

Caledonian Railway Drummond 6-wheel coach kits

Chassis assembly

These are generic notes covering the construction of the 6-wheel coach chassis. Some variations are covered in the notes.

- 1 Detach the main chassis etching from the fret and file off flush any remains of the tags from the fret. Fold the chassis etch as follows:
 - 1.1 Bend down the chassis sides.
 - 1.2 Bend out the upper footboards.
 - 1.3 Bend over the narrow fold at the bottom of the headstocks.
 - 1.4 File a little off the end of the headstocks, if necessary, and then bend down the headstocks and solder inside the chassis corners.
- 2 Fold down the end W-irons and solder the separate W-irons in place for the centre axle. Before soldering the centre W-irons, check for level compared to the end units and adjust by filing if necessary. It is possible to build the chassis in a simplified rigid form. For this fit bearings in the W-irons and wheels to give a running chassis. If you choose this option, some ingenuity will be required to fit the brake gear as this was designed for the flexible chassis described in the next section.
- 3 For a flexible chassis with simplified brake gear, proceed as in Step 2 above but do NOT fit wheel bearings or wheels. Then continue as follows:
 - 3.1 Detach the centre wheel unit – this is the funny-looking section of etch near the inside ends of the pivoted end-units next to the phrase “headstock lamp irons” on the fret. Fold into a basic U-shape and reinforce the bend lines with solder for added strength. Use 0.9mm wire to make a flat (rectangular) U-shape with the uprights 5mm long and width 7mm – both measurements being the outside sizes. Solder the base of the U into the centre of the centre wheel unit with the ends of the U pointing towards the axle position. Note that the upright legs of the U-shape must be parallel for the chassis articulation to work successfully.
 - 3.2 Fold up the 4 transverse tags next to the trapezoidal openings in the main chassis etch – 2 on each side of the centre tag – note that the centre tag is not used if you follow these instructions. Fit the centre wheel unit over these tags – it should be able to slide from side to side. After checking the fit, remove the centre wheel unit and reinforce the bends for these tags with solder. Bend the half-round spacers on the outside edges of the centre wheel unit down, towards the floor, and carefully replace it over the tags. Again check that the centre wheel unit can still slide from side to side.

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3.3 Detach pivoted wheel unit "A" from the fret and fold to shape as follows. Refer to Figure C-1.

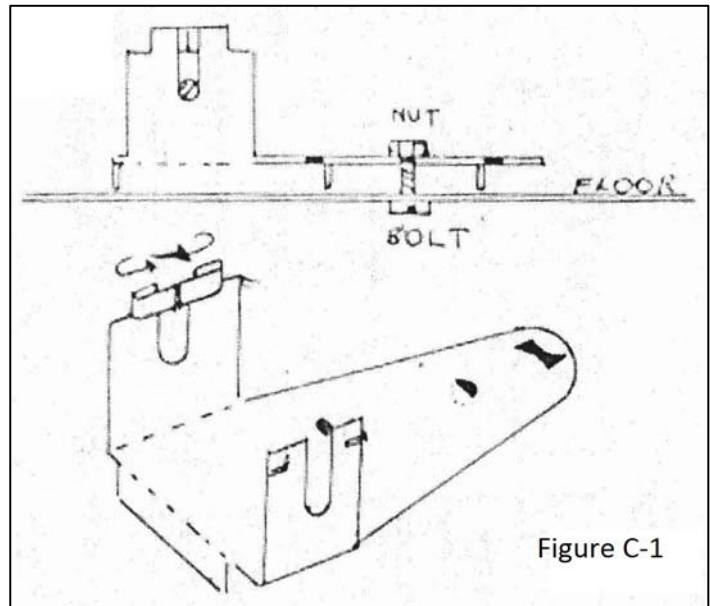
Fold down the sides and reinforce the bend lines with solder.

Fold down and reinforce the brake shoes.

Overlays are provided on the fret for the brake shoes – solder these in place.

Fold down the spacing tags – there are two half-round on the centre-line and a straight-edged one on the end.

Do not fold in the retaining straps for the wheels at this stage.



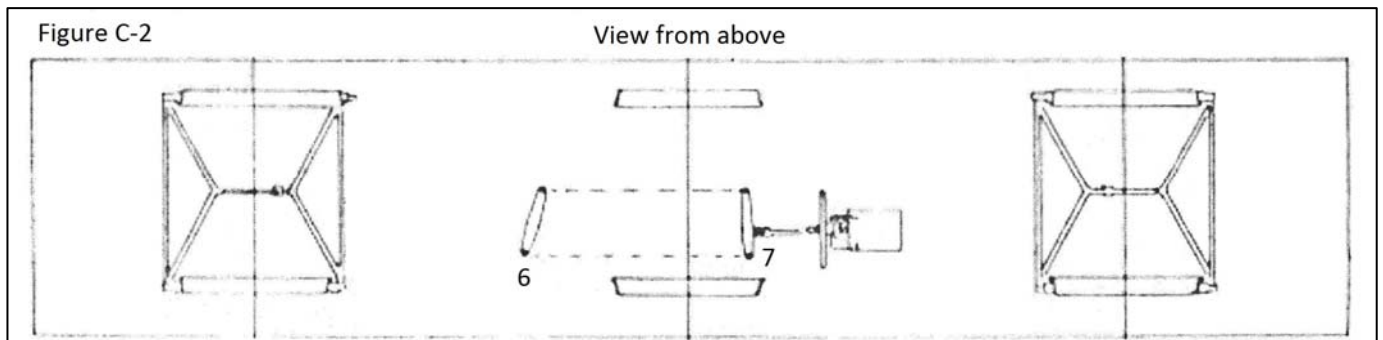
3.4 Now treat pivoted wheel unit "B" in a similar manner.

3.5 Place the centre wheel unit over its retaining tags – these keep it in alignment as it slides from side to side. Fit wheel units "A" and "B" to the correct ends of the chassis by sliding over the legs of the U that come up from the centre wheel unit – these should locate in the bow-tie shaped cutouts at the inner ends of the outer wheel units. These will retain the centre wheel unit in place. Pass two bolts down through the floor and through the corresponding pivot holes in "A" and "B". Secure each with a nut – but not too tightly.

4 Fit the wheels – running in inside bearings – into the slots in the wheel units and retain by either soldering the inside bearings in place (cut off the retaining straps as they are now redundant) or bend round the retaining straps.

5 The brake gear has been considerably simplified from the prototype because of the design of the chassis and is meant to give the effect without pretending to be correct in every detail.

5.1 Detach the brake rods "1" from the fret and solder the outer ends of the triangle to the slots in the inner brake shoes so that the centre leg points in towards the axle – see Figure C-2.



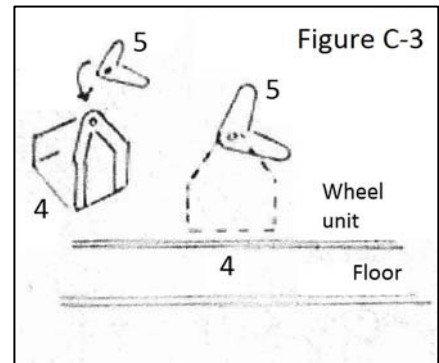
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5.2 Detach the brake rods "2" from the fret, twist the centre leg so that it is at 90° (i.e. vertical) to the two outer ends and solder to the outer brake shoes so that the centre leg points towards, but runs below the axle.

5.3 You can, if you wish, connect pieces "1" and "2" with piece "3", but you then cannot remove the wheels without unsoldering it – the choice is yours.

If you are building a vehicle with a centre brake/luggage compartment – those with side duckets, then after studying the diagrams continue to fit brake gear pieces 4, 5, 6 and 7 as follows:

5.4 Fold piece "4" as in the diagram on the etch - see Figure C-3. Solder piece "5" to it and solder both to wheel unit "A" in the marked position. It helps to insert a piece of fuse wire through the corresponding holes in pieces "4" and "5" before soldering together.



5.5 Detach pieces "6" and "7" from the fret. Slide on to pins pushed through the matching holes in the floor and/or wheel units. One end of piece "7" solders on to piece "5" that protrudes from piece "4". After soldering "7" to "5", solder "6" to "7" via a length of straight brass wire – pack piece "6" away from the floor at this point so that this connecting wire is parallel to the floor and about level with the bottom of the solebar.

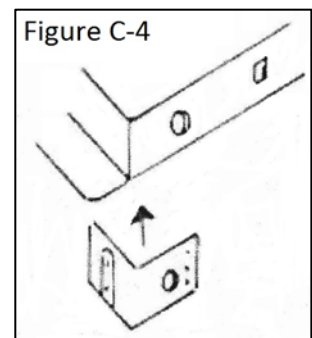
The final touch is to withdraw the pins from all the holes except the hole marked "6" on the underside of the floor. Leave this pin in place and solder the end of brake rod "6" to it for support. The head of this pin should also be soldered to the floor.

6 Detach the solebar overlays from the fret and impress the "rivet detail" from the rear. In the process of removing the overlays several small frames of parts are freed from the fret. Store these carefully as they will be needed later. Also be careful not to bend the lower footboard legs at this stage.

7 Fit the overlays to the chassis sides. This can be done using solder (tin the back or use solder paste), contact adhesive or superglue. If you wish, the separate builder's plates can be fitted to the solebars.

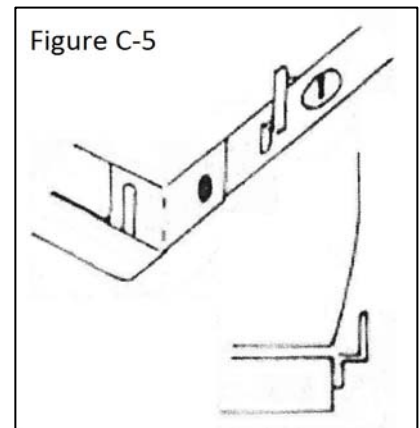
8 Bend the ends of the support legs for the lower footboards so that they are now horizontal. Detach the footboards from the fret, bend up at the rear and solder to the ends of the support legs. Take care to align the axlebox slots exactly with the axles.

9 Find the four chassis corner plates on the fret, impress the "rivet detail" from the rear, detach one at a time, bend to shape and fit to the chassis. See Figure C-4.



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- 10 Fit the headstock lamp irons – see Figure C-5.
- 11 Solder coupling hook sockets to the headstocks and fit your chosen couplings.
- 12 Fit safety chains to the headstocks with the etched safety chain hooks on the end.
- 13 Fit the buffers, opening out the buffer-holes in the headstocks as required.
- 14 Fit the spring/axlebox castings.



Painting the chassis

Mask the buffer heads and wheels and brush or spray the chassis a dark grey-black colour.

Dry-brush the builder's plates and gas pressure gauge with thin white paint.

The appearance of the Mansell wheels can be improved by painting the centres of the wheels red-brown; the tyres white but leave the rims black.