

CONNOISSEUR MODELS

Claymore Kits

LNER Class J37, North British Railway Class B & S



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.

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**

NBR CLASSES B & S, LNER CLASS J37

A short history.

One hundred and four of these engines were built between 1914 and 1921, sixty at the Cowlairs works and the rest at the Atlas Works of the NBL. They were effectively a superheated version of the J35 but, because of the different valve gear arrangement, the boilers were raised by 6½", thus making them look much bigger than their sisters with the same size boiler.

The B & S classification refers to the power of the engines and not like the LNER, the wheel arrangement. The first engines had a boiler pressure of 165lbs per sq. in. and were classified "B", later engines had 175lbs pressure and were "S". Eventually, all engines had their pressure raised to 180lbs and so classified S.

As mentioned on the front page, variations inevitably crop up, so please check photographs and (especially) the RCTS, volume 5, where you will find most, if not all, the variations. There are many alterations which do not apply to this kit as they cannot be seen but one or two to watch out for are:-

Some boilers were fitted with lock up safety valves whilst others had standard Ross Pops. One boiler in particular, had three lock ups and could be found, at different times, shared by five engines.

Although number and works plates are not supplied with this kit, it probably should be noted that even these varied, some having plates with sunken (engraved) lettering whilst others had plates with raised letters

All except the 1921 batch from Cowlairs, were fitted with smokebox pyrometers but all were removed after grouping.

Nos. 4536 - 4604 originally had one lubricator in the cab, the rest had one in the cab and another on the footplate, later all were altered to carry two but some didn't get the footplate lubricator until 1940 on.

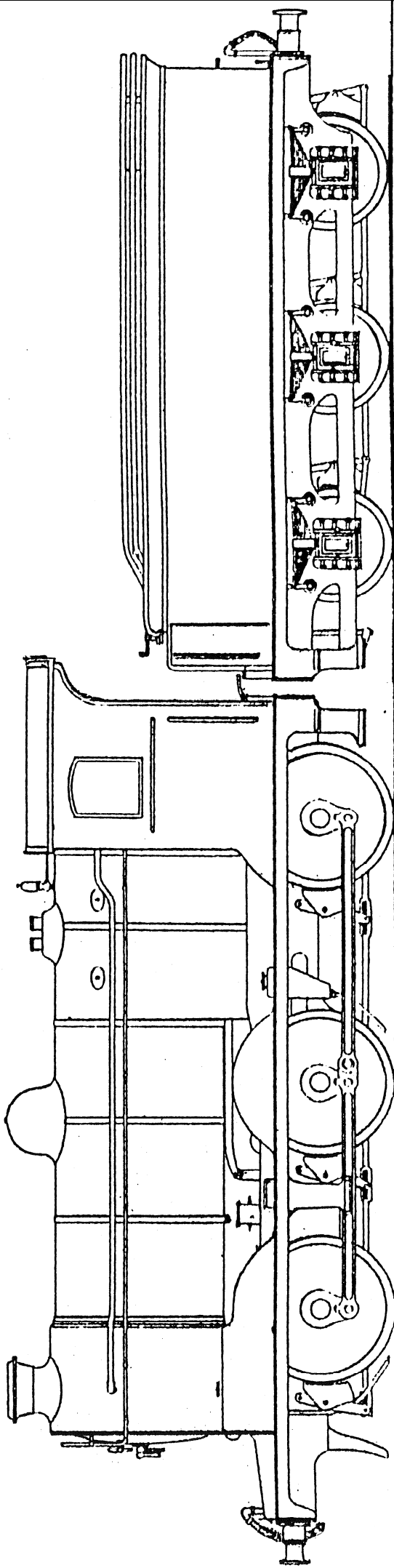
Steam heating was not fitted when built but was added to many of the engines between 1931 & 1937, nos. 9151 & 9295 were not so fitted until 1944.

Nos. 4630 - 4639 were built with Westinghouse & vacuum ejectors but were converted to steam and vacuum between 1945 & 1951.

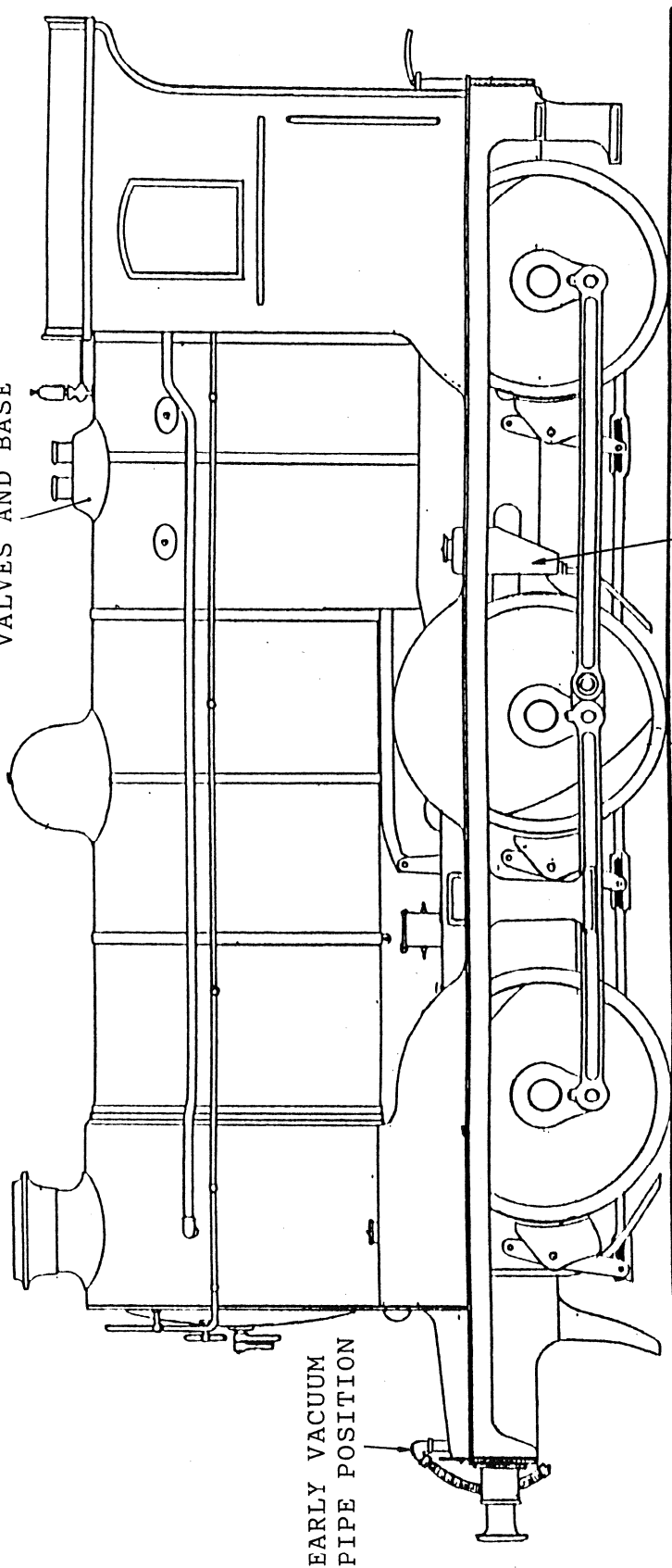
The entire class was taken over by B.R. and carried their 60000 numbers.

PLEASE NOTE. The holes in this kit will probably need opening out in places such as the axle bearing holes in the frames and the crank pin holes in the coupling rods. This is quite deliberate and is done because the etching process, although pretty good for kit building, cannot be guaranteed to produce the exact size every time.

ALL THE DRAWINGS IN THESE INSTRUCTIONS ARE ISOMETRIC AND THEREFORE NOT
TO SCALE.



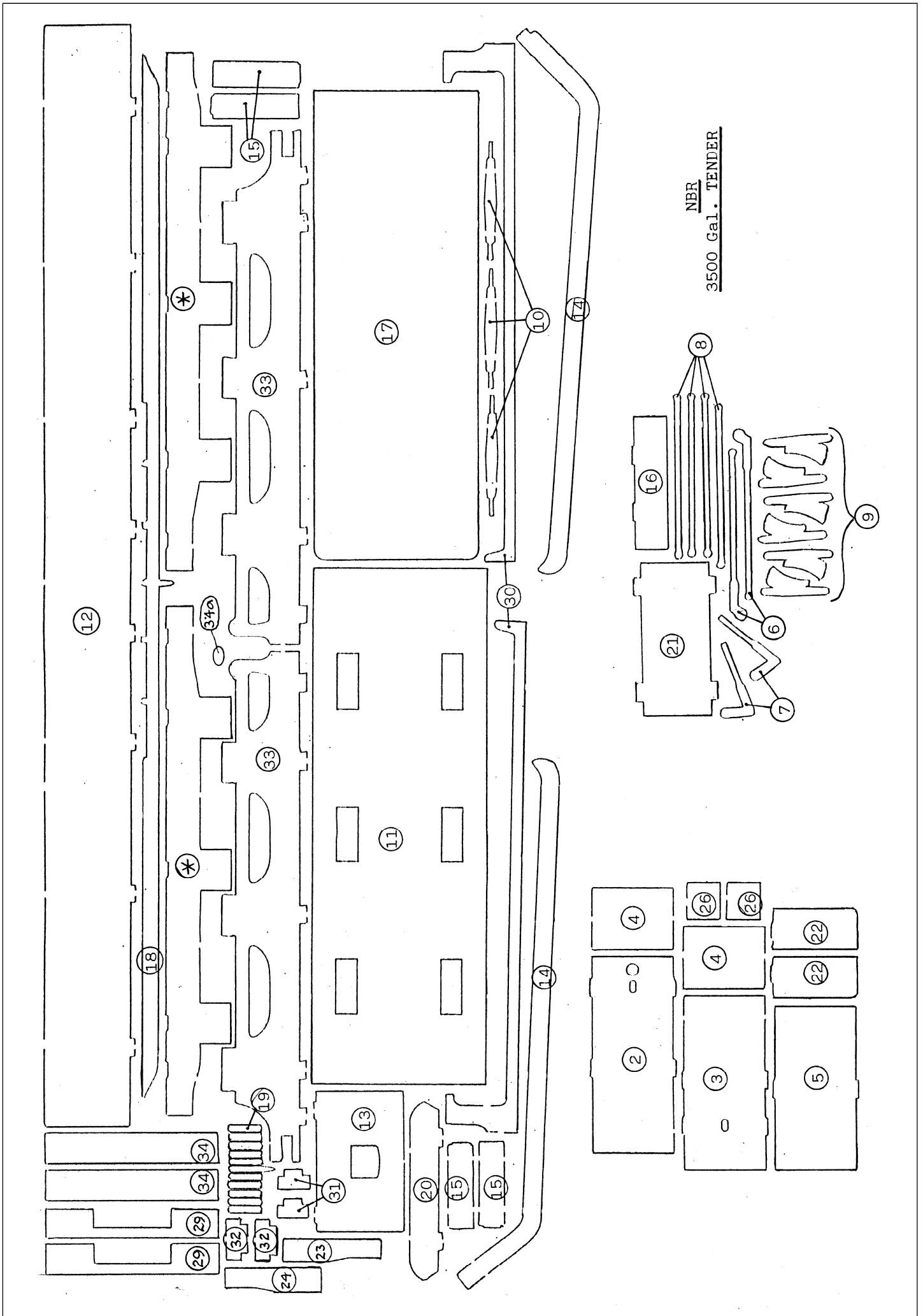
EARLY LOCK UP SAFETY
VALVES AND BASE

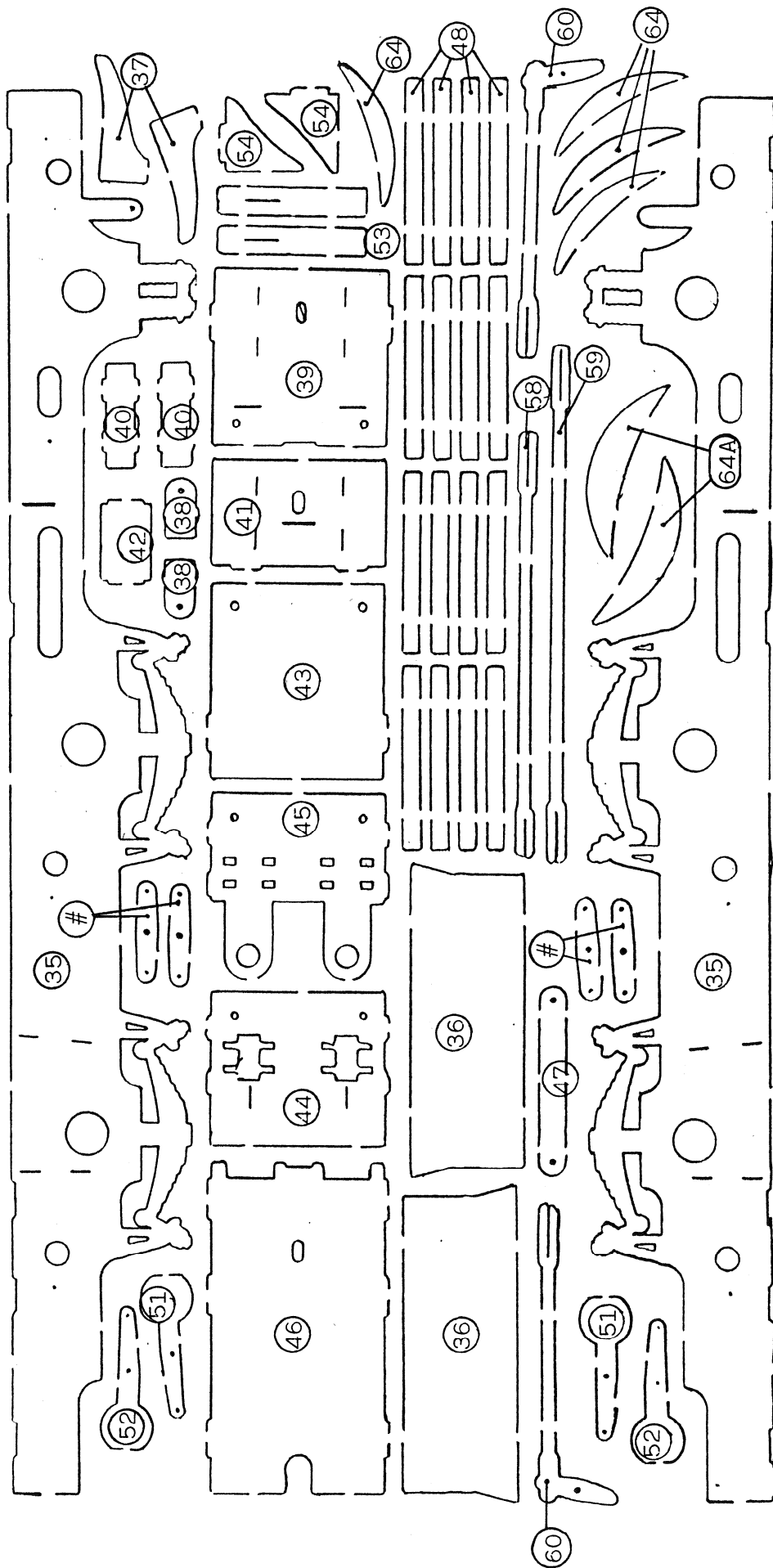


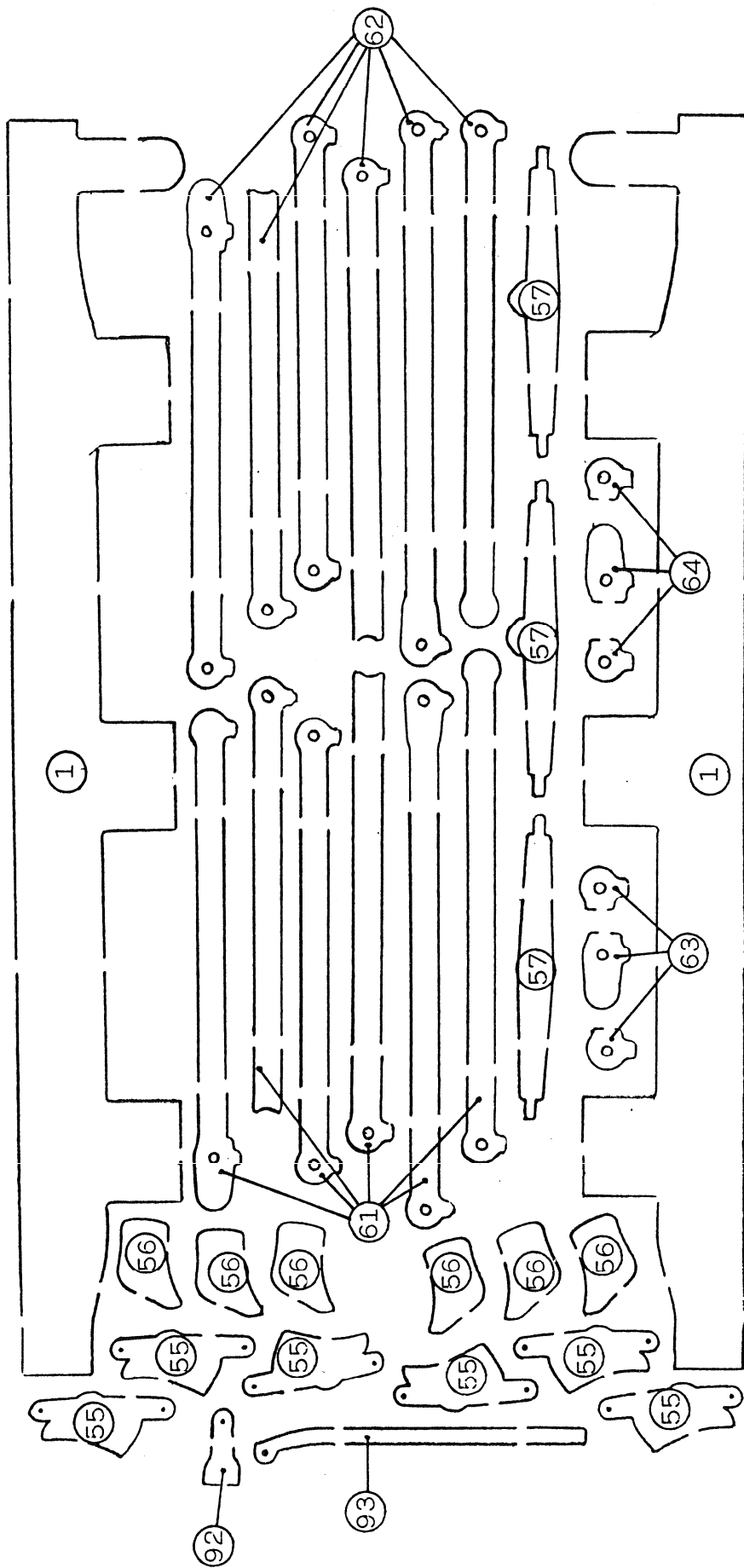
EARLY VACUUM
PIPE POSITION

CAST W/M SANDBOX
AND TOP

CAST W/M LUBRICATOR
ON RIGHT HAND SIDE





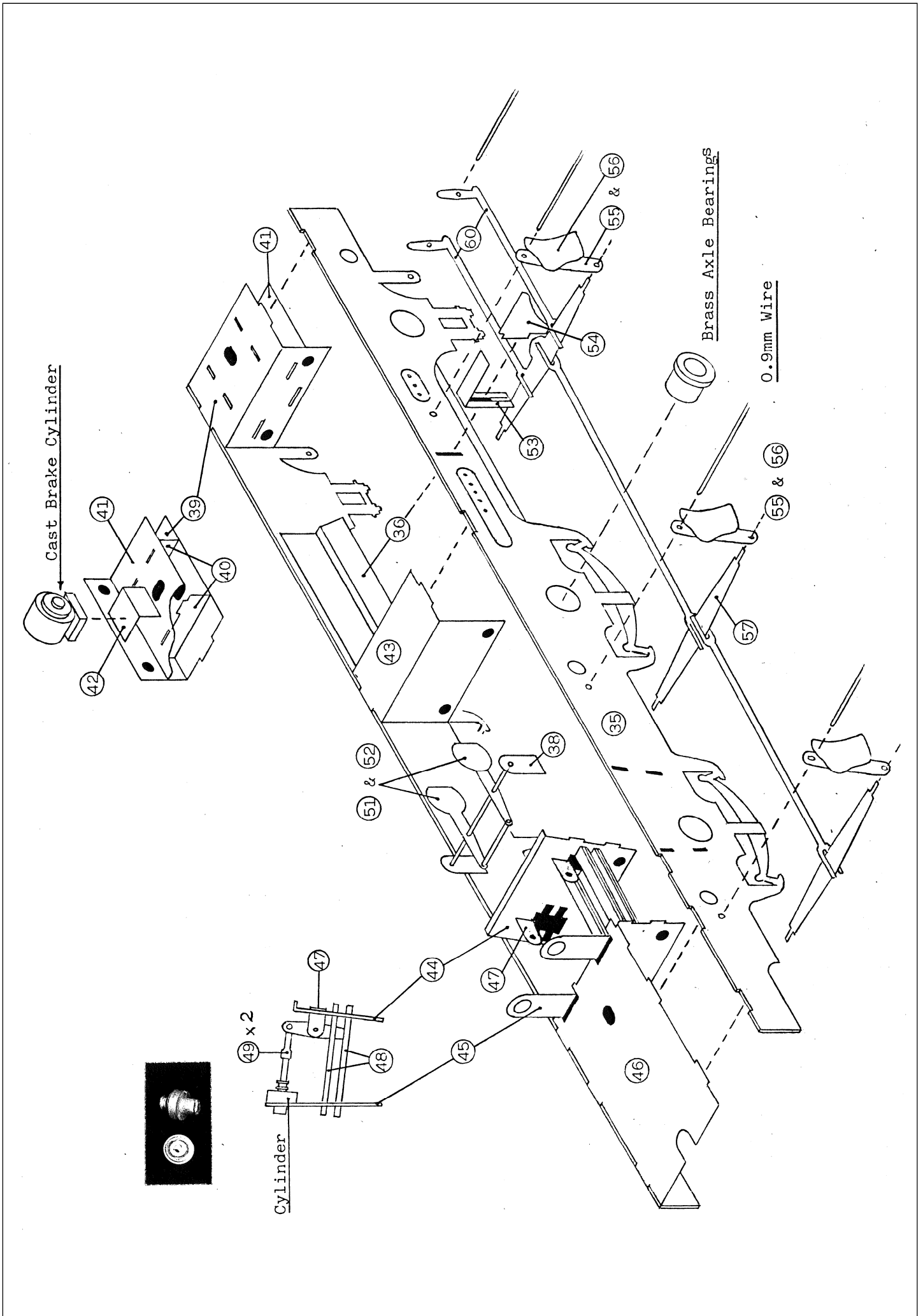


LOCO BODY & CHASSIS ASSEMBLY.

As I say with all my kits, I am not the best kit builder in the world, by any means so you may not agree with the following sequence but that is what modelling is all about. Use this listing as a guide but feel free to deviate if you have better ideas (that shouldn't be difficult).

CHASSIS

35. Main Frames. Remove from etch and clean.
36. Ashpan Sides. Bend to shape, the top bend comes at the bottom edge of the half etched section and turns in. Bend down at the lower line. Solder into position behind the holes in the frames. *Push out rivets.*
37. Guard Irons. Solder behind the frames at the front end. As long as they are quite secure you can bend to shape later.
38. Balance Weight Brackets. Solder to the frames at the rectangular half etched lines.
39. Rear Stretcher. Bend to right angle. Using a dead flat surface, fit the tabs into the cut outs on the top edge of the frames. The downward bend should hold the frames at right angles but check anyway.
40. Rear Spacers. These fit into the slots in (39)
41. Base Stretcher. Fit the front tabs into the end slots of (39) whilst the slots fit over the tabs in both (40), forming a box.
42. Brake Cylinder Carrier. Bend to right angle and fit into remaining two slots in (41)
43. Firebox Stretcher. Bend to right angle and secure between frames.
44. Cylinder Stretcher.
45. Motion Bracket. Bend top edge at line. This edge points back.
FIT (44) and (45) TOGETHER, into corresponding slots in frames.
46. Front Stretcher. Fit between frames, the two cut outs at the back will fit around (45).
47. Piston Carrier. Here is my first confession, I seem to have made these a little too wide apart and not allowing for the double thickness of the pistons so they will probably need squeezing inward but first, insert into the slots of the motion bracket (44) and secure, the tabs to point forward.
48. Slide Bars. There are 16 of these and 2 of each require soldering together to make 8 slide bars. Insert and secure in the slots in the motion bracket (44) and cylinder carrier (45).
Before going further, find the two piston cylinders (castw/m) and note that the back edge is angled, this is so they will point downward to line up with the slide bars. Drill to take the pistons then fit into the top holes of the carrier (45). Make sure they are correctly angled. Cut a length of 0.9mm wire, about 1" long and insert the holes in the tabs of the piston carrier (47).
- 49 & 50. Pistons. Solder two together. Put the piston ends into the hole of the cylinders and hang from the centre on the wire, the bottom end will then fall between the slide bars. Incidentally, 49 & 50 can be found in the main body etch, between the valances.
51. Outside Balance Weights.
52. Inside Balance Weights. Solder (52) to (51). Cut a length of 0.9mm wire long enough to go through the two brackets(38). Thread one end and place the weights on, the weighted ends point backward, thread through the second bracket and secure the wire ends. The two weights need to be central and 10mm apart. A second piece of 0.9mm wire is needed between the weights, in the front holes. This can be made easier by cutting a couple of lengths of appropriate tube, 10mm long and threading onto the wire, between the weights but this is not supplied.



J37 CHASSIS Cont'd.

53. Frame Bracket Back. Bend to right angle.

54. Bracket. Fit into the back (53) and solder the whole into the frames, in the slot over the ashpan.

55. Brake Hangers.

56. Brakes. Solder onto the hangers, note they are left & right. Cut three lengths of 0.9mm wire about 2" long and solder through the frames, in the holes provided, keep the ends even.

57. Brake Cross Beams.

Temporarily insert the wheels, with washers if necessary, this will help in getting the brakes to hang correctly. Hopefully, you have read the note on page 2 regarding holes and bearings. Hang one pair of brakes at a time, insert a cross beam (57) between the bottom holes making certain the brake end is tight to the shoulder of the beam, this will give you the correct width for securing the top at the wire and there should be no shorting out if you need side play on the wheels. Secure the beams so they are parallel with the ground, lengthways and accross. Take out the wheels.

58. Front Pull Rod. Fit from centre of front cross beam to slightly left of centre on the centre beam, viewed from above.

59. Centre Pull Rod. Fit as 58 but between centre and rear beams.

60. Rear Pull Rods. I know this is incorrect according to the prototype but the NBR refused to put a huge crown wheel on the back axle!!! Cut a length of 0.9mm wire about 1 1/2" long. Slide the pull rods over the rear cross beam and thread the wire through the droppers in the frames (behind the rear axle) taking on the hangers of the pull rods. Secure the wire ends and trim. To play safe keep the pull rods about 12mm apart then, if you use a Ron Chaplin motor, as I do, this will avoid both crown wheel and mount. However, all should be checked with motor in situ and the pull rods secured accordingly.

61. Left Hand Coupling Rods. Laminate in two sets of three.

62. Right Hand Coupling Rods. Laminate as 61.

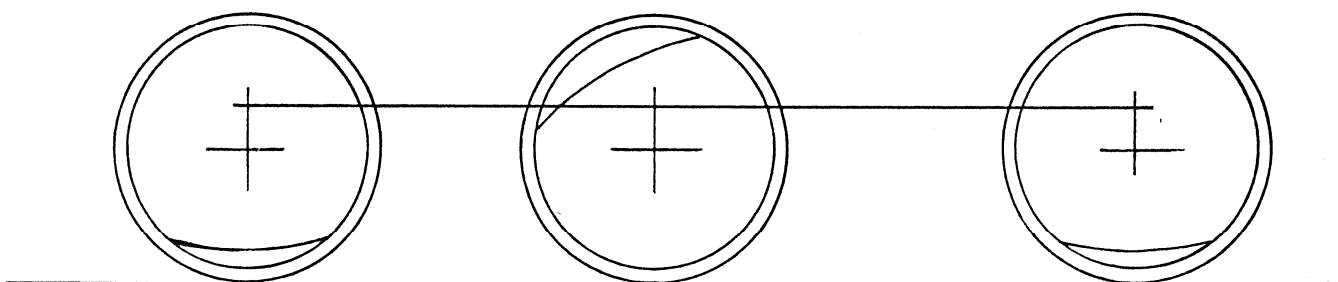
63. Coupling Rod Oil Boxes. The coupling rods are best described in a sketch , please see page 17.

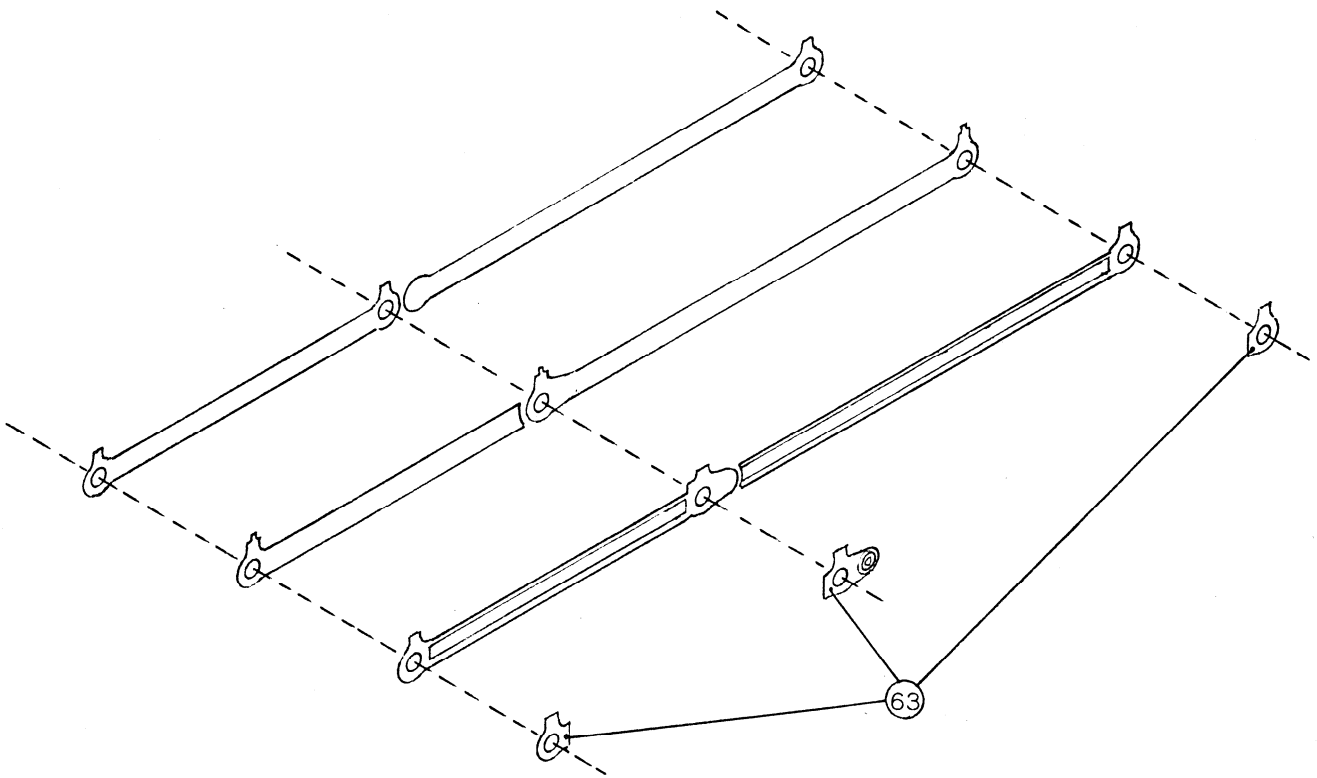
The only other casting to be applied is the brake cylinder which can now be fixed underneath, on the carrier (42). The chassis is now almost complete so you can insert wheels and crank pins and adapt the coupling rods. Again, please see page 2. Should binding occur, a slight ovaling of the outside holes should cure it but try to leave the centre hole crank pin bearing size only.

64 & 64A Wheel Balance Weights.

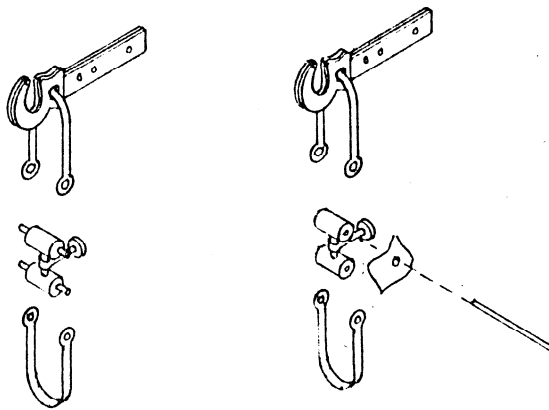
Fit the motor to the rear axle so the motor body extends into the firebox. You may find with double shafted motors, the rear shaft will need reducing, if this is the case *do not try to use a hacksaw!* A cutting disc is better but I use a sharp, triangular, Swiss file cutting all round and fairly deep, this way it will snap off but make sure you cut deep enough or you may bend the shaft.

Provision has been made in the chassis main frames for plunger pick ups but these are not supplied.



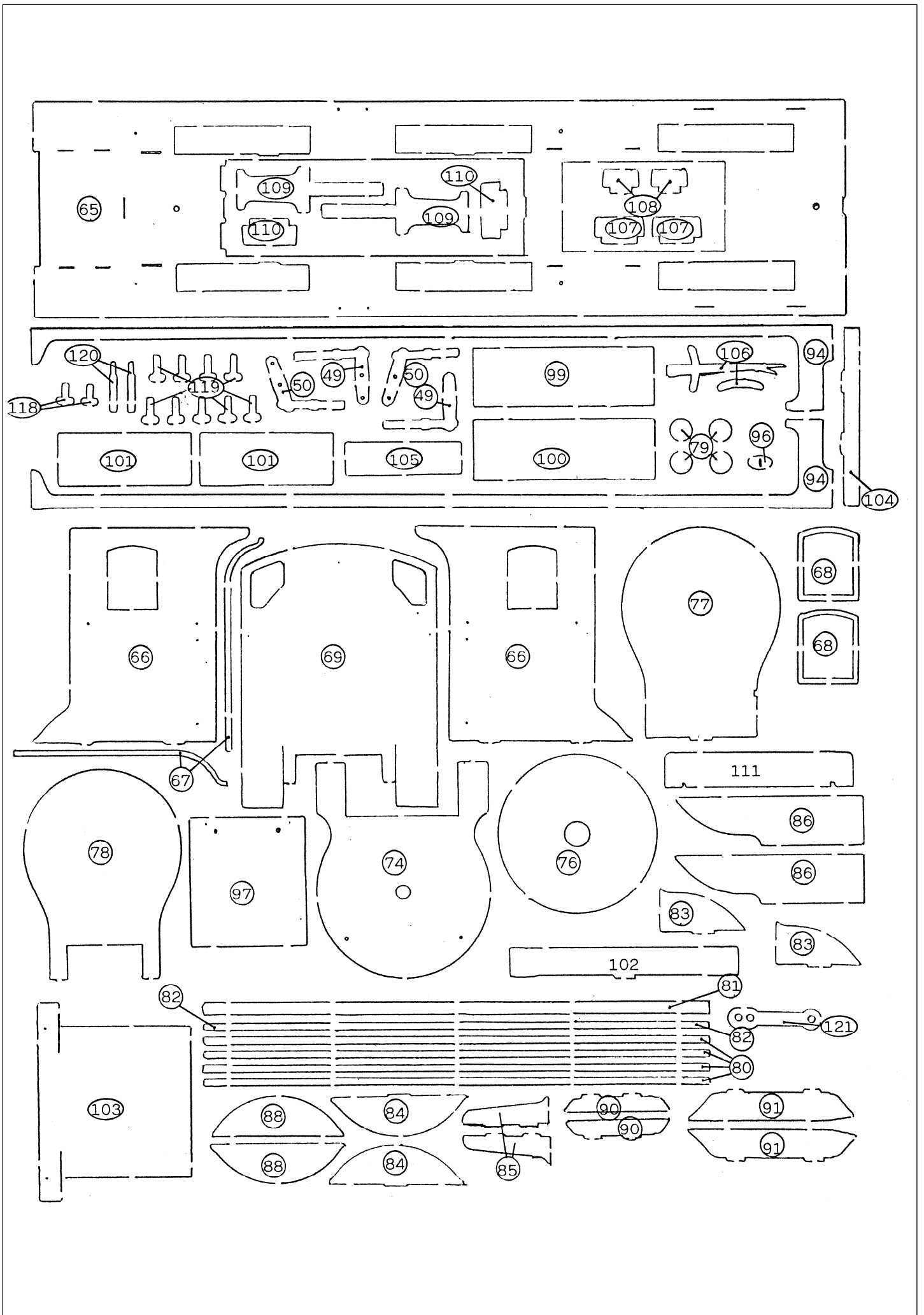


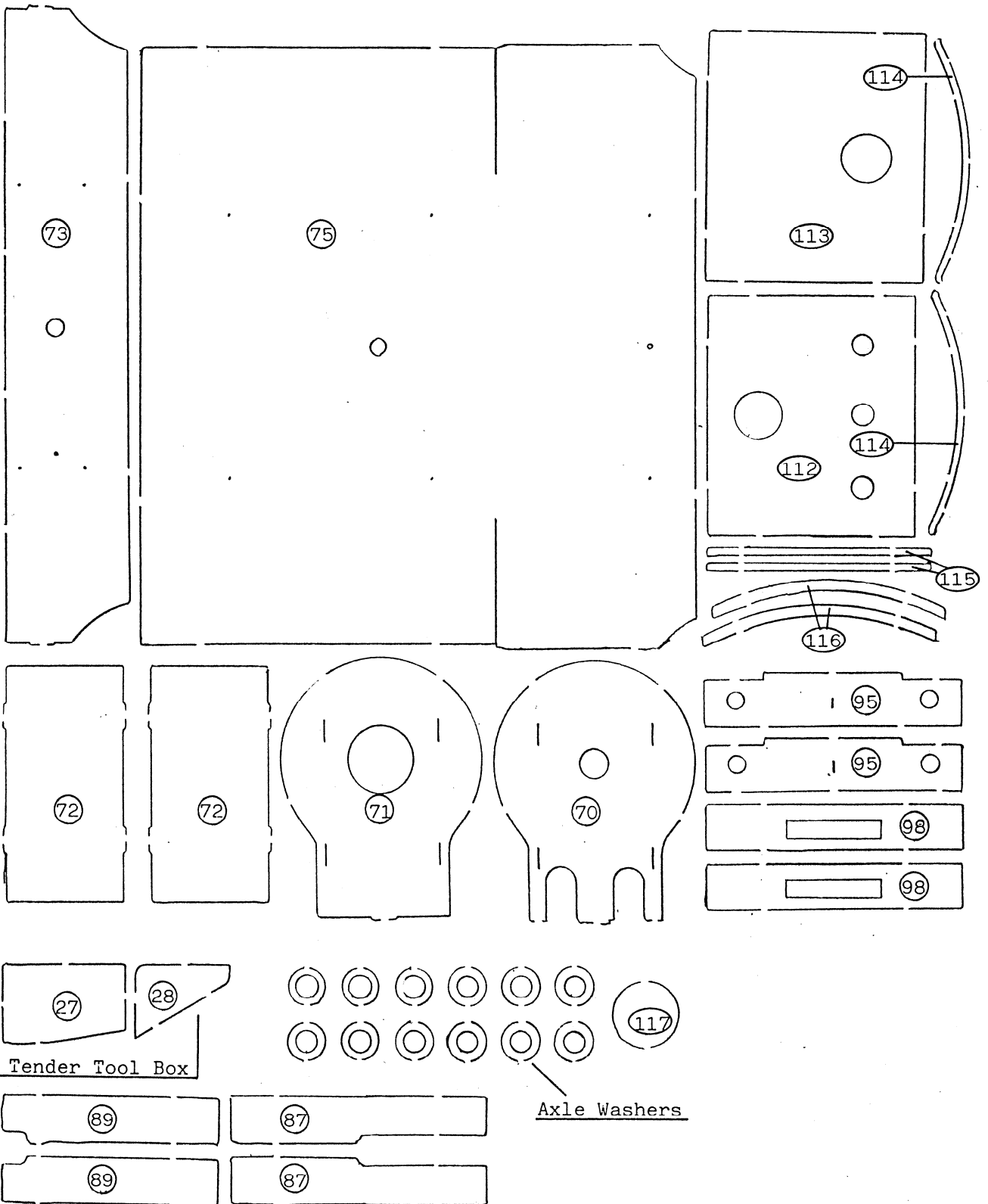
The above shows the sections employed to make up the left hand coupling rod (61). The right hand coupling rod (62) is a mirror image. 63 & 64 simply fit over the ends as shown.



COSMETIC COUPLING

To make this coupling more usable you can cut off the bosses each side of the centre casting and drill through to take 0.9mm wire. Put a paper washer between casting and link and then solder link to wire but make sure the solder does not run through into the centre casting.





Loco Body Assembly.

As always, this is how I put the original kit together and is not bound to be correct for you. A couple of silly mistakes occurred on the first kit but these have been corrected.

Points to watch out for:-

Boiler (75), this has been pre rolled which, unfortunately, means the fire box will require re shaping. This can be annealed first, if you wish, but only heat where it is necessary. Use the fire box rear as a former. Before soldering along the bottom edge, check the circumference around the front ring (76), the hardness of the brass will determine if the boiler will "stretch" in the rollers or not, the overlap along the two edges should allow for this. Keep the boiler as tight as possible around 76, 77 & 78.

Buffer Beams, (95) & (98). You will see these come in two parts, one of which is half etched, this is to thicken the beams for extra strength. The rear beam (98) can be rivetted from the back exactly as it is but DO NOT push out all the rivets on the front beam. There are enough half etched dots to cover all eventualities but please refer to photographs to find your particular pattern; they do vary! Many were just welded, in which case, leave the rivets alone.

Right, here we go. I don't think it is a particularly difficult kit but have the kettle on ready for a cup of tea!

65. Running Plate. Remove from etch and take out the steps, put these aside (somewhere you can remember).

66. Cab Side Plates. Cut out and clean all the tags off.

67. Cab Edge Strips. Solder one to each side, in the half etch.

68. Cab Side Window Frames. Solder around each side window.

Form handrails from 0.7mm wire and fit into the holes in each side. DO NOT use handrail knobs! Make sure they are secure and file the backs flat to the cab.

69. Cab Front. Carefully shape the "wings" to fit the cab sides to form splashers. Unlike the main splashers, these fit inside the splasher end. Solder between the cab sides, if the tops are level then the base should be o.k. Try in the foot plate and make sure the splasher cover ends do not hold the cab front off the plate. Do not fit into the plate, yet.

70. Smokebox Rear Former.

71. Smokebox Front Former.

72. Smokebox Spacers. Solder between 70 & 71. Keep absolutely square.

73. Smokebox Wrapper. Form this as close as possible to fit around the formers. Starting at the top centre, solder downward to the bottom edge. When happy, try in the running plate, into the appropriate slots. Do not fix, yet.

74. Wingplate. This will fit up to and in front of, the smokebox.

75. Boiler. Please read the notes above and make up accordingly.

Now try smokebox, boiler and cab all together in the plate, make sure they meet. Hold the smokebox in position and solder into the plate. Sit the boiler down into its slots and check it is dead centre with the rear of the smokebox, an even space all round. Secure in position. Now the cab can be fitted. Again, be sure all is evenly spaced.

76, 77 & 78. You have just done.

Fit the wingplate (74).

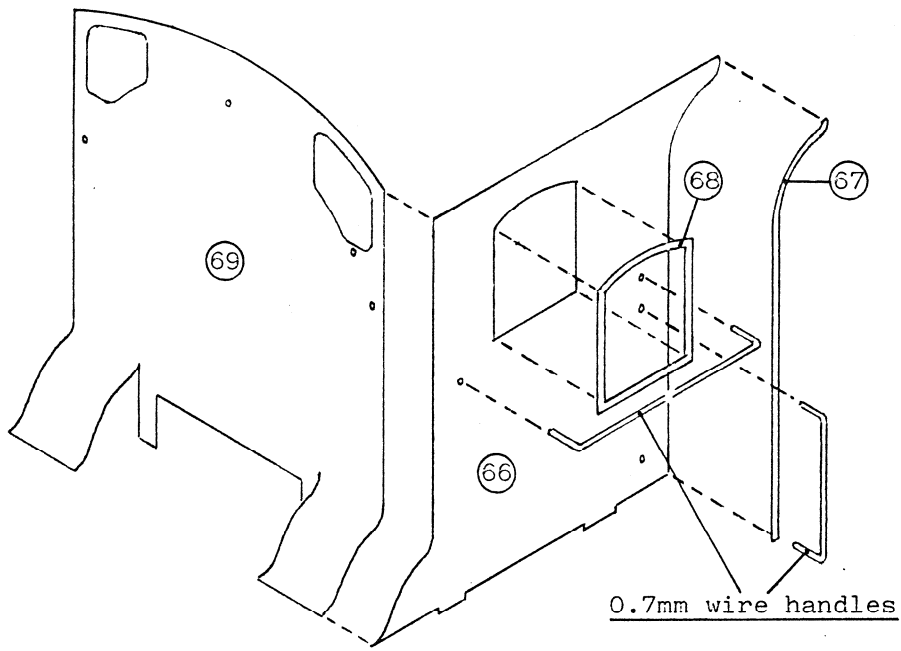
79. Washout Plugs. Curve very slightly and fit over half etched circles.

80. Boiler Bands. Fit into half etched grooves in boiler. I marked the position of the dome and fitted this one from one side of the dome to the other, this avoids cutting later or grooving the dome.

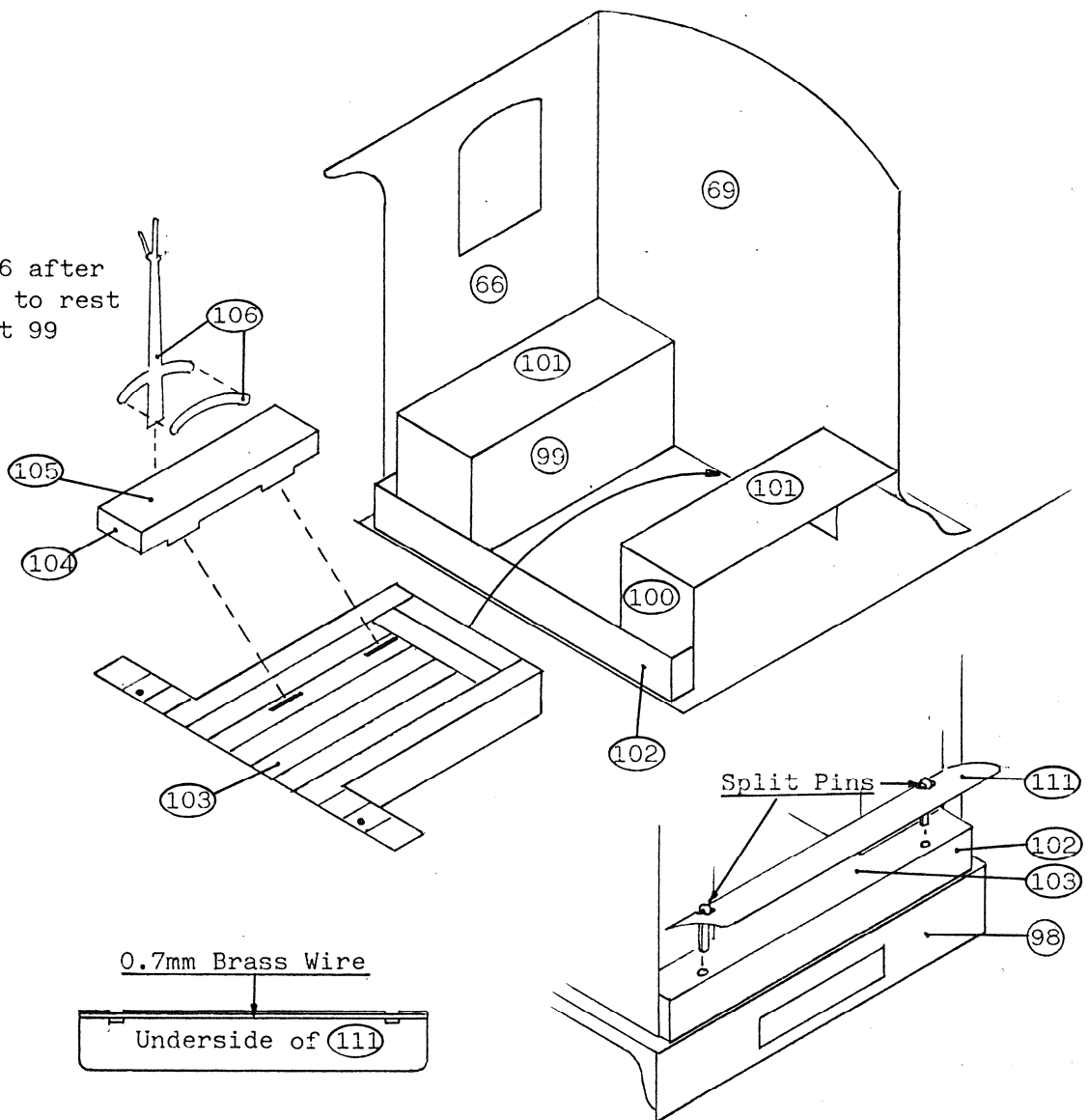
81. Front Boiler Band. Fit around the boiler right up to the smokebox.

82. Rear Boiler Band. This is half etched and fits up to the cab front.

Now you can consider the splashers.



Fit 106 after
104/5, to rest
against 99

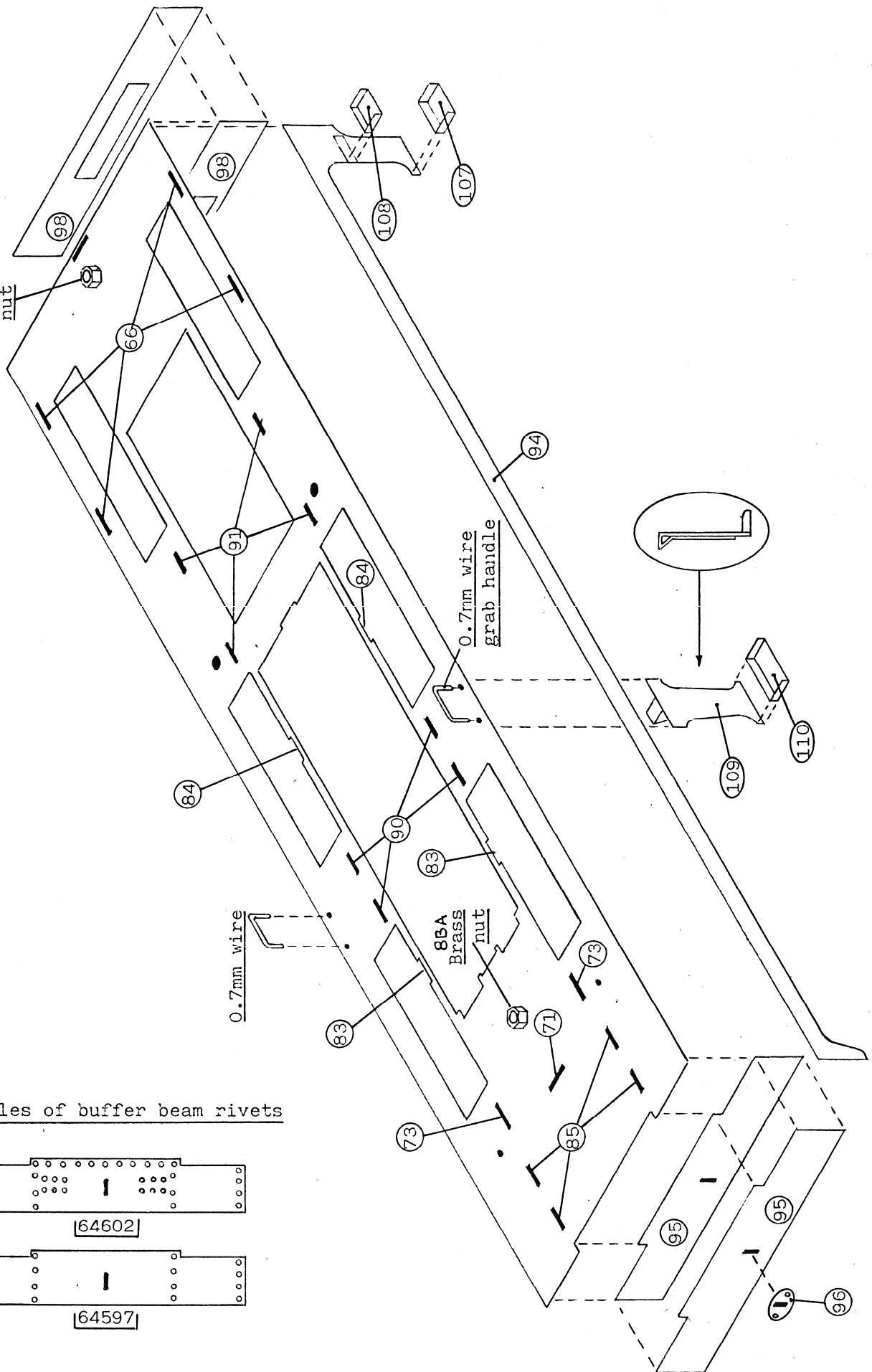
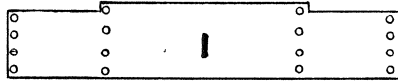
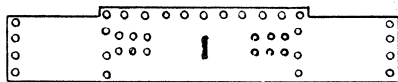


J37 Body Assembly Cont'd.

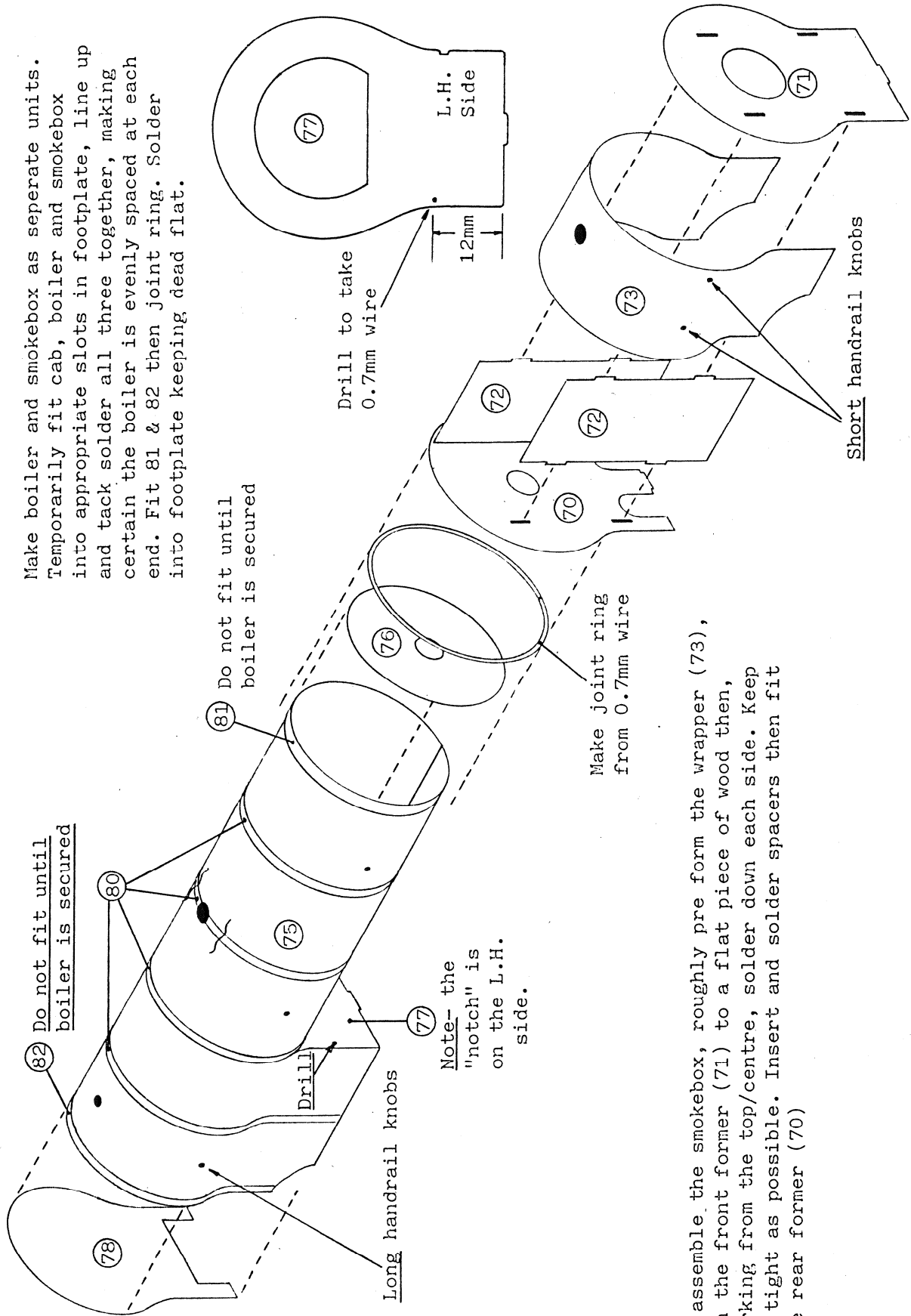
83. Smokebox Inside Splasher. Fit into slots immediately behind the smokebox. Make sure they do not stand proud of the wheel space.
84. Centre Inside Splasher. Fit into centre slots.
85. Frame Extensions. Fit into the two slots at the front of the plate.
86. Front Splasher Side.
87. Front Splasher Top. Shape to the half etching and solder to 86. They can then be positioned behind the wingplate (74), up to the smokebox.
88. Centre Splasher Sides.
89. Centre Splasher Tops. Shape and solder over 88. See the "wings" do not hold the splasher off the plate.
90. Centre Frame Tops. Secure into slots between the two front splashers.
91. Rear Frame Tops. Solder into slots between centre and rear splashers.
92. Lever Reverse Bracket. Will be found in the N/S chassis etch.
93. Reversing Lever. Join to 92 using a small length of wire. Make the bracket (92) at right angle to the longer section of the lever. Push the lever end into the slot in the firebox front (77) and fix the bracket behind the centre frame top (90), just about level with rear tab/slot.
94. Valances. Solder under footplate in half etched slot. Make certain the footplate ends are evenly spaced.
95. Front Buffer Beam (2 parts). Check your rivets! Push out those you require then solder the half etched beam behind. Secure under the plate, into the centre cut away section and up to the valance ends.
96. Coupling Plate. Best soldered to 95 after rivetting (sorry).
97. Cylinder Door. Curve to shape noting the half etched lines are in reverse, this time. If you want the hinges to look more realistic, cut two lengths of 0.7mm wire, no more than 2mm long and solder in the half etched slot between the "screw heads". Fit between the frame extensions (85), onto the top edge of the buffer beam extension and up into the gap at the base of the wingplate (74). Note also that the front end should run parallel to the footplate.
98. Rear Beam (2 parts). Push out ALL the rivets from the back, solder the two together and fit under the rear end of the footplate, up to the ends of the valances. The wider edge at the cut out to the top.
- You can now start work in the cab.
99. Left Hand Cab Splasher(Box). Bend to right angle at line.
100. Right Hand Cab Splasher (Box). Bend to right angle at line.
101. Splasher Lids. Solder one each to 99 & 100. Secure both into cab, right up to the front plate.
102. Floor Joist. Bend both ends to right angles and fit between cab sides and into rear slot.
103. Cab Floor. Bend sides down and fit between the boxes in the cab and onto the joist (102).
104. Low Box. Bend the ends to right angles.
105. Low Box Lid. Solder to 104. Fit completed box into cab, up to the L.H. box, in the slot in the floor.
106. Lever Reverse (2 parts). Solder the guide onto the main lever then the whole to the L.H. box, on top of the low box (105), about 8mm in.
107. Cab Bottom Steps. Fold up and solder to base of step back.
108. Cab Middle Steps. Fold up and solder to marks.
109. Front Steps. Fold to lines (see inset) to form supports.
110. Front Steps. Fold up and solder to 109.
111. Fall Plate. Better explained in a sketch so see later page.
112. Inside Roof. Form curve.
113. Outside Roof. These usually come pre curved but, being half etched, it tends to distort in the rollers so is best done (carefully) by hand. The side edges need to be bent slightly upward, this can be achieved by placing two pieces of angle in the vice and gripping the edge between and pushing the roof using a steel rule. Remember, it is only slight. Now solder 112 into this leaving a 1/2mm gap at the front edge and even at the sides. The large manhole will help to position, the smaller holes

8BA
Brass
nut

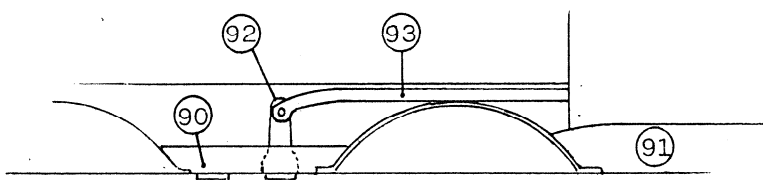
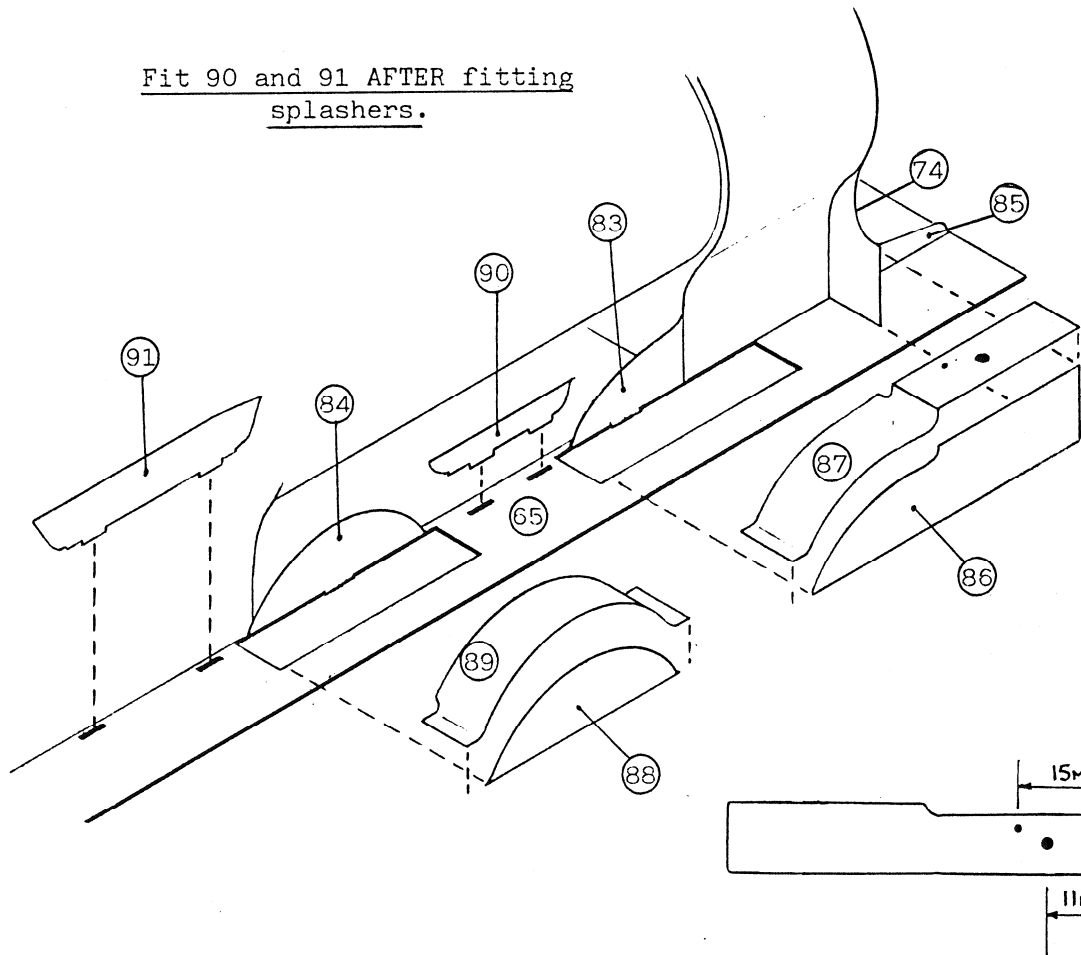
Samples of buffer beam rivets



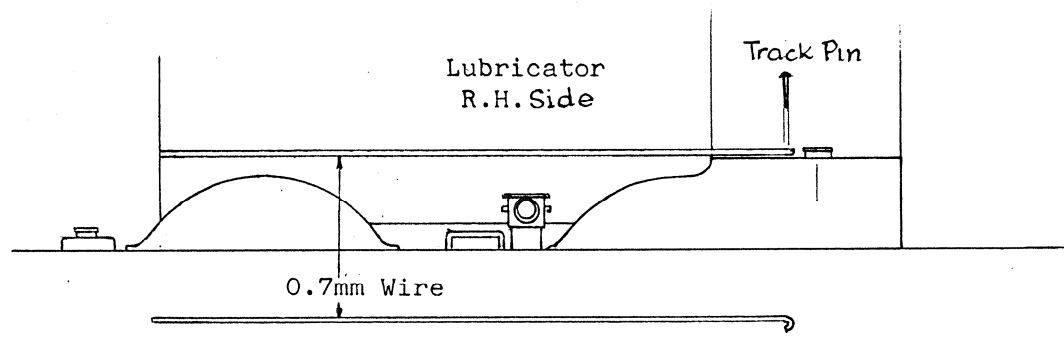
Make boiler and smokebox as separate units. Temporarily fit cab, boiler and smokebox into appropriate slots in footplate, line up and tack solder all three together, making certain the boiler is evenly spaced at each end. Fit 81 & 82 then joint ring. Solder into footplate keeping dead flat.



Fit 90 and 91 AFTER fitting splashers.



Level reversing lever bracket (92) with rear tab on 90 on L.H. side.



J37 Body Assembly Cont'd.

113. Roof (cont'd.). are simply an aid to soldering.

114. Front & Back Edging Strips. Fit to roof, front and rear, the lower edges level.

115. Side Edging Strips. Fit to side edges of roof to join 114.

116. Roof Stays. These fit to the roof underside, one in the half etched line, the second to the outer (rear) edge of 112.

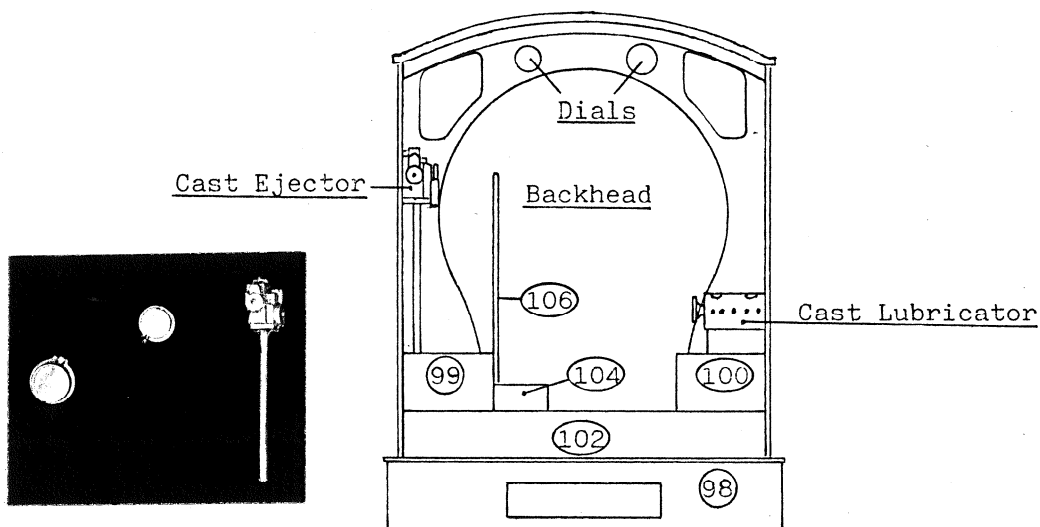
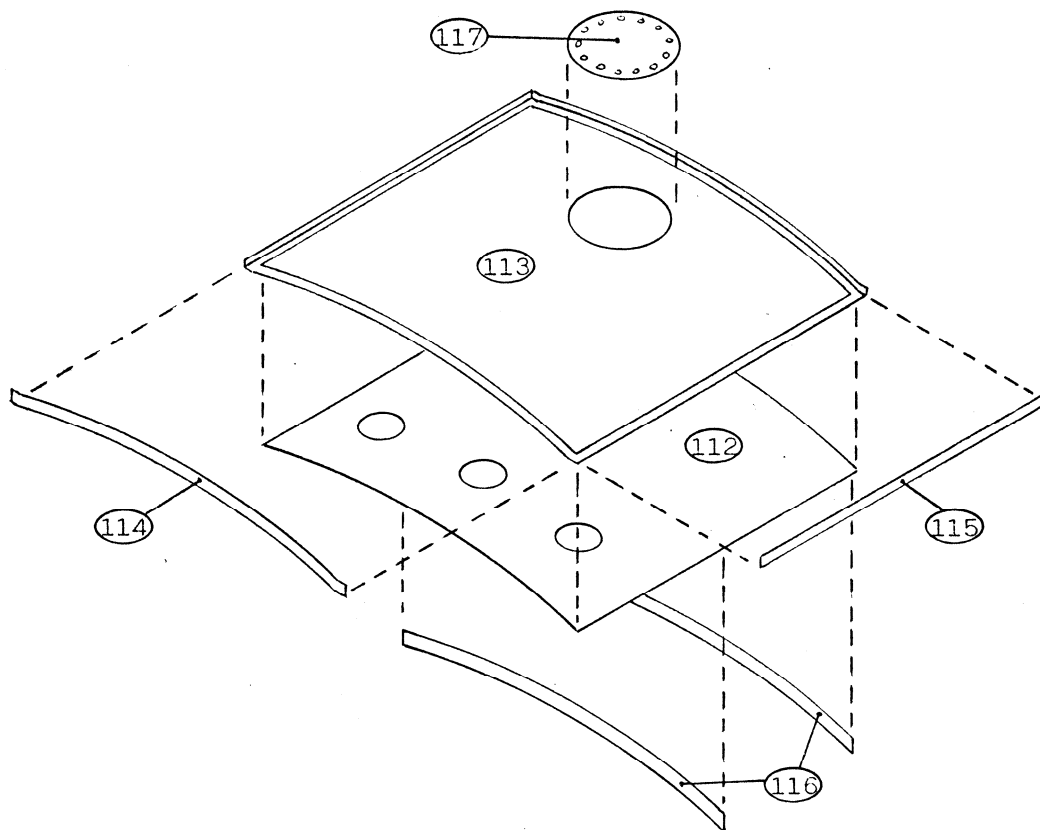
117. Manhole Cover. (This is not really a manhole but somewhere to allow the lifting chains access). Solder over the large roof hole.

118. Small Lamp Bracket. One to fit on raised section of front beam.

119. Normal Lamp Brackets. Fit three or five, as required, the others can be used on the tender back.

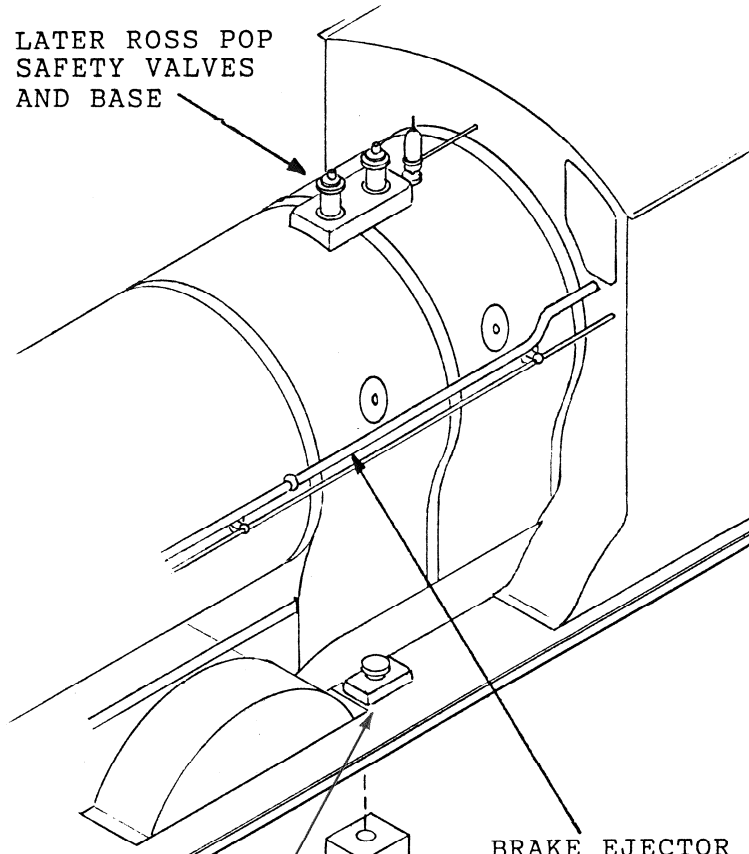
120. Smokebox Door Lamp Bracket.

121. Loco and Tender Coupling. Probably better used at its widest.



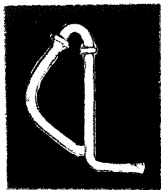
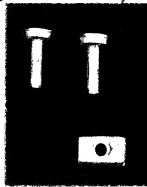


LATER ROSS POP
SAFETY VALVES
AND BASE

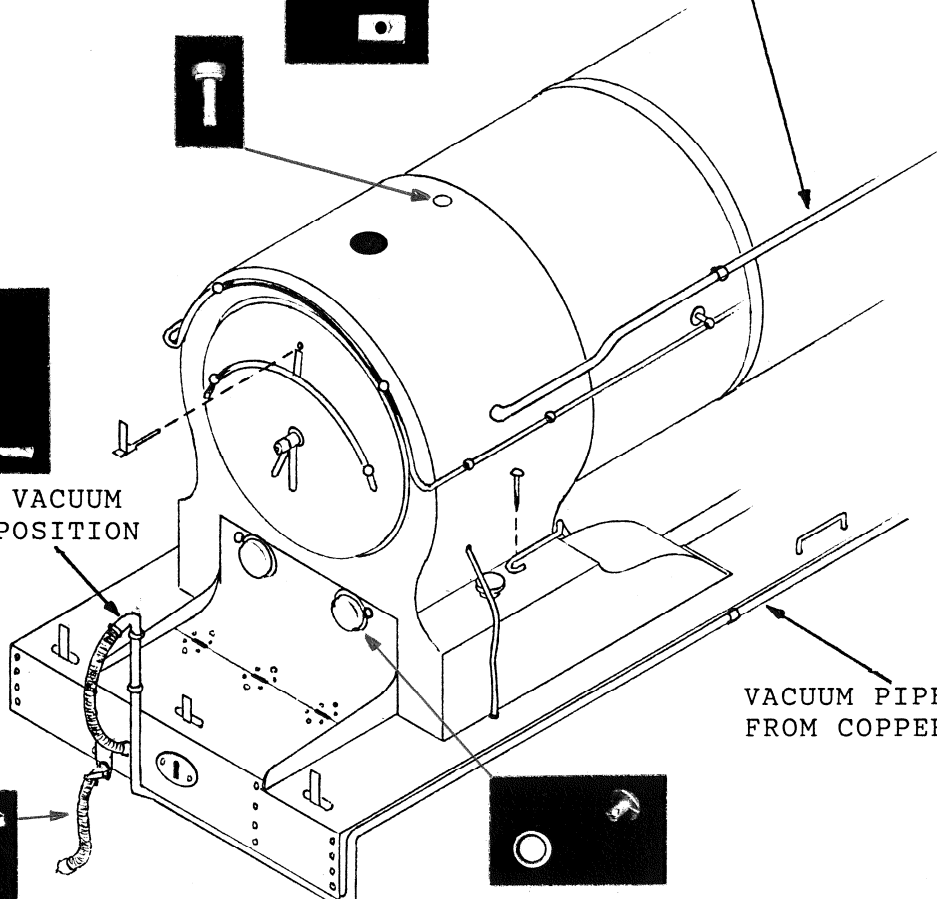


VACUUM PIPE

BRAKE EJECTOR PIPE
MADE FROM COPPER ROD



LATER VACUUM
PIPE POSITION



VACUUM PIPE MADE
FROM COPPER ROD

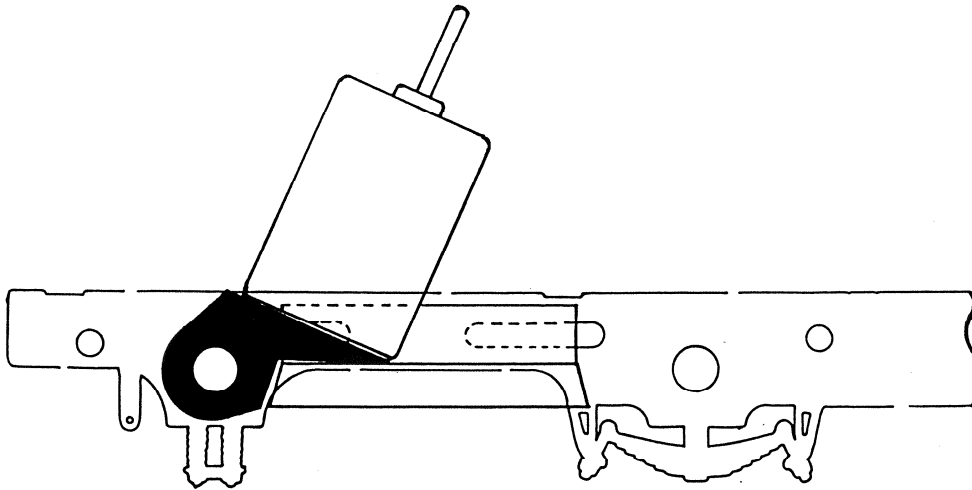


Supplementary Instructions

The main instructions were produced by George Dawson. When I built a sample J37 I did some things a little different to George and I also found some details not fully covered. I suggest you use these supplementary notes in conjunction with the main instructions.

LNER J37 LOCO ASSEMBLY CHASSIS

(35,36,37,38) I opened out the bearing holes in the frames with a tapered reamer. Then I fitted the ashpans, guard Irons and balance weight brackets. I then assembled the chassis using stretchers, parts 40, 43, 44, 45 and 46. I then opened out the bearing holes in the motor mounting bracket and folded up the two sides. Soldering the two spacing/reinforcing pieces to the outside faces of these sides. I temporarily fitted the motor onto the mounting bracket and then fitted it between the frames. Fixing into position by fitting two bearings loose into the holes. The clearances for the motor in the body are very tight so I think that its a good idea to build a bit of the body to check clearances before soldering the motor mounting bracket solid.



BODY

(65,94,95,98) I fitted the rear buffer beam to the footplate then the valances and the front buffer beam. I then offered the footplate to the chassis. I found that I needed to trim about 1mm from the front of the chassis and also enlarge the slots that the top parts of the cylinder stretcher go through (have you spotted that parts 44 & 45 are numbered incorrectly). I then soldered 8BA nuts to the top of the footplate and slotted out the corresponding holes in the chassis stretchers to make fixing easier. A block of wood, cut to fit between valances and buffer beams, will be helpful when working on the body. I also found that the cab footstep backing pieces were a little bit vulnerable to bending. So I soldered a short length of 0.9mm wire to the backs to reinforce them.

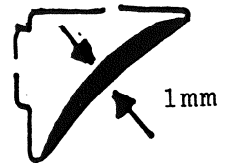
(66,67,68,69) I detailed up the cab sides and formed up the splasher tops on the cab front. I then tack soldered the cab sides to the footplate and then the cab front between them. I checked that everything was square and that I was happy with the fit of the splasher tops. I then soldered everything up solid, running solder up the outside of the corner between the cab side and front, then blending in with a file to give a sharp corner.

I then offered up the chassis to check the motor clearance. Fold up the cab floor (part 103) and place in position to also check motor clearance. You may also wish to check part 78 and the cast backhead against the motor for clearance. We can now go back to chassis assembly.

CHASSIS

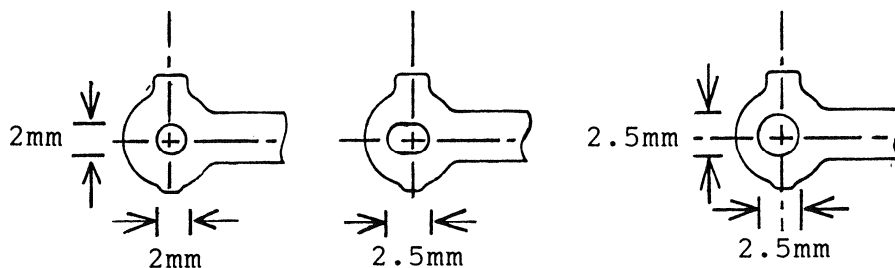
Once I was happy with the clearances I removed the motor and soldered the mounting bracket between the frames. I feel that this should be as solid as possible to prevent any flexing of the bracket when the gear set is under load. Solder the bracket at every joint you can. There are two etched strips with the bracket that are useful to reinforce the joint between the top of the bracket and the frames. Pack out (or slide out on an axle) the bearings before soldering in place. You don't want a lot of side play on the motor axle or the gear wheel will be difficult to keep in mesh.

I then continued with the chassis construction following the main instructions. I found that part 54 fouled the coupling rods and so reprofiled it slightly before fitting. I found that it was a good idea to drill a countersink hole for the head of the crankpin screw into the back of the Slaters wheels. I glued the crankpin screws into the wheels using a good quality super glue. I then fitted the wheels but left the brakegear until the body construction is completed.



Now make up the coupling rods. There is a problem with the front rods. The crankpin hole centres are shorter than the wheel bearing centres (about $\frac{1}{3}$ mm). This is not much but needs correcting or the wheels will keep binding. Remove a section of rod from the fret and offer it up to the wheel centres and you will see what I mean. Its quiet easy to correct this problem as the crankpin holes are undersize and designed to be opened up with a tapered reamer or broach to suit the crankpin bush.

Solder together the three sections of the front coupling rods and fit the oil boxes (parts 63). Then run a 2mm drill through the crankpin hole to clear out the solder. Then using a small round swiss file, file the holes oval towards the ends of the rod until the hole is 2.5mm wide. Then using a tapered reamer, open up the hole, to fit the crankpin bush. In this way you should end up with round holes but the centres will have moved outwards slightly. Hopefully the rods will then fit perfectly but if you still find a slight binding of the wheels, slightly file oval the crankpin holes to lengthen the hole centres until the binding disappears. Do this gently as you should not need to remove much metal. Now that we have got a basic push along chassis I think that its best to complete the body construction. Use the chassis at regular intervals to check clearances as the body construction progresses.



BODY CONSTRUCTION

(75-78) I assembled the boiler first. I used a small pencil gas torch (the sort that run off cigarette lighter gas) to anneal the firebox side before forming the reverse curve. I fitted the firebox front (part 77) first (use the etched centre line marks to help with its position). Then I fitted the boiler front (part 76) tack soldering the boiler overlap joint and then fitted the firebox rear (part 78) again using the etched centre marks to help.

(71-73) I assembled the smoke box and then mounted the footplate onto the chassis. I offered the smokebox into place and found that I had to file a little clearance onto the smokebox for the wheels and also for the valve rod castings.

(79-82 & 74) I found that it was easier to fit the boiler bands (parts 80 & 81) and the washout plugs (parts 79) with the boiler away from the footplate. I then offered the boiler and smokebox to the footplate. A drill shank passed through the hole in the rear of the smokebox and into the boiler front former will help to line everything up. Check that you are happy with the way everything lines up and then tack solder the boiler front to the smokebox. Remove from the footplate and then solder the boiler/smokebox joint solid and fitting a ring of wire. I then soldered the boiler/smokebox assembly to the footplate. I tack soldered it in several places first, checking that the footplate had not distorted or twisted, then soldered solid. I then fitted the rear boiler band (part 82). This was very useful to hide the slight gap between the firebox and the cab front. I then fitted the wing plate (part 74) blending it into the smokebox front using solder and a file.

(83-91) I tack soldered in place the front inside splasher (part 83). I then drilled holes in the splasher tops (parts 87) 1.7mm for the sandbox filler caps, 0.7mm for the trackpin to fix the operating rod. I then formed up the splasher top to match the profile of the splasher side (part 86). I used round nosed pliers to form the top reverse curve and a 5mm drill shank to form the bottom (footplate) reverse curve. I then pined the splasher front to a flat block of wood with a drawing pin and soldered the splasher top to the side. In this way the side will act as a former for the top and you can press the top in place using the end of a file. I used 60/40 solder to reduce the risk of it coming unsoldered when fitting to the footplate. I removed it from the wood and blended in the joint with a file. I then fitted it to the footplate and blended in the front edge to the wing plate.

I made up and fitted the centre splashers (parts 84.88 & 89) in the same way. I then fitted the frame tops (parts 90 & 91).

(91,92,85 & 97) I then joined together the two parts of the reversing lever (parts 91 & 92) and fitted it. I found that this was easier than trying to fit the two parts separately.

I fitted the frame extensions (parts 84) into the footplate slots. I formed the curve in the cylinder door (part 97) around a piece of 7.5mm dia rod and then fitted this between the frame extensions. I found it useful to solder a couple of strips of waste etch onto the footplate near the smokebox front to pack up the back end of the cylinder door.

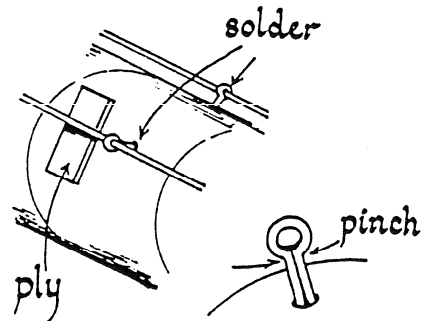
(99-106 & 111) I made up and fitted the cab interior in accordance with the main instructions. I found that it was a good idea to offer in place the two cab splasher boxes and the cab floor before soldering in place. It is a lot easier to trim a little from the cab boxes to allow the floor to fit between them. Than it is to trim the floor to fit between the boxes. I also fitted the fall plate (part 111).

(112-117) I made up the roof in accordance with the main instructions. I found it useful to try part 112 between the cab sides first, just in case a little metal needs filing from the edges. I left the edging strips (parts 114 & 115) tagged into the etch and soldered the cab roof to them. I then cut away the tags to release the strip from the etch. I found this easier than trying to solder separate strips straight and square onto the roof.

I formed up and fitted the boiler handrail. I have provided split pins to support this but you may wish to replace them with 6 long and 6 short handrail knobs. I found it useful to anneal the centre of the wire with the flame from a cigarette lighter to help form the curves around the smokebox.

I formed up and fitted the vacuum ejector pipe made from 1.5mm copper rod. I then fitted the front sandbox operating rods made from 0.7mm brass wire and pegged into the splasher top with a track pin.

I then fitted the vacuum pipe running along the L/H valance underneath the footplate. This was again made from 1.5mm copper rod.



Handrails.

(107-110 & 118-120) I then formed up and fitted the steps in accordance with the main instructions. That is about it for the etched construction of the body. I fit the lamp brackets as late as possible in construction as they are a little prone to damage. I fit the coupling into the buffer beam just before fitting the cast buffers and vacuum pipe.

I then fitted the castings. These should be fairly obvious but some require a little comment.

Early locos had a round safety valve base with lock up valves. Some later locos had a square base with ross pop valves.

Later locos had a Gresley anti-vacuum valve behind the chimney. Drill a hole mid way between the chimney flange and the back of the smokebox to mount this into.

Early locos had a vacuum pipe that went through the footplate behind the buffer beam. Later locos had a vacuum pipe mounted to the front of the buffer beam in the same way as the tender.

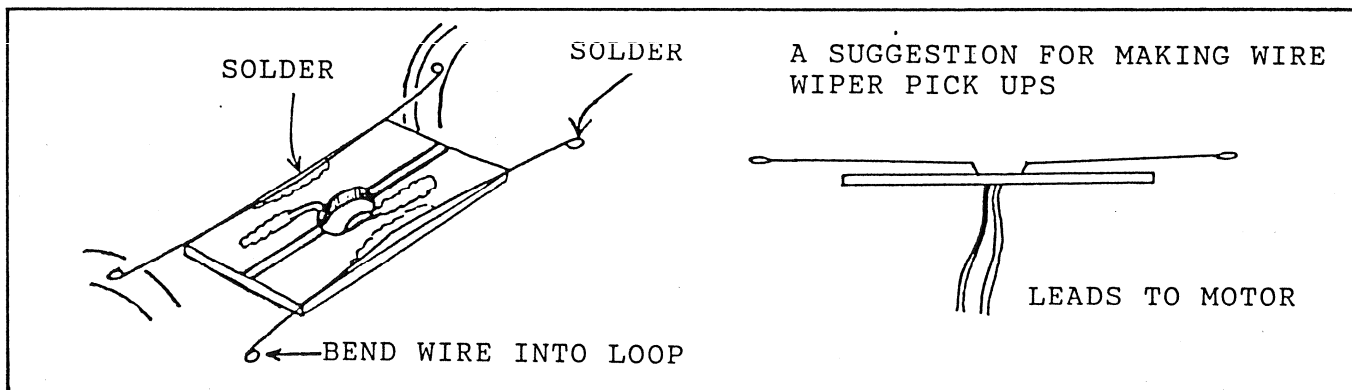
The drawing in the main instructions show the sandboxes mounted to the underside of the footplate. I found it better to mount the sandboxes onto the chassis sides.

I found it best to fit the handrail, door handle and lamp iron to the smokebox door separately. I then glued the door in place as a last job. I then completed the chassis.

chassis

(55-60) I made up and fitted the brake gear in accordance with the main instructions. I fitted the cast sandboxes to the frame sides between the centre and rear wheels. Then I fitted the sandpipe made from 0.9mm brass wire. The front sandpipes were meant to run from a hole in the footplate and down behind the front brake hanger. As this would have made splitting the body and chassis difficult. I bent the top of the sandpipe 90° and terminated it in a hole drilled at the top of the frames. Now strip down and paint the chassis.

I have provided parts for a wire wiper pickup system but you may prefer to use plunger pickups.



If you are using Slaters plunger pickups you will find the holes slightly to large. I fitted the plungers by securing in place with a spot of supper glue, using a wheel on an axle to check that the position was correct (watch out for the V shaped piece of plastic on the back of the metal wheel rim), then securing properly with a blob of Araldite on the inside of the plunger.

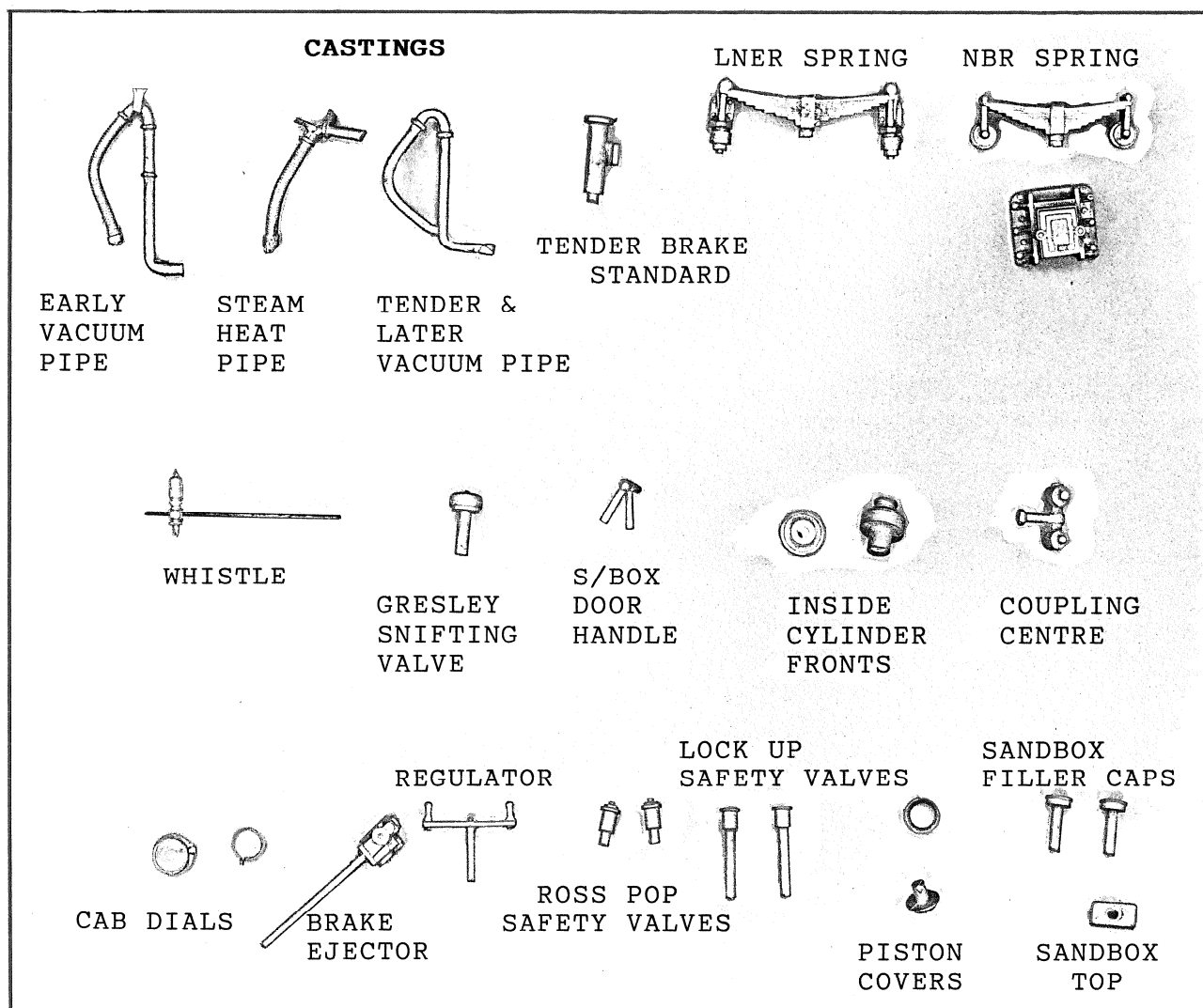
(64) I fitted the balance weights to the wheels with supper glue. I then reassembled the chassis, fitting the gear wheel to the back axle, then checked that the chassis ran without binding.

I then secured the worm gear onto the motor shaft. I pushed the worm part way onto the shaft. I then pick up some supper glue on a piece of wire and coat the inside of the worm. Then I push the worm up the shaft until the end is flush with the end of the shaft.

I then fitted the motor into the mounting plate and wired up the pickups (note holes in frame spacers for wires to run through). Hopefully the chassis will now run sweetly. There is a little adjustment in the motor mounting screw holes to help get the best mesh of the gears. A little experimentation will soon achieve this.

(121) I found that the two holes in the loco/tender coupling bar were either to short or to long. So I bent a set in the bar that reduced its length by about 2mm. I found that this was about right for my layout but this may depend on the curves on your layout.

The rear chassis fixing screw will need cutting down to about 2/3 of its length.





Page 26, Digital scan of page from original J37 paper instructions, created January 2019.