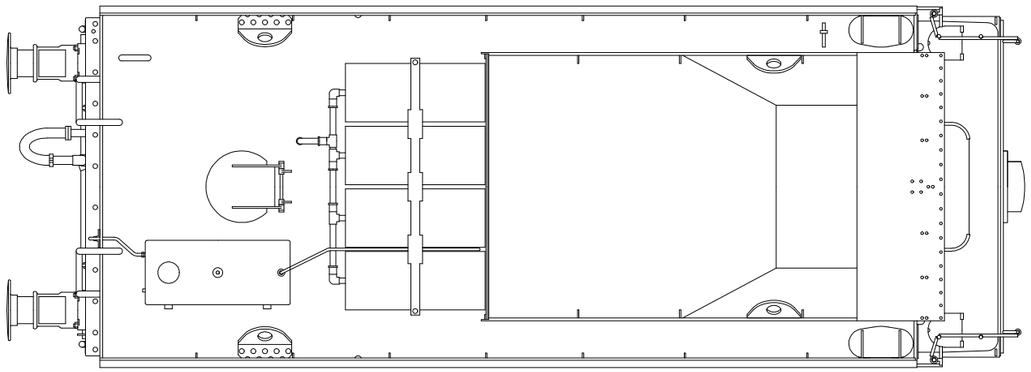
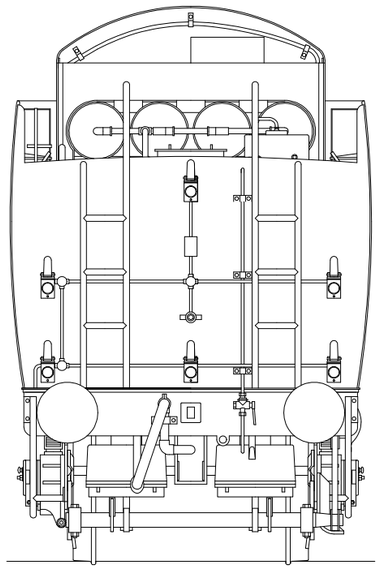
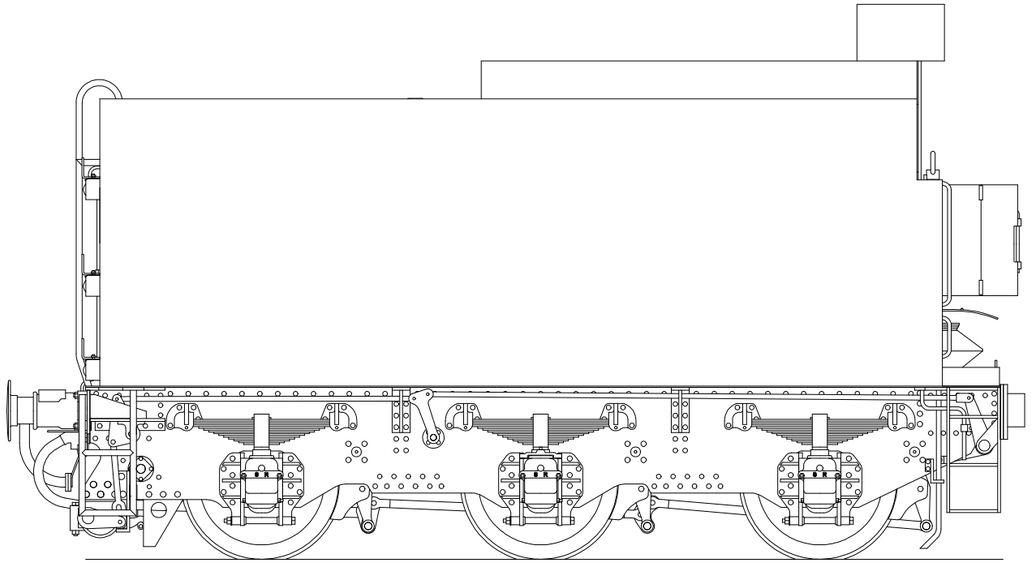






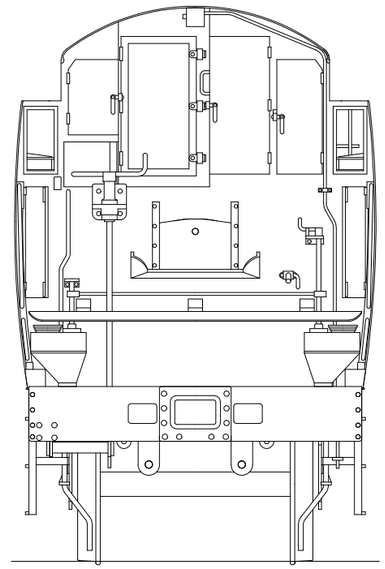
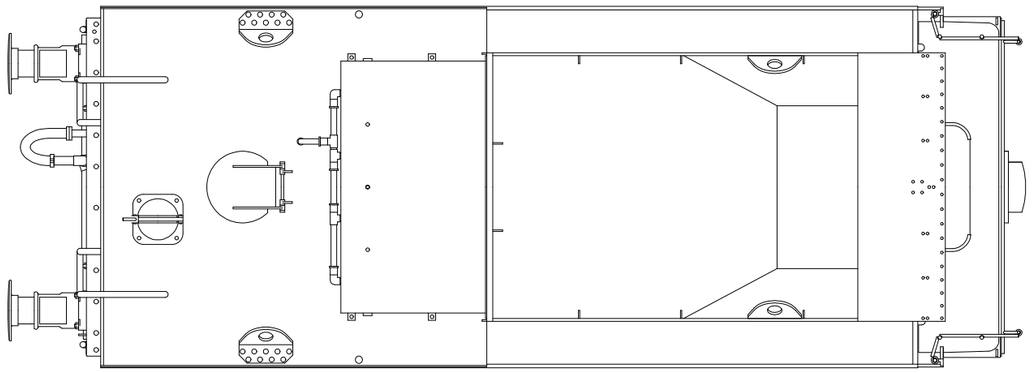
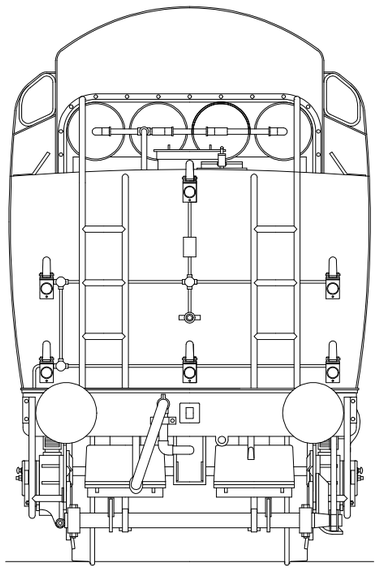
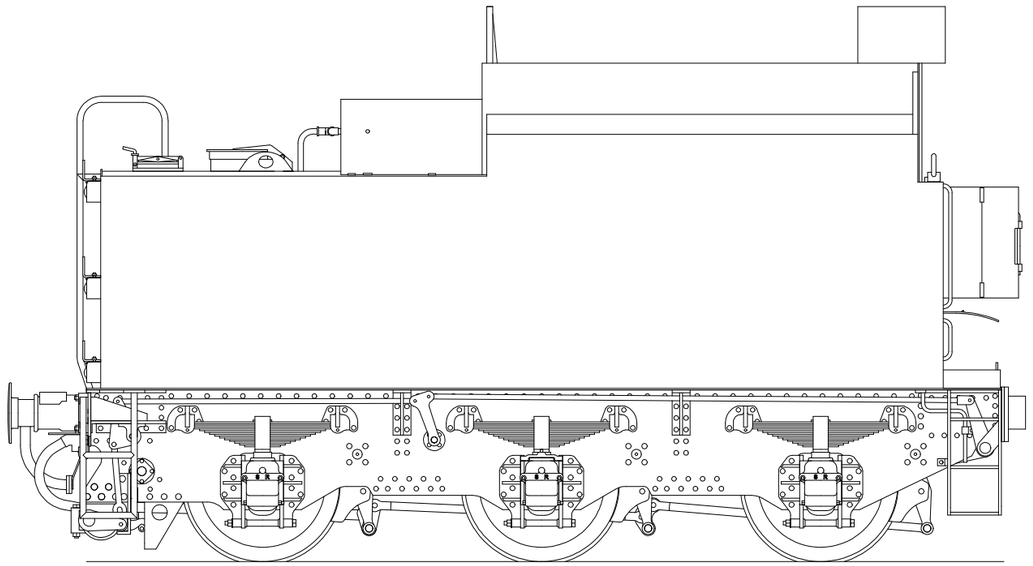


Fig 1. Original Appearance

Side raves
Sanding gear
Front water fillers
TIA Water treatment system







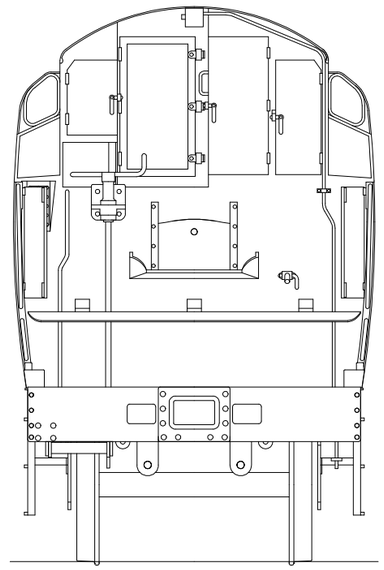


Fig 2. Rebuilt Condition

Cut down side raves with fire iron tunnels#
TIA removed and replaced with BR water treatment system
New/modified ladders
Extended rear coal plate
Cover over vacuum reservoirs
Sanding gear removed
BR Float type water gauge

CONSTRUCTING THE CHASSIS

CHASSIS AND COMPENSATION

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.

Open up the holes in the chassis frames (C1) as follows:

1.6 mm to fit the compensation beam pivots

0.8 mm to fit the wire for the brake hanger pivots

4.9 mm to fit the top hat bearings for the rear axle.

On the chassis frames fold the axle slot reinforcing plates through 180° with the half etched line on the outside of the fold. Widen the slots so that the axles are a sliding fit.

Now fold up the chassis and solder the rear bearings in place. Fold up the edges of the lower transverse stay (C3), with the fold lines on the inside, and solder to the frames ensuing that the chassis is square and flat.

Construct the compensation beam by soldering the two halves (C2) together. Cut a piece of 3/32" brass tubing to fit between the sides of the chassis frames and solder the beam in place centrally. Fit the beam using a piece of 1/16" brass wire as the pivot.

Temporarily fit the wheel sets and check that the chassis is level and works correctly. Wheel side control is limited by using the washers (C4).

Solder the brake hanger pivots from 0.8 mm wire in place. Refit the wheel sets and retain as shown in Fig 3.

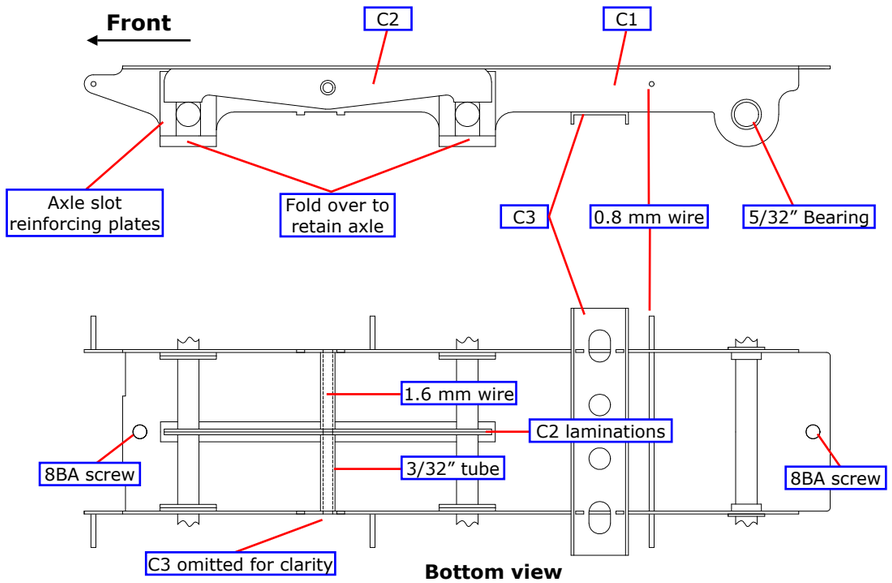


Fig 3. Chassis and Compensation, Internal and Underside Views

BRAKES

Open up the holes in the brake hanger laminations (C5) - upper 0.8 mm, lower 1.2 mm. Emboss the rivet detail and solder together. Attach the hangers to the pivot wires. Check the clearance between the brake shoes and the wheels making any necessary adjustments.

The brake cross shafts are made from 1.2 mm wire. Drill 1.2 mm through the cross shaft holes in the pull rods (C6), the centre axle pull rod overlay (C7) and the rear axle pull rod overlay (C8), Using the 1.2 mm drill to aid alignment, solder the overlays to the pull rods as shown in the fig 4. Now assemble the cross shafts and pull rods so that the front pull rods are outside the chassis frames. The rear pull rods (F42)are pinned to the cranks on the front pull rods with 0.8mm wire and run inside the chassis frames as shown in Fig 4. Do not solder the rear pull rods to the cranks.

No.	Description	Sheet
C1	Fold Up chassis frame	3
C2	Compensation beam (2)	3
C3	Lower transverse stay (2)	1 & 2
C4	Axle side control washer	2 & 3
C5	Brake hanger and shoe lamination (12)	3
C6	Brake pull rod	3
C7	Brake pull rod overlay, centre axle (2)	3
C8	Brake pull rod overlay, rear axle (2)	3

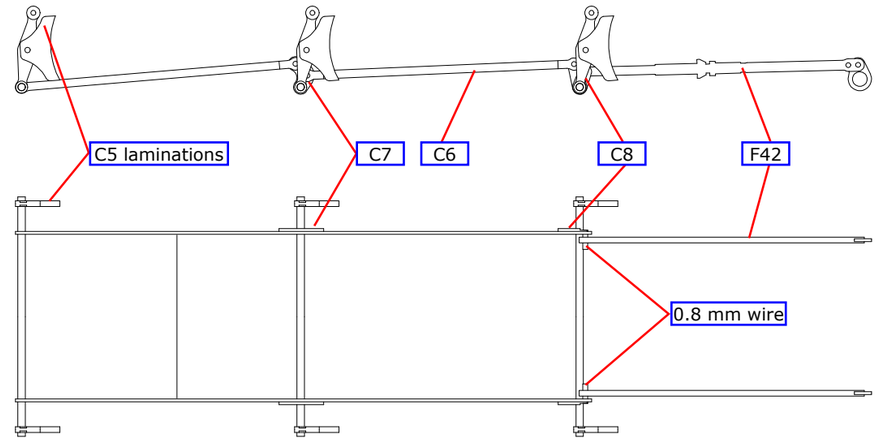


Fig 4. Brakes

CONSTRUCTING THE FRAMES, DRAG BEAM & BUFFER BEAM ASSEMBLY

FRAME PREPARATION

First open out the axle box holes marked red in Fig.5 to accept the cast spigot on W1, emboss all the rivets on the outside frames left & right (F1 & F2), guard irons (F3), the tank & frame bracket angle (F16), brake cylinder pivot bracket left & right (F39 & F40). Detail the frames with the six brake hanger pin caps (F4), sand pipe brackets (F12) (if appropriate), tank & frame brackets, left or right (F14 or F15), the tank & frame bracket angles (F16), and the rear brake shaft bearings left & right (B2 & B4).

Bend the guard irons and fold the brake cylinder pivot brackets, left & right, (F39 & F40) to shape and locate on the inside of the frames. The embossed dimples on the components are designed to locate in the rivet holes on the inside of the frames. Add the handbrake crank pivot bracket middle (F30) together with a pivot from 1.0 mm wire.

FRAME CONSTRUCTION

Emboss the rivets on the drag beam (F6), drag beam drag box (F7), the buffer beam (F18) and the buffer beam drag box (F22). Open up the holes in the drag beam drag box (F7) to accept the wire for the loco/tender flexible pipe connections. Fold up the drag beam drag box and the buffer beam drag box and solder 8BA nuts in place as shown in Fig 7. Solder the drawbar pin (1.6 mm wire) in place in the drag beam drag box. Fold up the two stretchers (F13).

Open up the holes in the buffer beam (F18) to fit the buffers, form the hook for hanging the screw coupling, drill through the hole to accept the TIA drain cock (B20), if appropriate, and solder the coupling pocket (F19) in place. See Fig 8, page 7.

Solder the frames and the stretchers (F13) together checking that the assembly is square. Solder the drag box (F7) and drag beam (F6) in place. Fold up the handbrake front bracket (F27) and place it in the slot at the front of the right frame against the drag beam; solder in place. Solder the buffer beam drag box (F22) and buffer beam (F18) in place.

HAND BRAKE

Emboss the rivets on the hand brake stop (F17), RH buffer beam gusset (F24) and LH buffer beam gusset (F23). Carefully fold down the internal tab on the right gusset to form the inner plate for the pivot. Attach the external pivot plate (F26) and open both bearing holes to 0.8mm.

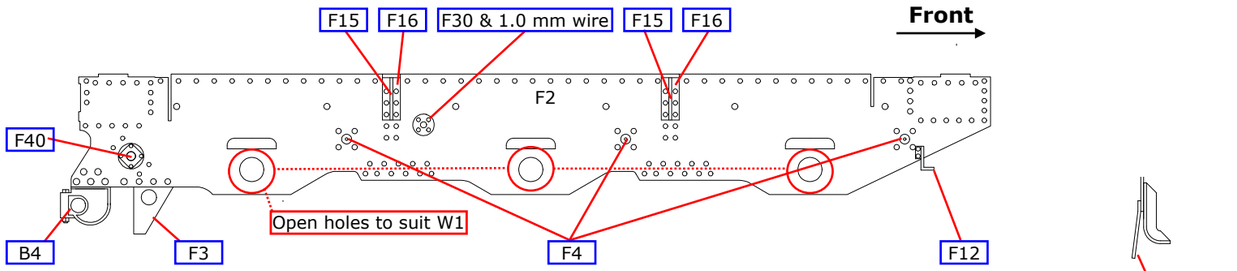


Fig 5. Frame Preparation. Outside View of Right Frame

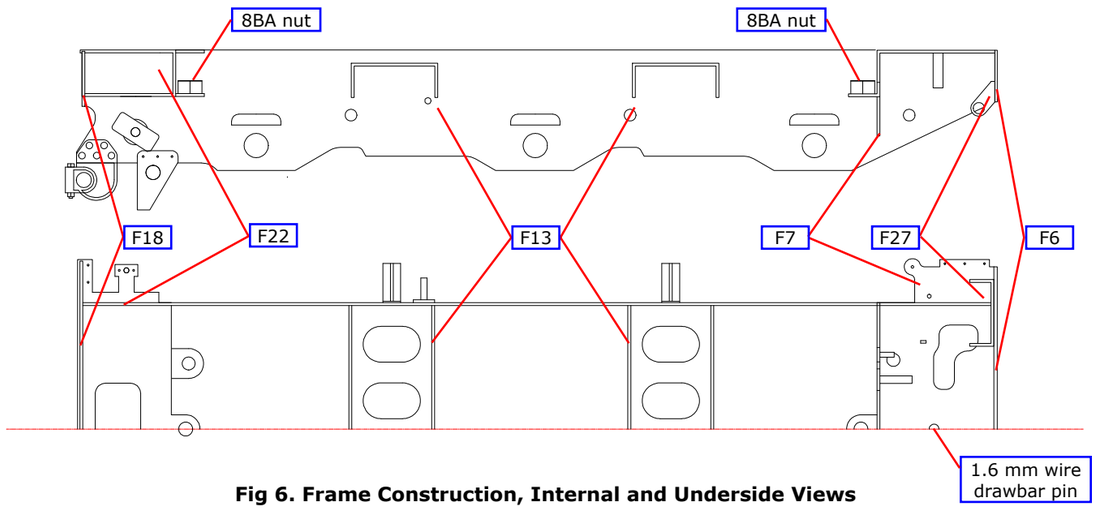


Fig 6. Frame Construction, Internal and Underside Views

Attach parts (F17) & (F24) to the RH frame and (F23) to the LH frame. Finally add the web (F25) to the RH buffer beam gusset (F24).

BUFFER PREPARATION

Assemble the self-contained buffers as shown retaining the buffer by soldering the buffer retaining washer to the tail of the buffer. If appropriate, add the steps (F20).

No.	Description	Sheet	No.	Description	Sheet
F1	Outside frames, left	2	F19	Coupling pocket	3
F2	Outside frame, right	2	F20	Buffer step (2)	3
F3	Guard iron (2)	3	F21	Buffer retaining washer (2)	3
F4	Brake hanger pin cap (6)	3	F22	Buffer beam drag box	2
F6	Drag beam	3	F23	Buffer beam gusset, left	3
F7	Drag beam drag box	3	F24	Buffer beam gusset, right horizontal	3
F12	Sand pipe bracket (2)	3	F25	Buffer beam gusset, right vertical	3
F13	Stretcher	1 & 3	F26	Buffer beam gusset, right handbrake pivot	3
F14	Tank & frame bracket, left	3	F27	Handbrake bracket, front	3
F15	Tank & frame bracket, right	3	F30	Handbrake crank pivot bracket, middle	3
F16	Tank & frame bracket angle (4)	3	F39	Brake cylinder pivot bracket, left frame	3
F17	Hand brake stop	3	F40	Brake cylinder pivot bracket, right frame	3
F18	Buffer beam	2			

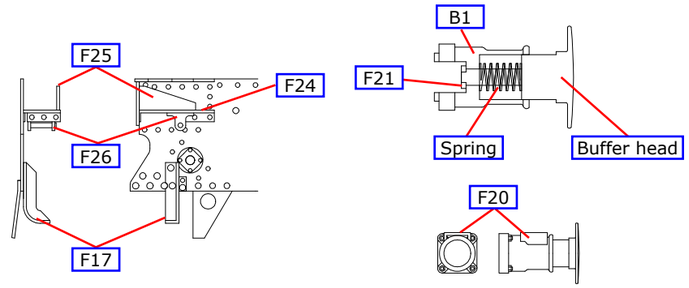


Fig 7. Hand Brake and Buffers

BRAKES AND DETAILING

Add the bearing overlay plates (F38) to the inside of the cylinder central pivot plate (F37) and then fold up. Trim the brake cylinders (W6) pivots on each side and carefully fit onto the frames between the centre pivot (F37) and the left and right brake cylinder pivot brackets (F39 & F40).

Solder together the rear handbrake crank, the inner, centre and outer laminations (F34, F35 & F36) and mount on the frames as shown below.

Trim the 3/32" rod to fit between the bearings so that the free end is just recessed into the brake shaft bearing on the outside. Laminate two sets of brake cylinder levers (F41) and carefully thread onto the 3/32" rod along with the rear brake rods (F42), align the brake cylinder levers with the brake cylinders and the rear brake rods with the front brake gear pivots and fix into place. DO NOT fix the front ends of the rear brakes rod levers as this will lock in the inner chassis and prevent removal later for painting.

Make up the front outside brake lever from the two laminations (F29). Drill a 1.8 mm hole in the outside brake lever and the hand brake lever and screw (F28). Cut a length of 1.8 mm wire to length and thread through the hand brake bracket, the outside lever and the lever and screw. Solder in place; the lever and screw can be soldered into place.

Make up the middle hand brake middle from the inside layer (F31), the spacer (F33) and the outer layer (F32). Make up the rear inner handbrake cranks and rod from the inner layer (F34), the rod spacer (F35) and the outer layer (F36). Fold the 0.8 mm pull rods to match the drawing. Add the handbrake system to the frames. The 0.8 mm wire pull rods must be accurately formed using the templates below.

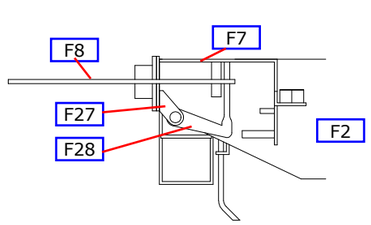
Make up the front steps, left and right (F9 and F10) with two rungs a side (F11). Solder in place in the appropriate holes in the front drag beam. Modify the rear step castings (B6, B7 & B5) as detailed in the box below. Solder together and then mount in the holes in the rear drag beam.

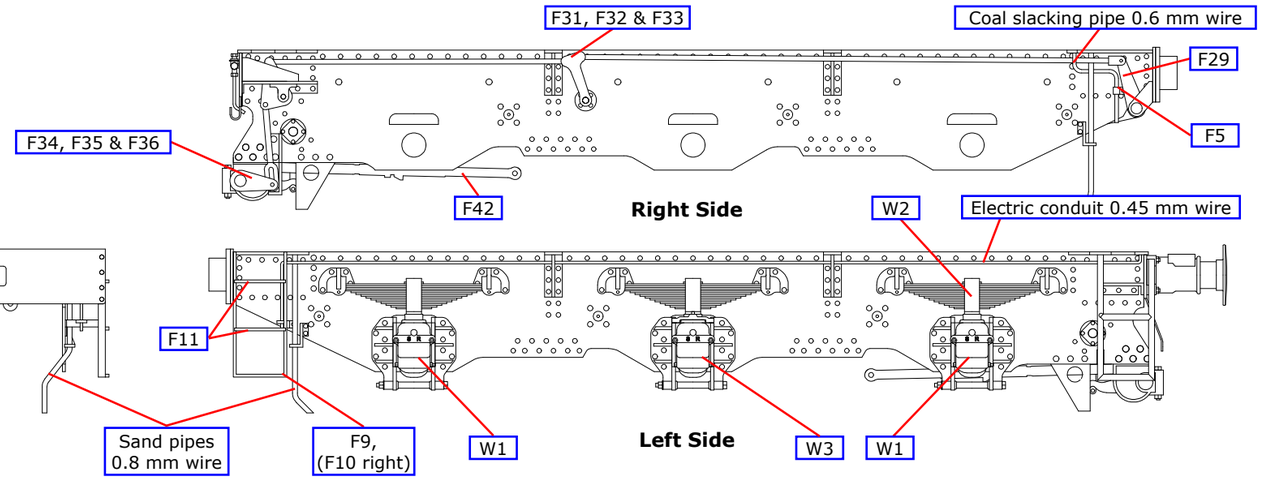
Make the electric conduit from 0.45 mm wire and bend to suit the drawing. The coal slacking pipe is made from 0.6 mm wire and held in place by a clip (F5). This is best annealed before bending.

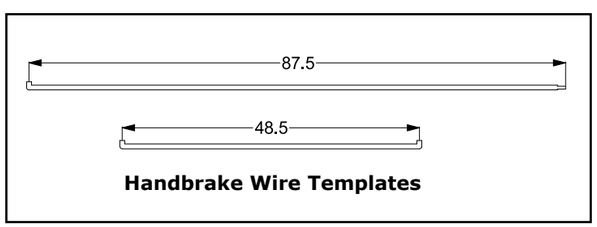
If appropriate add the sand pipes from 0.8mm wire and pass through the brackets (F12) and bend to follow the drawing. Attach the draw bar pocket (W7) to the front drag beam and attach the assembled buffers to the rear buffer beam. Add the steam heat pipe (B24) and then add the steam heating pipe lever (F43) to the casting. Add the vacuum brake pipe (B23) to the buffer beam and if appropriate the TIA drain cock casting (B20).

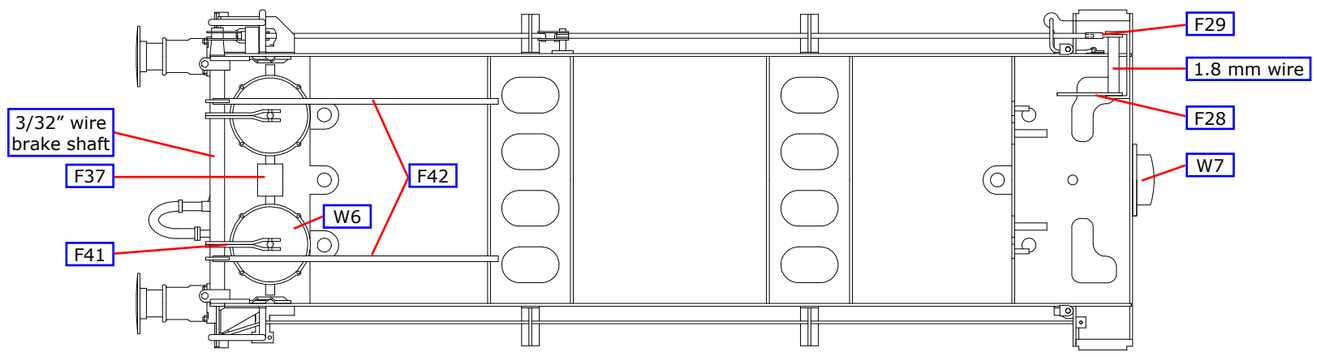
Finally add the axle boxes, outer and centre (W1 & W3) and spring (W2) castings to the frames.

No.	Description	Sheet			
F5	Coal slacking pipe clip	3	F34	Rear handbrake crank inner lamination	3
F9	Front step, left	3	F35	Rear handbrake crank outer lamination	3
F10	Front step, right	3	F36	Rear handbrake crank & rod centre lamination	3
F11	Front step rung (4)	3	F37	Brake cylinder pivot bracket	3
F28	Handbrake screw and lever, front	3	F38	Brake cylinder pivot centre bearing overlay (2)	3
F29	Front handbrake lever outside lamination (2)	3	F41	Brake cylinder lever lamination (4)	3
F31	Middle handbrake crank inner lamination	3	F42	Rear brake pull rod laminations (4)	2 & 3
F32	Middle handbrake crank outer lamination	3	F43	Steam heating pipe lever	3
F33	Middle handbrake crank spacer	3			









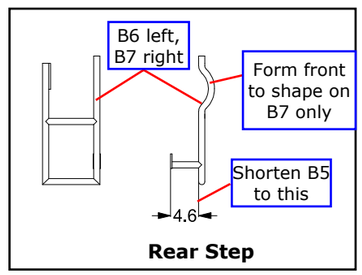
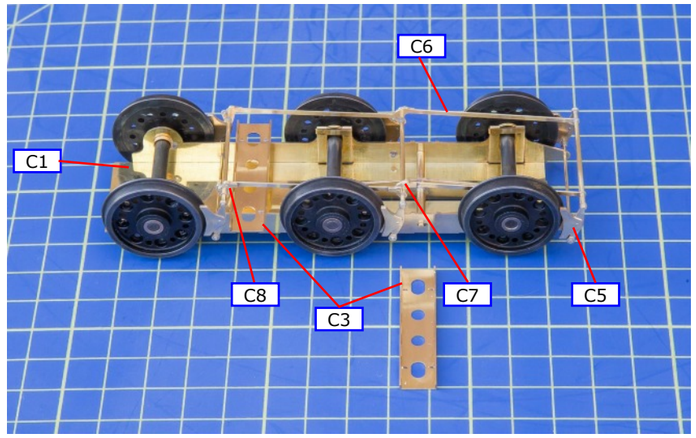
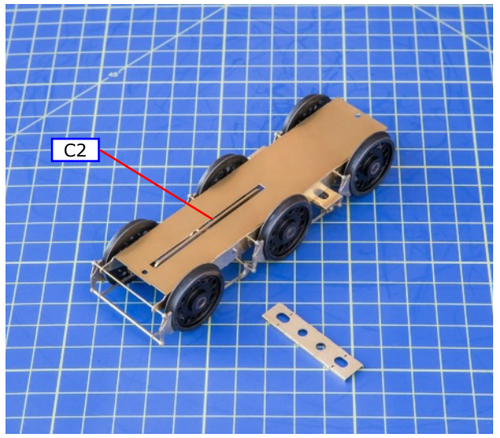
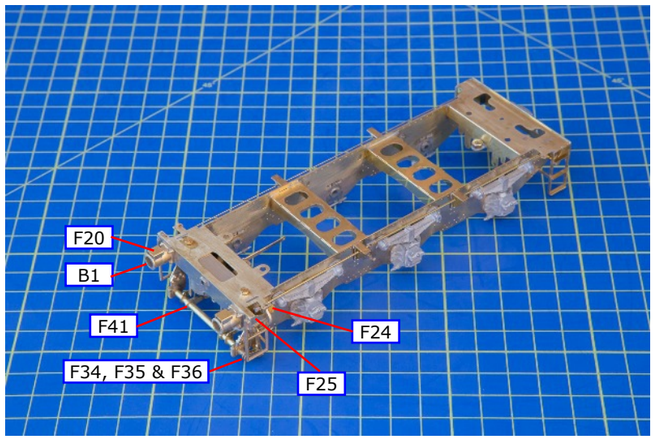
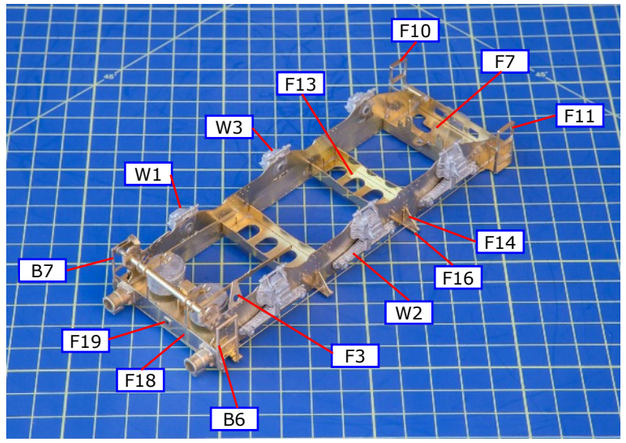


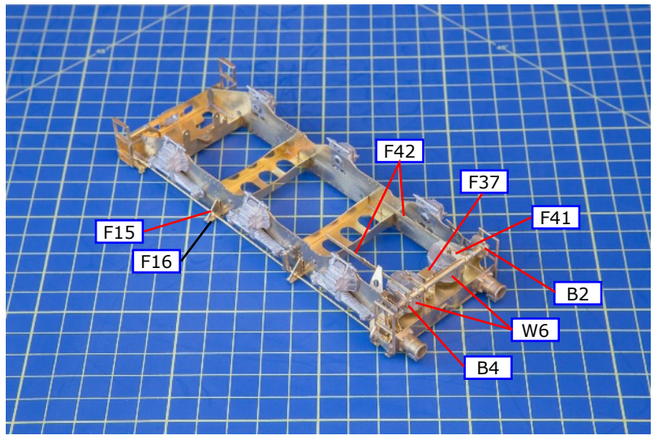
Fig 8. Brakes and Detailing

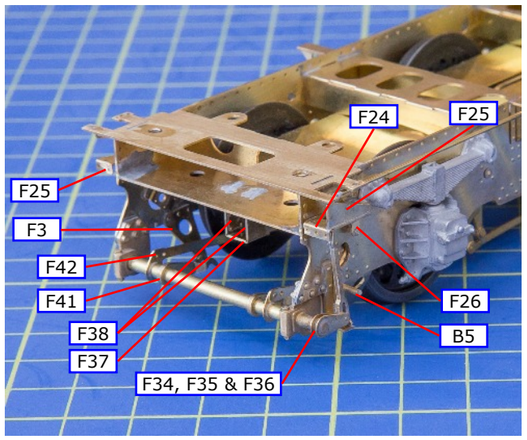

C6
C1
C8
C3
C7
C5

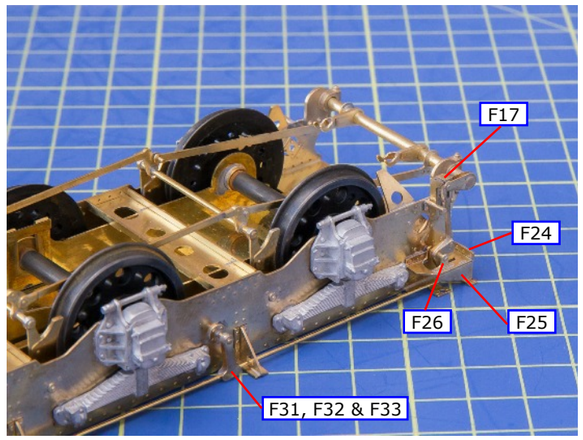

C2


F20
B1
F41
F24
F34, F35 & F36
F25


F10
F7
F13
F11
W3
W1
F14
B7
F16
W2
F19
F3
F18
B6


F42
F37
F41
F15
F16
B2
W6
B4


F24
F25
F25
F3
F42
F41
F26
B5
F38
F37
F34, F35 & F36


F17
F24
F26
F25
F31, F32 & F33

CONSTRUCTING THE TANK IN ORIGINAL CONDITION

BASIC CONSTRUCTION

Emboss the rivets in the base plate (T1) and solder the four 8BA fixing nuts in place. Check that the frames assembly can now be screwed under the base plate. Open up the holes in the base plate to accept their appropriate components.

Drill through the holes for the TIA pipe and the switch for the coupling up lamp in the original tank back (04). Open out all the remaining holes in the tank back to accept the corresponding components. Solder the tank back to the base plate ensuring they are perpendicular to each other.

Carefully identify all the appropriate holes and locating dimples in the tender top (03) and emboss, drill through and open out as required. The locating dimples are for the lifting brackets (T10). Carefully roll the curve in the rear of tank top. The forward sections which extend to the front plate, are not curved. Check for fit with the tank back and coal hopper back (07).

Solder the coal hopper back to the base plate ensuring they are perpendicular to each other before soldering the tank top in place. Solder the angle strip overlay (08) to the coal hopper (O7). Solder the two lifting brackets in place on the tank top.

Emboss the locating dimples in the coal hopper (T8) for the lifting brackets (T10) and fold it up. Solder the two lifting brackets in place. Solder the coal hopper to the coal hopper back.

TENDER FRONT

Select the front plate either original or with water gauge (09 or 011). Emboss all appropriate rivets and the locating dimples for the locker catches (T23 & T24) and if appropriate, the sanding lever brackets, left and right (015 & 016). Open up the appropriate holes to fit the bucket cock (B16) & the handbrake (B21). Cut, with a sharp blade, short lengths of 0.45 mm copper wire for the door hinges and solder in place.

Fold up and form to shape the edges of the shovelling plate (T15) and solder in place below the coal hole. Add the coal door (T13 or T14) and the coal door handle (B17). If appropriate, fold up the water gauge recess (T16), add the water gauge (T17) and solder in place as shown in Fig 16.

If appropriate fit the sandboxes, left and right (W10 & W11). Fold up and attach sanding lever brackets, left and right (015 & 016). Make up and fit the operating rods from 0.6 mm wire. The sanding operating rods cranks are laminations of two O14. The connecting rod is 0.6 mm wire. Fit the sanding lever (B22).

Form the coal slacking pipe, from 0.6 mm wire, check that it will fit through the appropriate hole in the base plate and solder in place; add the clips (T18). Form conduit pipe from 0.45 mm, allowing enough to locate in the lamp in the cab roof (B15), attach with conduit clip (T19) and again check that it will fit through the appropriate hole in the base plate.

Emboss the locating dimples on front plate shelf and back (T21) and the coal space door (T27). Make the horizontal fold in the front plate. Solder the coal space door in place and add the three door catches (T28) and the door hinges from 0.45 mm wire. Solder the locker catches (T23) and (T24) in place

Attach the left (T25) and right (T26) coal space entrance walls to the rear wall (T21) assembly, add coal space door (T27) to rear wall (T21). Form a handle from 0.45 mm wire and fix to the left (T25) coal space wall. Solder the under locker angle piece (T22) in place. Add the front plate bracket (O10). Add the two window frames (O12).

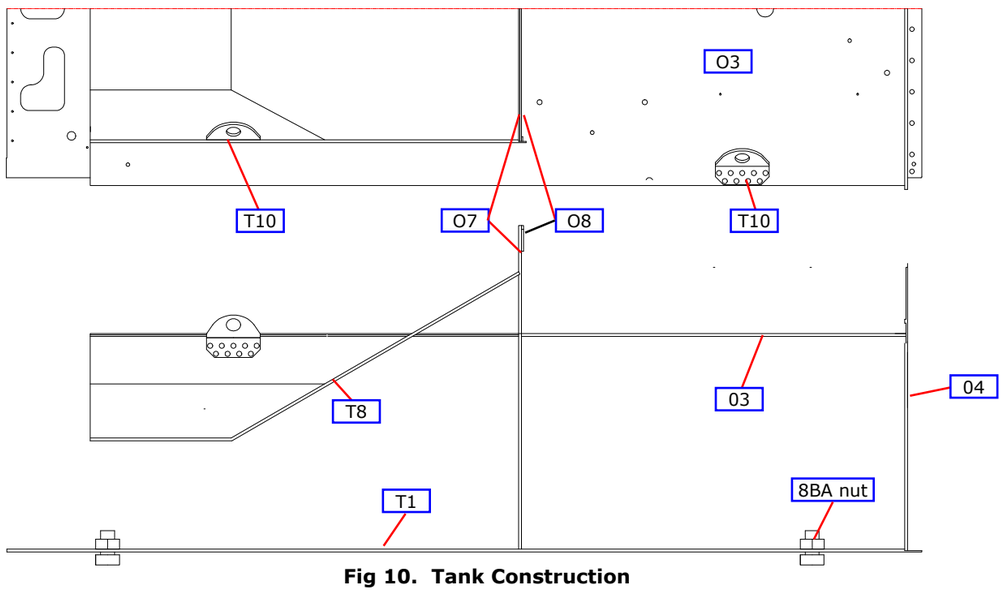


Fig 10. Tank Construction

REAR LADDERS

Make the ladders as shown below. First bend up the stiles from 1.0 mm wire. Bend up the left and right jigs (O5 & O6) and fit the stiles as shown in the diagram. Cut the rungs to length and solder in place, taking care not to solder them to the jig. To remove the ladders from the jigs, cut the wire at A and gently snap off at B.

No.	Description	Sheet			
T1	Tank base plate	3	T27	Coal space door	2
T8	Coal hopper	2	T28	Coal space door catch	3
T10	Lifting bracket (4)	3	O3	Original tank top	1
T13	Coal door closed	1	O4	Original tank back	2
T14	Coal door open	1	O5	Original rear ladder jig, left	1
T15	Coal shovelling plate	2	O6	Original rear ladder jig, right	1
T16	Water gauge recess	3	O7	Original coal hopper back	2
T17	Water gauge	3	O8	Original coal hopper back angle strip overlay	3
T18	Coal slacking pipe clip (4)	3	O9	Original front plate	2
T19	Lighting conduit clip	3	O10	Original front plate bracket	3
T21	Front plate, shelf & back	3	O11	Original front plate with water gauge	2
T22	Angle piece under locker	3	O12	Original window frame (2)	3
T23	Locker catch, large door	3	O14	Original sanding rod bracket lamination (4)	3
T24	Locker catch, small doors	3	O15	Original sanding lever bracket, left	3
T25	Coal space entrance, left side	1	O16	Original sanding lever bracket, right	3
T26	Coal space entrance, right side	1			

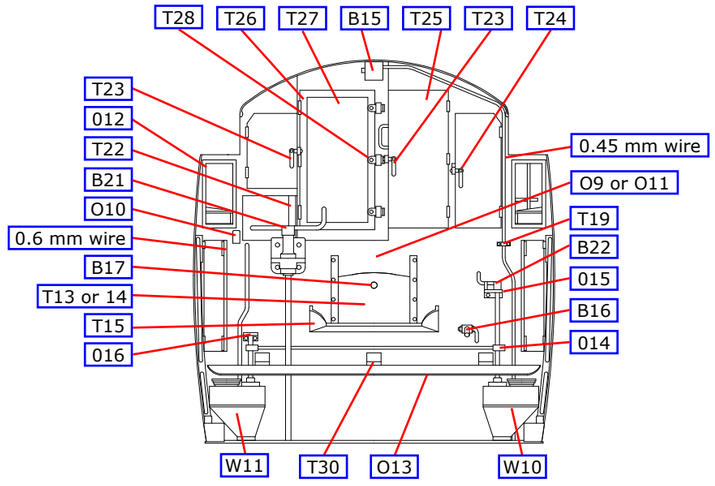


Fig 12. Front Plate

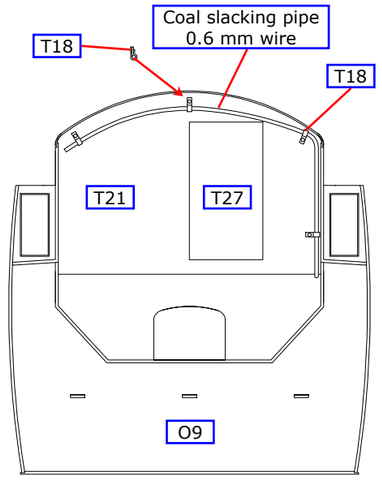


Fig 13. Front Plate, Shelf and Back

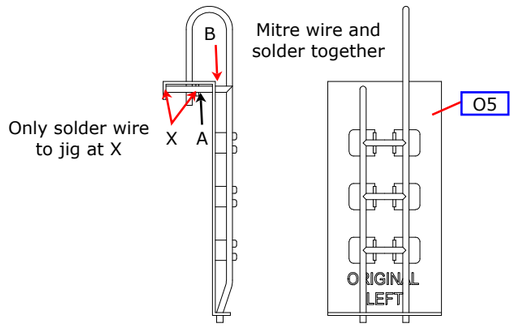


Fig 11. Ladder Construction

DETAILING THE TANK IN ORIGINAL CONDITION

Check the fit of the front plate, coal hopper, bunker side (T4) and the tank top (03), before soldering the assembly together constantly checking the assembly is both flat and square. Most of the soldering can be done from the inside.

Add the bunker rear side web (T5), bunker middle side web (T6) and the bunker front side web (T7) inside the coal hopper.

Form the rear vent pipe from 1.0 mm wire and solder in place as shown below. Add the fire iron cruciform (T20) as shown below. Add, if appropriate, the front water filler (W13).

Carefully roll the curve in the tank sides (01). Check the fit of the sides against the front plate, coal hopper back and tank rear.

Solder the door plates (T2) to the tank sides before opening out the handrail holes to 0.6 mm diameter. Make up the two front handrails, from 0.6 mm wire, solder to the door plates and clean up flush on the back. Fold the upper cab door hinge through 90° and strengthen with a fillet of solder. Solder the lower door hinge (T3) in place.

Emboss the rivets on the fall plate (O13), curve to shape, fold down the hinges, and check for fit in the front plate. Add the fall plate hinges (T30) in the recesses in the front plate. Insert the fall plate (O13), it will be trapped by the door plates, and then solder the tank sides in place. Solder the tank side strengthening webs (O2) in place.

Form the cab roof (T29) to shape and solder in place.

If appropriate add the sanding gear as shown in Fig 16. Use the template in Fig 16 to make the operating rod. Add the sandbox left & right (W10 & W11). Complete the front detailing by adding the castings for the cab roof lamp (B15), the bucket cock (B16), and the handbrake (B21).

Anneal the hinges on the cab doors (T11), by heating in a flame and bend to shape around a 0.8 mm piece of wire. Similarly form the loops for the pins that will attach the doors to the locomotive cab around a 0.5 mm drill. Make the bend in the doors. Add the cab door catch (T12) and detail the doors as shown in Fig 15.

Drill through 0.9 mm holes in four of the vacuum reservoir ends (W4). Assemble the four vacuum reservoirs using the cast ends and the 3/8" tube. Locate the reservoir timber supports (W5) in the tank top and then add the reservoirs with the drilled ends facing to the rear. Detail the vacuum reservoirs as shown below. Add the vacuum reservoir strap (O17) with two lengths of 0.8 mm wire to act as the securing rod. Add the vacuum reservoir pipes (B25) and the pipe from 0.9 mm wire. Solder the water filler (B18) in place.

Ensure that the holes in the TIA tank (W12) can receive the 0.45 mm wire. Place the tank as shown. Fold 0.45 mm wire to make the TIA drain pipes. Secure the rear one to the tank back using the drain pipe clips (T9). Fit the ladders.

No.	Description	Sheet			
T2	Door plate (2)	3	T12	Cab door catch (2)	3
T3	Lower door hinge (2)	3	T20	Fire iron cruciform	3
T4	Bunker side (2)	1	T29	Cab roof	2
T5	Bunker side web, rear (2)	3	T30	Fall plate hinge	3
T6	Bunker side web, middle (2)	3	O1	Original tank side (2)	1
T7	Bunker side web, front (2)	3	O2	Original tank side strengthening web (14)	3
T9	TIA drain pipe clip (3)	3	O13	Original fall plate	3
T11	Cab door (2)	3	O17	Original vacuum reservoir strap	3

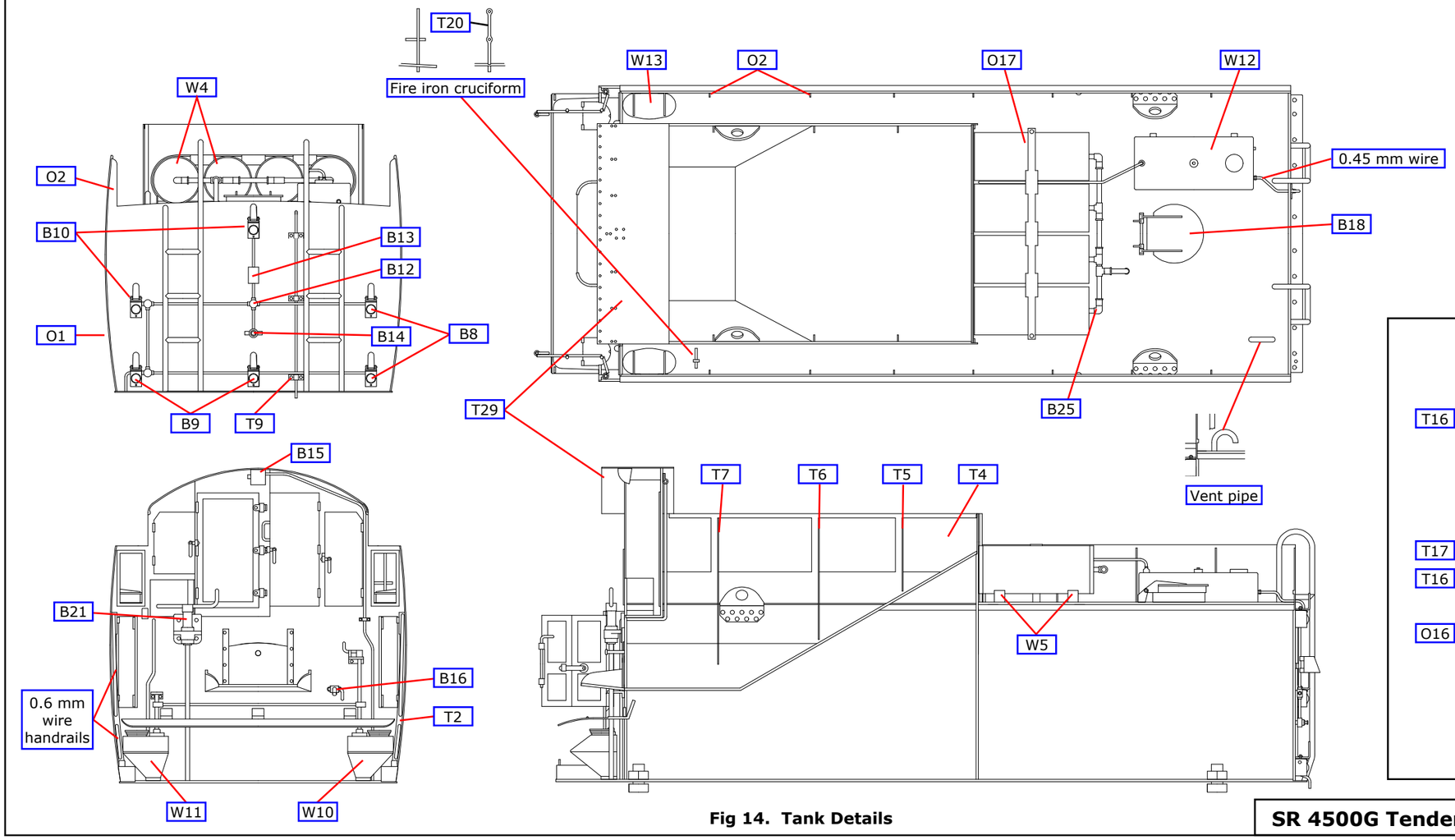


Fig 14. Tank Details

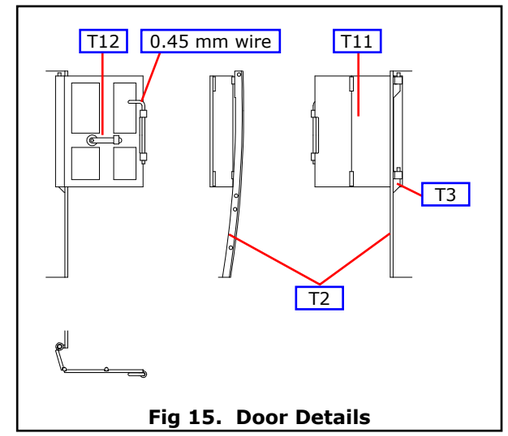


Fig 15. Door Details

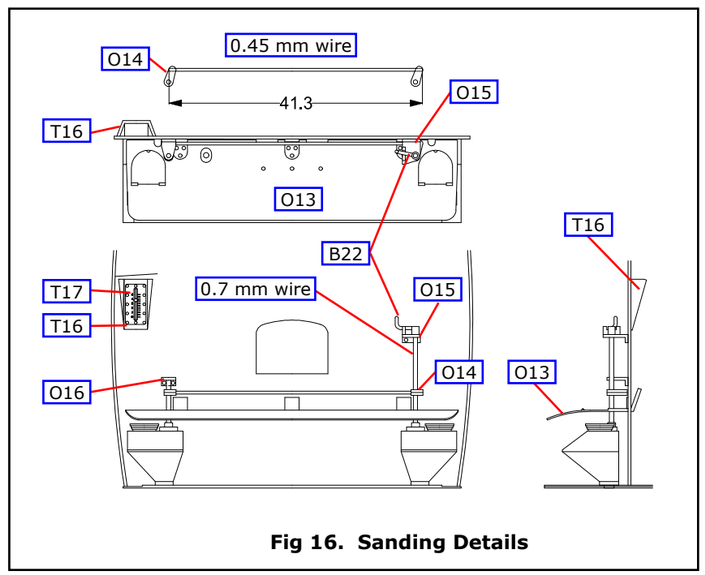


Fig 16. Sanding Details

CONSTRUCTING THE TANK REBUILT CONDITION

BASIC CONSTRUCTION

Emboss the rivets in the base plate (T1) and solder the four 8BA fixing nuts in place. Check that the frames assembly can now be screwed under the base plate. Open up the holes in the base plate to accept their appropriate components.

Open out all the holes in the tank back (R4 or R5) to accept the corresponding components. Solder the tank back to the base plate ensuring they are perpendicular to each other.

Carefully identify all the appropriate holes and locating dimples in the tank top (R3) and emboss, drill through and open out as required. The locating dimples are for the lifting brackets (T10) and the vacuum reservoir cover (R16). Carefully roll the curve in the rear of tank top. The forward sections which extend to the front plate, are not curved. Check for fit with the tank back and coal hopper back (R8).

Solder the coal hopper back to the base plate again ensuring they are perpendicular to each other before soldering the tank top in place.

Emboss the locating dimples in the coal hopper (T8) for the lifting brackets (T10) and fold it up. Solder the two lifting brackets in place in the hopper and two brackets on the tank top.

TENDER FRONT

Select the front plate (R11). Emboss all appropriate rivets and the locating dimples for the locker catches(T23 & T24). Open up the appropriate holes to fit the bucket cock (B16) & the handbrake (B21). Cut, with a sharp blade, short lengths of 0.45 mm copper wire for the door hinges and solder in place.

Fold up and form to shape the edges of the shovelling plate (T15) and solder in place below the coal hole. Add the coal door (T13 or T14) and the coal door handle (B17). Fold up the water gauge recess (T16), add the water gauge (T17) and solder in place as shown in Fig. 19.

Form the coal slacking pipe, from 0.6 mm wire, check that it will fit through the appropriate hole in the base plate and solder in place. Form conduit pipe from 0.45 mm, allowing enough to locate in the lamp in the cab roof (B15), attach with conduit clip (T19) and again check that it will fit through the appropriate hole in the base plate.

Emboss the locating dimples on front plate shelf and back (T21) and the coal space door (T27). Make the horizontal fold in the front plate. Solder the coal space door in place and add the three door catches (T28) and the door hinges from 0.45 mm wire.

From 0.45 mm wire form and fit the small handrail on the left coal space entrance (T25). Assemble the left and right coal space recess walls (T25 & T26) onto the front plate shelf and back (T21) and solder to the rear of the front plate (R11). Solder the under locker angle piece (T22) to (R11).

Each rear window consists of a front (R12) and rear (R13) etch designed to trap the glazing inside. Carefully cut the glazing to fit inside the inner recess and solder or glue the two laminations together and fit to the tender. Using low melt solder or suitable adhesive, carefully attach the edge angle strips (R14) to the outer edge of the glazing panel assembly.

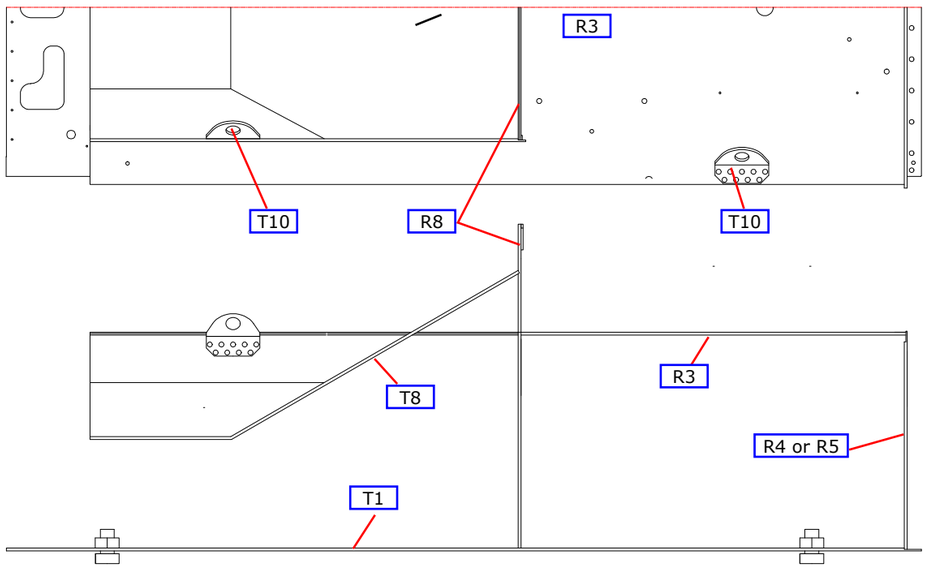


Fig 17. Tank Construction

From 0.6 mm wire form the the coal slacking pipe on the rear of the front plate, and attach with the clip (T18) as shown in Fig 19. Solder the locker catches (T23) and (T24) in place.

CUT DOWN TENDERS

These three tenders had the sides (R1) of the rebuilds, an interim tank back (R5), the original tank top with the original TIA tank and rear ladders. The vacuum reservoirs were covered (R16)

No.	Description	Sheet			
T1	Tank base plate	3	T25	Coal space entrance, left side	1
T8	Coal hopper	2	T26	Coal space entrance, right side	1
T10	Lifting bracket (4)	3	T27	Coal space door	2
T13	Coal door closed	1	T28	Coal space door catch	3
T14	Coal door open	1	R1	Rebuilt tank side (2)	1
T15	Coal shovelling plate	2	R3	Rebuilt tank top	1
T16	Water gauge recess	3	R4	Rebuilt tank back	2
T17	Water gauge	3	R5	Tank back 34011, 34043, 34065	2
T18	Coal slacking pipe clip (4)	3	R8	Rebuilt coal hopper back	2
T19	Lighting conduit clip	3	R11	Rebuilt front plate	2
T21	Front plate, shelf & back	3	R12	Rebuild window frame, front lamination (2)	3
T22	Angle piece under locker	3	R13	Rebuild window frame, rear lamination (2)	3
T23	Locker catch, large door	3	R14	Rebuild window frame angle strip (2)	3
T24	Locker catch, small doors	3	R16	Rebuilt vacuum reservoir cover	2

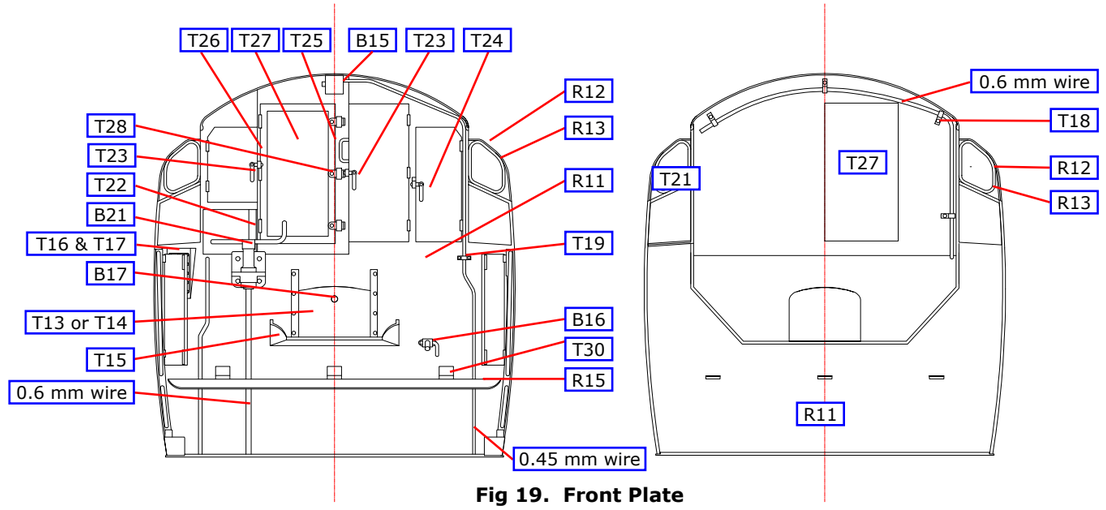


Fig 19. Front Plate

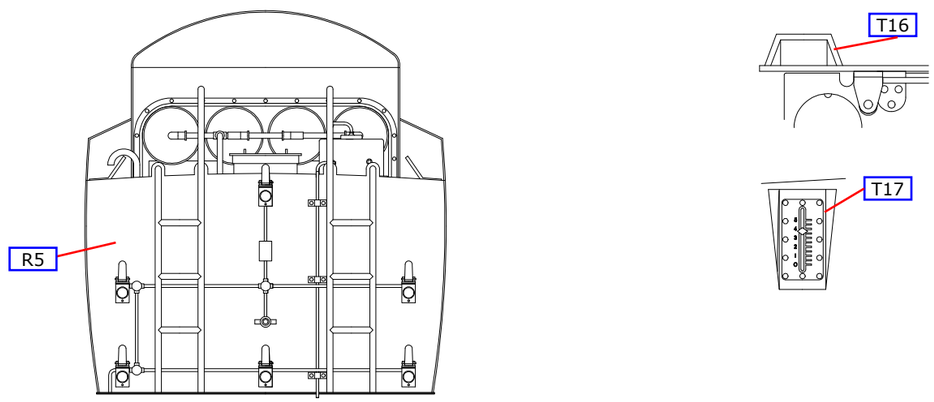


Fig 20. Cut Down Tank Rear

DETAILING THE TANK IN REBUILT CONDITION

Check the fit of the front plate, coal hopper, bunker side (T4) and the tank top (R3), before soldering the assembly together constantly checking the assembly is both flat and square. Most of the soldering can be done from the inside.

Add the bunker rear side web (T5), bunker middle side web (T6) and the bunker front side web (T7) inside the coal hopper.

Carefully roll the curve in the tank sides (R1). Check the fit of the sides against the front plate, coal hopper back and tank rear. Fold down the fire iron compartment top and solder the fire iron compartment back (R2) in place.

Solder the door plates (T2) to the tank sides before opening out the handrail holes to 0.6 mm diameter. Make up the two front handrails, from 0.6 mm wire, solder to the door plates and clean up flush on the back. Fold back the upper cab door hinge and strengthen with a fillet of solder. Solder the lower door hinge (T3) in place.

Emboss the rivets on the fall plate (R15), curve to shape, fold down the hinges, and check for fit in the front plate. Add the fall plate hinges (T30) in the recesses in the front plate. Insert the fall plate (R15), it will be trapped by the door plates, and then solder the tank sides in place.

Form the cab roof (T29) to shape and solder in place.

Complete the front detailing by adding the castings for the cab roof lamp (B15), the bucket cock (B16), and the handbrake (B21).

Anneal the hinges on the cab doors (T11), by heating in a flame and bend to shape around a 0.8 mm piece of wire. Similarly form the loops for the pins that will attach the doors to the locomotive cab around a 0.5 mm drill. Make the bend in the doors. Add the cab door catch (T12) and detail them as shown in Fig 22.

Drill through 0.9 mm holes in four of the vacuum reservoir ends (W4). Assemble the four vacuum reservoirs using the cast ends and the 3/8" tube. Locate the reservoir timber supports (W5) in the tank top and then add the reservoirs with the drilled ends facing to the rear. Emboss the rivets in the vacuum reservoir cover (R16) and form to shape. Check the fit over the vacuum reservoirs. Solder the coal hopper back webs (R9) and the vacuum reservoir front cover (R17) in place and add the coal hopper back angle (R10). Add the vacuum reservoir pipes (B25) and the pipe from 0.9 mm wire, before soldering the cover in place. Solder in place the water filler (B18) and the BR water treatment lid (BR19).

No.	Description	Sheet			
T2	Door plate (2)	3	R1	Rebuilt tank side (2)	1
T3	Lower door hinge (2)	3	R2	Rebuild fire iron compartment back (2)	3
T4	Bunker side (2)	1	R6	Rebuilt rear ladder jig, left	1
T5	Bunker side web, rear (2)	3	R7	Rebuilt rear ladder jig, right	1
T6	Bunker side web, middle (2)	3	R9	Rebuild coal hopper back strengthening web (2)	3
T7	Bunker side web, front (2)	3	R10	Rebuild coal hopper back, top angle	3
T11	Cab door (2)	3	R15	Rebuilt fall plate, sand boxes removed	2
T12	Cab door catch (2)	3	R16	Rebuilt vacuum reservoir cover	2
T29	Cab roof	2	R17	Rebuilt vacuum reservoir cover front	2
T30	Fall plate hinge	3			

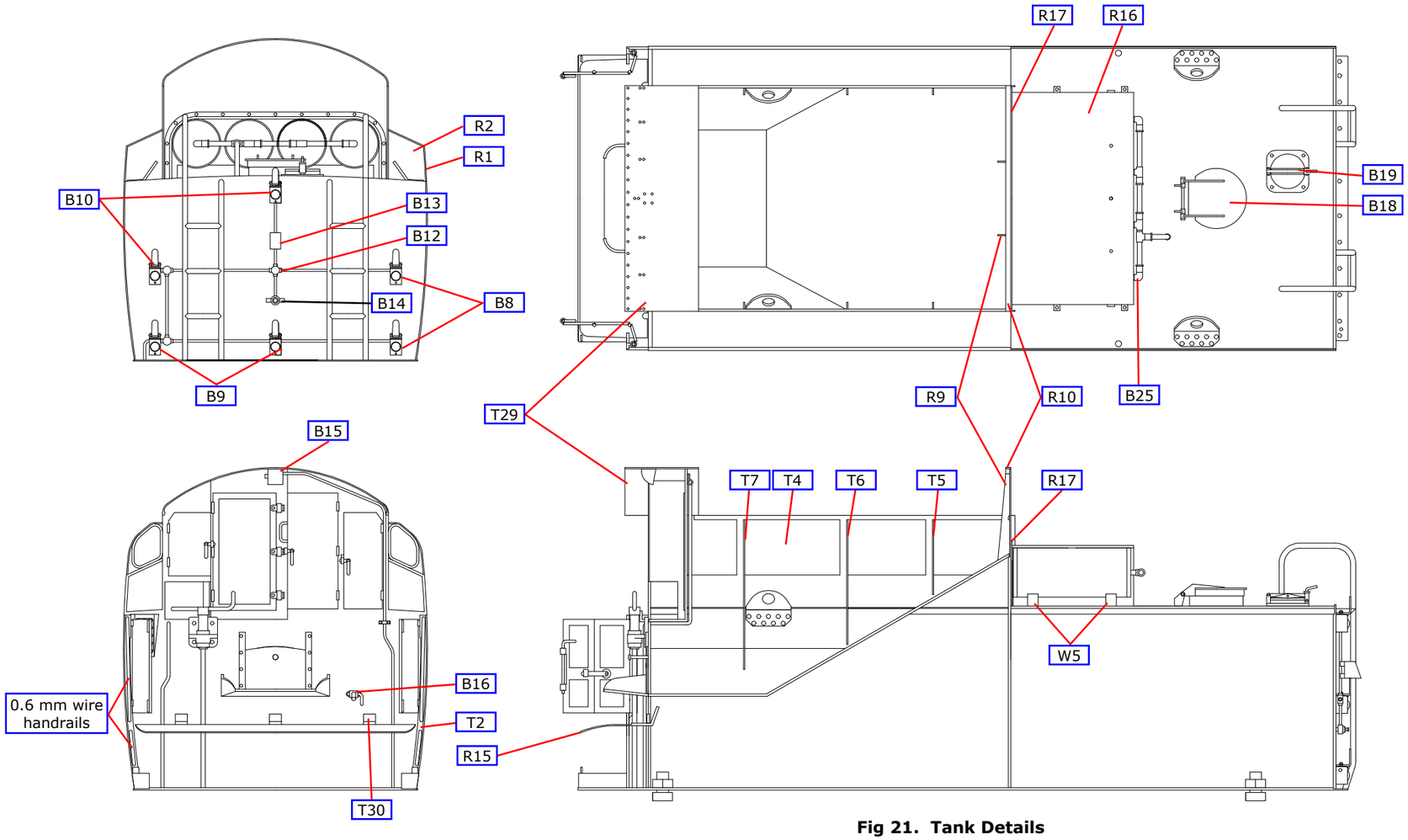


Fig 21. Tank Details

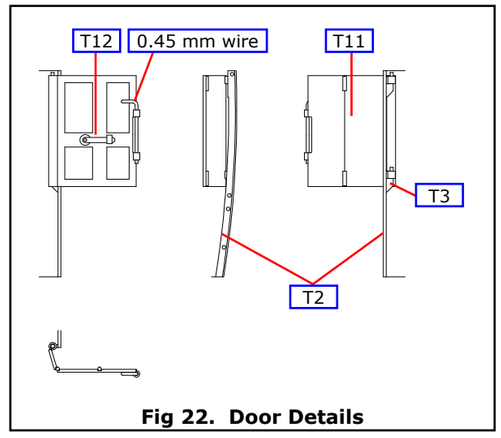


Fig 22. Door Details

REBUILT REAR LADDERS

Make the ladders as shown below. First bend up the stiles from 1.0 mm wire. Bend up the left and right jigs (R6 & R7) and fit the stiles as shown in the diagram. Cut the rungs to length and solder in place, taking care not to solder them to the jig. To remove the ladders from the jigs, cut the wire at A and gently snap off at B.

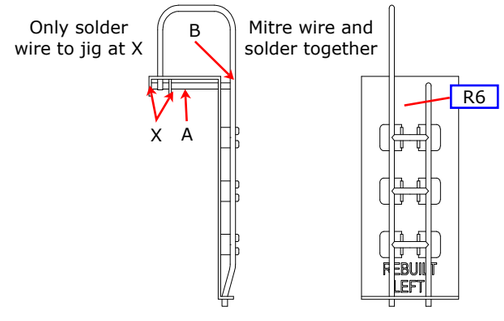
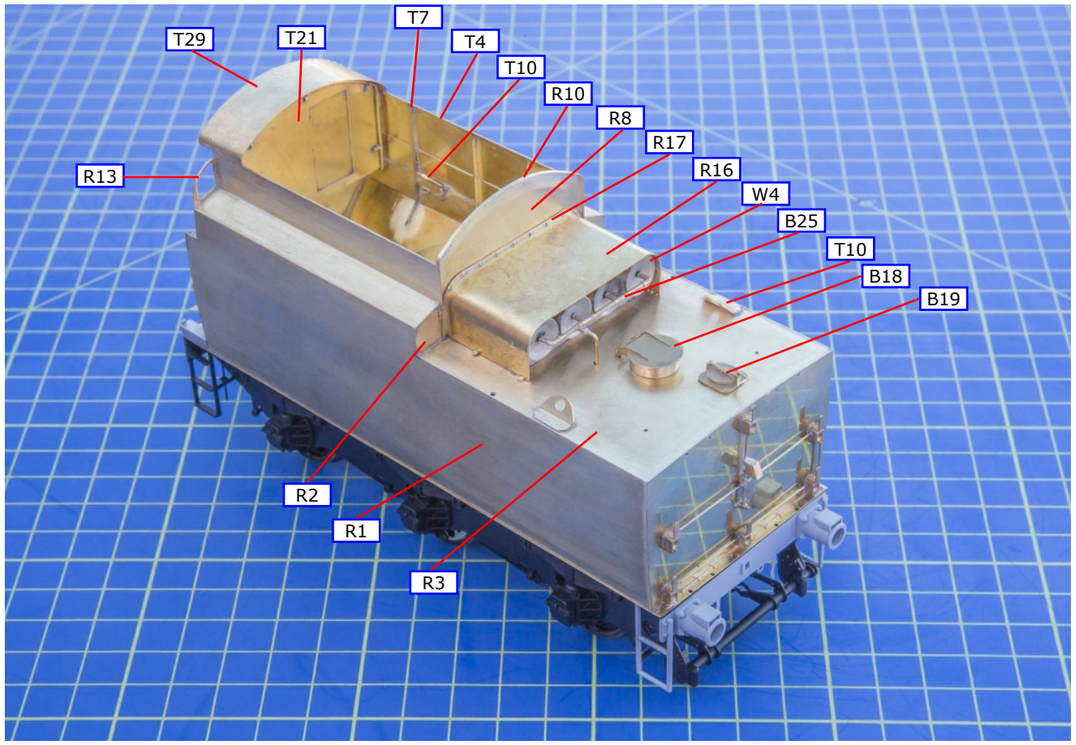
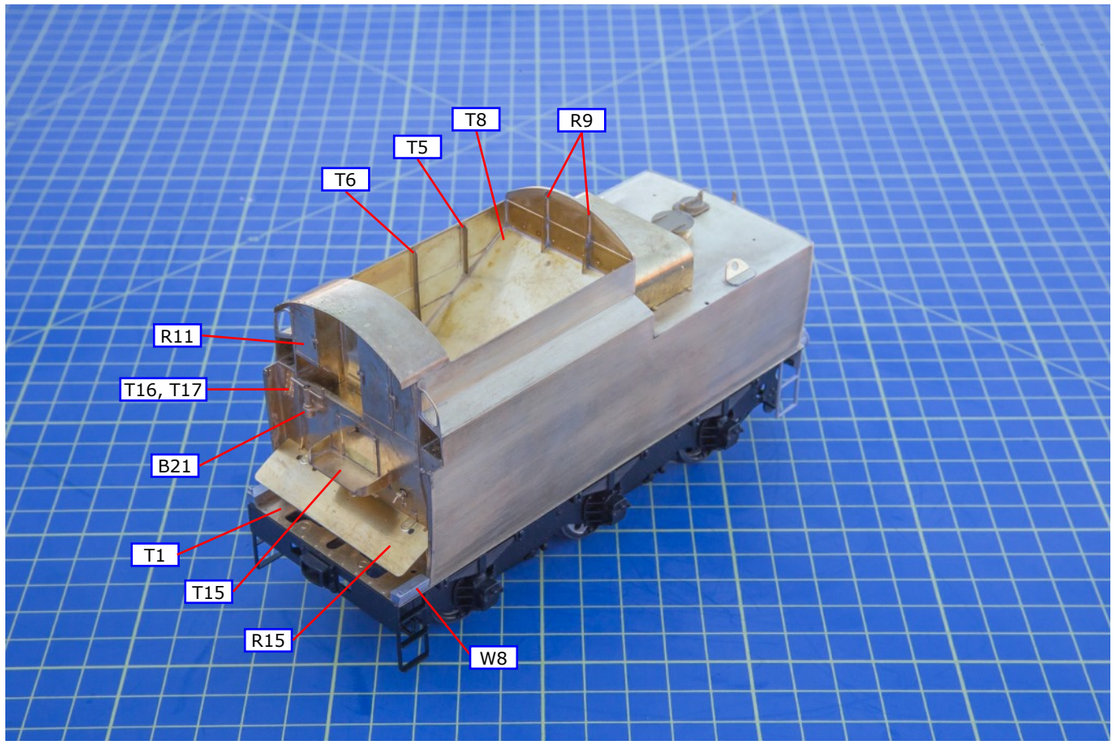
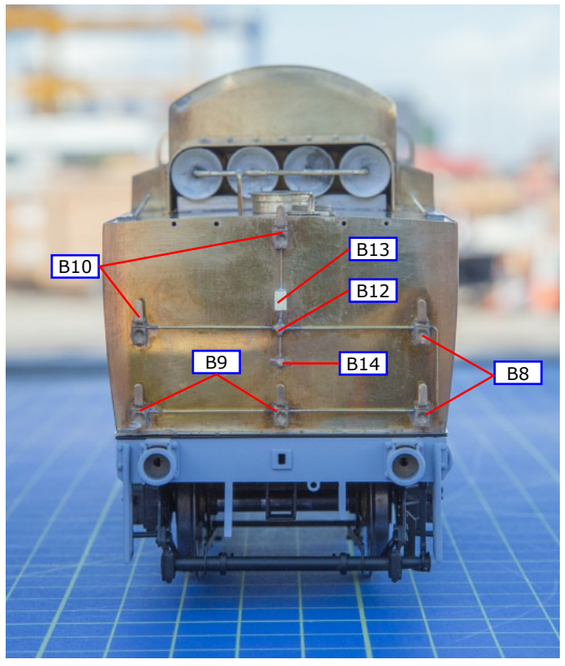
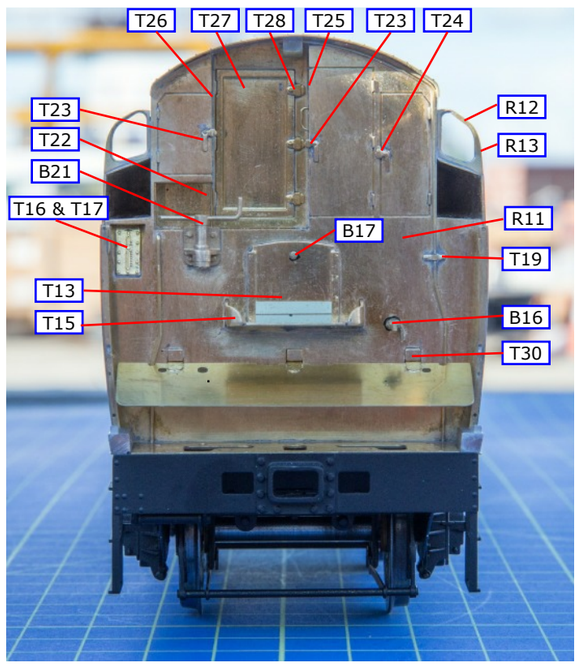


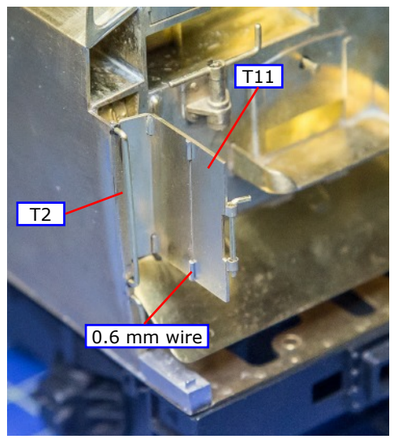
Fig 18. Ladder Construction

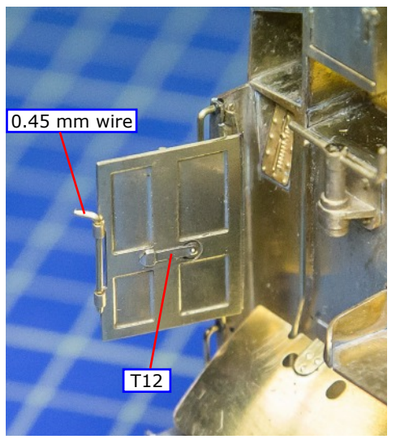

T29
T21
T7
T4
T10
R10
R8
R17
R16
W4
B25
T10
B18
B19
R13
R2
R1
R3


T8
R9
T5
T6
R11
T16, T17
B21
T1
T15
R15
W8

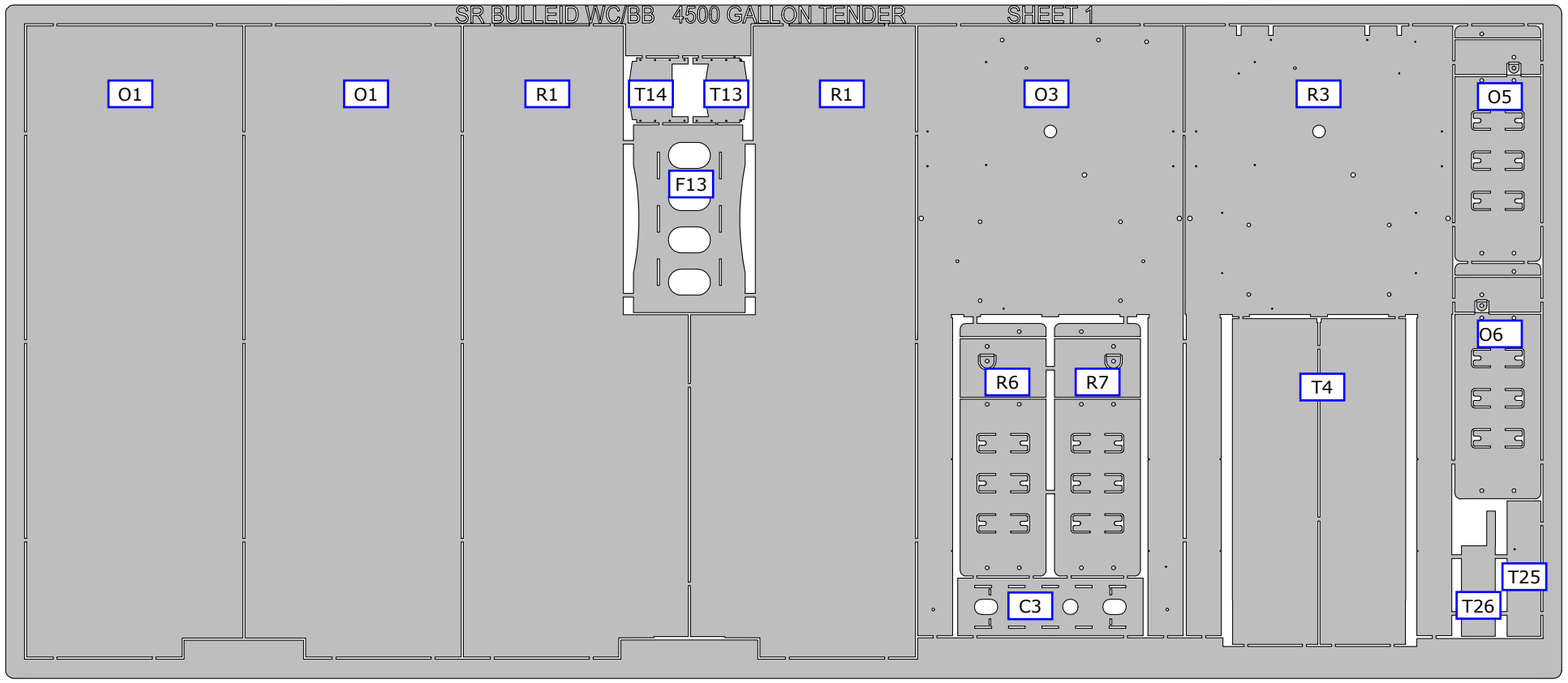

B13
B10
B12
B9
B14
B8

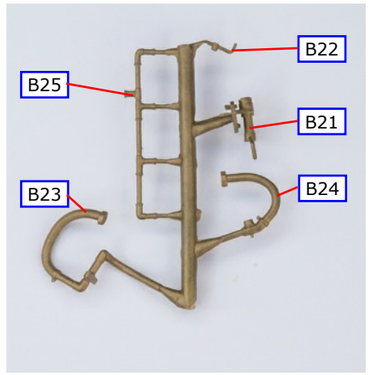

T26
T27
T28
T25
T23
T24
T23
T22
B21
T16 & T17
R12
R13
B17
R11
T19
T13
T15
B16
T30

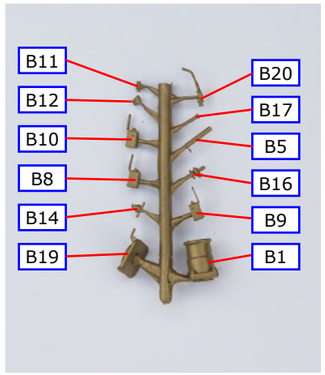

T11
T2
0.6 mm wire

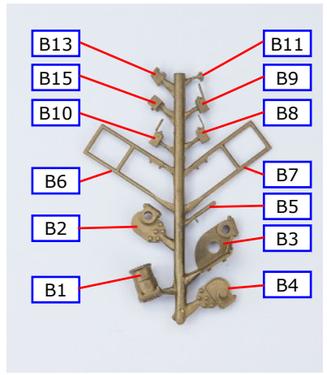

0.45 mm wire
T12

ETCH SHEET 1



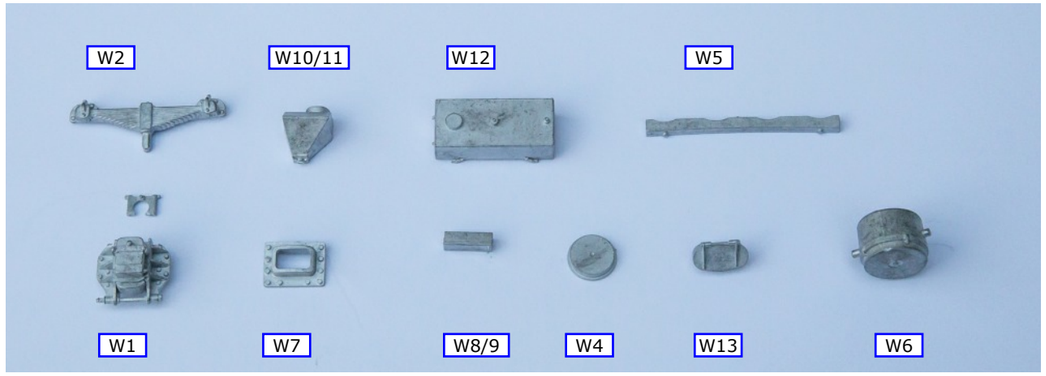






BRASS CASTINGS

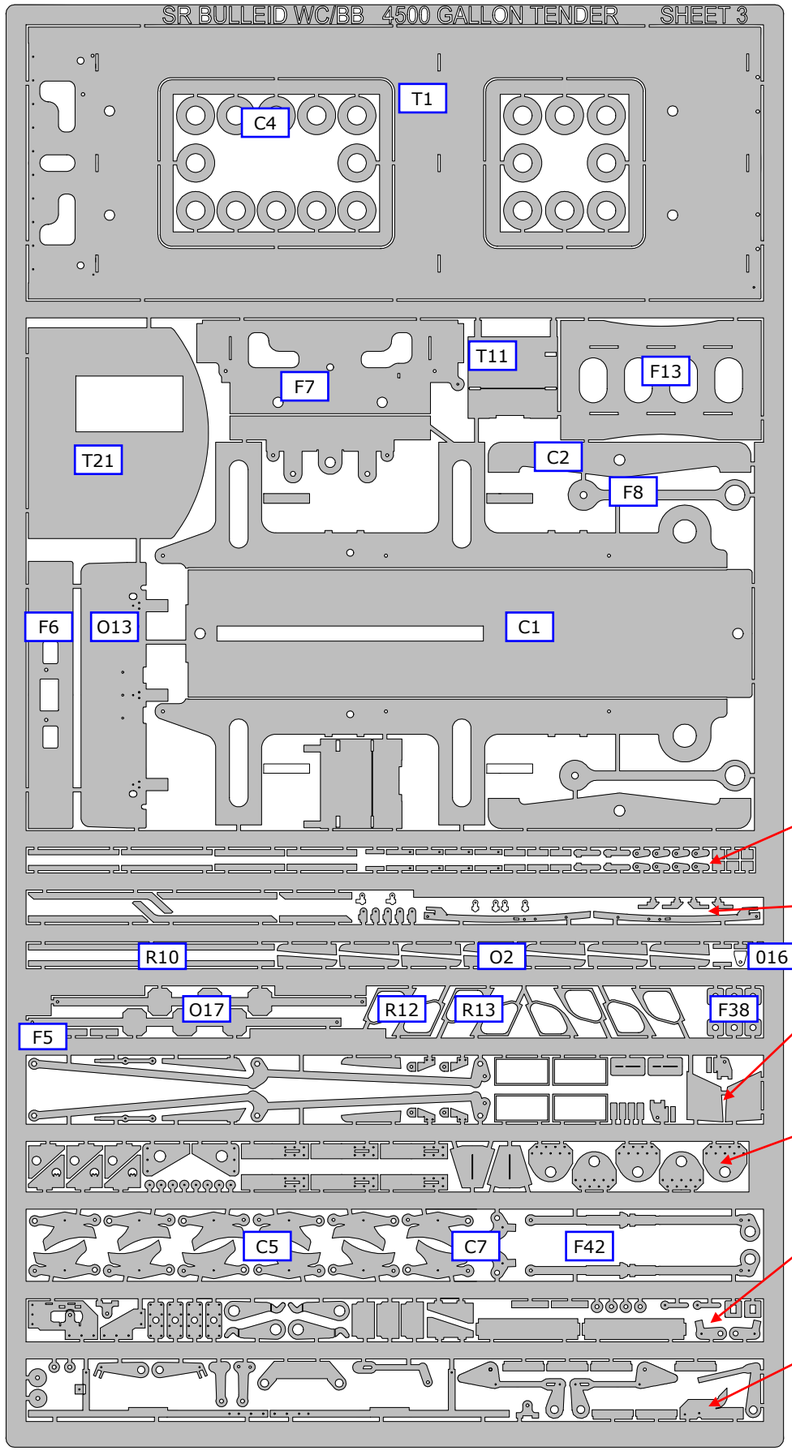
B1 Buffer housing (2)
B2 Rear brake shaft bearing, left
B3 Rear brake shaft bearing, centre (5500G tender only)
B4 Rear brake shaft bearing, right
B5 Rear step stay (2)
B6 Rear steps, left
B7 Rear steps, right
B8 Rear lamp/lamp bracket, left entry (2)
B9 Rear lamp/lamp bracket, left/right entry (2)
B10 Rear lamp/lamp bracket, right/bottom entry (2)
B11 Conduit junction box, 3 way (2)
B12 Conduit junction box, 4 way
B13 Coupling up lamp
B14 Coupling up lamp switch
B15 Lamp in cab roof
B16 Bucket cock
B17 Coal door handle
B18 Water filler
B19 BR water treatment lid
B20 TIA drain cock
B21 Handbrake
B22 Sanding lever
B23 Vacuum pipe
B24 Steam heating pipe
B25 Vacuum reservoir pipes



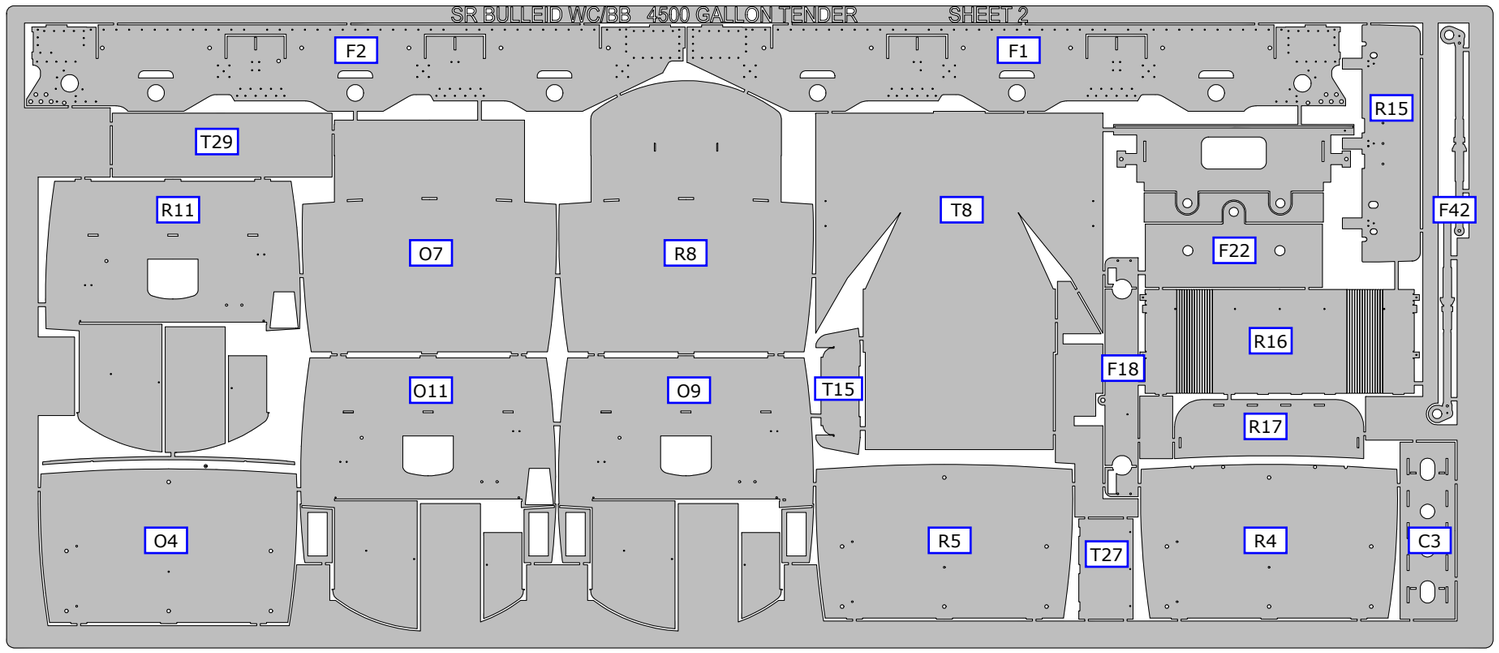
WHITEMETAL CASTINGS

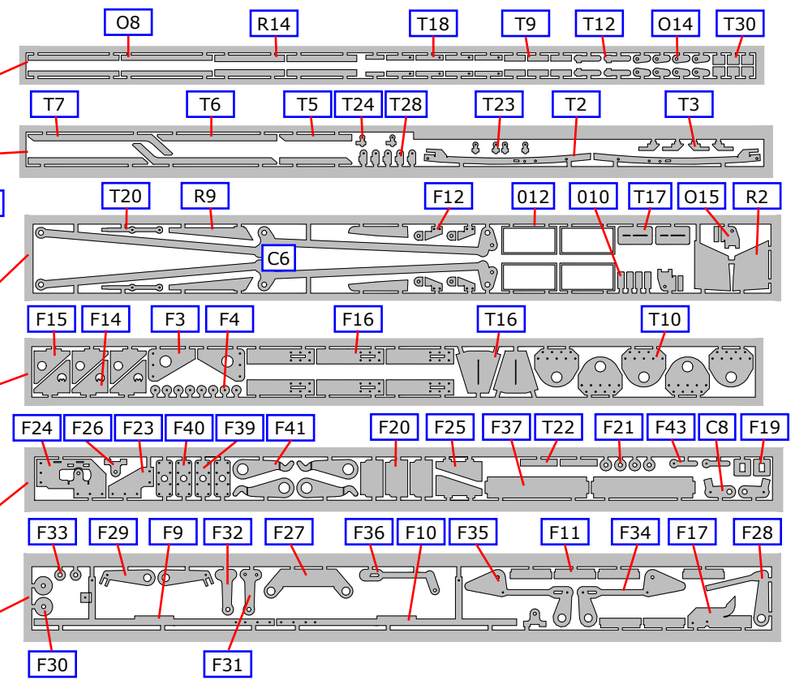
W1 Axlebox (6)
W2 Spring (6)
W3 Centre axlebox plate now replaced with a complete centre axlebox (awaiting photograph).
W4 Vacuum reservoir end (8)
W5 Vacuum reservoir timber support (2)
W6 Brake cylinder (2)
W7 Drawbar pocket
W8 Front step above platform, left
W9 Front step above platform, right
W10 Sandbox, left
W11 Sandbox, right
W12 TIA tank
W13 Front water filler (2)

ETCH SHEET 3



ETCH SHEET 2





OTHER COMPONENTS

5/32" bearing (2)

8 BA x 3/16" screw (6)

8 B.A. Nut (6)

Brass tube - 3/8" diameter for vacuum reservoirs (4)

Brass tube - 3/32" outside diameter for compensation beam

Brass wire - 3/32" for rear brake cross shaft

Brass wire - 1.8 mm for front hand brake cross shaft

Brass wire - 1.6 mm for compensation beam pivot & drawbar pin

Brass wire - 1.2 mm for loco/tender connections and pull rods cross shafts

Brass wire - 1.0 mm for ladders, vents and hand brake crank pivot

Brass wire - 0.9 mm for hand brake column and pipe from vacuum reservoirs

Brass wire - 0.8 mm for brake hanger pivots, sand pipes, hand brake pull rods and rear hand brake cross shaft

Brass wire - 0.7 mm for sand box spindles

Brass wire - 0.6 mm for handrails, coal slacking pipe

Brass wire - 0.45 mm for cupboard door hinges, electric conduits, TIA pipes, sanding rod and cab door pins

Copper wire - 0.6 mm for cab door hinges