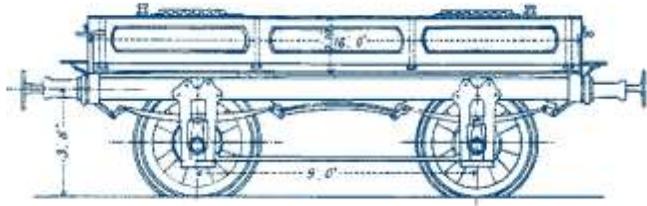




**London & North Western Railway (LNWR)
Open Carriage Truck (16ft)**
7mm scale ("O" Gauge)



Laser cut
MDF and card kit

Adhesive, paint not included. Wheels, buffers etc. not included.



7mm scale kit suitable for "O" Gauge.

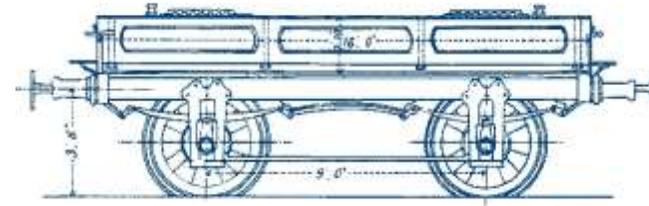
LNW705

London & North
Western Railway Open
Carriage Truck (16ft)

Website:
www.Diagram3D.com



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Introduction

This kit contains:

Contents of this kit

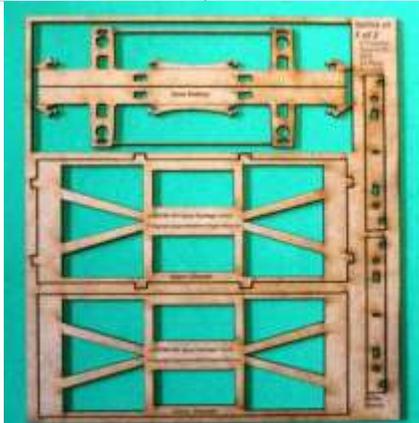
1. **MDF parts**

MDF parts

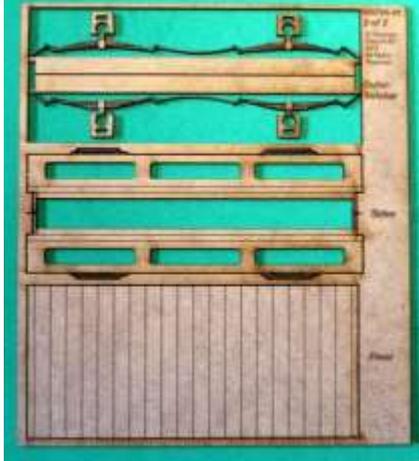
	Description
Panel 1	Sides
Panel 2	Ends, Stanchions and inner Partitions
Panel 3	Floor, solebars and spacers.

Image

Panel 1



Panel 2



Note: The supplied parts may differ slightly from the illustrations

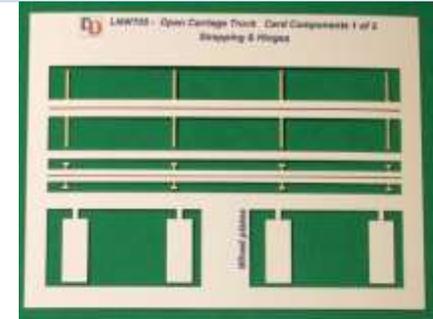
Cardboard Parts

Description

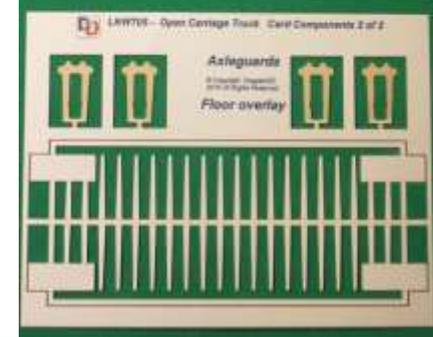
Panel 1	Inner strapping, outer hinges and loading plates
Panel 2	Axleguards and floor ribbing.

Image

Panel 1



Panel 2



Note: The supplied parts may differ slightly from the illustrations

Sundry Parts

- Sundry parts include 3d printed inserts for the axleguards (the colour will vary).



Not included

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

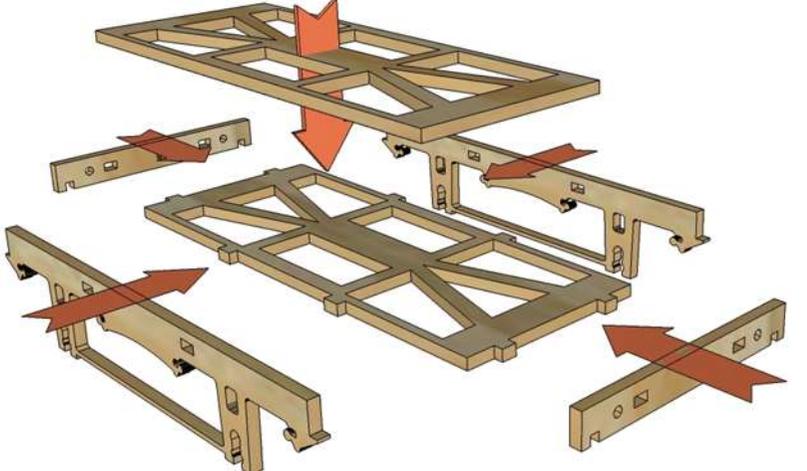
Intended Audience

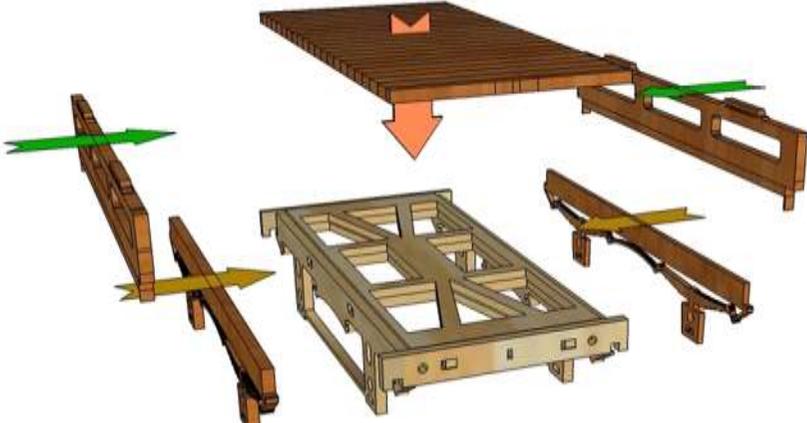
This kit is intended to reduce the time, complication and labour associated with the construction of a model of a railway vehicle. It uses MDF parts which have been cut and scribed by laser. This is not a complete kit of parts. The choice of axleguards, wheels, and other fittings is left to the modeller.

MDF is based on natural material and therefore it is impossible to guarantee that the colour or finish of the parts will be consistent with the illustrations.



Assembly Instructions London & North Western Railway (LNWR) Open Carriage Truck (16ft) 7mm scale ("O" Gauge)

<p>Hints on assembly</p> <p>Separate parts by cutting the reverse side of the fret.</p> <p>Pre-assemble and check parts at each stage.</p> <p>Seal components.</p>	<p><i>This is a relatively easy kit to assemble as long as one does not rush the assembly and is aware that card or MDF sections can warp if over exposed to water.</i></p> <p><i>Separating components cleanly is more easily accomplished by completing the half etched portions on the reverse of the fret rather than cutting from the front. At each stage, once the required components have been separated from the frets, test the assembly without adhesive to ensure that the parts are trimmed correctly and fit properly before final assembly with adhesive.</i></p> <p><i>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. Refer to our gallery at www.diagram3d.com/gallery/ for images of this and similar kits.</i></p> <p>These assembly steps are recommendations and should not be taken as definitive.</p>
<p>Copyright Statement</p>	<p>The entire contents of this document including but not restricted to the text, images, drawings and components, method of construction, design and intellectual content are the copyrighted property of Diagram3D. No part of this document or design may be used altered or copied without the express written consent of the design and copyright owners. This document was published in 2016 CE.</p>
<p>Chassis - inner</p> <p>Total preparation and assembly 10 minutes.</p> <p>Allow sufficient time for the adhesive to dry thoroughly</p>	
	<p>Use the diagram above for reference.</p> <p>Separate the parts described below from the first MDF panel. Assemble on a flat surface.</p> <ul style="list-style-type: none"> The two inner solebars from panel 1

	<ul style="list-style-type: none"> The lower chassis from panel 1 The upper chassis from panel 1 The two buffer beams from panel 1 <p>Begin by attaching the inner solebars to the lower chassis aligning the lugs on the chassis with the corresponding holes on each inner solebar.</p> <p>The buffer beams are attached to the solebars next, ensuring that the small indentations are positioned at the bottom. These indentations will be used, in the next step, to align the outer solebars.</p> <p>Now attach the upper chassis component which slots into the top of the assembly. Clamp lightly and leave until thoroughly set.</p>
<p>Chassis - outer</p> <p>Total preparation and assembly time about 10 minutes.</p> <p>Allow sufficient time for the adhesive to dry thoroughly</p>	
	<p>Use the diagram above for reference.</p> <p>When the inner chassis is ready, the outer components can be attached using the following procedure:</p> <p>Separate the parts described below from the second MDF panel:</p> <ul style="list-style-type: none"> The two outer solebars from panel 2 (yellow arrows in diagram) The two sides from panel 2 (green arrows in diagram) The floor from panel 2 (orange arrow in diagram) <p>Note that:</p> <ol style="list-style-type: none"> The outer solebar fits into with the indentations in the buffer beams mentioned earlier. The sides are aligned using projections which also give the correct depth to the buffer beam. The floor slots between the sides.



Assembly Instructions

London & North Western Railway (LNWR) Open Carriage Truck (16ft)

7mm scale ("O" Gauge)

	<p>Firstly attach the outer solebars taking care to ensure that the axleguard holes are correctly aligned and the solebars mate with the slots in the buffer beams. Give the assembly time to set. Secondly attach the sides. Give the assembly time to set. Finally attach the floor between the sides, aligned with the ends of the chassis.</p>
	<p>The final assembly should look like this image:</p> 
<p>Card Parts Total preparation and assembly time about 10 minutes.</p> <p>Allow sufficient time for the adhesive to dry thoroughly</p>	<p>Hint: Seal or Paint the card components before assembly.</p> <p>The card components represent:</p>  <ul style="list-style-type: none"> • Axleguards • Floor ribs • Loading plates • Outer Hinges & Inner strapping <p>Apply the cosmetic axleguards to the MDF axleguards on each side as shown. The floor ribbing is applied to the MDF floor, taking care to align with the MDF floor. The loading plates are applied over the loading plate areas incorporated in the floor ribbing to give more depth. The strapping is in two parts: the outer hinges and the inner strapping. The strapping and hinges are already spaced to fit the sides. Cut the supports at the ends only so that the four hinges can be positioned and attached on one side together. When set, detach the support material. Repeat for the other side of the vehicle with the remaining hinges. Similarly, repeat this process for the inner strapping on both sides.</p>

<p>Axlebox inserts</p>	<p>The 3D printed axlebox inserts have an internal diameter suitable for pin-point bearings but can also be used independently. The inserts fit into the holes in the axleguards, allowing wheel sets to be positioned before the inserts are pressed home. Do not force the inserts into the MDF holes. Gently ream the holes if they are too tight and remove any extraneous plastic from the inserts.</p>
<p>Historical Notes</p>	<p>The LNWR had several versions of open carriage trucks. The vehicles could have fixed sides or hinged sides. This early vehicle with hinged sides is based on information from the LNWR diagram book and some photographs of similar vehicles. It incorporated hinged sides. According to an early diagram book there were about 170 of the vehicles in service around the end of the 19th century. A photograph of a similar vehicle shows that it is lined. The liveries of early vehicles changed. The livery illustrated is an approximation of LNWR maroon which was used for non-passenger coaching stock. The LNWR Historical Society (http://www.lnwrs.org.uk/) is a good source for further study of liveries which changed considerably over time. Some sample applicable vehicle numbers from the 1890's diagram book were:</p> <p>4, 5, 7, 9, 24, 175, 179,183, 331, 332, 336, 340, 343, 344, 622-646.</p> <p>These numbers apply to vehicles of the type of this model.</p>
<p>Brakes and wheels</p>	<p>Early vehicles probably did not have brakes. A photograph of a similar vehicle shows a single acting lever on one side only. The vehicles were intended for use in passenger traffic and were given coaching stock wheels, Mansell pattern. The vehicles would have been fitted with chain brakes then vacuum brakes or through piping later on to conform to newer regulations. Finally, these vehicles would have originally been provided with side chains as well as the inner couplings.</p>
<p>Dimensions</p>	<p>The principal dimensions of these vehicles were:</p> <ul style="list-style-type: none"> • Length over body: 16 feet • Body width: 7 feet 10 inches • Wheel base: 9 feet
<p>Finally...</p>	<p>Congratulations on completing this kit. We hope you enjoyed making it as much as we did. There are more kits to make, take time to visit our website (www.Diagram3D.com) to find similar items. Our website has</p> <ul style="list-style-type: none"> • Free downloads of historical information • Current downloadable assembly instructions for all of our products • A gallery with completed models as well as assembly hints <p>Email: info@Diagram3D.com E&OE.</p>