Caledonian Railway 294-711 Class loco kit

Packing list

Instructions

½ sheet nickel chassis etching
1 sheet brass body and tender etchings

12 off bearings
2 off 10BA cheesehead bolts
4 off 6BA nuts and bolts ¼”
4 off 4mm buffer heads
4 off small springs
6 off 10BA nuts
2 off coupler springs
2 off 1/32” split pins

Lost wax brass castings:

2 off CR1
1 off No 14
2 off No 43
1 off No 44
1 off No 50
1 off No 51
1 off No 52
1 off No 12

2 off guillotined strip for cab beading
14” ½ round wire
1½ lengths of 0.7mm nickel wire
1 length 0.9mm wire
2 off 1/32” rivets
6 off long handrail knobs
3 off short handrail knobs
4 off small handwheels

Whitemetal castings

Caledonian Railway 294-711 Class loco kit

Wheels required (Slaters ref in brackets)
3 axles 5ft 16 spoke drivers (7860 CR)
3 axles 4ft 12 spoke tender (7848)

I used a Mashima 1833 with Roxey Mouldings 40:1 gearbox to drive the loco. I fitted a small flywheel and used American pickup. (Loco insulated one side and live to the motor, tender insulated other side and from the loco! – and live to the other motor terminal.) No pickups needed! You can use plunger or wiper pickups if preferred.

Loco chassis assembly

Cut out the loco frames and the spacers marked "L". Assemble on a flat surface and solder in the bearings unless you wish to compensate the loco (See sketch).
Laminate the coupling rods, there are 3 layers to each side.
Fit the wheels and check for free running.
Assemble with motor/gearbox and check again! If all is well proceed as follows.
I fit the brakes last and prefer to make them clip on or bolt on for easy maintenance.

Loco body assembly

Cut loco body assembly out the footplate (1) bufferbeam (2) valances (3 & 4) and the dragbeam (5).
Remove all the parts from the centre of the footplate and set aside.
Take the bufferbeam, riveted from the rear if your loco has rivets, and solder it centrally to the front of the footplate inset by half a millimetre. The valances are soldered parallel to the footplate edges and are set in 1mm from the edges.
The dragbeam is soldered centrally across the back of the footplate and valances. I found I had to file a little away from the holes for the rear wheels to give adequate clearance, also file out the rear fixing hole as it does not quite line up.

Fit the footplate to the chassis using 2 6BA nuts and bolts and solder the nuts to the footplate before proceeding.
Note: If you are driving on the rear axle of this loco you may need to devise a new fixing at the rear or move the fixing bolt. I used 2 10BA bolts at the rear corners of the rear spacer so I could get at them. 2 nuts and bolts are supplied if you wish to adopt this method.

Cut out the smokebox front (6), rivet if necessary and solder it into the slot in the front footplate.

Take the rolled boiler (7) and the two smokebox wrappers (8 & 9). If your loco has a riveted smokebox, attend to this now by opening out for riveting and re-rolling. Solder the three together and clean up – do not fit yet.

Take the cab sides (10 &11) and the cab front (12). Tack solder them together and use the sides as a jig for forming the splashers. Finish soldering these pieces together when satisfied.

Using snips or a piercing saw, slit the edge of the half etch between the firebox and the boiler. Attach the firebox sides (7A & B) to the boiler and then bend them down to the vertical in the vice. Try the

boiler/firebox unit in place and see if it sits level. If not, trim the firebox sides until it does. Note that clearances around the rear drivers are tight. I found it best to assemble the loco and then use a minidrill and slitting disc to cut away inside until everything clears.

Take the front splasher/sandbox sides (13 &14) and solder them to the smokebox front. The sandbox/splasher tops (15 &16) can now be fitted and filed away until the boiler unit drops into place snugly. I found that about 1½mm off the top is sufficient (see sketch). You can now fit the boiler unit and the cab and clean up the soldering mess.

Centre splashers can be made up as 2 units (parts 17-20) and then trimmed to fit the footplate. They are in line with the other two, so mark the footplate (pencil will do) and file, fit and solder.

Try the loco body again and resort to the minidrill and cutting disc to make sure nothing shorts out.

Pieces by the firebox (21-24) can be filed and fitted now.

Fold up the boxes which form the splashers inside the cab and fit them (26 & 27).

Bend the cab roof to shape (part 28) and fit ribbing (29) after attaching the roof. The half etch line marks the position of the centre rib. You may find it easier to fit the spectacle rings (30) before the roof.

Etched parts left to fit now include the coupler pocket (31), reverser (LHS of cab against the splasher (32 & 33), reversing rod and lever (34), brake hangers (35) under the cab at the rear of the chassis, steps (36 & 37) and Westinghouse pump bracket (38). Cast details can be fitted using the drawings and diagrams. Alternative parts are included for LMS/BR versions of this loco and “proper” Caley couplings are provided in lostwax brass.

Cab edge beadings are made from the guillotined strip brass provided and then the cab handrails can be fitted and the extended strip on the cabside wrapped round it halfway up.

I attach the roof beading strips next, they are a bit fiddly but I think they look much better than by any other way of doing it.

I leave steps and anything that could be knocked or bent until last.

Boiler bands next, check photos for position and that is almost the end of body construction in brass.

Next to the boiler bands you will find a very thin strip of etch. If you are patient and careful this can be soldered on to form the cladding between the firebox and the cab front. It fits flat to the firebox and butts up to the cab front following the splashers and finishing at parts 21-24.

The reverser weighshaft can be fitted under the boiler. Position is shown for 294 class. I believe it was slightly further back on 711 class, but do not have definite information on this.

I fit all the larger castings next, than the smaller ones, then boiler handrails and finally more delicate items like lampirons, rear steps and cab fittings.

Check your loco for final details such as ejector pipes, using photos for reference, as locos varied over their lifespan, which for some of them was 80 years.

Caledonian Railway 294-711 Class loco kit

Tender assembly

Cut out and clean the edges of the frames (1) and the frame spacers (2). Assemble them on a flat surface and solder in the bearings. Ream these through with a 3/16" parallel reamer and test the wheels for free running.

Cut out the tender footplate (3) and the two dragbeams (4 & 5). Solder the dragbeams together, noting that the one with the smaller hole goes on the inside. They (4 & 5) fit under the footplate flush with the front edge. Solder them on centrally and then cut out parts 6 and 7 (valancing) and solder them to the underside of the footplate. They fit almost flush with the ends of parts 4 and 5 and parallel to the edge of the footplate. Check the distance against the bufferbeam (8) before fixing. When satisfied attach part 8 across the back of parts 6 and 7.

Check the fit of the tender frames (9 & 10), but before fixing them attaché the tender axleboxes (11-16). I tack solder them to the frames flush at the bottom, and then solder them through the holes in the frames to fix them securely. When you have fixed them, use the hangers as a guide to fix the frames to the footplate. They should just touch the valancing. Solder them in place, preferably on a flat plate or piece of MDF, noting that when they are placed correctly, they will get in the way of the buffers. To get round this, there are two possibilities. Either you can move the buffers closer together, by filing the inside edges of the holes, or you can splay the frames out slightly at the back. I went for the second option.

Now use 2 6BA nuts and bolts to fix the frames to the footplate assembly, and solder the nuts to the top of the footplate. They are very close to the front and back of the tender body and may need to be filed to allow it to fit. Check as you go along.

I found that the front steps will bend and soldered a piece of scrap etch behind them to stop this (see sketch). Steps at the front (17 & 18) and the rear (19) can be fixed now, or later, as preferred.

Provision has been made for two tender sizes/capacities. To make the larger size use the etchings as they are. To make the smaller capacity tender use the half-etched lines marked on the back of the tender sides and rear to trim the tender sides to the lower height. Then attach the two halves of the tender (20 & 21) together at the rear using the half etched overlaps. Clean the joint with a fibreglass pencil, use plenty of flux and apply solder to both sides. Clean off and you should have an invisible joint. Check your photos as some tenders have rivets on the side (only a few, 10 or so) and these need to be impressed before bending.

Use the tender top (25) as a template for bending the tender tank – I used a piece of 6mm bar to form the rear curves and then folded over the top edges to the same angle as the drawing. The curve at the front can be formed round a piece of 13mm round bar. It is easier if you clamp the tender front and the bar in a vice.

I form the rear corner pieces next (23 & 24) using fingers and round bar. A little filing and fettling may be necessary here.

Then bend the tender top (25) to shape (as shown on the drawing) and fix it in place, starting at the back. Use the tender front (26) to ensure that everything lines up. The tender top should end up flush with the bottom of the coal door. Drill the holes for the little handles and then attach part 26, then then you can solder the tender tank to the underframe.

Caledonian Railway 294-711 Class loco kit

Next I add the curved fronts (27 & 28) to the tender flare. I attached it using the half etch location and then bent it to shape and soldered the bottom edge. A little filing completes this job. Check whether your tender has a toolbox at the rear, they were taken off in LMS days.

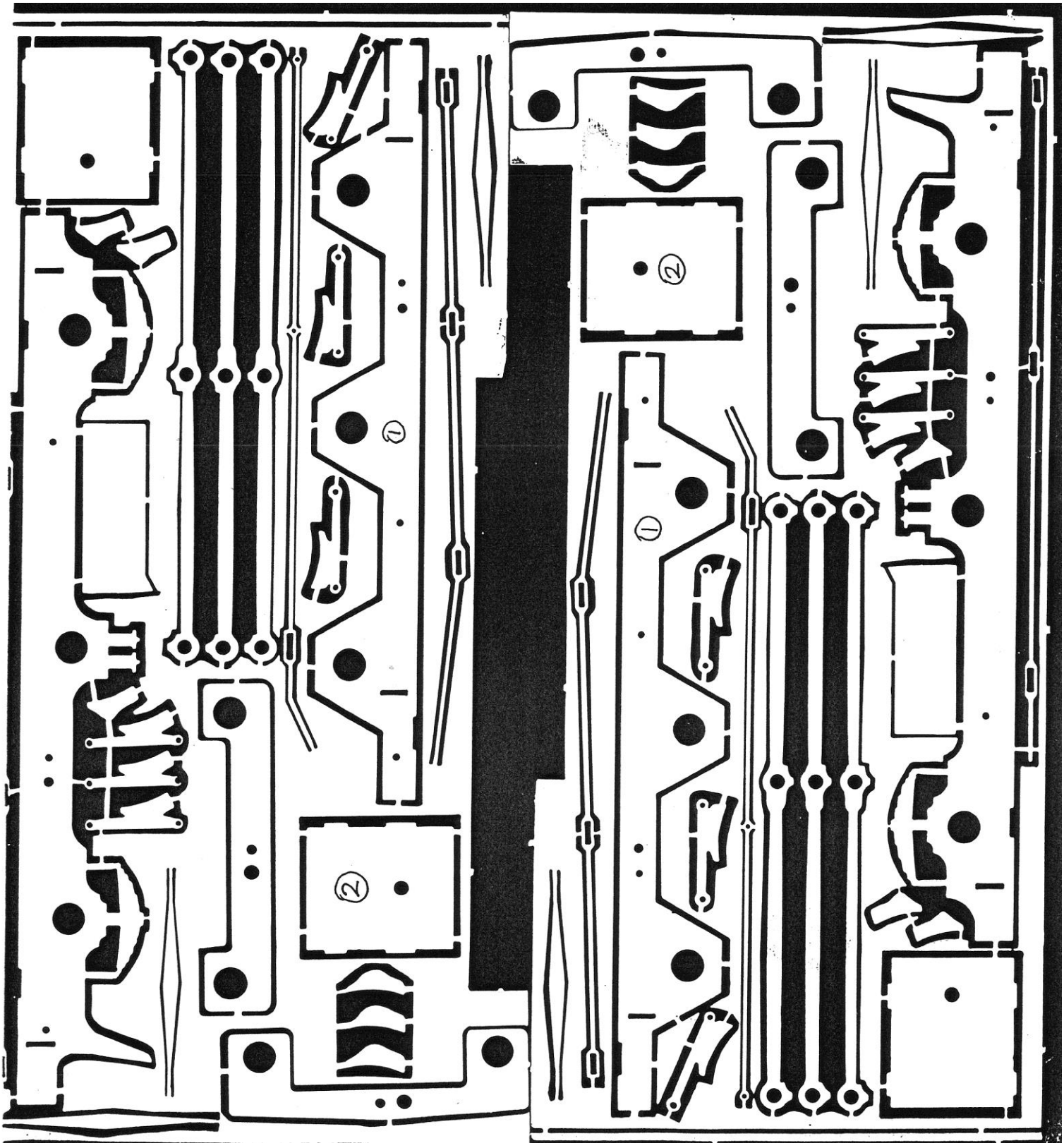
Detailing work can commence now, adding, in any order, the following items – toolbox (29) and lid (30), coal door surround (31) and toolbox edgings (36 & 37), coalplate (2 types supplied either 38 and 39 or 40 and 41), platform for toolbox (42), doors (43-46) and the drawbar (47) which can be sprung or rigid.

Small handles on the front of the tender (48) and lampirons (49) complete the brasswork, apart from adding beading to the top tender edges and top of the tender front.

Buffer stocks (50 & 51) should be drilled 4.1mm to depth of about 5mm and then through drilled 2mm for the steel heads.

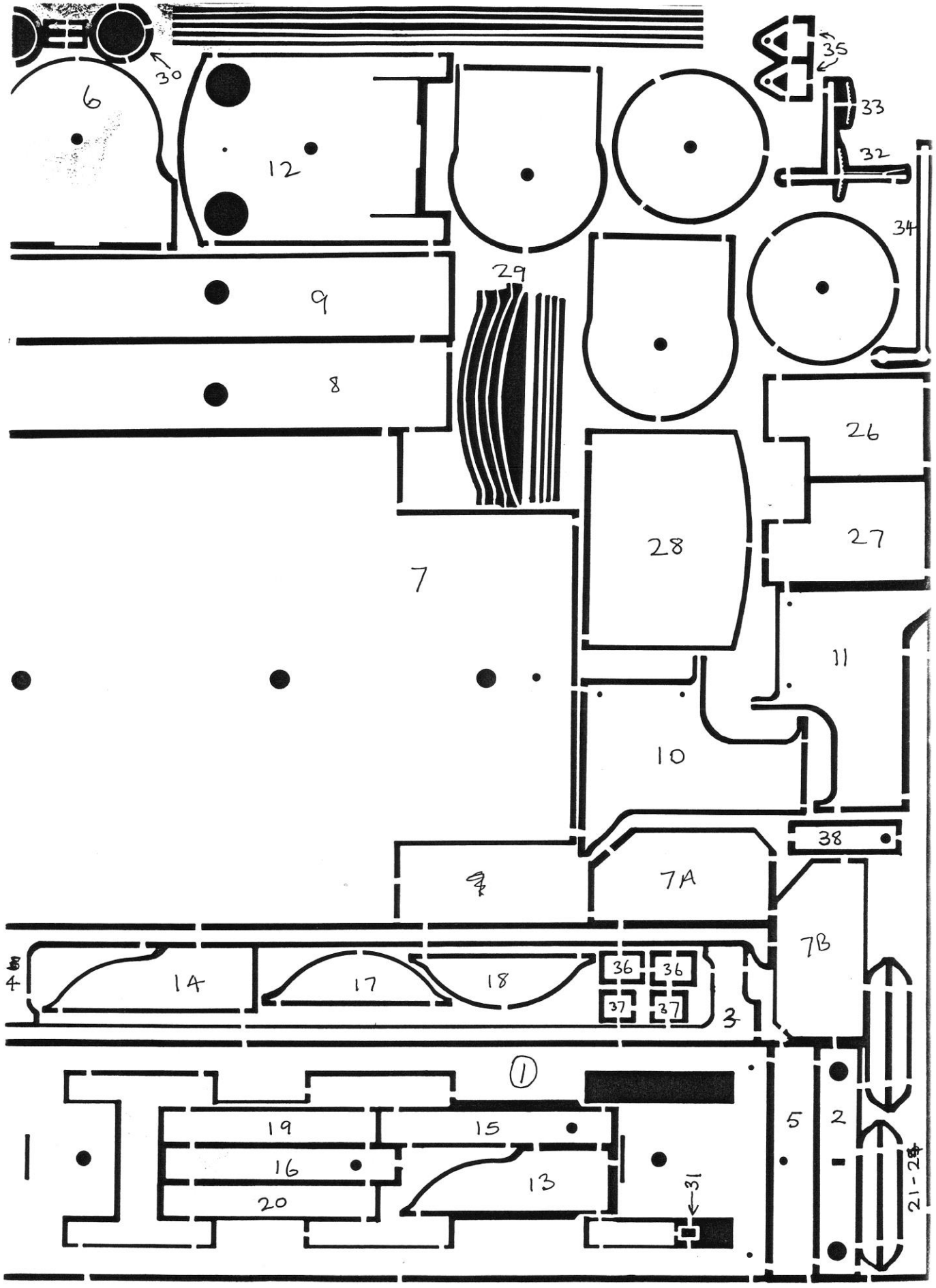
Fit water fillers (52 & 53), boxes on the tender front and the lost wax brake handle, drawbar socket and Westinghouse and vacuum pipes if fitted. The brake layout is shown on the drawings.

Caledonian Railway 294-711 Class loco kit

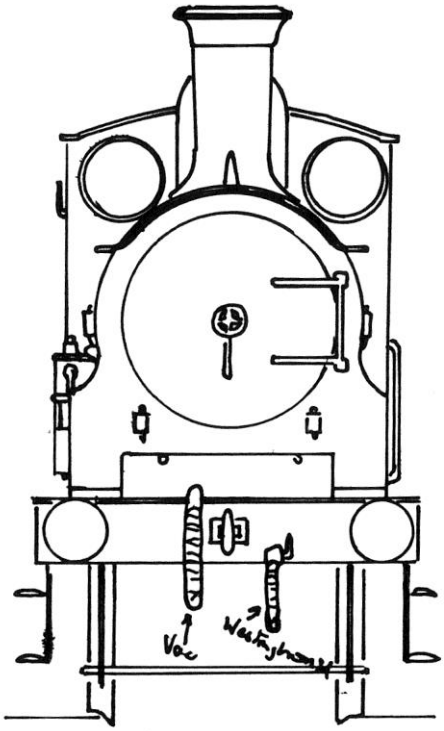


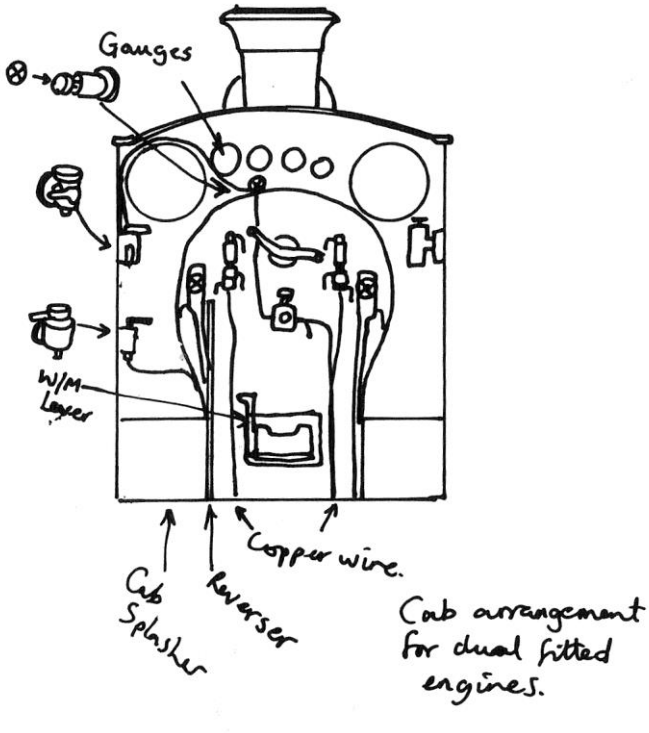
Alba Railway Models

Caledonian Railway 294-711 Class loco kit

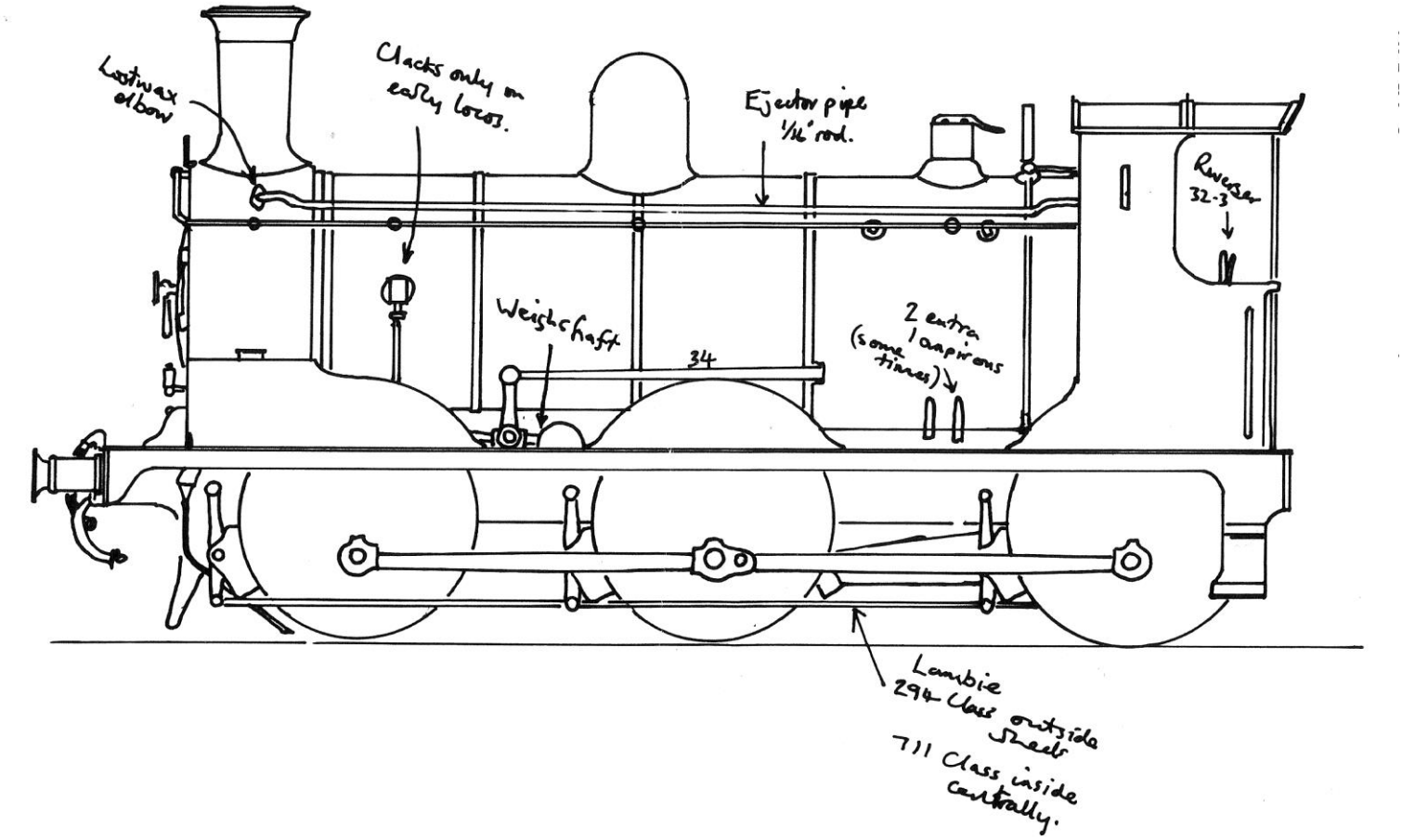


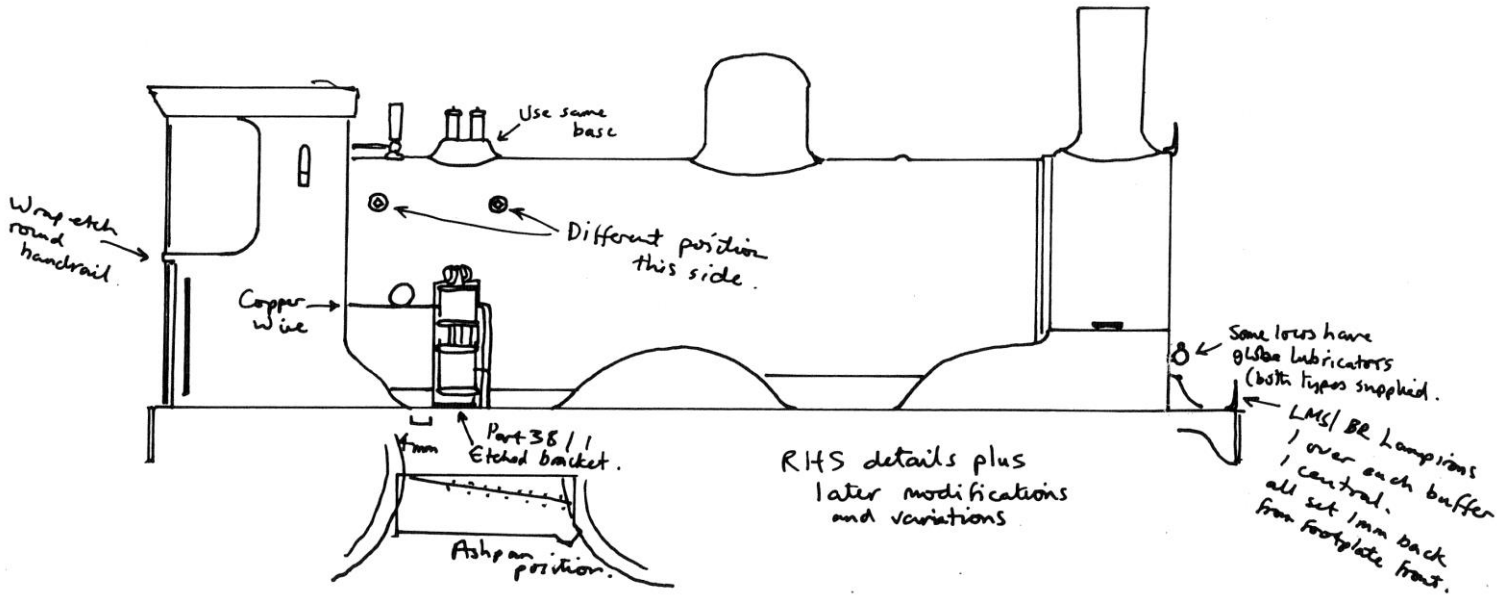
Caledonian Railway 294-711 Class loco kit



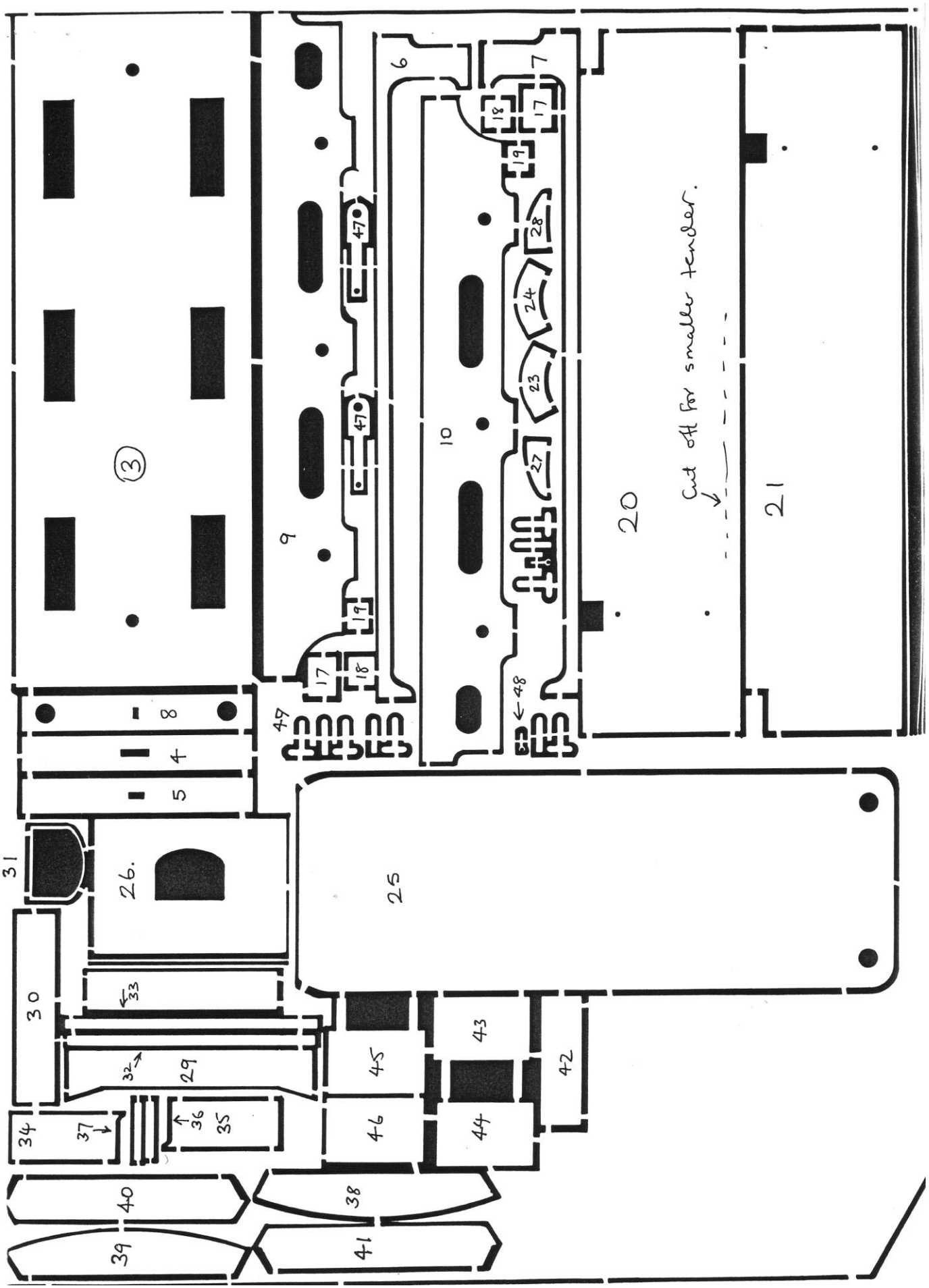


Caledonian Railway 294-711 Class loco kit

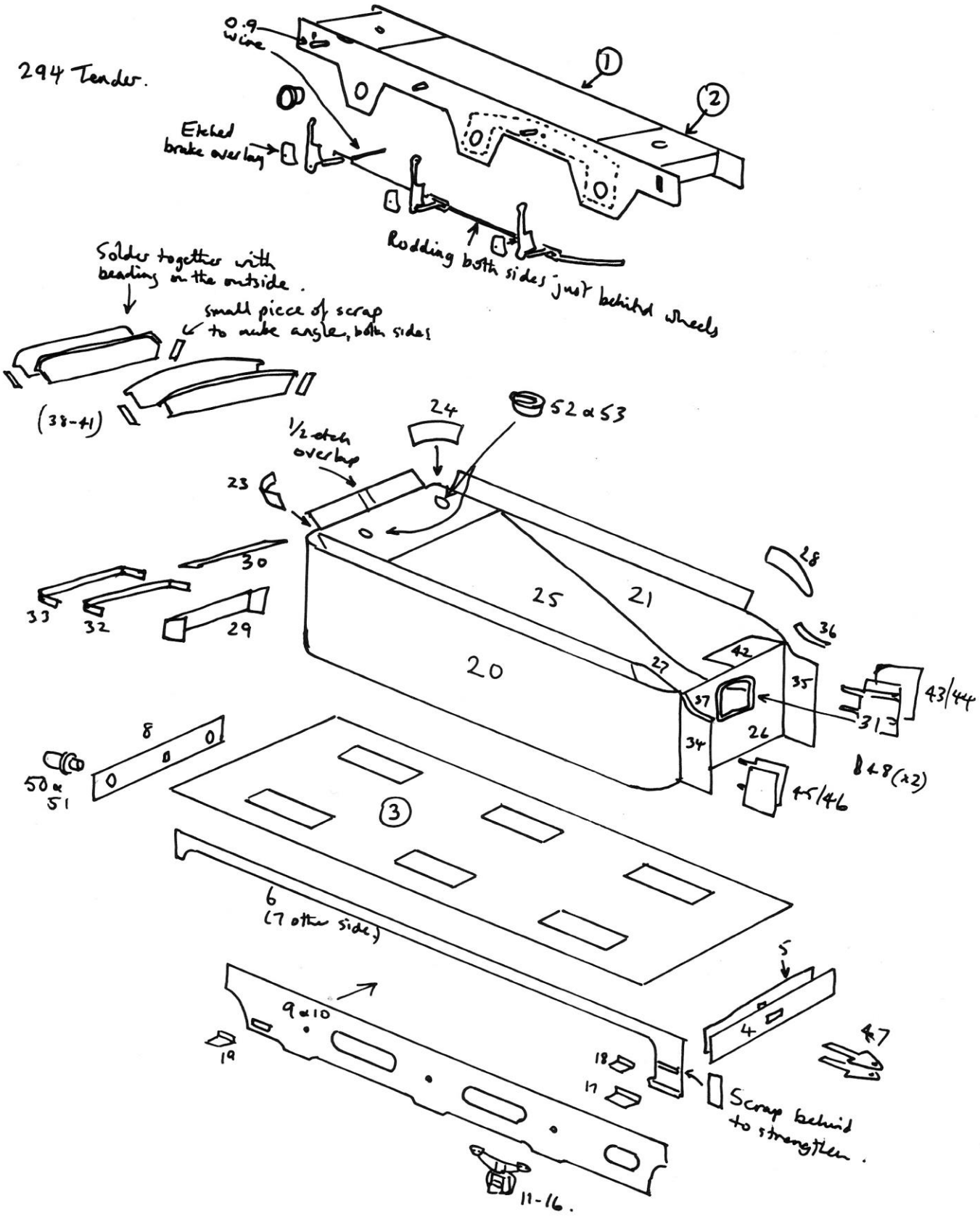




Caledonian Railway 294-711 Class loco kit



Caledonian Railway 294-711 Class loco kit



Caledonian Railway 294-711 Class loco kit