

Ffestiniog Railway 3-ton Slate Wagon

Introduction

This kit builds up into a model of any one of the three main versions of a Ffestiniog Railway iron-bodied 3-ton slate wagon, either braked or unbraked. For convenience the three types will be referred to as types 1, 2 & 3. Type 1 has the bottom rail of the body formed from flat strip, which is riveted to the floor and frames by eight cast brackets, two on each side and end. Types 2 and 3 have the bottom rail formed from angle iron, which is also attached by small cast brackets to the frame, three per side in the type 2 and two per side in the type 3. Types 1 and 2 have corner plates that extend below the body and line up with the bottom of the underframe. In the case of the type 3 wagon the corner plates stop short at the level of the body. There are small corner plates fitted around the corners of the underframe of the type 3 wagon. Similar plates are also found on the type 2 but these are extended outwards to form fishtail brackets with the body corner plates. The type 1 wagon has extended headstocks that are bracketed to the corner plates with short lengths of unequal channel section. Generally speaking the type 1 wagons were fitted with buffing plates and were unbraked. The type 2 wagons were also unbraked but were fitted with sprung buffers. The type three wagons were also fitted with sprung buffers but could be found braked or unbraked. As far as the kit is concerned the body is the same in all cases but there are variations in the way that the chassis is assembled. Chopper couplings can be fitted (available separately) but for those wanting a more prototypical arrangement, hook and link coupling are included. Construction of this kit will be aided by reference to photographs of prototype wagons.

The Body

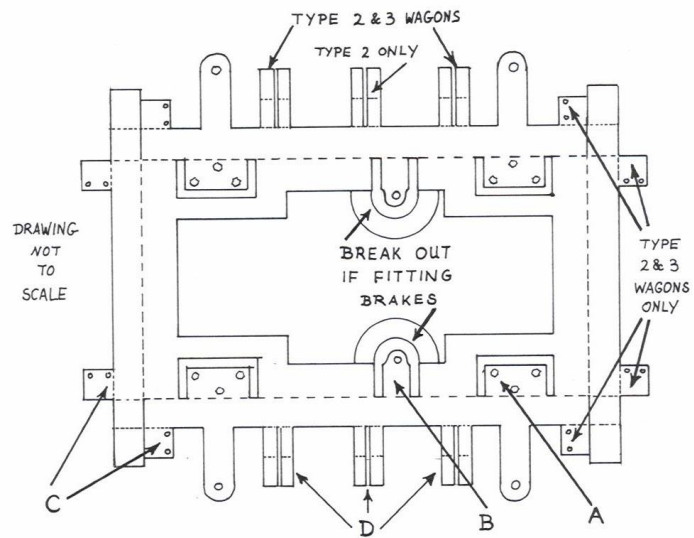
Decide first if the wagon is to be braked or not. If not then remove the small brackets that are attached to the top and bottom rails of one of the sides. Start by cutting out the single piece that forms the floor and sides taking care not to damage any of the small parts attached to it. With etched side uppermost first fold up the angles then fold the sides down, so that the vertical rails are on the outside.

Before cutting out the four corner plates scribe a line down the centre of each one. This will aid lining up for folding. At this stage it is necessary to decide which type of wagon is to be constructed for only two of the three types have full-length corner plates. If a type 3 wagon is to be constructed then the corner plates need shortening by cutting off midway between the second and third rivets up from the bottom. Now fold the corner plates, put in place and retain by bending all the tags right back. Make sure that all is square and properly aligned and solder up.

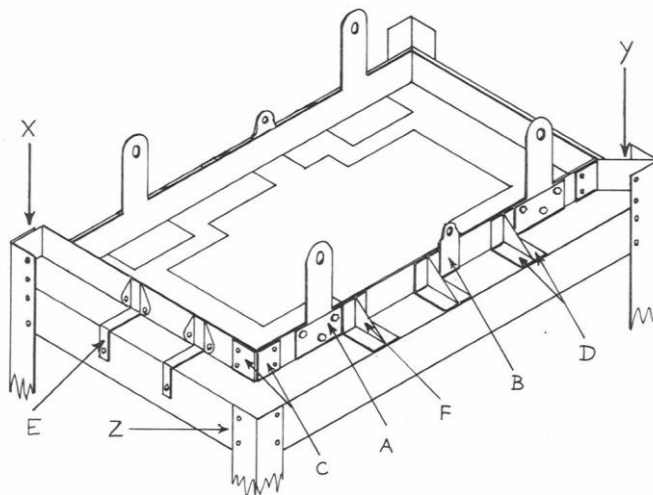
Underframe

Many of the small brackets used in the construction of the wagon are etched as part of the underframe and are folded from it. Cut out and, with the etched side up, fold the four sides upwards. If brakes are to be fitted then fold the brake rod brackets (B) back, flat against the outside of the frame. Similarly fold the four axlebox reinforcing plates (A) back against the frame. If brakes are to be fitted then it will be necessary to remove the two semi-circular strips around the brake rod brackets. The eight small two-rivet plates (C), two at each corner are

are required for types 2 and 3 only. These are also folded down to lie flat on the frames. The six pairs of narrow strips (D) are required for types 2 and 3 only, all six for type 2 and the outer four for type 3. They are cut off for a type 1 wagon. These are bent back against the frame and then out at right angles. This leaves an extension projecting at each corner. For the type 1 wagon bend these at right angles on the fold line to lie parallel with the sides pointing towards the ends (X). A small amount of trimming may be required to allow the underframe to



drop between the four corner plates of the body. For the type 2 wagon the corner extensions are bent out at approximately 45° and are trimmed to fit into the angle of the corner plates (Y). For the type 3 wagon these frame extensions are cut off (Z). For the types 2 and 3 wagons the frame extensions will locate the frames in the correct place while they are fixed to the floor, either by solder or glue. For the type 3 wagon guide lines have been etched on the underside of the floor to aid positioning. If the wagon is to be braked make sure, when fixing, that the brake rod brackets on the frames are at the same end as the small brackets on the body. The type 1 brackets (E) can now be fitted, two per side and end. The side brackets are



fitted in the same place as the type 3 brackets and the end ones are fitted centrally between the centre vertical strip and the ones either side. The type 2 and 3 brackets are completed by fixing small triangles (F) between the pairs of strips (D). Note that these are slightly unequal and that the longer side should go against the floor. The finished brackets may project slightly but can be reduced to length with light touches from a needle file.

Axleboxes are of two types – plain and sidebolt. Generally plain are found on unbraked, spoke wheel wagons and sidebolt on braked, disc wheel wagons, although any combination can and does occur. Either type of axlebox may be included in the kit. The brass wheel bearing pillars require the etched ridge around the curved end to be filed off to allow the axleboxes to fit correctly. The 10.5mm curved spoke wheels provided may require the tips of the pinpoints blunting slightly to get them to fit. Wheels must be fitted before the axleboxes are glued into place, as it will be almost impossible afterwards. The axleboxes are best glued into place and therefore should be left until all soldering has been completed.

Brakes

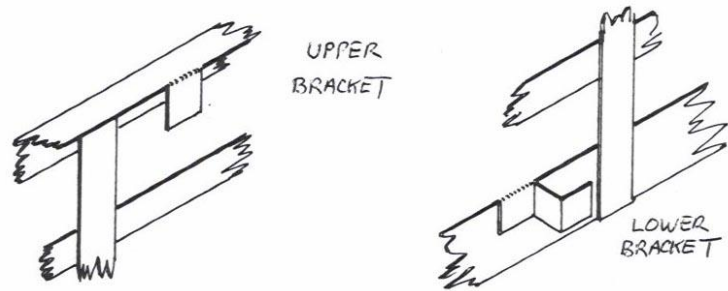
If brakes are to be fitted a small section of the top rail must be removed. This is half-etched through on the underside and repeated scribing with a steel pin will remove it. Alternatively the flange can be removed by filing down to the etched line.

Do not be tempted to remove

this section before the top rail has been bent to shape, as subsequent production of a sharp bend will be impossible. The brakes are removed from the fret and the flange is bent down. Fix into the rebates in the underframe taking care to ensure that they are the right way round. Bend the brackets on the body as follows. Fold the bottom bracket back onto the bottom rail, then fold the free end upwards and the outer end of it back to lie parallel with the side. The upper bracket only requires bending down to hang vertically. The quadrant is attached to these brackets, rounded end at the top. Fold the brake handle to from a raised section to fit



over the brake quadrant. Pass a length of wire through the holes in the cranks on both brakes and the brake rod brackets on the frames. Fit small washers over the wire up against the brackets, to represent bosses. Finally fit the brake handle again with a small washer for a boss.



Couplings

For the type 1 wagon the bracket to which the couplings are attached is folded up from one piece. The two riveted flanges are bent up vertically and the bracket is folded in half and soldered to itself. The hook is threaded on to the link, which is then threaded on to the bracket. A small spot of solder on the gap in

the link stops it all falling apart. The bracket is then fixed to the frame by its flanges. Finally the buffing plate is folded up and is fixed to the frame around the coupling bracket, with the raised centre section upwards. For the types 2 and 3 wagons the shackle is bent to shape and the hook is threaded on. A pin or short length of wire is used to attach the shackle to the cast buffer. The buffers can then be glued under the floor up against the frame. The shackle can also be used in place of the link in the type 1 wagon.



Coupling bracket



Buffer

