

BR STANDARD 82xxx 2-6-2 TANK INSTRUCTIONS

CHASSIS ASSEMBLY

Take the mainframes (1) and check all the pilot holes to make sure that the brass wire supplied will go through.

If you do not wish to compensate the chassis leave the bearing inserts in place in the frames and fit your bearings (2) as normal.

If you are doing a compensated chassis you will have to drill the hole for the compensating spindle by lining the compensating beams up with holes in the bearing inserts and drilling through the centre hole. Remove the bearing inserts from the frames and solder two 1/8th axle bearings (2) into the rear two holes in the chassis.

Bend up the frames and fit the frame spacers (3) and the rear spacer (4).

Solder four 1/8th axle bearings into the compensating beams (9). The compensating beams should be mounted on the brass wire and one of the springs (10) used as the compensating spacer. It is very important that no parts of this mechanism are soldered in a fixed position other than the brass wire to the mainframe. Both beams must move independently of each other. The assembly of the beams is otherwise very simple. 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.

Bend the cylinder block (5) along the etched fold lines, and slide it into the slots in the front end of the chassis. Take the cylinder sides (6 & 7), and curve the upper and lower ends to match the cylinder block. Solder the front cylinder covers (8) to the cylinders. Bend the cylinder drain cocks down at 90°. Bend down the top of the small square section (steam pipe) in the centre of the top of each side. When the sides are formed, solder them to the edges of the cylinder block. Use scrap brass to fill in the sides of the steam pipes, and then file the front edge of the steam pipes so that they are horizontal.

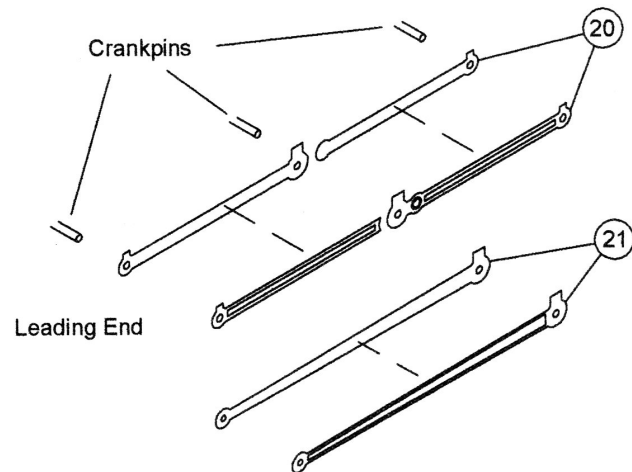
Fold down the flap on the front motion bracket (11) and solder it into the recess just behind the cylinders. Take the main motion bracket (12) and fold out the rear angle bracket. Solder the detailed motion bracket fronts and rears (13) to the bracket. Solder the assembled unit into the slots in the frames.

Solder brass wire (18) through the holes in the chassis to form the brake supports. Now take the brake hangers (15) and solder the brake blocks (16) to them, making L/H & R/H pairs, then solder the assembled brakes to the support wires in the chassis about 2mm from the frames. Use brass wire to form the tiebars, fitting the pull rods (17) at the same time.

Fix the valve end covers (19) in place, front and rear (the rear ones incorporate the piston rod guides). Fit the sandboxes (22).

The chassis can now be painted. Mask any moving parts prior to spraying.

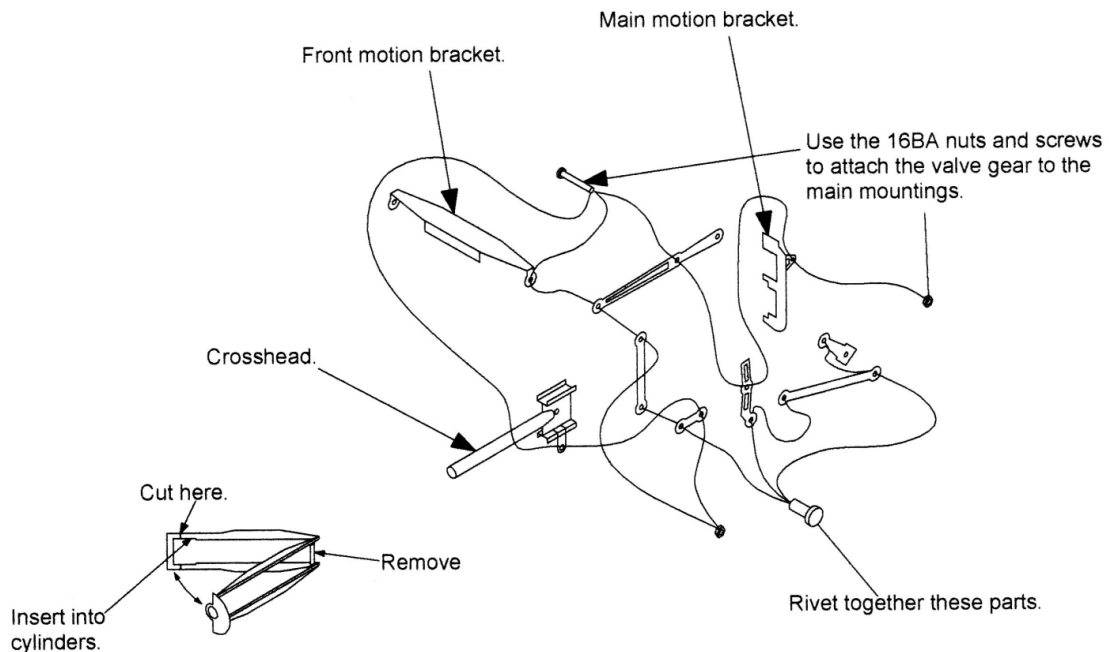
The driving wheels can now be fitted permanently. Markits make wheels sets which include crank pins. Now glue the balance weights (23) to the coupled wheels, the larger pair going on the centre wheels. Paint the wheels and then screw the crankpins into the wheels. Assemble the coupling rods (20) as shown in the diagram. These can be used either fluted (earlier locos) or plain (later locos). Take care in this operation as they must move freely for the compensation to work. The connecting rods (21) can also be assembled.



Place the rods on the crankpins, and check that the wheels revolve freely, and then fit the ends of the rods to the crankpins using the crankpin washers. Put paper between the coupling rods and the crankpin washers when fixing to avoid soldering the rods to the crankpins, and then remove the paper afterwards

Refer to the diagram below and assemble the valve gear. Fold the slidebars (24) over and solder together. Remove the strengthening bar and slot the slidebars into the cylinders. Rivet together the motion parts and attach them to the motion brackets with the 16BA screws and nuts.

Valve Gear Assembly.



Lastly assemble the pony and trailing trucks. Fix the bases (35) and the tops (36) together, and clean out the axle holes with a 2mm drill. Assemble the wheels onto the trucks, using the washers (46) to take up excess side play, and then attach the trucks to the chassis using two 8BA screws and the two cast pivots (37).

SUPERSTRUCTURE ASSEMBLY

Firstly remove the main cab/tank sides etching (1) from the fret. Before bending this, press out the rivets with a pin or scribe in the half-etched holes. Now curve the cab roof to match the profile of the front and rear of the cab. The top of the cab roof is flat, as are the outer sections of the roof which should be angled at 45 degrees. Bend down the sides along the half-etched fold line. Bend the upper section of the bunker sides along the etched lines. As with the cab roof, the sloping section should be at 45 degrees. Bend the tank front corners to a radius of 1 mm. The curves should start at the edge of the cutaway section on the lower edge of the tanks. Bend the cab entrance sides inwards at right angles to the sides.

Take the footplate (2) next, and bend to shape along the fold lines. The edges of the angled section fit into the half-etched grooves in the inside faces of the valances. After bending along the fold lines, curve the front ends of the valances to match the footplate. Bend up the smokebox saddle sides at 45 degrees to the footplate, and then solder the two small front corner pieces (3) in place. Solder the footplate into the half-etched slots in the inside faces of the tank sides.

Now turn to the bunker back (4), and fix the rear buffer beam overlay (5) to it, then solder the bunker back in place in the half-etched recesses along the edges of the bunker sides. Take the cab front/tank tops (6), press out the line of rivets along the top edge of the cab front, bend the cab front at right angles to the tank tops, then solder this piece in place. As with the bunker back, the inside edges of the tanks and cab are recessed to take this part. Now press out the line of rivets along the top of the cab back (7), bend along the fold lines, and solder in place. Take the five steps (8) for the rear of the bunker, bend up the ends, and solder the steps into the slots in the back of the bunker. Then bend four of the lamp brackets (9) and fit these into their holes in the bunker back. Now make and fit the four handrails in the back of the loco from the 26g wire.

Take the cab floor (10), bend down the step recesses, and solder the floor into the cab. Make the cab entrance handrails from the 26g wire, and fit these into the holes in the cab entrance sides. Take the rear chassis mounting plate (11), solder an 8BA nut (12) over the hole in its centre, and solder the plate into the etched recesses in the bottom of the bunker.

Solder the front buffer beam (13) in place (it fits between the valance ends), then fix the riveted overlay (14) to it. Slot the two frame pieces (15) into the footplate, then bend the cover (16) that fits between the frame pieces, and fix in place. Fix the four steps (17) into the four slots in the angled section of the footplate.

Turn now to the boiler. Roll the smokebox inner (18) and solder up its seam, then roll the smokebox overlay (19) and fit this over the smokebox inner. Solder an 8BA nut inside the base of the smokebox; over the hole (this is to screw the front of the chassis to). Solder the smokebox to the smokebox saddle, and to the tank tops, and then roll the tapered section of the boiler (20). Next form the firebox (21) so that its forward edge matches the shape of the firebox front (22), and the rear edge matches the shape of the cut-out in the cab front. This will be found easier to do if it is first annealed. It should be noted that the firebox is tapered in plan view towards the rear, and that the top and side surfaces have a slight curve to them. When satisfactorily formed solder the front in place with a good fillet of solder inside, then file a radius on the front edge. The taper boiler section and the firebox can now be soldered to the tank tops/cab front, and to each other. Fit the four boiler bands (23), two to the taper boiler, and two to the firebox.

Return to the front of the loco, and fit three of the front lamp brackets (24) into the slots in the front of the footplate, then make the two small handrails next to these in the footplate. Take the

two front step plates (25), bend up the steps and step sides along the fold lines, and fix in place behind the valances immediately behind the buffer beam. Then bend up the edges of the two separate steps, and fix them into the slots in the step plates. Bend the top section of the two mechanical lubricator shields (26) at approximately 30 degrees to the vertical, and fix them to the top footplate steps, up against the footplate. Next fit the two tank front steps (27) into the slots in the tank fronts, then bend and fit the cab step plates (28), noting that the L/H one is straight, and the R/H one has an angled top section matching the angle of the rear buffer beam corners (see assembly diagram). Now bend and fit the rear step plates and steps (29), the top sections of which are also at the same angle as the rear buffer beam corners.

Take the four lifting eyes (30), bend up the ends at 45 degrees, and fix these over the holes in the tank tops. Now carefully remove the four cab window beadings (31) from the fret, and fix these over the edges of the cab windows. Carefully remove the cab cut-out beadings (32) next, and fix them to the top part of the cab cut-outs, bending to match the roof angle at the same time. The two rectangular cab doors (33) can be fitted if required. Turn to the roof and fit the rain strips (34), and the roof vent (35). It will be found necessary to curve the outer edges of the vent slightly to match the roof. Take the bunker beading (36) next, and fix this around the top of the bunker, then fit the buffers (37), vacuum pipes (38), and steam heating pipes (39) to the buffer beams.

Fit the chimney (40) to the smokebox, then take the smokebox door (41), and fit the door handles (42) to it. Make and fit the handrail, and fit this and the fourth front lamp bracket to the door, then fit the assembly into the front of the smokebox. Fit the dome (43) to the boiler, and then fit the Ross pop safety valves (44), and the safety valve base (45) to the firebox. Fit the mechanical lubricators (46) into their holes in the footplate, then fit the steam pipes (47) either side of the smokebox, in line with the chimney. Fit the ejector (48) to the L/H side of the smokebox. Fix the tank filler caps (49) into the holes in the front of the tank tops, and then fit the clacks (50) to the boiler, with their pipe ends through the holes in the tank tops. Take the whistle manifold (51), fit the whistle (52) into the hole in its top, and then fit the assembly to the top of the firebox.

Fit the regulator rod (53) to the L/H side of the boiler, and then fit the manifold and pipe (54) to the R/H side of the firebox, with the forward end of the pipe in the hole in the R/H tank top. Fix the coal plate (55) inside the top part of the bunker, then fit the injectors and pipes (56) under the tank and cab on the R/H side of the loco. The other pipes (57) go in a similar position on the L/H side of the loco. The tag protruding down from the pipes under the L/H tank is for fixing the upper end of the speedometer drive (58) to, making sure that its lower end lines up with the end of the speedometer drive crank on the chassis. Finally, fit the grease separator (59) under the R/H tank side.

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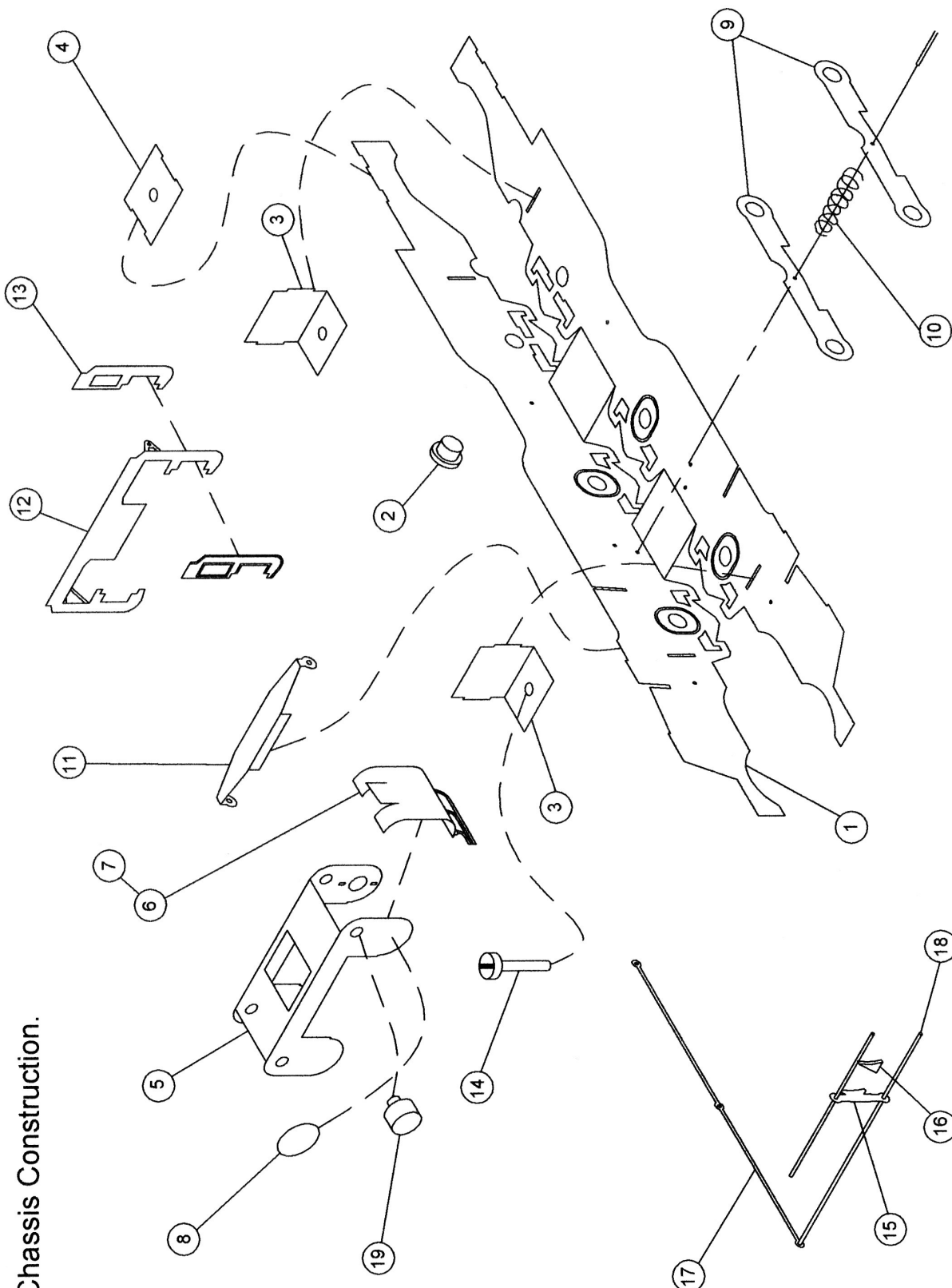
Chassis Parts List

1. Frames.
2. Axle bushes.
3. Frame spacers.
4. Rear frame spacer.
5. Cylinder block.
6. R/H Cylinder side & drain cock.
7. L/H Cylinder side & drain cock.
8. Front cylinder covers.
9. Compensating beams.
10. Compensating spring.
11. Front motion bracket.
12. Main motion bracket.
13. Main motion bracket overlays.
14. 8BA Nuts and screws.
15. Brake hangers.
16. Brake blocks.
17. Pull rods.
18. Brass wire.
19. Valve end covers.
20. Coupling rods.
21. Connecting rods.
22. Sandboxes.
23. Balance weights.
24. Slidebars.
25. Crossheads.
26. Drop links.
27. Expansion links.
28. Valve rods.
29. Eccentric rods.
30. Valve gear rivets.
31. Return cranks.
32. Combination levers.
33. Anchor links.
34. Valve guides, L/H & R/H.
35. Pony & trailing truck bases.
36. Pony & trailing truck tops.
37. Pony & trailing truck pivots.
38. 14BA Nuts and screws.

Superstructure Parts List

1. Cab & tank sides.
2. Footplate.
3. Front corners for smokebox saddle – 2.
4. Bunker back.
5. Rear buffer beam overlay.
6. Cab front/tank tops.
7. Cab back.
8. Bunker back steps – 5.
9. Rear lamp brackets – 4.
10. Cab floor.
11. Rear chassis mounting plate.
12. 8BA nuts – 2.
13. Front buffer beam.
14. Front buffer beam overlay.
15. Frame pieces – 2.
16. Cover between frames.
17. Footplate steps – 4.
18. Smokebox inner.
19. Smokebox overlay.
20. Boiler.
21. Firebox.
22. Firebox front.
23. Boiler bands – 4.
24. Front lamp brackets – 4.
25. Front step plates and steps – 2.
26. Mechanical lubricator shields – 2.
27. Tank front steps – 2.
28. Cab step plates and steps, L/H & R/H.
29. Rear step plates and steps – 2.
30. Tank lifting eyes – 4.
31. Cab window beading – 4.
32. Cab cut-out beading.
33. Cab doors – 2.
34. Cab roof rain strips – 2.
35. Cab roof vent.
36. Bunker beading.
37. Buffers – 4.
38. Vacuum pipes – 2.
39. Steam heating pipes -2.
40. Chimney.
41. Smokebox door.
42. Smokebox door handles.
43. Dome.
44. Ross pop safety valves – 2.
45. Safety valve base.
46. Mechanical lubricators – 2.
47. Steam pipes – 2.
48. Ejector.
49. Tank filler caps – 2.
50. Clacks, L/H & R/H.
51. Whistle manifold.
52. Whistle.
53. Regulator rod.
54. R/H pipe & manifold.
55. Coalplate.
56. Injectors and pipes.
57. Pipes under L/H tank.
58. Speedometer drive.
59. Grease separator.

Chassis Construction.



SUPERSTRUCTURE ASSEMBLY

