KING ARTHUR INSTRUCTIONS.

Fig. 1.

Cut out parts 1 to 8 from the fret. Remove all tabs. Take the running plate (1) and, with the fold lines underneath, fold the splashers up. Then fold the splasher tops down and form the front arch. When the correct shape is obtained fill the slots along the fold lines with solder.

Using the valences and their support frame (2) as a template gently form the front and rear running plate curves. When a reasonable fit is obtained solder the valence in place starting at the front and rear fold down points. Solder around the curves gradually holding firmly in place as you go. This way the curves will be formed exactly with the minimum of messing around. **DO NOT** remove the valence support frame yet!

Fold down the drag beam at the rear of the running plate. Solder the buffer beam (3) into its recess and fit the riveted overlay on top of it.

Solder the smokebox front (4) into its slots and along the back where it touches the top of the running plate. The front frames (5) can be soldered into their recesses. The rear edges must fit down the side of the smokebox front.

Fold up the front running plate and cab steps (6) and fit the upper step into the main step. Solder these four into their slots. Solder the front curve steps (7) and the lamp brackets (8) into their respective slots. Solder two **8BA** screws into the holes in the running plate.

Fig. 2. (Urie Cab).

Cut out parts 9 to 16. Solder the cab front (9) into its slots. Solder the main cab sides (10) in place having first checked to see if they fit accurately. Solder the cab side overlays (11 & 12) onto the cab framework.

Using the cab front as a guide form the cab roof (13). When the correct shape is obtained tack solder it in position. (Note that the cab side overlays should protrude above the roof line), Check that the roof is level and when satisfied solder around the seams. Shape and cut to length the roof ribbing strips (14, 15 & 16). Solder them to the roof with the wider one in the middle and the two outer ones with the raised edge facing out from the roof. For the cab floor see ***fig 3***.

Fig. 3. (Maunsell Cab).

Cut out parts 10 and 17 to 20. Solder the cab front (17) into its slots. Solder the main cab sides (10) into their slots having first checked to see if they fit accurately. Shape the tops of the Maunsell cab overlays (18 & 19) to match the profile of the cab front and then solder them in place.

Cut up two pieces of scrap fret approximately 17mm x 4mm and solder them inside of the top edge of the cab sides with about **1½mm** showing. These are for the Maunsell roof (20) to sit on and this can now be fitted in place. Note that the roof overhangs the cab front.

Fig. 4.

Inspect the boiler (23) for any mould lines present and remove. The mould feeds at the back of the boiler will have to be filed away. Drill a hole under the smokebox for the front screw head to fit into. Also if you wish you can drill into the solid core of the smokebox and front boiler ring and add some weight.

Using something (broom handle, dowel etc) of suitable diameter roll the smokebox wrapper (24). Bend the bottom edges out to fit the smokebox saddle. When a close fit is obtained you can superglue the wrapper onto the smokebox. Leave the front edge overhanging slightly.

At this point double check that the buffer beam and drag beam are correctly aligned (i.e. not twisted). Make any adjustments necessary. Now offer the boiler up to the running plate. The firebox end should sit on the splasher tops. Once happy with the fit the boiler can be glued in place with an epoxy resin. Hold the boiler in place until the glue has gone off and then put it to one side for at least 24hrs.

The valence supports can now be removed. Using a pair of tin snips cut the supports into sections up to the valence. Now simply bend each section back and forth until it breaks away. File off the tabs.

Fig. 5.

Prepare parts 26 to 48. If doing a Urie loco you will not need pts 29, 38 and 46. If doing a Maunsell loco you will not need pts 30, 39 or 45.

When fitting the Urie or Maunsell steam pipes (38 or 39) use the cut outs in the appropriate smoke deflectors (49 or 50) to position them.

Fit the parts in number order and consult photos if not sure of any position. Note that the reversing bar (47) is in two parts and must be soldered together. The front of the reversing bar locates in the top of the **L/H** reversing arm (41). The rear edge of the dome should be 39mm from the cab front.

Fig. 6.

First drill out the hole in the backhead (51) for the regulator handle (54). Glue the handle in place and then the backhead inside the cab. Glue the pressure gauges (52 & 53) above the backhead but inside the front spectacles. Glue the reverser mounting block (55) to the left of the backhead. Assemble the reverser (56) and wheel (57) and glue this on top of the mounting block, the two toolboxes (58 & 59) can now be glued in place against the step in the cab floor.

Fig. 7.

Solder the chassis bearings (70) into the mainframes (60). They should be put in from the side with the spring detail. Fold the frames up at 90 degrees. The fold lines should be on the outside. Fit the frame spacers (61, 62, 63, 64 & 65). Solder two 8BA nuts onto spacers

61 and 65, Fold the cylinder stretcher (66) into shape (fold lines inside) and solder into position.

Fold the front motion bracket (67) and solder in place, Fold the outside sections of the main motion bracket (68) down with the detail side facing out. Fold down the front sections and then fold the pieces with the small hole back down behind the cut outs. Solder the bracket in place. Solder the running plate support brackets (69) into their slots.

Clean up the cylinder castings (71) and drill out the piston hole with a **2mm** drill. Using low melt solder attach them to the cylinder stretcher. Fit the valve covers (72 & 73) and the piston end covers (74). Shape the cylinder overlays (75) and attach them to the cylinders. Fit the cylinder inspection covers (76).

Fit **2mm** bearings (78) into the bogie (77) and fold it up. Solder a screw into the central hole from underneath. Making use of one of the spare chassis bearings fit the bogie swing arm (80) to the bogie. Fit the tender drawbar (81) in the same way.

The chassis can now be painted prior to fitting the wheels. (We recommend Markits **RP25 26mm** wheels). The chassis will accept any of the Portescap motors.

Fig. 8.

Cut out the coupling rods (94) (not shown) and the connecting rods (82), these are double thickness and the two parts will have to be soldered together. Clean any solder off of the detailed faces.

Remove the crossheads (84) and the slidebars (83) from their sprues. Clean up and drill out the slidebars with a **1.5mm** drill. Drill out the lower link on the crossheads with a **0.9mm** drill. Check that the crossheads run freely in the slidebars and adjust as necessary. When O.K. glue the slidebars into the back of the cylinders. Use epoxy resin for this as it is stronger than superglue.

Fit the coupling rods to the wheels. Attach the connecting rods to the crossheads with the 14BA screws and nuts. Rivet together parts 86, 87, 88, 89 and 90. Note that there is a specific order to work to. When this is done all the valve gear can be fitted to the relevant brackets using the **16BA** screws and nuts.

Fig. 9. - Urie Bogie Tender Instructions.

Take the frames (1) and bend up the sides along the half-etch line to form a channel. Solder an 8BA screw (2) into each hole (screw head inside the channel, with the threaded section, protruding below the channel). Now take the footplate (3), lay on a flat surface, and solder the frames into the half-etched slots. Do this by tacking quickly in place. Do not linger with the soldering iron, or attempt to solder all along the joints, as the heat will result in distortion of the footplate. If you have problems with this, then put the frame channel on one side and fix it in place at a later stage, either by tacking with solder, or using superglue. Solder the bogie bearing plates (4) to the underside of the channel over each **8BA** screw. Solder the buffer beam (5) to the footplate, and then solder the valances (6) to the footplate, just in from the edge. Solder the drag beam (7) in place, and then solder the step plates (8) into the slots in the footplate. Bend up the ends of the steps (9) and fix them into

the slots in the step plates. The shorter steps are the middle ones, the longer steps are the bottom ones.

Now take the tender body (10) and bend the corners to **2mm** radius (use a piece of **⅛th** dia. bar). This must be done accurately and squarely to ensure the correct fit of the body to the footplate, and also to ensure the correct fit of other body parts. The front corners of the body must also be curved at **2mm** radius for a full **90** degrees. The top of the sides and back should be flared outwards at **30** degrees to the vertical, and then the coal plates bent to vertical. Once the tender body is satisfactorily formed it can be slotted into the footplate and soldered in place. Take the front plate (11) next, bend over the top sections at right angles, then slot it into the footplate and solder in place. It should fit between, and level with, the front edges of the sides. Bend five of the lamp brackets (12) and fix into the holes in the rear of the tender, then fix the two narrow internal supports and the one wide internal support (13) into the slots in the footplate. Next bend the coal plate (14) along the fold lines, and fit it into the body, resting on top of the internal supports. The front edge should be level with the bottom of the coal hole in the front plate. Now take the long lower coping strip (15) and, starting at one end of the front of the body, solder the strip along the sides and back of the body, with its top edge against the bend of the flared coping. Next take one of the overlays for the flared part of the coping (16), curve at the front and at the corner to fit the body, bend up the top section so that it is vertical, solder in place, then repeat with the other side. The two pieces join in the middle of the tender back. Fix the water filler caps (17) into their holes, and then solder the rear bulkhead into the slots in the coal plate. Fix the upper toolboxes (19) into the holes in the top of the coal plate. Bend the ends of the floor support (20) at right angles, and solder it to the footplate, then slot the floor (21) into the coal plate and solder it to the floor support. Fold the lower toolbox bodies (22), fix them to the floor, then bend the tops (23) at an angle to match the toolbox fronts, and fit to the toolboxes. Fit the two draught plates (24) either side of the lower toolboxes, then fit the beading pieces (25), and make the two front handrails at the same time from the **26g** wire. Next take the brake column (26), fit the brake wheel (27) to it, and fix the assembled column into the hole in the floor. Put the piece of **1/16th** dia. brass through the hole in the centre of the frame channel behind the drag beam, and solder it in place to form the coupling pin (28). Fix the buffers (29) into the holes in the buffer beam. Fit the vacuum pipe (30) to the buffer beam, then bend the sixth lamp bracket and fit to the centre of the top of the tender back.

Turn now to the bogies (31), solder the pin-point bearings (32) into the axle holes, and then fold down the bogie sides and centre strengtheners, fitting the bogie wheels at the same time. Solder up the joints and fold lines inside the bogie centres, and then solder the end plates (33) across the ends of the bogies. Take the side overlays (34), and fit them to the bogie sides, then fit the axleboxes (35) in place. Finally, secure the bogies to the body using the 8BA nuts (36).

LOCOMOTIVE PARTS LIST

1. Running Plate.
2. Valences.
3. Bufferbeam.
4. Smokebox Front.
5. Front Frames.
6. Running Plate and Cab Steps.
7. Running Plate Curve Steps.
8. Lamp Brackets.
9. Urie Cab Front.
10. Main cab Sides.
11. L/H Urie Cab Overlay.
12. R/H Urie Cab Overlay.
13. Urie Cab Roof.
14. Front Roof Rib.
15. Middle Roof Rib.
16. Rear Roof rib.
17. Maunsell Cab Front.
18. L/H Maunsell Cab Overlay.
19. R/H Maunsell Cab Overlay.
20. Maunsell Cab Roof.
21. Cab Floor Support.
22. Cab Floor.
23. Resin Boiler.
24. Smokebox Wrapper.
25.
26. Smokebox door.
27. Chimney.
28. Dome.
29. Later Safety Valve Base.
30. Early Safety Valve Base.
31. Safety Valves.
32. Washout Plugs.
33. Vacuum Pipe.
34. Smokebox Step.
35. Sprung Buffers.
36. Front Wheel Arches.
37. Sandbox fillers.
38. Later Steam Pipes.
39. Early Steam pipes.
40. Clack Valves and Piping.
41. Reversing Arms.
42. Running Plate Valve Gear Pockets.
43. L/H Injector.
44. R/H Injector.
45. Snifting Valves.
46. Snifting Valves Blanks.
47. Reversing Bar.
48. Firebox Valves and Piping.
49. Early Smoke Deflectors.
50. Later Smoke deflectors.
51. Backhead.
52. L/H Pressure Gauge.
53. R/H Pressure Gauge.
54. Regulator Handle.
55. Reverser Mounting Block.
56. Reverser.
57. Reversing Wheel.
58. L/H Toolbox.
59. R/H Toolbox.
60. Main Frames.
61. Frame Spacer.
62. Frame Spacer.
63. Frame Spacer.
64. Frame Spacer.
65. Frame Spacer.
66. Cylinder Stretcher.
67. Front Motion Bracket.
68. Main Motion Bracket.
69. Running Plate Support Brackets.
70. Chassis Bearings.
71. Cylinders.
72. Rear Valve Covers.
73. Front Valve Covers.
74. Piston End covers.
75. Cylinder Overlays.
76. Inspection covers.
77. Front Bogie.
78. 2mm Bearings.
79. 8BA Nuts and Screws.
80. Bogie Swing Arms.
81. Tender Draw Bar.
82. Connecting Rods.
83. Slidebars.
84. Crossheads and Pistons.
85. Radius Rods.
86. Combination Levers.
87. Union Links.
88. Return Cranks.
89. Return crank Rods.
90. Expansion Links.
91. Rivets.
92. 14BA Nuts and Screws.
93. 16BA Nuts and Screws.
94. Coupling Rods.
95. Handrail Knobs.
96. Handrail Wire.

TENDER PARTS LIST

1. Frames.
2. 8BA screws - 2.
3. Footplate.
4. Bogie bearing plates - 2.
5. Buffer beam.
6. Valances - 2.
7. Drag beam.
8. Step plates - 2.
9. Steps - 2 long, 2 shor.t
10. Body.
11. Front plate.
12. Lamp brackets - 6.
13. Internal supports - 2 narrow, 1 wide.
14. Coal plate.
15. Lower coping strip.
16. Main coping strips, LH & RH.
17. Waterfillers - 2.
18. Rear bulkhead.
19. Upper toolboxes - 2.
20. Floor support.
21. Floor.
22. Lower toolbox bodies, LH & RH.
23. Lower toolbox tops - 2.
24. Draught plates - 2.
25. Beading pieces, LH & RH.
26. Brake column.
27. Brake wheel.
28. Coupling pin.
29. Buffers - 2.
30. Vacuum pipe.
31. Bogies - 2.
32. Pin-point bearings - 8.
33. End plates - 4.
34. Side overlays - 2 LH & 2 RH.
35. Axleboxes - 8.
36. 8BA nuts - 4.

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Fig. 1. Running Plate Assembly.

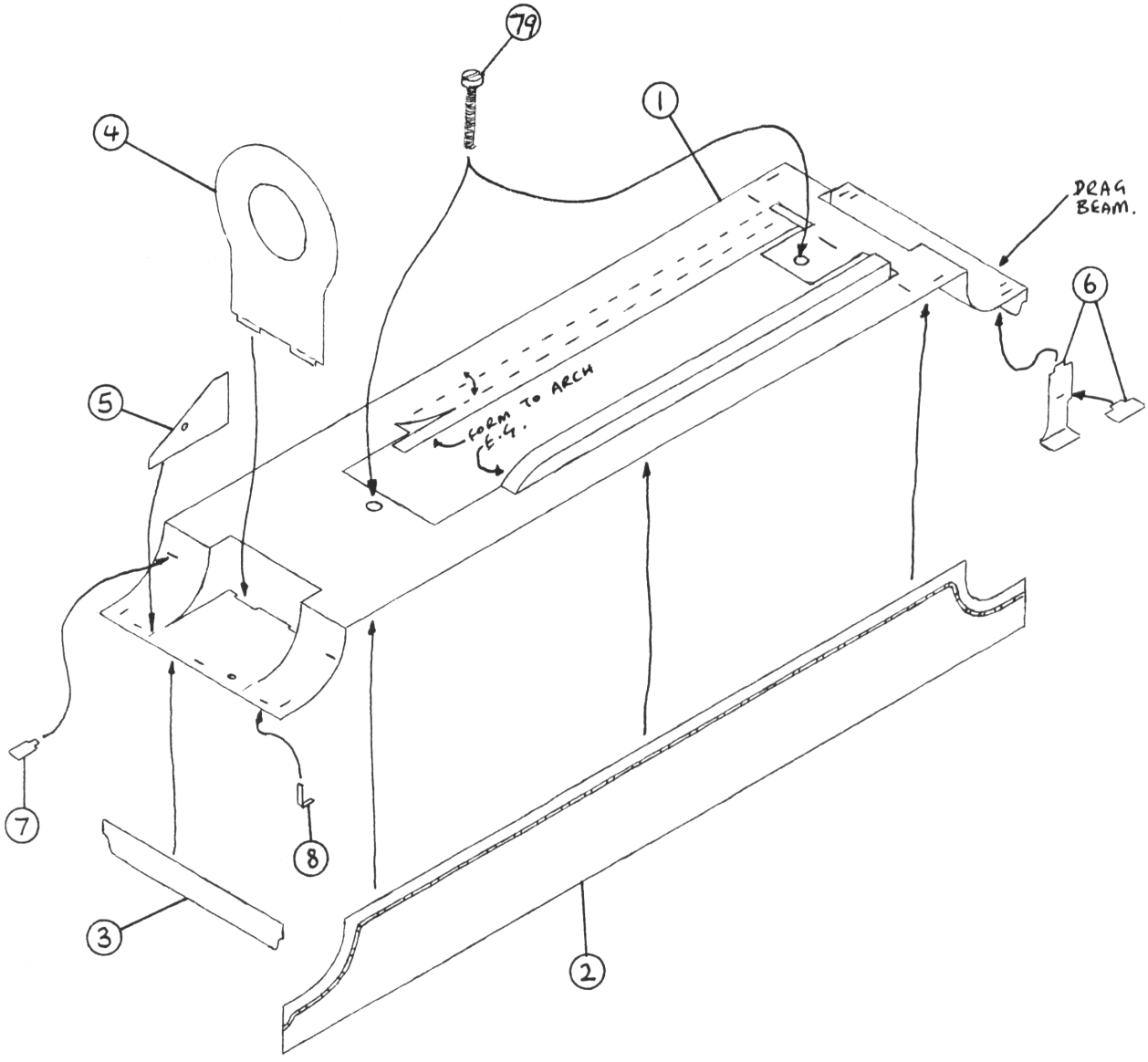

Fig. 2. Urie Cab Construction.

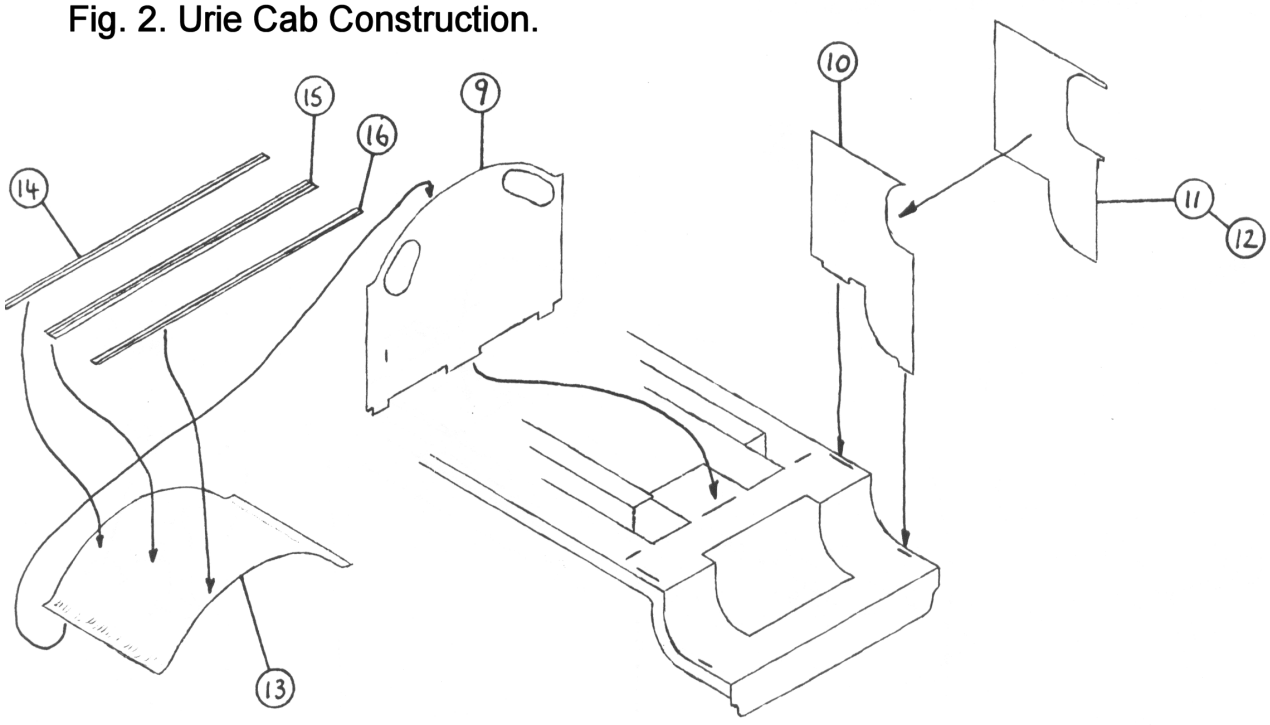

Fig. 3. Maunsell Cab Construction.

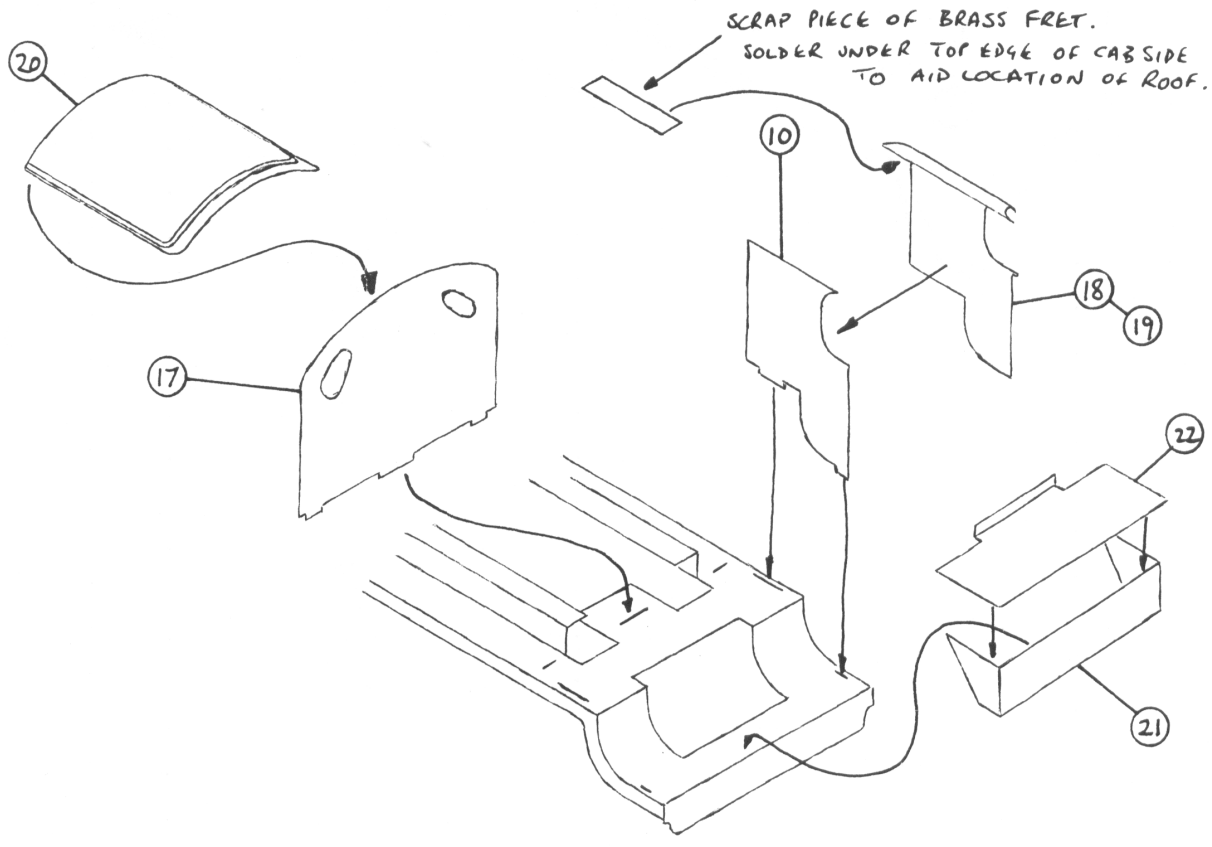

Fig. 4. Attaching The Boiler to The Running Plate.

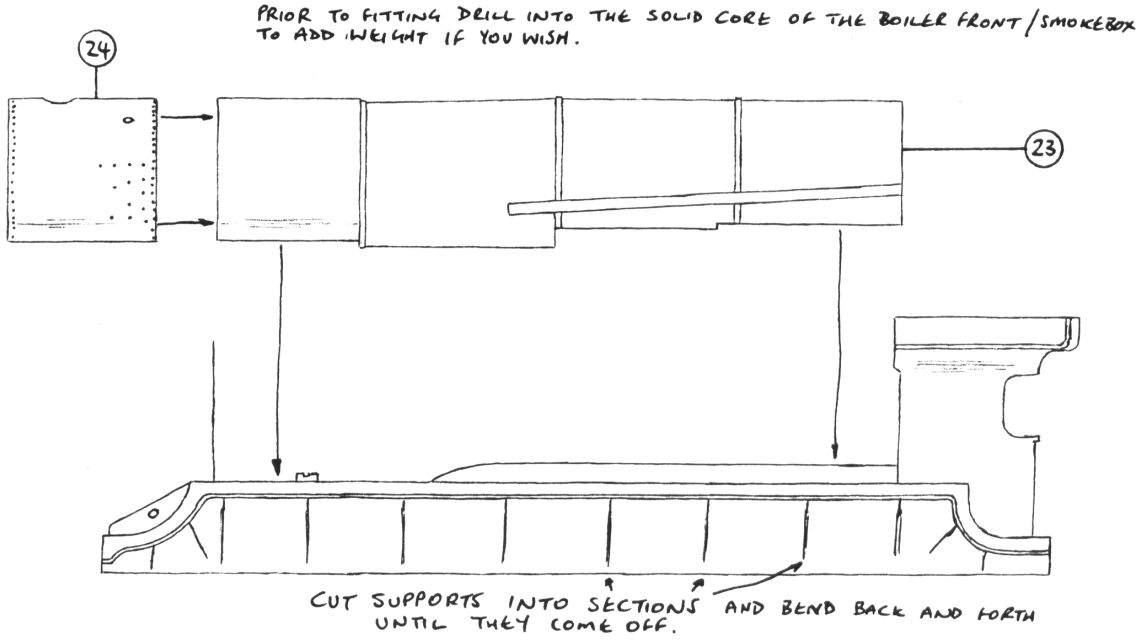

Fig. 5. Detailing The Body.

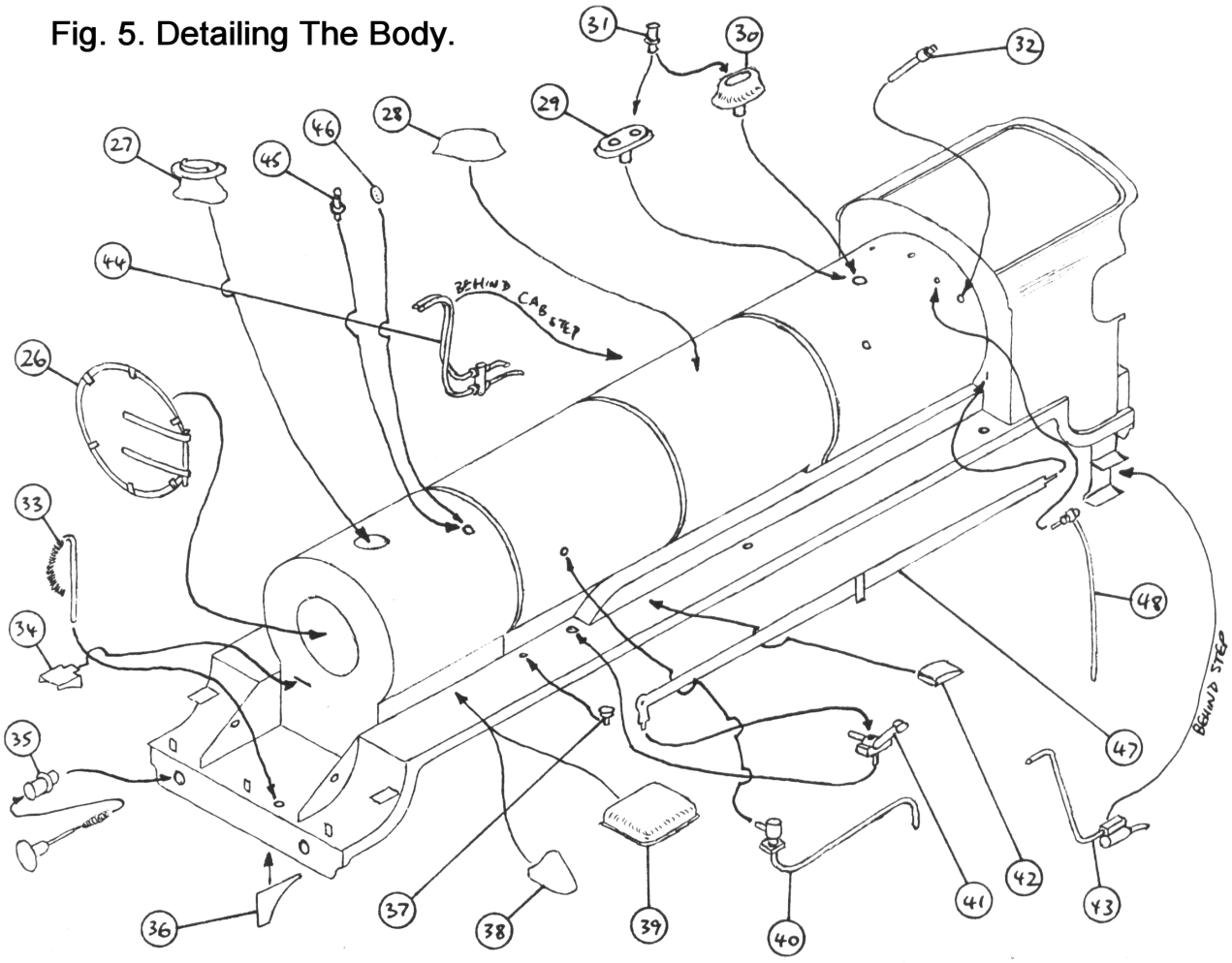

Fig. 6. Cab Detail.

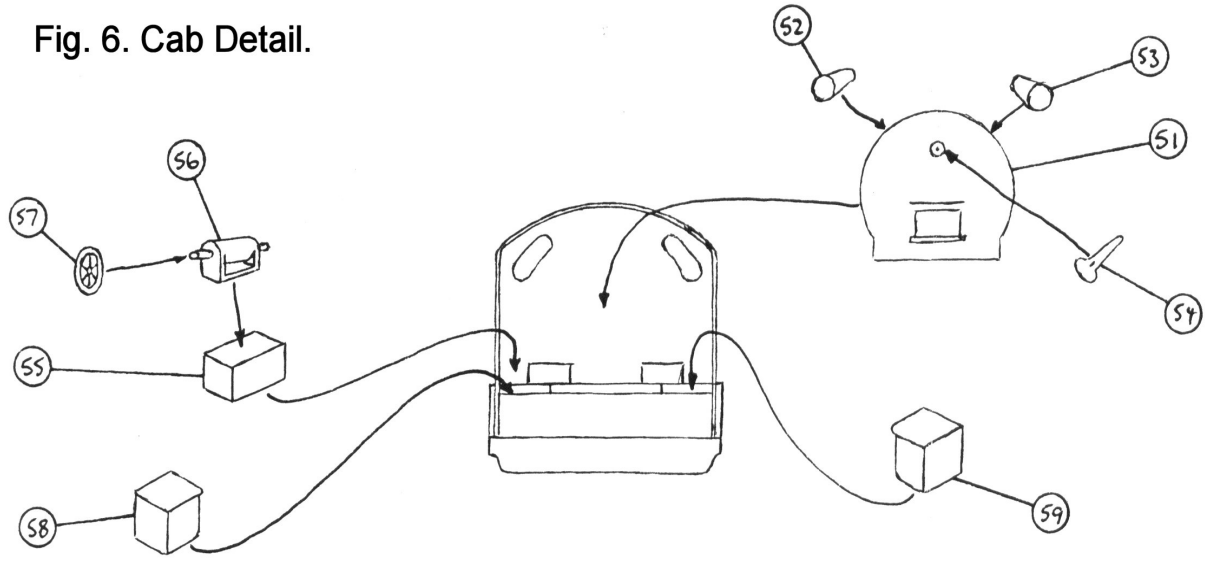

Fig. 7. Chassis Construction.

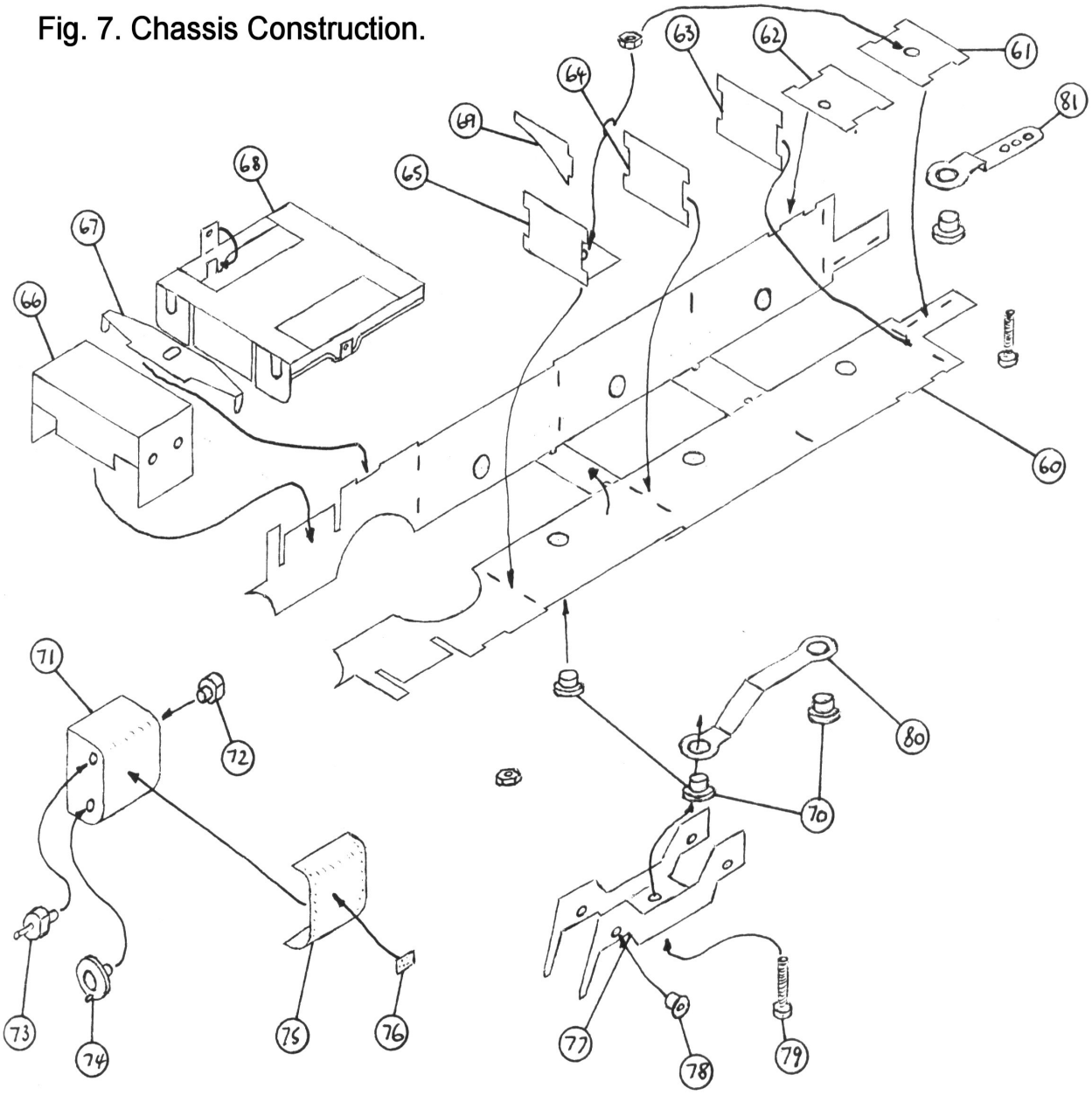

Fig. 8. Valve Gear Assembly.

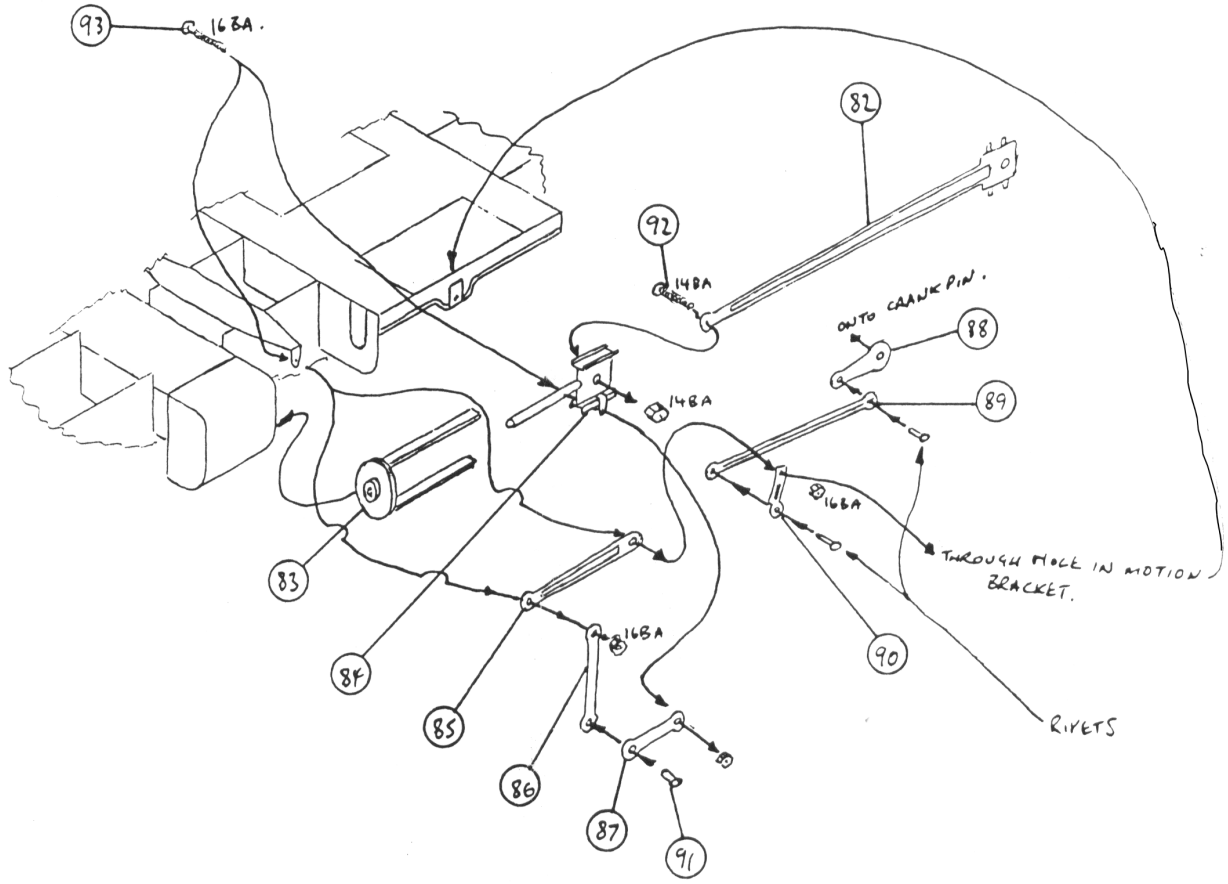

Fig. 9. Tender Assembly.