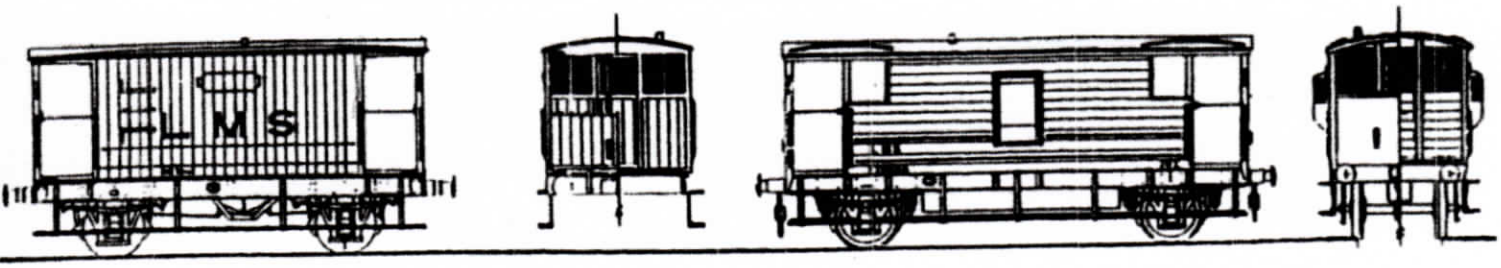
N GAUGE SOCIETY - WAGON PROJECT No. 7

ETCHED BRASS SUPERSTRUCTURE KITS FOR L.M.S. 12'-00 AND 16'-00 WHEELBASE 20 TON GUARDS VANS - TO MAKE ONE MODEL OF EACH TYPE



INTRODUCTION

As this kit will produce two vehicles, I'm afraid the instructions for assembly appear a little more complicated than usual. However if read carefully and all drawings, etc, studied in conjunction with the notes provided, should be straightforward.

All parts to complete the superstructures are provided (except rod for chimney, glue, paint and transfers). But chassies are NOT included as there are a number of alternatives which may be used, or you may wish to buy secondhand. However suitable chassies will be made available in the society shop if you prefer new.

You will find parts on the fret to enable solebars, footboards and some chassis components to be built, these are not recommended for N gauge use, but are there for 7 mm scale versions of these vehicles. However if there are any masochists among you who do manage to build a running N gauge model from these parts, I'd love to hear about it!

To keep the instructions as brief as possible, I will only consider one chassis modification for each van type.

You will find a number of detailing parts in both frets which are produced in multiple to allow spares in case of loss or damage, you will also find some parts again intended for 7 mm use but which are so small for N gauge purposes that they can be left off with no detrimental effect to the overall appearance of the finished model. Any such parts will be noted in the relevant instructions.

Some of the parts are of necessity very delicate and where possible should only be removed from the fret as needed. Those parts which do need to be taken from the fret prior to use, should be stored in a suitable container (a Peco wagon box is ideal).

Parts may be removed from the fret with scissors or a sharp bladed knife, pressing down on a hard surface such as a block of wood or a specialist cutting board (of the self healing type).

Parts once removed from fret should have all fret carrying tags carefully taken off by use of fine files and emery paper.

METHODS FOR ASSEMBLY

The models may be assembled using ordinary hard solder, low melt solder, epoxy-resin or cyano acrylate (supa-glue) glues, or indeed you may prefer an amalgam of the above according to preference (I prefer low melt solder for assembling the main components and supa-glue for the smaller detailing parts).

In the case of both vans, I recommend that main body components (except roof) are assembled before chassies are adapted to fit, this to ensure a good fit of body to chassis. Detailing parts should be added only after body and chassis are glued together.

It is advisable to leave roofs off until the models are finished and main body colour applied so as to enable windows to be glazed and veranda floors to be easily painted. You may also find it more convenient to paint the roof before fitting to body.

HISTORICAL NOTES AND LIVERY

12'-00" WHEELBASE 20 TON VERSION - REFERENCE SOURCE L.M.S., WAGONS VOL 1, PAGES 16 & 17 & RAILWAY MODELLER 1960 (OCTOBER) PAGES 240-241.

These vans were introduced by the L.M.S. just after grouping. They were built under various lot numbers, the final total being 850 vehicles.

Livery During the early L.M.S. period, pre 1934, the vans were painted freight stock grey for body, solebars and bufferbeams, black for all chassis components and white for handrails and lettering. The van number was painted white on a black background edged in white to form a panel.

Post 1934, livery was as above for body, underframe and handrails, but insignia was much smaller and generally applied to both sides of the wagon at the bottom left hand corner.

B.R. Livery light grey body with lettering again placed on the bottom left hand corner to both sides of body.

Roofs in all cases was dark grey although of course the actual colour varied considerably dependent on how long the vehicle had been in service.

L.M.S. 16'-00 WHEELBASE 20 TON GUARDS VAN. REFERENCE SOURCE - L.M.S. WAGONS VOL 1 PAGES 12 & 13

The kit for this wagon type is based on the final design of guards van produced by the L.M.S. Construction commenced in 1949 and continued after nationalisation.

However this kit will also make a very reasonable version of a slightly earlier type built by the L.M.S. in 1935/8, the only major differences being guards duckets which were 6" narrower on the earlier version and that the ballast weights (which feature prominently on the later version, projecting right down to the footboards) did not show below the solebars. Therefore for the earlier version, these should be left off.

LIVERY - The livery of these vehicles is complicated by the fact that they were built during the time of changeover from grey to bauxite making reference to photographs essential for total accuracy. However as a general guide all piped vans on the earlier batch were originally turned out in freight stock grey for body, solebars and buffer beans with black chassies, later changing to bauxite for newly turned out vehicles. However wagons already painted grey were not likely to have been changed to bauxite before 1945.

Insignia was initially large L.M.S. with the 'M' placed centrally on the guards ducket running number placed at the bottom left hand corner of main body, third plank up from bottom and tonnage placed on bottom right hand corner, bottom plank.

When in bauxite livery, the letters L.M.S. were much smaller and placed on the bottom left hand corner of main body, third plank up, the vehicle number placed centrally below the 'L.M.S.' on the bottom plank and the tonnage figure placed on the bottom right hand corner bottom plank.

B.R. livery was freight stock grey (body only) this time with tonnage number at the bottom left hand corner second plank up, the vehicle number centrally beneath it on the bottom plank and tare weight again on bottom plank but on right hand side. All insignia painted white.

Roof colour was in all cases dark grey but again actual colour was dependent on time in service.

L.M.S. 16'-00" WHEELBASE (LONG) 20 TON GUARDS VAN

CHASSIS MODIFICATION

The recommended chassis for this van comes from the Graham Farish range of guards vans. Both G.W.R. and L.M.S. versions use a common chassis which is eminently suitable.

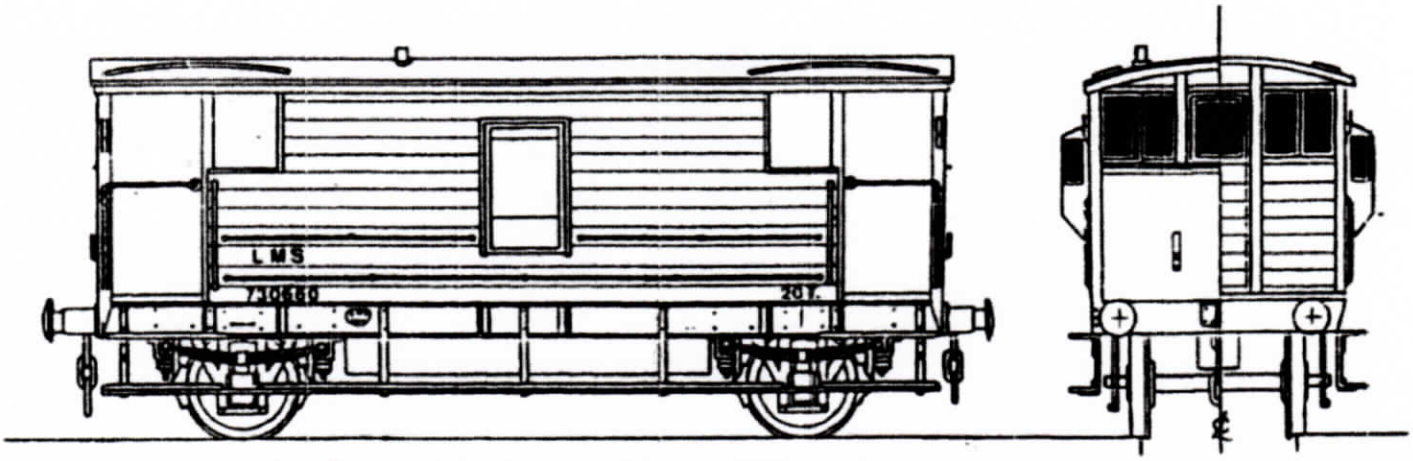
Only very minor modification to the chassis is required as follows:-

Remove the moulded buffers and thin down the thickness of the moulded buffer beams until the Farish chassis fits snugly in between the buffer beams of the new body.

The Farish chassis is a little deeper than it should be and, therefore, shows below the headstocks of the new body. This overscale thickness may be reduced by turning the chassis upside down and rubbing it in a circular motion over a piece of rough sand paper. However do this carefully and check frequently for fit, so as not to overdo things.

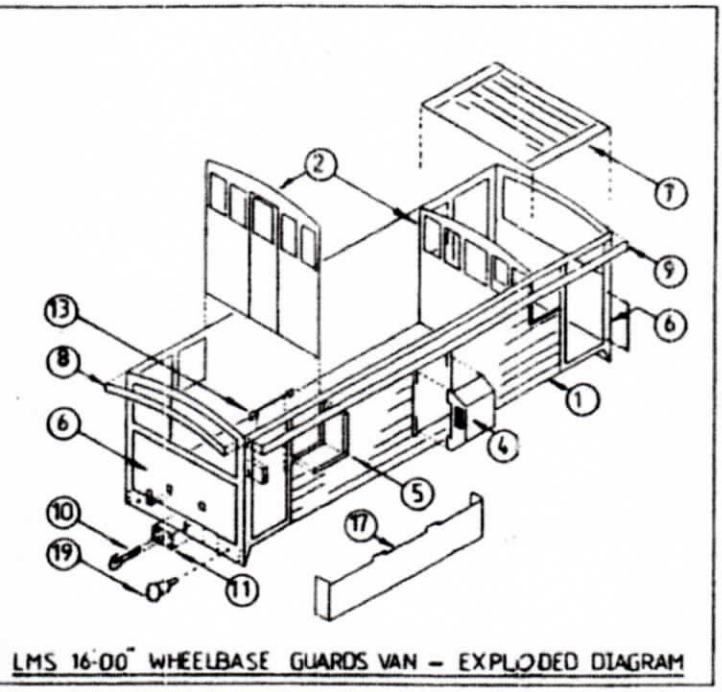
If you use the standard N coupling, I'm afraid you will not be able to fit the drawhook supplied with the kit as it will prevent the lifting action of the N guage coupling taking place.

Also if you do use the N coupling and you wish it to be able to lift in its own right then this will involve a slight modification to <u>either</u> the coupling itself or the buffer beam to enable it to work as intended. However if you are prepared to let the other vehicles couplings do all the work, then the coupling and buffer beam may be left alone, so making the model look more realistic.

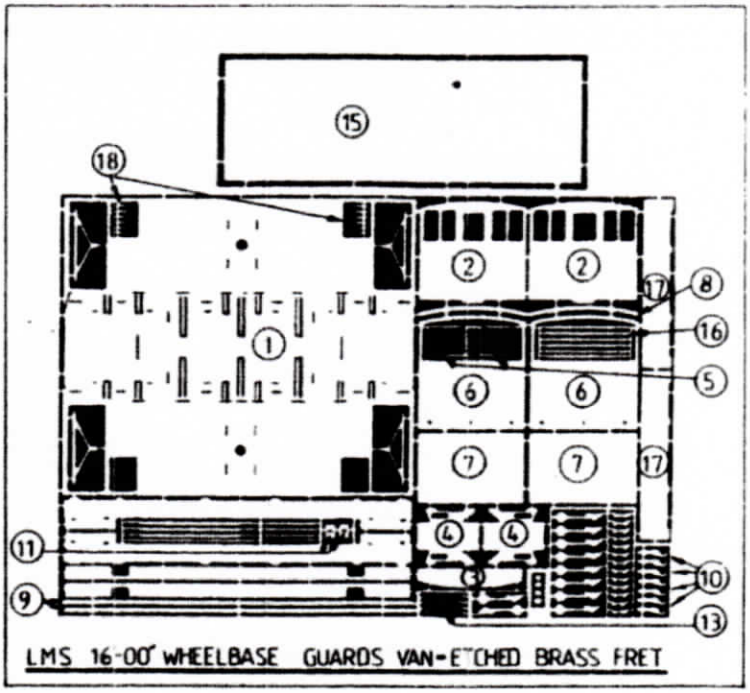


LMS 16'00" WHEELBASE 20 TON GUARDS VAN (not to scale)

L.M.S. 16'-00" WHEELBASE (LONG) 20 TON GUARDS VAN



LMS 16-00" WHEELBASE GUARDS VAN - EXPLODED DIAGRAM



LMS 16-00" WHEELBASE GUARDS VAN-ETCHED BRASS FRET

SUGGESTED ORDER OF ASSEMBLY

A) Remove main body component (1) from etch, remove lamp irons (18) complete from within side veranda openings and store in a safe place. Remove brake pull rods from within veranda doorways (these are for 7 mm scale use and, therefore, not required). Fold up body sides from floor at right angles (ignore etched fold down tabs in floor as these are also for 7 mm use only).

B) Remove cabin ends (2) from fret, locate tab at the bottom of each piece into slots provided on cabin floor and secure in place.

C) Remove body strengthener (3) from fret and fix between sides in the centre of the body (see sketch).

D) Remove guards lookout duckets (4) from fret, before folding to shape, check to ensure tabs fit easily into slots provided in cabin sides, if tight file tabs gently and try again until a fit is achieved. Once satisfied, fold to shape, fit and secure (see sketch).

E) Remove veranda side window beadings (5) from within end veranda opening and fix in place (see sketch).

F) Remove veranda ends (6) from etch and further remove footboard end supports (16) from within the right hand end veranda (these are again 7 mm scale parts and not required). Locate ends within sides and secure, make sure all is level and square.

G) Remove veranda floors (7) from etch locate and secure.

H) Remove end beadings (8) and side beadings (9) from etch locate along the top edge of the body ends and sides and secure in place.

I) Remove drawhooks (10) (you are supplied with five spares in case of loss) and coupling plates (11) from etch. Fit draw hooks through coupling plates and locate in slot provided in buffer beam and secure. The part of the coupling hook extending behind the buffer beam may be either bent at right angles or cut off to clear chassis.

J) Remove safety rails (12) from etch and locate in veranda door openings (see sketch and drawing for position).

K) Fix lamp irons (13) in position over identification marks on sides and ends (four spares provided in case of loss).

L) Make and fit handrails from wire provided having first cleared all etched holes with an 0.5 mm drill (for position refer to general arrangement drawing).

M) Drill out holes in buffer beam to accept buffer shanks. Start with a drill only slightly larger than the etched hole increasing drill sizes progressively until correct for fit of buffer shank (this to avoid distorting or tearing the thin metal). However do not yet fit buffers!

N) Fit superstructure to modified Farish chassis modified as detailed in notes following.

O) Fit buffers provided in place again using the final drill size used to clear buffer beam holes, but this time to remove plastic from chassis until buffers can be pushed fully home. Secure in place.

The superstructure is now complete apart from fitting the roof. But as recommended earlier, the model should now be painted so that access is still available to paint veranda floor and glaze cabin windows. Once done, the model should be placed on one side to dry.

P) Remove roof (15) from etch, form a curve in it by placing upside down on the carpet and rolling a round pencil or similar to and fro until, by trial and error, the correct degree of curvature is achieved.

Q) Form rainstrips from fine wire and locate in grooves provided on roof. Secure in place.

R) Add a chimney from plastic rod or wire of the diameter of the hole found on roof and secure in place leaving the chimney projecting 2 mm above the roof.

S) The roof may now be painted and once dry fixed to the van body with evo-stick or similar which will allow a little time for adjustment so as to ensure all is square and true.

All that now remains is to touch in final paint details, letter the van to choice (transfer from the Woodhead range recommended) and finally a coat of protecting varnish.

NOTE The etched fret includes the distinctive ballast weights (17) which were fitted to all of the post 1949 built vehicles but not the earlier 1935 versions. If you wish to fit these items, remove a 2 mm strip from the edge containing the tabs (for fitting on the 7 mm versions), fold in the ends and fix to the underside of the chassis abutting the back of the footsteps (see sketch).

L.M.S. 12'-00" WHEELBASE (SHORT) GUARDS VAN

CHASSIS MODIFICATION

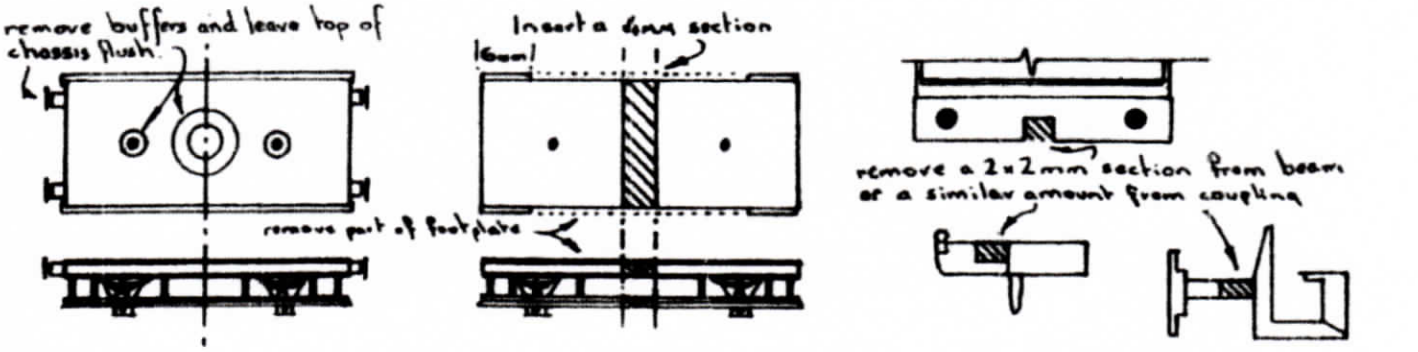
The recommended chassis for this kit is to use two PECO 10'-00" Wheelbase brake van chassies cut and joined to form the required 12'-00" length.

Take one chassis, cut buffers from both ends and clean off all protrusions from the top to leave a smooth flat surface.

Measure 18 mm in from one end, mark and cut chassis into two equal parts.

Place the two halves onto the upturned new body with their outer ends abutting the brass buffer beam.

Measure the gap between the two halves and them from the second chassis (prepared as above) cut a section from the centre slightly wider than required (to allow for a little fitting) see sketches.



STANDARD PECO CHASSIS MODIFIED CHASSIS COUPLING MODIFICATIONS (see notes)

Once satisfied with the fit, glue the three sections together using liquid polystyrene cement and placed upside down on a flat surface. Make sure footboards, etc, line up properly and leave overnight to set. Do not worry unduly if the parts have slight gaps at the joins as these can be filled later.

Once satisfied all has set level and square, glue an additional piece of plasticard to the underside of the chassis to cover both joins as reinforcement.

Now any gaps in joins may be filled using milliput or similar and all joins when set cleaned up with fine files and emery paper.

You will find the chassis as modified has more vertical supports to footboards than there should be. All excess supports should now be removed leaving just six per side (one either side of springs and two at each outer end).

Finally the long continuous footboards running the length of the bottom edge of the solebars on both sides should be removed (using a sharp knife) apart from 6 mm sections at the extreme outer ends, which must be left intact (see sketch).

If you use the standard N coupling, I'm afraid you may not be able to fit the draw hooks supplied with this kit as their use will prevent the coupling hooks of adjacent stock from dropping into their correct position.

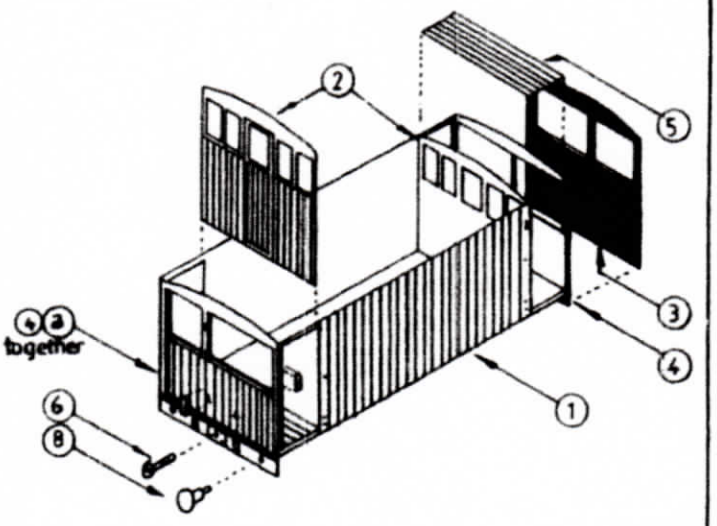
Also if you use the standard N coupling and wish it to be able to lift in the usual manner, this will involve either a slight modification to the buffer beam or the coupling hook itself. (see sketches) HOWEVER it is not vital that this coupling lifts as the couplings of all other vehicles have this facility and you may, if you prefer, leave the buffer beam and coupling intact for a more accurate overall appearance.

To locate the couplings and retain them in their sockets, take the coupling plugs supplied with the kit and first remove the top flange with a sharp bladed knife so that when placed on top of the couplings in their sockets, the plugs finish flush with the top of the chassis.

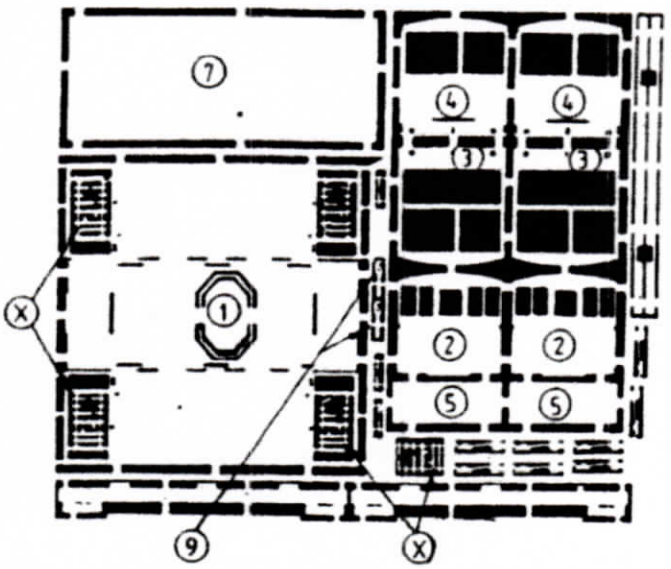
Glue the modified chassis to the underside of the van body ensuring all is level and square.

Finally pop in wheelsets, check for running and if satisfactory proceed with final detailing of superstructure.

SUGGESTED ORDER OF SUPERSTRUCTURE ASSEMBLY



LMS 12'00" WHEELBASE GUARDS VAN-EXPLODED DIAGRAM



LMS 12'-00" WHEELBASE GUARDS VAN-ETCHED BRASS FRET

A) Remove main body component (1) from etch. From within veranda side door openings, remove the etched panels (X) containing lamp brackets and strapping plates (store in a safe place for use later.) Fold up sides at 90° to floor.

B) Remove cabin ends (2) from etch and place tab at the bottom into slot provided in cabin floor (if tight a couple of gentle strokes with a file over the tabs will solve the problem). When satisfied with fit and ensuring all is level and square, secure in place.

C) Remove veranda end parts (3) & (4) from etch. NOTE these parts should be fixed together, part 3 overlaying part 4, and pay particular attention to getting a flush fit between the two parts. Ensure etched detail on both parts is on the same side.

D) With the two parts of the veranda ends now fixed together, try for fit onto van end using the locating tab and slot on the van floor for position. The tab may need reducing in depth to enable the end to fit as it should. If this is the case use a file as described above. Once satisfied with fit, ensure all is level and square and secure in place.

E) Cut two pieces of 10 thou plasticard to fit in well on veranda floor as packing and then remove veranda floors (5) from etch to be fixed on top of the plasticard packings.

F) Clean out etched holes for handrails using an 0.5 mm drill, form handrails from brass wire provided and fix in place. Refer to the drawing for correct position of handrails.

G) With the body now in its partially completed state, it is recommended that the chassis be modified and fitted though not yet permanently fixed in place. (This to avoid damage to detailing parts whilst, of necessity, a certain amount of heavy handling is taking place.)

H) One satisfied with fit of chassis to body, place the chassis on one side and continue to detail body with lamp irons, strapping, etc. Note a lot of spares of these items have been provided in case of damage or loss (Marked 'X' on drawing). Refer to exploded drawing and sketch for position of these parts.

I) Body and chassis may now be permanently glued together.

J) Drill out holes in buffer beam to accept buffer shanks, start with a drill bit only slightly larger than the etched holes, increasing bit sizes progressively until large enough to accept buffer shanks. This to avoid distorting or tearing the thin brass. When satisfied with fit, secure buffers in place.

K) If required, fit drawhooks (6) in position BUT REMEMBER these hooks may not be fitted if the lifting action of the standard N coupling is required (refer to relevant section in chassis modification notes for clarification.

L) The model has now reached the stage when basic painting should be done, before the roof is fixed into position. This to enable cabin windows to be glazed and the painting of the veranda floor (darkwood colour) if required.

M) The roof provided with this model is very thin, therefore additional support is advisable. Two alternative methods of achieving this are to either, place a shaped balsa block fitted in the cabin area or gluing a pre-curved piece of 10 thou plasticard to the underside of the roof before fixing in place.

N) Whichever method is chosen, the etched roof (7) once removed from fret should be pre-formed by placing upside down on the carpet and using a round pencil or similar rolled to and fro until, by trial and error, the correct degree of curvature is achieved.

O) Form a chimney from suitable diameter plastic rod or wire and fix into place through hole provided in roof, leave the chimney projecting above the roof by 2 mm.

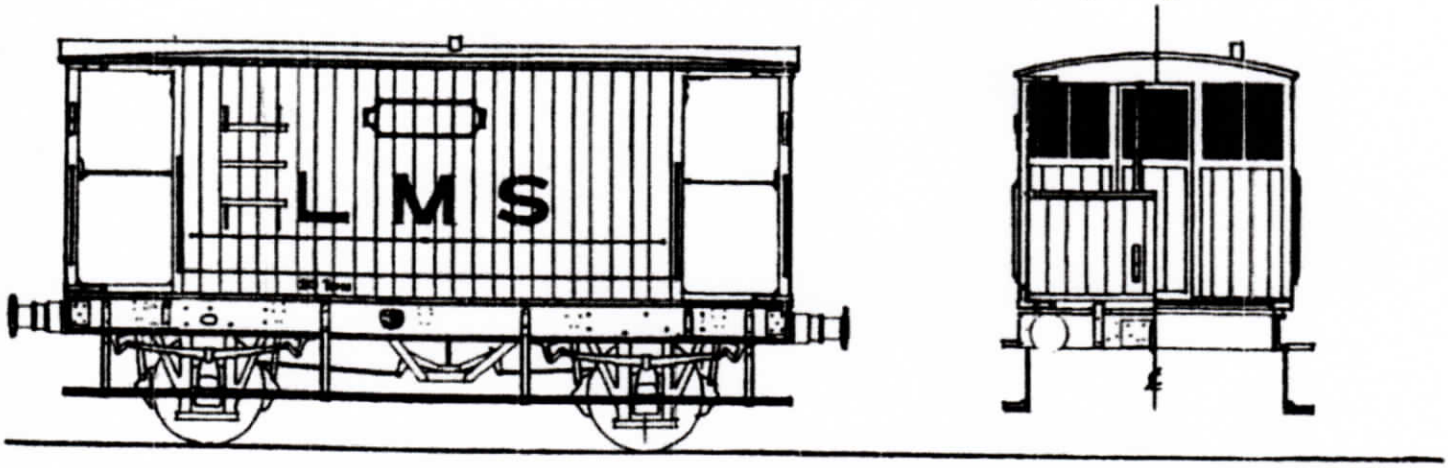
P) The roof is now complete, but before it is fitted to the body it is suggested that it be painted for convenience. Once dry, the roof should be glued to the body with an evo-stick type adhesive as this will allow time for adjustment to ensure all is square and true.

Q) All that now remains is to paint in final details, apply lettering according to choice (transfers from the Woodhead range recommended) and finally apply a coat of protecting varnish.

AND THATS ALL THERE IS TO IT!

GOOD LUCK

We do hope you have enjoyed building these two models and that you may wish to try other kits in our small but ever expanding range of N gauge wagons.



L.M.S. 12'-00" WHEELBASE GUARDS VAN (for reference only-not to scale)