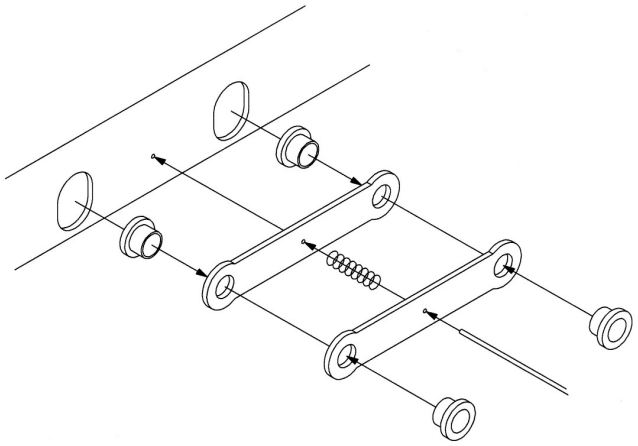
B16/2 & B16/3 Instructions

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 axle holes.

Fold the main chassis frames (1) up and solder the rear (3) and front (4) frame spacers in place making sure everything is square.

Compensated Chassis - Solder the axle bearings (2) into the compensating beams (8). Fit the compensating beams by passing brass wire through the frames, through one of the beams, then the spring, 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 O.K. remove the wheels and put them to one side.



Rigid Chassis - Solder the axle bearings (3) into the axle holes in the chassis (1).

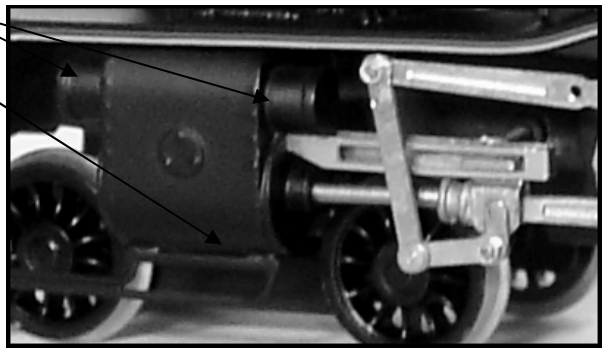
Both Types – Solder the running plate support brackets (5) into the slots in the top of the frames. Take the cylinders (6) and solder two 2mm bearings (19) into the rear face hole. Solder the rear cylinder covers (23) over the protruding bearings, so that they line up with the slots for the slidebars. Fold down the front and rear sections. Fit the cylinders into the recess at the front of the frames. Curve the bottom and top of the cylinder sides (7) to match the shape of the cylinder front/rear. Solder the sides in place and solder around the seams. Fit the front cylinder covers (22). Fit the front body mounting (12) over the top of the cylinders. Note which way round it goes.

Fold the front motion bracket (11) as shown, put a fillet of solder into the folds and then fit it into the recess behind the cylinders. Fold the main motion bracket (9) sides at right angles to the stretcher and then fold the angle supports up. Again add a fillet of solder for strength and then fit it in place. Solder the slidebar support bracket (10) in place.

Solder three lengths of the brass wire (16) into the holes in the chassis to form the brake mountings. Take the brake hangers (14) and the brake blocks (13) and solder the blocks to the hangers, making four **L**/**H** and four **R**/**H**. Solder the assembled brakes 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.

Glue or solder the valve guides (24) in place.

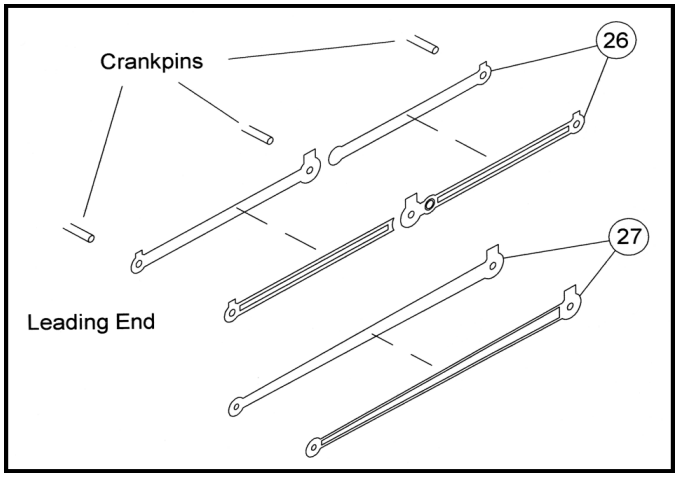
Solder the drain cocks (25) under the cylinders.



The chassis is now ready for painting. With the chassis painted the wheels and motor of your choice can be fitted.

Fit the balance weights and paint the wheels.

Coupling Rods and Valve Gear - With the chassis painted the wheels can be 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 at this stage.

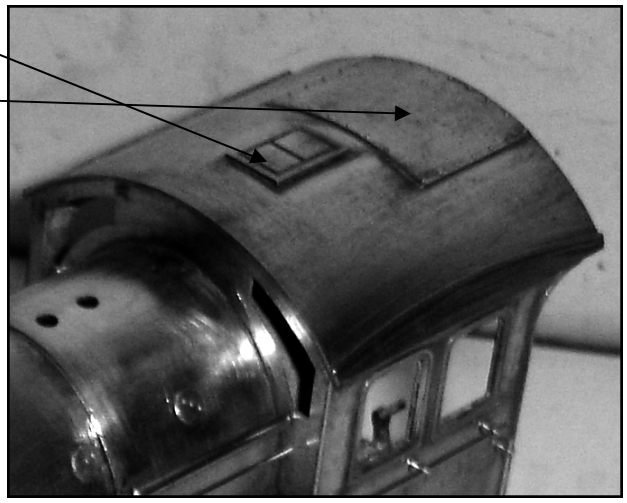
Refer to the diagram (Valve gear assembly) and assemble the valve gear. Rivet together the parts and attach them to the motion brackets with the **16BA** screws and nuts.

Body Assembly

Take the running plate (1) and using the valances (2) as a guide form it to shape. Fit the running plate valances into the recesses under the running plate. **Leave the support frames on the valances**. Fit the bufferbeam (3) and drag beam (4). Take the cab front/sides (5) and fold the cab sides at right angles to the cab front. Check the fit of the cab in the slots in the running plate, make sure it sits square. Solder the cab into the slots. Solder the Cab side overlays (6 & 7) onto the cab sides. Solder an **8BA** screw (8) into the holes at the front and rear of running plate. Fold the cab floor support (9) and fit inside the cab. Now fit the cab floor (10) on top of the floor support. Solder the smokebox saddle front and rear (13) and sides (14) in place. Form the saddle top (15), with the lines on the inside radius, and solder it on top of the saddle sides and fronts. Fold up the front running plate step and support (53 & 54), solder them together and then solder them to the running plate.

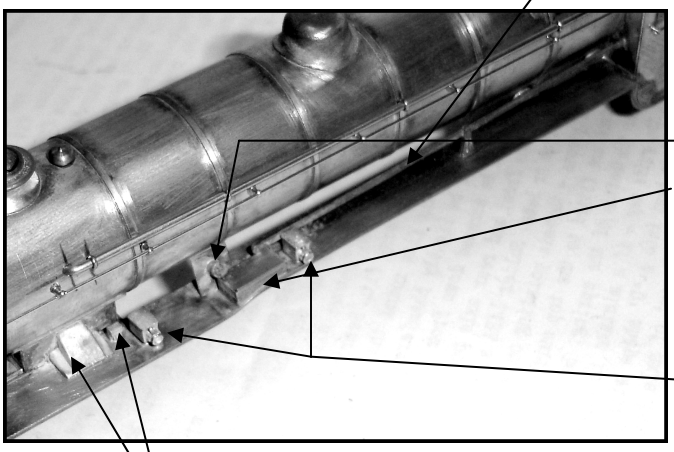
Solder the seam of the boiler (17) together. Bend out the firebox bottom to match the gap between the two sides of the running plate. Check the fit of the boiler into the slots in the cab front. Form the smokebox wrapper (18) and solder to the boiler. Consult the general arrangement diagrams for the position of the boiler bands for **B16/2 & B16/3** and then fit the boiler bands (20). Solder the boiler in place, fit the cab end first, make sure all is square and

then solder to the smokebox saddle. Now fit the cab roof (11), the rain strips (12), the roof shutter (21) and the riveted plate (22) at the back of the cab.



The following pictures show the detail fittings on a **B16/3**, so if you are doing an **B16/2** check some photos and remember that **B16/2** were **R/H** drive & **B16/3 L/H**.

Solder together the two halves of the reversing rod (23 or 24) and solder in place.
Fill in the hole for the opposite reversing rod on the front of the cab.



Fit the sandbox filler backs for B16/3 (25) and then the fillers themselves (26) or the round fillers for B16/2 (27).

Fold up the running plate covers (28 & 29). They are marked underneath whether they are for part 2 or 3. Solder them to the running plate in front of the sandbox fillers.

Glue or solder the mechanical lubricators (30) in place, noting that the taller one goes at the front.

Fit the outside steam pipes (31) at the side of the smokebox saddle and then glue the oil boxes (32) in place.

Fit the following:

Smokebox door (33).

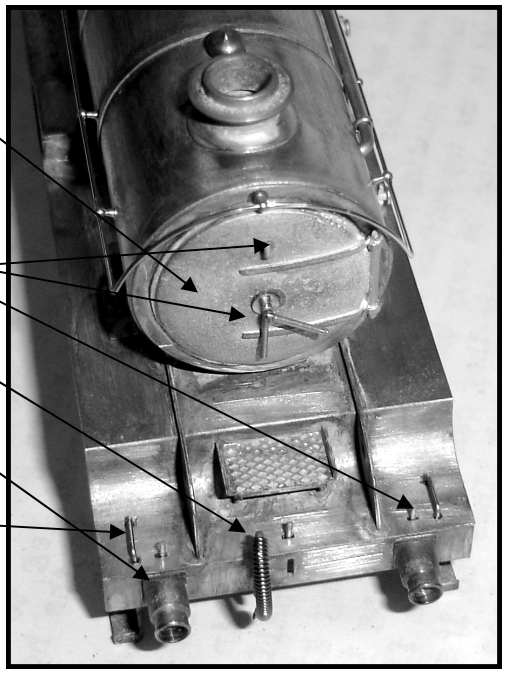
Smokebox door handle (34).

Vacuum pipe (35).

Buffer shanks (36).

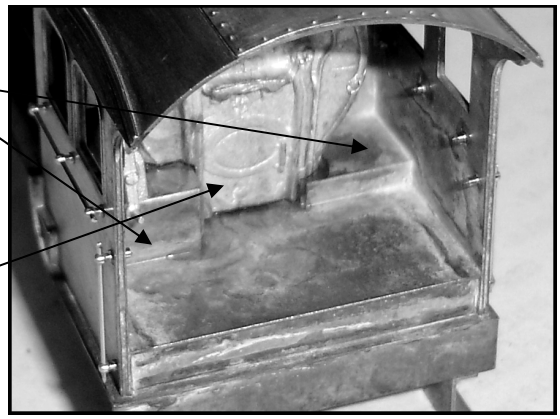
Lamp brackets (37).

Handrails.



Fold the left hand and right hand cab platforms (38 & 39). On the B16/3 the larger one goes on the left. They are marked underneath ‘2’ or ‘3’. Solder them in place.

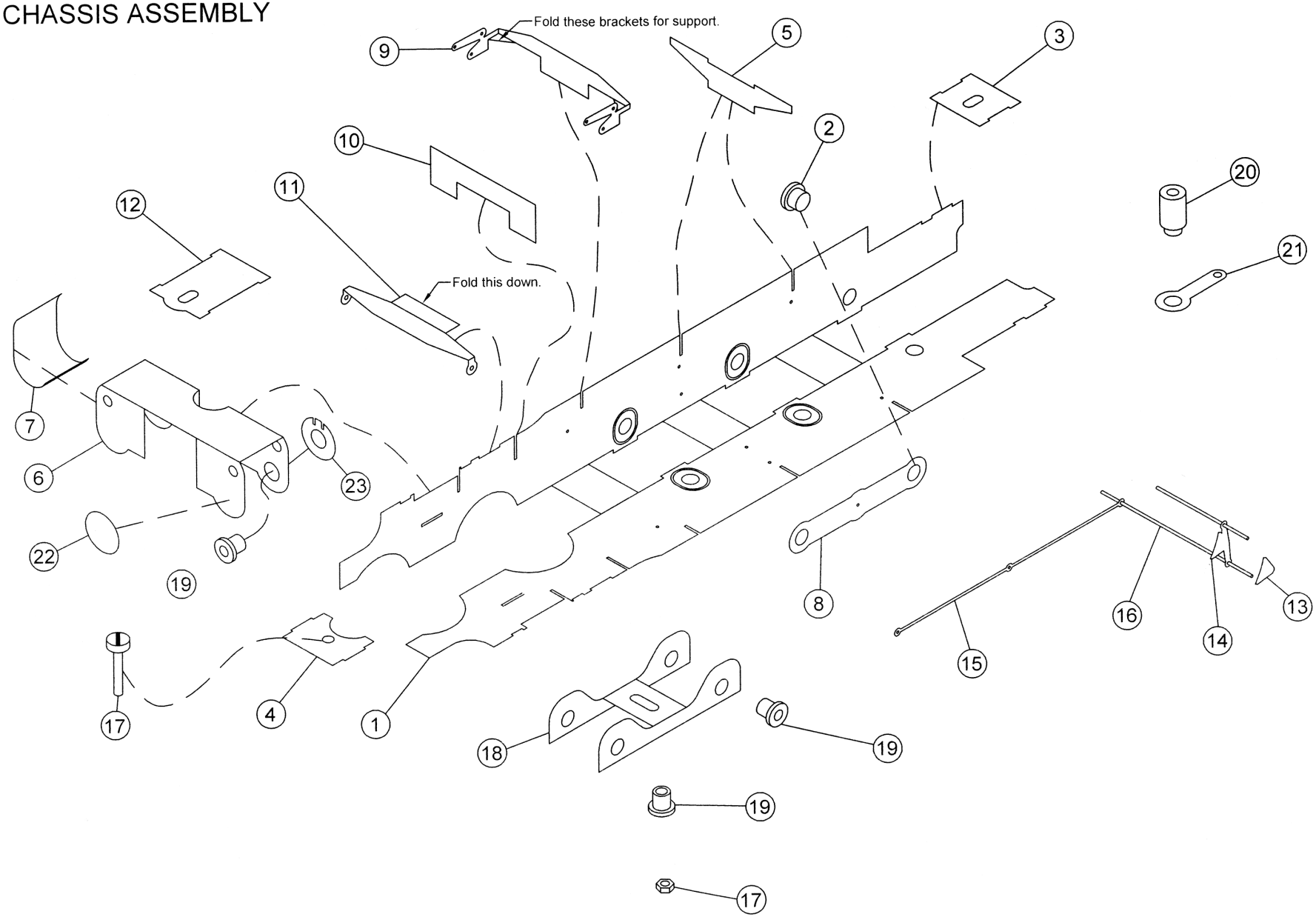
Two backheads are supplied, the one with the larger cut out on the left side is for the B16/3. Glue the backhead (40 or 41) in place.



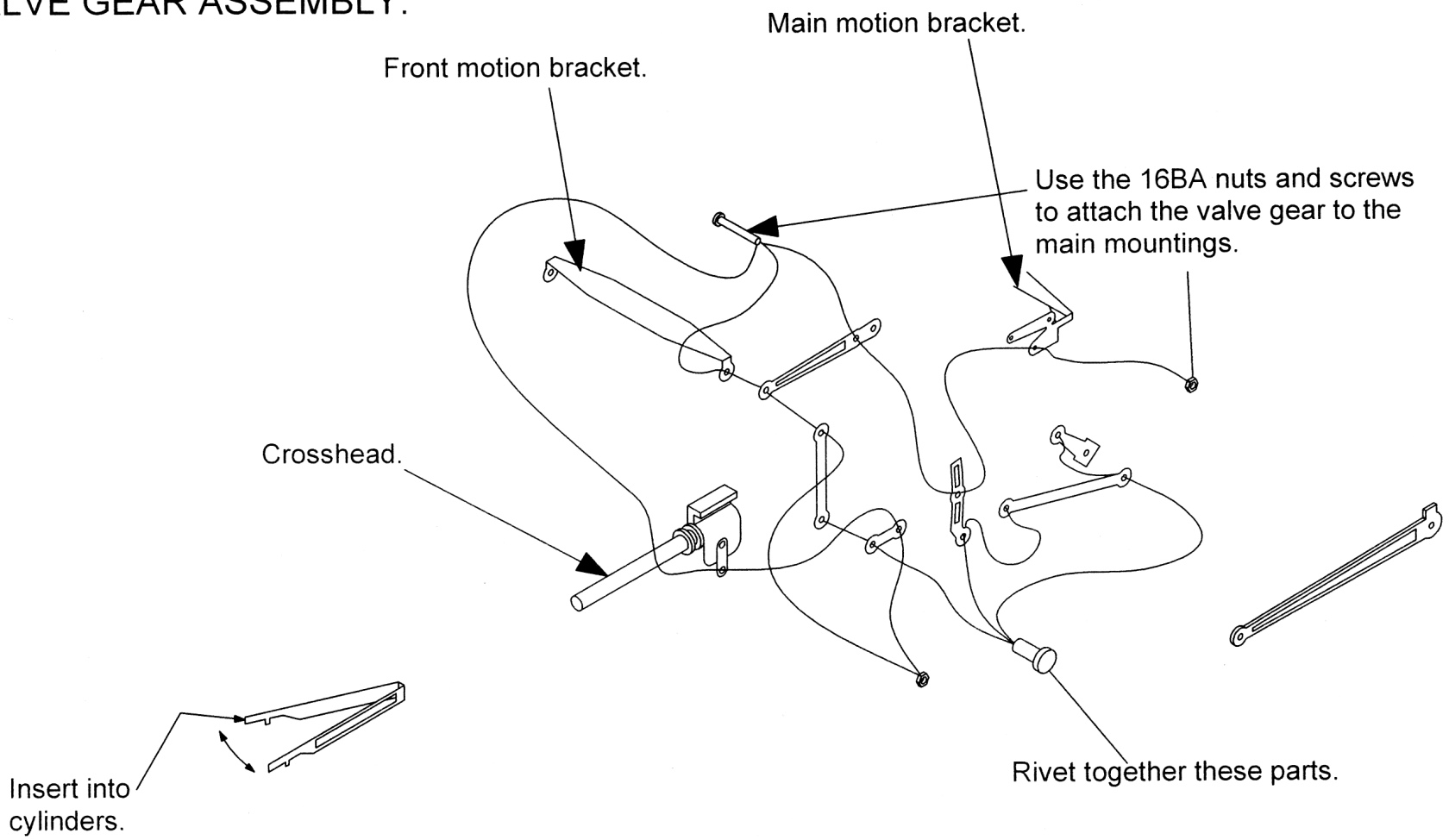
Consult the boiler fittings diagrams once again for the position of handrails, ejector pipe fixings, safety valves, whistle, anti-vacuum valve and washout plugs (check which type on your loco). Drill the appropriate holes to suit. Fit all these parts plus the handrails, chimney and dome.

I would recommend that the safety valves, whistle and buffer heads be fitted after painting.

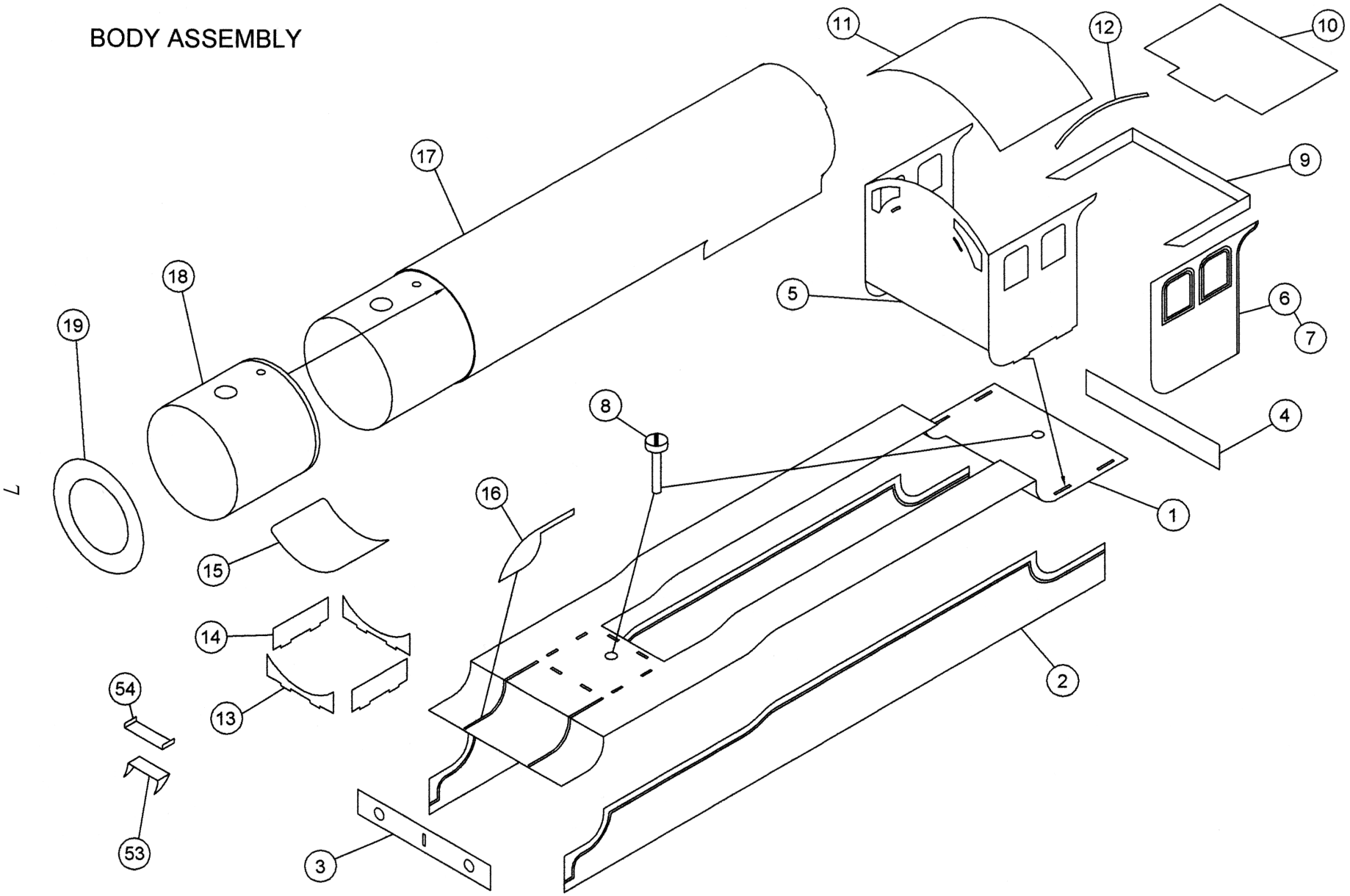
CHASSIS ASSEMBLY



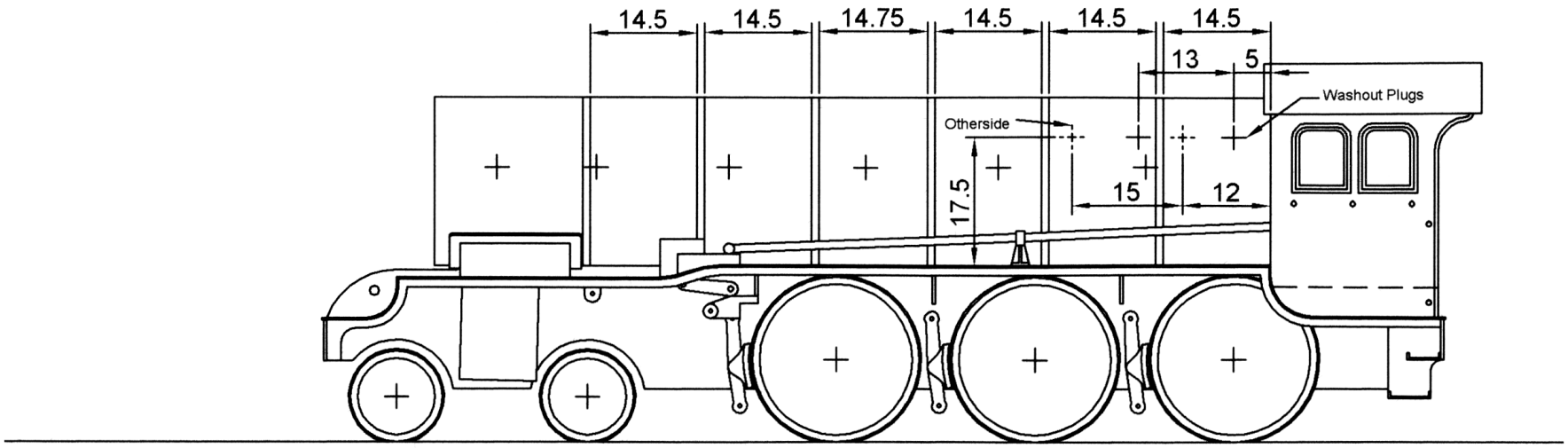
VALVE GEAR ASSEMBLY.



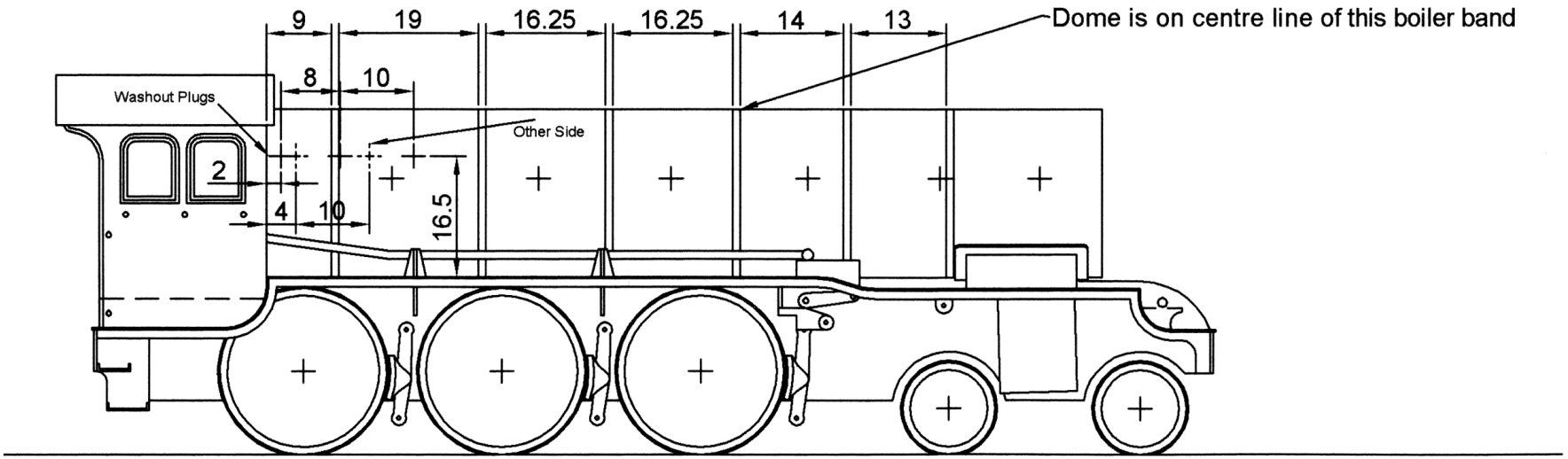
BODY ASSEMBLY



B16/3 and B16/2 with Dia. 49A Boiler.



B16/2 with Dia. 49 Boiler.



Chassis Parts List

1. Main Frames.
2. 1/8th Bearings.
3. Rear Frame Spacer.
4. Front Frame Spacer & Bogie Mount.
5. Running Plate Support Brackets.
6. Cylinders.
7. Cylinder Overlays.
8. Compensating Beams.
9. Main Motion Bracket.
10. Slidebar support.
11. Front Motion Bracket.
12. Front Spacer (Over Cylinders).
13. Brake Blocks.
14. Brake Hangers.
15. Brake Pull Rods.
16. Brass Wire.
17. 8BA Screw & Nut.
18. Front Bogie.
19. 2mm Bearings.
20. Drawbar Pivot.
21. Drawbar.
22. Cylinder Front Covers.
23. Cylinder Rear Covers.
24. Valve Guides.
25. Drain Cocks.
26. Coupling Rods.
27. Connecting Rods.
28. Sandboxes.
29. Crossheads & Pistons.
30. Slidebars.
31. Valve Gear.
32. 16BA Nuts & Screws.
33. Rivets.
34. Balance Weights.

Body Parts List

1. Running Plate.
2. Valances.
3. Bufferbeam.
4. Dragbeam.
5. Cab Front & Sides.
6. R/H Cab Side Overlay.
7. L/H Cab Side Overlay.
8. 8BA Screws & Nuts.
9. Cab Floor Support.
10. Cab Floor.
11. Cab Roof.
12. Rain Strips.
13. Smokebox Saddle Front & Rear.
14. Smokebox Saddle Sides.
15. Smokebox Saddle Top.
16. Front Frame Tops.
17. Boiler.
18. Smokebox Wrapper.
19. Smokebox Front.
20. Boiler bands.
21. Roof Shutter.
22. Riveted Plate.
23. B16/2 Reversing Rod.
24. B16/3Reversing Rod.
25. B16/3 Sandbox Filler Backs)
26. B16/3 Sandbox Fillers.
27. B16/2 Sandbox Fillers.
28. B16/2 Running Plate Covers.
29. B16/3 Running Plate Covers.
30. Mechanical Lubricators.
31. Outside Steam Pipes.
32. Oil Boxes.
33. Smokebox Door.
34. Smokebox Door Handle.
35. Vacuum Pipe.
36. Buffers.
37. Lamp Brackets.
38. B16/2 Cab Platforms.
39. B16/3 Cab Platforms.
40. B16/2 Backhead.
41. B16/3 Backhead.
42. Washout Plugs (Round).
43. Washout Plugs (Oval).
44. Chimney.
45. Dome.
46. Safety Valves.
47. Whistle.
48. Handrail Knobs.
49. Brass Rod (Ejector Pipe).
50. Split Pins.
51. Handrail Wire.
52. Anti-Vacuum Valve.
53. Front Running Plate Step Support.
54. Front Running Plate Step.

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B16/2 and B16/3 Information Sheet

B16/2

LNER No.	1946 & BR No. + Dates		Built	Rebuilt	Boilers	Withdrawn
846	1406 12/46	61406 9/48*	3/20	1/40	Dia. 49 (1/40 – 3/50), Dia. 49A (3/50 – WDL).	4/63
926	1421 10/46	61421 1/49	12/20	3/40	Dia. 49A (3/40 – 6/45), Dia. 49 (6/45 – 12/51), Dia. 49A (12/51 – WDL).	6/64
2364	1435 12/46	61435 1/49	11/22	6/37	Dia. 49 (6/37 – 5/41), Dia. 49A (5/41 – WDL).	7/64
2366	1487 12/46	61437 1/49	1/23	2/40	Dia. 49 (2/40 – 7/44), Dia. 49A (7/44 – WDL).	6/64
2367	1438 12/46	61438 9/48	1/23	11/39	Dia. 49 (11/39 – 2/50), Dia. 49A (2/50 – WDL).	6/64
1372	1455 6/46	61455 7/48	10/23	11/39	Dia. 49 (11/39 – 7/44), Dia. 49A (7/44 – WDL).	9/63
1374	1457 11/46	61457 6/48	10/23	10/39	Dia. 49 (10/39 – 1/42), Dia. 49A (1/42 – WDL).	6/64

*61406 Carried a second BR number. From 12/49 it became 61475

B16/3

LNER No.	1946 & BR No. + Dates		Built	Rebuilt	Withdrawn
843	1403 5/46	61472 12/49	12/19	9/45	4/64
847	1407 12/46	61407 7/49*	3/20	6/45	9/63
921	1417 10/46	61417 12/50	10/20	12/45	9/62
922	1418 12/46	61418 8/48	11/20	4/44	6/64
924	1420 9/46	61420 4/48	12/20	10/45	9/63
-	-	61434 -	11/22	4/49	6/64
2368	1439 12/46	61439 1/49	2/23	8/45	8/62
2373	1444 11/46	61444 6/48	5/23	5/45	6/64
2377	1448 12/46	61448 10/48	5/23	7/44	6/64
2378	1449 12/46	61449 4/48	7/23	9/44	7/63
-	1453 -	61453 10/48	8/23	9/47	6/63
1371	1454 11/46	61454 8/48	10/23	12/44	6/64
-	-	61461 8/48	11/23	8/48	9/63
-	1463 -	61463 5/50	12/23	11/47	6/64
1381	1464 1/47	61464 2/49	12/23	4/45	9/63
1384	1467 12/46	61467 3/49	1/24	10/44	6/64
-	1468 -	61468 8/48	1/24	5/47	9/63

*61407 Carried a second BR number. From 12/49 it became 61476