Great Western Railway (GWR)
Siphon “O2” Milk Van
7MM Scale (“O” gauge)

Era 2-3

Pre-grouping
Grouping

7mm Scale

3D printed & Laser cut

GW07-SO2

Diagram3D.com

Introduction

Contents of this kit

MDF Components

MDF Parts

MDF parts are supplied pre-cut, partially attached to the panel which preserves their integrity and ensures that the right parts are present. Do not separate the parts until it is time to use them.

2 x outer framing

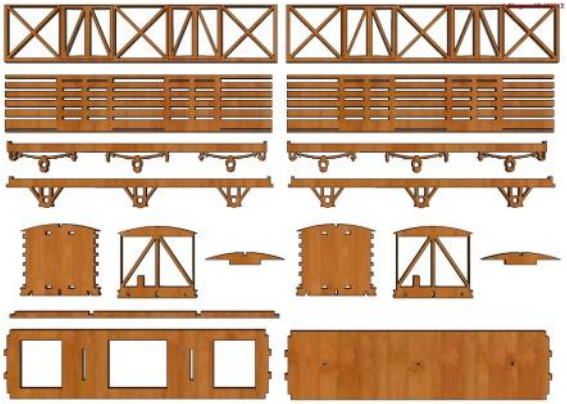
2 x inner framing

2 x outer solebars

2 x inner solebars

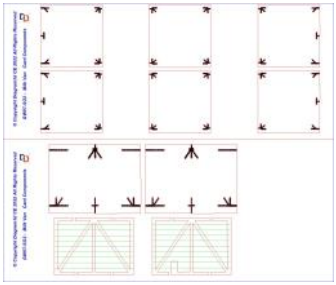
2 x ends
2 x end framing
2 x roof former
1 x roof stretcher

1 x ceiling
1 x floor



Cardboard panel

The card panels supplied contain strapping detail for the MDF components and overlays for the ends of the vehicle.

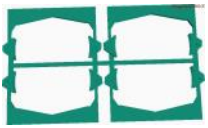


3D printed components

1 x Roof

6 x axleboxes.

4 x brakes



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, Buffers, couplings etc.

Intended Audience

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

***This is not a complete kit of parts.** The choice of other details is left to the modeller.*

Hints on assembly

Separate parts by cutting the reverse side of the fret.

Pre-assemble and check parts at each stage.

Seal Cardboard components.

Video and Gallery

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.

Please 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.

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

Fill any gaps and smooth surfaces for optimal results

It is advised that cardboard parts are sealed before assembly. For example, artists fixative, spray paint, varnish or even shellac can be used. Good results have been obtained using automobile primer spray. Visit our website for further constructional information including a video and gallery of similar models.

The assembly steps below are strong recommendations but should not be taken as definitive or prescriptive.

Copyright Statement

Current Documents

The current version of documentation for this and any other of our products can be downloaded from www.Diagram3D.com in PDF format.

Feedback

We welcome your comments and suggestions, especially images of models "in progress" or completed.

Exploded Diagram

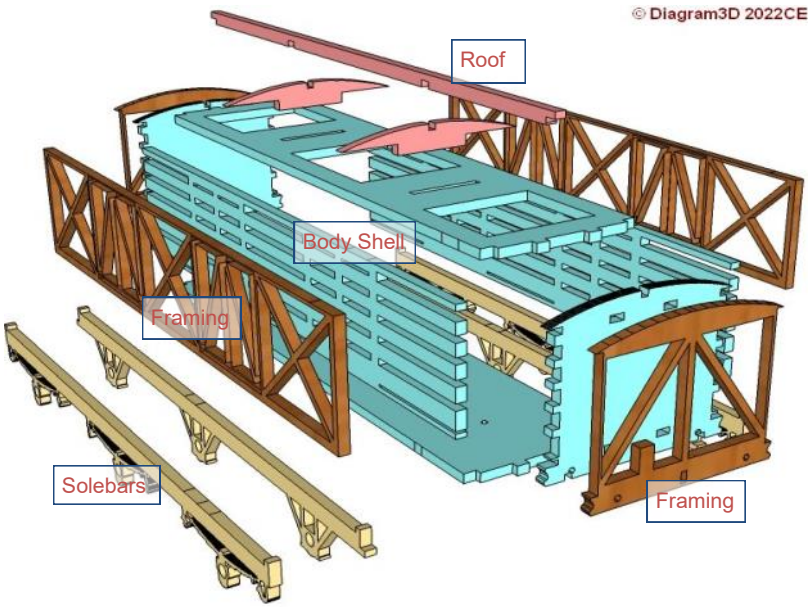
This image shows the relative positioning of the major MDF components.

Body shell.

Roof.

Solebars.

Framing.



Body Shell

The body shell consists of the floor, the ceiling, and side planking.

First attach the ceiling and the floor to the ends. Allow the adhesive to set . Note: the structure only becomes stable when the side planking completes the box.

Total preparation and assembly time about 5 minutes

Now attach the side planking on either side. This will make the body shell rigid.

The final result should be square without any further adjustments

Allow sufficient time for the adhesive to dry thoroughly at each stage of assembly

Framing

Total preparation and assembly time about 10 minutes.

Allow sufficient time for the adhesive to dry thoroughly

The outer framework can now be attached, beginning with the ends and then the side frames . The side frames fit into the slots cut into the ends.

At this point the solebars can be attached to the floor. Note that the inner solebar slots into the ends as well as the floor.

Finally, The card overlays can be attached to complete the ends and strapping.

Roof

Total preparation and assembly time about 10 minutes.

Allow sufficient time for the adhesive to dry thoroughly

The 3D printed roof fits over the assembled roof assembly.

If the roof is meant to be detachable then it is not necessary to attach the roof assembly directly to the body. The roof assembly can be put in position on the body and then the 3D printed roof can be attached to the top of the roof assembly and held in position until the adhesive sets.

Brakes and axleboxes

3D printed brakes and axleboxes are provided.

The axleboxes are made in two parts. Glue these together (contact adhesive) before use.

The brake blocks are attached to the inside of the solebar behind the outer axleguards. (Note that only the outer axles had brakes.)

Historical notes

This vehicle, designated O2 was a GWR six wheeled Milk or Fish vans. The side is similar to O3 and O1 (six wheeled version). However the roof profile of this vehicle is lower than the others. In general it is advisable to have access to a good reference work with photographs as there were further detail differences over the lifetime of these vehicles. The GWR designated these vehicles as coaching stock. Apart from articles in the model railway press (EG: Model Railway Journal January/February 1986) an entire book has been written on the development of these vehicles. ("Great Western Siphons" by Jack N. Slinn, Pendragon books 1986 in association with the Historical Model Railway Society). Other books on GWR stock that reference this vehicle type include "A pictorial Record of GWR Coaches part 1 1838-1913" by J. H. Russell.

Sample Numbers:

O1: 1991-2000 built 1893 (lot 690)

O2: 660-670 various dates circa 1885 <——- This model represents the "O2" variant

O3: 1901-1910 built 1894 (lot 71)

Livery

It is very likely that the early livery consisted of a brown base with a small "GWR" in white and the number on the plank second from the top on the body side similar to the larger six wheeled milk vans.

The roof would have been white lead initially, fading to various shades of grey and soot.

In later years, 1904 or thereabouts, the letters "GW" were painted in the lower triangle of the framing at each end. The gaps between the planks were filled in to allow the larger letters to be painted.

Underframe

These vehicles were carried on three axles (six wheels) with an overall wheelbase of 19 feet, or 9 feet six inches between axles. The wheels were Mansell pattern with clasp brakes on the outer axles. (Note: The model has holes positioned at the axle centres in the floor section.)

The brakes would have been suitable for inclusion in passenger trains, latterly clasp brakes on all four outer wheels. The centre axle did not have brakes.

A photograph will assist in identifying the underframe details for a given period.

Finally…

Congratulations on completing this kit. We hope you enjoyed making it as much as we did. If you enjoyed making this kit then take time to visit www.Diagram3D.com to find similar items. Our website has free downloads of historical information**.** Downloadable assembly instructions for all of our products

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