

ADAMS T3 GA

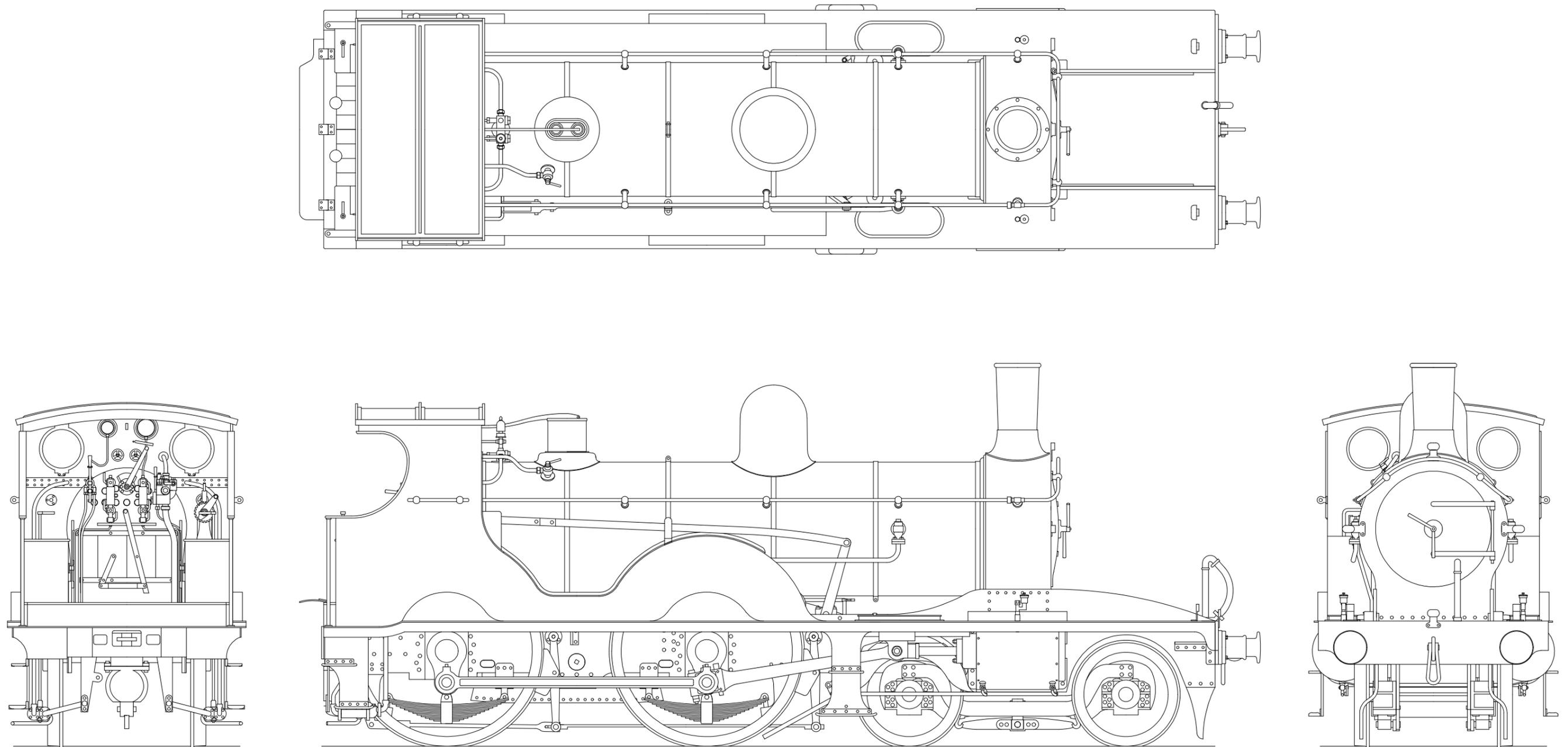


Fig 1. T3 depicted circa 1910 - equalising beams, tail rods and leading bogie wheel splasher removed, steel cab roof, fluted coupling rods, splasher beading, lubricators in front of splashers, safety chains and large whistle removed, extra Drummond lamp brackets.

CHASSIS PREPARATION

BOGIE

The bogie carries the weight of the front of the locomotive and is the third balance point of the compensation system.

Remove and clean up the bogie frames (B1) and then emboss the rivets. Emboss the rivets on the spring bracket (B5) and solder in place locating it over the frame rivets. Fold up the bogie stretcher (B7); use the middle width for 0 Finescale or the widest for Scaleseven and solder in place in the slots in the frames. Note that the slot for the bogie pivot bracket (B9) must be at the back. Fold up the bogie pivot bracket and solder in place. Solder the axle boxes (BR1) in place. Clean up the stretcher bars (B8) and solder in place as shown in the drawing. Carefully ream the axle holes to 5/32" diameter and temporarily fit the wheels to check that the bogie is running true.

Using the bogie spring middle lamination (B3) as a guide, drill two 0.8 mm holes into a block of wood or Tufnol and insert 0.8 mm wire into the holes. These pieces of wire are used as a jig to accurately align the spring components, the front (B2), the middle (B3), the rear (B4) and the equalising beams (B6).

Fold over through 180° the outer strips on parts B2 & B4 (fold line on outside) before assembling all the components on the jig. Align carefully before soldering together. Trim the wire pins to length leaving the wire long at the back to enable the assembly to be located on the bogie through the holes in the frames. Add a piece of 1.4 mm wire to represent the fixing bolt. Repeat for the other side.

The side control springing can now be constructed as shown in the drawing, soldering the spring wires at one end only. Make up the bogie mounting screw as shown. The 5/32" tubing is 3.1 mm long.

COUPLING RODS

The coupling rods should now be made up so that we can use them as a jig for fitting the front hornblocks accurately in place. Each rod is made up from an inner lamination, fluted or plain (M11 or M13) and an outer lamination, fluted or plain (M12 or M13). First drill out all the crankpin holes to a convenient size which is undersize for the crankpins. Remove all burrs caused by the drilling. Now drill the same drill into a suitable small block of wood and leave the drill in the wood with its shank projecting. This projecting shank is used as a mandrel to accurately align the two laminations of each rod.

Place the inner and outer laminates over the mandrel and using plenty of solder and flux solder the two laminates together. You should now have a rod with the bosses on each laminate perfectly aligned. The rods have been deliberately etched too large so that the thin etched edges can be carefully filed so that the 'laminated' effect is lost and the rods appear to be made from one piece of metal. The crankpin holes now need carefully opening out until they just fit, with no free play, the ends of the hornblock alignment jigs.

FRAME PREPARATION

Having decided which chassis to construct you can now start construction by preparing the frames left and right (F1 & F2). Remove the etched cusp from the edges, open out all the holes in the frames to their correct size, emboss all the frame rivets and form the guard irons to shape.

- C for compensation beam pivot - 1/8"
- B for brake hanger pivots - 0.8 mm
- R for reverse weigh shaft - 1.8 mm
- P for plunger pick ups as required

If you are modelling in original condition, with equalising beams, break off the small brackets for the later spring hangers. If you are modelling a later condition with equalising beams removed, break off the equalising beams as shown in Fig 3.

The extensions to the frames above the leading bogie wheel cut-outs are for strengthening during assembly. Once the frames are assembled they can be snapped off and the top of the frames cleaned up. To construct the kit as designed with a compensated chassis open out the frame slots for the horn blocks by cutting up the half etched lines. Solder one of the front horn blocks (F21) to the inside of the frame carefully aligning it with the half etched lines and with the bottom of the frame.

Fold out the sand pipe brackets and add the sand box flanges (F3).

No.	Description	Sheet	No.	Description	Sheet
B1	Bogie frames (2)	1	B11	Bogie pivot screw packing washer	3
B2	Bogie spring front lamination (2)	2	B12	Bogie pivot screw washer	3
B3	Bogie spring middle lamination (2)	2	F1	Frame, left	1
B4	Bogie spring rear lamination (2)	2	F2	Frame, right	1
B5	Bogie spring bracket (2)	1	F3	Sandbox flange (2)	1
B6	Bogie equalising beam (4)	1	M11	Coupling rod inner, fluted (2)	2
B7	Bogie stretcher, 3 widths	5	M12	Coupling rod outer, fluted (2)	2
B8	Bogie stretcher bar, 3 lengths (2)	1	M13	Coupling rod inner, plain (2)	2
B9	Bogie pivot bracket	3	M14	Coupling rod outer, plain (2)	2
B10	Bogie axle washer	3			

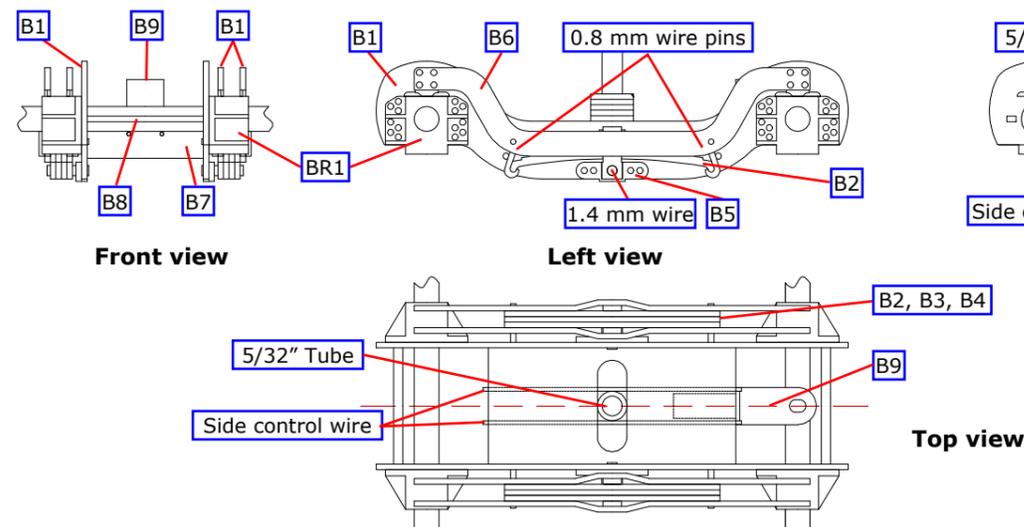
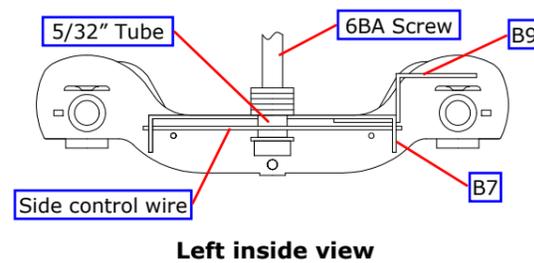


Fig 2. Bogie Construction



Left inside view

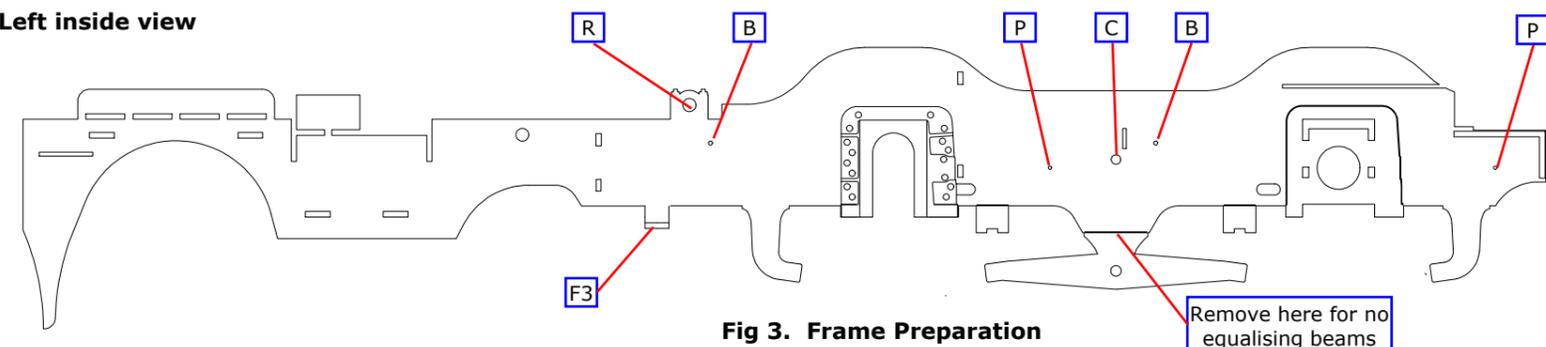


Fig 3. Frame Preparation

FRAMES, SPACERS AND ASSEMBLING THE CHASSIS

FRAME STRETCHERS AND ASSEMBLING THE CHASSIS

Select the stretchers - front (F4), bogie pivot (F5), motion plate (F6), ash pan (F7) and rear (F8) to suit your chosen gauge. Tap 8BA the two cylinder mounting holes in the bogie pivot. Fold up the stretchers making sure the half etched fold lines are on the inside and that each bend is a right angle. Check that all tabs on the spacers fit properly in their corresponding chassis slots so that the the spacer is hard up against the inside of the frames.

If you are fitting the inside valve gear, the motion plate (F6) is not soldered in place. The valve gear is made to be removable by springing this stretcher into position in the frame slots.

Now assemble the frames and spacers. Insert the front spacer (F4) into the correct frame slots. Tack solder the bogie pivot (F5) to both sides. Check that everything is square and that the stretchers are hard against the frames. If all is well solder the remaining stretchers (F7 & F8) to the frames checking constantly that the chassis is square and the frames are straight. The front stretcher (F4) is not soldered to the frames until the frame overlays are in place. If you are not fitting the valve gear solder the motion bracket (F6) in place.

FITTING THE COMPENSATION BEAMS

Cut a piece of 1/16" brass rod so that it fits through the frame holes and is flush with the outside face of the chassis frames. Cut two equal pieces of 3/32" tube which together fit between the frames and can move independently on the brass rod. Solder the beams (F22) to the tubes so that the beams sit on the axleboxes but are clear of the frames.

Temporarily fit the beams and the driving wheels and axles. Confirm that the compensation works properly and check that the chassis is sitting level. The bogie rests on a suitable selection of bogie pivot packing washers (B11). When correctly set up the top of the frames, above the beam pivot, should be 33.8 mm above rail level.

The ABC gearbox will foul the compensation beam pivot. To overcome this problem, with the compensation beams in place, carefully solder the ends of the beam pivot to the frames. Then cut out the centre section of the beam tubing and pivot to give enough room for the gearbox to pass through.

No.	Description	Sheet
F4	Stretcher front	4
F5	Stretcher bogie pivot, 3 widths	1
F6	Stretcher motion plate, 3 widths	1
F7	Stretcher ash pan, 3 widths	1
F8	Stretcher rear, 3 widths	1
F21	Hornblocks	1
F22	Compensation beam (2)	1

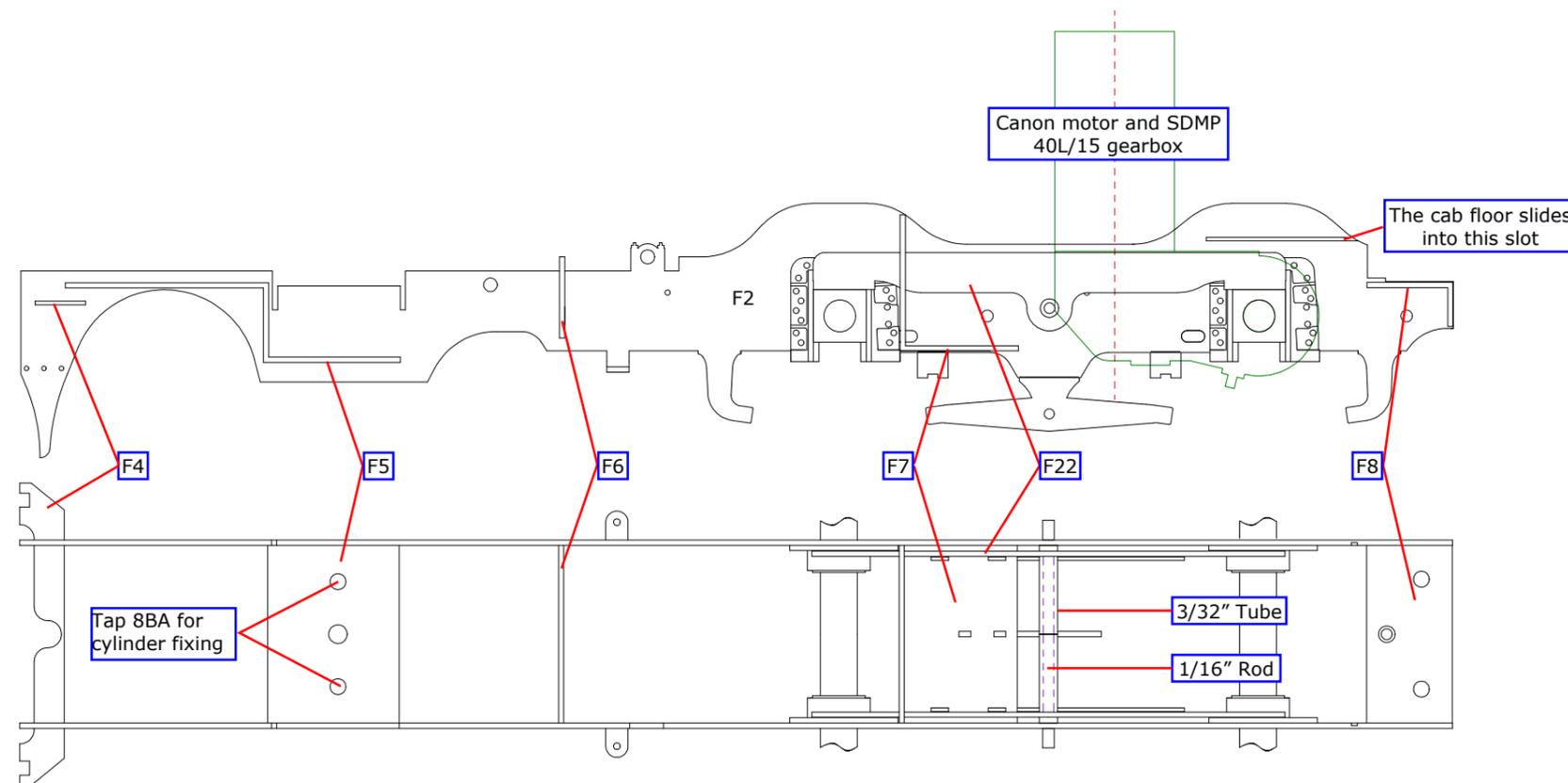


Fig 4. Assembling the Chassis

FRAME OVERLAYS

ORIGINAL CONDITION

Emboss all the rivets on the front frame overlay (F9) and the the rear frames overlay (F11). Fold over the equalising beam bearings (fold line on outside) and profile as shown in the diagram. Thread lengths of 0.8 mm wire through the frame holes for the brake hanger pivots. These then serve to accurately locate the overlays, which only need soldering around their edges.

Solder the front stretcher (F4) to the frames. Fold up the sand boxes (F18) and solder in place. Add the platform support brackets (F20). Solder the ash pan sides (F19) in place in the slots in the ash pan stretcher.

Roll the front bogie splasher top (F14) to shape and solder to the frames as shown. Add the front splasher faces (F13) as shown in Fig 5. The rear splasher top comes in a front section (F16) and a rear section (F17) and each with a choice of width to suit your gauge. Fold the shape and solder into place. Add the bogie splasher faces (F15).

If you are using Slater's wheels make up and fit the springs at this stage. If not fit the springs when you complete the chassis (page 10). The early compensation beam springs are made up of two outer laminations (D1) and a middle lamination (D2). Solder together, clean up to remove the cusps and then fit to the chassis.

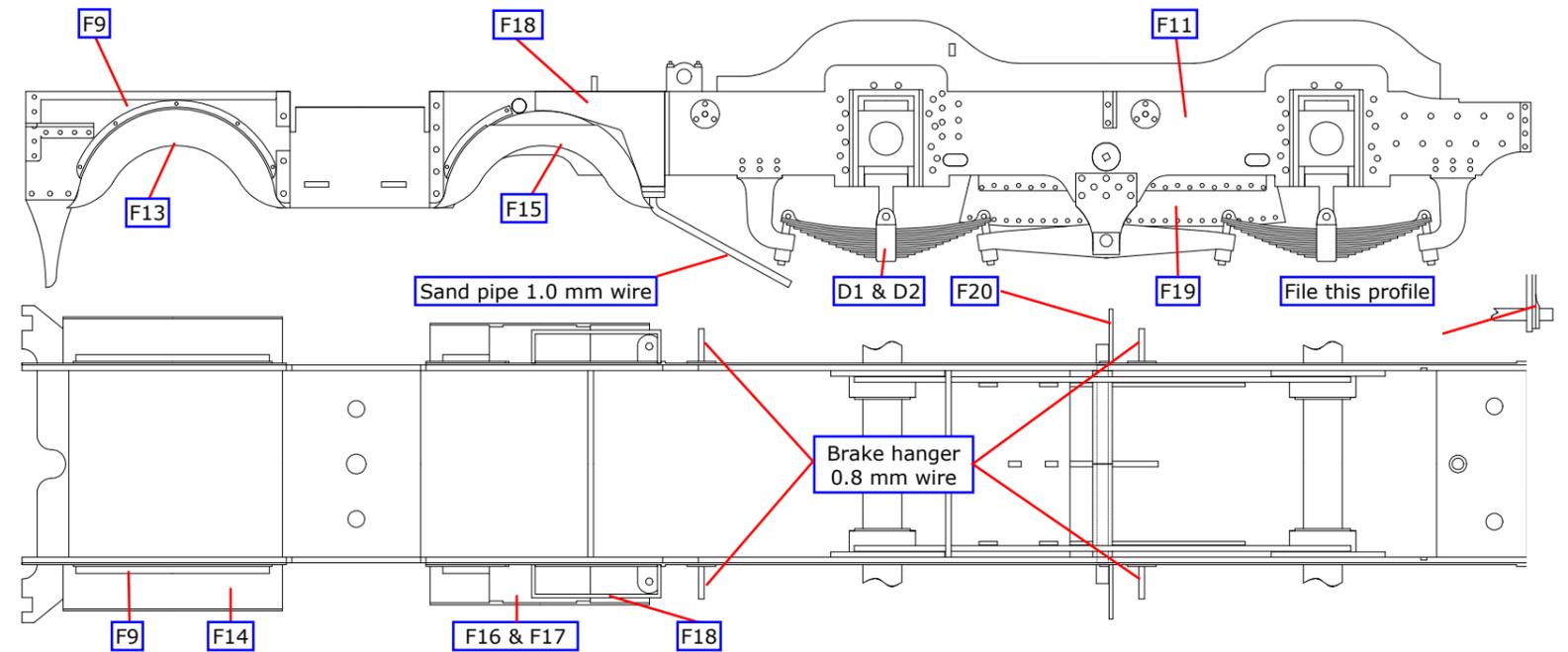


Fig 5. Frame Overlays, Original Condition

No.	Description	Sheet	No.	Description	Sheet
F9	Front overlay, original condition (2)	4	F10	Front overlay, later condition (2)	3
F11	Rear overlay, original condition (2)	4	F12	Rear overlay, later condition (2)	4
F13	Bogie front splasher face (2)	4	F13	Bogie front splasher face (2)	4
F14	Bogie front splasher top, 2 widths (2)	4 & 5	F14	Bogie front splasher top, 2 widths (2)	4 & 5
F16	Bogie rear splasher top front (2 in two widths)	3 & 5	F16	Bogie rear splasher top front (2 in two widths)	3 & 5
F17	Bogie rear splasher top rear (2 in two widths)	3 & 5	F17	Bogie rear splasher top rear (2 in two widths)	3 & 5
F18	Sandbox (2)	4 & 5	F18	Sandbox (2)	4 & 5
F19	Ash pan side (2)	5	F19	Ash pan side (2)	5
F20	Platform support bracket (2)	3	F20	Platform support bracket (2)	3
D1	Spring outer lamination (8)	2	D1	Spring outer lamination (8)	2
D2	Spring middle lamination, original (4)	2	D3	Spring middle lamination, later (4)	2

LATER CONDITION

Emboss all the rivets on the front frame overlay (F10) and the rear frames overlay (F12). Remove the equalising beams at the half etch. Thread lengths of 0.8 mm wire through the frame holes for the brake hanger pivots. These then serve to accurately locate the overlays, which only need soldering around their edges.

Solder the front stretcher (F4) to the frames. Fold up the sand boxes (F18) and solder in place. Add the platform support brackets (F20). Solder the ash pan sides (F19) in place in the slots in the ash pan stretcher.

The rear splasher top comes in a front section (F16) and a rear section (F17) and each with a choice of width to suit your gauge. Fold the shape and solder into place. Add the bogie splasher faces (F15).

If you are using Slater's wheels make up and fit the springs at this stage. If not fit the springs when you complete the chassis (page 10). The later compensation beam springs are made up of two outer laminations (D1) and a middle lamination (D3). Solder together, clean up to remove the cusps and then fit to the chassis.

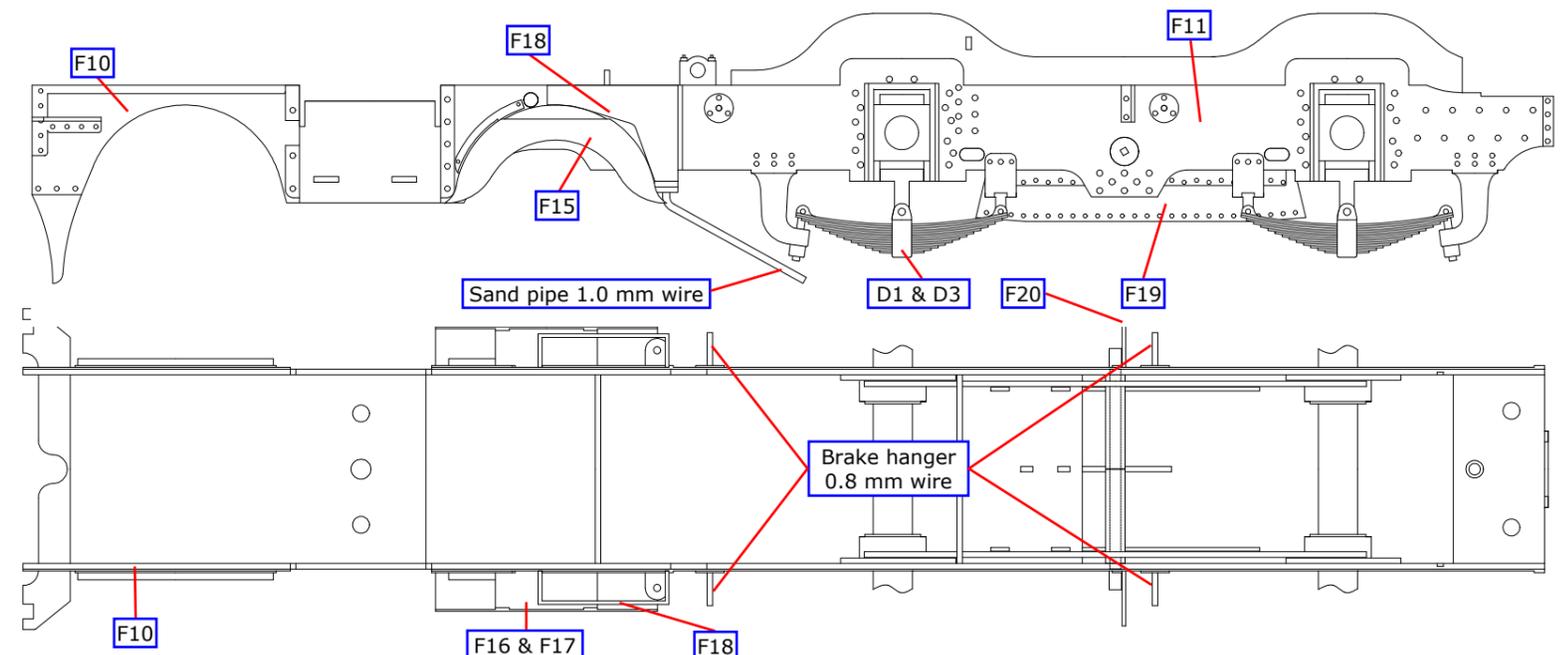


Fig 6. Frame Overlays, Later Condition

CYLINDER ASSEMBLY

CYLINDER ASSEMBLY WITH TAIL RODS

Check all the holes in the cylinders (M1) against the appropriate components and open up the holes if necessary. Reduce, as appropriate for your chosen frame spacing, the width of the inside cylinder faces to the etched lines provided. Fold up the cylinders making sure they are square and fold out the bogie pivot bracket. Check that the cylinders are a good fit in the slots in the frames.

Carefully, drill a 1.25 mm hole in the ends of the crosshead/piston rods (NS2) to accept the 1.25 mm nickel silver wire which represents the tail rods.

Check the fit of the crosshead/piston rod (NS2) with the crosshead top (M10). When satisfied solder the crosshead top in place.

Solder together the connecting rod laminations (M15) and add the rod boss overlays (M16) to the big end back and front. Drill the big end to fit the crankpins and the small end 1.6 mm. Solder the slidebar/piston rod gland (NS1) in place in the hole in the rear face of the cylinders. Accurate alignment is essential.

Modify the motion bracket (M6) as shown in Fig 7. Fold over the step support brackets and the top strip, which temporarily ties the two motion brackets together.

Temporarily bolt the cylinders in place and fit the crosshead/piston rods. Locate the motion bracket on the slidebars and over the frames in the position shown in the drawing. Check all alignments before soldering the slidebars to the motion bracket. Carefully snap off the upper section of the motion bracket as shown in the upper drawing.

Fit the connecting rods to the crossheads, with the crosshead/connecting rod pin (NS3), and to the leading crankpins. Use suitable washers between the crankpin bosses and the connecting rods to align the connecting rods parallel to frames. Fit the coupling rods outside the connecting rods. The rear crankpins will require a tubular spacer to locate the coupling rods parallel to the frames.

Build the front steps from the front step backs (M7), the front step lower tread (M8) & the front step upper tread (M9) as shown the drawing

Drill a 1.25 mm hole through the centre of the cylinder cover (W9) - the centre is marked on the mounting spigot. Add the tail rod glands, inner (M3) and outer (M4) drilling 0.8 mm holes in the cylinder front cover to accept the 0.8 mm wire bolts through the two gland etches. Attach the cylinder cover and solder the tail rods to the piston rods

To ensure a good fit with the lower edge of the footplate hanging plate, the cylinder wrappers (M2) are best fitted after the upper works are complete. Open up the holes in the cylinder wrappers so that the cylinder drain cock castings (BR2 & BR3) pass through to be attached to the small brackets which fold up from the cylinder main etch. The drain cock linkage (M5) can then be fitted. The piece of 0.8 mm wire, which joins the two linkages together, can only be fitted after the cylinders are finally in place, as it will then prevent removal of the cylinders. A drop of paint, should be enough to retain it.

No.	Description	Sheet	No.	Description	Sheet
M1	Cylinders	1	M7	Front step (2)	3
M2	Cylinder wrapper (2)	4 & 5	M8	Front step lower tread (2)	3
M3	Tail rod gland, inner (2)	1	M9	Front step upper tread (2)	3
M4	Tail rod gland outer (2)	3	M10	Crosshead top (2)	1
M5	Cylinder drain cock linkage (2)	1	M15	Connecting rod laminations (4)	1
M6	Motion bracket (2)	1	M16	Connecting rod boss overlay (4)	1

CYLINDER ASSEMBLY WITHOUT TAIL RODS

Check all the holes in the cylinders (M1) against the appropriate components and open up the holes if necessary. Reduce, as appropriate for your chosen frame spacing, the width of the inside cylinder faces to the etched lines provided. Fold up the cylinders making sure they are square and fold out the bogie pivot bracket. Check that the cylinders are good fit in the slots in the frames.

Check the fit of the crosshead/piston rod (NS2) with the crosshead top (M10). When satisfied solder the crosshead top in place.

Solder together the connecting rod laminations (M15) and add the rod boss overlays (M16) to the big end back and front. Drill the big end to fit the crankpins and the small end 1.6 mm. Solder the slidebar/piston rod gland (NS1) in place in the hole in the rear face of the cylinders. Accurate alignment is essential.

Modify the motion bracket (M6) as shown in the drawing in Fig 7. Fold over the step support brackets and the top strip, which temporarily ties the two motion brackets together.

Temporarily bolt the cylinders in place and fit the crosshead/piston rods. Locate the motion bracket on the slidebars and over the frames in the position shown in the drawing. Check all alignments before soldering the slidebars to the motion bracket. Carefully snap off the upper section of the motion bracket as shown in the upper drawing.

Fit the connecting rods to the crossheads, with the crosshead/connecting rod pin (NS3), and to the leading crankpins. Use suitable washers between the crankpin bosses and the connecting rods to align the connecting rods parallel to frames. Fit the coupling rods outside the connecting rods. The rear crankpins will require a tubular spacer to locate the coupling rods parallel to the frames.

Build the front steps from the front step backs (M7), the front step lower tread (M8) & the front step upper tread (M9) as shown in the drawing.

To ensure a good fit with the lower edge of the footplate hanging plate, the cylinder wrappers (M2) are best fitted after the upper works are complete. Open up the holes in the cylinder wrappers so that the cylinder drain cock castings (BR2 & BR3) pass through to be attached to the small brackets which fold up from the cylinder main etch. The drain cock linkage (M5) can then be fitted. The piece of 0.8 mm wire, which joins the two linkages together, can only be fitted after the cylinders are finally in place, as it will then prevent removal of the cylinders. A drop of paint, should be enough to retain it.

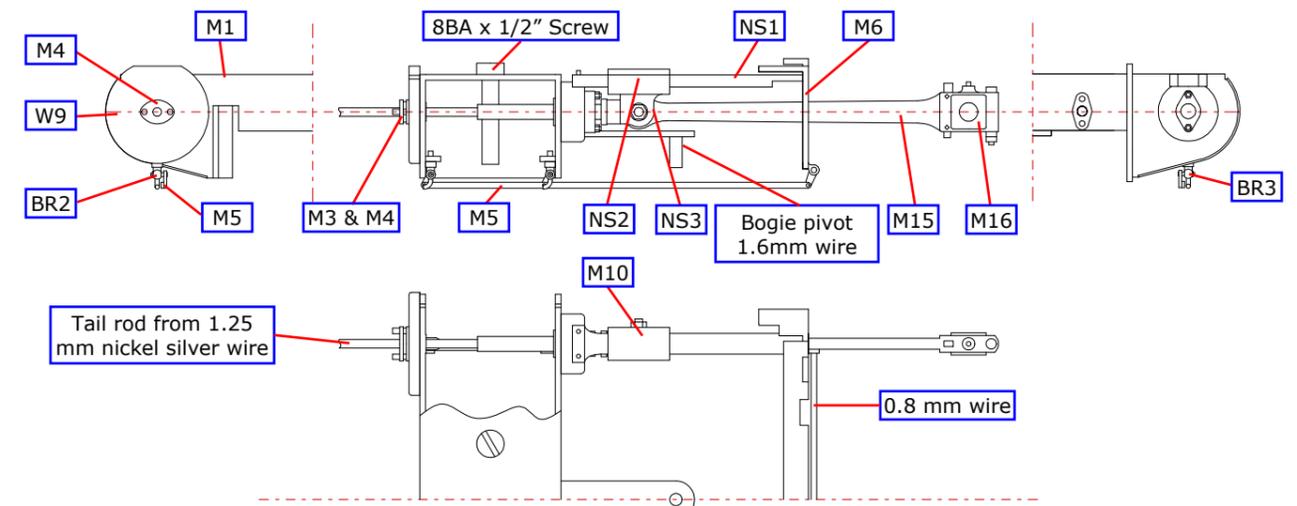


Fig 9. Early Cylinders with Tail Rods

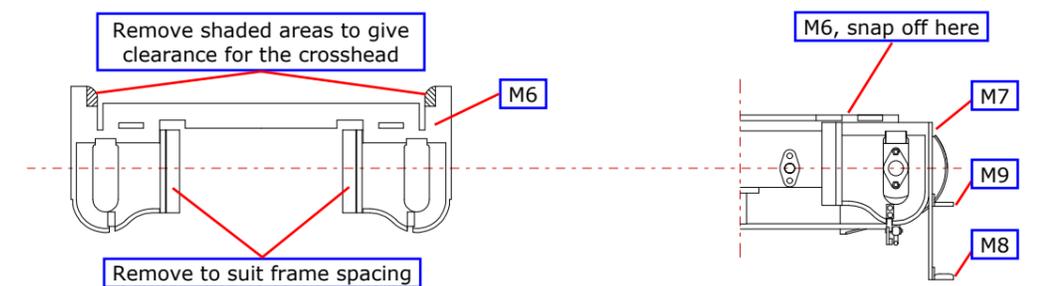


Fig 7. Modification to Motion Bracket

Fig 8. Rear of the Motion Bracket

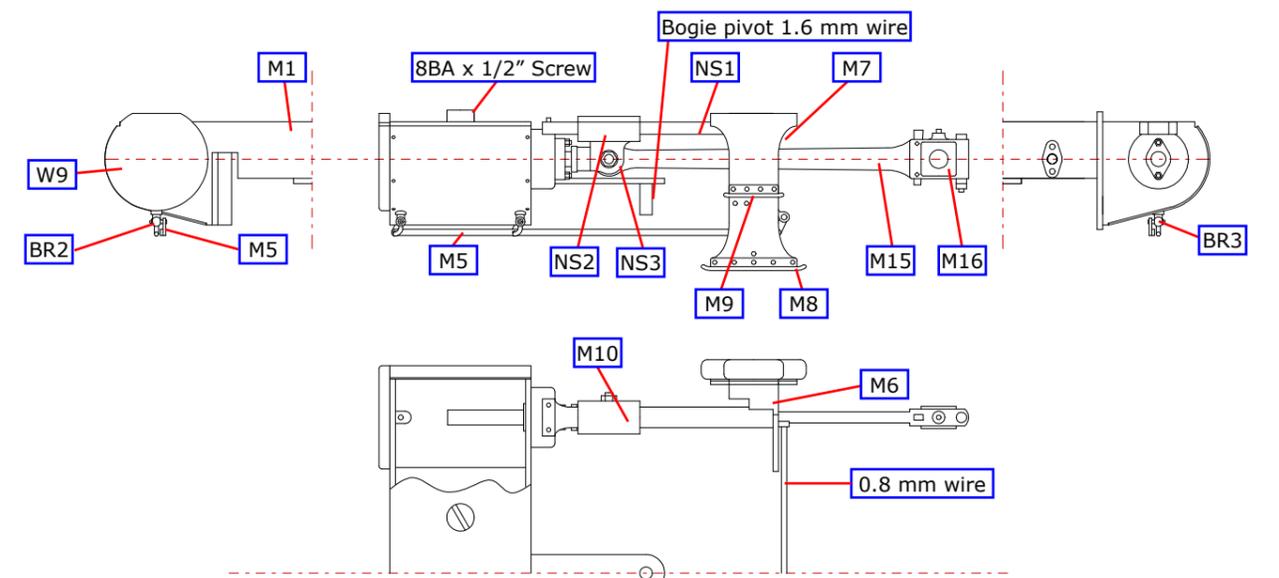


Fig 10. Late Cylinders

FINISHING THE CHASSIS

Injector/rear steps. Make the rear step/injector assembly as shown in the Fig 13. Do not solder this to the frames. It has been designed to be retained between the frames and the rear footplate by the two 8BA fixing screws. The injector feed pipes (from 1.2 mm copper wire) do not need to be soldered to the brackets hanging down from the rear frame stretcher.

The loco/tender pipe connections are made from flexible tubing. Rubber tubing is provided for the larger pipes (over the 1.2 mm spigots). We cannot obtain similar material for the smaller pipes; try some insulation from electrical wire of suitable size.

Brakes. Solder together two brake hanger laminations (D6) for each brake. The front and rear brake cross shafts (D8 & D9) are pinned and soldered to the two brake pull rods (D7) using 0.8 mm wire (Fig 14). Short lengths of 0.8 mm wire connect the cross shafts to the brake arms. The rear pull shaft (D10) is made up of two laminations. Fold to make the Y shape and then solder together. Mount the brake cylinder (W10) onto the mounting plate on the rear spacer.

Motor & gearbox. The motor and gearbox fit as shown in Fig 15 and are retained by the gearbox anchor (F27)

Wheels. Attach the balance weights (D4 and D5) to the wheels as shown in Fig 16. Assemble the wheel sets, bearings and rods selecting axle washers (F29) of appropriate thickness to control side-play. The clearance between the crankpins and the inside of the splashes is very tight. Minimal side play on the coupled wheels is desirable especially in S7. A thorough check of all clearances at this stage is important. You should now have a mechanically acceptable chassis. Now may be the time to fit pick-ups and give the chassis a test run.

For non Slaters wheels, the axles are now retained by the springs as shown in Fig 5 or 6.

Complete the chassis by fitting the sand pipes from 1.0 mm wire.

Drawbar. Make up the drawbar (D11), using a piece of 3/32" tube 7.2 mm long. Make the drawbar pin from 1.6 mm wire and the washer (D12). See Fig 17.

No.	Description	Sheet	No.	Description	Sheet
D4	Balance weight leading axle (2)	1	D11	Drawbar, 2 lengths	1
D5	Balance weight, trailing axle (2)	5	D12	Drawbar pivot retaining washer	1
D6	Brake hanger & shoe laminations (8)	1	F23	Rear steps (2)	4
D7	Brake pull rods and cross shafts	5	F24	Rear step lower tread (2)	3
D8	Brake cross shaft lamination, front	5	F25	Rear step upper tread (2)	3
D9	Brake cross shaft lamination, rear	5	F27	ABC gearbox anchor	1
D10	Brake pull rod and lever, rear (2)	5	F29	Washer, coupled wheel axle	1

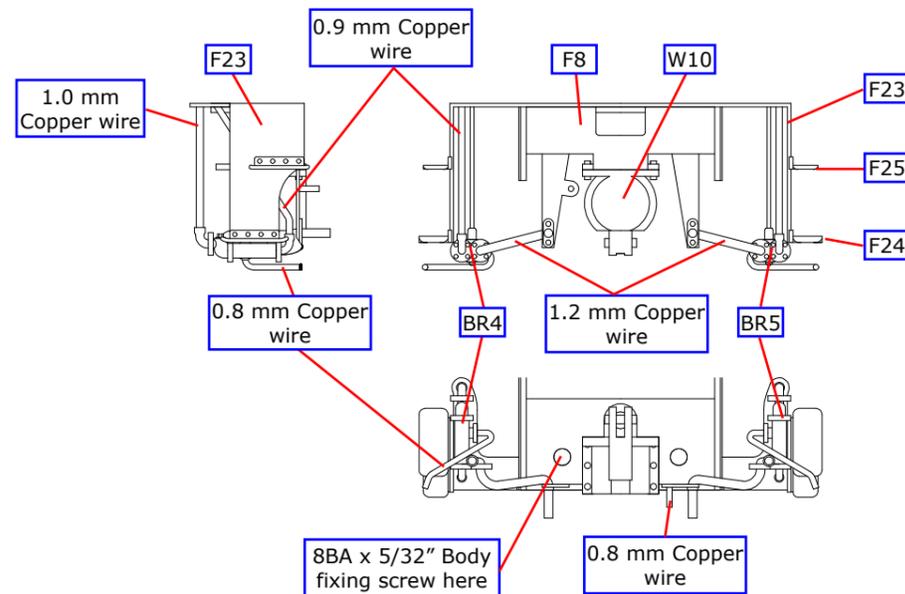


Fig 13 Injector and Rear Steps

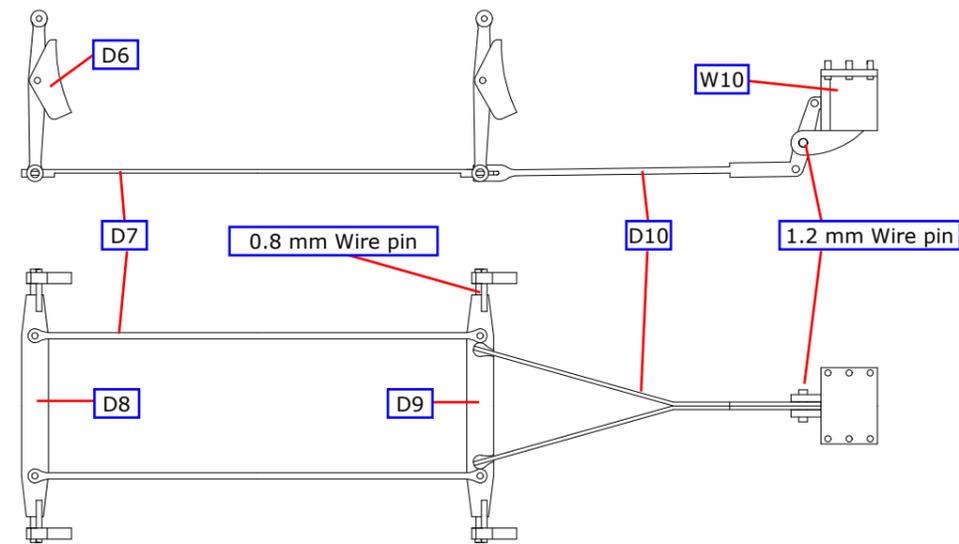


Fig 14. Brakes

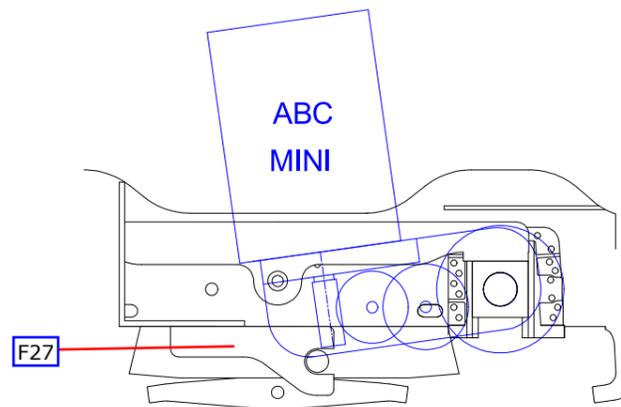


Fig 15. Motor/Gearbox Installation

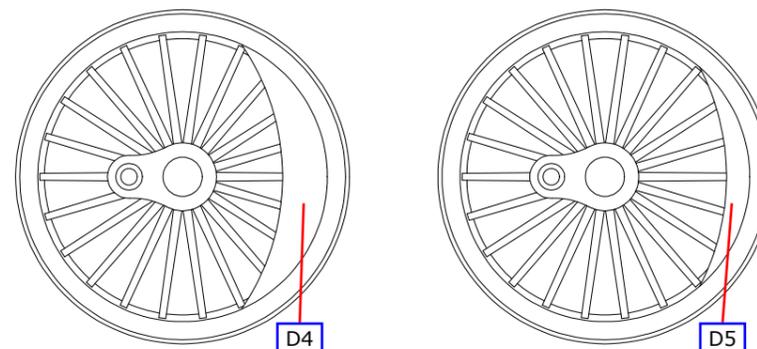


Fig 16. Leading & Trailing Wheels

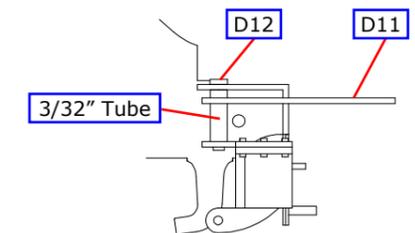


Fig 17. Drawbar

FOOTPLATE, CAB SIDES & SPLASHERS

Emboss the rivets and bolts on the frame extensions (U7) and the frame extension bolt strips (U8) and solder to the footplate (U1) as shown in the drawing. The early locos had flush rivets on the slide bar access base. Form slide bar access hatch sides (U18) to shape around a 5.5 mm rod or drill and solder in place in the groove in the slide bar access hatch base (U17) before soldering in place in the recesses in the footplate. The slide bar access hatch lid (U19) is best glued in place.

The small splasher sides come in two flavours with beading front and rear (U21 & U22) and without beading front and rear (U23 & U24). Solder the required small splasher sides in place in the small slots in the footplate. Carefully curve the small splasher tops front and rear (U25 & U26) to shape by forming over suitable rods, constantly checking the fit with the small splasher sides. Solder the tops in place in the rebate along the edge of the small splasher sides.

Early locos had flush rivets on the hanging bars, so as appropriate, emboss the rivets in the footplate hanging plates/jig (U3). Fold up the footplate hanging plate jig (part U3) as shown in the drawing. Fit the footplate over the jig, with the front edge flush with the front of the jig, and solder in place.

Very carefully form the curve in the rear footplate (U2) over a suitable bar; the radius should be 12.25 mm. Solder 8BA nuts over the two rear fixing holes. Solder the rear footplate into place on the jig. It is essential to ensure that the rear footplate sits between the two slots on either side of the main footplate; this is to allow the tabs on the cab side to go into the main footplate. You should now have a firm base on which to construct the remainder of the upper works.

Again, early locos will have flush rivets but, if appropriate, emboss the rivets on the buffer beam (U4) and solder in place. Solder the drag beam buffer rubbing plate (U6) to the drag beam (U5) before soldering the drag beam into place as shown in the drawing.

There are two varieties of cab side, with beading (U27) and without beading (U28). Solder the cab cut-out beading (C2) into place on the chosen cab side. A tight fit is essential or it will appear to be too long. Fix the short handrails on the cab sides in place.

Very carefully solder the cab side in place over the coupling rod splashers, constantly checking that the splashers are vertical and that the cab front inside lamination (C1) will fit between the cab sides

Carefully curve the cab front/splasher top (U29) to shape; a guide to the required radii is shown on the drawing. Solder the two laminations of the cab front (U29 & C1) together locating them with a piece of 0.8 mm wire which will also locate the boiler. Note the inside lamination is narrower than the cab front/splasher top. This creates a rebate along the side of the cab front, which locates in the rebate in the cab sides.

Solder the cab front into the rebate on the cab sides with the splasher tops in place in the half etched rebate along the edge of the splasher sides. Now solder the splasher tops to the sides working from the cab to the front. At each stage ensure that the splasher top is fitting tight into the rebate in the splasher side.

Now carefully saw off the footplate strengthening flaps (not the footplate jig) and file the footplate edges clean as shown in the drawing. Solder the support for the rear of the cab roof (C3) in place as shown in the drawing.

Add the sanding rod and cranks (U36) representing the pivot rod with 0.8 mm wire and reversing rod bracket laminations (U30) as shown in the drawing.

Construct the reversing rod (U33) and arm (U31) as shown to match the drawings. It is probably best to leave fixing this in place until after painting.

No.	Description	Sheet	No.	Description	Sheet
U1	Main footplate	5	U25	Small splasher top, front (2)	3
U2	Rear drop footplate	5	U26	Small splasher top, rear (2)	3
U3	Footplate hanging plate jig	3	U27	Cab side and splasher side with beading (2)	5
U4	Buffer beam	1	U28	Cab side and splasher side, no beading (2)	5
U5	Drag beam	4	U29	Cab front and splasher top	4
U6	Drag beam buffer rubbing plate (2)	3	U30	Reversing rod bracket lamination	1
U7	Frame extension (2)	1	U31	Reversing arm	1
U8	Frame extension bolt strip (2)	4	U32	Reversing arm fork joint	1
U17	Slide bar access hatch base (2)	4	U33	Reversing rod	1
U18	Slidebar access hatch sides (2)	4	U34	Reversing rod fork inner	1
U19	Slide bar access hatch lid (2)	5	U35	Reversing rod fork outer (2)	1
U21	Small splasher side, front with beading (2)	4	U36	Sanding rods and cranks	3
U22	Small splasher side, rear with beading (2)	4	C1	Cab front inside lamination	5
U23	Small splasher side, front, no beading (2)	5	C2	Cab cut out beading (2)	4
U24	Small splasher side, rear, no beading (2)	5	C3	Support rear of cab roof	4

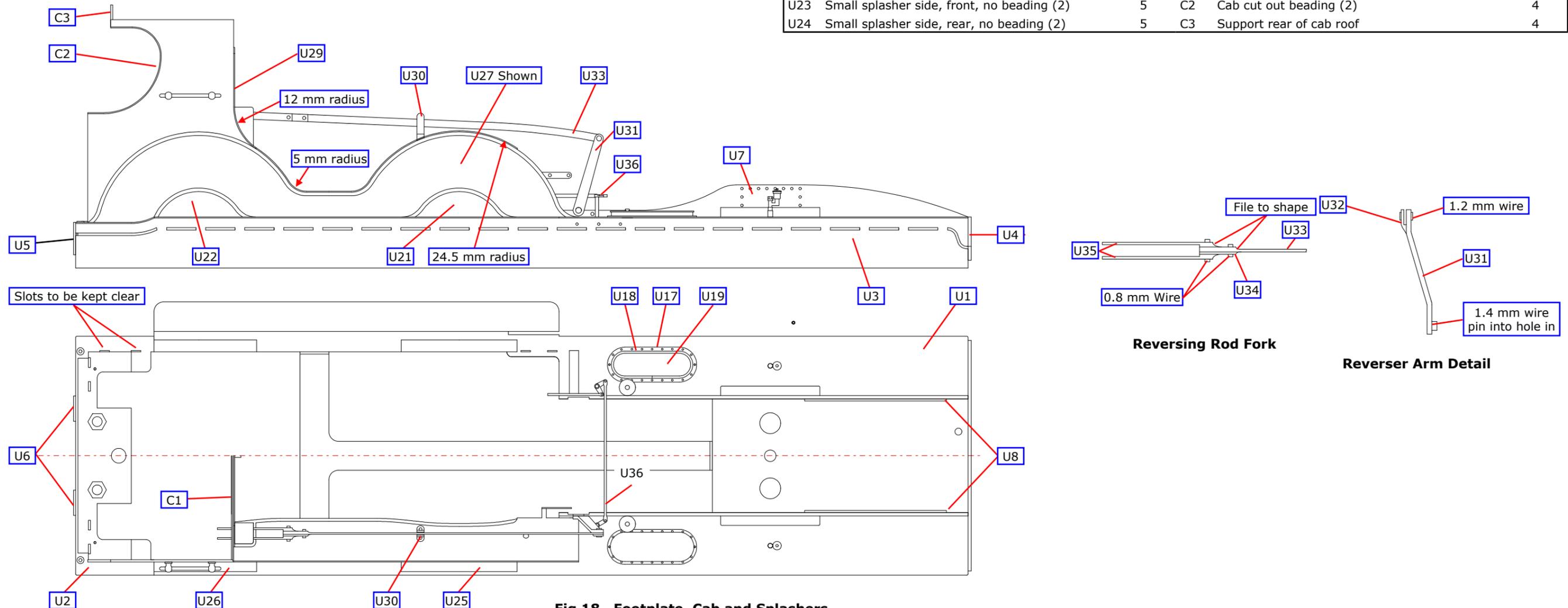


Fig 18. Footplate, Cab and Splashes

SMOKEBOX AND BOILER

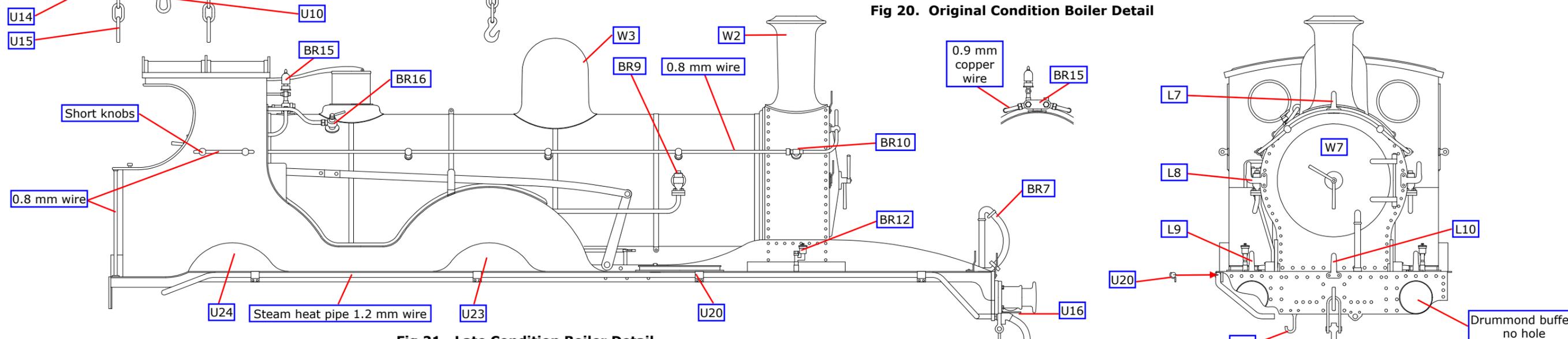
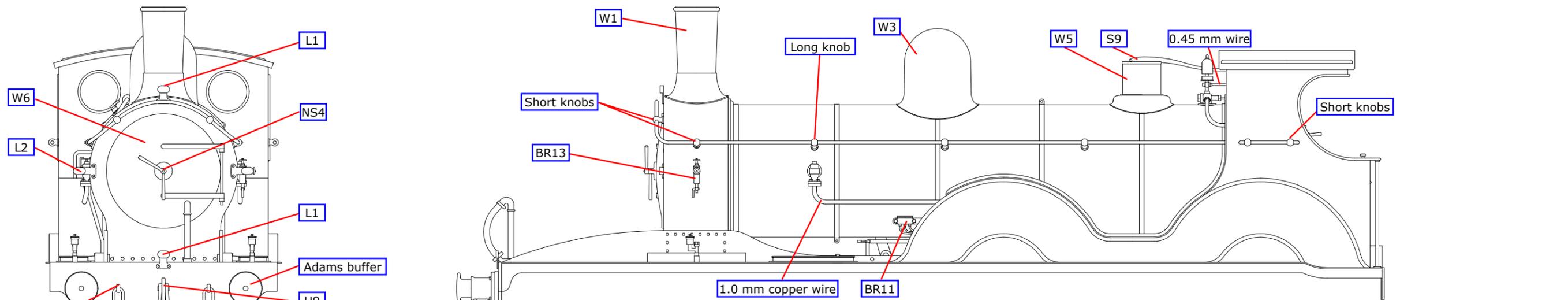
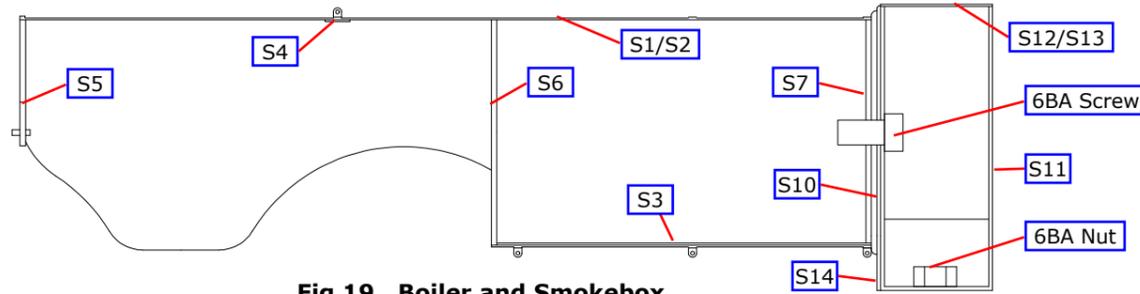
If appropriate emboss the rivets on the smokebox base (S11) before folding up and soldering a 6 BA nut over the fixing hole. The smokebox wrapper is supplied in two forms, no rivets (S12) or riveted (S13). Roll the smokebox wrapper to shape and solder in place. Solder the smokebox rear plate (S14) to the rear of the smokebox.

There are two boiler/firebox wrappers - no bands (S1) or with bands (S2). Solder the boiler band joining bracket (S4) into place and represent the bolt with a piece of 0.45 mm wire. Roll the boiler wrapper and form the firebox sides to shape. Solder the wrapper ends together using the boiler joining strip (S3) and solder in the front former (S7). Now solder the middle former (S6) and rear former (S5) in place with the notch in the top of the rear former aligned with the notch in the wrapper. Represent the bolts in the joining brackets using 0.45 mm wire. Tap the hole in the front former 6BA so that the smokebox, the smokebox boiler ring (S10) and the boiler can be screwed together. Now check the fit of the smokebox and boiler with the cab front and splashes. The boiler can be rotated on the dowel in the cab front, so the angles along the inner edges of the splashes and the lower edge of the firebox align.

Before the valence jig is removed the boiler smokebox assembly must be permanently fixed in place. This is best done after all possible detailing work on these assemblies is complete. This should include the handrail and lamp brackets. Complete the upper works detailing as shown below. The large whistle was removed in later years

Using a carborundum disc in a mini-drill cut/remove the valence jig and snap off the redundant parts along the half etched lines. The edges of the valences will now need cleaning up. Now remove the T shaped central strengthening piece from the footplate.

No.	Description	Sheet	No.	Description	Sheet
S1	Boiler and firebox wrapper, no bands	5	S13	Smokebox wrapper, riveted	4
S2	Boiler and firebox wrapper with bands	4	S14	Smokebox rear plate	4
S3	Boiler joining strip	4	U9	Coupling hook	1
S4	Boiler band joining bracket (3)	3	U10	Coupling link	1
S5	Boiler rear former	1	U11	Screw coupling hook	3
S6	Boiler middle former	1	U12	Screw coupling pieces	3
S7	Boiler front former	1	U13	Buffer washer (2)	3
S8	Reversing rod cowling on cab front	5	U14	Safety chain eye	1
S9	Safety valve lever	3	U15	Safety chain hook	1
S10	Smokebox/boiler ring	1	U16	Steam pipe valve handle	3
S11	Smokebox base/sides/back/front	5	U20	Steam pipe bracket (4)	3
S12	Smokebox wrapper, no rivets	5	For lamp bracket etch positions see sheet 12		



CAB ROOF & FINAL DETAILING

WOODEN CAB ROOF

Fold up the back and front of the cab roof building jig (C11) which gives a solid base upon which to build the removable cab roof. Roll the cab roof (C12) to shape and solder in place on the jig with equal overhang, back and front. Add the rain strips (C13). Now using a carborundum disc in a mini-drill cut through the unwanted part of the former and snap off the redundant parts along the half etched lines. The edges of the formers will now need cleaning up.

STEEL CAB ROOF

Fold up the back and front of the cab roof building jig (C11) which gives a solid base upon which to build the removable cab roof. Roll the cab roof (C14) to shape and solder in place on the jig with equal overhang, back and front. Add the front and rear angles (C15), the side angles (C16) and the centre angle (C17). Now using a carborundum disc in a mini-drill cut through the unwanted part of the former and snap off the redundant parts along the half etched lines. The edges of the formers will now need cleaning up.

CAB & BACKPLATE

The cab interior is a little different. The frames, which are part of the chassis, appear inside the cab alongside the cab splashes. Because of the different frame spacings, the cab floor and the splashes are in three different widths. The cab floor slides into slots in each frame; select the appropriate width cab floor (C9), cab splash back (C4), cab splash top (C7) and the left and right splash side (C5 & C6). Add the drain cock lever (C22) to the right splash and the sanding lever (C24) to the left splash. The bolts on these two levers should be simulated with 0.45 mm wire. Solder the cab splash sides into the slots in the etched groove in the splasher tops. Add the splashers backs.

The cab splashes can now be checked for fit in the cab by inserting into the slots in the floor and adjusted to get the best fit. Solder into the slots in the floor. Check that the body fits with the splashers sides outside the frames and then solder the cab floor support (C8) in place. Emboss the rivets in the fall plate hinges in parts C9 & C10. Fold over the fall plate hinge tabs. Check the fit of the cab floor and fall plate as described earlier.

Attach all the remaining components using the drawings and photographs as a guide to position.

No.	Description	Sheet
C4	Cab splash back, 3 widths (2)	3
C5	Cab splash side, left	5
C6	Cab splash side, right	5
C7	Cab splash top, 3 widths (2)	3
C8	Cab floor support	5
C9	Cab floor, 3 widths	3
C10	Fall plate	4
C11	Cab roof building jig	3
C12	Wooden cab roof	4
C13	Wooden cab roof rain strip (2)	3
C14	Steel cab roof	4
C15	Steel cab roof front and rear angle (2)	4
C16	Steel cab roof side angle (2)	4
C17	Steel cab roof centre angle	4
C18	Cab pressure gauges (2)	3
C19	Vacuum ejector handle (2)	1
C20	Vacuum ejector lever	3
C21	Backplate shelf	3
C22	Drain cock lever	3
C23	Drain cock lever bracket	3
C24	Sanding lever	3
C25	Sanding lever bracket	3
C26	Injector handwheel	3
C27	Blower handwheel	3

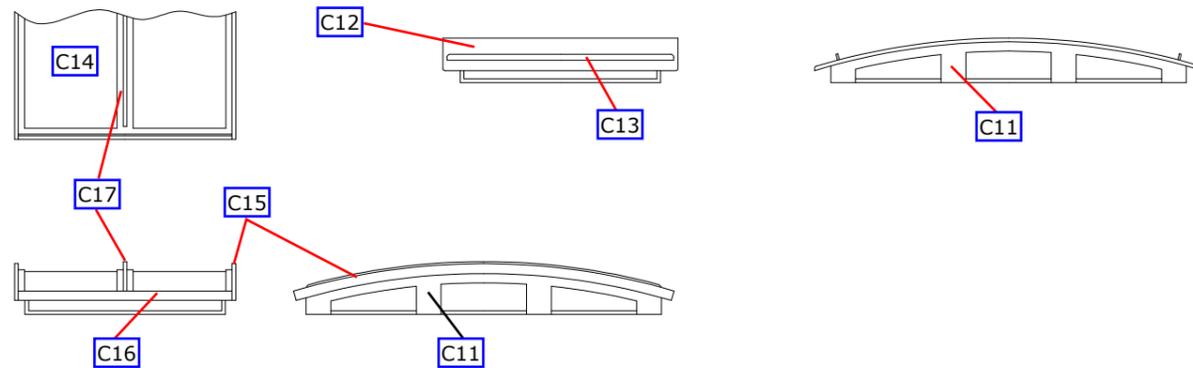


Fig 22. Cab Roofs

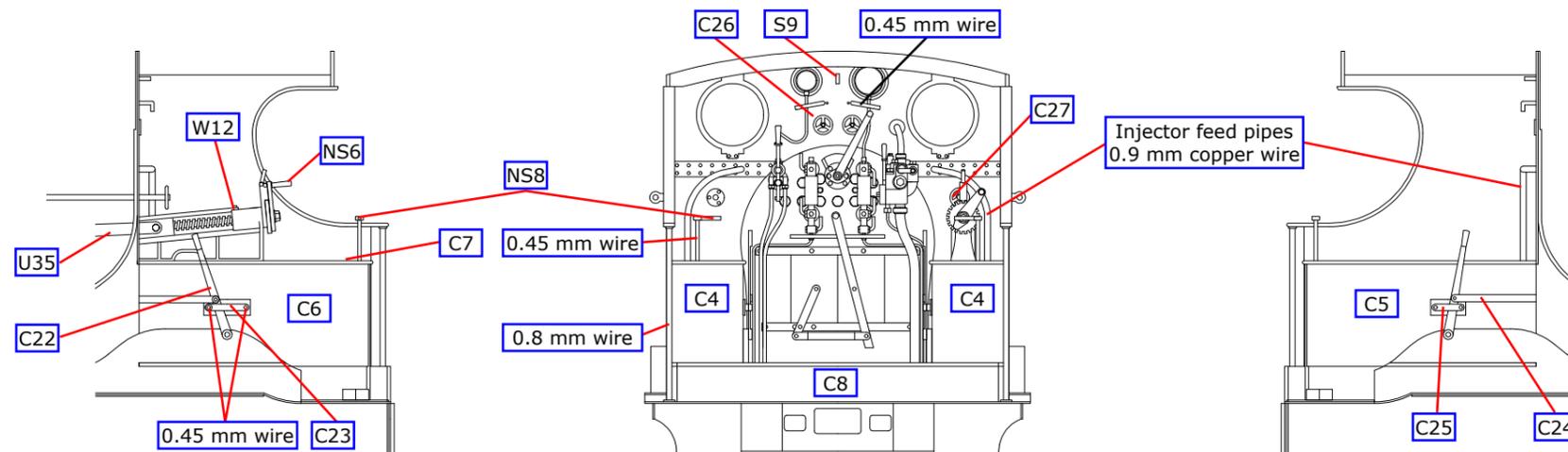
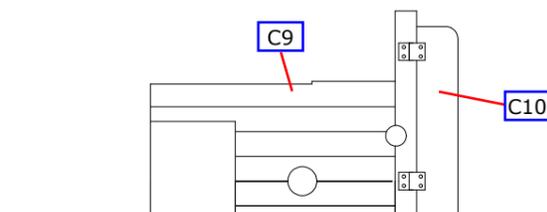


Fig 23. Cab



Footplate and Fall Plate

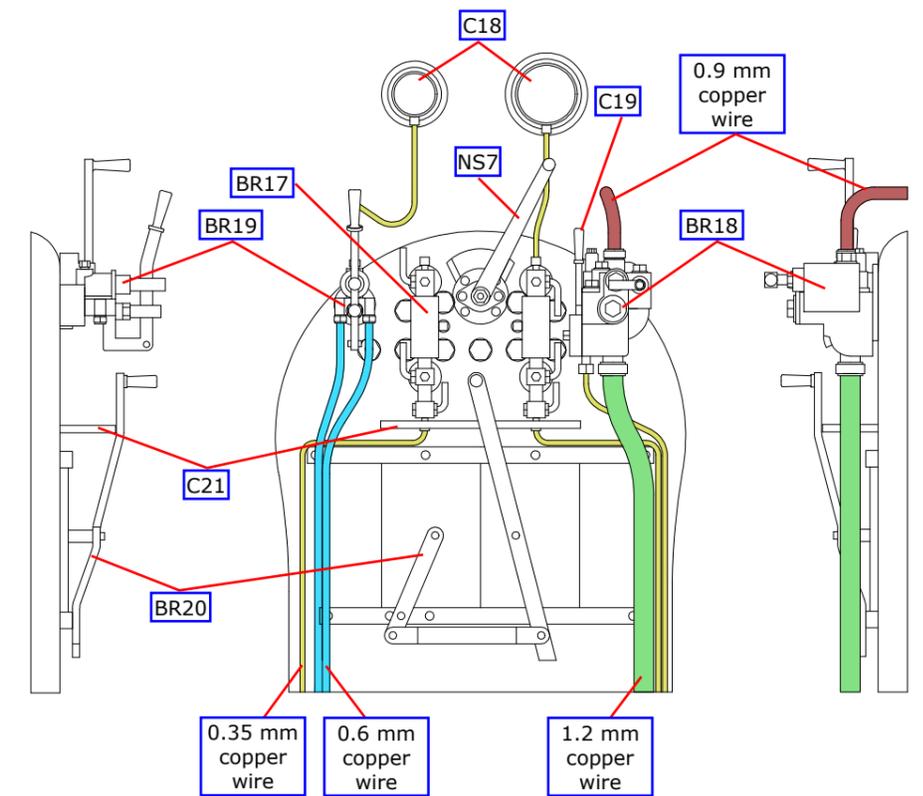
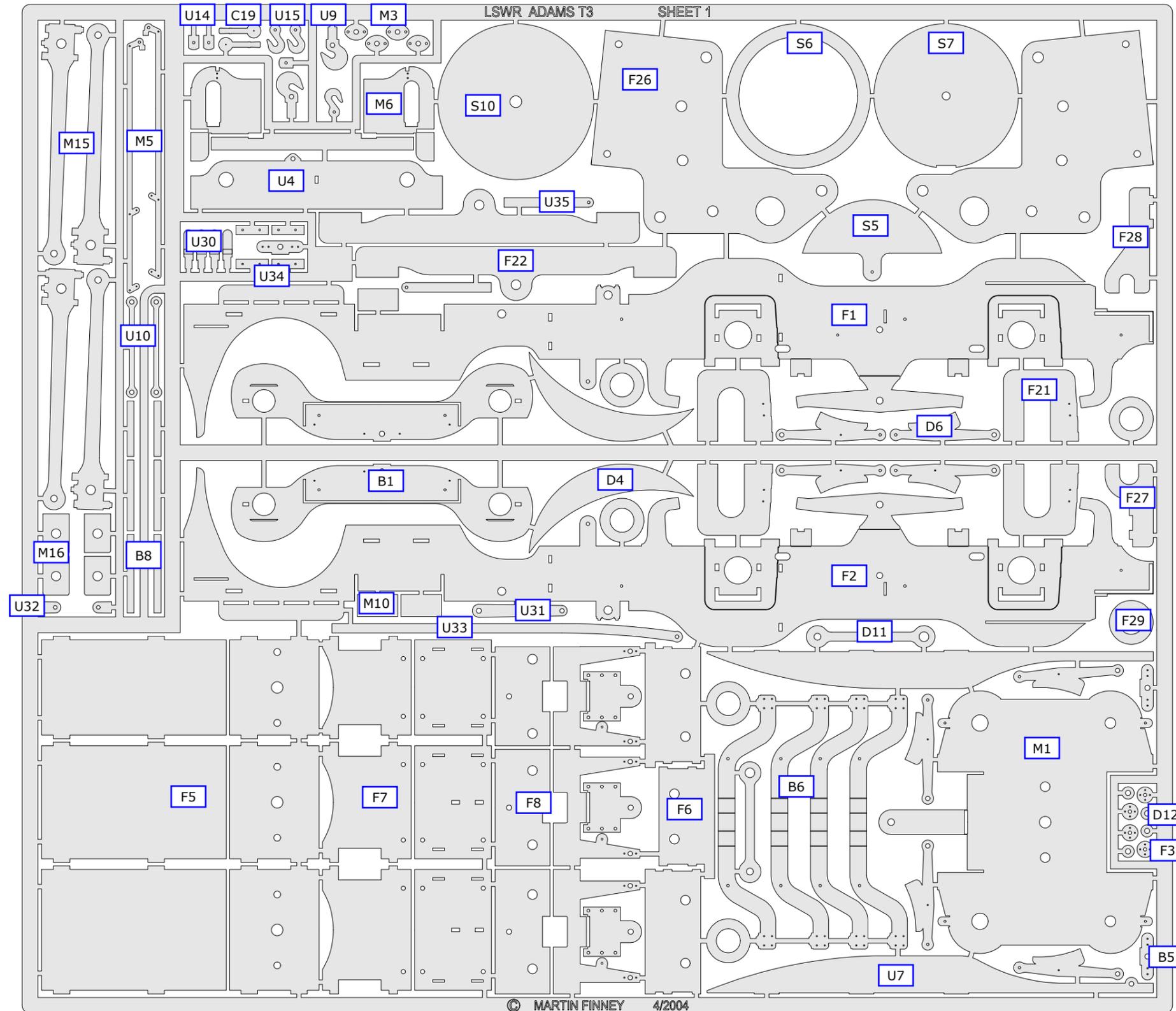
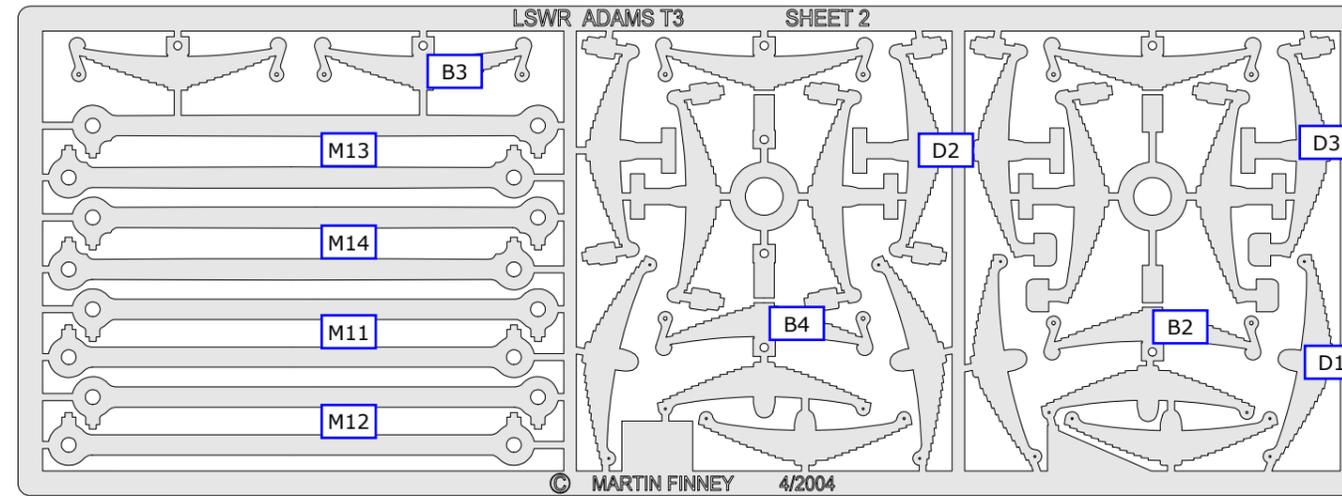


Fig 24. Backplate

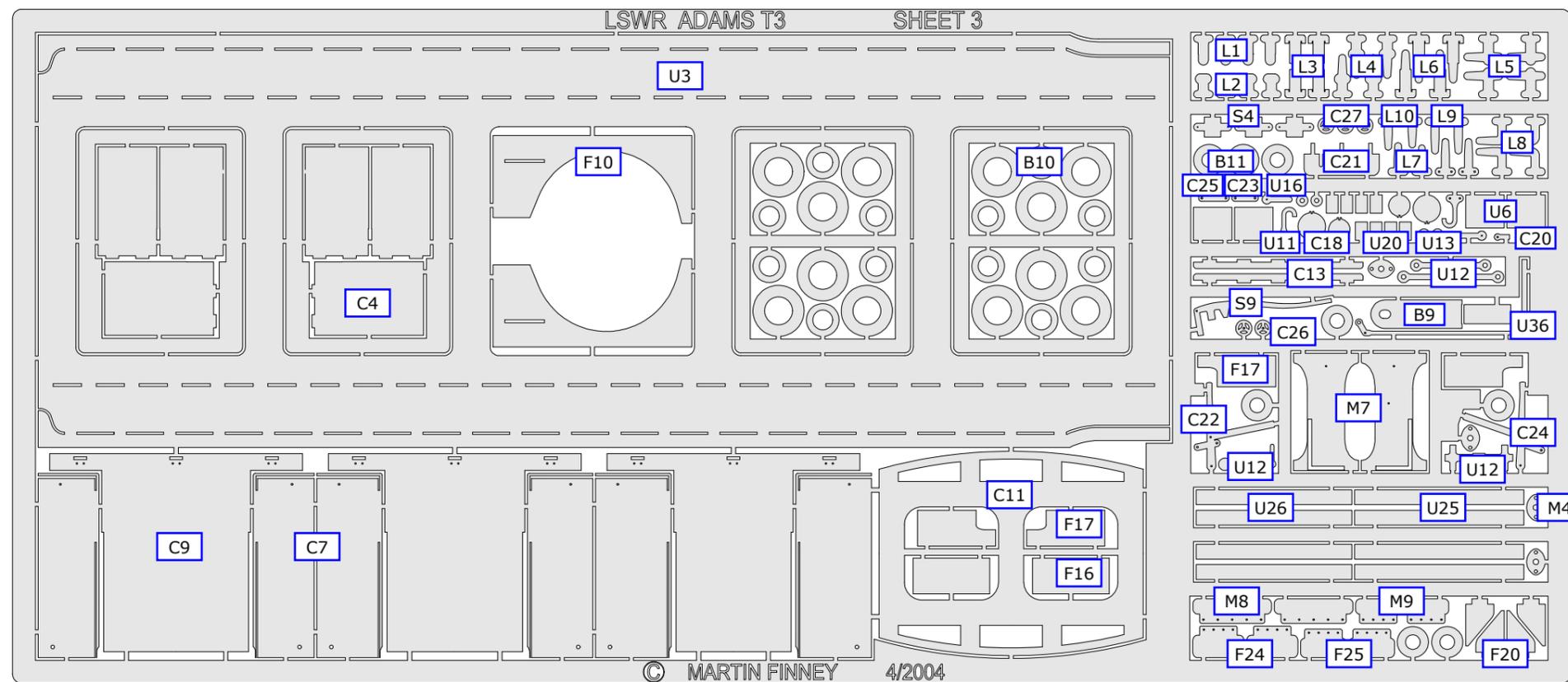
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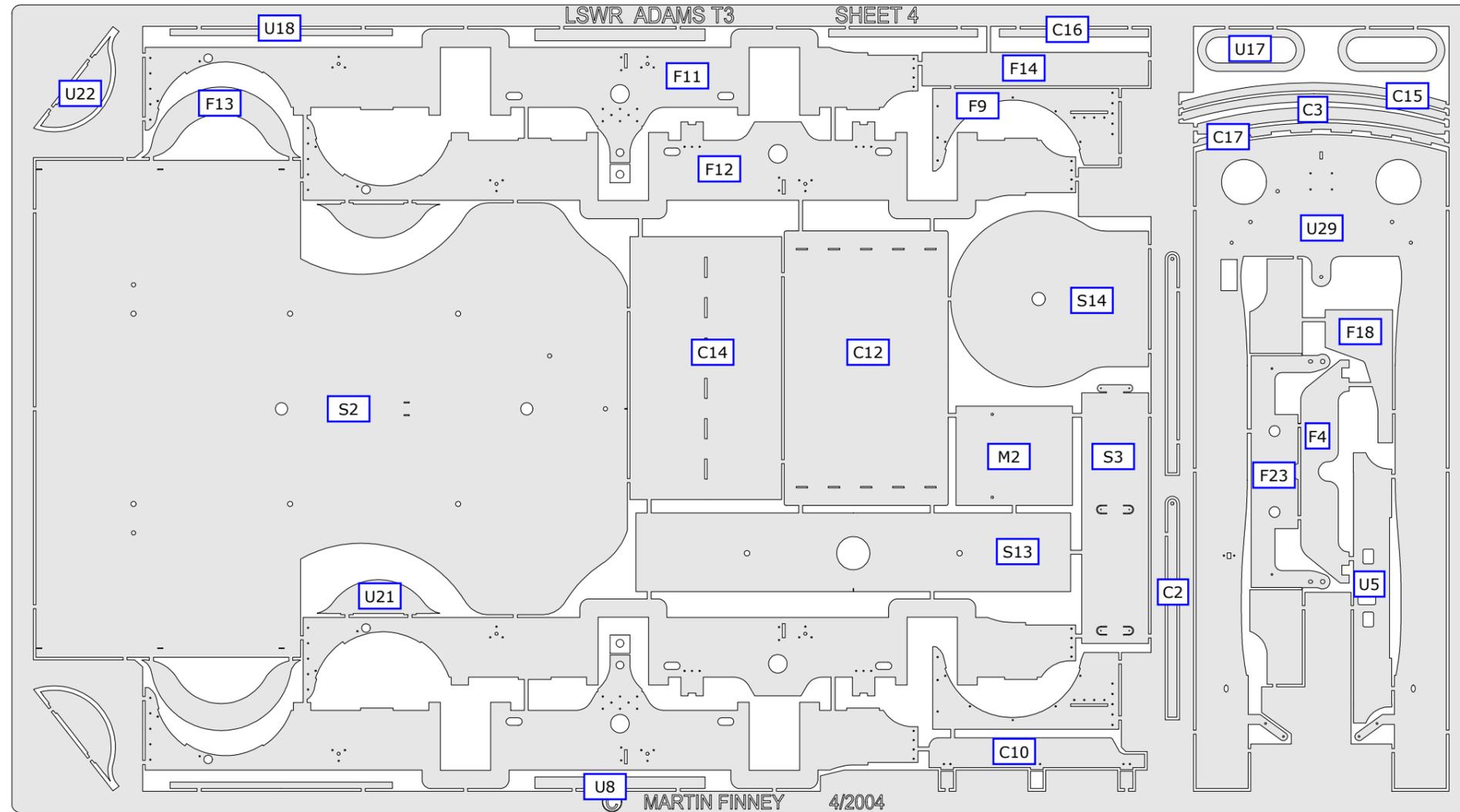
ETCH SHEET 2



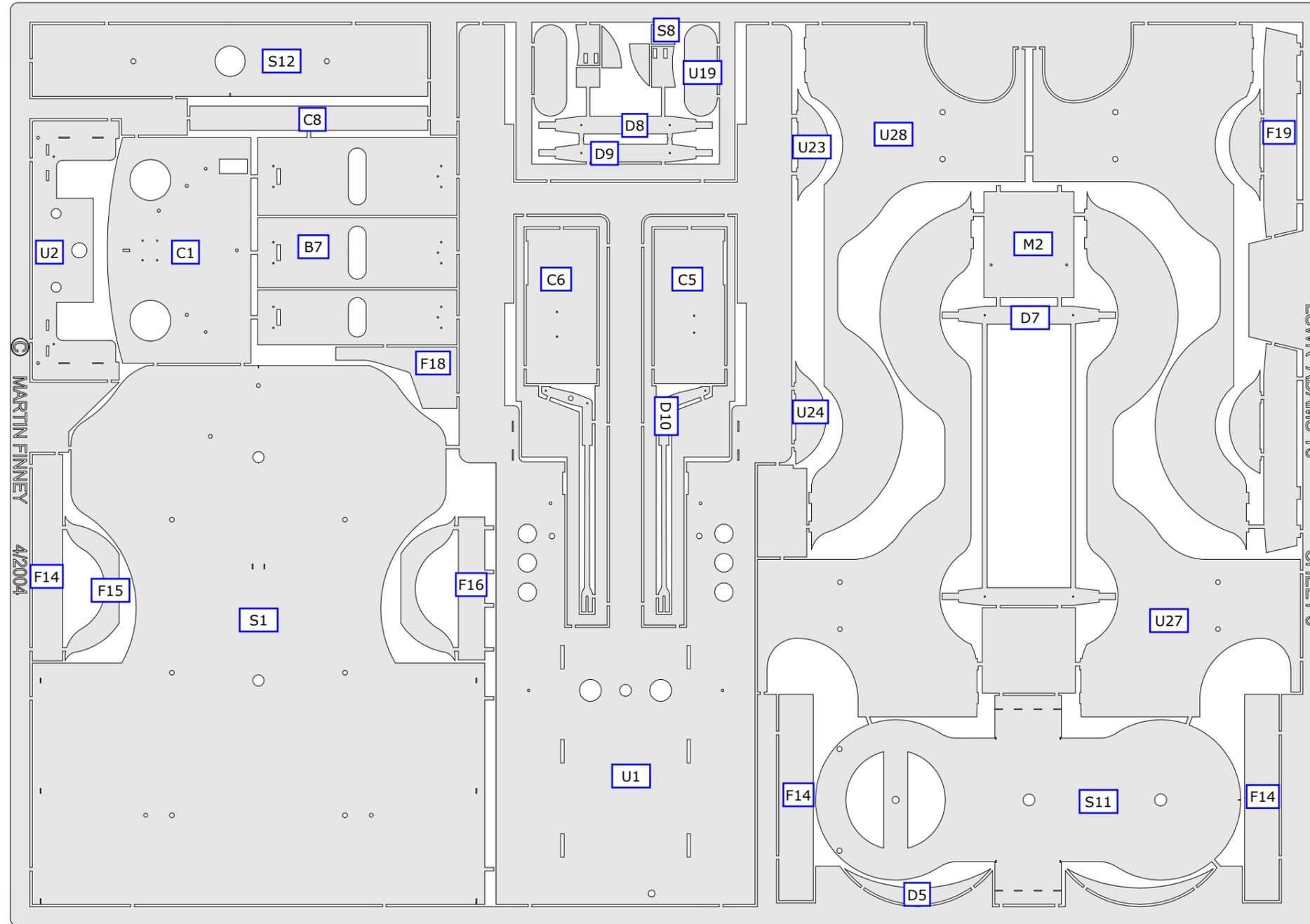
ETCH SHEET 3



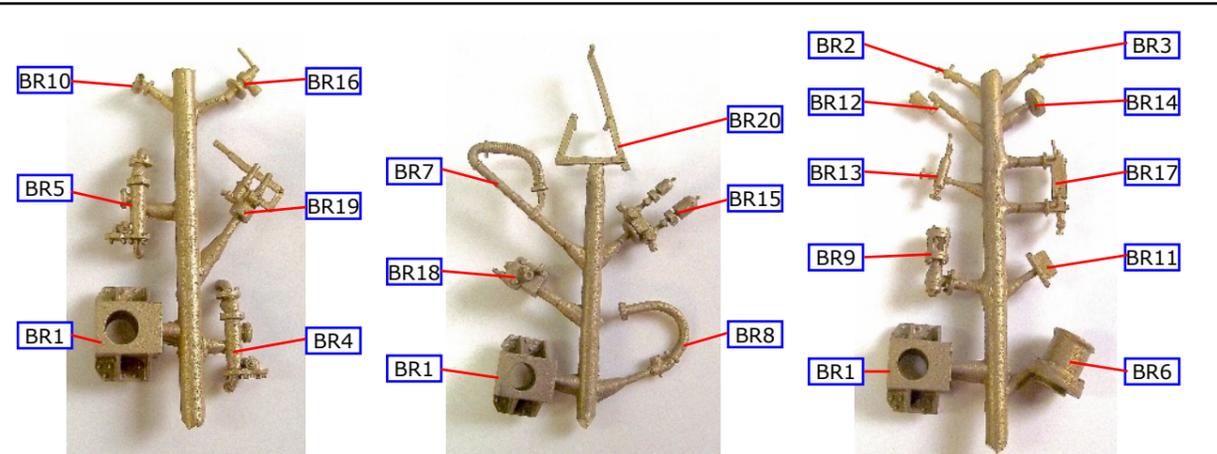
ETCH SHEET 4



ETCH SHEET 5



CASTINGS & OTHER COMPONENTS

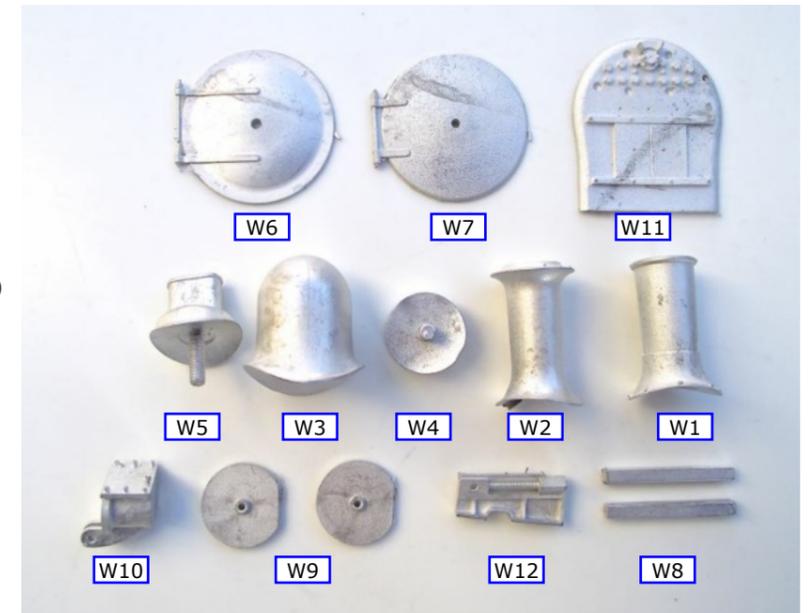


BRASS CASTINGS

- | | | | |
|------|--------------------------------|------|--|
| BR1 | Bogie axle box (4)4 | BR11 | Lubricator in front of splasher (2) |
| BR2 | Cylinder drain cock, right (2) | BR12 | Lubricator on platform over cylinder (2) |
| BR3 | Cylinder drain cock, left (2) | BR13 | Lubricator on side of smokebox (2) |
| BR4 | Injector, left (1) | BR14 | Sandbox lid (2) |
| BR5 | Injector, right (1) | BR15 | Whistles/steam manifold (1) |
| BR6 | Buffer housing (2) | BR16 | Vacuum ejector steam cock (1) |
| BR7 | Vacuum pipe (1) | BR17 | Water gauge (2) |
| BR8 | Steam heating pipe (1) | BR18 | Vacuum ejector/brake (1) |
| BR9 | Clack box (2) | BR19 | Steam brake valve (1) |
| BR10 | Blower valve (1) | BR20 | Firebox door handle (1) |

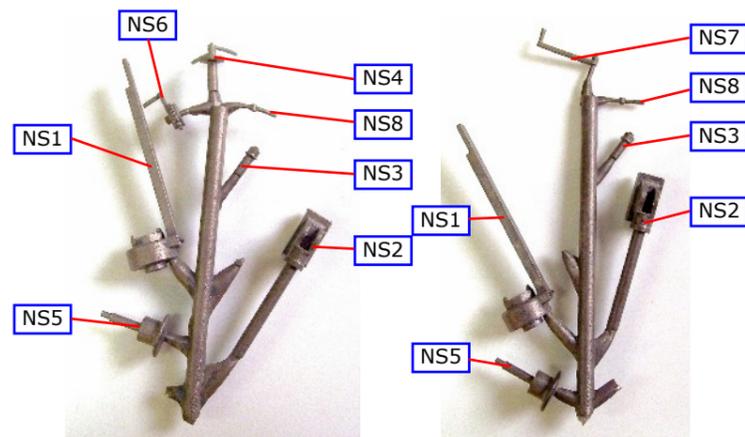
WHITEMETAL CASTINGS

- | | |
|-----|---|
| W1 | Adams chimney (1) |
| W2 | Drummond chimney (1) |
| W3 | Dome (1) |
| W4 | Inside of dome (1) |
| W5 | Safety valve casing (1) |
| W6 | Adams smokebox door (1) |
| W7 | Drummond smokebox door (2) |
| W8 | Cover over frame bolts alongside smokebox (2) |
| W9 | Cylinder cover, front (2) |
| W10 | Brake cylinder (1) |
| W11 | Back plate (1) |
| W12 | Screw reverser (1) |



NICKEL SILVER CASTINGS

- | | |
|-----|----------------------------------|
| NS1 | Slidebar/piston rod gland (2) |
| NS2 | Crosshead/piston rod (2) |
| NS3 | Crosshead/connecting rod pin (2) |
| NS4 | Smokebox door handles (1) |
| NS5 | Buffer (2) |
| NS6 | Screw reverser handle (1) |
| NS7 | Regulator handle (1) |
| NS8 | Water valve handle (1) |



OTHER COMPONENTS FOR CHASSIS

- 3/16" bearing (4)
- 6BA x 1" screw
- 6BA nut
- 8BA x 1/2" screw (2)
- 8BA x 5/32" screw (2)
- 8BA nut (2)
- 3/32" OD Brass tube
- 5/32" OD Brass tube
- 1.25 mm Nickel silver wire
- 0.45 mm Brass wire
- 0.8 mm Brass wire
- 1.0 mm Brass wire
- 1.4 mm Brass wire
- 1.6 Brass wire
- 1.8 mm Brass wire
- 2.0 mm Brass wire
- 0.7 mm Spring wire
- 0.8 mm Copper wire

- 0.9 mm Copper wire
- 1.0 mm Copper wire
- 1.2 mm Copper wire

OTHER COMPONENTS FOR BODY

- 0.45 mm Brass wire
- 0.6 mm Brass wire
- 0.8 mm Brass wire
- 1.2 mm Brass wire
- 1.4 mm Brass wire
- 0.35 mm Copper wire
- 0.6 mm Copper wire
- 0.9 mm Copper wire
- 1.0 mm Copper wire
- Copper wire - 1.2 mm Copper wire
- Handrail knob - short (7)
- Handrail knob - long (6)
- Buffer spring (2)
- Rubber tubing for flexible pipes between loco and tender