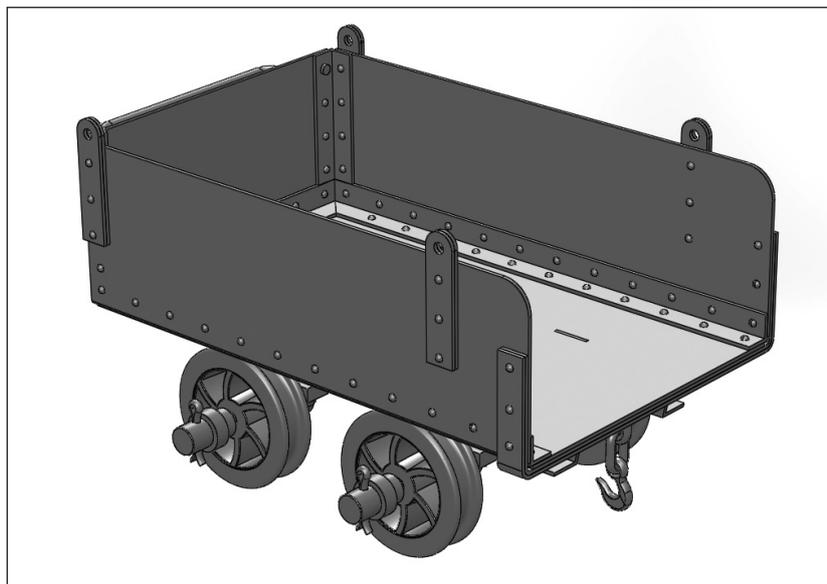


## Ref. 16W09

### 16mm Scale Dinorwic 'Rubbish' Wagon



## INTRODUCTION

### Prototype Information

Most Welsh slate quarries had three types of wagon: one for carrying the slabs of slate from the quarry face to the processing mill; one for carrying the vast amount of rubbish (waste slate) to the tips; and one for carrying the finished product (usually roofing slates) away to the outside world (e.g. by ship or main-line railway). Slater's produce kits for all three types from the great Dinorwic Quarry at Llanberis to go with our loco kit from the same place.

### Model Information

This kit will enable you to build an accurate scale representation of the Dinorwic "Rubbish" Wagon. The assembly of the etched brass components, is best done by soldering. However, all main parts are designed to fold up like metal Origami, then locate together with tabs etc. It is thus perfectly possible to assemble with epoxy glue (Araldite or similar) should you wish to do so.

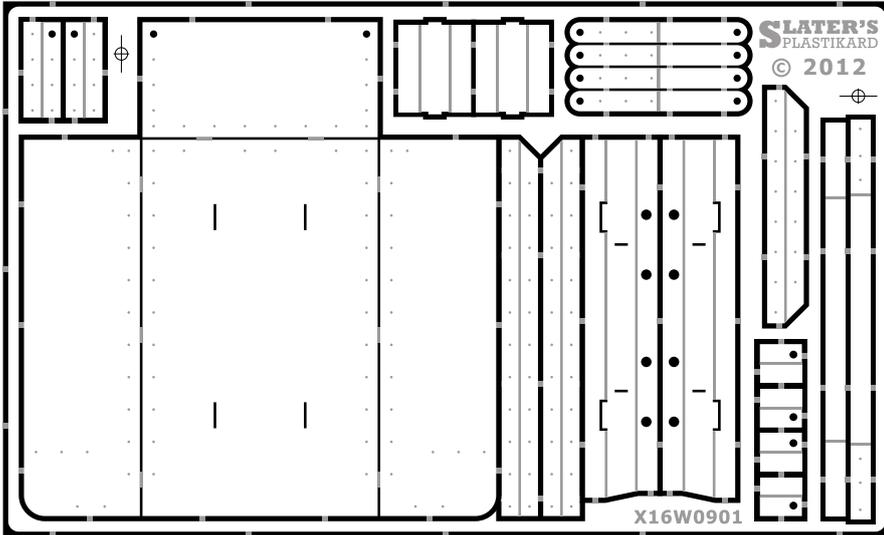
The representation of rivets in this kit is by the "push out" method, using half etched holes on the back of the part, and needing a suitable tool for the purpose. The best tool is a proper rivet press, with a male punch and female die, of which there are several available; you will need a 1mm diameter die. It is possible to do the rivets with a blunt scribe (or similar) pressed onto a fairly hard surface (such as an off-cut of MDF). Alternatively, you could drill out all the half etched rivet locations and use real brass rivets or pins (not included). As a final resort, don't do the rivets at all; this will look a lot better than a lot of badly formed rivets.

### Parts List

Brass Etching	Sheet .....	1
Brass Castings	Handrail .....	1
	Axle End/CotterPin .....	4
	Dinorwic Couplings (2 on sprue) .....	1

Whitemetal Castings	Axleboxes.....	4
Wheels	12" diameter double flanged.....	4
Axles	Steel .....	2
Coupling Chain	Brass (links).....	4
60thou Brass Wire	60thou (1.5mm) - 1" long .....	1

**Etching Drawing**



Not to scale

**Acknowledgments**

This kit was originally developed by Bob Alderman for his own use. We have modified it to suit our production methods.

**Assembly**

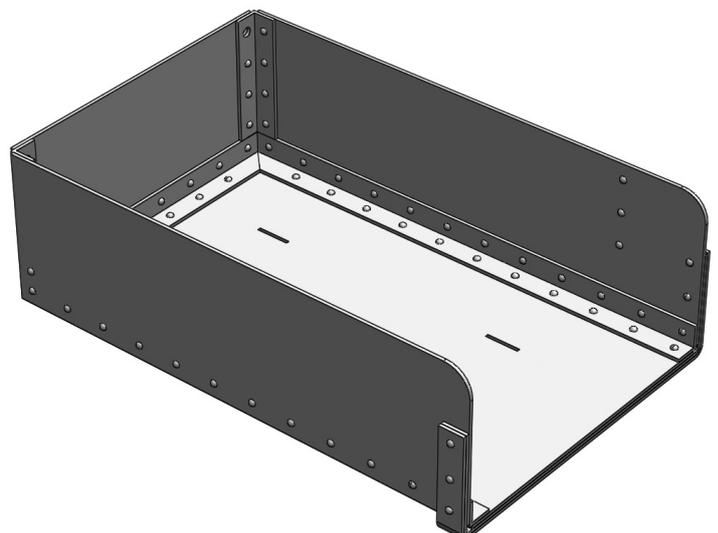
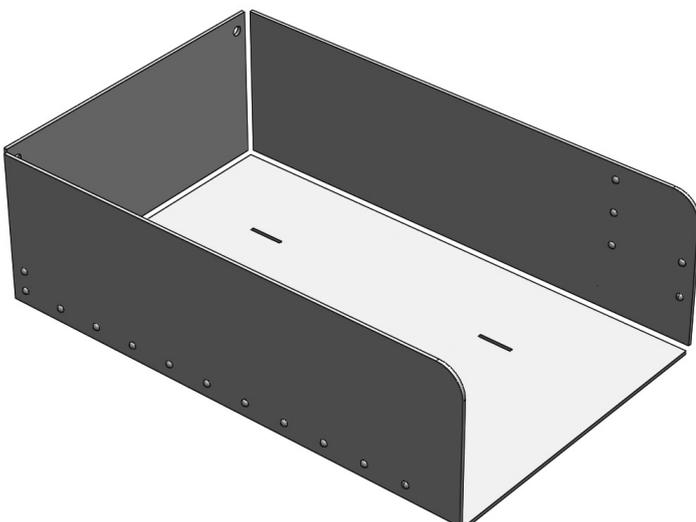
These instructions take the form of computer generated pictures of a wagon being assembled. Where necessary, text has been added to amplify what is shown in the pictures. In all sections, the rivets must be formed first. Where items have to be folded, the half-etched fold line is on the inside where the bend is 90°, and on the outside where the bend is 180° (unless otherwise stated).

**Stage 1**

Fold up main body. Note that the fold lines are on the outside of the fold (contrary to normal practice); the rivets on the lower edge should be on the outside.

**Stage 2**

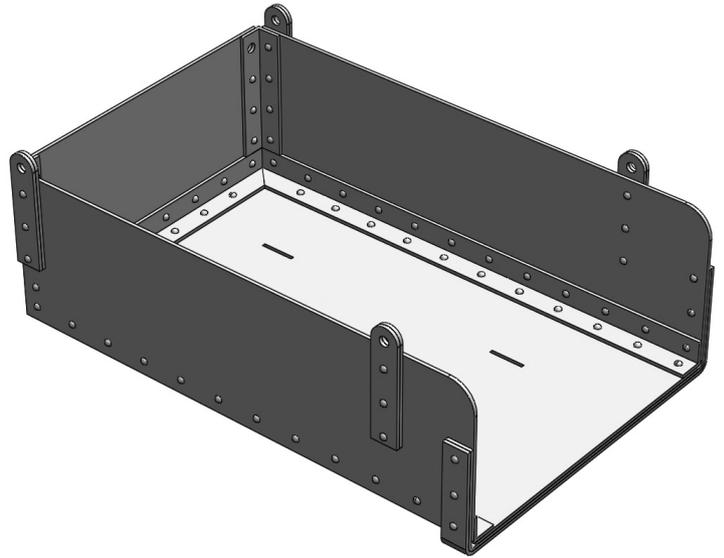
Add the rivetted angle iron strips inside the body and the reinforcing strip around the open end. The latter is a double layer, with the slightly longer one, with rivets, on the outside.



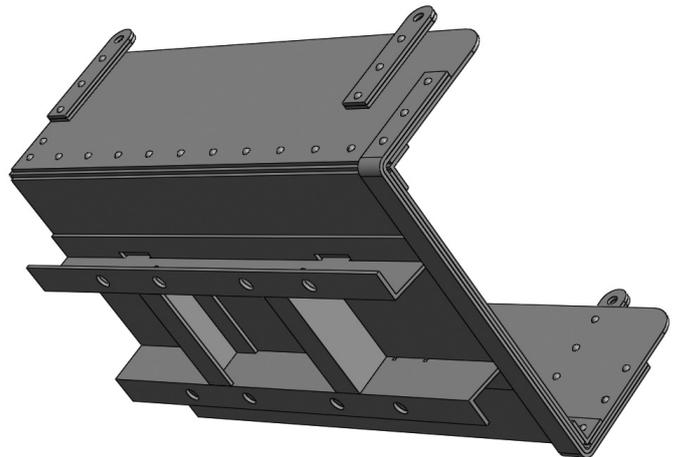
**Stage 3**

Add lifting eyes. These are folded through 180° and soldered together. The top edges, and the edges of the holes need to be rounded off.

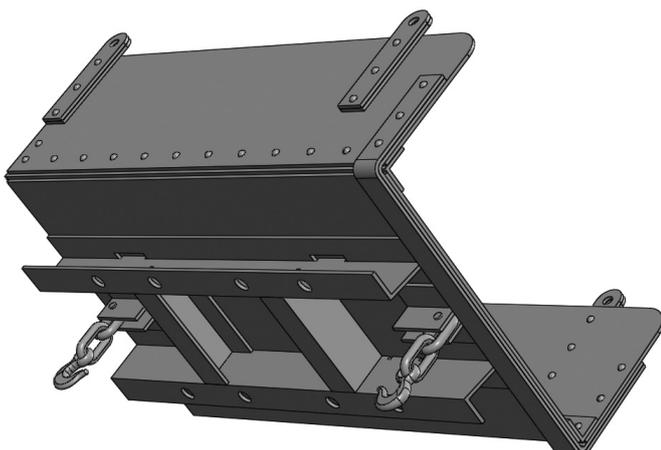
The lifting eyes are located where shown, with the rivets on the outside lining up with rivets on the inside

**Stage 4**

Add Handrail. This solders into the position shown.

**Stage 5**

Fold up and add underframe channel sections. The longitudinal ones are located by slots in the floor; the cross ones by slots in the longitudinal ones. The sloping ends are adjacent to the open end of the body.

**Stage 6**

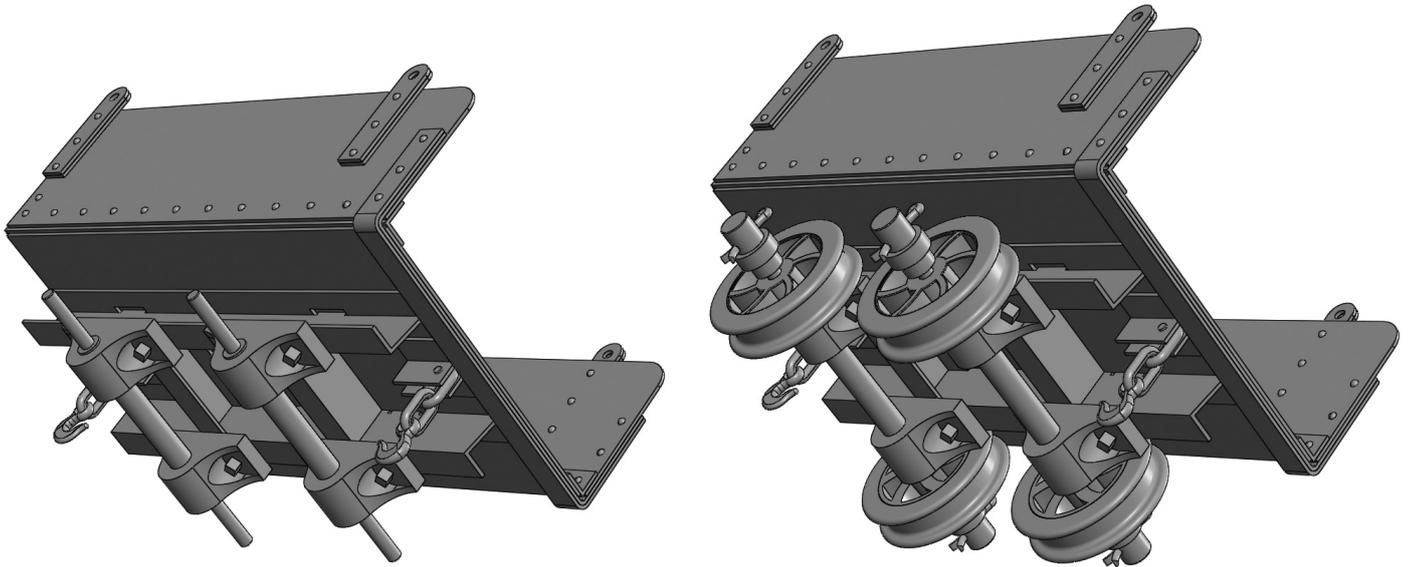
If you are using the scale couplings supplied, solder the four angle irons as shown, about 2mm apart, and about 5mm inboard from the ends. Gently open up a chain link to insert into the hook and through the other link. Note that the cast coupling bar on the sprue is not needed for this kit. Solder a piece of 60thou wire through the holes in the angles, trapping the chain in place.

This completes all the brass-to-brass soldering before adding other parts.

If you want to use any other type of coupling, you will need to devise your own fixings.

## Stage 7

Fit the whitmetal axleboxes, steel axles, wheels and retainer/cotter pin castings - in that order. The axleboxes need to be drilled out to 1/8" (3.2mm). The axles are fixed into these holes, so it does not have to be high precision work! The axleboxes are located by the pairs of holes in the underframe channels. Glue the axles into the axleboxes with an equal amount protruding each side. The wheels slide on and should revolve freely. Finally glue on the retainers - use 2-part epoxy, but make sure that no glue runs out and fixes the wheels on the axles! The cotter pins should be vertical with the loop at the top.



That completes the assembly.

## Painting and Finishing

These wagons may have been painted when new (probably only red oxide primer), but latterly the only "livery" they carried was rust. There are numerous ways of reproducing rust on a model; here we outline just one.

Depending on your skill and personal preferences, you may wish to complete all the painting and finishing before finally fitting the wheels and retainers.

First, thoroughly clean the model with a kitchen cleaner such as Cif. Allow to dry completely.

The edges of brass etchings are very vulnerable to chipping and general wear. Therefore it is well worth treating these edges with a suitable metal black such as Birchwood Casey Gun Blue; the bottle says it is not suitable for non ferrous material but experience says otherwise! It is probably worth doing the whole wagon, axles and wheel tyres included.

Then give the whole model a light coat of Red Oxide acrylic primer. Halfords in the UK supply it for motor cars.

A good rusty finish can be achieved with Modern Options Instant Rust™ Set, available from several traders who regularly attend model shows. It is an artist material, primarily intended for sculptures, but it works well on larger scale models. The "rust" is a grey paint-like substance with iron powder suspended in it. When dry the developer supplied is brushed over it to create the rust. This can be applied several times to develop degrees of rust.

The correct load would be small pieces of broken slate. Pick up some pieces next time you are in North Wales or break up a damaged roofing slate (don't break up a whole one - they are far too valuable!).