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NSWGR 'MRC' REFRIGERATED WAGON

NSWGR 'MBC' COVERED WAGON

1:43 KIT



PROTOTYPE NOTES

The MRC refrigerated wagon is a timber bodied steel-framed vehicle that was introduced in 1932. During the period 1932 to 1950, 249 wagons were built in 7 contracts.

124 numbered 22854 to 22977

50 numbered 25050 to 25099

75 numbered 25700 to 25774

Wagon numbers 22854-22977 and 25050 –25099 were fitted with end ice hatches only. The final batch (25700-25774) were, in addition to the two end hatches, also fitted with two roof hatches on both sides of the centre walkway.

Originally fitted with standard 6'6" steel riveted bogies and screw couplings, they were all eventually fitted with high-speed 2AE bogies and automatic couplers. They were also fitted to take marker lights at each end.

During the 1950s most of the MRCs were withdrawn from refrigerated service and modified to be coded MBC boxcars for general freight service. The change to external appearance of the MRC converted to MBC was the omission of ladders, walkway and ice hatches, but not in every case as some only had the ice hatches sealed.

KIT PARTS LIST

1 floor casting
 2 end castings
 2 side castings
 1 roof casting
 1 roof detail (ice hatches & walkway) casting
 4 2AE bogie sideframe castings
 2 bogie stretcher castings
 2 wagon bolster castings
 4 collars for bogies
 8 inner brake shoe castings
 8 outer brake shoe castings
 8 brass bearings
 4 wheel sets
 1 brake cylinder
 1 air tank
 2 brake rod levers
 2 yard brake brackets (L/H & R/H)
 2 yard brake spider wheels
 2 grade control valves
 2 train pipe hoses
 2 ladders
 4 end platform brackets
 2 end platforms
 4 buffers
 2 door latches
 Brass wire 0.8mm
 Brass wire 0.5mm
 1 sheet transfers
 2 sprues of marker lamp brackets

YOU WILL NEED TO SUPPLY

Couplers -(the kit has been designed to fit Kadee #804 or #805 couplers but feel free to substitute).

Some soft thin wire (0.4mm winding wire or fuse wire is 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 (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 The corners of the sides and ends should be filed to a smooth surface to ensure a clean joint in the corners.

Step 2 Attach one of the side castings to the roof casting, taking care that it is flush with the outside edge of the roof and it should also be flush at each end. You may need to insert some shims of plastic to assist. When happy with the position, apply glue and hold firmly in place until the glue sets.

It is recommended that you reinforce the joint between the roof and side by applying 5-minute epoxy adhesive or “Plastibond”, making sure that the joint is square.

Repeat the process for the other side.

Step 3 To make up the body, glue the ends to the sides/roof ensuring that the joints are square and the corners are flush. Any gaps will need to be puttied.

Ensure the corners are square using the floor as a guide.

Leave until completely set.

Step 4 It is recommended that you reinforce the remaining joints between the roof, sides and ends by applying 5 minute epoxy adhesive and/or gluing some styrene off cuts to the inside of the body, but leaving room for the floor.

The joint between the roof and the sides/ends may require puttying and/or sanding to achieve a satisfactory finish

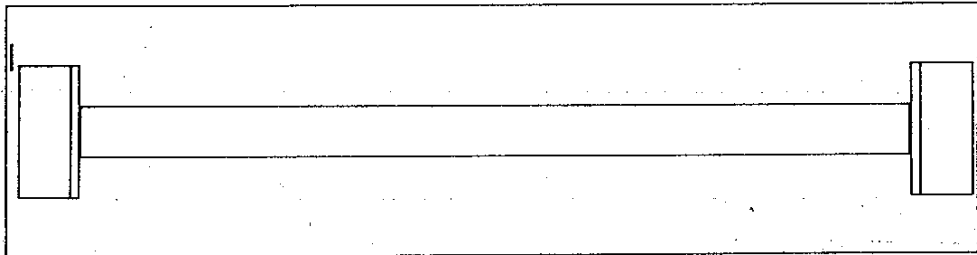
Step 5 Firstly; check that the dimensions of the floor casting match those of the assembled body. Make adjustments to the floor casting where necessary, keeping in mind that any adjustments need to be made equally to each side/end.

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, noting that at the bottom, the ends are approx. 8 mm higher.

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

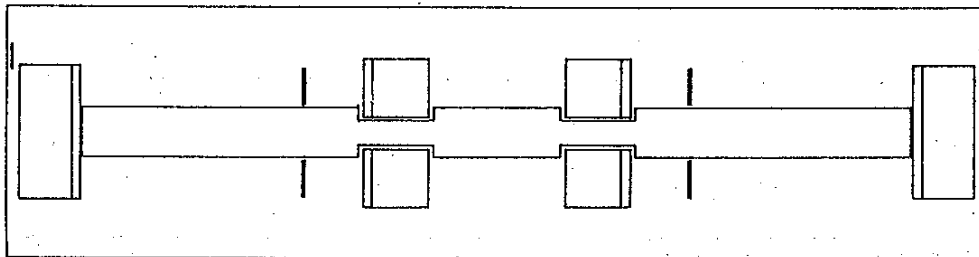
Step 6 If modelling the MBC version; this step may be omitted if so desired.

If modelling the MRC version, fit the roof detail (ice hatches & walkway) casting in position as per the following diagram:



Drawing by H G Armstrong

Note: an alternative arrangement for the roof hatches (applicable to wagons numbered 25700-25774) is as per the following diagram. The casting supplied can be modified and the additional 4 hatches scratch built if modelling this variation.



Drawing by H G Armstrong

Step 7 Adjust the length of the wagon bolster to fit (it has been made longer than required) and drill out the centre hole to allow free passage for the screw with which you intend to attach the bogies later.

Glue the wagon bolsters in place on the underside of the wagon for later attachment of the bogies. This is best done using 5 minute epoxy adhesive. Once the bolsters are in position, place the bolsters on a piece of glass and make sure that the body is level. Hold in position until the epoxy adhesive sets.

BOGIE ASSEMBLY

Step 8 Fit the brass bearings into the side frames supplied and secure with a dab of superglue. Some adjustment to the sideframes / bearings may be necessary.

Step 9 Fit the brake block castings to the side frames. The longer one is on the outside and the smaller on the inside. Dry fit to get them in the correct location relative to the wheel. Contact with the wheel must be avoided to prevent short-circuiting, but still be as close as possible for appearance. Some minor adjustment is possible after the brake blocks are glued in place

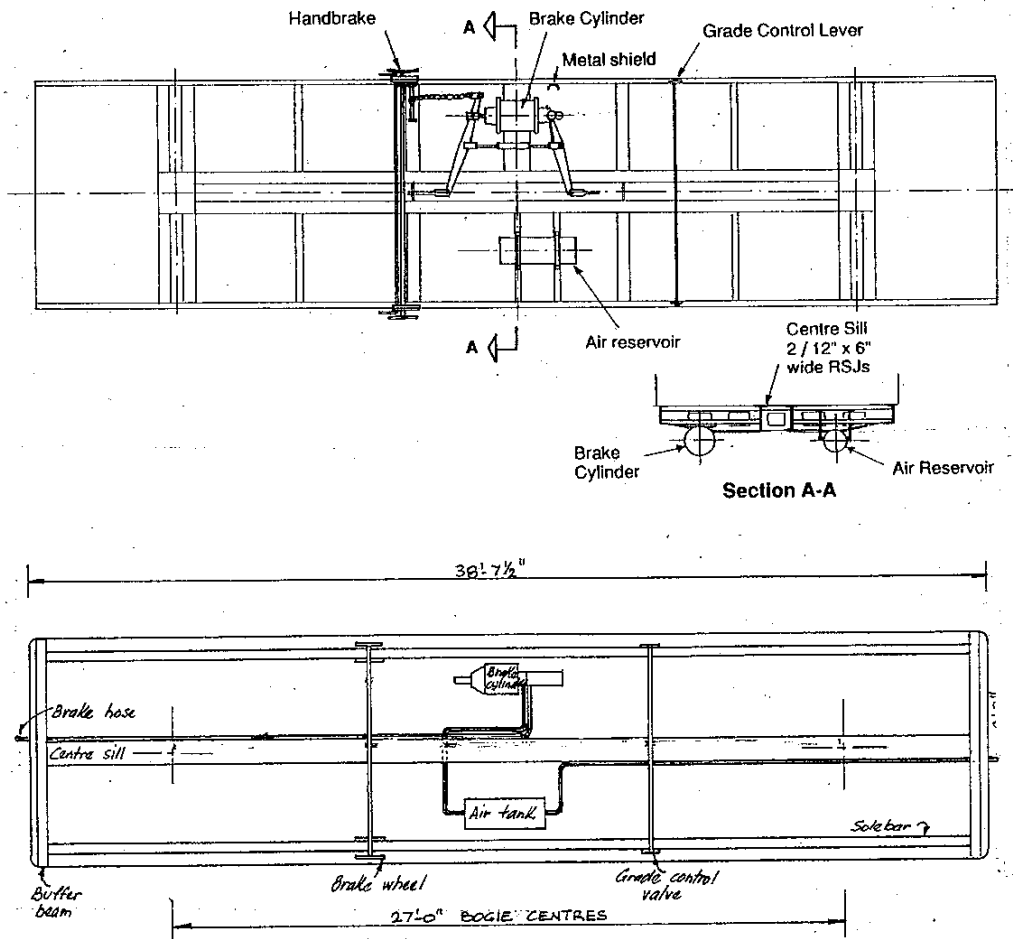
Once satisfied with the positioning, superglue or solder (using low melt solder) in place.

Step 10 Drill the two holes in each bogie bolster for attaching the side frames.

Step 11 Assemble the bogies by attaching two side frames to each bolster, with wheel sets in place. Secure the side frames to the bolster with the collars provided. These are preferably soldered in place using low melt solder (Carrs #70 is ideal) or alternatively glue if you prefer, **but do not use superglue**. If soldering, it is recommended that the surface be 'tinned' first.

FINISHING

Step 12 Fit the brake cylinder, air tank, brake rigging and air pipes to the chassis beams as per the following drawings. Support brackets are cast onto the floor casting to assist with location.

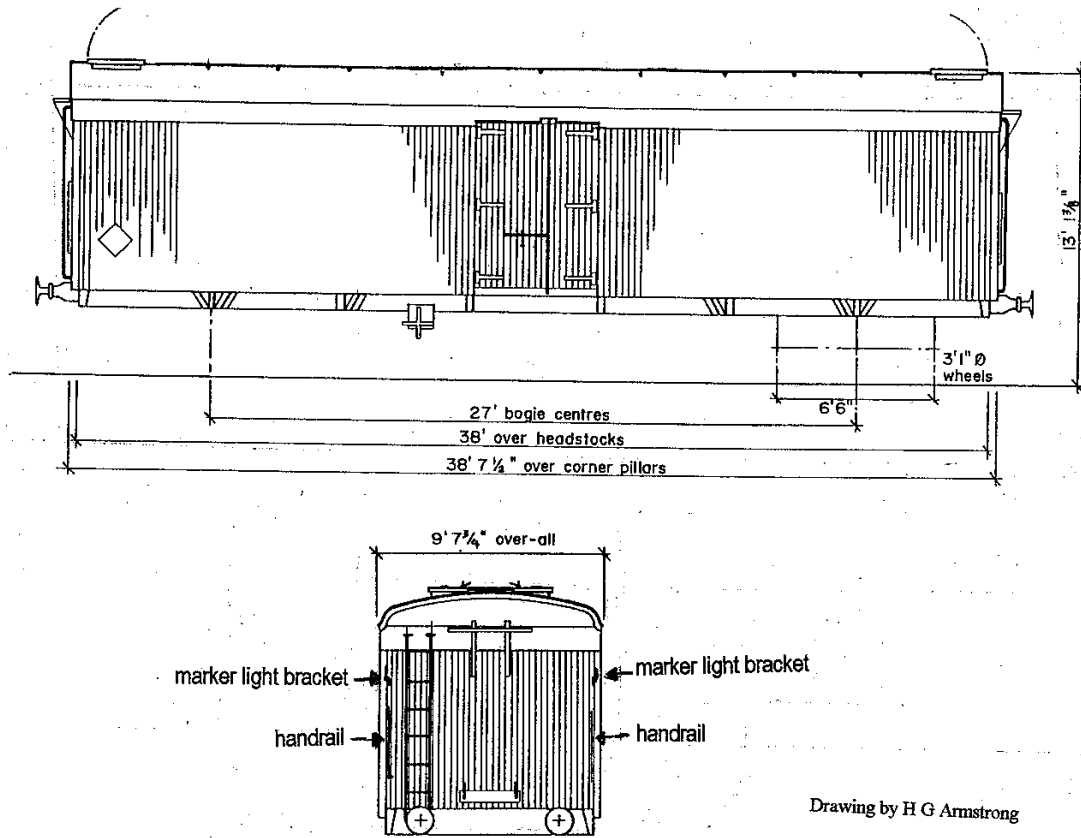


Drawing by B E Lovett

Step 13 The grade control valves are glued in place as indicated in the drawing in Step 12. A length of 0.8mm brass wire joins them. Locating lugs in the floor casting will assist in positioning these valves.

Step 14. 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 12). Locating lugs in the floor casting will assist in positioning his bracket. 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 15 The ladder (optional fitting to the MBC version), platform, handrails and buffers are fitted to the ends of the wagon and the door latches to the side doors as per the following diagram:



Step 16 The coupler release bars are located just above the bottom of the ladder. These should now be formed using 0.5mm brass wire and fitted. The bracket is formed using thin wire.

Step 17 The MRC was fitted with brackets for attachment of marker lights. Two sprues of marker lamp brackets have been provided with the kit. The location of these is shown on the Step 15 diagram

Step 18 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 12.

Step 19 Attach the bogie to the wagon using screws, after drilling suitable hole in the floor casting.

Step 20 Couplers of your choice should now be fitted as per the supplier's instructions (couplers are not supplied with this kit).

Step 21 The wagon is now ready for painting. For the MRC, the roof, under body and bogies are black and the sides and ends are white. Any gloss paint that is plastic compatible should be suitable.

If modelling the MBC, the entire wagon and bogies should be painted standard rollingstock grey. (Note that the transfers supplied will not be suitable).

Step 22 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 similar brand) over entire model. Allow 24 hours drying time.

Weathering to your requirements is recommended.

Further Information

Australian MODEL RAILWAY Magazine August 1986 Pages 21 – 27.

Australian MODEL RAILWAY Magazine April 1993 Pages 50 – 51

You are ready to roll after lubricating the axles