

# LANGLEY MINIATURE MODELS

166 THREE BRIDGES ROAD, CRAWLEY, SUSSEX.

Tel: 0293 516329

S.R. (Lynton & Barnstaple Railway) 3rd Class Brake Coach Type 2 Ref.J3 009 Scale

Etched brass kits are not ideal subjects for complete beginners to model building, however, if a careful and logical approach is adopted, there is no reason why a newcomer to the hobby should not achieve satisfactory results.

Whilst the techniques used in construction will vary with the abilities of the individual - soldering is preferable but the less experienced will doubtless favour the use of epoxy resin which will still give a good result - we would stress the importance of studying the instructions which follow BEFORE commencing assembly.

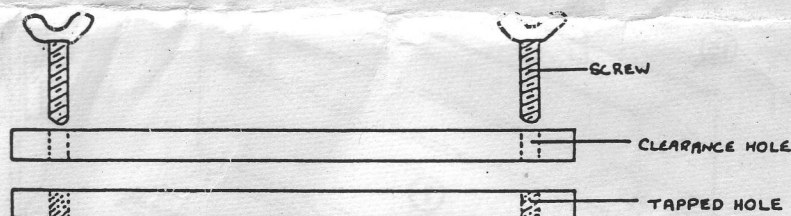
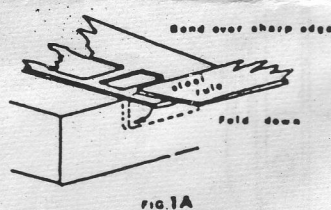
## TOOLS.

A selection of rat - tailed files are a necessity, with flat, knife edge, triangular, round and square files being the most useful. Equally important is a good straight edge (wooden rulers are seldom straight and plastic versions bend more easily than the material from which the kit is made, so use a metal rule), along with an engineers square. A pinchcock complimented by a range of drills will also be of assistance, as would a small vice.

Depending on the means of construction chosen, suitable quick setting resin such as Devcon or Araldite Rapid, or alternatively a clean tipped soldering iron and multicore solder. Also a wire brush i.e. a suede shoe brush, and scraps of fine wet and dry paper to clean up areas which have to be joined. Another useful tool is a small sharp chisel for easing the separation of individual parts from the fret.

To simplify the instructions it has been assumed that the method of assembly chosen will be soldering, if this is not so, substitute gluing where appropriate. Where the word 'glue' or 'gluing' is used we have chosen this procedure to attach the fine cast parts or similar and would suggest that method is used in these instances.

One tip for bending the photo-etched parts is shown in illustration Fig.1A



BENDING BAR

One home made tool that would be found invaluable is a bending bar. Materials required;-  
2 x  $\frac{1}{2}$ " x  $\frac{1}{2}$ " square steel bars approx. 12" long. 2 x  $1\frac{1}{2}$ " x  $\frac{1}{4}$ " whitworth or similar screws.  
Method of production;

Measure in 1" from each end on one of the bars. Clamp the two bars together and drill through both bars. Tap one of the bars with a  $\frac{1}{4}$ " whitworth tap, and on the other bar, open out the holes to  $\frac{1}{2}$ " to give clearance for the screws. When clamped together with the brass between the bars, bending will be much simplified.

## Paints.

Any quality paint can be used, types recommended are Floquil (from Victors of London), Humbrol, Gloy or Precision paints. It is advisable to prime the metal before using top coat, preferably with an etching primer.

## Glues

- Five minute Epoxy is suited to the less experienced modeller who requires time to adjust the parts during assembly.
- Cyanoacrylic glue, i.e. Loctite, Superbond etc. is used by the modeller who can locate parts correctly first time as it sets instantly.
- Solder is best used by the experienced modeller. The type we recommend for this kit is 40/60 Multicore.

## Transfers

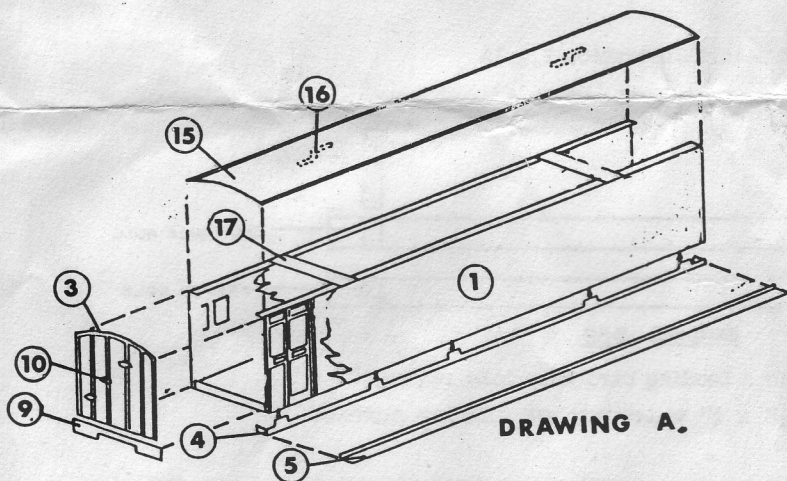
Suitable 4mm Southern transfers can be obtained from various sources e.g. Methfix or P.C. are available from W. & H. Models Ltd., 14, New Cavendish Street, London W1M 8DJ.

### 3rd Brake Assembly

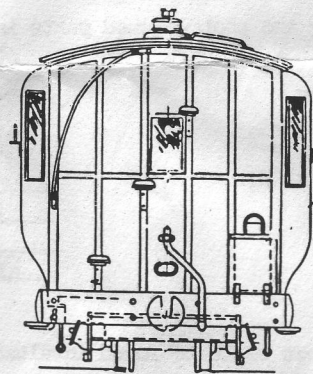
1. Remove the main body (1), from the fret, fold the top edge (near gutter) to 90°, fold the bottom up at 90° to form U-section.
2. Fold the end tabs (top and floor) to 90°, locate brake end (2) onto coach end (with ductet slots), and repeat with passenger end (3).
3. Insert solbar back (4) into respective slots in floor and solder into place.
4. Bend solbar running boards (5) to 90° and solder onto backs (4).
5. Solder required bulkheads (6) into place. (we have used fixed panels in the kit for assembly strength, but it was Lynton and Barnstaple Railway's practice to have a fixed bottom half panel, the top half would slide up from between the seat backs. It was usual to have them up in winter to help retain heat, and down in summer to increase ventilation. Obviously certain panels would or could be fixed permanently i.e. between the 1st and 3rd class sections.)
6. Form the ductets (7) to shape, position and solder into slot on coach side (brake end).
7. Position and solder droplights (8) onto doors marked Guard or Third on the drawing F. Note; these can be be placed in the down position if desired.
8. Fold the buffer beam (9) up like a concertina and solder into place. Note; it may be necessary to file the back edge of the coach to allow the front of the buffer beam to sit flush with the coach ends.
9. Fold the end steps (10) to 90°, insert end panels and solder into place.
10. Cut grab handles (11) and door handle (12) from fret, insert through holes in the coach side and spot solder the sprues on to the inside of the coach. The excess sprue and solder can then be removed with a burr or similar tool.
11. Assemble seats (13 and 14), locate and solder into position.

### Seat Assembly

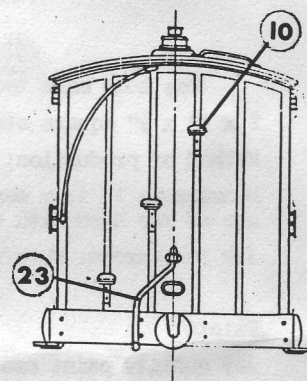
- 11a. To ease assembly of the seats, cut two slots 14.5mm apart (the same distance as the back fold tabs holding the seat slats together). Clean the seat legs (13), place one into each slot (back downwards). With snipe nosed pliers bend seat slats (14) to approx. 90° directly behind the third slat. Place this onto the seat and spot solder into place. Press the other slats onto the leg following the shaped profile, and solder into place. Two half seats can be soldered back to back if required.
12. Roll the roof (15) to shape using a suitable diameter round bar.
13. The clips (16) are folded to form a slider clip and soldered to the underside of the roof to correspond with the clip bar (17) these are soldered across the coach to form a lock bar. To fix the roof, drop the roof assembly onto the coach and slide along until the clips (16) locate on the bar (17). (see drawing A).



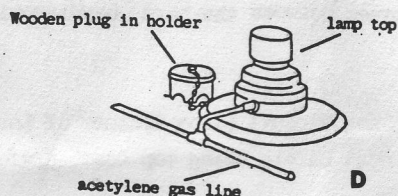
DRAWING A.



BRAKE END B

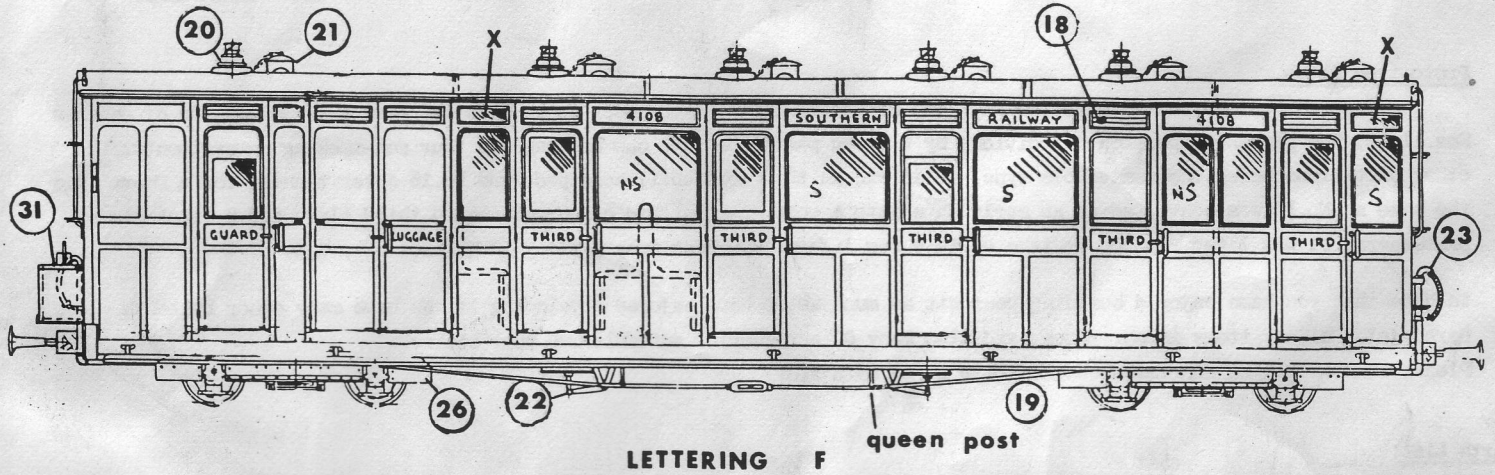
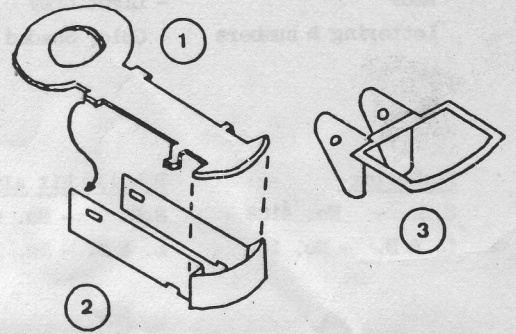
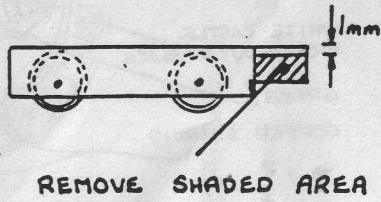


PASSENGER END C  
(ductets left off)



14. Glue toplight vents (18) into positions indicated on drawing F, above each door.
15. Form grab rail (coach ends) and roof handles (grabs) from wire supplied and solder onto end panels as drawings. It will be necessary to drill four .032 thou" holes in the end panels for the handrail. The same method can be used for the roof grabs (for positions see drawings B and C).
16. Drill four .032 thou" holes in appropriate positions in the floor and solder queenposts into place.
17. Solder truss rods (19) into place, ensure that they will not foul the bogie.
18. Glue coach lamp tops (20) into roof and flush pegs off from inside face of roof.
19. Glue lamp plugs (21) on to roof.
20. Position vacuum cylinders (22) on the underside of the floor as sketch H.
21. Shape vacuum pipes (23) and glue onto coach end panels (drawings B and C).
22. Glue bogie spacers (24) to underside of the coach.
23. Modify plastic coach bogie (25) as sketch J, fit wheels and glue bogie detail castings (26) to bogie sideframes.

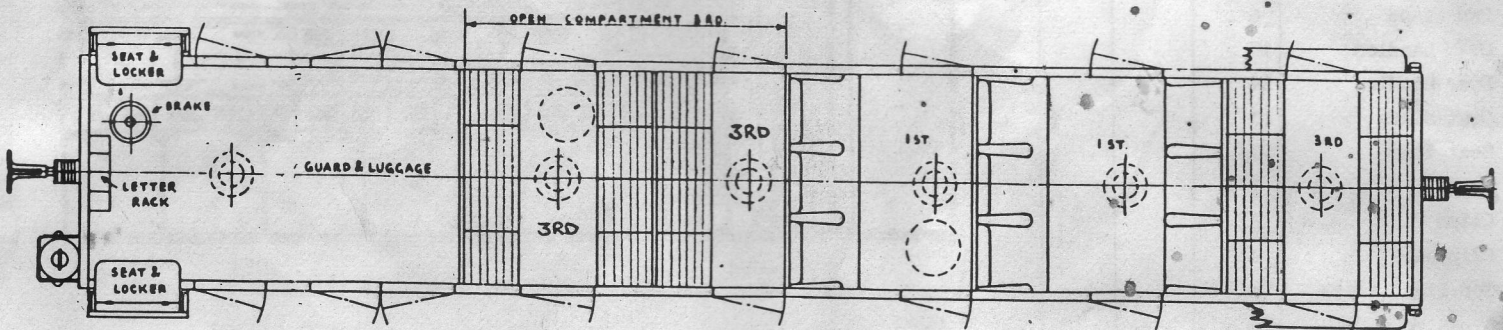
24. Remove main body (1) from etch and wrap round (2), curve the centre buffer section of part (2) and fix round the sides of (1) locating the slot on part (2) over the peg on part (1).
25. Fold the two sides down on the dropbar (3) ensuring that it works freely on the pivot pegs on part (1).  
Note; the top can be flushed in with Plastic Padding to obtain a neater finish if desired.
26. Screw assembled bogie to spacer.
27. Glue Acetylene Tank (31) to brake end.
28. Paint as desired.



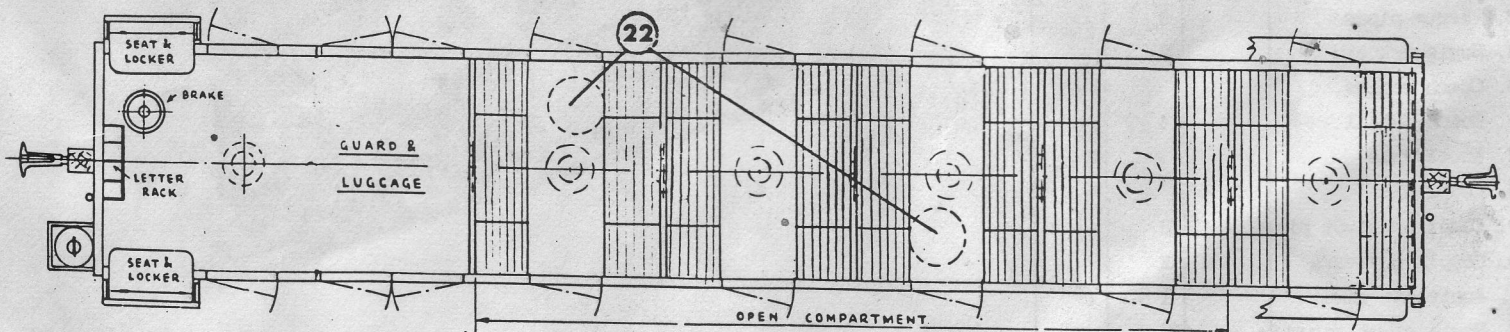
Kit Modifications

The top light panels marked X on drawing F were fitted with window lights. It should however be noted that various coaches had these sheeted in at a later date. Our kit shows them blocked in, if a window is preferred they can easily be pierced out with a drill and file.

Our kit is modelled on the all third class coach No.16, it is however easy to re-position the bulkheads and change the lettering to make coach No.15 which was part 3rd class and part 1st class. It would be necessary then to fabricate three first class seats to complete the coach. These would be best made from suitably shaped balsa wood.



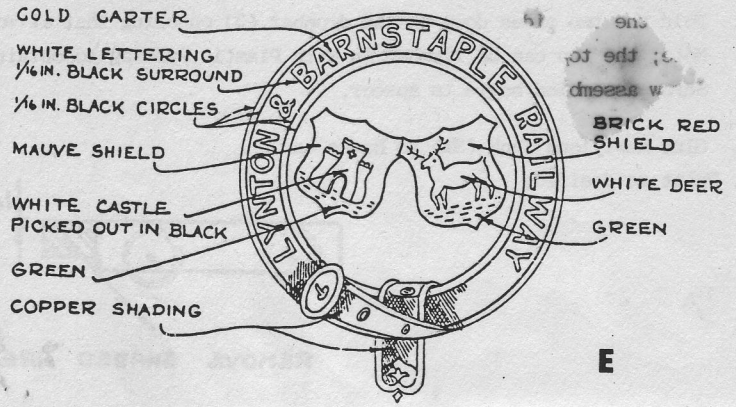
ALTERNATIVE SEATING NO 15 G



COACH SEATING NO 16 H

Painting

- Coach sides - S.R. Green (unlined)
- Body ends, underframe bogies, top lamps etc. - Black
- Roof - Light Grey
- Lettering & numbers - Gold, Shaded red



Numbering

- S.R. - No. 4108
- L. & B. - No. 16

Rebuilt kit alternative

- S.R. - No. 6993
- L. & B. - No. 15

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Proto-type Notes.

Coaches Nos. 15 and 16 were the last two of the original coach stock to be made and were a brake version of coaches Nos.11-14. The passenger portion was divided by a fixed partition into one smoking and four non-smoking compartments, the other partitions being the removeable type. No.16 ran in this form until scrapped, and No.15 after running for a short time the same as No.16, was converted at an early date into a composite 1st/3rd coach seating 20 third class and 9 first class passengers. It was later removed to take up it's new life on the Festiniog Railway in Wales.

We hope that you have enjoyed building your kit as much as we have enjoyed developing it. We have many other Lynton & Barnstaple Railway items in our range, and also many 00 accessories suitable for your scale.

Please send a stamped addressed envelope for up to date lists.

Parts List

	etched	cast metal	plastic
1. Main body	1		
2. Brake end	1		
3. Passenger end	1		
4. Solbar back	2		
5. Running boards	2		
6. Bulkheads	4		
7. Duckets	2		
8. Drop lights	16		
9. Buffer beam	2		
10. End steps	6		
11. Grab handles	16		
12. Door handles	24		
13. Seat slats	10		
14. Seat legs	10prs		
15. Roof	1		
16. Clips	2		
17. Clip bars	2		
18. Top light vents	16		
19. Truss rods	2		
20. Coach lamps		6	
21. Coach lamp plugs		6	
22. Vacuum cylinders		2	
23. Vacuum pipes		2	
24. Bogie spacers		2	
25. Coach bogies			2
26. Coach detail		4	
27. Wheel/axle			4
28. Couplings	2		
29. Coupling pivot pin		2	
30. Coupling pivots		2	
31. Acetylene tank		1	
32. Bogie pivot screw		2	
33. Queen posts		4	

