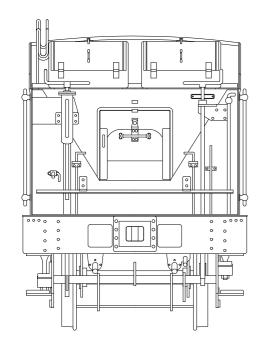
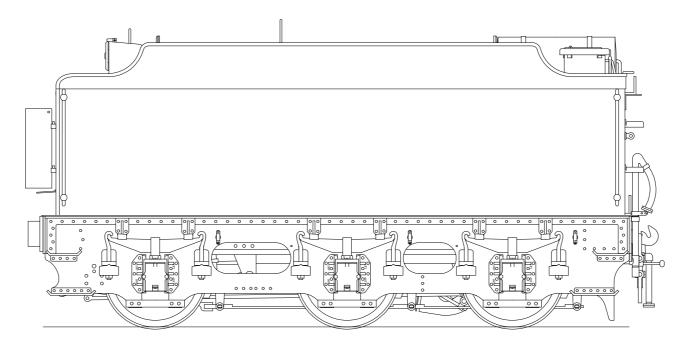
# **GROUP STANDARD TENDER WITH LOW FRONT**





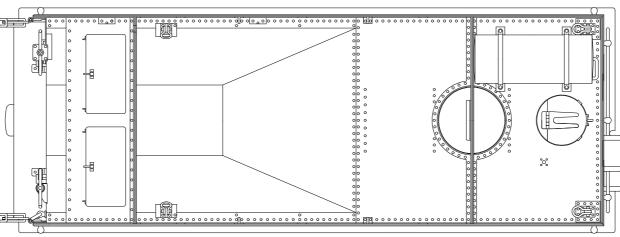
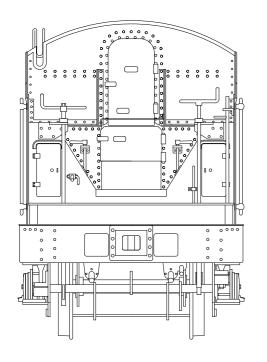
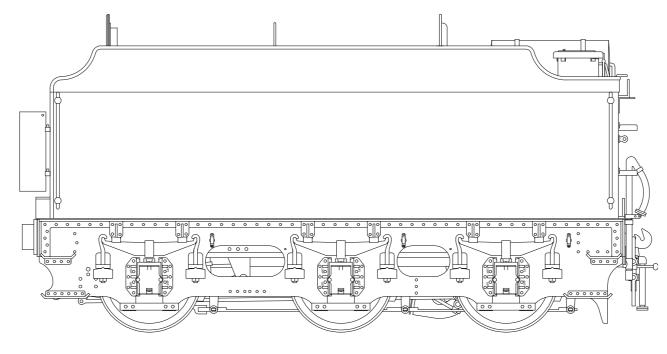


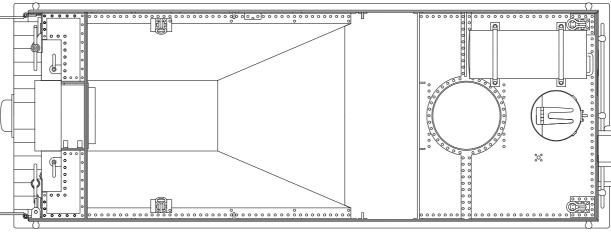
Fig 1. Original Low Front Appearance

Fall plate pivoted From Front of Tank Rear Division Plate Across Dome Short Spring Hangers

# **GROUP STANDARD TENDER WITH HIGH FRONT**







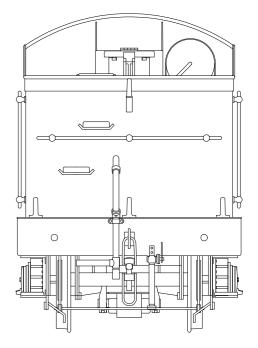


Fig 2. Later High Front Appearance

Fixed Front Platform Replacement Solid Coal Doors High Division Plate With Sloping Plate Short Spring Hangers

# **CONSTRUCTING THE CHASSIS 1**

#### **CHASSIS**

Start by opening the holes in the front stretcher (C3) (use the middle width stretchers) to accept short lengths of wire for the loco/tender flexible pipe connections that are provided in the locomotive kit. Solder the pieces of wire in place. Fold up the rear stretcher (C4), again using the middle width stretcher.

Open up the holes in the water scoop stretcher (C5) to fit the water scoop (WM5) and the brackets to 1.2 mm to fit the water scoop cross shaft. Make all the bends in the stretchers with the bend line on the inside.

Now open up the holes in the left and right frames (C1 & C2) as follows:

- 1/8" to fit the compensation beam pivots
- 0.8 mm to fit the wire for the brake hanger pivots
- 2 mm for the brake cross shafts
- $4.9 \ \text{mm}$  to fit the top hat bearings 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. Solder the 5/32" top hat rear bearings in place.

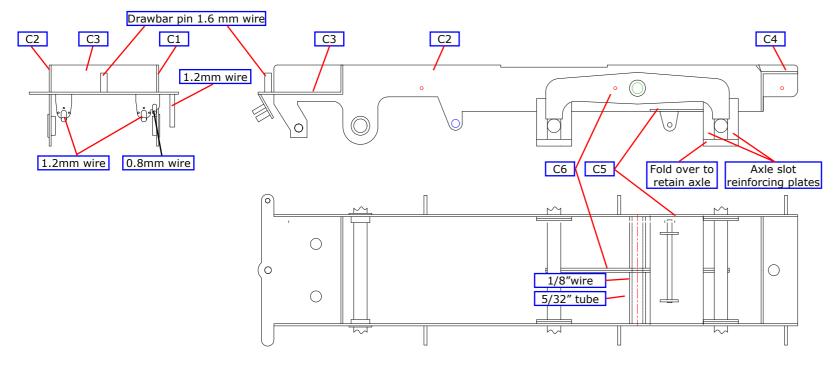
Solder the stretchers in place in the frame slots checking that the chassis is straight and square.

Construct the compensation beam by soldering the two halves (C6) together. Cut a piece of 5/32" 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 1/8" brass wire as the pivot.

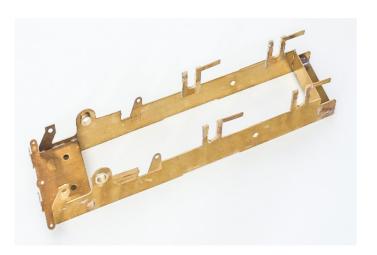
Fit the wheel sets and test that the chassis works correctly. Wheel side control is limited by using the wheel side control washers

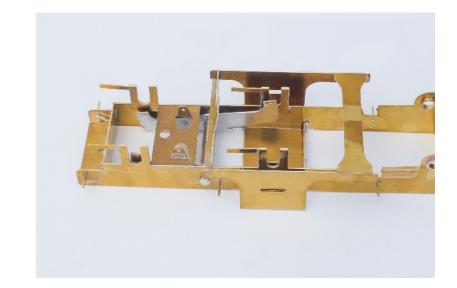
Add the drawbar pin from 1.6 mm wire. Solder in place the brake hanger pivots from 0.8 mm wire. Refit the wheel sets and retain as shown below.

No.	Description	Sheet			
C1	Left frame	2	C5	Water scoop stretcher, 3 widths	1 & 2
C2	Right frame	2	C6	Compensation beam (2)	2
C3	Front stretcher, 3 widths	2	C19	Washer wheel side control	2
C4	Rear stretcher, 3 widths	2			











# **CONSTRUCTING THE CHASSIS 2**

#### **WATER SCOOP**

Fold down the brackets for the rear water scoop cross shaft on the water scoop stretcher (C5) and assemble the water scoop as shown below. Refit the wheel sets and retain as shown in Fig. 3.

Fold up the transfer stay mounting saddle (C20) and solder the vacuum pipe (1.2 mm wire) to the inside face on the left side. The position of the pipe is determined by placing the stay mounting saddle over the left side outside frame (F3); align the pipe with the half etched lines either side of the frame cut outs. Solder the stay mounting saddle in place over the frames and central in the cut out in the top of each frame. Solder the transfer stay rear and rear angle (C22 and C23) together to make the rear lower stay and solder in place in the half etched slots in the mounting saddle. Add the scoop stays from 0.8mm wire. Solder the front lower stay (C21) in place.

Fit the short cross shaft from 1.2 mm wire to the water scoop stretcher, fitting into place the lifting crank (C17) - leave the crank loose on the shaft . The operating rod (C18) can also be fitted. The scoop consists of 4 white metal castings (WM5). Fit the upper section to the water scoop stretcher. Ensure the scoop fits to the mounting brackets, and that the lifting hole is clear 0.8 mm to take the lower end of the lifting crank. The ends the scoop brackets have holes to take 0.8 mm wire for the mounting stays. This wire is made into an 'L' shape, the short leg of which is soldered into the angle of the transverse rear stay . Dry fit the scoop and brackets to obtain the correct angle for the stays. Once correct, the assembly can be soldered in to position. Fitting the lifting link to the scoop is fiddly. A short length of wire can be superglued in place to represent the pivot.

#### **BRAKES**

Open up the holes in the brake hanger/shoe laminations (C7). The upper holes to 0.8 mm and the lower to 1.2 mm, then solder together. Start on one side and attach the hangers to the pivots, checking that the clearance between the shoes and wheels is

Solder together the brake cross beams & pull rods (C8), and the brake cross beam overlays, front (C9), centre (C10) and rear (C11). File the ends of the cross beams to circular section so that they will fit in to the lower holes in the brake hangers. If desired, the half etch holes in the cross beams can be drilled out and short lengths of wire soldered in to represent the pivot bolts. Fit this assembly to the first set of mounted brakes. The brakes on the other side can now be fitted.

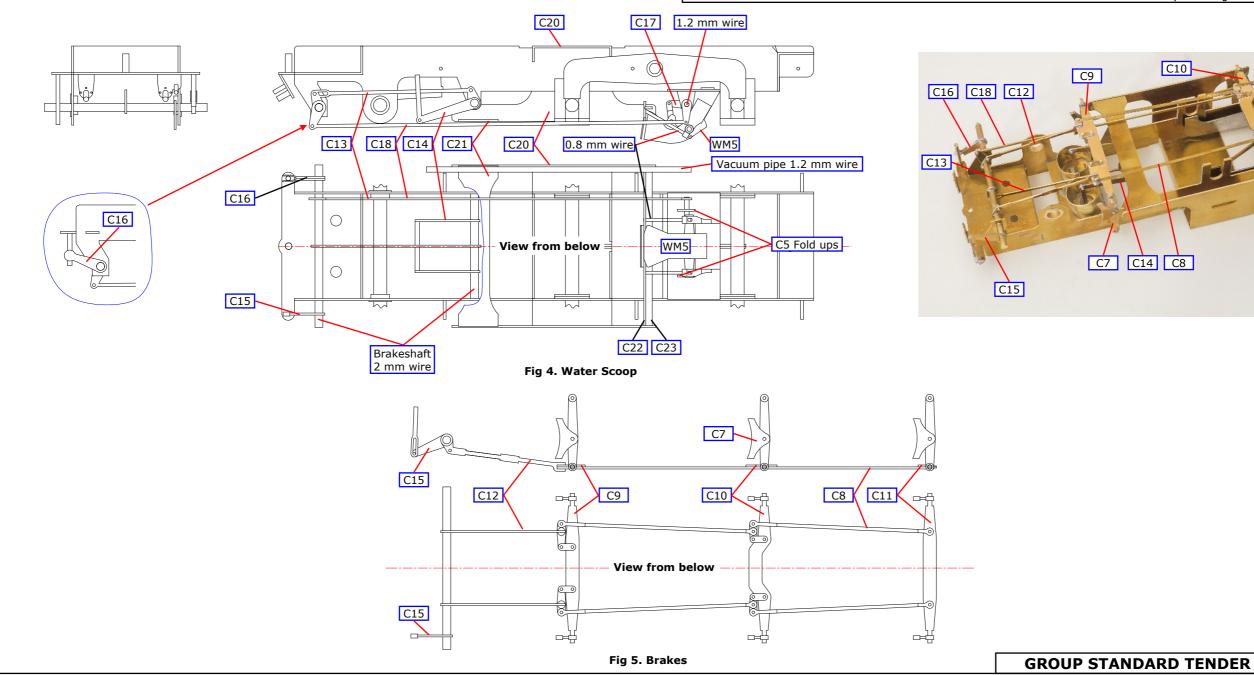
Make the two brake cross shafts from 2 mm wire. On the front cross shaft ensure that the front brake pull rod (C12) and the brake cylinder pull rod (C13) are threaded into place before soldering the brake shaft into place. Laminate together the two brake crank laminations (C15) and then the two water scoop crank laminations (C16). After cleaning them up, solder into place on the front cross shaft as shown in Fig 4. Thread the rear brake cross shaft through the mounting holes and through the brake cylinder pull rods and the vacuum cylinder levers (C14) as shown in Fig 4. Solder all into place.

No.	Description	Sheet			
C7	Brake hanger/shoe lamination (12)	3	C15	Brake crank lamination (2)	3
C8	Brake cross beams & pull rods	3	C16	Water scoop crank lamination (2)	3
C9	Brake cross beam overlay, front	3	C17	Lifting crank (2)	3
C10	Brake cross beam overlay, centre	3	C18	Water scoop pull rod	2
C11	Brake cross beam overlay, rear	3	C19	Washer wheel side control	2
C12	Front brake pull rod (2)	3	C20	Transverse stay mounting saddle	2
C13	Brake cylinder pull rod	2	C21	Transverse stay front	3
C14	Vacuum cylinder levers (2)	3	C22	Transverse stay rear	2
			C23	Transverse stay rear angle	2

C9

C7 C14 C8

30Aug17





### FRAME ASSEMBLY

Fold over the sides of the top plate (F1) and solder the hanging plates (F2) in position.

Emboss the rivets on the frames (F3 & F4) including the rivets to locate the brake hanger pin retainer (F9). Fold the guard irons. Drill 1 mm holes to accept the spring hanger brackets as shown below; the upper holes are for short spring hangers and the lower holes are for long spring hangers. Fold over the hornguide ties with the fold line on the outside.

Emboss the rivets on the frame angle rivet strip (F5) except those that will be underneath the spring stop brackets when they are folded over. Fold up the spring stop brackets with the first bend through 180° with the fold line on the outside, before soldering to the rivet strip and filing the top edge flush. Solder the rivet strip to the top of the frames, taking care to ensure accurate alignment. Solder the spring stop bracket webs (F6) in place into the grooves in the brackets.

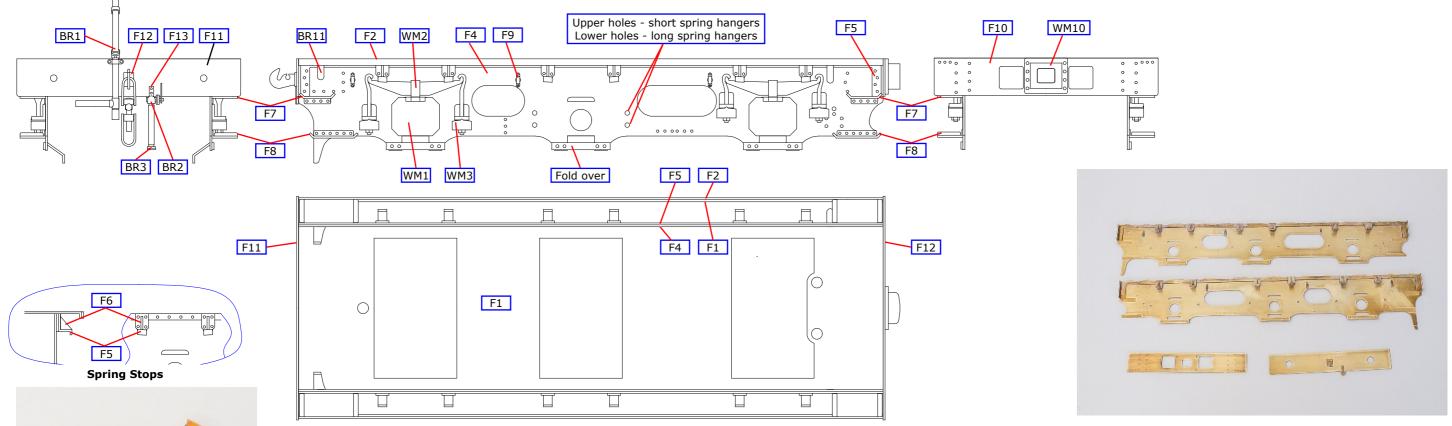
Solder the brake hanger pin retainers (F9) In place. Fold up the steps, upper and lower (F7 & F8) and solder in place on the frames.

Emboss the rivets on the drag beam (F10) and check the fit of the drawbar pocket (WM10) in the locating holes. Also check the fit of the buffer housings (BR8) but do not fit. Solder the coupling pocket overlay (F12) and the steam heat pipe bracket (F13) in place on the buffer beam (F11). Solder the frames into the slots in the top plate and fit the drag beam and buffer beam.

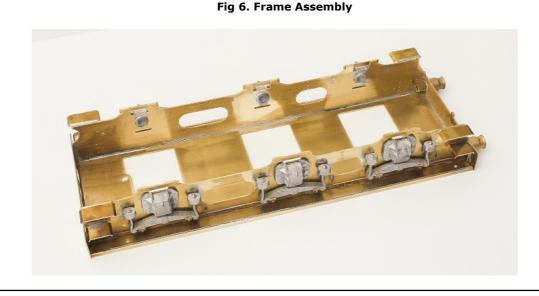
If using them, solder together the two coupling hook laminations (F14) and attach to the rear bufferbeam. Clear out the holes in the buffer housings (BR8) and solder in place. Clearance for the buffer shank is very tight. It will be necessary to file flats on the sides of the buffer housing mounting spigots so that they will clear the inner sides of the outer tender frames. The retaining nuts will also need filing to provide sufficient clearance.

Attach the axleboxes (WM1), the springs (WM2), the spring hanger brackets (WM3). The locating spigots on the axlebox and spring hanger bracket castings will need to be cut off flush with the inside of the frames to clear the chassis assembly. Lastly attach the drawbar pocket (WM10), the vacuum pipe (BR1), the steam heating pipe (BR2), the steam heating pipe connector (BR3) and the steam heating pipe elbow (BR11).

No.	Description	Sheet			
F1	Top plate	3	F9	Brake hanger pin retainer (6)	1
F2	Hanging plate (2)	3	F10	Drag beam	1
F3	Outside frame, left	2	F11	Bufferbeam	2
F4	Outside frame, right	2	F12	Coupling pocket overlay	1
F5	Frame angle rivet strip (2)	2	F13	Steam heating pipe bracket	1
F6	Spring stop bracket web (12)	1	F14	Coupling hook lamination (2)	1
F7	Frame steps, upper (4)	3	F15	Screw coupling	2
F8	Frame steps, lower (4)	3			











## **LOW FRONT BODY 1**

Open up the appropriate holes, which are marked on the underside of the footplate (T1), for the brake column, scoop column, water feed valve handles, water gauge and scoop indicator. The raised footplate (L11) should be used as a guide. Solder 6 BA nuts, for body fixing, over the two front holes and the rear hole in the footplate.

Remove the first rivet strip from the front on each of the tank sides (T2 & T3). Now solder the coping plates (L1 & L2) to the sides. Accurate positioning is achieved by aligning the top of the rivet strips with the top of the coping plates. The appearance of the beading can be improved by rounding the top edge.

Solder the cab door hinges (T4) in place. Add the beading down the front edge using the wire beading provided. Make up the front and rear handrails.

Solder the rear coping plate (T7) in place on the tank back (T6) and fold over the handrail. Fold up the rear steps (T8) and solder in place. Fit the rear handrail and lamp bracket lower and upper section(T10 & T11). Solder the sides and back into the slots in the footplate constantly checking the assembly is both flat and square. Add the footplate lamp brackets (T9).

Make the tank top by soldering the tank top and tank top overlay (T12 & T13) together ensuring accurate alignment. Fit the rear lifting shackles components, the rear base plates (T22), rear eyes (T23) & lifting shackles (T26) to the tank top forming the shackles around a 2 mm rod.

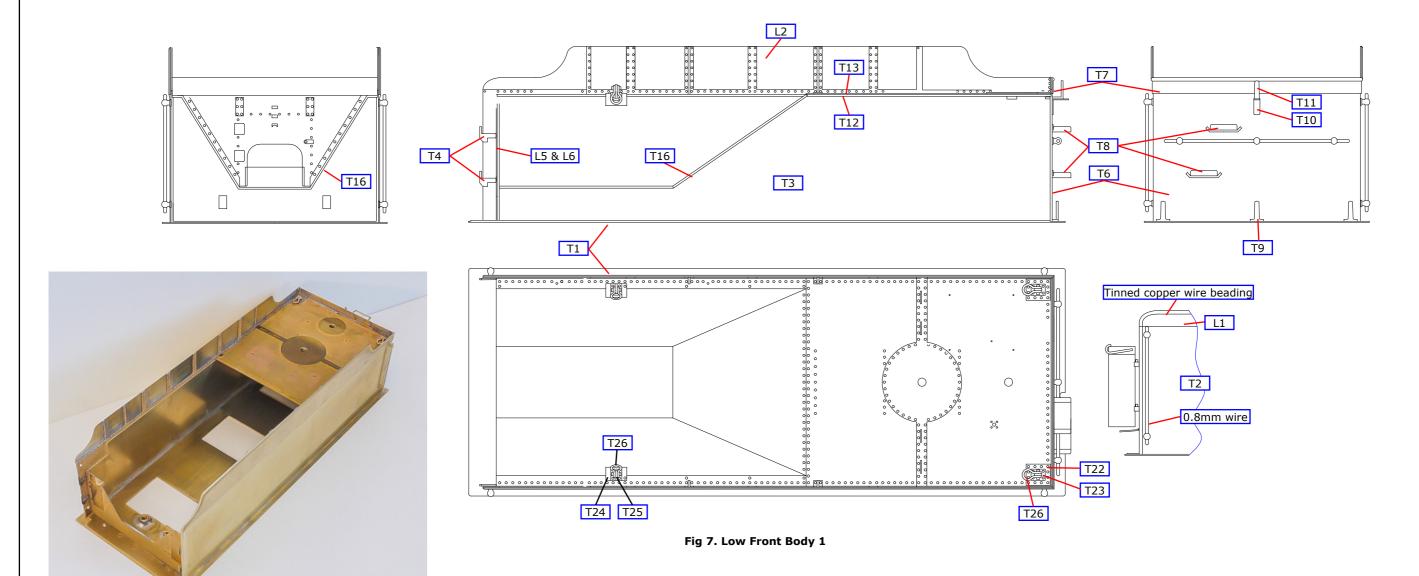
Modify the coal hopper by snapping off the shovelling plate extension so that it is flush with the front edge. Emboss the rivets on the coal space hopper (T16). Fold up the coal hopper, making the top bends first before soldering the hopper edges together.

Take the coal doors inner and outer laminations (L5 & L6) and open out all the holes for castings to match the casting. Emboss all rivets and fold out the brackets for the water valve handles and brake/scoop columns. Solder the coal doors laminations together around their edges. Detail as shown below, and then solder in place in the slots in the coal hopper.

Check the fit of the tank top and coal hopper. When satisfied that the assembly is both flat and square, solder the tank top in place from the inside; ensure the assembly remains flat and square.

Fit the front lifting shackles components to the coal hopper, the front base plates (T24), front eyes (T25) & lifting shackles (T26), forming the shackles around a 2 mm rod.

No.	Description	Sheet			
T1	Footplate	1	T13	Tank top overlay	2
T2	Tank side, left	3	T16	Coal space hopper	1
Т3	Tank side, right	3	T22	Lifting shackle rear base plate (2)	1
T4	Cab door hinge (4)	2	T23	Lifting shackle rear eye (2)	1
Т6	Tank back	1	T24	Lifting shackle front base plate (2)	1
T7	Rear coping plate	2	T25	Lifting shackle front eye (2)	1
T8	Rear step (2)	3	T26	Lifting shackle (4)	2
Т9	Lamp bracket, footplate mounted (3)	3	L1	Coping plate, left	3
T10	Lamp bracket, tank mounted lower section	3	L2	Coping plate, right	3
T11	Lamp bracket, tank mounted upper section	3	L5	Coal doors, outer lamination	1
T12	Tank top	2	L6	Coal doors, inner lamination	1





## **LOW FRONT BODY 2**

front and the overlay. If appropriate, open up the slots in the tank front overlay to accept the fall plate hinges (T35).

Test fit the tank front and hopper in place between the tank sides.

Fold up the top plate/coal plate (L8) and laminate the coal plate rear overlay (L9) to the rear. Slide this assembly over the hopper and behind the coal doors. If all fits properly, solder the hopper, front plate and top plate in place.

Either fit the raised footplate support (T34) and the raised footplate (L11) or the fall plate (L12) and fall plate hinges (T35).

Anneal the hinges on the cab doors (T5) by heating in a flame, then bend to shape around a piece of 0.8 mm wire. The hinge pins have been made too long so that they can be bent over to stop the doors falling off. The brackets to clip the tender and engine doors together can be made from 0.45 mm wire.

Detail can now be added to the tender front starting with the water valve handles use 0.45 mm wires. Add the bucket cock (BR9) and the water scoop indicator from 0.45 mm wire. Fit the brake column, low front (BR4) and the scoop column (BR6) in place. The water gauge is made from 0.8mm wire, with a handrail knob as the top retaining bracket. The rear fire iron cradle is made up from the cradle (T19), the cradle base (T20) and the cradle bracket (T21) as shown below. Fit the front fire iron cradle (L10). Fit the toolboxes (WM10).

Add the strengthening ribs T17 and T18 to the etched slots in the rivet strips on the inside of the tender coping.

The low rear division plate is made up from the front and rear laminations (T27 & T28), solder together and add in place as shown in the drawing.

Fit the two part dome (WM6) either side of the rear coping plate. T30 can then be attached above the dome. Fit the water filler (WM8) in place. Drill a 0.7 mm hole and add a short handle - see diagram. The water filler catch (T15) is added to the rear edge of the filler. A representation of the catch hinge can be represented with a short length of wire soldered horizontally in place.

Fold out brackets on the tank front (L3) and thread them through the slots in the tank front overlay (L4). Solder together the tank Drill 0.8 mm holes in the vacuum reservoir and end (WM4) to take the 0.8 mm wire which will represent the pipe. Drill 0.8 mm holes in the tank feet. Form the vacuum tank straps (T14) to shape and solder in 10 mm lengths of 0.8mm wire. Fit the straps to the tank and pass the projecting pins through the holes in the tank feet. Form and fit the feed pipe to the tank ensuring alignment with the hole in the tank top; it passes inside the straps. Feed the pins through the holes in the tank top. The pins can then be tensioned from underneath the tank top, ensuring the strap sits correctly. Then solder from inside the tank.

No.	Description	Sheet			
T5	Cab door (2)	3	T34	Raised footplate support	1
T14	Vacuum tank strap (2)	3	T35	Fall plate hinge (2)	1
T15	Water filler catch	1	L3	Tank front	1
T17	Coping plate strengthening rib 1 (2)	2	L4	Tank front overlay	1
T18	Coping plate strengthening rib 2 (2)	2	L7	Water feed valve handle (2)	3
T19	Rear fire iron cradle	2	L8	Top plate /coal plate	1
T20	Rear fire iron cradle, base	2	L9	Coal plate rear overlay	1
T21	Rear fire iron cradle, bracket	2	L10	Front fire iron cradle	2
T27	Rear division plate, low front lamination	1	L11	Raised footplate	1
T28	Rear division plate, low rear lamination	1	L12	Fall plate	1
T30	Water scoop dome angle	2			

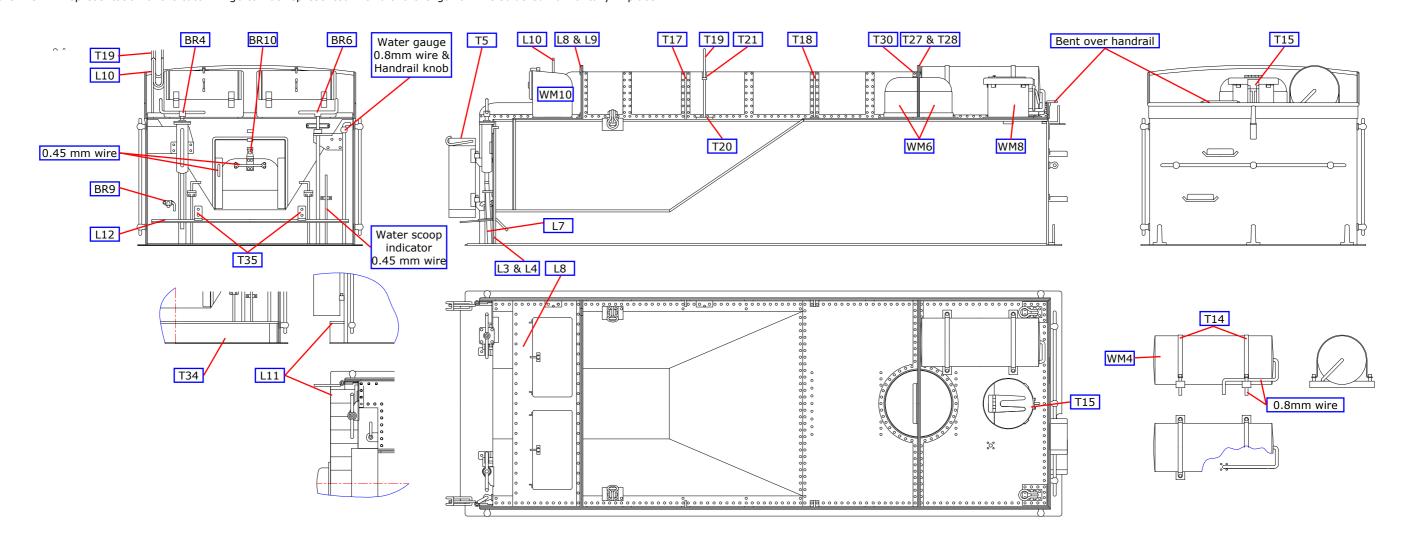


Fig 8. Low Front Body 2



## **HIGH FRONT BODY 1**

Open up the appropriate holes, which are marked on the underside of the footplate (T1), for the brake column, scoop column, water feed valve handles, water gauge and scoop indicator. The raised footplate (H16) should be used as a guide. Solder 6 BA nuts, for body fixing, over the two front holes and the rear hole in the footplate.

Solder the coping plates (H1 & H2) to the sides, left and right (T2 & T3). Accurate positioning is achieved by aligning the top of the rivet strips with the top of the coping plates. The appearance of the beading can be improved by rounding the top edge.

Solder the cab door hinges (T4) in place. Add the beading down the front edge using the wire beading provided. Make up the front and rear handrails.

Solder the rear coping plate (T7) in place on the tank back (T6) and fold over the handrail. Fold up the rear steps (T8) and solder in place. Fit the rear handrail and the lamp bracket lower and upper section (T10 & T11). Solder the sides and back into the slots in the footplate constantly checking the assembly is both flat and square. Add the footplate lamp brackets (T9).

Make the tank top by soldering the tank top and tank top overlay (T12 & T13) together ensuring accurate alignment. Fit the rear lifting shackles components, the rear base plates (T22), rear eyes (T23) & lifting shackles (T26) to the tank top forming the shackles around a 2 mm rod.

Emboss the rivets on the lower front plate inner and outer laminations (H9 and H10), and fold out the brackets for the water valve handles and the brake/scoop columns. Fold up the lower front plate inner lamination (H9). Solder the laminations together ensuring they are accurately aligned. Add the later shovelling plate door (H19) if required.

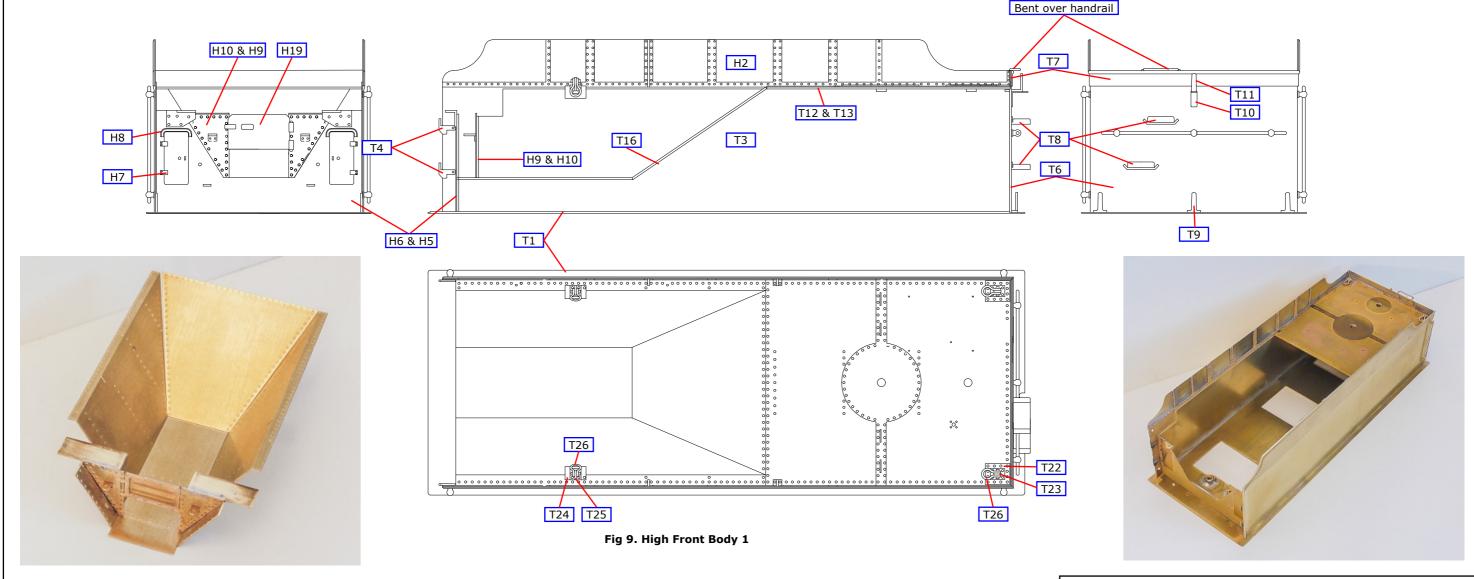
Modify the front corners of the coal hopper (T16) using the half etched lines as a guide, this cut out will require further modification once the hopper is folded up. Open out the half etch holes 0.7 mm for the feed valve handle shafts. Emboss the rivets on the coal hopper, if the sloping coal plate (T33) is required, omit the rivets at the rear edge of the hopper. Fold up making the top folds first. The hopper can be soldered up now, ensuring that the width matches the tank top overlay. Check the fit of the lower front plate into the slots at the front of the hopper; the lower front plate will need to be adjusted to ensure that the front plate makes contact with the floor of the hopper.

Fit the front lifting shackles components to the coal hopper, the front base plates (T24), front eyes (T25) & lifting shackles (T26), forming the shackles around a 2 mm rod.

Check the fit of the tank top and coal hopper. When satisfied that the assembly is both flat and square, solder the tank top in place from the inside; ensure the assembly remains flat and square.

Emboss any rivets in the tank front and tank front lamination (H5 & H6), fold out the brackets for the scoop and brake handle shafts. If appropriate, open up the slots in the tank front overlay to accept the hinges. Solder together and clean up. Add hinges (H7) to the locker doors and the locker rainstrips above (H8). This component than then be soldered in place at the front of the tender, checking that all is flat and square. The hopper can now be tested for fit and soldered into place, soldering from the inside along the edges might be difficult due to the narrow space between the hopper and tender side.

No.	Description	Sheet			
T1	Footplate	1	T23	Lifting shackle rear eye (2)	1
T2	Tank side, left	3	T24	Lifting shackle front base plate (2)	1
T3	Tank side, right	3	T25	Lifting shackle front eye (2)	1
T4	Cab door hinge (4)	2	T26	Lifting shackle (4)	2
T6	Tank back	1	H1	Coping plate, left	3
T7	Rear coping plate	2	H2	Coping plate, right	3
T8	Rear step (2)	3	Н5	Tank front	1
T9	Lamp bracket, footplate (3)	3	Н6	Tank front overlay	1
T10	Lamp bracket, lower section	3	H7	Locker hinges (4)	2
T11	Lamp bracket, upper section	3	Н8	Locker rainstrip (2)	2
T12	Tank top	2	Н9	Lower front plate, inner lamination	1
T13	Tank top overlay	2	H10	Lower front plate, outer lamination	1
T16	Coal space hopper	1	H19	Later shovelling plate door	1
T22	Lifting shackle rear base plate (2)	1			





#### **HIGH FRONT BODY 2**

Check which coal door is required and fold up the upper front plate outer lamination (H12). Solder the inner lamination (H11) to the outer. If required, fit the later type coal door (H18) in place. Solder the front plate strengthening webs (H13) in place and add the coal door angle strip (H14) to the back of the inner lamination. Check that this assembly fits over the lower inner lamination (H9) and against the cut out in the hopper and then solder into place. Fold the hinges on the lifting flap (H15), this component might need trimming to length to fit in place. If all fits properly the remaining soldering can be done to attach the hopper, front

Either fit the raised footplate support (T34) and the raised footplate (H16) or the fall plate (H17) and fall plate hinges (T35); see Fig 8 on page 9 for details.

Anneal the hinges on the cab doors (T5) by heating in a flame, then bend to shape around a piece of 0.8 mm wire. The hinge pins have been made too long so that they can be bent over to stop the doors falling off. The brackets to clip the tender and engine doors together can be made from 0.45 mm wire.

Detail can now be added to the tender front starting with the water valve handles (BR7) mounted on 0.7 mm wire, with the water feed valve cover (H4) soldered to the sloping plate. Add the bucket cock (BR9) and the water scoop indicator from 0.45 mm wire. Fit the brake column, high front (BR5) and the scoop column (BR6) in place; note that the scoop column is slightly taller. The water gauge is made from 0.8mm wire, with the water gauge bracket (H3) as the top retaining bracket. The rear fire iron cradle is made up from the cradle (T19), the cradle base (T20) and the cradle bracket (T21) as shown below.

Add the strengthening ribs T17 and T18 to the etched slots in the rivet strips on the inside of the tender coping.

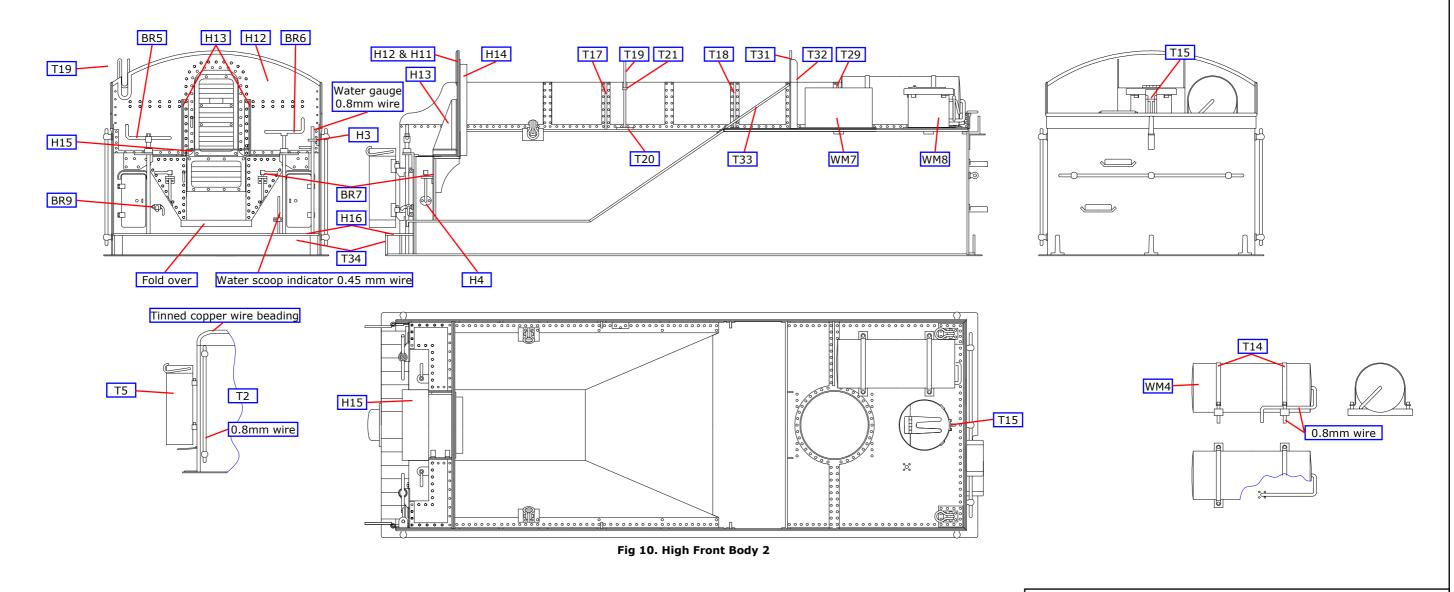
Low Rear Division Plate. The low rear division plate is made up from the front and rear laminations (T27 & T28), solder together and add in place as shown in the drawing. Fit the two part dome (W6) either side of the rear coping plate. The water scoop dome angle (T30) can then be attached above the dome. See Fig 8. on page 9.

**High Rear Division Plate.** The high rear division plate (T31) is reinforced with a strengthening rib (T32). Solder in place as shown and add the sloping coal plate (T33). Fit the one piece dome (WM7).

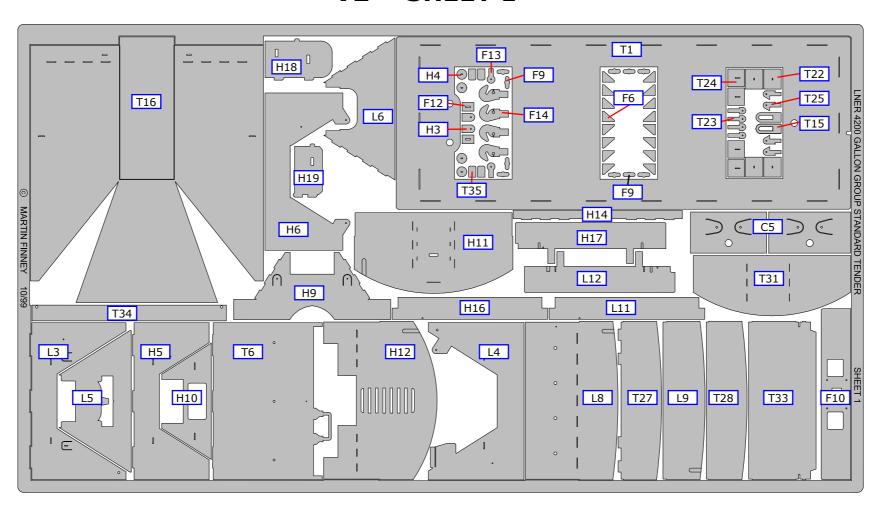
Fit the water filler (WM8) in place. Drill a 0.7 mm hole and add a short handle – see diagram. The water filler catch (T15) is added to the rear edge of the filler. A representation of the catch hinge can be represented with a short length of wire soldered horizontally in place.

Drill 0.8mm holes in the Vacuum reservoir and end (WM4) to take the 0.8mm wire which will represent the pipe. Drill 0.8mm holes in the tank feet. Form the vacuum tank straps (T14) to shape and solder in 10 mm lengths of 0.8mm wire. Fit the straps to the tank and pass the projecting pins through the holes in the tank feet. Form and fit the feed pipe to the tank ensuring alignment with the hole in the tank top. It passes inside the straps. Feed the pins through the holes in the tank top. The pins can then be tensioned from underneath the tank top, ensuring the strap sits correctly. Then solder from inside the tank.

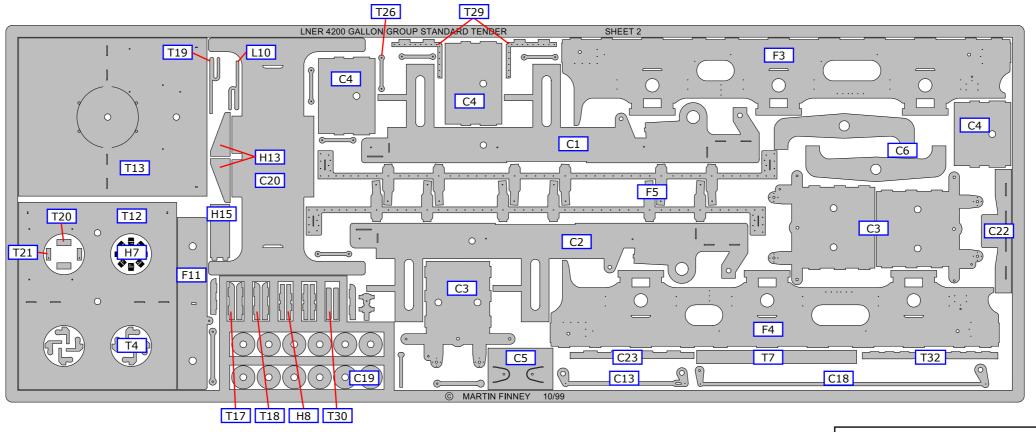
No.	Description	Sheet			
T5	Cab door (2)	3	T33	Sloping coal plate	1
T14	Vacuum tank strap (2)	3	T34	Raised footplate support	1
T15	Water filler catch	1	T35	Fall plate hinge (2)	1
T17	Coping plate strengthening rib 1 (2)	2	Н3	Water gauge bracket	1
T18	Coping plate strengthening rib 2 (2)	2	H4	Water feed valve cover (2)	1
T19	Rear fire iron cradle	2	H11	Upper front plate, inner lamination	1
T20	Rear fire iron cradle, base	2	H12	Upper front plate, outer lamination	1
T21	Rear fire iron cradle, bracket	2	H13	Front plate strengthening web (2)	2
T27	Low rear division plate, front lamination	1	H14	Coal door angle strip	1
T28	Low rear division plate, rear lamination	1	H15	Vertically hinged flap	2
T29	Low rear division plate, angle (2)	2	H16	Raised footplate	1
T30	Water scoop dome angle	2	H17	Fall plate	1
T31	High rear division plate	1	H18	Later type coal door	1
T32	High rear division plate high strengthening ril	b (2) 2			



**V2 - SHEET 1** 

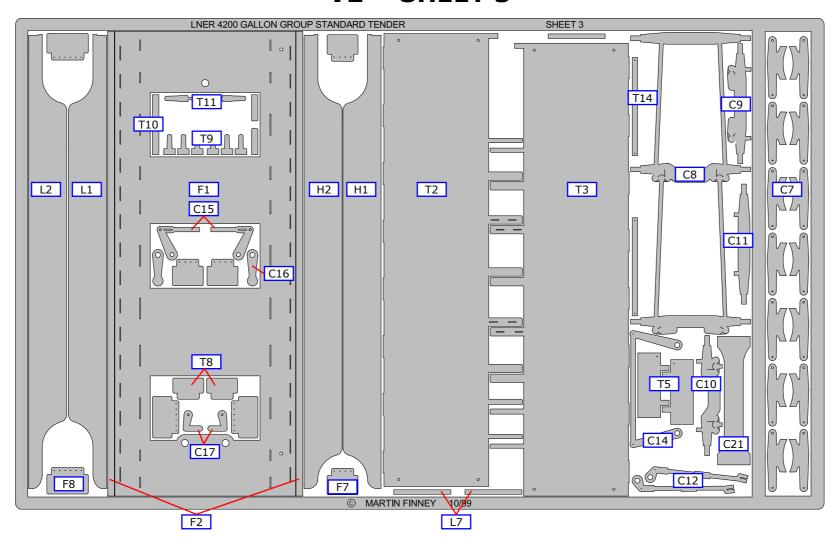


**V2 - SHEET 2** 



# Finney7

## **V2 - SHEET 3**



#### **BRASS CASTINGS**

BR1 Vacuum pipe BR2 Steam heating pipe

BR3 Steam heating pipe connector Brake column, low front

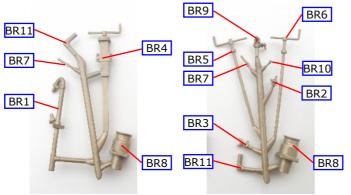
BR4 BR5 Brake column, high front

BR6 Scoop column

BR7 Water valve handle high front (2)

BR8 Buffer housing (2) BR9 Bucket cock BR10 Coal door knob

Steam heating pipe elbow - (2)



WM1 Axlebox (6)

WM2 Spring (6)

WM3 Spring hanger bracket (12)

WM4 Vacuum reservoir, 2 parts

WM5 Water scoop, 4 parts

WM6 Original scoop dome (2)

#### **OTHER COMPONENTS**

5/32" bearing (2)

6BA x 3/8" screw (3)

6BA nut (3)

1/8" brass wire for compensation beam pivots

5/32" diameter brass tube for compensation beams

Handrail knob (12)

Brass wire - 0.3 mm for toolbox handles

Brass wire - 0.45 mm for cab door catches & scoop indicator

Brass wire - 0.7 mm for water filler catch & water valve shafts

Brass wire - 0.8 mm for handrails, scoop stays, water gauge & brake cross shafts



WM7 Later scoop dome

WM8 Water filler

WM9 Drawbar pocket

WM10 Toolbox (2)

Brass wire - 1.2 mm for water scoop cross shaft

Brass wire - 1.6 mm for drawbar pin Brass wire - 2 mm for brake shafts

Vacuum & steam heating pipes (2

Tinned copper wire beading

Buffer, nut & spring (2)

