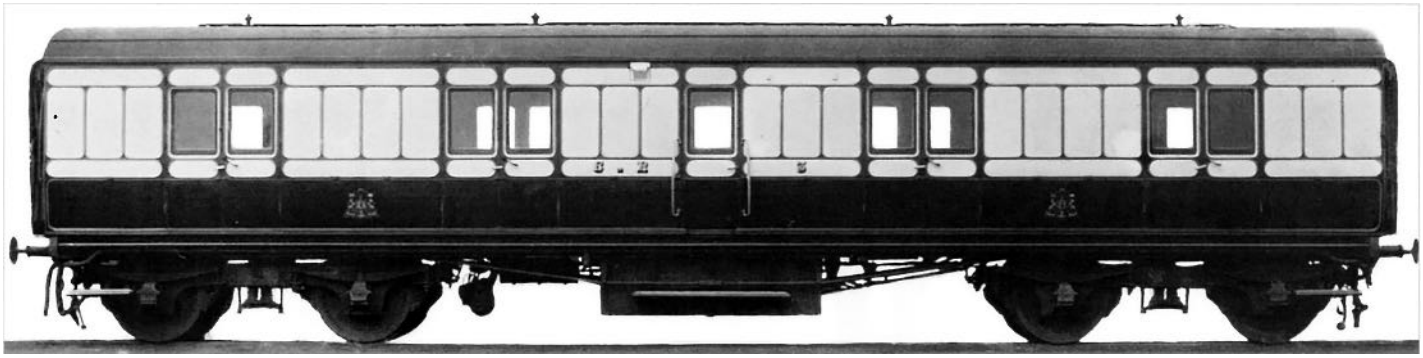
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Caledonian Railway 50' Corridor Full Brake
Diagram 98, Lot H249

Building instructions for CC28.



Official photograph of D98 Number 3 in CR livery.
Collection of Jim Smellie.

Section 1 Prototype Notes

Six of these vans were built at St Rollox and charged to the capital account in January 1908. Only two numbers have however been traced for them (CR 3 and 151; First LMS 6301 and 5423; Second LMS 32868/9). The numbers of the other 4 have been lost as they went for duty in "Continental Ambulance Train No. 23" in 1915. While it is possible that the their underframes and bogies were reused in 1920 after the end of hostilities, these vans never returned to their original form or running number.

They were very similar in appearance to contemporary coaching stock such as the 12 wheeled "Grampian Stock" although these vans ran on 4 wheeled, 8 foot wheelbase bogies to Fox's patent design. They were fitted with dual Westinghouse and Vacuum brake from new. The styling was no doubt deliberate as the main employment of the vans was on trains between Glasgow and the north. The *1913 Carriage Marshalling Circular* shows 11 vans travelling each day between Glasgow and Aberdeen and Oban while another two shared duties with HR vans working to Inverness.

It is thought that the two which escaped wartime service lasted in revenue stock with little or no modification save for the disuse and eventual removal of the Westinghouse brake equipment (from the mid-1930s) until the 1950s. At some point, torpedo vents would have replace the original 'Havoc' ones on the roof. It is possible that, like so many Caledonian coaches, they may have suffered makeshift repairs to their coachwork in the form of matchboarding to replace what were panels but no photographic evidence has been found to date.

C.R. Livery

The Caledonian coach livery was purple brown with off-white panels at the waist level and above. Although these carriages do not have panel mouldings at the waist or eves it was C.R. practice to paint the waist and eve panels to simulate mouldings. i.e. the edges of the waist and upper panels were painted purple brown and lined with a single yellow line at the junction with the white. The outside edges of the coach sides and bottom were given a thin red line. Lettering was gold, shaded to the right and below in red, with white highlights.

The company initials were place on the waist to the left of the central door with the coach number to the right. The official photograph of the vans shows the C.R. coat of arms on the lower side panels above the innermost wheel of each bogie.

When new the roofs were white. This, of course, would quickly weather to a grey/black in service. Underframes and bogies were black.

Fox's Transfers do a nice range of Caledonian transfers which are recommended.

LMS Livery

Soon after its inception the LMS adopted the old Midland colour of crimson-lake for its coach livery. All raised beadings were painted black and edged in a $^{3}/_{8}$" pale yellow line. Ends were crimson-lake with steps etc. and sometimes beading picked out in black. Roofs were generally painted lead grey above the rainstrips and black between the rainstrips and cantrail but again this would soon assume an overall muddy grey colour in service.

The insignia was applied in gold leaf transfers with the letters LMS (3" high) in the waist panel as near to the coach centre line as possible. The coach number appeared twice in the waist panel towards each end of the coach. It is unlikely that the LMS emblem was used on these coaches.

The foregoing describes the initial LMS livery but many changes took place before the demise of the LMS and are tabulated below. Remember, however, that coaches were only due for repaint about every 7 years and that in the late 30's and during the war it was quite usual only to 'touch up and revarnish'. Therefore an individual coach would not sport every change and it is quite possible that some coaches ended the war still fully lined out.

1923-8 As described.

1928 LMS now placed towards the left-hand end and the number towards the right-hand end.

1933 Coaches renumbered using plain gold transfers. Roof colour specified as metallic aluminium.

1934 Full lining discontinued. Coaches lined with a single $^{1}/_{2}$" yellow line just below the cantrail and $^{1}/_{2}$" yellow line just above the top of the windows probably along the line of the beading. The waist beading would be painted black and edged with $^{1}/_{2}$" yellow lines. Note that the yellow for both lining and insignia is now a chrome yellow.

1936 End colour specified as black.

Wartime Roof colour specified as grey and lining discontinued.

1946 Simple lining reinstated but in straw yellow.

The HMRS market the excellent range of ex-P.C. Models LMS transfers which are recommended.

Reference: LMS Coaches, an illustrated history. Jenkinson & Essery (OPC, 1977)

BR Livery

It is thought that most of the coaches would have received the BR all over crimson livery, devoid of any lining. Roofs were grey, underframes and ends black.

The coach number appeared in small yellow letters and figures towards the right hand end of the coach. The guard's door was usually marked as such in small letters in the waist panel of the door.

Section 2 Building Instructions

1 Parts list

Please check the contents of your kit and inform us of any shortages.

N.B. Numbers in brackets following a part name are the quantity supplied when other than 1; numbers preceding a part name are identification numbers which will normally be found alongside the part on the etch.

1 Etched frets containing:-

- 1 Floorpan
- 2 Solebars (2)
- 3 Soldbar steps (2)
- 4 Battery boxes (2)
- 5 Battery box bases (2)
- 6 Queenposts (4 + 2 spare)
- 7 Central steps (2)
- 8 Sides (2)
- 9 Non-step end inner
- 10 Non-step end outer
- 11 Step end inner
- 12 Step end outer
- 13 Central door window frames (2)
- 14 Double door window frames (8)
- 15 Lamp bases (2)
- 16 Lamp wrappers (2)
- 17 Central door handles (4)
- 18 Double door operating levers (8)
- 19 Vacuum brake operating cranks (2)

2 Cast fittings :-

4 Havoc or Torpedo ventilators, Dynamo, 2 Vacuum cylinders, Westinghouse cylinder and reservoir

3 Miscellaneous parts :-
CB01 Bogie Pack
CF01 Buffer Pack
CF03 Corridor Connection Pack
0.45mm wire (x6),
Cast resin roof,
"T" handle fret,
Glazing material,
Brass rod.

3 Printed matter :-

General building notes,

4mm scale coach drawing,
CC28 building instructions (this document !)

2 Floorpan and Underframe

2.1. Assemble the bogies per separate instruction in the pack.

2.2. Identify and remove the main floor unit (1) from the fret.

2.3. Fold up the long flange at each side to which the lower body will later be attached. Use one of the ends as a guide to the angle of the fold.

2.4. Take the solebars (2) and fold to "L" shapes, locate the tabs into the slots in the floor and solder in place.

2.5. Press out the rivet detail on the fixing brackets of the solebar footsteps (3) and fold up the brackets and locate the solebar footstep tabs into the slots in the solebars, brackets to the top of the step. Solder in place.

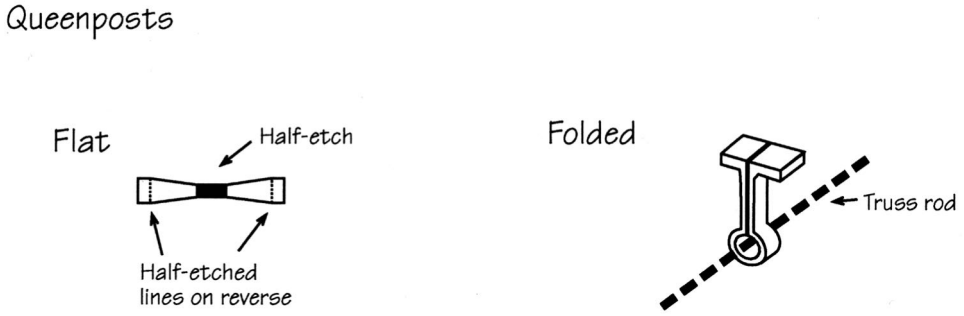
2.6. Solder the bogie mounting plates into slots in the floor. Fold down the motion limiter tabs on one bogie only by a few degrees — these are finally adjusted when the coach is ready for a test run.

2.7. Fold down the locating plates for the outer ends of the truss rods from the floor.

2.8. Fold up and fit it the central steps (7) as shown in the general arrangement drawing, the legs going behind the solebar.

2.9. Fold the sides of the battery boxes (4) round by 90^0 and fit the boxes to the floor. Solder the battery box bottom (5) in place then, using 0.45mm wire, fit the five brace rods between the floor and the battery box base.

2.10. Take the queenposts (6) and fold over the locating plates at the outer edges by 90^0. Solder one location plate into the recess in the solebar aligning the outer faces.



2.11. Take two lengths of 0.45mm wire and form the truss rods — use the scale drawing to get the angle of the outer sections correct but measure the width over the queenposts on your coach to get the length for the central section. Leave the outer ends slightly over long for now.

2.12. Slip the outer ends of the truss rods into their locating lugs then wrap the queenposts round the rods and solder their other location plate into the recess in the solebar behind the first location plate. Adjust the truss rods as required then solder to the queenposts and the outer lugs, trimming off any excess length once you have done so.

2.13. If you are building a Westinghouse fitted coach assemble the two part casting as follows :-

a) Remove the base frame from the sprue and drill the previously centred mounting hole on the frame cross piece 1/32".

b) Pass the peg on the reservoir into the hole and solder together.

c) Solder the (dummy) mounting brackets of the cylinder to the 'L' pieces of the frame.

d) Cut the reservoir and cylinder away from the sprue.

Solder to the floor of the coach in the indicated position, the larger reservoir goes nearest the solebar.

2.14. Fold down the two sets of 'V' hangers from the floor and fit the cylinders in the positions indicated on the underframe making the operating rod from wire. Part 19 is the operating lever.

2.15. Fit the dynamo in the indicated position.

3 Ends.

3.1. Each end is assembled from two layers (9 & 10 and 11 & 12). On each inner end bend the lampirons and steps (11 only) forward at 90^0 such that they will pass through the slots in the corresponding outer end. On the outer ends press out the rivet detail from behind. Tin the outside of the inner ends and the inside of the outer ends.

3.2. Fit the outer ends over all the projections and sweat to the inner ends. Take care to leave the small slots near the base of the ends clear.

3.3. Use a thin piece of scrap brass as a spacer and fold the lamp irons up parallel to the body.

3.4. Bend the side location tabs to the rear.

3.5. Fit the handrails on the end without steps.

3.6. Drill two 0.45mm holes to take the lower ends of the handrails on the ends with steps. The upper end of these handrails locate on the roof and so are among the last parts fitted.

3.7. Fit the ends to the underframe (taking care to get the handing correct) by passing them over the projecting lugs on the underframe. Secure temporarily by folding up the lugs parallel to the body.

3.8. Make up and fit the corridor connections per instructions in the pack.

4 Sides and Roof

4.1. With each of the sides (8)

4.1.1. Form the tumbleholme in the lower body sides. Lay the bottom edge of the side on the edge of a 12" rule with the inside facing up, take a length of central heating or similar pipe and lay it on the coach side and roll gently from the waist towards the bottom. This should produce a nice even tumbleholme.

4.1.2. Fold over the top rail to 90^0.

4.2. With each of the central door window frames (13)

4.2.1. Fold above and below the window opening along the two half-etched lines to form the glazing retention channels.

4.2.2. Offer up to the coach sides aligning with wire through the door handle holes and solder in place

4.3. With each of the double door window frames (14)

4.3.1. Fold above and below the window openings along the two half-etched lines to form the glazing retention channels.

4.3.2. Fold the 3 hinge representations at either side in the opposite direction away from the retention channels.

4.3.3. Offer up to the sides passing the hinges through the holes and solder in place.

4.3.4. Fold the outer end of each hinge through 180^0 and secure with a touch of solder.

4.4. Make up the lamp holder which fits above the lookout by wrapping part 16 round a short piece of brass rod and passing the outer tabs into the slots in the base (15) and soldering centrally to the side.

4.5. Depending on your painting and lining methods you might like to solder the door T and grab handles in place now. This makes the coach trickier to paint but it is more secure than gluing them on after painting.

4.6. Tin the long flanges on the underframe.

4.7. Take one side, noting orientation, and solder one edge to an end, adjusting the end until vertical.

4.8. Solder the other edge of the side to the other end, adjusting as required then tack the side to the underframe flange. Only a few tacks are required — there is no need to try to solder the two together all the way along and something is bound to fall off if you try.

4.9. Repeat 4.7 and 4.8 with the other side. You will not be able to adjust the ends this time but they should be in alignment.

4.10. Check the roof fits snuggly in place adjusting as required.

4.11. Solder the inside of the ends firmly to the underframe.

4.12. Using the G.A. as a guide, drill holes in the roof for the ventilators (on the centre line) and fit by gluing.

4.13. At the step end of the roof drill two 0.45mm holes for the handrails.

4.14. Make up the buffers per instruction in the pack and fit.

5 Final Assembly

5.1. Paint body, underframe and roof according to period, line and letter.

5.2. Fit the door and grab handles as indicated on the drawing if you have not already soldered these in place. Parts 18 are the door lever handles while parts 17 are the grab handles for the central single door.

5.3. Glaze the windows using the supplied clear plastic sheet.

5.4. The roof need not be glued to the body unless desired as it should sit in place between the ends.

5.5. Fit the handrails at the step end of the coach.

5.6. Reattach the bogies then test run the coach. Adjust the limiter tabs on one of the bogie bolsters until there is minimal side-to-side rock between the coach body and bogie — leave the other end free to rock to achieve three point suspension.

Otheritems in the *Caley Coaches Ltd* range

Caley Coaches Ltd now produces a wide range of kits and accessories exclusively for modellers of the Caledonian Railway and its successors. Please see the web site at **www.caley.com**