving the finished loco.

To sum up then, a great kit, fun to build and can we have some more (like a Hunslet 'Alice' class or a Ruston 16/20hp) to the same standard please?