



ASSEMBLY INSTRUCTIONS FOR OUTSIDE FRAMED UM/E1227 GWR 40' SIPHON F Diagram No O.7.

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.
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 : Integral floor , sides & ends + steps , 2 pairs of side & end overlays, 2 Solebars, 4 Foot boards, 2 Pivot Boxes, 2 Washers, 2 V Hanger ,2 Buffer Beams, , 2 Short brake levers, 2 Coupling Boxes, 2 Bogie Supports, .1 set of overlay brackets with spares plus detailing parts. **2-off** 9' etched American Bogies with **8-off** top hat bearings. **1-off** aluminium roof. **4-off** turned brass buffers. **1-set** white metal castings for the underframe: 1 vacuum cylinder and 2 gas cylinders. **1-set** gas lamp tops **2-off** 2 x 1/4 self tapping screws. **100mm** Nickle Silver wire 0.33mm.

HISTORY/LIVERY NOTES

The design was 40' long and 8'6" wide with 9' American Bogies. The design for Diagram O.7 (Lot 1124) was introduced in 1906 with a total of 6 being built with most fitted with american bogies. This design was new and large compared with the early Siphon Vans and used louvered vents instead of planked sides with external bracing. These vans lasted until the end of the WW2 with the first to be withdrawn in 1946 and the last by 1956 (it is not known if any moved into departmental use). When first built the vans were painted in GW Brown with white roof, black underframe and bogies. It is likely that four of the vans were painted in the first BR livery : Crimson sides and ends with mid grey roof, black bogies and underframes until their withdrawal but none made it to carry BR Blue. The vans carried gas tanks for lighting but had only one brake vacuum cylinder.

An excellent book on Siphons by J Slinn & B Clarke and published by the HMRS covers the subject in great detail. Details and pictures can be found in Great Western Coaches II pages 42/43 and Great Western Coaches Appendix Volume Two page 223.

INSTRUCTIONS

STAGE 1

THE BODY SHELL

1.1 This kit is based on the principle of an integral floor with fold up sides and 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 sides and ends can now be folded up (sides first) with the aid of a 12" steel rule. Take care to form accurate 90 degree bends for the sides. For those that are not confident in using a steel rule it is recommended that a set of bending bars are purchased from Blacksmith Models/Cove Models. While it is possible to glue all parts in these kits together without soldering it is strongly recommended that the joins between the sides and ends are soldered from the inside to produce a

strong box structure. Use a high temperature solder eg 243 leaving 188 to solder overlays onto the structure. The van's body is now taking shape. 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.

INSTRUCTIONS STAGE 2 DETAILING THE BODY SHELL

2.1 Turn the body over, preferably in a cradle, and solder the underframe details in place. Remove the 2 solebars, 8 foot steps, 2 buffer beams, and tierod frames from the frets. Fit and solder (use 243 temperature solder). Solder the brass buffers to the buffer beams. It is recommended that the buffer faces be flash soldered and then polished with wet and dry paper. The advantage of the solder is that, after painting, should any paint flake away the dull metal on the buffer head will represent a prototypical appearance. Check that the solebars fit and solder in place. Now locate and solder with the buffer beam assemblies. Now assemble the foot steps to the solebars. Due to a design error it is necessary to file the middle 4 steps location lugs down to 0.010" so that the tie rod frames can be located from behind flush with the inside of the solebars. Fit the tierod/truss frames and the single-central V-hanger with solder or glue. Do not fit the external short brake levers on each side until the model is complete: the levers are easily damaged by rough handling.

2.2 Remove the bogie pivot boxes 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 use Milliput epoxy putty which must be allowed to harden prior to drilling). Solder the boxes in place and drill through with a 1.75mm or equivalent drill to suit the self tapping screws provided. Screw the No 2x1/4 self tapping screws in place to establish the thread and remove. Finish the underframe by gluing (epoxy) the vacuum cylinders in place and the gas tanks. Using the wire provided, fabricate the brake linkage. Drill 0.4mm holes in the vacuum cylinder castings to accept the wire and solder the linkage to the truss frames with 188 solder.

2.3 Carefully remove the overlays for the sides and ends (the louvres on the sides are very delicate: please handle with care). Use 188 solder and tin the end overlays first. Ensure the body is clean (use a fibre glass pencil - stick to remove dirt). Carefully position the ends with the sides and the **bottom edge** (allow the top edge of the overlay to float below the end profile. This is removed later on in filing the 45 degree chamfer - Stage 3). A piece of bluetack is a useful aid in holding the overlay in place when starting to join by soldering but remove prior to finishing the overlays. Clean up the edges so that the side overlays can be fitted. Tin the side overlays along the side and bottom edges and the door frames plus diagonal bracing. Do not touch the delicate louvres. Clean and fit the sides in the same way as the ends. Finally clean the overlay ends and sides with a fibreglass pencil.

2.4 Fabricate the door grab handles from the wire provided. The handles are located vertical and central to the door lock fitted around each door and span a distance of 3 planks. Also provided are end door brackets. The stops need folding in half and glued to secure. The etched half tab should locate into a slot. Unfortunately the main end slot did not etch. The overlay does have the location point for the stops. File the half etch tabs down to 0.25mm. The tab will now fit the location points allowing the stops to be soldered or glued into place. Overlay end door hinge strapping adds extra rivet detail: tin and join to the ends. Also provided on the fret for the "rivet counter" are the external bracket, side stiffening brackets and door hinges! (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 3 ROOF DETAIL

3.1 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, (a) not to damage the louvres on the sides and, (B) not to take too 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 location strip sitting directly on top of the edge of the inner sides. The roof will have a very thin line at each end if filed correctly as per the prototype. A very small gap will show at each end corner of the roof which can be filled and smoothed in place using e.g. Milliput. Use the roof drawing to position the gas lamp tops and if desired using e.g. SLATERS 0.010" (0.25mm) microrod, fabricate a representation of the gas piping (microrod is not included in the kit). Glue the gas vents (and piping) in place with super glue, and 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. **N.B. CONSIDERABLE CARE IN THE CONSTRUCTION OF THE ROOF IS IMPORTANT AS THIS THE MOST NOTICEABLE FEATURE ON THE MODEL.....A BAD ROOF DETRACTS FROM APPEARANCE.**

INSTRUCTIONS

STAGE 4

ASSEMBLING THE BOGIES

4.1 The original coupling (white metal casting) for the bogie was clumsy and heavy (ex Cav'ndish). An etched pivot box is provided that will accommodate a standard PECO coupling (not provided). Remove the original coupling slot and fit the pivot box instead. After folding and assembling, set the coupling height adjuster plate to suit the bogie. (Alternatively fit one of the coupling systems available e.g. MBM, DG, BB or Sprat & Winkle[MSE]). The original Cav'ndish 9' American bogie coupling support has to be removed to accept these alternative coupling systems and a replacement bogie support piece is provided to help stiffen the ends of the bogie. The thin 'T' with tabs is designed to solder to the inside of the ends of the bogie frame while the main structure locates on the underside of the bogie stretcher with pivot holes aligned to the pivot holes and also soldered in place.

4.2 The bogies are provided with overlays (2 layers) that form the axleboxes. These are best soldered or glued in place while the bogie is still flat. Turn over and drill with a 1.0mm to deepen the pivot hole to accept an axle. (top hat bearings are provided for those who prefer them. Once soldered in place deepen pivot hole to accept the standard 15mm length axles.)

4.3 Now fit the bogies with the wheels of your choice (not included with the kit) and screw the bogies onto the model with the etched washers provided. Test the model on the track before final fitting and painting

INSTRUCTIONS

STAGE 5

PAINTING .

5.1 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, ends & roof (the underframe & bogies were always black). Apply sparingly in coats to the roof so as not to lose any details.

INSTRUCTIONS

STAGE 6

FINAL ASSEMBLY .

6.1 Fit the bogies and wheels and test on a piece of track. (The N Gauge Society Shop is recommended as the best source for purchasing wheel sets).

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)

**ULTIMA(2mm/N)MODELS RESERVES THE RIGHT TO CHANGE THE
SPECIFICATION OF THIS KIT WITHOUT PRIOR NOTICE
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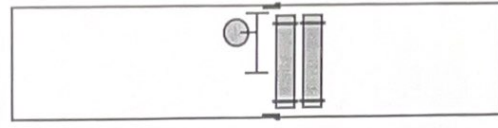
UM/E 1227 GWR 40' SIPHON F VAN-Diag O.7 -UNDERFRAME & ROOF LAYOUTS PLUS ASSEMBLY DETAILS



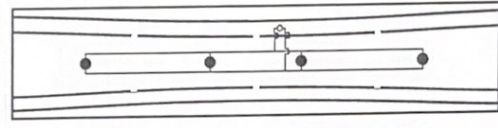
Gas tank



Vacuum cylinder & brake linkage



U'FRAME DETAILS

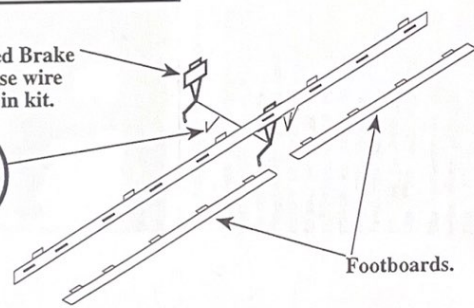


ROOF DETAILS.

Gas piping arrangement including feed point for four lamps

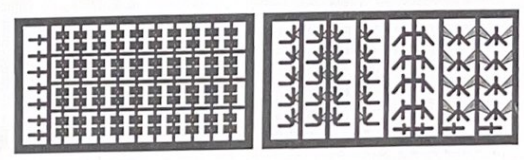
U'FRAME DETAILS

Fabricated Brake linkage: use wire provided in kit.



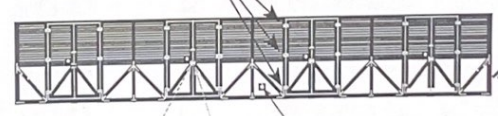
Footboards.

Bracing and hinges as etched (shown 2 x F. Size)



SIDE DETAILS

Position of door hinges.



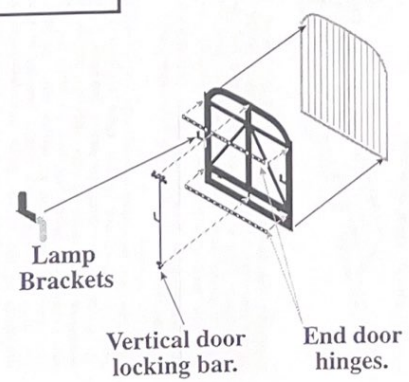
Door grab handles. Fabricate from N.S Wire 3 planks wide, located vertically & central to door lock.



Lamp bracket holder.

Etched holes for corner grab handles. Fabricate from N.S Wire. 4 handles with one at each corner.

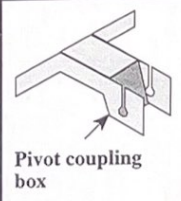
END DETAILS



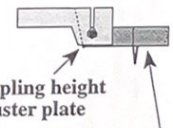
Lamp Brackets

Vertical door locking bar.

End door hinges.



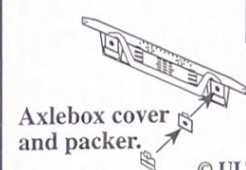
Pivot coupling box



Coupling height adjuster plate

PECO Coupling

BOGIE DETAILS



Axlebox cover and packer.