

## Body

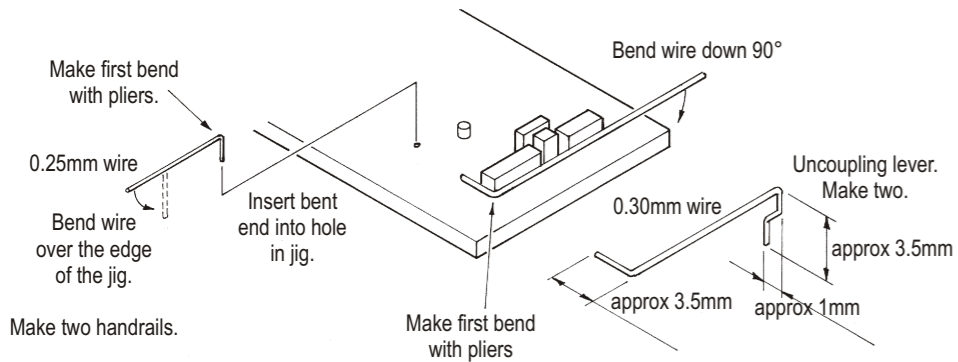
Check the fit of the sides and ends. Note that the ends overlap the sides and there are short pins moulded on the backs of the ends to help with positioning the sides. Assemble one side and one end with cement and set aside. Repeat for the other side and end. When these two sub-assemblies have some strength, assemble them together to make an open box, ensuring that all the corners are at 90°.

Once the cement has hardened and the body has some strength, carefully lower the body down over the underframe so that the pins moulded on the back of each end rest on the top of the floor. When satisfied with the fit, carefully cement the body to the underframe. Now is a good time to add some suitable weight inside the body before cementing the roof in place.

## End Details

Form two uncoupling levers from 0.3mm wire, as shown on figure 6.

Fig. 6



Install the uncoupling levers in the brackets moulded on the ends of the wagons, as shown on figure 7 and secure with ACC or little cubes of 0.4mm polystyrene sheet cemented in place.

Assemble two shunter's steps from parts 6 and 11. Wagons were fitted with steps with wooden step treads when the buffers were first removed around 1957. The step treads made from expanded metal mesh date from about 1968, fairly closely coinciding with the change to the hand brake rigging. If building this version, bend the edges of the etched step up at 90° before attaching the step tread to the frame with solder or ACC. Attach the shunter's steps to the ends with ACC, as shown on figure 7.

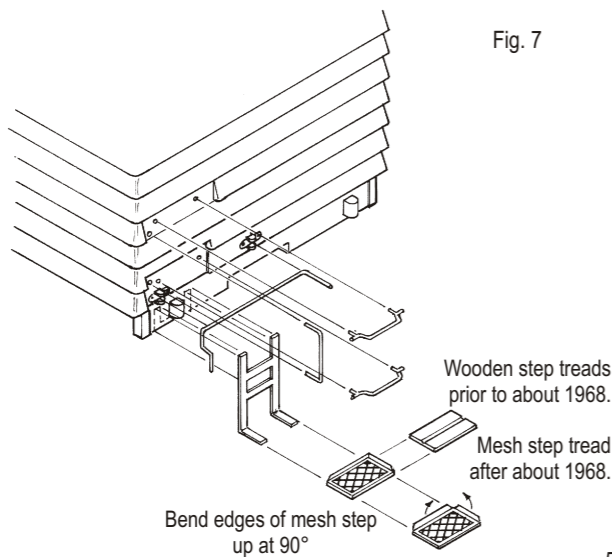


Fig. 7

Brass etchings are supplied for the horizontal handrails, which fit in holes moulded in the ends. To attach the handrails, apply a small amount of ACC on the end of a pin to each hole moulded on the ends and install the handrails with fine tweezers. A vertical handrail needs to be formed for each end from the 0.25mm wire supplied. Refer to Figure 6 for use of the bending jig. Attach the handrails to the ends with superglue, so that there is about 0.5mm clearance between each handrail and the tips of the louvers.

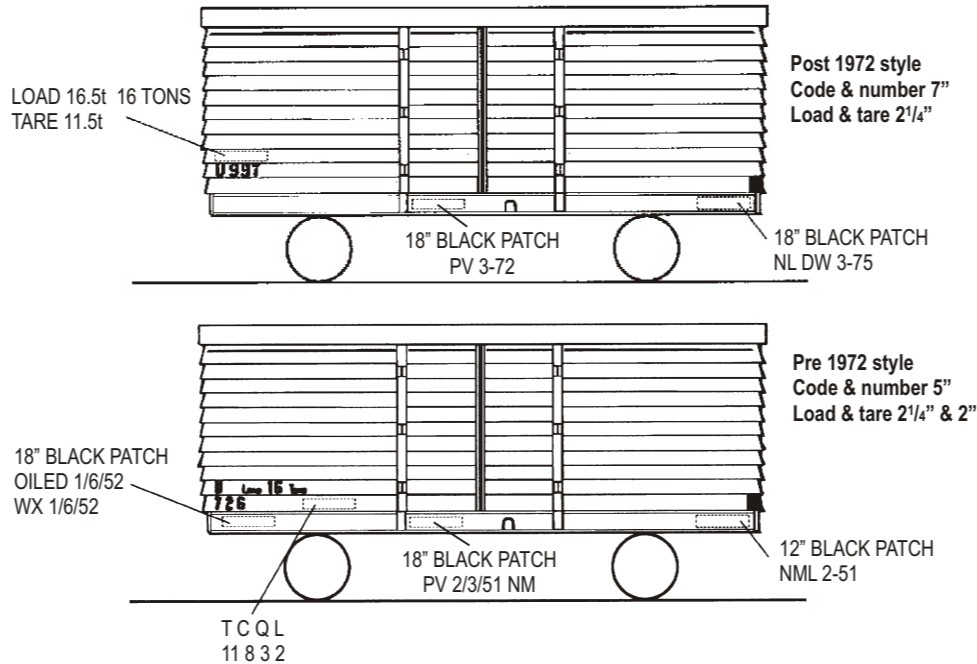
## Couplers

The kit is designed to use Kadee No5 or No58 couplers (not included). Assemble the couplers in their draft gear boxes and clip the ears off each side. Attach the couplers to the floor with cement and/or #2 x 1/4" pan head screws (not included) using the dimple moulded between the centre sills at each end of the floor as a guide for drilling a suitable hole.

## Painting and Decals

The wagon should be painted overall VR Wagon Red with white lettering. We recommend Steam Era Models Wagon Red spraying enamel. Decals are provided for both metric and imperial load/tare and codes. Refer to figure 8 for the placement of lettering and the model should be numbered between 1217 and 1466.

Paint a scale 9" white square on the bottom corner of each end on the hand brake side, as well as the bottom R/H corner of the hand brake side.



## To Apply Decals

1. Trim the decals close to lettering to remove excess film.
2. Immerse in water for ten to fifteen seconds and then set aside on a tissue until the decal straightens out.
3. Slide the decal into position. If it is necessary to adjust the final position, use a small brush that has been dipped in water.
4. Use a damp cloth to soak up excess water.
5. Use a decal setting agent such as Solvaset to assist the decals to snuggle down over rivets and other raised details.
6. A flat finish, such as Testor's Dulcote, applied to the entire model will give a uniform flat finish and hide the decal film.



C/- P.O. Rhyll, Victoria, 3923.

## VICTORIAN RAILWAYS 'U' LOUVRE VAN LEVER HANDBRAKE

### Prototype Notes

The U van was designed for the carriage of perishable goods, although other classes of goods could be carried under certain conditions. The vans represented by this kit were constructed at Bendigo Nth and Newport Workshops between 1938 and 1952 and numbered 1217 to 1466. They featured a 7' 0" wide doorway each side, corrugated iron double roof and lever style handbrake. During the mid to late 1960s the mechanical advantage of the handbrake was increased, by changing the attachment point for the pushrods from above each brake shoe to below.



U van with original handbrake rigging.



U van with modernised hand brake rigging.

Models illustrated has been fitted with couplers (not included).

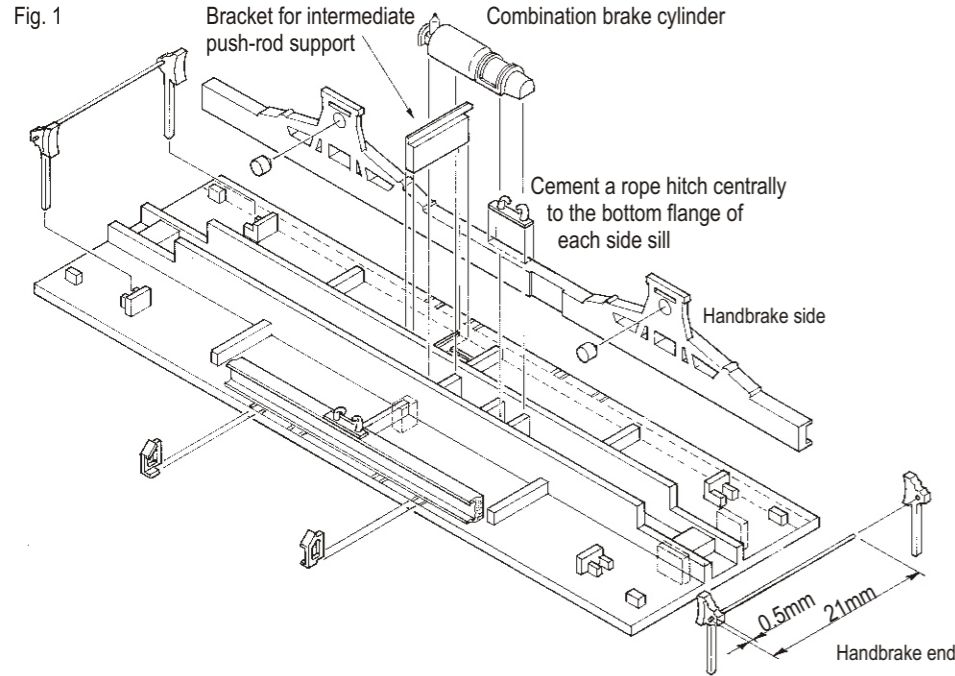
### Assembly

It is recommended that this kit be assembled with a liquid solvent such as Testor's or MEK. Carefully remove parts from the runner system using a sharp knife or side cutters and do not twist parts off. Trim the 'hooks' moulded on the back of some parts with a small pair of side cutters. Some parts are made from etched brass. Half etched lines are provided where parts are to be folded to shape. As a general rule, where 90° bends are to be made, the half etched line goes to the inside of the fold, but where the brass is to be bent double at 180°, the half etched line goes to the outside.

Etched brass parts should be attached to the plastic body with ACC i.e. superglue.

## Underframe

For best results the draft, a shallow angle of about 3°, should be removed from the top edge of each side sill. Glue a piece of 180grit aluminium oxide sandpaper to a flat surface, such as a piece of chipboard, and rub the top edge of each side sill over it. Use a second piece of wood with the edges planed at 90° as a guide. This work will ensure that the side sills are installed at 90° to the floor.



Refer to figure 1 to identify the handbrake end of the floor. Use a pair of side cutters to remove the blocks adjacent to the centre sills at that end, as well as a small block slightly left of centre near the middle of the wagon. This block would have been used to support a triple valve on a van with split brake system.

Press a delrin bearing into the hole in the back of each axlebox and cement the side sills to the floor, with the wheelsets sandwiched between. Ensure that the ends of the side sills are flush with the ends of the floor and that the appropriate side sill, which features a recess to help locate the vee hanger for the handbrake, is located on the handbrake side of the floor.

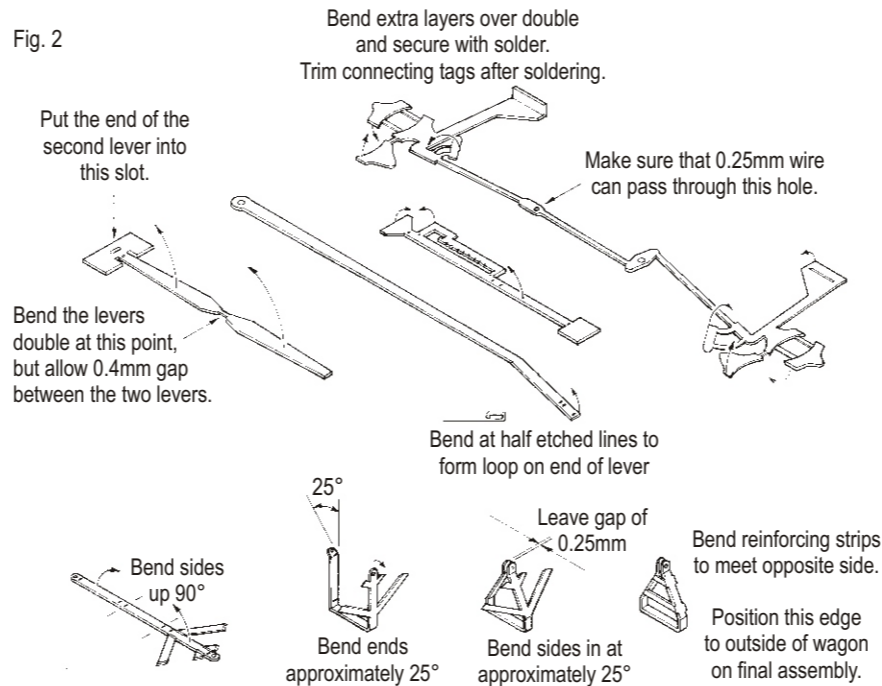
Cement the combination brake cylinder/auxiliary reservoir to the supports moulded between the centre sills. Also cement the bracket for the intermediate pushrod support to the floor, between the centre sill and side sill, guided by the rib moulded on the floor.

Cut two pieces of 0.5mm wire, each 21.0mm long. Smooth the cut ends and press each end into the holes moulded in a pair of brake shoe mouldings, so that the wire projects from the outer face of each shoe by 0.5mm. Locate each assembly in the lugs moulded in the lower face of the floor and secure with cement.

Add the two brackets on each side that support the door stanchions, locating them against the side sills and between the small ridges moulded to the floor. These parts are handed, so ensure that the parts are arranged and orientated as shown on figure 1. Finally cement a rope hitch centrally to the bottom flange of each side sill.

## Handbrake

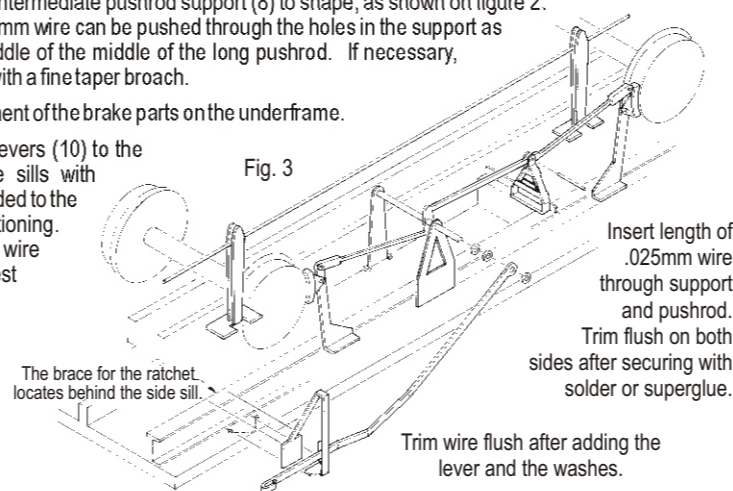
Parts for the brake rigging are provided on the etched brass panel, with part numbers etched adjacent to each part. The hand brake rigging (2) includes detail layers that are best attached while the brake rigging is still part of the brass fret. Fold the detail layers into position, as shown on figure 2 and secure with solder. Either pre-tin the mating surfaces before folding or use solder paste. Only after the layers are soldered in place should the connecting tags be removed and the edges dressed smooth by careful filing.



Form the handbrake ratchet (7), the handle on the end of the hand brake lever (9), the service brake levers (10) and the intermediate pushrod support (8) to shape, as shown on figure 2. Check that a piece of 0.25mm wire can be pushed through the holes in the support as well as the hole in the middle of the middle of the long pushrod. If necessary, enlarge the holes slightly with a fine taper broach.

Refer to figure 3 for placement of the brake parts on the underframe.

Attach the service brake levers (10) to the floor between the centre sills with ACC. There are ribs moulded to the floor to assist with positioning. Place the length of 0.4mm wire between the levers and rest it on top of the axles. Solder the wire to the levers and then trim the wire flush with the outer face of the levers. Also trim the tags between the levers.



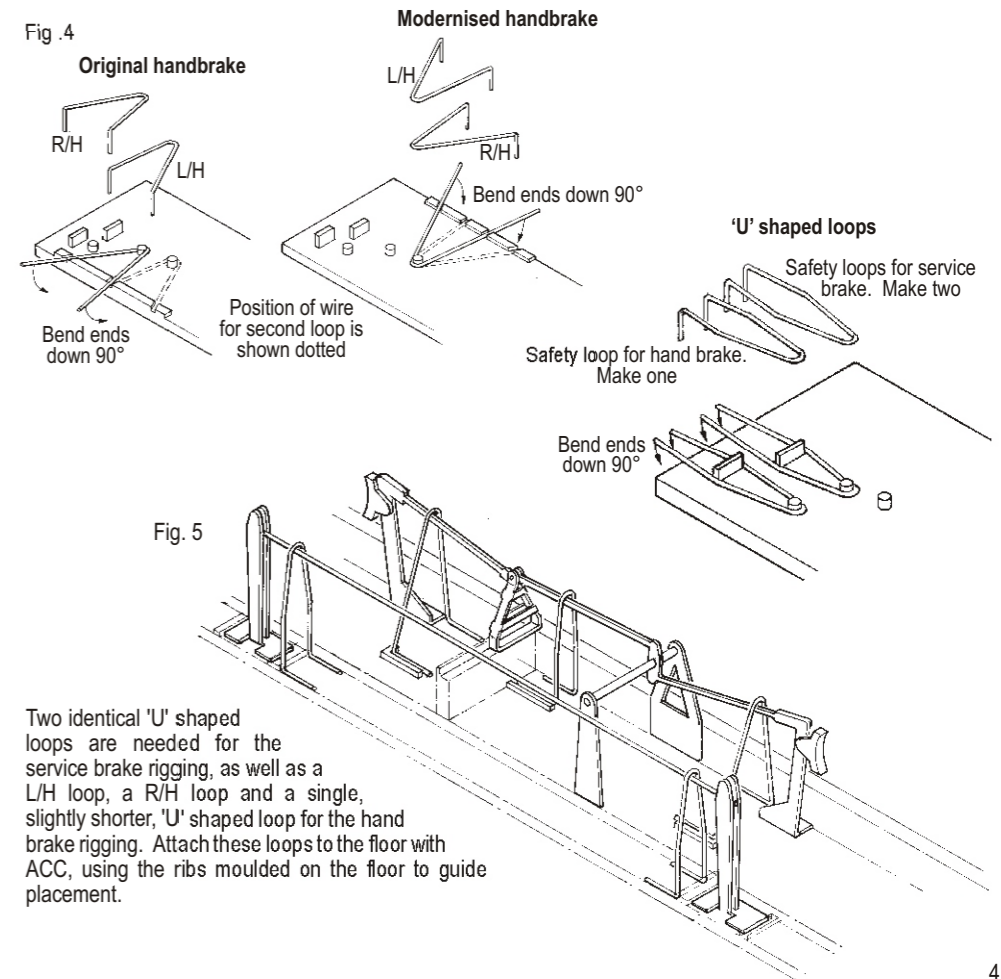
Use ACC to attach the vee hanger (4), the central support (5), the handbrake rigging (2) and the brake ratchet (7) to the floor. Recesses in the back of the side sill together with small lumps on the floor assist with positioning these parts.

Thread a 15mm length of 0.7mm diameter wire through the holes in parts 2, 4 and 5 and secure with ACC or solder. Add two washers (1) to the wire outside the vee hanger.

Form shallow bends in the brake lever at the half etched marks and thread it through the opening in the ratchet, before placing the hole in the end over the 0.7mm wire. Add a third washer (1) to the outside of the lever and secure with solder or ACC, before trimming the excess wire flush with the last washer. If the wagon is to be in traffic the lever should be positioned in the stepped recess at the top of the ratchet, but can be placed towards the bottom of the ratchet if the wagon is to be parked on a siding.

## Safety loops

Safety loops were positioned around the brake rigging to prevent parts dragging on the track in the event of a failure of any of the connecting pins. A jig is provided to assist with forming these to shape from 0.25mm brass wire. Cut the wire into five pieces each 30mm long and form them into a 'U' shape, by bending around the shank of a 1.0mm or #61 drill. Refer to figure 4, which shows how the rest of each loop is formed to shape.



Two identical 'U' shaped loops are needed for the service brake rigging, as well as a L/H loop, a R/H loop and a single, slightly shorter, 'U' shaped loop for the hand brake rigging. Attach these loops to the floor with ACC, using the ribs moulded on the floor to guide placement.