

61xx Instructions

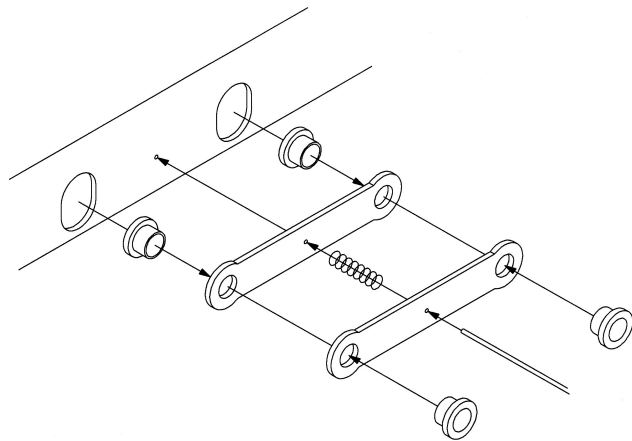
Fig. 1.

Chassis Assembly

The chassis can be built rigid or compensated, so decide now which one you are going to make. If building a compensated chassis remove the sections from the front and centre axle holes.

Fold the main chassis frames (1) up and solder the rear frame spacer (2) and centre spacer (3) in place making sure everything is square.

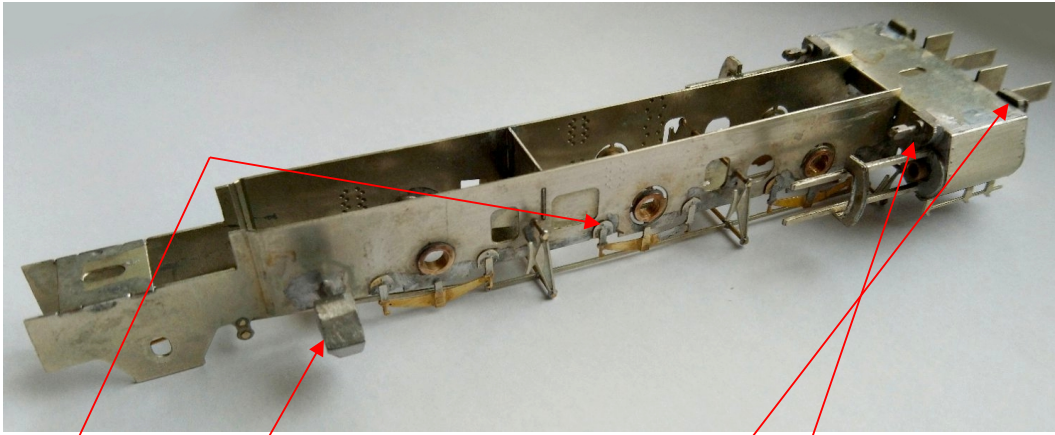
Compensated Chassis - Solder the axle bearings (4) into the compensating beams (5). Fit the compensating beams by passing brass wire through the frames, through one of the beams, then the spring (31), then the next beam and finally out the other side of the chassis. Hold the beams away from the chassis side while soldering the wire in place to prevent them being soldered to the frames. Trim the excess wire flush with the chassis side. Fit the wheels so you can test the compensating mechanism and when satisfied that it works OK remove the wheels and put them to one side.



Rigid Chassis - Solder the axle bearings (4) into the axle holes in the chassis (1).

Take the cylinders (6) and solder two 2mm bearings (7) into the large holes in the back of the cylinders. Fold down the front and rear and fit the cylinders into the recess at the front of the frames. Take the cylinder sides (8) and curve the bottom of the cylinder sides to match the shape of the cylinder front/rear. Solder the sides to the cylinders. Solder the front cylinder covers (9) in place.

Solder three lengths of the 0.7mm brass wire (10) into the holes in the chassis to form the brake mountings. Take the brake hangers (11, 12, 13 & 14). Note that the front brakes are different and all are handed. Solder the brake hangers to the wire 2mm from the frames. Pass more brass wire through the bottom of the brakes and then through the pull rods (15). Solder all the joints. Refer to the inset drawing and assemble the brake actuating rods and levers (16 & 17).



Solder the springs (22) in position under the axle holes. If you've used the compensating mechanism you will have to shorten the centre lug.

Solder the cylinder drain cocks (23) under the cylinders. Assemble the front pony truck (20 & 21). Solder the sandboxes (24) into their holes behind the rear wheels. Glue or solder the sandbox fillers (25) to the rear sandboxes. Make up the sand pipes with 0.7mm brass wire and fit into the bottom of the sandboxes. The chassis and pony trucks can now be painted, taking care not to gum up moving parts. Solder the front (28) and rear (29) valve guides to the cylinders.

Fit the wheels and motor to the chassis before fitting the slidebars. If you fit the slidebars first you won't be able to fit the front wheels! The chassis can now be painted.

Fold up the slidebars (18) as shown and solder the two sides together. Cut the end off of the prongs that go into the cylinders. Solder together the three parts of the motion brackets (19) and solder these into the notches on the slidebars. Now remove the stretcher at the rear of the slidebars. Slide them into the cylinders and over the 2mm bearings.

Coupling Rods

With the chassis painted and the wheels fitted permanently. Fit the crank pins and assemble the coupling rods (26) as shown. Take care in this as the rods need to move freely, both for side play and compensation.

The connecting rods (27) can also be assembled and crossheads (30) attached to the rods with the 14BA nuts and screws. Check that the crossheads move OK in the slidebars before permanently fitting them.

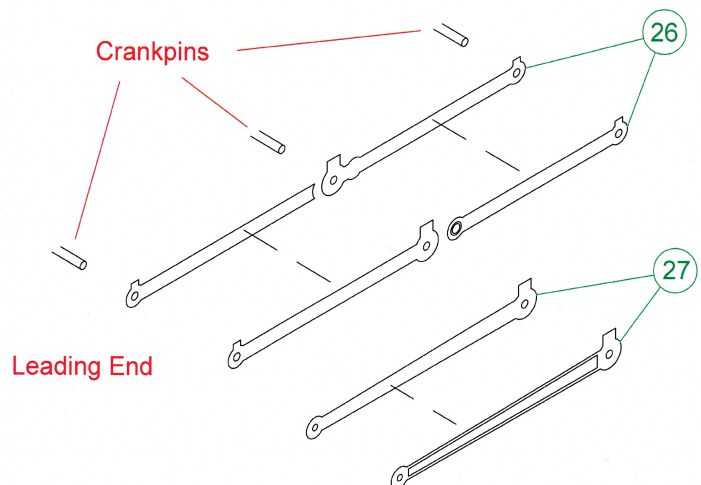


Fig. 2.

Cut out the main running plate (1), the valances (2 & 3) and the rear bufferbeam (17). Fold the running plate to form the two levels. Check the fit of the valances under the running plate and then solder in place against the step in the running plate. Solder the rear bufferbeam into the recess in the running plate.

Take the two main body sides (4 & 6), curve the front ends round a 2mm bar. Check that the front curves match the curved mark on the running plate and tack one of them in place. Fit the cab rear (5) into the slots in the cab side and running plate and tack in place. Now take the cab floor (7) [on the chassis etch] and position it with the step protruding under the cab door. Don't solder it yet. The remaining main body side can now be tacked in place. Solder along all the seams, including the cab floor, but make sure the cab front (10) will fit in the slots.

Before fitting the cab front, take the bunker front (8) and fold it as in fig. 2. Fit the coal chute (9) to it. Solder it in place so that it sits just behind the cab door, [see the red line in fig.2]. When this is done fit the cab front in place.

Shape the bunker rear (11) to match the rear profile of the sides and solder in place. Tack the tank tops into the recesses in the sides. Once sure everything is square solder around all the seams.

Form the front running plate (15) and solder on top of the valances. Solder the front bufferbeam (16) and rear bufferbeam (17) in place.

Solder two 8BA screws (18) into the two holes in the running plate. Solder the smokebox saddle front and rear (19) into their slots. Form the saddle sides (20) to match the saddle front and rear.

Fold the splasher sides up. Curve the splasher tops (21) and solder to the splasher sides.

Leave the cab roof until the cab interior is done and move to fig. 3.

Fig. 3.

Cut out the tank side overlays (23 & 24) carefully. Clean off all the tabs and curve the front end to match the main sides. Tack the overlays in position making sure they stay flat. When satisfied that all is OK solder around the edges. Take the bunker side overlays (23a & 24a) and following the previous procedure, solder them in place. Form the bunker rear overlay (25) and solder in place. Use a fine file to put a radius on the edge where the sides and rear meet.

Solder the rivet strips (26 & 27) around the bottom of the tanks and bunker.

Check which type of motion bracket is required for your model [large for 81xx, smaller for 41/51/61xx], and follow A or B below.

A. Punch through the rivets on the back of the large bracket overlay (29) and solder it to the bracket back (28). Solder two steps (60) into the slots in the bracket.

B. Solder the bracket tops (31) around the edge of the smaller bracket (30).

Fit your chosen motion bracket in position 0.5 mm from the tank front.

Now turn to the firebox top (34). Take the front and rear formers (32 & 33) and form the firebox top to match them [note that they are marked **F + R**]. Insert the lugs into the rearmost slot and the recess at the front [these keep the formers central]. Solder them in position making sure there is a good thickness of solder at the front join. Round off the front edge with a small fine file. Check the fit of the firebox top to the tank tops and then solder in place.

Curve the tapered boiler section (37) to match the formers (35 & 36) [note that they are marked **F + R**]. Insert the lugs into the slots and solder them in place. Before soldering the tapered section in place assemble the boiler/smokebox.

Solder along the bottom seam of the boiler/smokebox (38) [it's helpful to use wire around the the boiler to hold the seams together] and then solder the smokebox overlay (39) to the boiler.

Position the tapered boiler and front boiler/smokebox to check that they line up correctly, make any alterations and line up again. Tack the tapered boiler section in place, check the positioning. Now tack the boiler/smokebox to the saddle and to the tapered boiler, checking that it is level and the join is good. When you are happy all is lined up correctly solder them firmly in place. Fold up the step on the smokebox front (40). Solder this to the smokebox.

Solder the front and rear bufferbeam overlays (41 & 42) in place.

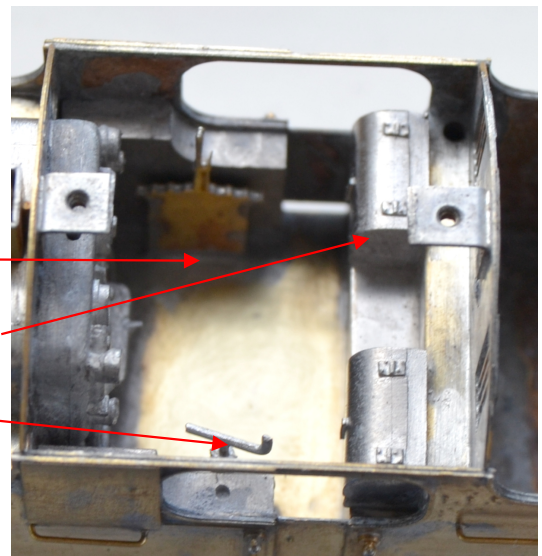
Shape the front running plate overlay (43) [this is best done round a piece of dowel, so that the rivet detail isn't distorted] and solder on to the front running plate.

Check the fit of the valance/cab step overlays (44 & 45), form the bottom steps and solder in position. Fold the intermediate steps (46) [two each side] and solder in place.

Cut out the front running plate steps and overlays (53). Solder them in position behind the front running plate valance and in line with the two handrail knob holes.

Solder the rear door (51) and rear window guards (52) in place.

Fit the inner tanks (54) against the cab sides and then fit the backhead (55). Take the etched reversing lever (56) and fold the two halves together. Clean off the fold tabs and solder it in place. Solder the toolboxes (57) in place. Drill a hole for the brake standard (58) and solder it in position.



Curve the tri-arch cab roof (47) and tack in position. When satisfied that it is positioned centrally solder around the seams. Fit the front and rear strips (48), the two rainstrips (50) and the cab roof shutter (49).

Form the bunker recess (59). Check the fit and when you are happy with it, solder it in place.

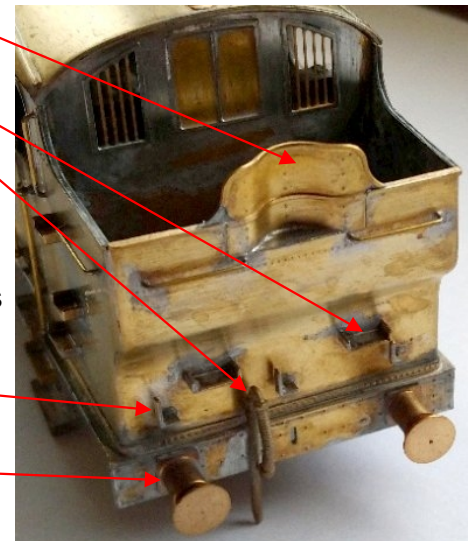
Solder the bunker rear steps (60) into their slots.

Solder a vacuum pipe (61) to the bufferbeam.

Clean out the handrail holes and fit the handrails from the 0.45mm wire.

Fold the rear lamp brackets (62) and insert the narrow ends into the holes.

Fit the buffer shanks (63) [leave the heads until after painting].

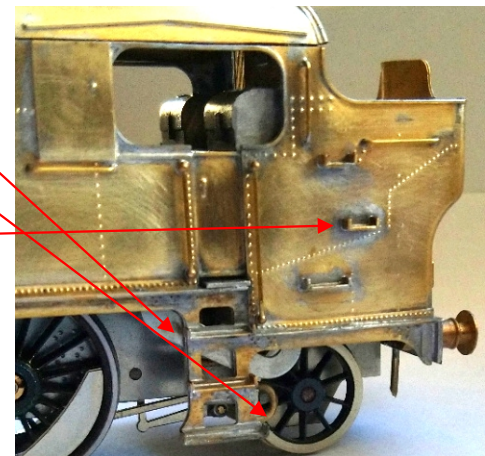


Solder the tank balance pipes (64) behind the cab steps.

Solder the Injectors (65) to the rear of the steps.

Fold up the nearside bunker steps (66) [two short, one longer and they have no tabs]. Solder them in place using the dimensions on the line drawing, fig. 5. Check the dates that they were fitted.

Solder the boiler bands (67) in position using the dimensions on the line drawing.



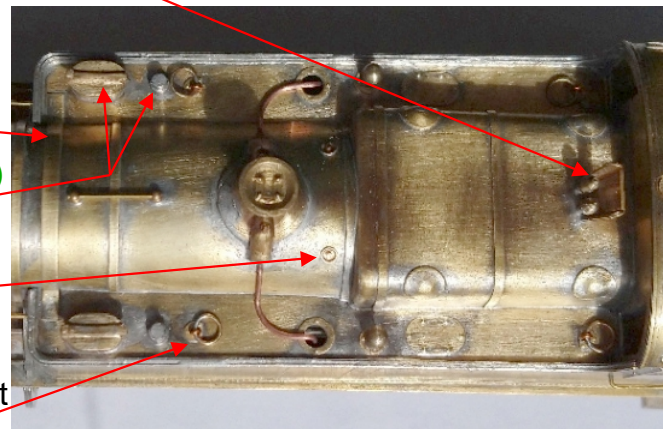
Fold the whistle guard (68) and glue or solder in the slot. The whistles (69) are best fitted after painting.

Shape the boiler strapping (70) and solder to the front of the tank tops.

Solder the tank fillers (71) and oil breathers (72) in place.

Open out the holes for the washout plugs (73) and glue or solder in place.

With the lifting ring mountings (74) still in the fret drill through the holes from the back with a 0.4mm drill. Do the same with the corresponding holes in the tank tops.



Line up the mountings with the holes on the tank top and solder in position. Clear out the holes with the **0.4mm** drill.

Solder the tank vent flanges (75) over the holes on the tank tops and solder the tank vents (76) into the holes.

Solder the beading (77) over the holes for the top feed pipework.

Solder the tank top lubricators (78) in place here.

Fit the safety valve bonnet (79) in position. Make up the pipework from copper wire.

Glue the mudhole covers (80) in place.

Form the lifting rings using a piece of **0.45mm** brass wire. Wrap the wire around something about **2mm** in diameter, such as a needle file handle. Coil it as if you are making a spring. Cut through two coils and bend the two ends together. Put a dab of solder on the join. Use a piece of the fine copper wire and bend it like a split pin. Loop the lifting ring onto this and put the two ends of the copper wire through the holes in the lifting ring mounting. Twist the ends together inside the tanks.

Solder the chimney (81) in place. Also solder the superheater cover (82) in position.

Fit the brackets? (83) on top of the splashers.

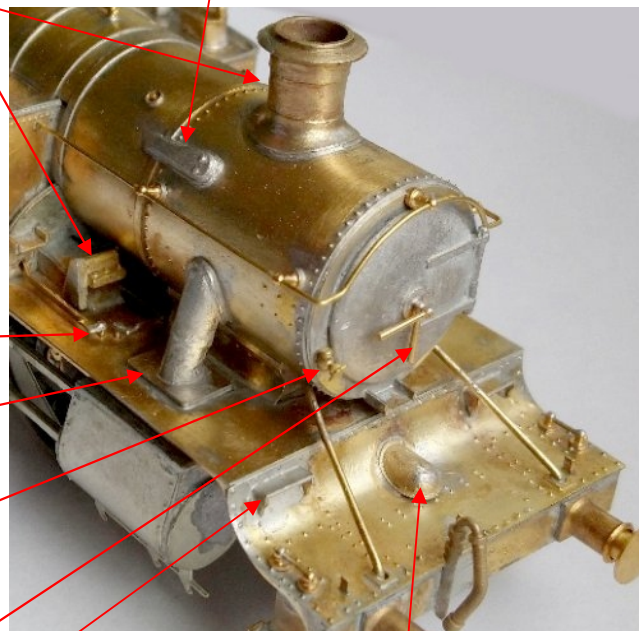
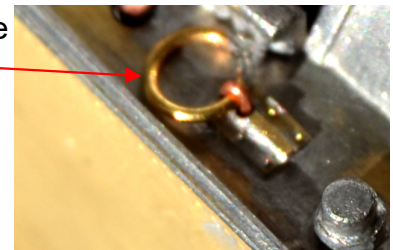
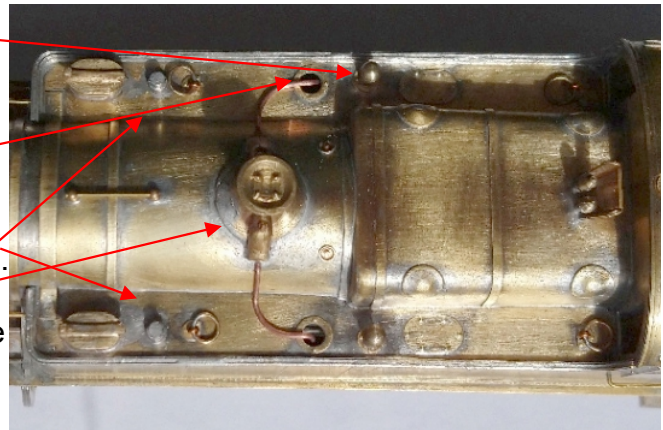
Take two pieces of **0.45mm** wire, around **5mm** long. Bend them into an **L** shape and solder them into the holes for the sand operating rods from underneath. Take the sand operating rods (84) and twist them through **90°** about **1mm** of the way from the right angled end. Solder them, with about **0.5mm** gap to the two pieces of wire you have just fitted.

Solder the steam pipe platforms (85) [two per side] and then solder them in the recesses. Then solder the steam pipes (86) in place.

Drill the marked hole and fit the lancecock (87).

Glue the smokebox door handle (88) base into the door and glue the handles to it. (The rear handle always points down).

Fold and solder the front running plate steps (89) in place along with the bogie spring holder (90).



Drill a hole at the front of each tank **11.5mm** up from the running plate and solder the tank front steps (91) in place.

Bend up the front lamp brackets (92) and fit into the slots from underneath including the ones on the left of the running plate, just behind the steam pipe. Solder a vacuum pipe (61) to the bufferbeam.

Using the **0.45mm** wire make up the pipework along the running plate. Fit all the handrails.

PDK Models.

Hilltop Bungalow,

Carnkie,

Helston,

TR13 0DZ

07732213251

Website: www.pdkmodels.co.uk

E-Mail: pdkmodels@hotmail.co.uk

Chassis Parts List

- | | | |
|--|---|---------------------------|
| 1. Main Frames. | 13. L/H Rear and Centre Brake Blocks. | 22. Springs. |
| 2. Rear Frame Spacer. | 14. R/H Rear and Centre Brake Blocks. | 23. Cylinder Drain Cocks. |
| 3. Centre Spacer. | 15. Brake Rodding. | 24. Sandboxes. |
| 4. 1/8 th Chassis Bearings. | 16. 0.9mm Brass Wire. | 25. Sandbox Fillers. |
| 5. Compensating Beams. | 17. Brake Actuating Lever. | 26. Coupling Rods. |
| 6. Cylinders. | 18. Slidebars. | 27. Connecting Rods. |
| 7. 2mm Bearings. | 19. Motion Brackets. | 28. Front Valve Guides. |
| 8. Cylinder Sides. | 20. Front Bogie. | 29. Rear Valve Guides. |
| 9. Front Cylinder Covers. | 21. Bogie Wheel Keeper and Guard Irons. | 30. Crossheads. |
| 10. 0.7mm Brass Wire. | | 31. Compensation Spring. |
| 11. L/H Front Brake Block. | | |
| 12. R/H Front Brake Block. | | |

Superstructure Parts List

- | | | |
|-------------------------------------|----------------------------------|--------------------------------------|
| 1. Main Running Plate. | 32. Rear Firebox Former. | 65. Injectors. |
| 2. L/H Valance. | 33. Front Firebox Former. | 66. Nearside Bunker Steps. |
| 3. R/H Valance. | 34. Firebox Top. | 67. Boiler Bands. |
| 4. L/H Side. | 35. Rear Taper Boiler former. | 68. Whistle Guard. |
| 5. Cab Rear. | 36. Front Firebox Former. | 69. Whistles. |
| 6. R/H Side. | 37. Taper Boiler Top. | 70. Boiler Strapping. |
| 7. Cab Floor. | 38. Boiler/Smokebox. | 71. Tank Fillers. |
| 8. Bunker Rear. | 39. Smokebox Overlay. | 72. Oil Breathers?. |
| 9. Coal Chute. | 40. Smokebox Front. | 73. Washout Plugs. |
| 10. Cab Front. | 41. Front Bufferbeam Overlay. | 74. Lifting Ring Mountings. |
| 11. Bunker Rear. | 42. Rear Bufferbeam Overlay. | 75. Tank Vent Flanges. |
| 12. . | 43. Front Running Plate Overlay. | 76. Tank Vents. |
| 13. R/H Tank Top. | 44. R/H Valance Overlay. | 77. Round Beading. |
| 14. L/H Tank Top. | 45. L/H Valance Overlay. | 78. Tank Top Lubricators. |
| 15. Front Running Plate. | 46. Cab Steps. | 79. Safety Valve and Top Feed. |
| 16. Front Bufferbeam. | 47. Cab Roof. | 80. Mudhole Covers. |
| 17. Rear Bufferbeam. | 48. Front and Rear Roof Beading. | 81. Chimney. |
| 18. 8BA Nuts and Screws. | 49. Cab roof Shutter. | 82. Superheater Cover. |
| 19. Smokebox Saddle Front and Rear. | 50. Rainstrips. | 83. Brackets?. |
| 20. Smokebox Saddle Sides. | 51. Cab Rear Door. | 84. Sand Operating Rods. |
| 21. Splasher Tops. | 52. Rear Window Coal Guards. | 85. Steam Pipe Platforms. |
| 22. . | 53. Front Running Plate Steps. | 86. Steam Pipes. |
| 23. R/H Side Overlay. | 54. Inner Tanks. | 87. Lancecock. |
| 23a. R/H Bunker Side Overlay. | 55. Backhead. | 88. Smokebox Door Handle. |
| 24. L/H Side Overlay. | 56. Reversing Lever. | 89. Front Running Plate Curve Steps. |
| 24a. L/H Bunker Side Overlay | 57. Toolboxes. | 90. Bogie Spring Holder. |
| 25. Bunker rear Overlay. | 58. Brake Standard. | 91. Tank Front Steps. |
| 26. Tank Rivet Strip. | 59. Bunker recess. | 92. Front Lamp Brackets. |
| 27. Bunker Rivet Strip. | 60. Bunker Rear Steps. | 93. Handrail knobs. |
| 28. Large Motion Bracket. | 61. Vacuum pipes. | 94. 0.45mm Brass Wire. |
| 29. Large motion bracket Overlay. | 62. Rear Lamp brackets. | 95. 0.7mm Brass Wire. |
| 30. Small motion Bracket. | 63. Buffers. | |
| 31. Small motion bracket tops. | 64. Tank Balance Pipes. | |

Fig. 1. 61xx Chassis Construction.

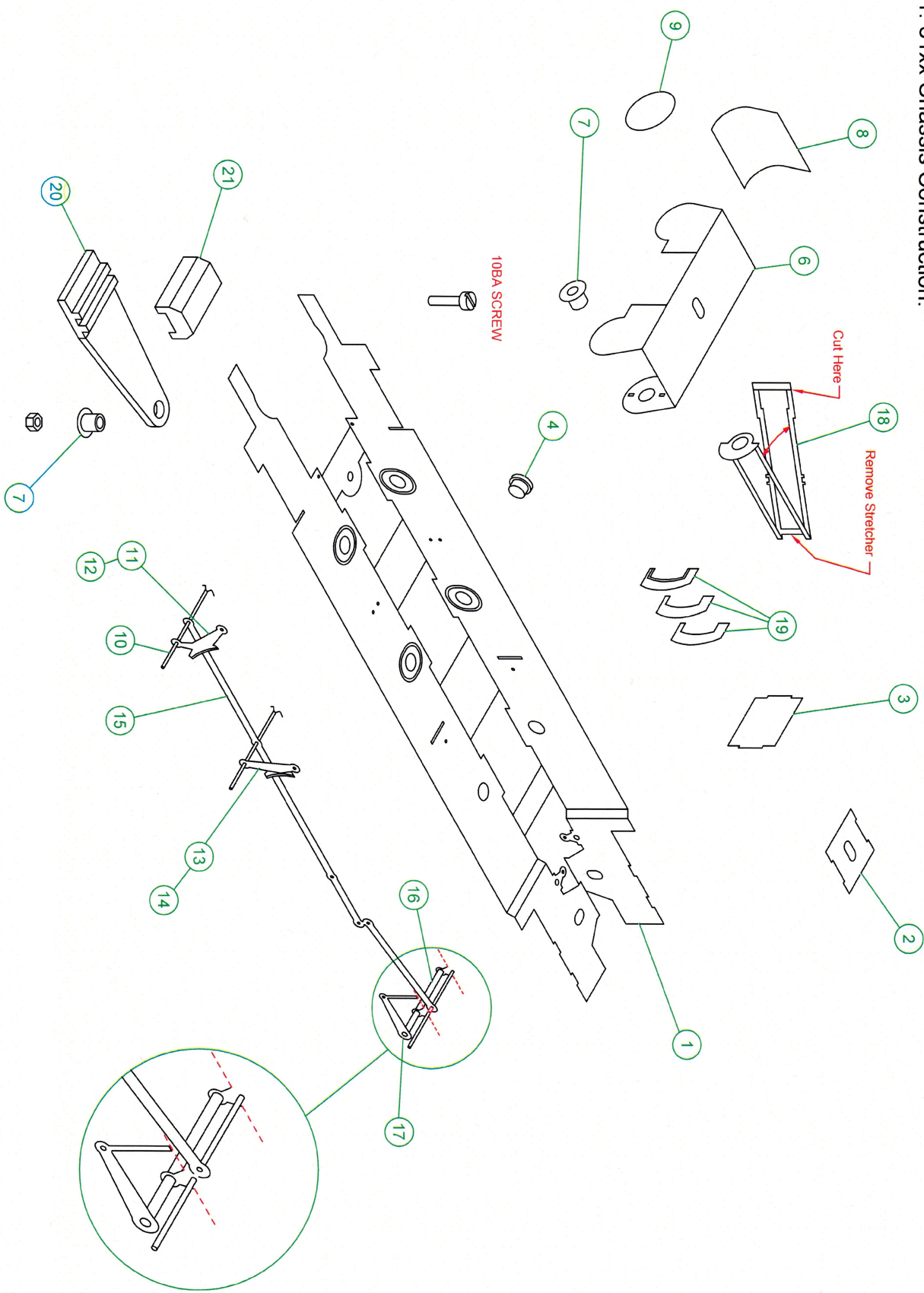


Fig. 2. 61xx Body Construction.

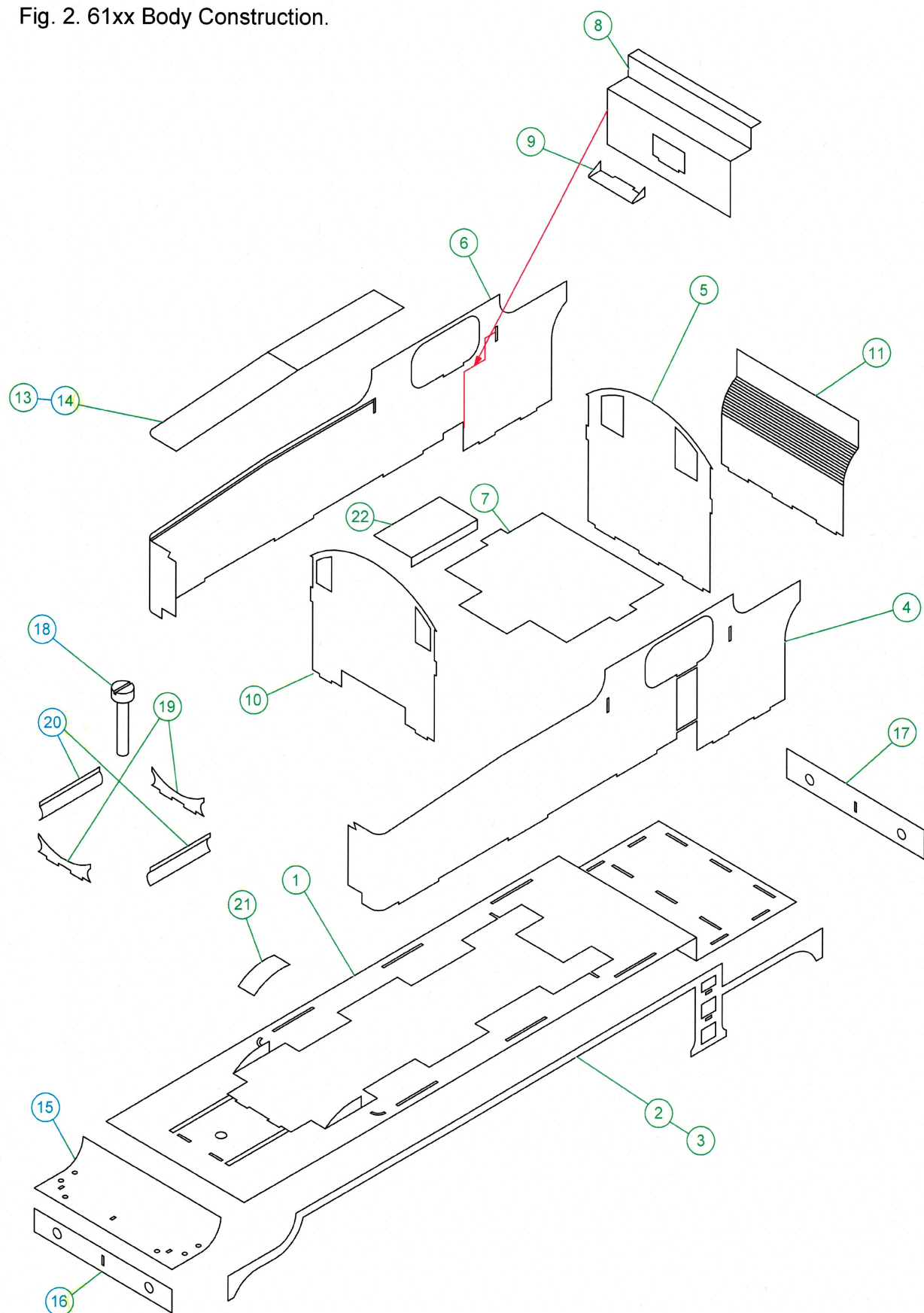


Fig. 3. 61xx Body Construction.

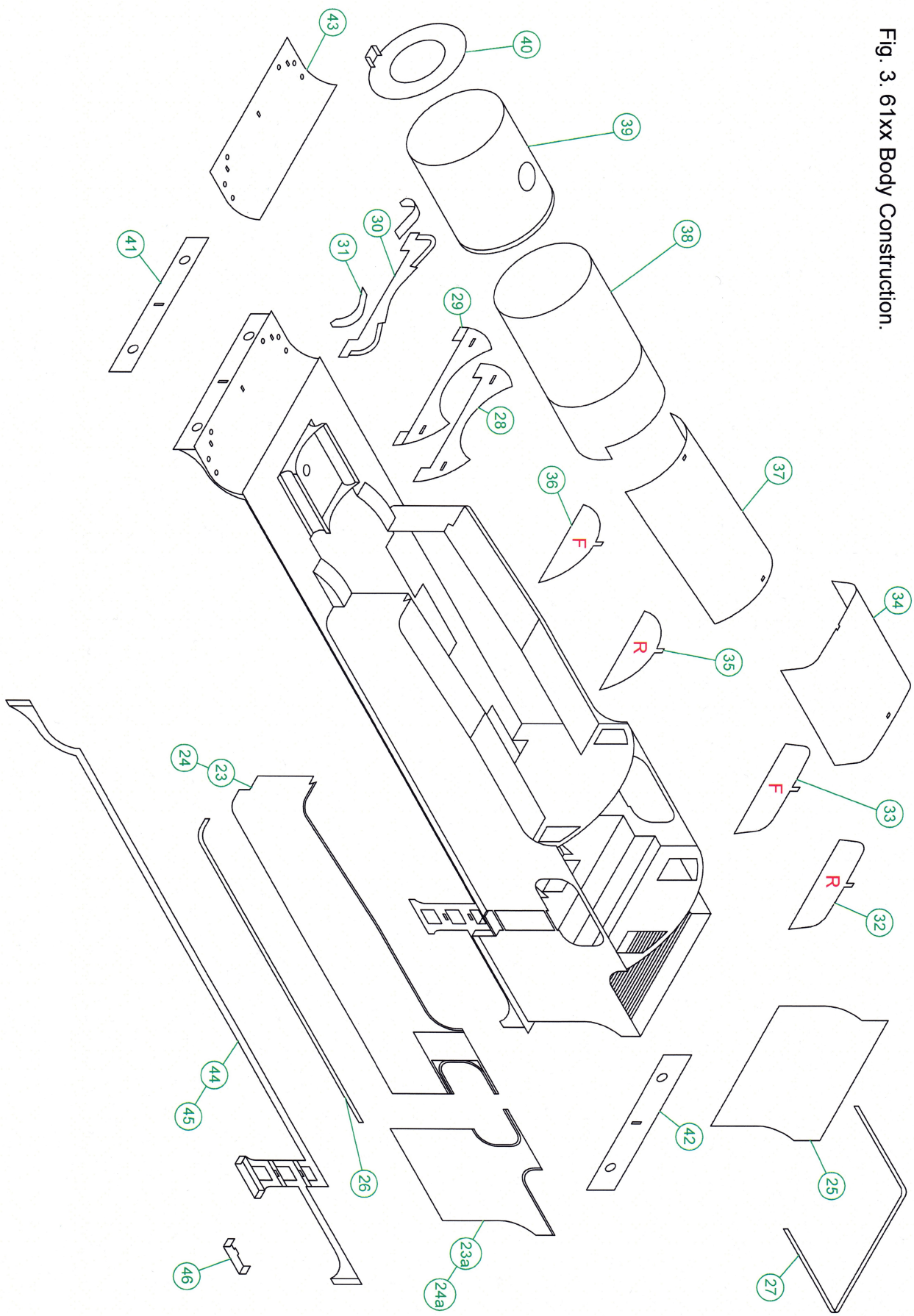


Fig. 4. 61xx Cab Roof Construction.

