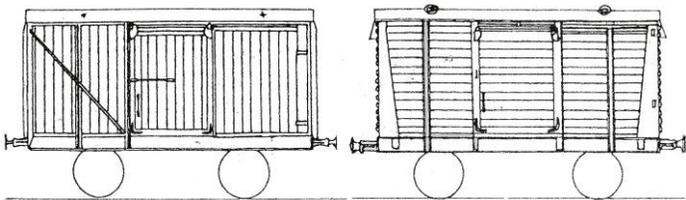




## **N Gauge Society Kit 18 LMS/BR 12 Ton Box Vans (Twin Pack) NGSK0180**



Kit contains plastic parts, one-piece plastic chassis, and wheels to complete two wagons.

*To complete this kit you will need: Liquid Plastic Cement, Paint, Transfers & Varnish*

This is not a toy. Only suitable for persons over the age of 14. May contain small parts and sharp edges. Keep away from small children.

### **The Prototype**

This kit will allow two different types of box van to be built. There are also additional end parts included to enable a third variant of these vans to be built as well. The types possible are as follows and page references refer to the OPC publication, LMS Wagons Volume One by RJ Essery.

#### Type 1 - Diagram D1676 (Pages 129-131)

A 9ft wheelbase van with vertically planked sides and ends, the ends having ventilator hoods. 2,956 vans were built by the LMS to this design between 1924 and 1928. They remained in service to the mid 1960's.

#### Type 2 - Diagram D1664 (Pages 38-39)

A variant of the 9ft wheelbase van noted above but having unventilated ends and roof vents. 2,544 vans were built by the LMS to this design between 1924 and 1926 and again they remained in revenue service until the mid 1960s.

#### Type 3 - Diagram D1897 (Pages 42-45)

Possibly the best known of LMS vans, they featured a 10ft wheelbase, were horizontally planked on their sides and had pressed steel corrugated ends. A grand total of 7,500 vans were built to this design between 1935-1936 and were the largest single group of wagons to be built by this railway company. These vans also remained in regular use until the mid-1960s.

### **Livery and Lettering**

The following notes are a general indication only. For total authenticity, the modeller should refer to books on the subject.

### **Getting Started**

First, read the instructions thoroughly all the way through and be sure you are confident that you have identified all the parts. It is recommended that you adhere to the suggested order of assembly, though with experience, you may choose to deviate. The kit has been designed to cover two types of van; decide before you start which one you wish to build.

### **General Notes On Construction**

Naturally, the N Gauge Society wants you to achieve the best results you can. These simple guidelines should help:

- Read the instructions through fully before you begin
- Use a sharp knife to separate the parts from the sprues
- Clean off any flash or moulding pips with sharp knife and wet 'n' dry sandpaper
- Check fit before gluing
- Use a small paint brush to sparingly apply liquid plastic cement when joining parts
- Photographs of the prototypes will help you

***But above all .... TAKE YOUR TIME!!***

## N Gauge Society Kit 18 – LMS / BR 12 Ton Box Vans (Twin Pack)

### LMS Pre-1936

Body together with headstocks and solebars of chassis was grey. Roof, as built, was white though due to the effects of smoke and weathering, this quickly changed through all shades of grey to near black. All other parts were painted black. Lettering was white with large LMS placed on van doors and wagon number in bottom left hand corner.

### LMS Post-1936

Body including headstocks was bauxite. Roof was white with darkening due to age as above. All other parts were black. Lettering was white with small LMS letters, tonnage and wagon number placed one above the other at the bottom left hand corner of body.

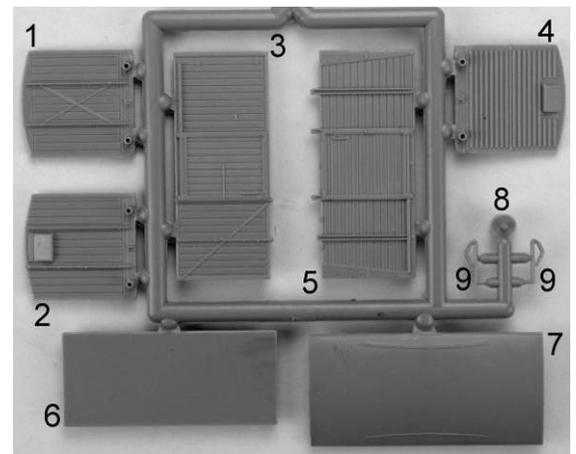
### British Railways

Non-vacuum fitted stock was light grey body including headstocks. Roof was grey and all else was black. Lettering was white on black patches, wagon number and tonnage bottom left, tare weight and X.P. rating if applicable, bottom right. Vacuum fitted stock was bauxite body including headstocks. Roof was grey. All other parts were black. Lettering was white, applied directly to the body.

## Parts

Two sprues are packaged with this kit. Unpack the separately packaged Peco chassis packs. Use the following photograph and table to identify all the parts. Keep all the parts in a container or re-sealable bag to avoid loss and only remove parts from the sprues as you need them.

Part Number	9ft Wheelbase Van	10ft Wheelbase Van	Description
1	X		Unvented end
2	X		Vented end
3	X		Side
4		X	Vented corrugated end
5		X	Side
6	X	X	Floor
7	X	X	Roof
8	X	X	Vacuum Cylinder
9	X	X	Vacuum pipe



## Construction

Only a few basic tools are required – a sharp craft knife, wet 'n' dry sandpaper, a selection of small drill bits (in particular 0.8mm) and tweezers (preferably fine point):

- Construction is the same for both the LMS and LNER versions unless noted.
- A liquid polystyrene glue such as Mekpak is best, using a small paint brush to apply small amounts to joints.
- It may be easier if the body and chassis are left as separate units for painting and then glued together after painting.

**NOTE** Some details are omitted from some diagrams for clarity.

### 9ft Wheelbase Vertically Planked Van Body

1. Decide whether to build the van with the unvented ends (**Part 1**) or the vented ends (**Part 2**). Remove from the carrying sprues the chosen ends, the vertically planked sides (**Part 3**), a floor (**Part 6**) and a roof (**Part 7**). Clean up these parts to remove sprue attachment points, mould lines or any flashing which may be present. Put the remaining parts still attached to the sprues to one side.

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2. Take the floor unit and remove the coupling housing plugs on the underside as these are not required (Fig.1).

3. Drill two ventilation holes of approximately 3mm diameter in diagonally opposite corners of the floor (**Part 6**) to allow polystyrene glue to evaporate from inside the completed model (Fig. 1). Without these holes, trapped glue can continue to soften the plastic which may damage the completed model.

**FIG.1 - UNDERSIDE OF VAN FLOOR**

Remove coupling plugs for 9ft chassis  
(Leave in place for 10ft version)

VENT HOLES

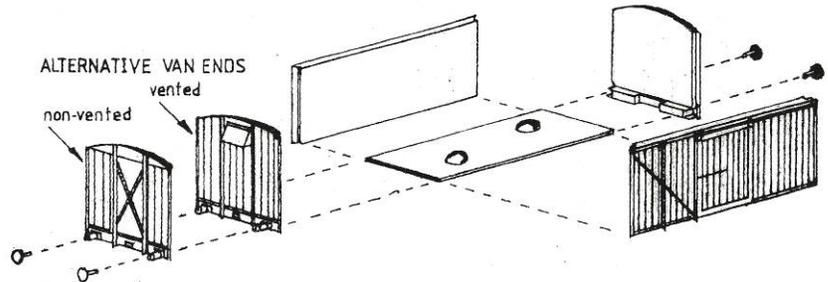
9ft chassis solebar location  
blocks (remove for 10ft version)

4. The floor (**Part 6**) and one end (**Part 1 or 2**) may now be glued together. Ensure that the floor is firmly on the blocks found on the inside face of the end and that there is equal overhang of the end either side of the floor (Fig. 2).

**FIG. 2 - EXPLODED DRAWING INDICATING FIT OF PARTS**

(9ft wheelbase van type drawn but 10ft version the same)

5. Take one of the body sides (**Part 3**) and glue to both the floor and end. Take care to ensure that the bottom edge of the side is exactly flush with the underside of the floor and the mitred corner joint between the side and end is fully home. Note that the side should be placed with the diagonal strapping running from the bottom left hand corner of the door upwards to the top outer corner of the van side (Fig. 2).



6. Repeat this process for the opposite side (**Part 3**) and end (**Part 1 or 2**). If your confidence allows, it is recommended to fix the sides, ends and floor together at the same time to allow time for adjustments to be made whilst the glued joints are still soft. Once satisfied that all is square and true, place on one side to allow time for joints to fully harden.

7. Glue the weight provided with the chassis kit inside the van on top of the floor. Use a strong glue such as superglue because once the van roof is fixed in place, you will not be able to get at it should it come loose.

8. If the van type you wish to represent requires roof vents, drill the four holes required to fit them with a 1.8mm drill. Location indents for these holes will be found marked on the underside of the roof (**Part 7**). From the sprue of roof vents provided, remove them one at a time and push each one through a hole in the roof, securing with glue on the underside. These vents are difficult to hold, so use tweezers and take your time. Spares are provided in case of loss. When all the roof vents are secured in place, turn the roof over and them to ensure that they are in line and all facing the same way (Fig.3).

**FIG.3 - FITTING ROOF VENTS**



Fix vents as shown  
ensure all are in line  
in both directions

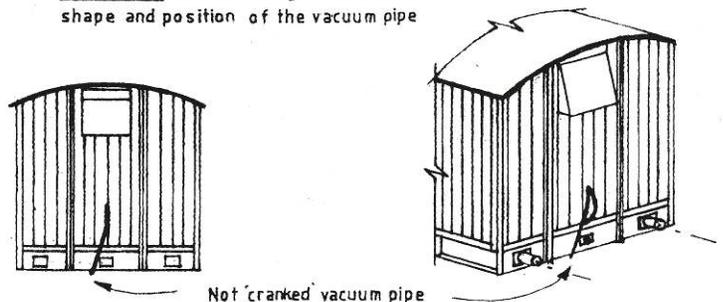
Blind ventilator location holes  
on the underside of the roof

9. Glue the roof to the van body taking care to ensure equal overhang on all sides.

10. Clear buffer housings using a 0.8mm drill bit until the turned brass buffers are an easy fit. When satisfied, secure the buffers in place using a spot of superglue.

**FIG.4 - Van end indicating the correct shape and position of the vacuum pipe**

11. If required, fix vacuum pipes (**Part 9**). To be truly accurate, the vacuum pipes on these vans were at an angle, approximately 9 degrees to the left of the coupling hook and leaning towards the centre line of the van end, the top 12" of the pipe then being bent to vertical in line with the centre of the van end (Fig. 4). It is fairly simple to bend the



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pipes by first softening the plastic of the upright part of the pipe with liquid polystyrene cement and gently forming the bend using tweezers. Take care as this part is delicate. Alternatively just stick the pipe in place to the left of the coupling hook and leave it vertical.

### 9ft Wheelbase Chassis

12. Cut the solebars, brake-gear, coupling pockets and coupling plugs from the 9ft wagon chassis sprues. Glue the brake-gear to the solebars and leave to harden; note that brake gear was fitted to one side only on these vans.
13. Once the glued joints have set, try the solebar/brake-gear units for fit between the headstocks of the van. A little trimming of plastic from both ends of the solebar may be necessary for a good fit then these units may be glued in position. Ensure the inside face of the W-iron rebates on the solebars butt up to the location blocks on van floor (Fig. 1).
14. With the joint glued but not set, now is a good time to pop in the Peco wheelsets to check for free running, adjust as necessary and once satisfied, place on one side to allow time for the glued joints to fully harden.
15. Take the Peco couplings and place them into the coupling housings, ensuring they are placed the correct way, with the pins pointing down. Insert the coupling retaining plugs into the top of the housing, ensuring that they too are placed the correct way round (Fig.5).
16. Check that the couplings lay horizontal when at rest and that they move freely (adjust if necessary, by moving the retaining plugs up or down). When satisfied, place a small amount of liquid polystyrene glue to secure the plugs in place (this to avoid glue seeping down onto the coupling itself and preventing its free movement). Place on one side to allow joints to harden.
17. When all joints are fully hard, the coupling units may be fixed in place ensuring they are fully located into the rebate behind the headstocks.
18. Add the vacuum cylinder, if required. Glue a piece of card about 1.5mm thick to the underside of the floor and then glue the cylinder on top of the card, this to lower the cylinder to its correct height. Position this assembly 1mm to the right of the V-hangers and approximately 1mm inboard from the far side brake-gear when viewing the chassis from underneath (Fig.8).

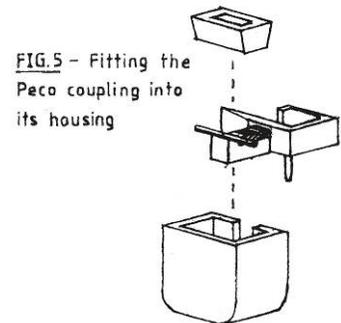


FIG.5 - Fitting the Peco coupling into its housing

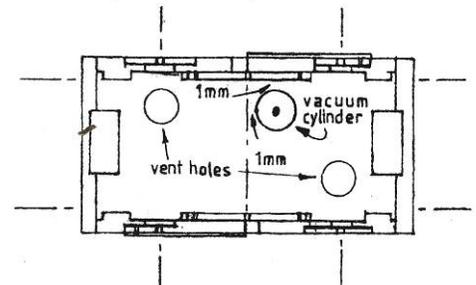


FIG.8 - Underside of wagon chassis indicating the position of the vacuum cylinder and body vent holes.

### 10ft Wheelbase Horizontally Planked Van Body

19. Construction for this model follows the same procedure for the superstructure as that suggested for the 9ft wheelbase version. The only major differences is that the moulded coupling plugs found on the underside of the kit floor are left as supplied and the four circular location blocks used for the 9ft chassis are removed.

### 10ft Wheelbase Chassis

20. Remove the two round locating lugs on top of the Peco 10ft chassis and any trace of the injection point in the middle, so that it is flat. The only modification needed is to remove the moulded buffers and headstocks by cutting as close as possible immediately behind the headstocks. Once done, check the chassis for fit and if tight, remove a little plastic at a time from both ends of the chassis until it slips easily into place.
21. Once satisfied with the fit of the chassis, attention must now be turned to the couplings. To allow them to lift properly, approximately 1mm of plastic must be removed from the top of the coupling shank (Fig. 7), this to stop it fouling on the underside of the headstock. If you use an uncoupling system such as the Peco magnetic uncoupling lifter arms, you may need to reduce the height of the headstock pieces in order to ensure that the couplings lift far enough.

FIG.7 - COUPLING MODIFICATIONS



To ease vertical coupling remove 1mm of plastic (shown hatched) from the top of the coupling shank

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22. Fit the couplings into their housings with the pins pointing down and offer the chassis into the body to check the couplings are free to lift high enough to couple/uncouple and that when at rest, they lay horizontal. Adjust as necessary. If all works as it should, the chassis may be glued in place.
23. The vacuum cylinder is next glued in place approximately 1mm to the right of the V-hangers and 1mm inboard from the far side brake rigging when the chassis is viewed from underneath (Fig. 8).
24. Finally, fit the wheels – place the end of one axle in an axle cup on one side, then place the other end over the axle cup on the opposite side. Use a small screwdriver to gently ease the chassis away from the wheel until it drops into the axle cup. Check for free running – sometimes, the axles can be a bit stiff, but swapping the axles or reversing them can cure this.

### Painting And Transfers

25. The secret to a good finish is in preparation and planning ahead. Paint the wagon body grey, bauxite or olive green as appropriate; the inside of the LNER wagon a 'rust colour'; the inside of the LMS wagon a light brown to represent unpainted weathered wood; chalk boards black. While the chassis is already black, it will benefit from a coat of matt black to remove the plastic finish. Give the wagon body a coat of gloss varnish as this will help the transfers to adhere.
26. To apply the transfers, soak them in a dish of warm water for a few seconds, drain off the water, lay on a flat surface and then use the tip of a cocktail stick to check that the transfers will move free of the backing paper – if not, return to the water and repeat this step. Once the transfer moves, place it on the model and use the tip of the cocktail stick to hold one end to the model while pulling the backing sheet away with tweezers. There should be time to make a few adjustments as necessary.
27. Leave all the transfers to dry for half an hour and then apply a 'decal setting solution' (such as Micro-Sol) if required which will help the transfers to lie and form over detail such as planking and the corrugated ends. Then leave overnight before applying a coat of matt varnish to seal the transfers to the model.

***Congratulations! Your model is now complete.***

