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Ref. 16W01
Dinorwic Slate Wagon
(Single Flanged Version)

Prototype Information. The Dinorwic Slate Quarry, near Llanberis in North Wales was one of the largest slate quarries in the world. As a quarry, it closed down in 1967, but part of the site is occupied by a pumped storage power station. The old quarry workshops now form the Welsh Slate Museum.

These wagons, with their distinctive double flanged wheels, were used for carrying finished slates from the various mills on 1ft-10¼in gauge track. At Gilfach Ddu, adjacent to the workshops, they were loaded, four at a time, onto 4ft-0in gauge transporters for carrying to the coast at Port Dinorwic. These transporters caused the other distinctive feature of individual axles for each wheel, due to the need to provide clearance for the wider gauge wheels.

Model Information. This kit enables you to build a model of a typical Dinorwic slate wagon, except that the standard version is supplied with ordinary single flanged wheels on a full-length axle for use on conventional track. A version with the correct double-flanged wheels is also available (Ref. 16W02).

Contents of kit.

Polystyrene - (4 Sprues) Floor; Underframe; Middle rails (no bolt detail), with end buffing plates; Top Rails (bolt detail on top), with side buffing plates.
Turned Brass - Spacer "Bobbins" - 16 medium; 4 short, 4 long. Lost Wax Brass - Sprue containing 2 coupling hooks and 2 bracket.
Whitemetal - 4 axleboxes.
Lost Wax Brass - Sprue with 2 coupling hooks and bars.
Brass Chain - 4 links.
Wheels - 4 wheels on two axles, with 4 brass bearings.

Instructions. Check parts against the list of contents above. Assembly of the plastic (polystyrene) parts requires liquid solvent (Slater's Mek Pak). For other assembly work, we found that "superglue" (cyano, ACC, etc.) is strong and long-lasting enough for the purpose, provided each part is clean before gluing. The brass turnings will have the remains of the machining oil, so should be "dunked" in a suitable degreasant, such as Slater's Track Cleaner or methylated spirit. Whitemetal and particularly, cast brass components should be cleaned with a glass fibre brush or an abrasive rubber. The plastic components will require to be cut from the sprues, and the remains of the feeds to be removed with a fine file. Similarly, remove the remains of feed pips on the whitemetal parts. Cut off hooks and brackets from the brass sprues.

When you remove the floor from the sprue, it will be curved because of the groves between the 'planks', but this will straighten itself once attached to the underframe. This is the first job to be done. There are ribs on the underside of the floor to locate into the underframe section; hold the floor in place, with no overlap, and brush a small amount of Mek Pak all the way round; also sparingly along the underframe ribs on the underside. There is a slight danger of creating fully enclosed pockets of air (or worse, pockets of solvent fumes) between the hollow underframe ribs and the floor. The holes for the bodyside bobbins vent into most of the voids, so it may be a good idea to put the floor/underframe to one side for a day or two before assembling the bodywork.

The buffing strips are made up from 3 pieces - the curved ends and the two sides; note that the latter have a semi-circular end which goes towards the middle of the wagon, whilst the slightly curved end joins and matches up with the end piece. Hold an end piece in place; the top is about 1mm below the top of the floor (and therefore slightly above the top of the underframe), but this dimension is not critical. What is critical is to get the strip level and flush with the sides; run a little bit of Mek Pak into each end and check the positioning (you have a short 'adjustment' time before it sets). When satisfied, brush a bit more Mek Pak to complete the join. Hold a side piece in place, lining it up carefully with the end piece, so it looks like one continuous bent piece of metal. When satisfied, brush in a little Mek Pak, check again, and brush in a little more to complete the job. Repeat for the other side, then repeat the three parts at the other end of the wagon. Set aside for a day or so for the joints to fully harden (and as mentioned, to allow the voids to fully evaporate), and the final job with a fine file, is to gently blend the sides and end to make the join 'dissapear'.

Insert the brass bearings into the axleboxes and fix with a tiny amount of superglue, making sure that there is no glue still liquid before the next stage. Refering to the lower diagram overleaf, assemble each pair of axleboxes onto an axle, and glue the units to the locating holes in the plastic floor unit.

The couplings take the form of a two link chain, with a cast brass hook on each. One hook links into the bottom chain link on an adjacent wagon. This is a tight fit, so you may prefer to fit the hook at one end only. A few minites work with a round file to thin the end of the hook would also help. To fit the couplings, carefully twist open each link with two pairs of fine pliers; for each coupling, thread one link through the coupling bracket and another through the hook, then carefully close up the links, remembering to close the two links to form a chain! Check that the hook is hanging the right way - when the wagon is assembled and on the track, the hook opening should face inwards. Finally, glue each coupling into the locating hole.

The bobbins and plastic components are precision made (much better than the previous resin version of this kit). We found that it was best to fully assemble the upper works 'dry' (without any glue); it holds together very well by 'friction', but by running a small amount of Mek Pak into each brass/plastic joint completed the job. Joining plastic to brass in with Mek Pak is not normally very satisfactory, but the cumulative effect of lots of these joints is very good.

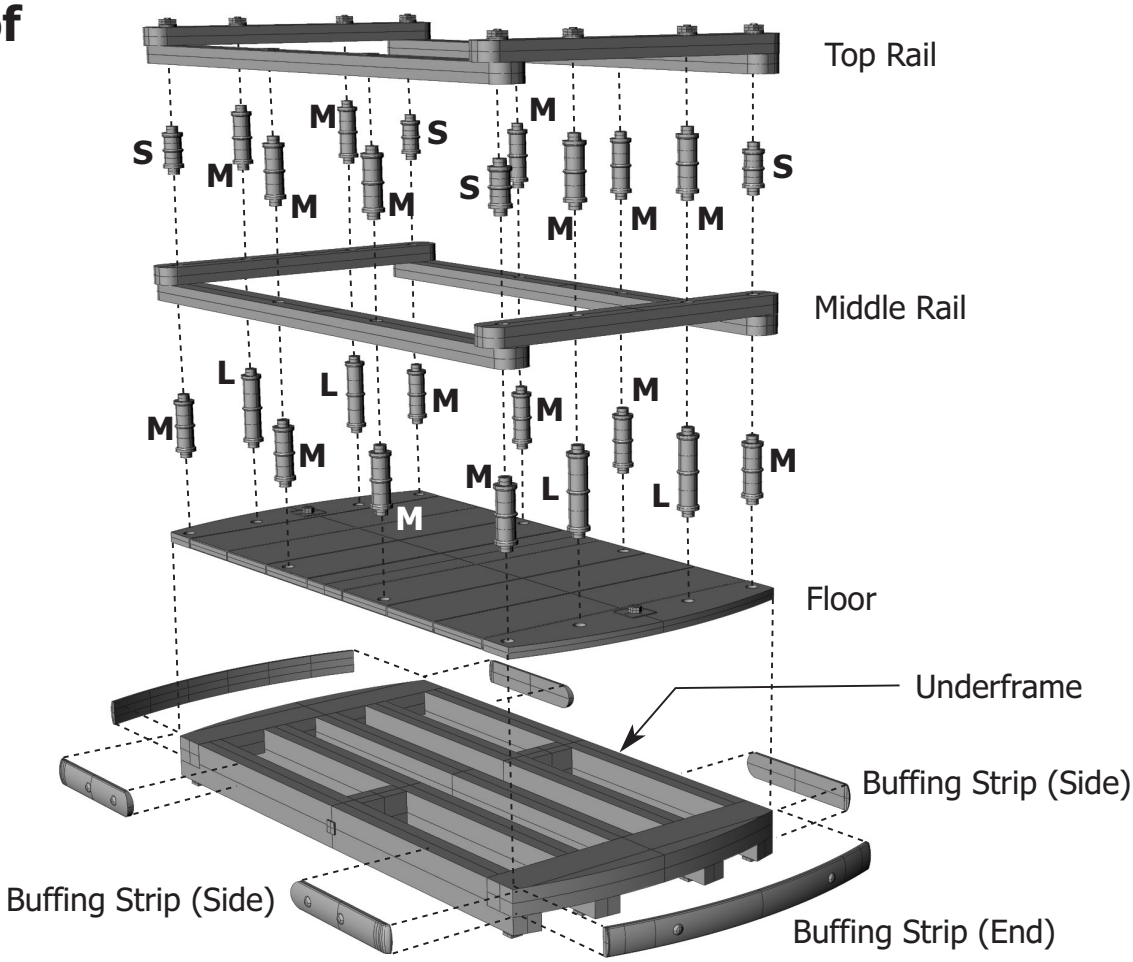
Refer to the upper diagram (to ensure you use the right bobbins in the right place), assemble the bottom row of bobbins into the floor section making sure that each one is perpendicular to the floor. Place the middle rail section onto these and it should fit. Repeat with the upper row of bobbins in the top of the middle rail. The top rail section should fit in the same way, gluing it in place when satisfied.

Painting & Finishing. Now the interesting bit starts! All the wagons preserved at the Welsh Slate Museum (the old Dinorwic Quarry workshops) have been painted overall red oxide. We suggest using car spray aerosol red primer; it gives a nice matt finish. Make sure you use the modern acrylic type, not the older celulose type, as the latter can desolve polystyrene! If you're not sure, test it on a waste section of sprue. There is some evidence that at one stage, they were painted dark maroon with black ironwork. The tare weight was painted on each solebar - most seem to have had 7·3·0 in fairly crude white lettering. However, this is a bit acedemic, because for most of their lives they ran with unpainted wood, and rusty metalwork; use your imagination and refer to various books on the subject. Of course, the finishing touch is a load of roofing slates; one way of doing this is to use 20thou black Plastikard cut up into suitably sized rectangles, with the edges bevelled by

drawing a sharp scalpel blade held at approximately 45°. Assemble them into a block - no doubt the quarrymen had a particular way of arranging them for each different size, but the real things would have been jammed in hard to avoid movement and thus breakages. On any exposed faces or edges, dull the surface by rubbing very fine emery paper or an abrasive rubber, and a dark grey matt finish is the result. Dinorwic slate tended to have a slight purple tinge to it, so just as with the unpainted wood of the wagon body, you can spend time adding realism to the model.

Assembly of Body

Bobbins:
S Short (4)
M Medium (16)
L Long (4)



Assembly of Underframe