

2mm Scale Association SR fitted underframes – parts 2-366, 2-367, 2-368, 2-369 and 2-370

Historical Notes

Following the grouping, the Big 4 companies largely adopted the RCH (Railway Clearing House) underframe as a standard for their short wheelbase unfitted wagon stock. However, for fitted stock this was not the case. Only the GWR adopted what was a standard RCH style 4-shoe underframe with vacuum cylinder added, the other three companies developing their own designs. The SR produced two types of underframe, one with 4 brake shoes (commonly referred to as Monarch brakegear) and the other with 8 shoes (known as Maunsell brakegear). The Monarch variant had offset V Hangers, which were also asymmetrical, and long brake levers with a complicated linkage at the V hanger end. The Maunsell brakes had two sets of V Hangers, only one of which ran the whole width of the underframe, and short brake levers. For his post-war Cattle Wagons, Bulleid produced a unique 10'6" underframe with brake levers at the extreme ends of the underframes – this apparently to stop the levers getting clogged up with you-know-what.

A fuller description of SR fitted brakegear, and numerous prototype photos are found in Reference 1.

The Association kits build both Monarch and Maunsell brakegear for 9' and 10' wheelbases, as well as Maunsell or Bulleid brakegear for the 10'6" underframe. They can be built either with bufferbeams provided for scratchbuilt wagons, or without bufferbeams to use with various Association and other body kits. Appropriate kits marketed by the Association which match the underframes are

- 2-542: NGS SR 12T Box vans. All four underframes were fitted to these vans, although only the earlier even planked vans had 9' underframes.
- 2-543: SR 12T 8-plank Open. Both 9' (D1385) and 10' (D1398) Monarch underframes are known to have been used with these wagons.
- 2-563: BR Banana van. It is possible with some work to produce a model of the SR Insulated and Banana vans D1477 and D1478 using 9' or 10' Maunsell underframes respectively
- TBD: SR Cattle Wagon. These were fitted with 10'6" underframes, of both Maunsell (D1529) and Bulleid (D1530) design.

Assembly instructions

Parts required

1 x	SR fitted underframe etch.
4 x 2-041	Rolling stock axle bearing cups
2 x 2-209	6mm plain spoke wagon wheels (or similar according to prototype).
4 x 2-441	Ribbed wagon buffers (or similar according to prototype).
1 x 2-346	Turned brass vacuum cylinder

0.3mm brass or nickel silver rod
solder and tools

General

Certain parts of the etch are very delicate, and therefore care is needed when cutting both them and adjacent parts out. Spares are provided of certain small or delicate items.

Although it is possible to assemble the kit using superglue, for these instructions soldered construction is assumed.

Unless otherwise indicated, fold lines for 90 degree folds are on the inside of the fold, for 180 degree lines on the outside of the fold.

Parts on the etch are numbered. An enlarged picture of the etched fret is provided for clarification. Study this and the instructions carefully before beginning assembly.

Underframe Assembly

1. Cut out the underframe etch (part 1) from the fret. If the underframe is to be used with a body kit including bufferbeams, remove the inner bufferbeams from the etch, and shorten the underframe to match the body.
2. Bearing cups may be soldered in place before or after folding the underframe into a U section, according to preference. Fold up the underframe sides into a U shape. Fit the wheels into the underframe and adjust for free running without excessive slop. Remove the wheels.
3. If fitting DG or similar couplings, foldup boxes are provided as mounting points.
4. Cut out the combined inner and outer solebar etches (parts 4). The outer solebar is provided with a selection of drop bars. According to the prototype selected, remove those not required, and carefully bend those left into an S shape (see prototype photos. Fold the inner solebar thorough 180 degrees to sit behind the outer solebar, solder in place, and file off the tabs. Shorten the solebars to match the underframe length if needed. If cast axleboxes and springs are preferred, remove the etched ones provided. Now fit the inner and outer solebars to the underframe, using the bearing cups as locating lugs. Note that the solebars are handed, and the words 'Left' and 'Right' are etched onto the solebar and underframe to assist with this. For the Bulleid Cattle Wagon underframe, separate outer solebars (part 4B) are provided.
5. Fold up and solder the axlebox etches (parts 5), file off the remaining tab, and locate in place. Ensure you have them nice and square. Spares are provided in the case of mishap.
6. If bufferbeams are being fitted, fold up the inner bufferbeams on the underframe. Select square (part 7) or angle ended (part 6) bufferbeams as appropriate, and solder into place, ensuring they are accurately located over the buffer holes, and that the etched channel section faces inwards.
7. For Maunsell or Bulleid brakes, cut out and fold up the clasp brake etch (part 2), including the two centrally located tabs, and solder in place in the underframe. Note the tabs are handed to ensure correct orientation. Fold up the two brake stretchers (part 10) into an inverted top hat shape, and spring into place between the brake blocks.
8. For Monarch brakes, cut out and fold up the brake gear (part 2). Solder the brakegear in place on the underframe.
9. Insert the wheels, and check that they do not foul the brakegear. Remove them again.
10. Solder the vacuum cylinder in the hole provided.
11. Thread 0.3mm brass wire through the V Hangers, making sure you include the appropriate brake rodding (parts 11 for Maunsell underframe, parts 11B for Bulleid) and vacuum cylinder linkage (part 9, (9B for Bulleid only). Leave sufficient rod protruding to attach the brake levers later. Carefully solder the various parts in place.
12. Fold up the brake levers (parts 8, or 8B for the Bulleid underframe). Small location pips are etched on the levers where bends are required. First form the main profile of the lever – guides are found on the etch to assist with this. Next fold up the brake lever ratchet into a box shape. Finally for Monarch brakes fold the linkage to the V hanger. This is best done over a scrap of nickel silver sheet, such as the underframe etch surround itself. Now solder the brake levers in place onto the rod protruding from the V hanger, and into the slots provided in the solebar. Trim off the excess brass rod.

References

1. An Illustrated History of Southern Wagons Volume 4, Bixley, Blackburn, Chorley and King, OPC 2002.