*The 4mm wagon and van kit*

**CRD024**

## Caledonian Railway
London Midland & Scottish Railway

## Diagram 24 Centre door wagon




**Period: 1883 – 1940s**

**For 00, EM, P4 and S4**

**Features:** white metal body, etched brake levers, steel headed buffers.

**Required to complete:** split-spoke 12mm wagon wheels, waisted bearings, paint, transfers, three-link couplings.

## The Prototype

The Diagram 24 open wagon was first produced in 1883. It was originally rated for 8 tons with the single shoe brake, initially on one side only. At least 2,900 wagons were built to this specification by 1892. A further batch of 1,000 wagons built in 1899/1900 featured the McIntosh patent brake. Another 55 wagons uprated to 10T appeared in 1904, with self-contained buffers and a 5" wider body.

Brake gear would have been updated to single shoe both sides, independent two shoe both sides, and later the Morton cam design. All four variations may be built from the kit.

Wagons of this type had a working life of 30-40 years and it is likely that some examples survived up to the 1930s or early 1940s. These wagons were seen nationwide carrying all manner of goods.

## References:

"British Goods Wagons from 1887 to the present day" by Essery, Rowland & Steel

"Caledonian Railway Wagons and non-Passenger Coaching Stock" by Mike Williams, pp147-8

## Interested in the Caledonian Railway?

**Caledonian Railway Association:**
http://www.crassoc.org.uk/

## Acknowledgements

51L thanks Ronald Cockburn and members of the Caledonian Railway Association for their help and assistance in preparing this model.

## Assembly

Please read these instructions before starting to build your model. This model is supplied with a choice of brake gear to give single shoe, either side or Morton cam brakes. If the single shoe brake is chosen the brake lever pivot is part of the axleguard assembly.

Remove any moulding flash and ensure all parts fit correctly. We suggest wet fine emery paper (1200 grit) to clean up flash marks. Assembly is best carried out using low melt solder or an epoxy resin such as Araldite. For small parts use superglue. To obtain the best results a combination of several techniques will be needed. Carry out a dummy run before starting assembly.

Check the fit of your chosen wheel bearings in the axle boxes and drill out with a 2mm drill as necessary. Fix both ends to one side ensuing that all is square. Attach the second side, trapping the axles in place, and again ensuring all is both level and square. The axles should be supported by the bearings and should turn freely. Bore out the axleboxes or pack as required. Ensure the wagon is level and square using a flat surface such as a glass sheet; if not a gentle tweak will ensure that all four wheels are in contact with the surface. Fit the buffers with the acute angle on the baseplate to the outside.

Form the brake lever guide(s) according to the enclosed instruction sheet. Place the lever guide on the solebar to the left of the right hand spring hanger and secure to the solebar.

If the **single shoe** brake gear is to be fitted break off the vees. Fit the single shoe brake gear to one side. Glue a short length of the supplied 0.5mm brass wire (around 3mm) into a hole drilled in the right hand spring hanger of the left hand axleguard. Fix the lever to the guide and pivot: the lever will require straightening and perhaps cutting to length. Repeat for the second side if required.

If independent **two shoe** brake gear is to be used, fit the cast vee in place on the inside of the solebar and attach the twin brake shoe casting. Use a short length (4 mm) of 0.7mm wire to align the solebar outer vee, brake shoe and inner vee. It will be appreciated that coach bolts on the solebar exterior will need to be removed so the outer vee will be flat. The brake lever should then be attached to the wire and the guide. Repeat for the other side.

If **Morton cam** brake gear has been chosen fit a twin brake shoe casting to one side only, using the vees for alignment. Ensure the push rods operate in the anti-clockwise direction. Attach the 0.9mm wire cross shaft between the vees followed by the brake levers. The cam lever should be adjacent to the brake gear and the plain lever on the opposite side.

For both the two shoe and Morton brake gear, form the etched brake shoe push rod safety loops. These were usually U shaped and are placed over the push rods adjacent to the brake shoe.

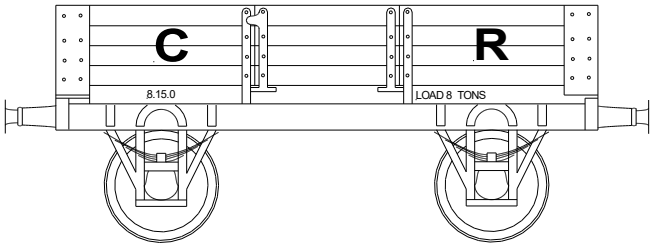
Cut the plasticard floor to size and attach in place. From the plasticard strip provided prepare two door bangers and secure on the solebar in line with the door rubbing plate. After painting fit three link couplings of your choice.

## Finishing

Clean and degrease the model, using white spirit prior to painting. For white metal parts use an etching primer, such as Precision Paints PS1. The model should be painted using the livery of your choice. After painting clean the model using a tissue soaked in white spirit. **This is especially important if you are using dry lettering** such as that available from the Caledonian Railway Association rather than waterslide or 'Methfix' transfers.

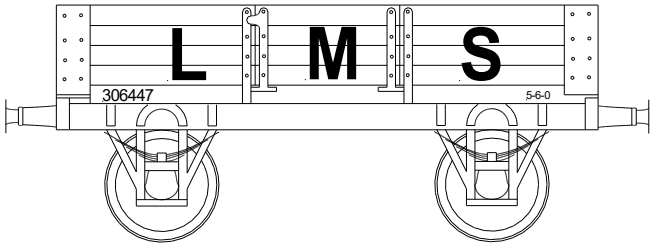
## Livery

### Caledonian Railway 1883-1923



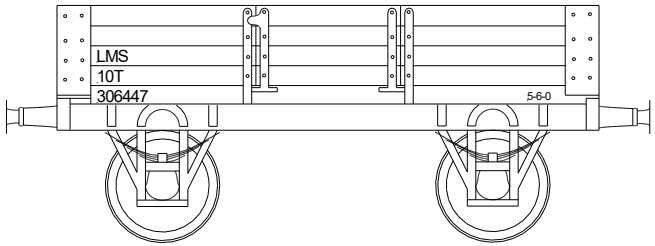

Bodywork, solebars and buffer housings: red oxide, Precision Paint P436
Underframe, brake levers, solebar ironwork: black
Insignia: white, HMRS sheet 20, Caledonian Railway Association sheet (available from the CRA address above).

### London Midland & Scottish Railway 1923-1937




Bodywork and solebars: grey, Precision Paint P38
Ironwork below solebars: black, Precision Paint P975
Insignia: white, HMRS sheet 6, Old Time Workshop sheet 4701

### London Midland & Scottish Railway 1937-demise




Body: bauxite, Precision Paint P39
Ironwork beneath solebars: black, Precision Paint P975
Insignia: white, HMRS sheet 6, Old Time Workshop sheet 4701

It will be appreciated that many wagons would not have been repainted immediately by the LMS and would have remained in weathered CR livery or well-weathered bare timber.

### Sample Numbers

Information on Caledonian Wagons is limited but the following numbers are known to have existed: 4391, 6447, 7471, 36543, and 70217. Wagons 44834-44933 and 70384-71982 are all from the batch originally fitted with the McIntosh brake.

The LMS renumbered Caledonian wagons by the addition of 300000 to their original numbers giving numbers in the range 300001 to 352999.

## 51L

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A more recent version of these assembly instructions may be available on the Wizard Models website.

## Wizard Models

Wizard Models stocks a wide range of components and other necessities for the modeller in 00, EM and P4.

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