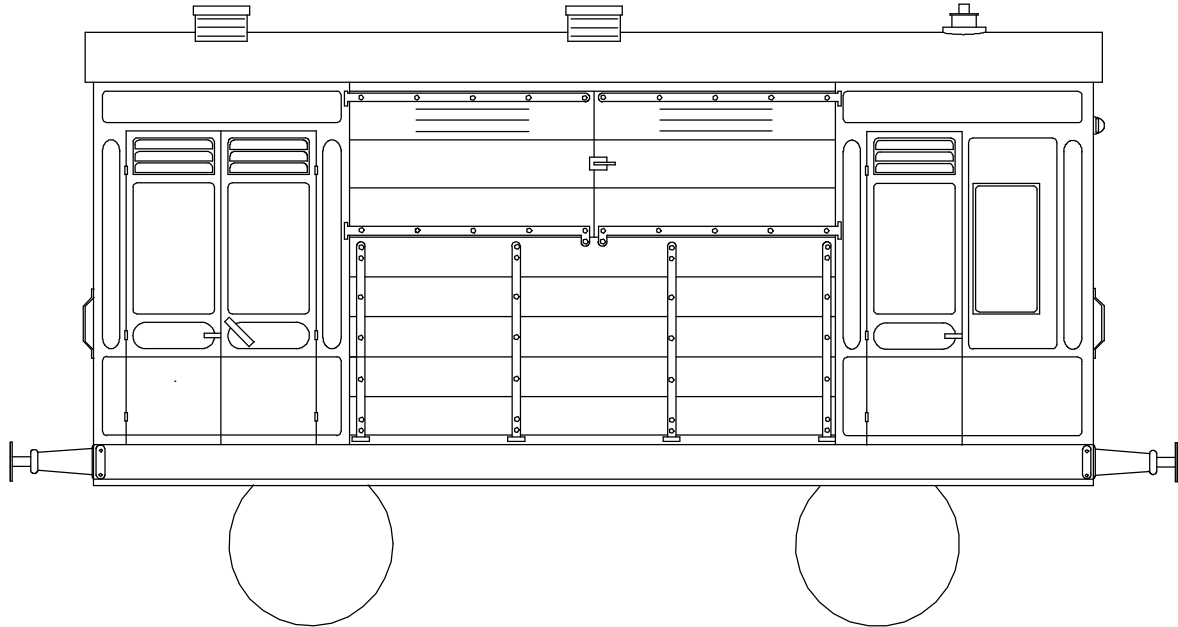




Chowbent 4mm

## London & North Western Railway Horse box Diagram 436 c1900-1940's



### Prototype information

The standard LNWR horse box was a well appointed design. The vehicle had a combined groom's compartment with a separate luggage compartment. The earliest horse boxes had the outside w-irons favoured in the 19<sup>th</sup> century. It is unlikely that any of these early vehicles survived into the LMS. Our model represents the later version with conventional inside w-irons.

Vehicles built before 1906 originally had no hand brakes but these were added later. Like many LNWR vehicles of the period they were fitted more or less indiscriminately with either the horizontal or vertical brake cylinders. Unfortunately it is not possible to say which horse box had which style of brake gear. Our model is supplied with a vertical vacuum cylinder which would appear to be the more common type.

681 of these vehicles were built between 1890 and 1906 with a further batch of 11 in 1913. Most survived into the LMS period and some into nationalisation in 1948. No definite information on scraping dates is available at the present time.

### Sample numbers

Sample numbers given below are for the later LNWR period. However the early LNWR number can be obtained by subtracting 10,000 from the later quoted numbers.

Later LNWR numbers      LMS 1923-33 numbers.

10002-16, 10075-119, 10243, 3352-64, 3462-524, 3640-88  
10254-65, 10334-38, 10455-77 3756-64, 3829-930, 3922-4007  
10504-16, 10599-699, 10722-82

LMS 1933 onwards.

42133-44, 42180-8, 43217-25.  
43280-7, 43316-33, 43383-95.  
43419-25

## Livery details

The underframe and fittings were painted black throughout. The LNWR livery was dark chocolate brown for the sides and ends, with the side mouldings lined in chrome yellow. The waist panels of the double doors were grey (slate). The roof was white when new but very rapidly become grey or even black in service.

The early LMS livery for the Horse Box was crimson lake for the sides and ends, with the side mouldings black lined with yellow, giving yellow-black-yellow. After the re-numbering, from 1933 the body was unlined crimson lake. The double door waist panels remained slate colour and the roof was painted grey. We suggest Precision Paint P30, P35.

## References

An Illustrated History of LNWR Coaches (including West Coast Joint Stock), D Jenkinson P162.

LNWR Liveries, HMRS, Talbot, Millard, Dow and Davies, P105

## Requirements to complete

Maunsell 14mm carriage wheels, paint.

## Assembly

Assemble the parts in the following order, the numbers refer to the those on the fret.

- 1) Floor. Fold the steps double and squeeze flat and secure with glue or solder. Bend the solebars down and the steps out, then bend the buffer beams down and their ends back twice. Turn the floor over and fit;
- 2) Spring hanger detail, fixed axle guard end. These parts fit inside the solebars, lined up with the corresponding parts on the axle guards themselves. Note that the rivet detail faces outwards. Bend downwards the fixed axle guards, the V-hangers and the remaining brackets under the floor.
- 3) Solebar detail, for the side with the 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 axle guard. Glue in place.
- 4) Solebar detail, other side. Glue in place.
- 5) Pivoted axle guards. Bend to shape as shown in the diagram. Then fit between the brackets in the floor, match the holes up with bracket with those on the pivoted axle guard and secure in place with 25mm length of wire. Bend the ends of the wire to hold the pivoted axle guard in place.  
Glue brass bearing cups into the axle guard holes from the inside, try not to get any glue on bearing surfaces.
- 6) Brake block detail, glue or solder in position on brake hangers 7 and 8, by pinning through the hole to ensure accuracy.
- 7) Brake hangers, fixed axle guard end. Bend down the hangers and safety loops solder or glue in the locating slots in the axle guards.
- 8) Brake hangers, pivoted axle guard end, fit as part 7.

- 9) Brake linkage hanger, fixed axle guard end. B end over the top flap and the small prong at the other end. Glue or solder the flap above the floor with the hanger vertically downwards located in the notch between the axle guards.  
From wire cut a length 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 on to it the parts 10 and 11.
- 10) Vacuum brake lever, ensure that it is pointing towards the half etched circle on the floor, bend over the rectangular flap first. Then also thread;
- 11) Pull-rods, first bend over the small prongs at the ends. The shorter end is furthest from the floor and passes below the handbrake shaft. Glue or solder 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 or solder the brake cylinder to the floor in the half etched circle. Then fit the handbrake shaft through its brackets, threading on to it.
- 12) Handbrake drop arm. The end of this engages the outward side of the stops on the pull-rod (part 11). Glue or solder in place with the shaft projecting equally on either side of the vehicle.
- 13) Long brake lever.
- 14) 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.
- 15) Short handbrake lever. Fit to the handbrake shaft diagonally opposite part 13.
- 16) Outer brake block connecting bars. Twist the central pull-rods to 90 degrees and bend over the prongs through the lower holes of the brake linkage hangers and glue in place.
- 17) Inner brake block connecting bars. These are numbered out of sequence on the fret because they should be left until the end of the assembly and the wheels are in place.
- 18 and 19. Brake pull-rod safety loops. Bend the fixing flaps and glue or solder into the locating slots in the floor.
- 20) Axle guard tie rods. Glue these to the outer faces of the axleguards. Then glue the cast axlebox/spring castings in place on the face of the axleguards.
- 21) Handbrake lever stirrups. Bend to the shape shown in the diagram, trim off any excess and fix the solebars 2mm in from the right hand end, with the hand brake levers passing through the stirrups.
- 22 and 23. Gas cylinder brackets bend the fixing flaps down. Fix the plastic cylinder through the holes in the brackets and secure in place on the underside of the floor, ensuring a lengthways aspect opposite to the vacuum brake cylinder. Note the brackets should be 3mm in from the end of the gas cylinder.

## Body Assembly

- 24) Inner layer. First side, form the tumblehome to match the curve on the ends. Bend the side flaps and the hinges to right angles and the alarm gear brackets at the grooms end, also the top flap to match the curve of the end roof line. Bend the floor locating tabs down.
- 25) Outer layer. First side. Curve the side to match the tumblehome formed on part 24, ease in place over the projecting door hinges and secure with glue or solder.
- 26 and 27. Second side, assemble as 24 and 25.
- 28) Luggage end.
- 29) Grooms end.
- 30) End handrails. Fit these through the holes at waist level in the ends. Then assemble the ends to the sides. Fit the body onto the underframe with the locating tabs through the slots and secure in place. Note that the body will only fit one way round.
- 31) Lamp irons (on body sheet ) and also 43 on underframe sheet. Bend the fixing flaps. Pass two through each buffer beam and one through each end at waist level, secure from the inside, then bend up 0.75mm out from the ends.
- 32) Grab handles. Fitted through the two holes below the grooms windows. \*\*\*
- 33) Lock plates for top horse doors. Line up the hole with that in the top door with most of the plate above and to the left of this hole.

- 34 Door T handles. Three each side, through the holes in the waist panels of the grooms and luggage doors and the lock plate of the top horse doors.\*
- 35 Luggage door handles. Through the upper hole in each pair of luggage doors - bend over the short end before fitting. \*\*\*

**instructions marked thus \*\*\*should be fitted after final painting.**

- 36 Door ventilators. Glue in place in the top panel of each door. (not numbered on the fret).
- 37 Bottom door hinges. Glue in place as shown on the diagram.
- 38) Detail layer. Glue on top of the bottom edge of part 37.
- 39) Top door hinges. Fit as shown on the diagram.
- 40) Top door lower hinges. Fit as shown on the diagram.

## **Roof & Interior Assembly**

Cut out and fit the pre-drawn plastic floor and partition. Trim the seat moulding to size. Fit the buffer bodies to the buffer beams. At the grooms end fit the brake hose castings and alarm gear pipes and rods( the latter from thin wire) as shown in the diagram. At the other end fit the brake hose castings to mirror those you have just fitted at the grooms end. The horse box can now be painted in your chosen livery. When dry, fit the glazing to the inside of the grooms windows. Cut out the formed plastic roof using the drawn roof on the plastic sheet as a template. Drill a 1.5mm hole for the lamp top, fit in place and also;

- 41) Ventilator bases. Fold into a box shape and glue to the roof with the louvres showing to the sides.
- 42) Ventilator tops. Curve very slightly to match the top of parts 41 and fit in place on their tops.

Paint the roof as required and glue in place.

For fitting of the buffers see instructions on the orange card.

- 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 the brake blocks only, if the other end is left unglued, the wheels may still be changed without to much difficulty.

Select and fit the transfers appropriate to your chosen livery and fit in place with reference to the information provided in the kit.

Finally fit the imitation screw couplings.

Bend the links, lever and centre section (etched line inside the bend). Assemble as shown in the diagram. Retain by wire through the nearest hole behind the buffer beam.

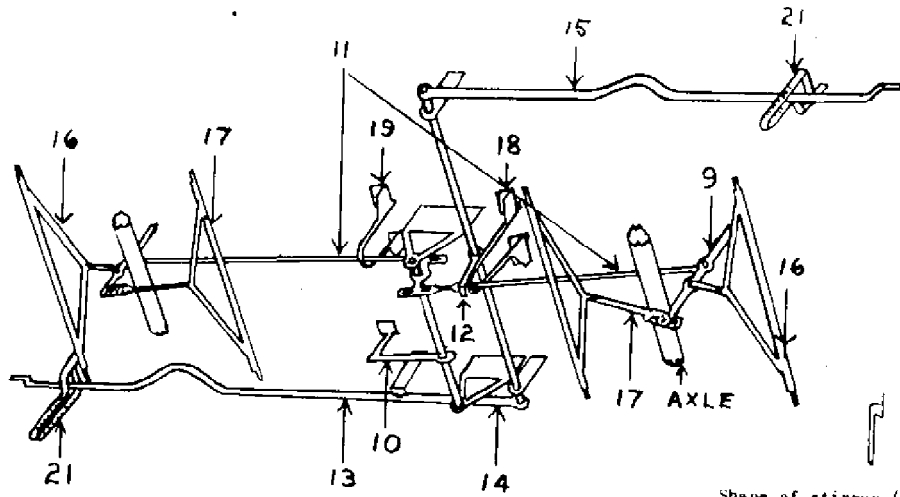
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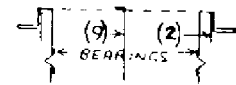
Email:Peter@51L.co.uk.

[www.51l.co.uk](http://www.51l.co.uk)

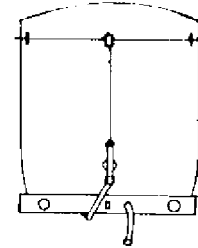


Brake gear layout (seen from below).

Shape of stirrup (21) (full size)

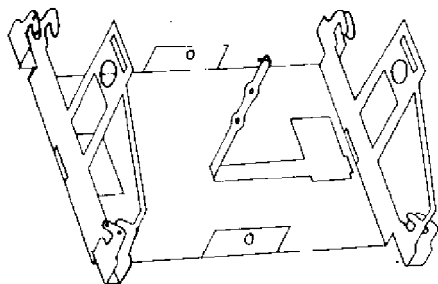
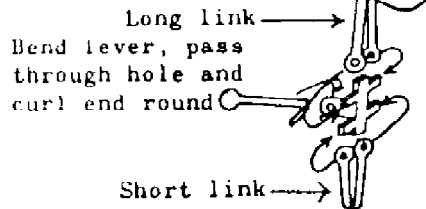


Cross section of floor at fixed axleguard.

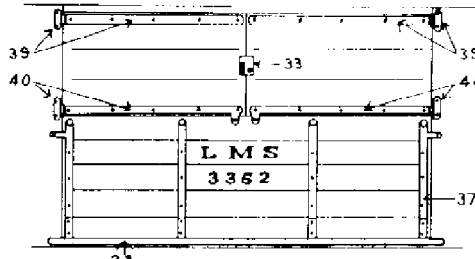


Brake hoses and alarm gear at groom's end.

Screw coupling assembly.



Pivoted axleguards (5) after bending.



Arrangement of horse door hinges. Also shows probable position of first LMS number. Second LMS number was probably in lower panel at right-hand end, with 'LMS' at same height on left.

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