

MR underframe etch instructions (2-342)

These instructions cover the Association MR underframe 2-342 (9').

Historical Notes

For many years the MR used a 9' wooden solebar underframe on its wagons. This initially had a brake lever and brakes on one side only, but later double side (independent) brakes were employed, as well as designs with brakes on one side but levers on both, one lever facing left (this last design not being directly covered by this etch). In LMS and BR days, some wagons were retrofitted with Morton brakegear.

Assembly instructions

Parts required

1 x 2-342	RCH 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 (for fitted chassis)

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. If not required, leave them flat.
4. Cut out the inner and outer solebar etches (parts 3 and 4), and the cosmetic wooden solebar (part 5 or 6). If cast axleboxes and springs are preferred, remove the etched ones provided. If building a wagon with double V hangers, use Part 5, otherwise part 6. Shorten the solebars to match the underframe length if needed. The cosmetic solebar is provided with a drop bar. Remove this if not fitted to your prototype. Now fit the inner solebar overlay to the underframe, using the bearing cups as locating lugs. Cut or file off the bearing cups flush with the solebar overlay. Fit the outer solebar overlay and cosmetic solebar.
5. Fold up and solder the axlebox etches, file off the remaining tab, and locate in place. Ensure you have them nice and square. Spares are provided in the case

of mishap. Axleboxes are provided for both earlier grease (10) and later oil (11) types, consult your prototype for the correct ones. Some wagons ended up with a combination of both!

6. If bufferbeams are being fitted, cut out the parts (7) Fold up and solder the three layers to form the correct thickness, and file off the tabs Solder into place, ensuring they are accurately located over the buffer holes, and that the rounded section is facing downwards. Detailing etches are also provided for the coupling hook and its mounting plate.
7. Cut out and fold up the brake gear (part 2). If building 2-shoe brakegear, one side should be broken off and discarded. Solder the brakegear in place on the underframe in the tabs provided.
8. Insert the wheels, and check that they do not foul the brakegear. Remove them again.
9. If building a fitted underframe (a very few examples of MR wagons received vacuum gear in LMS and BR days), solder the vacuum cylinder in the hole provided.
10. Thread 0.3mm brass wire through the V Hangers, making sure you include the appropriate vacuum cylinder linkage (part 9) for a fitted underframe. The rod runs across the wagon for Morton brakegear. For independent brakegear, two short rods should be provided on the two sides of the underframe. Leave sufficient rod protruding to attach the brake levers later. Carefully solder the various parts in place.
11. Fold up the brake levers (part 8). 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. 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.
12. If you have built an underframe with only one brake lever, carefully fill the hole in the solebar on the other side with solder or filler.

References

1. An Illustrated History of Midland wagons Vol 1 and 2, Essery, OPC 1979