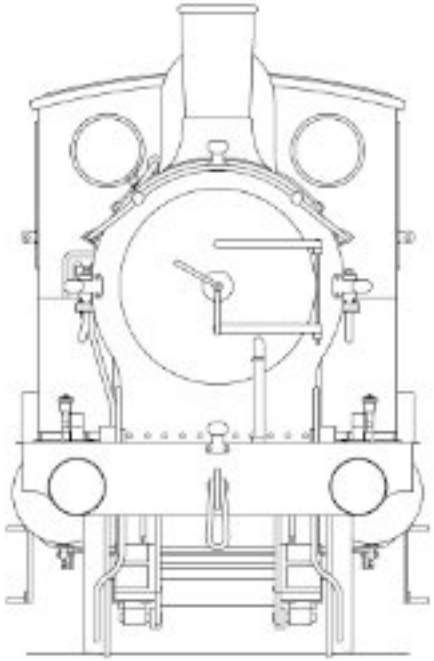
LSWR ADAMS T3



CAUTION.

This product contains etched parts with very sharp edges and castings that may contain lead. Neither the Manufacturer, Distributor or Retailer can accept any liability for illness, injury or consequential damage caused when handling or building this product.

Read any instructions before assembly. Do not eat or drink whilst handling. Wash hands after use.

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BRIEF HISTORICAL DETAILS

This kit replicates the twenty locomotive of this type designed by William Adams for the LSWR. Numbered 557-76 they were built at Nine Elms from 12/1892 to 11/1893. They were attached to Adams 3300 gallon tenders. Most were withdrawn between 10/1930 and 8/1933 but Numbers 563 and 571 survived into the 1940s, No. 563 being the last to stop working in August 1945.

SOURCES OF INFORMATION AND PHOTOGRAPHS

The Locomotives of the LSWR, Part II published by the RCTS.

LSWR Locomotives - The Adams Classes published by Wild Swan.

Locomotives Illustrated No. 124 - Adams LSWR 4-4-0s - RAS Publishing

A Pictorial Record of Southern Locomotives - J.H.Russell - OPC

Southern Steam Locomotive Survey - The Adams Classes - Bradford Barton

The LSWR at Nine Elms: Vol. 1. - Barry Curl - KRB Publications

With a life of fifty years, many detail modifications to the locomotives took place. We have attempted to cover most by including alternative components in the kit. It is essential to have a photograph of the actual locomotive you wish to model.

VARIATIONS POSSIBLE WITH THE KIT.

Most of the changes were brought about by Drummond from 1900.

Rivets. Flush rivets were used to build the running plate and above. Over the years many were replaced with snap headed rivets.

Splashers. Originally the main splashers and coupling rod splashers had brass beading.

Chimney. The original Adams stove pipe chimneys were replaced with Drummond chimneys.

Smokebox door. The original Adams doors were gradually replaced with Drummond doors.

Equalising beams and springs. Removed by Drummond to be replaced with new spring anchors for the rear of the leading spring and the front of the trailing spring.

Piston tail rods. Removed by Drummond.

Three way lubricators. The small lubricators on the front of the splasher were soon removed.

Whistles. Originally there were two whistles. The large whistle was removed circa 1903.

Leading bogie wheel splasher. Removed by Drummond from circa 1900.

Cab roof. The original wooden cab roofs were replaced with steel roofs by Drummond.

Safety chains. The original safety chains were gradually removed during Drummond's time.

Lamp brackets. The locomotives were built with Adams socket style brackets. Drummond added extra socket brackets to his design over the buffers. The SR standardised on a design with the socket in the lamp. Many tenders had the Adams and Drummond brackets adapted to accept the standard lamps but some of the later survivors were fitted with standard brackets.

Smokeboxes. When smokeboxes were renewed by the Southern Railway the flush riveting was often replaced by visible snap head rivets.

Couplings. The engines, in their early years, ran with a single long coupling link, although some carry two further links. Much later they were equipped with screw couplings together with a hook to carry the coupling when it was not required.

Carriage heating pipes. From 1901 the LSWR introduced steam carriage heating equipment. The buffer beam mounted connection was not fitted until the SR put the pipe outside the right valence.

Coupling rods. Originally fluted coupling rods were fitted. Plain rods were fitted as replacements..

VARIATIONS NOT POSSIBLE WITH THE KIT.

D**rummond boiler.** In April 1907 No. 568 was fitted with a new boiler of Drummond pattern with dome top safety valves. It ran with this boiler until August 1925.

CHASSIS OVERVIEW

Note that many of the components for both chassis and body are handed left/right and care must be taken to ensure the correct component is used. Components are not always identified left/right separately but with care and common sense no problems should arise.

Gauge.

For Finescale, where little sideplay is required, the widest spacers can be used but they will need careful filing to make their width 26.0 mm. If you require your engine to negotiate sharp curves then the middle width spacers should be used. For Scaleseven use the widest frame spacers .

Suspension.

Rigid. The kit is supplied with top hat bearings to build a rigid chassis. Open out the main axle holes to accept top hat bushes and solder them in place.

Sprung. If you are going to fit sprung horn blocks, you should open out the frame slots by cutting up the half etched lines and follow the manufacturers instructions.

Compensated. The simplest and most reliable suspension system is beam compensation and the necessary compensation beams are provided in the kit. The hornblocks and bearings which are available as an extra item which includes instructions for aligning the hornblocks .

Pickups. No pickup material is provided. The options are:

Scrapers. Attached to the middle frame spacer using printed circuit board.

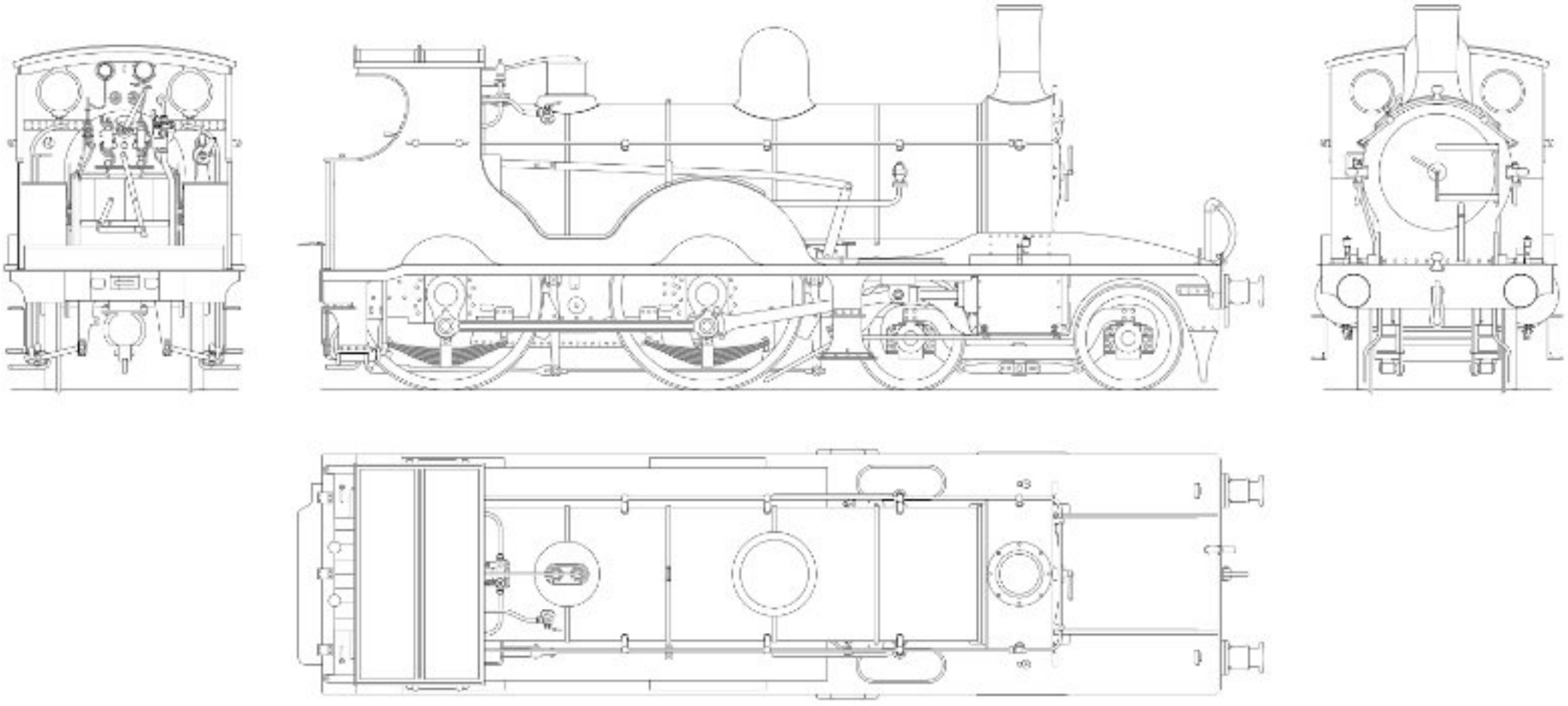
Plunger. Open out holes P and fit according to the manufacturers instructions. It may not be possible to use plunger pickups if you wish to fit the inside motion.

COMPONENTS NOT SUPPLIED

Wheels. Drivers are 6'7", 22 Spoke, 13" throw, pin in line (Slaters 7879SW) and bogie 3’7”, 10 spokes, 5/32” axle (Slater’s 7843SWMF).

Motor/Gearbox. A Canon 1833 motor is recommended with a SDMP 40L/15 gearbox available from Finney 7.

Inside Motion. A separate kit is available from Finney7 to construct the working inside motion.



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.

BOGIE

Part Numbers and Etch Numbers. These are all displayed in the text as part number/etch number as in (B1/1). Parts on this page are on Etch 1 unless detailed.

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

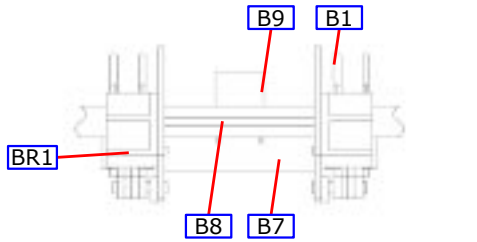
Remove and clean up the bogie frames (B1) and then emboss the rivets. Emboss the rivets on the spring bracket (B5) and solder in place locating it over the frame rivets. Fold up the bogie stretcher (B7/5); use the middle width for 0 Finescale or the widest for Scaleseven and solder in place in the slots in the frames. Note that the slot for the bogie pivot bracket (B9/3) must be at the back.

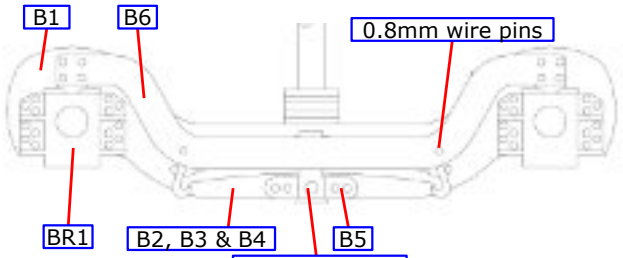
Fold up the bogie pivot bracket and solder in place. Solder the axle boxes (BR1) in place. Clean up the stretcher bars (B8) and solder in place as shown in the drawing. Carefully ream the axle holes to 5/32" diameter and temporarily fit the wheels to check that the bogie is running true.

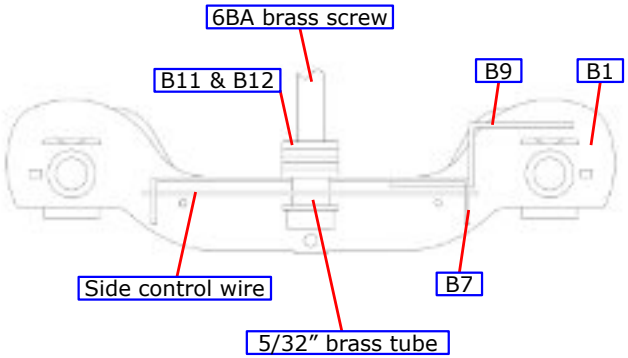
Using the bogie spring middle lamination (B3/2) as a guide, drill two 0.8 mm holes into a block of wood or Tufnol and insert 0.8 mm wire into the holes. These pieces of wire are used as a jig to accurately align the spring components, the front (B2/2), the middle (B3), the rear (B4/2) and the equalising beams (B6).

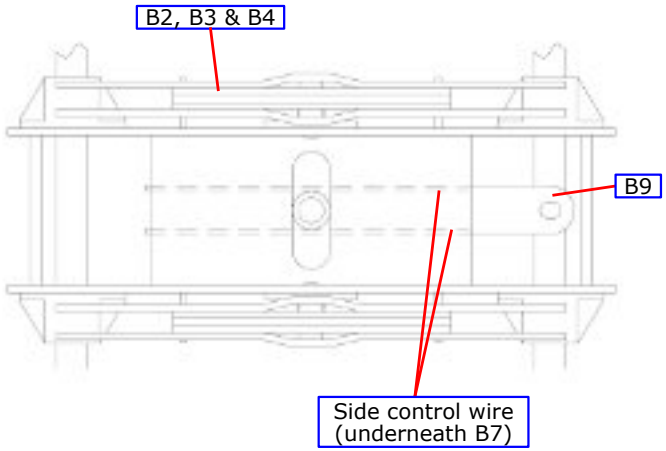
Fold over through 180° the outer strips on parts B2 & B4 (fold line on outside) before assembling all the components on the jig. Align carefully before soldering together. Trim the wire pins to length leaving the wire long at the back to enable the assembly to be located on the bogie through the holes 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. Use the pivot screw packing washers (B11/3 & B12/3)) to set the ride height of the locomotive.









FRAME PREPARATION

All these parts are found on etch 1.

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

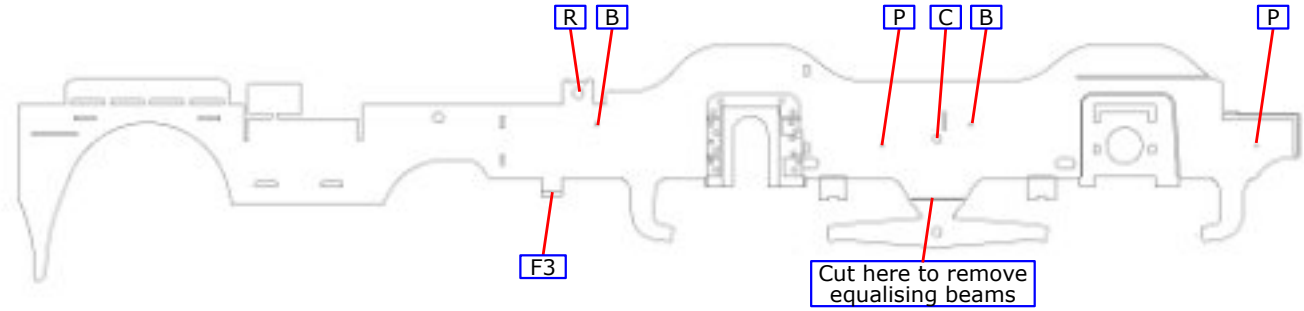
R for reverse weigh shaft - 1.8 mm

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).



Coupling Rods. These parts are all on etch 2. 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 under size 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 CONSTRUCTION

Parts on this page are on Etch 1 unless detailed.

Select the stretchers - front (F4/4), 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.

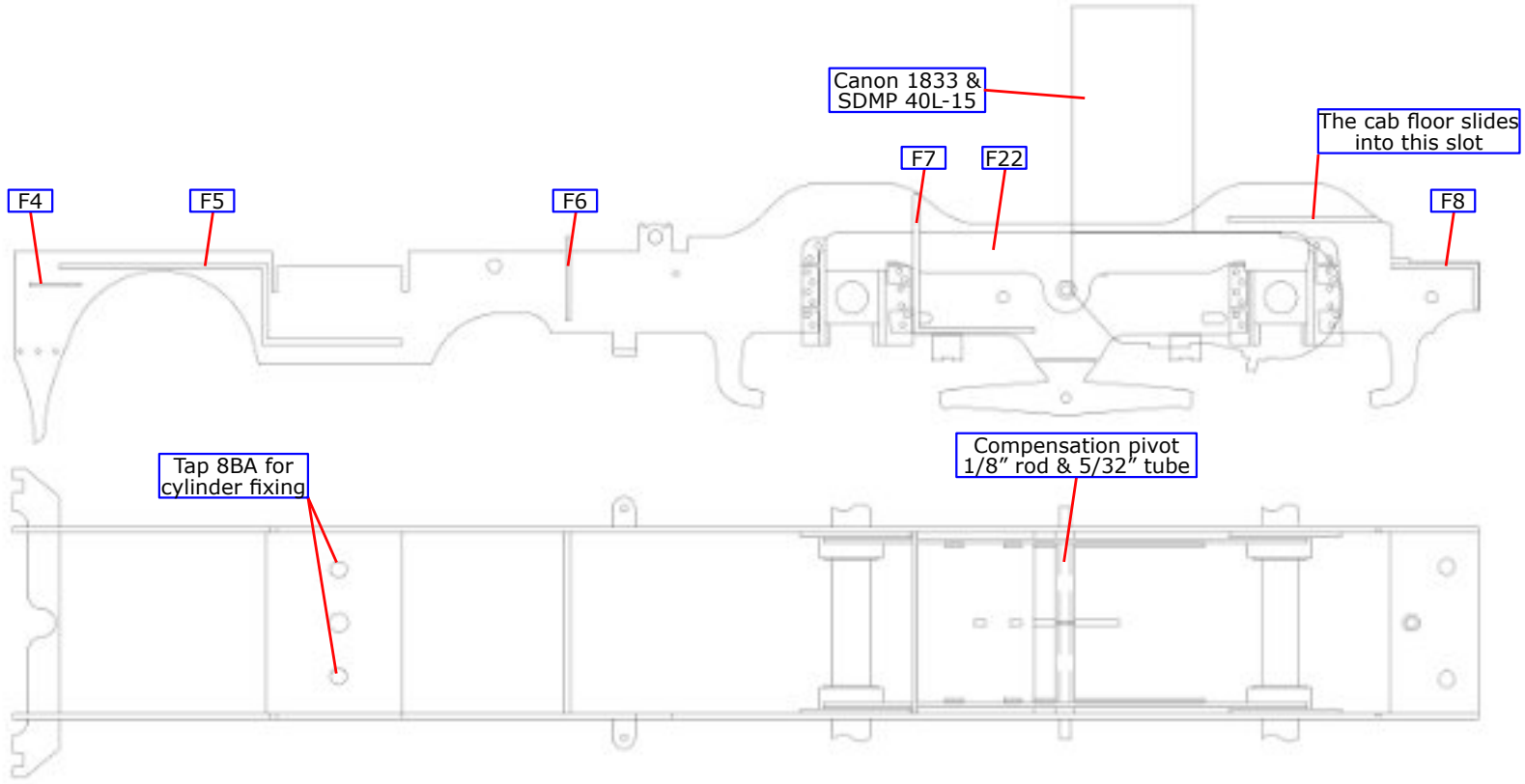
If you are fitting the inside valve gear, the motion plate (F6) is not soldered in place. The valve gear is made to be removable by springing this stretcher into position in the frame slots.

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.

An 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.



EARLY FRAME OVERLAYS

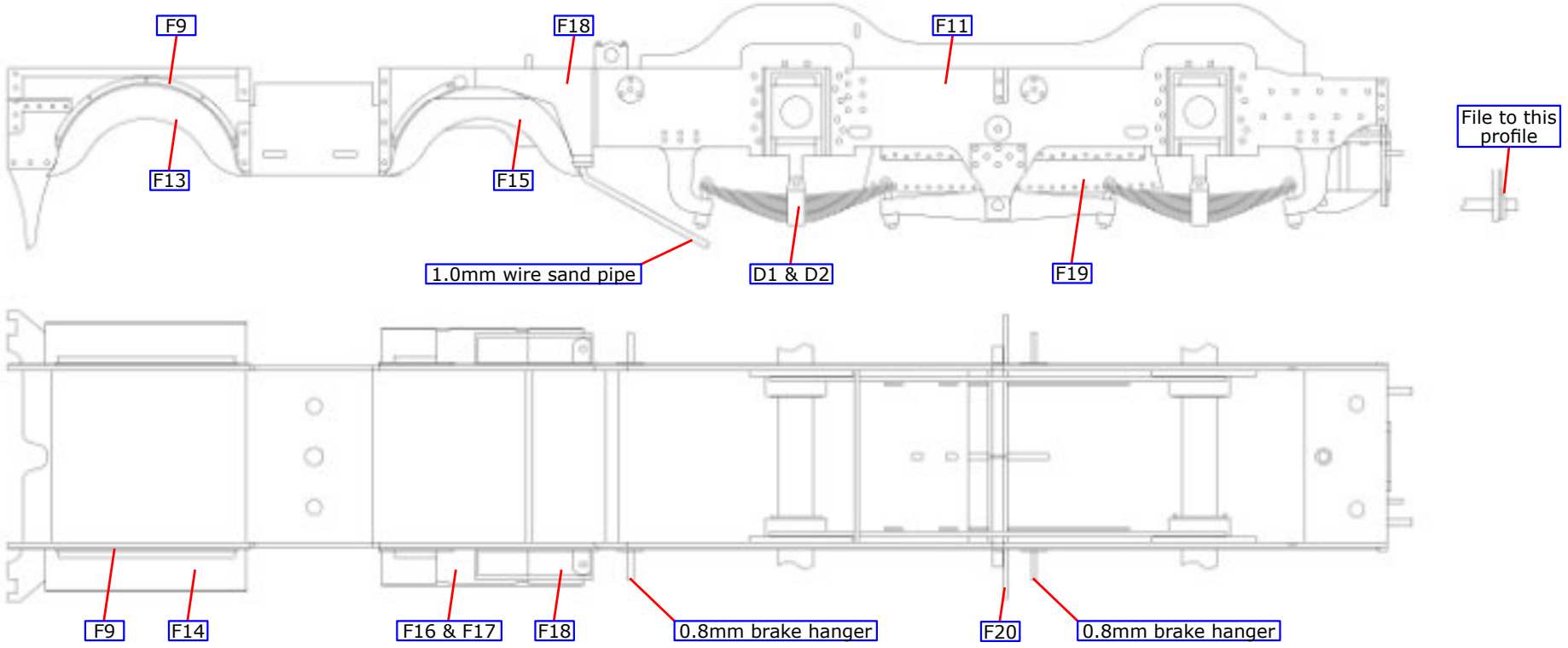
Parts on this page are on Etch 4 unless detailed.

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 (F18/4 & 5) and solder in place. Add the platform support brackets (F20/3). Solder the ash pan sides (F19/5) in place in the slots in the ash pan stretcher.

Roll the front bogie splasher top (F14/4 & 5) to shape and solder to the frames as shown. Add the front splasher faces (F13). The rear splasher top comes in a front section (F16/3 & 5) and a rear section (F17/3 & 5) and each with a choice of width to suit your gauge. Fold the shape and solder into place. Add the bogie splasher faces (F15/3 & 5).

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 (D1/2) and a middle lamination (D2/2). Solder together, clean up to remove the cusps and then fit to the chassis.



Frames Overlay, Original Condition

LATER FRAME OVERLAYS

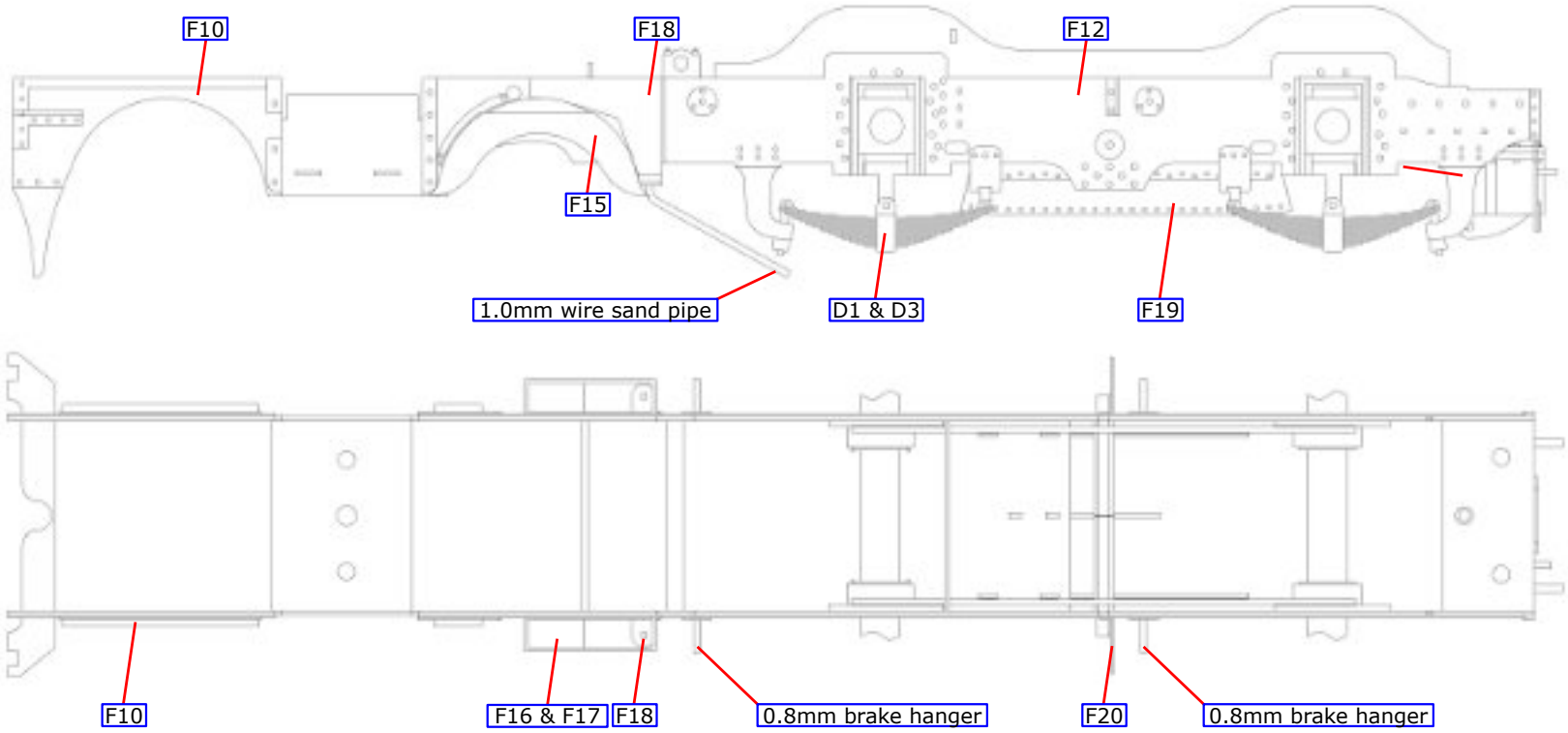
Parts on this page are on Etch 4 unless detailed.

Emboss all the rivets on the front frame overlay (F10/3) 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 (F18/4 & 5) and solder in place. Add the platform support brackets (F20/3). Solder the ash pan sides (F19/5) in place in the slots in the ash pan stretcher.

The rear splasher top comes in a front section (F16/3 & 5) and a rear section (F17/3 & 5) and each with a choice of width to suit your gauge. Fold the shape and solder into place. Add the bogie splasher faces (F15/5).

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 (D1/2) and a later middle lamination (D3/2). Solder together, clean up to remove the cusps and then fit to the chassis.



Frames Overlay, Original Condition

CYLINDER ASSEMBLY

Parts on this page are on Etch 4 unless detailed.

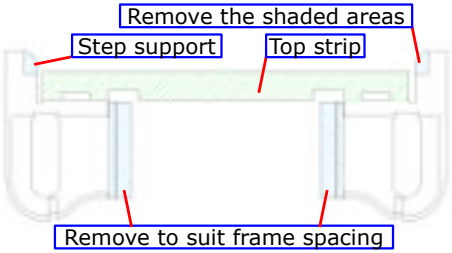
Check all the holes in the cylinders (M1) against the appropriate components and open up the holes if necessary. Remove the appropriate area to fit the frames. Fold up the cylinders making sure they are square and fold out the bogie pivot bracket. Fit the bogie pivot from 1.6mm wire.

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

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). Solder the crosshead top in place.

Laminate 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.

Bolt the cylinders in place to fit the crosshead/piston rods. Locate the motion bracket on the slidebars and over the frames. Check all alignments before soldering the slidebars to the motion bracket. Carefully snap off the green section of the motion bracket.



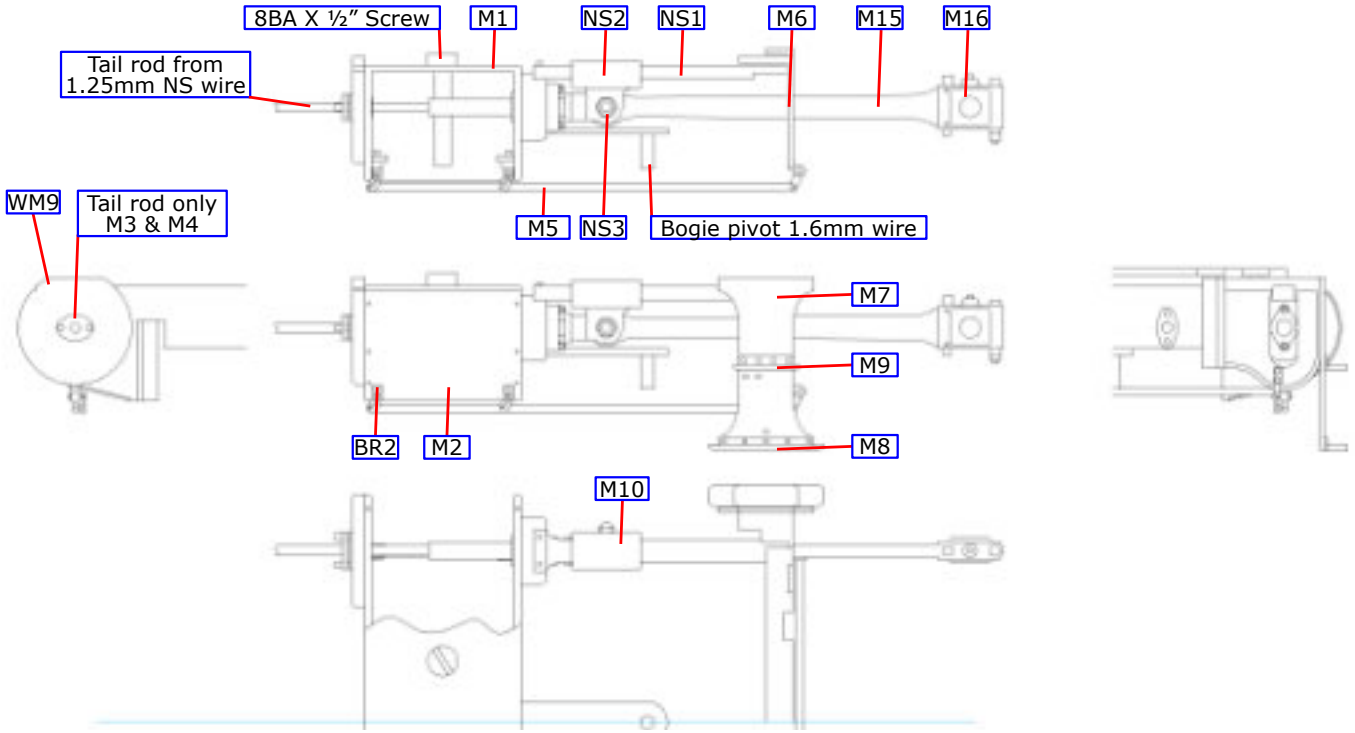
Motion Bracket (M6)

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. The rear crankpins will require a tubular spacer to keep 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)'

Early Cylinders. Drill a 1.25 mm hole through the centre of the cylinder cover (WM9) for the tail rods. 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

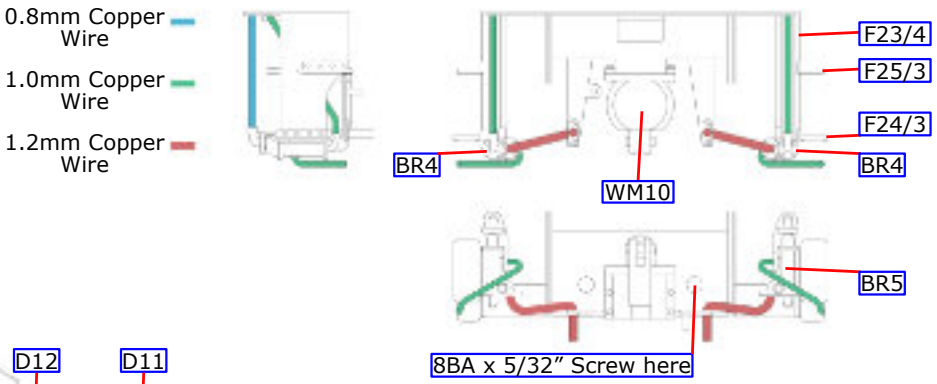
Later Cylinders. Fit the cylinder covers (WM9).



FINISHING THE CHASSIS

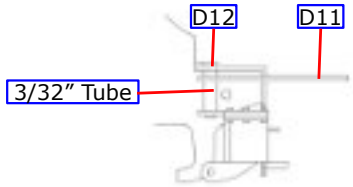
Injector/rear steps. Make the rear step/injector assembly as shown. Do not solder this to the frames. It has been designed to be retained between the frames and the rear footplate by the two 8BA fixing screws. The injector feed pipes (from 1.2 mm copper wire) do not need to be soldered to the brackets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

The loco/tender pipe connections are made from flexible tubing.

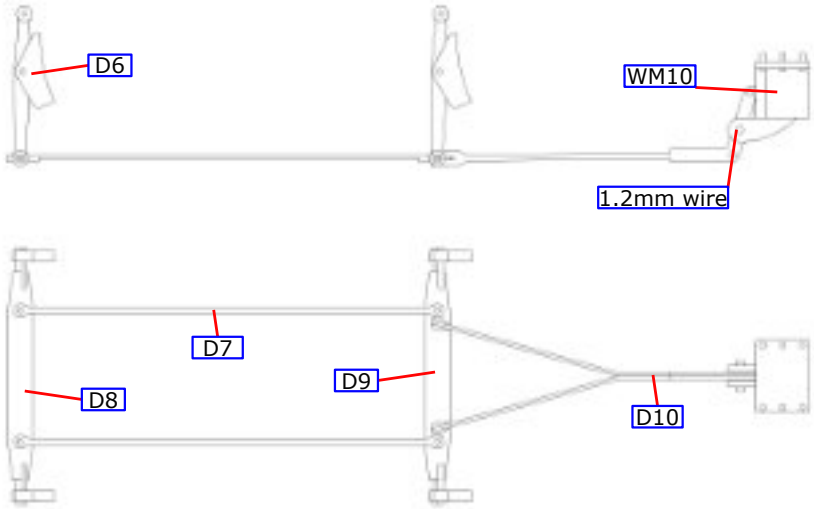


Drawbar. Make up the drawbar (D11/1), using a piece of 3/32" tube 7.2 mm long. Make the drawbar pin from 1.6 mm wire and the washer (D12/1).

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

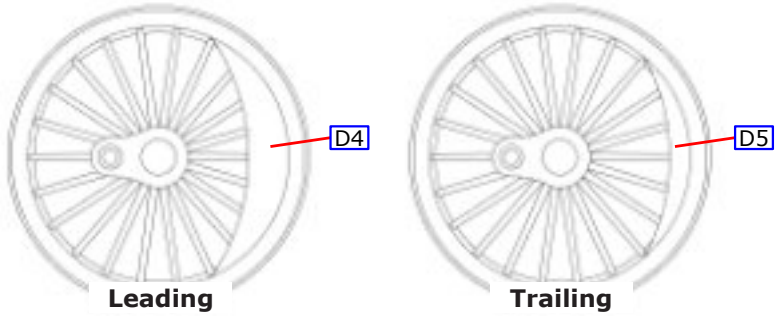


Brakes. Solder together two brake hanger laminations (D6/1) for each brake. The front and rear brake cross shafts (D8/5 & D9/5) are pinned and soldered to the two brake pull rods (D7/5) using 0.8 mm wire. Short lengths of 0.8 mm wire connect the cross shafts to the brake arms. The rear pull shaft (D10/5) is made up of two laminations. Fold to make the Y shape and then solder together. Mount the brake cylinder (WM10) onto the mounting plate on the rear spacer.



Wheels. Attach the balance weights (D4/1 and D5/1) to the wheels as shown. Assemble the wheel sets, bearings and rods selecting axle washers (F29/1) to control side-play. The clearance between the crankpins and the inside of the splashers 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.

For non Slaters wheels, the axles are now retained by the springs.



FOOTPLATE, CAB SIDES & SPLASHERS 1

The drawing to accompany this text is on page 12.

Emboss the rivets and bolts on the frame extensions (U7/1) and the frame extension bolt strips (U8/4) and solder to the footplate (U1/5) as shown in the drawing. The early locos had flush rivets on the slide bar access base. Form slide bar access hatch sides (U18/4) to shape around a 5.5 mm rod or drill and solder in place in the groove in the slide bar access hatch base (U17/4) before soldering in place in the recesses in the footplate. The slide bar access hatch lid (U19/5) is best glued in place.

The small splasher sides come in two flavours with beading front and rear (U21/4 & U22/4) and without beading front and rear (U23/5 & U24/5). Solder the required small splasher sides in place in the small slots in the footplate. Carefully curve the small splasher tops front and rear (U25/3 & U26/3) 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 (U3/3). Fold up the footplate hanging plate jig 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 (U2/5) 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 (U4/1) and solder in place. Solder the drag beam buffer rubbing plate (U6/3) to the drag beam (U5/4) before soldering the drag beam into place as shown in the drawing.

There are two varieties of cab side, with beading (U27/5) and without beading (U28/5). Solder the cab cut-out beading (C2/4) 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 (C1/5) will fit between the cab sides

Carefully curve the cab front/splasher top (U29/4) 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.

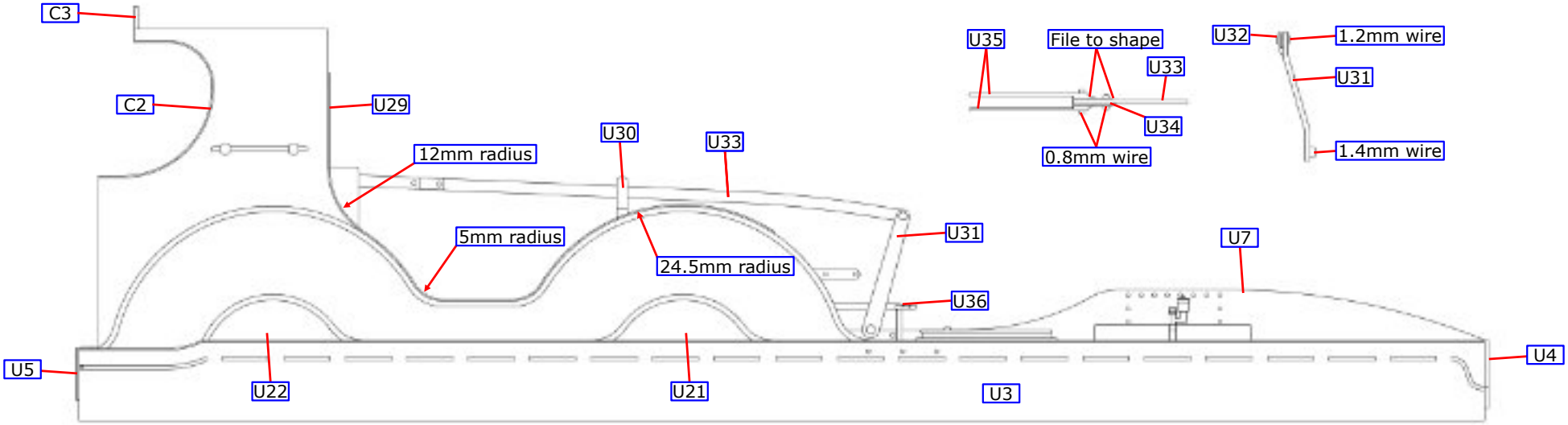
Now carefully saw off the footplate strengthening flaps (not the footplate jig) and file the footplate edges clean as shown in the drawing. Solder the support for the rear of the cab roof (C3/4) in place as shown in the drawing.

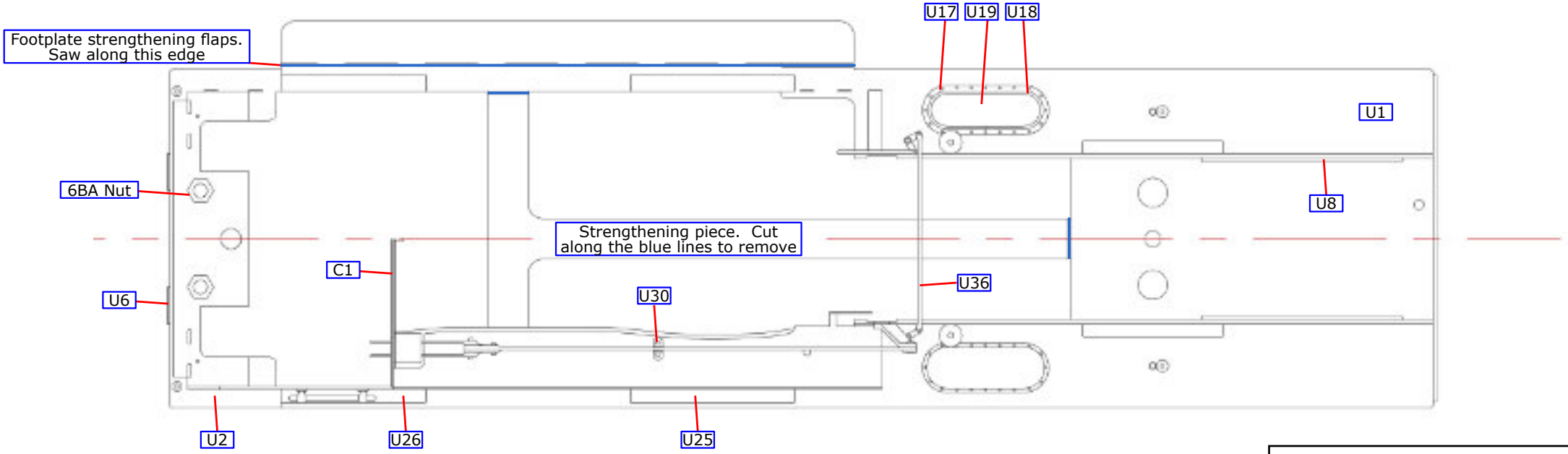
Add the sanding rod and cranks (U36/3) representing the pivot rod with 0.8 mm wire and reversing rod bracket laminations (U30) as shown in the drawing.

Construct the reversing rod (U33/1) and arm (U31/1) as shown to match the drawings. It is probably best to leave fixing this in place until after painting.

Finney7

FOOTPLATE, CAB SIDES & SPLASHERS 2

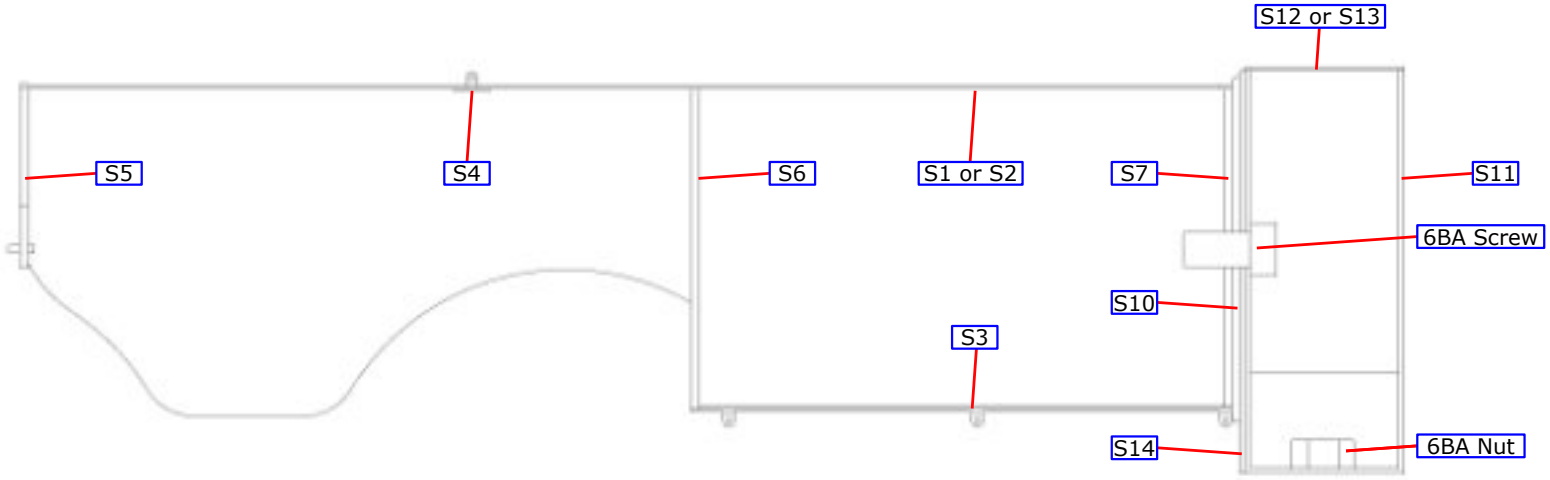




SMOKEBOX & BOILER

If appropriate emboss the rivets on the smokebox base (S11/5) before folding up and soldering a 6 BA nut over the fixing hole. The smokebox wrapper is supplied in two forms, no rivets (S12/5) or riveted (S13/4). Roll the smokebox wrapper to shape and solder in place. Solder the smokebox rear plate (S14/4) to the rear of the smokebox.

There are two boiler/firebox wrappers - no bands (S1/5) or with bands (S2/4). Solder the boiler band joining bracket (S4/3) 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 (S3/4) and solder in the front former (S7/1). Now solder the middle former (S6/1) and rear former (S5/1) 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 (S10/1) and the boiler can be screwed together. Now check the fit of the smokebox and boiler with the cab front and splashers. The boiler can be rotated on the dowel in the cab front, so the angles along the inner edges of the splashers and the lower edge of the firebox align.



Boiler & Smokebox in Original Condition.

ORIGINAL CONDITION - UPPER WORKS DETAILING

Fit the boiler and smokebox to the footplate and cab. Solder in place. 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.

Fit the clackboxes (BR9) and 0.8mm copper wire. Fit the lubricator (BR13) to the side of the smokebox. Fit the smokebox door (WM6) and the smokebox door handles (NS4). Fit the original chimney (WM1).

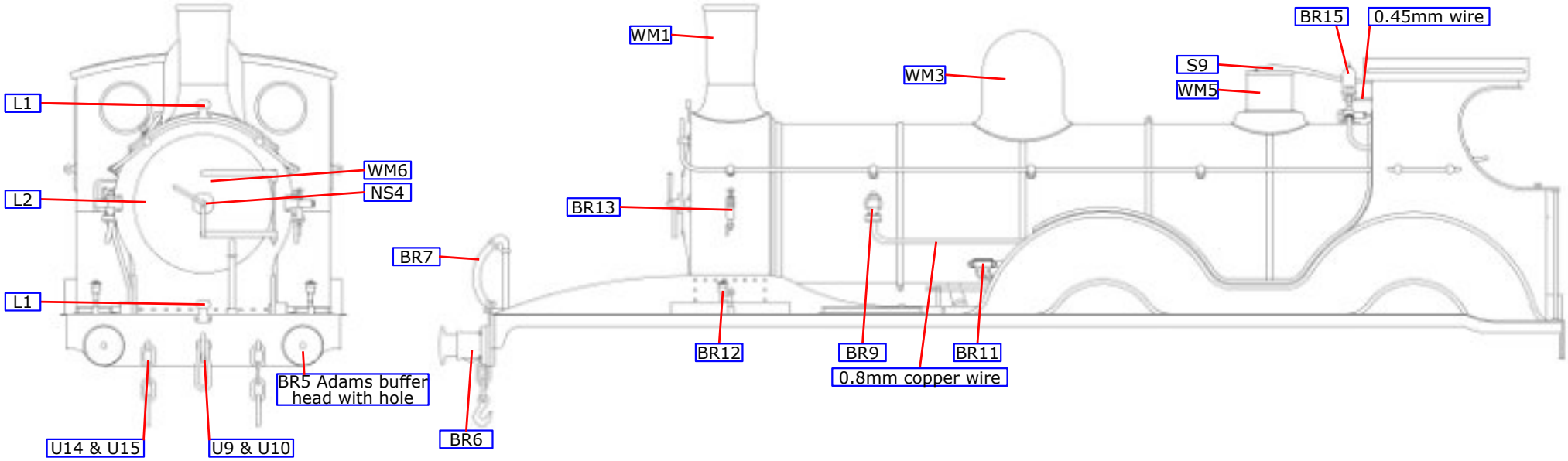
Fit the the dome (WM3). Fit the whistle/stem manifold (BR15) to the firebox top. Use 0.45 mm wire for the operating rods. Fit the safety valve casing (WM5) and the safety valve lever (S9/3).

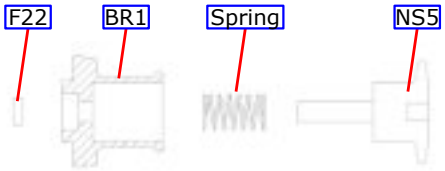
Fit the assembled buffers to the buffer beam. Solder the vacuum pipe (BR7) to the footplate. Fit the cylinder lubricators (BR12) to the footplate.

Fold 0.8 mm wire to make the handrails. Short knobs are used on the cab and smokebox and long knobs on the side of the boiler.

The smokebox front uses short knobs and the boiler sides uses medium knobs; attach the handrails and knobs.

Fit an Adams centre lamp bracket (L1/3) and the Adams smokebox side lamp brackets (L2/3) to the smoke box front. Fit an Adams centre lamp bracket (L1) to the footplate.





Buffer Assembly

Assemble the buffers as shown above and fix in place on the rear buffer beam.

No.	Description	Sheet
U9	Coupling hook	1
U10	Coupling link	1
U11	Screw coupling hook	3
U12	Screw coupling pieces	3
U13	Buffer washer (2)	3
U14	Safety chain eye	1
U15	Safety chain hook	1

LATER CONDITION - UPPER WORKS DETAILING

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. Fit the boiler and smokebox to the footplate and cab. Solder in place.

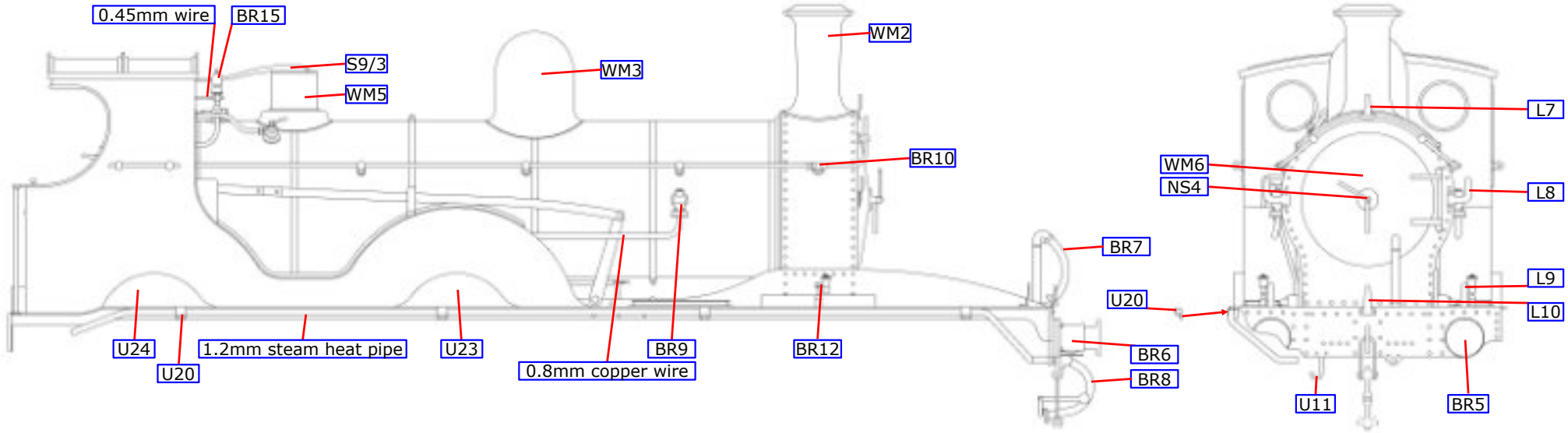
Fit the clackboxes (BR9) and 0.8mm copper wire. Fit the lubricator (BR13) to the side of the smokebox. Fit the smokebox door (WM6) and the smokebox door handles (NS4). Fit the original chimney (WM1).

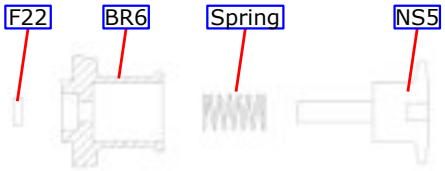
Fit the the dome (WM3). Fit the whistle/stem manifold (BR15) to the firebox top. Use 0.45 mm wire for the operating rods. Fit the safety valve casing (WM5) and the safety valve lever (S9/3).

Fit the assembled buffers to the buffer beam. Solder the vacuum pipe (BR7) to the footplate. Ft the steam heat pipe (BR8) to the front buffer beam. Fit the cylinder lubricators (BR12) to the footplate.

Fold 0.8 mm wire to make the handrails. Short knobs are used on the cab and smokebox and long knobs on the side of the boiler.

Fit the appropriate lamp irons to your model.





Buffer Assembly

Assemble the buffers as shown above and fix in place on the rear buffer beam.

No.	Description
U9	Coupling hook
U10	Coupling link
U11	Screw coupling hook
U12	Screw coupling pieces
U13	Buffer washer (2)
U14	Safety chain eye
U15	Safety chain hook
U16	Steam pipe valve handle

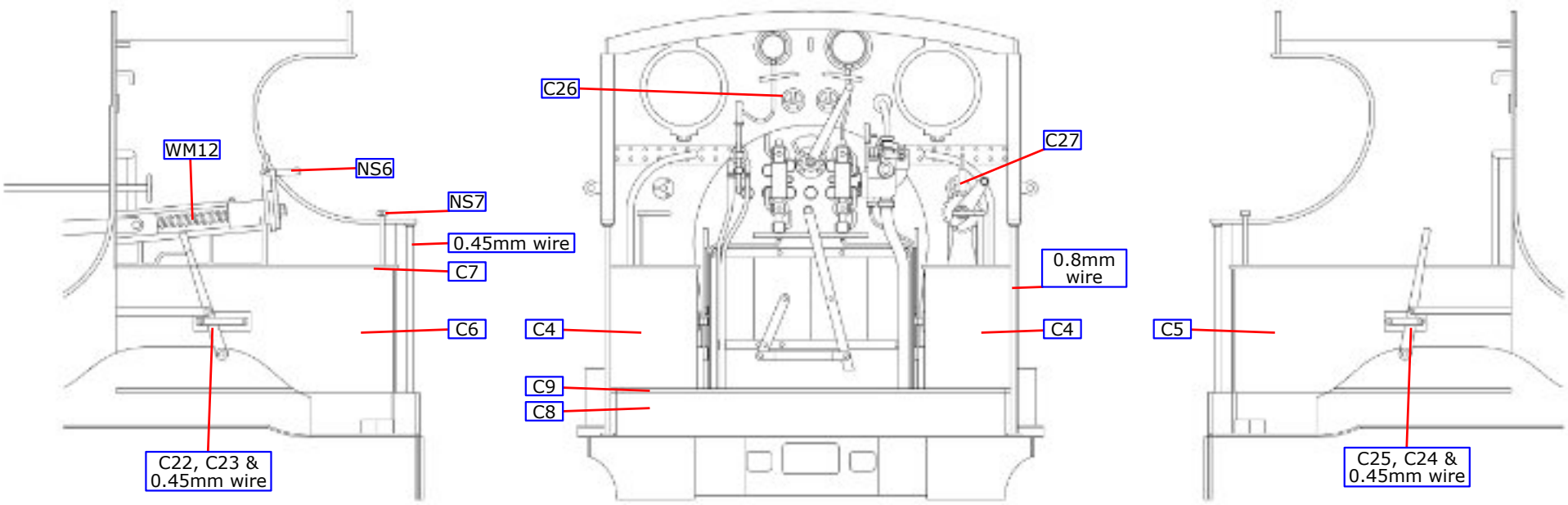
Sheet			
1	U20	Steam pipe bracket (4)	3
1	L3	Drummond above buffer (2)	3
1	L4	LSWR/SR centre (2) (Not shown)	3
3	L5	LSWR/SR smoke box side (2) (Not shown)	3
3	L6	LSWR/SR above buffer (2) (Not shown)	3
3	L7	SR smokebox top	3
1	L8	SR Smokebox side (2)	3
1	L9	SR above buffer (2)	3
3	L10	SR centre on buffer beam	3

CAB ROOF AND BACKHEAD

The cab interior is a little different. The frames, which are part of the chassis, appear inside the cab alongside the cab splashers. Because of the different frame spacing, the cab floor and the splashers are in three different widths. The cab floor slides into slots in each frame.

Select the appropriate width cab floor (C9/3), cab splasher back (C4/3), cab splasher top (C7/3) and the left and right splasher side (C5/5 & C6/5). Add the drain cock lever (C22/3) to the right splasher and the sanding lever (C24/3) to the left splasher. The bolts on these two levers should be simulated with 0.45 mm wire. Solder the cab splasher sides into the slots in the etched groove in the splasher tops. Add the splasher backs.

The cab splashers 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 splasher sides outside the frames and then solder the cab floor support (C8/5) in place. Emboss the rivets in the fall plate hinges in parts C9/3 & C1O/4. 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.



Wooden Cab Roof. Fold up the back and front of the cab roof building jig (C11/3). Roll the cab roof (C12/4) to shape and solder in place on the jig with equal overhang. Add the rain strips (C13/3). With a carborundum disc in a mini-drill, remove the unwanted part of the former and clean up the edges of the formers.

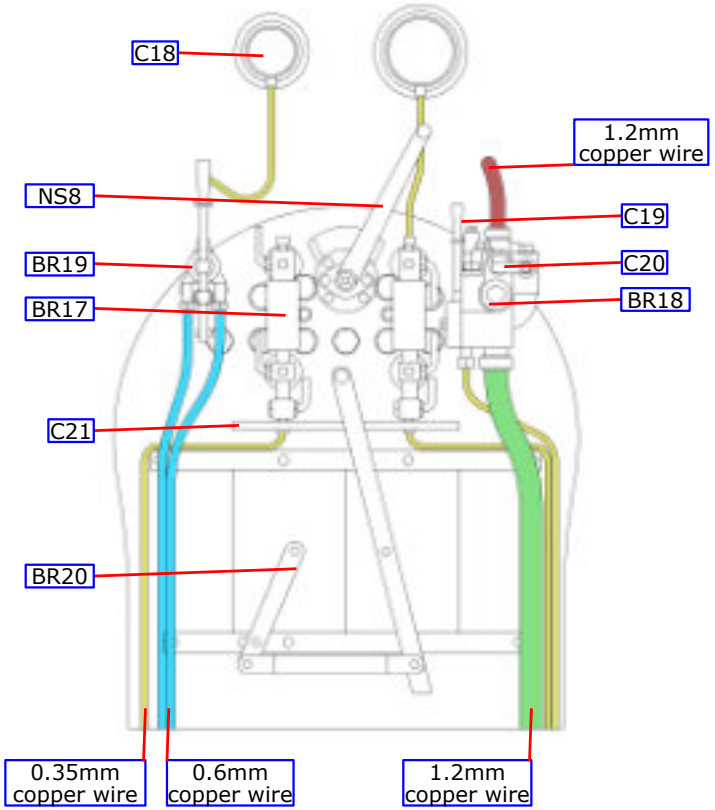


Steel Cab Roof. Fold up the back and front of the cab roof building jig (C11/3). Roll the cab roof (C14/4) to shape and solder in place on the jig with equal overhang. Add the front and rear angles (C15/4), the side angles (C16/4) and the centre angle (C17/4). With a carborundum disc in a mini-drill, remove the unwanted part of the former and clean up the edges of the formers.

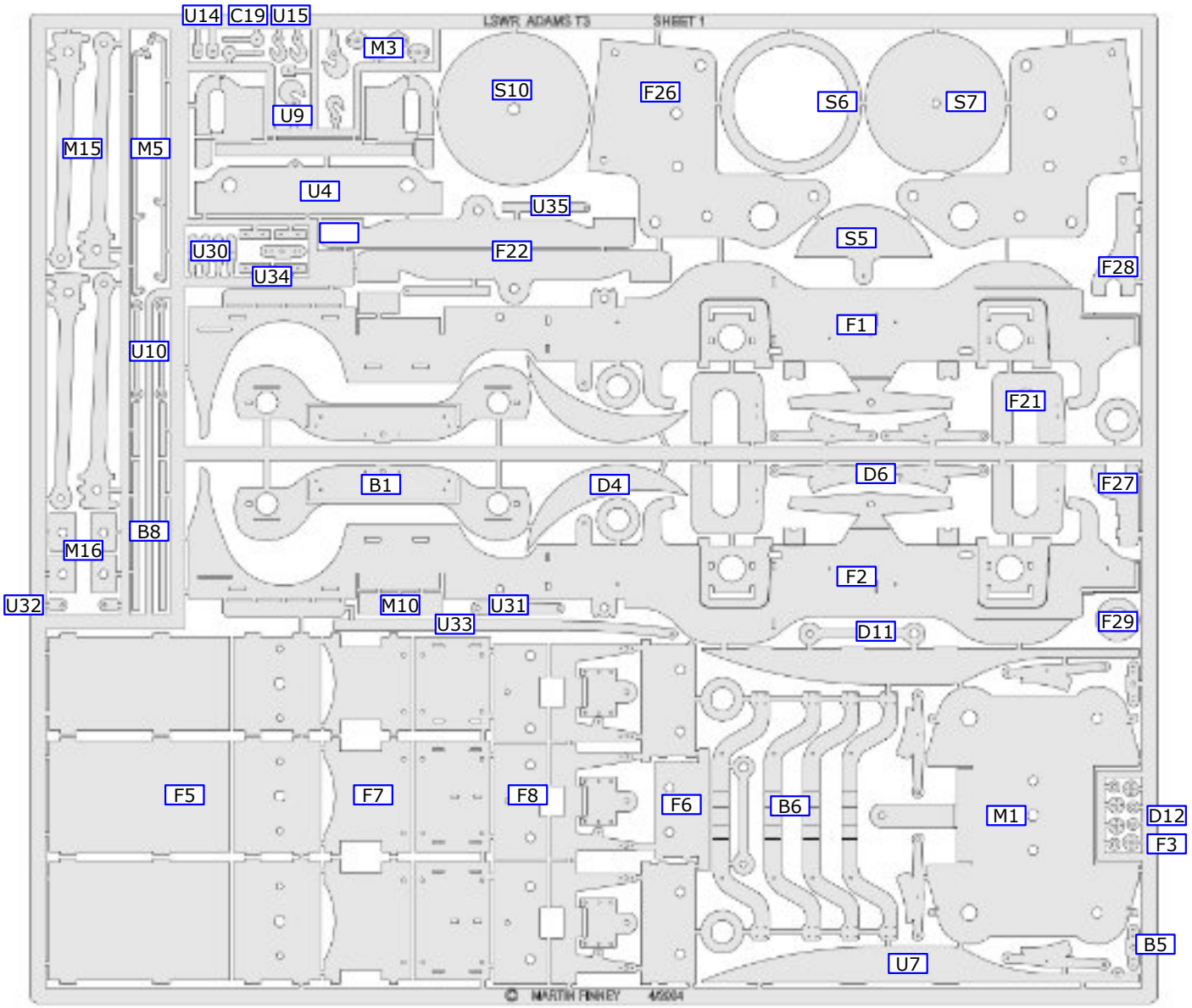


ETCH SHEET 1

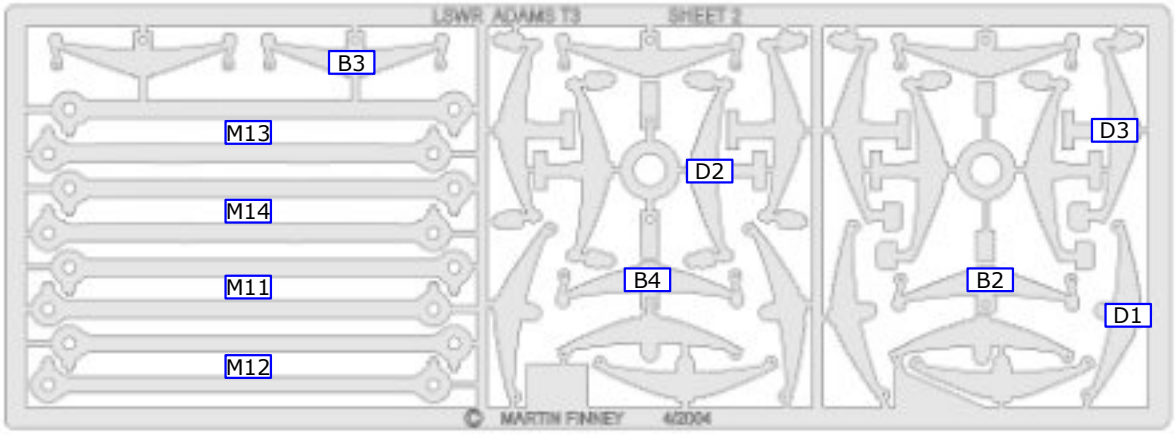
No.	Description	Sheet
C18	Cab pressure gauges (2)	3
C19	Vacuum ejector handle (2)	1
C20	Vacuum ejector lever	3
C21	Backplate shelf	3
C22	Drain cock lever	3
C23	Drain cock lever bracket	3
C24	Sanding lever	3
C25	Sanding lever bracket	3
C26	Injector hand wheel	3
C27	Blower hand wheel	3

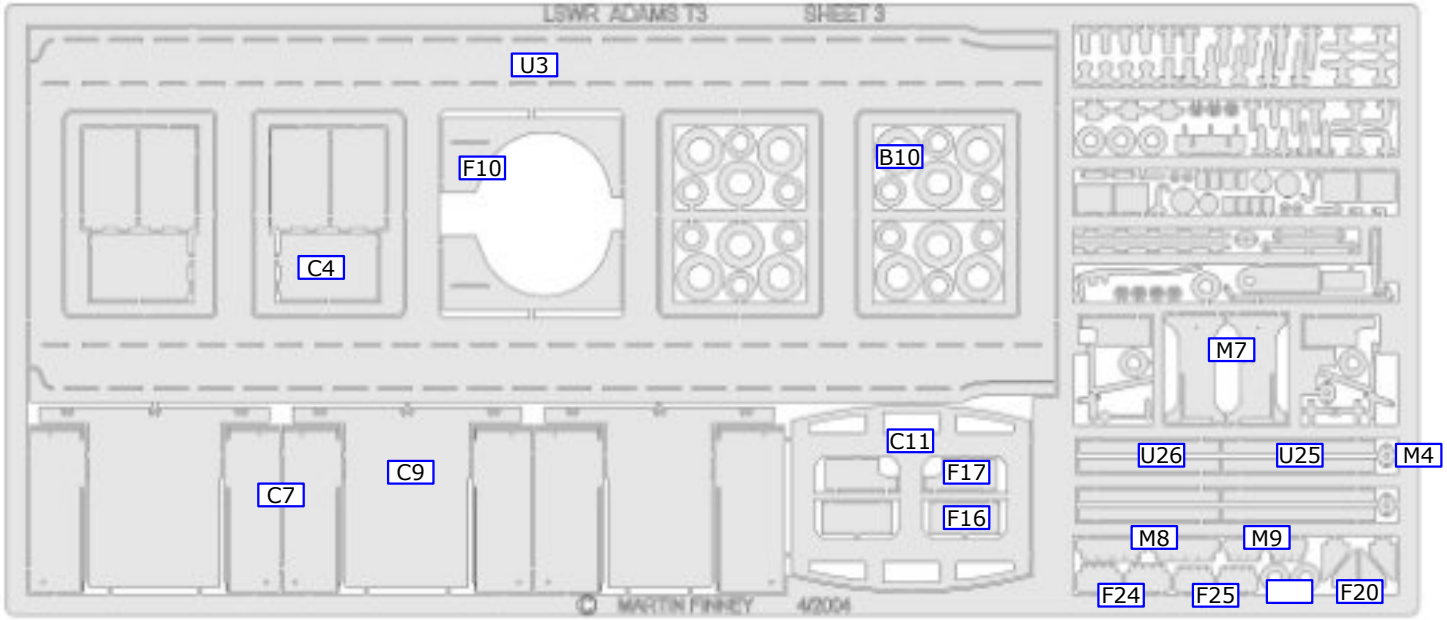


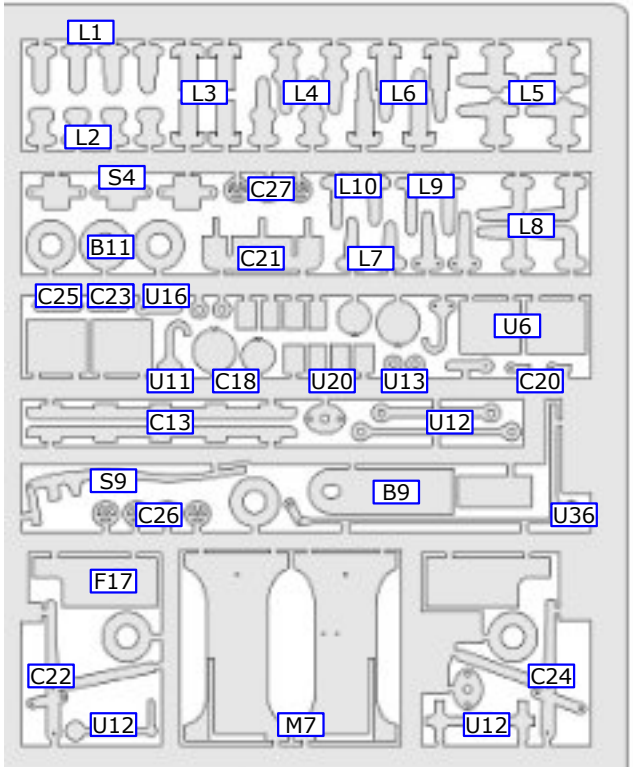
Backhead Details



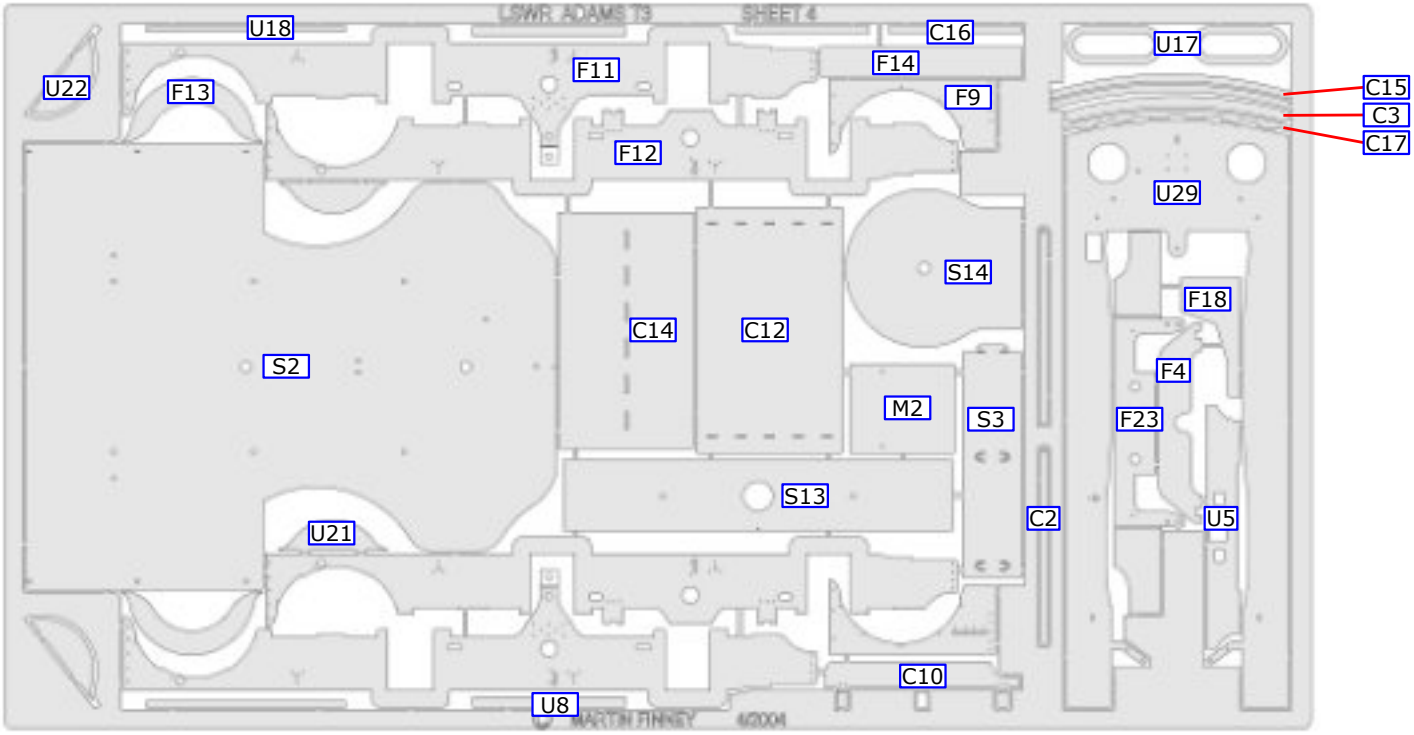
ETCH SHEET 2 & 3





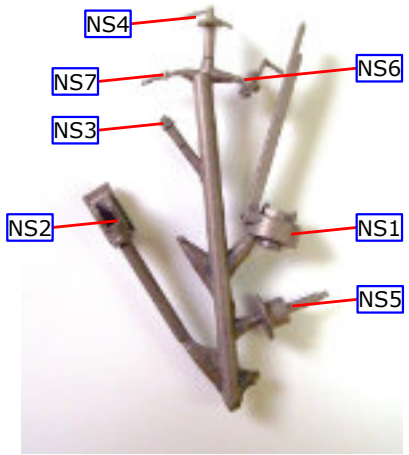


ETCH SHEET 4



NICKEL SILVER CASTINGS

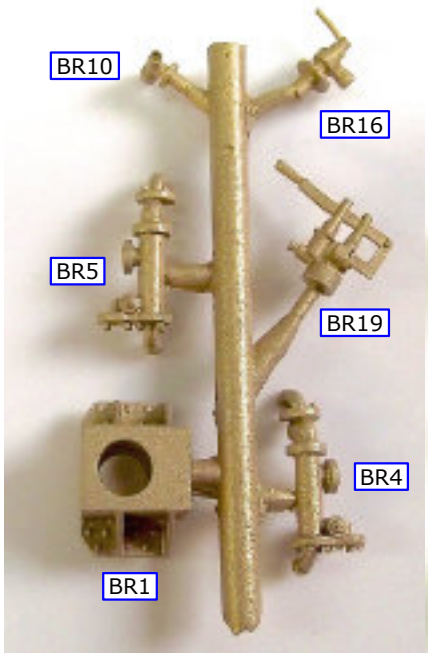
NS1 Slidebar/piston rod gland (2)
NS2 Crosshead/piston rod (2)
NS3 Crosshead/connecting rod pin (2)
NS4 Smokebox door handles (1)
NS5 Buffer (2)
NS6 Screw reverser handle (1)
NS7 Water valve handle (2)
NS8 Regulator handle (1)

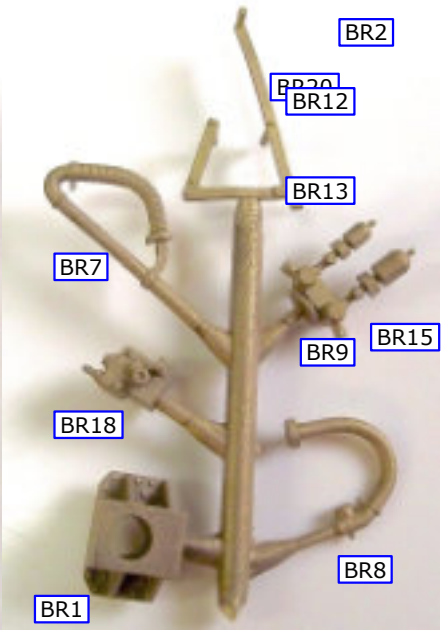


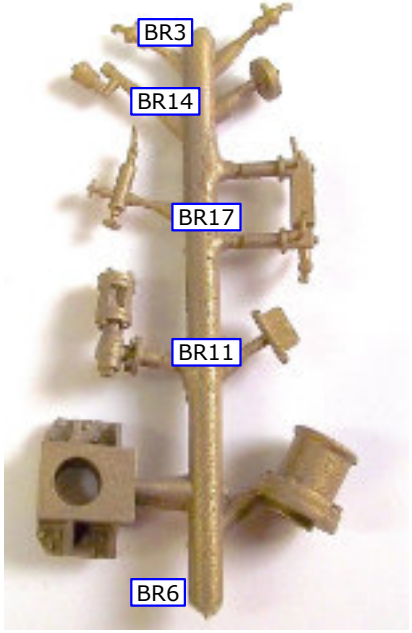


BRASS/COPPER CASTINGS

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

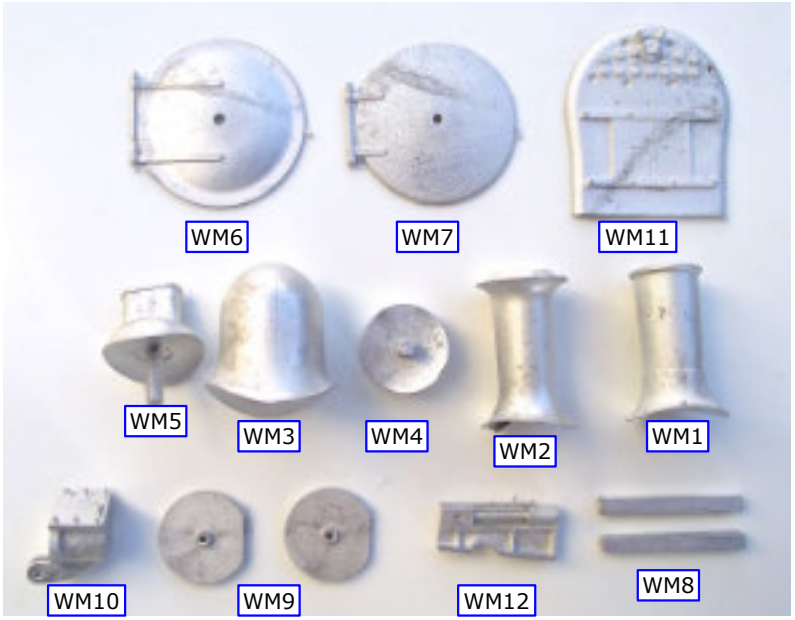






WHITE METAL CASTINGS

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)

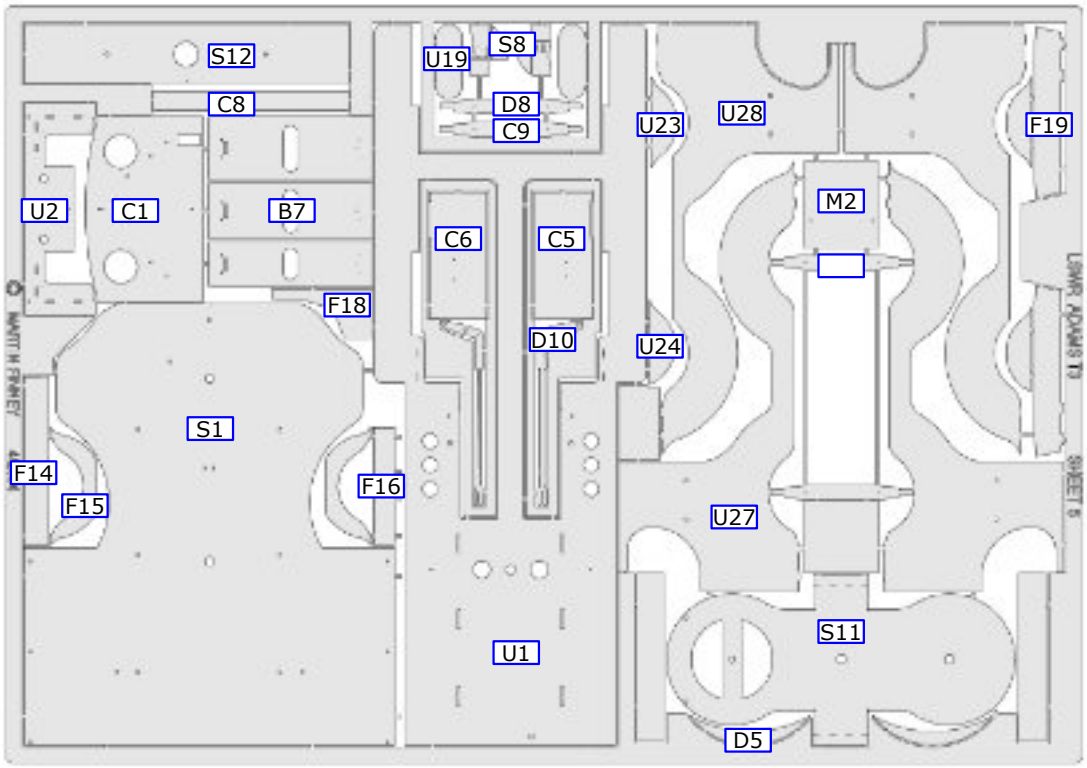


OTHER COMPONENTS

6BA x 1" screw
6BA x 5/16" screw (3)
6BA nut (3)
1/8" Brass wire for compensation beam pivots
5/32" OD Brass tube for compensation beam
0.45 mm Brass wire for injector/whistle valves & sand rod
0.8 mm Brass wire for brake hanger pivots, handrails & sand pipes
1.2 mm Brass wire for pipes, handrails, bogie & brake cross shaft
1.6 mm Brass wire for bogie pin
2.0 mm Brass wire for bogie pivot
0.5 mm Spring wire for bogie side control
0.3 mm Copper wire for oil pipes
0.9 mm Copper wire for pipe work
1.2 mm Copper wire for pipe from vacuum ejector
Short handrail knob (6)
Medium handrail knob (4)
Long Handrail knob (4)
Buffer casting, buffer, spring and nut (2)
Note. Screws may be supplied over-length and may require cutting to length.

Finney7

ETCH SHEET 5



Finney7

Bogie

B1	Bogie frames (2)	1
B2	Bogie spring front lamination (2)	2
B3	Bogie spring middle lamination (2)	2
B4	Bogie spring rear lamination (2)	2
B5	Bogie spring bracket (2)	1
B6	Bogie equalising beam (4)	1
B7	Bogie stretcher, 3 widths	5
B8	Bogie stretcher bar, 3 lengths (2)	1
B9	Bogie pivot bracket	3
B10	Bogie axle washer	3
B11	Bogie pivot screw packing washer	3
B12	Bogie pivot screw washer	3

Cab

C1	Cab front inside lamination	5
C2	Cab cut out beading (2)	4
C3	Support rear of cab roof	4
C4	Cab splasher back, 3 widths (2)	3
C5	Cab splasher side, left	5
C6	Cab splasher side, right	5
C7	Cab splasher 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
C22	Drain cock lever	3
C23	Drain cock lever bracket	3
C24	Sanding lever	3
C25	Sanding lever bracket	3
C26	Injector hand wheel	3
C27	Blower hand wheel	3

Chassis Details

D1	Spring outer lamination (8)	2
D2	Spring middle lamination, original (4)	2
D3	Spring middle lamination, later (4)	2
D4	Balance weight leading axle (2)	1
D5	Balance weight, trailing axle (2)	5
D6	Brake hanger & shoe laminations (8)	1
D7	Brake pull rods and cross shafts	5
D8	Brake cross shaft lamination, front	5
D9	Brake cross shaft lamination, rear	5
D10	Brake pull rod and lever, rear (2)	5
D11	Drawbar, 2 lengths	1
D12	Drawbar pivot retaining washer	1

Frames

F1	Frame, left	1
F2	Frame, right	1
F3	Sandbox flange (2)	1
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
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
F14	Bogie front splasher top, 2 widths (2)	4 & 5
F15	Bogie splasher face (2)	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
F18	Sandbox (2)	4 & 5
F19	Ash pan side (2)	5
F20	Platform support bracket (2)	3
F21	Hornblocks	1
F22	Compensation beam (2)	1
F23	Rear steps (2)	4
F24	Rear step lower tread (2)	3
F25	Rear step upper tread (2)	3
F27	ABC gearbox anchor	1
F29	Washer, coupled wheel axle	1

Lamp Brackets

L1	Adams centre lamp bracket	3
L2	Adams smokebox side lamp brackets	3
L3	Drummond above buffer (2)	3
L4	SR/LSWR centre (2)	3
L5	SR/LSWR smoke box side (2)	3
L6	SR/LSWR above buffer (2)	3
L7	SR smokebox top	3
L8	SR Smokebox side (2)	3
L9	SR above buffer (2)	3
L10	SR centre on buffer beam	3

Motion

M1	Cylinders	1
M2	Cylinder wrapper (2)	4 & 5
M3	Tail rod gland, inner (2)	1
M4	Tail rod gland outer (2)	3
M5	Cylinder drain cock linkage (2)	1
M6	Motion bracket (2)	1
M7	Front step (2)	3
M8	Front step lower tread (2)	3
M9	Front step upper tread (2)	3
M10	Crosshead top (2)	1
M11	Coupling rod inner, fluted (2)	2
M12	Coupling rod outer, fluted (2)	2
M13	Coupling rod inner, plain (2)	2
M14	Coupling rod outer, plain (2)	2
M15	Connecting rod laminations (4)	1
M16	Connecting rod boss overlay (4)	1

Smokebox& Boiler

S1	Boiler and firebox wrapper, no bands	5
S2	Boiler and firebox wrapper with bands	4
S3	Boiler joining strip	4
S4	Boiler band joining bracket (3)	3
S5	Boiler rear former	1
S6	Boiler middle former	1
S7	Boiler front former	1
S8	Reversing rod cowling on cab front	5
S9	Safety valve lever	3
S10	Smokebox/boiler ring	1
S11	Smokebox base/sides/back/front	5
S12	Smokebox wrapper, no rivets	5
S13	Smokebox wrapper, riveted	4
S14	Smokebox rear plate	4

Upper Works

U1	Main footplate	5
U2	Rear drop footplate	5
U3	Footplate hanging plate jig	3
U4	Buffer beam	1
U5	Drag beam	4
U6	Drag beam buffer rubbing plate (2)	3
U7	Frame extension (2)	1
U8	Frame extension bolt strip (2)	4
U9	Coupling hook	1
U10	Coupling link	1
U11	Screw coupling hook	3
U12	Screw coupling pieces	3
U13	Buffer washer (2)	3
U14	Safety chain eye	1
U15	Safety chain hook	1
U16	Steam pipe valve handle	3
U17	Slide bar access hatch base (2)	4
U18	Slidebar access hatch sides (2)	4
U19	Slide bar access hatch lid (2)	5
U20	Steam pipe bracket (4)	3
U21	Small splasher side, front with beading (2)	4
U22	Small splasher side, rear with beading (2)	4
U23	Small splasher side, front, no beading (2)	5
U24	Small splasher side, rear, no beading (2)	5
U25	Small splasher top, front (2)	3
U26	Small splasher top, rear (2)	3
U27	Cab side and splasher side with beading (2)	5
U28	Cab side and splasher side, no beading (2)	5
U29	Cab front and splasher top	4
U30	Reversing rod bracket lamination	1
U31	Reversing arm	1
U32	Reversing arm fork joint	1
U33	Reversing rod	1