

SR/BR BULLEID MERCHANT NAVY (SERIES 1) original.

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 about 5mm behind its twin. There are no slots for this (sorry!) so cut of the tabs and line it up with the edge of the baseplate. 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, stopping before you reach the front end curve in, and then bend them over onto the body spacers to give the correct body shape. Now gently force the front of the frames in to form the front curve in.

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. 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] 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. Hold the cab sides in position and mark where they overlap the body sides. This will need to be cut away. The shaded area indicated on the drawing gives a rough guide. When this is done the cab sides can fitted onto their tabs and to the cab front and rear. Inside the join between the cab rear and sides solder a piece of wire. You must file the back edge of the cab round and this will give extra thickness. Roll the cab roof (25) and solder in place. Note that it slopes down towards the back.

Fig. 4. Front Cowl and Chimney

Select the chimney section (33, later) or (34, Early) and glue or solder it under the front cowl (32). You will need to check photos to select the one to use! Use the chimney lip (34) if using the part 34.

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.

Front Cowl and Chimney construction.

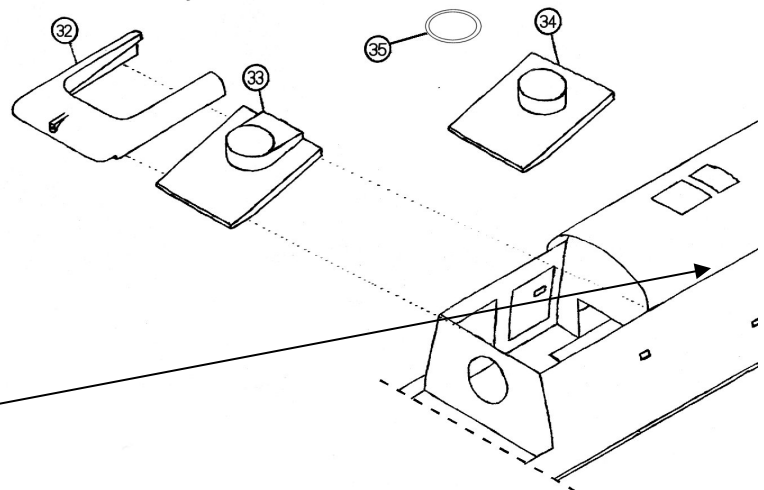


Fig. 5. Detailing the Body

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

Fold back the cab doors (Early cab rear only) and solder wire into the joints for strength.

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

Glue the cab fallplate (38) in place.

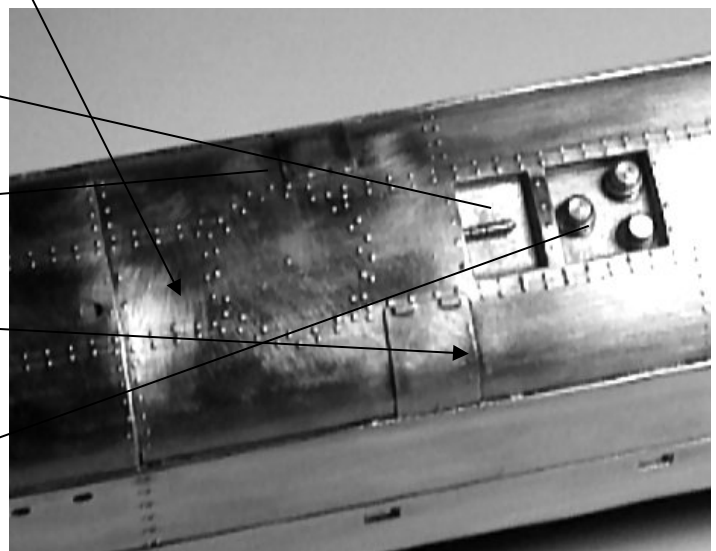
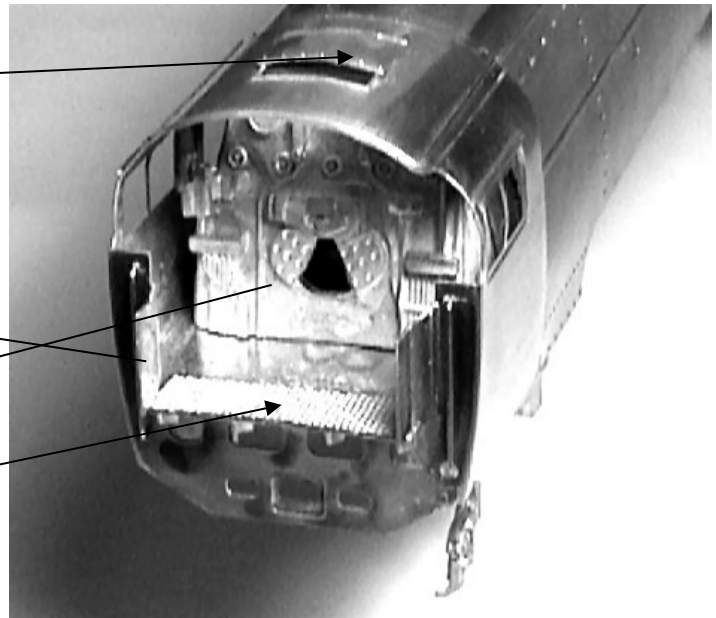
Glue the safety valve base (39, Early) under its opening in the roof or The later one (40) under the opening just behind the dome cover.

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.

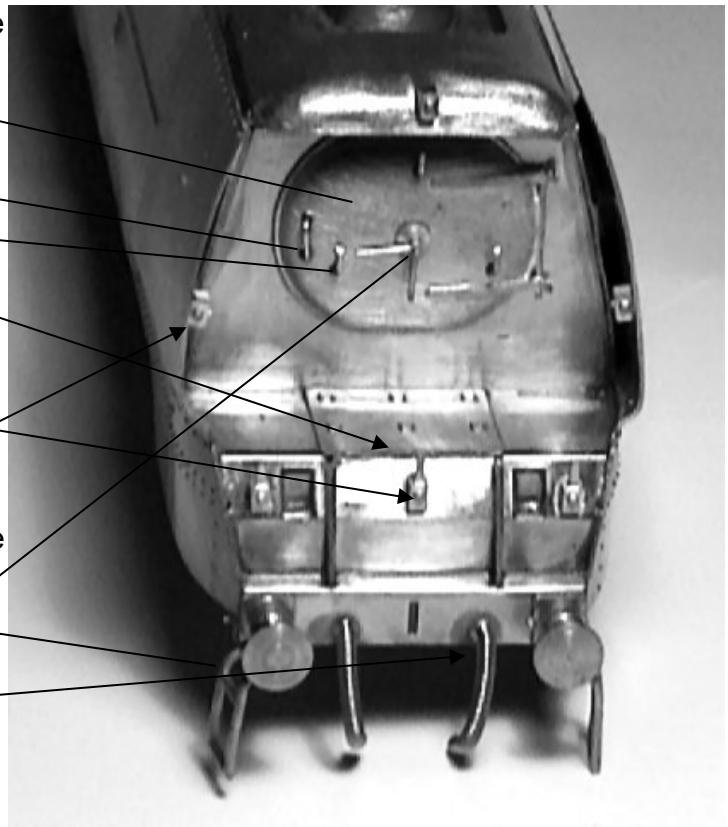
Solder the mechanical lubricator inspection cover (50) here.

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 forming the curve around as you go.

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

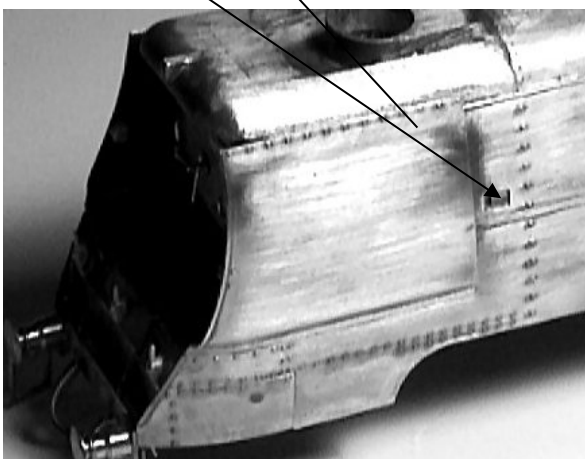
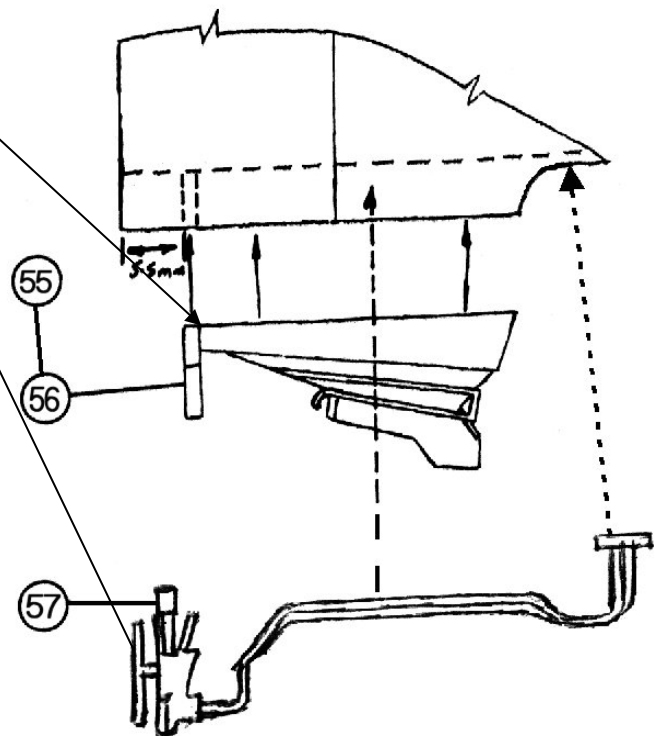


Fig. 6. Chassis Assembly

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 1/8th 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 1/8th 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.

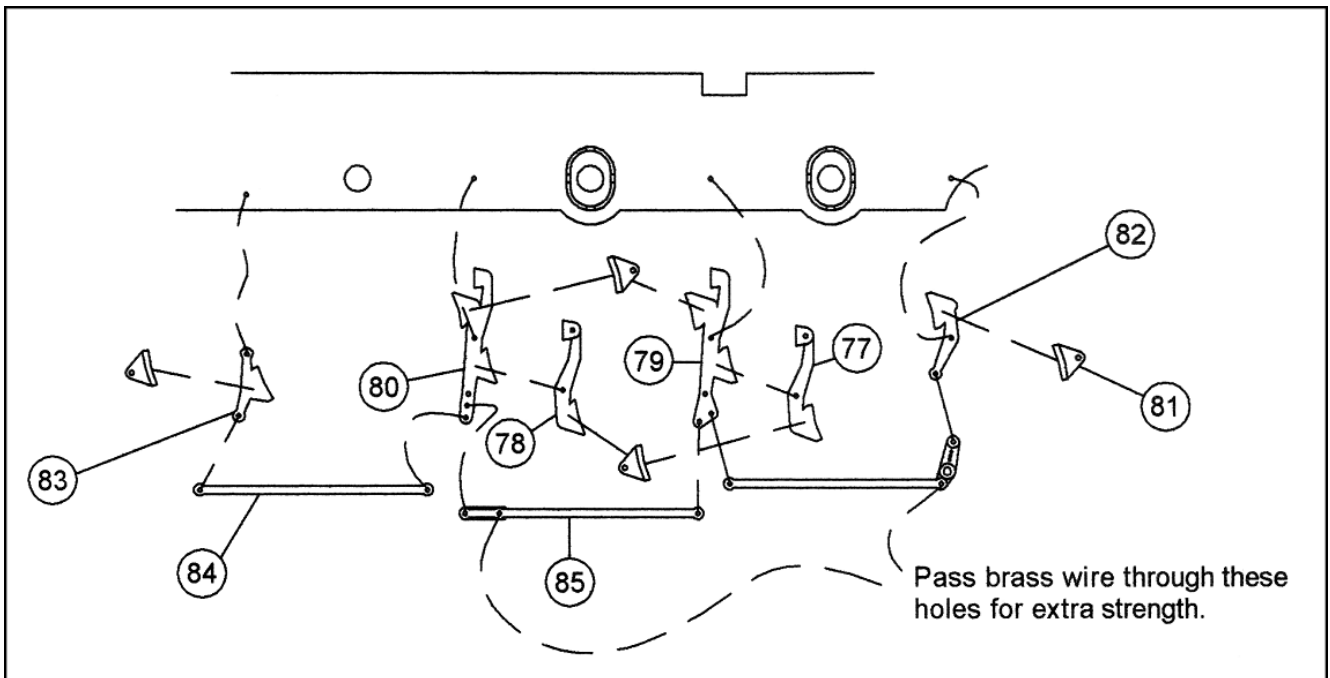
Cut out the Cylinder main etching (67) and fold down the front and back plates with the fold lines on the inside. Push the cylinder block onto the mainframes. With the wrapper plates still in the horizontal position the 3/32" tubes (68) can be soldered in position so that the fronts of the tubes are 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.

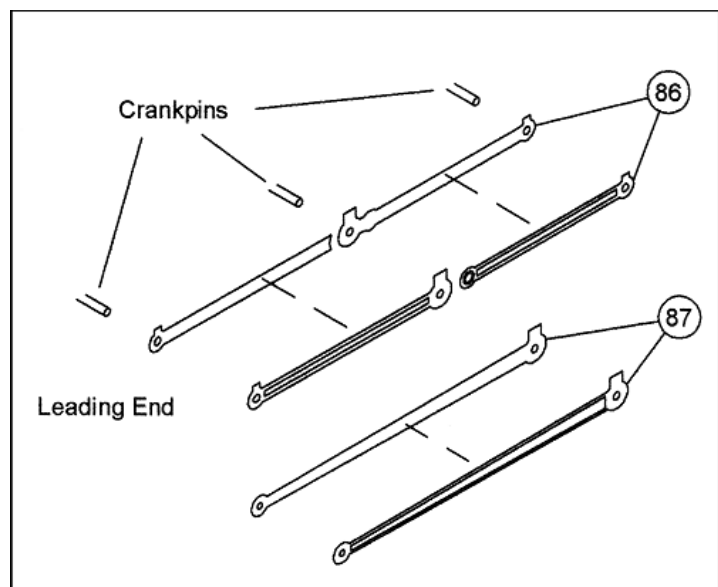
Start by fitting both the L/H and R/H centre front brake hangers onto the ends of the protruding compensating spindle, about 2mm from the frames. Once the brake hangers are correctly fixed in position they can be used as a datum point via the inner pull rods (84) for the correct positioning of the other 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).



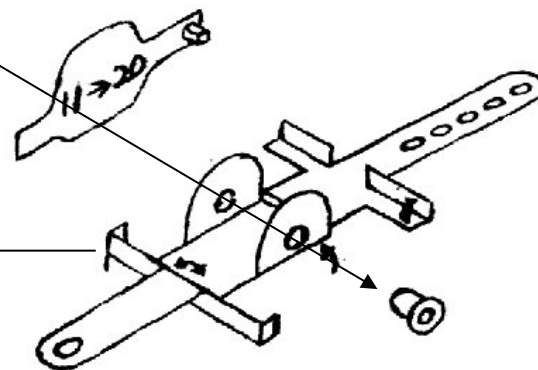
Fold the crosshead (91) as shown in the drawing. Solder the crossheads and nickel silver bar (92) together. Fold the collar around the bar. Fix the crosshead to the con rod with the 16BA screws and nuts provided.

Open out the holes in the pony truck (97) and solder the 2mm bearings (89) in place.

Fold the sides up (the fold lines must face up) and fit a 14mm wheel into the truck.

Fold the back and front ends of the truck as shown and fit the sideframes (98).

Glue the pony truck weight (99) on top of the truck.



Body parts list

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|--------------------------------------|----------------------------------|
| 1. Baseplate. | 37. Cab backhead. |
| 2. Smokebox front. | 38. Fallplate. |
| 3. Front body spacer. | 39. Early safety valve base. |
| 4. Centre body spacer. | 40. Later safety valve base. |
| 5. Rear body spacers. | 41. Whistle base. |
| 6. Rear bulkhead. | 42. Small roof hatch. |
| 7. L/H body side. | 43. Small roof slider. |
| 8. R/H body side. | 44. Large roof hatch. |
| 9. Later cab front. | 45. Large roof slider. |
| 10. Early cab front. | 46. Safety valves. |
| 11. Body roof (rear section). | 47. Whistle. |
| 12. Early body roof (front section). | 48. Smokebox door. |
| 13. Later body roof (front section). | 49. Staples for lamp brackets. |
| 14. 8BA screws and nuts. | 50. Mechanical lubricator cover. |
| 15. Front bufferbeam/footplate unit. | 51. Lamps. |
| 16. Step pocket. | 52. Two rung steps. |
| 17. Front frames. | 53. Buffers. |
| 18. L/H body side overlay. | 54. Smokebox door handle. |
| 19. R/H body side overlay. | 55. R/H ashpan. |
| 20. L/H front valence cover. | 56. L/H ashpan. |
| 21. R/H front valence cover. | 57. Injectors. |
| 22. Early cab rear. | 58. Smoke deflectors. |
| 23. Early R/H cab side. | 59. Sand filler sliders. |
| 24. Early L/H cab side. | |
| 25. Early cab roof. | |
| 26. Later cab rear. | |
| 27. Later R/H lower cab side. | |
| 28. Later L/H lower cab side. | |
| 29. Later R/H upper cab side. | |
| 30. Later L/H upper cab side. | |
| 31. Later cab roof. | |
| 32. Front cowl. | |
| 33. Later chimney. | |
| 34. Early chimney. | |
| 35. Lip for early chimney. | |
| 36. Cab roof shutter. | |

Chassis parts list

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|---------------------------------|-----------------------------------|
| 60. Mainframes. | 83. Rear Brake Hangers. |
| 61. 1/8th Axle Bearings. | 84. Inner Pull Rods. |
| 62. Frame Spacers. | 85. Outer Pull Rods. |
| 63. Rear Frame Spacer. | 86. Coupling Rods. |
| 64. Front Frame Spacer. | 87. Connecting Rods. |
| 65. Compensating Beams. | 88. Bogie. |
| 66. Springs. | 89. 2mm Bearings. |
| 67. Cylinders. | 90. Dummy Compensating Castings. |
| 68. 3/32 nd Tube. | 91. Crossheads. |
| 69. Cylinder End Covers. | 92. Nickel Bar. |
| 70. Washers. | 93. Vacuum Pipes. |
| 71. Valve Covers. | 94. 16BA Nuts and Screws. |
| 72. Main Slidebars. | 95. 10BA Nuts and Screws. |
| 73. Slidebar Spacers. | 96. Loco – Tender Coupling Mount. |
| 74. Outer Slidebars. | 97. Pony Truck. |
| 75. Drain Cocks. | 98. Pony Truck Side Frames. |
| 76. Brass Wire. | 99. Pony Truck Weight. |
| 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. | |

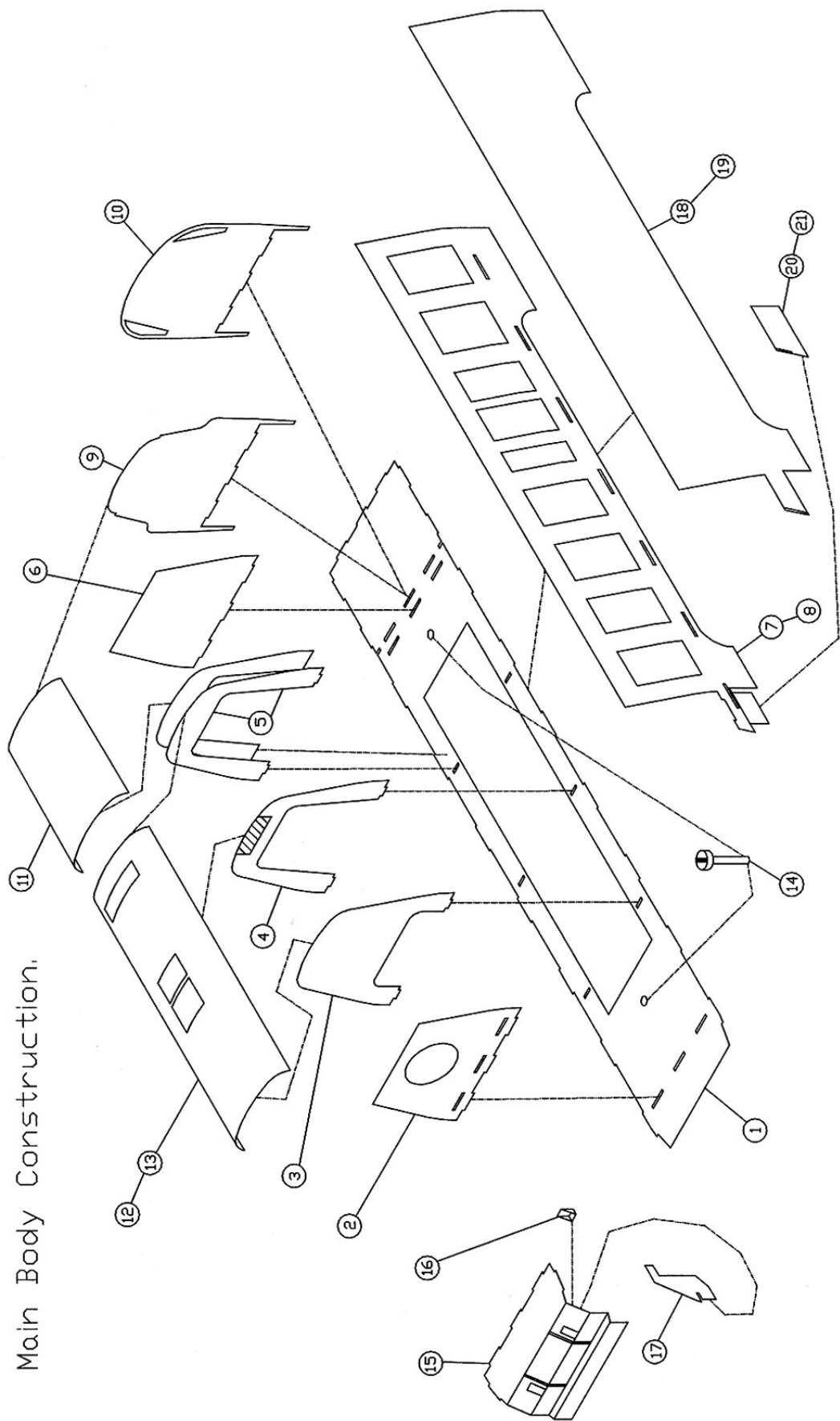
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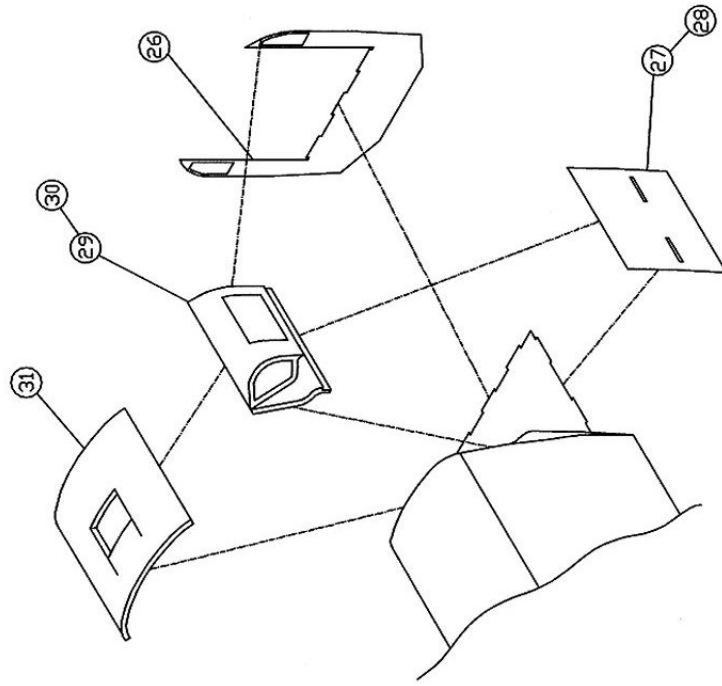
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Main Body Construction.



Later Cab Construction.



Early Cab Construction

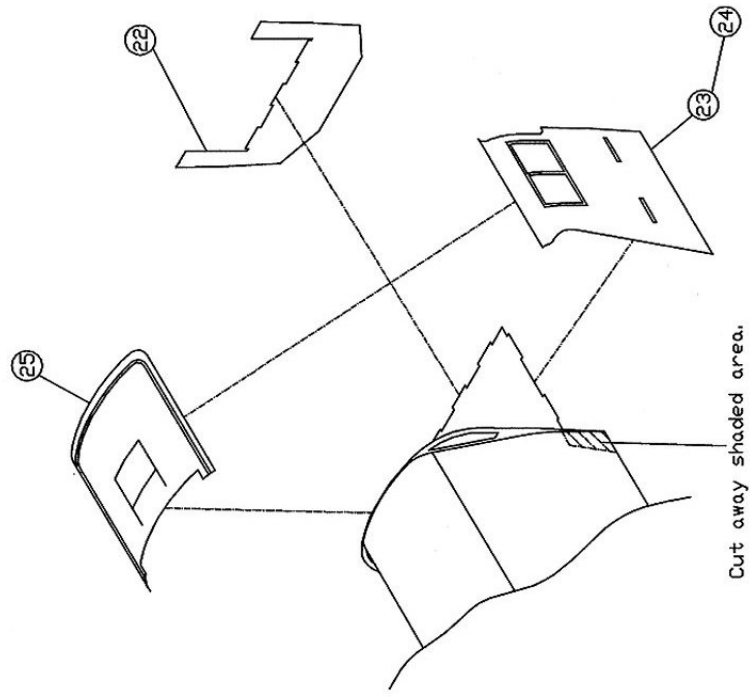


Fig. 6. Chassis Construction.

