



Class 312 4-Car Electric Multiple Unit

The Class 312 4-car EMU first appeared in 1975, intended for outer-suburban services on Eastern and London Midland Region Lines. Three batches were produced:

- Class 312/0 – Great Northern Outer Suburban Services from Kings Cross to Royston
- Class 312/1 – Great Eastern services from Liverpool Street to Colchester, Clacton and Harwich.
- Class 312/2 – London Midland Services around Birmingham. Restricted to 75mph. Re-numbered to 312/0 number series in 1987.

Following introduction of Class 317 units in 1986, the Great Northern 312s were re-allocated to the Great Eastern and LTS routes, surviving until 2004.

About the Kit

This kit contains a pair of cast resin ends and vinyl bodyside overlays and is designed to convert Graham Farish Mk2 Coaches.

Requirements

4x Graham Farish Mk2 coach, pantograph and roof fittings, Cutting Saw, sharp knife, steel ruler, plasticard, pin vice, small modelling drill bits, fuse wire, glazing material, paint.

Roof Vents

If you wish to fit correct-pattern roof vents, do so before proceeding.

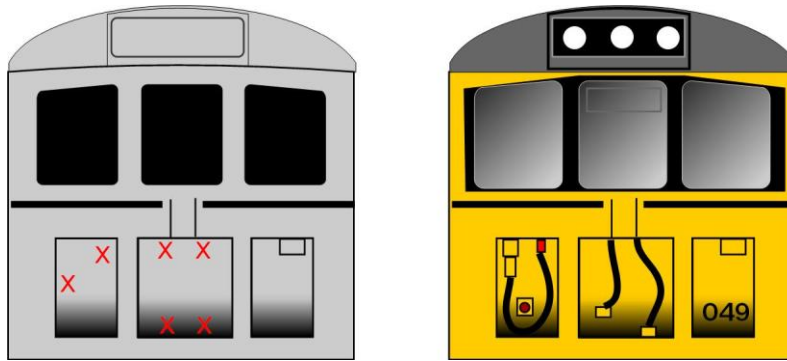
Motorising

The Graham Farish Class 150 chassis is ideal for this conversion. I would recommend fitting this to the pantograph car, with the motor in the guards' van end. You need to cut out the floor from the donor coach first. Do this before proceeding with the stripping and main conversion.

Driving Car Instructions

Strip the coach, as per the supplementary instruction sheet.

Clean the end castings. Fit oval buffers of your choice. Using a very fine drill bit in a pin vice, drill the holes for the air-pipes as per the diagram. The air-pipes can be made from fine fuse wire and placed into the holes. Spray with primer once complete.



Re-fit the coach roof. Remove one end from each driving car using a fine saw blade, making the cut just behind the curved roof end dome – 2mm from the end.

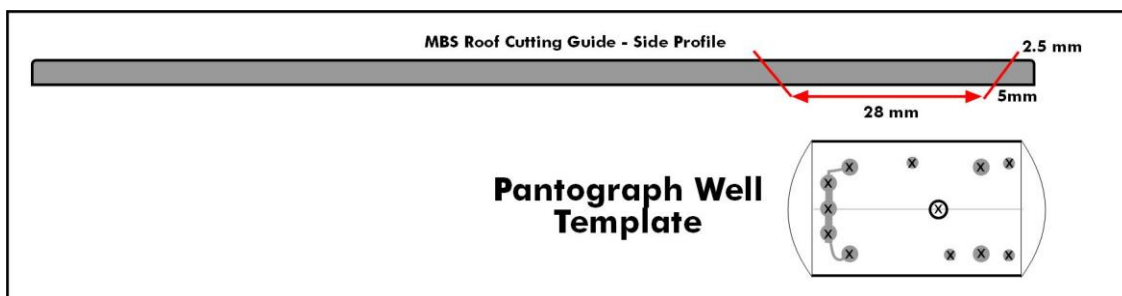
Attach the end using super-glue or epoxy cement (Araldite) and paint as required.

Apply the vinyls, using the separate sheet for guidance.

Re-fit coach bogies and underframe components. The Driving car with first class has very little underframe gear, and the other end has a large battery pack. Underframe components can be salvaged from the Mk2 mouldings and any spares and bits of plasticard you have handy.

Pantograph Car

Cut the roof as shown below. Using the supplied card template cut a piece of plasticard 28mm by 18mm. Drill holes in the plasticard as per the template to accommodate the pantograph and insulators.



Glue the plasticard roof well to the coach, being careful not to allow any glue to contaminate the clear sides – it is a good idea to apply masking tape to the sides to protect the glazing. Use modelling filler and wet/dry paper for the ends of the well and to get rid of any gaps. Paint BR Roof Grey when complete.

Apply pantograph, insulators, etc before vinyling.

Mk6 EMU power bogie sideframes are available from Taylor Precision Models - not exact for the 312 but as near as we can currently get in N!

http://www.tpmmodels.co.uk/modern_mu.htm

Pantograph: I recommend the Dapol Stone-Faively pantograph, though the Sommerfeldt single-arm pantograph (as used on Farish electric locos) is a good substitute.

Insulators: These can be fabricated from plastic section, or a cocktail stick. If possible, try to get hold of a second hand Farish electric loco body with the roof fittings and use these instead.

Motorising

Motorising is up to you. The best chassis currently available is the Graham Farish Class 150 Sprinter, which has the correct wheelbase, easily strips down and is DCC/Sound ready.

You will need to cut the floor out from the Mk2 coach – do this BEFORE applying the vinyls but keep the roof on for strength.

Finishing

Headcodes: If modelling a unit with “Domino” headcodes, please note the 3-dot panel is applied only to the First Class end.

The vinyls are very durable but, like any printed media, prone to scratching. A non-acrylic varnish, such as Klear or Plasticote can be used to seal the finish.

Acknowledgements

Many thanks to **Paul Hardy** for creating the cab end master and **Bob Davis** of N-Train for making the castings.

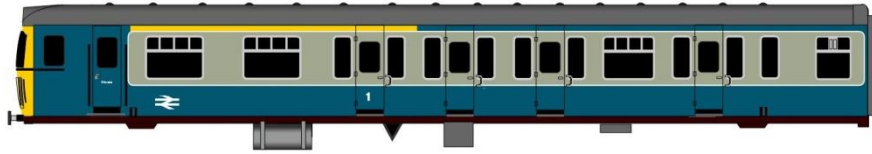


I hope you have enjoyed this Electra conversion. If you damage any vinyls during construction, I will replace them free of charge – please send a SAE to the above address.

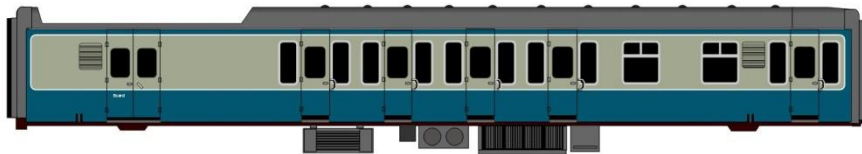
Adam Warr,
Peterborough, UK
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<http://www.electrarailwaygraphics.co.uk>

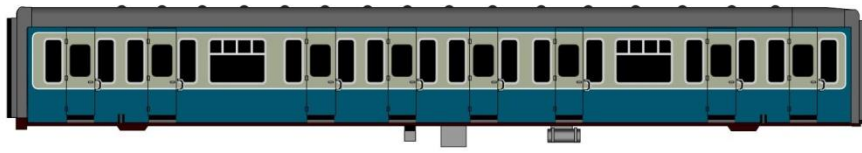
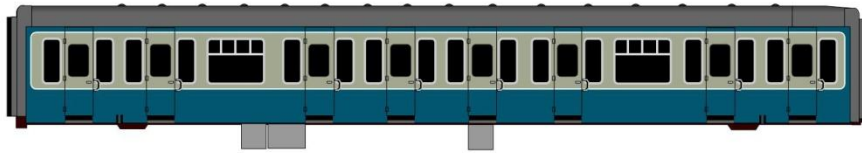
Class 310 / 312 Underframe Arrangement



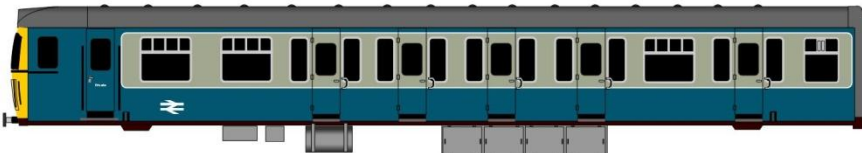
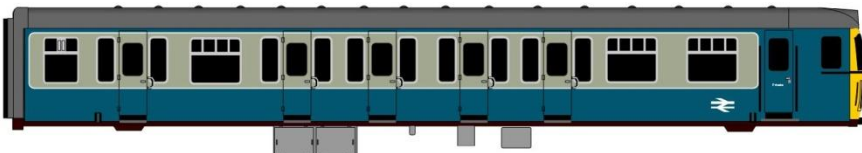
DTC - Driving Trailer Composite



MBS - Motor Brake Second



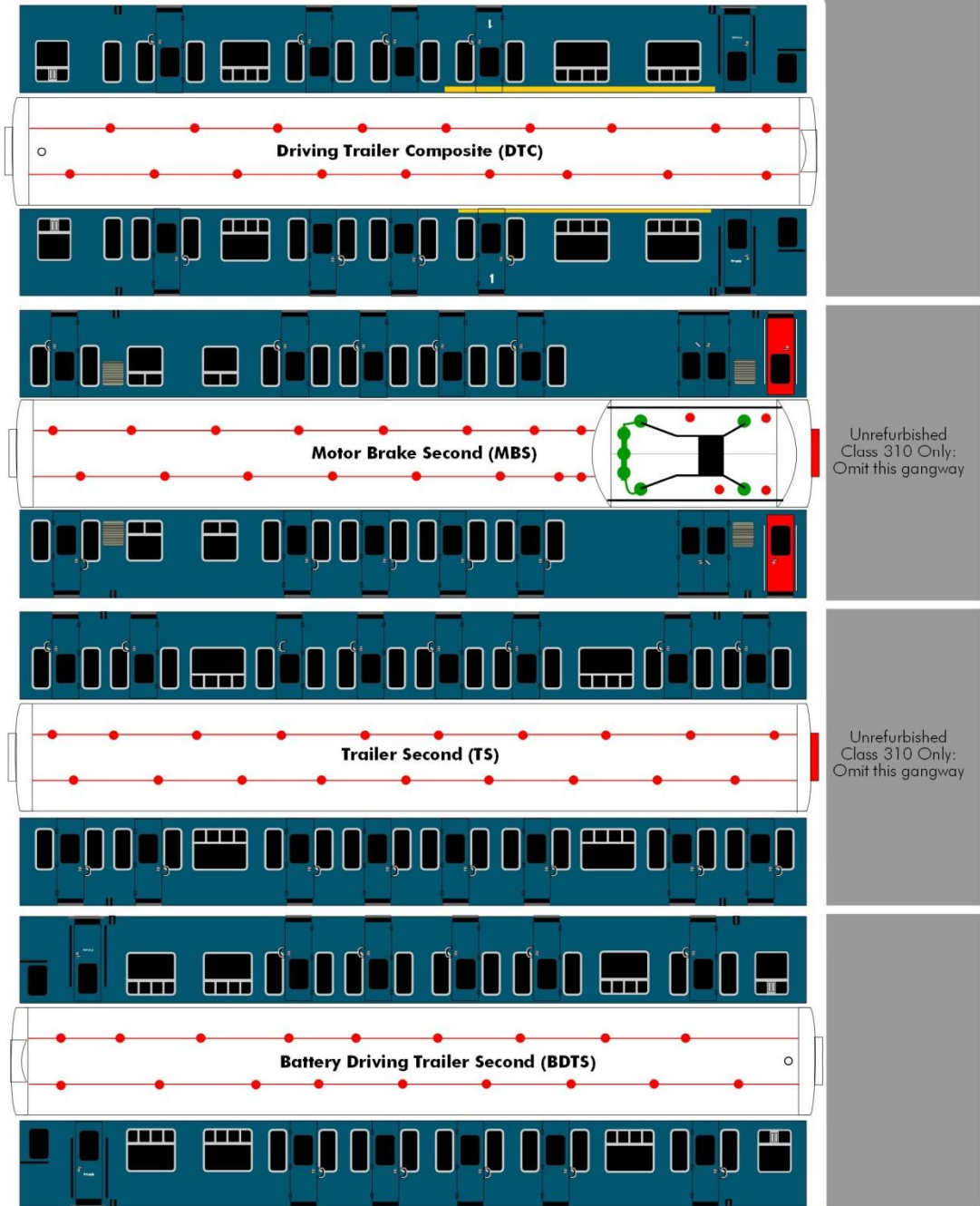
TS - Trailer Second



BDTS - Battery Driving Trailer Second



Class 310 and 312 Roof Arrangement



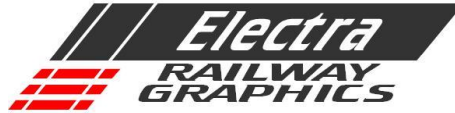
Unrefurbished
Class 310 Only:
Omit this gangway

Unrefurbished
Class 310 Only:
Omit this gangway

- Key**
- Roof Ventilator
 - Ceramic Insulator
 - Toilet Filler



Guards' Door
Class 310 Only



Class 310 / 312: Preparing Your Mk2 Coach

Stripping the Shell

I recommend checking the age of the vehicle that you are intending to work on before proceeding, as the plastic used can react to different cleaning agents.

Original Graham Farish Stock - UK made Mk2s

Nail varnish removal wipes, available for around 99p a pack are really good at removing the finish from Poole-built coaches with care. These are mildly corrosive and can damage the plastic if left in contact for too long. Thoroughly rinse the coach shell after use.

Bachmann-built stock – anything stamped “Made in China” with tinted shell

Brasso works beautifully on the more recent Chinese made Farish coaches, though requires more elbow-grease to get a really good finish. This has a nasty habit of attacking the plastic of the earlier UK-made coaches, so be careful. Again, clean thoroughly after use.

Whatever method you use, patience is its own reward and a well-stripped shell will do wonders for the finished article.

For either shell type, Phoenix Superstrip is an excellent way of removing the finish safely.

Applying the vinyls

Carefully peel the vinyl from the backing sheet and gently apply to the bodyside, a little at a time, ensuring good alignment. The vinyls adhesive doesn't grab fully for a while, so you can peel off and replace the bodyside if you don't get it right first time.

Don't worry if any window blanks (“chads”) are left in situ– remove these with a very sharp knife-point when the sides are on. Watch these chads do not get behind the bodyside vinyl, as they can leave bumps.

Finishing

The vinyls are very durable but, like any printed media, prone to scratching. A good coat of varnish is the ideal way to finish off the vehicle and I recommend an Inkjet fixative or Clear-Kote.