

KBW Kits – 115 Leicester Road, Hinckley. LE10 1LR

KBW-10-S01 LMS 42' Bogie Van – Diagram D1780 – 10mm – 1 foot Scale for Gauge 1

Prototype

A total of 240 of these versatile vehicles were built between 1933 and 1937. Many lasted in service into the 1970's. They were later classified as GUV (General Utility Vehicle) which suited their usage well. The body style follows Stanier's coaches. The first 100 were finished in fully lined livery, the rest following in the simpler unlined livery. During British Railway days they carried Plain Crimson, Blood & Custard, BR Maroon and the final survivors were in BR Blue.



Model Summery

Body Parts



Part	Qty	Material
Floor	1	3mm ply
Inner Ends 2	3mm ply	
Inner Sides 2	3mm ply	
Outer Sides	2	0.8mm ply
Headstock 2	3mm ply	
Cross Brace	2	3mm ply
Solebars	2	3mm ply
Solebars Lower	2	0.8mm ply

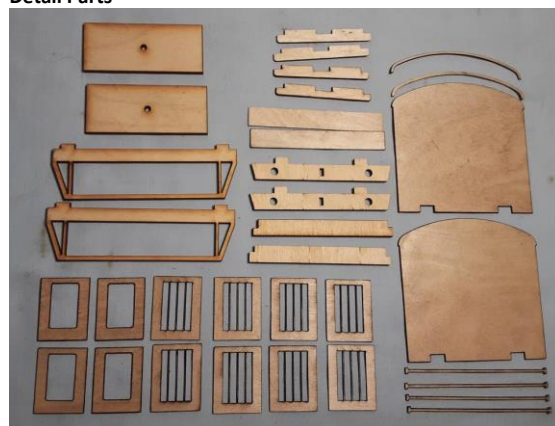
Roof Parts



Roof Rib	9	3mm ply
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Roof Profile	9	3mm ply
Roof Centre	9	0.8mm ply
Roof Outer Strips	14	0.8mm ply
Roof Gutter	2	0.8mm ply

Detail Parts



Bogie Mounting	2	3mm Ply
Outer Ends	2	0.8mm ply
Truss Rods 2	3mm ply	
End Door Hinges	4	0.8mm ply
End Roof Beading	2	0.8mm ply
Droplight	4	0.8mm ply
Window Bars	8	0.8mm ply
Steps	4	1.5mm ply
Outer Side Beading	4	0.8mm ply

Assembly Instructions

General Notes

The model has been designed on 3D CAD and the components have been cut using a laser cutter. This gives good accurate cuts to provide parts that fit closely together for a quality finished model.

There are a few process parameters that need to be understood as they have a bearing on the assembly process. As the beam cuts through the material it cuts a slot which ends up slightly wider on the side the cut is from. This gives slots that are slightly tapered. The cut side of the parts can be identified by being slightly darker around the cuts. It will be necessary to identify the direction on the slot taper on some parts to ensure a good fit of mating parts. Please read the instructions fully and follow the photographs which will show the correct assembly order.

Before gluing any parts together, I recommend a dry run through to check the fit of parts and to familiarise yourself with the assembly. PVA wood glue is suitable for assembly of this model. Use just enough to provide a good joint and remove any excess with a damp cloth before it sets!

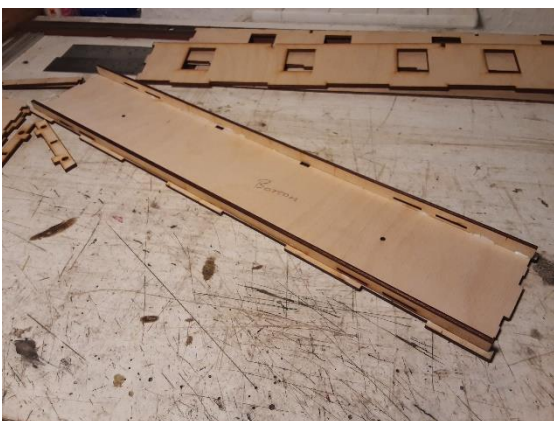
Inner Body

This is the first structure we will assemble for the model.

Take the Floor and the 2 Solebars. Identify the cut side of the floor, this will be the top and mark it accordingly. The Solebars fit into the 5 slots along each side of the floor, FROM UNDERNEATH! The slots may need a fine file running through to open them up to allow the tabs on the Solebar to fully engage into the floor.

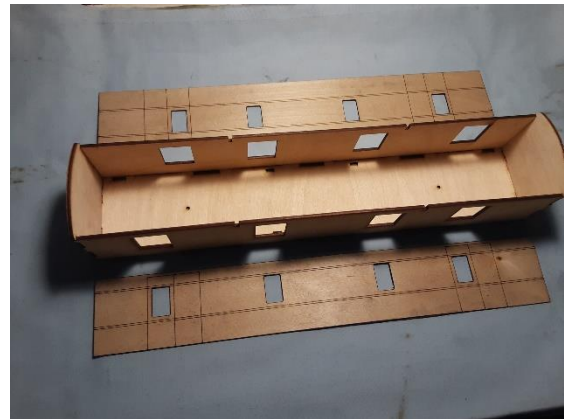


Apply PVA to the top edge of the Solebar, press into position fully against the underside of the floor and weight or clamp to a flat surface and allow to dry.



Once dry we can add the Inner Body structure. A little care is needed here to ensure the Inner Sides are fitted in the correct orientation. These vans are fitted with 2 sets of double doors each side, with a window in the left door of each pair. Please see the photographs which will show the correct positions. Reference to the Outer Sides will also help.

Place the Floor and Solebar assembly on the bench with the previously marked top visible. Take the 2 Inner Sides and the 2 Inner Ends and dry assemble them onto the Floor. A few elastic bands just to hold everything together will help. The window cut-outs in the Inner Sides must be biased to the left end of the van, to match the windows in the doors. Once you are satisfied the parts can be glued into position. A couple of lengths of strip wood along the bottom edge and some clamps will ensure a snug fit while the glue dries.



Inner Body showing correct orientation of the window cut-outs in the Inner Side in relation to the Outer Skins.

Add the 2 Cross Braces into the slots in the top of Inner Sides to strengthen the top edges.

Allow the adhesive to fully dry. It may be necessary to finely sand down the joints to provide a flat surface for the Outer Skins to sit flush.

Outer Skins

The next stage is to fit the Outer Ends and the Headstocks. Gluing the 'cut side' of the Outer End to the Inner End will give a much better finish, so a little time and care here will pay off.

Coat the Inner End with a thin coat of PVA and position the Outer End making sure the edges line up with the edges of the Inner Sides. Now glue the Headstock into the slots in the Inner End and floor. The joint between the top of the Headstock and the bottom of the Outer End should be snug and the end faces should be flush. Clamp in position and allow the adhesive to dry. Repeat for the other end.

The Solebar Bottoms can now be glued into position. This is a strip of ply that is glued to the bottom edge of the Solebar to provide

the bottom flange of the channel of the prototype. The inside faces are flush giving a slight overhang on the outer edge.

Once the Outer Ends are dry the Outer Sides can be fixed in position. Coat the outer face of the Inner Side with adhesive and lay on the Outer Side. Note the outer face has the door edges engraved. The bottom edge is flush with the underside of the floor and the ends flush with the Outer Ends. Clamp in position and allow to dry. I find lengths of strip wood useful to spread the clamp force along the whole length of the lower body to ensure the Outer Side is flat against the Inner Side. Pegs or clamps will hold the top edge.



Details

On the Outer Side are guide lines for the 2 beading strips each side. There are 2 lengths of narrow strips provided, the 4 off shorter lengths are used for these beadings. Apply adhesive to the wider face and locate between the guide lines. Once fully dry score through the beading with a scalpel blade where the beading crosses the door edges.

The Droplights can now be fitted behind the door windows. These are to two end windows on each side. Add adhesive to the outer edges of the droplight and position inside the Outer Side. The overlap is equal on the sides but should be biased to the top of the window giving more of the drop light showing at the bottom.



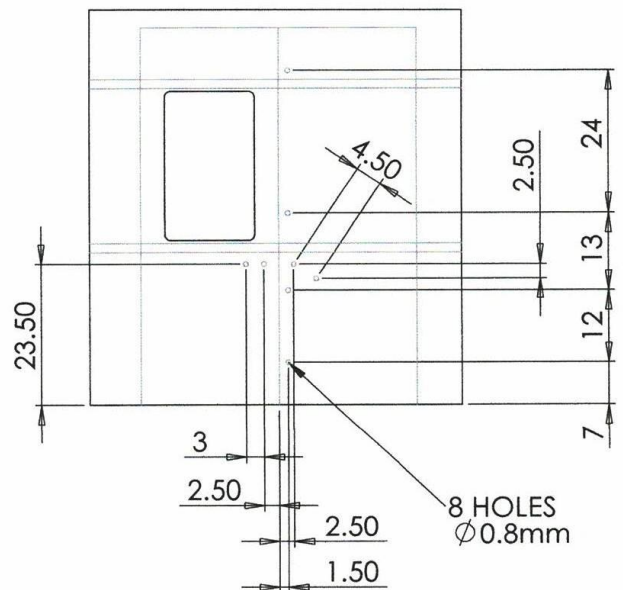
The end details can now be added. First the Drop plates are added. These are positioned centrally with the bottom edge lined up to the top end of the Headstock.

Above this the 2 End Door Hinges. The lower is fitted just above the Drop Plate, the upper is 69mm from the bottom of the

Headstock. The End Beadings are fitted across the tops of the ends.



The doors require handles and grab rails formed from 0.8mm brass wire (not supplied) The drawing below show the positions relative to the doors. A simple drilling jig made from a sheet of wood the size of the doors will ensure the holes are in the same position on each door.



The body is now ready for painting in the livery of your choice.

Once painting is completed you can add the glazing to the windows. Cut to size and glue inside the Outer Sides. It is recommended to use an adhesive like DeLux Materials Glaze and Glue or similar, which dry clear and do not show if any excess gets onto the glazing. Once dry the final parts to be added are the Window Bars. The fine bars need to be painted black first. They are glued to the inside of the glazing, just add a little adhesive the

outer edges of the face and position so the bars are central in the window opening.

The final parts to add to the Body assembly are the Truss Rods and Bogie Mounting Plates. The Truss Rods fit into the 2 slots in the floor from underneath. They should be glued to the inner face of the Solebars for extra strength.

The Bogie Mountings fit on the underside of the Floor. Coat the surface with some pva and using a pin or screw that is a good fit into the hole position directly above the hole in the floor and press into position.



Roof

The Roof structure is designed to be removable in case here is a need to get inside the finished vehicle.

Working on a flat surface, glue the Ribs into the slots in the Profiles. The fit of these are quite tight so a slight easing of the slots with a file may help.

I have found it best to start with just the seven centre profiles, ignore the ends ones at this time. Take a Roof Rib and working along the length fit the Profiles making sure the Rib is not proud of the profile. Once all assembled place a sheet of the cling film over the body assembly. Now dry assemble the two remaining Roof Profiles to the ends of the Roof Ribs and try the complete roof into the Body assembly. A little trimming may be needed to the Roof Profiles legs to fit inside the Inner Sides. This is best done with sandpaper wrapped around a piece of timber. Work gently on the edges of the roof profiles along the length of the roof structure, sanding a number of profiles at the same time to get a straight edge. Once a good, snug fit has been achieved the end Profiles can be glued to the Roof Ribs, refitted into the body assembly and left to dry. The cling film acts as a barrier between the roof and body to stop the 2 being glued together.

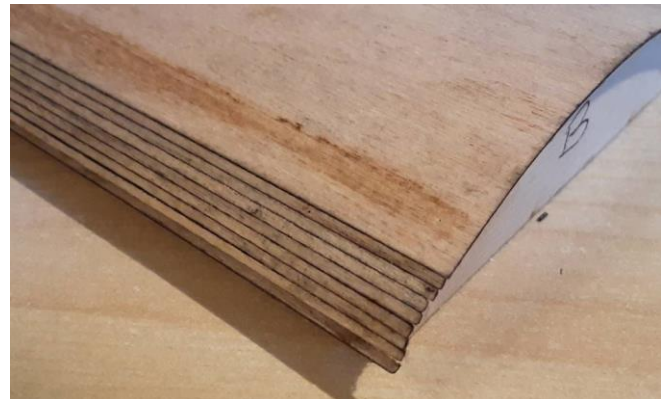
Once dry remove the roof from the body, mark one end of the roof and inner end of the body so you know which way round to fit them together. Leave the cling film in place over the body. Place the Gutters on top of the Body sides with the cut-outs between the Inner Ends. Apply some adhesive to the outer lower faces of the Roof Profiles and refit the roof structure into the body assembly and allow to fully dry. The Tops of the Roof Profiles and

the Body Ends should now be flush.



The Roof Covering are now fitted. The central sheet needs to be formed to be an easier fit onto the roof structure. This is done by soaking the sheet in warm water for at least 30 minutes and then strapping to a piece of tube. When the sheet dries out it will have taken a curved form and be easier to fit on the roof structure.

Apply pva to the roof structure, position the Roof Sheet centrally over the shallow curve and hold in position with straps to allow the glue to set. The narrow roof strips are used to finish the tighter curved roof down to the Gutter.



Once the glue has the fully dried sand the roof smooth.

To simulate roof canvas, the roof can be covered with a single sheet of tissue paper and painted.

This finishes the assembly of the supplied parts.

Finishing Parts

To complete the model will require the following parts.

LMS 9' wheelbase bogies, 3 link couplings, Buffers, wheels and Roof Ventilators.

These are available from various suppliers including Tenmille Products and Walsall Models. G1MRA sales supply cast Bogie side frames and wheelsets to members. KBW Kits also provide an Inner Bogie Kit to suit the G1MRA side frames.