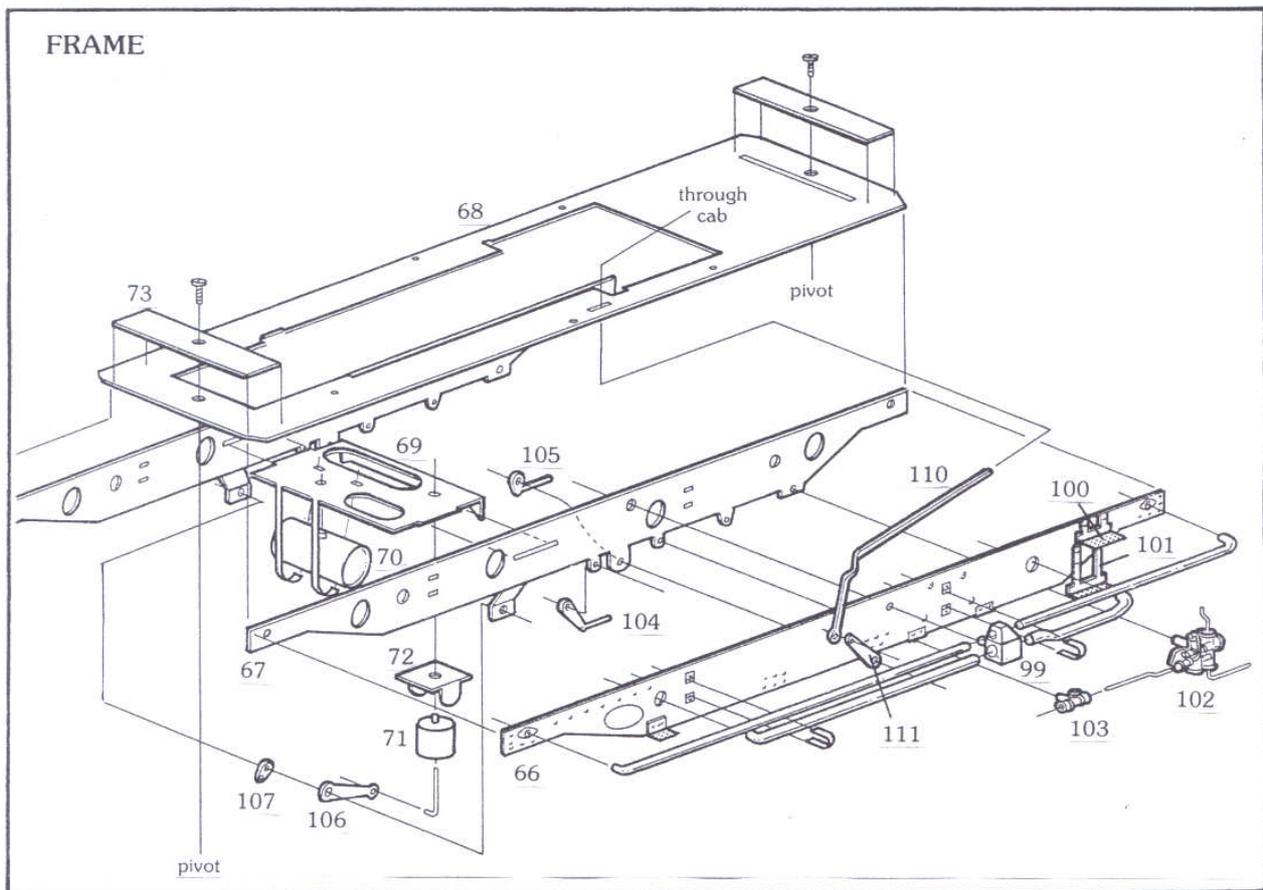


8 FRAME/BOILER/CAB ASSEMBLY

1. ADD the outer detail overlays (66) to the sideframes (67), again using the circular cut-outs on the inner frames through which to apply your choice of solder or Superglue.
2. Fix the sideframes into the half etched grooves on the underside of the main running plate (68), ensuring they are at 90°. Note that the sideframes are handed and the sideframe with the extra holes fore and aft to accept the water balance pipe fits to the left side.
3. Fit the crossmember (69), tabbing it into its slots between the mainframes.
4. Add the air tank (70) to its location, and once it is in place, pull the securing bands tightly round it, feeding them through the slots in the crossmember.
5. Solder them in place, snipping off the excess band material which should be stored safely for use shortly.
6. Add the brake cylinder (71) and its mounting bracket (72) to the crossmember.
7. Add the wire rod to the cylinder. Fix the pivot reinforcing plates (73) to the top of the main running plate, aligning the pivot holes.
8. Fold up the cab assembly(74), carefully butt joining the rear panel and adding the inner cab rear panel (75) to reinforce the joint.
9. Fabricate and fit the cab handrails either side of the door openings using the handrail knobs and 0.45mm brass wire.
10. File the knob spigots flush inside the cab.
11. Add the double (76) and single (77) side window frames inside their respective openings.
12. Fix the spectacle surrounds (78) outside their openings in the front and rear cab panels.
13. Door panels (79), should you opt to fit them, locate inside the door openings.
14. Fold up and fit the sun shades (80), aligning them with the top edge of the cab sides.
15. Fit the firebox (81) to the lower cab front, then add the four small (82) and one large (83) ashpan hatches to the side and front of the ashpan respectively. These can be fitted in the open or closed position.
16. Fix the smokebox tube (84) to the front of the boiler tube (85).
17. Lightly scribe a line the full length of the boiler/smokebox. This is the centre line on which to mark and drill the positions of the various boiler top fittings.



18. Fit the smokebox front panel (86), ensuring the small halfetched nick on the inside aligns with the scribed centreline on the smokebox. This ensures the handrail knob holes on the smokebox front panel are correctly orientated.
19. Lightly chamfer the top edges of the firebox sides, and fit the boiler in place, butting it squarely against the cab front.
20. Anneal the firebox wrapper (87) and roll it to shape until it is a snug fit over the rear boiler section, disguising the join twixt boiler and firebox.
21. Install the wrapper so the scribed boiler centreline is visible through the etched holes for the safety valves.
22. With the firebox wrapper securely fixed to the boiler, drill out the necessary holes for the chimney (88), top feed (89), dome (90), safety valves (91) and outer steam turret casing (92).
23. Fit these components to their respective holes.
24. Similarly mark and drill the positions of the exhaust steam ejector pipe on the right smokebox side, the blower pipe on the left smokebox side, and the whistle (93), which locates to the right of centre of the boiler centreline just ahead of the top feed.
25. Use 1 mm rod to represent the ejector pipe and 0.7mm wire to fabricate the blower pipe. Both pipes run from the smokebox, the ejector passing through the hole in the cab front, the blower running the length of the boiler before jinking up to meet the outer steam turret casing.
26. Mate the cab/boiler assembly with the main running plate using the tabs and slots provided.
27. Fix the smokebox saddle panels (94) in place, followed by the rivetted flanges (95).
28. The smokebox door (96) and handle (97) can now be added.
29. Fit the smokebox lubricators (98) to their openings in the smokebox saddle.
30. Mark and drill the handrail knob positions, but at this stage do not fit the handrails. In fact the handrails are best added after the model is completed so that fitting boiler band detail (I fabricate mine from Sellotape strips) is not impeded. Similarly, the fine conduit and pipework is best left till last.
31. Turning to the sideframe details, bend up the left and right steam pipes to the profile depicted in the elevation drawings. These are fabricated from 1.6mm dia. brass rod and the ends should

- be snipped off 1 mm after passing through the holes in the sideframes. Note that the left side steam pipe, and the 1 mm dia. water balance pipe above it, both slot through a cast housing (99, what is that? Pre-heater perhaps?) which plugs into its locating hole in the left side frame.
32. The fastening bands are represented using the leftover material from the air tank bands and fit through the slots in the sideframes.
 33. Footsteps locate beneath the cab door openings as indicated on the elevation drawing. Note they are handed, and the steps with shorter brackets (100) fit above the ones with long brackets (101).
 34. The injectors (102) plug into their locating holes in the sideframes, along with the valves (103) which plug into their holes in the frames just outboard of the firebox.
 35. Add the plumbing between the top feed, valves and injectors using 0.7mm brass wire. The pipes running from the injectors, up through the running plate to the cab front are bent up from 0.45mm brass wire.
 36. Add the ashpan door lever (104), rocking grate lever (105), together with the large (106) and small (107) brake cams to their respective cross-shafts which are fabricated from 0.7mm wire, apart from the brake cross-shaft which is 1 mm rod.
 37. You have a choice of mounting position for the turbo generator (108). The elevation drawing depicts it mounted on the boiler top, together with its associated steam input and exhaust pipes. Alternatively, many NGG16s mounted the genny on the left side of the main running plate as per the photograph.
 38. Fit the ashpan operating rod (109) and rocking grate rod (110) to their respective positions on the left side, both levers enter the cab via small slots. The rocking grate lever passes through a slot in the running plate, connecting with the operating cam (111) which pins to the extended wire crossbrace protruding from the left sideframe.