

L12 4-4-0 INSTRUCTIONS

Fig. 1. Chassis Construction

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 rear axle holes and follow the compensation section.

Take the frames (1) and solder the 1/8th axle bearings (2) into the frames (rigid only). Fold the chassis frames down and solder the frame spacer (3) in position.

Fig. 1a. Compensation

Beam compensation requires a fixed point, so that when the loco is on the track it remains level and is a huge benefit on a 4-4-0 with no balancing required. With this chassis the fixed point is the bogie.

Solder the 1/8th axle bearings (2) into the compensating beams (4). The compensating spindle should be cut from the 0.7mm brass wire (6). The beams are held apart by the compensation spring (5). It is very important that no parts of this mechanism are soldered in a fixed position other than the spindle to the mainframe. Both beams must move independently of each other. The assembly of the beams is otherwise very simple. Make sure you fit the beams so that the large hole is over the rear brake pilot hole.

Fig. 1b. Brake Assembly

Solder two lengths of the 0.7mm brass wire (6) into the holes in the chassis to form the brake mountings (take care not to get solder on the compensation mechanism). Take the brake hangers (7) and solder the brake blocks (9) onto the hangers. Solder the assembled brakes to the wire 2mm from the frames. Study the brake actuating rods (8) and lever (10) diagram carefully. Pass more brass wire through the bottom of the brakes and then through the actuating rods. solder these joints. At the rear pass 0.9mm wire through the large hole near the leaf spring, then through the larger hole in the lever, and then through the the frame. Cut the 0.9mm wire flush with the chassis frames. Refer to fig. 1. and solder the front coil spring (14) and rear leaf spring (15) in place.

Fig. 2. Bogie assembly

Solder the four 2mm bearings (12) into the axle holes in the dummy equalizing beams (18) and then solder these into the bogie (11). Fold down the sides at right angles to the centre stretcher. Next fit two pieces of 0.7mm wire through the small holes at the front and back of the bogie to form the tie bars and trim off the ends. Shape the guard irons.

Solder together the nut and washer (16 & 17), this will be the plate that the bogie will rest on and locates onto the front 8BA screw. Fit the wheels so you can test the compensating mechanism and when satisfied that all works O.K. remove the wheels and put them to one side.

The chassis and bogie can now be painted, taking care not to gum up moving parts.

Fig. 3. Body Construction

Take the footplate (1), lay it upside down on a flat surface and solder the drag beam (4) and bufferbeam (5) into the channels at either end. Next take the valances (2 & 3) and fold the bottom step as shown in the diagram. Solder the valances into the channels either side of the footplate and between the bufferbeam and drag beam.

Next take the cab and splasher sides (6 & 7) and solder them into the three slots in top of the running plate. Form the cab front splasher tops (8) to match the sides, with the half etched lines underneath, and then solder the parts together. Note that the tabs on the cab front/splashers fit into the recesses on the cab sides and the half etched under-edge goes on top of the splasher sides. Trim the ends of the splasher tops as necessary. Fit the cab window rims (20) into the half-etched recesses round the cab windows

Bend the cab floor support (9) and solder in place, 0.5mm in from the rear footplate edge, and with its ends against the inside faces of the cab sides, then solder the cab floor (10) to it. Bend the two cab splashers (11 & 12) along the etched fold lines and solder them to the cab floor and cab sides. The front edge of these should be against the cab front.

Take the upper frame pieces (13 & 14), punch through the rivet detail and solder them into the slots in the footplate. Make the small grab handles from short pieces of the 0.45mm handrail wire. Fix the cast brass sandbox tops (42) in place behind the upper frames, and just in front of the front splashers.



Solder three 8BA screws into the holes in the running plate. The rear and middle screws can be shortened slightly if required, but not the front one.

Now solder the saddle front and the saddle rear (15) into the slots in-between the upper frames, noting that there should be a gap between the saddle front/rear and the frames.

Turn now to the boiler/firebox (16), check that the lower part of the firebox sides are 17mm apart, and solder along the seam of the boiler.

Next solder the smokebox inner (17) to the boiler and then the smokebox outer (18) on top of the inner. Both should be flush with the boiler front, noting that the inner is the longer of the two and sticks out at the back of the smokebox. Fit the three boiler bands (27) in place referring to fig. 3. for the measurements.

Check the fit of the boiler unit to the footplate and cab, the tabs at the rear fit into the cab front. The firebox sides are slightly over length, so remove some material to get a good fit. Make sure all is square and level. The assembled boiler can now be fitted to the footplate/cab.

Take the riveted overlay (19), open out the saddle side sections, and slide it into position over the smokebox. The saddle sides should fit between the saddle front/rear and the upper frames.

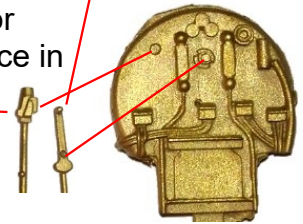
Fold up the step on the smokebox front (25) and solder it to the front of the smokebox.

Fit the cylinder cover (24) in front of the smokebox saddle, between the upper frame pieces.

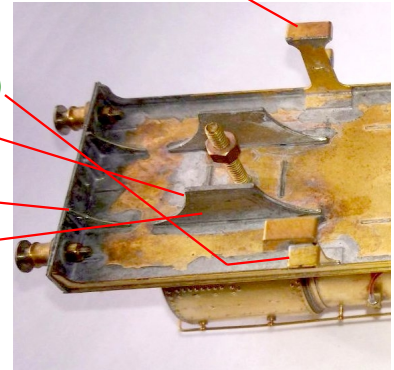
Curve the cab roof (21) to match the cab front, bend up the side edges along the fold lines, and then solder it to the cab. Fix the roof beading strips (22) into the half-etched lines in the roof. One of the strips is slightly longer than the other two to allow for the curve in the rear edge of the cab roof.

The cab side beadings (26) can now be fitted, bending them during fitting to match the shape of the cab side cut-outs. The beading should be continued along the underside of the cab roof, and the ends trimmed flush with the rear edge of the roof. Now make the cab handrails from the handrail wire, threading the wire through the holes in the ends of the beading, and through the holes in the footplate either side of the cab floor.

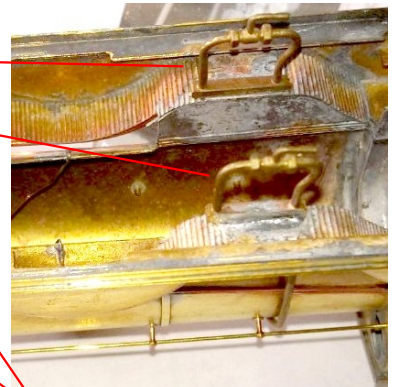
Turn back to the cab, take the regulator handle (28) and vacuum ejector control (29) and fix it to the backhead (30), then fix the backhead in place in the cab.



Fold up the lower steps on the running plate steps (31) and solder them behind the valances with their centres lined up with the grab rail on the upper frames. Bend up the ends of the centre steps (32) and fix into the slots in the running plate steps. Solder the lower frame pieces (33) into the slots in underneath the footplate. Solder the front frame pieces (34) behind the buffer beam, in line with parts 31. Solder the riveted lower frame overlays (35) in place.



Fit the injectors (36) under the running plate checking that they don't foul the wheels and coupling rods.



Solder the firebox side frames (37) in place.

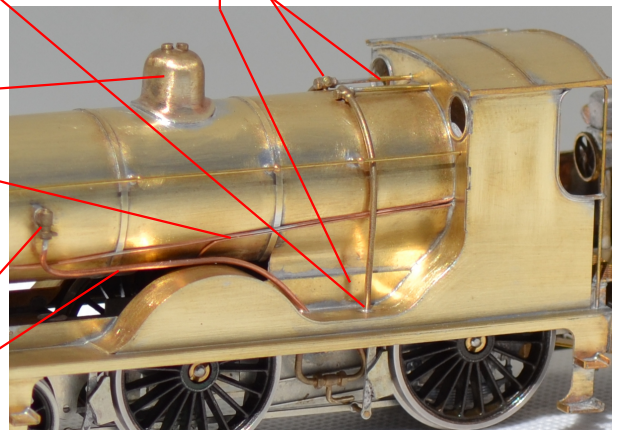
Take the firebox injector valves (38) and drill out the side with the centre mark to take 0.7mm wire. Curve them to match the firebox shape, drill a 0.9mm hole in the splashers top to take the pipework. At the same time drill the hole for the clack valve pipework.

Solder the dome (39) in place.

Form the oil piping from the fine copper wire (40).

Drill out the bottom of the clack valves (41) to take 0.9mm wire. Solder them to the boiler.

Form the clack pipework as in the picture [check photos if you are unsure] and then solder in position.



Solder either the stovepipe chimney (43) or the lipped chimney (44) in place.

Solder or glue the smokebox door (45) in place.

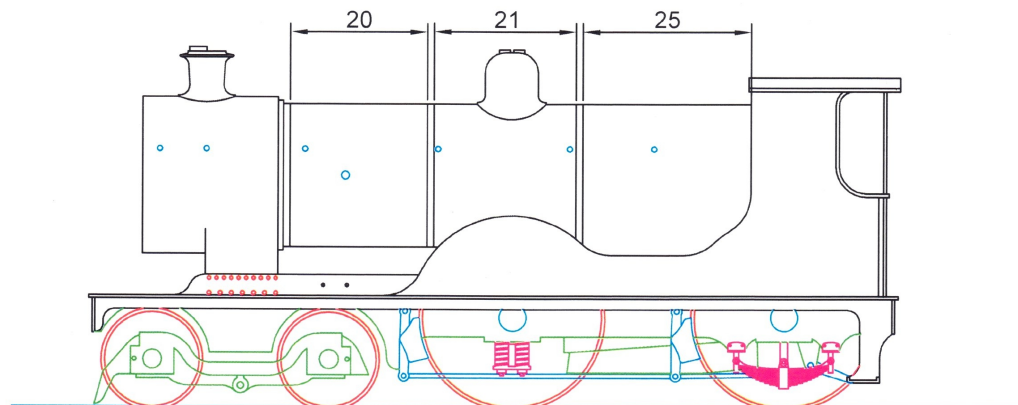
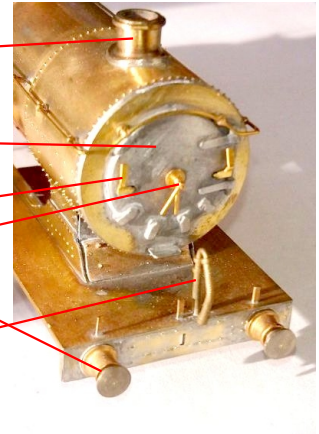
Fit the lamp brackets (46) and the smokebox door handle (47) to the smokebox door.

Fit the front lamp brackets (48) to the footplate and then fit the buffers (49) and vacuum pipe (50).

If you are modelling an earlier loco fit the cast brass snifting valves (51) to the smokebox.

Turn back to the cab, take the fall plate (52) and solder it to the cab floor.

Form the handrails from 0.45mm wire and fit using the handrail knobs (53 & 54).



L12

CHASSIS PARTS LIST

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| <ol style="list-style-type: none"> 1. Frames. 2. 1/8th Axle Bearings. 3. Frame Spacer. 4. Compensation Beams. 5. Compensation Spring. 6. 0.7mm Wire. 7. Brake Hangers. 8. Brake Rodding. 9. Brake Blocks. 10. Actuating Lever. 11. Bogie. 12. 2mm Bearings. 13. 8BA Screw. 14. Coil Springs Overlays. 15. Leaf Spring Overlays. 16. Washer. 17. 8BA Nut. 18. Dummy Equalising Beams. 19. 0.9mm Wire. 20. Drawbar. 21. Drawbar Pivot. | |
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BODY PARTS LIST

1. Running Plate.	29. Vacuum Ejector Control.
2. R/H Valance.	30. Backhead.
3. L/H Valance.	31. Running Plate Steps.
4. Drag Beam.	32. Centre Steps.
5. Buffer beam.	33. Lower Frame Pieces.
6. R/H Cab & Splasher side.	34. Front frame Pieces.
7. L/H Cab & Splasher Side.	35. Lower Frame Overlays.
8. Cab Front/Splasher Tops.	36. Injectors.
9. Cab Floor Support.	37. Firebox Side Frames.
10. Cab Floor.	38. Firebox Injector valves.
11. L/H Cab Splasher.	39. Dome.
12. R/H Cab Splasher.	40. Fine Copper Wire.
13. L/H Upper Frame.	41. Clack Valves.
14. R/H Upper Frame.	42. Sandboxes.
15. Smokebox Saddle Front & Rear.	43. Stovepipe Chimney.
16. Boiler.	44. Lipped Chimney.
17. Inner Smokebox Overlay.	45. Smokebox Door.
18. Outer Smokebox Overlay.	46. Door Lamp Brackets, LH & RH.
19. Riveted Smokebox Overlay.	47. Smokebox Door Handle.
20. Cab Spectacle frames.	48. Front Lamp Brackets.
21. Cab Roof.	49. Buffers.
22. Roof Beading.	50. Vacuum Pipe.
23. Steps.	51. Snifting valves.
24. Cylinder Cover.	52. Fallplate.
25. Smokebox Front with Step.	53. Short handrail knobs.
26. Cab Side Beadings.	54. Medium Handrail Knobs.
27. Boiler Bands.	55. Whistle.
28. Regulator Handle.	56. Thick Copper Wire.

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Fig. 1. Chassis Construction.

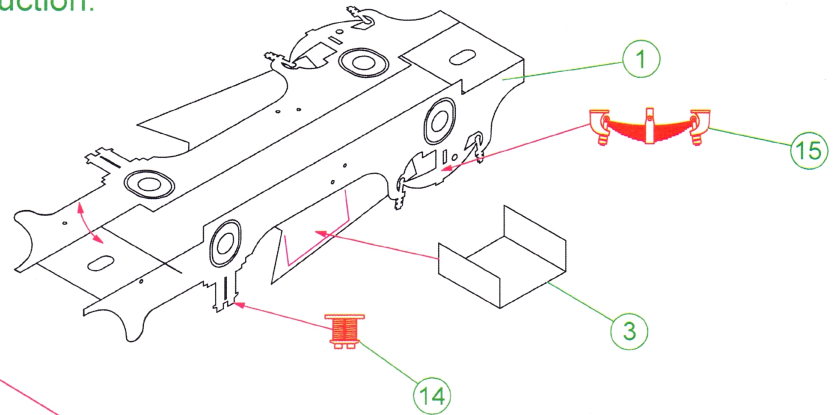


Fig. 1a. Compensation Beams.

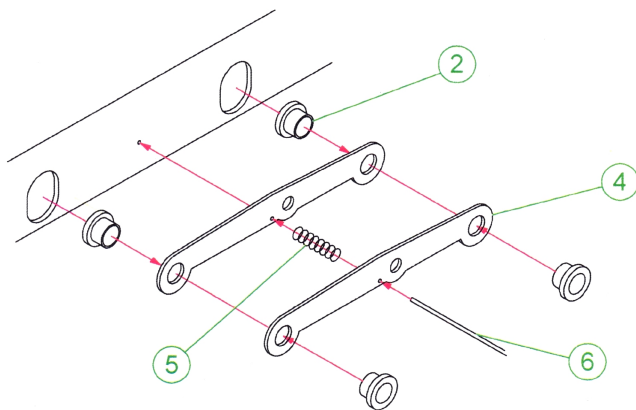


Fig. 1b. Brake Gear.

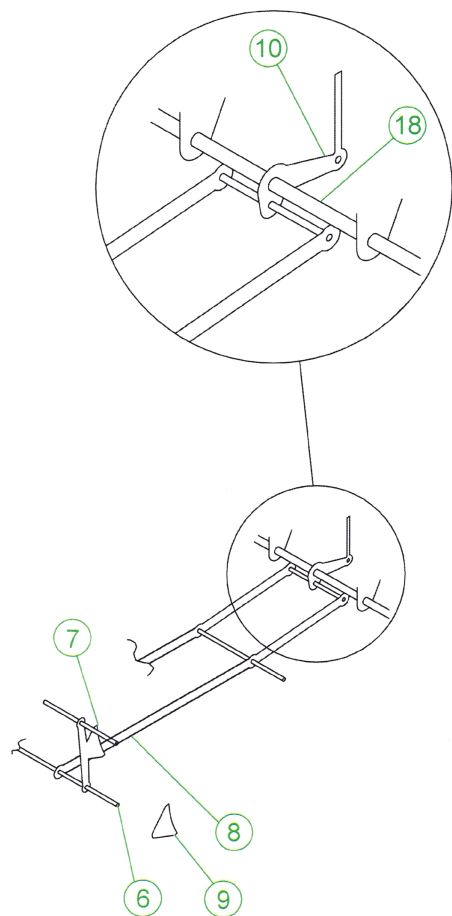


Fig. 2. Bogie.

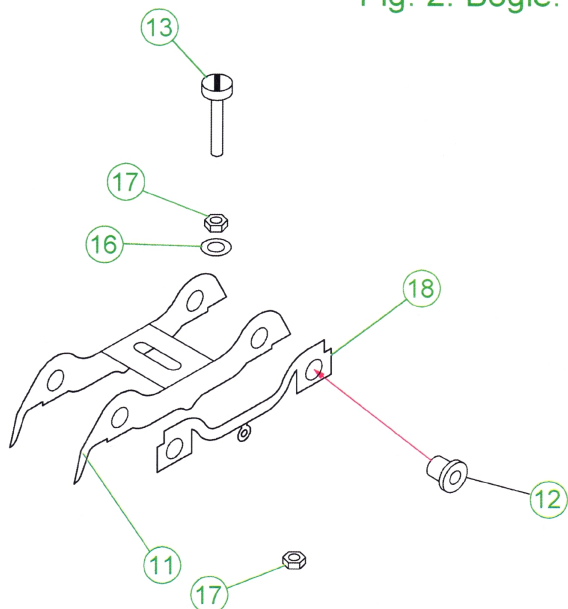


Fig. 3. Body Construction.

