ULTIMA 2mm/N MODELS
Down Scale Coach Kits & Accessories for Locomotives, Coaches & Wagons

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ASSEMBLY INSTRUCTIONS FOR UM/E1241 BR (exGWR) 63' AUTOCOACH Diagram No A.38/43.

IMPORTANT

Before starting this kit it is strongly recommended that the instructions are read from start finish. Please familiarise yourself with the parts of the kit and relate them to the drawings included. Please note this kit produces a complete body shell with roof and underframe details only. Bogies, wheels, couplings, paint, transfers and solders/adhesives are required to complete this kit.

SOLDER AND GLUE

These instructions refer to the use of liquid solders (liquid/paste is preferred as it is easier to apply and produces less excess solder) Types recommended are CARR's 243 and 188 (high and medium temperatures). Super glues can be used to assemble the kit but solder is recommended as the best method. Use epoxy adhesives for gluing the white metal components e.g. ARALDITE. N.B. Wash your hands after handling white metal components as there is a lead content in the castings.

CONTENTS

1-off etched brass fret containing : 1 Integral floor, & ends, 4 Internal partitions, 2 Solebars with overlays, 6 steps, 2 Pivot Boxes, 2 Washers, 2 outer truss frames, 2 inner truss frames, 2 Buffer Beams with overlays, 2 set battery boxes with front overlays, 1 Voltage regulator box, 1 Warning gong bracket (+ spare) plus small bracket details. 1-off etched fret containing sides and security mesh for two doors. 1-off aluminium roof. 4-off Oval white metal buffers. 2-off plastic seating strips 1-set white metal castings for the underframe:vacuum cylinders, dynamo and gong. 10-off Roof shell vents. 2-off M4 screws. 100mm Nickel Silver wire 0.33mm. 150mm x 30mm glazing strip. 20mm x 150mm false floor plastic strip.

HISTORY/LIVERY NOTES

As far as is known this is the first new Autocoach kit to be produced in this scale in almost 20 years. The only known alternative is the Langley kit which represents an early 70' version. The autocoach selected by Ultima is the last type built under BR ownership but to a GWR design. The model fits well with the Graham Farish 57xx 0-6-0 loco. The design was introduced in Sept 1954 and survived in passenger use until 1964. Pictures in GWR Autocoches shows combinations of single, double and twin pairs used with this locomotive. The first batch appeared in BR C & C (sides and ends) with the rest introduced in plain BR maroon which was quickly up graded to lined maroon. Many of these coaches survived by being transferred to departmental usage and at least 6 are preserved by societies. An excellent pair of books "Great Western Autocoaches" by John Lewis and published by Wild Swan is currently available and is recommended reading for those that wish to explore the history and details of these interesting coaches.

INSTRUCTIONS STAGE 1 THE BODY SHELL

1.1 This kit is based on the principle of an integral floor with fold up side support edges (enables sides to be joined at the bottom edge) and angled ends. Before removing the etched parts from the frets, first check that the etched slots are cleanly formed and, if not, then open with a knife (100% cleanly etched slots cannot be guaranteed due to the sensitive nature of the chemical etching process). Now remove the main body section from the fret . The side support edges can now be folded up using a steel bench vice and either smooth jaws or a pair of smooth bars (eg lengths of HSS cutting steel blanks which are finish ground ie 15mm x 15mm x 150mm x 2 pieces . Take care to form accurate 90 degree bends. For those that are not confident in using such a method it is recommended that a set of bending bars are purchased from Blacksmith Models/Cove Models

Which would prove to be a good investment when building etched kits.

1.2 Fold up the ends taking care to ensure that the ends are 90 degrees square to the floor and solder in place to secure. Check that the body is square on a flat firm surface eg a piece of safety (toughened) glass sheet Use a high temperature solder that will help prevent the work being undone by the addition of more components.

While it is possible to glue all parts in these kits together without soldering it is strongly recommended that the joints between the sides and ends and pivot boxes are soldered, to produce a strong box structure. Use a high temperature solder eg 243 leaving 188 to solder overlays onto the structure. At the end of Stage 1 check that the body is square on a flat firm surface and that all the details are correctly aligned & adjust if required. This is possible if solder has been used but not so easily if glues are used.

1.3 Cut the tabs around each side and carefully deburr any remaining tab edges with a smooth file. Before fitting the security meshes carefully form the curved tumbleholme by using a 6" piece of plastic coated tube as used in wardrobe clothes rails or wooden dowelling at least 20mm in diameter. With a pile of magazines which are slightly bowed in the centre roll/press down onto the inside surface of the side to form the tumbleholme (The action is similar to rolling pastry). After several passes the metal sides should now have a curved bow running from the top to the bottom edge. Check with the ends and adjust accordingly either by further rolling or slight flattening.

1.4 Remove the security mesh grills from the sides fret and solder in place from behind on each side. Clean solder joint. Check to see if it may be necessary to file the ends so that the sides fit correctly. The sides are now ready to be joined to the floor/end piece. Tin solder the side support edges and the bottom inside edge for each side making sure you fix the sides so that they match correctly with the ends. Solder each side in place and check that the whole assembly is square and true.

1.5 Remove the bogie pivot bosses from the fret and fold up the sides. Cut from scrap plasticard to produce a filling blank 1.5mm thick (0.060") that fits inside the box (an alternative is to us Milliput epoxy putty which must be allowed to harden prior to drilling). Solder the boxes in place and drill through with a 3.30mm or equivalent drill to suit the M4 tap required to cut the thread form in each box. It is possible to buy M4 screws eg at the local DIY store where the screw has a leading chamfer. This enables the screw to be used as an alternative to a machine tap. If using a machine tap it is possible to actually use a rechargeable small hand held drill with the tap locked in the chuck and hand tap with the drill which must have a reversing switch. By hand screw the M4 screws provided in the kit, in place to the threaded hole, check the fit and then remove.

INSTRUCTIONS STAGE 2 CUT&FIT ROOF

2.1 The aluminium roof can now be assessed for fitting. File the ends to provide a 0.75mm overhang at each end. File a 30 degree chamfer at each end on the underside of the roof with small cuts at each side to enable the location strip to fit inside the body shell. Likewise file a chamfer on the top-back edge of the ends to mate with the roof. Take care with this operation not to take to much of the ends or the underside of the roof. With care the filing of the roof and ends will allow the roof to sit square with the sides and ends. The roof will have a very thin line at each end if filed correctly as per the prototype. A very small gap may show at each end corner of the roof which can be filled and smoothed in place using e.g Milliput. When complete check that the whole assembly is square and the roof locates correctly with sides and ends.

2.2 Use the roof drawing to make a paper template. Use this to mark the position of the shell ventilators on each side of the centreline of the roof. Carefully drill 0.75mm holes to locate the vents. Cut the vents from the sprue and glue in place from the inside of the roof ensuring all vent are correctly aligned. Check the roof for appearance and fit. The roof can now be painted (or left until stage 6) and then glued in place using an epoxy glue once the interior has been added. *N.B. CONSIDERABLE CARE IN THE CONSTRUCTION OF THE ROOF IS IMPORTANT AS THIS IS THE MOST NOTICEABLE FEATURE ON THE MODEL .....A BAD ROOF DETRACTS FROM APPEARANCE.*

INSTRUCTIONS STAGE 3 DETAILING THE UNDERSIDE

3.1 Turn the body over, preferably in a cradle, and solder the underframe details in place. Remove the 2 solebars with overlays, 6 foot steps (*see 7.2) ,2 buffer beams with overlays, 4 truss frames(note the position of these ie V hangers) and the three electrical boxes from the frets. Fit and solder these to the underside of the floor. Clean the floor section of any soldering residue before gluing the vacuum cylinders(each needs a 1.5mm packing piece to raise the height of cylinders eg a scrap piece of plasticard) and dynamo in place. Drill

a 0.33mm location hole in each cylinder for the fabricated brake linkage. Form the linkage from each cylinder to the V hangers on each truss frame using the wire provided. (use 188 temperature solder).

3.2 File to obtain a good location fit for the white metal buffers but do not glue in place until later.

INSTRUCTIONS STAGE 4 DETAILING THE ENDS

4.1 Fabricate the grab handles for each end with the wire provided.Each end has 6 handles located in pairs symmetrically about the vertical centre line: see etched marks. Also provided is the 'T' shape alarm gear which should be carefully removed from the fret and can be glued or soldered in place on the plain end (see location marks). Carefully cut the triangle plate out and glue in place(see the etched location) on the front end. Next fit the gong bracket with the cast gong(white metal) onto the front end. from the fret and glue in place. Also provided on the fret for the "rivet counter" are the end lamp brackets, small foot brackets and windscreen wipers. (due to the small sizes involved it is not possible to guarantee 100% reproduction of these parts). These can be fitted either by gluing or soldering.

INSTRUCTIONS STAGE 5 INTERIOR

5.1 The interior can now be constructed to suit ones own taste using the false floor plasticard strip as a base to work from. 2 lengths of seating strip are provided. Paint and detail to suit.

INSTRUCTIONS STAGE 6 PAINTING

6.1 Remove the bogies and roof . Clean the model thoroughly (if the model has only been assembled with solder then it should be washed with care, in hot soapy water, to remove flux residues with an old tooth brush and allowed to dry) .The best results are achieved by spray painting with thin coats. Use a red oxide primer all over followed by the desired colour for the sides and ends which were either full unlined crimson or lined maroon. There is an excellent full colour picture on page 50 of issue 12 Heritage Railway showing both liveries. The roof was BR medium grey (the underframe & bogies were always black) Apply sparingly in coats to the roof so as not to lose any details.(full details are listed in the Wild Swan book 2)

INSTRUCTIONS STAGE 7 FINAL ASSEMBLY

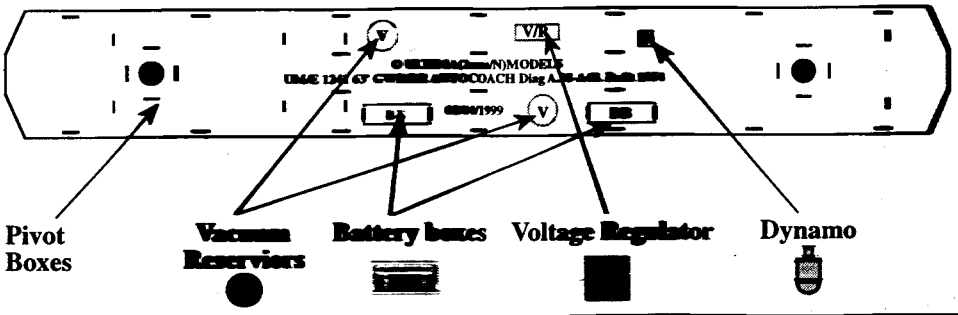
7.1 Fit the internal glazing strip to the inside of the model. Check that the interior is free of dust and debris before gluing the roof in place.

7.2 (*) The kit includes steps to form the special fold down set located on each side of the coach. These should only be fitted after checking that there is sufficient clearance along the route of the model railway. **Failure to check could result in a nasty collision causing damage to the coach.**

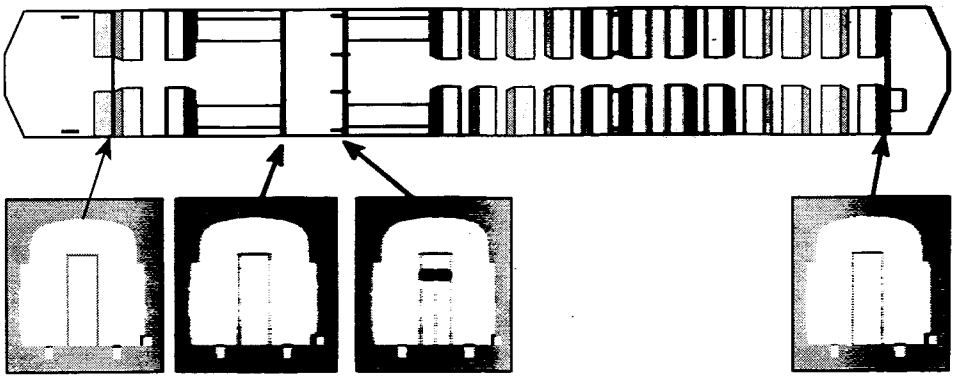
7.3 Refit the buffers and glue in place with an epoxy glue from inside the buffer beam ensuring the heads are all correctly aligned. Paint black.Fit the bogies and wheels (Graham Farish 0629) and test on a piece of track.(The N Gauge Society Shop is recommended as the best source for purchasing wheel sets 7mm coach).

You should now be ready to place your completed model on the track. It is hoped that you have enjoyed constructing the kit and that the model provides you with years of good service.*(to make use of the standard kit box for storing the finished model cut from 1mm thick card e.g art mounting board internal packers. These lift the lid high enough to accommodate the model. Cut two pieces 23mm x 60mm and two pieces 23mm x 209mm. Fit the long side pieces first and glue if desired. The end pieces are a good push fit that holds the sides in place)*

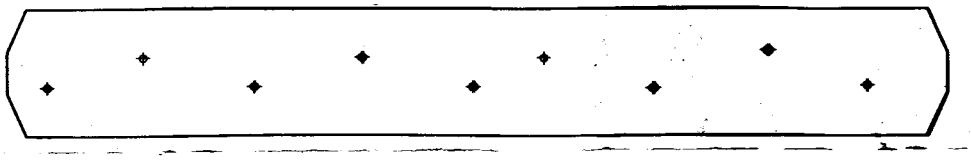
BR/GWR 63'6" AUTOCOACH DIAG A.38-A40 & A.43 BUILT 1951 TO 1954.



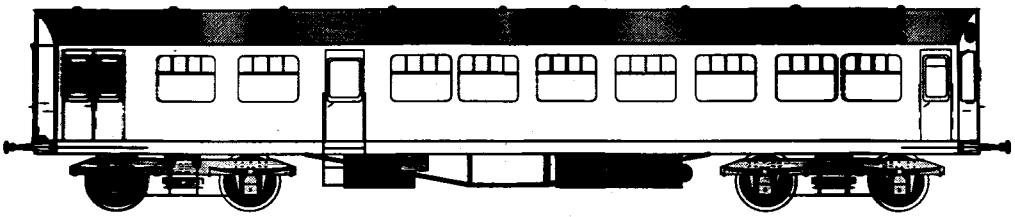
Underframe Layout

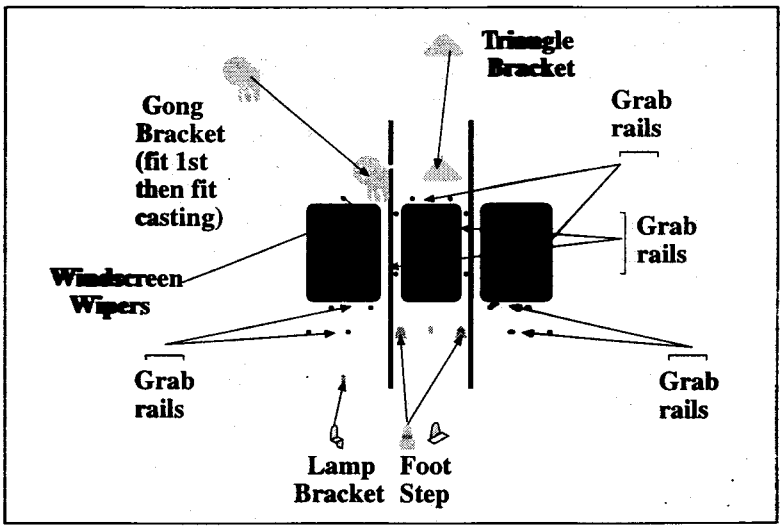


Interior Layout



Roof Layout
9 Shell Vents





End Details

NB

When folding/forming the angle on the ends use the thick edge of a 12" steel ruler to remove any distortion on the inside edge of each fold line where the glazing is to be located and glued.

Diag	Built	Numbers
A.38	1951	W220-234.
A.39	1952	W220(REBUILD)
A.40	1952	W221(REBUILD)
A.43	1954	W235-244.