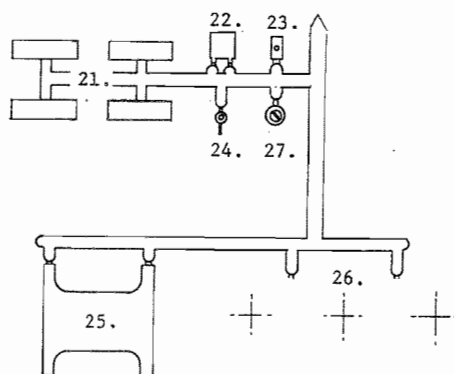


#### PARTS LIST.

1. Sides
2. Ends
3. Clerestory Sides
4. Roof
5. Brake Cylinder
6. Battery Box Backs
7. Battery Box Fronts
8. Step
9. Generator
10. Air Reservoir
11. Diaphragm Springs
12. Generator Switch Panel
13. Queen Posts (not used)
14. Bogie Spacers (not used)
15. Floor
16. Inner Diaphragm Plates
17. Air Reservoir Brackets
18. Outer Diaphragm Plates
19. Triple Valve
20. Ventilators



21. Clerestory Vent Covers
22. Ice Hatch
23. Truss Rod Anchor
24. Ventilator
25. Bogie Bolster
26. Bogie Sideframe
27. Water Filler

Models of Victorian  
Prototype  
Model Railway Parts  
and Accessories



C/- P.O. Rhyll, Victoria, 3923 Australia.

VICTORIAN RAILWAYS 'E' CLASS PASSENGER CAR.

#### PROTOTYPE NOTES.

The 71' clerestory roofed 'E' class passenger cars were introduced into service between 1906 and 1910. AE first class cars numbers 1 - 38 and BE second class cars numbers 1 - 39 were used on the Sydney and Adelaide expresses and, together with the 'W' cars, provided the backbone of the V.R. passenger stock for many years.

This kit consists of injection moulded 'W' class passenger car components and supplementary details. Because of differences in compartment sizes between AE and AW cars and between BE and BW cars, there are some compromises, but each coach is within 2% of the correct length so the difference is not too apparent. Because the sides, roof and floor need to be cut and spliced, some experience in "kit bashing" would be helpful.

AE numbers 1,3,12 and 36, as well as BE numbers 4, 19, 31 and 34 were air-conditioned in 1935/36 which altered their appearance considerably. Furthermore, AE cars 21, 26 and 34 were rebuilt into buffet cars Kiewa, Moyne and Taggerty respectively. Kiewa and Moyne were subsequently further modified to become 1 and 2 BG. AE cars rode on 4 wheel "Spirit of Progress" bogies from 1962 on.

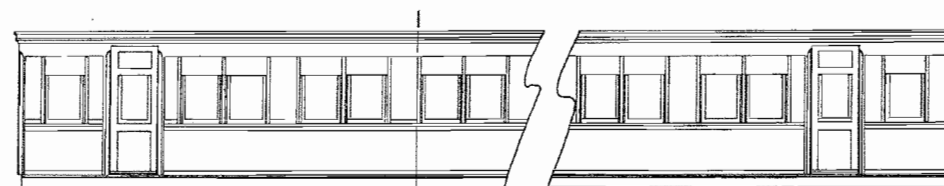
#### NECESSARY EQUIPMENT.

Tools required are a sharp knife such as X-acto or scalpel, a razor saw or jeweller's saw, an assortment of needle files, a pair of tweezers for applying small parts, your choice of liquid cement such as Testor's or M.E.K. with #2 sable brush for application and a tube of ACC type cement (Superglue).

To achieve good results with the cutting and joining of the sides, roof and floor, make an abrasive board by gluing a piece of 180 grit "opencote" aluminium oxide sandpaper to a flat piece of wood about 100mm x 300mm x 20 to 30mm thick. A piece of hard wood about 40 x 20mm x 200mm long planed square is used as a guide. By clamping the cut component to this guide with your hands and then sliding the guide and component back and forth over the sandpaper, neat, straight and square edges for joining can be formed.

#### 1. Preparation of Sides:

Make a cut in the first side between the last compartment window and the door at one end of the side and clean up the cut on the sanding board so that the final, straight, square edge is down the edge of the raised batten beside the window. Cut down the third compartment window of the second side and then clean up the cut so that this raised batten just disappears. Carefully cement these two components together to form a side with two extra compartments.



Location of join

Figure 1.

Use the offcut and the remaining side to produce another long side with the join in the 'opposite hand' position.

With the windows supported on a small scrap of 0.060" polystyrene, remove the horizontal bar and the mould gate that feeds it from each window with a sharp knife.

The moulding gate should also be removed from the back of the corner pillar at each end of the sides and the window sashes painted in a grey colour at this stage.

## 2. Installation of Windows:

Cut from the clear plastic provided, window panes measuring 15mm x 8mm for each compartment window and carefully cement them in the recesses in the back of the sides. Cut four further windows 7mm x 8mm for the end compartments. These should be painted a pale grey/white on the inside after cementing them in place.

Cut four windows at 6.5mm x 4.5mm and four at 6.5mm x 8mm and cement in the upper and lower apertures of the side doors respectively.

Finally, cement two windows each 5mm x 7mm behind the apertures in the end doors.

If the model is to be spray painted, mask the window sashes and the upper windows in the side and end doors with tape.

## 3. Queenposts and trussrods:

Drill number 77 holes in the centre of the side sill 48mm from each end and file two notches in the back face of the side sill in the position shown in Figure 2. To achieve the correct depth for these notches, hold a scrap of 0.010" plastic on the back of the side and file down until the file is just starting to cut this plastic.

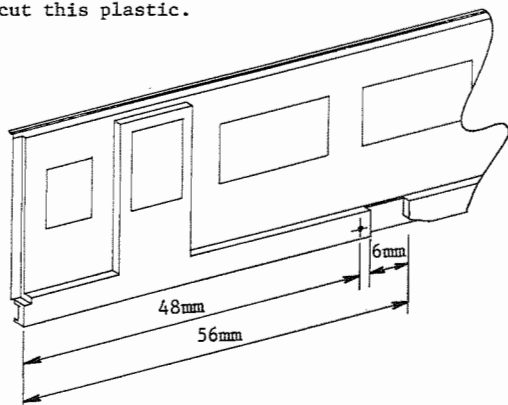


Figure 2.

Cut the four queenposts from the runner and clean any flash from the castings. Pay particular attention to the notches in the bottom section so that the nylon truss rod material can sit in properly.

File the 'draw' or slight taper off the bottom edge of the sidesills where the queenposts will be located and check the fit of the queenposts before cementing them in the position shown in Figure 3 with Superglue.

Thread a length of the nylon fishing line provided through a black painted turnbuckle and then through the holes in the side sill. Run this nylon straight along the side sill and secure it on the back of the side sill with Superglue. When the ends are secure, stretch the nylon up and over the queenposts, positioning it in the outer notch of each queenpost. The inner trussrods will be installed after the floor goes in.

back of each axle box. Glue the bolster to the lugs on the back of one sideframe. The cylinder moulded on one face of the bolster should be on the underside. Place the wheelsets on a short length of track and position this subassembly with the axle ends in the axle boxes. Glue a second sideframe to the bolster. Check that the brake shoes clear the wheels and the bogie rolls freely. Cut four lengths of 0.020" plastic rod each 20.5mm long. Thread them through the holes in the brake shoes and cement in position to represent the brake beams. This rod should project from the face of the brake shoes by 0.25mm.

## 11. Couplers:

Attach couplers of your choice. The underframe is designed to accept Kadee #5.

## 12. Painting:

Body sides and ends are VR Coach Red, available from Steam Era Models in a spraying enamel. Underframe and equipment and bogies are black. Prior to about 1960, the roof was an ochre colour with Coach Red on the sides of the clerestory roof. After that date, the entire roof was painted dark brown. Position the decals provided as shown in Figure 13. Appropriate numbers are AE 1-38 and BE 1-39 although the numbers mentioned in the "Prototype Notes" should not be used. AE 5-10 and BE 5-10 were V&SAR joint stock cars.

Overspray the model with flat or satin clear to hide the decal film and remove the masking from the windows.

Note that if the turnbuckles are masked when the underframe is painted, the clear nylon will give the appearance of a break in the trussrod.

Class and number centred on letter board.

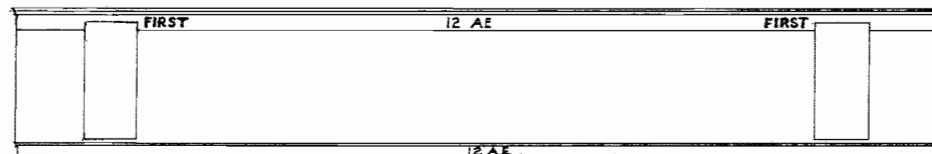


Figure 13

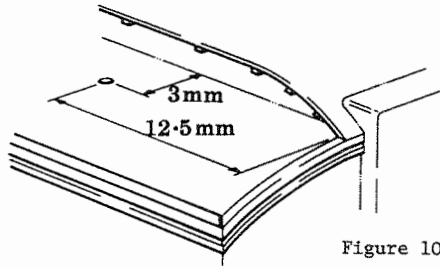


Figure 10.

8. End Detail:

Remove the runner from the openings of inner and outer diaphragm plates. Telescope the inner and outer diaphragm plates into one another and check that the two parts can move in and out freely. Carefully file the curved guide at the top of the outer diaphragm plate, if necessary. When everything is operating smoothly, cement one diaphragm spring to each inner diaphragm plate, located in the channel section at the top.

Colour some lightweight tissue brown with a "texta" and cut a strip 23mm wide. Fold the strip into a concertina with each fold about 1.5mm apart. Cut four sections from the strip, each with four folds and three reverse folds.

Carefully cement the folded strips of paper each side of the diaphragm plate assemblies, as shown in Figure 11. Cement the assembled diaphragms to the ends.

Cement the end step to the place provided, to the left of the diaphragm on the B end. (See Figure 12.)

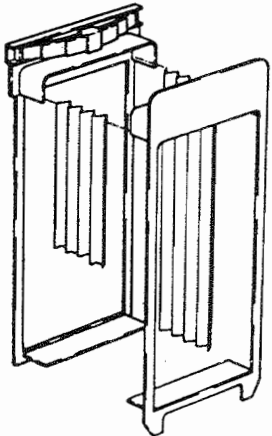


Figure 11.

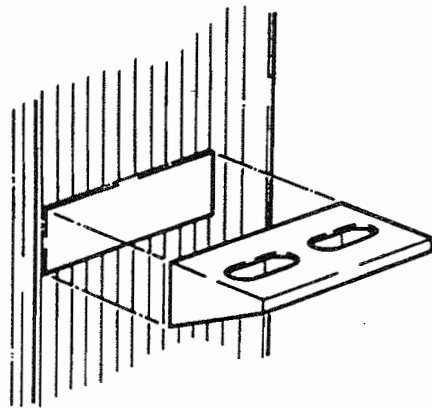


Figure 12.

9. Handrails:

Cut eight lengths, each 17mm long from the 0.010" styrene rod provided and cement to the ends of the handrail stanchions either side of the vestibule doors.

10. Bogies:

Carefully cut the moulded hooks from the back of the brake shoes and coil springs. Press one of the delrin bearings supplied into the hole in the

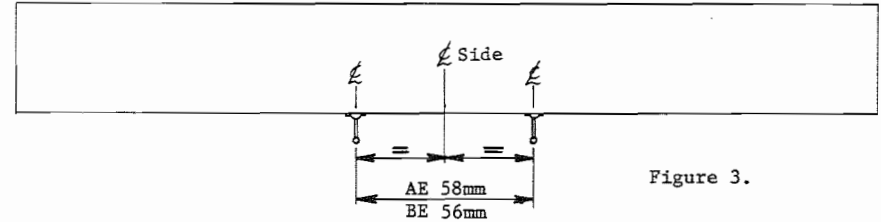


Figure 3.

Secure the turnbuckle to the trussrod, centrally between the queenposts, with a drop of Superglue.

Four channel shaped truss rod anchors are provided. Cement one centrally over the point where the truss rod goes through the hole in the side sill at each end of each side.

4. Assembly of Body:

Check the fit of the sides and ends and file the corner until a satisfactory fit is achieved. Cement the sides and ends together to form an open box.

Cut and join the two floor sections together as shown in Figure 4. Test fit the floor in the assembled body as it may be necessary to file the edges to clear the queenposts.

Use one corner of a triangular needle file to file notches in the edges of the floor, 53mm from each end. Temporarily install the floor in the body and check that these notches will allow the nylon truss rod material to be pulled through.

Location of Join

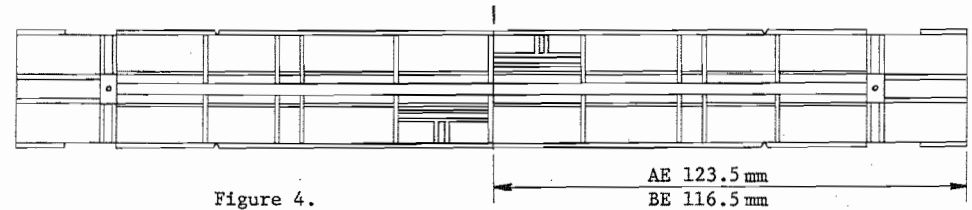


Figure 4.

File down the centre sill in the region of the bolsters and use a sharp chisel to shave down the moulded-on underframe transom as shown in Figure 5.

When this work is completed, cement the floor into the body.

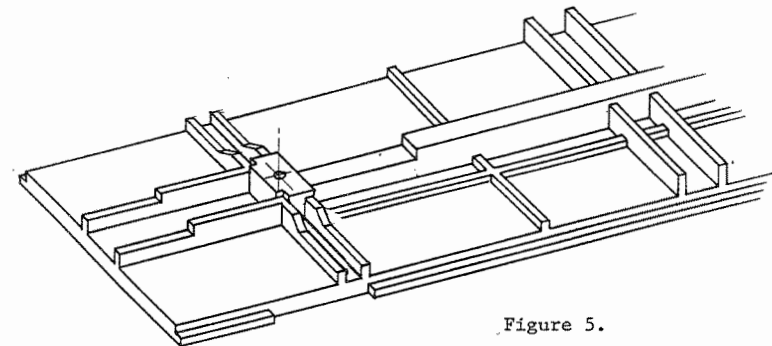


Figure 5.

5. Detailing the Underframe:

Paint a turnbuckle black and thread it on to a length of nylon. Thread the nylon through the notch in the floor next to the side sill and anchor it with Superglue. Thread the other end through the floor at the other end of the car and pull the nylon straight along the side sill before anchoring it with Superglue. When both ends are secure, stretch the nylon up and over the queenposts and position it in the notches. Secure the turnbuckle centrally between the queenposts. Repeat for the other side.

Cut lengths of the 0.040" square polystyrene strip and cement them together as shown in Figure 6. Make two assemblies and cement them to the floor, one on each side of the centre sill, as shown in Figure 7. The uprights should be in line with the queenposts. Because of the taper moulded into the centre sill, these parts will not be square to the floor, so allow plenty of time for the cement to dry before gently bending them outwards. Cut four pieces of the 0.040" square strip and cement them in position, as shown in Figure 7. The outer ends should rest on the remains of the underframe transom cut down earlier.

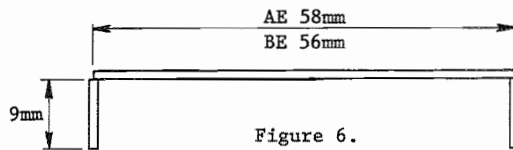


Figure 6.

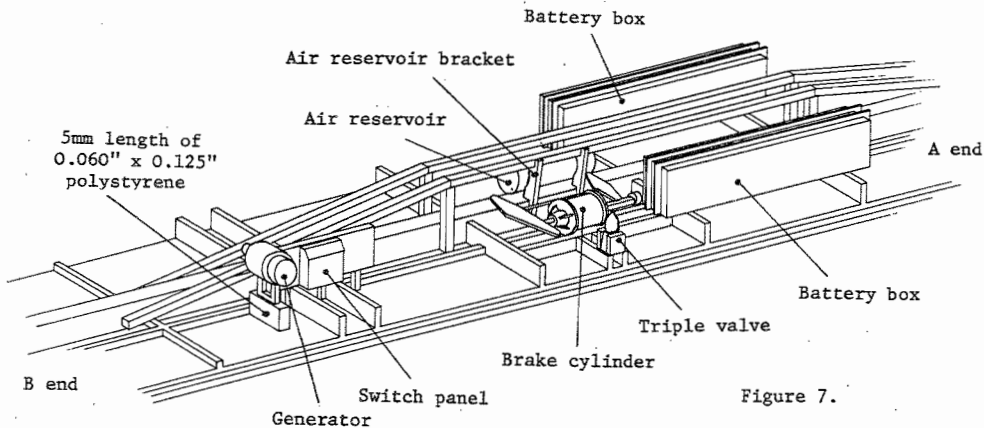


Figure 7.

Remove the air reservoir and reservoir support bracket from the sprue. Cement the reservoir centrally to the support bracket in the curved recesses. Cement the reservoir and its bracket to the underframe in the position shown in Figure 7. Note that the reservoir is fixed to the underframe closest to the end of the body that features the moulded-on passenger emergency valve detail. (B end.)

Cement each battery box front to a battery box rear, making sure that the edges are even. Cement the assembled boxes to the underframe with the detail facing outward and one end in line with the queenposts, as shown in Figure 7. The detail face should be set back 3mm from the back of the side sills.

Cement the brake cylinder and triple valve to the underframe, as shown in Figure 7.

Cement a 5mm length of 0.060" x 0.125" polystyrene to the floor to provide a support for the generator before cementing the generator and switch panel in place, as shown in Figure 7.

6. Interior Detail:

Basic interior detail is provided in the form of a printed cardboard sheet from which compartment and corridor partitions, as well as the toilet and washroom compartments, can be constructed. Cut the components from the sheet, using a sharp knife and arrange them in the car interior, as shown in Figure 8. Enough material is supplied to enable the corridor wall to be extended by two compartments. The washrooms can be constructed from plain offcuts to match the toilets. Note that the corridor is on the right when looking from the B end.

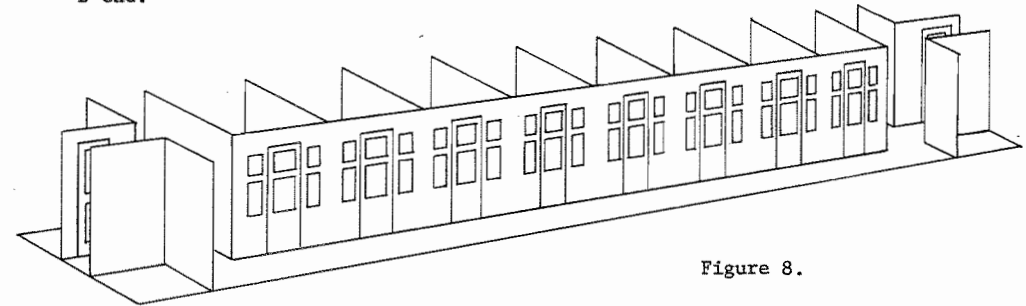


Figure 8.

7. Roof:

Cut two sections of roof and clean up the cut ends so that, when assembled, this extended roof will just fit between the ends of the body. Make sure that the water fillers are on the same side at each end. Cement the roof in place with the water fillers biased towards the corridor side.

Cut and join the clerestory sides so that each is extended by two compartments. Cement the clerestory sides to the sides of the roof. Fill the joins and sand smooth.

Cement two water fillers and two ice hatches to the roof, in the positions shown in Figure 9.

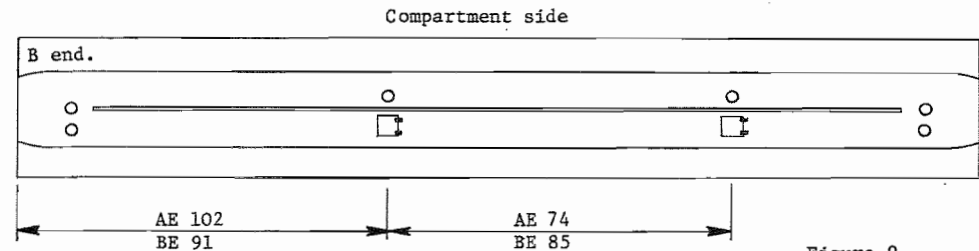


Figure 9.

Cement a clerestory vent cover to the clerestory sides centrally over each compartment. The notch in the back of each moulding assists with correct positioning.

Mark and drill a #70 hole at each end and on both sides of the roof and cement a ventilator in each hole. Figure 10 gives typical dimensions.