Caledonian Railway 1 Class 4-4-0T loco kit

Packing list

Nickel silver chassis etch
Brass body etch

Cut 2mm off tanks
Roll boiler, smokebox, wrappers and cab roof

8 off Meteor bearings
4 off Brass spacers
1 off Cab roof (guillotined)
2 off 6BA ¼" cheesehead screws
1 off 6BA long cheesehead screw
3 off 6BA nuts
4 off 4mm buffer heads
4 off Small silver buffer springs
4 off 10BA nuts
1 off 8BA ¼" cheesehead bolt
1 off Perspex spacer
4 off 8BA ¼" countersunk screws
9 off Short handrail knobs
1 off Resin bunker
4" of 0.9mm brass wire
1 length 0.7mm brass wire
Whitemetal castings

Lost wax:
2 off 1 Class
1 off Reversing lever
1 off No 51
1 off No 52
1 off 439
4 off P2
1 off Slider block No 6

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Wheels required:

2 off Slaters 7837GP 3'1" 9 spoke bogie
2 off Slaters 7860CR 5'0" 16 spoke driver

Chassis assembly

1. Cut out sideframes (1 &2) and clean the edges with a fine file. Emboss the rivets.
2. Fit bearings (3) to each chassis frame. A small amount of cleaning may be required.
3. If you are fitting plunger pickups, it is best to drill the frames for these now. Be careful that you do not weaken the frames unduly by doing this. You may need to add extra spacers cut from scrap as necessary, or use wiper pickups. Speaking of pickup, if you short out one of each pair of bogie wheels, you can pick up off the other pair – or alternatively it is possible to make an insulated spacer for the bogie and use split axles – this gives 8 wheel pickup which obviously makes for more reliable running.
4. Cut out the other two spacers (4), file the edges and fold to 90° - all fold lines on this kit are on the inside of the bend unless otherwise stated. Using loco axles or alignment jigs – available from ourselves – solder the chassis together on a flat surface ensuring that the axles are parallel and at 90° to the chassis.
5. Fit the Perspex spacer at the front of the chassis using 4 8BA countersunk bolts. The centre hole should be drilled and tapped 6BA for the bogie retaining bolt. (We may already have done this for you.) The long 6BA bolt should be screwed through this hole (pointing down) to retain the bogie later.
6. Laminate the rods together (5 & 6) and clean the edges. The half etched rod goes on the outside.
7. The ashpan sides (7) are located on the brass fret. Remove them and attach to the inside of the frames with half etch detail on the outside.
8. Laminate the brakes and shoes together (8 & 9). Fit 0.9mm wire through the holes in the chassis in front of the driving wheels. It should protrude about 5mm.
9. I now fit tubular spacers (3.5mm long) over the wire to keep the brake hangers in place.
10. Fit the brake hangers over the wires and add the stretchers (10). Solder in pairs.
11. Attach the pull rods (11) allowing clearance for the wheels to avoid shorting.
12. Find, remove from the brass fret and fold up the bogie stretcher (12) then solder the corners.
13. Cut out and clean the bogie inner sideframes noting that there is half etch detail on the outside. Use 8BA countersunk bolts and nuts to attach them to the stretcher. I then solder the nuts to the bolts allowing movement. Ream the holes for the bearings but do not fit them yet.
14. Cut out and clean the bogie outer sideframes (14). Ream the holes for the bearings. Fit the bearings through part 14 into part 13 and solder them to 13.

15. Take the cast slider block (15) and remove the pegs from each side. Shorten the 8BA screws protruding into the bogie stretcher to allow some side to side movement. Place part 15 into the stretcher and solder a piece of wire or scrap to the underside to trap it in the stretcher.

16. Ream the bearings to a loose fit on the axles otherwise the wheels will bind. Fit the wheels to the bogie with the two spacers supplied. (One on each side) Shorten the long 6BA bolt by about 3mm and fit a spring over it. Retain the bogie with a 6BA nut.

17. Add the sandboxes using the drawing as a guide and the sandpipes to the boxes. Note that four sandboxes are supplied. As built the front two below the footplate should be fitted. The rear sandpipes can be made from 0.9mm wire and attached to the frames as I believe the sandboxes were in the cab. In LMS days 4 sandboxes were fitted below the footplate.

Body construction

1. Cut out the footplate (15) and remove parts from the centre and rear.

2. Cut out the bufferbeams (16 & 17) and valances (18 & 19).

3. Note that the footplate has half etched detail on top. Invert it on a flat surface and solder the front bufferbeam centrally and half a millimetre back from the front edge of the footplate.

4. The valances also have half etched marks inside – these indicate the position of the steps that are fitted later. The valances are inset from the edge of the footplate by 1mm. Fit them next and then butt the rear bufferbeam up to the back of the valances.

5. Fit two of the short 6BA screws to the footplate whilst it is on the chassis (to ensure alignment) and solder them to the footplate. If you don't do this now, you won't be able to attach the body to the chassis!

6. I like to attach the spectacle rings (20) to the front (21) and cab rear (22) before assembling the cab. I also fit coal bars to the rear windows at this point – it's easier to clean up before assembly. Make them from 0.7mm wire.

7. Assemble the cab front (21) to the sides (23 & 24). It fits between them.

8. You may find it easier to attach the coal door (25) before assembling the cab rear to the front and sides. The coal door fits centrally inside the cab 5mm above floor level. I use the footplate as a jig for soldering the cab together. Once the cab is assembled, it can be soldered to the footplate. Cab handrails and the beading round the cutouts (26) can be applied now or later on. Beadings need to be trimmed to length.

9. The bunker is a resin casting and needs a little filing in order to fit it round the cab. Do this very carefully and you will be rewarded with a perfect fit. I found I had to remove a little resin from the front lower part to clear the head of the 6 BA bolt. The bunker can be fitted now (with glue) or left until later. I left it till the end to avoid any accidental damage.

10. Cut out and fold up the smokebox front (27) and solder inside the joints for strength.

11. Take the rolled boiler (28), the smokebox inner wrapper (29) and the smokebox outer wrapper (30) and solder a piece of scrap etch on the inside of the boiler seam for strength. I use a piece of fine wire (or copper wire) to hold the boiler closed until the seam is soldered up.

12. Next solder the inner smokebox wrapper to the boiler and clean up.

13. The outer smokebox wrapper is rolled for you but needs flaring out to meet the edge of the boxes behind the smokebox wingplates. I dry assembled the parts, marked with a pencil and put the wrapper in a vice and went for it. Judicial use of the vice and pliers produced the desired result. When satisfied with the result solder it to the smokebox. Then add the front boiler band (32). The boiler band is supplied as one long strip.

14. Now cut out the tank rear plate (31) and bolt it to the cab front with an 8BA nut and bolt. Assemble the boiler and smokebox front to the footplate; check it is level and parallel to the footplate and tack solder in place. If all is well then proceed to solder the assembly together.

15. Fit the front frame plates (33).

16. Cut out the side tanks (34 & 35). Emboss the 8 rivet heads on the side tanks. I have marked the tanks for rivets along the seam by the boiler but am unclear as to whether these would be visible or flush. Any information on this would be welcome.

17. Using the tank fronts (36 & 37) as a guide bend the side tanks to shape. I use a piece of 3/16” bar. Fit the tank fronts to the formed side and then fit them to the loco. I found I had to file the fronts a little to make them fit the boiler snugly.

18. Fold up the cab splasher tops (38 & 39) and solder them to the sides (40 & 41). Fit them into the cab with the depressions in line with the doors.

19. Fit the steps using the half etch marks on the rear of the valance to position them.

20. Fit the bunker – I used Evo-stik.

21. Cab roof. This is supplied ready formed and the roof detail I built up as follows. Start by marking the centre. Use the wide half etched part 42 to represent the base of the angle and solder it across the roof. Solder one of the curved parts 43 centrally to it. Add the other two parts 43 to the front and back of the roof. Clean up as you go along. Add the thin half etched pieces (44) inside the two outer ribs. This make them appear to be angle plates. Trim all pieces to length and fit the two pieces (45) along the edges of the cab roof.

22. Fit handrails to the side tanks and smokebox/boiler using the short handrail knobs supplied.

23. The order of fitting castings is not critical but this is the order in which I did the job. First the tank vents by the cab (46). Then the fillers (47).

24. Drill the buffers through 1.8mm and then re-drill 4.1mm to a depth of 6mm. Fit them to the bufferbeams with the bolts in NSEW positions.

25. Fit the whistle, safety valve, dome and chimney. Make the lever for the safety valve from scrap etch.

26. Next I fitted the lubricators on the smokebox front, mainly as I wanted to solder them in and they are close to the smokebox door and valve chest cover. Better safe than sorry!

27. Fit the handwheel to the smokebox door and then fit the door and the valve chest cover.

28. Injectors can now be fitted. As built these locos had a squarish injector with double pipes. In later days these were changed for a cylindrical type with a single pipe – both are supplied – check your photos.

29. Fit the lost wax level indicators to the rear face of the tank.

30. Fit the body to the chassis and check clearances for the air tanks under the front footplate. The round end is fitted furthest from the bufferbeam. Part of the back of the tank is milled away to clear the leading bogie wheels.

31. Fit valves and associated pipework to the sides of the ashpan. Check photo to see where the pipework goes.

32. Fit the U-shaped condensing pipes to the top of the tanks. (If building a condensing loco.)

33. As step 32 fit the front condensing pipes under the footplate.

34. The condensing pipes for the rear fit into a cylinder beneath the bunker. The casting has a flat that butts up to the rear spacer. If you do not fit it correctly, you will not be able to fit the rear fixing nut.

35. Once the cylinder is mounted add the condensing pipes that come out from the cylinder up to the rear of the tanks. I had not thought this one out at the design stage so I assembled the parts with the chassis and body together and then split the pipes to allow the chassis to be removed. I used a piercing saw.

36. Fit vacuum and Westinghouse pipes to the bufferbeams as required. As built only Westinghouse pipes are necessary.

37. Fit the Westinghouse pump and its pipework. Use the photos again for 36 and 37.

38. Fit the regulator handle to the back head and add reversing lever and the small (sanding?) lever. Make cab floor (thin ply?) and fit the above items.

39. Make the lampirons for the cab sides from scrap etch and get the paint out.

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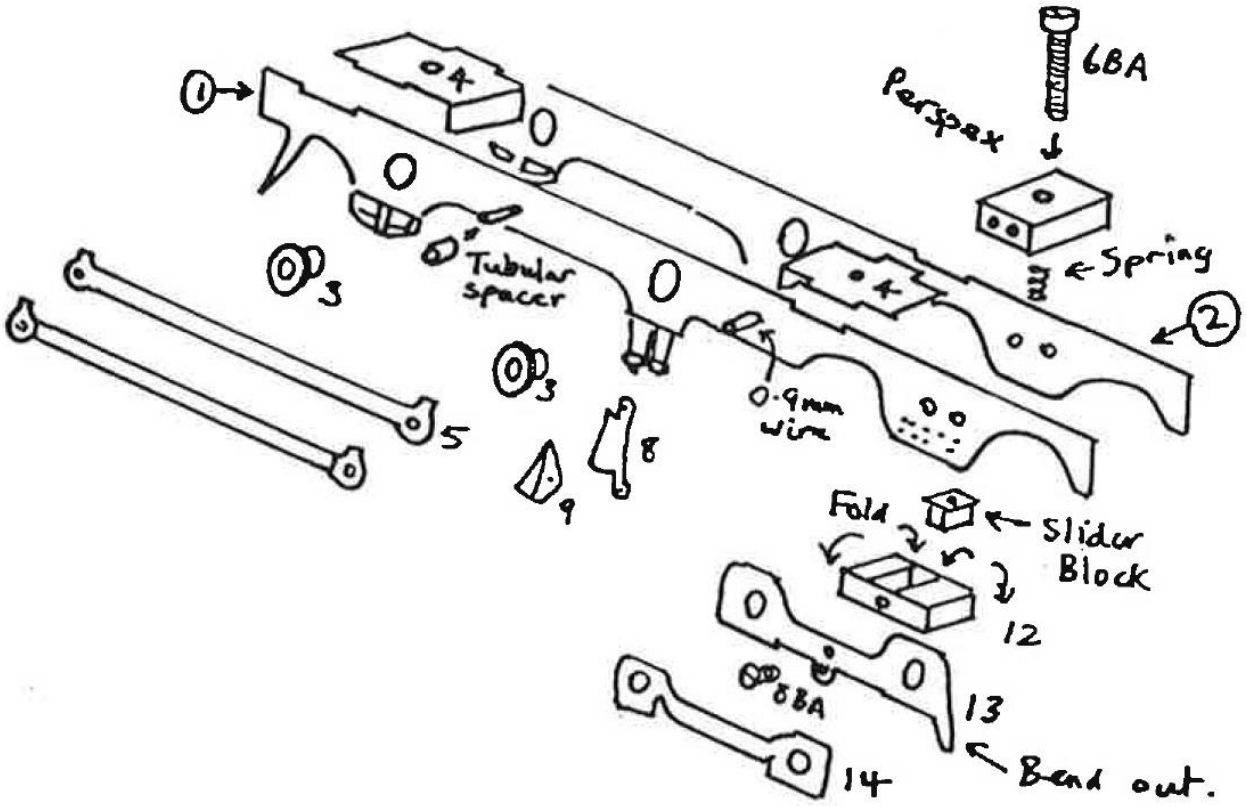

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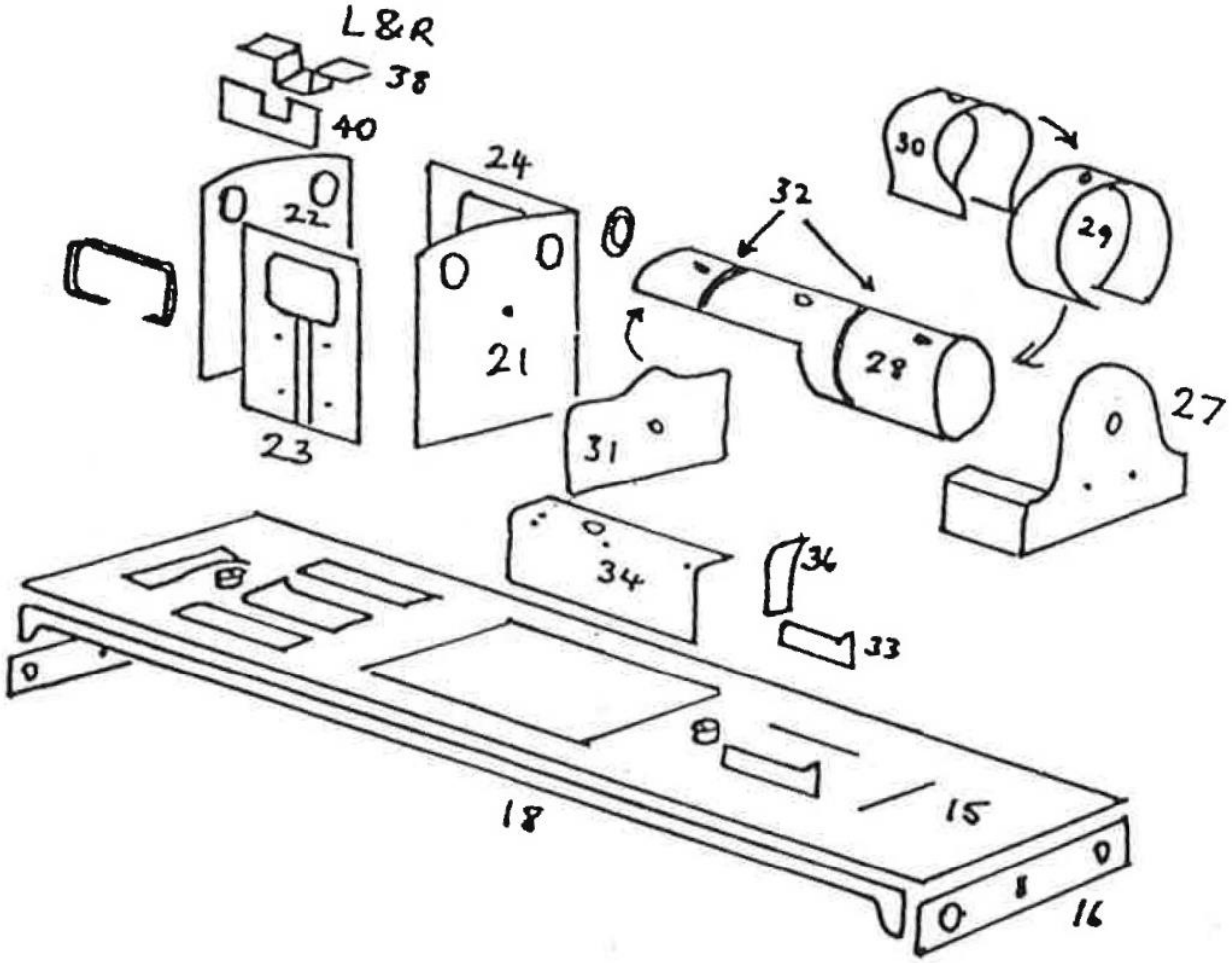

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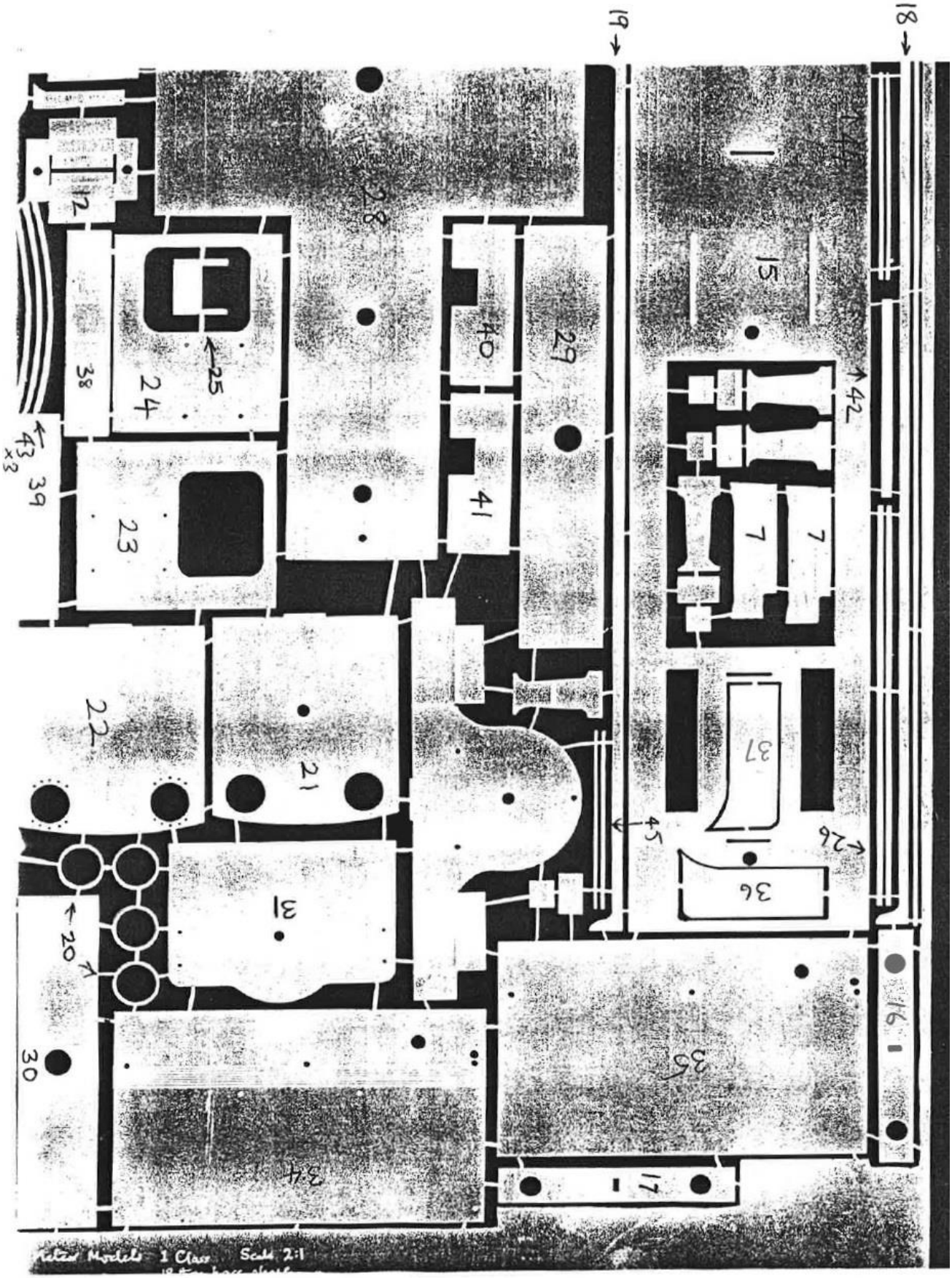

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