

# SHIRE SCENES ETCHED COACH SIDES AND THE LEWIS PROFILING SYSTEM

## 1. OVERVIEW

The **SHIRE SCENES** etched brass sides for GWR 4 wheeled coaches were conceived in the late 1980s by E.R.H (Teddy) Francis - the founder of **SHIRE SCENES** – to provide alternative guises for the popular Ratio GWR 4 wheel plastic coach kits ([SR610](#) [SR613](#)). This offered the modeller a quick and easy route to expand the range of prototypes available and allow more interesting train formations to be created. The Ratio kits provide an easy entry point for those wishing to model the GWR as it was between the turn of the Century and the 1950s; the little four wheelers were synonymous with the ubiquitous and well-liked GWR branch lines. Ratio supplies three coaches in two lengths. They all have the ‘three-arc’ (so called elliptical) roof section and, of course, a suitable roof moulding is included with the kit. This roof section is the later Dean variant – see Section 4 – and, for our purposes, is one of three distinct roof sections used between the 1890s and early 1900s.

Recognising that the popularity of the Ratio coaches arose from the relative simplicity of plastic kit construction, Teddy planned the range of Shire coach sides to be compatible with the two Ratio chassis lengths and suitable for ‘superglue’ construction. The nearest alternative, then and now, is a full brass kit with the incumbent need to bend most and solder all of the components; some can be glued but may have limited durability in layout use. Given that some of the prototypes were different heights and had different roof profiles some ‘modeller’s license’ is required and in some instances compromises have been made with the etched sides and end profiles to make them fit the standard Ratio kit.

## 2. COMPROMISES – VEHICLE LENGTH

While the GWR believed in standardisation, it seems that it was rarely practiced with the 4 wheel coaches which came with a variety of lengths and wheelbases. The Ratio chassis comes in two sizes: Long - 30’0” under-frame with 19’0” wheelbase ([Ratio 613](#)) and Short - 27’0” with 19’0” wheelbase ([Ratio 610/612](#)). Shortening (‘cutting and shutting’) the Ratio 613 chassis (in particular) accommodates some additional coach lengths. Plastic construction makes this relatively easy. Many of the GWR 4 wheelers had wheelbases between 18’ 6” and 19’0”. Some had originally been 6 wheelers with the centre axle removed for branch working

## 3. COMPROMISES – WIDTH, HEIGHT, ROOF AND ENDS

The prototype GWR 4 wheelers came in different heights and widths and had different roof profiles. In order to be a ‘simple’ fit to the Ratio donor, five of the sides from the original **SHIRE SCENES** range included compromises to the body dimensions. Three of these represent prototypes which had the earlier full (single) arc roof and shorter (lower) body sides while two were Metropolitan Railway coaches

To understand the dimensional compromises more fully, it is necessary to reflect on the three types of non-clerestory coaching stock produced by **SHIRE SCENES**. Dimensions up to and including the waist moulding were common to all three types but above the waist the earlier Dean coaches with the single arc roof had short, 2 0” high, windows and 9” eaves mouldings with concomitantly deep ventilator bonnets. Later Dean coaches had the three arc ‘elliptical’ roof (as supplied with all

the Ratio kits) with taller widows with 7" eaves mouldings. The overall body height of the later coaches was 3" more than the earlier type. A third type was the Holden Metropolitan line coaches which were originally built for inner London service but cascaded into the regions between 1904 and the end of the 1920s. As well as characteristic curved door headers, these coaches were 8'6" wide and so the ends were quite different in form from the 8'0" Dean coaches. They used a wider version of the three arc roof.

The original concept was that only replacement sides would be provided so that coach ends, roof etc. would all come from the Ratio kit. Etched brass ends were offered as an alternative because many modellers did not feel that the separate surface detail on the etch sides sat 'comfortably' with the moulded detail on the plastic ends. The plastic sides are about 1mm thick and Ratio 'absorbs' this (scale 3") by narrowing the plastic ends and letting the sides overlap them to represent the outer beading. To compensate for this on the thinner, 0.3 mm (scale 1"), **SHIRE SCENES** brass etches, a 'fold-back' tab is included on the extremities of the sides to thicken them to approximately 0.6 mm. **SHIRE SCENES** also provides full (single) arc ends ([S114M](#)) for the earlier Dean Vehicles but in order to match the sides these incorporate the same compromises in the height.

The Metropolitan Railway coaches had the three arc ('elliptical') roof but were wider; the roof itself was wider and the ends had an additional panel. The Metropolitan coaches were also lower overall from rail to the top of the roof arc. Etched brass ends to the Metropolitan profile are available through **DART CASTINGS** from the **FROGMORE CONFEDERACY** range ([Frogmore / MJT3924](#)).

**SHIRE SCENES** has recently introduced coach side which are more dimensionally accurate but which use fewer parts from the Ratio donor and / or involve rather more drastic surgery on the plastic parts. Etched brass ends with the correct profile are included with the sides. The Metropolitan coach sides, for example, are provided with the correct wider and squatter ends but this means that the Ratio roof has to be widened or replaced. More detail is given in Section 5.

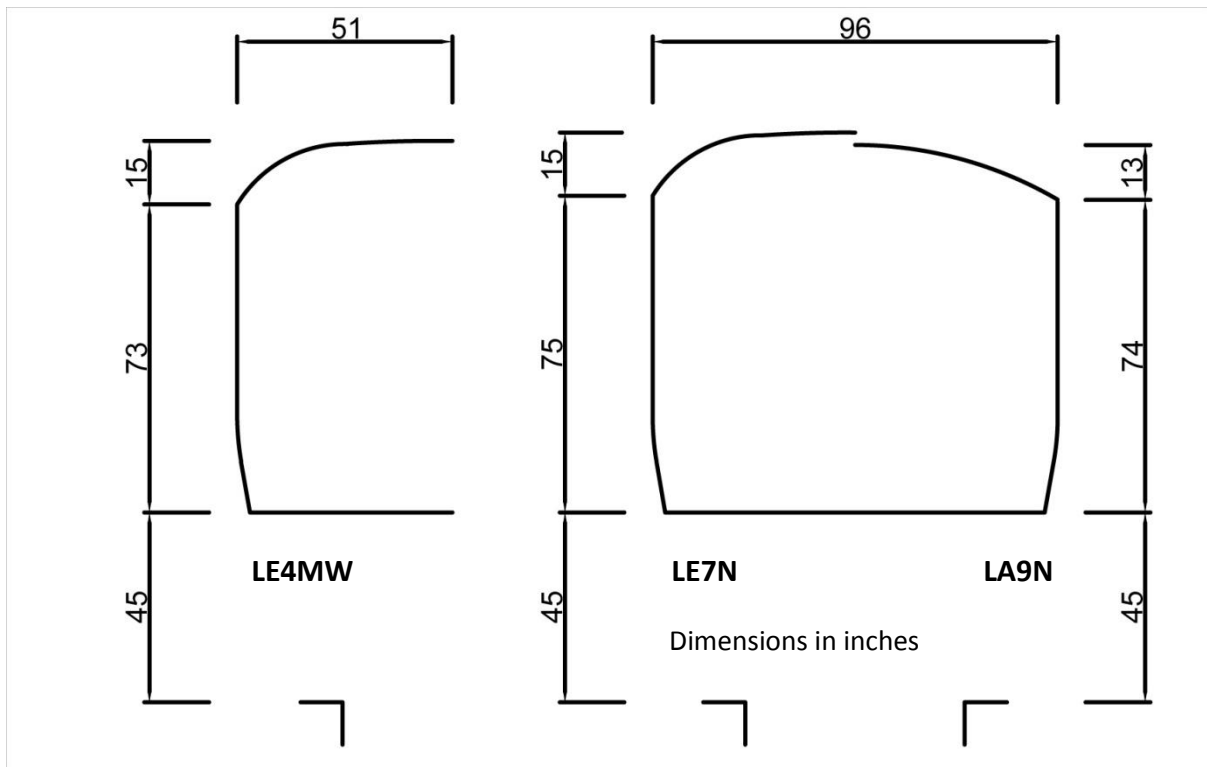
#### 4. THE LEWIS SYSTEM

John Lewis (et al) of the Great Western Study Group wrote a defining classification of these coaches in 1981 and **SHIRE SCENES** has used it to differentiate between the types and to ensure dimensional fidelity in new products.

- The older Dean designs were **Low single Arc** roofed with **9"** eaves and **Narrow (8'0")** body width - **LA9N**.
- The later Dean designs were **Low three arc Elliptical** roofed with **7"** eaves and **Narrow** body width - **LE7N**.
- The Holden Metropolitan coaches, another late design, were **Low Elliptical** roofed with **4"** eaves, **Metropolitan Railway** stock with **Wide (8'6")** bodies - **LE4MW**.

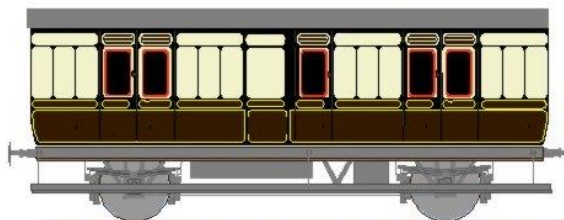
There were several other variations and of course there was the whole range of clerestory vehicles but **SHIRE SCENES** does not (yet) produce kits for these.

The dimensions shown on the drawings are 'representative'. The exact dimensions could vary from one coach to another depending on the craftsman making the vehicle and the shop foreman. The actual diagrams and diagram numbers (and implied standardisation) were, in most cases, produced after they were built.

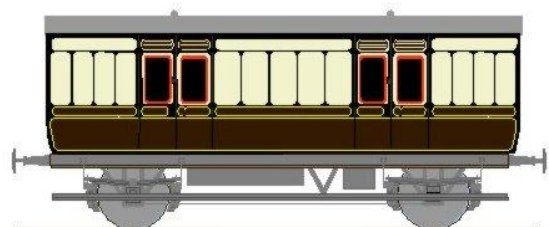


## 5. THE SHIRE SCENES RANGE OF GWR COACH SIDES AND ACCESSORIES

**S101** Diagram V5 Full Brake, **LE7N**. 28'<sup>3</sup>/<sub>4</sub>" Body, 18'6" wheelbase. Uses the Ratio 610/612 short chassis.



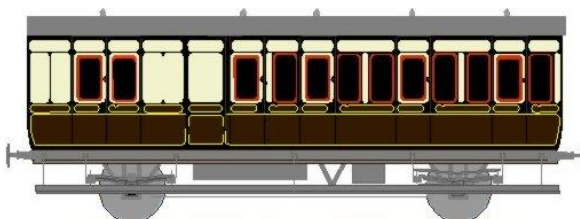
**S101**



**S102**

**S102** Diagram W1. Postal Van, **LE7N**. 25'<sup>3</sup>/<sub>4</sub>" Body, 16'0" wheelbase. If the Ratio 610/612 chassis is used the wheelbase is too long. However, 'cutting and shutting' the longer 613 chassis (where the axles are the correct distance from the ends) yields near prototypical dimensions.

**S103** Diagram T36. Three Compartment Brake Third, **LE7N**. 31'<sup>3</sup>/<sub>4</sub>" Body, 19'0" wheelbase. Uses the Ratio 613 (long) chassis.



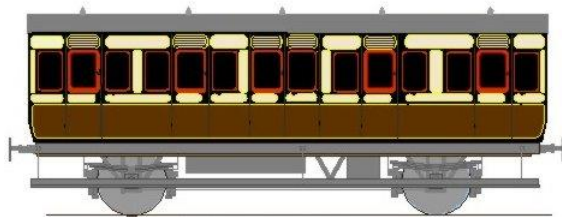
**S103**



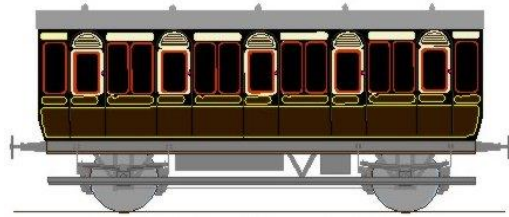
**S104**

**S104** Siphon C. 3 arc Elliptic Roof. Milk/perishables van - complete with etched ends to accommodate flat sides. Uses the Ratio 613 (long) chassis.

**S105** Diagram U12. Four Compartment Brake Composite' (Centre Luggage Composite). 28'6¾" Body, 18'0" wheelbase. Available in the [Bargain Corner](#) until stocks are exhausted. There are several issues with these sides. Diagram U12 was a 'Centre-Luggage Composite' and not actually a guard's vehicle. It was an **LA9N** profile coach and as such would have a full arc roof, 9" eaves and shorter pattern windows; note, the Ratio donor has a three arc (elliptical) roof. It would sit some 3" lower than LE7N vehicles. A drawing of Diag.U12 on page 47 of reference1 appears to have dimensional discrepancies that may have found their way into the original **SHIRE SCENES** product. The inclusion of luggage compartment droplights on the **SHIRE SCENES** etch may be fictitious as neither U12 nor the similar but longer 6 wheel U16 had them originally. If the modeller is prepared to accept the 2" discrepancy in the eaves and the approximately 2" discrepancy in the window height (the other inch seems to have been lost in the lower panelling) then the use of a full arc end ([S114M](#)) will go some way to correcting the problem. It may also be possible to lower the body overall and raise the wheel bearings a combined total of 1mm to adjust rail to roof height to the prototypical 11'2". The droplights may be filled with card or scrap brass. If the inaccuracies are ignored, this makes an attractive, if fictitious, coach and offers an inexpensive introduction to using the sides.



**S105**



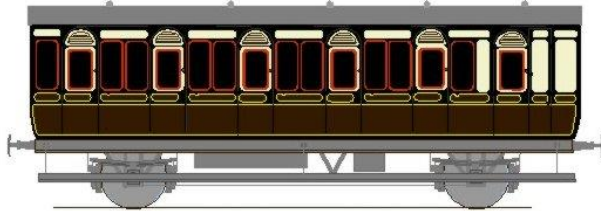
**S106 / S106M**

**S106** Diagram S17. Five Compartment Third, Metropolitan **LE4MW**. 25'¾" Body, 16'0" wheelbase. Uses the Ratio 613 (long) chassis. Old tooling. Having been conceived to fit the Ratio LE7N profile, these sides feature various dimensional compromises. The body is 3" (1mm) too high. This seems to have been distributed across the windows and panelling below the eaves and waist. Another problem is the width. This (and to an extent the height) can be corrected by using the [Frogmore / MJT3924](#) Metropolitan Ends which offer the correct width (number of panels) but retains the same height as the Ratio plastic ends. **Note: a newer, re-tooled version of these sides with the dimensional compromises corrected is available as S106M.**

**S106M** Diagram S17. Five Compartment Third, Metropolitan **LE4MW**. 25'¾" Body, 16'0" wheelbase. Uses the Ratio 613 (long) chassis. A revised version of the S106 with the dimensional compromises corrected. Supplied with the correct, wider ends. If the Ratio roof moulding is used it has to be cut into two halves and widened by inserting a 1mm wide strip. The ride height is important as these vehicles were noticeably lower ( 11'2¼" rail to roof) than contemporary LE7N coaches (11'5¼") with which they were mixed in provincial service in later life.

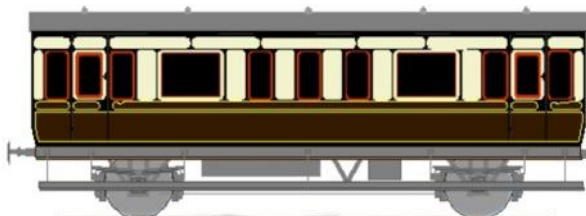
**S107** Diagram T59. Five Compartment Brake 3rd, Metropolitan **LE4MW**. 31'¾" Body, 19'0" wheelbase. Uses the Ratio 613 (long) chassis. Old tooling. The same compromises have been made for these sides as for the S106 (above). Further, the prototype vehicles had guard's windows in one end. **Note: a newer, re-tooled version of these sides with the dimensional compromises corrected is available as S107M.**

**S107M** Diagram T59. Five Compartment Brake 3rd, Metropolitan **LE4MW**. 31'¾" Body, 19'0" wheelbase. Uses the Ratio 613 (long) chassis. A revised version of the S107 with the dimensional compromises corrected. Supplied with the correct, wider ends which include the guard's windows. If the Ratio roof moulding is used it has to be cut into two halves and widened by inserting a 1mm wide strip.

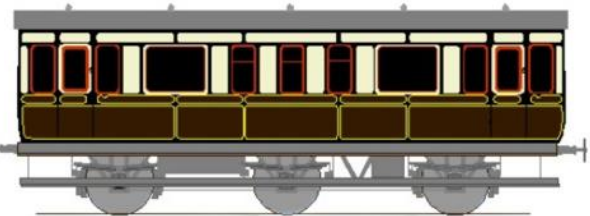


**S107 / S107M**

**S108** Diagram G20. Family Saloon (1945 condition), **LE7N**. 31'¾" Body, 19'0" wheelbase. Uses the Ratio 613 (long) chassis. These original **SHIRE SCENES** sides are based on a preserved example of this vehicle located at Buckfastleigh, Devon. More or less identical is a vehicle found in found in Departmental Service in 1945 which is illustrated in a 'side on' photograph in figure 67 of reference 1. The diagram G20s had all been taken out of passenger service by 1939. Figure 79 in reference 2 shows a six wheeled vehicle also identified as diagram G20. Apart from the central axle (removal of the central axle later in life would be consistent with observed GWR practice) this is very similar to the 1945 photograph albeit with more beading; the window layout is identical. There is evidence in the photograph of beading on the lower body sides perhaps having been altered. The transverse gas cylinder seen in the 1945 photograph would suggest that it might originally have been a 6 wheel vehicle. See also S108M below.



**S108**



**S108M**

**S108M** Diagram G20. Family Saloon (original condition), **LE7N**. 31'¾" Body, 19'0" wheelbase. Uses the Ratio 613 (long) chassis. The Great Western Society at Didcot has restored a saloon to which Diagram G20 is attributed. It is mounted on a 6-wheel chassis salvaged from a much later departmental van. The Didcot team has restored the beading so the coach is pretty much in 'original' condition as shown in figure 79 of reference 2. These newer **SHIRE SCENES** sides represent the vehicle in this condition.

**S109** Cattle Wagon conversion for [Ratio 563](#) - Diagram V6 'Iron Mink'.

**S110** Wooden Replacement Doors, for [Ratio 563](#) - Diagram V6 'Iron Mink'.

**S111** Gunpowder Van Conversion (doors and decals) for [Ratio 563](#) - Diagram V6 'Iron Mink'

**S112** Diagram T20. Four Compartment Brake Third, **LA9N**. 28'6¾" Body, 18'0" Wheelbase. Uses the Ratio 613 (long) chassis. Rather like the S105, this is an LA9N vehicle overlaid on a LE7N donor and most of the same dimensional compromises are incorporated. The drawing on page 37 of reference

1 is of a vehicle with a 6'3" high body (solebar to gutter) and this has flowed from (or driven) windows of incorrect height and eaves panels of less than 9" depth. Despite the flaws, this makes an attractive vehicle and there are no current plans to re-issue it.



**S112**

**S113** Coach ends. **LE7N** (3 Arc Elliptical) profile. Basic etched brass coach ends for use with **SHIRE SCENES** coach sides where it is felt that the moulded ends provided with the Ratio kit are not a comfortable match with the etched brass sides. These have been re-tooled and will be discontinued when existing stocks are exhausted. See S113M below.

**S113M** Coach ends. **LE7N** (3 Arc Elliptical) profile. Upgrade of S113. S113 and S113M provide a better visual match between the coach side and end. The success of the **SHIRE SCENES** [S104](#) Siphon is due in part to the incorporation of etched ends that attach to the Ratio coach floor. This is possible due to the Siphon's two-overlay construction, not employed on the brass coach ends. By using double folding 'wings' on the S113M it has proved possible to circumvent this shortcoming and provide fixing tabs which allow the new ends to fix directly to the Ratio floor and then support the replacement sides.

**S114M** Coach ends. **LA9N** (Single Arc) profile. Upgrade of now discontinued S114. . Etched brass coach ends for use with **SHIRE SCENES** coach sides. As well as offering a better visual match between the coach side and end, these are replacements for the moulded plastic ends supplied with the Ratio Kits where the vehicle ideally calls for a single arc roof profile. As explained above, the sides themselves feature some dimensional compromises and these are carried through to the ends to make them fit. Where appropriate, more recent coach sides from **SHIRE SCENES** have ends to the correct profile included with them. See also comments for S113M above.

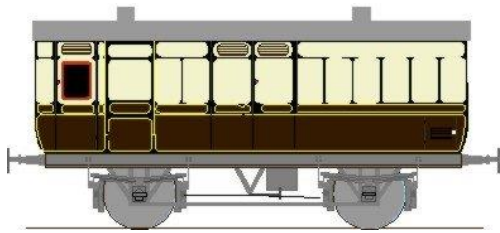
**S115** Buffer Beam. For scratch builders.

**S121** Diagram V2. Short Full Brake, **LA9N**. 21'0 $\frac{3}{4}$ " Body, 12'0" wheelbase. Uses the Ratio 610/612 short chassis. These sides were originally produced as a substitute for those supplied with the Colin Waite V2 brass kit. As it was also necessary to provide ends, **SHIRE SCENES** investigated the possibility of creating a Ratio kit-bash 12' chassis for the vehicle, much in the same way that the S102 (W1) chassis needs to be modified. Additional surgery to axle-boxes and the addition of clasp brakes may also be necessary depending on the era modelled.

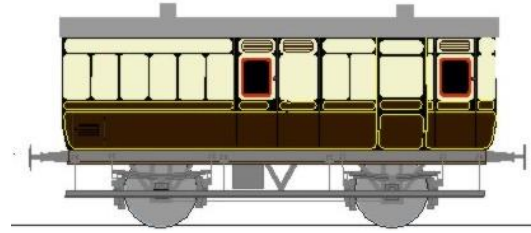
**S122** Diagram W5. Hounds Van, **LA9N**. 21'0 $\frac{3}{4}$ " Body, 12'0" wheelbase. Uses the Ratio 610/612 short chassis. A somewhat obscure prototype that appears to be a modified Diagram V2 Short Full Brake. Used for transporting a pack of hounds to the hunt, the train formation would also have included horse boxes and passenger accommodation for the huntsmen. From the point of view of These sides were originally produced as a substitute for those supplied with the Colin Waite V2 brass kit. As it was also necessary to provide ends, **SHIRE SCENES** investigated the possibility of creating a



Ratio kit-bash 12' chassis for the vehicle, much in the same way that the S102 (W1) chassis needs to be modified. Additional surgery to axle-boxes and the addition of clasp brakes may also be necessary depending on the era modelled.

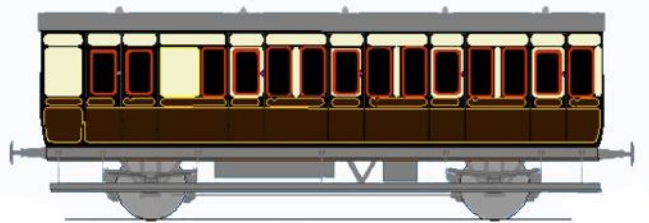


**S121**



**S122**

**S126** Diagram T49. Four Compartment Brake Third, **LE7N**. 31'0¾" Body, 19'0" wheelbase. Uses the Ratio 613 (long) chassis and includes brake crank detail under the guard's end. This coach was rebuilt by the Great Western Society at Didcot in 2009/10. It has guard's projections at the end of the vehicle which give an unusual and distinctive profile.



**S126**

See also:

**Frogmore Confereracy / MJT 3924** Metropolitan Coach Ends. **LE4MW** (Three Arc Metropolitan) profile. Etched brass coach ends. As well as offering a better visual match with the etched brass sides, these ends have the correct width (six panels) and widened roof profile for the Holden Metropolitan coaches. The height is slightly compromised – they are too tall - in order to match the S106 and S107 Coach Sides.

## REFERENCES

1. Great Western Coaches (Part 1 1838 – 1913) J.H.Russell – Oxford Publishing 1972
2. Great Western Coaches Appendix (Volume 2) J.H.Russell – Oxford Publishing 1984



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