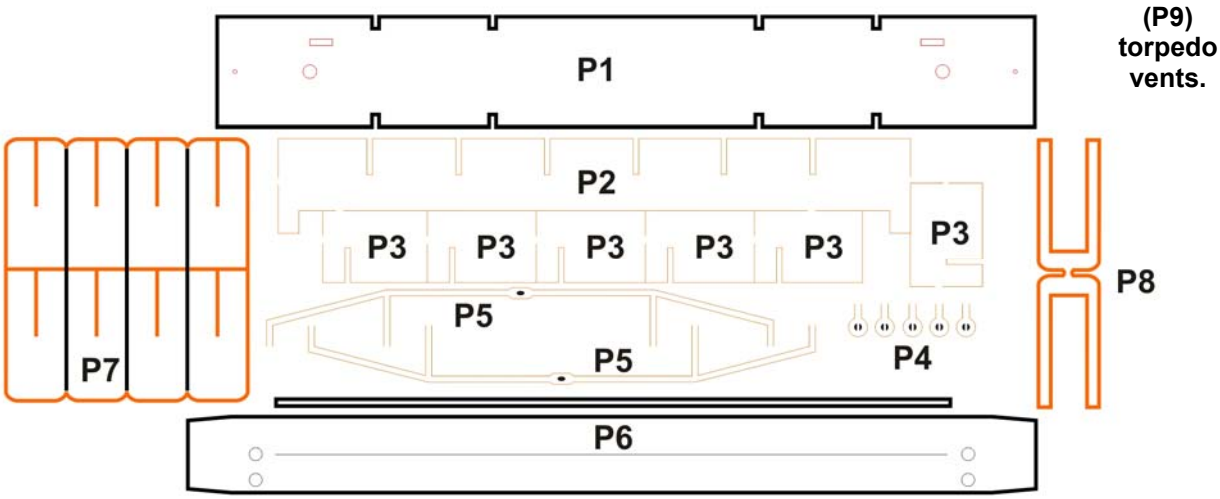
Resin-AW/BW/ABW - Victorian Railways 58ft W series 1st & 2nd class passenger cars.

5 BW at Spencer Street Station, courtesy Mel Skinner

Basic history notes: Between 1911 and 1918, the Victorian Railways Newport Workshops built the smaller 'W' type country carriages, inspired by the design of the larger 'E' cars. These included 'AW' cars with six First Class compartments, 'BW' cars with seven Second Class compartments, and 'ABW' cars combining three First and four Second Class compartments. Externally, they closely resembled the 'E' cars but were better suited for cross-country and branch line services where larger vehicles couldn't operate. For more than 75 years, these carriages formed the backbone of First and Second Class country passenger services. With the introduction of modern V/Line rolling stock in the 1980s, the 'W' fleet was gradually withdrawn, scrapped, or acquired by preservation groups.

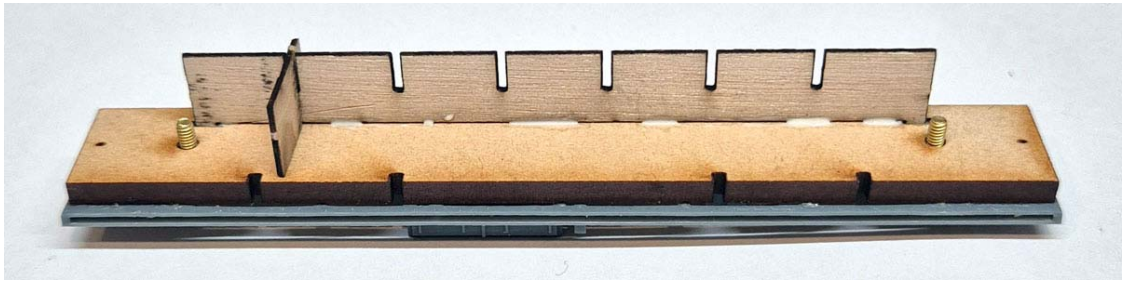
Equipment & Materials: Exacto knife (blade no 16 or similar), 800-grit aluminium oxide sandpaper, small flat needle file. The glue referred to in the text is fast-drying wood glue - MDF PVA. ***Note, you don't have to use the window glazing or torpedo vents. The vestibule concertinas make uncoupling more difficult, but they look more prototypical. The choice is yours.***



Assembly Instructions for AW, BW & ABW 3D resin carriages

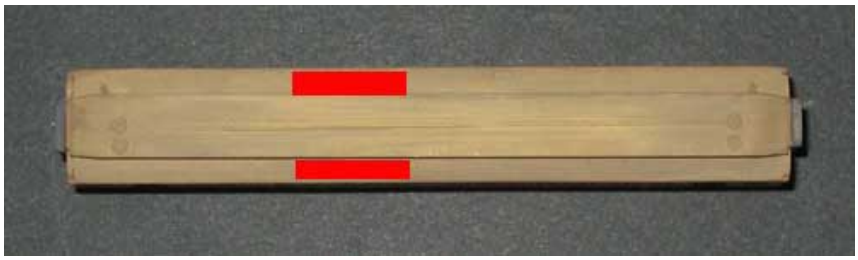
1. Gently separate (don't force) the underframe from the carriage side after undoing the bogie screws, lifting the 3D printed underframe detail from the MDF floor and then removing the floor using a screwdriver into either of the 2 slots
2. Glue the 3D underframe to the MDF base using the 2 bogie screws to aid alignment. Note that the underframe is wider and longer than the MDF base and should sit evenly on the sides
3. Cut the truss rod ends **(P5)** free from the ply and glue them into the 4 holes on each side of the carriage base. There are two rectangular objects next to the battery boxes that will aid in positioning the truss rods' final height. The black dots in the circular parts of the truss rod face out towards you

4. Paint the whole assembly, Matt Black
5. Glue the corridor partition **(P2)** into the slots provided in the MDF base **(P1)**
6. Glue each partition cross member **(P3)** into a slot – see photo below(not painted for clarity), and once dry, test fit the assembly into the body and make adjustments if necessary



Roof:

7. Glue (PVA) the clerestory top **(P6)** (0.3mm card) to the carriage's body, ensuring it follows the contour of the roof and there is an even overhang along the length. The scribed lines face up as parts are to be glued to these reference marks
8. Glue (PVA) the thin 1mm supplied card strip to **(P6)** following the scribed line. AW&BW central ABW requires adjustment to match the line
9. Cut the 4 water filler hatches **(P4)** where the circle meets the leg in the ply and glue these to the marked circles. See photo below
10. Using the RHS side of the toilet window frame as a guide, drill a hole 0.5mm and space it 5mm in from the edge of the roof near the end wall **(P2)** and centrally between the outer roof edge and the clerestory side wall **(P9)**. Repeat for the other torpedo vent. See the photo of a Laser kit BE below for a visual aid



A BW body shown minus paint and bogies for clarity

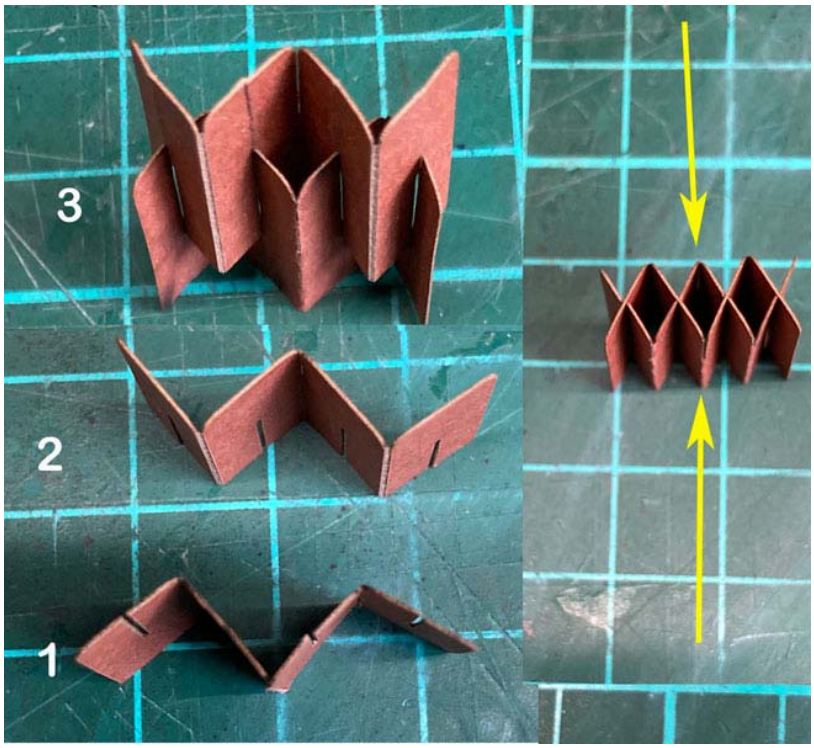
Body:

11. Paint the body Steam Era carriage red or similar, and once dry, mask and paint the window surrounds Humbrol 40 with a few drops of dark brown or use Tamiya grey primer

12. Glue the window glass into the recess provided in the carriage interior and use Kristal Klear for the others

13. Paint grey on the last 2 windows on the side below the torpedo vents – see photo page 4

Vestibules and buffing plate: (P7 & P8) (optional parts) ***don't use if you have tight radius curves on your layout***



14. The vestibule concertina comprises two parts, the upper and lower portions. Both items need to fold into a 'W' shape as seen in the photo. The lower section (1) has slits at the top, and the top section (2) has slits at the bottom, which allows both parts to be inserted into each other to form a 'W' as indicated by the number (3) in the picture. It is fiddly to do, and once completed, compress the concertina section until it is almost flat. Cut the completed assembly at the yellow line so that you end up with 2 separate halves

15. Using PVA sparingly, glue a buffing plate **(P8)** to one half of the vestibule concertina. The rounded top edges of the buffering plate match the rounded edges of the vestibule concertina, and each completed assembly is glued to a rear-end walkway door. **(P8)** The buffing plate, 0.6mm plywood, should be painted black or use a black 'Sharpie' and glued to the face of the vestibule, matching its shape. See photo of 15BW below

Bogies:

16. Trim the flanges off 4 old Micro Trains pizza cutter wheels and insert them into the bogie's non-'V'-grooved side first. Removal is the reverse

17. Paint the bogies black whilst avoiding paint getting into the axle box, and after drying, insert the metal wheels as above with the non-V-grooved side first

18. Screw the bogies perpendicular to the base, making sure the screw doesn't wander. It helps to put a dob of PVA on the thread and then do up the screw so the bogies turn easily but not wobbling, and set aside to dry

15BW waiting at Spencer Street Station Circa mid 80's.

Photo courtesy Mel Skinner

Body painting: Because 3D-printed carriages aren't as flat as earlier laser-cut kits, the mask may not sit perfectly in the window openings, and touch-ups might be needed after spraying. On the right side of each mask, a notch in the lower corner indicates the bottom.

Peel the 'Smokey Grey' adhesive from the 'Quick Mask' sheet, leaving the window inserts behind. Hold the ends and align the mask over the carriage, using the window cutouts to match the top edges of the window frames. This will expose the frame sides and bottom for painting.

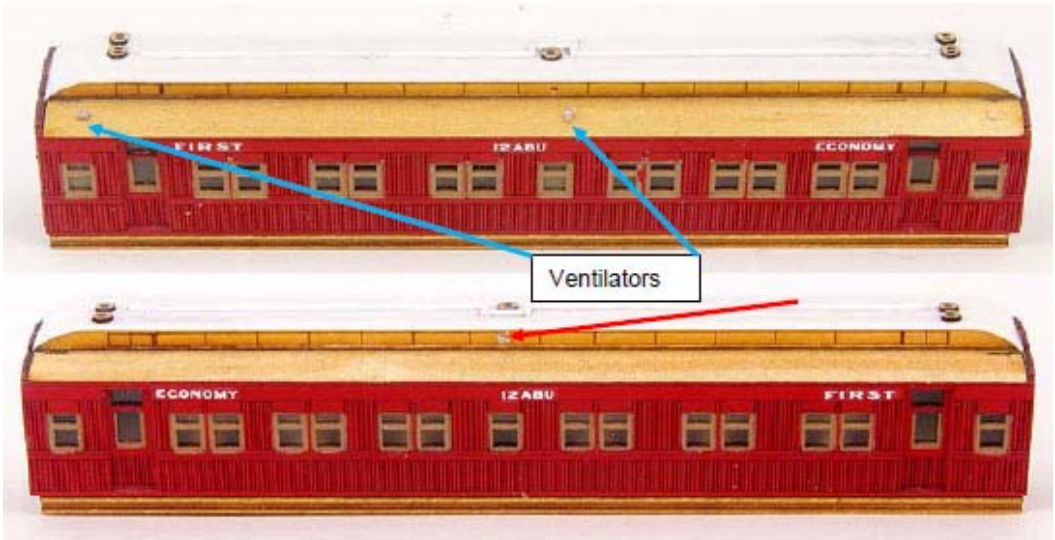
If the mask seems short, gently stretch it or cut it into sections for easier placement. Use Tamiya tape to cover any areas the mask doesn't reach. Repeat for the other side. The centre bars are easily touched up with red paint applied with a toothpick end.

No paint should end across the top of the window frame – see the prototype photo above for reference.

Roof: After masking the sides and ends, use Tamiya TS-69 or a similar product to spray the roof.

Final assembly: Orient the underframe so that the battery boxes (shown in red in the photo above in step (10) are on the correct side with the roof. Test fit the underframe assembly to ensure proper alignment, then secure it in place using MDF PVA glue. Do not force the underframe assembly into the body. If tight, insert at the opposite end and slide the whole unit along until it sits home.

Decals: Using the prototype photos above, position the decals accordingly. Also, you can use the spare 'BW' sets from the numbers provided. AW use 'First' decals in place of 'Economy'. ABW decals see below



For more information and photos, see Mark Bau's http://www.victorianrailways.net/ or Peter Vincent's http://www.pjv101.net/index.htm