



Poplars Farm
Aythorpe Roding
Dunmow
Essex CM6 1RY
Tel/Fax: 01279-876402

MAUNSELL COACHES

CONSTRUCTION INSTRUCTIONS FOR ALL TYPES

Parts required to complete: Four axles 3'7" plain disc wheels
(Slater's ref. 7125 or Peartree Engineering)
Paint & suitable transfers.

References: 'An Illustrated History of Southern Coaches' (Mike King/O.P.C.)

1: Clean up the coach sides (1 & 2, and for brake coaches 3 & 4), and check and adjust, if necessary, the tumblehome using the coach ends (5 & 6) as a guide. For brake coaches proceed to the next section otherwise go to section 5.

2: Restriction 4 Brake Coaches only These vehicles had recessed brake compartments which means the coach sides need to be constructed from three different parts. Take the joining pieces (7), noting that they are handed, and bend the half-etched tabs to approximately 45°. Take the first one and solder the tabs into the half-etched sections at the van end of the coach side making sure that the edge of the joint is flush and approximately 45° to the side. Fill the inside of the joint with a good fillet of solder and file the outer side of the joint to a well rounded curve.

3: Fit the inner edge of the joint piece to the van end section of the coach, butting up against the edge of the half-etched section. These are marked 'C' & 'D' to ensure the correct parts are joined together. Use a straight edge along the top of the coach side to ensure that it is straight. The finished side should be 405mm long. Make sure that the parts at top of the joint sit snugly with each other and that the total thickness is no more than the thickness of the coach side (18 thou). The resulting joint should fit into the groove along the underside of the coach roof. Repeat steps 2&3 for the second side.

4: Form the guard's lookouts (8) and fit the half-etched tabs through the two longer vertical slots each side of the van ends. Solder into place.

5: All coaches Fit the droplight frames (9) into place noting that there are three types. The ones with a narrower vertical side go where there are door hinges to be fitted and should clear the slots for the hinges. The double droplights (10) are for the double doors in the brake ends (on brake coaches only).

6: Bend up and fit the hinges (11) from the inside of the coach with the long part protruding through the sides. These should be trimmed back after fitting. Use the same parts for the destination board brackets. Fit the window frames (12/13/14) into the half etched recesses around the window openings, there are different sizes for the corridor, compartment and toilet windows.

- 7: Fit the ventilator panels (15) into the half etched recesses above the doors and also the windows with droplights. These coaches were originally built with a single ventilator above the toilet window but these were later changed to double ones (16), fit as appropriate.

- 8: Solder the ends to the sides ensuring that the assembly is square and noting that the ends fit inside the sides. The ends are marked 'A' & 'B' with corresponding marks of the coach sides so make sure that they are assembled the correct way round. Fold up and fit the steps (17) into place over the half etched marks, the long step (18) being placed centrally at the top. Use the short step with the lampiron attached *(19) for the second one from the bottom. The lampiron part should be bent into a 'U' shape. Fit the separate lampiron (20) over the mark on the other side. Add the short handrails to the non-step side and handrail knobs for the longer handrails, which should be fitted after the roof is completed. Fold up and fit the emergency gear brackets (21) on one end, through the appropriate slots from inside the coach. Add the rodding from 0.7mm wire bent to shape to clear the corridor connector (see drawing). Bend the jumper leads to shape and fit into place.

- 9: Assemble the floor noting that the underside is marked with the CRT logo and has a half-etched recess along each side. The remains of any tabs should be filed off and the solebar channels checked to ensure that the horizontal sections are at right angles to the vertical, adjusting, if necessary, in a vice. The solebar channels should then be soldered or glued into the half-etched recesses with the vertical section hard up against the main, full thickness section of the floor.

- 10: Form the buffer beams (22) and end mounting brackets (23) to shape, embossing the rivet detail on the former. Fit the first buffer beam to one end of the floor noting that the top plate fits over the top of the floor, and solder in place. Use the holes in the top of the buffer beam as a template to drill two holes, 8BA clearance, through the floor and countersink these on the underside. Solder 8BA nuts over the top of the corresponding holes in the end bracket and assemble this end as per the drawing. Place the assembled unit inside the coach body and whilst ensuring that this end is properly aligned measure the final length required for the floor. This is best carried out as follows. With the assembled end in place, hold the second mounting bracket in position against the other end of the coach and mark the position of the two holes. Remove the floor and check that these two marks are square with the side edge of the floor. Then, holding the second buffer beam upside down over the floor align its two holes with the marks and scribe a mark on the inside edges of the buffer beam. Finally, scribe a line across these marks, again ensuring that it is square to the sides, and this will be the where to cut the floor to length. Fit the second buffer beam and mounting bracket into place and, all being well, the floor should fit. Solder the vertical tabs of the mounting brackets to the inside of the coach ends ensuring that the floor is the correct height, so that when viewed from the side you can see the top of the solebar but not the edge of the floor.

- 11: Cut the aluminium roof section to a roughly correct length, final trimming can be done later. The inner flange behind the gutter needs to be carefully removed at each end to clear the coach ends. The roof can now be glued into place using impact adhesive. Follow the manufacturer's instructions and work in a well ventilated area. Allow to dry thoroughly overnight.

- 12: Before proceeding further it is recommended that you remove the floor unit from the body shell and work on them as two separate units. File the roof to its final length. A length of 0.7 wire or thin brass strip can be placed around the joint between the roof and each end, if required. The coach ends can be detailed next.

- 13: Thoroughly clean the roof with a suitable solvent, i.e. Mekkpak. Mark the centreline on the roof and from this the lines for the roof vents. Drill holes for these 0.9mm & fit short stubs of wire into these to provide locations for the turned torpedo vents. Add the rainstrips from 0.7mm wire, best attached with contact adhesive, followed by the destination board brackets (25), best fitted with superglue. Fit the turned brass torpedo vents, again secured with superglue. Roll the water tank(s) (26) to shape and fit in place (there is only one tank on the brake coaches). Add the cast filler caps and also the cast toilet vent(s). Drill the holes for the end handrails and fit in place these into place, having formed them from 0.7mm wire. Finally a fillet of contact adhesive can be placed along the inside of the joins between the ends and the roof to fill any small gaps and also to give the body shell some extra strength.
- 14: Thoroughly clean the coach body which is now ready for painting.
- 15: To return to the floor, the solebar overlays (27) should be fitted into the solebar channels, they might need trimming a little by an equal amount at each end, followed by the stepboards (28), and for brake coaches only, the lower steps (29) positioned beneath the guard's doors.
- 16: The trussing and underframe fittings are assembled as a separate sub-assembly. Bend the etched trussing (30) to shape folding over the flanges to form the angle trussing, noting that all the fold lines are on the inside. Bend up the top and bottom flanges of the cross trusses (31) and solder into place, noting that the wider flange goes to the top, nearest to the floor. Add the vertical overlays (32) and fold up the 'V' hangers.
- 17: Fold up the etched battery boxes (33), soldering the inside corners and fit into place centrally on either side of the trussing unit. Fit the cast vacuum cylinders into place by the 'V' hangers. Add the operating arms (34) and brake links (35). Fit the cast air tanks adjacent to the vacuum cylinders and also the cast dynamo.
- 18: Assemble the Roxey Mouldings bogies, referring to the separate instruction sheet.
- 19: Solder a 6BA nut into each bogie support and then fit these in place on the underside of the floor. These can either be bolted through the floor or glued into place. We recommend using 8BA bolts (not supplied) with two washers on each bolt to give the correct clearance for the bogies. The centreline of the supports should be 57mm from the front of the buffer beams.
- 20: Add the buffer beam details, cast steam and vacuum pipes and also the end steps (36/37). We recommend that the buffers are fitted as complete units after painting the main chassis. They contain some very small parts which we are unable to replace should they be disassembled and lost.
- 21: Construct the interior from etched parts 38/39/40, compartment partitions from styrene sheet and the cast resin seats. We recommend spraying the floor and underframe black first and then assemble the interior onto the floor unit using pre-painted components.
- 22: Paint & letter the coach body and when finished add the glazing and cast brass door and grab handles, the remaining handrails, etc., being formed from 0.7 wire.
- 22: After painting the chassis & bogies, fit each bogie into place, using 6BA bolts, washers and springs. Ensure the underframe runs freely and that there is clearance between the wheels and the floor. Finally fit the coach body to the underframe using a 8BA bolt in each corner.