Shunter's steps

Assemble two shunter's steps from parts 1 and 3 or 4. Wagons were fitted with steps with wooden step treads (3) 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 etched step (4) 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 4.

Handrails

Etched brass handrails (6) are supplied 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 apply the handrails with fine tweezers.

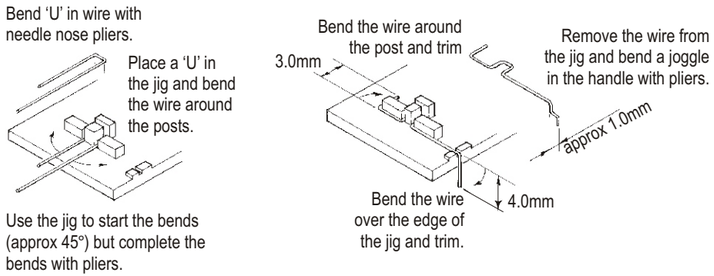
Ridge gear

Bend tarpaulin supports to shape from 0.7mm wire. If the support is to be installed in the upright position drill a 0.7mm diameter hole in each end, directly above the pivot moulded on the end and secure the support with ACC. If the support bar is to be installed in the lowered position, just form the bar into an 'L' shape and file the end so that the bar rests against the curved edge of the pivot block. Secure the bar to the end and to the coping on the top edge of the side with ACC. Cement the retaining brackets for the ridge gear centrally on the top coping at each end. Also cement a ridge gear support to each end stanchion, below the little mark incorporated in each stanchion to guide the location. Spares are provided of these parts in case one should disappear into orbit or the carpet.

Uncoupling levers

Form two uncoupling levers to shape from the 0.3mm wire, as shown on figure 5.

Fig. 5



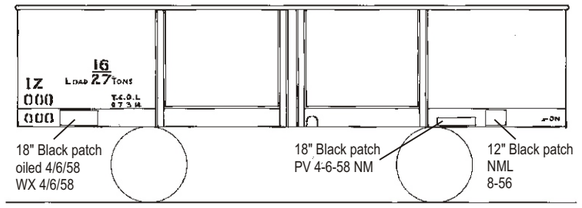
Install the uncoupling levers on the ends of the wagon, secured in the moulded brackets with ACC.

Painting and decals

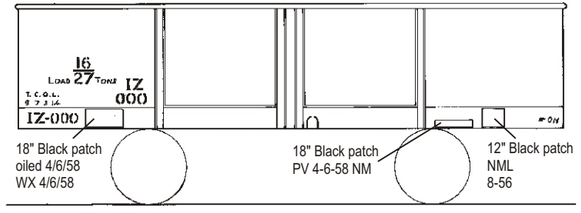
Wagon red body and underframe

1957-1958 Style
Code & number 5"

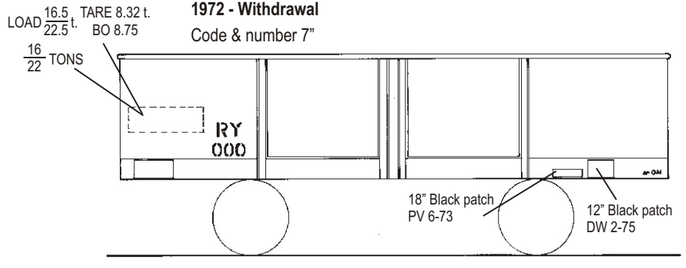
The interior of all wagons was left unpainted steel.



1959-1964 Style
Code & number 5" For **1965 - 1972:** change code to RY and capacity to 16/22 TONS



1972 - Withdrawal
Code & number 7"



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.

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

VICTORIAN RAILWAYS WELDED GZ/IZ/RY WAGON WHEEL HAND BRAKE

Prototype Notes

This series of open wagons were originally constructed as GZ wagons. GZ990-995 and 1000-1030 were constructed at Newport Workshops in 1931/34 and were the Victorian Railways first grain proof wagons suitable for the carriage of bulk wheat. Wagons 911-989, 996-999 and 1101-2000 followed, constructed at Newport, Ballarat Nth and Bendigo Nth workshops between 1935 and 1939. The GY wagons, first constructed in 1939, were a development of the GZ with greater cubic capacity, but a lower weight capacity of 22 Tons compared to 27 Tons for the GZ. Further GY wagons were constructed during WWII with the pace of construction accelerating in the years immediately following. By the mid 1950s there were sufficient GY wagons available to transport Victoria's grain harvests and the GZ wagons were recoded IZ, retaining their numbers. At about this time the buffers were removed and shunter's steps were added to the headstocks along with additional handrails on each end. The kit is representative of a wagon in this condition.

During 1963/64 there was a spate of derailments that were traced to 'W' irons of 27 Ton capacity IZ and HZ wagons cracking where they were riveted to the underframe. The solution adopted was to replace the 'W' irons and reclassify the wagons RY, retaining the same numbers, with a reduced capacity rating of 16/22 Tons.

The wagons represented by this kit featured a wheel handbrake and were numbered from 911-1030 and 1101-1700.

Model 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 sidecutters 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 90º 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 180º, the half etched line goes to the outside.

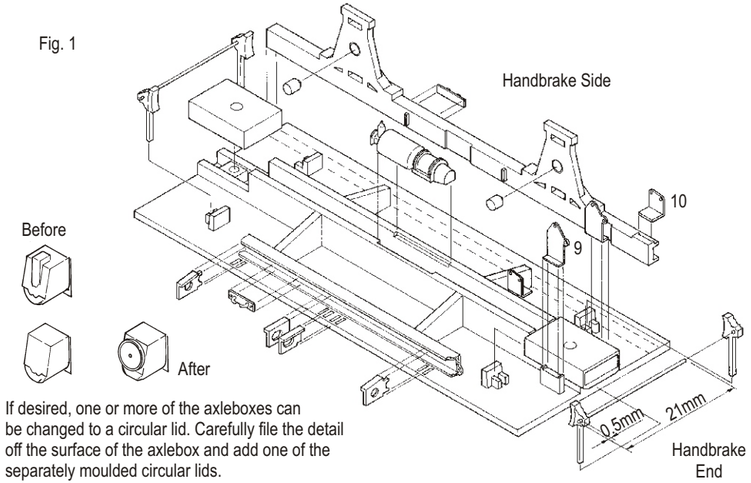
Etched brass parts should be attached to the plastic body with ACC i.e. superglue.

The body has been moulded in fairly pristine condition, with neat door pressings. By the 1970s these pressings were well worn, having been dinged and straightened many times over the years. You may wish to simulate some of this damage by judicious use of a file, abrasive paper and model putty before assembly of the body components.

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.

Fig. 1



If desired, one or more of the axleboxes can be changed to a circular lid. Carefully file the detail off the surface of the axlebox and add one of the separately moulded circular lids.

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. The 'handbrake end' of each side sill, which features a raised locater for the handwheel brackets on the bottom flange, should also be positioned at the handbrake end of the floor.

Cement the brake cylinder to the centre sills, orientated as shown in fig 1.

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 four brackets on each side that support the door stanchions, locating them against the side sills and between the small ridges moulded to the floor. Each part is slightly different, so ensure that the parts are arranged and orientated as shown on figure 1. Finally cement a rope hitch to the web of each side sill. The hitches on each side are located directly opposite one another, so that each is centred below the door which is furthest from the handbrake end.

Couplers

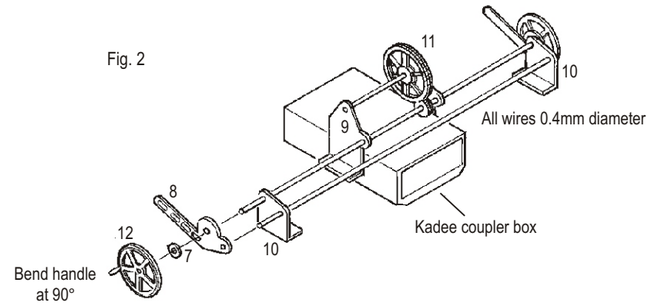
The kit is designed to use Kadee No5 or No58 couplers (not included). Assemble the couplers in their draft gear boxes and clip the ears off each side. Attach the couplers to the floor with cement and/or #2 x 3/16 pan head screws (not included) using the holes moulded between the centre sills at each end of the floor.

Handbrake

Parts for the brake rigging are provided on the etched brass panel, with part numbers etched adjacent to each part. Holes are etched as appropriate, but it pays to check that the 0.4mm wire can pass through the holes in the various parts before removing the parts from the etched fret. If necessary the holes can be enlarged by careful use of a taper broach or 0.4mm drill.

Form the gearbox sides (9) and the handwheel support plates (10) to shape and use ACC to attach them to the support blocks moulded at the handbrake end of the floor and to the side sills, as shown on figure 1. Tin the back faces of the gearwheel (11), fold it double and sweat the two layers together, ensuring that the holes in both layers are in alignment. Alternatively, the two layers can be bonded together with ACC.

Fig. 2



Thread two 30mm lengths and a 10mm length of 0.4mm wire through the gearbox sides and the handwheel support plates, as shown on figure 2, making sure to trap the gearwheel and pinion between the gearbox plates. Also make sure that the gearwheel and pinion are positioned closer to one gearbox plate. Secure the wires in place with low-melt solder or ACC. Trim the short wire flush with the sides of the gearbox plates.

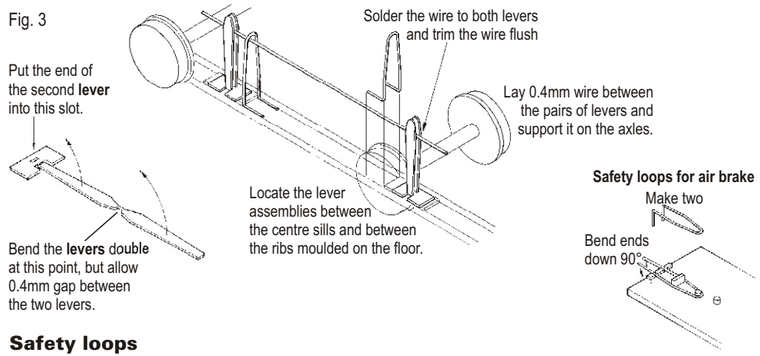
Position a ratchet wheel/pawl lever (8) over the pairs of wires at each handwheel bracket and secure with low-melt solder or ACC. Trim the outer wire flush with the pawl lever.

Thread a washer (7) over the inner shaft on each side. The handwheels (12) have a detailed face, which goes to the outside of the model. Bend up the handle at 90° to the circumference of each handwheel and reinforce the bend with a small amount of solder or ACC. Place a handwheel over the shaft on each side and attach with low-melt solder or ACC before trimming any excess wire flush with the face of the handwheel.

Brake rigging

Form the brake levers to shape, as shown on figure 3. Attach the brake levers (2) 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.

Fig. 3



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 two 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 3, which shows how the rest of each loop is formed to shape.

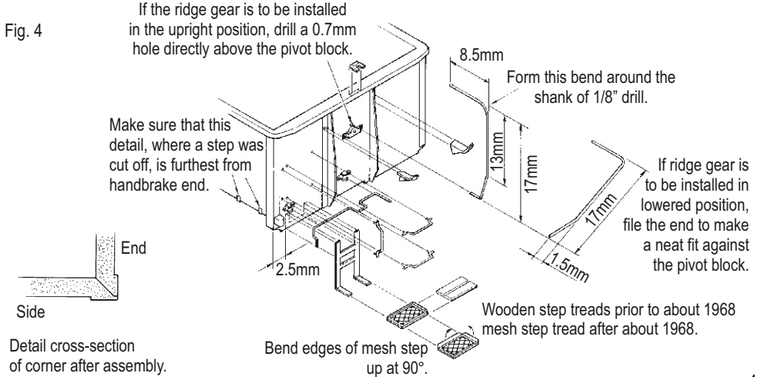
Two identical loops are needed for the air brake rigging. Attach these loops to the floor with ACC, using the ribs moulded on the floor between the centre sills to guide placement.

Body

Check the fit of the sides and ends. Note that the sides overlap the ends by a very small amount, as shown in the detail cross-section on figure 4. Assemble one side and one end with cement and set aside. Repeat for the other side and end. When these two sub-assembles have some strength, assemble them together to make an open box, ensuring that all the corners are at 90° and that the body has two identical sides.

Once the cement has hardened and the body has some strength, carefully lower the body down over the underframe so that the cut-outs in each end are located over the coupler draft gear boxes. There are two small squares moulded near the bottom edge of one side towards the R/H end. Ensure that this detail is furthest from the handbrake end. The shallow step moulded in the back of each side and end should rest on top of the floor. When satisfied with the fit, carefully cement the body to the underframe.

Fig. 4



Detail cross-section of corner after assembly.