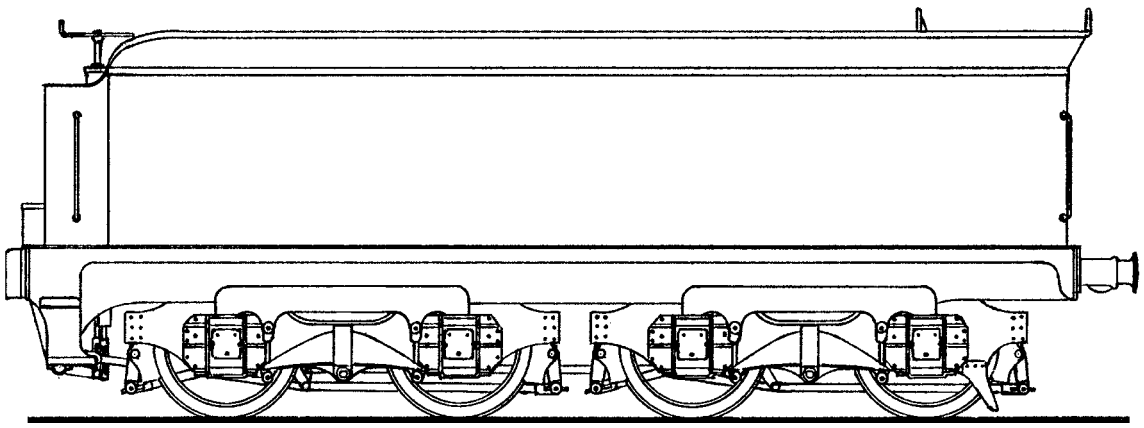
Caley Coaches

'True Line' kits in etched brass

0141 772 5537

Jim Smellie,
15 Tay Crescent,
Bishopbriggs,
Glasgow, G64 1EU.



Building Instructions for kit CT02 Caledonian Railway McIntosh 4125 Gallon Tender, Type M6

Built 1899 for Class 900 "Dunalastair III"
4-4-0 Locomotive

Section 1 Parts list

Please check the contents of your kit and inform me of any shortages. If for any reason you wish to purchase parts separately, I can give you a quote for any part unless it is on an etched fret. Normally complete frets only are available.

(N.B. The part numbers run on from those of CL5 for which this tender was designed — they don't really start at a random number!)

1 Tender Fret (brass) containing :-

Part #	Description	Quantity
60	Footplate	1
61	Valances	2
62	Outside Frames	2
63	Rear Bufferbeam	1
64	Drag Box	1
65	Tank Inner RH and LH	2
66	Tank Outer RH and LH	2
67	Tank Coping RH LH and Rear	3
68	Coal Space Floor	1
69	Steps	4
70	Coal Space Rear Partition Front and Rear	2
70a	Coal Space Rear Partition Supports	2
71	Coal Space Tool Box and Lid	1
72	Handbrake Column	1
73	Footplate Tool Boxes RH and LH	2
73a	Footplate Tool Box Lids RH and LH	2
74	Bogie Sideframes	4
75	Bogie Compensating Beams	4
76	Bogie Pivot Plate	2
76a	Bogie Retainer	2
77	Frame Stretcher for Bogie	2
78	Bogie Brakegear	2
79	Bell Cranks for Brakegear	2
80	Couplings	1
81	Tender Floor Plate	1
82	Tender Sidesheets	2
82a	Tender Sidesheet Beading	2
83	Tender Doors	2
84	Coal Door	1
85	Bogie Brakegear Crossbeams	4
86	Handbrake Clevis	1
87	Steam Brake Clevis	1
88	Bogie Brake Pull Rod	1
89	Bogie Brake Shoes RH	4
90	Bogie Brake Shoes LH	4
91	Bogie Spring Links	8
92	Brake Cross Shaft Support	1

2 Cast Fittings :-

CT2/1	Tank Filler	2

CL2/2	Axlebox	8
CL2/3	Equalising Spring	4
CL2/4	Westinghouse Pipe	1
CL2/5	Steam Pipe	1
CL2/6	Vacuum Pipe	1

3 Miscellaneous Parts :-

0.45mm wire	1
Buffers	2
Split Pin	1
8BA Nut and Bolt	1
Press Studs	2

4 Printed Matter :-

General Building Notes,
CT2 Building Instructions (this document !)

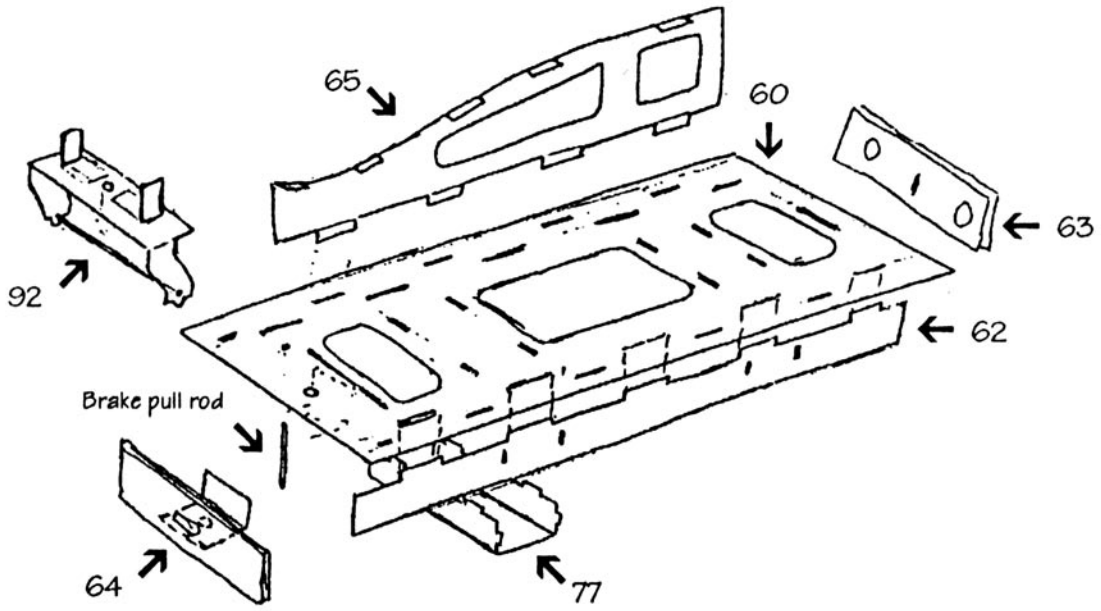
Section 2 General

2.1 Read the instructions and identify all the parts.

2.2 Always refer to a photograph of your chosen prototype as you build the model. Small differences did exist between members of the class, especially as they got older.

2.3 Please study the General Building Notes if you are not familiar with etched brass kit construction in general and ***Caley Coaches*** products in particular.

Section 3 Body



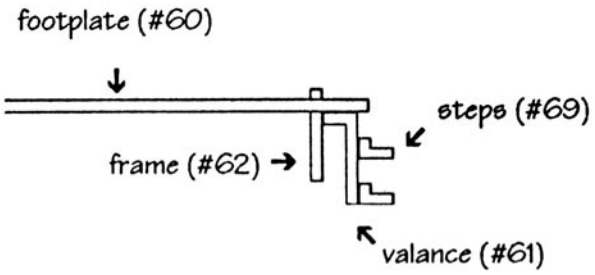
3.1 Fold up the two bogie frame stretchers (part #77) and solder them to the underside of the tender footplate (part #60) — take care to orientate the footplate correctly, the hole for the brake pull rod is on the left when looking front to rear.

3.2 Slot the outside frames (part #62) into the footplate and into the frame stretchers then solder in place.

3.3 Fold up the rear bufferbeam (part #63) into a two layer assembly, secure with solder and then file of any protruding tabs. Solder in place onto the rear of the outside frames and the underside of the footplate taking care that it is central.

3.4 Similarly, make up the drag box (part #64) this time also folding out the rear extension which takes the end of the coupling pin. Solder in place onto the front of the outside frames and the underside of the footplate.

3.5 Solder a nut onto the upper side of the footplate round the larger of the holes at the front after opening out the hole to clear the supplied bolt — take care not to clog the thread with solder.

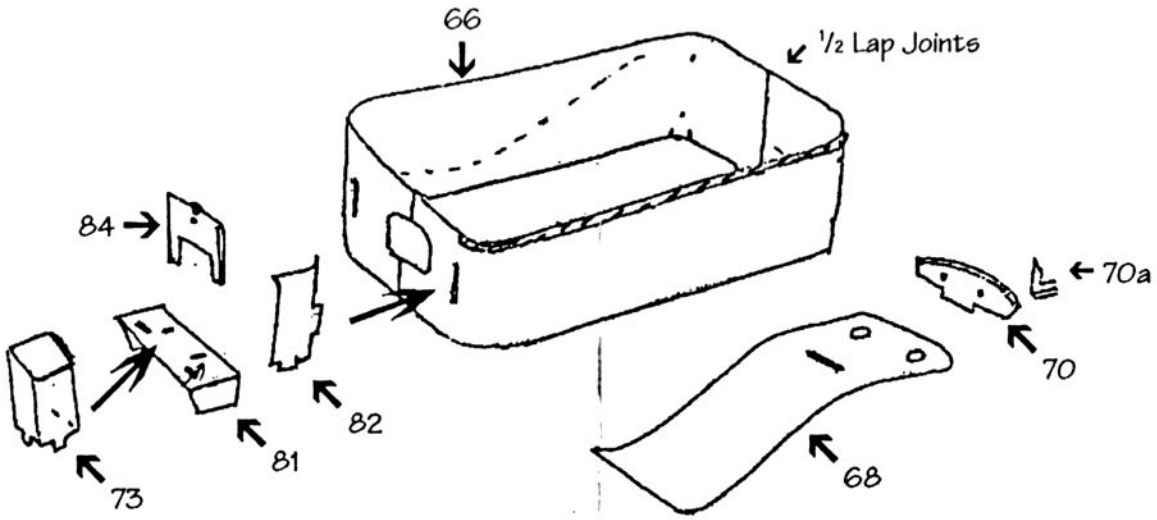


3.6 Form the valances (part #61) into Ls then solder to the footplate outside of the frames as shown above.

3.7 Fold the step treads (part #69) into Ls then solder to the step supports which are etched integrally with the valance.

3.8 Folder over the tabs at the top of the tank stiffeners (part #65) and then slot the stiffeners into the footplate and solder in place making sure that they are upright.

3.9 Open out the hole in the brake cross shaft support (part #92) to clear the supplied bolt then fold up the spacers and fold down the support brackets. Solder to the underside of the footplate hard up against the rear of the drag box plank.



3.10 Form the tank body (part #66) by making 2 2mm radius 90^0 bends in each half — the start and end of each bend is marked by a pair of half etched lines on the rear side.

3.11 Gently bend the tank top (part # 68) to shape using the profile of the tank stiffener pieces as a template. Tin the tabs on the stiffener pieces an the underside of the tank top.

3.12 Tin the overlap section of the body pieces and position in place over the tank stiffeners using the tabs and slots to aid positioning. Check that the width is correct by dropping the tank top into position and then solder all three pieces in place paying particular care to the neatness of the H

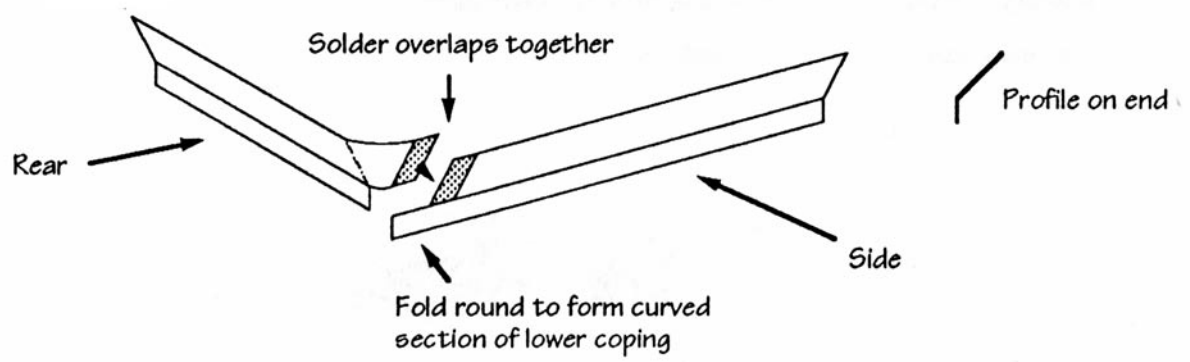
lap joints of the tank sections — oh and make sure that the H etched section on the tank is at the top!.

3.13 Place the tender sidesheets (part #82) in position at the front of the tank and solder preferably from the inside of the tank and below the footplate.

3.14 Fold up the tender shovelling plate (part #81) and solder in place to the footplate between the sidesheets.

3.15 Fold up the lips of the coal hole door (part #84) and solder in place over the coal hole with the lower edge of the legs touching the shovelling plate.

3.16 Fold the tank coping (part #67) out at 45^0 along the half-etched line on each section. Form the corners on the rear section to give a conical section as per the sketch below. Leave the beading attached but do not fold over yet.



3.17 Solder the rear section of the coping centrally to the half-etched recess on the rear of the tender. Solder one of the side coping pieces to the rear piece overlapping the half-etched sections. Now solder the side section to the tank gently forming it to follow the curve of the tank at the front. Repeat with the other side section. Fold the lower extension pieces on the side round the rear curves to meet the rear section and solder in place.

3.18 Starting with the rear section, tin the outside of the coping bead and fold over at 180^0 such that it lies flat on the coping. Form the rear section round the curves and solder in place. Now work along the side sections from front to rear.

3.19 Dress the top of the coping with a file to remove all traces of the tabs which held the beading in place.

3.20 Fit the sidesheet beading (part #82a) onto the top edges of the sidesheets, flaring it into the tank at the top.

3.21 Fold the two footplate boxes (part #73) to form Us and solder to the floor. Fit the lids (part #73a) with the one with the hole to the left when looking from the front of the tender towards the rear.

3.22 Fold up the brake standard (part #72) into a U and fold over its top. Solder in place passing it through the hole in the left-hand footplate box.

3.23 Fold up the coalspace tool box (part #71) and solder down the seam. Bend over the bottom of the legs at 90^0. Fit in place in the right-hand side of the coalspace just behind the bulkhead (see G.A. drawing) and solder its lid in place.

3.24 Tin the insides of the two halves of the coalspace rear partition (part #70) and sweat together. Solder in place to the tank top using the tabs and slots for alignment — remember, the rear is the side with the two upright supports.

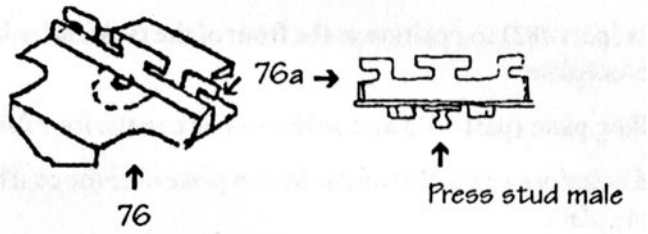
3.25 Form the coalspace rear partition supports (part #70a) into Ls and solder to the rear of the

partition.

3.26 Fit the cast tank fillers to the tank top behind the coalspace rear partition.

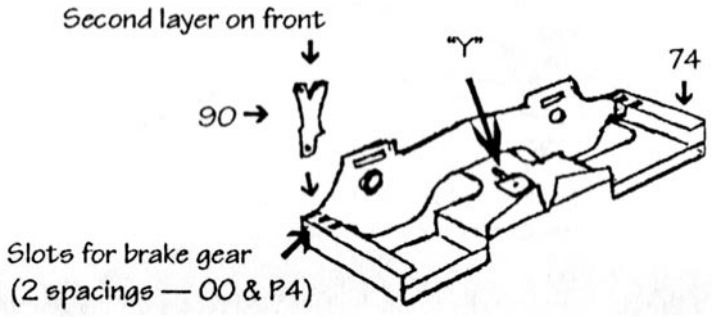
Section 4 Bogies

4.1 Moving onto the underworks, solder the female halves of the two press studs into the recesses in the two bogie frame stretchers (part #77).



4.2 Fold up the movement limiter pieces on a bogie pivot plate (part #76), fold the ends of a bogie retaining plates (part #76a) to 90^0 and insert into the pivot plate as shown above. Retain bY twisting the tabs and secure by soldering making sure the retaining plate is at 90^0 to the pivot plate.

4.3 Solder a male press stud half to the pivot plate assembly.



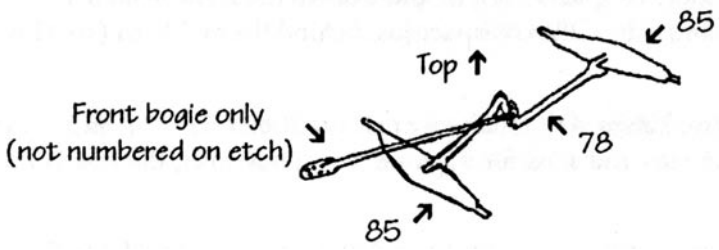
4.4 Press out the rivet detail on the bogie sideframes (part #74).

4.5 Fold up the central section of two bogie sideframes to form a dropped section in the middle. Fold the ends down and round to form a U profile at each of the ends then fold the end extensions round at 90^0. Tin these sections then fold down the sideframes and sweat together. (See diagram above.)

4.6 Fold up the flaps on the bogie sideframe assemblies marked "Y" in the diagram above, slide each sideframe onto the pivot plate assembly and return the flap to the horizontal position. The flaps then hold everything in place.

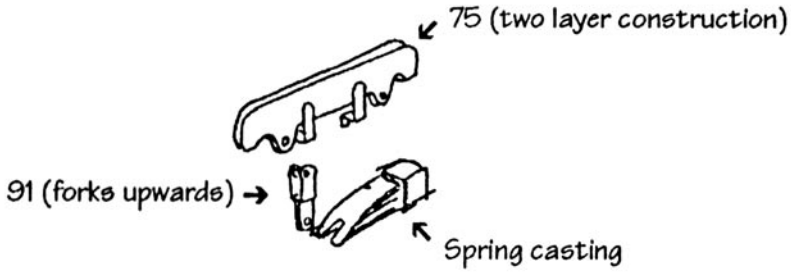
4.7 Solder the brake shoe overlays onto the brake hangers (parts #89 and #90 — these are handed so make sure you end up with pairs of brake hangers!) then slot the ends of the hangers into the appropriate locating points on the bogie assembly. Use the outer ones for P4 and the inner ones for OO and EM.

4.8 Insert pin-point bearings into the bearing holes in the sideframes and insert the wheels — unfortunately the brake gear locks the wheels in place so you'll need to take extra care to thoroughly clean everything from here on in. Flux rust steel like nothing else on earth!



4.9 Open out the holes in the lower end of the brake hangers to accept the end of a crossbeam (part #85) and sit the crossbeams in place. Spring the link piece (part #78) into place, adjust the angles of the crossbeams and solder the brake gear together.

4.10 Solder the axlebox castings in place over the bearings.



4.11 Fold up the bogie spring links (part #91) opening out the forks and solder together. Solder the lower ends of the links into the Vs in the ends of the cast springs as shown above.

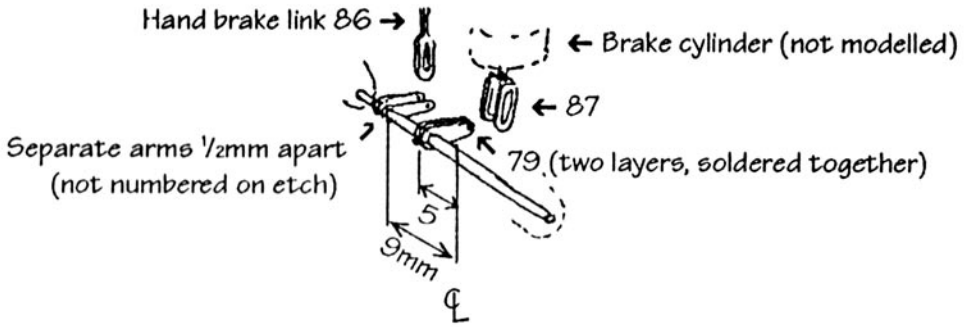
4.12 Solder the springs centrally to the bogie sideframes with the top of the central buckle in line with the top of the central portion of the sideframe as shown in the G.A. drawing.

4.13 Fold up the compensating beams (part #75) into a two layer construction and sweat together. Fold the lugs which tuck behind the springs into Ls as shown in the diagram.

4.14 Mount the compensation beams into the forks of the bogie spring links using a short length of wire passed through the location holes in each for alignment. Solder together and trim the wire back flush.

4.15 Repeat from step 4.2 for the other bogie.

4.16 Mount the body onto the bogies and place on its wheels on a level surface. Tweak the compensation beams outwards as far as is necessary to gain some swing on the bogies without looking ridiculous!



4.17 Solder the hand brake link (part #86) to the tender floor directly below the hand brake column.

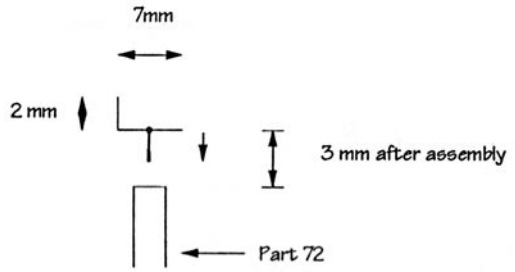
4.18 Fold up the breakgear bell crank to be double thickness and mount on a length of 0.9mm wire together with the two unnumbered cranks as shown above. Pass the ends of the wire into the holes in the lower ends of the brake cross shaft support and secure. Trim the wire back flush with the outside of the support. Position the cranks as shown above and solder in place.

4.19 Fold up the steam brake clevis (part #87) and secure to the bell crank — the cylinder itself is not modelled due to lack of space!

4.20 On the front bogie, solder the front brake gear link to the upper hole on the brake gear link (see diagram between steps 4.7 and 4.8) such that its other end looks as if it is connected to the cross shaft — don't connect it though, bogie swing is limited enough as it is without locking it solid!!

Section 5 Finishing Off

5.1 Fold up a length of 0.45mm wire as shown below, trap in the split-pin and pass the ends of the spilt pin into the hole in the top of the brake standard.



5.2 Bend up the four handrails from 0.45mm wire in fit in place, one to each sidesheet and one at each rear corner of the tank.

5.3 Fit the rear buffer bases —the heads are probably best left off until after painting.

5.4 The tenders had varying arrangements of hoses and pipes according to period and the brake etc. arrangements of the loco to which they were coupled. As ever photographs are your only true guide. Make up any pipes you require and fit together with the appropriate hoses.

5.5 Solder the tender doors (part #83) to the sidesheets at whatever angle you prefer.

5.6 Thoroughly clean the tender to remove all trace of flux etc.

5.7 Paint, line and letter according to your chosen prototype and period.

5.8 Fit the sprung buffer heads, adjusting the fixing nuts until the projection of the heads is correct.

5.9 Mate with a Class 900 (pass the end of the tender coupling into the slot of the drag box and secure using a bolt passed through the coupling into the nut soldered to the footplate way back at step 3.5) then sit back and admire one of the finest looking locomotives ever to run in Scotland.

Acknowledgements

My thanks are due to Alistair Wright for the artwork and design. I must also thank you for buying the kit.

Other items in the *Caley Coaches* range

Caley Coaches 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**

Jim Smellie.