

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

KBW-10-S05 3rd class Brake 4 Wheel Coach

KBW-10-S12 3rd class Brake 6 Wheel Coach

Overview

These models have been developed as a generic design of coaches from the late Victorian and early Edwardian period. The coaches can be finished in the livery of your chosen railway to suit. The 4 and 6 wheel coaches follow the same assembly method and are both covered in these instructions.

Model Summary

Body Parts– 3rd Class Brake 4 Wheel Coach

Part	Qty	Material
Floor	1	3mm ply
Inner End	2	3mm ply
Inner Side	2	3mm ply
Solebar	2	3mm ply
Headstock	2	3mm ply
Window Frame	2	2mm ply
Partition	3	3mm ply
Docket Inner End	1	3mm ply
Docket Partition	1	3mm ply
Outer Side Skin	LH & RH	0.8mm ply
Outer Side Beading	LH & RH	0.8mm ply
Outer End	1	0.8mm ply
Outer End Beading	1	0.8mm ply
Door Toplight	8	0.8mm ply
Docket Skin	2	0.8mm ply

Docket Skin Beading	2	0.8mm ply
Docket Front Inner	2	0.8mm ply
Docket Front Beading	2	0.8mm ply
Docket Top	2	0.8mm ply
Door Droplight	8	0.8mm ply

Body Parts– 3rd Class Brake 6 Wheel Coach

As for the 4 Wheel version except

Partition	4	3mm ply
Door Toplight	10	0.8mm ply
Door Droplight	10	0.8mm ply

Roof Parts– all types

Roof Rib	7	3mm ply
Roof Profile	9	3mm ply
Roof Sheet	1	0.8mm ply

Assembly Instructions

General Notes

The model has been designed on 3D CAD and the wood 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 images which will show the correct assembly order.

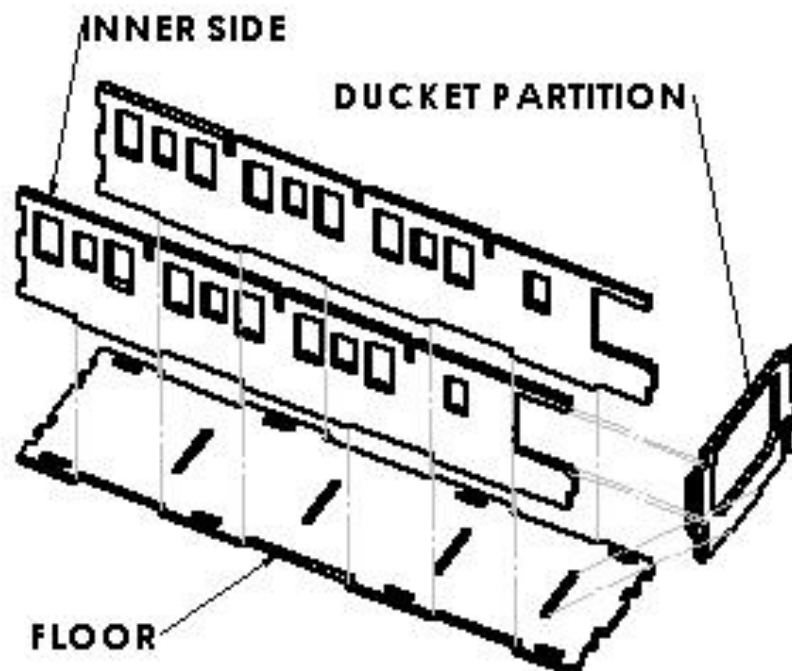
Before gluing any parts together, I recommend a dry run through to check the fit of parts and to familiarise yourself with the assembly. PVA wood glue is suitable for assembly of the wood items.

Inner Body

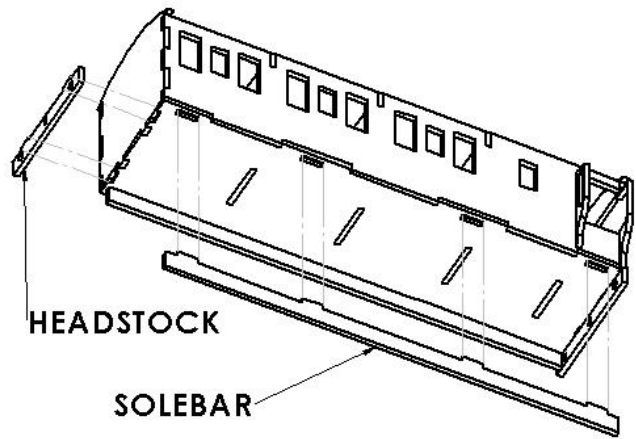
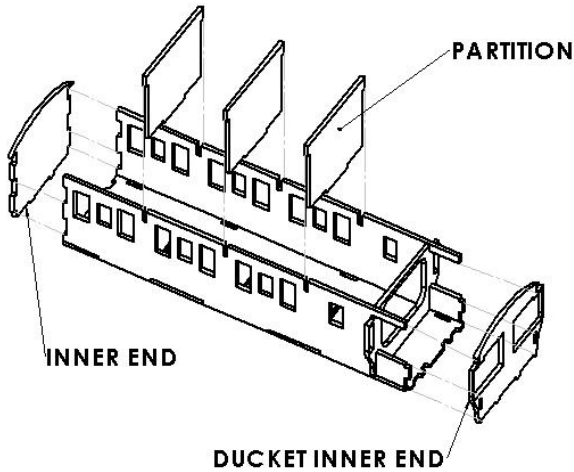
Start with the Floor, the 2 Inner Sides and the Docket Partition. The 4 slots in the floor for the partitions are not central along the length, one is close to the end and is the location for the Docket Partition. The docket end of the Inner Sides slide into the slots in The Docket Partition and are then mounted onto the floor. See the exploded view to show the correct assembly.

Apply a bead of adhesive onto the mating surfaces and assemble, removing any excess adhesive with a damp cloth as the parts are positioned.

Now add the plain Partitions, the Inner End and the Docket Inner End and clamp the assembly square until the glue is dry.



The Solebars fit into the 4 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.



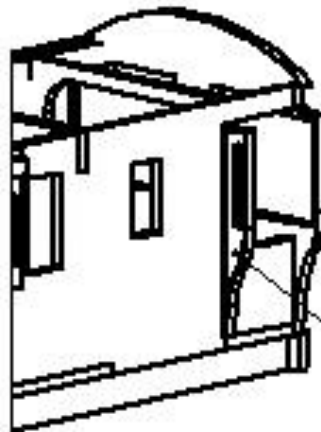
Apply PVA to the top edge of the Solebar, press into position fully against the underside of the floor and weight or clamp to a flat surface and allow to dry. The Headstocks can now be glued into position into the slots in the floor.

Window Frames

Glue the Ducket Front Inner to the face of the Ducket Partition. The piece has the small window opening and the profile follows the shape of the Ducket Partition.

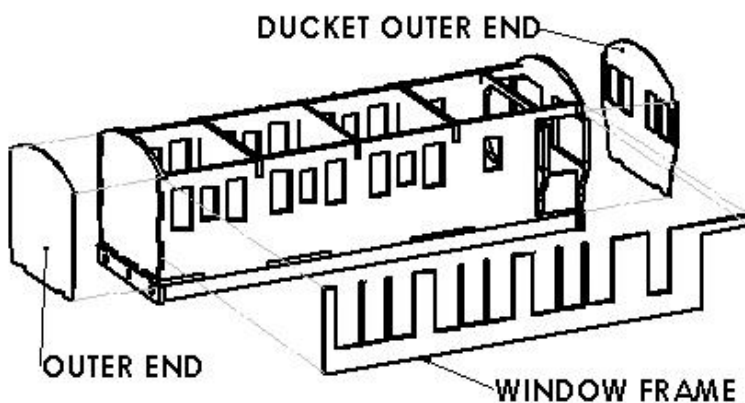
The Window Frames can now be added to the outside of the Inner Sides. Dry assemble first as a little sanding of the edge next to the Ducket Front Inner previously fitted may be required to ensure the ends a flush with the inner sides.

Coat the inner face of the Window Frame with adhesive and lay onto the Inner Side. The tops and ends are flush with the Inner Sides. Clamp in position and allow to dry.

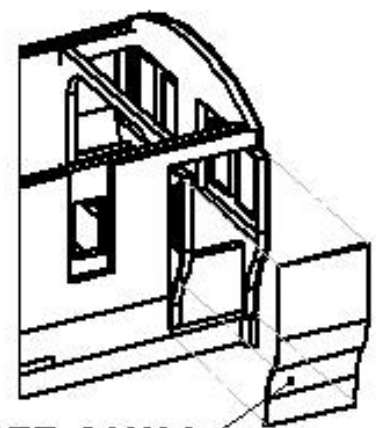


DUCKET FRONT INNER
Note - This piece has the small window aperture. The top and side edges line up with the Ducket Partition

Next we add the Outer End onto the Inner End at the non ducket end, the cut-outs around the Headstocks help locate these correctly. The side edges should be flush with the outer faces of the Window Frames. Then fit the Ducket



Outer End, once again the cut-outs in the bottom edge help locate these correctly and the edge profiles match both sides. Once the adhesive has been allowed to dry we can fit the Ducket Skins. These fit onto the outer edges of the Ducket Inner end and Ducket Partition, with the vertical edges flush to the Ducket Outer End and Ducket Front Inner that have been fitted earlier. The skin needs to be formed to follow the shape of the Ducket. I find the easiest way to do this is to soak the Skins in warm water for at least 30 mins. Apply adhesive to the

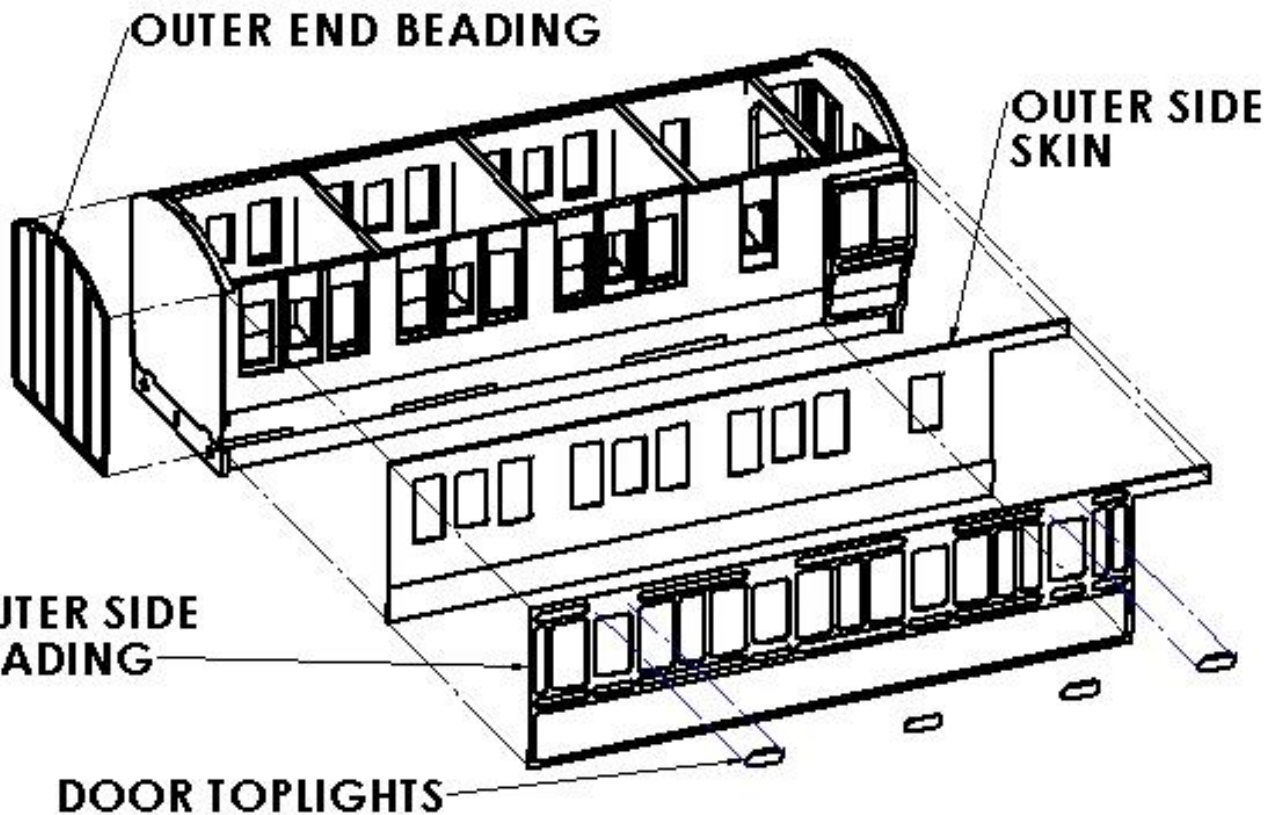
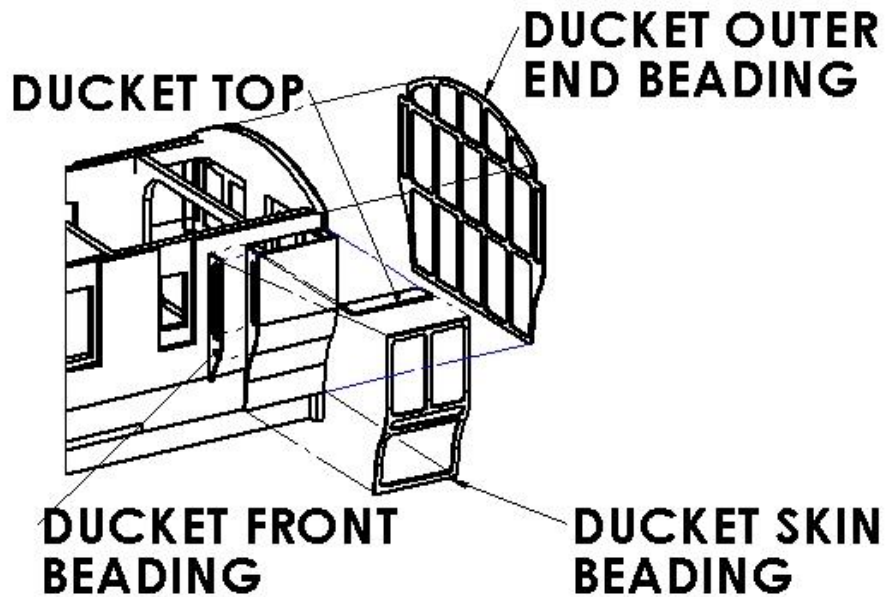


DUCKET SKIN

edges of the Ducket Inner End and the Ducket Partition, position the skin with the top edge flush with the top of the Partitions and using small pieces of packing, clamp the skin into position on the upper vertical section. Be careful not to clamp too tight and break the thin section in the Inner body. Then form the lower section to follow the curves on the lower section of the Ducket. It may be necessary to trim or sand a little section around the end of the Headstock to obtain a good fit. A piece of round wood dowel is useful to clamp the skin snugly into position against the shape. Allow the adhesive to fully harden before removing the clamps and moving onto the next stage.

Smooth the edges of the Ducket Skin by sanding with fine sandpaper then the Ducket Tops can be glued into position. The small cut-out in one corner are to clear the Outer End. Then the Ducket Outer End Beading can be added. The profile should line up with the roof curve and down both sides. Follow this by gluing into place the Ducket Front Beading, the profile is flush with the top of the Ducket Top and the Ducket Skin. Once these have been allowed to fully dry the Ducket Outer Beading can be added using a similar clamping process that we used on the Ducket Skin.

Next the Outer Sides can be fixed in position. Note the outer face has the door outlines engraved. Coat the outer face of the Window Frame with adhesive and run a bead of adhesive along the edges of the Outer Ends and the lower edge of the inner side then position the Outer Side. The top edge is flush with the top of the Inner Sides and the ends are flush with the Outer Ends. To form the tumblehome along the lower edge I find a piece of dowel about 10mm diameter is ideal for clamping the lower edge of the Outer Side while the adhesive dries. 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 body to ensure the Outer Side is flat against the inner structure. Pegs or clamps will hold the top edge.



The Outer Beading is added next, ensuring the ends line up with the Outer Sides and the top edge flush with the Outer Side. Once they are dry the End Beadings are fitted the edges are flush with the Outer Beading and the roof profiles matches.

The Door Toplights are glued above the window of each door and line up with the beading cut-outs along the length of the coach.

The Door Droplights are the final parts to be fitted to the body, they fit into the slot behind each door and are fixed into position with a little adhesive. Fit the glazing material of your choice behind the droplight, the slot is 1.5mm wide.

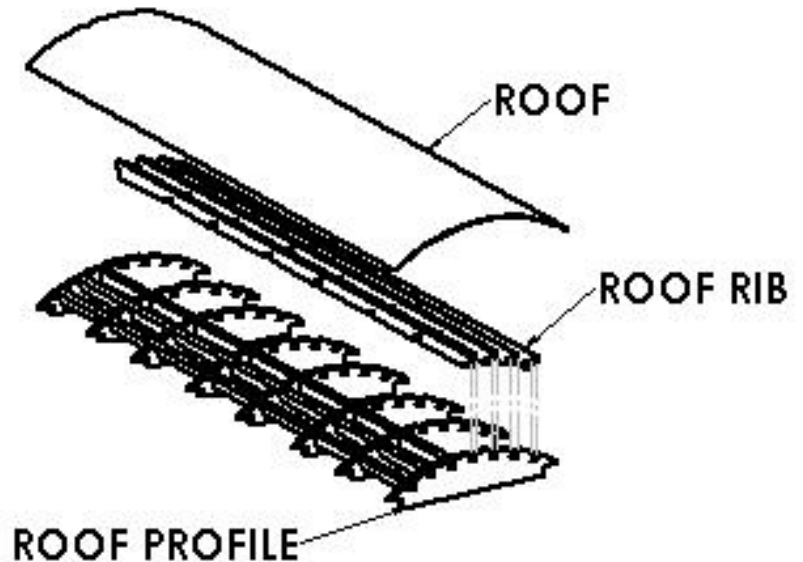
Roof

The Roof structure is designed to be removable in case there 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 Ribs are not proud of the profile.

Once all assembled, place a sheet of the cling film over the top of the coach 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, and refitted into the body assembly. 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 refit them together.

The Roof Covering is now fitted. The 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 it to a piece of tube. I use a drain down pipe in my workshop. 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.

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

KBW Kits are working on parts for running gear for both the 4 and 6 wheel coaches to utilise the cast whitmetal parts and wheelsets available from G1MRA Sales. Please see our adverts in the Newsletter or contact us for more details. Alternatively these are also available from a number of suppliers including Tenmille, Just the Ticket and Walsall Models.

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

westkev58@gmail.com

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