

LBSCR/SR/BR 'K' Class Mogul.

Please note that the castings in this kit are mainly lost wax brass and will require removing from the sprues with a drill fitted with a Carborundum disc.

CHASSIS ASSEMBLY

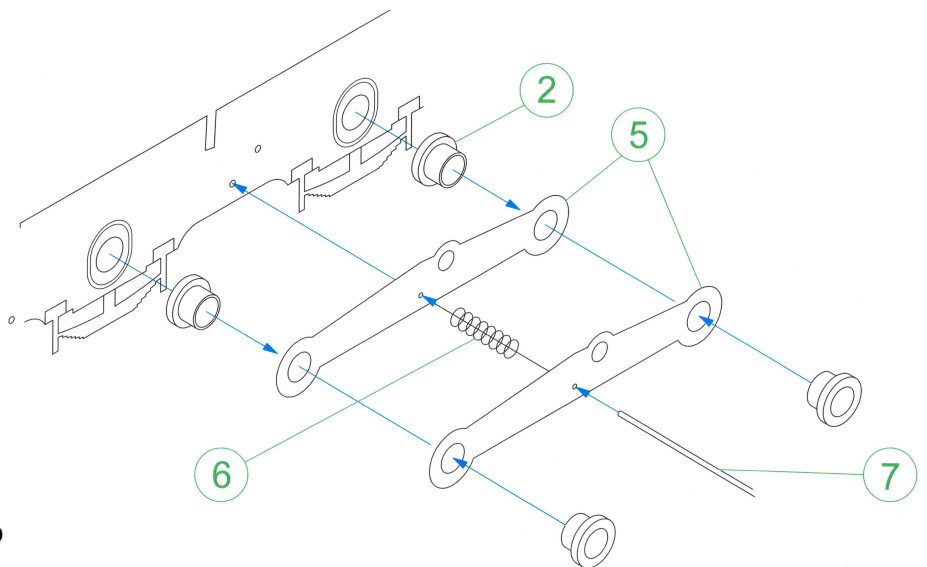
The chassis can be built rigid or compensated so decide now which one you are going to make. If building a compensated chassis remove the sections from the front and centre axle holes.

Rigid

Solder the axle bearings (2) into the holes in the frames (1). Fold the chassis frames up and solder the centre frame spacer (3) in place, roughly where the red lines are, making sure everything is square, and then solder the rear frame spacer (4) in place. Solder a 10BA screw into the hole in the bogie mount.

Compensating

Solder the 1/8th axle bearings (2) into the compensating beams (5). The compensating spindle should be cut from the 0.7mm brass wire (7). The beams are held apart by the compensation spring (6). Fit the compensating beams by passing brass wire through the frames, through one of the beams, then the spring, then the next beam and finally out the other side of the chassis. Hold the beams away from the chassis side while soldering the wire in place to prevent them being soldered to the frames. Trim the excess wire flush with the chassis side. Fit the wheels so you can test the compensating mechanism and when satisfied that it works OK remove the wheels and put them to one side.



Solder the springs (8 & 9) into the half etched recesses on the frames. If you've used the compensating mechanism you may have to shorten the centre lug. Remove the stretcher underneath the rear frame spacer.

Take the cylinders (12) and solder two 2mm bearings (14) into the large holes in the back of the cylinders. Fold down the front and rear and fit the cylinders into the recess at the front of the frames. Take the cylinder sides (13) and curve them to match the shape of the cylinder front/rear. Solder the sides to the cylinders. Solder the front cylinder covers (9) in place.

Assemble the main motion bracket from the three pieces, two overlays (11) and the centre (10). Fit it into the slots in the top of the frames.

Solder four lengths of the 0.7mm brass wire (7) into the holes in the chassis to form the brake mountings. Take the brake hangers (16) and solder the brake shoes (17) to them. Note that the front brakes are different and all are marked with an F. Solder the brakes to the wire 2mm from the

frames. Pass more brass wire through the bottom of the brakes and then through the pull rods (18). Solder all the joints.

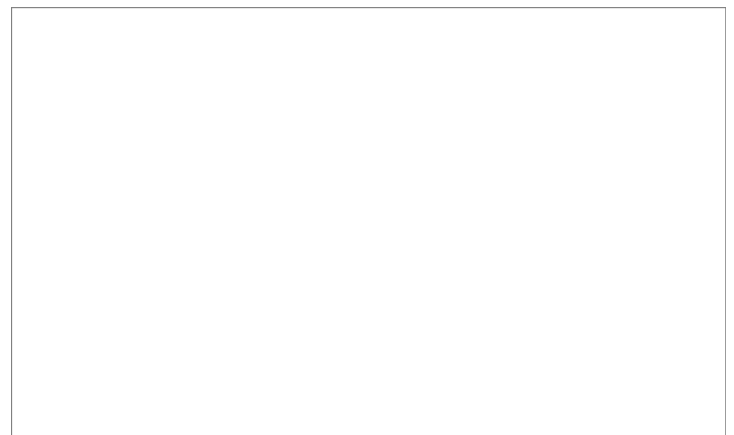
Solder the sandboxes (22) into the holes behind the rear wheels. Make up the sand pipes with 0.7mm brass wire and fit into the bottom of the sandboxes.

The chassis can now be painted, taking care not to gum up moving parts. Fit the wheels and motor to the chassis before fitting the slidebars. If you fit the slidebars first you won't be able to fit the front wheels!

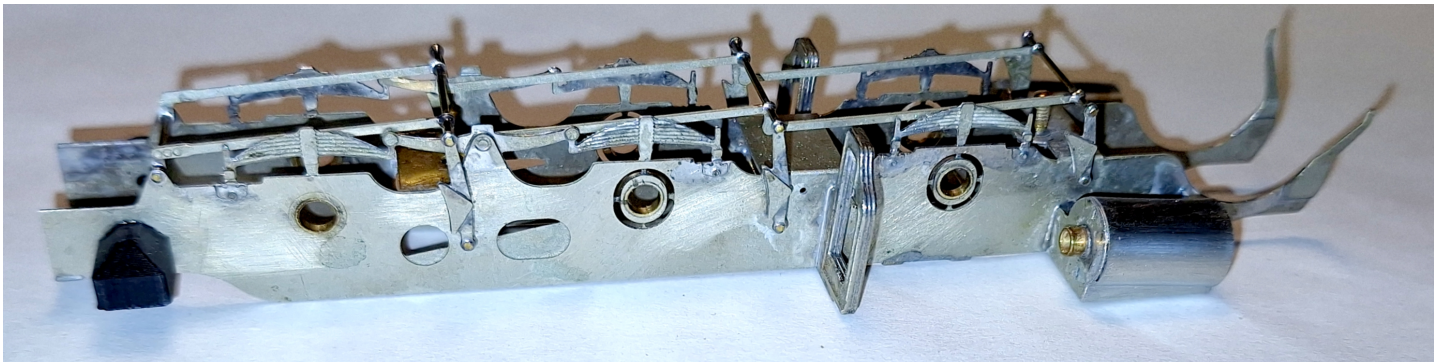
Fold up the slidebars (21) as shown and solder the two sides together. Cut the end off of the prongs that go into the cylinders. Now remove the stretcher at the rear of the slidebars. Slide them into the cylinders and over the 2mm bearings. The rear of the slidebars should locate into the motion bracket.

Coupling Rods

With the chassis painted and the wheels fitted permanently. Fit the crank pins and assemble the coupling rods (23) as shown. Take care in this as the rods need to move freely, both for side play and compensation. The connecting rods (24) can also be assembled and crossheads (25) attached to the rods with the 14BA nuts and screws. Check that the crossheads move OK in the slidebars before permanently fitting them.



Assemble the front pony truck (26, 27 & 28).



View showing the brake gear arrangement

BODY ASSEMBLY

Before commencing assembly the footplate (1) must be curved to match the valances (2 & 3). Once the footplate curves have been satisfactorily formed solder the dragbeam (4) into the recess at the back of the running plate. Starting from the dragbeam the running plate and valences can be soldered together, the valences also locate in half etched recesses. The buffer beam (5) can then be soldered in place. Fold the splasher sides up at 90° to the running plate.

Two types of cab are included in the kit, these being the original Billington cab and the later Maunsell cab. At this point you need to decide which one to use, although you won't complete the cab until later.

Take either the Maunsell cab front (6) or the Billington cab front (7) and solder it into the slots in the running plate. Solder the cab sides (8) or (9) into the slots in the running plate and into the recesses in the cab front. Solder an 8BA screw into the hole at the rear of the running plate. Solder the cab floor support (23) between the cab sides and 1mm from the rear of the running plate. Fit the cab floor (24) on top of the support. The cab can be left for now.

Form the splasher tops (12) and (13), the rear ones are wider, and solder them to the splasher sides.

Solder an 8BA screw into the at the front of the running plate. Next punch the rivets on the two frame top pieces (17), noting that they are handed, and solder them into the slots on the running plate and then take the smokebox saddle front and rear (14) and solder them between the two frame pieces. Fold the valve chest front (16) at 90° and solder it under the top of the valve chest. Solder the riveted overlay (18) to the top of the valve chest.

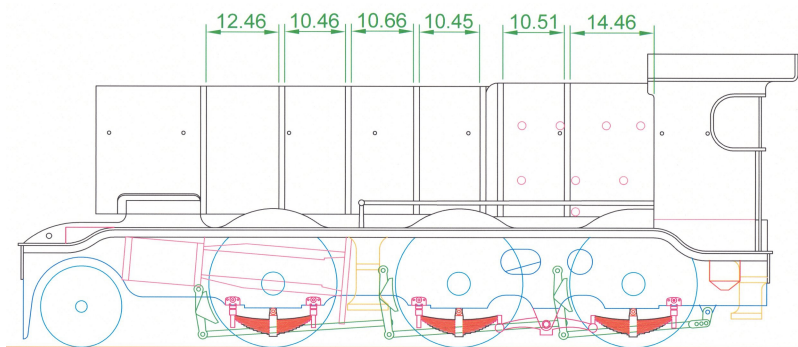
Form the firebox (19) to fit the firebox front (20). Half-etched lines are provided on the inside face of the firebox where the curves are required and there are guide lines on the cab front to help. Solder the firebox and the front together with a good fillet of solder in the join, then radius off the front edge with a file. Solder the assembled firebox into the slot in the cab front.

Turn now to the pre-rolled boiler (21) and then solder up the seam, using a piece of scrap etching to bridge the seam on the inside adds strength. Take the smokebox overlay (22) and fit this over the front of the boiler.

Take the boiler band strips (30), and attach four boiler bands using the measurements on the general arrangement drawing.

The assembled boiler can now be fitted to the firebox front and the smokebox saddle. It is very important that everything is checked for squareness at this stage, and that everything is properly aligned. Form the smokebox saddle sides (15) and solder them in place with the rivets at the top.

The two remaining boiler bands can now be soldered to the firebox.



General Arrangement

Now return to the cab. Fold up the two cab boxes (25 & 26) and solder them in place. The backhead (50) can be soldered in now or left until later. For the Maunsell cab take the cab sides/roof (27) and form the roof first with a large dowel or broom handle. The tight curves on either side can be formed with a 3mm diameter bar. Offer the unit up to the body to check the fit. The handrail holes should line up and you can put some wire through both holes on both sides to hold the unit in position. Tack at the bottom of the cab sides and at the centre of the roof. Check that all is level, then solder around the seams.

The Billington cab requires the cab side overlays (10 & 11) to be soldered in place first. Gently curve the cab roof (28), fold the outside edges up to form the rain gutter and then solder it to the front and

sides, noting that the wider rib goes to the front. Take the two curved ribs (29) and solder them in to the recesses on the cab roof.

Make the ejector pipe from the 1mm wire (31) and fit it to the left hand side of the boiler.

Drill two holes for the clack valves 8mm from the 1st boiler band and on the midline of the boiler and fit the clack valves (32) into the holes and make the clack pipes from some of the 1mm wire.

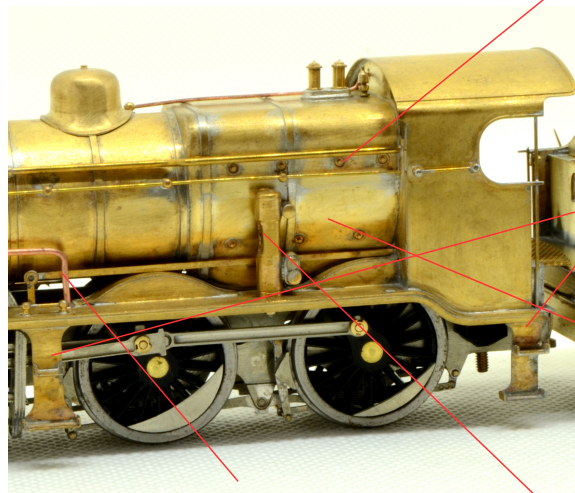
The boiler handrails can now be made from the 0.45mm wire (33), and fitted with ten medium handrail knobs (34) and two short handrail knobs (35).

Solder the smokebox front (36) in place and then fit the smokebox door (37). Assemble the smokebox door handle (38) and fit it to the door. Form the lamp brackets (48) and fit them to the smokebox door and into the slots above the bufferbeam.

Solder the chimney (39) in place.

Make the running plate steps from a piece of scrap fret.

Open out the holes for the washout plugs (40) and solder them in place from inside the firebox, there are eight on each side



Take the cab steps (41 & 42) and the running plate steps (43) and fold up the lower step part. Put a fillet of solder in the joints for strength. Solder the steps (44 & 45) into their slots.

Make the two cab side handrails from 0.45mm wire.

Solder together the two parts of the reversing rod (46) and fit it into the holes in the cab front and running plate.

Using two short handrail knobs, fit the two short handrails above the running plate steps.

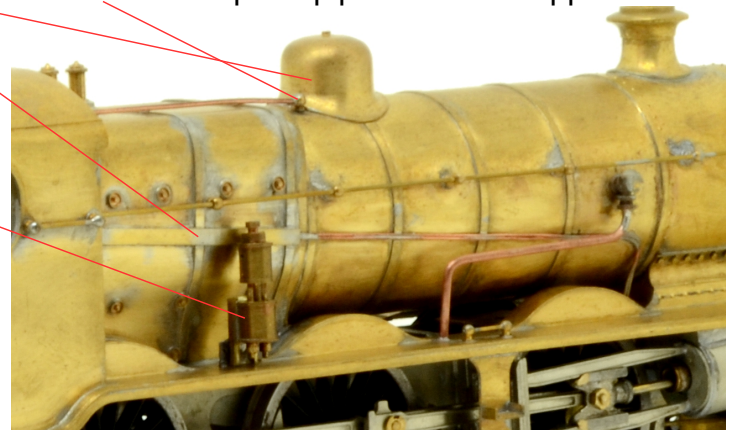
If fitting the weir pump (47) drill a hole in the running plate 3.5mm from the edge of the running plate and 18mm from the cab front.

Solder the dome (52) in place. Drill a hole 5mm from the front of the firebox and 3mm from the boiler centre line. Solder the large handrail knob (53) in the hole. Make up the pipework with copper wire.

Use a piece of scrap etch strip to make the piping conduit and then make the pipework from copper wire.

Fix the Westinghouse pump (49) in place on the right-hand side of the loco and add any pipework that is needed.

Turn back to the cab, if you haven't already done so, take the backhead (50), fit the regulator handle (51) to it, and then fix the backhead into the cab. Now fit the buffer shanks (54), vacuum pipe (55) and steam pipe.

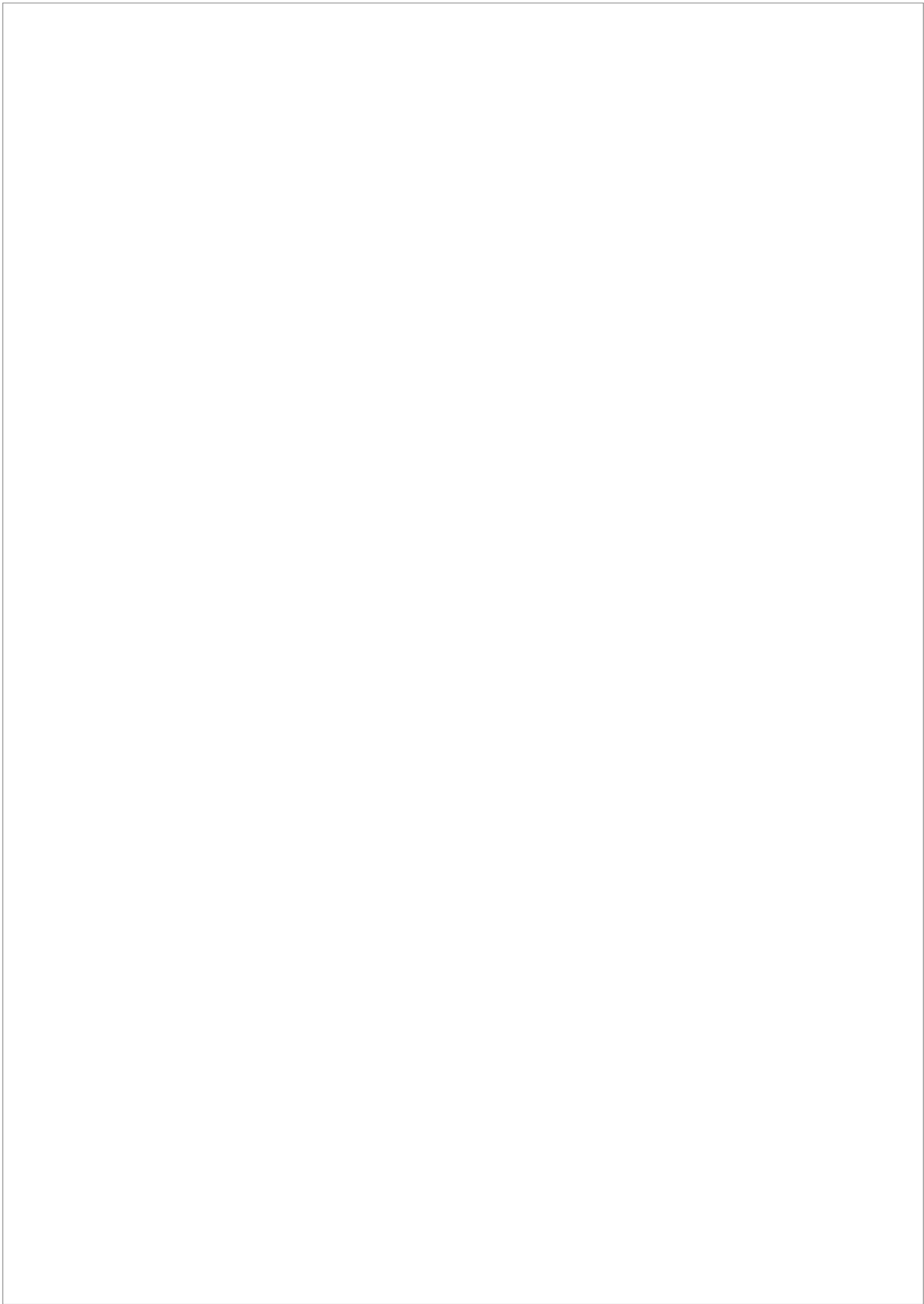


Chassis Parts List

1. Main Frames.	16. Brake Hangers.
2. 1/8 th Axle Bearings.	17. Brake Blocks.
3. Centre Frame Spacer.	18. Brake Rodding.
4. Rear Frame Spacer.	19. Drawbar Pivot.
5. Compensation Beams.	20. Drawbar.
6. Compensation Spring.	21. Slidebars.
7. 0.7mm Brass Wire.	22. Sandboxes.
8. Dummy Front Springs.	23. Coupling Rods.
9. Dummy Centre & Rear Springs.	24. Connecting Rods.
10. Motion Bracket Centre.	25. Crossheads.
11. Motion Bracket Overlays.	26. Pony Truck.
12. Cylinder Block.	27. Dummy Pony Truck Spring.
13. Cylinder Sides.	28. Pony Truck Arm.
14. 2mm Bearings	29. 8BA Screws & Nuts.
15.	

Body parts List

1. Running Plate.	21. Boiler.	41. R/H cab Step.
2. L/H Valance.	22. Smokebox Wrapper.	42. L/H Cab Step.
3. R/H Valance.	23. Cab Floor Support.	43. Running Plate Steps.
4. Drag Beam.	24. Cab Floor.	44. Cab Centre Steps.
5. Bufferbeam.	25. R/H Cab Box.	45. Running Plate Centre Steps.
6. Maunsell Cab Front.	26. L/H Cab Box.	46. Reversing Rod (Two Parts).
7. Billington Cab Front.	27. Maunsell Cab Roof/Sides.	47. Weir Pump.
8. Maunsell Cab Sides.	28. Billington Cab Roof.	48. Lamp Brackets.
9. Billington Cab Sides.	29. Cab Roof Ribs.	49. Westinghouse Pump.
10. Billington R/H Cab Side Overlay.	30. Boiler Bands.	50. Backhead.
11. Billington L/H Cab Side Overlay.	31. 1mm Brass Wire.	51. Regulator Handle.
12. Rear Splasher Tops.	32. Clack Valves.	52. Dome.
13. Front & Middle Splasher Tops.	33. 0.45mm Brass Wire.	53. Large Handrail Knob.
14. Smokebox Saddle Front & Rear.	34. Medium Handrail Knobs.	54. Buffers.
15. Smokebox Saddle Sides.	35. Short Handrail Knobs.	55. Vacuum Pipe.
16. Valve Chest Front.	36. Smokebox Front.	56. Steam Pipe.
17. Frame Top Pieces.	37. Smokebox Door.	57. Safety Valve Base.
18. Valve chest Top overlay.	38. Smokebox Door handle.	58. Safety Valves.
19. Firebox.	39. Chimney.	59. Whistle.
20. Firebox Front.	40. Washout Plugs.	60. Copper Wire.



TENDER ASSEMBLY

Take the chassis (1) and clean out the axle holes with a 3mm drill to take the 2mm bearings (2), then bend down the sides and ends at right angles to the centre. Solder 0.7mm brass wire through the holes in the frames to form the brake supports (3). Fit the wheels to the chassis, using axle washers to take up the side-play if necessary, but leaving some sideplay in the centre axle. Take the brake hangers (4) and solder the brake blocks (5) to them, making three LH and three RH, then solder the hangers to the supports 2mm from the frames, making sure that the brakes do not touch the wheels. Pass 0.7mm wire through the holes in the lower ends of the hangers, and also through the holes in the pull rods (6) and solder in place when assembled.

Turn now to the body; take the footplate (7) and the frames (8 & 9) and solder them into the slots in the footplate. Solder the buffer beam (10) in place, followed by the drag beam (11). Solder the valances (12) into the grooves in the underside of the footplate. Solder an 8BA screw (15) into each of the two fixing holes.

Now take the tender body (13) and punch through the rivets on the sides. Then bend the flared top of the body to about 30° from vertical and the rear corners at 1.5mm radius along the half-etched lines. This must be done accurately to ensure the correct fit of the body to the footplate, and also to ensure the accurate fit of other body parts. Once the tender body has been formed it can be slotted into the footplate and soldered in place. Take the front bulkhead (14) and fit into the slots in the footplate, between the body sides and then do the same with the two internal bulkheads (16).

Bend the coal plate (17) next and fit it into the body. The rear section sits on top of the internal bulkheads and the front edge should be level with the bottom edge of the coal hole in the front bulkhead. Take the two coal space sides/toolbox mounts (18 & 19) and fold them as shown. Solder them into the coal space, against the front bulkhead and sides.

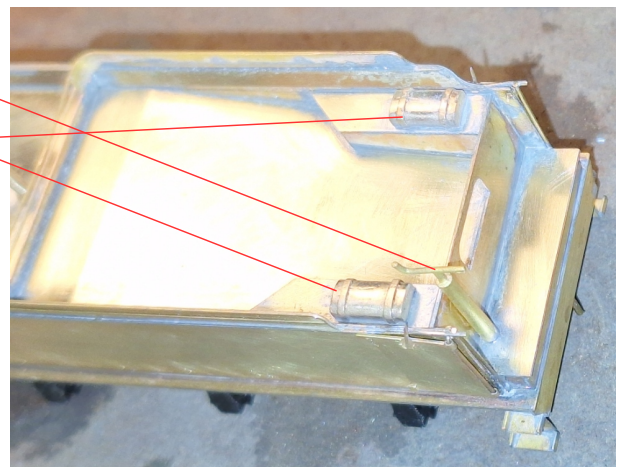
Bend the ends of the floor support (20) at right angles, and fix it to the footplate, slightly in from the footplate edge, then fit the floor (21) on top of the floor support.

Next take one of the two overlays for the flared coping (22 & 23), curve the front end and the corner, and fit to the body, then repeat with the other overlay. The two pieces join in the middle of the tender back.

Bend up the steps at the bottom of the step plates (24), making sure that one is made LH and the other RH. Bend up the ends of the two steps (25) and fit these into the slots in the valances.

Drill a hole (I forgot the hole) for the brake standard (26) and solder it in place.

Solder the toolboxes (27) into the holes in the toolbox mounts.



Bend five of the six lamp brackets (28) and fix into the slots in the tender back.

Now take the coal rails (29) and curve the corners to a radius of 2mm. Solder the coal rails into the two tabs just before the bend in the tank top and to the top edge of the body.

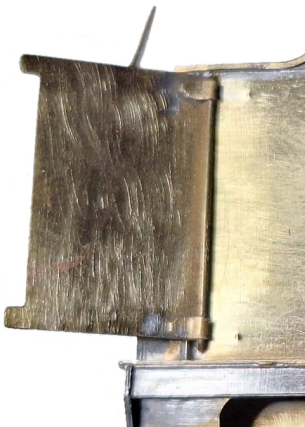
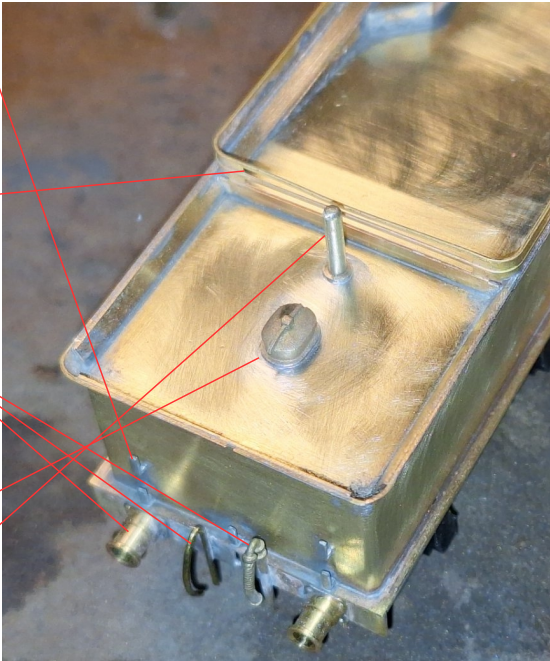
Fix the buffers (30) and vacuum pipe (31) to the buffer beam. Form the steam pipe (36) from 0.9mm wire and fit to the bufferbeam as well.

Fit the axleboxes (33) over the holes in the frames.

Fit the tank filler (34) into the hole in the rear of the tank top and the air vent (35) into the hole behind the coal rails.

Fit the sixth lamp bracket to the top of the tender rear.

Use a piece of 0.9mm wire to form the drawbar pin (36) and solder it centrally behind the drag beam.



Take the cab doors (37) and fold the half etched tabs up at 90°. Open out the two small holes and the front end of the tender sides with 0.5mm drill.

Fold a piece of 0.45mm wire (38), as if you are making a handrail, to fit into the holes. Leave the ends of the wire about 3mm long.

Hold the wire against the tabs and fold the tabs over the wire. Push the tabs down firmly to form a hinge. With a very small amount of solder tack the tabs to the back of the door.

Fit the doors into the holes, either before or after before painting, although I would recommend after. Trim the excess wire.

Tender Parts list

1. Chassis.	20. Floor Support.
2. 2mm Bearings.	21. Floor.
3. 0.7mm Wire.	22. L/H Coping Overlay.
4. Brake Hangers.	23. R/H Coping Overlay.
5. Brake Blocks.	24. Step Plates.
6. Brake Pull Rods.	25. Steps.
7. Footplate.	26. Brake Standard.
8. L/H Frame.	27. Toolboxes.
9. R/H Frame.	28. Lamp Brackets.
10. Bufferbeam.	29. Coal Rails.
11. Drag Beam.	30. Buffers.
12. Valances.	31. Vacuum Pipe.
13. Body.	32. Steam pipe.
14. Front Bulkhead.	33. Axleboxes.
15. 8BA Screws & Nuts.	34. Tank Filler.
16. Internal Bulkheads.	35. Air Vent.
17. Coal Plate.	36. 0.9mm Wire.
18. L/H Coal Space Side.	37. Cab Doors.
19. R/H Coal Space Side.	38. 0.45mm Wire.