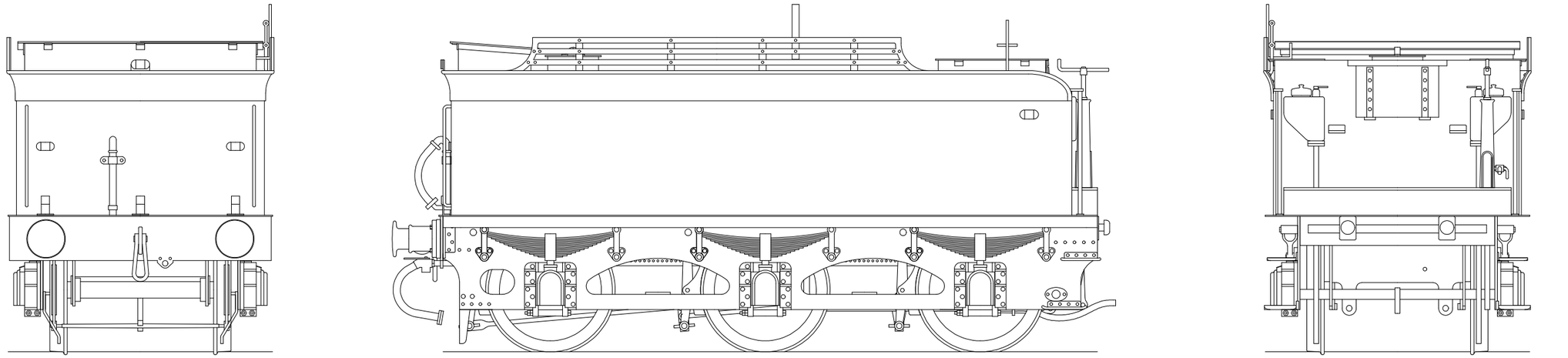


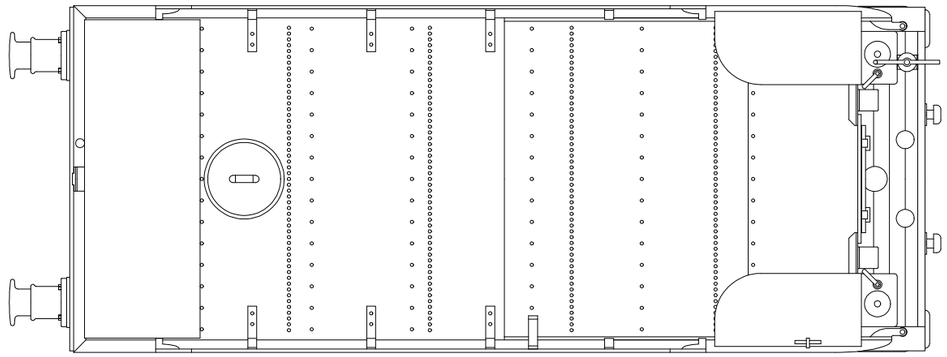


Fig 1. 3300 Gallon tender depicted circa 1910 - coal rails, steam heating pipe, rear steps removed, extra Drummond lamp brackets, large wooden toolbox removed, safety chains removed, fire iron bracket and cruciform, 10” high footplate for X2, T3, T6 & X6 classes.

CONSTRUCTING THE CHASSIS

CHASSIS

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.

Emboss the rivets on the lower edge of the frames. Open up the holes in the chassis frames (C1 & C2) as follows:

1.6 mm to fit the compensation beam pivots.

0.8 mm to fit the wire for the brake hanger pivots.

1.2 mm for the water feed pipes.

2 mm for the brake cross shaft.

Carefully ease the holes for the 5/32" bearings to fit (4.9 mm) for the rear axle. Fold over the axle slot reinforcing plates, on the chassis frames, through 180° with the half etched line on the outside of the fold. Widen the slots so that the axles are a sliding fit. Fold over the water feed pipe brackets and reinforce the fold with a fillet of solder. Solder the rear bearings in place.

The stretchers are available in three widths to suit your needs. Select the required stretchers front and rear (C3 & C4). Open up the holes in the front stretcher to accept the wire for the loco/tender flexible pipe connections, 1 mm for the sand pipes and 1.6 mm for the drawbar pin. Fold up the stretchers with the fold lines on the inside. Solder the stretchers in place in the chassis slots checking that the chassis is straight and square.

Construct the compensation beam by soldering the two laminations (C5) 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 1.6 mm 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 (C11).

Solder the drawbar pin (1.6 mm wire) in place together with the water feed pipes (1.2 mm wire). There are two drawbars (C12) of different length to suit your needs.

BRAKES

Solder the brake hanger pivots in place from 0.8mm wire. Refit the wheel sets and retain by folding the strap across as shown in Fig 2.

Emboss the rivet detail and solder together the brake hanger and shoe laminations (C6). Open up the holes in the brake hanger and shoe laminations, the upper 0.8mm and the lower 1.2 mm. Attach the hangers to the pivot wires. Check the clearance between the brake shoes and the wheels making any necessary adjustments.

Make up the brake pull rods (C7) and cross shafts, front and middle (C8), rear (C9) as shown in Fig 3.

Solder the two hand brake linkage (C10) laminations together and clean up. Drill 2.0 mm and then solder onto the brake cross shaft. Solder the sand pipes (1.0 mm wire) in place.

No.	Description	Sheet	No.	Description	Sheet
C1	Chassis frame, left	2	C7	Brake pull rod lamination (2)	1
C2	Chassis frame, right	2	C8	Brake cross shaft, front & middle (2)	1
C3	Chassis spacer, front. Two widths	2	C9	Brake cross shaft, rear	1
C4	Chassis spacer, rear. Two widths	2	C10	Hand brake linkage (2)	2
C5	Compensation beam lamination (2)	1	C11	Washer for wheel side control	1 & 2
C6	Brake shoe and hanger lamination (12)	2	C12	Draw bar, 2 lengths	1 & 2

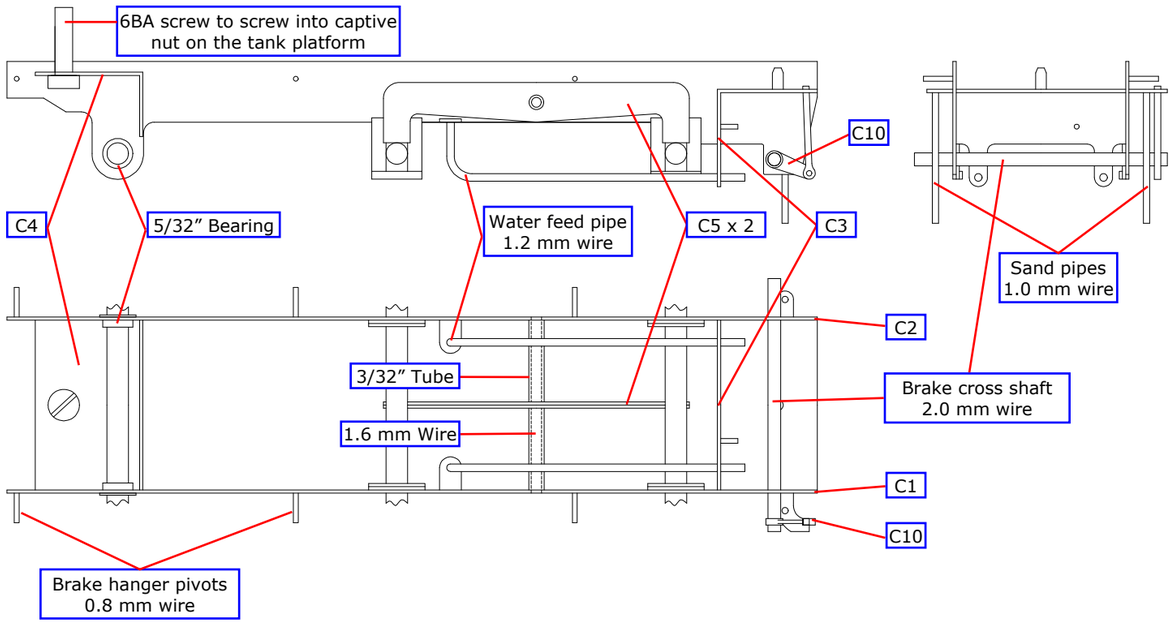


Fig 2. Chassis

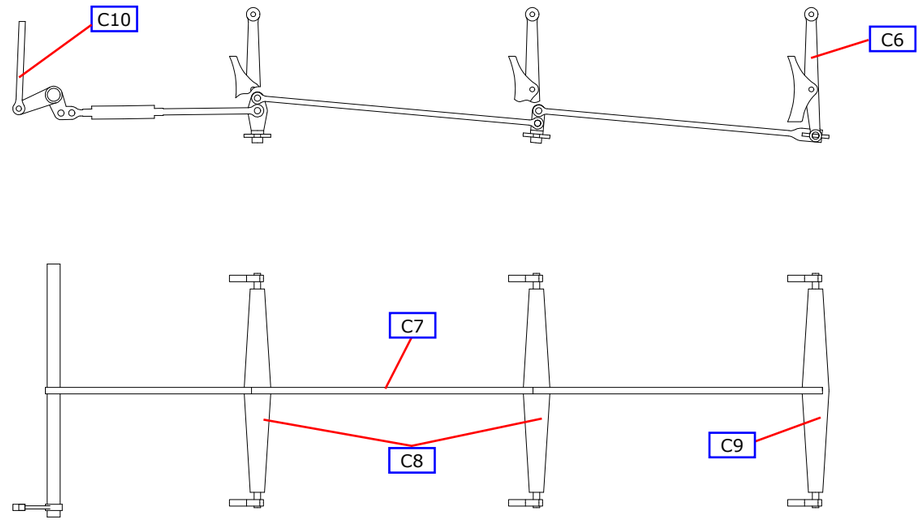


Fig 3. Brakes

CONSTRUCTING THE FRAMES, BUFFER BEAMS & HANGING PLATES ASSEMBLY

First emboss all the rivets on the outside frames (F2), guard irons (F3), brake shaft bearings (F4), front upper step (F7), rear upper step (F8), front lower step (F9), rear lower step (F10), rear buffer beam (F13), rear buffer beam brackets (F14) & the screw coupling hook (F18) as appropriate. Fold down the brackets along the edges of the frame base (F1) and solder the hanging plates (F6) onto the brackets.

The lower edge of the front buffer beam folds back to form a ledge which locates and retains the chassis at the front. Using the half etched lines as a guide reduce its' width so that it fits between the chassis frames. Now make the fold to create the ledge.

Solder the front buffer bases (F12) to the front buffer beam (F11) and add the front buffers (BR9), before soldering in place. If appropriate, drill out the holes in the rear buffer beam to accept the safety chain eyes (F20). Solder the rear buffer beam in place.

Fold up the required steps (F7, F8, F9 & F10) and solder in place on the frames together with brake shaft bearings (F4). Solder the guard irons (F3) in position on the inside of the frames and bend to shape.

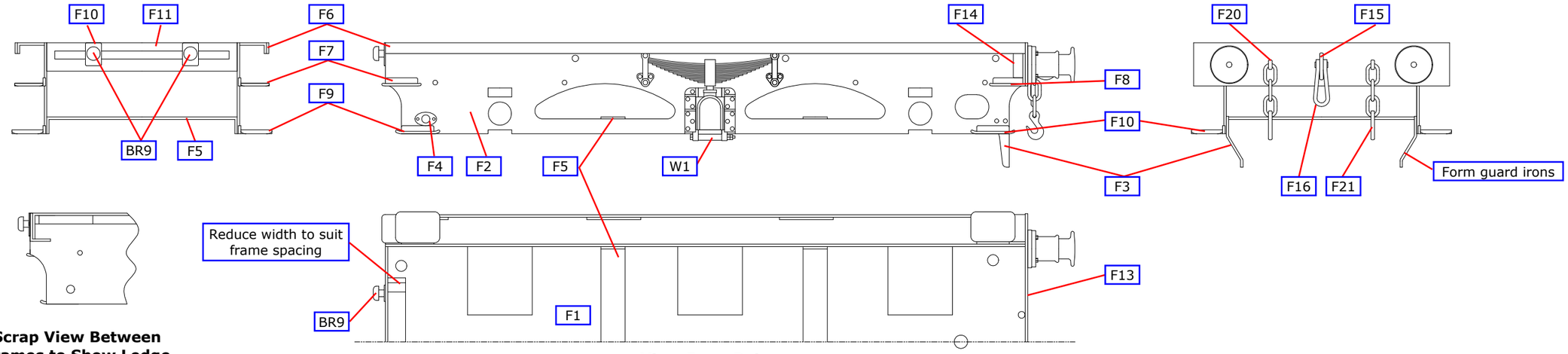
Attach the frames to the base (F1) checking that they are at right angles to the base then fold up the rear buffer beam brackets (F14) and solder in place.

Assemble the buffers as shown in Fig 6 and fix in place on the rear buffer beam. If appropriate, fit the steam pipe (BR8).

Emboss the locating rivets on the transverse stays (F5) and fold up along the half etched lines. It may be better to finally fit the stays after painting, which will allow the tank, outside frames and chassis assemblies to be painted separately. The stays can be threaded over the brake pull rods before the chassis is finally screwed into place. The dimples at the outer edges of the stays are designed to locate in the rivet holes on the inside of the outer frames.

Fit the axleboxes and spring castings (W1).

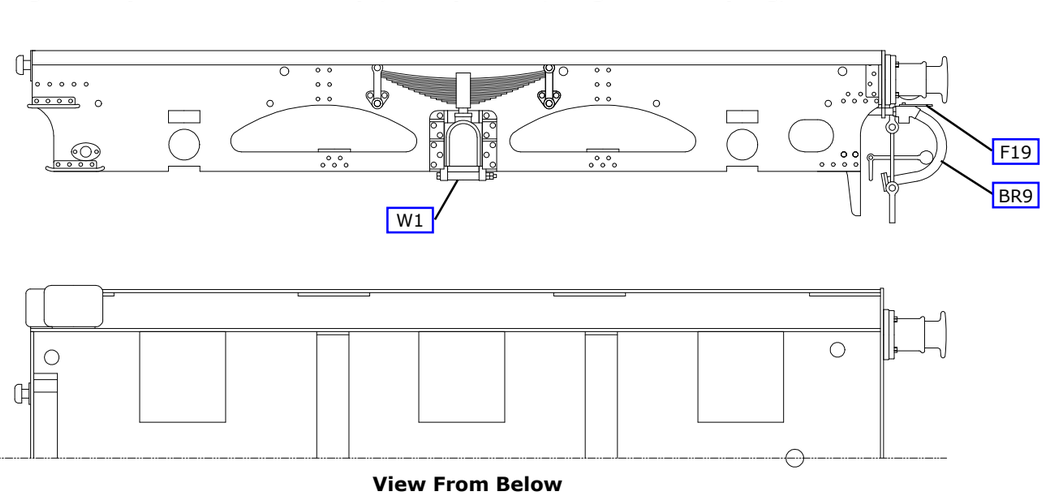
No.	Description	Sheet			
F1	Base	1	F10	Lower step, rear (2)	2
F2	Outside Frames	1	F11	Front buffer beam	1
F3	Guard Iron (2)	1	F12	Front buffer beam base plates (2)	1
F4	Brake shaft bearing (2)	1	F13	Rear buffer beam	2
F5	Lower transverse stay (2)	1	F14	Rear buffer beam & frame angle (2)	1
F6	Hanging plate (2)	1	F17	Screw coupling, four parts	1
F7	Upper step, front (2)	2	F18	Screw coupling hook	1
F8	Upper step, rear (2)	2	F19	Steam pipe valve handle	1
F9	Lower step, front (2)	2	F22	Buffer washer (4)	1



Scrap View Between Frames to Show Ledge

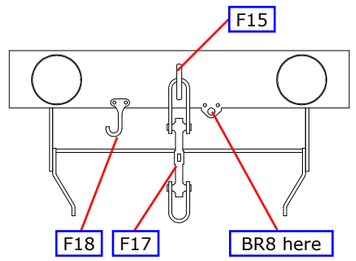
View From Below

Fig 4. Early Condition. Rear Steps, Safety Chains, Single Link Coupling, No Visible Rivets



View From Below

Fig 5. Late Condition. No Rear Steps, Screw Coupling, Snap Head Rivets, Steam Heating Pipe



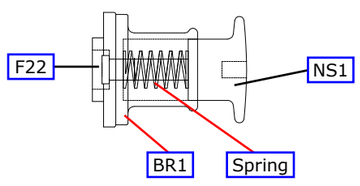


Fig 6. Buffers

CONSTRUCTING THE TANK IN ORIGINAL CONDITION

Solder the four 8BA nuts over the four holes near the corners of the tank platform (T1). Check that the hanging plate assembly can now be screwed under the platform. Similarly solder the 6BA nut over the hole for the chassis fixing screw at the rear.

Emboss the rivets in the tank top (T5) before folding to shape. Build up the rear toolbox on the tank top using rear toolbox side (T26), rear toolbox front (T27), rear toolbox back (T28) and rear toolbox lid (T29).

Form and fit the rear handrails, from 0.6 mm wire, in the holes in the tank back (T4). Solder the appropriate Adams lamp brackets to the tank rear and tank sides (T2).

For 3' 9" front handrail stanchions fold over the small, upper brackets on the tank side (T2) and reinforce with a small fillet of solder. For 3' 6" stanchions break off the brackets and replace with the handrail stanchion brackets (T3) soldered in the small slots on the inside of the tank sides.

Open up the holes in the tank front (T6) to accept the sandboxes (W2) and bucket cock (BR10). Fold up and attach the steps on the front plate (T7). Fit the coal door, either closed (T8) or open (T9).

Now test the fit of the tank components - base, sides, back, front plate and top. Locating the tabs along the lower edge of the sides, back and front into the slots into the platform; the back fits between the sides. If all is well, solder the tank together taking care to ensure the base stays flat.

Open up the small holes in the front tool box sides (T10) to accept the 0.3 mm wire which retains the toolbox padlocks (T30). Fitting the padlocks can be left until painting is complete. Curve the front toolbox sides and solder in place in the slots in the tank top. Add the toolbox lids (T11).

Form the curve in the coping plates (T13 and T14) over a 3/8" rod or tube, as shown below. There is a spare rear coping plate (T14), so we suggest you try forming the rear coping plate first. It is very important to;

(a) Always keep the 3/8" rod absolutely clean - any debris on the surface will emboss a dent in the coping plate.

(b) Always keep the 3/8" rod located against the lower edge of the beading. This ensures the curve in the coping plate will be in the correct position.

Cut a piece of stout card 26 mm by 26 mm. Hold the coping plates in position with the card and using jig (T15) to establish the correct height, tack solder the coping plates in position. The rear coping plate fits inside the side coping plates. When you are satisfied with the position and fit of the coping plates complete the soldering and clean up with a glass fibre brush.

There are two heights of footplate support, 7" high (T17) or 10" high (T18). Solder the footplate supports in place on the platform. Open up the holes in the footplate (T19) to accept the sand pipes (1.0 mm wire) and the brake column (BR2). Solder the footplate in place and add the front handrail stanchions from 0.8mm wire.

The water filler is constructed from a base (T23), a white metal cast body (W3) and an etched lid (T24). Fit the water filler lid handle (T25) to the lid before attaching the lid to the body. There is also a wooden tool box built out of a cast base (W4) and a cast lid (W5). Fit the lamp irons that are correct for your prototype. These are listed on Sheet 10.

On the tank front fit the brake handle (BR3), the sand box lids (BR4), the sanding lever spindles (BR6) and sanding levers (T22). If appropriate fit the vacuum pipe (BR7).

No.	Description	Sheet			
T1	Tank platform	1	T16	Coal rail (2)	2
T2	Tank side (2)	2	T17	Footplate support 7" high	2
T3	Handrail stanchion bracket 3'6" high (2)	1	T18	Footplate support 10" high	2
T4	Tank back	1	T19	Footplate	1
T5	Tank top	2	T20	Fire iron cruciform	1
T6	Tank front	1	T21	Fire Iron bracket	2
T7	Step on front plate(2)	1	T22	Sanding lever (2)	2
T8	Coal door, closed	2	T23	Water filler base	2
T9	Coal door, open	2	T24	Water filler lid	2
T10	Front toolbox side (2)	2	T25	Water filler handle	1
T11	Front toolbox lid (2)	1 & 2	T26	Rear toolbox side (2)	2
T12	Front toolbox lid, cruciform slot	1	T27	Rear toolbox front	1
T13	Coping plate side (2)	1	T28	Rear toolbox back	1
T14	Coping plate back (2)	1	T29	Rear toolbox lid	1
T15	Jig for aligning coping plate (2)	2	T30	Padlock (2)	1
				For lamp bracket etch positions see sheet 10	

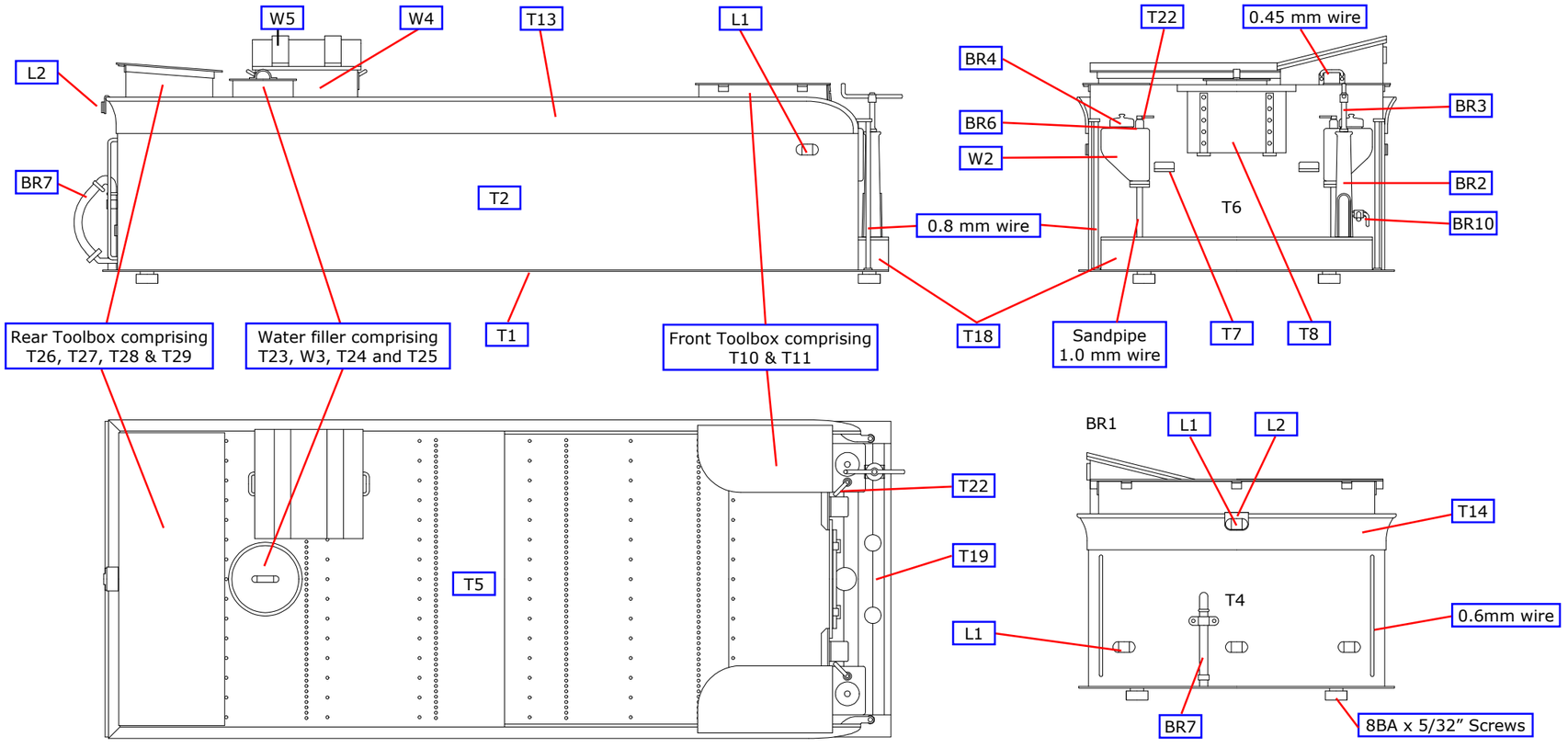
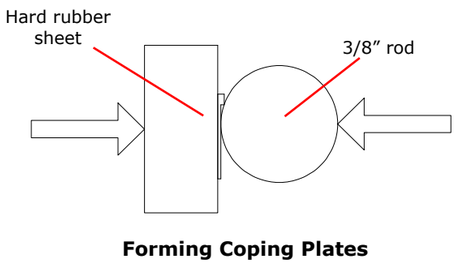


Fig 7. Original Condition. No Coal Rails, Adams Lamp Brackets and 10" High Footplate



Forming Coping Plates

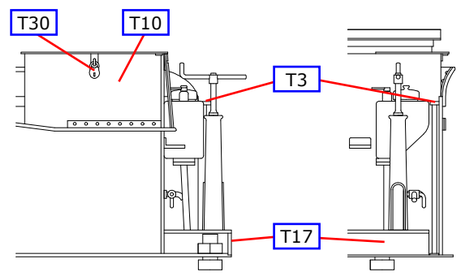


Fig 8. 7" High Footplate, 3'6" Handrails

CONSTRUCTING THE TANK IN LATER CONDITION

Solder the four 8BA nuts over the four holes near the corners of the tank platform (T1). Check that the hanging plate assembly can now be screwed under the platform. Solder the 6BA nut over the hole for the chassis fixing screw at the rear.

Emboss the rivets in the tank top (T5) before folding to shape. Build up the rear toolbox on the tank top using the rear toolbox side (T26), rear toolbox front (T27), rear toolbox back (T28) and rear toolbox lid (T29).

Form and fit the rear handrails, from 0.6 mm wire, in the holes in the tank back (T4). Solder the appropriate lamp irons to the tank rear and tank sides (T2).

For 3' 9" front handrail stanchions fold over the small, upper brackets on the tank side (T2) and reinforce with a small fillet of solder. For 3' 6" stanchions break off the brackets and replace with the stanchion brackets (T3) soldered in the small slots on the inside of the tank sides.

Open up the holes in the tank front (T6) to accept the sandboxes (W2) and bucket cock (BR10). Fold up and attach the steps (T7) on the front plate. Fit the coal door, either closed (T8) or open (T9).

Now test the fit of the tank components - base, sides, back, front plate and top. Locating the tabs along the lower edge of the sides, back and front into the slots into the platform; the back fits between the sides. If all is well, solder the tank together taking care to ensure the base stays flat.

Open up the small holes in the front tool box sides (T10) to accept the 0.3 mm wire which retains the toolbox padlocks (T30). Fitting the padlocks can be left until painting is complete. Curve the front toolbox sides and solder in place in the slots in the tank top. Add the toolbox lids (T11 or T12) as appropriate.

Form the curve in the coping plates (T13 and T14) over a 3/8" rod or tube, as shown below. There is a spare T14, so we suggest you try forming the rear coping plate first. It is very important to;

(a) Always keep the 3/8" rod absolutely clean - any debris on the surface will emboss a dent in the coping plate.

(b) Always keep the 3/8" rod located against the lower edge of the beading. This ensures the curve in the coping plate will be in the correct position.

Cut a piece of stout card 26 mm by 26 mm. Hold the coping plates in position with the card and using jig (T15) to establish the correct height, tack solder the coping plates in position. The rear coping plate fits inside the side coping plates. When you are satisfied with the position and fit of the coping plates complete the soldering and clean up with a glass fibre brush.

There are two heights of footplate support, 7" high (T17) or 10" high (T18). Solder the footplate supports in place on the platform. Open up the holes in the footplate (T19) to accept the sand pipes (1.0 mm wire) and the brake column (BR2). Solder the footplate in place and add the front handrail stanchions from 0.8mm wire.

If appropriate, emboss the rivets on the coal rails (T16), fold over the stanchions through 180° and solder to the back of the coal rails. Shape the brackets to fit on the inside of the coping plates and over the tank top. Using the drawing below as a guide, mark the position of the coal rails on the tank assembly before carefully soldering the coal rails in place.

The water filler is constructed from a base (T23), a white metal cast body (W3) and an etched lid (T24). Fit the water filler lid handle (T25) to the lid before attaching the lid to the body. Fit the lamp irons that are correct for your prototype. These are listed on Sheet 10. On the tank front fit the brake handle (BR3), the sand box lids (BR 4), the sanding lever spindles (BR6) and sanding levers (T22). If appropriate fit the vacuum pipe (BR7).

No.	Description	Sheet			
T1	Tank platform	1	T16	Coal rail (2)	2
T2	Tank side (2)	2	T17	Footplate support 7" high	2
T3	Handrail stanchion bracket 3'6" high (2)	1	T18	Footplate support 10" high	2
T4	Tank back	1	T19	Footplate	1
T5	Tank top	2	T20	Fire iron cruciform	1
T6	Tank front	1	T21	Fire Iron bracket	2
T7	Step on front plate(2)	1	T22	Sanding lever (2)	2
T8	Coal door, closed	2	T23	Water filler base	2
T9	Coal door, open	2	T24	Water filler lid	2
T10	Front toolbox side (2)	2	T25	Water filler handle	1
T11	Front toolbox lid (2)	1 & 2	T26	Rear toolbox side (2)	2
T12	Front toolbox lid, cruciform slot	1	T27	Rear toolbox front	1
T13	Coping plate side (2)	1	T28	Rear toolbox back	1
T14	Coping plate back (2)	1	T29	Rear toolbox lid	1
T15	Jig for aligning coping plate (2)	2	T30	Padlock (2)	1
				For lamp bracket etch positions see sheet 10	

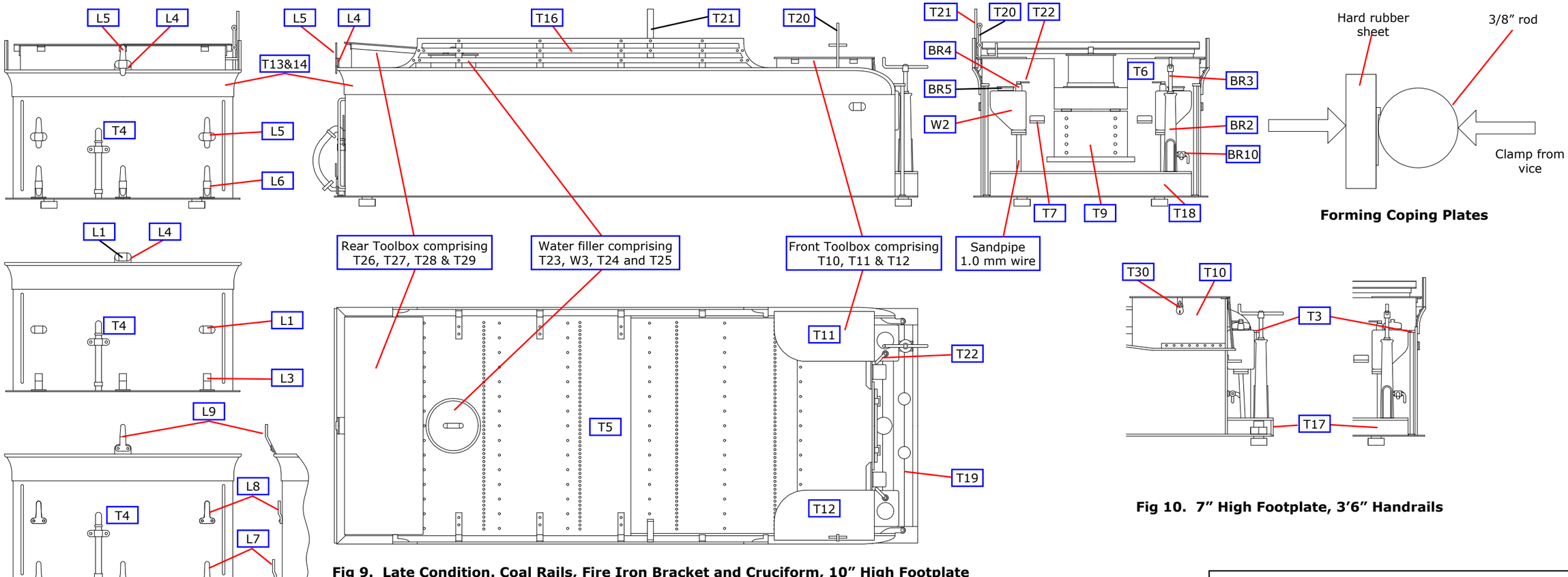
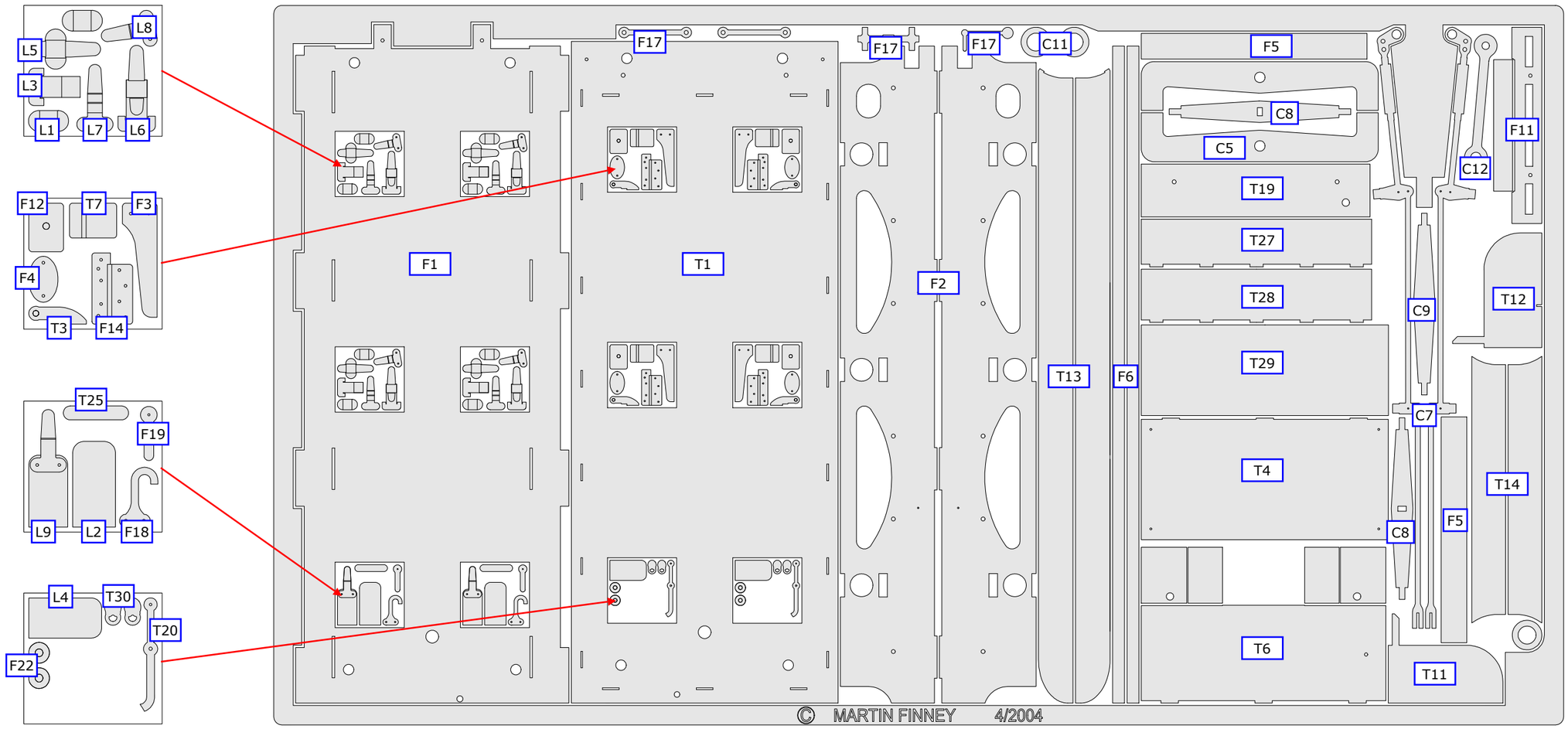


Fig 9. Late Condition. Coal Rails, Fire Iron Bracket and Cruciform, 10" High Footplate

Fig 10. 7" High Footplate, 3'6" Handrails

3300G TENDER ETCH SHEET 1



LAMP BRACKETS

L1	Adams lamp bracket, tank side, rear and top	1
L2	Adams tank top mounting bracket	1
L3	Drummond rear platform lamp bracket	1
L4	Drummond tank top lamp bracket mounting	1
L5	SR/LSWR lamp bracket, tank top and rear	1
L6	SR/LSWR lamp bracket, rear platform	1
L7	SR rear platform lamp bracket	1
L8	SR lamp bracket, tank rear	1
L9	SR lamp bracket, tank top	1

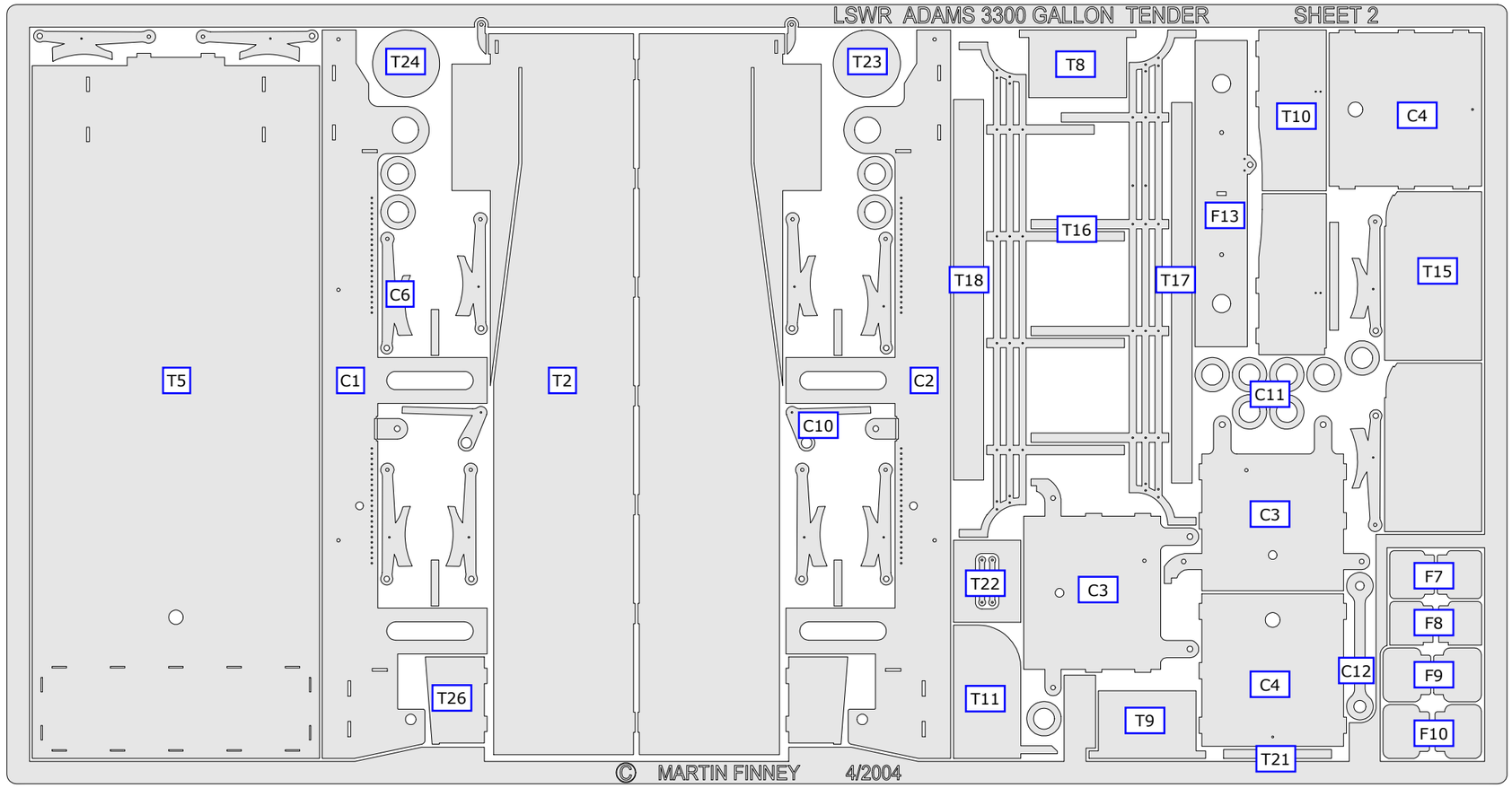
SUPPLEMENTARY

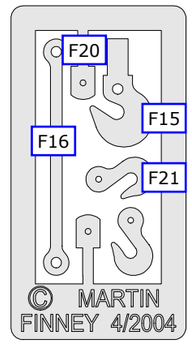
F15	Coupling hook
F16	Coupling link
F20	Safety chain eye
F21	Safety chain hook

OTHER COMPONENTS

5/32" bearing (2)
6BA screw
6BA nut
8BA x 3/16" screw (4)
8BA nut (4)
3/32" OD brass tube
0.3 mm Brass wire
0.45 mm Brass wire
0.6 mm Brass wire
0.8 mm Brass wire
1.0 mm Brass wire
1.2 mm Brass wire
1.6 mm Brass wire
2.0 mm Brass wire
Buffer spring - (2)

3300G TENDER ETCH SHEET 2





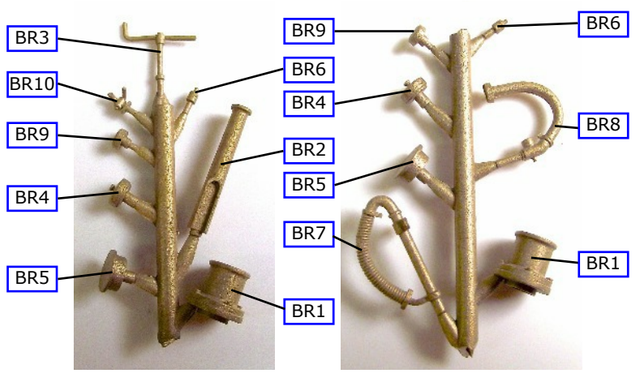
CASTINGS

BRASS CASTINGS

No.	Description
BR1	Buffer housing (2)
BR2	Brake column (1)
BR3	Brake handle (1)
BR4	Sandbox lid, original (2)
BR5	Sandbox lid, later (2)
BR6	Sandbox lever spindle (2)
BR7	Vacuum pipe (1)
BR8	Steam heating pipe (1)
BR9	Front buffer (2)
BR10	Bucket cock (1)

NICKEL SILVER CASTINGS

NS1 Buffer head (2)



WHITEMETAL CASTINGS

No.	Description
W1	Axlebox/spring (6)
W2	Sandbox (2)
W3	Water filler (1)
W4	Wooden toolbox (1)
W5	Wooden toolbox lid (1)