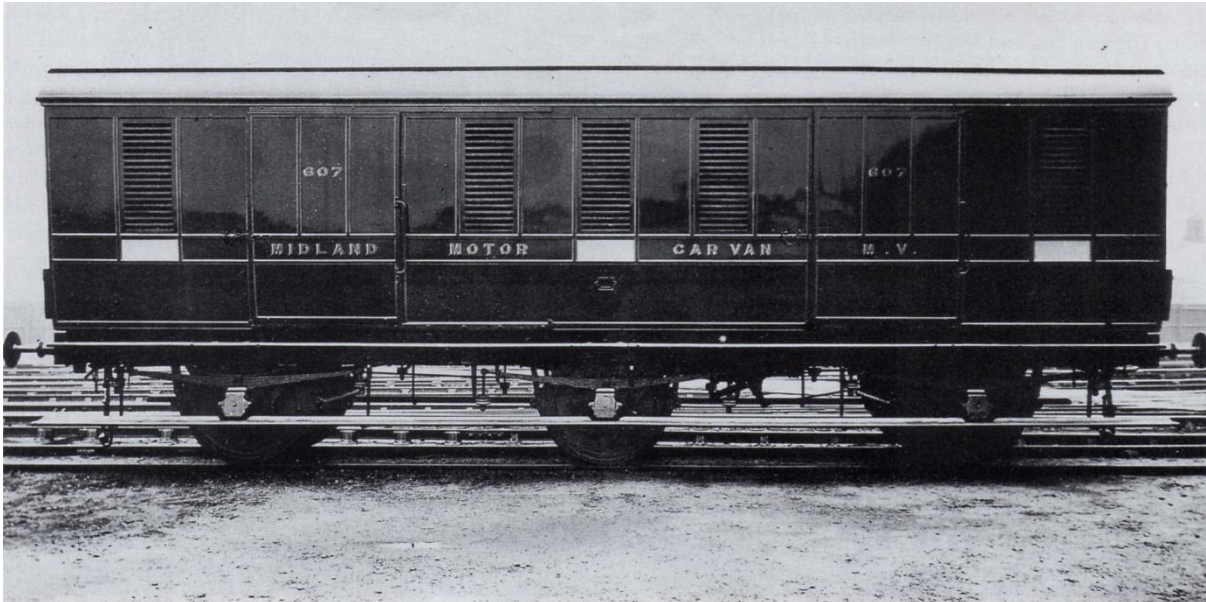




MIDLAND CARRIAGE WORKS

MIDLAND RAILWAY D414 MOTOR CAR VAN



HISTORY

Built by the Railway between 1905 and 1912, these vans were produced in two styles: D414 with square panelling and D414a, with round panelling.

These vehicles lasted through the LMS era and into British Railways ownership, with the last ones being withdrawn c. 1955.

LIVERY

Body sides and ends, Midland Lake. Mouldings on the sides and ends were black. The mouldings on the body sides were lined each side with gold, before the turn of the century, however it was changed to yellow for non-passenger stock. Later still all non-gangwayed stock also had yellow lining. Gangwayed passenger stock always had gold lining in Midland ownership.

Solebars and headstocks were originally Midland Lake and lined in yellow. Between 1902 and 1914 this lining was dropped. From 1914 all below the body sides and ends became black. All below the solebars / headstocks was black with the exception of the wooden wheel centres which were sometimes painted Indian Red.

The roof was grey in service.

The LMS initially continued the livery of the Midland, however later repaints would have followed the simplified style outlined above.

Further information about liveries can be obtained from Essery & Jenkinson's book "Midland Carriages an Illustrated Review", which includes information about lettering positions and styles employed can be obtained from the Historical Model Railway Society.

GENERAL

This kit is originally from the stable of Janick Models. It has been modified and upgraded and is continually being improved. Although it can be constructed with the body built on the chassis, it is recommended that the body and chassis are built separately. The two sub-assemblies can then be either glued or bolted together after painting.

Please read the instructions all the way through before commencing assembly and familiarise yourself with the accompanying diagrams.

Whilst every effort is made to ensure this kit leaves our premises in good condition and complete, occasionally errors do occur, in the event of complaint, please contact us at the address at the end of these instructions.

CONSTRUCTION

Chassis

Fold up the small lip on the solebars and buffer beam.

Fold on the second half etch line the solebars and buffer beams and solder in the corners where they meet.

Fit the cast buffer beams (this can be fitted in two ways: 1 file the ends of the brass buffer beam down so it is flush with the solebar and adjust the cast one to fit over this, or 2 leave the brass buffer beam as it is and file the back of the cast buffer beam flush and solder over the brass one.

Fold down the W irons and solder to the lip of the solebar.

Add solebar overlays, making sure the gas gauge is at the top.

Add axleboxes / spring units keeping axleboxes central in the W irons.

The steps included in the kit cover various chassis set ups, if building Motor Car van D414 use the full length steps for top and bottom, if building D414a use the full length top step (which has to be cut in two to make the half steps at the top, as shown in photographs) and use the shorter steps for the bottom.

Remove a small amount from the bottom steps to clear the axleboxes and bend.

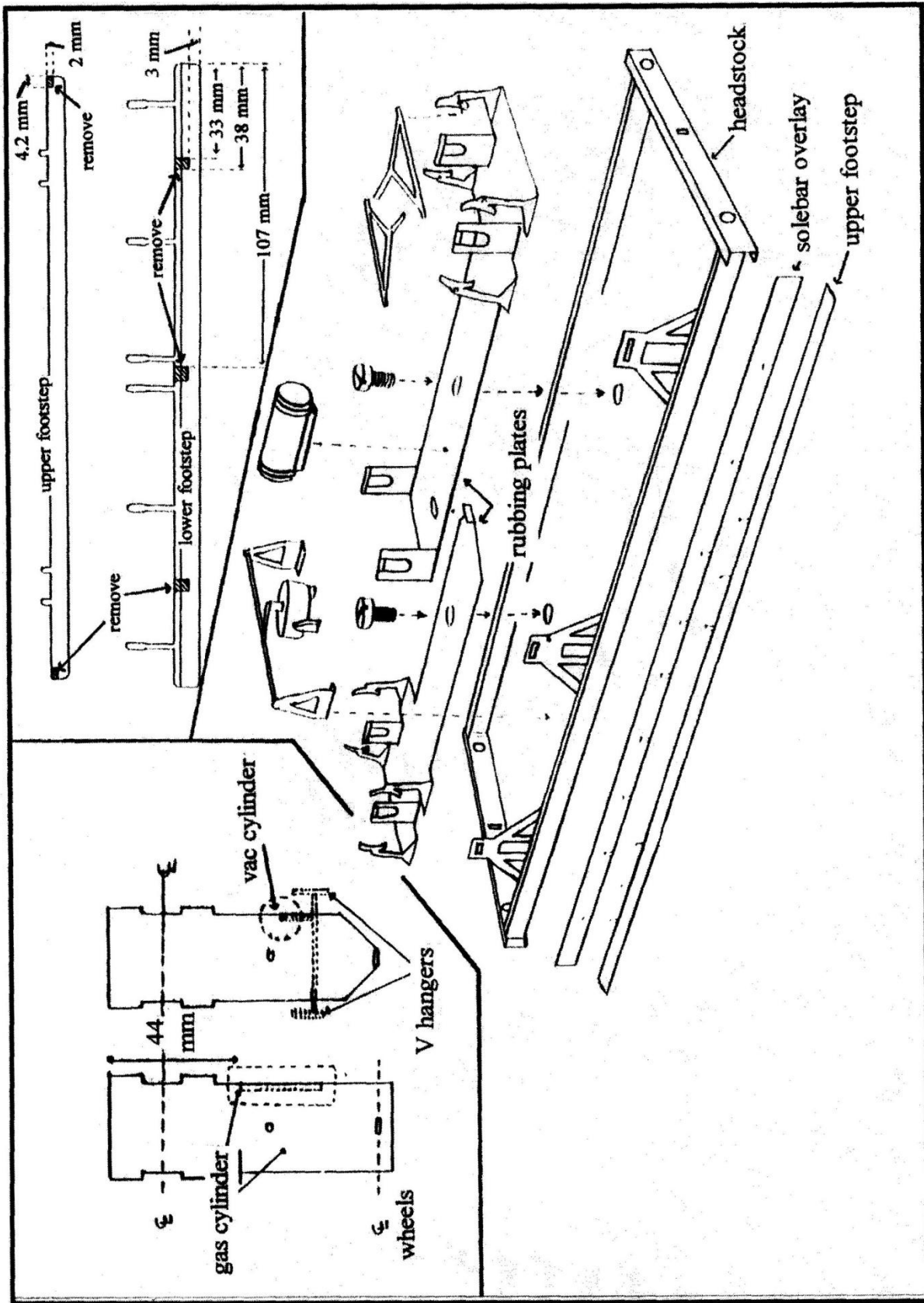
Fit bottom step to solebar.

Bend up small tabs on top step and remove small portion from each end of step to clear the buffer beams then solder to solebar keeping the step on the centre line of the solebar.

Fit buffers and vacuum / steam pipes.

Fit the 6BA nuts which retain the compensation units on to the top of the chassis.

File out the holes for the couplings but do not fit until after painting.



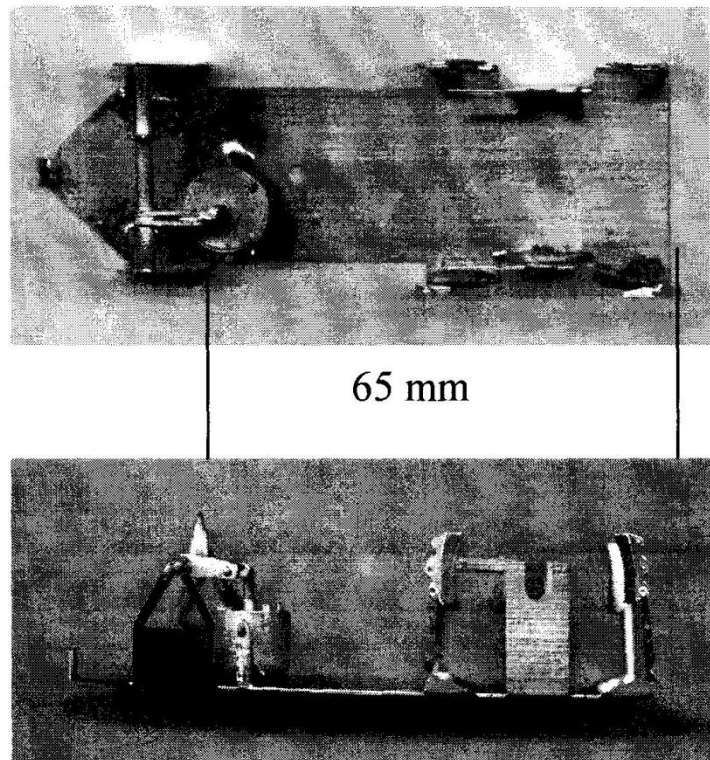
Compensation Units

Fold up the compensation units and run solder along the folds to strengthen but leave the small tabs near the U shaped slots where the wheel bearings fit as these are folded over after fitting the wheels following painting.

Now take the unit which has only one bearing housing and solder on the V hanger brackets so that they are 65mm from the outer end, this dimension is fairly critical as if it is any more then the centre wheels on the other unit can touch these brackets causing an electrical short.

Add the brake cylinder and the actuating shaft which may need adjusting to length.

Steps 2 and 3 have been altered as originally these brackets and cylinder were fitted to the main chassis causing restrictions on tight curves and appear this way on the main diagram but pictures are shown below which show underneath and side on views.



Fit brake overlays

The etched brake crossbars are best left until after painting and fitting the wheels these can be sprung between the brake arms and tacked together then painted.

Take the other unit and add the cast gas cylinder making the mounting bracket 44mm from the outer end of the unit.

Add brake overlays to brake arms.

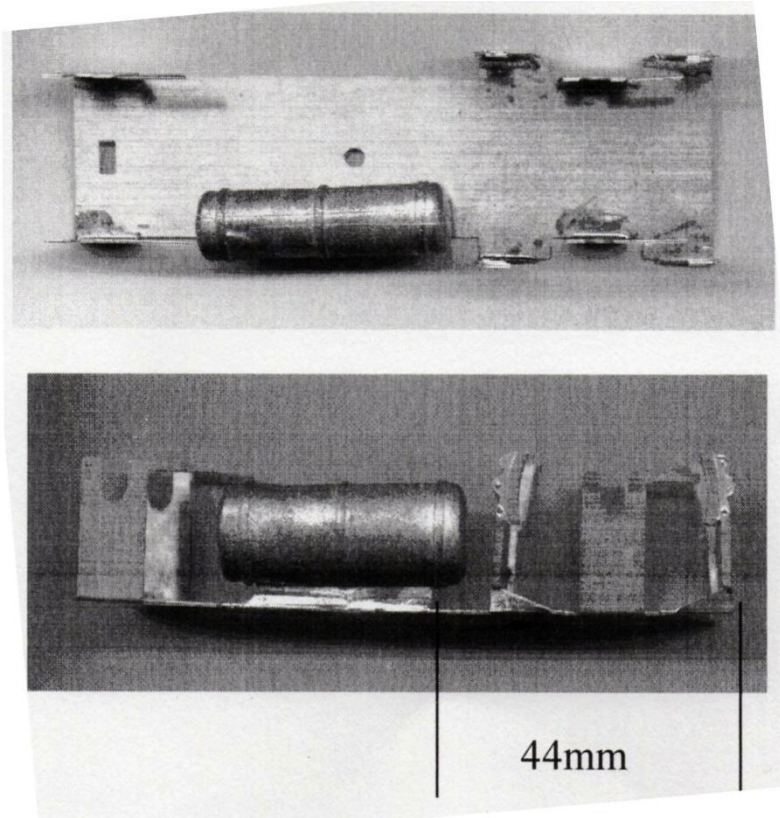
Add the brake crossbars after painting as in step 5.

Now these can be painted.

When dry take the wheels and remove the protruding ends of the axle, then remove one of the wheels and slide on 2 of the bearings supplied so that the flanges will be touching the inside of the wheels and replace the wheel. With the flanges outside the compensation unit insert the axle into the U shaped slot making sure the bearings slide up and down easily.

Adjust the brakes so they do not rub on the wheels and fold the tabs over to retain the axles these can be fixed using a spot of superglue making sure not to get any on the bearings.

When fitting the units to the chassis attach the one with the brake cylinder first followed by the one with the gas tank making sure the slot fits over the small tab this gives the steering effect of the chassis design, do not tighten the pivot screws too much as to stop all movement.



Body

Curve the tumblehome on the body sides using the coach end to obtain the correct profile.

Bend the bottom flanges at right angles to the side.

Fold over tabs at the ends of the sides if not removed.

Solder the ends to the sides, ensuring they are square and upright.

Form the door backings to suit the body shape.

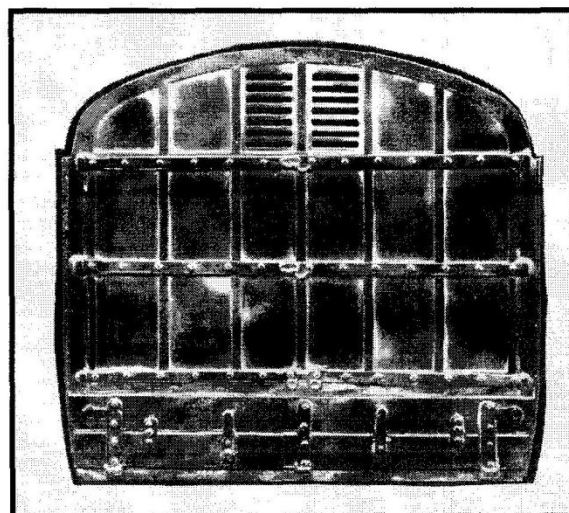
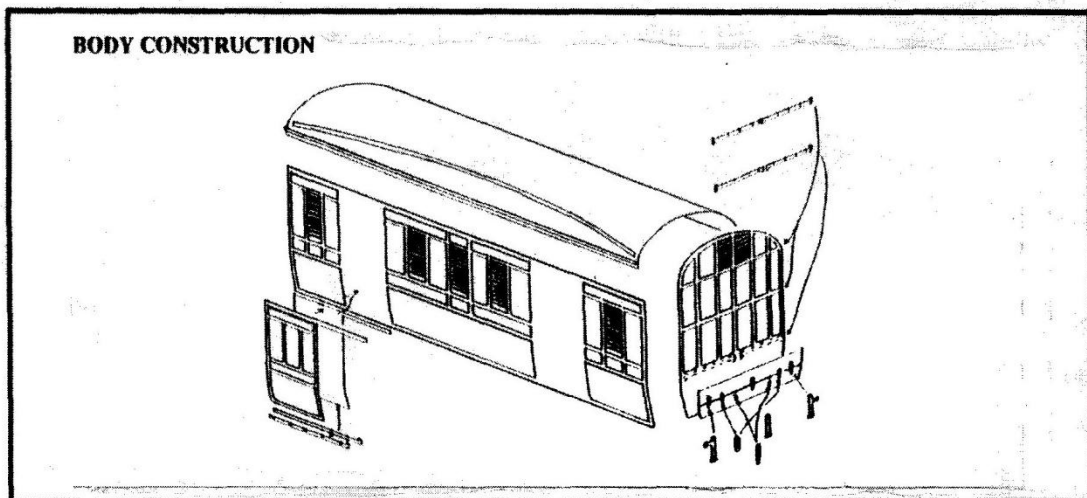
Form the door overlays to suit the backings and laminate them together.

Solder the door with its backing to the body as in the diagram.

Solder the door runner backing to the body followed by its overlay.

Add the bottom drop flap to the ends followed by all the other detail overlays as shown in the diagram and picture.

If the body is to be screwed to the chassis, position the body on the chassis and drill through suitable holes that are etched in the bottom flange through the chassis. Solder nuts over the holes in the body flange on the inside.



Roof

The roof is made from extruded section so it has to be cut to length so that it overhangs the body by 1.5mm each end. The small lip at the bottom has to be notched out each end to allow the lip to fit inside the body the roof should be a gentle push fit into the body which usually is enough to hold it in place when in service, but it can be more permanently fixed if desired after painting.

The rainstrips are made from 0.7mm wire provided and are glued on using superglue or similar. The position of these, after referring to photographs appear to be straight not curved as shown in the diagram and approximately 8mm up from the lower rainstrip but this positioning is up to the individual builder..

The model can now be cleaned up and painted. When painting is completed, glue the glazing in place. Fit the grab and door handles.

Fig. 601. Diagram D414 of square light panelled motor car van of 4½ tons capacity.

