

# O-Aust Kits

PO Box 743

ALBANY CREEK QLD 4035

Phone (07) 3298 8283 (7.00pm to 9.30pm ONLY)

Facsimile (07) 3298 6297 (24 hours)

Mobile 0419 680 584

Email [pa\\_rl\\_krause@bigpond.com](mailto:pa_rl_krause@bigpond.com)

Web [www.oaustkits.com.au](http://www.oaustkits.com.au)

## NSWGR 'BCW' CATTLE WAGON

1:43 KIT

---



### PROTOTYPE NOTES

This BCW kit is representative of the 100 wagons built by A. Goninan, which were delivered during 1959-60 and numbered 29725 to 29824.

The wagon has twin compartments with diagonally opposite doors to each compartment. When built, the body was of wooden construction with a corrugated steel roof and mounted on a steel underframe. The model is a later version of the 1959-60 batch fitted with external steel cross bracing.

## KIT PARTS LIST

2 end castings  
 2 side castings  
 1 roof casting  
 1 centre divider casting  
 1 stock crate floor casting  
 1 wagon chassis floor casting  
 11 channel castings (used to join the stock crate to the wagon)  
 7 lengths 0.25x1.5x150mm brass strip  
 3 lengths 020x060 styrene strip  
 4 AQA bogie sideframe castings  
 2 bogie stretcher castings  
 2 bogie bolster castings  
 4 spring block castings  
 4 angle bracket castings  
 8 brass bearings  
 4 wheel sets  
 1 brake cylinder  
 1 air tank  
 2 brake rod levers  
 2 yard brake brackets  
 4 grade control valves  
 2 yard brake spider wheels  
 2 train pipe hoses  
 4 coupler lift bar brackets  
 Brass wire 0.8mm  
 Brass wire 0.5mm  
 1 sheet transfers

## YOU WILL NEED TO SUPPLY

Couplers -(the kit has been designed to fit Kadee #804 or #805 couplers but feel free to substitute).  
 Nut, bolt, washer castings – 47 required (Kadee # 439 are ideal)  
 Screws for fitting bogies and couplers  
 Length of fine chain

## TOOLS REQUIRED

Large files and needle files  
 Superglue  
 Pin vice and/or 'Dremel' and drills (0.5mm or #76 & 0.8mm or #67)  
 Soldering iron (variable temperature)  
 Low melt and resin cored solder  
 Craft knife, tweezers, small pliers, side cutters, scissors  
 Fine wet or dry paper  
 Small clamps or alligator clips  
 Modelling putty  
 Decal setting solution  
 Piece of glass or surface plate (steel)

## ASSEMBLY

Note:

Read ALL instructions before commencing assembly to understand the correct sequence.

All flash on the castings should be removed before assembly.

Some castings may have air bubbles - these are easily puttied if desired and will not affect the end result.

Occasionally a casting may be warped. This problem is easily rectified by placing in hot water in a flat-bottomed container for a couple of minutes and allowed to cool on a flat surface.

The instructions for the assembly of this kit assume that the person assembling the kit has some basic kit building skills.

The quality of the finished product is dependent on the care taken in its assembly.

If you have any problems please feel free to contact O-Aust Kits direct.

## BODY ASSEMBLY

**It is recommended that the body castings be washed in warm water and liquid detergent, rinsed clean in warm water to remove mould release compound and air dried before commencing assembly.**

**Step 1** Remove all flash from the side and end castings. This should be done with caution so as not to damage the sides.

**Step 2 (optional)** The appearance of the wagon can be improved if the top rail in the side castings is replaced (suggest that 1mm brass wire be used as the replacement). It is easier if this operation is carried out before assembling the sides.

**Step 3** The corners of the sides and ends should be filed to a smooth surface to ensure a clean joint in the corners. The ends fit between the sides. As it is critical that the width of the body matches the width of the roof casting, adjust the thickness of the side castings to suit.

**Step 4** Attach one of the side castings to an end casting, taking care that it is flush along the top edge and at the corners and square. When happy with the position, apply glue and hold firmly in place until the glue sets.

Repeat the process for the other side and end.

**Step 5** To make up the body, join the two ends/sides assemblies together ensuring that the joints are square and the corners are flush.

Ensure the corners are square using the roof as a guide. When happy with the position, apply glue and hold firmly in place until the glue sets.

**Leave until completely set.**

**Step 6** Join the roof and the sides/ends to form the stock crate portion of the wagon body ensuring that the joints are square and flush. When happy with the position, apply glue and hold firmly in place until the glue sets.

**Step 7** Insert the centre divider casting to separate the two compartments of the stock crate and glue in place allowing space at the bottom for the stock crate floor casting.

**At this stage it is recommended that the inside of the stock crate and the top of the stock crate floor casting be painted rather than leaving it until construction of the kit is completed. Surfaces that will be glued later should be masked off prior to painting.**

**Step 8** Firstly; check that the dimensions of the stock crate floor casting match those of the assembled body. Make adjustments to the floor casting where necessary, keeping in mind that any adjustments need to be made equally to each side/end.

Now join the wagon body to the floor by inserting the floor casting into the body. Take care that the floor sits evenly within the body. The bottom of the floor casting should be level with the bottoms of the sides/ends and the paneled side with the ribs showing.

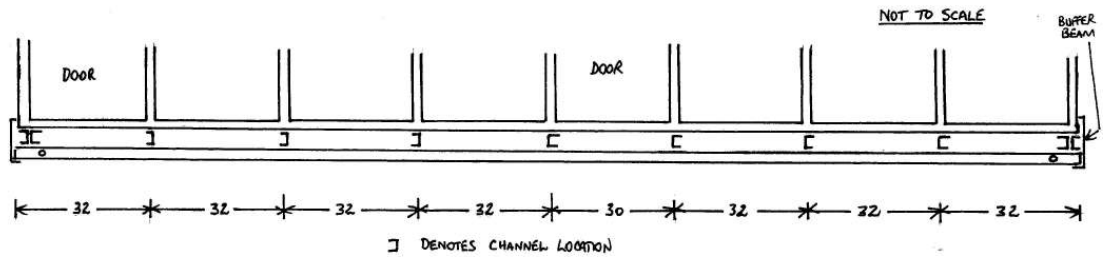
When happy with the floor position, apply glue and hold firmly in place until the glue sets.

**Step 9** Adjust the length of the wagon bolster to fit flush with the edges of the wagon chassis casting, then glue in place on the underside of the wagon chassis floor casting with 5 minute epoxy adhesive. Once the bolsters are in position, place the assembly on a piece of glass to make sure it is level. Clamp in position until the adhesive sets.

Drill the centre holes in the bogie bolsters to suit the screws for attaching the bogies.

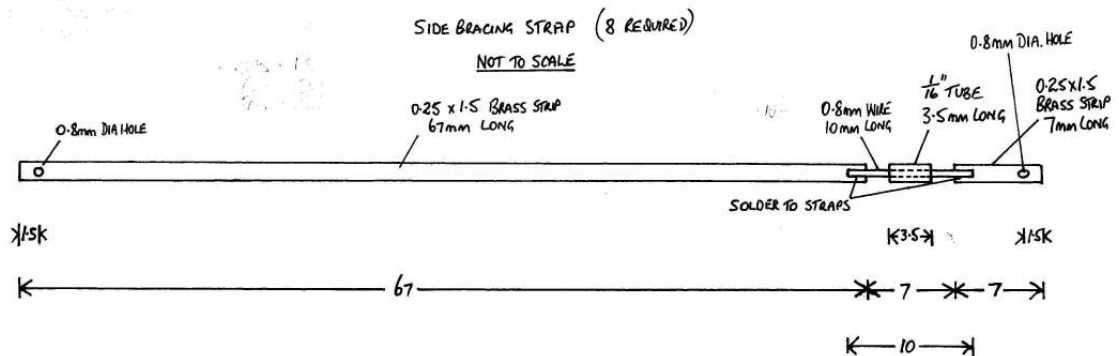
Glue the channel castings to the cross pieces in the top of the floor casting positioned as per the drawing in step 10 and allow to set.

**Step 10** Glue the stock crate assembled in Steps 1-8 to the wagon chassis floor casting so that it sits on top of the channel castings already glued to the floor casting. Make sure that it fits an equal distance from each end and side.:

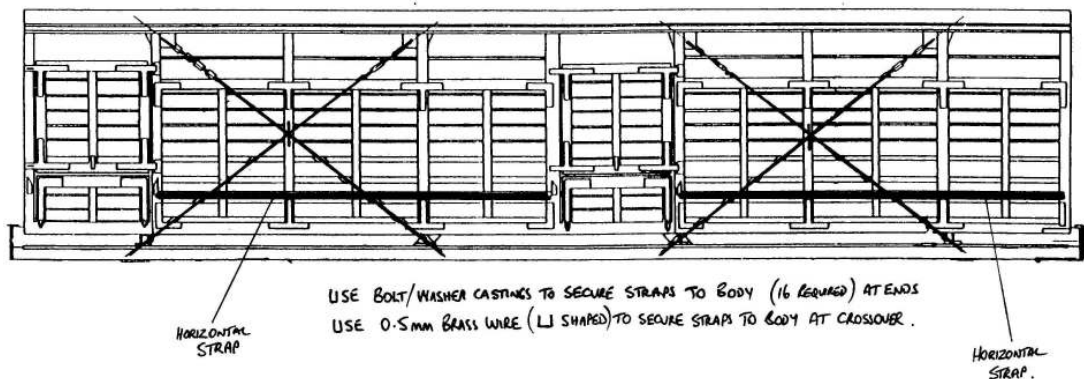


**Step 11** Glue the buffer beams to each end of the wagon, ensuring that they are square to the body and using the above drawing for location. It is easier to drill the holes for the coupler release bar brackets before gluing the buffer beams in place. Refer Step 18.

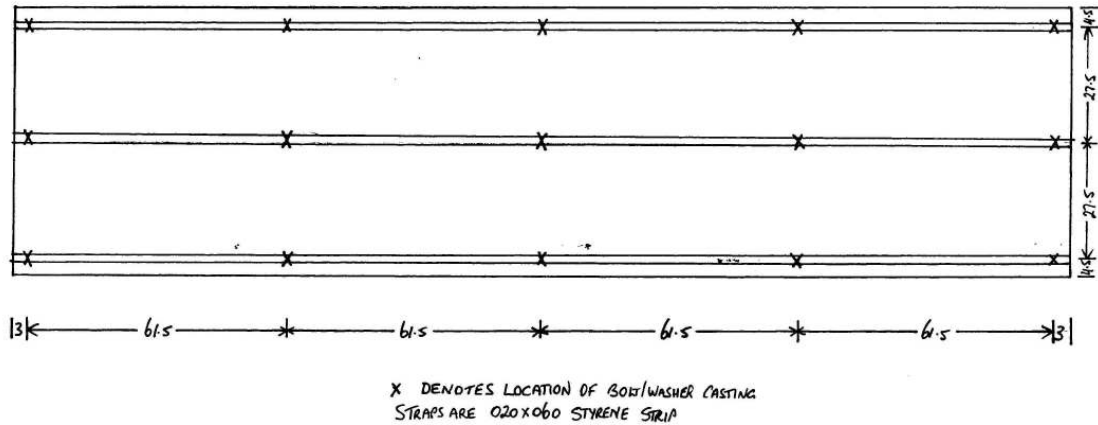
**Step 12** The side bracing straps should be formed using the brass strip and wire provided as per the following diagram (note that turnbuckles have not been provided but can easily be provided with suitable tube):



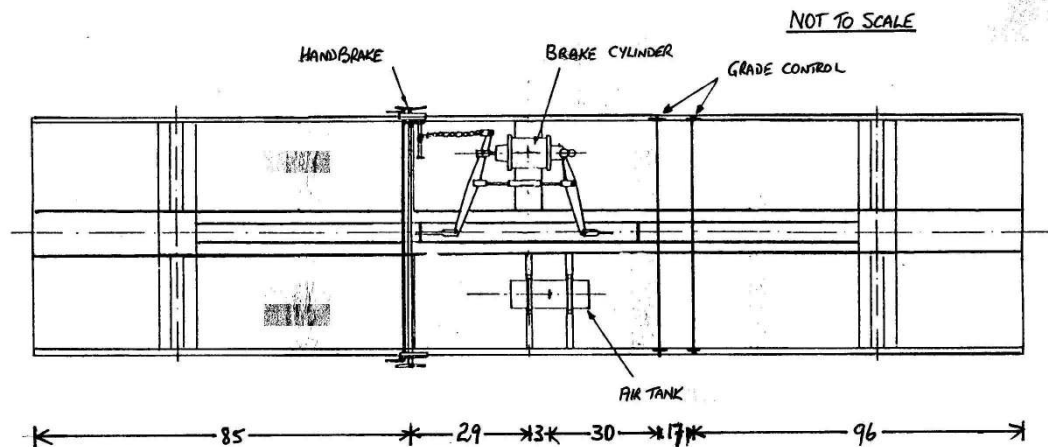
**Step 13** Glue the diagonal and horizontal bracing in place on each side as per the drawing. When dry, drill holes at the locations shown and fit nut, bolt, washer castings with a dab of glue. Thirty two casting are required.



**Step 14** Roof securing straps should now be attached using the styrene strips provided and nut, bolt, washer castings (15 off) to secure. The following drawing shows the locations:



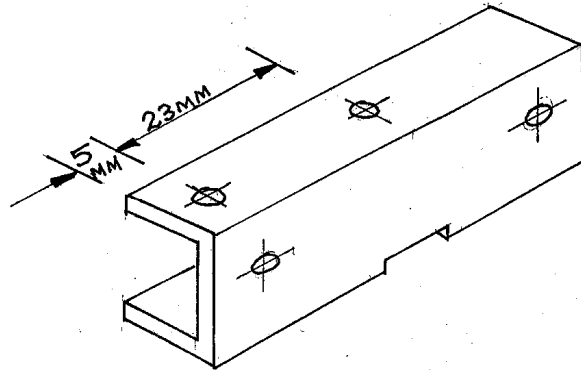
**Step 15** Fit the brake cylinder, air tank, brake rigging and air pipes to the chassis beams as per the following drawings:



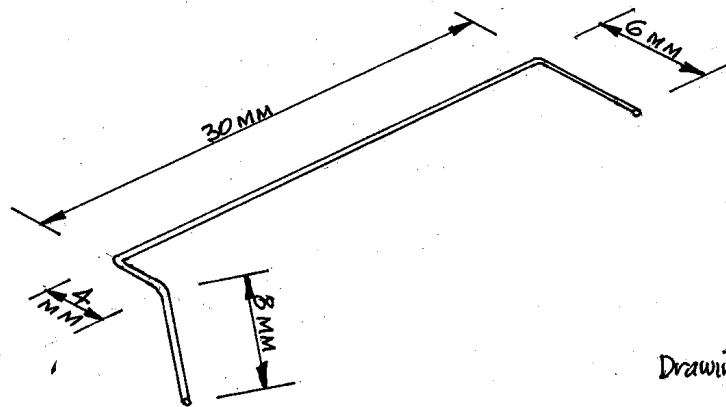
**Step 16** The grade control valves are glued in place as indicated in the drawing in Step 15. A length of 0.8mm brass wire joins them.

**Step 17** The yard brake bracket is fitted with the ratchet handle on the outside of the wagon and pointing to the end of the wagon (refer Step 15). A length of 0.8mm brass wire forms the yard brake shaft between the two spider wheels; the ratchet shaft is 0.5mm brass wire. You may also wish to fit a chain link (not provided) between the yard brake shaft and the brake rod lever.

**Step 18** The coupler release bars are located on top of the buffer beams. These should now be formed using 0.5mm brass wire and fitted using the 4 brackets supplied. The drawing shows their dimension and location.



*BUFFER BEAM SHOWING LOCATION OF HOLES FOR  
COUPLER RELEASE BAR BRACKETS.*



*COUPLER RELEASE BAR.*

*Drawings not to scale.*

*B.E. Lovett  
20.01.05.*

**Step 19** Form shunters stirrups from 0.8 mm brass wire and fit to the chassis adjacent to the brake spider wheels on each side.

**Step 20** Glue the train pipe hoses to the right of the coupler pocket in the buffer beam and attached to the air pipes installed in Step 15.

**Step 21** Couplers of your choice should now be fitted as per the supplier's instructions (couplers are not supplied with this kit).

## **BOGIE ASSEMBLY**

**Step 22** The holes in the side frames will need to be further drilled out (4 mm drill) to the correct depth to accept the brass bearings supplied. The drilling of a smaller diameter pilot hole first is recommended.

**Note that accuracy is critical for this step as tolerances are very fine. If you are not confident of performing this step it is recommended that you either shorten the bearings supplied (3.5mm suggested maximum length) or alternatively use 1/8" brass tube as a substitute and putty up the resultant gap.**

**Step 23** Fit the brass bearings into the side frames and secure with a dab of superglue.

**Step 24** Assemble the bogie by inserting the end of each bolster into the side frames, with the wheel sets in place. Then insert the angle brackets provided into the top of the gap above the bolster from the inside and solder (or glue) in place. This prevents the bolster from falling out of the side frame.

**Step 25** Fit the spring block castings into position at the bottom side frames. Once satisfied with the positioning, superglue the bottom **only** in place.

**Note that you may substitute real springs (not provided) in lieu of the spring block castings provided, in a similar manner as "Athearn" bogies are sprung.**

## **FINISHING**

**Step 26** The wagon is now ready for painting. The entire wagon and bogies should be painted standard rolling stock grey. Positioning of the letters and numbers varied, but generally the "BCW" was placed on the board above the horizontal side brace with the number on the board below the brace. All this was on the left side of the centre door on each side. The small wagon number was always placed on the number plate attached to the solebar on each side.

**Step 27** Transfers - Ensure the paint is thoroughly dry and dust free (NOTE: Transfers adhere better to a gloss surface.

Trim margins around letters and numbers as close as possible, place in warm water until transfer is almost ready to release from backing paper, then place on paper towel to absorb excess water. Wet area with decal setting solution, place transfer on model and slide transfer off backing paper into position. Apply decal setting solution over transfer, mop up excess solution with edge of kitchen paper and allow 24 hours drying time. To protect transfers and paint work, spray a thin coat of clear flat paint (eg. Testor's Dull Cote or similar brand) over the entire model. Allow 24 hours drying time.

Weathering to your requirements is recommended.

**Step 28** Fit the bogies to the bogie bolsters with screws making sure that the bogies are free to turn and equalise.

**You are ready to roll after lubricating the axles and the bogie mounting screws**

**REFERENCES**

Railway Freight Wagons of NSW by John Beckhaus

Day of the Goods Train by R.G. Preston

BCW Cattle Wagons by Arthur Smith – Australian Journal of Railway Modelling No 9.