

## VICTORIAN RAILWAYS 'Z' VAN (Split pan axle-boxes)

### Prototype Notes

Six wheeled Guard's vans, generally similar to the Z, trailed goods, passenger and mixed trains on the Victorian Railways since its inception in the 1850s until their withdrawal in the 1980s, only a few years before the withdrawal of all Guard's vans. Vans numbered up to 581 Z were constructed with two-piece or 'split pan' axle-boxes, but there was a program, commencing in the early 1950s, to replace these axle-boxes with one piece boxes featuring a flip-top lid. The program was not comprehensive and there were large numbers of vans with split pan axle-boxes still trailing trains in the late 1950s and early 1960s. The obvious spotting difference when examining photographs is the higher position of the bottom side step and that there are fewer support brackets for the step. The kit portrays a van with split pan axle-boxes, as running in the 1950s and '60s with four windows in the front and back wall of the cupola. The model may be modernised to mid '60s onwards by blanking out the middle two windows with 0.005" polystyrene or brass sheet. As a general rule, Z vans retained buffers (not included) until converted to ZL vans in the 1960s with long travel draft gear. At least one van (419ZL) made it into the 1970s with split pan axle-boxes.



*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, which should be applied with a small brush. A sharp modelling knife, an assortment of needle files, a #80 drill and small pliers will also be needed. Many of the parts have projections on the back which assist with removing the parts from the dies. These projections should be removed with a small set of flush cutting clippers or a sharp knife. Each part is attached to the runner system by a small 'gate'. When removing a part, cut through the gate, then carefully trim and file any remaining gate to the part. Leave parts on the runners until called for in the instructions and do not twist them off, as they may be damaged. All dimensions on the diagrams are in millimetres.

Cut pieces of the clear plastic supplied to the dimensions shown on figure 1. Check the sizes in the recess in the back of each window and when a satisfactory fit is achieved put the clear parts aside in a plastic bag for use later.

Fig. 1

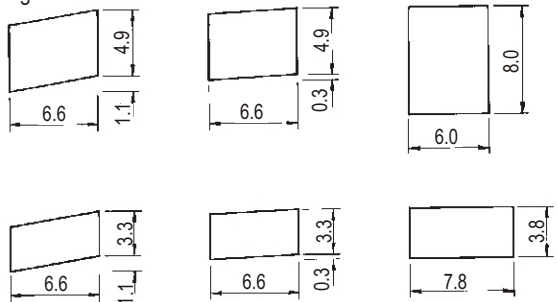
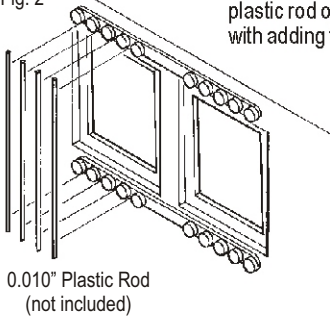


Fig. 2



If desired, bars can be added behind the windows of the van door using pieces of 0.010" plastic rod or wire (not included) as shown on figure 2. Note that these bars will not interfere with adding the clear plastic glazing at a later stage.

Another optional extra is to fit wire handrails between the van section doors. Locating marks are moulded in place which should be drilled #80 or 0.35mm. Bend the wire supplied into a large U shape before bending the end of each leg back to insert in the holes. Secure the handrail with ACC.

Fig. 3

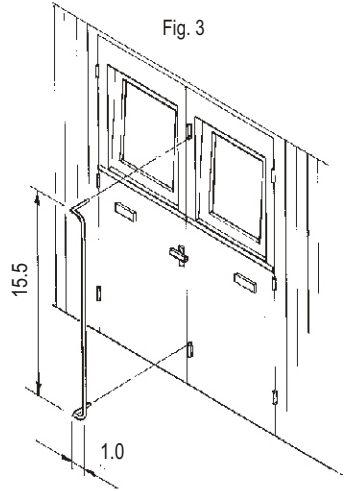
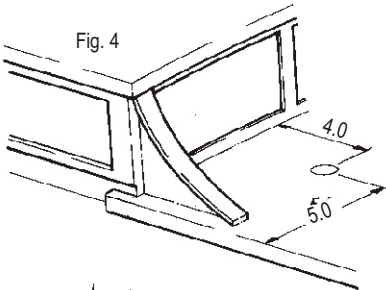
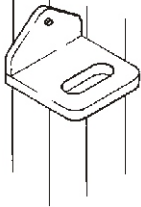


Fig. 4



Cement the sides to the ends to form a box, taking care to ensure that the joins are neat and square. Cement the van roof on top of the sides, so that the end of the roof butts up against the cupola sides. Take care that the roof overhangs the sides evenly on each side. Cement the inner cupola end on top of the roof against the sides. Mark the position of the chimney on the roof and assemble the chimney top to the base. The underside of the base is bevelled to match the curvature of the roof, so be careful that the chimney is orientated correctly and vertical when cementing it to the roof. Also cement the cupola braces to the roof and the cupola, one on each side. Refer to figure 4.

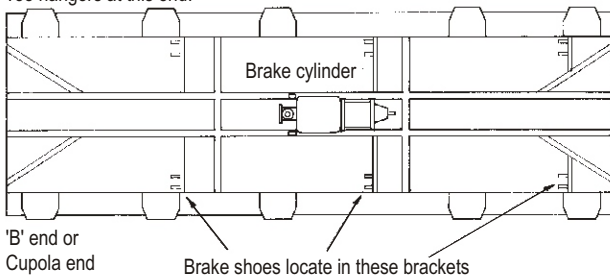
Fig. 5



Cement the three end steps to the 'A' end of the van, immediately below the triangular brackets moulded onto the end. Refer to figure 5.

Fig. 6

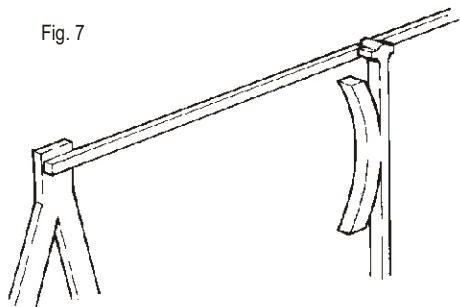
Position side sills with vee hangers at this end.



Carefully remove the 'draw' or slight bevel from the tops of the side sills, so that they will stand up perpendicular to the floor. The side sills have been moulded over length, but a mark is moulded in the back at each end. Cut the excess length off each end of both side sills, using the marks as a guide. Press a delrin bearing (packed with the wheels) into the hole in the back of each axle-box. Note that the floor and side sills are handed and need to be correctly orientated on assembly as shown on figure 6.

Cement the side sills to the floor with the wheels sandwiched between. Use the wheelset with the finer -88 profile wheels in the central position. Make sure that the back of each side sill is hard up against the floor structure, that the wheels turn freely and that the axles are perpendicular to the side sills. Cement the brake cylinder to the centre sills with the end of the reservoir butted against the two small stops moulded on the centre sills. The piston rod should point towards the 'A' end.

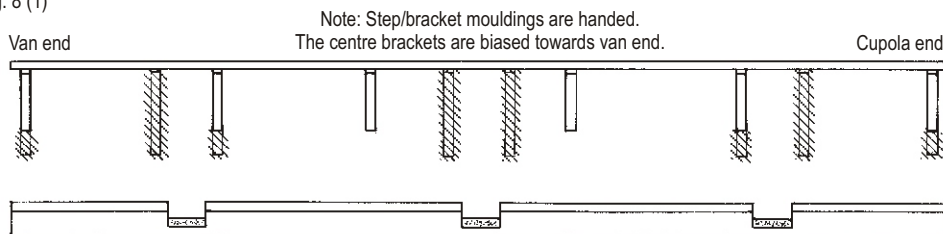
Fig. 7



Cement the brake hanger/shoe mouldings to the floor in the recesses moulded on the lower face of the floor. Make sure that there is sufficient clearance to the wheels. Cut sections of the 0.010" x 0.030" polystyrene strip provided and cement them to the lugs at the ends of the brake hangers, to represent the pull rods. The last strip should be cemented behind the 'V' hanger at the B end of the underframe and all strips can also be cemented to the backs of the W irons. See figure 7.

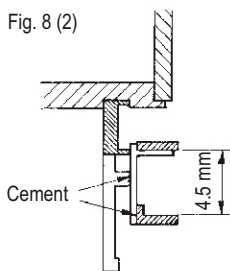
The vans with split pan axle-boxes had a different arrangement of step brackets, so extra brackets have been moulded on the top step. Trim off the brackets that are not required, as shown on figure 8.

Fig. 8 (1)



Reduce the size of each opening in the bottom step by cementing a small piece of 0.030" square strip (not included) into each opening.

Fig. 8 (2)



Cement the lower step to the step brackets, so that the gap between the steps is 4.5mm, as shown on figure 8(2). Set the sub-assemblies aside to harden.

## Painting and Decals

These vans had a wagon red body, black underframe and a brown roof. We recommend Steam Era Models Wagon Red spraying enamel, Humbrol gloss Black and Humbrol matt Dark Earth respectively. Put masking tape around the inside of the cupola before spraying the body wagon red. Apply the decals to the body, as shown on figure 9 (over page). After the decals have set, apply a coat of clear flat to seal the finish.

## Final Assembly.

Add the pieces of clear plastic, cut to shape earlier, to the various window recesses. Secure each piece with a touch of liquid cement applied to the back corner of each piece with a fine brush. Paint the inside of one window grey on each side of the cupola, to represent the guard's sliding sun shade. Now the body can be cemented to the underframe. The cupola roof should have the lower edges slightly rounded before cementing it on top of the cupola, then brush paint both roofs with Humbrol matt Dark Earth. Paint the stove chimney grey.

Test fit each upper step between the backs of the buffer beams on the body and carefully trim, to achieve a neat fit. Cement the step assemblies to the underframe, positioned as shown on figure 8(2). Cement the upper step to the back of the buffer beams at each end and also apply cement where the step brackets pass the springs.

The underframe is designed to accept Kadee No5 or No58 couplers which can be cemented directly to the floor, after first removing the side lugs from the draft gear box.

Mask the body and then paint the underframe and steps black. Apply the decals to the underframe as shown on figure 9. After the decals have set, apply a coat of clear flat to seal the finish.

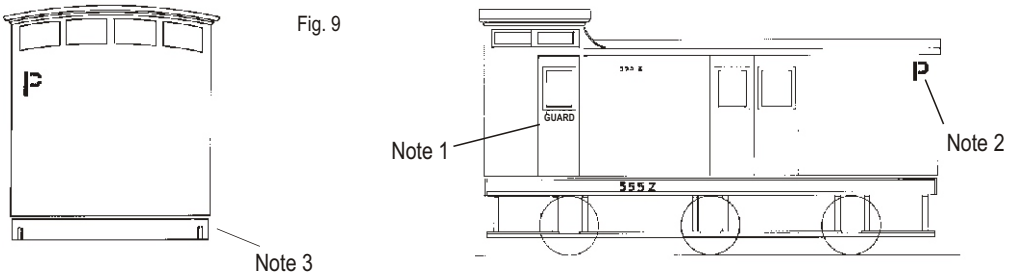


Fig. 9

**Note 1.**

The Z van was used to denote an unmodified, unlit van which would be fitted with buffers (not included). As a general rule the buffers were only removed when the van was converted to ZL. The word 'GUARD' appears in photos dating up to the early 1960s.

**Note 2.**

Forty two vans were altered in 1954/55 by the addition of three tons of ballast, dual couplings and locomotive type buffers to make them suitable for use on passenger trains at speeds up to 60mph. These vans were recoded ZP in 1956 and displayed a large P on diagonally opposite corners of the body, which was also painted passenger car red, for quick identification of vans suitable for passenger train usage. About a third of these vans were either scrapped or rebuilt as ZL in the 1960s with the remainder either scrapped or recoded ZD between 1975 and 1977. The colour also reverted to wagon red as the vans passed through workshops after December 1967.

**Note 3.**

The ZL code indicates a van equipped with long travel draught gear and auto' couplings, but no buffers and dates from a rebuild program carried out between 1960 and 1965. The inverted U symbol denoted the brake release and was only applied at the 'B' or cupola end. Sometimes this was painted on the inside face of the buffer beam instead of the outside face.

**Silhouette of mouldings for parts identification**

**Parts List**

- 1. Floor
- 2. Roof
- 3. Left side
- 4. Right side
- 5. Inner cupola end
- 6. 'A' end
- 7. "B" end
- 8. Lower step

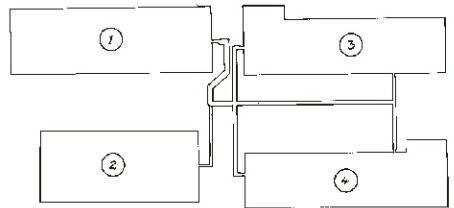
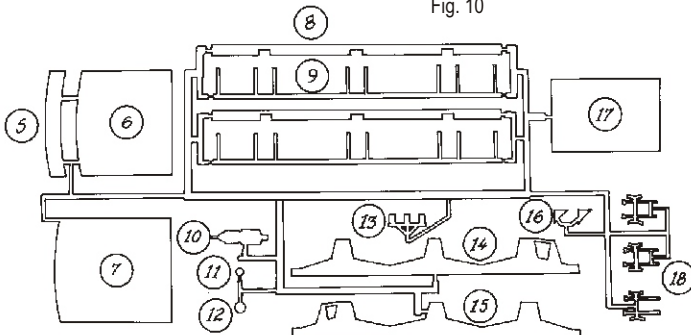


Fig. 10



- 9. Upper step/brackets
- 10. Brake cylinder
- 11. Chimney
- 12. Chimney base
- 13. End steps
- 14. Right side sill
- 15. Left side sill
- 16. Cupola braces
- 17. Cupola roof
- 18. Brake levers/shoes