

MALKY'S N-SCALE S.A.R. MODELS

SAR S Bogie Sheep Van



Photo courtesy Rob O'Regan Robx1.net

The Prototype: In 1930, 250 bogie sheep vans were built by the South Australian Railways and numbered 6500-6749. 109 of these were converted to roller bearing bogies and recoded SBS, later ASAY, numbered 1 - 113. A further four were built as SBS in 1970-1 and numbered 200 - 203.

For More Information:

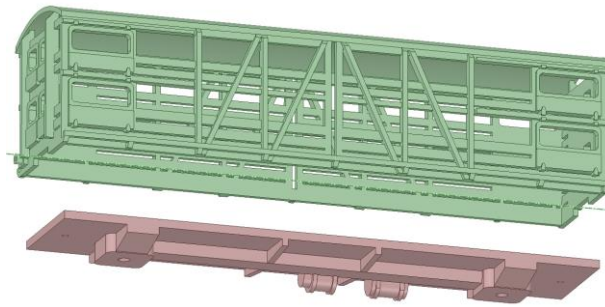
Much of the information used in the development of the kit and presented here was gleaned from an article in the notes of the *Modelling the Railways of South Australia Convention* pp 2-239 – 2-248, as well as the SAR line drawing.

The Kit: The kit consists of a body, upper floor and underframe printed in Shapeways frosted extreme detail plastic, plus a set of etched brass components available from MNSSARM. It will also be necessary to fit MicroTrains 1015 couplers and suitable bogies. MicroTrains archbar bogies would be appropriate for the original version, or roller bearing for the SBS/ASAY version.

Special Note: *This kit has parts which are at the limit of fineness for both the etching and 3D printing processes and are therefore very delicate. It is strongly recommended that special photo etch scissors, such as Xuron 9180ET, be used to separate the etched parts from the fret and to trim them.*

Note regarding weight: *the model is extremely light and there is little scope for adding weight in the usual ways. It is therefore recommended that the wagon be loaded with cast metal sheep, such as those produced by Kerroby Models.*

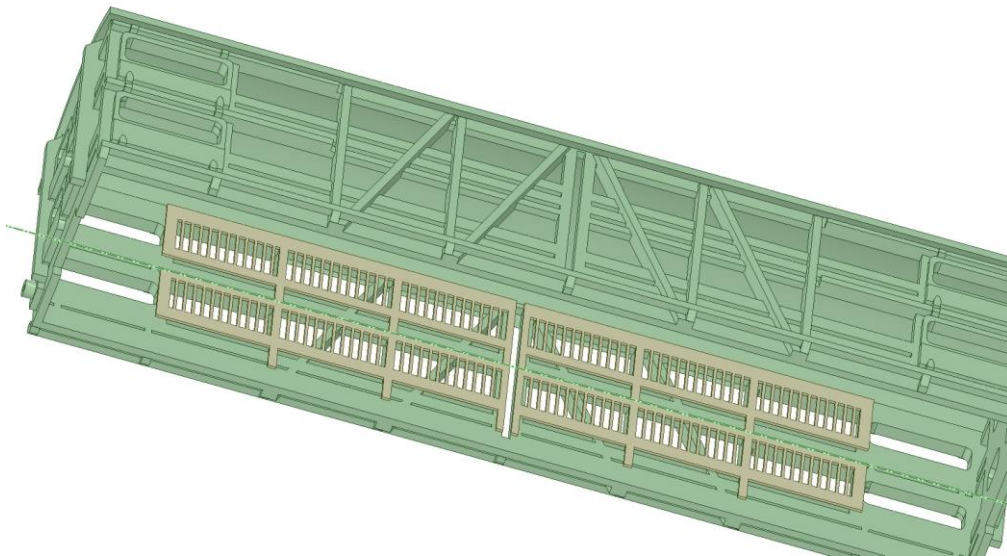
1. Clean the plastic parts thoroughly to remove any remaining wax from the printing process. This is essential to ensure good paint and glue adhesion. Cleaning can be by soaking in suitable solvent, such as isopropyl alcohol, assisted with a toothbrush. Further cleaning and/or sanding may be needed to produce an acceptable finish on the plastic parts. Great care will be required as the bodies are printed to the minimum possible material thickness.
2. Check the fit of the underframe into the bottom of the body. If necessary, sand or file the edges so that it is a snug fit in the base of the body.



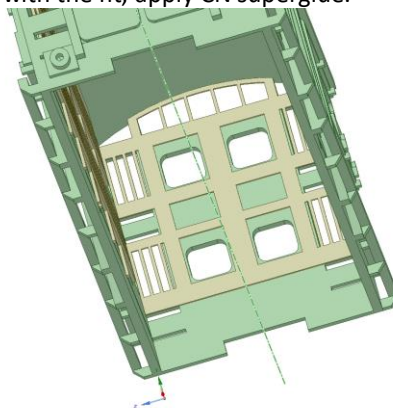
3. Next it is necessary to separate and fit the various brass detail parts to the body. Firstly, the sheet of etched parts should be cleaned by soaking in vinegar for about five minutes, then rinsed thoroughly and dried. It is best to separate each part immediately before fitting, to minimise the risk of loss or damage. Parts should preferably be separated by cutting the tabs with special snippers, or with a sharp hobby knife, pressing down on a firm surface such as wood or Masonite. Carefully trim or file off the remaining portions of the tabs. If it is desired to paint the insides of the six main wall bar pieces, then the **inside** surfaces could be painted before fitting (access will not be possible once the upper floor is fitted in place). Test fit all parts before applying glue to ensure that they fit neatly and you have determined the correct location. If necessary, carefully file the brass parts to obtain a snug fit.

4. First fit the two large side pieces to the inside of each of the body walls. Note the orientation – the open end towards the side doors, the vertical post at the centre of the side wall. Push the top up against the roof line. Ensure that the upright posts and spaces align with the printed body. When satisfied with the fit, apply a small amount of CN superglue to the members on the body, then locate the etched part and hold in place for 60 seconds while the glue cures.

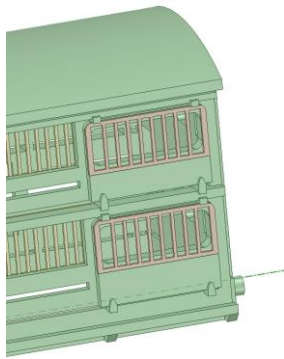
Hint: use the thicker, slower setting glues so that you have time to manoeuvre the part into place before the glue sets.



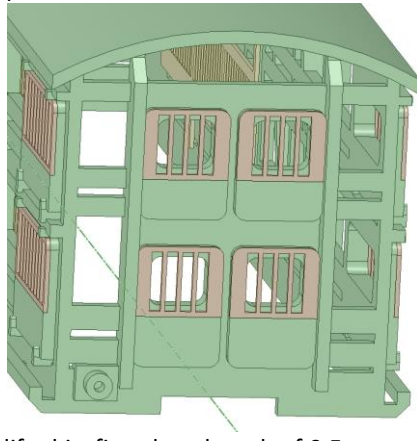
5. Next fit the two end wall sets of bars. Fit the top up against the roof and ensure that the upright posts and spaces align with the printed body. When satisfied with the fit, apply CN superglue.



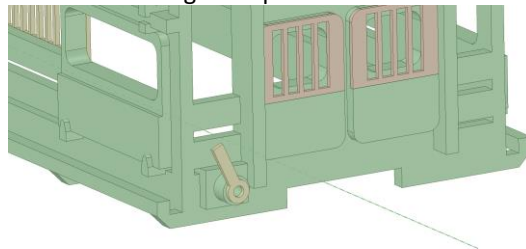
6. Identify and fit the eight sets of bars which cover the holes in the side doors. Note that they sit into a cut-out to give a flush face to the completed door. Glue in place when satisfied with the fit.



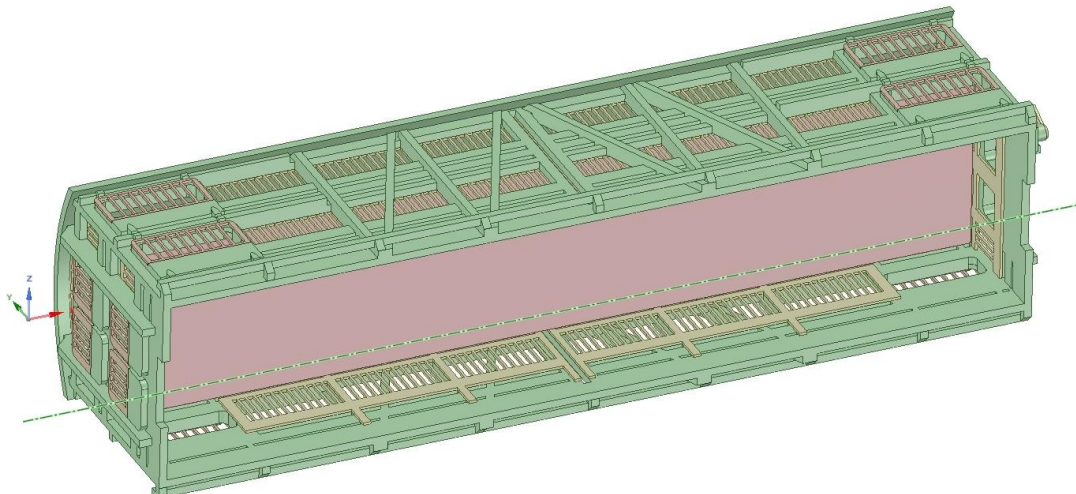
7. Identify and fit the eight sets of bars which cover the holes in the end doors. Note that they sit into a cut-out to give a flush face to the completed door. Glue in place when satisfied with the fit.

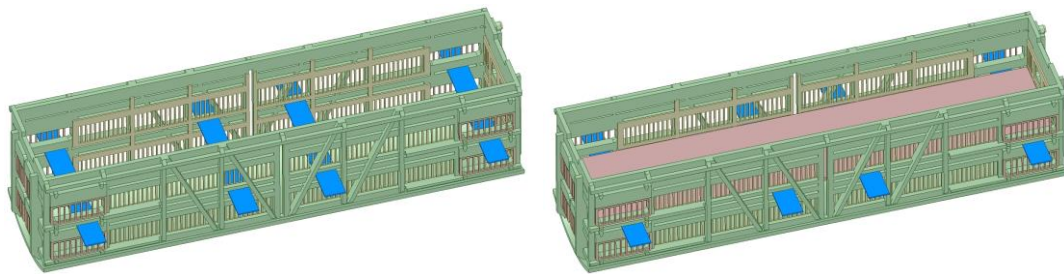


8. Identify and fit the handbrake. To simplify this, fit a short length of 0.5 mm wire into the hole in the mount on the end wall, then fit the etched handbrake over the wire and glue in place. Trim the wire once the glue has cured.



9. Next fit the upper floor. Note that the floor should be painted before final placement, as there is no access to the upper compartment once it is fitted. First check the fit between the brass bars on the inside walls. *Note: because of warping of the thin printed part, it may be preferable to use the printed part as a template and cut a piece of 0.5 mm styrene for the floor.* If necessary, sand or file the edges of the floor to obtain a neat fit. Note the correct location, which is between the second and third horizontal bars from the top of the side. To achieve the correct location, it is recommended that with the wagon inverted, two or more strips of shim brass (taken from the etch fret) be inserted immediately beneath the second bar from the top, then the floor can be lowered onto those strips. When the correct location is achieved, a small amount of CN can be applied to the points of contact with the uprights of the bars. **Avoid contact of glue with the shims!** The shims can be withdrawn once the glue has cured.

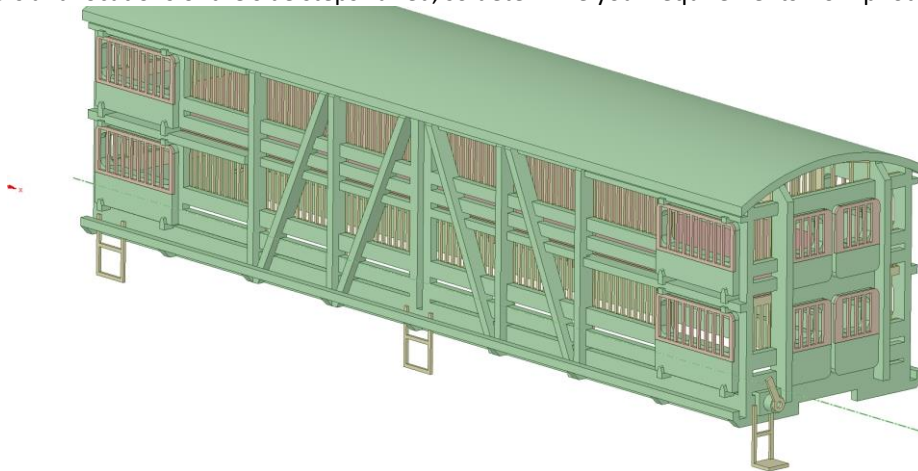




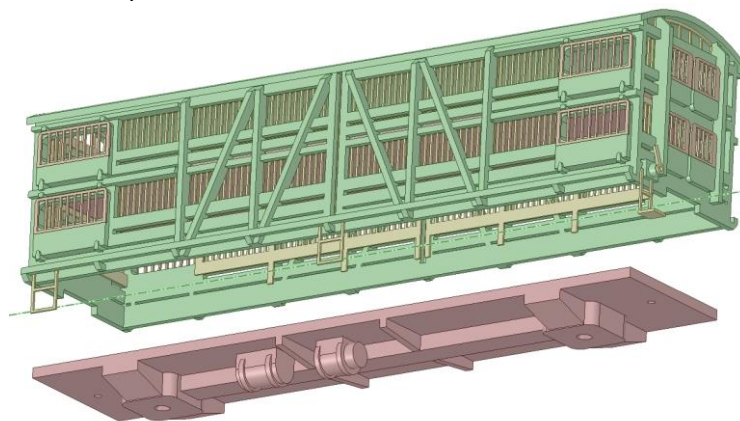
Place supporting strips of shim across second bar. Then locate upper floor on shims and secure in place.

Notice that this method can be used with slight revisions to fit the floor loaded with metal sheep. After checking the fit of the floor into the body, glue the sheep to the floor outside of the body. Then invert the body and insert the floor plus sheep. It will probably go further towards the roof than the intended location. Simply insert the shims under the floor, then turn the body back up the right way. If necessary, encourage the floor down onto the shim supports (a very fine pin or needle can be inserted through the bars to push the floor down). Then glue as described above.

10. The shunter's steps can now be fitted. The single end step should be fitted to the handbrake end beneath the handbrake. Numbers and locations of the side steps varied, so determine your requirements from photographs.



11. Underframe. Drill holes where marked for the MT bogie pins. Also drill where marked for the MT couplers. The underframe then fits inside the body.



12. Painting: first wash the body and underframe in warm soapy water, rinse and dry. Apply a primer, then paint the body with SAR grey – dark grey prior to 1965, light grey after. The underframe should be painted matt black.

13. Fit couplers and bogies.

14. Apply decals: The tare notation, the vehicle code and number to the lower door at the left hand end of the vehicle; the smaller data placard to the lower side door at the right hand end (see photograph).

15. Before final assembly, add sheep to the lower deck on the underframe floor.

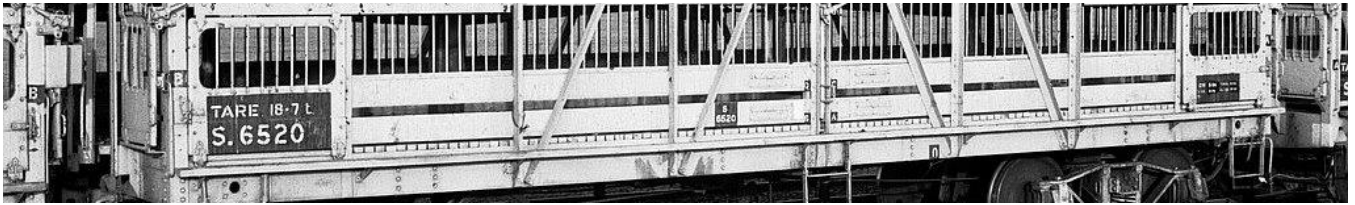


Photo courtesy Rob O'Regan Robx1.net

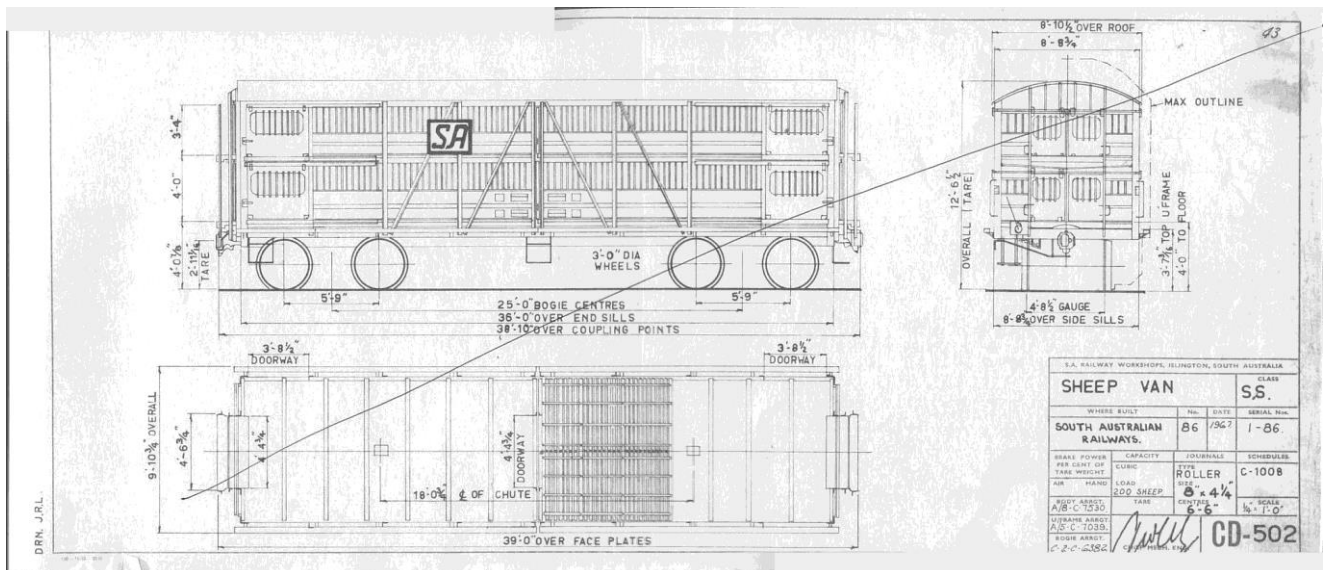
Acknowledgements: Photographs courtesy Rob O'Regan (Robx1.net)



S 6554 showing different placement of data patch Photo courtesy Rob O'Regan Robx1.net



SBS versions of wagons, fitted with roller bearing bogies Photos courtesy Rob O'Regan Robx1.net



Extra Notes on Handling Etched Parts

Following construction of the prototype kits, the following points are recommended when dealing with the etched parts.

Since these parts are only 0.15 mm thick, they are unusually delicate and prone to bending and warping. Extra care must be used in handling them.

Firstly, it is imperative that special etch scissors be used to cut the parts from the fret and then to trim them. It is recommended that Xuron 9180ET or close equivalent be used.

It is recommended that parts only be cut from the fret immediately before they are applied to the model. This will avoid loss or damage.

When removing parts from the fret, cut the tabs ***as close as possible to the fret side***, leaving the full tab intact on the part. Then trim the tab from the part, when a clear view can be had and a cut along the straight edge of the part can be made. This will minimise the risk of bending either the part or the remaining fret when making the cut.



Step 1: Cut from fret leaving whole tab Step 2: Trim tab along straight edge of part