



## 1051 - Victorian Railways 50ft 2in bodied 'V' series passenger carriages Requires Microtrains 1015 or 1023 couplers to complete.

Thank you for purchasing this kit and I hope you get many hours of enjoyment from it. Chris Pearce (Spirit Design)



35AV at Newport courtesy Rob O'Regan

**Basic history notes:** Between 1897 and 1900 various Butty Gangs built for the Victorian Railways at the Newport workshops 50ft 2" passenger carriages which would be later known as the V cars. They would serve the railways well into the 1960s even though they were supplanted by the more modern 'W' and 'E' cars just over a decade later after being built. V cars were fitted with lavatories and WCs for both men and women and were appreciated by the travelling public on long distant trains. Car access was via the end doors or outward swinging doors similar to the Doggies of the suburban stock. During the 1960s scrapings commenced even though they were used frequently on Vintage Train Specials throughout the state. A few lone survivors exist today but are in such poor condition due to not being undercover or repainted since the 1990s they may well vanish entirely from the railway scene.

You will be building a kit that is based on units running in the 1950s-1960s and the instructions cover AV, BV and ABL versions as the construction is the same only the sides alter in appearance.

The kit can be put together in under 2 hours over a week (when pre-painted). Only minimal tools and basic/intermediate skills are all that is required to build an accurate model of a VR 'V' passenger car. It is suggested that you **read through** the instructions first to become familiar with the components and the essence of construction. There are a few steps that require close attention and they are highlighted in ***bold and italics!*** Parts referred to in the text are marked **(P1)**, **(P2)** etc. Please use prototype photos to aid construction and recommended websites.

**Equipment & Materials:** Exacto knife, fine sandpaper, small needle files, fast-drying wood glue like MDF PVA (which is sandable and goes off in under 5 minutes). Also available which aids in dropping precise amounts of glue into fine lines or droplets is the 'Ultra-Fine Glue Applicator' available separately from SpiritDesign

**General assembly instructions:** The kit sides and end walls should be primed and painted before assembly with only minor touch-ups needed after assembly. The reasoning behind this is that it's easy to paint the window frames whilst the components are still lying flat or in the lasered sheet. Decaling should commence once the carriage sides are dry. The roof, underframe and other components can be painted at any time. Any piece cut from the laser sheet should have the holding tag sanded slightly as there is always a slight bump when a knife cuts it free from the surrounding area.

**Painting guide:** The main laser etch should be ***lightly coated*** (2 passing light coats not 1 heavy one) with a pale grey primer, Tamiya Surface Primer is ideal for this step. This will enhance the top colours.

**Steam Era passenger car red or similar:** sides, end walls and doors

**Humbrol 40 with a few drops of dark brown:** window surrounds

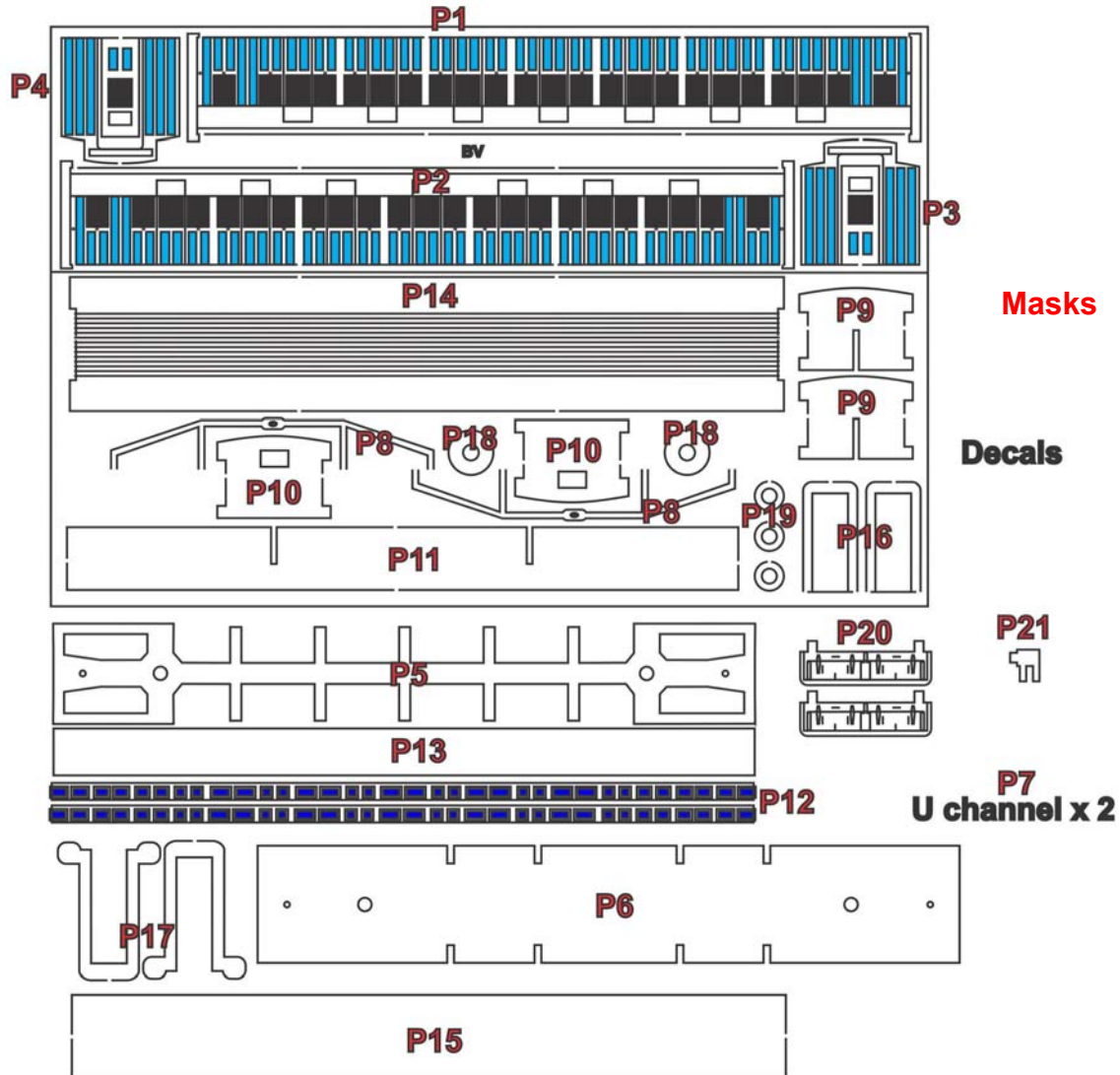
**Humbrol Matt 29, or pale grey for the 1960s:** roof

**Matt Black or Grimy Black:** Vestibule end closures, underframe, generator, air reservoir, truss rods and generator stitch panel

**Masking the window surrounds for painting:** On a red-painted side, take the 'Quick Mask' sheet and peel the 'Smokey Grey' adhesive material off the backing paper whilst making sure the window inserts remain behind on the backing paper.

Hold the far left and right ends of the masking between your thumbs and fingers, and place it over the carriage side whilst looking through the window cutouts for alignment. The top of the row of window cutouts should be positioned so that edges match the window frames. You should now have a window frame exposed on two sides and a bottom for each window opening. Repeat on the other side. Once in position, apply pressure on the film over the window area with your finger. Do not rub, as it may distort the fine lines between the window pairs.

Spraying the window frame paint should be done with various light passes. Two passes facing the left, two towards the right and two facing down should be adequate. Once the paint has been applied, wait about 90 seconds at least and then gently peel the masking off at an angle and discard.



**Assembly Instructions:**

1. Sand the MDF floor (P6) edges ever so slightly to remove the minor laser staining and to make the edges are a little more vertical
2. Glue a carriage side wall (P1) to the MDF floor (P6) keeping it square and vertical. There will be a 0.8mm overhang at each which will cover the end walls when glued in place
3. Glue an end wall (P3) in behind each opening of a carriage side (P1)
4. Repeat for carriage end wall (P4)
5. Glue the other side (P2) to the above assembly making sure everything is straight and vertical
6. When dry lightly sand the entire carriage base to make sure it is flat and square all round
7. Glue (P10) to the interior of both end walls
8. Using Selly's Quick Grip water-based glue – glue a window along each side in the openings of (P10). Make sure that the glue does not creep into the window opening
9. Glue the partition units (P9) to the partition corridor (P11) using the slots provided and glue this assembly into the carriage
10. Add a minimum of 12 grams of weight to the floor using lead, nuts or discarded wagon weights. It is best to have the weight as close to the bogie pivot points for better running qualities

11. The main roof (P14) should be damped a little with water on the scribed side before gluing in place as the scribed lines help the roof follow the contours of the partitions. **Note scribed lines face the inwards on the carriage**
12. Glue the clerestory sides (P12) atop of its base unit (P13)
13. Glue the entire completed clerestory section centrally along the main roof (P14)
14. Glue (P15) centrally over the above assembly with an even overhang at the ends
15. (P16) is glued to the end wall doors using the scribed line as a guide
16. Glue (P17) to each of (P16)
17. The trusses (P8) are glued into the holes provided in the floor (P5)
18. Glue the side channels (P7) up against the underframe (P5)
19. Glue (P20) battery box behind the truss rods leaving a little space and central to the underframe
20. Parts (P18 & P19) are washers for the bogies if you need to use them
21. Glue (P21) generator behind and to the right of a truss upright

**Bogies and couplers:**

22. Carefully remove the bogie supports from the 3D print by snipping/sawing at the base of ALL outer cylindrical supports and then twist the bogie 45 degrees to free it or saw completely through the supports. Clip off the remaining cylindrical supports. See the photo on page 4
23. File the support nibs from the top of the bogie. Use a 0.7mm drill to do a couple of light turns to clear the axle boxes but don't press hard. Using a 2B pencil twizzle each of the axle box holes to lubricate them and then insert wheels with the point of the 2nd axle tip going into the 'V' notch hole provided above the axle box. Removal is the reverse procedure but take extra care. Once happy screw the bogies into the underframe
24. Fit Micro-Trains 1015's or 1023's couplers using spare timber from the laser etch as the packing bits. Remove part of the end frame of the bogie if using 1015s. Clip near the face of the wheel on one end of the bogie only see the last photo



Pilot BV car completed – Current kit has been enhanced from this version and includes 3D correct bogies



Victorian railways photo of 7BV



For more information and photos see [www.spiritdesign.com.au](http://www.spiritdesign.com.au), Rob O'Regan's website <http://www.robx1.net/> or Mark Bau's <http://www.victorianrailways.net/> or Peter Vincent's <http://www.pjv101.net/index.htm>  
Any alterations, suggestions or queries please contact me.  
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