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NSWGR 'CW' CATTLE WAGON

1:43 KIT



PROTOTYPE NOTES

This CW kit is representative of the 250 wagons fitted with the standard post war steel 10ft wheel base (S-truck) underframe, which were delivered commencing in 1948 and numbered 27775 to 28024.

These wagons were the first cattle wagons to be fitted with automatic couplings and were also fitted with parallel standard freight buffers. The body was of wooden construction with a corrugated steel roof. Some were fitted with short vertical braces in the middle of the side panels, and some had no bracing at all.

Examples of this type of cattle wagon survived into the 1970s, by which time the corrugated roof had been removed.

KIT PARTS LIST

2 end castings
 2 side castings
 1 roof casting
 1 floor casting
 2 lengths 020 x 125 styrene strip
 2 lengths 0.25x1.5x150mm brass strip
 7 lengths 020x060 styrene strip (3 long + 4 short)
 1 length 3x12x80mm brass strip
 4 parallel buffers
 4 coupler lift bar brackets
 4 axle box castings
 4 brass bearings
 2 wheel sets
 1 brake cylinder
 2 brake rigging vertical supports
 4 brake shoes
 2 yard brake brackets
 2 yard brake spider wheels
 2 grade control valves
 2 train pipe hoses
 brass wire 1.0mm
 brass wire 0.8mm
 brass wire 0.5mm
 galvanised wire 0.8mm
 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 – 20 required (Kadee # 439 are ideal)

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
 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.

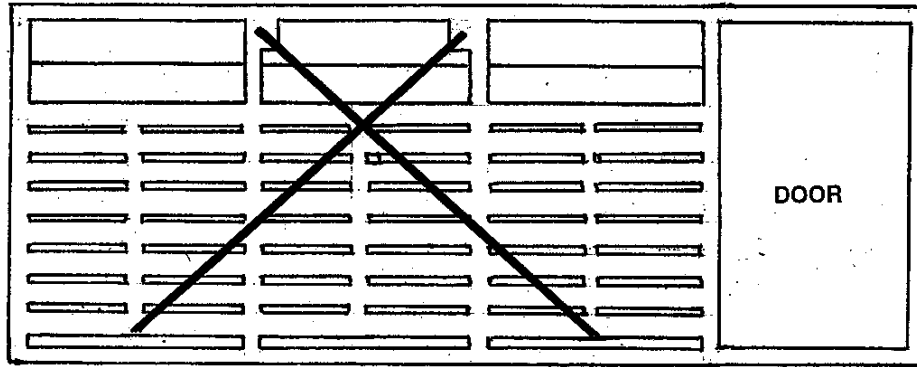
BODY ASSEMBLY

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).

Step 3 The internal bracing should be installed using two short lengths of the 020x060 styrene strip provided on each side (the 3 long ones are for the roof). Glue to the inside of each side. The following drawing should assist:



Step 4 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 5 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 6 To make up the body, join the two ends/sides together ensuring that the joints are square and the corners are flush.

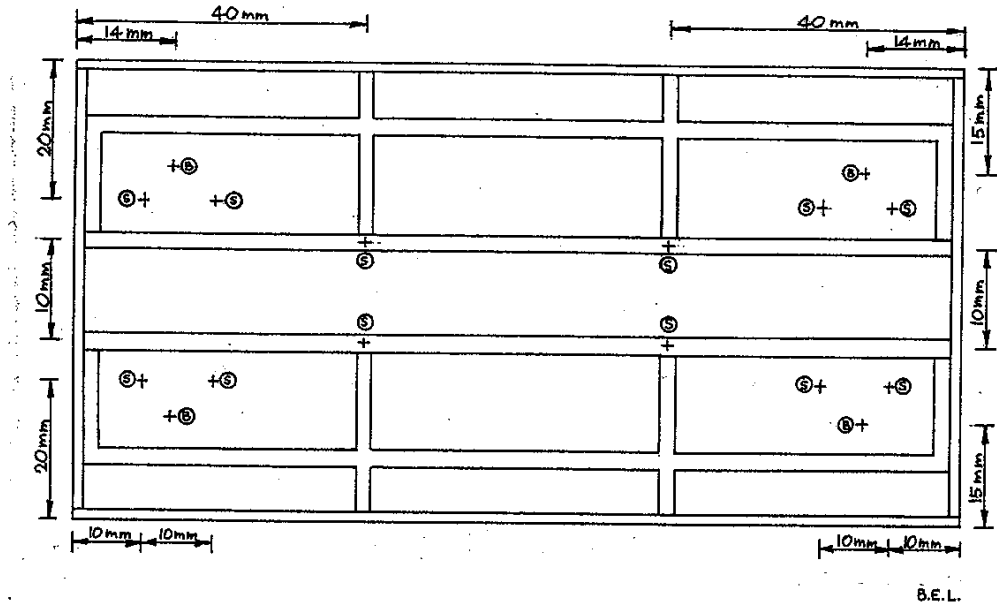
Ensure the corners are square using the roof as a guide. When happy with the position, apply glue and hold firmly in place until the glue sets.

Leave until completely set.

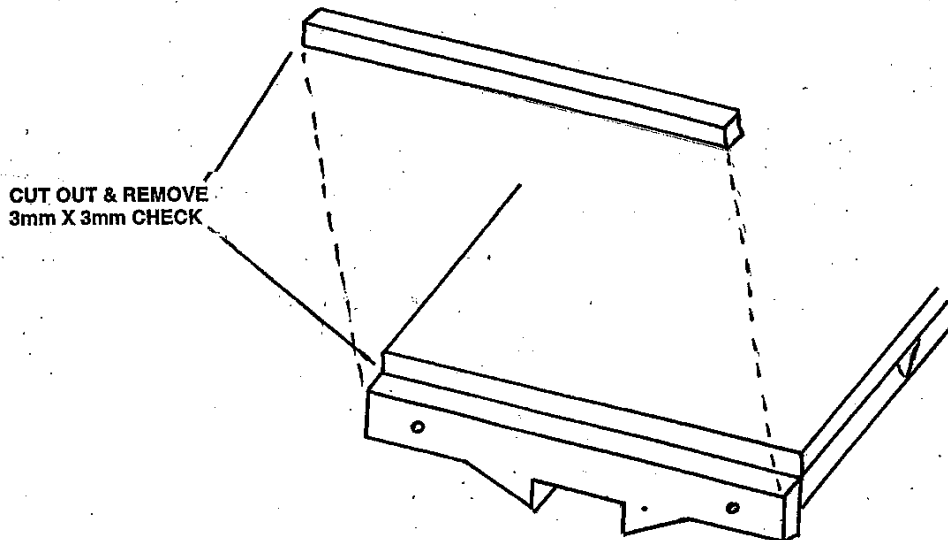
Step 7 Join the roof and the sides/ends to form the stock crate portion of the wagon body ensuring that the joints are square and flush. When happy with the position, apply glue and hold firmly in place until the glue sets.

Step 8 Before joining the body and the floor, it is recommended that all the holes for brake gear, brake hoses etc be drilled and the inside of the body painted

Holes for later installation of the brake hangers (B) (0.8mm) and safety loops (S) (0.5mm) are located as shown on the following diagram:



Step 9 A 3mm x 3mm check needs to be cut from the floor casting at each end to allow the body to be fitted as per the following drawing:



Step 10 Glue the 3x12x80mm length of brass strip to the floor casting between the chassis beams as extra weight. A small indentation will need to be removed to clear the brake cylinder-mounting block. Five-minute epoxy glue is recommended.

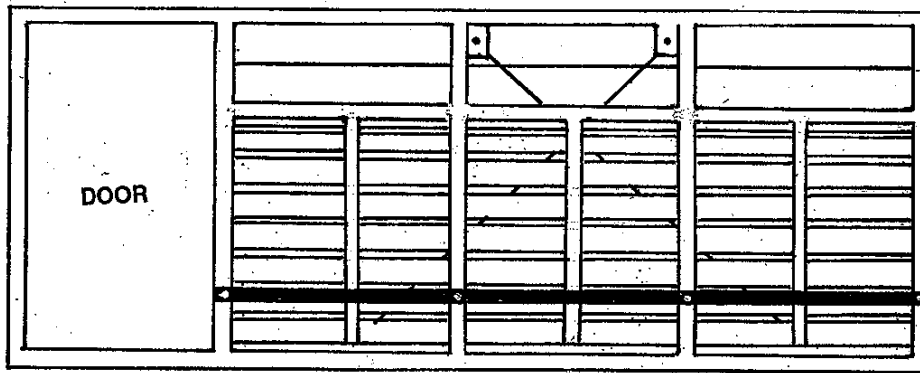
Step 11 After the removal of the 3mm x 3mm check at Step 9, check that the dimensions of the floor casting match those of the assembled body (121mm x 58 mm is the expectation but check the actual).

Make adjustments (+/-) to the floor casting where necessary, keeping in mind that any adjustments need to be made equally to each side/end.

Join the wagon body to the floor by inserting the floor casting into the body, taking care that the floor sits evenly within the body. When happy with the floor position apply glue and hold firmly in place until the glue sets.

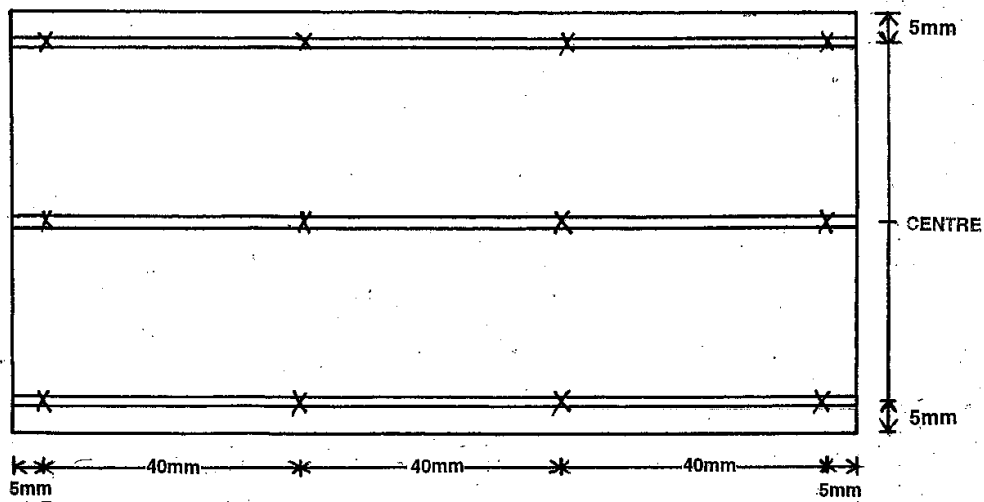
Step 12 Cut two lengths of .020" x .125" plastic strip to fit tightly between the buffer beams. Glue to the solebars flush with the inside face so that it projects over the outside face. This represents the steel channel used for the solebars.

Step 13 Using the brass strip provided, attach the horizontal bracing to each side as per the following diagram using nut, bolt, washer castings (8 off – not provided) to secure.



■ - DENOTES LOCATION FOR NBW CASTINGS

Step 14 Roof securing straps should now be attached using styrene strips provided and nut, bolt, washer castings (12 off – not provided) to secure.



X - DENOTES LOCATION FOR NBW CASTINGS

Step 15 On one side only glue two axleboxes to the inside of the solebar. The two axleboxes should be placed 70mm apart (centre to centre) representing the prototypical 10' wheelbase and be equidistant from each end (the floor casting has locating lugs which will assist but check the accuracy, don't rely on the lugs). Ensure that they are vertical prior to fixing in place with superglue (a superglue gel would allow some working time for this step). Allow the glue to set completely.

Step 16 Place one wheelset in a fixed axlebox. Fit the other end into a loose axlebox and dry fit to ensure they are vertical and the wheels spin freely. If the wheels bind it will be necessary to shorten the axles by filing small and equal amounts from each end of the axle until the wheelset spins freely without any sideplay.

Ensure that the loose axlebox is exactly square with the fixed one. Glue in position with the wheelset in place. Repeat the process for the other wheelset.

Note: Before final gluing, stand on glass sheet to ensure all wheels are level. Pack down any axleguard until all wheels are level.

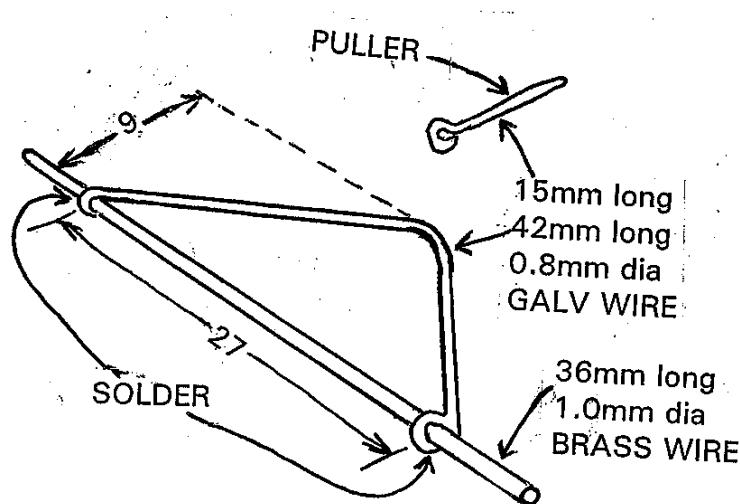
Step 17 The grade control valves are glued in place as indicated in the drawings on page 9. The centre of the valve should be 51.5 mm from the outside of the shunters stirrup end (the holes for the shunters stirrups were drilled in step 1). They are joined by a length of 0.8mm brass wire.

Step 18 Fit the brake rigging vertical supports to the two cross members on the brake cylinder side (where the mounting block is on the casting). Locating lugs are provided to assist in positioning these items. The support with four holes is positioned at the yard brake end and the three holed one on the other end. Make sure that the holes are clear (0.8mm) before fitting.

Refer to the plan on page 9 for further details.

Step 19 Fit the brake cylinder to the chassis beam with the cylinder over the mounting block and pointing towards the shunters stirrup end. Link the brake cylinder to the fourth hole of the brake rigging vertical support with a piece of 0.8mm brass wire.

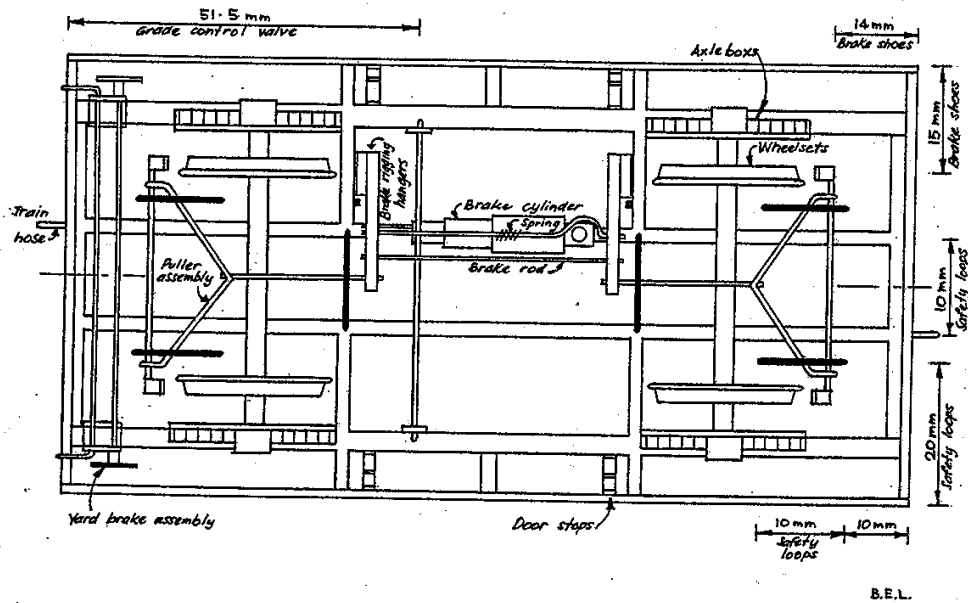
Step 20 A pair of subassemblies should be made next, as per the following diagram



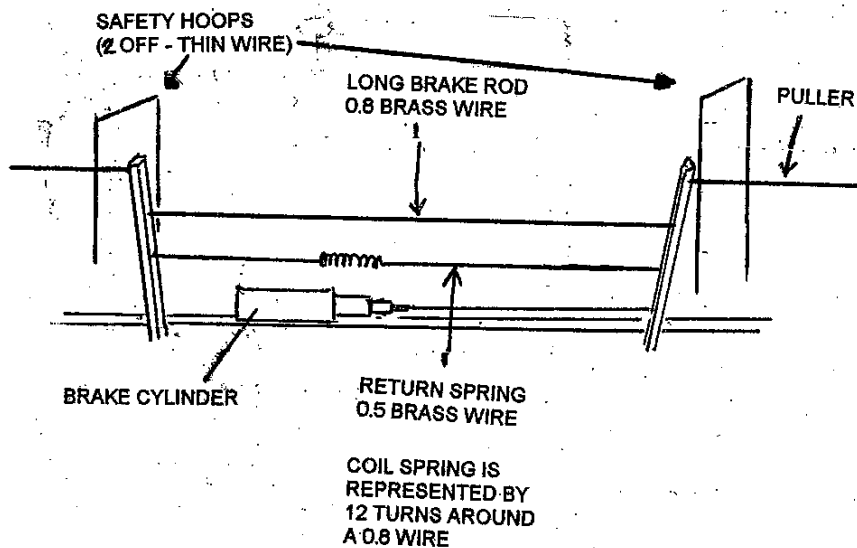
These are simple to make if a jig is constructed on a piece of scrap timber using the dimensions shown, and small nails as a guide to the bending and joining points. The "V" shaped piece can be made overlong and trimmed after completion. Solder in the marked places (a simple butt join will also suffice if the "wraparound" shown proves difficult to make).

Step 21 The next step is to fit the brake shoes. Use 0.8mm wire for the brake hangers. Adjust the length of each of the brake shoe hangers to the correct position relative to the wheels allowing some for the hole. 0.8mm holes were pre-drilled in the floor at Step 8. Slide the brake shoes onto the ends of the straight shafts of the subassemblies made in Step 12, but do not glue yet. Sit the brake hangers in the holes in the wagon floor outside the wheelsets and in line with the wheel treads and thread the puller (see diagram - Step 12) through the end hole of the adjacent brake rigging hanger. Adjust until satisfied with the register of each brake shoe with its attendant wheel as close as practical without touching when the wheels are spun. Glue all points of contact, i.e. the two brake shoes to the brake shoe hangers, the hangers in the floor and the puller in the "V" shaped assembly, trimming the puller when all has set..

Repeat the process with the other end. The following diagram (next page) shows the general arrangement:



Step 22 See the diagram for the addition of the long brake rod (0.8mm wire), return spring and two centre safety loops (0.5mm wire). The coil spring can be made separately using soft thin wire and threaded onto the return spring and tacked in place with superglue, or alternatively use a spare Kadee coupler spring. The centre safety loops are located either side of the brake rigging hangers and over the two puller rods. Holes (0.5mm) were pre-drilled at Step 8 These all should now be positioned.



The four safety loops for the brake puller assemblies outside each wheel should also be fitted. These take the form of an inverted "U" with right angled corners and are fitted into 0.5mm holes drilled in the floor at Step 8.

Step 23 Couplers of your choice should now be fitted as per the suppliers instructions (couplers are not supplied with this kit).

Step 24 The yard brake brackets are now fitted on the inside of the solebar. The ratchet handle is on the outside of the wagon and pointing to the end of the wagon (refer page 3 diagram). Use 0.5 mm wire for this handle and shaft, bending the wire to form the handle. A length of 0.8mm brass wire forms the yard brake shaft between the two spider wheels.

Step 25 The coupler release bar brackets are now fitted. The bars are then formed using 0.5 mm brass wire thin wire. Refer to the picture on page 1 if you need any assistance.

Step 26 Drill suitable holes in the buffer beams between the coupler and angle iron then glue the train pipe hoses in place.

Step 27 The wagon is now ready for painting. Any medium to dark grey gloss paint that is plastic compatible is suitable.

Step 28 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 paintwork, spray a thin coat of clear flat (eg Testors dullcote) over the entire model. Allow 24 hours drying time.

Weathering to your requirements is recommended.

You are ready to roll after lubricating the axles.