

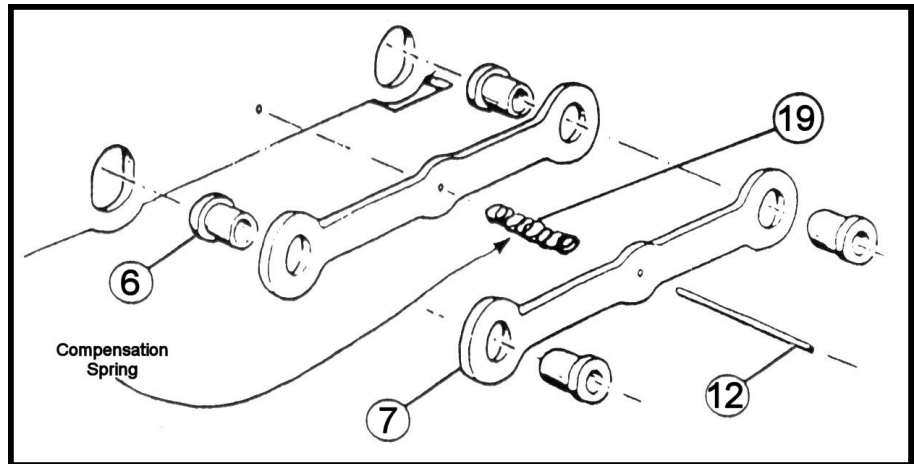
B12/1 & B12/2 INSTRUCTIONS

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. Solder the axle bearings (6) into the holes in the chassis (1). Fold the chassis frames up and solder the centre frame spacer (4) in place making sure everything is square, and then solder the rear frame spacer (3), the bogie mount/frame spacer (5) and the front frame spacer (2) in place. Solder a 10BA screw into the hole in the bogie mount/frame spacer.

COMPENSATING – Solder the 1/8th axle bearings (6) into the compensating beams (7). The compensating spindle should be cut from the brass wire (12). The beams are held

apart by the compensation spring (19). It is very important that no parts of this mechanism are soldered in a fixed position other than the spindle to the mainframe. Both beams must move independently of each other. The assembly of the



beams is otherwise very simple. Make sure you leave enough wire protruding from the side of the frames for the centre brakes. Fit the wheels so you can test the compensating mechanism and when satisfied that it works O.K. remove the wheels and put them to one side.

Solder two lengths of the brass wire (12) into the holes in the chassis to form the brake mountings (the centre brakes mount on the compensation spindle). Take the brake hangers (9) and solder the brake blocks (10) to them, making three L/H and three R/H. Solder the assembled brakes to the wire 2mm from the frames. Pass more brass wire through the bottom of the brakes, and then through the pull rods (11). Solder all the joints.

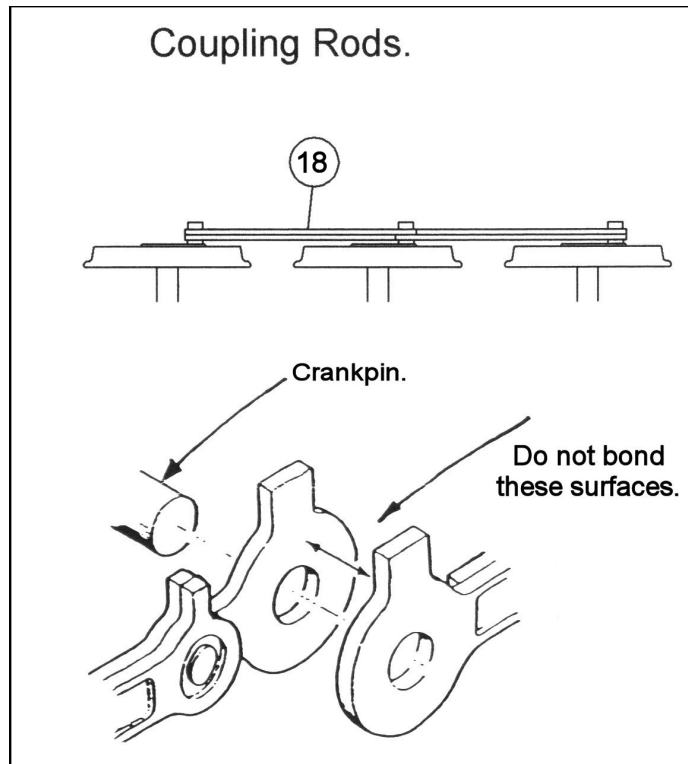
The chassis can be painted black at this point, taking care not to gum up any moving parts.

COUPLING RODS

With the chassis painted the wheels can be fitted permanently.

Fit the crank pins and assemble the coupling rods (18) as shown.

Take care in this as the rods need to move freely, both for sideplay and compensation.



Solder four 2mm bearings into the bogie (13). Fold the sides down at 90 degrees and put a fillet of solder along the folds. Solder a 10BA screw into the hole in centre of the cross member. When complete use the radius arm (15) to attach it to the chassis with the 10BA nuts and two 2mm bearings as pivots.

SUPERSTRUCTURE ASSEMBLY

Note that the decorative valences are for the **B12/1** and the plain valences are for the **B12/2**.

Before commencing assembly the footplate (1) must be curved to match the valances (2). It is most important that this is done accurately, as inaccuracy at this stage will adversely affect the fit of other parts of the kit. Make sure before curving the footplate that the hole beside the middle splasher for the pipe from the Westinghouse pump (42) is on the right hand side of the loco. Once the footplate curves have been satisfactorily formed, and the two small rear splasher sides removed (see diagram), the footplate and valences can be soldered together. The buffer beam (3), and drag beam (4) can then be soldered in place. Solder the two step plates (5) in place behind the valances, then bend up the ends of the steps (6) and fix them into the slots in the valances and step plates. Solder 8BA nuts (7) over the holes in the footplate to screw the chassis to. Take the lower frame pieces (8) and form the rivets by pressing with a pin or scribe into the half-etched holes. Repeat this procedure with the frame angles (9) once they have been

bent at right angles along the etched fold lines, and also with the upper frame pieces (10). This method of producing the rivets has been chosen in order to avoid having overlays for all these parts. Once the riveting has been done these parts can then be fitted to the footplate. Make and fit the two short handrails in the upper frame pieces. Now bend the top section of the guard irons (11) at right angles, and solder them to the buffer beam in line with the upper frame pieces. Take the front splasher sides (12) and the splasher tops (13), curve the tops to match the sides, assemble the splashers, and solder them to the footplate. Fix the sandbox filler caps (14) into the holes in the footplate ahead of the front splashers. Bend the two footplate steps (15) and fix in place beside the front splashers, then fix the mechanical lubricator (16) to the top of the frame on the RH side of the loco.

Take the cab sides and cab front (17), bend the sides at right angles to the front, then slot the cab into the footplate and solder in place. Bend the ends of the cab floor support (18) at right angles, and then solder this and the cab floor (19) into the cab. Bend the cab splashers (20) along the fold lines, and fix the splashers into the cab. Carefully remove the cab window surrounds (21) from the fret, and fix these into the half-etched recesses round the cab windows. Make the two cab side handrails from some of the wire and handrail knobs.

Turn now to the boiler (22) and roll it to shape, and then solder up the seam. Roll the smokebox inner (23), bend out the lower parts of the sides to form the smokebox saddle, and then fit this over the front of the boiler. Solder the smokebox front (24) in place, and then curve the riveted smokebox outer (25) to match the smokebox, and fix it to the smokebox.

Form the firebox (26) to fit over the firebox front (27). Half-etched lines are provided on the inside face of the firebox where the curves are required. 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.

Take the boiler band strips (28), and attach the six boiler bands. The assembled boiler and firebox units can now be fitted to the footplate/cab assembly. It is very important that everything is checked for squareness at this stage, and that everything is properly aligned.

The boiler handrail can now be formed from the 26g wire (29), and fitted with the handrail knobs (30). Fix the cast ejector pipe (31) to the right hand side of the boiler, then fit the clacks (32) into the holes, either side of the boiler, and make the clack pipes from some of the 22g wire.

Take the middle splasher sides (33), and the middle splasher tops (34), curve the tops to match the sides, assemble the splashers, and fix them to the footplate. Fix the cast cylinder cover (35) between the frames in front of the smokebox. Take the smokebox door handles (36) and the upper lamp bracket (37), fit these to the smokebox door (38), and then fix the door to the front of the smokebox.

Solder together the two parts of the reversing lever (39), slot the lever into the small slot in the cab front on the right-hand side of the loco., and solder the other end of the lever

to the rear edge of the leading splasher. Fix the Westinghouse pump (40) in place, also on the right-hand side of the loco. The lower end of the pipe goes through the hole in the footplate, and the upper end can be fixed to the handrail.

Turn back to the cab, take the backhead (41), fit the regulator handle (42) to it, and then fix the backhead into the cab. Curve the cab roof (43) to match the cab front, and fix it to the cab. Fit the cab side beading strips (44), bending to shape whilst fitting, and fitting the two rear cab handrails at the same time. Curve the riveted cab roof plate (45), and the roof vent (46), to match the roof, and then fix these and the two rain strips (47) in place. Now fix the boiler fittings (48 - 52) in place, followed by the front lamp brackets (53), buffers (54), and vacuum pipe (55). Form the vacuum pipe along the LH valance (56) using the remainder of the 22g wire, and fit the cast injector (57) to the back of the valance steps below the RH cab side.

B12 Parts list

Chassis

- | | |
|--|---------------------------------|
| 1. Frames. | 15. Bogie radius arm. |
| 2. Front frame spacer. | 16. Drawbar pivot. |
| 3. Rear frame spacer. | 17. Drawbar. |
| 4. Centre frame spacer. | 18. Coupling rods. |
| 5. Front bogie mount/frame spacer. | 19. Compensating spring. |
| 6. 1/8 th chassis bearings. | 20. Bogie centre strengtheners. |
| 7. Compensating beams. | 21. Balance weights. |
| 8. 10BA nuts and screws. | |
| 9. Brake hangers. | |
| 10. Brake blocks. | |
| 11. Brake pull rods. | |
| 12. Brass wire. | |
| 13. 2mm bearings. | |
| 14. Bogie. | |

Superstructure

1. Footplate.
2. Valances
3. Buffer beam.
4. Drag beam.
5. Step plates.
6. Steps.
7. 8BA nuts.
8. Lower frame pieces.
9. Frame angles.
10. Upper frame pieces.
11. Front guard irons.
12. Front splasher sides, L/H & R/H.
13. Front splasher tops.
14. Sandbox fillers.
15. Footplate steps.
16. Mechanical lubricator, R/H side.
17. Cab sides and front.
18. Cab floor support.
19. Cab floor.
20. Cab splashers, L/H & R/H.
21. Cab window surrounds.
22. Boiler.
23. Smokebox inner.
24. Smokebox front.
25. Smokebox outer.
26. Firebox.
27. Firebox front.
28. Boiler bands.
29. Handrail wire.
30. Handrail knobs.
31. Ejector pipe, R/H side.
32. Clacks.
33. Middle splasher sides.
34. Middle splasher tops.
35. Cylinder covers.
36. Smokebox door handles.
37. Upper lamp bracket.
38. Smokebox door.
39. Reversing lever, 2 parts.
40. Westinghouse pump.
41. Backhead.
42. Regulator handle.
43. Cab roof.
44. Cab side beading, L/H & R/H.
45. Roof plate.
46. Roof vent.
47. Rain strips.
48. Whistle.
49. Ross pops.
50. Dome.
51. Anti-vacuum valves.
52. Chimney.
53. Front lamp brackets.
54. Buffers.
55. Vacuum pipe.
56. Vacuum pipe along LH valance.
57. Injector.

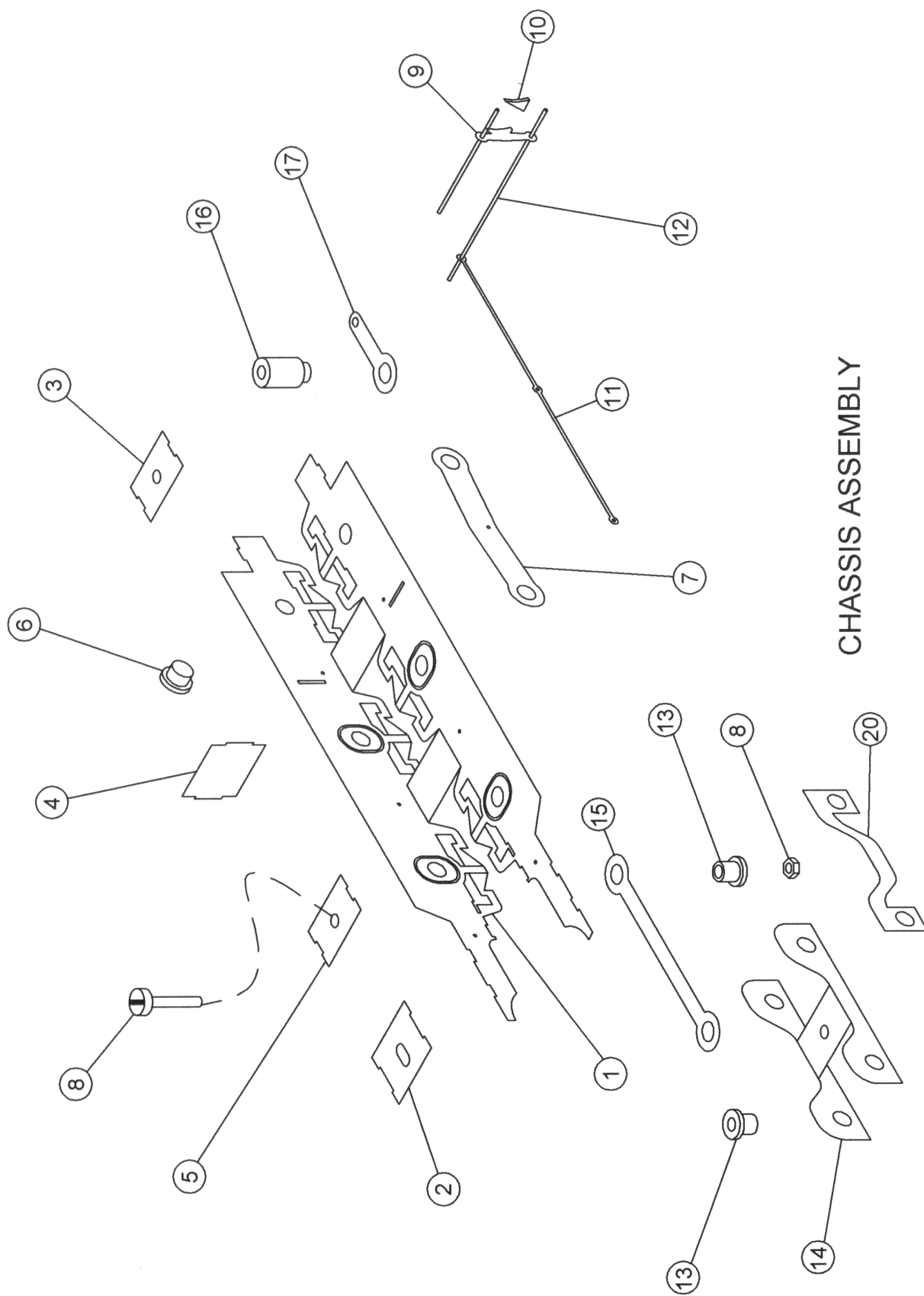
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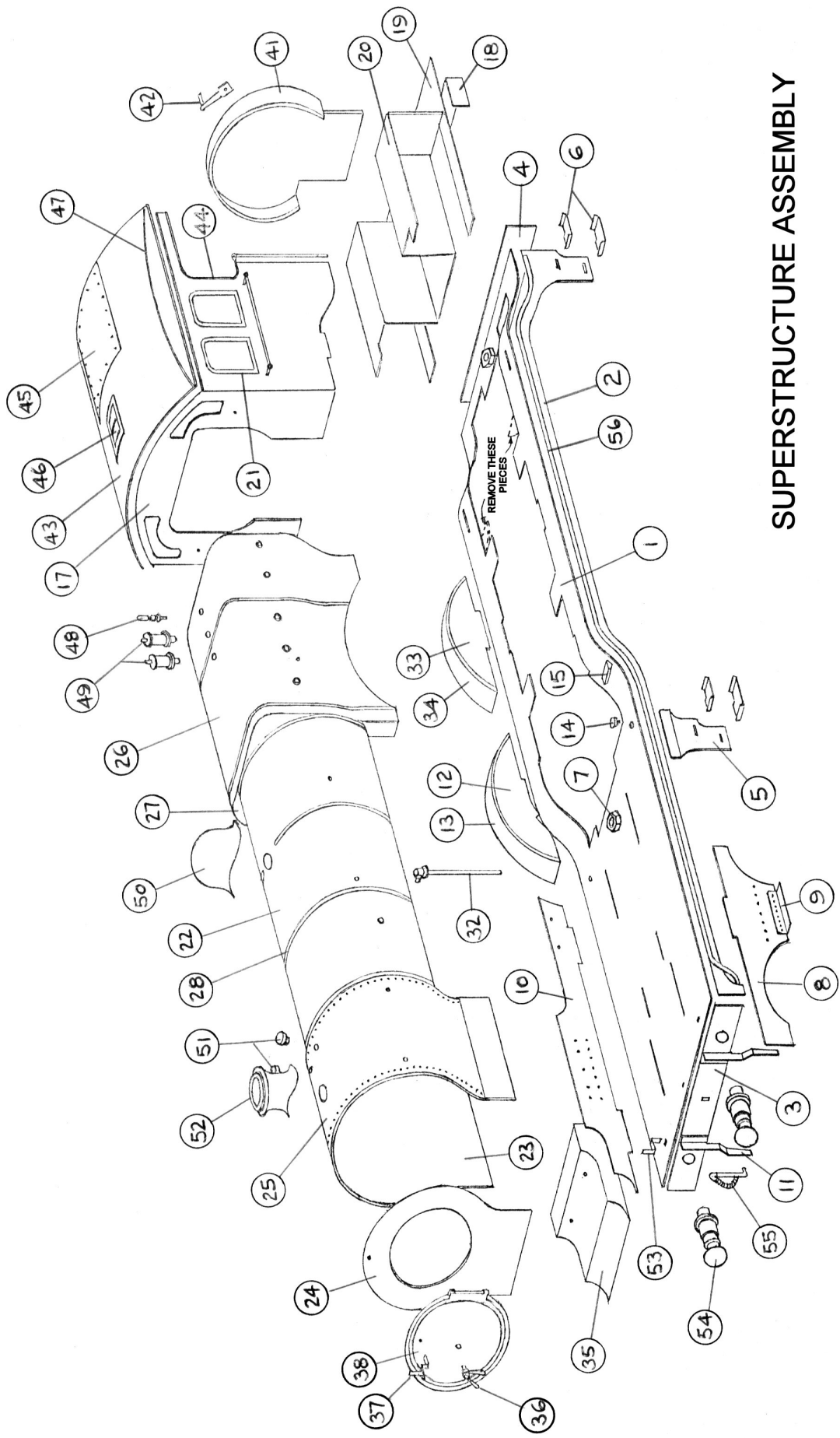
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CHASSIS ASSEMBLY



SUPERSTRUCTURE ASSEMBLY

GE Tender Instructions.

Take the chassis (1) and bend down the sides at 90 degrees to the centre. Solder an axle washer (2) over each axle hole then clean out the holes with a 2mm drill. Solder 22g wire through the three holes in each frame to form the brake gear supports (3). Fit the wheels to the chassis using axle washers to take up the sideplay, 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 wire supports making sure that the brakes do not touch the wheels. Take the pull rods (6) and thread 22g wire through these and through the holes in the lower ends of the hangers. Solder in place when assembled, and trim the ends of the wire after assembly.

Turn now to the body. Take the footplate (8), slot the frames (9) into it and fix in place. Then solder the buffer beam (10) and drag beam (11) in place. Take the sides (12), flare out the top edges over a piece of 3/16" dia. bar and bend up the coal guards along the etched lines. Then take the back (13) and flare out the top of this in the same way. Slot the back into the footplate and fix it and the sides to the footplate, so that the sides are level with the footplate edges. Now bend three of the four lamp brackets (14) and fix into the slots in the back. Make the handrails (15) for the sides and the back. Take the coal plate (16) and bend along the fold lines as shown in the diagram, with the etched fold lines underneath, so that the slots for the fire-iron rack (32) are on the left side of the tender, then fit the bulkhead (17) into its slots. Fit the rectangular coal space sides (18) in place, then fit the assembly into the floor support (19) at right angles and fix in place. Now bend up the floor/front plate (20) along the etched line so that the brake column hole is on the left side and fit it to the floor support and coal space. Solder the two rectangular pieces (21) in the remaining gaps either side of the front plate. Now take the side beading (22) and back beading (23), curve these to match the flare of the tender sides and back and solder them in place. Solder the coal guard beading (24) to the coal guards, and then solder the step plates (25) to the underside of the footplate. Bend up the ends of the narrow steps (26) and fit these to the step plates, then bend up the ends of the wide steps (27) and fit them into the slots in the rear end of the frames. Bend the guard irons (28) to shape and solder them to the buffer beam, and fit the buffers (29). Fit the axleboxes (30) to the frames, and then solder the 1/16" dia. drawbar pin (31) to the footplate and drag beam. Slot the fire iron rack (32) into the top of the coal plate, and then form the two toolboxes (33). Curve the lids to fit and solder the toolboxes into their respective slots, the narrower toolbox going on the left hand side next to the fire iron rack. Fit the two cupboard doors (35) to the front of the coal space then fit the two side plates (36) into the slots in the coal space front, either side of the floor. Fit the two small beading pieces (37) to the tops of these, then thread the handrail wire through the ends of these and through the holes on the footplate to form the front handrail. Fit the brake column (38) into the hole in the floor, the tank fillers (39) into the holes in the rear of the coal plate, and fit the last lamp bracket to the centre of the top at the back.

Lastly, fit the vacuum pipe (40) to the buffer beam if modelling a vacuum fitted loco.

Parts List.

Tender

- | | | | |
|-----|--------------------------------|-----|-------------------------------|
| 1. | Chassis | 20. | Floor/front plate |
| 2. | | 21. | Side plates - 2 |
| 3. | Brake gear supports - 22g wire | 22. | Side beading, LH and RH |
| 4. | Brake hangers - 6 | 23. | Back beading |
| 5. | Brake blocks - 6 | 24. | Coal guard beading - 2 |
| 6. | Brake pull rods - 2 | 25. | Step plates - 2 |
| 7. | Tiebars - 22g wire | 26. | Narrow steps - 4 |
| 8. | Footplate | 27. | Wide steps, 2 long, 2 medium |
| 9. | Frames-2 | 28. | Guard Irons LH and RH |
| 10. | Buffer beam | 29. | Buffers - 2 |
| 11. | Dragbeam | 30. | Axleboxes - 6 |
| 12. | Sides - LH and RH | 31. | Drawbar pin |
| 13. | Back | 32. | Fire iron rack |
| 14. | Lamp brackets - 4 | 33. | Toolboxes - LH and RH |
| 15. | Handrails | 34. | Toolbox lids - LH and RH |
| 16. | Coal plate | 35. | Cupboard doors - LH and RH |
| 17. | Bulkhead | 36. | Front plates - 2 |
| 18. | Coal space sides - 2 | 37. | Front plate beading - LH & RH |
| 19. | Floor support | 38. | Brake column |
| | | 39. | Tank fillers-2 |
| | | 40. | Vacuum pipe |

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Tender Assembly Diagram

