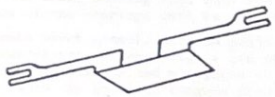
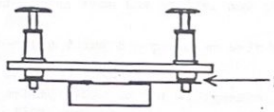
23. Floor upper layer. Bend the edge strips flat back on top of the floor and the ends down. Fit inside (22) and secure with glue from below.
24, 25 and 26. Sides. Fit one of each successively inside the sides of (22) on one side, then repeat for the other side.
27. Top edge of sides. Glue in place with the rows of holes inwards, the slots fitting over the clip racks projecting from (25).
28. Lamp irons. Bend the fixing flaps, pass through the holes in the buffer beams and glue from inside.
29. Buffer beam detail. Fit over (28) with wheel plate supports upwards, aligning brake pipe holes, and glue. Bend lampirons up 3mm out from ends.
30. Wheel plates. Glue into recesses on floor.
31. Side strappings for corner posts. Glue the part with four rivet heads/nuts to the end uprights of the sides. Turn the remainder below the side and on to the solebar, then glue.
32. Side strappings for inner uprights. Fit similarly to (31).
33. Wheel beams. Fold to shape and through the end holes pass
34. T-handles. These project to pass through the holes in (27) in a suitable position to restrain the wheels of the vehicle being carried.
35. Strap clips. Bend in half, leaving a gap about 3mm between the halves. Pass through the racks on top of the sides, then squeeze the ends closer together to retain them. Straps as such are not provided in the kit, but could if desired be made from strips of heavy gauge black polythene.

Fit the completed body onto the underframe. Note that the locating tabs will only fit one way round. Glue from below where the tabs come through the sub-floor.

Pass the buffer guides (bodies) through the holes in the buffer beam and glue in place. Add the brake hose castings. One at each end passes through the hole in the buffer beam. The other, with a small bracket cast on, is glued to the underside of the buffer beam on the other side of the coupling slot. Paint the vehicle next, avoiding the insides of wheel bearings and buffer guides. A thin coat of a good etch primer is recommended first.



Buffer spring after bending.

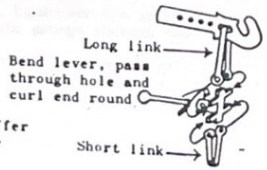


Pass the buffer heads through the guides. Cut the retaining washers from the phosphor-bronze buffer spring sheet and fit to the back of the buffers to give a total buffer length of 8mm. Do not allow glue to get between buffer and guide. Bend the buffer springs as shown and fit to the floor so as to spring the buffer heads gently outwards. Paint the face of the buffer heads. Ease the wheels gently into place so that the axle points enter the bearings. Check that all brake blocks just clear the wheels, then fit in place (painting them first):
17. Inner brake block connecting bars. These pass below the axle to the bottom prong of the brake linkage hangers. With care, these can be sprung in place without glueing to permit easy changing of wheels. For extra security, glue to the brake blocks only - if the other end is left unglued, the wheels may still be changed without undue difficulty.

Select the 'Methfix' transfers required for your chosen livery and apply them as follows: Cut round each item with a sharp knife and lift from the thick backing paper with the knife point. Lay face down in position and wet thoroughly with a mixture of three parts methylated spirit (ethyl alcohol) and one part water; adjust position if required then press down with a fingertip (or small cloth pad if inaccessible to a finger). Allow to dry at least 10 minutes, wet the tissue thoroughly with water and peel away when loose. Allow a few hours to harden then gently wash away surplus gum. A protective varnish may be applied if desired.

Finally fit the imitation screw couplings

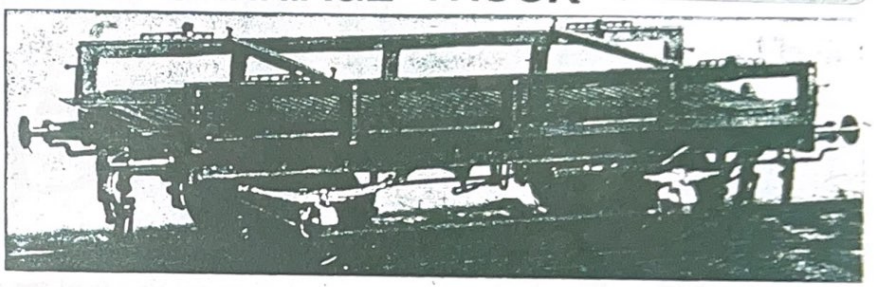
Bend links, lever and centre section (etched line inside bend). Assemble as shown. Retain by wire through nearest hole behind buffer beam. For magnetic shunter's pole make bottom link from iron wire supplied, same size as etched link.



P C Models, 2 Marsh Lane, Birmingham B23 6NX.

P C Models

LNWR CARRIAGE TRUCK



The completed model before painting.

This was the standard LNWR vehicle for transport by passenger train of horse-drawn or motor road vehicles or other light, bulky loads. They were originally rated to carry 5 tons, but by the end of their lives this had been increased to 8 tons. Vehicles built before 1906 had originally no handbrakes, which were added later. Like many LNWR vehicles of the period two kinds of brake cylinders were fitted more or less indiscriminately. Our kit has the vertical type. We model the underframe with axlebox hornplates inside the solebars - the earliest vehicles would have had them outside. A total of about 350 of these trucks were built, for which we quote samples of later LNWR numbers and first and second LMS numbers. We believe that the original LNWR numbers (before about 1908/9) can be obtained by subtracting 11,000 from the later nos. Unfortunately it is not possible to say which vehicles are of what type so far as brake gear and so on is concerned. Some at least survived for a few years after the 1948 nationalisation.

The underframe and fittings were painted black throughout. In the LNWR era the body sides were dark chocolate brown, with the edges of the outer faces lined in chrome yellow. After the 1923 grouping the chocolate was replaced by LMS crimson lake, probably without lining, this colour being retained for the remainder of the vehicles' life (though very delapidated on the final survivors). The surface of the floor should presumably be wood coloured.

Later LNWR nos.	LMS nos. 1923/33.	LMS nos. 1933 onwards.
11012-7, 11035, 11104-111, 11250-3, 11278, 11323-7, 11347-51, 11442, 11445-9, 11553-7, 12037-49, 12095-113.	4842-5177 (this block covers all the vehicles)	41381-92, 41430-62, 41539-72, 41613-43. Known BR survivors: 41584, 41600, 71, 84

CUTTING OUT THE PARTS.

Lay the fret on a firm level surface, e.g. aluminium sheet or hardboard. Cut through the retaining tabs by pressing with a heavy duty craft knife or a small chisel.

BENDING.

All sharp bends are marked by an etched line (except for some very small parts which would be unduly weakened). This line is always on the INSIDE of the bend. Unless otherwise stated, all bends are at right angles. Short bends can usually be done with the fingers, or by holding the main part and pushing that to be bent with a small screwdriver or similar implement. For longer bends, the edge of a steel rule can be used as a guide. Long flanges or other narrow edgings are normally joined by "dotted lines" to make bending easier and can usually be bent by holding the main portion and pressing the flange at a suitable angle against a flat board.

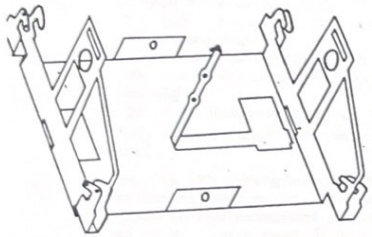
ADHESIVES.

Most modellers will prefer adhesive assembly. We particularly recommend cyanoacrylates, which set very quickly. For fixing small parts, a drop of the adhesive may be put onto a piece of non-absorbent scrap material. Minute quantities can be applied to joints with the end of a small screwdriver. Parts must be correctly adjusted before applying the glue; there is no time to adjust them afterwards. The same applies to your fingers - if careless, you will glue them together. Keep these adhesives away from children.
For slightly more leisurely assembly, quicksetting epoxy can be used. This gives plenty of time to adjust the position of parts, but is rather more messy. Epoxy is also useful for reinforcing bends which might otherwise be a little weak.

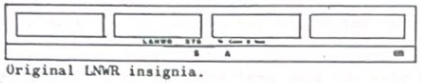
UNDERFRAME ASSEMBLY.

Assemble the parts in the following order (the part numbers are etched on the frets):

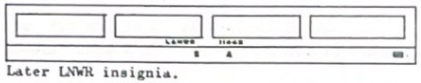
1. Sub-floor. Bend the solebars down and their bottom edges outwards, the buffer beams down and their bottom edges inwards, lay the unit upside-down, then glue in place:
2. Spring hanger detail, fixed axleguard end. These parts fit inside the solebars, lined up with the corresponding parts on the axleguards themselves. Rivet detail faces outwards.
Bend downwards the fixed axleguards, the V-hangers and the remaining brackets under the floor.
5. Solebar detail, for the side with a V-hanger close behind the solebar. The two vertical groups of three rivets align with the V-hanger, and there is a group of five rivets forming an inverted W over each axleguard.
. Solebar detail, other side.
. Pivoted axleguards. Bend to shape as shown, fit between the brackets under the floor with the axleguard stays at the outboard end and pivot using a 25mm length of the thick wire. Bend one end so that it touches the floor at the inboard end and glue it to the floor.



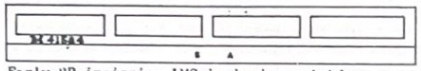
Pivoted axleguards (5) after bending.



Original LNWR insignia.



Later LNWR insignia.

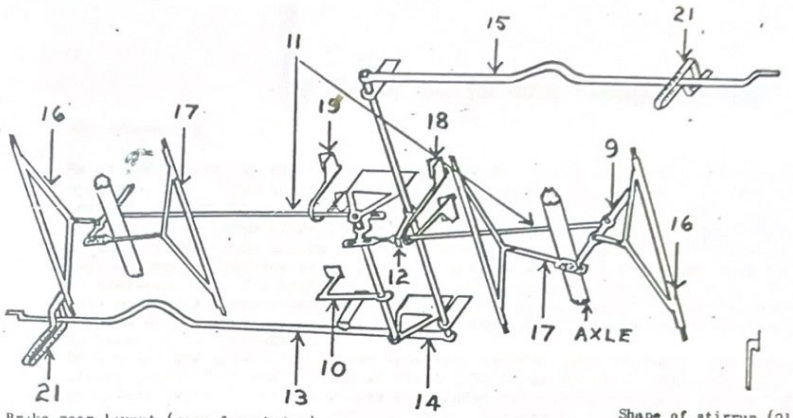


Early BR insignia. LMS insignia probably similar with no 'M' and 'LMS' at other end.

Glue the brass bearing cups into the axleguard holes from the inside. Any glue reaching the inside of the bearings must be removed when dry.

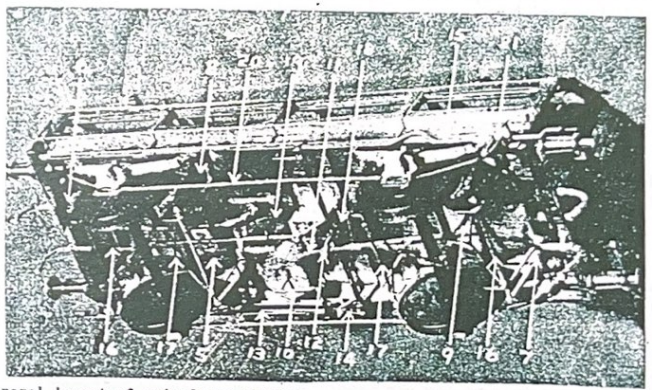
. Brake block detail. Glue in position on hangers 7 and 8 - place on soft material such as corrugated card, locate with a pin through the hole and glue.
. Brake hangers, fixed axleguard end. Bend down the hangers and safety loops and glue in place with the locating tongues through the mating holes in the axleguards.
. Brake hangers, pivoted axleguardsend. Fit similarly to 7.
. Brake linkage hanger (fixed axleguard end). Bend over the top flap and the small prong at the other end. Glue the flap above the floor with the hanger vertically downwards located in the notch between the axleguards.

From the thick wire cut a piece 30.5mm long for the handbrake shaft and another 15mm long for the vacuum brake shaft. Fit the vacuum brake shaft through the holes in the V-hangers, threading onto it the
0. Vacuum brake lever, at the outboard end, pointing towards the circle etched under the floor - bend over the rectangular end flap first. Thread on also
1. Pull-rods. First bend over the small prong at each end. The shorter end is furthest from the floor and passes below the handbrake shaft. Glue the ends of the vacuum brake shaft to the V-hangers and the prongs on the pull-rods through the holes nearest the floor in the brake linkage hangers.
Glue the brake cylinder to the floor in its marked circle and glue the fixing flap of (10) to the centre of its lower face. Fit the handbrake shaft through its brackets, threading onto it
4. Handbrake drop arm. The end of this engages the outboard side of the stops on the pull-rod (11). Glue all in place with the shaft projecting equally either side of the vehicle.
5. Long handbrake lever.
6. Handbrake reversing lever. Fit these two as shown to the handbrake shaft and the bracket near the vacuum cylinder. The cranked part of the lever points upwards and is just above the bottom of the solebar when the brake is off.
5. Short handbrake lever. Fit to the handbrake shaft diagonally opposite (13).
6. Outer brake block connecting bars. Twist the central pullrods 90°, bend over the small prongs at the ends, fit between the outer pairs of brake blocks with the prongs through the lower holes of the brake linkage hangers and glue in place.
7. Inner brake block connecting bars. These are numbered out of sequence. They should be left until the end of the assembly and the wheels are in place.
8 and 19. Brake pullrod safety loops. Bend the fixing flaps and glue beneath the floor with the projecting ends in their small locating holes.
0. Axleguard tierods. Glue to the outer faces of the axleguards.



Brake gear layout (seen from below).

Shape of stirrup (21) (full size)



General layout of underframe fittings

Glue the axlebox/spring castings in place on the face of the axleguards.

21. Handbrake lever stirrups. Bend to the shape shown. Cut off any excess and glue to the back and underside of the solebars, 2mm in from the right-hand end, with the handbrake levers passing through the stirrups.

BODY ASSEMBLY.

22. Floor lower layer. Bend to shape as shown.