

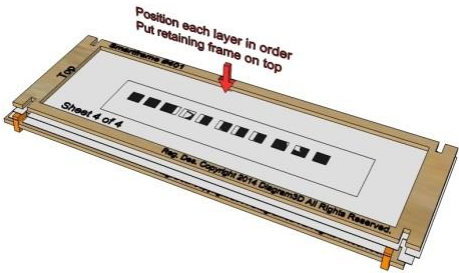


London & North Western Railway (LNWR)
21 foot Passenger Brake van
7mm scale , "O" Gauge



Includes Smartframe.

Lasercut MDF and card kit



7mm scale kit, "O" gauge
Adhesive, paint not included

LNW703

LNWR 21ft Brake Van

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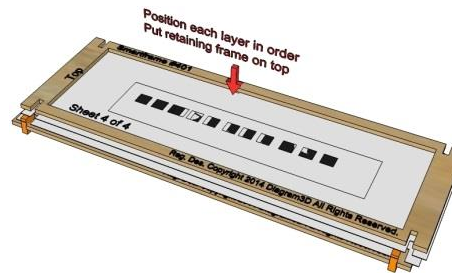


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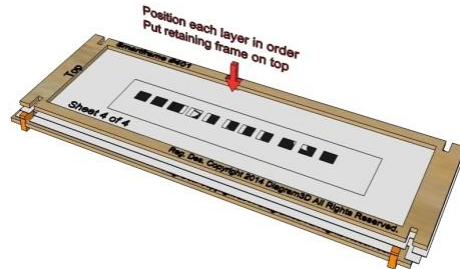


Introduction

MDF parts

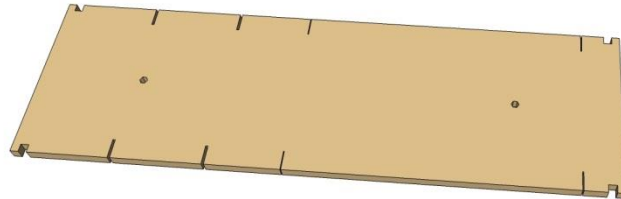
This kit contains:

1. **SmartFrame**

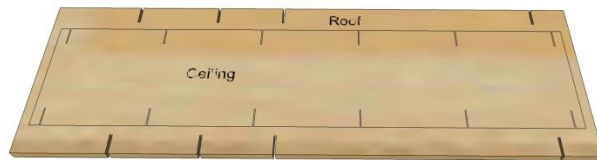


Upper and lower frame plus alignment clips. The interior of the frame contains additional components (floor, ceiling and roof). Remove these parts

2. Floor for this vehicle (interior of Smartframe)



3. Roof & Ceiling for this Vehicle (interior of Smartframe)



4. 4. Another frame is included containing chassis components,

Cardboard panels

1. **Cardboard** panels – a total of 16 layers
- 2.

There are four layers for the each side and guards lookout – eight in total..

Layer	Description
Layer 1	Window Frames (and droplights where applicable)
Layer 2	Window apertures, lower panelling.
Layer 3	Upper panelling
Layer 4	Upper panelling beading

There are two layers for the vehicle ends.

Layer	Description
Layer 1	Coach ends
Layer 2	Coach end panelling, steps etc.

There are two layers for the guard's lookout.

Layer	Description
Layer 1	Guards lookout lower layer
Layer 2	Guards lookout, upper layer.

There is one layer for partitions and internal bracing of the model.
 There is one layer for the roof.
 There is one layer for roof struts and formers.
 There is one layer for axleguard and chassis overlays.

Sundry Parts

3. Sundry parts include acrylic glazing.

Not included

- **Adhesive to attach the parts. PVA is recommended for the MDF parts.**
- **Craft knife, Clamps, weights or other tools**
- **Paint and filler**
- **Wheels, bearings, Buffers, couplings etc.**

Intended Audience

This kit is intended to reduce the time, complication and labour associated with the construction of a detailed model using accurate pre-cut layers which can be conveniently assembled in the supplied SmartFrame without specialist knowledge to give the same quality, or better, as traditional methods.

The choice of underframe, wheels, buffers and other details is left to the modeller.

Hints on assembly

*Separating MDF components cleanly is more easily accomplished by completing the half etched portions on the **reverse** of the fret rather than cutting from the front.*

Separate parts by cutting the reverse side of the fret.

Do not separate components from layers until assembly is complete or instructed to do so.

At each stage, once the required components have been separated from the frets, test the assembly without glue to ensure that the parts are trimmed correctly and fit properly before final assembly with adhesive.

Pre-assemble and check parts at each stage.

Allow as much time as needed for the adhesive to set.

Fill any gaps and smooth surfaces for optimal results

It is strongly advised that cardboard parts are sealed with a fixative (obtainable from art shops) before assembly.

Seal Cardboard components.

The assembly steps are recommendations and should not be taken as definitive.

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SmartFrame Preparation

Attach the clips to the bottom section of the **SmartFrame** as shown below:

(Applies to all versions of **SmartFrame**)

Total preparation and assembly time about 25minutes.



Hint: Partially insert the clips and then press home by placing on a firm flat surface such as a table top.

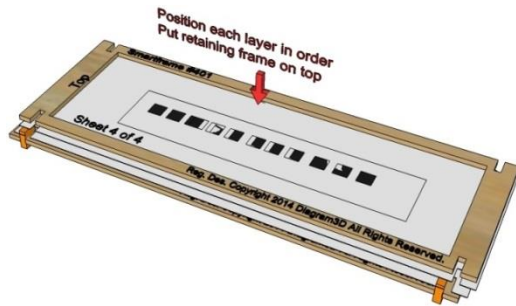
Do not apply excessive force!

(A spare clip is provided in case of accidents.)

SmartFrame

The following diagram illustrates how to use the **SmartFrame**:

General Hints on using the SmartFrame



Position the layers of the same description in ascending order on the lower frame beginning with the first layer. The layers have the legend "1 of x", "2 of x" and so on.

Hint: Do not force the individual layers into position, assemble each

layer at an angle so that one side is in position and then position the other side into place. When assembled, extra pressure can be applied with rubber bands or "bulldog clips" on the ends of the frame.

Coach Sides

There are four layers for the sides.

Total preparation and assembly time about 5 minutes.

Allow sufficient time for the adhesive to dry thoroughly

Layer	Description
Layer 1	Window Frames (and droplights where applicable)
Layer 2	Window apertures, lower panelling.
Layer 3	Upper panelling
Layer 4	Upper panelling beading

Insert these into the **SmartFrame** in order as described above.

Apply adhesive to each layer and put aside until dry.

Hint: The individual layers can be painted in advance.

When thoroughly dry, detach the coach sides from the surround using a sharp craft knife.

Coach Ends

There are two layers for the ends.

Total preparation and assembly time about 5 minutes.

Allow sufficient time for the adhesive to dry thoroughly

Layer	Description
Layer 1	Coach ends
Layer 2	Coach end panelling, steps etc.

Insert these layers into the **SmartFrame** in order as described above.

Apply adhesive and put aside until dry.

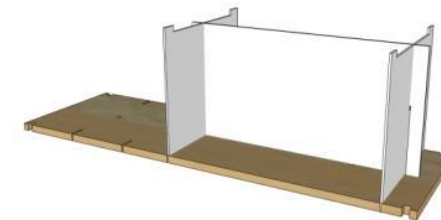
Hint: The individual layers can be painted in advance.

When thoroughly dry, detach the coach ends from the frame using a sharp craft knife.

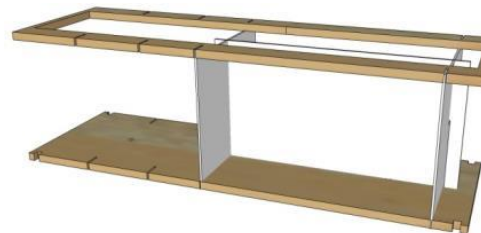
Floor

Total preparation and assembly time about 5 minutes.

Allow sufficient time for the adhesive to dry thoroughly



Detach the interior supports carefully using a sharp craft knife. Insert the partitions into the floor and glue in position.



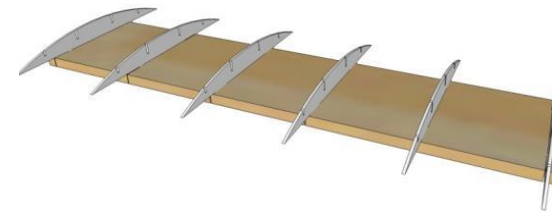
When set, attach the roof section and allow to set. A light weight on the roof section will assist in keeping the structure square.

Roof

Total preparation and assembly time about 15 minutes.

Allow sufficient time for the adhesive to dry thoroughly

Take the ceiling (MDF) component and attach the roof members as shown below:

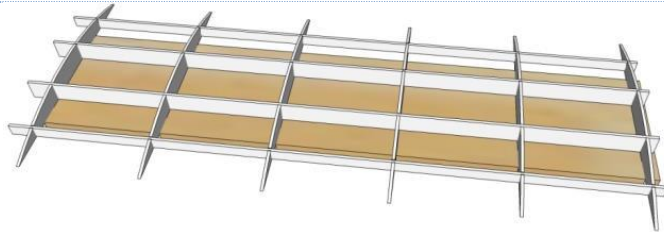


When set, attach the longitudinal members as shown below.



Assembly Instructions

London & North Western Railway (LNWR) 21 foot Passenger Brake van 7mm Scale "O" Gauge.



When the assembly is complete and fully set then the roof covering can be attached.

Detach the roof section from its layer To bend the material, use a section of tubing and roll the cardboard on a rubber mat or similar surface. Use a small diameter to create the end profiles. It is strongly recommended that this process is practiced on some of the scrap material beforehand.

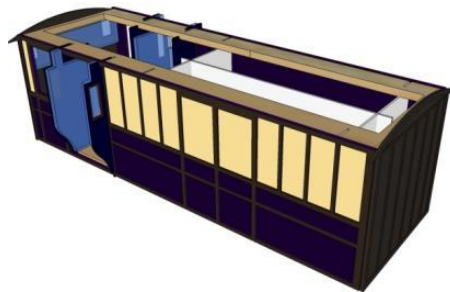
Glazing & Final assembly

Total preparation and assembly time about 20 minutes.

Allow sufficient time for the adhesive to dry thoroughly

The coach ends are designed to fit between the sides and butt against the longitudinal formers. The floor, longitudinal members and ceiling parts are fractionally shorter than the coach sides by to accommodate the ends. The end panelling overlaps the sides. Attach the sides and ends taking care to centralise these components. There are two layers for the guard's lookout. Assemble these layers and place the lookout ends in position as shown below.

Layer	Description
Layer 1	Guards lookout lower layer
Layer 2	Guards lookout, upper layer.



The glazing supplied is intended to fit behind the guards lookout window and the windows at the end of the Van as shown above.

Note: One of the glazing sections has a substantial part of its center removed. It should be positioned at the rear of the lookout, near the door aperture.

The glazing in the lookout gives a solid base onto which the panelling for the guards lookout can be attached once the glazing has been firmly attached.

Chassis

Total preparation and assembly time about 10 minutes.

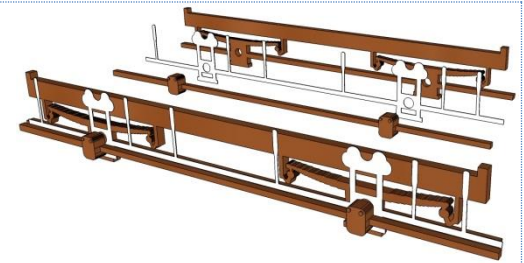
The card overlay for the axleguards and footplates is placed onto the MDF chassis fret and aligned using the smartframe clips.

Having attached the cardboard overlays, the MDF components can be detached from their frame.

The axleboxes and lower footplate are attached over the card as shown.

Allow sufficient time for the adhesive to dry thoroughly

The completed side frames are attached to the floor of the model aligning the tabs on the solebars with the pre-formed holes in the floor for alignment. The buffer beams are attached



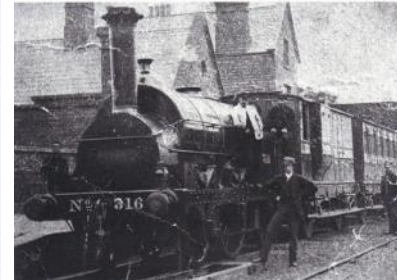
to the ends of the sideframes.

Finally, the inner axleguards are attached on the inside of the solebars, in line with the outer axleguards

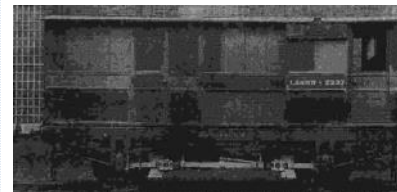


(the coach body is omitted for clarity).

Historical Notes



Some photographs exist of this vehicle. It was the subject of an article in the LNWR Historical society journal which included photographs and measurements of a grounded vehicle. This model is based on those measurements.



The photographs show a similar vehicle, No. 2337, in a plain livery (presumed to be maroon) as well as the more familiar passenger livery depicted in these instructions.

Some of these vehicles had an extended lookout which went up to the roof. One of these is depicted in a train behind saddle tank 316. There does not seem to have been any glazing in the guards' door.

Finally...

Congratulations on completing this kit. We hope you enjoyed making it as much as we did.

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