1931 STANDARD STOCK TRAILER CAR

PARTS LIST

QTY	DESCRIPTION	MAT.	REMARKS
2	Bogie support/floor	Resin	Note lettering on ends indicating orientation
2	Car ends	Resin	
2	Body long. halves	Resin	
4	Long. Bench seats	Resin	
8	Wide seats	Resin	“21.5mm” marked on back
4	Narrow seats	Resin	“X” marked on back
12	Door half bulkheads	Resin	
4	V2 Bogie halves	Resin	
4	Air pipes	LW	
2	Dummy ward couplers	LW	
8	V2 Axleboxes	WM	[The photographed build used lost wax brass]
2	12BA Nut, bolt, washer	brass	For ward coupler mounting
4	Split pin, small	copper	For chain mounting
4	4-link chain piece	brass	
2	10BA bolt long	steel	For bogie mounting
1	1mm Plastic card		164x52.5x1mm For centre car floor
1	0.5mm styrene clear		For glazing
1	0.5mm wire	brass	10 inches - For end handrails

Also required, but not supplied in the kit, will be wheelsets. We recommend 2 packs of Slaters 7130 [2ft8in LOWMAC disc type].

REFERENCES

The following will be found useful sources of background information:

“Standard” Tube Stock by Brian Hardy, in two parts. Published by the London Underground Railway Society. ISBNs 1-870324-15-3 and 1-870324-14-5

UT30, 7mm drawing 1931 Tube Stock available from www.terryrusselltrams.co.uk

INSTRUCTIONS

Firstly, I think it makes sense to read the entire set of instructions all the way through before touching any parts of the kit. This is one of the reasons why our newer kits have their instructions available as free downloads in *.pdf format from www.radleymodels.com

Having read the instructions:

Wash all resin parts with a “Cif” type mildly abrasive kitchen cleaner. **Do not** use “Fairy Liquid” type cleaners as their lanolin will leach into the resin and forever prevent paint and glue from adhering.

Using a very fine [800/1200] grade wet & dry paper, scalpel and/or needle file, remove any moulding pips and/or casting flash present. The pips tend to occur on those surfaces that will form the edges/surfaces to be glued together. Vehicle cabs and bodies tend to have a small linear ridge

of flash on the interior ceiling that should be removed. Additionally their edges have small pinhead sized projections formed as part of the mould extraction process.

Personally, I also run a fine grade of wet & dry over any pieces of wire as clean brass sticks better than tarnished brass.

I used 5minute Devcon epoxy for all of the vehicle's resin and lost wax parts. Hafix or Deluxe Thin Rocket Cyano is good for the handrails. Use this sparingly as any excess falling on the glazing material will cause it to "bloom". The glazing was fitted in place using Deluxe "Glue 'N Glaze" as this dries clear and works just as well on painted surfaces.

Carry out frequent dry run assemblies and identify which are the mating surfaces for each resin and lost wax part. Lightly abrade these using a piece of wet & dry.

For filler I used either Plastic Padding "Chemical Metal" or DeLuxe "Perfect Plastic Putty" depending on the depth of hole to be filled.

HISTORY & REFERENCES

The so-called "Standard Stock" was the last clerestory-roofed tube gauge stock to be built. It was built by a variety of manufacturers over the period from 1922 to 1934. Eventually it totalled 1466 cars of which 581 were trailers – the remainder being motorised driving cars and some unmotorised driving trailers.

The 1931 batch of trailers were the last trailers to be built and comprised two virtually identical batches; 90 being built by the Birmingham R&CW [Fleet numbers 7060-7149]and 40 by the Gloucester R&CW [Fleet numbers 7150-7189].
Externally the 1931 trailers differed from those preceding them by being slightly longer with tapering ends. Additionally their roofs had none of the small triangular air scoops found on earlier trailers and their bodies were flush sided with no prominent side ribs or rivets. Unlike most of the earlier trailers, these cars were built from new with single leaf end-doors.

From build to near their end after 1964, they operated almost entirely on the Piccadilly Line - though between 1964 and 1966 a few operated on the Northern city branch of the Northern Line. Half a dozen survived a little longer being used in the engineer's fleet e.g., 7071 which became a Personnel Carrier [PC855]. Another [7131] was severely cut down and became a tunnel gauging car [G663].

Note that no 1931 trailers were transferred to the Isle of Wight on electrification though 1931/4 driving cars were.

THE BUILD

Because the final result is a closed vehicle, some priming and painting will have to take place during the build rather than after completion. Whilst there are no doubt other ways of building this kit, the method described has the virtue of being tried and confirmed to work.

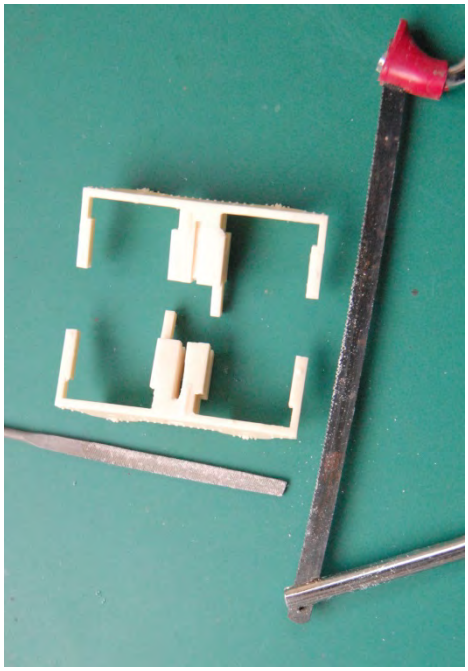
The build is divided into three parts viz., bogies, ends and main body with the components then being bought together at the end.

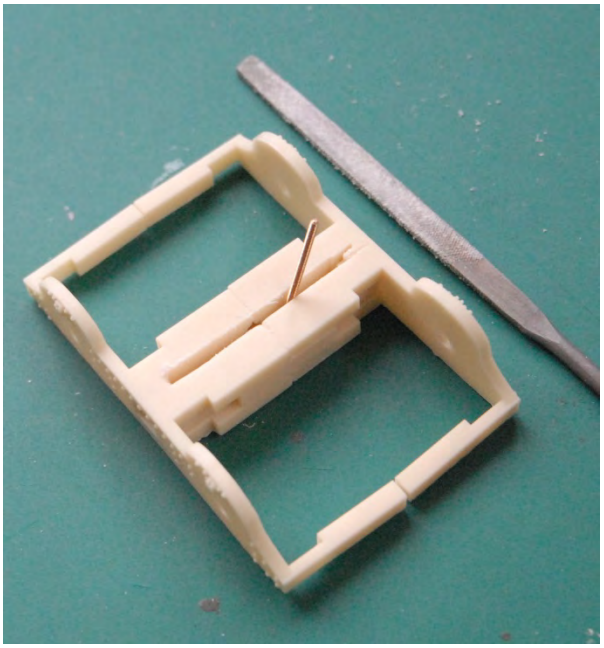
Bogies

The first thing is to modify the Slaters wheelsets. The axle stubs are too long to allow the cosmetic axleboxes to be fitted and need to be shortened uniformly so that the stubs are wholly within the bogie even allowing for sideplay.

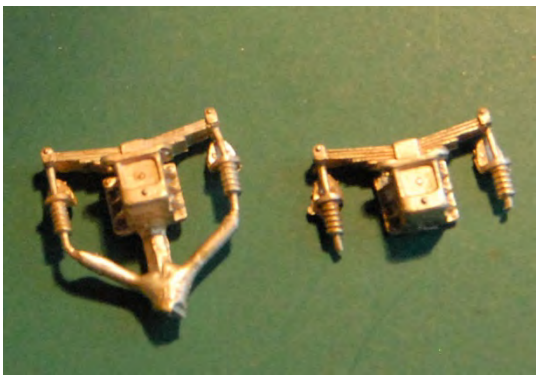
Measure off about 2.8mm from each end and trim using a slitting disc or file. The overall stub end to stub end measurement should be no greater than 42.5mm.

As supplied by Slaters, they measure 47.75mm overall as shown by the unmodified wheelset on the left above.



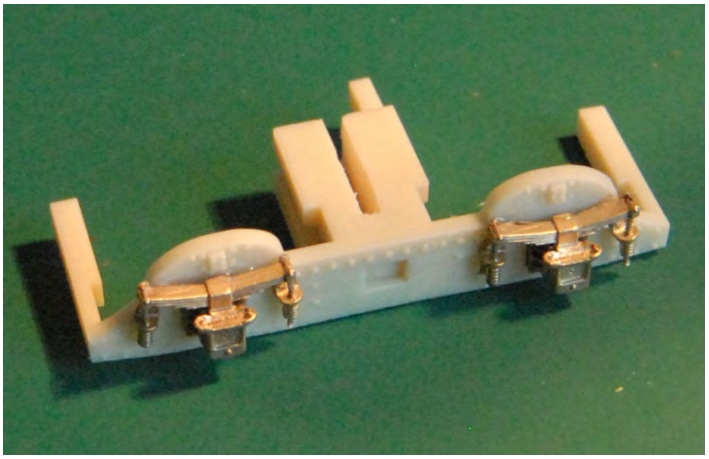


Using a piercing saw or junior hacksaw, open out the slot in the bogie halves such that a 10BA bolt will slide evenly and cleanly through the slit as shown above on the right. Do not glue the halves together yet.



Using a piercing saw or slitting disc, remove the brass sprue feeds from the 8 axleboxes as shown.

Ensure that the feed is completely removed from the back of the axlebox as well and that the surface is flat.

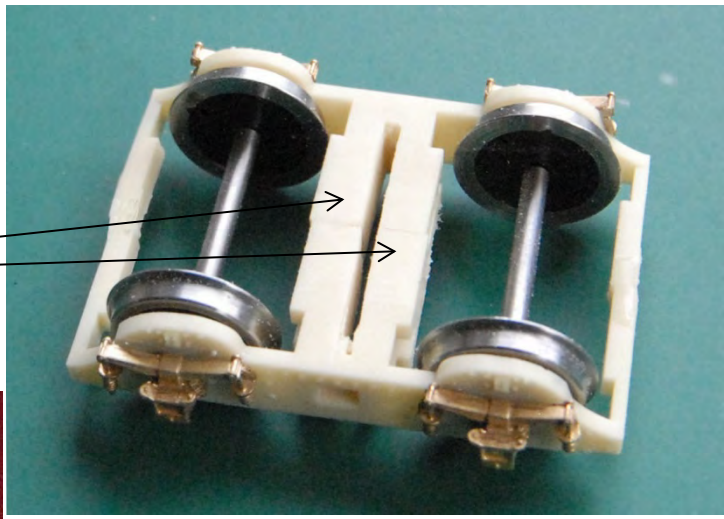


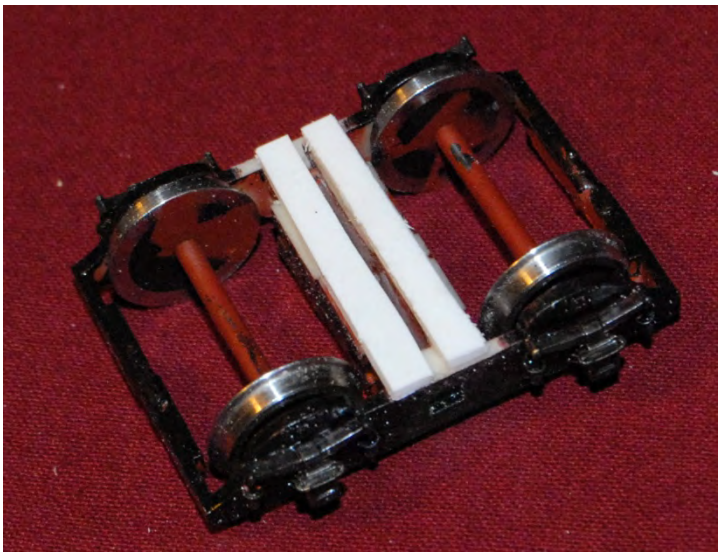
Glue two axleboxes in place on each bogie half as shown. Allow the glue to dry completely as you do not want it to interfere with axle rotation where it covers the hole in which the stub axle will pass.

Glue the two bogie halves together and whilst setting, trap the stub axles in their holes. It is a good idea to practice this in a dry run prior to actually using glue!

Taking a couple of strips of 60 thou plastic card, stick them on to these areas

Do not cover/obstruct the centre slit.

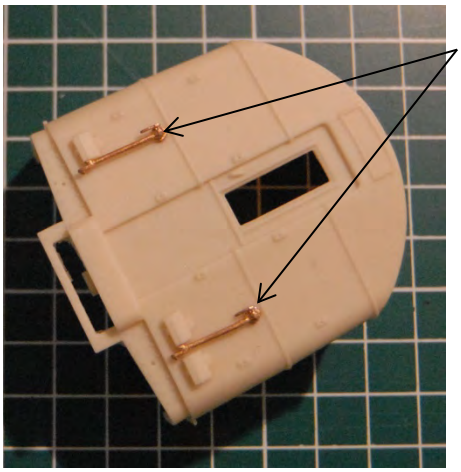




This effectively raises the body on the bogie to its correct ride height. Mask off the wheel tread and prime & paint the bogie.

If you feel the front framing of the bogie is unduly flexible then a “U” shaped piece of wire can be inserted around the join so that the whole becomes more rigid.

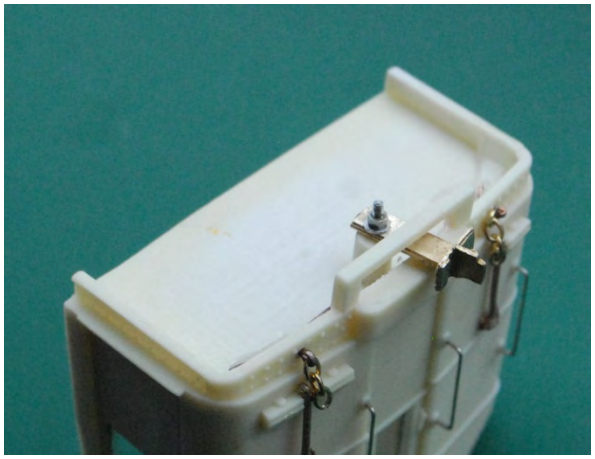
Vehicle Ends



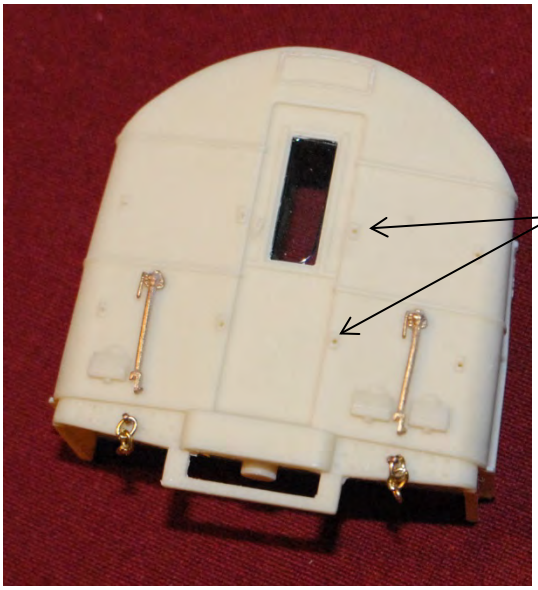
Like the bogies, both ends are identical. Using a 1.5mm drill, drill through these two dimples. Glue in the air pipes as shown. From the inside, trim off any excess mounting pin.

Using a piercing saw/slitting disc, remove the sprue post and trim the two dummy Ward Couplers [LT’s version of a buckeye] as shown by the upper of the two couplers. Drill a new hole as shown sufficient to allow

clearance by a 12BA bolt [1.25-1.3mm should be sufficient]. Using the same drill, drill vertically through the centre of the mounting boss underneath the car end.

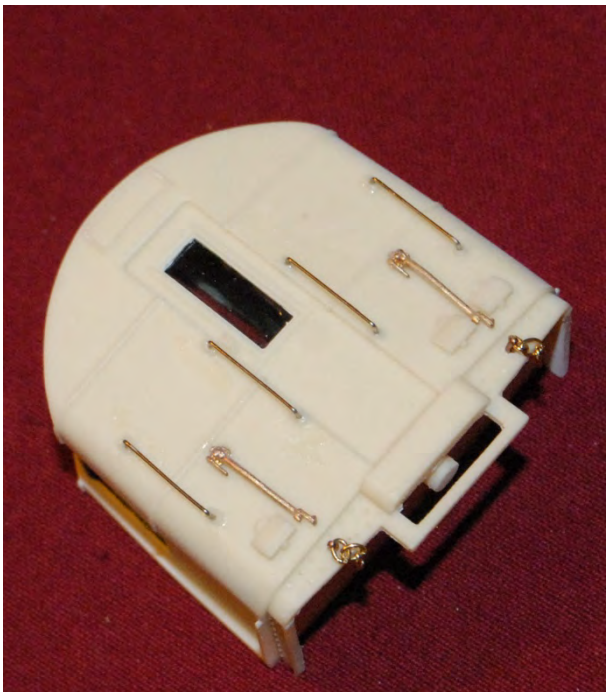


Pass a 12BA bolt through a washer and then through the drilled hole and then through the new hole in the shortened Ward coupler and secure with another washer and nut. Apply a drop of glue or solder to the nut to prevent loosening.



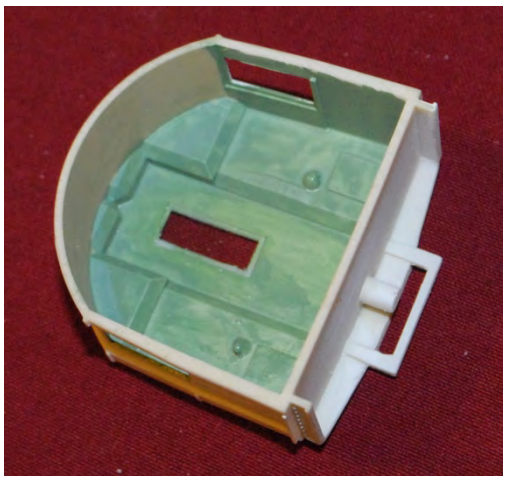
Drill out the two dimples on the solebar/Headstock below and in line with the air pipes using a 1mm drill. Take 3links of the supplied chain and secure the chain to the solebar using a small split pin as shown.

Next using a 0.5mm drill, drill out the holes for the handrails in the small rectangular platforms on the end. There are 8 holes in each end. Using the supplied 0.5mm wire, cut and bend a piece into a “staple” shape and glue into the holes as shown below.



Structurally the vehicle ends are almost complete.

All that remains is to paint the inside of the vehicle end:

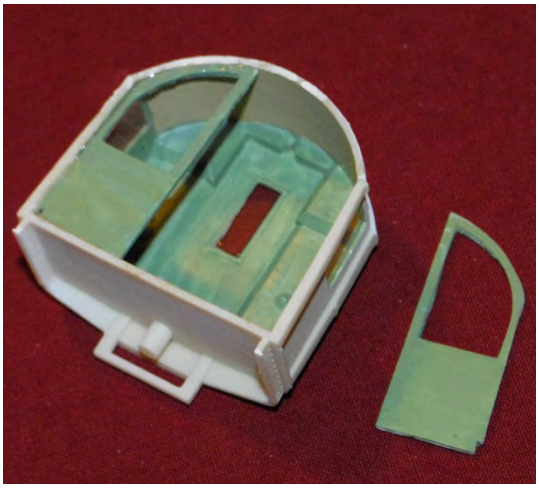


Prime and paint the roof cream. The doors and body up to the ceiling were painted “Cerulean Blue” which

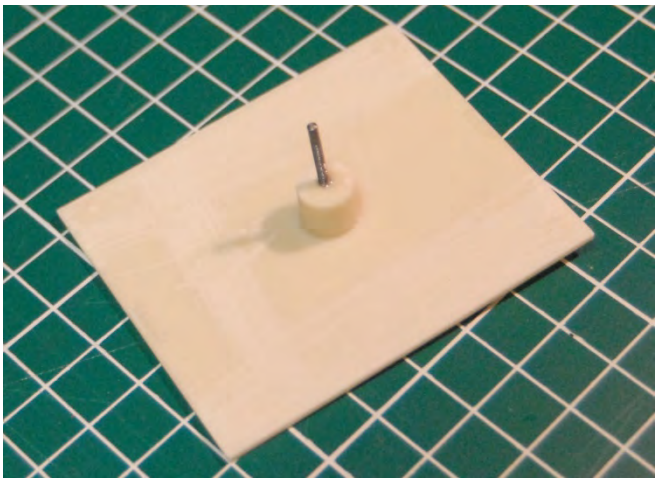
when these cars were running was actually a greenish shade of blue. It is unobtainable other than by mixing. I would suggest mixing 5 parts of Humbrol 89 to 1½ parts of Humbrol 69. The floor is a light shade of maple brown wood – I used Humbrol 93 with a dash of white in it.

Once the painted end is dry, glaze the three windows in each end using the supplied styrene sheet.

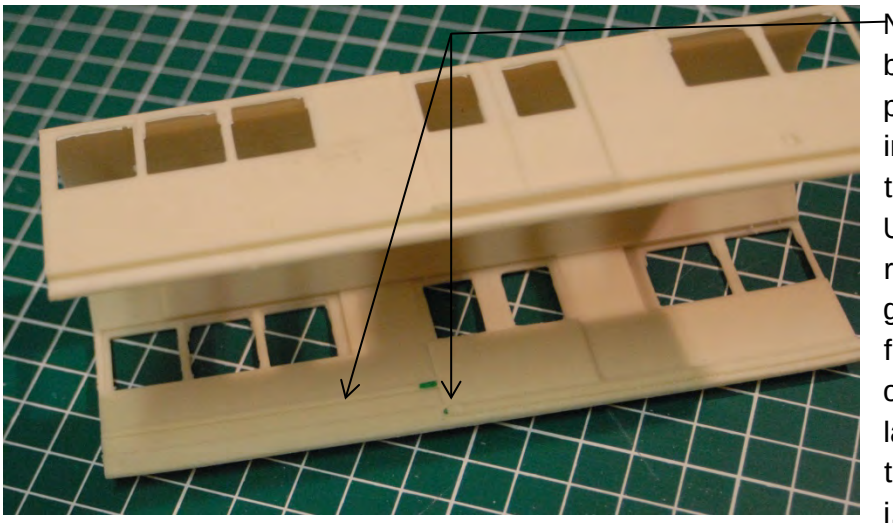
Next paint <u>four</u> of the half width bulkheads in the same Cerulean Blue mix - When dry, these are glued in place in the ends flush against the edge. *Note that some of these pictures were originally photographed out of sequence*. Note also that there is no need to glaze the cutouts in these doorspace hemi-bulkheads.



Body

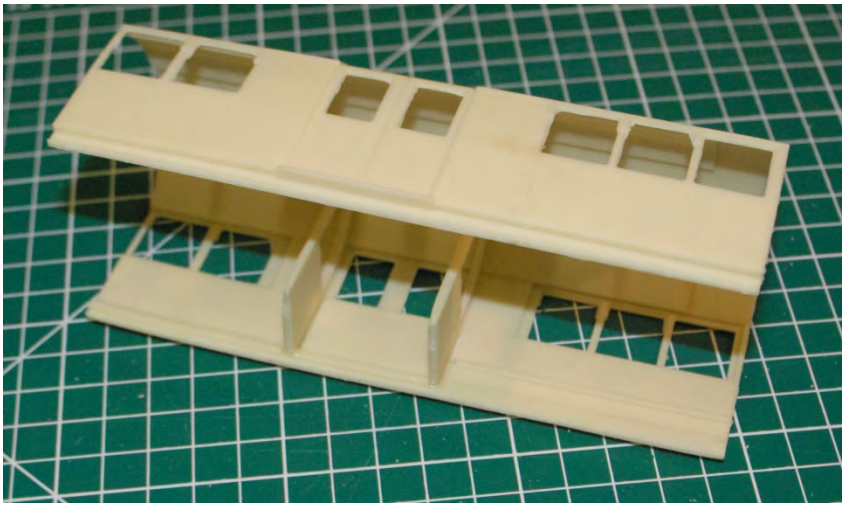


Take the two bogie support floor panels and using a 1.6-1.7mm drill, drill through the centre of the boss as shown. Glue a 10BA long bolt [steel ones are supplied] as shown. Note that the boss is positioned asymmetrically and that the floor panel has embossed lettering at the ends stating which ends are intended to point towards the centre or the ends of the car.

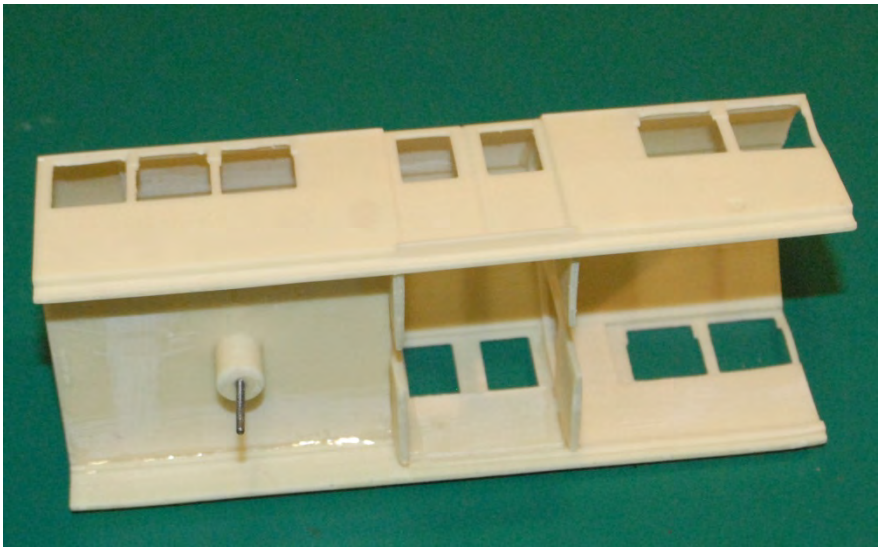


Note these two bits of beading. In their present position/extents, they will interfere with the placement of the half width door bulkheads. Using a sharp scalpel blade, remove the areas indicated green [on this photograph] from both sides of the car and on both body halves. The larger area is only the thickness of the door bulkhead i.e., around 2mm. Better to

remove too much than too little.

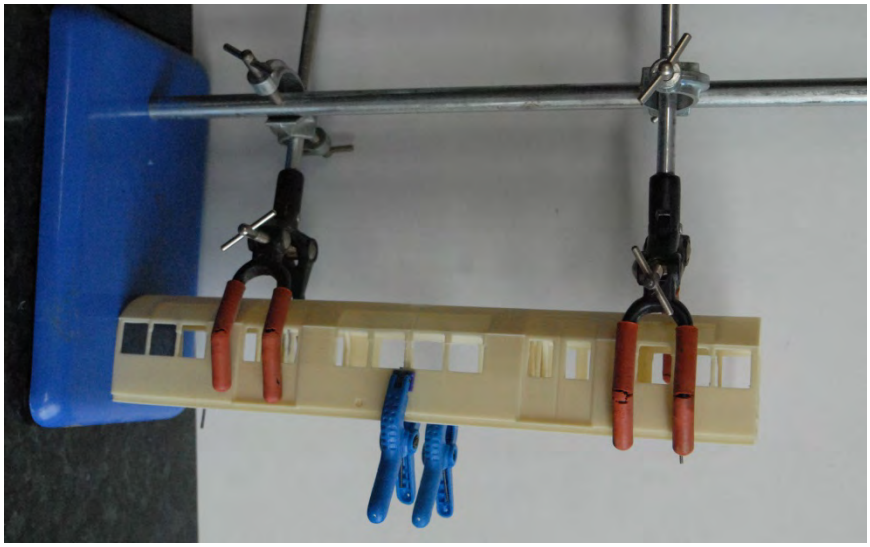


Glue in two door bulkheads as shown – use the outline of the door as a guide. Do a dry run – you may need to trim the square cut-out in the corner of the bulkhead slightly- where it fits around the beading/rib. I found I needed to use some filler in the gap between the bulkhead and the body side. I found it easier to spread a bit of runny epoxy there than try to use a thicker paste filler.



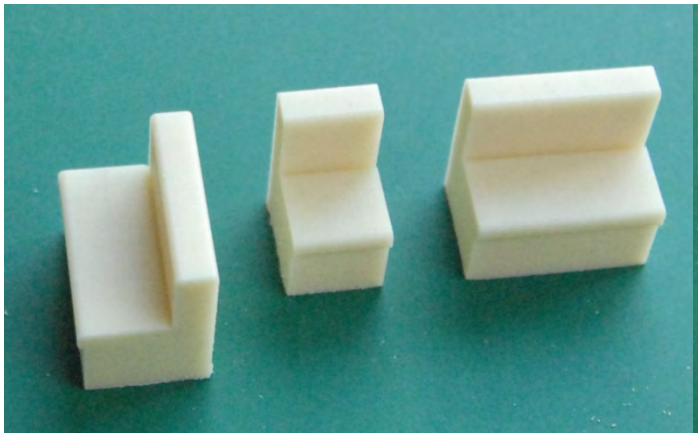
Glue in the two door bulkheads on the opposite side of the carriage half as shown. Next, after noting which end points towards the centre and which the trailing end, glue in the bogie base plate. *Note that the plate sits on top of the bodyside ribs and* ***not*** *below.* Note: The trailing end of the car half-body is the end with the three windows.

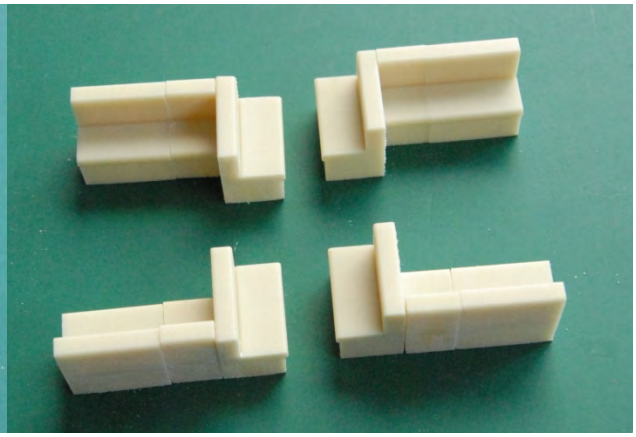
Should you find that the bogie plate overhangs the end of the car, this will have been caused by the positioning of the door bulkheads. It doesn't matter – just file/sand/shave off any such overhang at the trailing end as it may interfere with the fitting of the car ends.



Once the two body halves have been similarly treated, glue them together. Note that there should only be four windows between the two sets of double doors. I found the small sprung clamps [made by "Drapers"] and sold in B&Q et al very useful for maintaining alignment whilst the epoxy sets. They also have the advantage of having polythene pressure plates

which do not stick to epoxy. The school laboratory clamp/retort stand that was used to hold the carriage vertically was found in Yellow Pages!

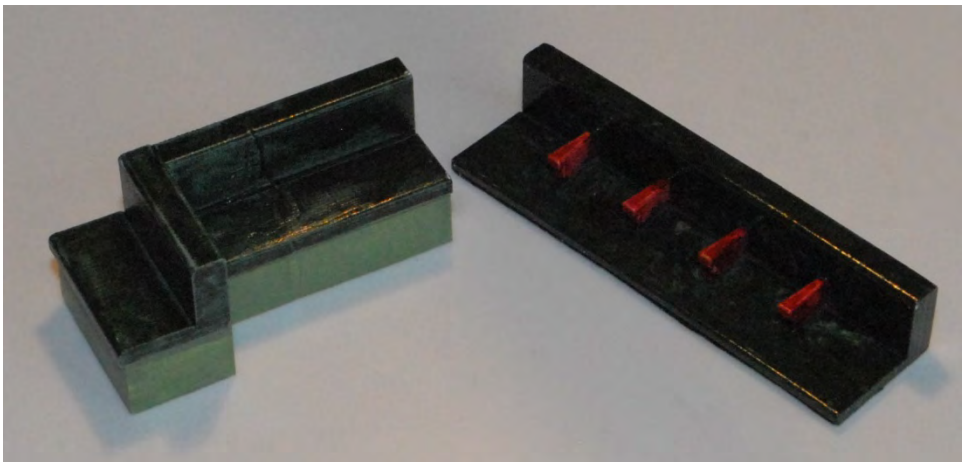




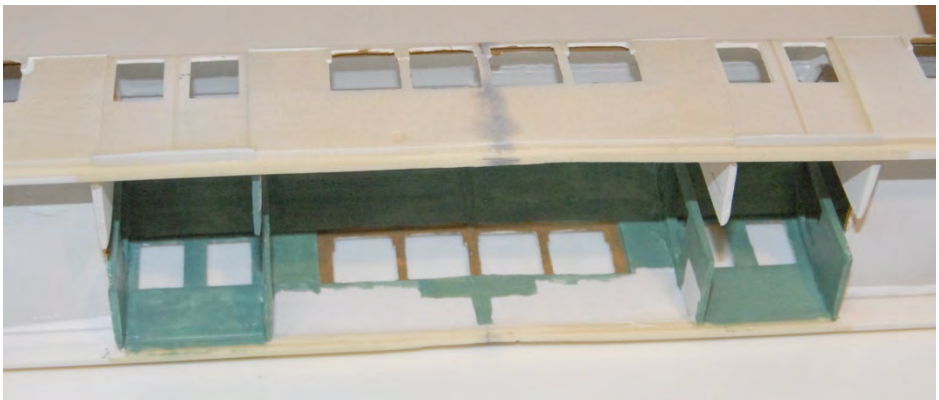
Seats

Take two wide seats and one narrow seat [as in the picture on the left above] and glue them together as shown in the picture above on the right i.e., in two mirrored triplets.

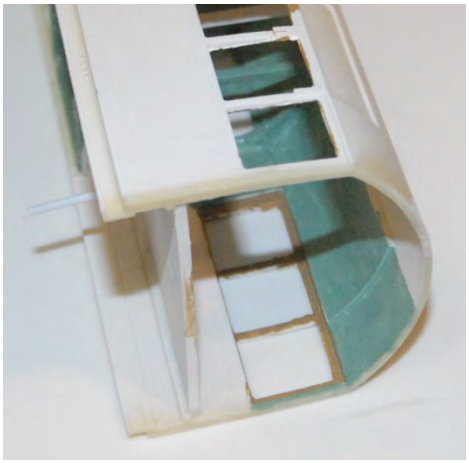
The moquette used for seating on the Standard Stock was generally a patterned green – rather like that on this sample motorman's chair found on the preserved 1927 driving car. I just used a light Brunswick green with a minimal amount of dry brushed red over it.



Paint the glued triplet seats and the long bench seats as shown. Note that Cerulean Blue has been used on the triplet seat bases. The bench seats are not full height as that would render bogie movement impossible – hence the bogie mounting plate acts as a false floor. On the prototype, removing the bench seat cushions and the metal plate below them gave engineering staff direct access to the wheelsets.



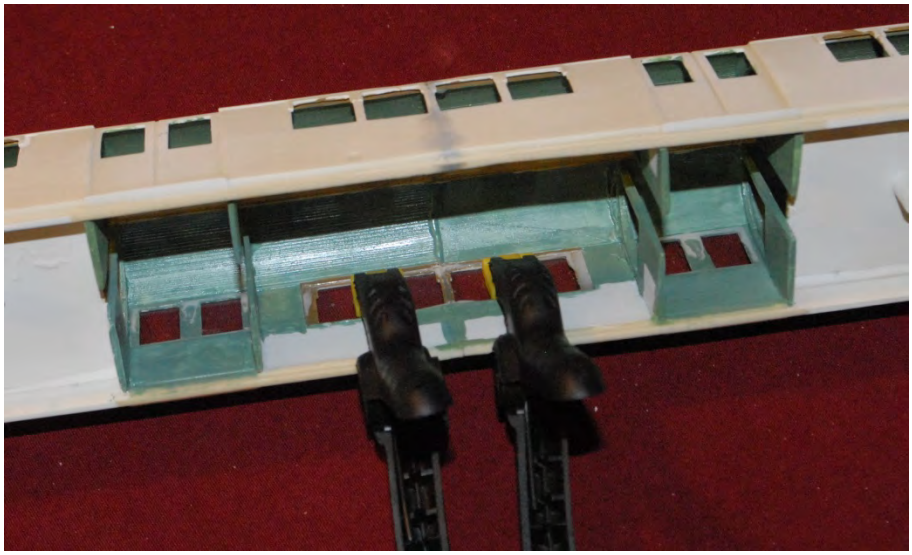
Prime and paint the car window frames and those areas of the car interior that are going to be visible once the seat units have been put in.

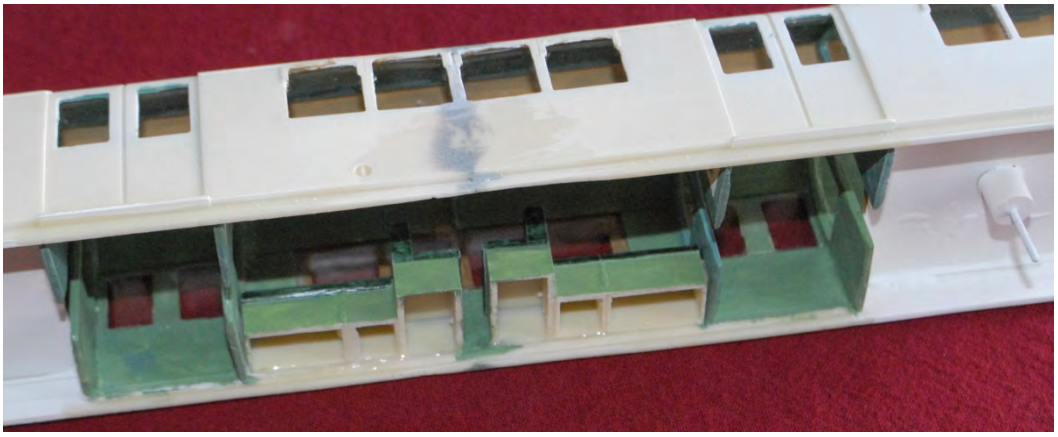


Glaze the body of the car as done previously on the ends. Again various sizes of these B&Q spring clips were found invaluable.

Leave overnight for the PVA glue to set hard – It will dry transparent.

Similarly paint the ends of the car and the floor and window frames.





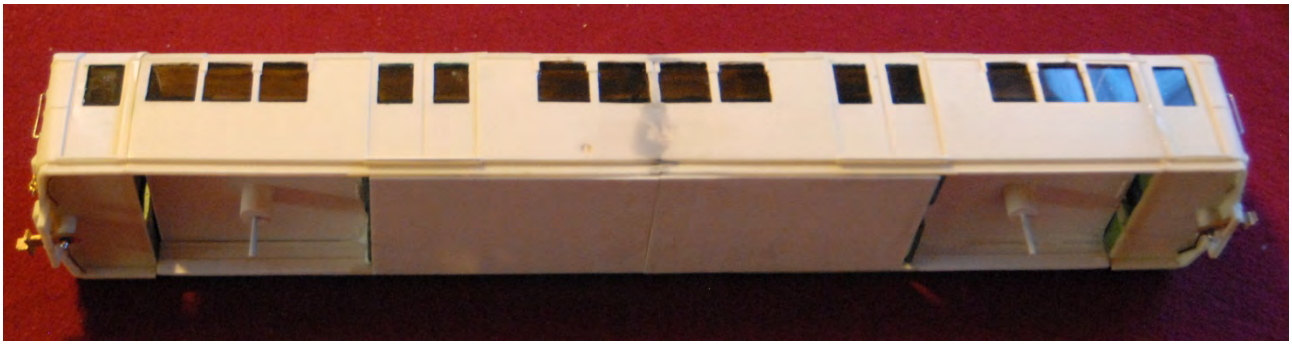
Glue in the centre seat units on both sides of the car.

Similarly glue in the bench seats in the ends of the car. Note which way up they go from the photograph!

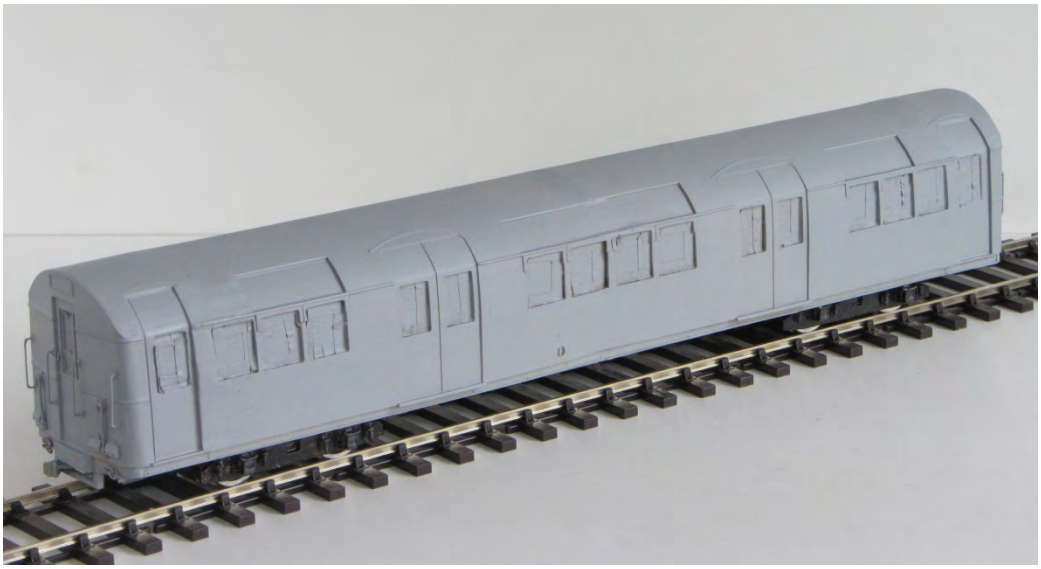
Assembly of Components

The ends should now be glued to the body. The ends and body cross sections are identical so will fit with minimal filling. However, the ends are closed loop structures whereas the body ends were designed that way, though could not be cast in resin as such. As a result, over time the resin parts will have become slightly squashed.

I found the easiest way to join the ends to the body was to do one at a time and to attach the lower vertical sides first.



Once these have set, the upper ceiling arches can be glued together. This may involve slightly squeezing the sides of the body together which should then allow the two shapes to match. Hold together till set and then use filler as required. Once filled as required, mask all the glazing and prime – I used Hycote grey plastic primer which is available as a spray can in many motor accessory shops.



Once primer is dry and any further filling requirement identified and carried out, the top coat can be applied.

The test build [below] was painted in the simplest colour scheme which is the post-1955 red scheme without any cream window surrounds. The references given at the start of these instructions will identify further [earlier period] alternative schemes.

We hope you have enjoyed building this kit. If you have any comments, please contact Radley Models via www.radleymodels.com or via telephone [Ringwood] 01425-479377.