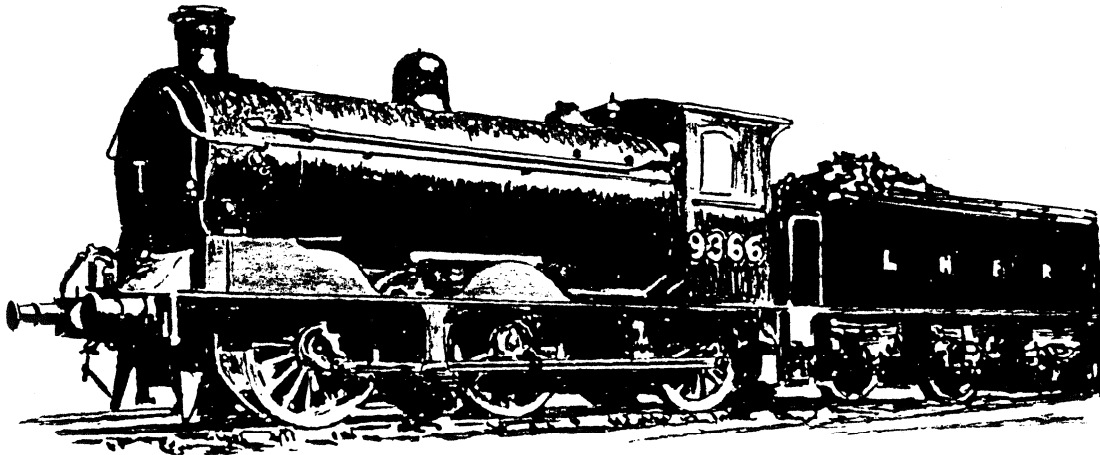


## CONNOISSEUR MODELS

# Claymore Kits

## LNER Class J35, North British Railway Class B



### NORTH BRITISH RAILWAY CLASS B

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 J35's built by his customers. I have built a J83 and J37 from the range (J37 tender is also used in this kit) 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

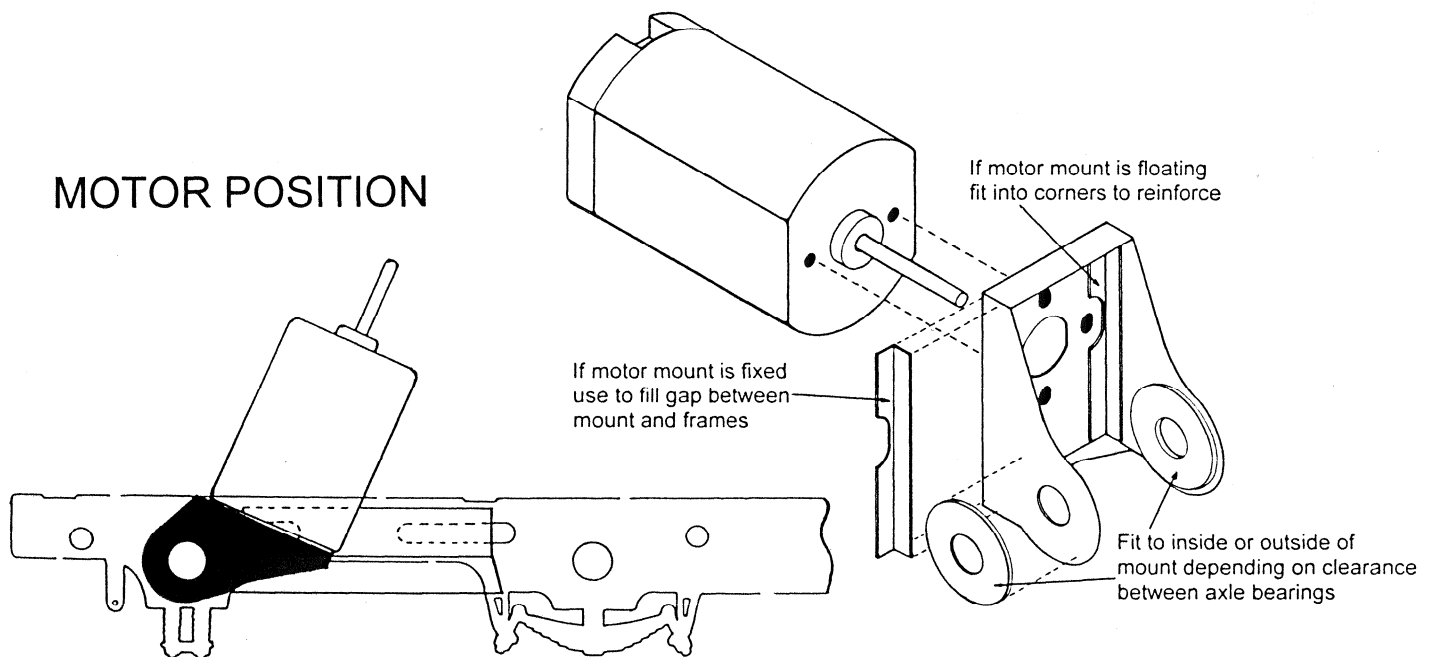
3 Sets 5'0", 16 Spoke Driving Wheels (Slater's Catalogue Numbers 7860CR)  
3 Sets 4'0", 12 Spoke Tender Wheels (Slater's Catalogue Numbers 7848)  
Plunger Pickups if desired (Slater's Catalogue Number 7157)  
Available From Slater's Plastikard, Old Road, Darley Dale, Matlock  
Derbyshire, DE4 2ER, Telephone 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**

# 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.

## NBR CLASS"B", LNER CLASS J35 - REID 5ft. ENGINES.

A short history. It was decided, in 1905, that the NBR required some more powerful engines and Mr. Reid was asked to produce these and the J35 was one of three new classes introduced in 1906. The "B" classification refers to the power of the engine and not, like the LNER, the wheel arrangement.

In all, 76 of these engines were produced between 1906 and 1913, 36 of which were built at Cowlairs and the other 40 divided between the NBL works at Atlas, Queen's Park and Hyde Park. The 1906 engines had piston valves beneath their cylinders but, in 1908/9, a further 12 were built, six with piston valves as before whilst the remainder had slide valves between the cylinders. The piston valve engines became J35/1 & J35/2, the slide valve engines J35/3.

After grouping, in 1923, the LNER started to fit superheaters but, with NB boilers being so well built and long lived, this was not completed until 1942. The piston engines (J35/1& J35/2) then became J35/5, the slide valve engines J35/4.

Also with superheating, the lubricating arrangement was altered, a Wakefield mechanical lubricator being fitted in the cab; this was driven off the right hand trailing crank pin.

Throughout their lives two chimneys were available. In general terms NBL engines had tapered chimneys with a shallow cap whilst those from Cowlairs were slightly less shapely with a deeper cap. Domes also varied, some were tall and narrow and others tall but broader, after superheating they were again changed, this time to a broad, squat version.

Of those built at Cowlairs, the last 22 had steam brakes, which were never changed. The remaining 54 engines were Westinghouse fitted and 5 only (9373/8, 9853/5/7) remained unchanged. In 1926-28 a number were dual fitted, being altered to steam and vacuum.

Withdrawal began in 1946 but only six engines, Nos. 4465/7/9/81, 4503/8, did not make it to British Railways, the remaining 70 were all renumbered into the 60000 series.

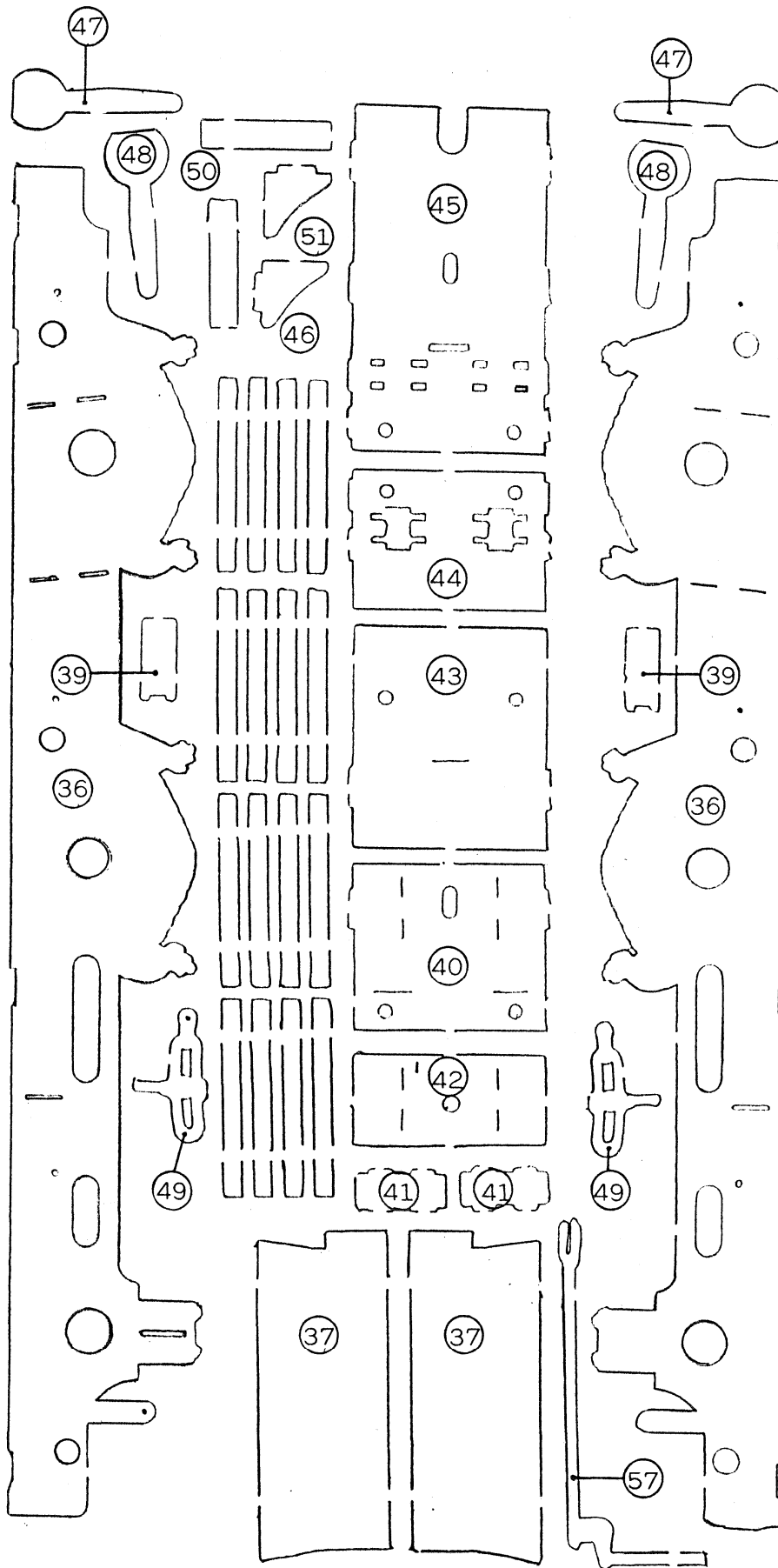
For much more detail I recommend you refer to "Locomotives of the LNER" part 5, RCTS and combine this with as many photographs as you can muster. A lot of information can also be gleaned from the NBR Study Group, a membership form for which should be with this kit.

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

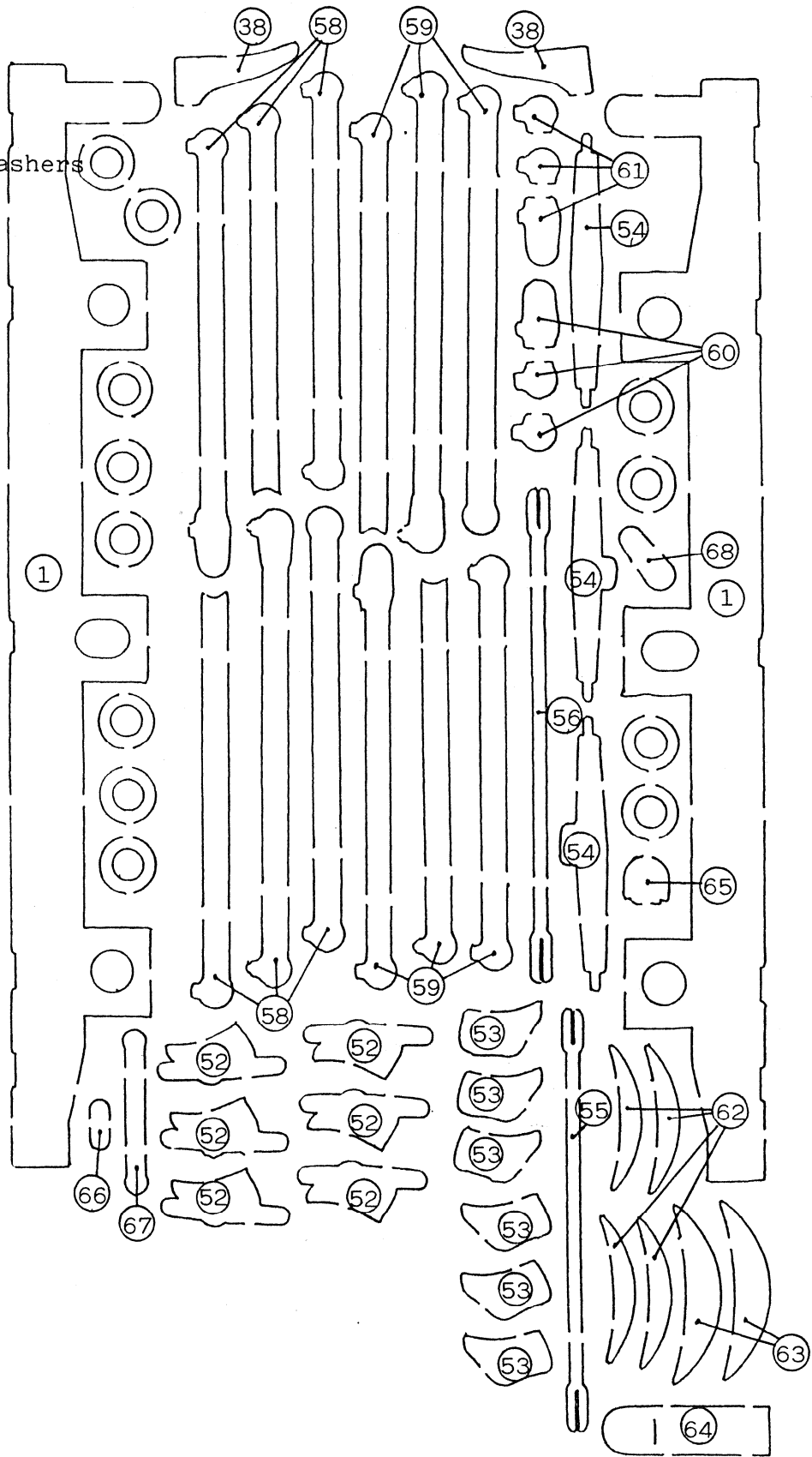
You may find the overlap, at the base of the boiler, something of a pain (I freely admit, I do) but, if you check it against the front, circular former, you may find it can be trimmed off and a "butt" joint can be used but PLEASE make sure before reaching for the tin snips.

While considering the boiler, I know it isn't easy to turn the firebox out against the roll but I haven't yet come up with another idea, a separate firebox would need to be so accurate it could work against the whole thing. However, I have listened to other kit manufacturers and produced this kit in 15 thou brass as opposed to 18 thou., I have tried it and decided to do all future kits in this weight.

I hope you enjoy the kit, any problems - please ring. ALL DRAWINGS IN THESE INSTRUCTIONS ARE ISOMETRIC SO ARE NOT TO SCALE.



Spacing Washers



## ML 18. NBR CLASS "B". LNER CLASS J35/3

### BEFORE COMMENCING ASSEMBLY, PLEASE NOTE: -

It is essential you decide whether you want to build the earlier, saturated, version or the later superheated engine. As mentioned previously, the LNER started superheating in 1923 but this process was not completed until 1942 so make sure your particular prototype was one or the other during your own modelling period. Although we are starting with the chassis, I will point out now what you should look for in the body etchings, whilst I'm thinking about it and so you will know when you come to it. First, look at the reverse side of the boiler and you will find a broken line running the width of the front end, if you want a superheated engine the boiler needs cutting back to here, I know it will be awkward because of pre rolling and I apologise but there is no other way. The appropriate smokebox wrapper is marked "super" as are the sandbox / splashier sides and tops. More important is the running plate; towards the front end, between the solid and the steps, is a narrow strip with a notch in the centre/back, if it is a superheated version you require LEAVE THIS STRIP IN, the tab on the rear smokebox former will fall in the notch. When you get to these sections, please remember the above.

### CHASSIS ASSEMBLY.

36. Main Frames. Remove from etch and clean.

37. Ashpan Sides. Push out the rivets from the back. 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 in position behind the corresponding holes in the frames.

38. Guard Irons. Solder behind the frames at the front end.

39. Balance Weight Brackets. Bend to shape and solder behind the frames at the half etched rectangle

40. Rear Stretcher. Bend to right angle.

41. Rear Spacers. Solder into the slots in 40.

42. Rear Base Stretcher. Solder over the other tabs in 41. Solder the whole into the slots in the top of the frames. Do this on a dead flat surface to keep the frames level.

43. Firebox Stretcher. Bend to right angle. Still on the flat surface, secure between the frames.

44. Motion Bracket. Bend the top edge to right angle. Solder one side between the frames to hold in place. You will see the slots are angled.

45. Front Stretcher / Motion Plate. Bend at the line but this time it is more acute to suit the frame slots. Secure between the frames then solder second side of 44.

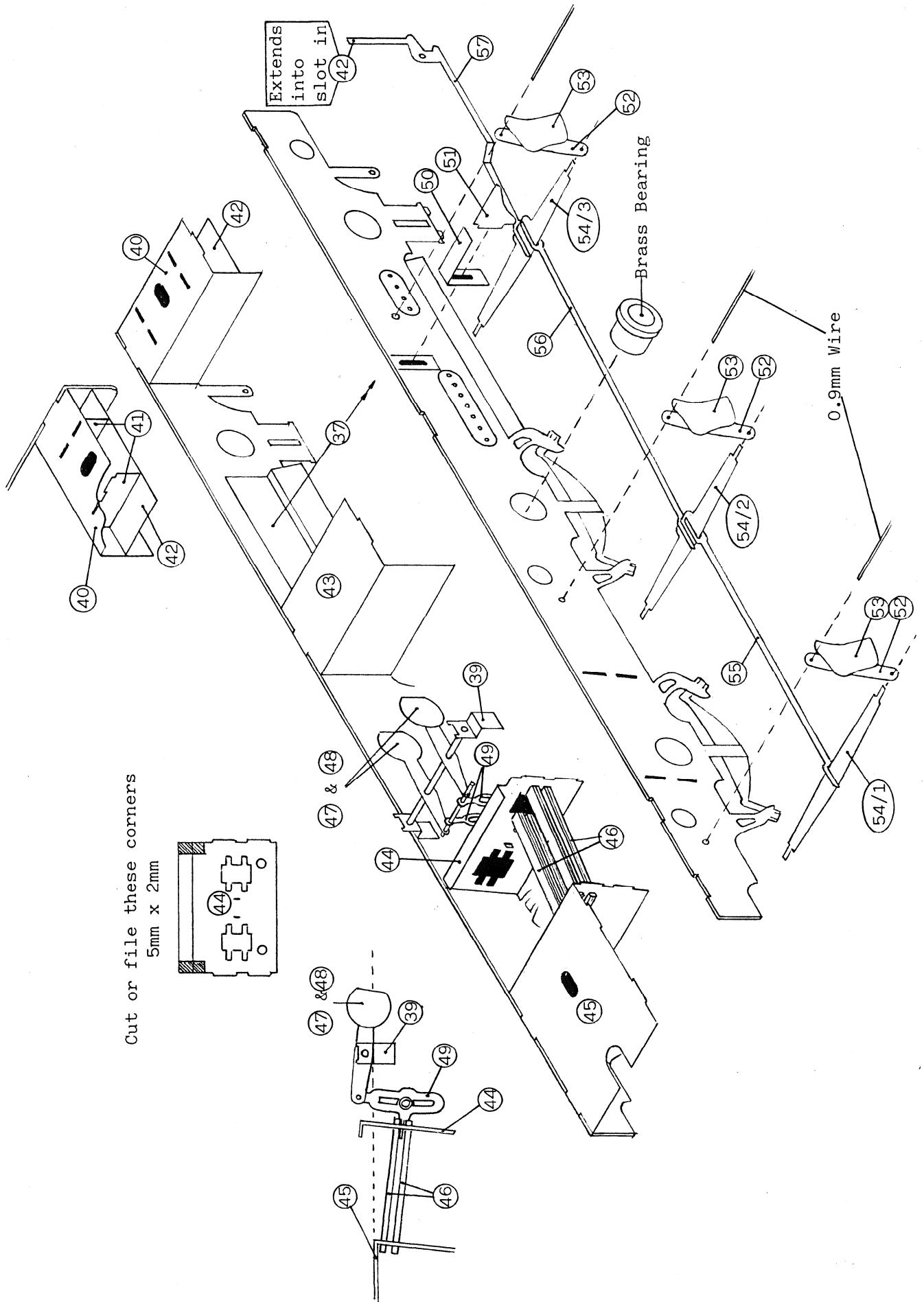
You can temporarily insert frame spacers and wheels to check for rock or twist. Do not worry if centre wheels are off track - this is deliberate. Adjust frames if required. Assuming you have tack fitted so far, if you are happy with the outcome, solder up solid.

46. Slide Bars. There are 16 of these and two of each require soldering together to make 8 slide bars. Secure into the slots in the motion bracket, 44 and motion plate, 45.

47. Outside Balance Weights.

48. Inside Balance Weights. Solder a 47 and a 48 together then do likewise with the other two. Cut a length of 1.2mm wire about 1" long, make sure it will go into the brackets, 39, open holes carefully, if necessary. Thread one end through bracket, attach the weights, 47/48, then thread other end into far bracket. Secure the wire but NOT the weights. Trim and file the ends. Now cut about 1" of 0.9mm wire and thread this through the front ends of the weights. Separate the two weights to make them 8mm apart and central on the 1.2mm wire, make sure they are parallel with each other but slightly angled to the frames (imagine a line through the middle at right angles to the motion bracket). Secure the 0.9mm wire.

49. Cross Head Carriers. Slide one onto each end of the 0.9mm wire, let them hang so they are central between each set of slide bars then secure.



CHASSIS ASSEMBLY Cont'd.

50. Footplate Bracket Back. Bend to right angle.

51. Footplate Bracket. Solder into back, 50, then solder the whole to the outside of the frames, in the slot at the half etched rectangle. Make sure it is level with the top edge.

52. Brake Hangers.

53. Brake Blocks. Solder these to the hangers, note they are left & right. Cut 3 lengths of 0.9mm wire about 1 3/4" long and thread through the frames and secure.

54. Brake Cross Beams. These are numbered 1, 2 & 3, 1 being the front and 3 the rear. You will note that the tab on three is off centre, this will need to come towards the L.H. side.

Temporarily insert bearings and wheels, with washers if necessary, this will help positioning of the hangers. Hang one pair of brakes at a time. Insert a cross beam, 54, between the hangers, into the bottom holes, making certain the brake is right up to the shoulder of the beam, this will give the correct width for securing at the wire and there should be no shorting out if you need side play on your wheels. Secure the cross beams so they are parallel to the ground, lengthways and across.

55. Front Pull Rod. Fit from the centre of the front cross beam to the left of the tab on the center beam (looking from above).

56. Centre Pull Rod. Fit as 55 but between centre and rear beams.

57. Rear Pull Rod. Bend to shape, I know this is really incorrect but it is necessary to avoid the motor. Cut a length of 0.9mm wire to go through the holes in the droppers at the rear end, thread one end then hang 57 on it, the front should be over the rear beam and the upward end should slide into the tiny slot in the rear base stretcher, 42. Thread the other end of the wire and solder. The pull rod can also be secured and will, hopefully, be well away from the forthcoming motor.

58. & 59. Coupling Rods. Laminate in two sets of three. These are better explained in a sketch so please see further on.....

60. & 61. Coupling Rod Bosses. Again, see the sketch.

62. Front & Rear Wheel Balance Weights.

63. Centre Wheel Balance Weights.

We now come to the lubricating gear. First find out if your particular prototype carried it then decide if you actually want to use it.

64. Carrying Bracket. Bend to right angle.

65. Inner Bracket. Solder into slot in 64.

66. Drop Link. This hangs loose between the two extensions of the bracket. Use 0.9mm wire and solder the wire to the bracket but NOT the drop link, this must be free swinging.

67. Lubricator Pull Rod. This must swing freely from the drop link but, once more, is better explained with a drawing so see further on.

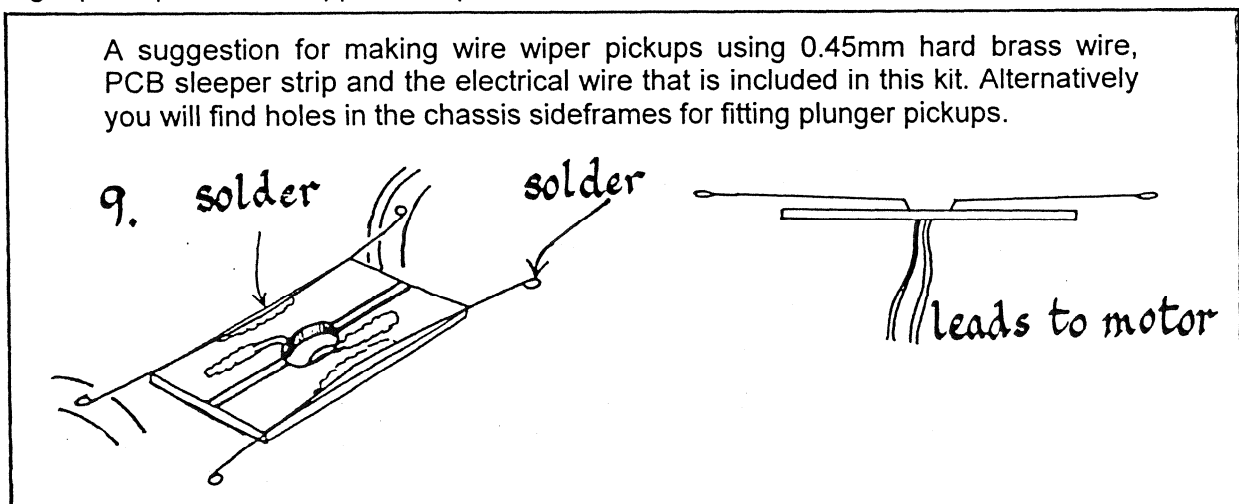
68. Return Crank. This needs to be cranked and fitted to the rear, R.H. crank pin, again see later.

Please remember, if your prototype had this type of lubricator, it was fitted to the right hand rear crank pin only. A cast lubricator is supplied and this sits on the R.H. box in the cab, immediately above the bracket.

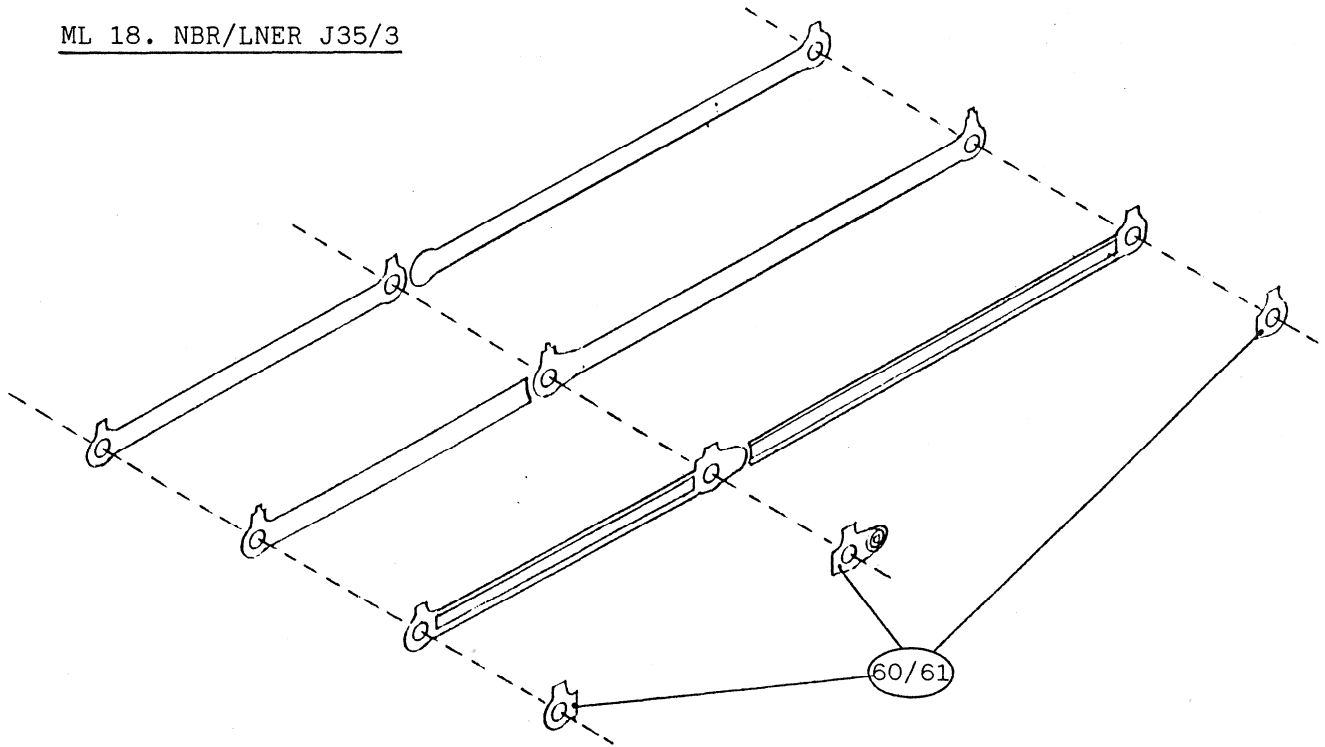
Fit the motor to the rear axle so the body extends into the firebox. You may find, on twin shafted motors, the rear shaft needs reducing, if this is the case DO NOT use a hacksaw, a cutting disc is better but you can use a sharp, triangular, Swiss file. Cut all round, DEEP ENOUGH, and it will snap off.

Obviously, it is important you do not bend the shaft.

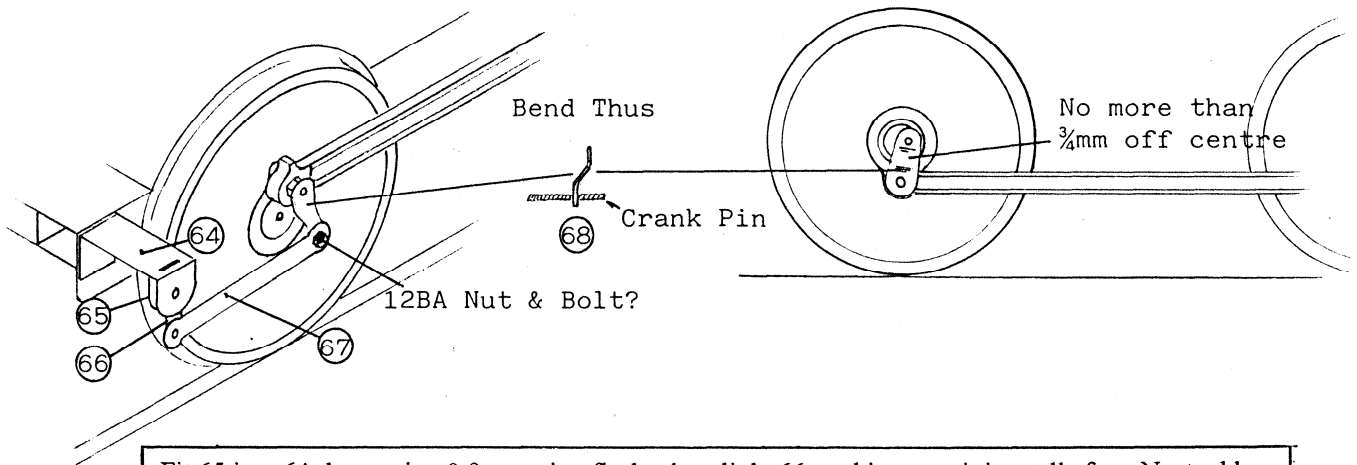
Plunger pick ups are not supplied but provision has been made for their use in the frames.



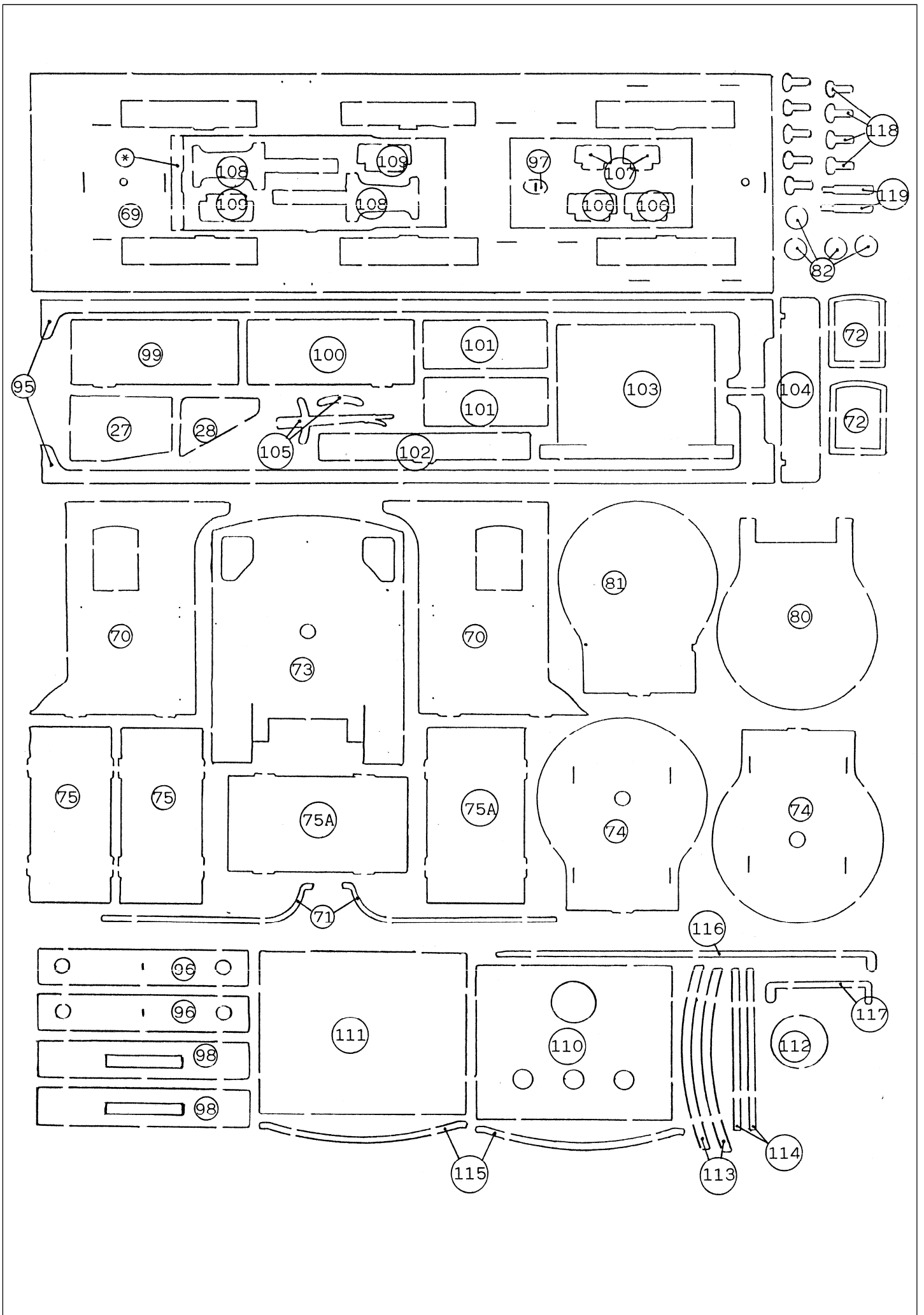


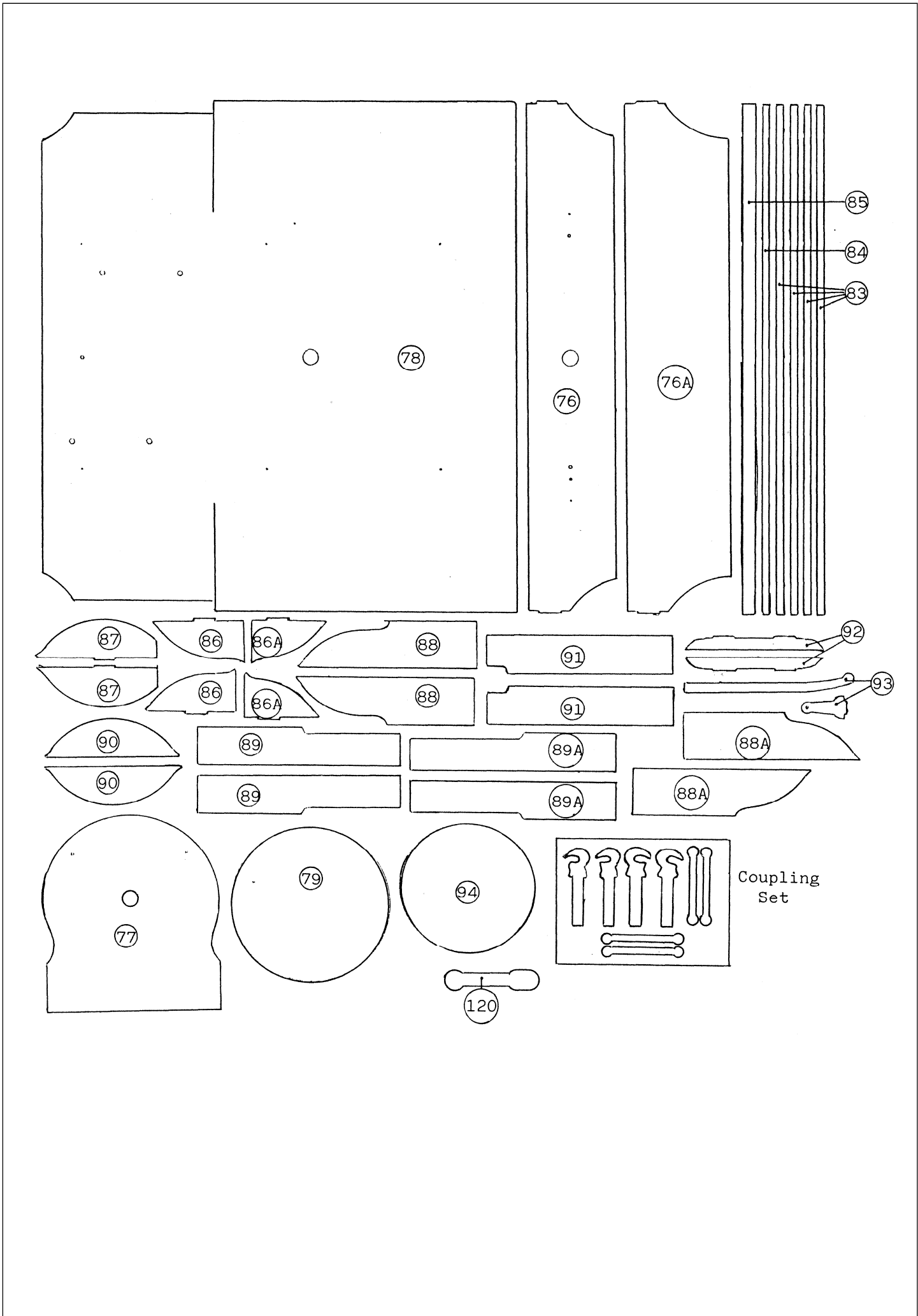


The above shows the sections used to make up the left hand coupling rod, 59. The right hand coupling rod, 58, is a mirror image. The bosses, 60 & 61, simply fit over the ends.



Fit 65 into 64 then, using 0.9mm wire, fit the drop link, 66, making sure it is totally free. Next add the pull rod, 67, again it should be free swinging. I use a brass pin for this type of join with an oiled, paper washer between rod and link, soldering the pin at the back of the link only. When you are happy freedom of movement has been achieved, solder the rear angle of the bracket to the right hand, rear/top corner of the chassis. Now turn to the return crank, 68, this must be cranked, slightly, to avoid the join at the crank pin later. If you are using Slater's wheels, I recommend the hole at the wide end be tapped 12BA to enable it to be screwed onto the crank pin, joining the rod to the return crank can be done as before but this makes it rather permanent, a better idea is to open it out (carefully) to take a 12BA or 14BA screw to take the rod, should it be necessary to take out the wheels at some later date, it will be easier to separate, see sketch.





## ML 18. NBR CLASS "B". LNER / BR CLASS J35/3

### Loco Body Assembly.

As always, this is how I put the kit together and may not be correct for you, for example, you may prefer to add valances and buffer beams to keep the footplate rigid, before commencing with the top but I do it the other way around to ensure the footplate is flat (I pin it down).

Points to watch out for: -

As stated elsewhere, the boiler will need reforming at the firebox, as this kit is now in 15thou brass you should find this easier but it can be annealed if you wish but try to anneal only the section to be reformed. Having decided whether you want the saturated or the superheated version!!! now is the time to trim the boiler, if it is the superheated you want. Open it out as little as possible and trim to the waste side of the line - it can always be filed later but you can't add on!

Have you read the section at the top of page 14? Please refer before cutting out the footplate.

And so.....

69. Footplate. Do you need reminding? Trim out the steps and keep safe.

70. Cab Sides. Remove from etch.

71. Cab Edge Strips. Solder these to into the half etched edges of the cab sides.

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

Form handrails from 0.7mm wire and fit into the holes in the cab sides, DO NOT USE handrail knobs. File the backs flat to the cab.

73. Cab Front. Carefully bend the "wings" to form the rear splasher top. Unlike the other splashers, these fit inside the ends. Solder the front between the sides keeping square. Now check it in the footplate and make sure the splasher ends do not hold it off. Do not secure yet.

74. Smokebox Formers.

75. Smokebox Spacers. (Saturated). Solder between the formers, 74. OR...

75A. Smokebox Spacers. (Superheated). Solder between the formers, 74. Make sure they are square, you do not want a parallelogram.

76. Smokebox Wrapper. (Saturated). See 76A.

76A. Smokebox Wrapper. (Superheated). Curve this, as close as possible, to fit around the formers, start at the top and work round and down. When you are happy, try it in the footplate but do not secure. If you are doing the superheated version you will now see why you should have left that strip in the footplate!

77. Wingplate. This will eventually fit up to and in front of the smokebox.

78. Boiler. Please read the notes above and elsewhere. Leave the length as is for saturated.

79. Boiler Front Former. Fit into the boiler end and keep as tight as possible. Check the overlap and page 14 again.

80. Rear Firebox Former. Fit tightly into the firebox back.

81. Front Firebox Former. This is a little awkward. It should be fitted so it is up to the rear curve of the boiler, thus filling the slots which also makes it forward of the firebox edge, this needs filling in with solder and very slightly rounded.

82. Firebox Inspection Covers. Only required on later versions. If you want earlier washout plugs, fit now, later versions will take 82 fitted over the holes.

83. Boiler Bands. These are soldered into the half etched grooves around the boiler but I suggest you temporarily insert the dome and mark at the edges, fit this band to and from these marks to leave space for the dome.

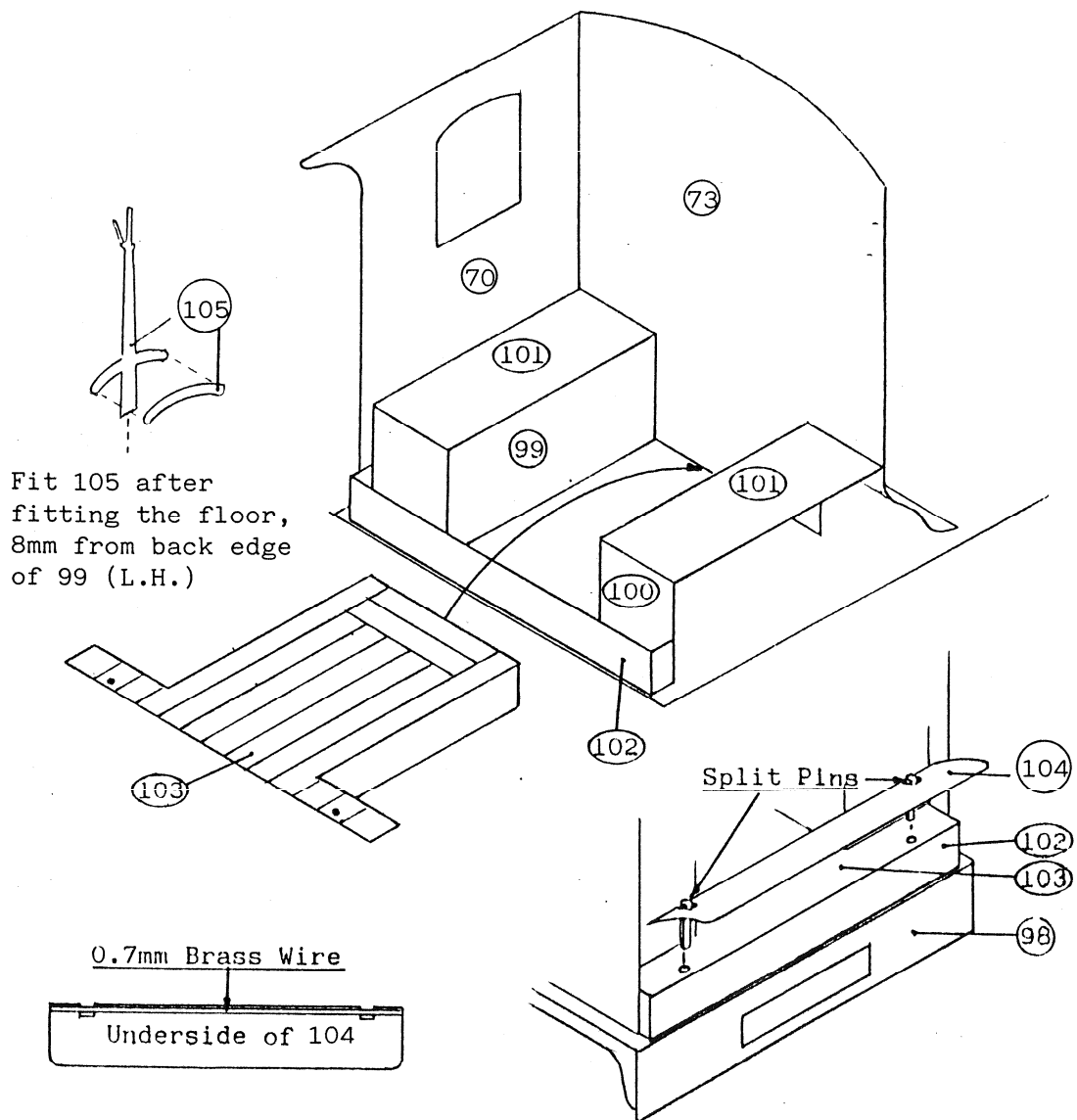
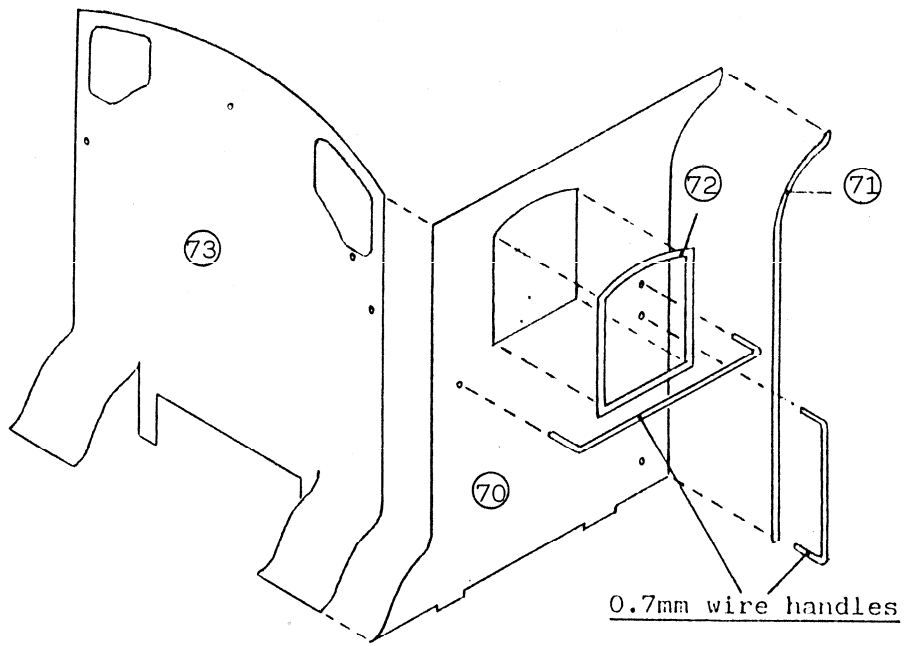
Now you can try the three sections in the footplate. If these are to your satisfaction they can be secured. Make sure they all meet where they should and the boiler is parallel to the footplate. It is also important the front end of the boiler is central to the smokebox rear.

84. Rear Boiler Band. Solder around the boiler up to the cab front.

85. Front Boiler Band. Solder around the boiler up to the smokebox.

Cut a length of 0.7mm wire long enough to go around the boiler, curve into a circle to fit over 85, up to the smokebox. The top edge may require filling with solder.

You can now consider the splashers.



### J35/3 Body Assembly Cont'd.

86. Front Inside Splasher (Sat.).

86A. Front Inside Splasher (Super.). Which ever you require fits into the notch in the footplate, immediately behind the smokebox, the front edge up to the rear former.

87. Centre Splasher. Fit into the notch in the footplate over the centre axle, the rear edge up to the firebox front former.

88. Front Splasher Side (Sat.).

88A. Front Splasher Side (Super.).

89. Front Splasher Top (Sat.).

89A. Front Splasher Top (Super.). Bend and curve 89 or 89A to fit your required sides.

90. Centre Splasher Side.

91. Centre Splasher Top. Curve to fit 90.

Secure the splashers to the footplate. It is not necessary to solder to the inside splashers. Note how each will fit around the smoke and fire boxes.

92. Frame Extensions. Fit into the two footplate slots between centre and rear splashers, up to the firebox side.

93. (2 Parts) Reversing Lever. Fit the bracket into the notch on the left hand side of the footplate, between the front and centre splashers. It may require slight cranking outward. Fit the lever into the slot formed at the L.H. front edge of the firebox. The lever can then be joined to the bracket using wire or a pin, if using a pin, file the head flat.

94. Smokebox Door Ring. This can be added now or with the door later.

95. Valances. Solder into the half etched lines under the footplate. Make sure they are square with the overhang equal at each end.

96. (2 Parts) Front Buffer Beam. Solder the two together keeping the word "TOP" showing, this way you won't forget.

97. Coupling Plate. Solder to the plain side of the buffer beam, over the slot. Now solder the beam under the front edge of the footplate, up to the valances, noting the top edge.

98. (2 Parts) Rear Buffer Beam. Solder the two together and fit at rear end. Note the wider section fits to the footplate.

99. Cab. L.H. Box. Bend to right angle at line.

100. Cab. R.H. Box. Bend to right angle at line.

101. Box Lids. Solder one to each box. Fit the boxes into the cab at their respective sides.

102. Floor Joist. Bend the ends to right angles and secure at rear edge of cab, central tab into the slot and the ends up to the boxes.

103. Floor. Bend at the lines on the reverse side. This should now slide between the boxes and sit on the joist and can be secured.

104. Fall Plate. This is best described in a sketch - see later.

105. (2 Parts) Reversing Lever. Solder the guide onto the main lever then secure the whole to the L.H. box, in the cab, approximately 7mm from the rear edge, bottom to the floor.

106. & 107. Cab Steps. Solder valance end, under cab, 106 to bottom, 107 to mark.

108. Front Steps. Fold to lines (see sketch).

109. Front Steps. Fold up and solder to 108. Fit under the footplate, behind the valance, immediately under the two holes for the grab handle. Form a grab handle from 0.7mm wire and secure into holes.

110. Inside Roof. The three smaller holes are to aid soldering. Curve to cab front plate.

111. Outside Roof. Curve to cab front plate. Solder 110 to 111, make sure it is central with the large holes level with each other.

112. Lifting Hole Cover. Curve slightly and solder over the large hole in the roof.

113. Roof Stays. Solder inside roof, one in the half etched groove, the other to the back edge of 110.

114. Roof Side Strips. Solder to roof edges, so they stand above roof.

115. Roof Front & Rear Edge Strips. Solder so they stand above roof, level with 114.

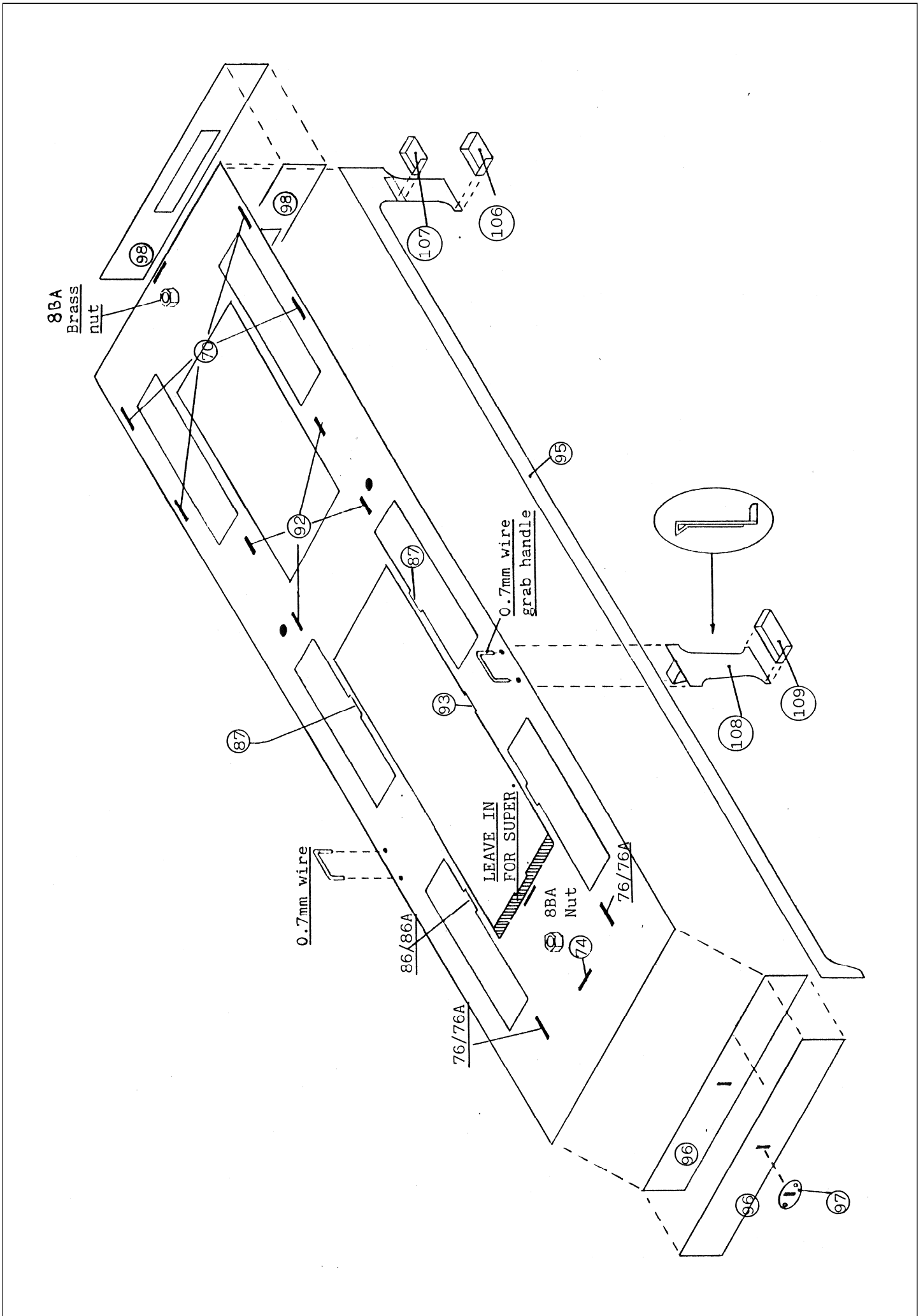
116. R.H. Sanding Rod. Bend front end out, fit rear end into the hole in the R.H. edge of the firebox then secure at the small hole in the front splasher top, using a brass pin.

117. L.H. Sanding Rod. Secure at L.H. splasher but solder rear to back of splasher.

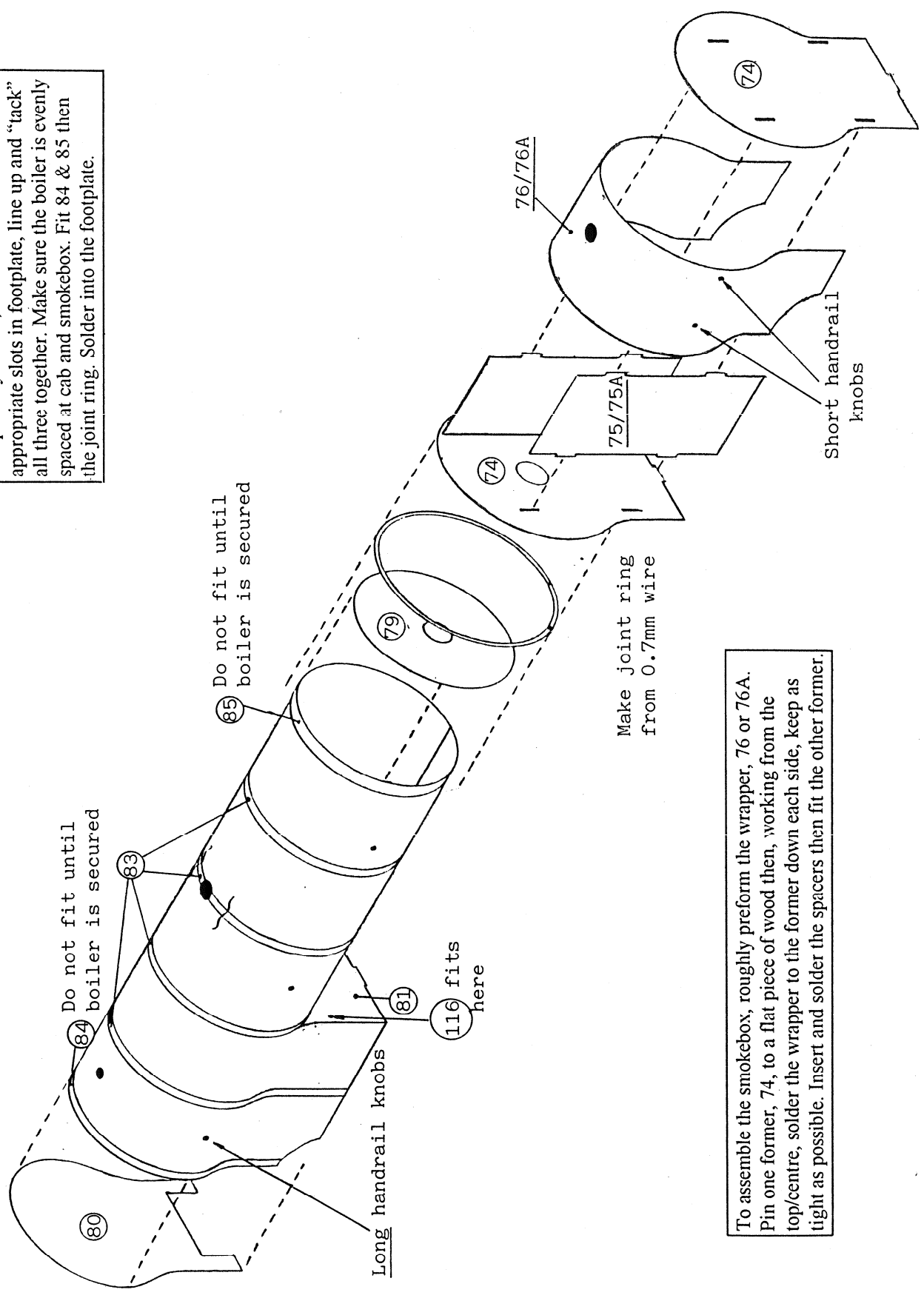
118. Lamp Brackets.

119. Lamp Brackets.

120. Draw Bar.

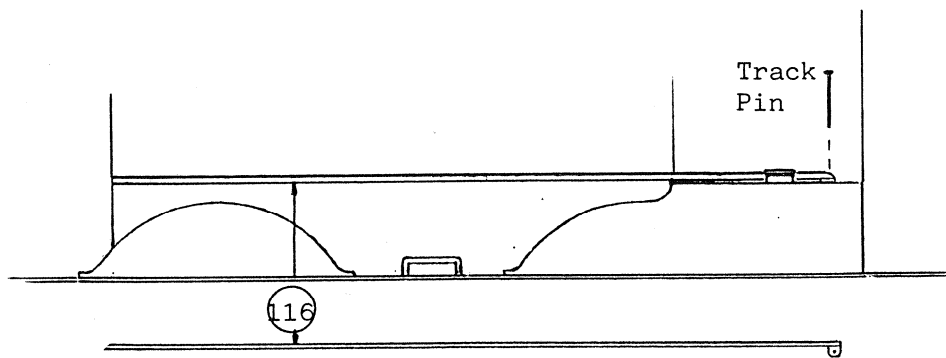
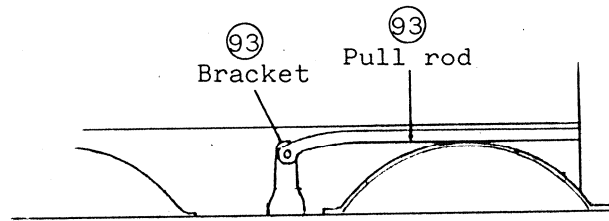
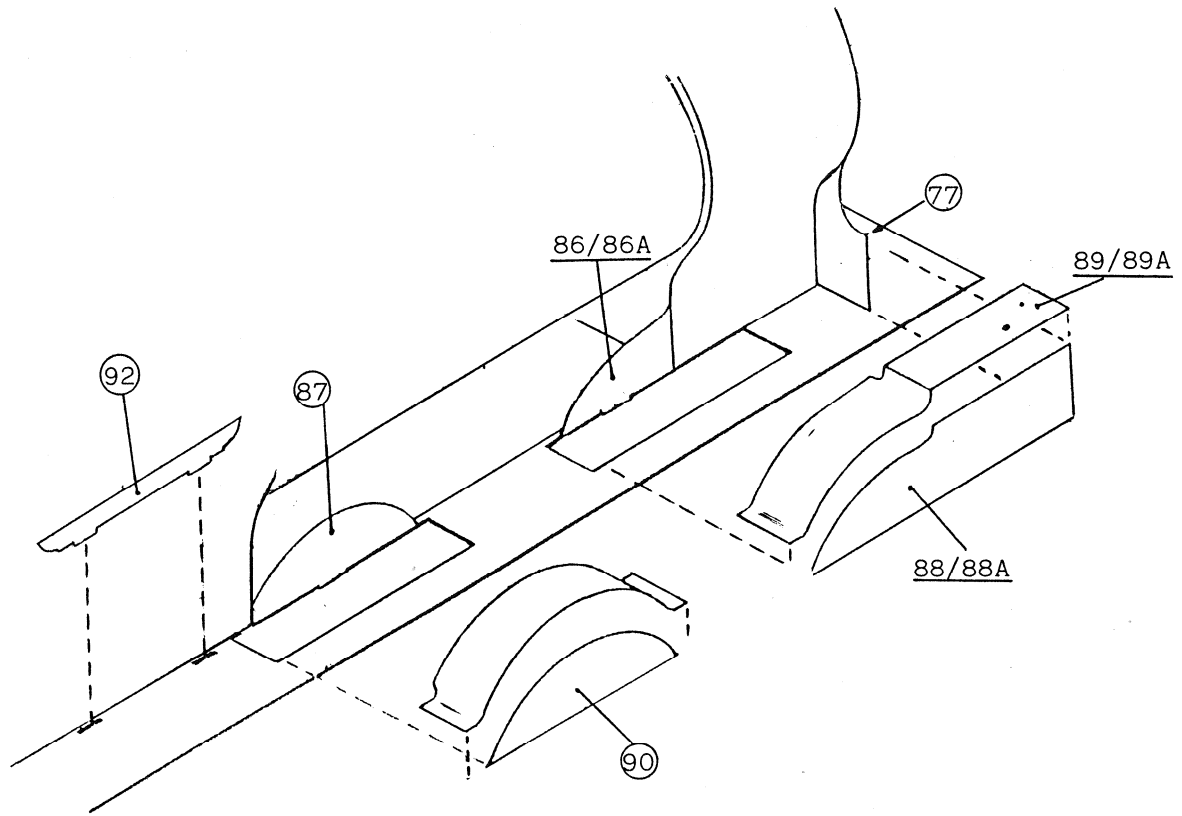


Make boiler and smokebox as separate units.  
 Temporarily fit cab, boiler and smokebox into  
 appropriate slots in footplate, line up and "tack"  
 all three together. Make sure the boiler is evenly  
 spaced at cab and smokebox. Fit 84 & 85 then  
 the joint ring. Solder into the footplate.

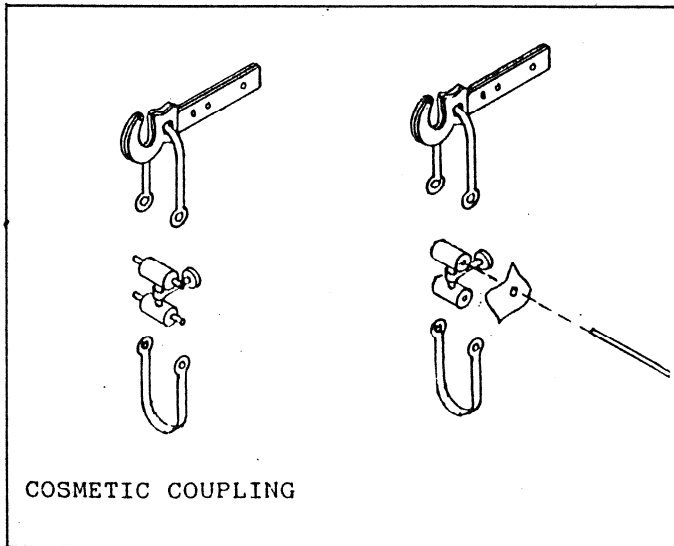
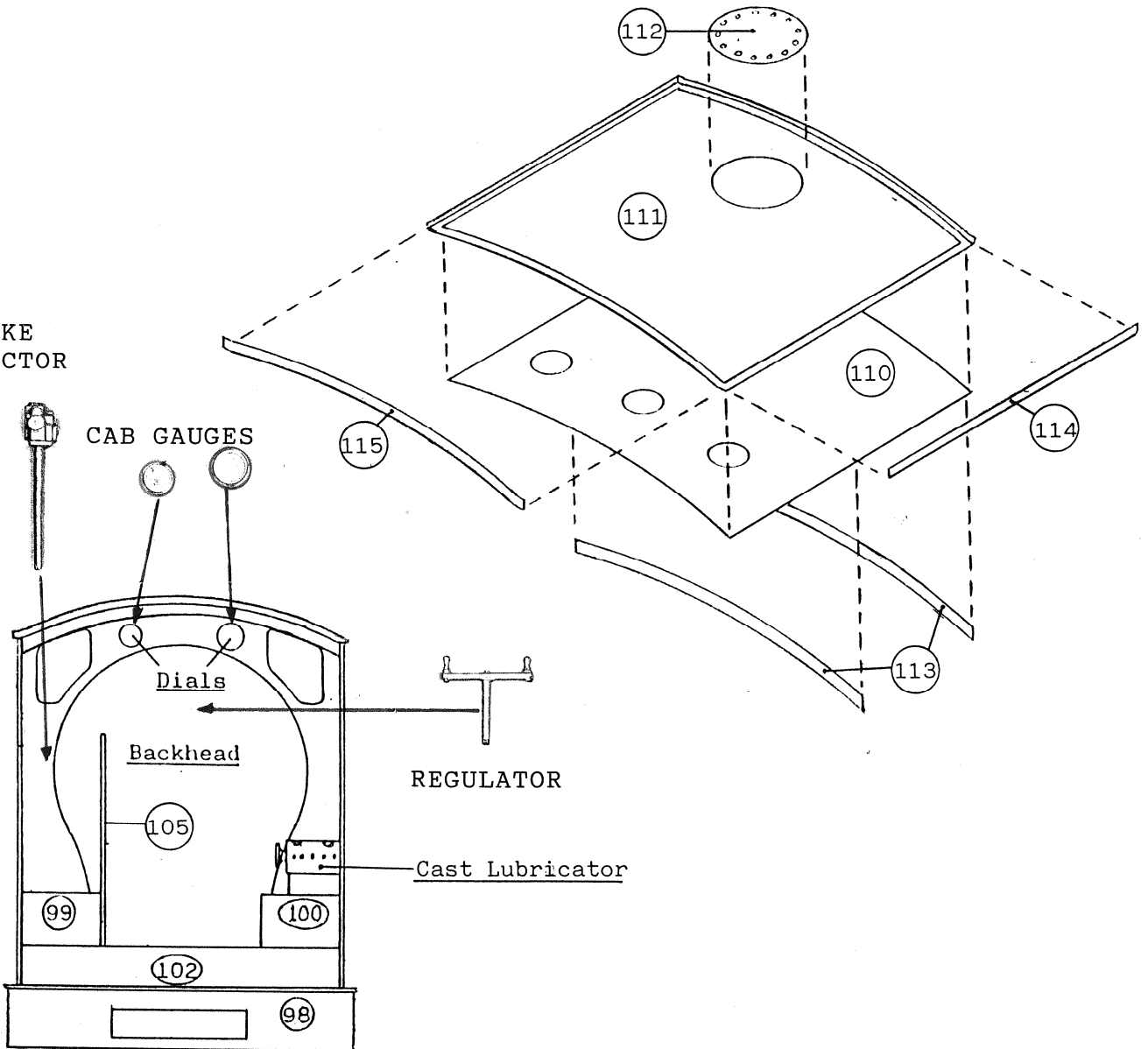


To assemble the smokebox, roughly preform the wrapper, 76 or 76A.  
 Pin one former, 74, to a flat piece of wood then, working from the  
 top/centre, solder the wrapper to the former down each side, keep as  
 tight as possible. Insert and solder the spacers then fit the other former.





BRAKE  
EJECTOR



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. Use an oiled, paper, washer between the casting and link and then solder the link to the wire but make sure the solder does not run through into the centre casting.

COSMETIC COUPLING

Some engines were later fitted with rectangular type safety valve bases and Ross pop safety valves.

ALTERNATIVE CAST WASH OUT PLUGS USE INSTEAD OF ETCHED COVERS (82)

PIPEWORK FROM COPPER ROD

The LNER fitted some with rear sandboxes for reverse running.

Check your prototype for the S/Box door handrail.

Superheated loco's usually had Gresley type Snifting valves, a hole will need to be drilled to take it.

Tallow Cups would have been fitted to saturated engines.

PIPEWORK FROM COPPER ROD

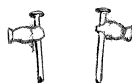
### CASTINGS



WHISTLE



SMOKEBOX  
DOOR  
HANDLE



SMOKEBOX  
TALLOW CUP  
LUBRICATOR



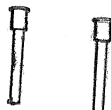
SANDBOX  
FILLER CAPS



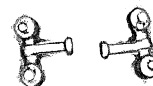
GRESLEY  
SNIFTING  
VALVE



ROSS POP  
SAFETY  
VALVES



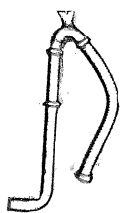
LOCK UP  
SAFETY VALVES



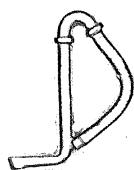
COUPLING  
CENTRES



STEAM  
HEAT



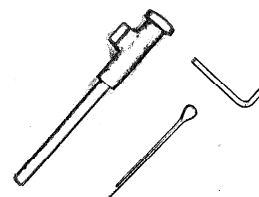
EARLY FRONT  
VACUUM PIPE



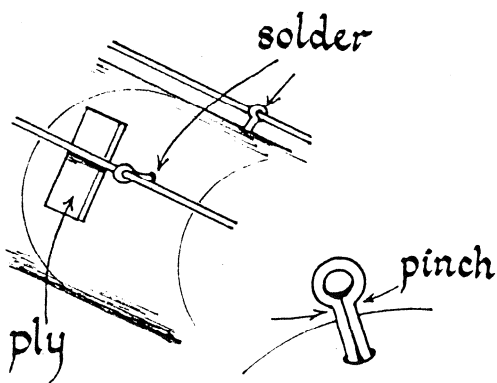
TENDER &  
LATER FRONT  
VACUUM PIPE



AIR BRAKE



TENDER BRAKE  
STANDARD, MAKE  
HANDLE FROM  
WIRE & SPLIT  
PIN



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.

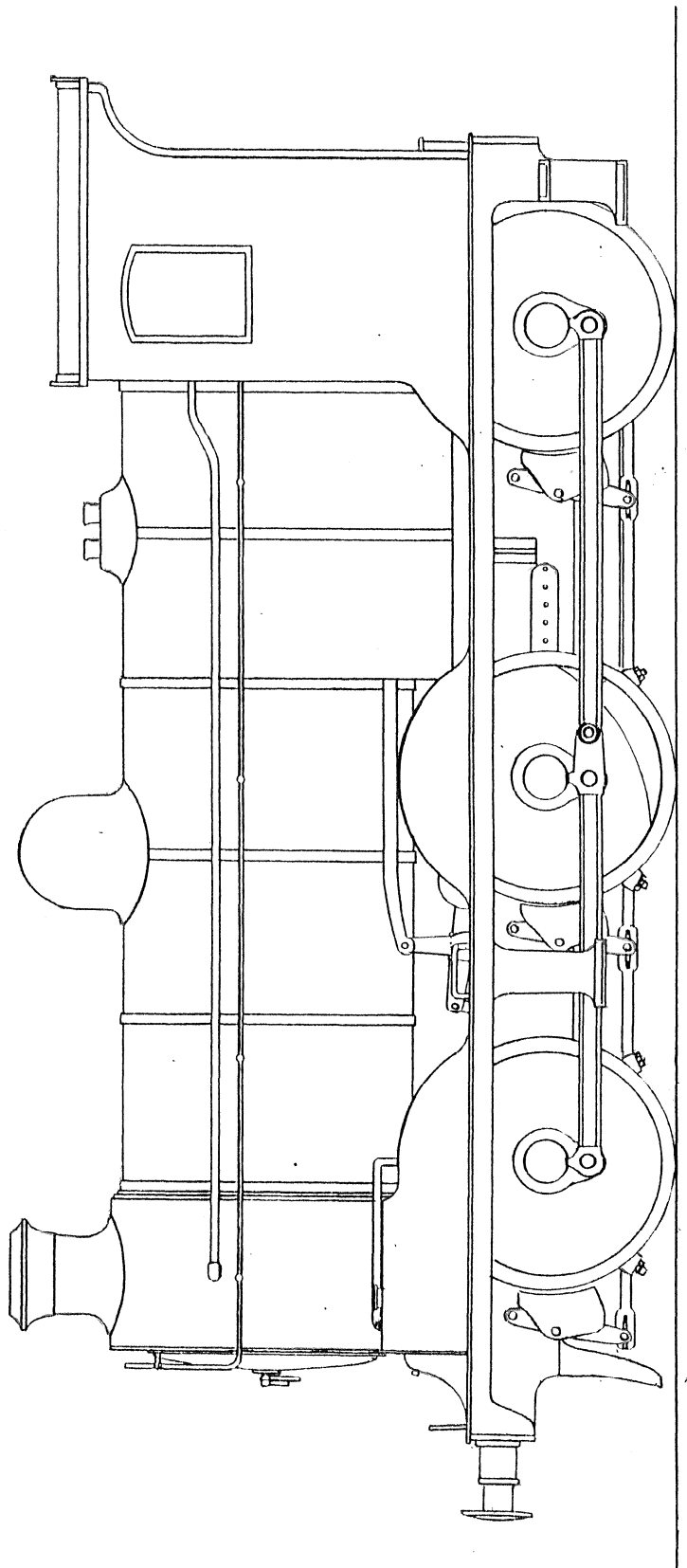
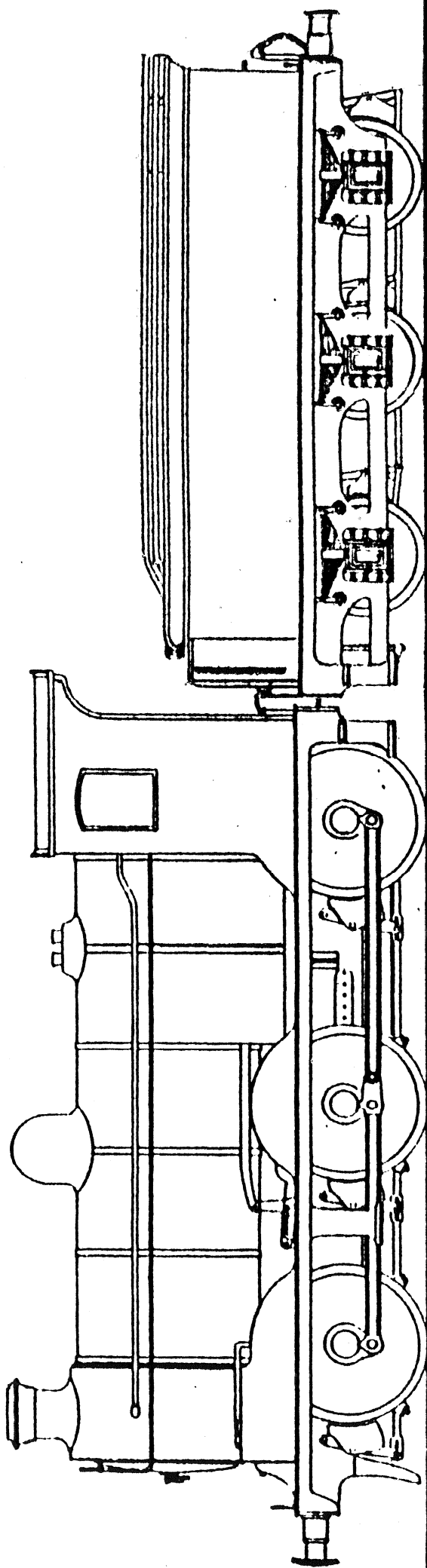
Short knobs (M7HRK7S), Medium length knobs (M7HRK7M), Long knobs (M7HRK7L). Available from, Markits, P.O. box 40, Watford, Herts, WD2 5TN, Tel 01923 249711.

### LIVERY

Throughout their lives the J35 carried black livery, in early LNER days, some locos were lined out with a single red line.

Transfers for lettering are available from HMRS, 9 Park Place, Worksop, Notts, S80 1HL. These are press fix type and you will require LNER black loco sheet.

Or Fox Transfers, 138 Main St, Markfield, Leicestershire, LE67 9UX, Tel 01530 242801. These are water slide type and you will require, 8" LNER & 12" numbers, black loco.





*Page 21, Digital scan of page from original J35 paper instructions, created May 2017.*