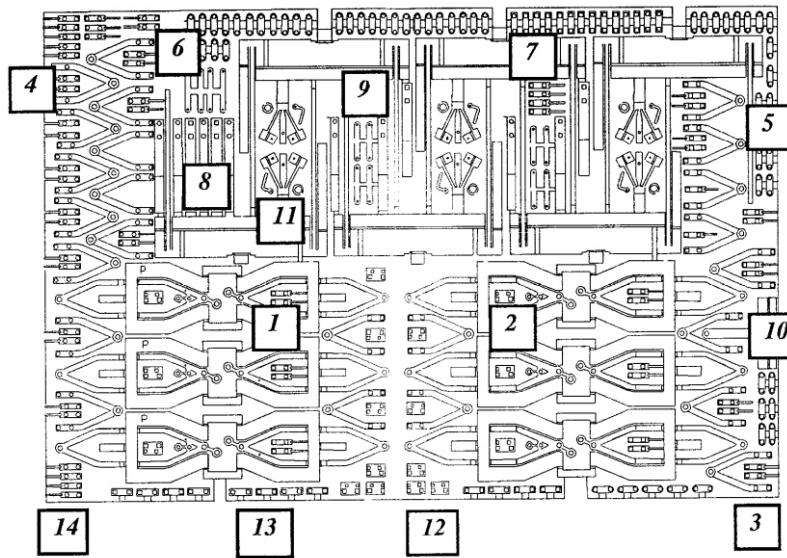


AMBIS^{LED}

Intended for 4mm:1 foot Scale

Wagon Vees, Straps, Safety Loops

Product Code W1_4

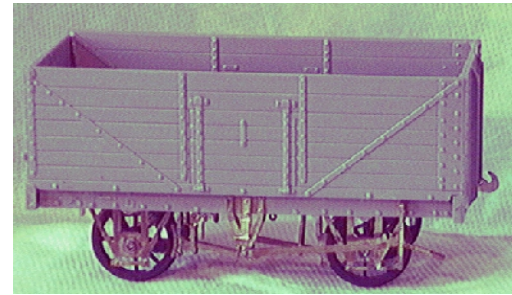


Key to Diagram

- | | |
|---|------------------------------------|
| 1. Narrow Solebar layout - 5 feet 11 inches | 9. Door spring narrow version |
| 2. Wide solebar layout - 6 feet 1 inch | 10. Tee Hanger |
| 3. Vee overlay hexangonal bolts - wide | 11. Booton door gear |
| 4. Vee overlay square bolts - wide | 12. Strap bolts hexangonal pattern |
| 5. Vee overlay hexangonal bolts - narrow | 13. Strap bolts square pattern |
| 6. Vee overlay square bolts - narrow | 14. Washer plate square bolts |
| 7. Safety loop | |
| 8. Door | |

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Vee hangers, Safety Loops, Bottom Door gear and washer plates for Wooden Solebar Wagons.

These items are mainly those constructed from metal that in reality are bolted to the solebars, but AMBIS attaches them to a spinal column that runs down the centre of the wagon between coupling hooks.

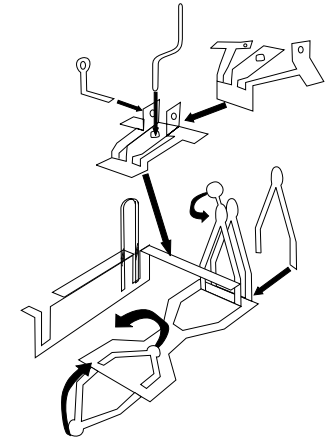
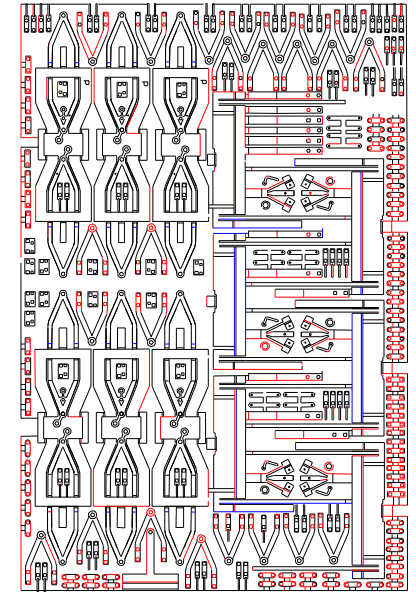
Vees

There are two types of Vee hanger units on the etching. One set of three etchings marked with a P indicates a Pre-Grouping Vee hanger which should fit between 5 feet 11 inch solebars - part 1. The other three are a different pattern to fit 6 feet 1 inch solebars - part 2. The later Vee hangers appear to need a 1 inch inward joggle to simulate the narrower solebar fittings, perhaps for the standardisation of parts - see diagram reference 2.

Those vees for wider solebars are fractionally longer to allow for this joggle. Only for most four shoe independent brake gear or some single sided brake gear vehicles will the outside Vees be required. This means that in other cases the outside Vees should be removed from the fret before fitting.

When an outside Vee hanger is required a second layer needs to be fitted to the Vees fret. Choose between the square headed bolt - part 3 or 5, or hexagonal headed bolt fitting part 4 or 6 for the longer part 3 or 4, or shorter Vees part 5 or 6.

On a few older often wagons converted from single sided brake gear a Tee hanger was used instead of a



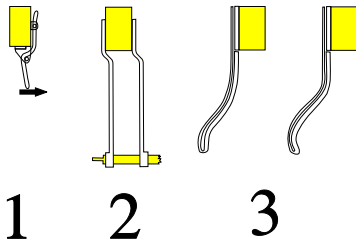
Vee hanger. This was usually on the inside of a solebar - part 10 - gives one Tee hanger on the etching. (Reference Midland Wagons Vol. 1 plates 175-179, 184 show this fitting on Vans.)

The Vee hangers have an extra layer where the brake shaft fits which should be folded over and soldered in place. The connecting tab can then be cut or filed away. It is also necessary before bending or fitting

Vees to remove the second bearing point for wagons with independent brake gear as this fitting is only required for vehicles which have Moreton brake gear. Use a fine fret-saw or a file to remove this bearing.

Side Door Springs.

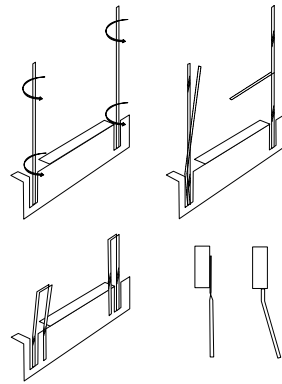
Between the outer Vees is a tab fitted to attach the door spring part 8 or 9. You will need to determine if the wagon needs a side door spring/protector. This comes in two patterns, wide - part 8 and narrow - part 9. The wider pattern has an offset bolt fixing and occurs mainly on RCH 1923 standard wagons (Ref: Chris Crofts MRJ). The bolt pattern is either square or hexagonal. If not required for some fitted vehicles i.e. vans, wagons with cupboard doors or those with wooden blocks for door stops or those later longer vehicles with two springs - remove the tab on the Vee hanger etching.



Door springs were given different shapes by different wagon manufacturers - see reference diagram 3 for two types.

Safety Loops.

Because some early railway accidents were caused by a broken brake block hanger or push rods falling onto the track and derailling the train, safety loops were fitted. Two outer safety loop fittings should be used per wagon - part 7. The loops can be shaped to appear like any pattern required (see diagram). Attached to these parts are some of the side door springs, other body details and the bottom door lever parts - part 11. When any of these parts are required remove the safety loop part from the fret and then remove the un/wanted parts. Not all wagons have bottom doors and those with



one side only brakes will require one safety loop removed from each fret. As these items are handed remove the parts as and when required.

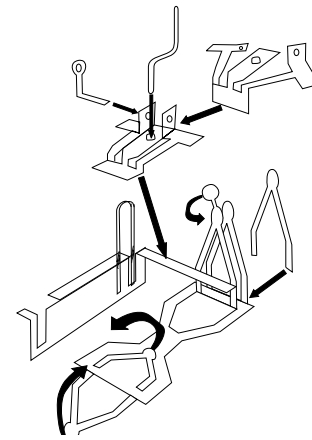
Fold the loops up as per the diagram. There are two styles we can illustrate. One is the RCH 1923 standard fitting. This is fitted to the inner face of the middle bearers and hangs vertically downwards. The other type comes from Midland Railway wagons and is screwed to the bottom of the middle bearer. Note this is cranked inwards and should not exhibit a twist in the metal. There are photographs which illustrate variations in these patterns. Note the RCH 1923 Standard and the Midland Railway pattern both have definite square corners to the loops.

The half etched line on the spine parts indicates a positioning place for the safety loop on the cross member, which actually represents the middle bearer on a prototype wagon. Before using this guide-line check that it is appropriate for the design of wagon you are building.

Bottom Door Operating Gear

Bottom door gear is invariably fitted to the left side of a wagon looking at the wagon side and of course on both sides of the same wagon about fitted 2 feet left of centre on both sides of the wagon, irrespective of brake gear fittings - part 11. The actual lever should not extend more than 9 inches below the solebar.

A few wagon makers used a different type of bottom door operating gear - the NER is one.



These etchings are attached to the safety loop fitting via the apparently useless tab to the middle bearer. Fold up the bottom door gear parts as illustrated in the diagram. To fit the chain and pin it will be necessary to cut through the ring on the chain. A piece of wire should be formed to make the actual handle. Note this handle is rounded at the end (shaped as in diagram reference 1).

Washer plates, Strap Bolts and Knee

Trimmer Plates.

These small parts are sprinkled across the etching. Where necessary of each item there are two bolt types provided hexagonal and square. In 4mm scale it is not readily possible to detect the difference on most of these items.

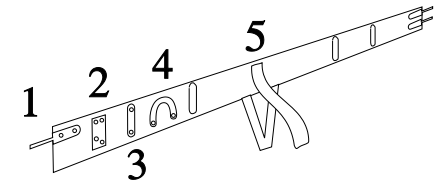
Key to diagram:

1. Strap bolts - used to join headstocks to solebars. These may also be used to bolt buffers on to headstocks- usually using the inner strap bolt(s) - depending on the number of bolts used to fix the buffer. Different wagon builders may use one or two strap bolts on the outside of the solebar - related to the number of inner strap bolts.

2. The Knee washer plate. This was found on RCH-1923 standard wagon designs because the wagon buffer spring principle required a further cross member in the underframes. This plate is the

washer for the bolts used to fix this inner beam in place. Four would be required on each wagon - one at each corner.

3. The washer plate related to axleguard fixings. These should be fitted in front of the outer wings of the W shaped axleguard. Not all wagons have these washer plates fitted - the wagon builder may prefer to use individual bolt washers.



4. Crown plates - the shape varies considerably from crude semi-circles to an up-turned V shape. Not all wagons were fitted with a crown plate. Where applied they should align with the centre upright arms of the W shape axleguard. For axleboxes using a narrower pattern e.g. NB the crown plate is more elliptical in shape, for wider axleboxes e.g. L&Y these can be a shallow crescent.

NB. These parts come with axleguards in the AMBIS range.

5. Door springs. These vary in shape and width. For a simple mineral wagon with one side drop down door each side of the wagon they fit centrally below the wagon door between the V hanger. Older wagons in particular used wooden blocks or even the Vee hanger boss as a door stop and a metal spring may not be used. The wider spring with offset bolts was a later (RCH 1923) design.