

BR General Utility Van (Dia. 711) Assembly Instructions



Introduction

This is a kit for a British Railways 57' General Utility Van (GUV) to diagram 711. They were introduced in 1958 on all regions of BR and eventually 900 were constructed. The artwork has been produced by Allen Doherty of Worsley Coachworks specifically for 2mm scale, rather than scale down existing artwork.

To complete the kit, you will need wheels and bogies, castings for the brake cylinder, dynamo, voltage regulator, buffers, and the roof vents. You will also need to make a roof using your own preferred method.

Read through these notes before you start building the kit to familiarise yourself with the steps involved. There are alternatives in the order of construction which you may wish to consider. The instructions assume soldered construction, mainly normal multi-core but some operations are best done using solder paint or low melt solder.

There are some quite delicate parts on the etch so it is best to handle it very carefully to avoid damaging anything. There are one or two extra bits on the etch in case of accidents, and four gangway end covers for use on the end of rakes of coaches. Please do not put them on the ends of the GUV!

You may find it useful to refer to published literature and photographs as you build the kit, and some references include:

- Model Railway Constructor October 1961 Includes plans of side and end.
- BR Mark 1 Coaches D. Larkin Includes the BR diagram drawing together with complete details of construction dates and numbers.

Tools

You will find the following tools useful:

- Modelling knife
- Needle files
- Glass fibre brush
- Vice or metal bars for bending sides
- Soldering iron, solder, flux
- 0.4mm drill
- Smooth nosed pliers

Assembly

General

It is advisable to carefully clean each part before it is soldered, using a glass fibre brush or similar. When removing parts from the etch cut using a modelling knife with the etch placed on a solid surface such as steel bar. This will prevent some of the more delicate parts getting bent as you press down on the half-etched location tabs. Clean up the remains of any location tabs on each part using a needle file. Hold the part securely in smooth nose pliers with the area to be cleaned up as close as possible to the pliers. This will minimise the chance of a part being bent as you file it.

Unless otherwise stated half etched lines should be inside any bends made. The steps described below are the suggested ones to be followed but there are variations, or you may prefer to completely ignore them and proceed as you see fit.

Body

You may wish to add the four chalk boards to the body sides at this point as they are probably easier to attach while the body unit is flat. Remove the chalk boards and clean up in the recommended fashion and solder to the sides with the nearest edges of each board being 2mm inside the end and 4mm below the top of the side.

Remove the body side/ floor unit and fold up the sides 90°. Add a filet of solder along the fold when you are happy that you have got a good right angle. 8BA screws are useful to secure the bogies, so open out the bogie pivot holes in the floor to take an 8 BA screw and solder an 8BA nut inside the unit, checking the nut is located centrally over the hole.

Remove one plain and one detailed end. Depending on how you want to make your roof, use the plain end to make formers for the roof. Solder the smaller end piece with the half-etched lines onto the slightly larger blank end piece, ensuring that the bottom edges line up and that the smaller piece lies centrally between the sides of the larger piece. Also check that the small indents on the plain end are on the left side of the assembly (these are for the left-hand side handrails).

The overlay (which is in two parts) for the end can now be soldered in place. It is probably easier attach the overlay to the end produced in step 2.3 while the overlay is still on the etch. Remove the border of the etch below the strapping overlay (this will help you line up the overlay and the end) then carefully tin the underside of the overlay parts and line up with the ends made in 2.3 above. Tack solder in place and check that the overlay is correctly located. Carefully remove the overlay from the etch using a sharp knife on a very hard surface and check again that the overlay is correctly located. Re-position, if necessary, then complete soldering to the end piece, ensuring that the overlay is securely soldered throughout. You can then trim the strapping to length where it extends beyond the detailed end (refer to photographs in references and the one included in these notes).

Carefully remove the long, forked handle and bend the two horizontal bases through 180° back under themselves to form a base on which the handle rests away from the door. Solder in place with the top base near the top of the door and the forks of the handle level with the riveting at the bottom of the door.

Solder the end between the sides. You may find this easier if you solder a piece of angle or channel 10mm long onto the floor flush with the end. You can then use this to rest the end against whilst you solder it in place. Check that the bottom of the end is flush with the bottom of the floor pan and that the coach side is flush with the blank end so that the slightly smaller end is proud of the coach side. At this point check that the ends are square to the body when viewed from above and that the whole body is square.

When you are happy with the fit of the ends between the sides open out the holes on the left-hand side of each end for the handrails using a 0.4mm drill.

Bend up two lengths of 10 thou wire, insert in holes provided in ends and solder in place inside the ends.

Complete the body by soldering the t-handles into the holes provided in the doors and adding grab handles bent to length from 10 thou wire. As these items tend to get damaged as the model is handled, it is recommended that you delay this operation until the underframe has been completed. You may wish to do this after you have painted and glazed the model, as lining of the sides (if desired) will be easier to carry out without these items in the way.

Underframe

Solder the solebars in place using the slots and tabs provided. Support the solebar at 90° to the floor using a square block of wood or something similar and start soldering from the centre of the solebar working towards each end in turn.

Remove two drawbar hook cover plates (one spare provided) and solder onto buffer beams using the half-etched lines as a guide.

Remove the buffer beams from the etch and solder to underside of the floor centrally against the solebars, checking the alignment is square. Add the drawbar hooks if required bearing in mind they could foul your couplings.

Remove the six steps and solder into place in the slots in the solebars.

Check that the holes in the longitudinal trussing for the brake lever and hand brake rods will take a length of 10 thou wire and open out if necessary. Then solder them both to the underside of the floor working from the middle outwards with the tab for the brake lever rod on the far side of the floor as observed side-on and ensuring that the hand brake rods line up at 90° to the solebars. Finally check that the trusses are at 90° to the floor along the whole of their length.

Remove the 3 long and two short cross truss pieces. The half etch lines go towards the floor. For the three long trusses, bend the short tabs upwards towards the vertical, as these lie just inside the solebar. Locate each truss in the slots in the longitudinal trusses and solder in place checking for squareness and that the diagonal sections are in line with each other. (See sketches enclosed).

For the outer trusses, remove the outer tab and reduce the length of the outer section of the trusses to about 5.25mm. Once you are happy with the fit solder to the longitudinal trusses and then gently bend the outer sections so that they are in line with the central section and solder against the solebar.

Open out the hole in the bogie rubbing plates to the chosen screw diameter, bend the tabs down and solder in place whilst held in place with a screw in the nut previously attached.

Remove one small and one large battery box, bend sides down and solder to the floor. The small box is located on the side with the handwheel to the right of the central doors, with the right edge against the centre right cross trussing. The larger box is on the other side of the floor located centrally between the centre and centre right cross trusses. (See sketches).

The electricity regulator support frame is quite fragile and should be handled carefully to avoid distorting it. Bend the two sides of the frame up towards each other and bend the strengthening tab down to meet the other side of the frame. Solder together and then solder the assembly to the floor on the same side as the shorter battery box with the slightly offset side of the frame against the left centre central cross truss.

A spare hand wheel is provided in case of accidents. Remove two from the etch and ensure the central hole will take 10 thou wire. Using solder paint, solder one of the wheels to the end of a piece of wire 16mm long then thread through the holes in the tabs on the trussing and solder in place with the hand wheel immediately below the solebar. Finally solder the other hand wheel on the other side. Please note that this assembly is fragile and vulnerable. If it gets bent, it is best to leave it until all work on the model is complete. If you repeatedly bend it back and forth it will eventually break off.

Remove the two offset brake v-hangers, fold up and solder inside the solebar adjacent to the hole in the longitudinal trussing. To help line up the hanger, thread a piece of 10 thou wire through the v-hanger and trussing and ensure it is at right angles to the solebar. Note that the offset of the v-hanger is to the left as viewed from the side. (See sketches).

Remove two brake cylinder levers from the etch (two spare) and thread a length of 10 thou wire through the hole in the larger end. Now thread the wire through the hole in the v-hanger and then through the hole in the trussing and solder together, trimming the wire to length, as necessary. Using an Ultima casting or home-made brake cylinder, drill a 0.4mm hole to take some 10 thou wire to represent the linkage to the brake cylinder lever. Bend a short length (say 1mm) of the wire through 90° to go through the free hole in the brake cylinder lever and carefully solder the lever to the linkage and the rodding.

Insert a voltage regulator box inside its frame, using low melt solder to fix if you are using a white metal casting. Also solder in place the dynamo which is located on the same side of the floor as the voltage regulator and is placed under the right-hand window with the centre being 10 mm from the nearest bogie axle and against the central trussing.

Add buffers by soldering or gluing from inside the buffer beam.

This completes all the main assembly work and now the body can be thoroughly cleaned up ready for the next stage. Be careful not to damage anything, especially the hand brake assembly, but if anything does come off it probably was not secured properly in the first place.

Further Work to complete

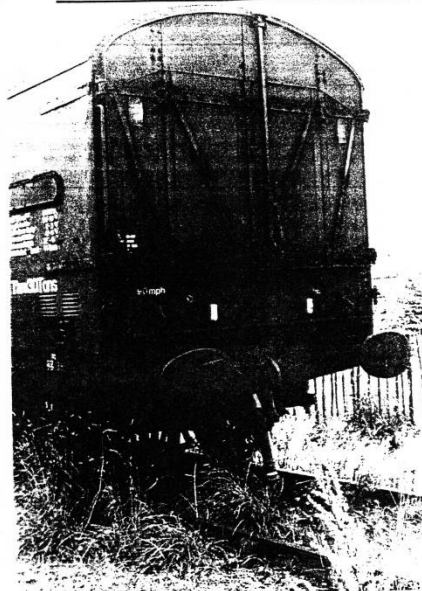
How you proceed from here is up to you. The following may help.

Having thoroughly cleaned the body paint the inside of the vehicle (lightish brown) and the outside with the chosen livery. Apply lining and transfers as appropriate and protect with a coat of varnish, then leave for a few days for the paint to harden.

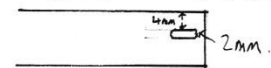
Glaze windows using clear 5 thou plasticard and add security bars from plastic rodding. When this has been done a false ceiling can be inserted to help ensure the sides are straight at cantrail level.

Make up a roof either by rolling a length of 5 thou brass and soldering three cross pieces in place made up by using the blank ends as a template. Alternatively use a commercial roof shaped to profile and cut to length or build up a roof from layers of plasticard and file/sand to the correct profile. Once you have the basic roof it can be drilled for the roof vents and the curved rainstrips added. Paint the roof and epoxy in place.

GUV - ADDITIONAL NOTES



Position of chalk boards on van side.



Arrangement of cross-trussing

