SR/BR UNREBUILT BULLEID MERCHANT NAVY (SERIES 2 & 3)

Fig. 1. Main Body Construction

Carefully cut out all the etched parts (1 to 21), [11, 12 & 13 are already cut out and pre-formed]. Solder the body spacers (3, 4 & 5), the smokebox front (2) and the rear bulkhead (6) into place on the baseplate (1) as shown. Note that there is a duplicate of body spacer '5' and this fits behind its twin. The outlined section on spacer '4' must be removed to allow the whistle base to be fitted.

Solder two 8BA screws into the holes in the baseplate (you may rather solder nuts over the holes – this is a matter of personal preference). Solder the body side frames (7 & 8) in place with the half-etched lines on the outside. Solder along the bottom of the frames first, and then bend them over onto the body spacers to give the correct body shape.

Fold the front bufferbeam/footplate unit (15) to shape. Check the fit of the front frame sections (17) into the slots in the unit and adjust until they fit in place. The frames will govern the shape of the front bufferbeam/footplate unit. Solder the completed part into the slots in the smokebox front and the recesses in the top of the body side frames. Next solder the body side overlays (18 & 19) in place. Take care to get these aligned correctly. If doing an early loco solder the front valences (20 &21) onto the valence support. If doing a later loco remove the valence support.

Select the cab front appropriate for your loco (9, late) or (10, early) and solder it into the slots in the baseplate. Take the rear roof section (11) and carefully push out the rivets from the underside. Check the fit of this onto the internal spacers and when happy with the fit solder in place. Select the front roof section (12, early) or (13, late) [the early roof has the safety valve opening at the front, not all locos had the safety valves resited before being rebuilt] to suit the loco you are doing. Push through the rivets and check the fit as with the rear roof section and solder in place. You now have the main shell of the body complete.

Fig. 2. Later Cab Construction

Fit the cab rear (26). Take the lower cab sides (27 & 28) and form them to match the curve of the cab front and rear. Solder them in place. Then fit the upper cab sides (29 & 30) in place. Remove the strengthening bar from the cab rear. Check the fit of the cab roof (31) and solder in place.

Fig. 3. Early Cab Construction

Fit the cab rear (22). Take the cab sides (23 & 24) and carefully shape them to match the profile of the cab front and rear. When this is done the cab sides can be fitted onto their tabs and to the cab front and rear. Roll the cab roof (25), trim to fit between the cab sides and solder in place.

Fig. 4. Front Cowl and Chimney

Solder the chimney section (33) under the front cowl (32).

Solder the completed unit into place at the front of the body shell. Solder two lengths of brass wire either side along the join between the roof and the sides to form the rain strips.

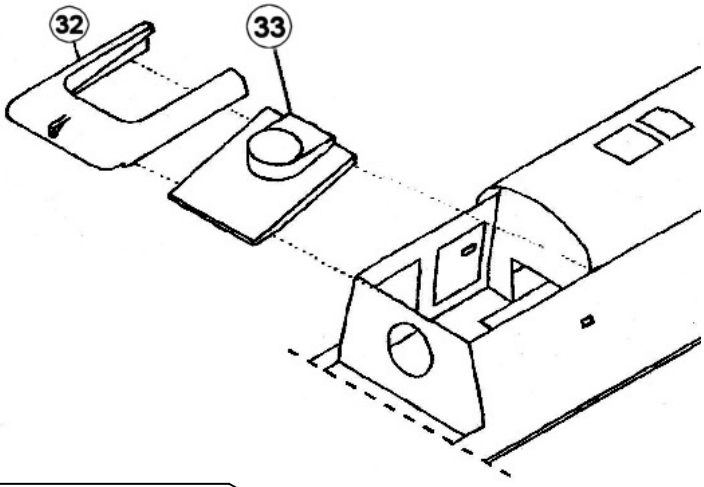
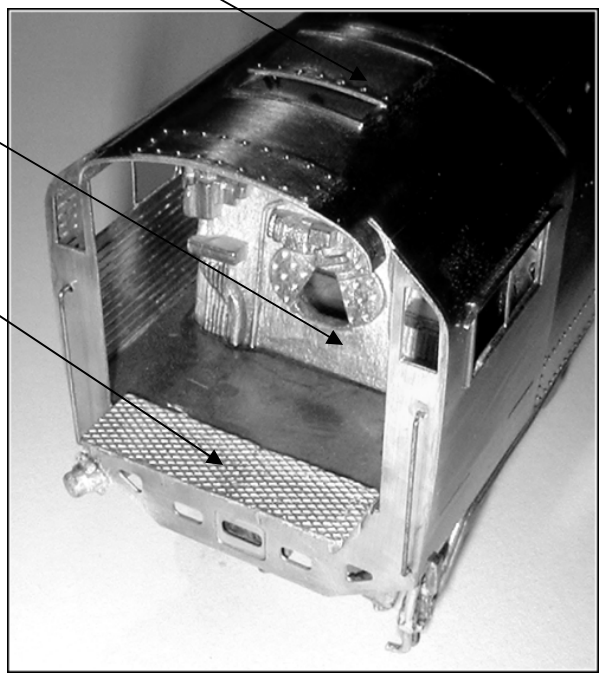


Fig. 5. Detailing the Body

Solder the roof shutter (36) in place on the runners. (Applies to both types of cab).

Check the backhead (37) fits into the cab. Make any adjustments necessary and glue in place.

Glue the cab fallplate (38) in place.



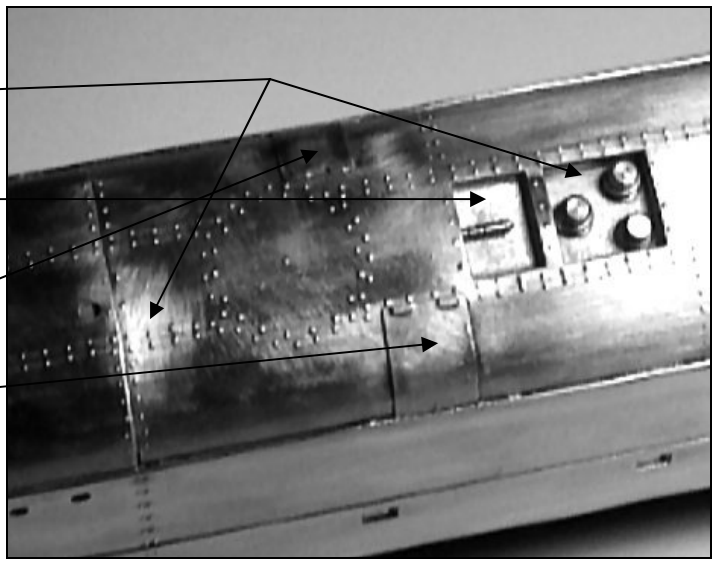
Glue the safety valve base (39, Early) under its opening in the roof or the later one (40) under the opening just behind the dome cover.

Glue the whistle base (41) under its opening in front of the dome cover.

Solder the small roof hatch (42) or small sliding cover (43) here.

Solder the large roof hatch (44) or large sliding cover (45) here. The sliding covers are for later locos.

Fit the Ross pop safety valves (46) and whistle (47) after painting the body.



Glue the smokebox door (48) into the hole in the smokebox front.

Drill out the holes in the door for the lamp brackets (49, made from staples) and the door handrail.

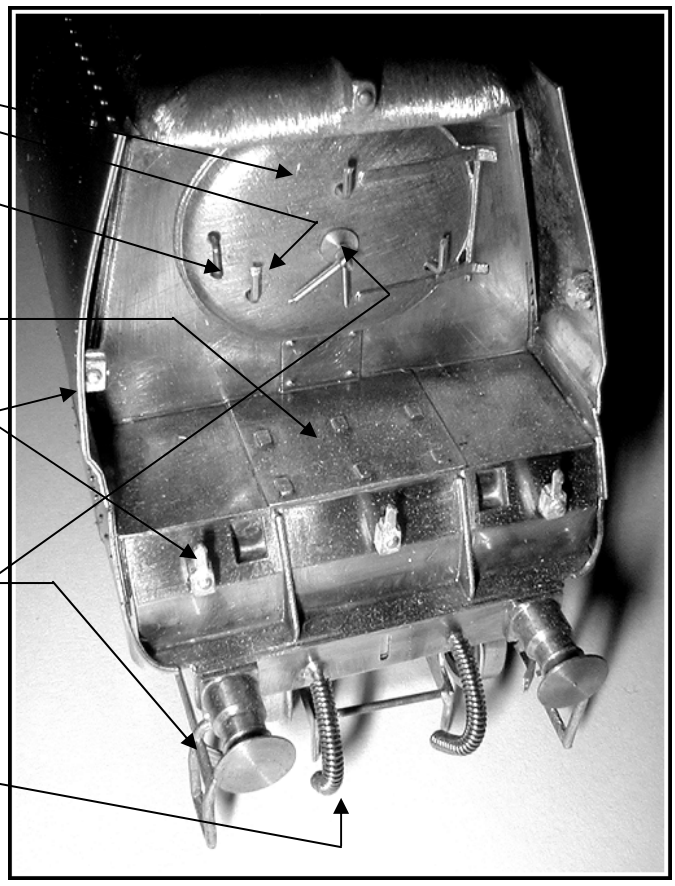
Solder the mechanical lubricator inspection cover (50) here.

Cut the electric lamps (51) from their sprue and glue in place.

Solder the 2 rung steps (52) to the buffer shanks (53) and then solder these into the bufferbeam.

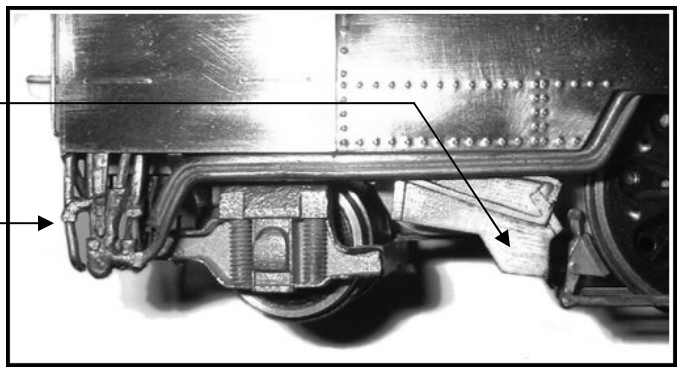
Fit the smokebox door handle (54).

Fit the vacuum pipes.



Fit the ashpans (55 & 56) under the cab. The bracket on the back of the ashpans locates 5.5mm from the cab rear.

Assemble the injectors (57) and locate under the cab on the right hand side.



Form the smoke deflectors (58) and solder in place.

Fit the sandfiller sliders (59) behind the holes in the sides.

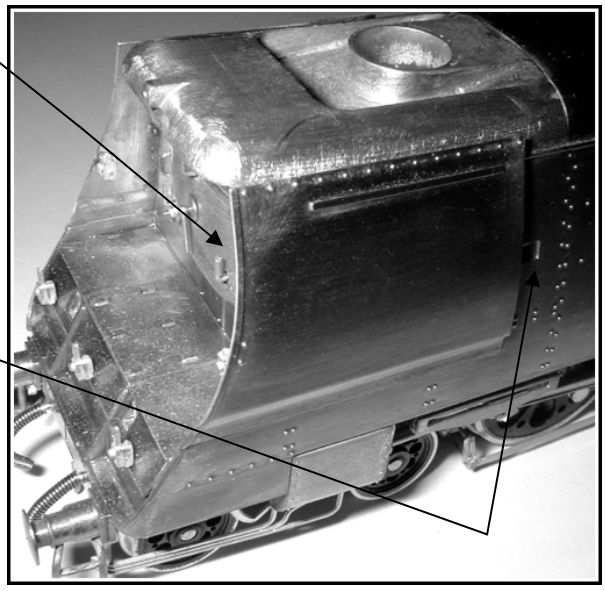


Fig. 6. Chassis Assembly

Take the mainframes (60) 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 (61) 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 (62) into the recesses just behind the cylinder mounting slots and one in the recesses just behind the rear integral spacer. The spacer (63) without a hole goes at the back of the frames. The front spacer (64) is also the bogie mounting plate. Solder an 8BA screw into the hole, as indicated, so that the bogie can be fitted later. The spacer can now be fitted in place.

Solder four ⅛th axle bearings into the compensating beams (65). The compensating beams should be mounted on the brass wire (76) and one of the springs (66) 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.

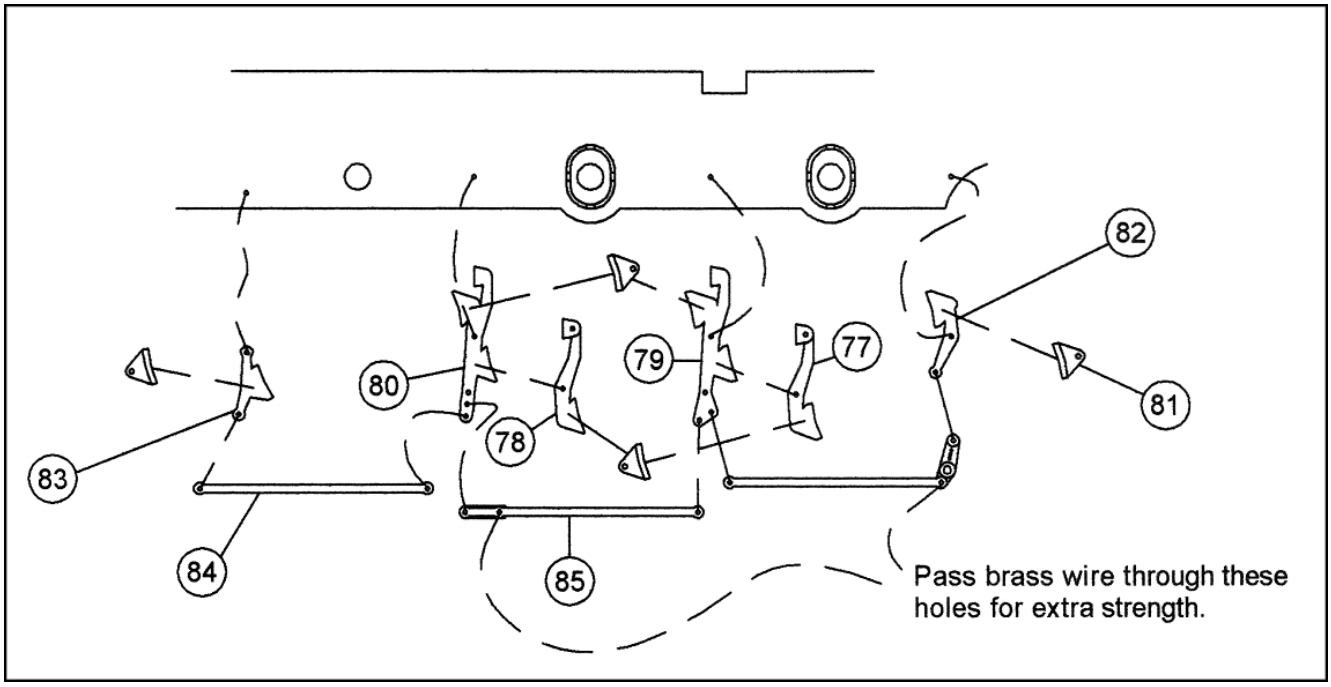
Cut out the Cylinder main etching (67) and fold down the front and back plates with the fold lines on the inside. Push the cylinder block onto the mainframes. With the wrapper plates still in the horizontal position the 3/32” tubes (68) can be soldered in position so that the fronts of the tubes are 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 (69) and the three washers (70) on each side. The cylinder valve covers (71) can now be fitted.

Cut out the main slidebar etching (72). Solder the three spacers (73) onto the main slidebar and the outer slidebar (74) on top of that. Fold the slidebars down with the spacers and inner slidebar facing outwards. 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.

Solder the cylinder drain cocks (75) to the bottom of the cylinders.

FIG. 7.

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 (77 & 78) to the front (79) and rear (80) double brake hangers. Solder two brake blocks (81) to each double hanger. Take the front brake hangers (82) and the rear hangers (83) and solder a brake block to each, again remembering to make left and right pairs.

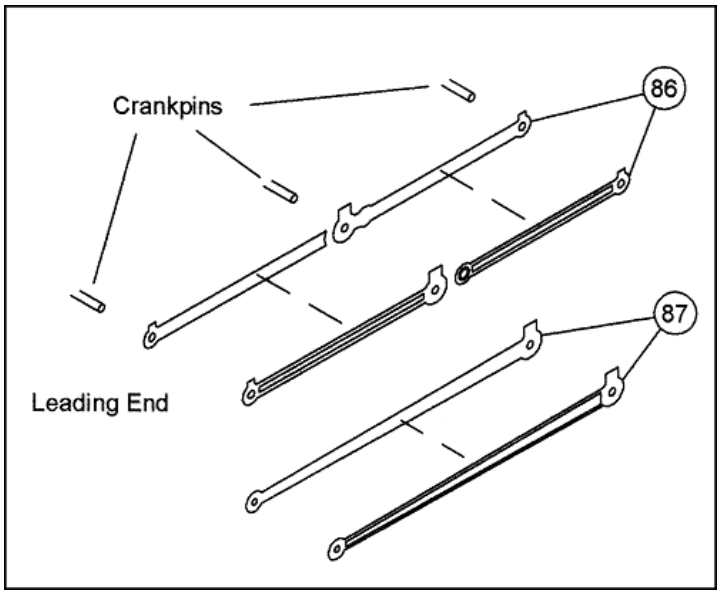


Solder brass wire through the remaining pilot holes.

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 (84) for the correct positioning of the other brake hangers. Finally add the outer pull rods (85).

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 (86) as shown in the diagram. Take care in this operation as they must move freely for the compensation to work. The connecting rods (87) can also be assembled.

Cut out the bogie (88) and fold the sides down. Open out the holes to take the 2mm bearings (89) and solder them in place. Glue the dummy compensating castings (90) in place. When ready the bogie can be fitted using the spring (66) and 8BA nut (77).

Fold the crosshead (91) as shown in the drawing. Solder the crossheads and nickel silver bar (92) together. Fold the collar around the bar. Fix the crosshead to the con rod with the 16BA screws and nuts provided.

Body Parts List

1. Baseplate.
2. Smokebox Front.
3. Front Body Spacer.
4. Centre Body Spacer.
5. Rear Body Spacers.
6. Rear Bulkhead.
7. L/H Body side.
8. R/H Body Side.
9. Later Cab Front.
10. Early Cab Front.
11. Rear Roof Section.
12. Early Front Roof Section.
13. Later Front Roof Section.
14. 8BA Nuts and Screw.
15. Front Bufferbeam/Footplate.
16. Step Backs.
17. Front Frame sections.
18. L/H Side Overlay.
19. R/H Side Overlay.
20. L/H Front Valance.
21. R/H Front Valance.
22.
23. L/H Early Cab Side.
24. R/H Early Cab side.
25. Early Cab Roof.
26. Later Cab Rear.
27. L/H Later Cab Side.
28. R/H Later Cab Side.
29. L/H Upper Cab Side.
30. R/H Upper Cab Side.
31. Later Cab Roof.
32. Front Cowl.
33. Chimney Section.
34.
35.
36. Roof Shutter.
37. Backhead.
38. Cab Fallplate.
39. Early Safety Valve Base.
40. Later Safety Valve Base.
41. Whistle Base.
42. Small Roof Hatch.
43. Small Sliding Cover.
44. Large Roof Hatch.
45. Large Sliding Cover.
46. Ross Pop Safety Valves.
47. Whistle.
48. Smokebox Door.
49. Lamp Brackets (Staples).
50. Mechanical Lubricator Cover.
51. Electric Lamps.
52. 2 Rung Steps.
53. Buffer Shanks.
54. Smokebox Door Handle.
55. L/H Ashpan.
56. R/H Ashpan.
57. Injectors.
58. Smoke Deflectors.
59. Sandfiller Sliders.
60. Mainframes.
61. ⅛th Axle Bearings.
62. Frame Spacers.
63. Rear Frame Spacer.
64. Front Frame Spacer.
65. Compensating Beams.
66. Springs.
67. Cylinders.
68. 3/32nd Tube.
69. Cylinder End Covers.
70. Washers.
71. Valve Covers.
72. Main Slidebars.
73. Slidebar Spacers.
74. Outer Slidebars.
75. Drain Cocks.
76. Brass Wire.
77. R/H Brake Overlays.
78. L/H Brake Overlays.
79. Front Double Brake Hangers.
80. Rear Double Brake Hangers.
81. Brake Blocks.
82. Front Brake Hangers.
83. Rear Brake Hangers.
84. Inner Pull Rods.
85. Outer Pull Rods.
86. Coupling Rods.
87. Connecting Rods.
88. Bogie.
89. 2mm Bearings.
90. Dummy Compensating Castings.
91. Crossheads.
92. Nickel Bar.
93. Vacuum Pipes.
94. 16BA Nuts and Screws.
95. 10BA Nuts and Screws.
96. Loco – Tender Coupling Mount.

P.D.K. MODELS.
8. RAME TERRACE.
RAME CROSS.
PENRYN. CORNWALL
TR10 9DZ

Tel. 01209 861130

E-Mail: pdkmodels@hotmail.co.uk

www.pdkmodels.co.uk

Fig. 1 Main Body Construction.

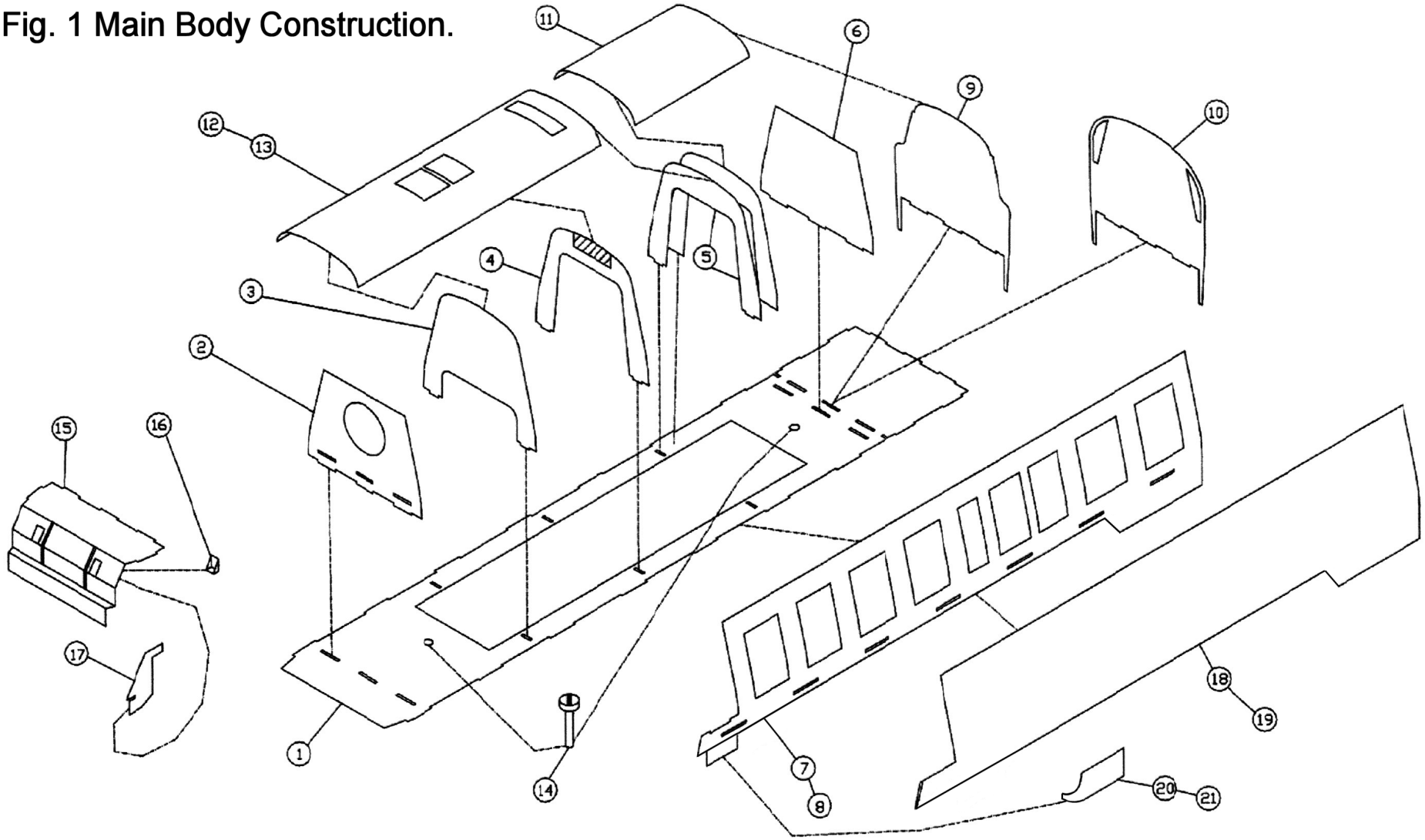


Fig. 2. Later Cab Construction.

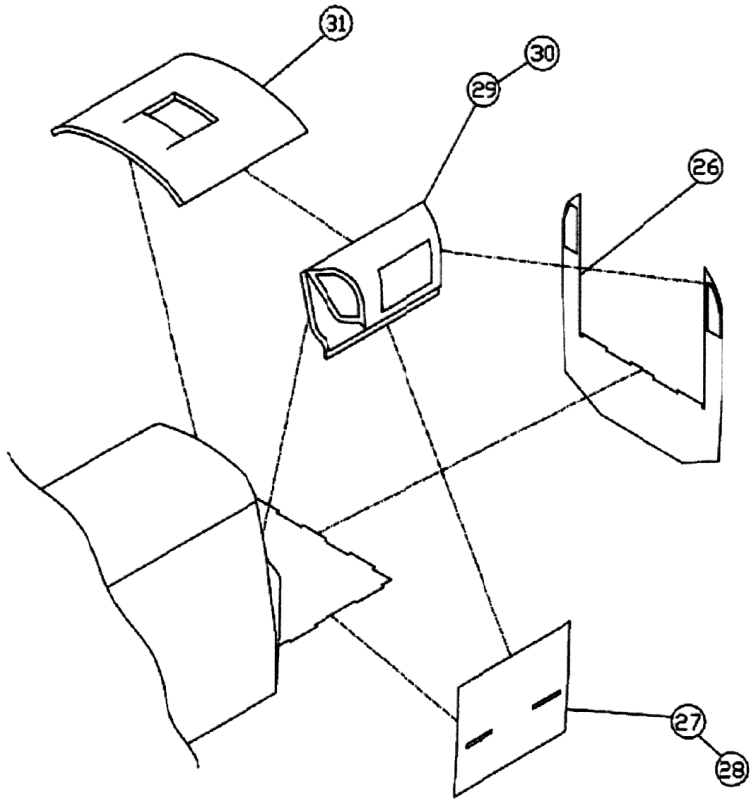


Fig. 2a. Early Cab Construction.

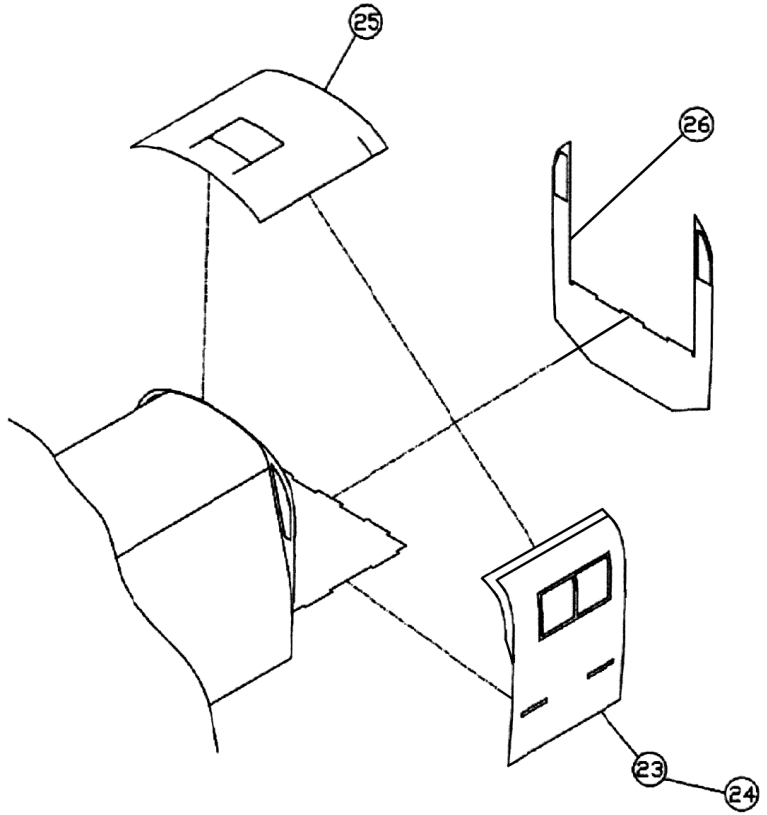


Fig. 6. Chassis Construction.