Rebuilt West Country & Battle Of Britain Instructions

FIG. 1.

Cut out the running plate (1), cab front (2), cab floor (3), cab rear (4 & 4a), front buffer beam (5), front frames (6) and saddle front (7). Note that the fold lines go inside.

Carefully file off the tabs from all the parts. Gently curve the cab sides to match the profiles of the cab front and rear. Fold the valences down and roughly form the front curves. The running plate angles locate into the recessed lines in the back of the valences. Hold the valences in place and then solder along the join. Check the front angle with the corresponding angle on the smoke deflectors and adjust as necessary. Solder the front frames and saddle front in place.

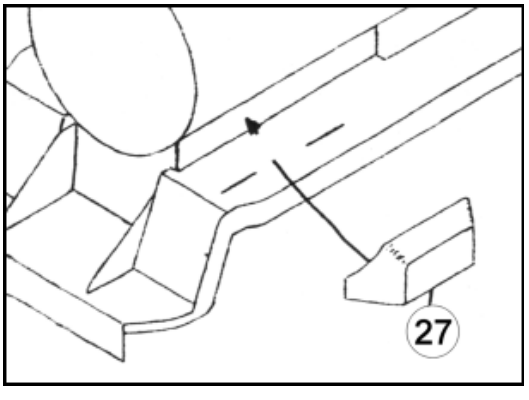
Fit the cab front onto the three small tabs at the back of the running plate. The cab front should overlap the cab sides and should be soldered in place so that it holds the sides in position. Fit the cab floor into its slots in the cab sides with the tabs facing backwards. When the position is correct solder it in place. Select the cab rear depending on the loco you are doing and solder onto the tabs and to the sides. Fold the bottom of the cab in to match the cab rear.

FIG. 2.

Check that the upper cab sides (8 & 9) fit in place O. K, (some adjustment may be necessary). When a good fit is achieved use low melt solder to attach them to the lower cab sides. The cab front and cab rear will give you a guide to the positioning. Check the fit of the cab roof (10). Make sure the curvature of the roof matches the cab front as this part has a tendency to flatten in the mould. You will also have to file away a certain amount of whitemetal down the sides of the roof to get a snug fit. Solder the roof in place and use the solder to fill in any sections as required.

FIG. 3 & 3a.

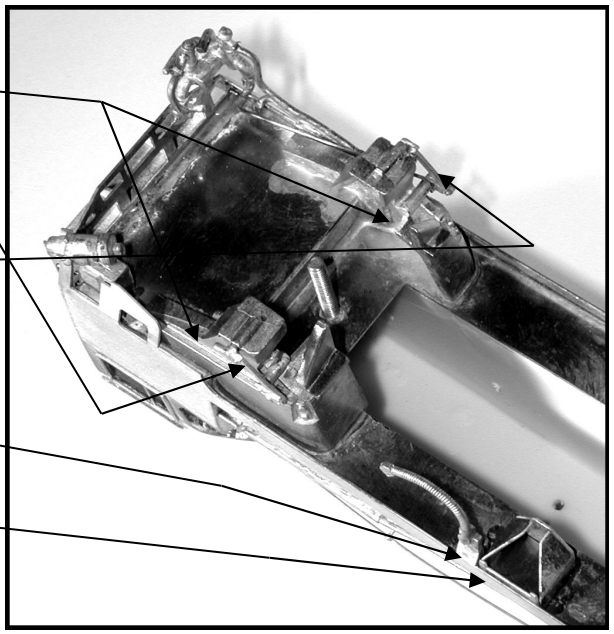
Clean any lines or imperfections from the boiler (11). A light rub over with very fine emery will help paint adhere to the resin later on, being careful not damage the detail, of course. Fit the boiler bottom insert (12) in place. This is a good time to add weight to the boiler. Check the fit of the boiler onto the running plate. When satisfied with the fit, line the boiler up centrally on the running plate. When you are satisfied with the position, tack the boiler in place with superglue. Check again that it is central and add more superglue to hold. Use epoxy resin to glue the boiler in place permanently (you will have to apply the resin through the back end of the smokebox saddle and on the inside of the firebox).



Fit the main steam pipes (27) either side of the smokebox.

Drill the handrail holes with a 0.8mm bit.

FIG's. 4 & 5.



Fit the firebox (13 & 14) castings underneath the running plate. They locate against the cab front and 1mm from the side valence.

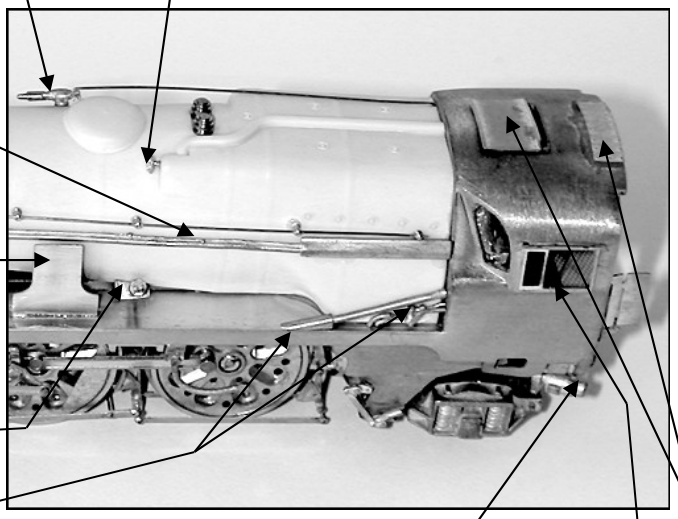
Glue the L/H ashpan operating linkage (15) into the holes on the L/H Ashpan sides and the R/H operating linkage (16) in place on the R/H ashpan side.

Solder the speedo drive cable (36) 37mm from the cab front.

Fold the reversing gear bracket and solder next to the speedo.

Drill the hole for the whistle (53) and glue in place.

Glue the manifold wheel into its hole (37) into its hole.



The ejector pipe (18) runs just under the handrails.

Select the type of nameplate mount (30), [WC or BB or WC without shield] and solder in place.

Fold up the ends of the small sandbox filler bases (35) and glue the sandbox fillers (34) into the central holes and then glue in place.

Glue the reversing bar (22) in place followed by the draincock operating valve (21). Fit the steam generator (42) and mounting block (41) behind the gap in the cab skirt on the left hand side.

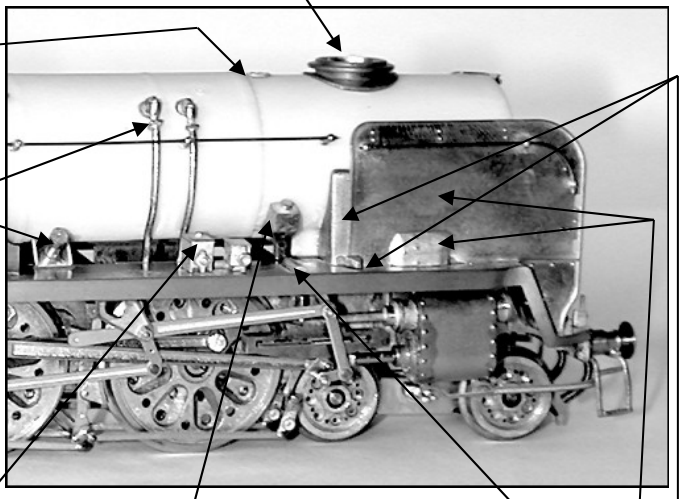
The cabside window frames (23 & 24) are of two types. Part 23 [smaller] represents the frames as fitted to 34001-70 and part 24 [larger] represents the frames as fitted to 34071-110. Choose your frames and fold the rainstrip down at 90˚, and then curve the ends of the rainstrip down slightly. Glue them in place.

Glue the roof shutter (19) and rear riveted plate (20) in place. Note that the roof shutters on rebuilt's were of the lifting type, not sliding, and therefore can only be slightly open.

Fit the handrail knobs (62) and wire (64) along the boiler noting that a long knob goes at the front and a short knob goes at the rear. Also drill out the holes for the Ross pop safety valves ready for them to be fitted after painting.

FIG's. 6 & 7.

Glue the chimney (17) in place. If you wish you can drill out the blastpipe with an 8mm drill.



Glue the smokebox top inspection cover (38) centrally, just in front of the front boiler band.

Glue the clack valves and piping (39) in place.

Fold up the ends of the large sandbox filler bases (31) and glue the sandbox fillers (34) into the central holes and then glue in place.

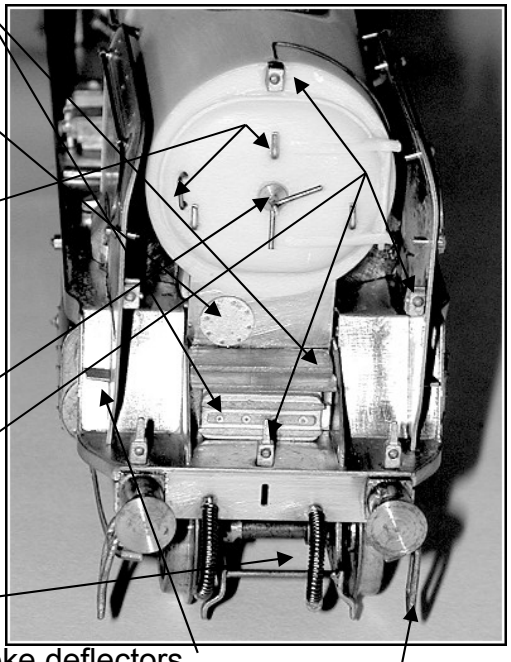
Note that the mechanical lubricators (32 & 33) are different and the set with two different types go on the right hand side.

Glue the front sandboxes (28) to the side of the smokebox, followed by the rocker arm covers (29).

Fit the handrails to the smoke deflectors (44 & 45) and fit the smoke deflectors in place. Glue the outside steam pipes (46 & 47) 6mm from the back of the smoke deflectors. Note that these are right and left handed.

Fit the centre cylinder steam pipe (48) behind the R/H smoke deflector. Fit the anti-vacuum valve (49) into the cut out at the bottom rear corner of the R/H smoke deflector.

Glue the valve chest cover (25) at the bottom of the smokebox front and then glue the AWS box (26) in front of it.



Glue the centre cylinder cover (67) above the valve chest cover, offset to the right hand side.

Drill the holes for the smokebox door lamp brackets (66) with a 0.7mm bit and glue the brackets in place. At the same time drill out for the handrail and fit in place.

Drill the hole for the smokebox door handle (61) glue the base in the hole and then glue the handles to the spigot.

Make up the wire conduit for the top lamp (50) from copper wire. Fit the top lamp in place along with the two on the inside of the smoke deflectors and the three [with brackets on top] above the bufferbeam.

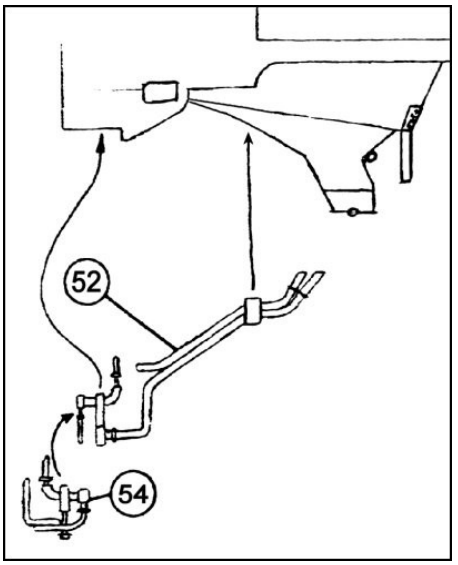
Solder the vacuum pipes (63) into the bufferbeam.

Fit the running plate angle steps (51) alongside the smoke deflectors.

Solder the front ladders (60) to the buffers (59) and solder them to the bufferbeam.

FIG. 8.

Clean up the brass cast injector set. Solder the rear injector (54) to the main injector (52) and then solder the assembled unit under the right hand side of the cab with the pipework going under the running plate.



Glue the backhead (56) into the cab. Assemble the screw reverser (57) and reverser handle (58) and glue this unit in the cab, to the left of the backhead.

Glue the fallplate (43) in place.

Drill out the holes for the cab handrails. Fashion the handrails from brass wire (65) and fit in place.

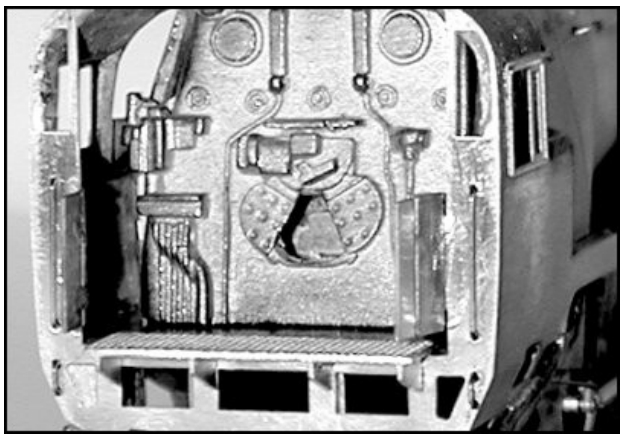


FIG. 9.

Take the mainframes (68) 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 as normal.

If you are doing a compensated chassis remove the bearing inserts from the frames and solder two ⅛th axle bearings (111) into the rear two holes in the chassis.

Bend up the frames and the integral spacers at front and rear with the fold lines on the inside to make up a box section. Fit one of the frame spacers with the elongated holes (70) into the recesses just behind the cylinder mounting slots and one in the recesses at the back of the frames. The front spacer (71) is also the bogie mounting plate. Solder an 8BA screw into the hole, as indicated, so that the bogie (84) can be fitted later. The spacer can now be fitted in place.

Solder four ⅛th axle bearings into the compensating beams (111). The compensating beams should be mounted on the brass wire and one of the springs (72) 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.

Cut out the Cylinder main etching (73) and fold down the front and back plates with the fold lines on the inside. Push the cylinder block onto the mainframes. With the wrapper plates

still in the horizontal position the 3/32” tubes (74) can be soldered in position so that the fronts of the tubes are flush with the surface of the front plate and protrude out of the back plate. The wrapper plates must now be gently folded down taking plenty of time to get the curves in the right place. Solder into position the cylinder end covers (75) and the three washers (76) on each side. The cylinder valve covers (77) can now be fitted.

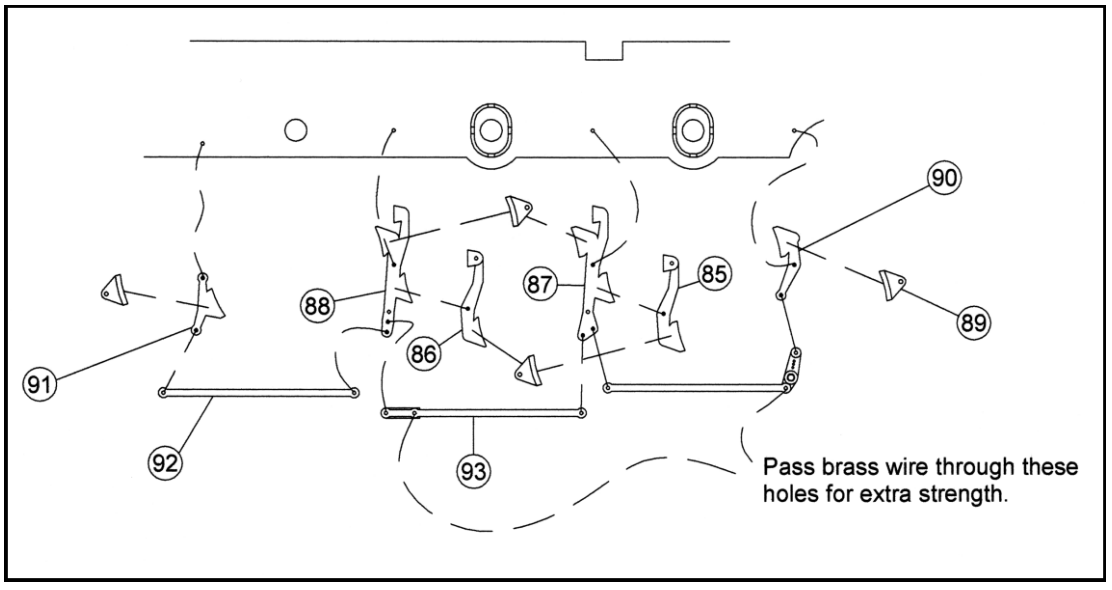
Cut out the main slidebar etching (78). Solder the three spacers (79) onto the main slidebar and the inner slidebar (80) on top of that. Fold the slidebars down with the spacers and inner slidebar facing inwards. Push the completed slidebars onto the chassis. The top of the slidebar bracket should be level with the top of the frames in the cut out.

Cut out the motion brackets (81 & 82) and fold them as shown. Strengthen the folds with solder. The front bracket fits into the slots just behind the slidebars. The rear bracket fits in the recesses in the top of the frames.

Solder the cylinder drain cocks (83) into the slots in the bottom of the cylinders.

FIG. 10.

The brake gear is rather delicate and requires a certain amount of patience. Check that the brass wire will go through all the holes and remember that the brakes must be left and right handed. First solder the brake hanger overlays (85 & 86) to the front (87) and rear (88) double brake hangers. Solder two brake blocks (89) to each double hanger. Take the front brake hangers (90) and the rear hangers (91) and solder a brake block to each, again remembering to make left and right pairs.



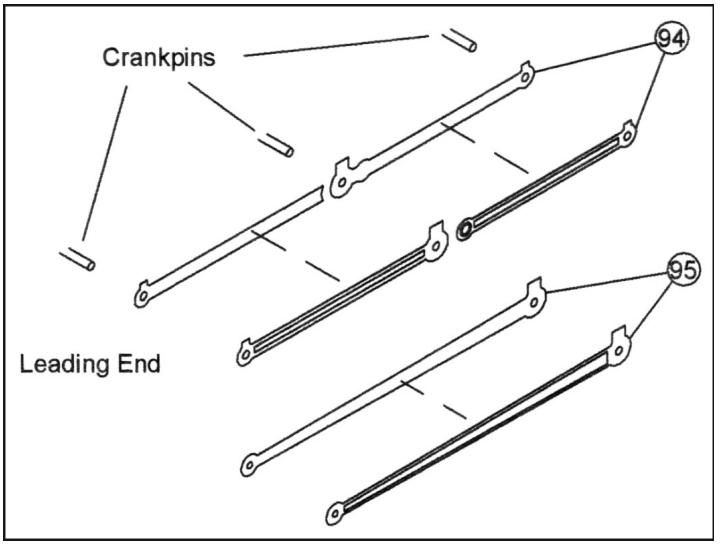
Solder brass wire through the remaining pilot holes.

Start by fitting both the L/H and R/H centre front brake hangers onto the ends of the protruding compensating spindle, about 2mm from the frames. Once the brake hangers are correctly fixed in position they can be used as a datum point via the inner pull rods (92) for the correct positioning of the other brake hangers. Finally add the outer pull rods (93).

The chassis is now ready to paint. Mask any moving parts before spraying.

FIG. 11.

The driving wheels can now be fitted permanently. Markits make Bulleid wheels sets which include crank pins. Assemble the coupling rods (94) as shown in the diagram. Take care in this operation as they must move freely for the compensation to work. The connecting rods (95) can also be assembled.



Cut out the bogie (84) and fold the sides down. Open out the holes to take the 2mm bearings (96) and solder them in place. Glue the dummy compensating castings (97) in place. When ready the bogie can be fitted using the spring (72) and 8BA nut (107).

Fold the crosshead (98) as shown in the drawing. Solder the crossheads and nickel silver bar (109) together. Fold the collar around the bar. Fix the crosshead to the con rod with the 16BA screws and nuts provided.

Cut out all the valve gear parts. Rivet together the various parts and attach them to the motion brackets and crossheads with the 16BA nuts and screws.

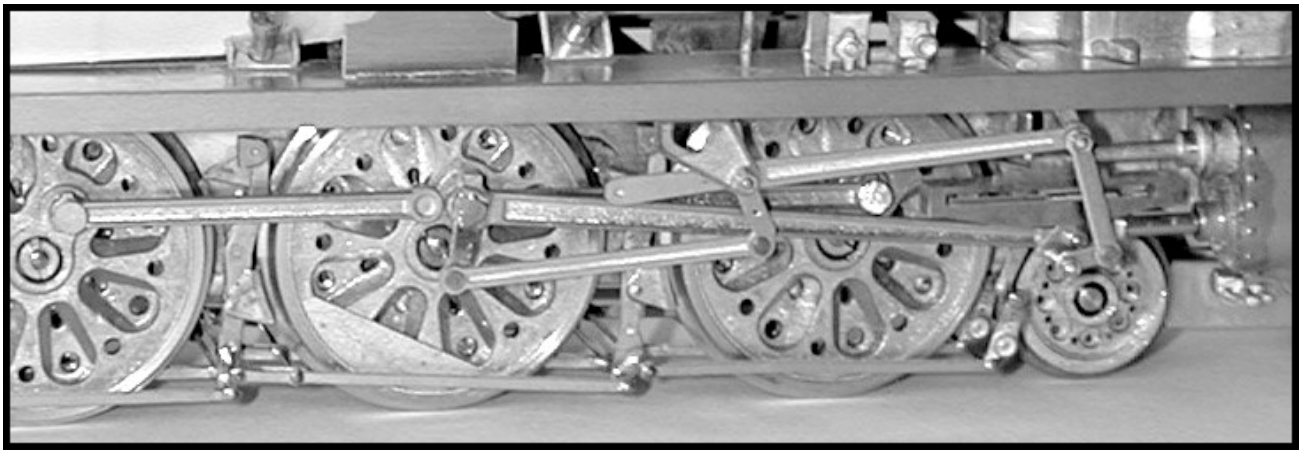
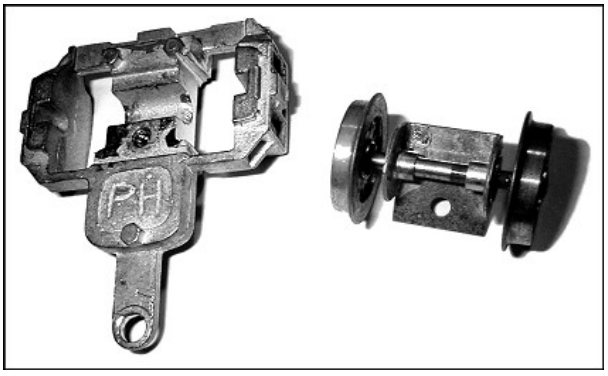


FIG. 12.

Fit two 2mm bearings (96) into the pony wheel carrier (99). Paint the wheel carrier and fit the pony wheels by removing one of the wheels from the axle. Drop the wheel set into the pony truck (100) and secure with a self tapping screw.



PARTS LIST

1. Running Plate.
2. Cab Front.
3. Cab Floor.
4. Cab Rear.
5. Front Buffer Beam.
6. Front Frames.
7. Saddle Front.
8. L/H Upper Cab Side.
9. R/H Upper Cab Side.
10. Cab Roof.
11. Resin Boiler.
12. Boiler Insert.
13. L/H Lower Firebox/Ashpan.
14. R/H Lower Firebox/Ashpan.
15. L/H Ashpan Operating Linkage.
16. R/H Ashpan Operating Linkage.
17. Chimney.
18. Ejector Pipe.
19. Cab Roof Shutter.
20. Rear Roof Riveted Plate.
21. Drain Cock Operating Valve.
22. Reversing Bar.
23. Cab Window Frames (34001 - 70).
24. Cab Window Frames (34071 - 110).
25. Valve Chest Cover.
26. AWS Box.
27. Main Steam Pipes.
28. Front Sandboxes.
29. Rocker Arm Cover.
30. Nameplate Mounts.
31. Large Sandbox Filler Bases.
32. L/H Mechanical Lubricators.
33. R/H Mechanical Lubricators.
34. Sandbox Fillers.
35. Small Sandbox Filler Bases.
36. Speedo Drive Cable.
37. Manifold Wheel.
38. Smokebox Top Inspection Cover.
39. Clack Valves and Piping.
40. Reversing Gear Bracket.
41. Steam Driven Generator Mounting Block.
42. Steam Driven Electric Generator.
43. Cab Fallplate.
44. L/H Smoke Deflector.
45. R/H Smoke Deflector.
46. L/H Steam Pipe (Outside).
47. R/H Steam Pipe (Outside).
48. Centre Cylinder Steam Pipe.
49. Anti - Vacuum Valve.
50. Electric Lamps.
51. Front Running Plate Angle steps.
52. Injector and Piping.
53. Whistle and Valve.
54. Rear Injector.
55. Ross Pop safety Valves.
56. Cab Backhead.
57. Screw Reverser.
58. Screw Reverser Handle.
59. Sprung Buffers.
60. Front Ladders.
61. Smokebox Door Handle.
62. Handrail Knobs (L, M & S).
63. Vacuum and Steam Pipes.
64. Handrail Wire.
65. Brass Wire.
66. Lamp Brackets.
67. Centre Cylinder Cover.
68. Mainframes
69. Compensating Beams.
70. Frame Spacers.
71. Front Spacer.
72. Springs.
73. Cylinders.
74. 3/32nd Tube.
75. Cylinder End Covers.
76. Washers.
77. Cylinder Valve Covers.
78. Slidebars.
79. Slidebar Spacers.
80. Inner Slidebars.
81. Main Motion Bracket.
82. Front Motion Bracket.
83. Cylinder Drain Cocks.
84. Bogie.
85. Brake Hanger Overlays (L/H).
86. Brake Hanger Overlays (R/H).
87. Front Double Brake Hangers (L/H & R/H).
88. Rear Double Brake Hangers (L/H & R/H).
89. Brake Blocks.
90. Front Brake Hangers (L/H & R/H).
91. Rear Brake Hangers (L/H & R/H).
92. Inner Pull Rods.
93. Outer Pull Rods.
94. Coupling Rods.
95. Connecting Rods.
96. 2mm Axle Bearings.
97. Dummy Compensating Castings.
98. Crossheads.
99. Pony Wheel Carrier.
100. Pony Truck.
101. Radius Rods.
102. Expansion Links.
103. Return Crank Rods.
104. Return Cranks.
105. Combination Levers.
106. Union Links.
107. 8BA Nuts & Screws.
108. 16BA Nuts & Screws.
109. Nickel Silver Bar.
110. 10BA Nuts & Screws.
111. ⅛th Axle Bearings.

Fig. 1. Running Plate And Cab Construction.

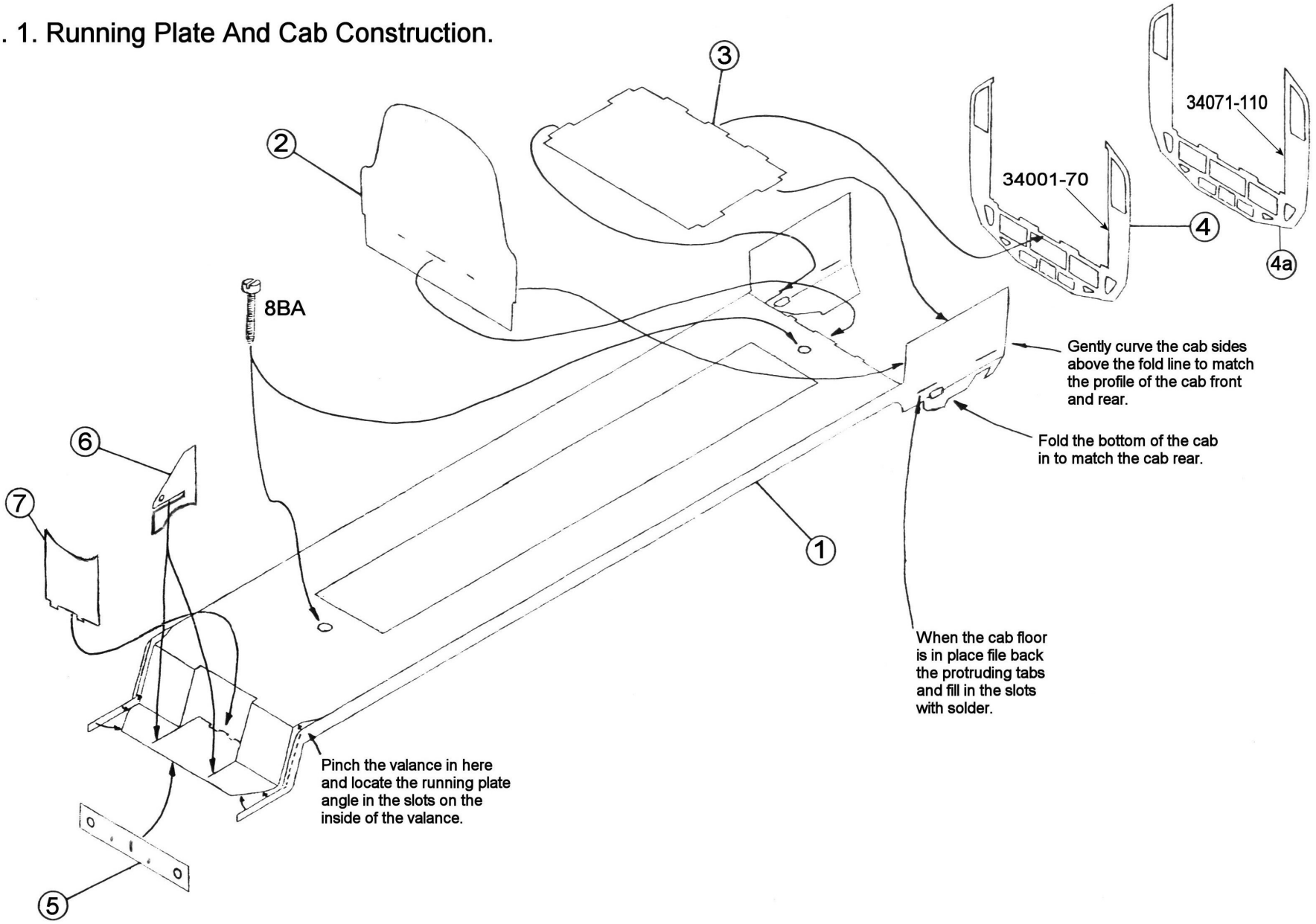


Fig. 2. Upper Cab Construction.

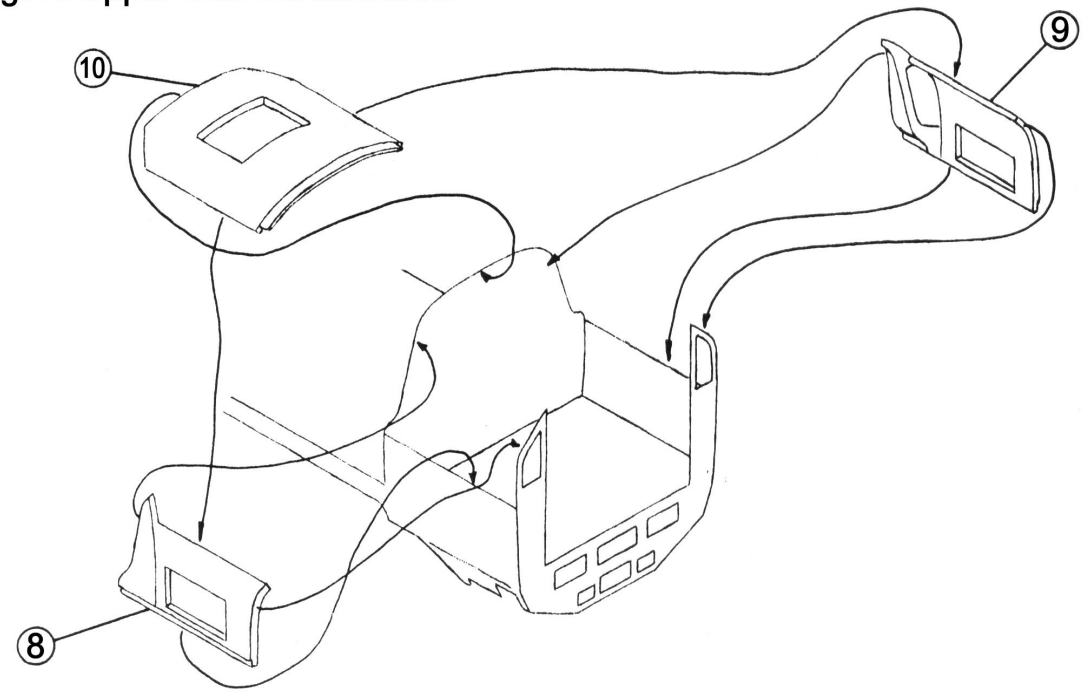


Fig. 3. Fitting the boiler.

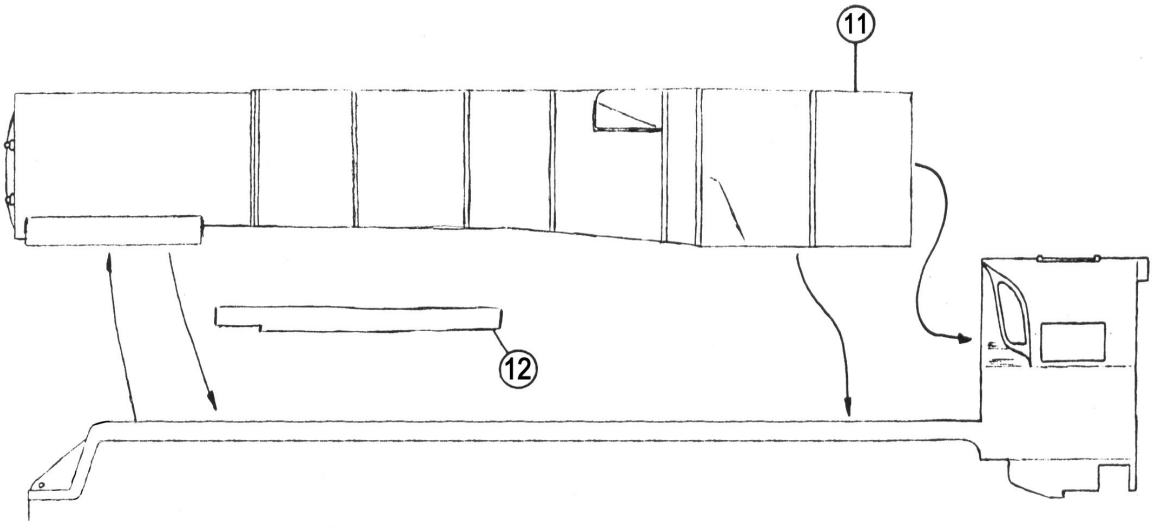
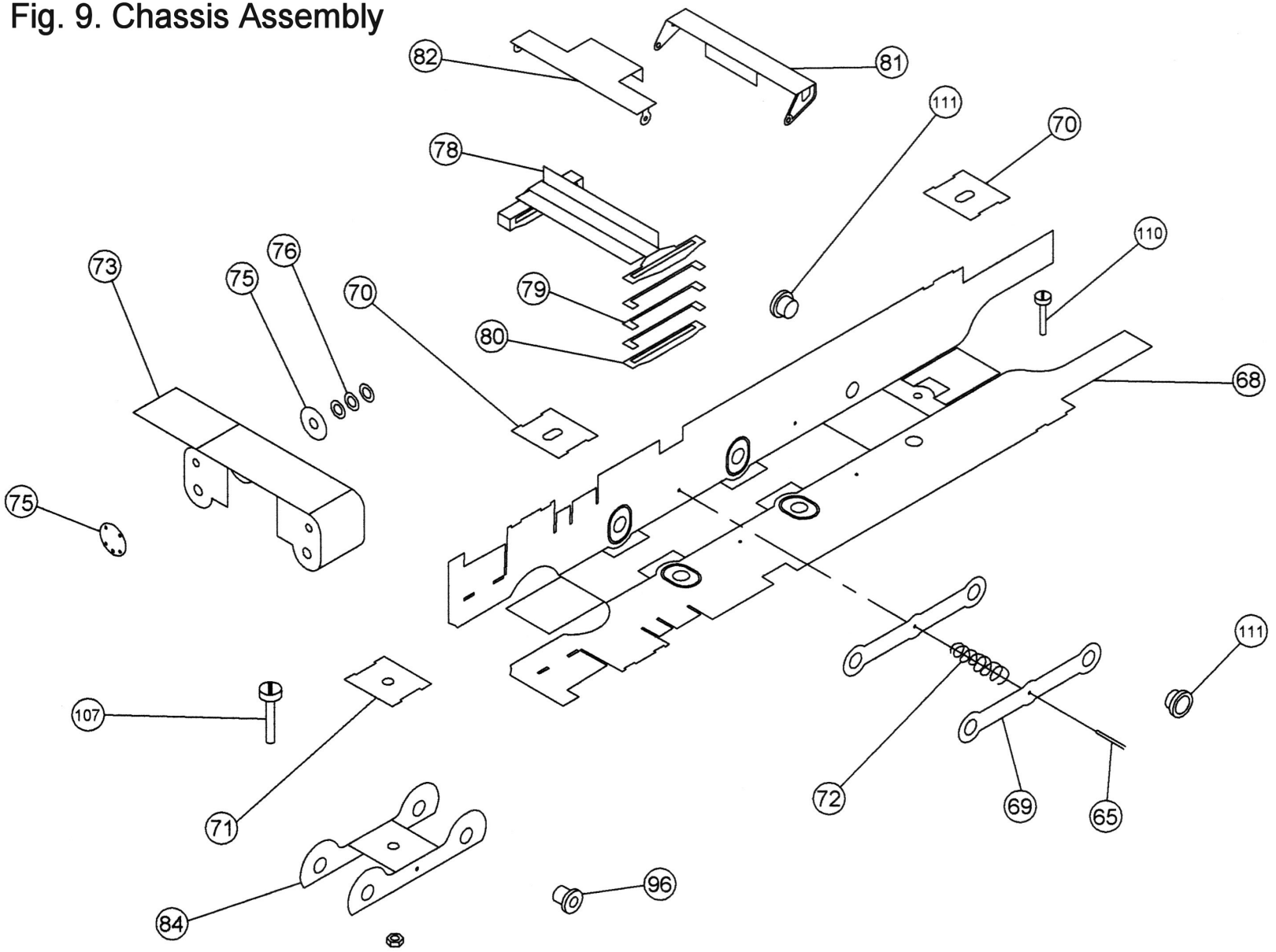


Fig. 9. Chassis Assembly



Rebuilt WC/BB Tender Allocations

The first dates given are the loco rebuilding dates and shows the tenders that were paired with them at that time. Mostly they retained their tenders although there were some changes. Late on when locos were being withdrawn tenders started to be swapped around a bit! For instance 34087 and 34104 were paired with 5250 gallon tenders in 1966/67, which must have come from 34031/39/46 or 59 as there were only four of these tenders allocated to Light Pacific's.

34001 5500g (11/57)
34003 5500g (9/57)
34004 5500g (2/58), 4500g (6/67).
34005 5500g (6/57)
34008 4500g (7/60), 5500g (?/67).
34009 4500g (1/61)
34010 5500g (2/59)
34012 5500g (1/58)
34013 5500g (10/57)
34014 5500g (3/58)
34016 5500g (4/58)
34017 5500g (11/57)
34018 5500g (10/58), 4500g (6/67).
34021 5500g (1/58)
34022 5500g (12/57)
34024 4500g (2/61)
34025 5500g (11/57)
34026 5500g (2/58)
34027 5500g (9/57)
34028 5500g (8/58)
34029 5500g (12/58)
34031 5250g (12/58)
34032 4500g (10/60)
34034 4500g (8/60)
34036 4500g (9/60)
34037 5500g (3/58)
34039 5250g (1/59)
34040 4500g (10/60)
34042 5500g (1/59)
34044 5500g (5/60)
34045 5500g (10/58)
34046 5250g (2/59)
34047 5500g (10/58)
34048 5500g (3/59)
34050 5500g (8/58)
34052 5500g (9/58)
34053 5500g (11/58)
34056 4500g (12/60)
34058 4500g (11/60)
34059 5250g (3/60)
34060 4500g (11/60)
34062 4500g (4/59), 5500g (5/61).
34071 5500g (5/60)
34077 4500g (7/60)
34082 5500g (4/60)
34085 5500g (6/60)
34087 5500g (12/60) 5250g (1966?).
34088 4500g (4/60), 5500g (6/61), 4500g (5/63).
34089 4500g (11/60)
34090 4500g (8/60)
34093 4500g (5/60)
34095 5500g (1/61)
34096 4500g (4/61)
34097 5500g (3/61)
34098 4500g (2/61)
34100 4500g (9/60), 5500g (6/66).
34101 4500g (9/60), 5500g (3/61).
34104 4500g (5/61), 5250g (3/67).
34108 4500g (5/61)
34109 4500g (3/61)

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