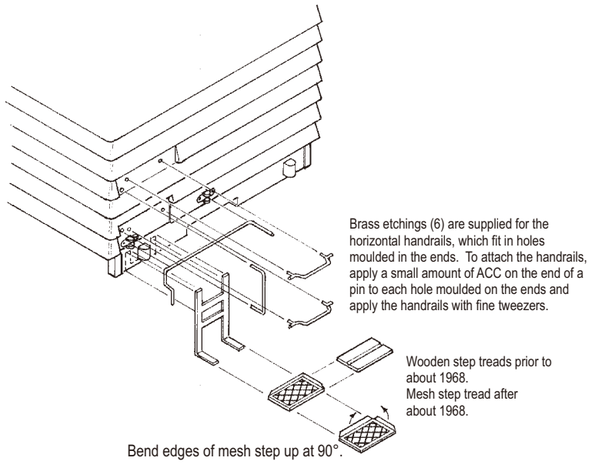
Assemble two shunters' steps from parts 8 and 9 or 10. Wagons were fitted with wooden step treads (10) when the buffers were first removed around 1957. The step treads made from expanded metal mesh date from about 1968. If building this version, bend the edges of the mesh steps (9) up at 90° before attaching the step tread to the frame with solder or ACC. Attach the shunters' steps to the ends with ACC, as shown on figure 6.

Fig. 6



Handbrake Details

Bend the feet of the brake rigging etch (6) at 90°. For wagons 278 and 281 to 460 it will also be necessary to make slight adjustments to the etching at the positions marked with a * on figure 1, so that the hole in the centre lines up with the holes in the etched supports (4). Secure the feet to floor with ACC, located by the small ridges moulded between the centre sills as a guide. Thread the length of 0.7mm wire through the plummer block or vee hanger on the handbrake side, through the etched supports and the crank in the centre of the brake rigging. For wagons 278 and 281 to 460 this shaft finishes flush with the second support, but for wagons 461 to 560 it should extend across the wagon, to end flush with the outer face of the vee hanger on the second side sill.

Form the handbrake ratchet (3) to shape, as shown on figure 1. Secure the ratchet to the underframe with ACC, locating the bracket at the top between the two raised dots moulded on the floor and positioning the end of the brace in the recess moulded in the back of the side sill.

Bend a loop in the end of the brake lever (7), with the half etched lines inside the bends. Form shallow bends at the half etched marks on the lever, to form a shape as shown on figure 1. Thread the lever through the ratchet and position it over the 0.7mm cross shaft, along with two washers (5). Secure the parts with ACC or low melt solder and trim the wire flush with the face of the outer washer.

Couplers

The kit is designed to use Kadee No5 or No58 couplers (not included). Assemble the couplers in their draught gear boxes and clip the ears off each side. Attach the couplers to the floor with cement and/or #2 x ¼" pan head screws (not included), using the dimple moulded between the centre sills at each end of the floor as a guide for drilling suitable holes.

Painting and Decals

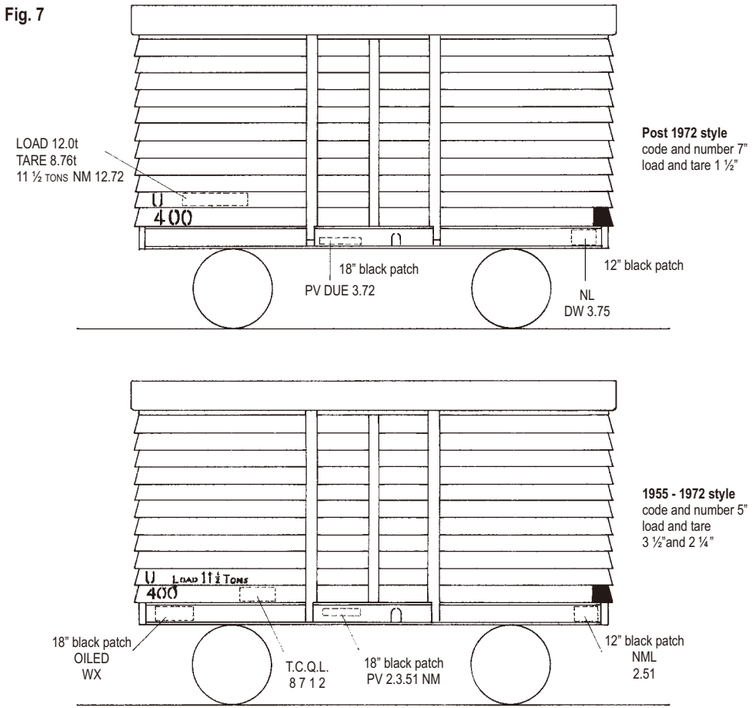
The wagon should be painted overall VR wagon red. We recommend Steam Era Models Wagon Red spraying enamel.

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.

Decals are provided for both metric and imperial load/tare and codes. Refer to figure 7 for the placement of lettering.

HD vans 67, 95, 97, 98, 103 and 106 were all recoded from U vans numbered between 281 and 460 during the mid 1970s and can be represented by this kit, although all but HD106 were also fitted with standard buffers and transition couplings at this time.

Fig. 7



To Apply Decals

1. Trim the decals close to lettering to remove excess film.
2. Immerse in water for 10 to 15 seconds, then set aside on the model until the decal straightens out.
3. Slide the decal into position. If it is necessary to adjust the 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 e.g. 'Solvaset' to assist the decals to snuggle down over raised detail such as rivets.
6. Apply a flat finish such as Humbrol Mattcote or Estapol Matt to hide the decal film and provide a uniform appearance.

Note: Decals adhere best to a gloss surface.

Steam Era Models
C/- P.O. Rhyll, Victoria, 3923.

VICTORIAN RAILWAYS SHORT STEEL 'U' VAN

Prototype Notes

Most rolling stock constructed by or for the Victorian Railways during the 19th century involved significant amounts of wood. Whilst the use of wood allowed savings in initial cost, this was offset by higher maintenance costs in the longer term. Accordingly U 278, the first example of a 10'6" wheelbase louvre van with steel body and underframe, was constructed at Newport Workshops in 1897. Despite the higher build cost of this form of construction, as compared to the earlier series of vans with wooden bodies, it was considered that the projected longer life and reduced maintenance costs justified the construction of further vans to this design. Consequently, a batch of 180 vans, numbered U 281 to U 460, was constructed to the same design between 1898 and 1900. These vans had the handbrake on the opposite side of the van to the brake cylinder and the brake weigh shaft mounted in a plummer block directly below the bottom flange of the side sill. A second batch of 100 vans, numbered U 461 to U 560, was constructed at Newport Workshops in 1906. This second batch of vans had the handbrake installed on the same side of the van as the brake cylinder and the brake weigh shaft was mounted in shallow vee brackets 8 ¼" below the bottom of the side sills. Some vans were constructed with a trap door in the top louvre at one end and further vans, but not all, were retrofitted with this door.

This kit is representative of a van as running between about 1955, when buffers were removed, and 1978 when the last examples were withdrawn. A number were reclassified as HD, operating in departmental service as tool vans.

A more detailed history of these vans can be found in the April 1999 Australian Model Railway Magazine.

☐ **Short Steel U Van with trap door at one end.**

☐ **Short Steel U Van without any trap door.**

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

Assembly

It is recommended that this kit be assembled with a liquid solvent cement, such as Testor's or Microscale Microweld. Some parts have hooks moulded on the back to assist with removal from the mould. These should be removed carefully with small side cutters or a sharp knife. A number of details are provided in etched brass, which should be attached to the model with ACC (superglue). 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.

Underframe

Use a sharp knife and/or a large file to remove the shallow step from each edge of the floor moulding. The overall width of the floor should be 27mm.

Remove the draft, a shallow angle of about 3°, 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.

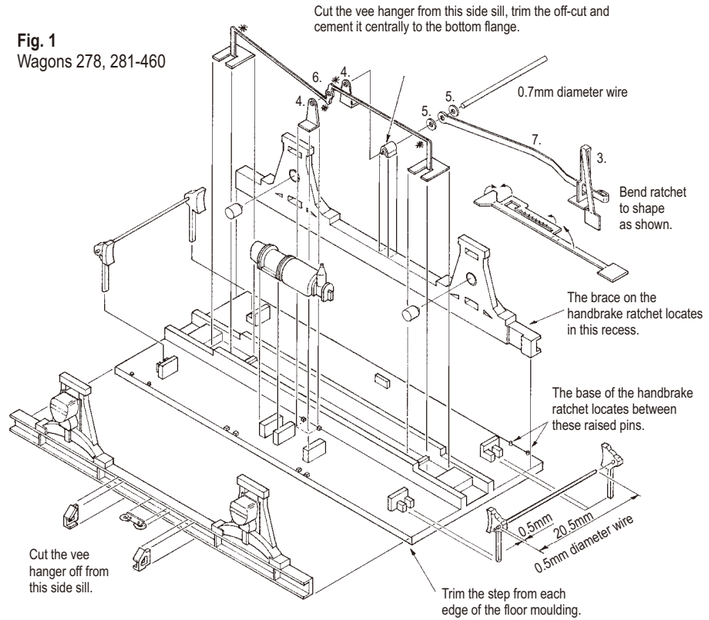
At this stage a decision should be made as to which series of wagons is to be represented. Either U278 and 281 to 460, or U461 to 560

Underframe Detail, U278 and 281 to 460

For the arrangement of parts refer to figure 1.

Identify the side sill to be used on the handbrake side; it has a shallow recess on the back at one end. Drill a 0.7mm hole through the centre of the boss of the vee hanger on the bottom of this side sill. Cut this vee hanger off the bottom of the side sill, trim the offcut and cement it to the centre of the bottom face of the side sill. Remove the vee hanger completely from the second side sill. Press a delrin bearing into the hole in the back of each axle box.

Fig. 1
Wagons 278, 281-460



The floor includes three ribs moulded towards the centre near one edge. Cement the side sills to the floor, with the plain side sill against these ribs and the ends flush with the ends of the floor. Cement the handbrake side sill on the opposite side, with the wheelsets sandwiched between. Cement the brake cylinder to the supports and cement a rope hitch centrally to the web of each side sill. Add the two brackets on each side that support the door pillars, locating them against the side sills and between the small ridges moulded on the floor.

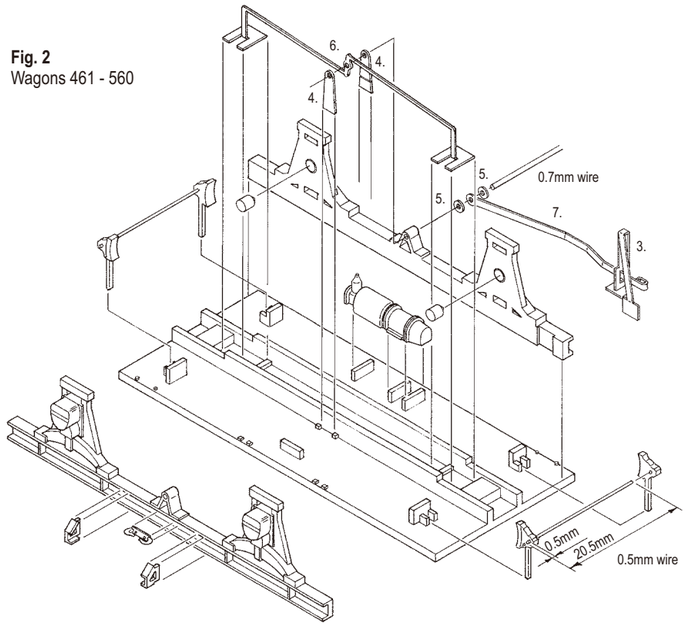
Cut two pieces of 0.5mm wire, each 20.5mm long and smooth the cut ends. Press each end into the holes moulded in a pair of brake shoes, so that the wire projects from the face of each brake shoe by 0.5mm. Locate each assembly in the lugs moulded on the lower face of the floor and secure with cement.

Bend the feet at 90° on the two central brake supports (4) and secure them to the centre sills with ACC. Small ribs are moulded on the surface of the floor to aid with positioning, but also make sure that the holes in these brackets are in line with the hole in the plummer bloke on the side sill. The brake rigging etch (6) and the hand brake detail parts (3 & 7) are quite fragile, so it is best to leave these parts off until after the body is assembled and added to the underframe.

Underframe Detail, U461 to 560

The sequence of assembly should be broadly as outlined above for the other arrangement, but the side sill with the step in the back surface for the handbrake should be installed on the same side as the brake cylinder. Both vee hangers should be left intact on the side sills and drill a 0.7mm hole through the boss at the base of each hanger. It is not necessary to make any bend in the etched brake supports (4). Refer to figure 2 for the arrangement of parts.

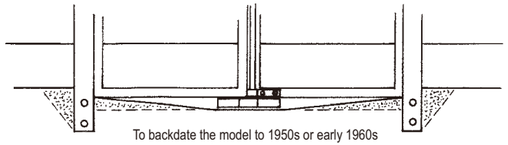
Fig. 2
Wagons 461 - 560



Body

The floors of these vans were reinforced during the 1960s. As a consequence gussets were added to the base of each door pillar and a straight stiffener below the doorway. The sides have been moulded in this condition, but even in the 1970s there were still many vans in traffic with the original tapered stiffener under the doors and even the odd van without the gussets for the door pillars. These areas have been moulded thinner, however, so the model can be backdated by removing excess material using the steps on the back surface as a guide.

Fig. 3



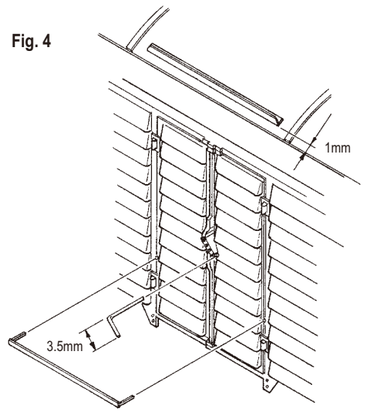
To backdate the model to 1950s or early 1960s remove the areas shown shaded.

Cement one side to an end to form an 'L' shaped subassembly. Repeat for the other side and end and allow a few minutes for the joints to gain some strength before cementing the subassemblies together to form an open box. Temporarily place the roof on top of the body to ensure that the assembly is square and true.

Cut two pieces of 0.4mm wire, each about 15mm long. Make a 90° bend 3.5mm from the end and insert the wire through the hole in the centre between the doors. Use a scrap of 0.5mm polystyrene sheet to space the wire handle off the side and bend the excess wire over on the inside of the body. File a notch in a short length of scrap sprue and secure the wire on the inside, so that the handle is in line with the detail moulded on the side.

Two strips representing the locking bars are included in the panel of etched brass. Remove the parts from the etched fret and bend each end of the strips at 90°, to allow them to be inserted in the holes at each side of the doorway. Secure the strips with ACC on the inside.

Fig. 4



Lower the body onto the underframe so that the steps moulded in the back surfaces of the sides and ends rest on the top surface of the floor. Secure with a brush of cement around the inside. As a general rule the trapdoor, when fitted, was located at the end furthest from the hand brake, although there were exceptions. In order to be certain of absolute accuracy it will pay to track down a prototype photo.

Cement the roof on top of the body and add a moulded plastic rain strip to the top surface above each doorway, so that it is centred above the doorway and set back from the edge of the roof by 1mm.

End details

Form two uncoupling levers from 0.3mm wire and two vertical handrails from 0.25mm wire, as shown on figure 5.

Fig. 5