DRUMMOND S.R. T9 4-4-0 (SUPERHEATED REBUILD)
ASSEMBLY INSTRUCTIONS

HISTORICAL NOTES

The T9 class was designed by Dugald Drummond and were built by Dubs of Glasgow and at the London and South Western Railway workshops at Nine Elms. When first built they were the fastest express locomotives in existence and were used on premier main line turns. They were soon outclassed, and although rebuilt with superheaters in the form depicted in this kit, were relegated to secondary duties. They were regular performers on the South Western main line and the lines of North Cornwall. These locomotives were very reliable machines and were entrusted to Royal Train duties between the Wars and even after Nationalisation.

Originally 10 locomotives were fitted with short six wheeled tenders for use on lines where small turntables were available, although these were exchanged between locos and some were transferred from other classes of withdrawn locomotives.

In Southern Railway days the locos were painted in the varying shades of green with white/black lining and in BR the livery was black with mixed traffic (red/grey) lining.

One loco No. 30120 is preserved as part of the National Collection and has seen service on preserved lines in Southern England.

SUPERSTRUCTURE ASSEMBLY

Remove the footplate (1) very carefully from the fret as, because of the narrow width of the loco, the footplate is weak around the splasher area. Lay it upside down on a flat surface (the hole for the vacuum pipe should be to the left side) and solder the drag beam (2) in place, slightly in from the footplate rear edge. Then solder the two valances (3) to the footplate, slightly in from each edge. The valance with the hole by the rear steps goes on the left side of the loco. Next solder the buffer beam (4) in place, followed by the riveted overlay (5). Solder the two step plates (6) behind the valances, with their centres 35mm in from the front edge of the footplate. Bend up the ends of the steps (7) and fix into the slots in the valances and step plates. Solder two 8BA nuts (8) over the holes in the centre of the footplate to screw the chassis to, then fix the lower frame pieces (9) into their slots in the footplate, followed by the small leading frame pieces (10) which fit up against the buffer beam and in line with parts (9). Take the cab sides (11) and the cab front (12) and curve the front to match the sides, and then solder them together. The front fits between the sides, and not to the front edges of the sides. Now take one of the coupling rod splasher sides (13) and one of the splasher tops (14) and curve the top to match the side. The etched recess along the edge of the splasher top fixes over the top edge of the side. Fix the two parts together, then repeat the process with the other coupling rod splasher. Next take the driving wheel splasher sides (15) and tops (16), curve the tops to fit the sides and fix them together, again with the recessed edge of the tops fitted to the top edge of the splashers. The cab, coupling rod splashers, and wheel splashers should now be soldered to the footplate and to each other, great care being taken to ensure all the parts are assembled square and level, as this is not an easy part of the body construction. As it is unlikely that everyone will curve all the parts identically a small amount of extra length has been given to the cab front and splasher tops to allow for variations, and the ends of these parts should be trimmed where necessary during assembly.

Once these sections have been successfully fixed together the four small crankpin splashers (17) can be fitted in place. Then take the upper frame pieces (18), press out the rivets, and fix into the slots in the footplate. Form the small grab handles (19) from the 26g handrail wire and fix into the holes in the upper frames. Fix the sandboxes (20), reversing lever end (21), and small vertical cylinder (22) in place, and then turn back to the cab and fix the window rims (23) into the recesses round the cab windows. Now bend the cab floor support (24) and fix to the footplate with its ends against the inside faces of the cab sides, and the back slightly in from the near edge of the footplate, then fix the cab floor (25) to it. Bend the two cab splasher sides (26) along the etched fold lines, and solder them to the tops (27) making one

LH and one RH, then fix the splashers in place in the cab with their rear faces almost level with the back edges of the cab sides. Now fix the regulator handle (28) to the backhead (29) and fix the backhead in place in the cab. Curve the cab roof (30) to match the cab front, and solder it to the cab, and then solder the rain strips (31) to the roof. The longer of the three strips is for the curved rear edge of the roof. Take the two beading strips (32) and fix them to the edges of the cab side cut-outs, bending them at the same time to match the cut-outs. The beading should be continued along the underside of the cab roof and cut off flush with the rear edge of the roof. Now make the cab handrails (33) from the handrail wire, threading the wire through the holes in the footplate, and through the ends of the beading.

Turn now to the boiler, and roll the boiler/firebox unit (34), bend out the lower part of the firebox sides, and solder up the boiler seam. Next roll the smokebox inner (35), straighten out the saddle sides, and fit to the boiler unit. Fit the inner smokebox front (36) to the front edge of the smokebox, then form the smokebox wrapper (37) and fit to the smokebox, followed by the riveted front overlay (38). Now solder the saddle front and rear (39) to the smokebox between the saddle sides, checking at the same time the fit of the saddle between the upper frame pieces, and the alignment of the tags on the saddle front and rear with the slots in the footplate. Fit the boiler bands (40) to the boiler, and the four washout plugs (41) into the holes in the firebox. The assembled boiler unit can now be fitted to the footplate/splashers/cab unit, checking before finally fixing the two together that the boiler is level with the footplate and that the firebox is a good fit with the cab and splashers, and that the centre of the boiler lines up with the centre of the cab front. Once fitted the boiler handrail can be made and fitted using the 26g wire (42) and handrail knobs (43) provided. The chimney (44), dome (45), pieces either side of the firebox sides (46) and clacks (47) can now be fitted, and then the clack pipes (48) can be formed from the 22g wire and fixed into the holes in the clacks at one end, and through the holes behind the driving wheel splashers at the other. Now fit the whistle (49) in place, then form the two injector pipes (50) either side of the firebox from the 22g wire, bending the upper ends to fit into the holes in the firebox either side of the whistle. Fix three pieces of the handrail wire to the top ends of the injector pipes and to the whistle, passing the other ends through the three holes in the cab front (51).

Turn to the smokebox and fit the upper lamp bracket (52), and the step (53) to the smokebox front. Fit the smokebox door handles (54) and lamp brackets (55) to the smokebox door (56), and fix the door to the smokebox. Fix the buffers (57) into the holes in the buffer beams, and fit the cylinder cover (58) in front of the smokebox saddle between the frame pieces. Then fit the three lamp brackets (59) and the vacuum pipe (60) into the holes in the front edge of the footplate. Take the cab fall plate (61) and curve it slightly, make a hinge from the handrail wire and split pins (62) and fix it into the holes in the cab floor, making sure it pivots freely. Lastly, make the vacuum piping along the LH valance from the 22g wire (63), fixing the rear end through the hole in the valance.

CHASSIS ASSEMBLY

Take the frames (1) and solder in the axle bushes (2), making one frame LH and one RH. Choose either the ‘00’ or ‘EM’ frame spacers (3) as required, bend as shown on the diagram, and solder the frames to the spacers, making sure everything is assembled square and flat. Solder an 8BA nut (4) over the hole in the main spacer half way between the axles, and another over the hole in the smallest spacer to which the bogie link will be attached. If fitting a D11 motor screw the motor to the mounting plate (5) using two washers (6) under the screw head. Put an axle and the Romford gear in the chassis to check the gear mesh, adjust if necessary, the fix the mounting plate in place. If fitting a Portescap 1219 motor this plate will not be necessary. Solder pieces of the .7mm wire through the holes in the frames to form the brake gear supports (7). It may be found easier to paint the frames behind where the wheels will be at this stage rather than after the wheels have been fitted. Next fit the wheels, axles, gear, and crankpins to the chassis, using the four axle washers (8) to take up any side play. Fit the pairs of coupling rod halves (9) together, place the rods on the crankpins and check that the wheels revolve freely, and then fit four small washers (10) to retain the coupling rods. Put paper between the coupling rods and the washers when fixing to avoid soldering the rods to the crankpins, and then remove the paper afterwards. Screw the collector tag (11) to the main spacer using one of the 8BA screws (12) and the two fibre washers (13). Check that the

tag is not electrically live to the chassis, then form current pickups using some of the 26g handrail wire (14) soldered to the tag. Now take the brake hangers (15) and solder the brake blocks (16) to them, making LH and RH pairs, then solder the assembled brakes to the support wires (7), making sure they do not touch the wheels, fitting the brake tie bars (17) and pull rods (18) at the same time. Fit the ashpan sides (19) to the underside of the chassis, being careful that they do not touch the collector tag or wire, then fix the two ejectors (20) to the chassis sides.

Turn now to the bogie (21) and fold down the sides at right angles to the centre stretcher, then solder the two strengthening plates (22) between the frames below each edge of the stretcher. These two pieces may require slight trimming to fit. Now fix the two large washers (23) on the underside of the bogie centre. Next fix the dummy equalizing beams (24) to the bogie frames, so that the axle holes line up. if working in '00' the beams should be spaced off the frames with one axle washer (25) per axle hole. If working in 'EM' two washers per hole between the beams and the frames should be used. Next fit pieces of 22g wire through the small holes at the front and back of the bogie to form the tie bars (26), then fit the wheels to the bogie. Now take the bogie link and its washer (27), solder the washer over the smaller end of the link and tap the hole 8BA. Screw the link to the bogie leaving a small amount of play and shorten the screw so that its end is flush with the top surface of the link. The bogie can now be screwed to the chassis using an 8BA screw and the cast pivot (28). The drawbar (29) and the drawbar pivot (30) are fixed to the chassis with the same screw used to screw the rear end of the chassis to the superstructure.

SUPERSTRUCTURE PARTS LIST

1. Footplate.
2. Drag Beam.
3. Valences.
4. Buffer beam.
5. Buffer Beam Overlay.
6. Step Plates.
7. Steps (4 long, 4 medium).
8. 8BA Nuts.
9. Lower Frame Pieces.
10. Leading Lower Frame Pieces.
11. Cab Sides.
12. Cab Front.
13. Coupling Rod Splasher Sides.
14. Coupling Rod Splasher Tops.
15. Splasher Sides.
16. Splasher tops (LH & RH).
17. Crankpin Splashers.
18. Upper Frame Pieces (LH & RH).
19. Grab Handles.
20. Sandboxes.
21. Reversing Lever End.
22. Small Vertical Cylinder.
23. Cab Window Rims.
24. Cab Floor Support.
25. Cab Floor.
26. Cab Splasher Sides.
27. Cab Splasher tops.
28. Regulator Handle.
29. Backhead.
30. Cab Roof.
31. Cab Roof Rain Strips.
32. Cab Side Beading.
33. Cab Handrails.
34. Boiler/Firebox/Smokebox.
35. Smokebox Inner.
36. Inner Smokebox Front.
37. Riveted Smokebox outer.
38. Smokebox Front Overlay.
39. Saddle Front and Rear.
40. Boiler Bands.
41. Washout Plugs.
42. Handrail Wire.
43. Handrail Knobs.
44. Chimney.
45. Dome.
46. Firebox Side Pieces.
47. Clack Valves.
48. Clack Pipe Wire.
49. Whistle.
50. Injector Pipes.
51. Pipes To Cab Front.
52. Smokebox Lamp Bracket.
53. Smokebox Front Step.
54. Smokebox Door Handles.
55. Smokebox Door Lamp Brackets.
56. Smokebox Door.
57. Buffers.
58. Cylinder Cover.
59. Front Lamp Brackets.
60. Vacuum Pipe.
61. Cab Fall plate.
62. Wire and Split Pins for Fall Plate Hinge.
63. Vacuum Piping.

CHASSIS PARTS LIST

1. Frames.
2. Axle Washers.
3. Frame Spacers.
4. 8BA Nuts.
5.
6. Washers.
7. Brake Gear Supports.
8. Driving Wheel Axle Washers.
9. Coupling Rods.
10. Crankpin Washers.
11.
12. 8BA Screws.
13.
14.
15. Brake Hangers.
16. Brake Blocks.
17. Brake Tie Rods.
18. Brake pull Rods.
19. Ashpan Sides.
20. Ejectors.
21. Bogie.
22. Centre Strengtheners.
23. Centre Washers.
24. Equalising Beams.
25. Bogie Axle Washers.
26. Tie Bars.
27. Bogie Link and Washer.
28. Bogie Pivot.
29. Drawbar.
30. Drawbar Pivot.

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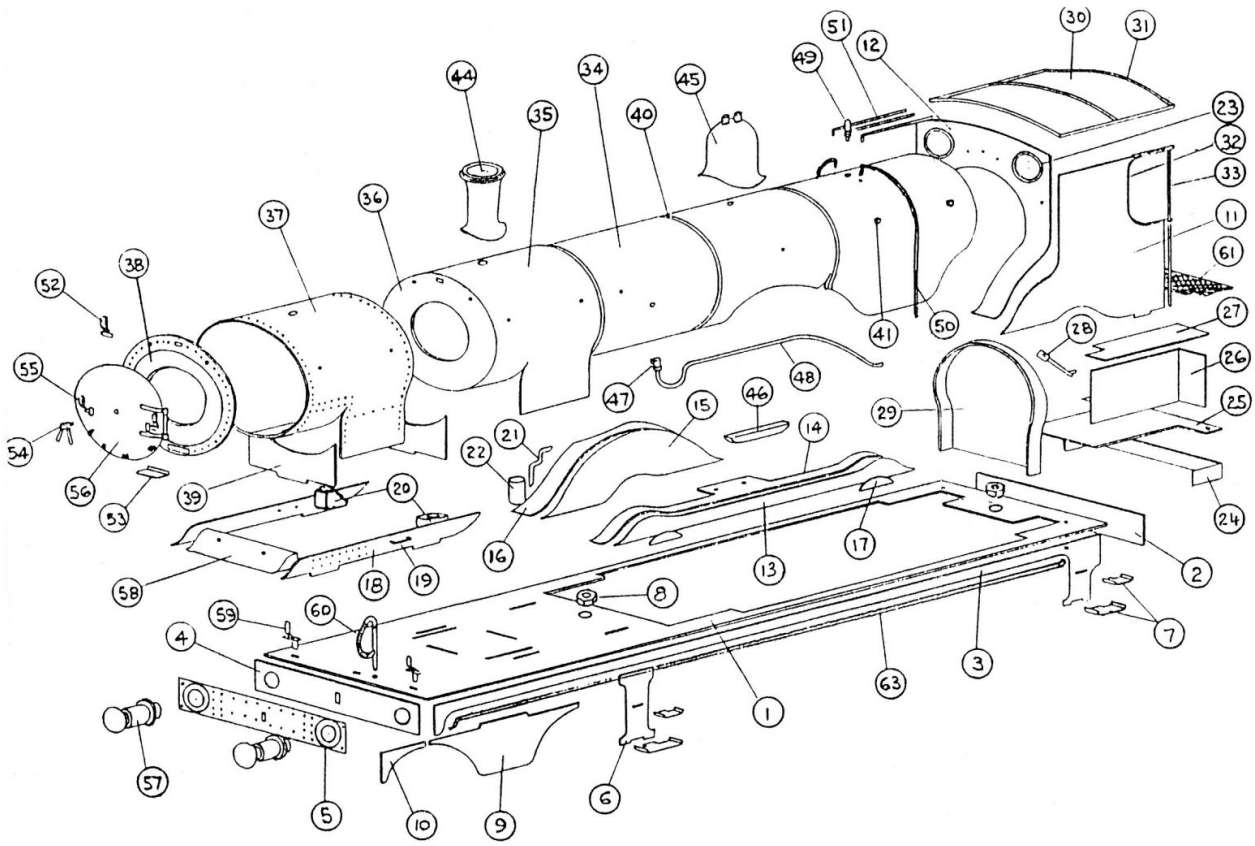
SUPERSTRUCTURE



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