

Preparation

Basic items required are craft knife, tweezers, light flat file, round rat tail file, pliers, 1/32", 3/64" drills, liquid plastic cement, 'super glue' and paints. Parts **19, 26, 27, 28, 29, 30, 31, 42, 43, 52** and **53**. are moulded in ABS plastic. This is a very tough plastic and will not stick with ordinary polystyrene cement. A strong cement such as MEK or Plastic Weld or superglue is recommended. Always check the fit of parts before fixing into position.

Construction

Assemble body. Attach the sub chassis (**6**) to the underside of the floor (**5**). The short wider part on one of the longitudinal members should go adjacent to the 'X' on the floor. If you need to remove any ejector pin marks from (**6**) make sure the small locating bumps which line up with the corresponding holes under the floor are not damaged. It will make subsequent construction easier if only the longitudinals are cemented at this stage and the cross members are left unfixed.

Remove and discard the solebar from the side (**2**) moulding. Note that the sides (**2**) are not the same when completed, with the notched planks for the partition to the left on one side and to the right on the other. Using a 1/32" drill make holes on the sides of the verticals either side of the open sections 8.5 and 14mm from the top of the sides. Cut 8 pieces of the 0.030" plastic rod provided 44.5mm long and insert between the pairs of holes, fixing with liquid cement. Add planks (**48, 49, & 50**) as shown in the drawing. Remember to reverse positions for other side. Fix the label board (**51**) as shown. Add the end verticals (**4**) to the ends (**3**). At this stage you can also attach the couplings. Assemble coupling chains (**40**). Attach these to the eye hole of each coupling hook (**38**). Insert it through the buffer beam, slide on spring (**39**) and bend out ends to retain spring.

Photographs suggest that there was no hard and fast rule for which way round the body goes on the chassis. Cement the floor (**4**) onto the ledge on the inside of one end (**3**). Then add the sides and the other end. Check that the assembly is square. Fit the partition (**47**) into your desired position (see Historical), with framed side nearest the end.

Lightly cement seven ribs (**46**) under the roof (**1**) along the lines marked. While the cement is still not set, try the roof on the body and make any adjustments to the ribs before finally cementing place. Do not fix the roof until painting inside is done.

Assemble chassis. Assemble axle boxes by fitting the lid (**9**) to the axle box body (**10**) and cementing this to its base plate (**11**). Use a bearing cup (**13**) to line them up. Push bearing cups (**13**) into axle box backs (**12**), insert into 'W' irons (**8**). Note that for both parts (**11**) and (**12**) the correct way up is with the axle hole in the bottom half of the moulding. Clean out the axle box holes if necessary to fully take the bearing cups. Put a drop of 'super glue' on the end of each bearing cup (**13**) and add the axle box assembly (**9, 10, and 11**). Alternatively cement the axle box assembly onto the back (**12**). In any case ensure that the assembly moves freely on the 'W' iron. This will give an element of compensation. The axle box can also of course be cemented rigid onto the 'W' iron. Make sure that the axle boxes sit evenly under the springs. Now fix the 'W' iron / axle box assemblies onto the backs of the sole bars (**7**).

For simplicity the two sides of the wagon will be called either 'X' or 'Y' corresponding to the letter marked on either side of the floor. Before assembling the brake gear clean out any holes. The larger holes are 3/64" and the smaller 1/32" Take one solebar and add Vee hangers (**14**) and (**15**). This will go on the 'Y' side of the wagon. On the other solebar add one Vee hanger (**15**) in the right hand position. This will go on the 'X' side. Cement the two solebars into position. Insert the wheels and check that they turn freely.

Attach the brake shoes (**16**) to the cross members under the floor with the brake shoes in line with the wheels. The brake shoe mouldings should be fitted with the round ejector pin marks facing towards the inside of the wagon. If the shoes bind on the wheels pull them gently outwards. When satisfied, finish cementing the sub chassis (**6**) to the floor (**5**) as mentioned above.

Refer to the diagram for the correct alignment of the brake gear. Onto the cross shaft (**17**) - plastic rod (which if necessary may be sanded down to fit the holes) - slide on the brake cylinder lever (**18**), the cross shaft double lever (**19**) and the cross link (**20**). Slide the safety loop (**21**) on the cross link. Pass this assembly through the two Vee hangers (**14**) and (**15**). Leave enough rod at the (**15**) end to attach the brake lever (**22**). Attach the brake lever guide (**23**) to the lever. The cross link (**20**) goes against the back of the Vee hanger (**14**). Cement the assembly (except **14** and **20** and the two levers **18** and

19) into place. With another piece of the plastic rod pass it through the other end of the cross link and the other Vee hanger and add the remaining brake lever and lever guide as before. Locate the top of the safety loop (**21**) against the floor. Cement the assembly.

Take vacuum cylinder (**24**) and add trunions (**25**) to either side. The thicker part of the trunions should rest on the lip of the cylinder. This will give the correct height for the cylinder. Attach underneath the floor (**5**) with trunions against the longitudinal chassis member (**6**) at the short wide section and the corresponding recess in the **X** side solebar (**7**). Cement the end of the brake cylinder lever (**18**) against the shaft of the brake cylinder.

Assemble the brake rigging. Make up the two hangers (**26**) and (**27**). Then take the short yokes (**30**) and fit their lugs into the middle set of holes in the double levers (**28, 29**) and cement the two parts of the double levers together at the spacer on (**28**) and the hole on (**29**). Now slip the outer ends of these lugs into the holes in the hangers (**26**) and (**27**). The long yokes (**31**) should be fitted with their lugs in the remaining holes in the double levers (**28, 29**). These assemblies should then be fitted as shown in the diagram. On the vacuum brake cylinder end of the wagon the linkage with the **short** hanger (**27**) goes over the axle, while at the other end the linkage with the **long** hanger (**26**) goes under the axle. It is suggested that the short yokes (**30**) should be fitted to the outer brake shoes (**16**) first, then the inner shoes connected and finally the hangers fixed to the locating slots under the floor. Take a 35 mm section of the brass rod and make a hook around one end. Attach this to the bottom of the double lever (**28, 29**) at the vacuum brake cylinder end of the wagon and loop the other end into the bottom hole of the cross shaft double lever (**19**) so that the rod lies approximately horizontal (**32**). Repeat this operation at the other end of the wagon with a piece of rod 65 mm long (**33**), again running from the top hole in the cross shaft double lever (**19**) to the top of the corresponding double lever (**28, 29**).

Add the four brackets (**52**) each side between the solebar (**7**) and the underside of the floor. These should be located 11 and 35mm either side of the centre. The longer ends arms go against the solebar. Fit the door spring (**53**) on the solebar on its centre line.

Assemble buffers. Attach the buffer ring (**42**) to the end of the buffer casing (**43**). Fit a spring (**44**) onto the shaft (**41**), slide into buffer casing and secure with the nut (**45**). The nut should also be secured with a drop of Loctite or similar. The buffer castings make a tight push fit into the holes on the buffer beam. Note that the short web on the casting should be uppermost. The buffers should be just under 12mm long.

Add the lamp irons (**34**) to the ends (**3**) as indicated. Attach the steam pipe (**54**) and vacuum pipes (**35**) and (**36**) - noting these are handed - (**35**) goes on the vacuum brake cylinder (**24**) end of the wagon.

Historical

The LNER was a little slow in providing modern rolling stock. Until the early 1930's cattle truck construction had used a 9 foot wheel base wooden chassis. This was a poor design which tended to bow quite severely. Some of these earlier wagons which had the vacuum brake were converted to 10 foot wheel base and by 1937 new construction resumed with a batch of 10 foot wheelbase vacuum fitted trucks. Traditional wood chassis was retained. The cattle trade by rail began to decline between the Wars but enough traffic remained for many of these wagons to last until around 1960.

Cattle were carried at a per wagon rate irrespective of the number of beasts in the wagon. The railways were to supply three sizes of cattle truck, small, medium or large. The LNER only built the large type, hence the moveable partition or 'flake' to adjust the size of the wagon. (A single beast might be carried between the partition and the nearer end)

Sample Numbers. 153498, 156201, 196127, 196265, 196645. After Nationalisation an 'E' prefix was added.

References; A Pictorial Record of LNER Wagons, Peter Tatlow, OPC; The 4mm Wagon Part Two, Geoff Kent, Wild Swan. British Railway Wagons Vol 5, Gamble, Cheona Publications.

Painting & Lettering

LNER; Body including buffer beams and solebars, brown red oxide (Railmatch 625). Lettering, white. Roof, white or grey. Buffers, running and brake gear, black. Inside either white or clear matt varnish was used or plain wood in later days.
BR; Body including buffer beams and solebars, bauxite brown (323); buffers, running and brake gear, black; roof, coach roof grey; lettering, white. Inside as for LNER.

Examples of different lettering styles are shown in the drawings. The 'XP' is common to both post 1937 LNER and to BR.

Transfers: This kit is supplied with WATERSLIDE transfers. Ensure the surface is clean and free of grease. The best results can be achieved by painting the base colour in gloss or applying a coat of Microsol or Microset. Cut out the required decal complete with backing paper and soak for around 15 seconds in lukewarm water. Slide the decal off the backing paper into position, lining it up with a match stick or similar. When in position press gently down with a tissue soaking up the surplus water. If desired finish with a coat of matt varnish.