

Midland Railway, Scottish Joint Stock
LMS, LNER
British Railways

54' Clerestory Corridor Carriages

Introduction

These notes apply to all four MR clerestory carriages in the 51L range:

Diagram 469: 7 compartment corridor composite

Diagram 473: 7 compartment corridor third

Diagram 559: 6 compartment corridor brake composite

Diagram 561: 3 compartment corridor brake third

The parts supplied allow the model to be built with either of two roof heights, two varieties of corridor side panelling and gas or electric lighting. Transfers are supplied for the MR, M&GSR (Midland & Glasgow & South Western Joint Stock), M&NB (Midland & North British Joint Stock) or pre-1933 LMS. Suitable transfers for the LNER or post-1933 LMS are available from the HMRS or its stockists.

The main variations which can be built are:

- A) High roof. Use the ends (parts 7A, 9A) on the underframe sheet and corridor side outer layer (26).
- B) Low roof. Use the ends (parts 7, 9) on the main body sheet and corridor side outer layer (26).
- C) Low roof, no ventilators over corridor side droplights. Use the ends (parts 7,9) on the main body sheet and corridor side outer layer (26C).

These versions are referred to in these notes as types A, B and C.

Prototype information

The coaches represented by these kits were built around 1905-7. Introduced from 1905 by Bain, these 54' round-panelled clerestory carriages were used by the Midland for its own services and for its Scottish Joint stock activities. MR and M&GSW vehicles became LMS property in 1923. The M&NB stock remained jointly owned until 1928, when it was split between the LMS and the LNER. Those carriages becoming part of the LNER fleet were repainted in LNER colours. All were withdrawn by the early 1950s.

There were a large number of variations among what was a fairly small number of carriages. Some four different types have been recognised giving two height variations and differences in position of the louvre vents. The carriages were originally gas lit but had been converted to electric lighting by the Grouping. The gas lamps were removed and torpedo vents centred over the compartments. Battery boxes replaced the gas cylinders. Several of the carriages sent to France in ambulance trains did not return.

Additional information for corridor composite D469

None of the vehicles built for the Midland Railway were of the precise type represented by our kit. If a little licence is acceptable, the following batch (which should be built as type C) differ only in having slightly shallower eaves panels with door vents of three elements instead of four:

Lot 616 of 1907, 40 built, MR & first LMS nos. 2816/36/47/50/65/67/69,72-4/6/80/3/5/6/91/4/5/8,
2901/3/5/8/10-3/6/7/9/20/2/5-8, 3290, 3345/55/80

Second LMS nos. 4863-4902

Numbering and lettering

Type	Dia	Lot	Qty	Type	Original No	1913/14	1923 LMS	1932/3 LMS
Third	D473	587	4	A	M&GSW 233-6	M&GSW 366-9	4000-4003	3174-7
		592	20	A	MR 15,54,56,67,78, 90,92,104	Unchanged	Unchanged	3154-61
					MR 23,26,42,45,58, 66,74-5,77,79,81, 105	Converted to ambulance train 1917	n/a	n/a
		601	4	A or B	M&GSW 209,226, 244-5	M&GSW 342,359, 377-8	3976,3993,4011-2	3172-3,3178-9
		618	14	C	MR 575,578,605,607,615,634 648-9	Unchanged	Unchanged	3180-8
					MR 561,573, 577, 632, 639	Converted to ambulance train 1917	n/a	n/a
Brake Third	D561	588	7	A	M&GSW 237-243	M&GSW 371-6 (237 scrapped 1911)	4005-10	6438-43
		593	30	A	MR 115,117,122-3, 133,137,153,156, 166,181,193,224, 227,238,277,326, 330,435	Unchanged	Unchanged	6420-37
					MR 113,135,148, 155,170,211,215, 231,237,257,272	Converted to ambulance train 1917	n/a	n/a
		619	30	A	MR between 4-1499	Unchanged	Unchanged	6444-66
		628	12	C	M&NB 113	Unchanged	4117	6467
					M&NB 114-8	Unchanged	LNER 316,3907,3913 3916-7 in 1928	
Comp	D469	600	10	A	M&GSW 242 M&GSW 260-7 M&NB 101	M&GSW 259 M&GSW 277-284 M&NB 11	3942 3960-7 4034	4843 4844-51 4852
		616	40	A	MR between 2816-3380	Unchanged	Unchanged	4863-4902
		626	15	C	M&NB 144-150 M&NB 160-7	M&NB 54-60 M&NB 70-2,74 M&NB 73,75-7	4077-83 4093-5, 4097 LNER 32535-8 in 1928	4853-9 4860-2
Brake Comp	D559	586	2	A	M&GSW 258-9	M&GSW 275-6	3958-9	7283-4
		594	10	A	MR 3301, other 9 unknown, but to ambulance train 1917	Unchanged	Unchanged	7282
		617	23	Prob B	Not known; one to ambulance train 1917			
		627	6	C	M&NB 151-2	M&NB 61-2	LNER 31209-10 in 1928	
			M&NB 153, 168-70	M&NB 63, 78-80	4086, 4101-3	7285-8		

References

Historical Carriage Drawings Volume 2, LMS and Constituents, D Jenkinson, pp100-3
 Midland Railway Carriages Volume 1, R E Lacy and G Dow, p433
 Midland Railway Carriages Volume 2, R E Lacy and G Dow
 Midland Carriages, An Illustrated Review, D Jenkinson and R Essery, pp88-96
 British Railways Pre-Nationalisation Coaching Stock Vol. 2, H Longworth, pp418, 424

Construction notes

Contents:

Body and underframe frets wrapped in paper.

Packet 1

Castings

Westinghouse pipes, 2 off
Steam pipes, 2 off
Vacuum pipes, 2 off
Vacuum cylinders, 2 off
Dynamo, 1 off
Westinghouse cylinder
& reservoir, 1 off
Gas tanks 2 off
Guard's ducket, 2 off
(D559, D561 only)

Packet 2

Bogie castings & fixings

Bogie sideframes, 4 off
6BA nuts and screws, 2 off

Interior items

0.030" plasticard strip, 2 off
0.020" plasticard strip, 1 off
Glazing sheet, 2 off (1 for D561)
Corridor side sheet, 1 off
Black paper
Seat moulding, 2 off (1½ for D559, 1 for D561)

Packet 3

Set of sprung buffers

Roof materials

2-part plastic roof & fittings, 2 off
10x20 thou microstrip, 2 off

Miscellaneous

0.5mm wire x 12", 3 off
0.7mm wire x 6", 1 off
Transfer sheet, 1 off
Drawing

This model requires Mansell pattern 14mm carriage wheels, bearings and paint to complete.

Please read these instructions before starting to build your model. Examine all the parts and familiarise yourself with their assembly. Remove any moulding flash or etch attachment points and ensure all parts fit correctly. We suggest wet fine emery paper (1200 grit) to clean up flash marks. Carry out a dummy run before assembly. Assembly is best carried out using ordinary solder for etched components or low melt solder for white metal. An epoxy resin such as Araldite and glues like UHU, Multibond or Thixofix can also be used. For small parts use superglue. To obtain the best results a combination of several techniques will be needed.

Most sharp bends are given by a half-etched line, which is always on the inside of the bend. In order to achieve a third layer of rivet detail on some components, dimples are etched into the reverse side of the sheet. Before assembly these should be raised. It is sufficient to press onto a piece of solid card with, for example a slightly blunt dart point; attention is drawn to this procedure by the phrase "raise rivets".

This is the suggested order of assembly but there are many ways of assembling this or any other model. The part numbers quoted are generally those etched on the two frets – please note that the order switches between them.

Carriage body & underframe assembly

1. Compartment inner side (part 1) and corridor inner side (2): form the tumblehome with the aid of the half-etched lines and fold the lower lip under the side. Fold out the corridor side handrail brackets, but don't fold in the end flaps yet.
2. Inner headstocks (3, 2 off): fold up and fit at 90° one to each side, then solder the two side/end assemblies together, ensuring all is square.
3. Bogie support plates (4, 2 off): fold up and fit according to the underframe sketch on page 9.
4. Bogie pivots (5, 2 off): fold up, insert the 6BA screw, and solder into the slots of the support plates.
5. Brake gear support plates (6D and 6W): open out the vee hanger holes to 0.7mm, then fold up and fit according to the underframe sketch. Note the slightly different positions from the ends. Also, do not fold up the dynamo brackets for a gas-lit carriage.
6. Ends (7 & 9 or 7A & 9A): raise the rivets on the ends. Fold in the end flaps on the inner sides, then fit the ends between the inner sides (end 7 or 7A should go at the passenger end on D559 and D561, and probably at the 3rd Class end on D469). Ensure the buffer holes are aligned with those on the inner headstocks. Fold out the hinges on the inner sides.
7. Outer sides (25 & 26 or 26C): before removing from the fret, mark the corresponding ends of the sides and the clerestory sides 35 and 36, so you keep them in the same orientation later in assembly. Form the tumblehome and fit to the inner sides, dropping the slots over the hinges. Add a vent (28, 16 off but not all will be used) over each door, and over the corridor side droplights for types A and B. Add a small vent (29, 2 off) over each lavatory window (only one on D561). You may also choose to

add the window bolection mouldings (27, 32 off but not all will be used) at this stage. Alternatively, prime and paint them mahogany whilst still on the fret and fix them after the sides have been painted. Note that they go only on the fixed windows, not the door or corridor droplights.

8. If you are building D559 or D561, add the guard's ducket castings to each side, according to the supplied drawing.
9. Add the end fittings according to the sketch on page 9:
 - alarm gear brackets (8, 2 off) and associated piping from 0.5mm brass wire to end 7 or 7A;
 - steps (10, 8 off), four to each end;
 - buffer bodies (11, 4 off), with the slot on the rear being vertical, but fit the springs, heads (12) and elliptical overlays (23) after painting;
 - lamp irons (inside parts 37, 4 off), two to each end;
 - handrails (0.5mm brass wire), two long and two short to each end – note that the long handrails are straight as drawn, and not curved as seen on many carriages;
 - vacuum, steam and Westinghouse pipe castings (2 off of each).
10. Add the underframe fittings and brake gear according to the sketches on page 9:
 - truss rods (13, 2 off), queen posts (13a, 4 off) and turnbuckles (13b, 2 off);
 - lower step supports (14, 2 off) and lower step planks (15, 2 off);
 - upper step supports (17, 4 off) and upper step planks (18, 2 off);
 - vacuum cylinder castings (2 off), actuating levers (18, 2 off), Westinghouse cylinder/reservoir casting (1 off), Westinghouse levers (19, 2 off), brake linkages (20D & 20W, 1 off of each), and the brake cross shafts and push rods, formed from 0.7mm and 0.5mm wire respectively.
11. Add the lighting fittings according the sketch on page 9, and whether your carriage is gas or electrically lit, EITHER:
 - battery box frames (21, 2 off), battery box fronts (22, 2 off) and dynamo casting (1 off); OR
 - gas cylinder supports (24, 2 off) and gas cylinders (2 off).

Corridor connection assembly

1. Inner frames (39, 2 off): bend down the treadplates.
2. Scissors plate (40, 2 off): bend to suit the inside shape of the inner end, then fix in place with the tabs projecting on the opposite side from the treadplate.
3. Outer frames (41, 2 off): fold the scissors, and fix them to the outer thin part of the scissors plate. Add the connections to the coach ends.
4. After painting, trim the black paper to fit within, and add the end boards if required: 42 for the MR and 43 for the LMS.

Couplings assembly

1. These are assembled as shown in the sketch on page 9.
2. Fit after painting, retaining them by threading thin wire through the drawbar to the bracket on the inner headstocks.

Bogie assembly

1. Bogie inner frames (44, 2 off): do not remove from the fret just yet. Raise the rivets on the headstocks. The ends nearest to the inscription "M R 54ft...." are the outer ends of each bogie – mark them now!
2. Brake block overlays (46, 16 off): add them to top surface of each inner frame brake block, taking care not to fill the gaps around the headstocks. Remove the frames from the frets and fold to shape.
3. Brake linkage hangers (45, 4 off): fit to the slots in the inner frames.
4. Fit your chosen bearings to the cast bogie sideframes, then fit the sideframes to the inner frames, trapping the wheels in place at the same time.
5. Short brake yokes (47, 4 off): fit between the brake blocks closest to the brake linkage hangers of each bogie.
6. Long brake yokes (48, 4 off) fit between the brake blocks furthest from the brake linkage hangers of each bogie.
7. If bogie steps are required for your period (removed in the mid 1920s), bend the toe boards on the planks (50, 4 off), fix to the supports (49, 4 off), and add to the bogies.

Roof assembly

A two-part plastic roof is supplied, in two halves. If your carriage is to have a fully lined clerestory we recommend that you paint parts 35 and 36 before you assemble the roof.

1. On the main roof mouldings, file off the moulded rainstrips and remove the lamps and vents from the centre of the mouldings.
2. Cut the main roof sections to size and join them into one; the completed roof should be 218mm long (54ft plus 3in overhang at each end). Repeat for the clerestory roof, again 218mm long.
3. Cut the frosted strips from the glazing sheet and fix them behind clerestory sides 35 and 36. Fix the sides to the clerestory roof rebate, then fix this assembly to the main roof. The glazing strips are not affected by common solvents.
4. Now mark out the positions for the roof lamp and/or ventilator castings according to the supplied sketches and drawings. These are admittedly inadequate, but there is little data on exact placement and written information and drawings conflict with photographs. For a gas lit carriage, mark for a lamp centred over each compartment (including the lavatories). Sometime after building, a torpedo vent was added 12" or 14" (sources vary) to the left of each lamp, in line with it as seen from the end. For an electrically lit carriage, the torpedo vent moved to the position formerly occupied by the lamp. For the corridor side, drawings show a lamp and vent over each door and droplight, whilst photographs show as few as three lamps. Brake compartments generally had one (D559) or two (D561) lamps/vents per side.
5. Once marked out, drill to suit the sprue diameter on each required component and fix in place. Note that the lamps are shaped to fit the curve of the roof.
6. Clerestory roof handrails (37): add one, centred around each gas lamp; and clerestory roof end handrails (38), one at each end, to the left of the centreline.
7. Finally, add a slightly arched rainstrip to each side of the roof, outboard of the lamps/vents, from the supplied microstrip.

The interior

The interior is designed to "hang" from the roof. Refer to the sketch on page 9.

1. Cut the supplied 0.030" plasticard to size to form the carriage floor. Mark the compartment partition positions on it (see drawing).
2. Cut and fit the compartment partitions in place on the floor.
3. Cut and fit the seats in the compartments.
4. Cut out and fit the coloured corridor side to the floor and partitions. Add the compartment doors as required.
5. Cut the supplied 0.020" plasticard to approximately 216.5mm x 33mm (check with the carriage as built so far) and fix this to the plastic roof and to the top faces of the compartment partitions and corridor side. This will attach the interior to the roof and in so doing maintain the roof in position on the carriage and give a rebate to help stiffen the sides.
6. Paint the interior; generally walnut and mahogany for woodwork in 1st and 3rd Class respectively, and crimson for the seat upholstery.

Livery & painting

MR livery

Body sides and ends crimson lake; mouldings black; edges of mouldings on sides only lined gold (no lines against window bolection moulding or extreme outer edges); end mouldings unlined. Window bolection moulding and door droplight frames may at first have been varnished mahogany rather than crimson lake. Solebars, headstocks and buffer bodies unlined red/brown until 1912, then black. Wheel centres possibly Indian red when new. All other fittings below the solebars black, except that dynamos when new appear to have been a lighter colour, probably aluminium grey. Roof and roof fittings light grey, though some sources suggest that the lower roof below the rainstrip may have been varnished black when new. After a short period in service the entire roof would in any case have become dirty dark grey. M&GSW and M&NB vehicles differed from the Midland only in lettering. Lettering styles are shown in the diagrams, but company lettering positions, are not precisely known in all cases and pre-August 1906 schemes are probable only, as no photos of these vehicles at this period are known.

We suggest the following Precision Paints:

Crimson Lake	P350	Lining gold	P362
Lemon straw (yellow)	P356	Coach roof light grey	P365

LMS livery

1923-33 (approx) was the same as for the MR post-1912 except that end mouldings were not supposed to be painted black. LMS company lettering was used in conjunction with serif pattern numbers. M&NB vehicles 1923-28 used company letters in LMS style with serif numbers.

The later LMS livery retained the same crimson colour for the sides. Ends were also crimson until 1936, after which they were painted black. The roof was specified to be a metallic aluminium type finish, although this quickly became dirty in service and more often than not was a muddy grey colour. Underframe and running gear were black. A simplified lining system was adopted, consisting of 1/2" yellow lines applied centrally along the upper and lower beading strips of the eaves panel, and two further 1/2" yellow lines separated by a 1" black line on the upper beading strip of the waist panel. During WWII lining was discontinued on the few carriages to be repainted. Lining was reintroduced in 1946, with yellow being changed to straw.

We suggest the following Precision Paints:

Crimson lake	P30	Lining gold	P35
Carriage roof grey	P40	Lining yellow	P36
Carriage roof aluminium	P41	Vermilion	P37

Lettering such as LMS etc was applied in serif characters 4" high to the side waist panels, as near to the centre of the carriage as possible. The colour was gold until 1934/5 after which chrome yellow was used. The lettering was shaded in pinkish white to the left blending to dark red/brown below the characters; the shading in turn was shadow shaded to the right and below in black. The class type was marked on the doors in 8" high numbers rendered in gold. The LMS roundel was placed on the lower side panels, near to the centre of the carriage. We suggest the use of HMRS sheet 1 for the early period and sheet 2 for the later period.

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Being gangwayed, these carriages should have been painted crimson and cream (blood and custard) and lined black and gold. However, photographs of other pre-Grouping stock show that unlined crimson was more likely. Ends, underframe and running gear would be black, with a grey roof.

We suggest the following Precision Paints:

Carriage crimson red	P116	Carriage cream	P117
		Roof grey	P131

The model may be assembled, painted and lined in the conventional way, i.e. by painting the raised mouldings in yellow/gold followed by drawing in the central black area using a technical pen. However the following method of painting and lining the sides has also been suggested. Spray first with etch primer, then with brown primer, then crimson lake finish. Simple card masks can be used for the different colours of solebars etc. When thoroughly dry scrape the raised moulding (except window bolections and door joint moulding below the waist) until clean and bright. Be very careful not to touch the scraped surface with the fingers. The black centres of the moulding should be drawn in using a technical pen (Rotring, Staedtler etc) of about 0.5mm wide filled with non etching plastic film ink, which is fairly quick-drying. Leave a gold edging of bright brass showing on each side of the moulding, except that the black is taken right to the outer edges of the side and against the window bolections. The rounded corners are drawn in freehand. Any mistakes are readily scraped away and redrawn. Please note that the beading at the bottom edge of the side represents the packing between body and underframe; there was no head on the side itself. Before starting painting, the lower edge should therefore be made bright and clean and covered with a tape mask trimmed with a knife and rule to approx 2mm from the lower edge of the side, so that when the black edging is drawn in the gold line is within the bottom panel. A coat of clear lacquer will protect the finished side against handling as the ink is not waterproof.

Press-to -fix type lettering transfers are provided. With a scalpel or sharp knife cut round each item through the tissue top layer but **not through the thick backing paper**. Peel the tissue away from the backing, put

face down in position and press gently. If the position seems incorrect, remove and replace. When satisfied, press firmly, soak the tissue with water and peel off when it has released (about 30 seconds). Wash away surplus gum and blot dry. Varnishing of transfers is not essential, though obviously it provides additional protection against handling etc. Some oil-based varnishes can cause 'gold' transfers to tarnish rapidly. Cellulose lacquer can be applied with great care from an airbrush provided that the first coating is applied from far enough away to produce a matt finish. When this is hard dry additional light coats can be applied from progressively closer distances until the desired gloss 'is produced. This information is given in good faith, but we cannot accept any responsibility for the results as the conditions of use are outside our control. We therefore suggest trials on scrap material before working on the model itself.

The diagrams on page 8 show typical styles for the various companies and periods. In most cases specific photos are not available, so although these can be taken to indicate normal practice, they may not be correct for all cases. It was normal for company letters or vehicle numbers to be placed halfway along the length of the panel in which they appeared, but there may have been exceptions. Note the grey panels on the brake end vehicles (hatched on the drawings). Corridor sides are shown. The compartment sides were similar, with class designations on all passenger doors.

Once painted, the final details should be added: door handles (30) and grab rails (31); window glazing (note the cut-out corners to clear the backs of the handles); corridor side window handrails (from 0.5mm brass wire); and buffer heads. To prepare the buffers place a spring on the buffer head tail end and insert it into the housing. Ensure the buffer head springs and returns smoothly. Align the head and bend the tail through 90 degrees so that it runs in the slot. Note that once assembled on the bogies, the buffer centreline height should be 3'5", and not the more standard 3'6".

A more recent version of these assembly instructions may be available on the Wizard Models website below. For further help or information please email: andrew@modelsignals.com

Wizard Models

Wizard Models stocks a wide range of items for the 4mm scale modeller.

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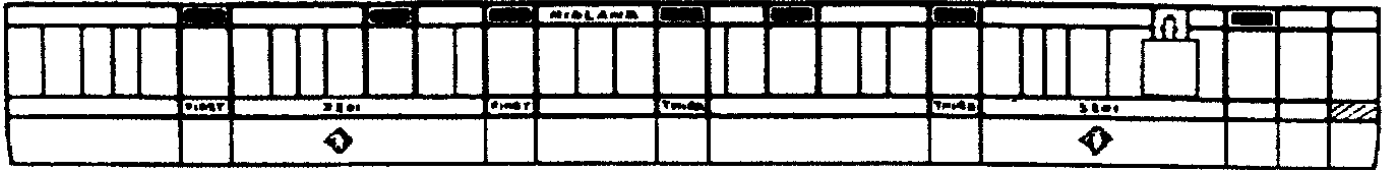
Version: 5.00

Issued: September 2021

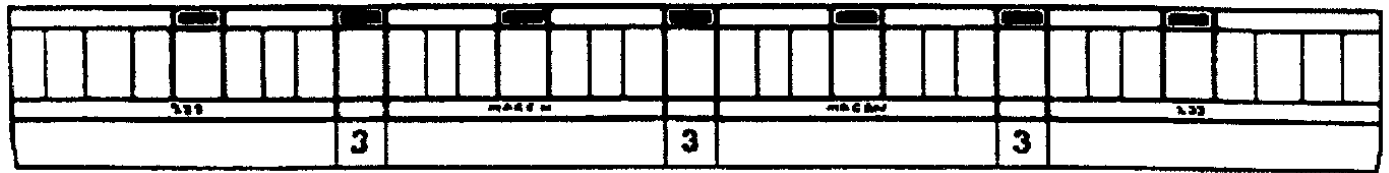
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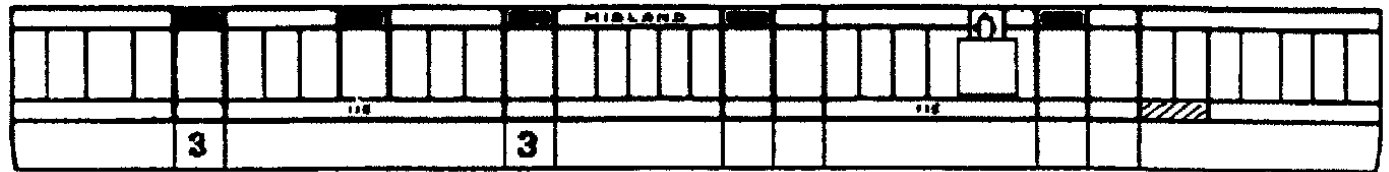
Probable style before March 1906. Shaded block MIDLAND. Small block numerals, directly above MIDLAND where panelling permits. Crest below MIDLAND on D559 brake composite only.



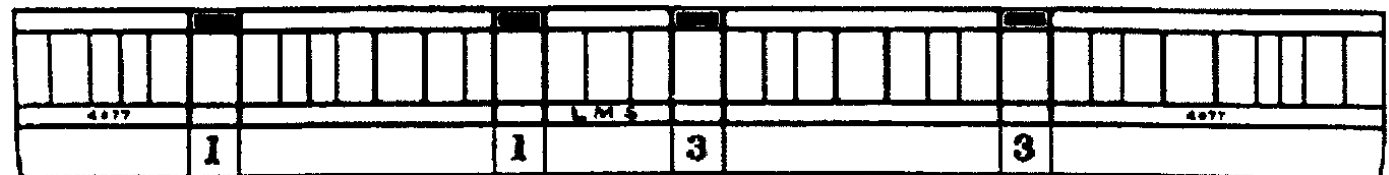
Probable style March-August 1906. Small block numerals. Crests on D559 brake composite only.



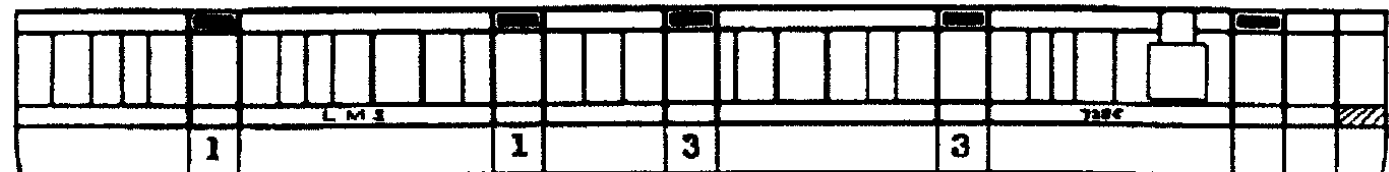
Joint stock (M&GSW or M&NB) style 1906-23. Small block letters and numerals.



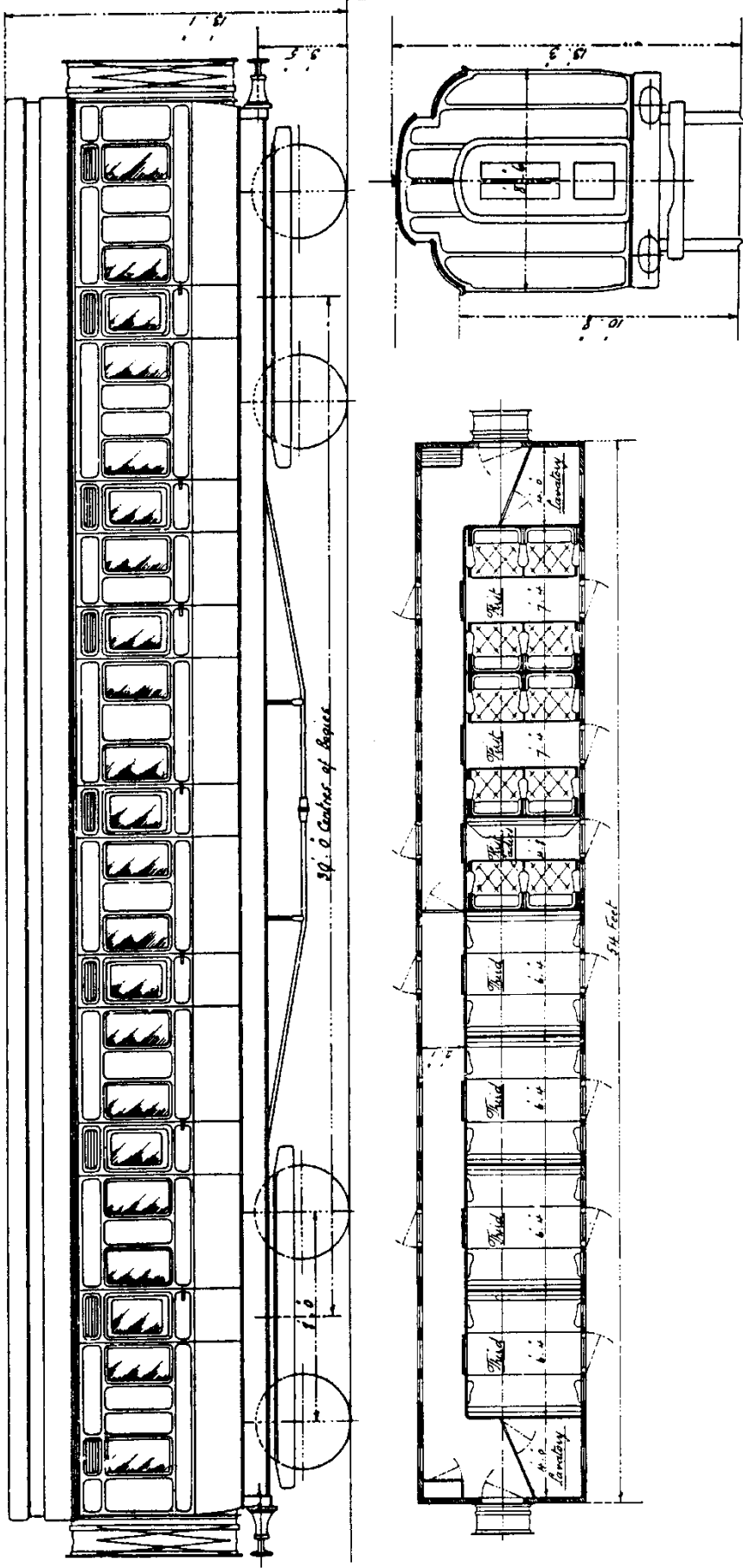
Midland style 1906-23. MIDLAND in black panel. Small block numerals.



Style for LMS 1923-33 or M&NB 1923-28. Large serif letters, small serif numerals.



LMS style after final renumbering. Plain gold block numerals when fully lined. Yellow insignia (not included) if repainted in simple livery. LNER insignia (not included) positioned similarly, with GUARD in waist of single guard's door of brake third.



MIDLAND RAILWAY D469 54' CLERESTORY CORRIDOR COMPOSITE

Side and end elevations are to 4mm scale. Side elevation shows compartment side.