

CONNOISSEUR MODELS

Claymore Kits

LNER Class J36, North British Railway Class C



George Dawson of Majestic models originally produced this kit. When George reached the age at which you get a senior citizens railcard and start reminiscing about Churchill's speeches. He decided to sell his range of loco kits and concentrate on the more gentle pursuit of producing wagon kits. Knowing that George's kits had a very good reputation and a selection of NBR locos would complement my range nicely. I was very keen to purchase and produce them.

I have deliberately made very few changes to this kit and have reproduced George's instructions without alteration. There is some basic slot and tab construction to help with the location of parts. But the final squaring up of parts and crispness of construction is reliant upon the skills of the modeller. There are a number of parts that require curved bends. The distinctive half round beading and coal rails on the tender are made by fitting half round wire. None of these things are difficult but do require a degree of confidence and familiarity with etched kit construction. Because of this I would not recommend this kit to a novice modeller. The modeller who has built a couple of etched wagons and a simple tank loco kit should find that this kit provides a very pleasant challenge to their modelling skills and produce a very satisfactory finished locomotive.

I have not built a sample of this kit as it has been well proven by George and I have seen a number of finished J36's built by his customers. I have built a J83 and J37 from the range and so have a good feel for the kits. I should be able to help you out with any problems with this kit if you get stuck.

Parts Required To Complete

3 Sets 5'0", 16 Spoke Driving Wheels (Slater's Catalogue Numbers 7860CR)
3 Sets 4'0", 12 Spoke Tender Wheels (Slater's Catalogue Numbers 7848)
Plunger Pickups if desired (Slater's Catalogue Number 7157)
Available From Slater's Plastikard, Old Road, Darley Dale, Matlock
Derbyshire, DE4 2ER, Telephone 01629 734053.
Mashima 1833 Motor and 40/1 Gear Set.

**Connoisseur Models, 1 Newton Cottages, Nr Weobley, Herefordshire,
HR4 8QX, Telephone 01544 318263, Proprietor Jim McGeown**

LNER CLASS J36
NBR CLASS C. Holmes 5ft. Engines.

A short history.

Built between 1888 and 1900, these engines numbered 168 in total, 138 of these were built at Cowlairs and a further 30 evenly divided between Neilson & Co. and Sharp, Stewart & Co. Since the Drummond days of 1876/77, no 18in cylinder loco's had been built but in 1888, Holmes decided to introduce his own and these were built in batches of 6, 12 or 15. These 168 loco's represented nearly 25% of the company's capital stock. The NBR built no other goods engines until the larger 4-4-0 Intermediates and the 18 1/2in cylinder 0-6-0's were introduced in 1906.

Rebuilding took place between 1913 and 1923 when new, larger, boilers were fitted along with new side window cabs but it should also be noted that 8 engines remained in their original condition at grouping, more information can be gleaned from RCTS part 5.

When rebuilt, the boiler pitch was raised which meant shorter chimneys were needed and you will find two varieties, the first being a Reid version with taper, the second, by Chalmers, was straight so, again, I strongly suggest you check photographs for any particular prototype. In the main, the Reid chimney was replaced but some were still to be found in latter years though not always on the engine it was originally fitted to.

On these rebuilt engines, lock up safety valves were standard early on and were fitted to a round base over the firebox, these were changed in later years to Ross pops and some also had a rectangular base. Only one boiler had 2" Ross pops, all others had 2 1/2".

All these engines had the Holmes standard 2500 gallon tender but, in October 1934, No. 9758 was shopped at Inverurie and, for some undisclosed reason, acquired a 3500 gallon tender from D31, No. 9768 which it kept until withdrawn in 1962.

All in all, these were very popular engines, this can be assumed from their longevity if nothing else. Some of the class also had a short but illustrious career between 1917 and 1919, being given over to the War Department and shipped to France, 25 were sent to war and all returned safely! As further testimony to their success, let it suffice to say the class did not totally disappear until 1966 and, I am glad to say, one is preserved and stationed at Bo'ness, this being No.673, "Maude".

About this kit.

I was hoping there would be no "confessional" this time but, unfortunately, there is one minor irritation. For some reason that only my Maker will know, I have put a hole in the wingplate, at the top and central, for a handrail knob. This, as everyone will know, is wrong, there should, in fact, be *two* handrail knobs, each 10mm from the centre line. Reference to the above history also raises one or two points to watch out for.

As you will realise, this kit only covers the rebuilt version, I hope to introduce the original at some later date but *please - don't ask*, there are too many still to do! With a smaller, lower pitched boiler and different cab, you would need to scratch build a fair bit but, I suppose, it could be done.

As mentioned above, two chimneys found their way around the class and both are supplied in the kit. You will also find lock up and Ross pop safety valves with two types of valve base. As usual, *CAST* buffers are supplied but you will also find a set of round castings to represent the wooden pads fitted behind the buffers, which also accounts for the extra 1 1/2" in the overall length of the rebuilt version.

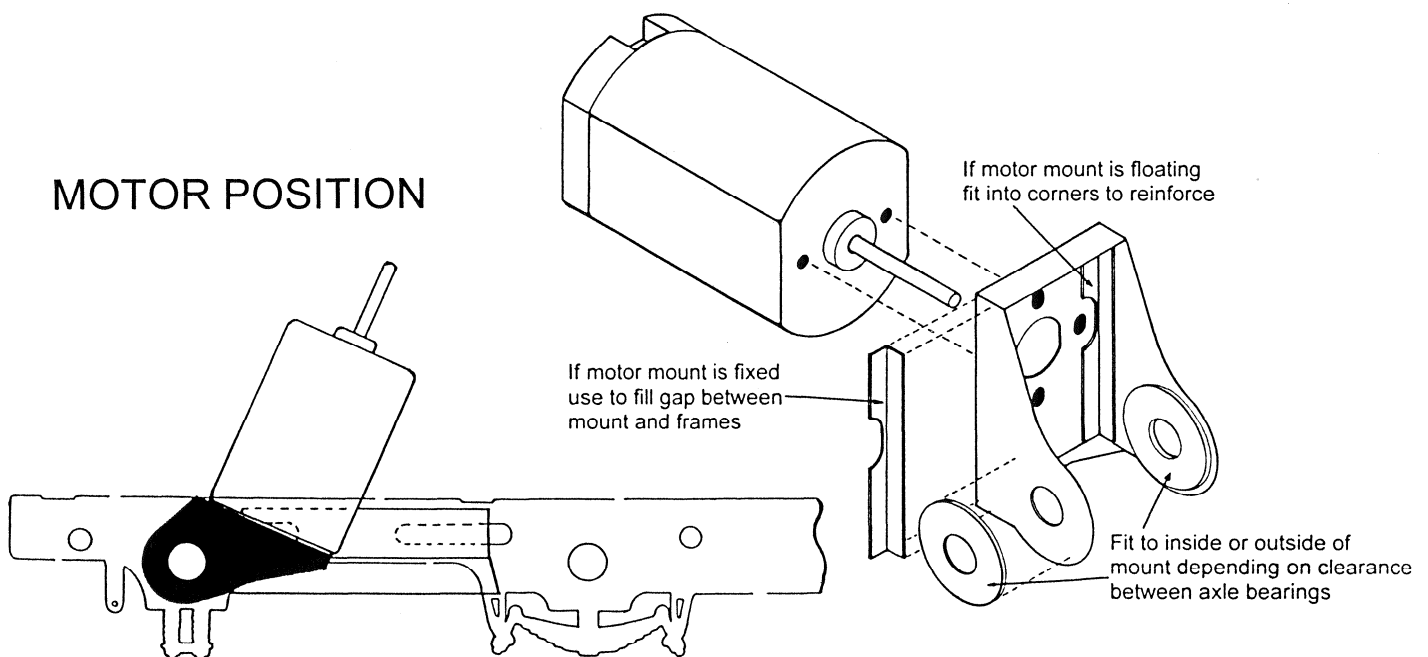
Westinghouse, vacuum and steam brakes were all fitted at some time and all variations are catered for but I leave it to you to sort out for yourself, as stated before, you will find all relevant information in RCTS "Locomotives of the LNER" part 5.

I should probably point out that not until 1926 were these loco's fitted with heavier, fluted, coupling rods so, if you want earlier, plain rods then you can reverse those in the kit but I must add I would expect the originals to be very slightly "fish bellied" but that is only my opinion and can be entirely incorrect.

MOTOR MOUNT

George originally designed this kit to use a motor and gearbox combination available from Ron Chaplin, 22 Hind House Croft, Sheffield, S4 8LS, Tel 0114 2421841. George intended this to be used as a floating motor. This is when the gearbox is fitted to the axle and a scrap of brass is soldered across the chassis so that the motor body will rest on it. The motor is then secured to the scrap of brass with a blob of silicon bath sealant. The idea is that the sealant allows the motor to float and gives quieter running. Personally I have never been convinced about this and prefer to solder the motor mount to the frames as solid as I can. But some people swear by the floating motor method.

Ron's motors/gearboxes are very good but are not cheap and so I have provided a universal motor mount that will use a Mashima 1833 and standard 40/1 gears. You can use it for a floating motor or solder it solid to the bearings and side frames.

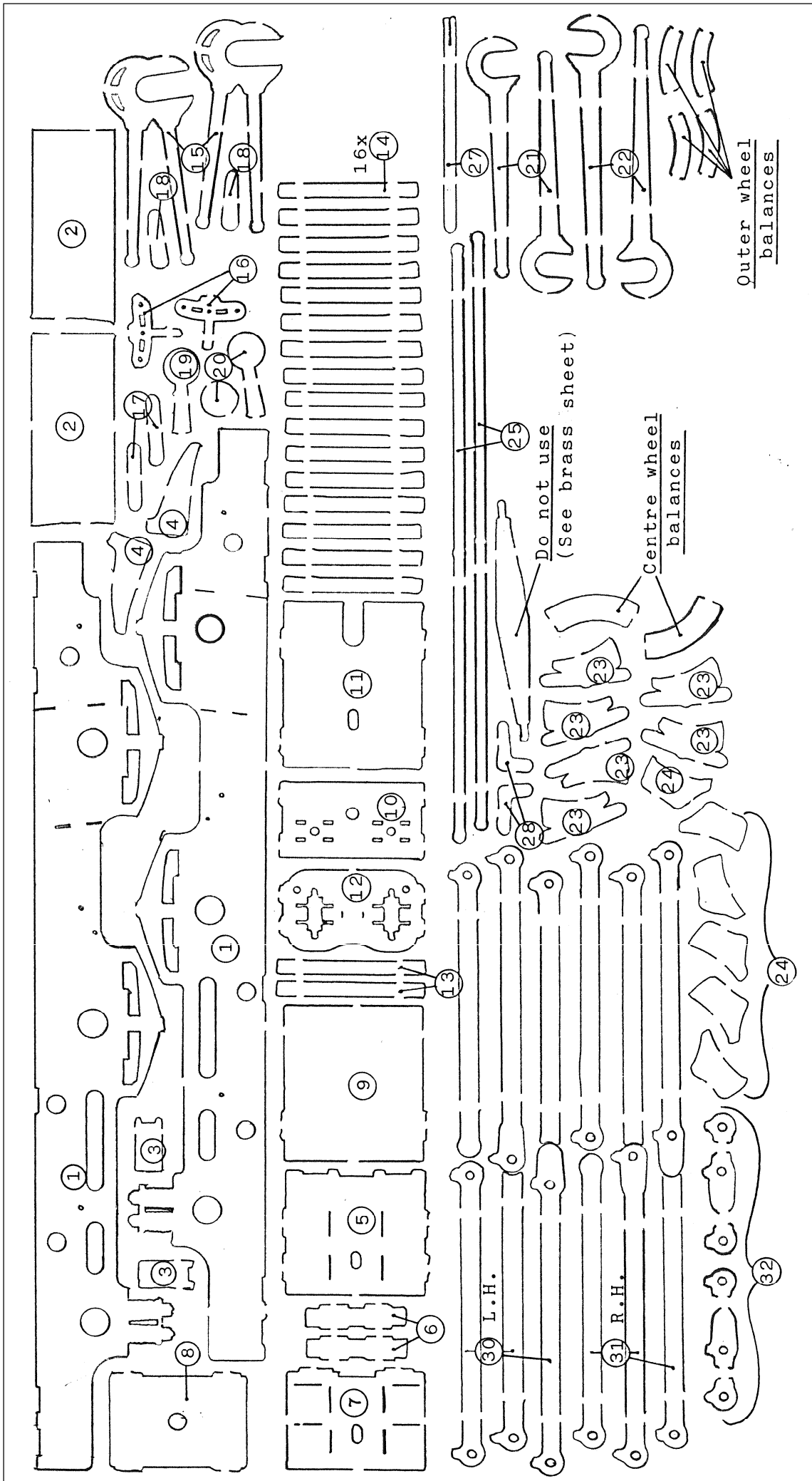


Open out the motor mount axle holes with a tapered reamer or broach so that an axle is a good fit. Then fold up the motor mount and offer it into place between the turned axle bearings. Depending upon the clearance available fit the large etched washers on the inside or outside. Solder these washers into place with a generous amount of solder so that a small amount runs into the axle hole. Now open out the axle hole again so that it forms a nice surface for the axle to rotate in. The forces that will be applied to this bearing surface when the loco is running are very small so we don't need heavy turned brass bearings.

If fitting a floating motor then fit worm gear to motor and fit motor to mount (the slotted holes will allow adjustment of gear mesh). If soldering mount solid into frames just temporarily fit motor.

There is not much space in the firebox to accommodate the motor and it is important that the motor is set at the right angle, as clearances are tight. I would recommend building a basic chassis and then build up the footplate with the cab front and sides on it. Also make up the boiler with the firebox front and back formers fitted but don't solder boiler into footplate. Fit the driving axle through chassis and motor mount so that the motor and mount will rotate about it. You will then be able to fit the footplate with cab to the chassis and offer the firebox into place to check that it will clear the motor. Also check that the cab floor will fit OK.

Once happy with the motor position, solder a scrap of brass or PCB strip across the chassis to support the floating motor. For a fixed motor solder mount at axle bearings first, then remove motor and solder mount into frames using angles.



ML 20. NBR CLASS C, LNER CLASS J36

Chassis Assembly.

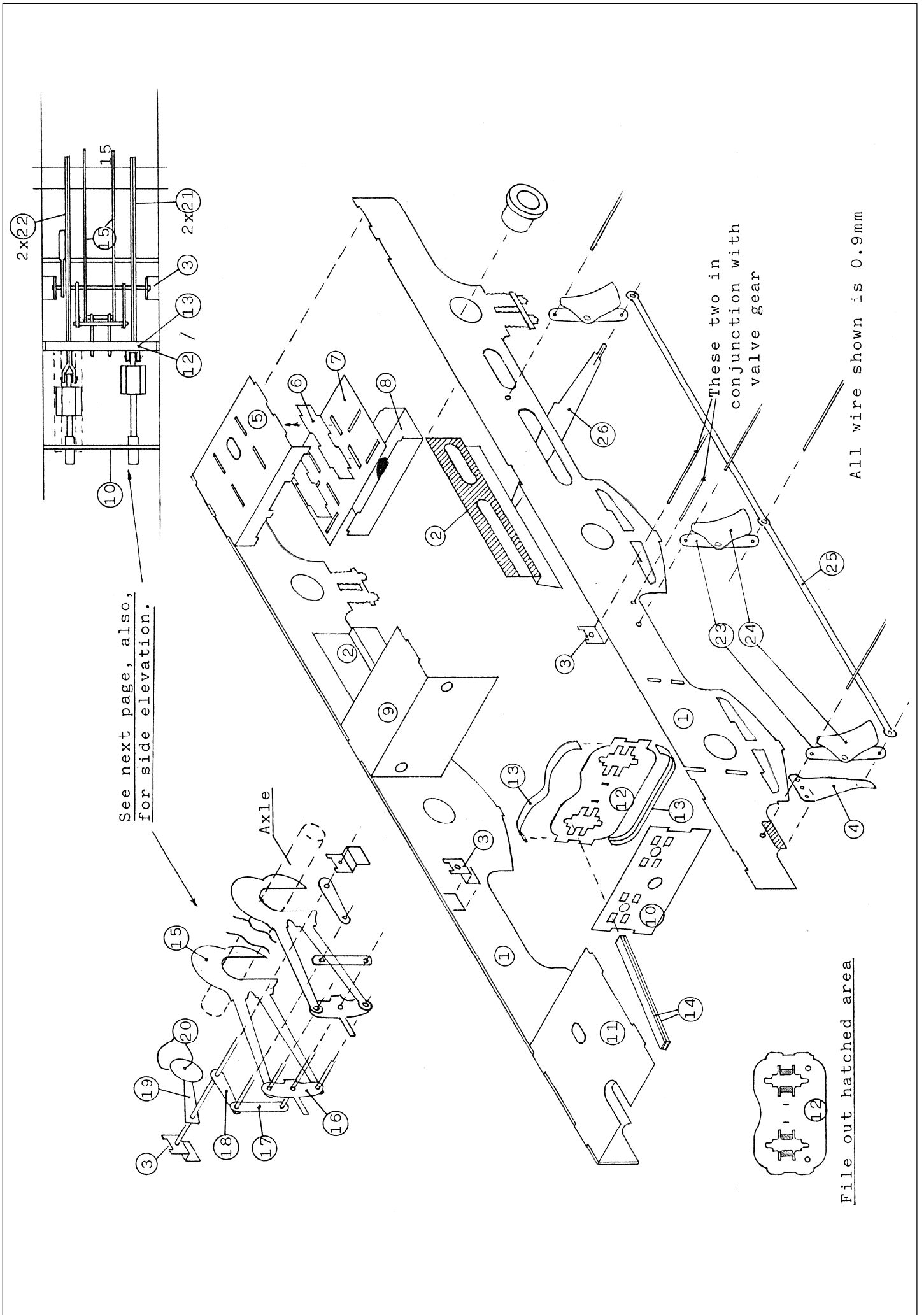
1. Main Frames. Remove from etch. Check the bearing holes and open out, if necessary.
2. Ash Pan. Bend to shape at line and at edge of half etching. Solder to back of frames, lining up the "ovals", angled end forward.
3. Reversing Lever Brackets. Bend to shape but *DO NOT FIT YET.*
4. Guard Irons. Push out rivets from back. Solder to frame front at half etched section.
5. Rear Spacer. Bend front edge at right angle. With frames upside down, on a dead flat surface, solder tabs into cut outs in frames, angled edge forward.
6. Drawbar Spacers. Solder upright into slots in rear spacer (5).
7. Bottom Rear Stretcher. Solder over tabs on drawbar spacers (6).
8. Cylinder Carrier. Bend to form "U" and solder into slots in rear stretcher (7)
9. Central Stretcher. Bend to right angle. Solder between frames into central cut outs.
10. Front Motion Plate. Solder into slots at front end of frames.
11. Front Stretcher. Solder tabs into forward cut outs.

Before proceeding, make sure everything is square and flat. Temporarily insert bearings and axles and see they are parallel. Fit wheels and check there is no rock. Please note: *centre wheels are meant to be fractionally higher.* If you are happy, remove wheels and axles and solder bearings in position. Now fit reversing lever brackets (3) to half etched "U" on frame back, just in front of centre wheel section.

12. Motion Bracket. File hole sides to take the cross head, check that cross head will enter.
13. Bracket Angles. Solder to top and bottom edges of motion bracket (12). Solder completed bracket into remaining slots in frames.
14. Slide Bars. Solder two of each together making 8 slide bars in all. Fit into holes in (10) & (12), taking care at (12).

You are now at the point which could test your patience, i.e. the inside motion. This *cannot* be made to work but I think you will agree, it looks better than an empty hole.

15. Eccentric Rods.
16. Ecc. Rod Links. The forward projections will eventually fit into the two tiny slots in (12) so will be about 3mm apart and fit between the eccentric rods. I stripped some thin electrical wire of its plastic sheath and cut two lengths (of the sheath) 3mm long and threaded these onto two pieces of 0.9mm wire, each about 1/2" long. The links are then threaded each side and soldered, if you can do this first time the heat will not affect the plastic (obviously, 1/16" brass tube is better - if you have it). Now insert an axle at the centre bearings, thread the front ends of the links into (12) and hang the rods onto the link wires and onto the axle, solder the ends, remove from the slots and trim the wires. Cut another piece of 0.9mm wire about 3/4" long and thread this through the centre holes in the links and solder with even overhang, *do not trim.*
17. Drop Links. Return to the sheathing (or brass tube), you want 2 pieces, each 3/8" long, cut a piece of wire 3/4" and thread 1 of your tubes onto it, centrally, now thread a drop link each side and solder, keeping parallel., *do not trim.*
18. Reverser Links. Cut a piece of 0.9mm wire, 1" long and thread the other tube onto it again, centrally. Now thread the wide end of each link either side of the tube and the narrow ends onto the drop link wire. Keep parallel and solder at the wide ends only, *do not trim.*
19. Balance Weight.
20. Balance Weight (Half Etched). Solder each side of (19). Determine left & right of the links (see sketch on page 6) and thread the weight to the right of the reverser link wire and leave loose. Now thread each end of this wire into the reversing lever brackets (3) at the frames. Now turn to the drop links (17), the bottom ends can now be fitted over the wire going through the centre holes of the eccentric rod links (16). Once these are on, all should stay where it is so can be soldered. Lift the balance weight so the round weight is pointing back and slightly downward and solder.



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Chassis Assembly Cont'd.

21. Short Connecting Rods. Bend the little ends "Z" shaped and laminate, the "U" formed at the little end will hold the crosshead.

22. Long Connecting Rods. Bend and laminate as (21).

Assuming you filed out the holes in (12), find the cast w/m crossheads and note one is longer, this one fits to the short connecting rod and the shorter crosshead to the long rod. Wire and solder loose, this will help positioning but first, cut a piece of 0.9mm wire about 1 1/2" long and thread this into the frames at the lower holes (see sketch), it will go between the arms of the eccentric rods (15). Solder in and trim the ends. Now, slide the crossheads into the slide bars, through (12) and into (10), *it does not matter which side you put them.* Now hook the big ends over the axle, you will see that they rest on the wire where they can be soldered but make sure they are parallel. Your inside motion should now be complete and you can turn to the brakes. *Temporarily insert wheels.*

Cut 2 pieces of 0.9mm wire, both about 1 3/4" long, thread these into the brake holes in the frames at *front and rear* and solder with even overhang. The centre brake wire will hit the connecting rods so thread wire long enough into the hole and up to the rod, solder at the frame and the rod.

23. Brake Hangers.

24. Brake Blocks. Laminate to the hangers and make *LEFT AND RIGHT.* To set the brakes at the right distance from the frames, a piece of tube, 4mm long, can be threaded onto the wires but I don't recommend sheathing this time (too much heat may be used), I find it easier to wind 6 turns of 0.45mm wire and use that. Hang the front brakes so they are off the wheel and make solid. Cut 2 pieces 0.9mm wire, 2" long, fit one through the bottom ends of the hangers. Checking the hangers are in line and parallel, solder the wire in *but do not trim.*

25. Brake Pull Rods. Unusually, these remained outside the wheels. Hang the centre brakes and use the pull rod as a guide from the front brake to position the centre brakes, remember the shorter distance is at the front. Now solder the other wire into the centre brake hangers.

26. Brake Cross Member. (Between rear brakes only). Note that the extra points backward and is on the left hand side. Hang the rear brakes and insert the cross member between. With your second pair of hands, use (25) again as a guide. If everything is in line, the pull rods can be soldered in position.

27. Rear Pull Rod. This should run centrally but if you intend using a Ron Chaplin motor and gears or, indeed, any large gears, this must be fitted off centre and bent around the crown wheel, hence the eccentric cross member (26).

Before going further, find the brake cylinder and drill the hole at the bottom, 1/16". Fit the cylinder into the hole in the carrier (8). Now bend the rear pull rod (27) so the rear end stands above the cylinder.

28. Cylinder Rod Links.

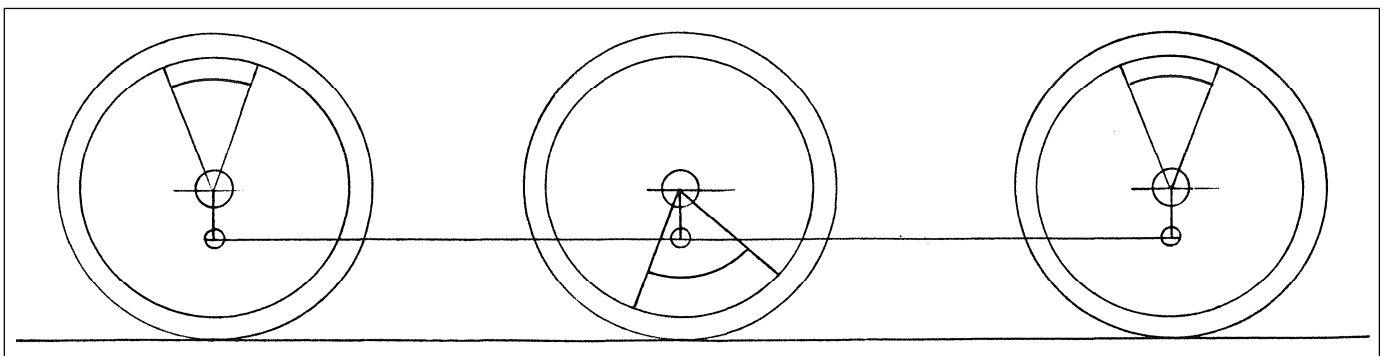
29. Cylinder Pull Rods. These are in the brass etch, near the cross member (26). Solder the two together and fit into the cylinder. The two rod links (28) fit between the two pull rods whilst the rear rod (27) should be parallel with the ground.

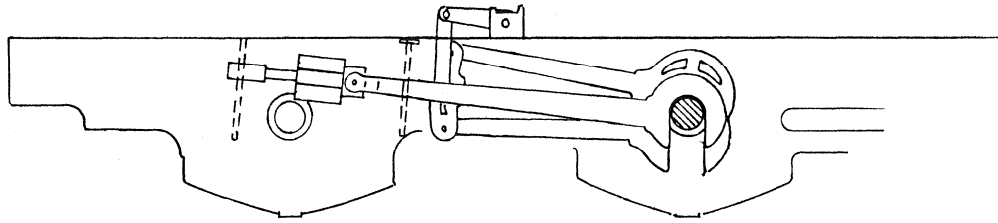
30. L.H. Coupling Rods. Laminate as shown in the sketch, making certain they hinge easily at the centre holes. These holes will need opening out according to your crank pins.

31. R.H. Coupling Rods. Laminate as L.H.

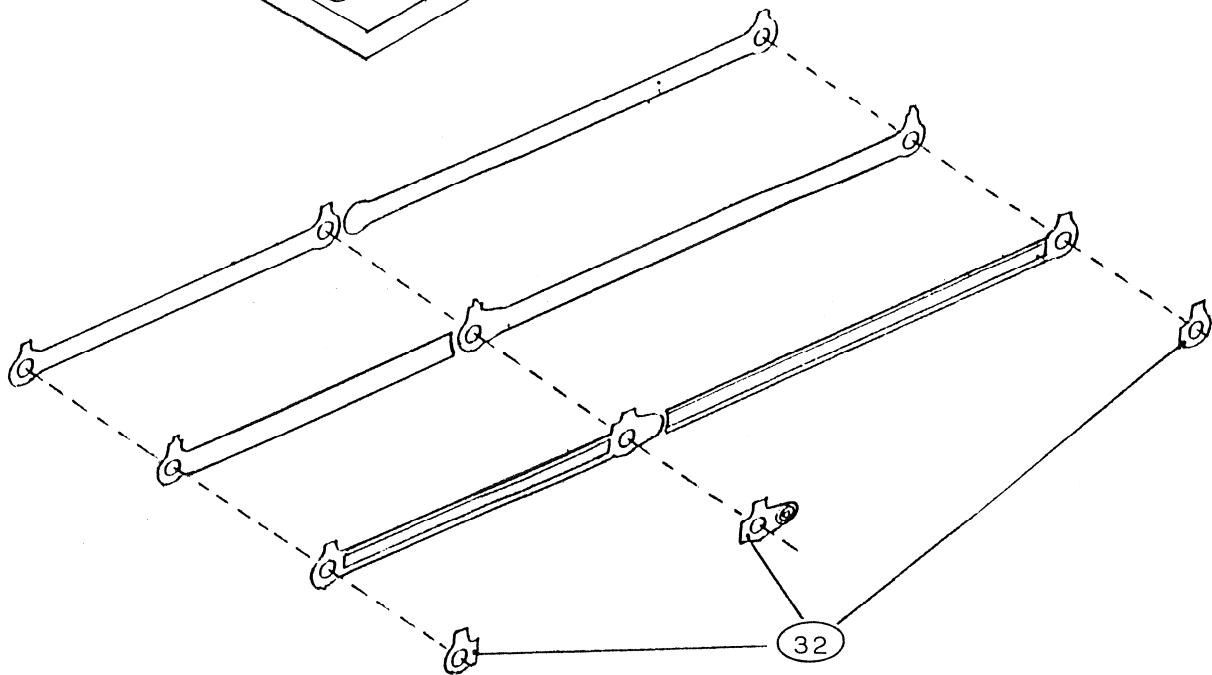
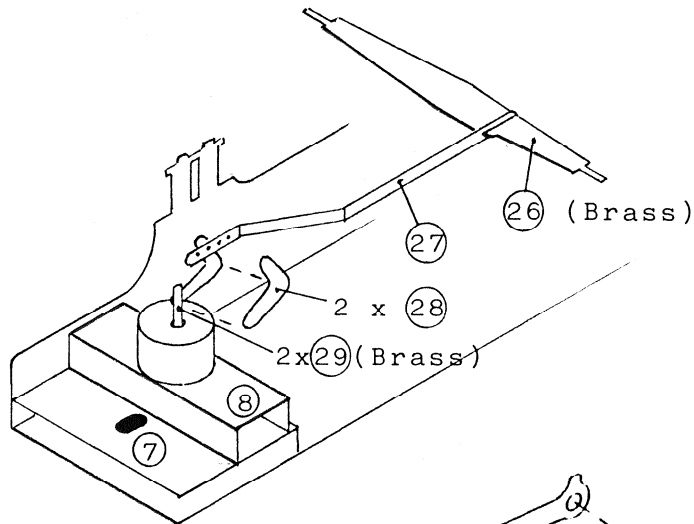
32. Coupling Rod Bosses. Fit as shown.

Your chassis should now be complete and all you have left are the wheel balance weights.





Showing outer rods 21/22



Showing L.H. coupling rod (30), R.H. is mirror image.

ML 20. NBR CLASS "C" LNER CLASS J36

Chassis Assembly Cont'd.

I know I have just concluded this on the previous page but my memory isn't what it used to be! The cast white metal sandboxes should be fitted to the chassis sides, its position will be shown by the wheels but the low boss on the back fits into the well made by the ashpan sides. I point this out because I have previously advocated fitting sandboxes to the underside of the footplate. Now.....

Main Body Assembly.

Please remember, this is how I built *my* first sample so the following is given as a guide only. It was recently suggested that my method of construction had to be altered because it did not allow such and such and got in the way of so and so, now, most of you will know I never suggest my ideas should be slavishly adhered to, just the opposite, in fact, unless, of course, you want to pick up my bad habits! so, if your ideas are better or you are used to doing something another way, then do it. The only proper way to do anything is that which gives the correct and/or satisfactory, end result. With that off me chest, let's get on.

33. Running Plate. Remove from fret. Take out the parts in the middle and put them safe. Check for upper & lower surfaces and solder an 8BA nut over each fixing hole on the upper. If you want to follow me slavishly, drawing pin the plate to a dead flat wooden surface.

34. Cab Side Plates. (L & R).

35. Cab Edge Strips. Solder to rear edge of 34, in the half etch. (It has been pointed out that this should be rounded and this is quite correct so, if you want it round - use a piece of half round wire).

36. Cabside Window Frames. Solder around each side window.

Form handrails from 0.7mm wire to fit into the holes below the window and at the rear edge of the cab. DO NOT use handrail knobs! Files the backs flush.

37. Cab Spectacle Plate.

38. Spectacle Frames. Solder to the half etched rings on the cab front.

Form the splasher tops using a cab side as a template. Note the cab front fits between the sides but the splasher top sections fit over the splasher side sections at the notches. Solder together, the top edges level which each other. Test in the slots at the rear of the footplate.

39. Smokebox Formers.

40. Smokebox Spacers.

41. Smokebox Wrapper. To make the smokebox, roughly form the wrapper using a former as a template. Drawing pin one former to a flat block and, starting from the centre, solder down each side. Check the end of the wrapper is level with the bottom edge of the former. Now solder the spacers into the former slots, inside the wrapper. *Remove the drawing pins!* Solder the second former over the spacer tabs, again, inside the wrapper, making sure the bottom edges are level. Test in the slots at the front end of the footplate.

42. Boiler. Whilst this has been pre formed, it is necessary to reform the firebox. The lower section can be annealed, if you prefer but should not be essential.

43. Boiler Front Former. Check this in the front of the boiler, this will determine the soldering of the bottom edge of the boiler, i.e. keep tight.

44. Firebox Front Former. Solder into the firebox, bottom edges level. Try not to fill the notches.

45. Firebox Rear Former. Solder into the rear of the firebox. You can now check smokebox, boiler and cab into the footplate slots. This will also give you the chance to check the shape of the cab splasher under the firebox rear. If you are happy they meet up as they should, solder smokebox and cab in position, make sure they are square and upright and only tack fit until you are fully satisfied.

46. Boiler Bands. Solder around boiler at central positions. Before going further, insert and solder the washout plugs.

ML 20. NBR CLASS "C", LNER CLASS J36.

Main Body Ass. Cont'd.

You can now test all three sections on the running plate and if you are happy, tack fit smokebox in position, then cab and fit the boiler in between. Make sure the firebox tabs are engaged in their slots and the boiler is parallel, the front end of the boiler should then be dead centre to the smokebox. Tack fit in and check all round, if o.k., make solid. *You can now remove the drawing pins, I hope you haven't left one in the smokebox - I did!*

47. Front Boiler Band. Solder around the boiler at the front, up to the rear of the smokebox. Now form a ring from 0.45mm wire and fit as a joint ring.

48. Front Inner Splashes. Fit into slots immediately behind smokebox, up back edge.

49. Centre Inner Splashes. Fit at centre wheel slots, flat end up to firebox.

50. Front Outer Splashes.

51 Front Splasher Tops.(L & R). Shape and solder to 50. Fit completed splasher into front slots at smokebox. There is no need to solder to the inner splashes.

52 Centre Outer Splashes.

53. Centre Splasher Tops.(L & R). Shape and solder to 52. Fit completed splasher into outer slots at central wheel position.

54. Front Frame Extensions. *I seem to be out of sequence here so don't remove these yet.*

55. Rear Frame Extensions. Solder into slots at side of firebox, between centre and cab splashes.

56. Rear Boiler Band Extensions. Note the shape and fit to firebox, over the splasher from top of 55.

57. Rear Boiler Band. Fit over join of boiler and cab, between the two 56's.

58. Cab Splashes (L & R). Bend backs to right angle and fit into cab slots.

59. Splasher Lids. Fit over splasher sides.

60. Floor Joist. Bend ends to right angles and fit into slots at rear of cab, ends up to splasher backs.

61. Floor. Bend sides down and fit between cab splashes, rear edge sitting on joist.

Make up the reverser as shown and fit to L.H. splasher in the cab, the end of the lever rod will fit up to the cab spectacle plate, giving the correct distance.

62. Wing Plate. Solder to front of smokebox.

63. Smokebox Door Back Plate. Solder to 62, centrally.

Now you can fit the front frame extensions (54), in the slots in front of the wing plate.

64. Reversing Lever. The front section (bracket) will need bending slightly "Z" shaped to make lever parallel. Fit into slot in frame (left hand side) and notch in front of firebox.

65. R.H. Sanding Rods. Bend to shape and fit between front splasher and notch in R.H. side of firebox. Solder the stanchions behind splashes.

66. L.H. Sanding Rods. Bend to shape and fit over L.H. front splasher, the rear end is bent slightly to fit behind splasher.

67. Front Buffer Beam Back.

68. Front Buffer Beam Face. Push out the rivets at coupling plate. Laminate to 67. N.B. *the holes for the buffers are nearer the top edge.* Solder below the running plate at the front, to the broken lines, i.e. leaving a slight overhang (about 1/2mm)

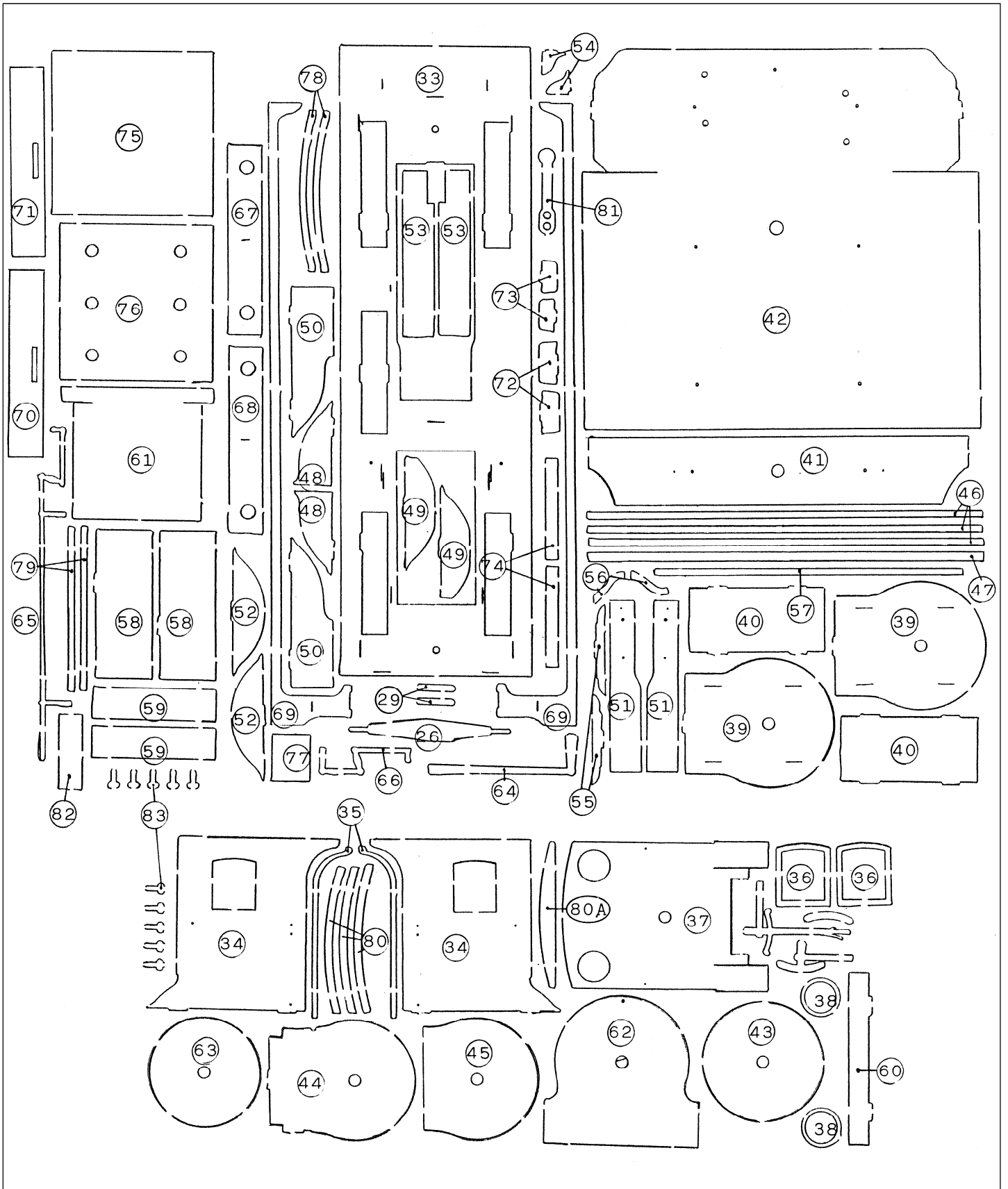
69. Valances. Before fitting under the running plate, decide whether or not you want to fit the steps now, it could be easier, if so see 72 and 73 now. Solder the valances into the half etched lines on underside of running plate, front ends up to the front buffer beam.

70. Rear Buffer Beam

71. Rear Buffer Beam (Half Etched). Laminate to 70. Fit under running plate, up to valances, the narrow part to the running plate.

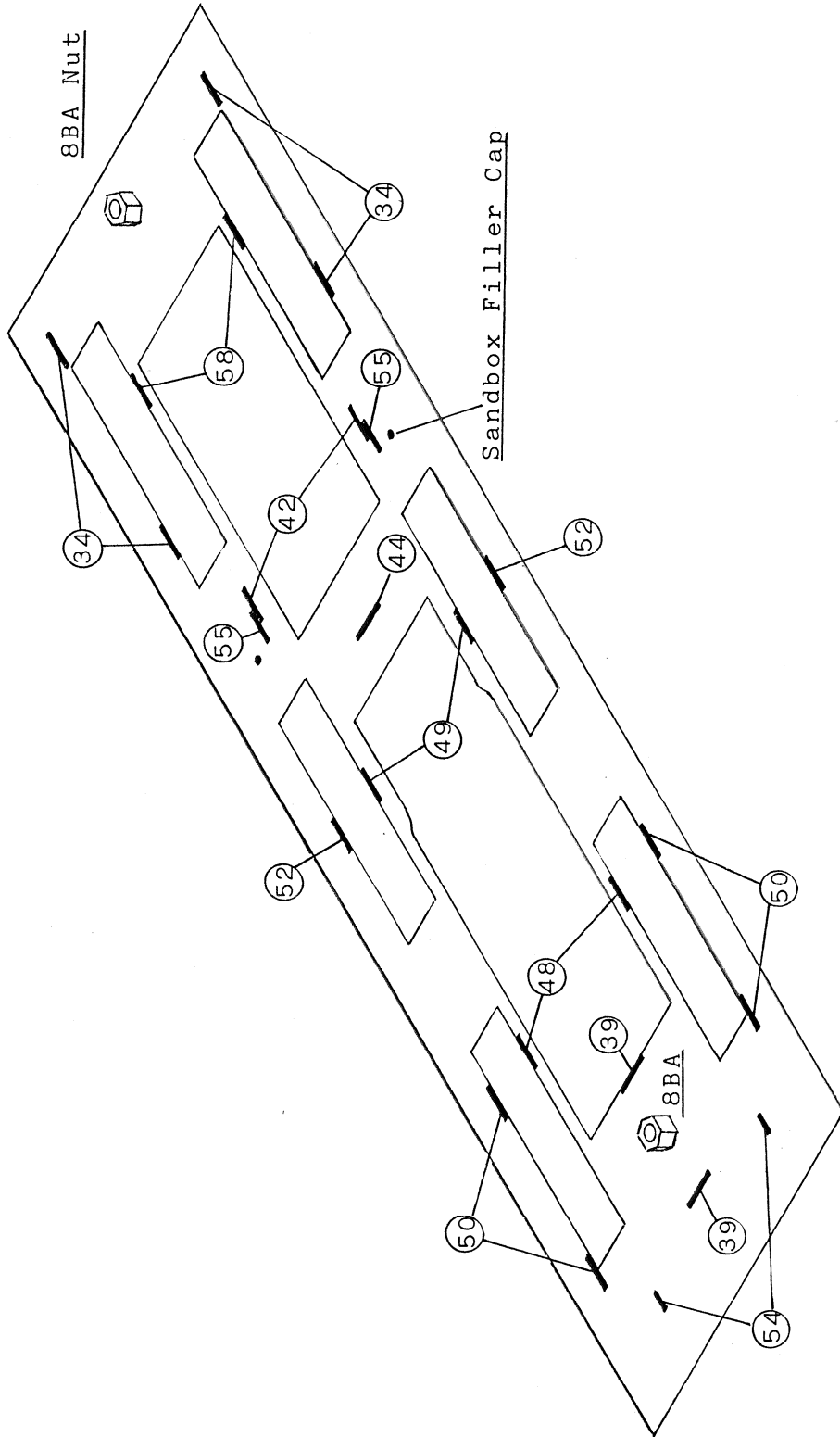
72. Bottom Steps. Bend sides up. Fit to valance in cut out at base of step back plate.

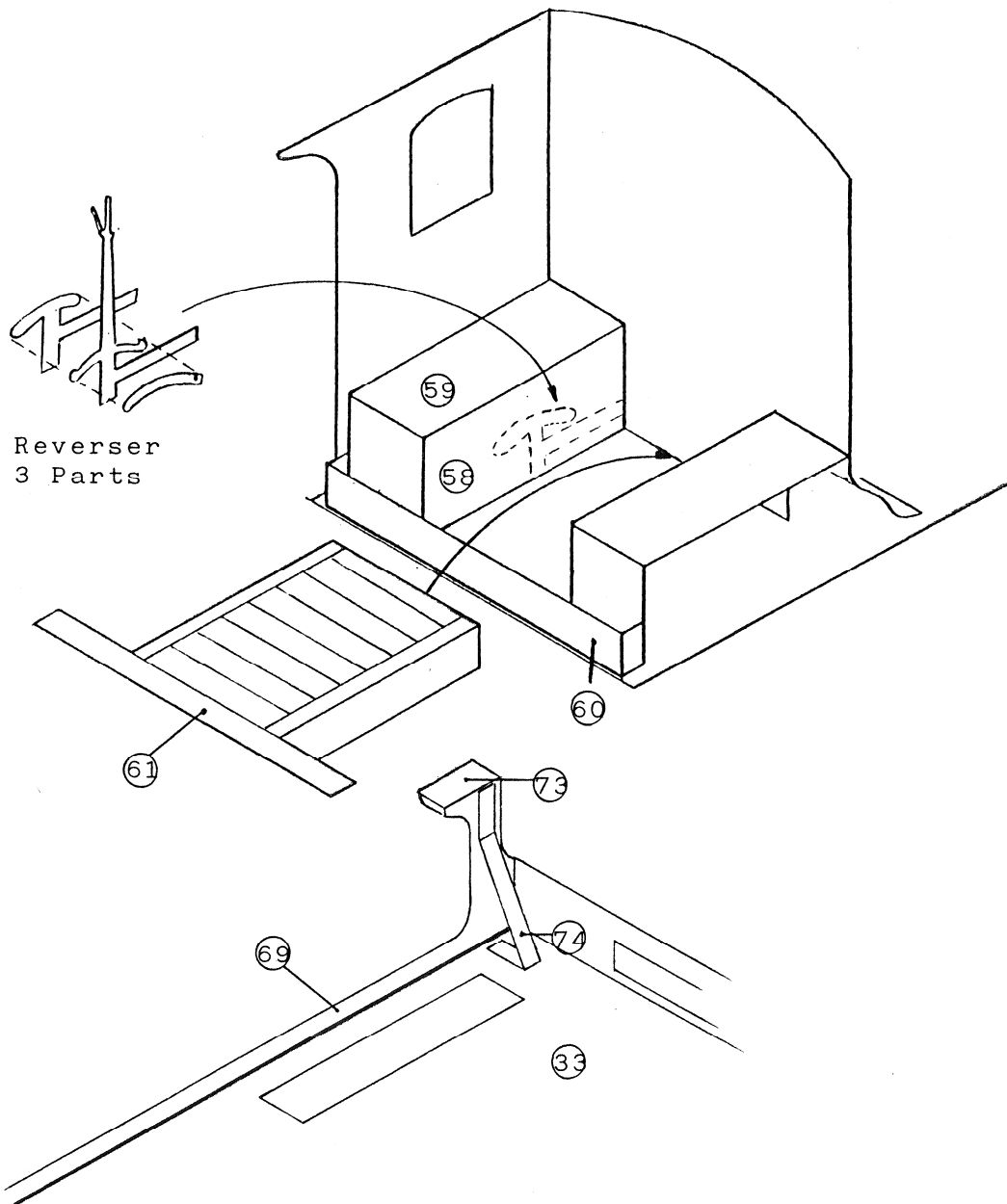
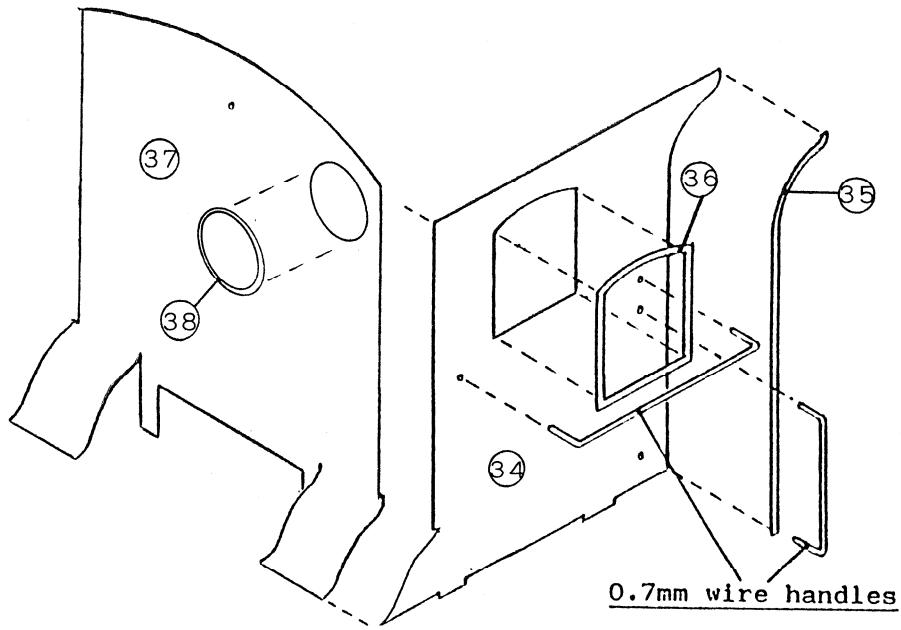
73. Top Steps. Bend sides up. Fit into slot in valance at step back plate.

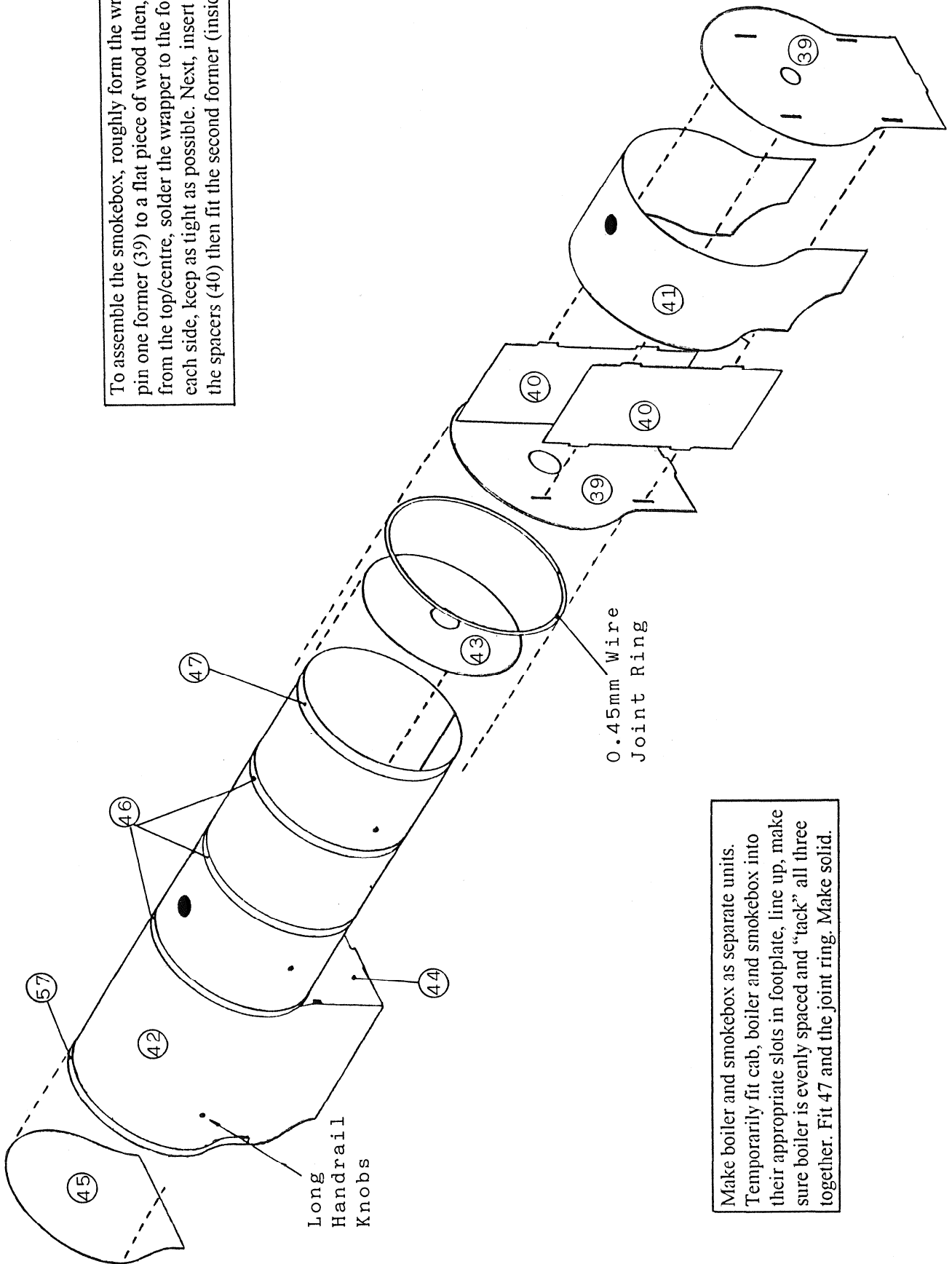


NBR "C" CLASS
LNER J36

RUNNING PLATE.

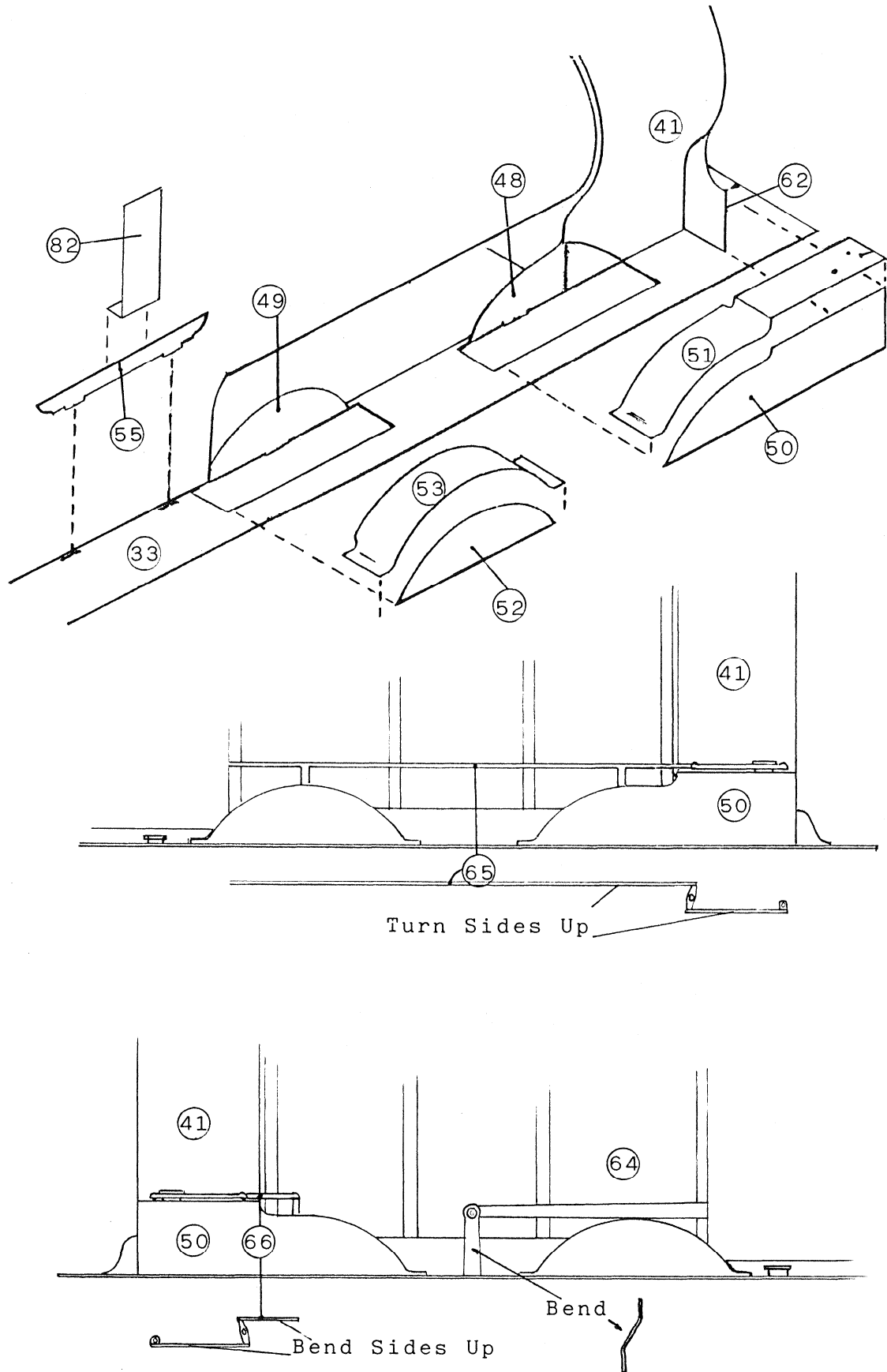






To assemble the smokebox, roughly form the wrapper (41), pin one former (39) to a flat piece of wood then, working from the top/centre, solder the wrapper to the former down each side, keep as tight as possible. Next, insert and solder the spacers (40) then fit the second former (inside 41)

Make boiler and smokebox as separate units. Temporarily fit cab, boiler and smokebox into their appropriate slots in footplate, line up, make sure boiler is evenly spaced and "tack" all three together. Fit 47 and the joint ring. Make solid.



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Main Body Ass. Cont'd.

74. Step Supports. Bend as shown and fit behind steps up to the underside of the running plate.

75. Outer Roof. Curve to shape of cab front. *Slightly* bend edges up at lines.

76. Inner Roof. Curve as above and laminate to 75. Note this should be fitted centrally, the holes are simply a soldering aid.

77. Lifting Cover. (This is not a ventilator, as often thought but is actually a cover which was removed to allow the chains to enter when lifting was necessary). Solder over the half etched rectangle to the rear of the roof.

78. Front & Rear Edge Strips. Solder to edges of roof, standing proud above, level below.

79. Roof Side Strips. Solder to roof side edges, up to 78.

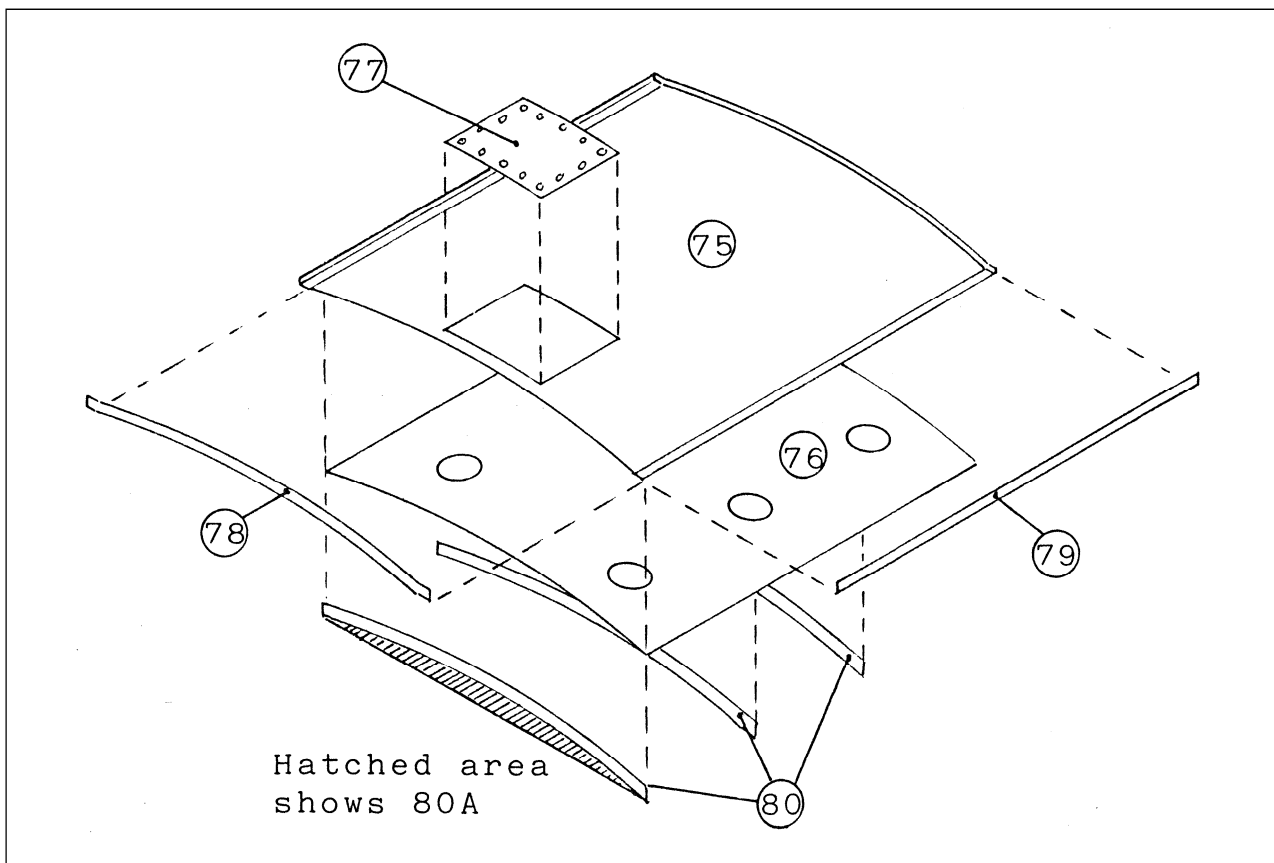
80. Roof Braces. Solder two into the half etched lines on the inner roof, the third fits to the rear edge of the inner roof BUT NOTE

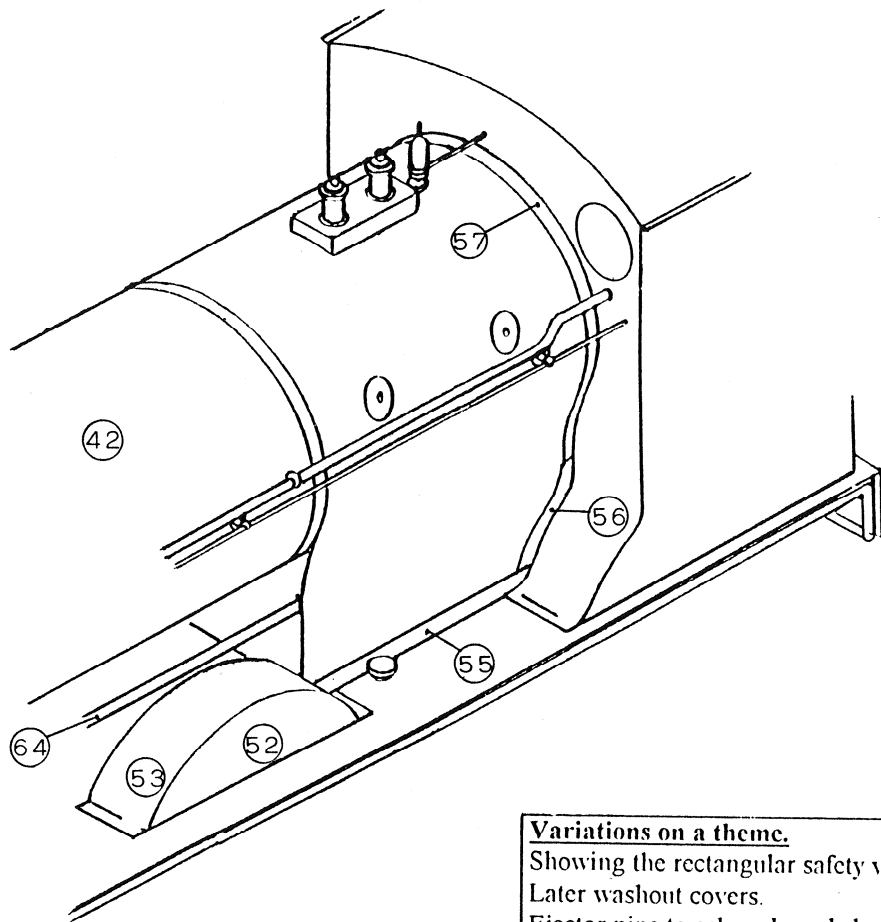
80A. Rear Roof Brace. I have been assured that when a tarpaulin cover was fitted between cab and tender, a straight brace was also fitted so the cover could be rolled up and secured. If you want to immitate a storm sheet, then consider this.

81. Drawbar. This should, of course, be with the chassis.

82. Westinghouse Pump Bracket. If you intend using Westinghouse equipment, bend this bracket to a right angle and fit to boiler on the right hand side, its bottom bend resting on the rear frame extension (55) [see sketch].

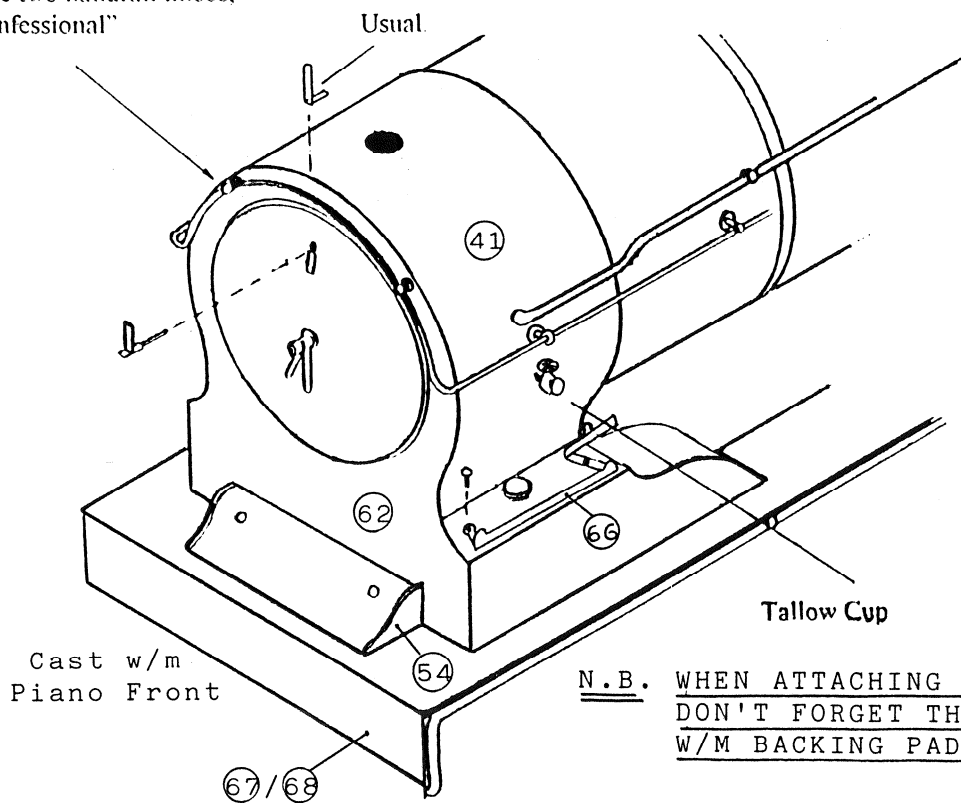
Unless I can think of something else, I believe the main building is complete.



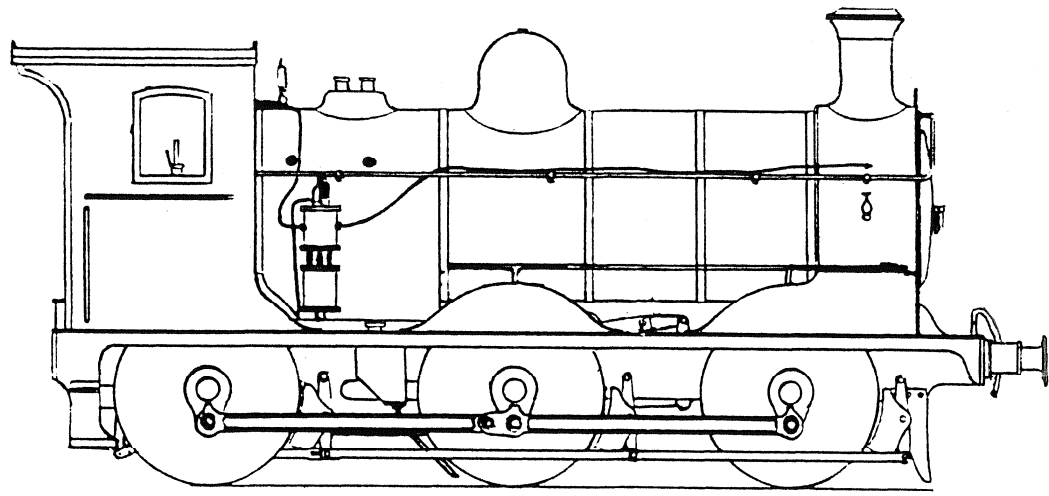
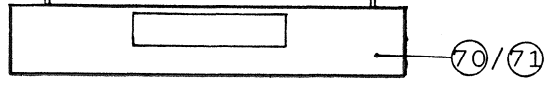
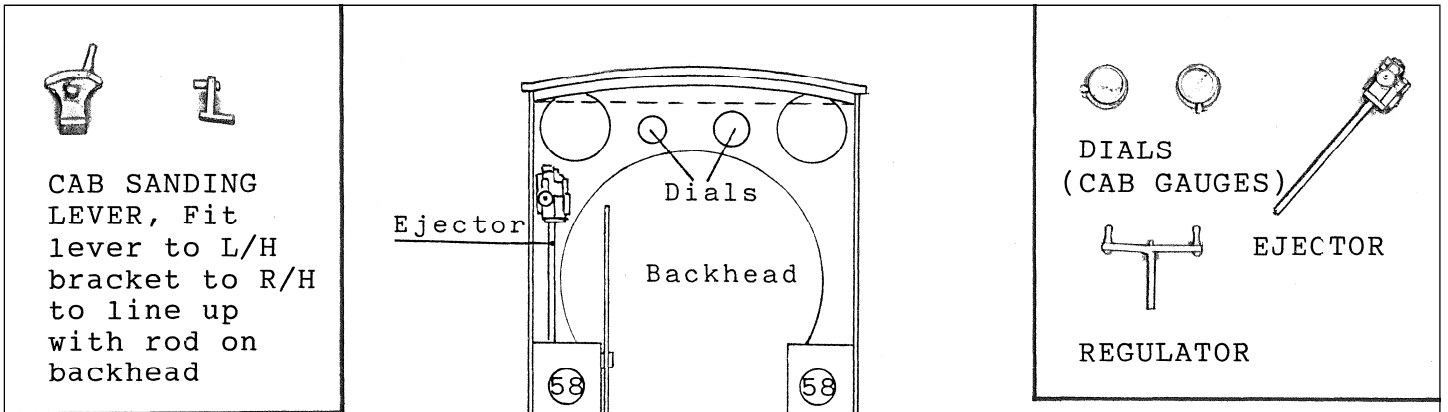


Variations on a theme.
 Showing the rectangular safety valve base.
 Later washout covers.
 Ejector pipe to cab and smokebox.
 Front lamp bracket.
 Vacuum pipe at valance.

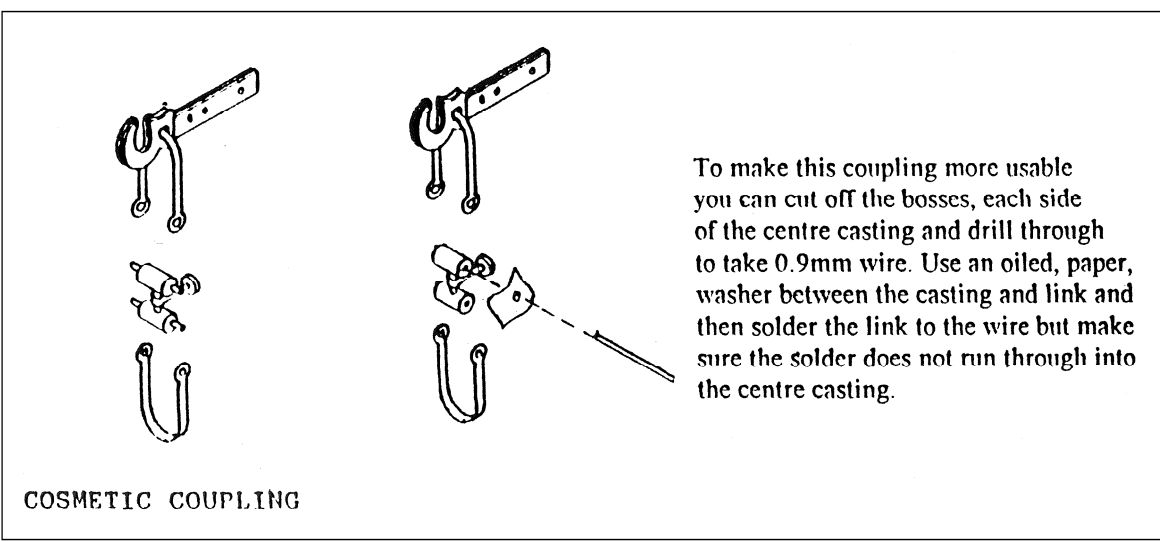
Note the two handrail knobs,
 see "confessional"

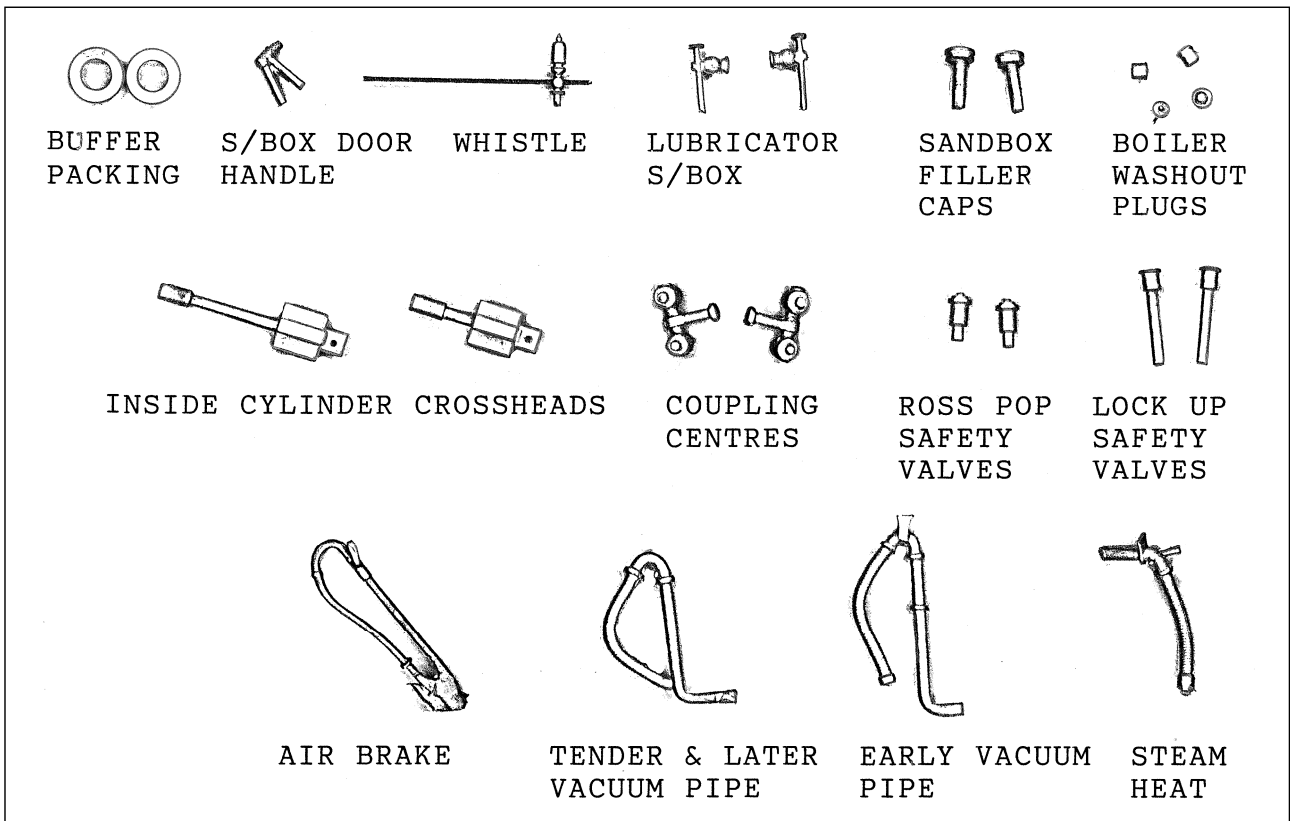


N.B. WHEN ATTACHING BUFFERS
DON'T FORGET THE CAST
W/M BACKING PADS.



Position of Westinghouse Pump

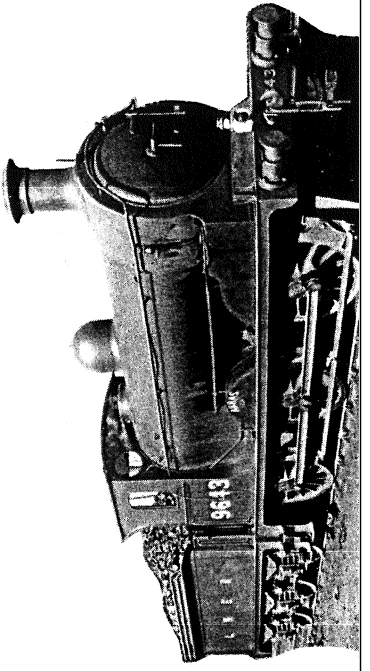
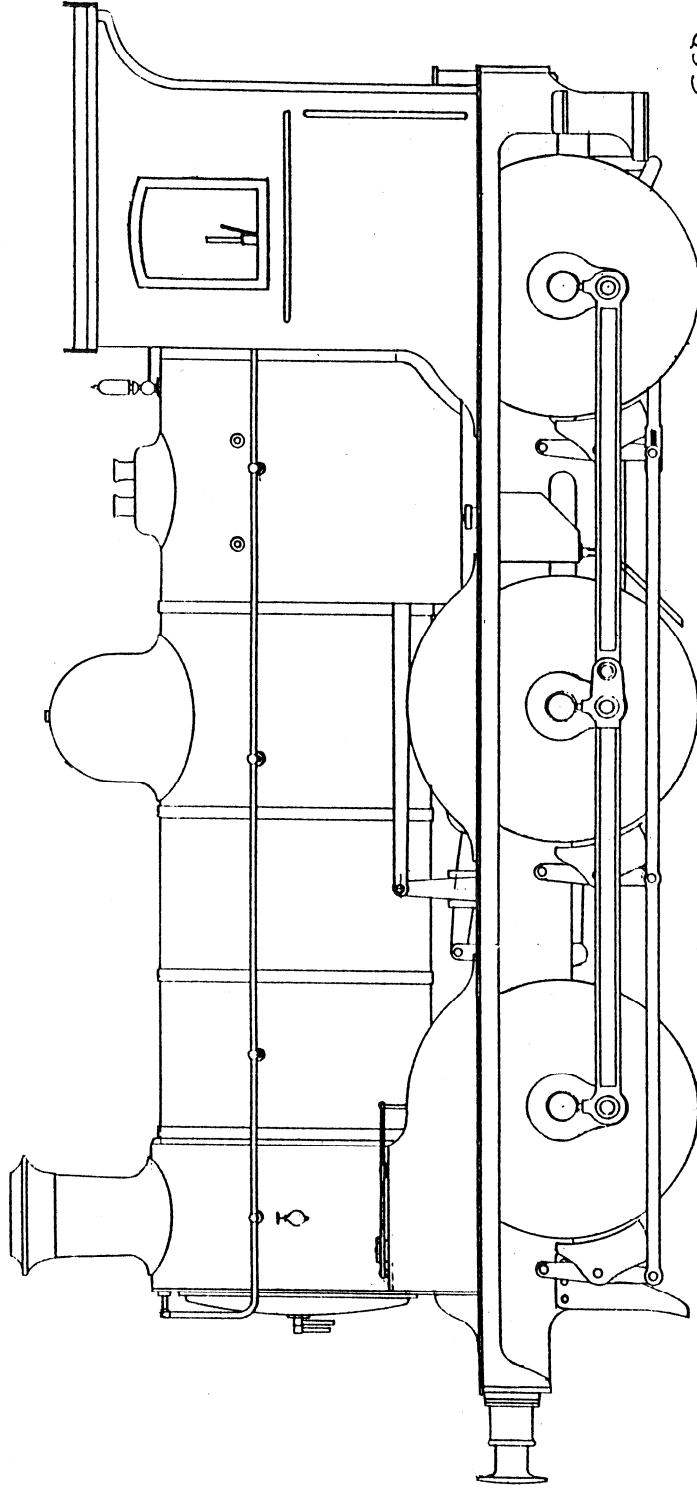
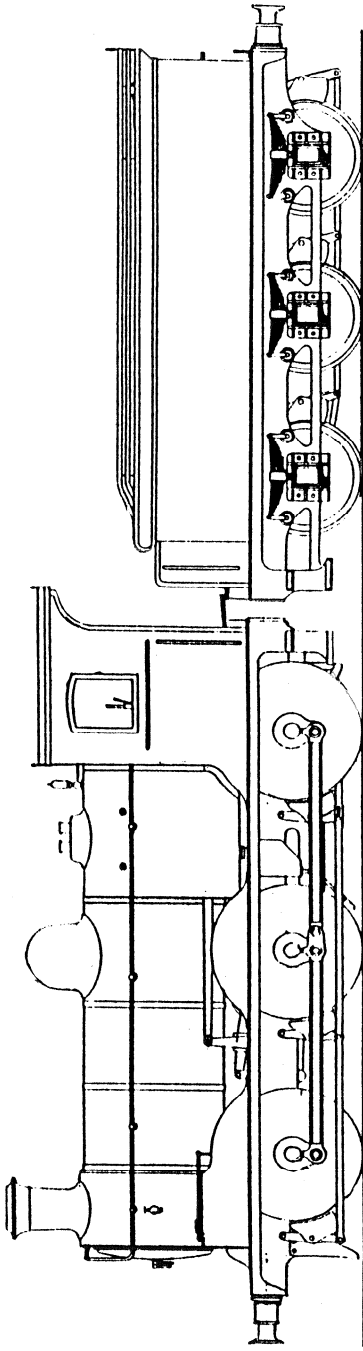




In common with the other kits in my range I have included split pins to support the handrails. If you wish to replace these with turned brass handrail knobs then I would recommend the ones produced by Romford. Short knobs (M7HRK7S), Medium length knobs (M7HRK7M), Long knobs (M7HRK7L). Available from, Markits, P.O. box 40, Watford, Herts, WD2 5TN, Tel 01923 249711.

A suggestion for making wire wiper pickups using 0.45mm hard brass wire, PCB sleeper strip and the electrical wire that is included in this kit. Alternatively you will find holes in the chassis sideframes for fitting plunger pickups.

9. solder solder leads to motor



Livery

For most of their lives these locomotives carried black livery but in early LNER days some had full lined green livery. For full numbering details and examples of livery see RCTS book part 5, Locomotives of the LNER, Published by The Railway Correspondence and Travel Society (get it from your local library via their book order system) LNER Transfers for lettering are available from the Historical Model Railway Society (HMRS) www.hmrs.org.uk for order form or send to Voluntary sales officer, 8 Gilpin Green, Harpenden, Herts, AL5 5NR, SAE for list & order form. You will require sheet 4 for green locos & sheet 4A for black locos.