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Web site:
http://www.spiritdesign.com.au

1020 - Victorian Railways 58ft AW 1st class passenger car.

Requires 4 wheel bogies to complete. Greenmax #502-1(502-1) or TR11 or Kato equivalent.

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

2 AW at Spencer Street Station Courtesy Mel Skinner

Basic history notes: In 1911 the Victorian Railways Newport workshops constructed the first of a smaller country carriage based on the 'E' cars, the 'AW'. Externally they were very similar to the larger 'E' cars. The 'AW's were mainly used on the cross country and branch line trains ideally suited where the larger 'E' cars could not go. For over 75 years they have formed the backbone of the Victorian Railways 1st Class passenger service and regularly appeared with the larger 'E' cars in train consists. Originally lit with gaslights, which were later changed to electric lighting during the 1920s using generators and large battery boxes slung beneath the cars. As with the larger 'E-cars, they were lavishly appointed with bevelled mirrors above the windows and 3 horizontal rails across the lower windows but were subsequently removed also during the 1920s. Auto couplers were fitted throughout the 1930s replacing the transition hooks.

The kit is based on units running from the 1950s-until withdrawn in the mid-1980s and as such, bogie choice will be the kit builder's discretion. Many have been retained in running order by preservation societies.

The kit can be put together in under 3 hours over a week (when pre-painted). Only minimal tools and basic/intermediate skills are all that is required to build a very accurate model of a VR 'AW' passenger car. It is suggested that you ***read*** 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. Originally when built the class numbered 35 but this was later expanded to 45 and they lost their distinctive clerestory roofs. Please use prototype photos to aid the construction or recommended websites.

Equipment & Materials:

Exacto knife (blade no 16 or similar), 800-grit aluminium oxide sandpaper, small flat needle file. Fast-drying wood glue like MDF PVA (which is sandable and goes off in under 5 minutes), Sellys 'Kwik Grip' water-based and super glue are the three required for completion (all recommended: usual disclaimers). Also available which aids in dropping precise amounts of glue into fine lines or droplets is the 'Ultra-Fine Glue Applicator' available separately from Spirit Design

General assembly instructions: The kit sides and end walls should be painted before assembly with only minor touch-ups needed after assembly (see painting general notes below). 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. If you want to spray your entire undercarriage in one hit then decal after painting the underframe so that your masking won't peel the decals off. 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 general:

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. Failure to do so will result in off looking colours.

Windows: please use the 'QuickMask' provided to get excellent results with this easy to use the product.

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 including clerestory parts, water hatches, vents and covers

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.

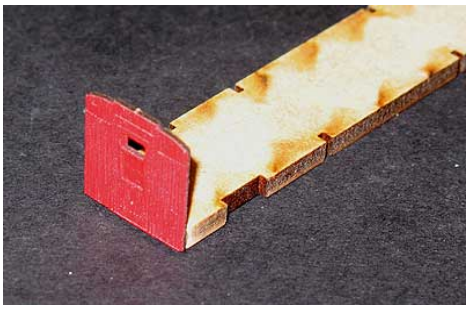
Hold the far left and right ends of the masking between your thumbs and fingers, and place it over the carriage side whilst looking through the window cutouts for alignment. The top of the row of window cutouts should be positioned so that edges match the window frames. You should now have a window frame exposed on two sides and a bottom for each window opening. Repeat for 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.

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

Applying the paint 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 **(P1)** edges ever so slightly to remove the minor laser staining and to make the edges are a little more vertical. Turn the floor over so the marking 'U' shaped ones are facing the desk surface you are about to assemble on. These are the guides for the underframe
2. Glue a carriage end wall **(P2)** to the MDF floor **(P1)** keeping it square and vertical See Photo below



3. Glue doors **(P3)** in behind each opening of a carriage side **(P4)** & **(P6)**. Make sure each door sits symmetrically around its opening. Its best viewed from the front of the carriage side to aid positioning. *An ABE carriage is shown below for clarity but it's the same for the BW.* See Photo below

4. Glue a carriage side **(P4)** to the end wall edge **(P2)** and up against the MDF floor **(P1)** making sure the sidewall covers the end wall edge and stays in contact with the floor. Use weights or clamps if needed

5. Glue the other end wall **(P5)** to the above assembly making sure everything is straight and vertical

6. Repeat procedure for other carriage sidewalls **(P6)** as above. See photo below of completed body

7. When dry lightly sand the entire carriage base to make sure it is flat and square all round

8. Cut/snap off 2 windows 6mm high x82mm long from the clear celluloid. Use Selly's Kwik grip to glue these in behind the carriage sides. Make sure that the glue does not creep into the area shown in the window proper. There should be a dab of glue between each set of window compartments

9. Cut/snap off and glue 4 door glasses 6mm highx12mm long and glue in behind each door **(P3)**

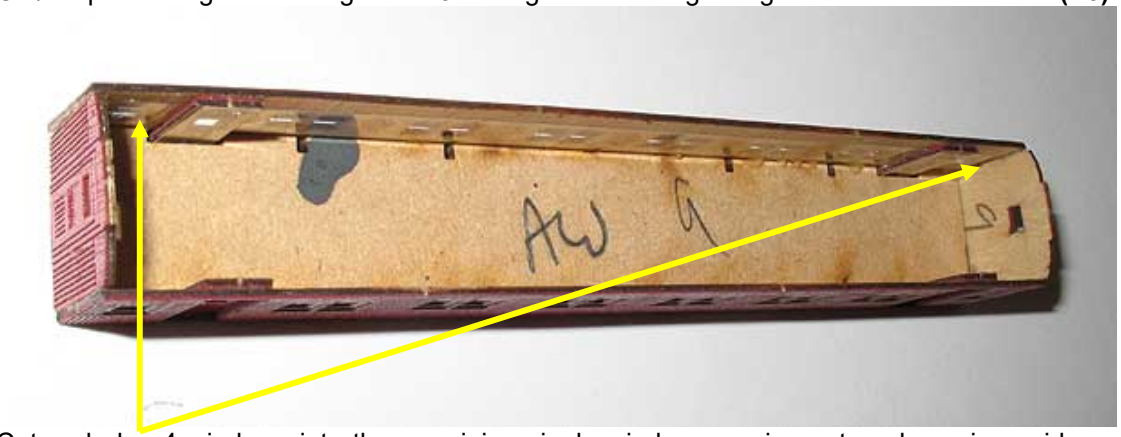


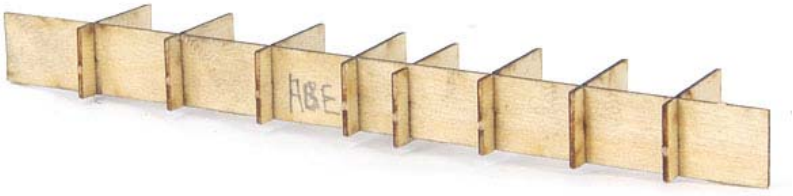
Photo 3

10. Cut and glue 4 windows into the remaining single window openings at each carriage side end. Two on one side should be painted grey on the inside, as they are the toilet windows. ***The roof torpedo vents are above these windows. See underframe (step 27) and roof (step 22) procedures further on for roof orientation.***

11. Cut/snap off and glue 2 windows for the end door of the carriage ends **(P2)** & **(P5)**

12. Glue the partition units **(P7)** to the partition corridor **(P9)** using the slots provided. See the picture below

13. The partitions should line up in the middle of each set of windows. Glue once inside the carriage centrally when satisfied with the fit. ABE partitions are shown in the photo below for illustration purposes. The AW is basically the same



14. Add a minimum of 10 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

Carriage Roof:

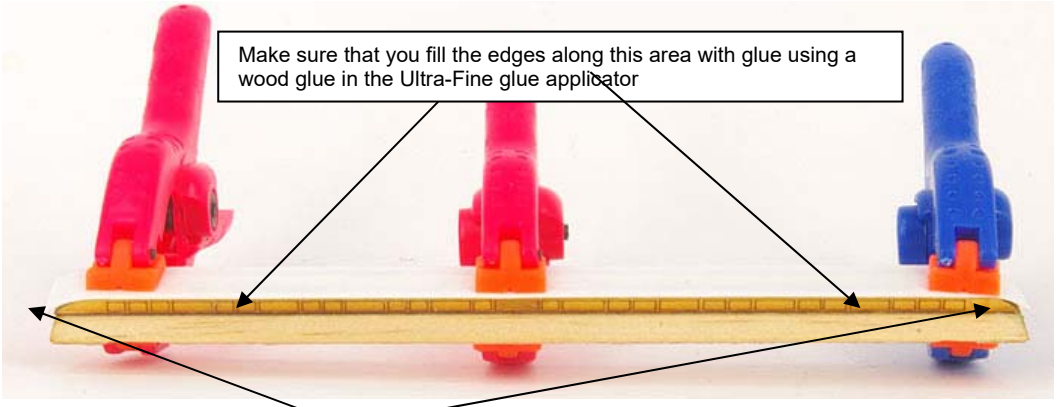
15. The main roof **(P10)** is milled from 'Clear Pine' and the edges are prone to damage before gluing into the semi-completed passenger carriage. Where the doors of the carriage butt up against the underside of the roof you may need to remove a small section of timber so that the roof sits snugly down in the carriage

16. Glue the clerestory side **(P11)** with its base unit **(P12)** making sure that the **(P12)** is glued centrally towards the top (rounded corners) of the **(P11)** or 4mm in from the edge. Repeat for the other side **(P11)**. See photo below

17. Glue the entire complete clerestory section centrally along the main roof **(P10)** making sure that there is an even spacing around the sides. See the photo below of BE roof but the assembly is the same for an AW

18. The scored lines on the card roof **(P13)** face you when it is glued to the clerestory unit

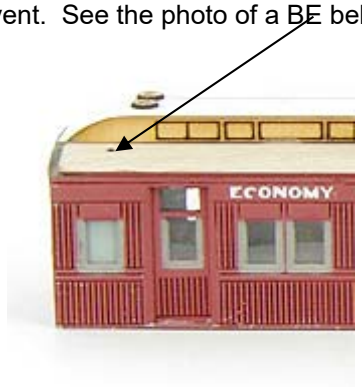
19. The styrene part in the picture has now been replaced by a cardboard piece as it makes it easier to assemble using glue you already (PVA) You can still clamp the part as in the photo if you wish



20. Using a toothpick, smear PVA along the rounded ends of the clerestory section and using your fingers hold the rounded end down until bonded. Repeat for the other end and then put a large rubber band around the styrene section lengthways to hold the styrene to the curved ends

21. Glue the supplied card strip **(P23)** centrally to **(P13)** along with where the scribed line is etched

22. 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 BE below for a visual aid



23. Cut the support leg and then glue the round water hatches **(P14)** onto the outlines of the styrene roof **(P13)**. Normal styrene glue will also do the job as it melts and bonds the timber to the styrene

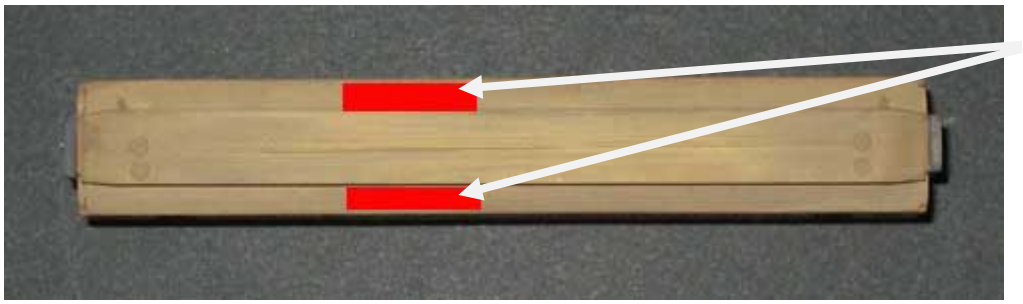
24. Trial fit the roof into the carriage, make any adjustments deemed necessary for a nice fit

25. Paint the entire assembled roof, Humbrol Matt, no 29 before gluing into the completed carriage

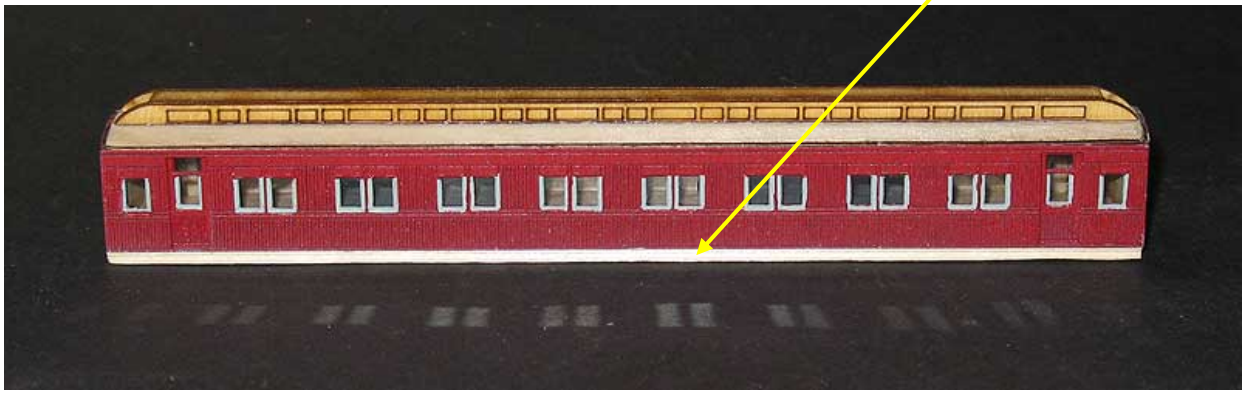
26. When happy glue the complete roof into position and hold with rubber bands if necessary

Carriage underframe and details:

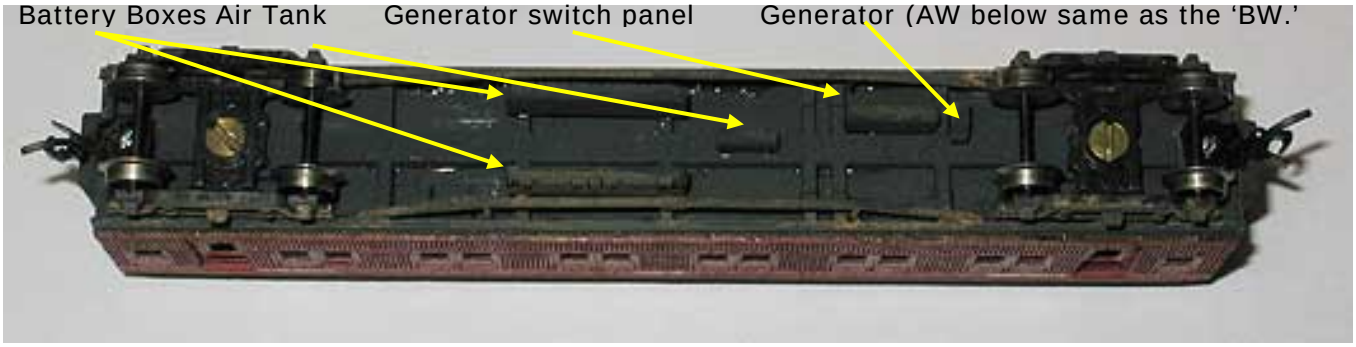
27. Glue the underframe **(P8)** to the MDF floor. The two 'U' shaped markings are a guide to centralising it. ***Note the underframe is slightly longer than the MDF floor and is fractionally shorter than the overall length of the carriage sides and ends as a glued unit. Toothpicks can be used to align the holes in the underframe and floor***. The underframe should be in relation to the roof when viewed from above



28. Glue a 110mm ‘U’ channel **(P22)** up against the edge of the plywood underframe. The ‘U’ faces you when looking at the carriage from side-on. See the photo below. ***Note ‘AE’ car used for illustration purposes***



29. Glue the battery boxes **(P16)** to the underframe where there two scored lines are provided and use the photo below as a guide. The rounded corners face away from the underframe. The details on the units should face towards you when the carriage is viewed from side on



30. Glue Generator switch panel **(P17)**, air reservoir **(P18)**, and generator **(P19)** onto the underframe. See photo above

31. Glue the end wall door vestibules **(P21)** onto the carriage end walls matching their outlines

32. Trial fit the truss rods **(P20)** into the MDF base. They should be pushed down until the sloped section just touches the underframe. When satisfied with the fit place a small dab of glue around each leg and where the sloped section touches the underframe. Note take care when doing this as they are fragile

33.

Completed N Scale Victorian Railways AW kit with weathering.

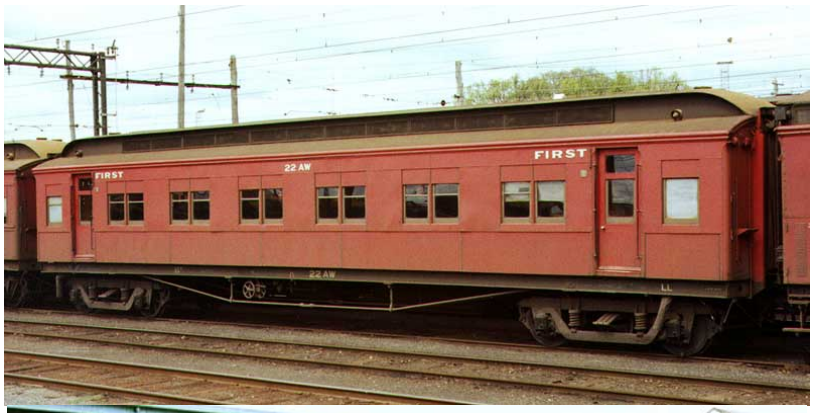
See note on bogies below

3AW taken at Spencer Street.

Note the windowpanes have been altered from the standard 2-window version. Photo courtesy of Mel Skinner.

22 AW Nth Melbourne

Photo courtesy Mel Skinner.



29AW waiting at Spencer Street Station Circa mid 80's.

Photo courtesy Mel Skinner

Decals: Using the prototype photos above and the photo of the finished model, position the decals accordingly. Also, you can make use of the spare 'AW' sets from the numbers provided.

Weathering: Use pastels or paint to weather the carriage as per photos or to your liking. Don't forget the roof as smoke and diesel fumes stained it.

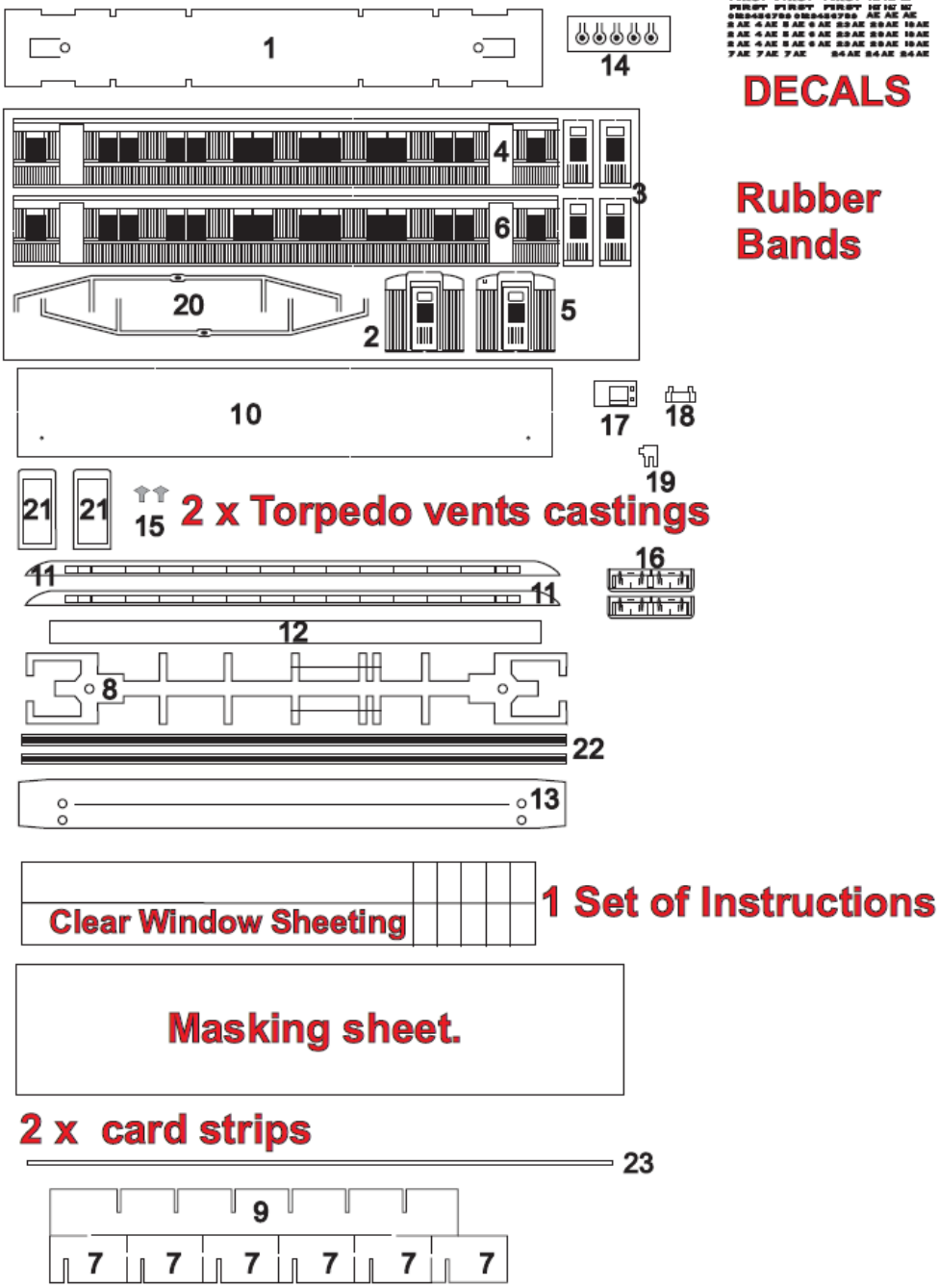
Bogies: Greenmax #502-1(502-1) or TR11 or Kato equivalent. Trim the brake clasps off as per the bogie above on the previous page and file the bolster plate down to the same height as the centre bogie hole.

Couplers: Fit couplers using spare timber from the laser etch as the packing bits. Micro-Trains 1015's are a good choice.

For more information and photos see 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.
Email chrispearce@spiritdesign.com.au
www.spiritdesign.com.au

AW PACKING LIST - 1020



DECALS

Rubber Bands

Clear Window Sheeting

1 Set of Instructions

Masking sheet.

2 x card strips