QUICK START PROJECT 3 - USE A PECO COACH KIT AND SOME ADDITIONAL PARTS TO MAKE A BOGIE COACH

Text and Photographs by Brian Cameron

This article describes the adaptation of the standard PECO coach kit to make a four compartment bogie coach.

Requirements

- One coach kit (OR 31, Green livery or OR 32, Maroon livery)
- The coach extension kit which is an Association exclusive, (OR45MK2G, Green livery, OR45MK2M, Maroon livery or OR45MK1U, unpainted). (Alternatively parts from a second full kit may be used, although this will leave more parts for the spares box.)
- A pair of bogies - the Ratio diamond frame kits available from the Association [Ratio 125] are suitable but other kits or ready to run bogies could be used.

Introduction

The kits are of a very high standard; all the detail is good and the fit of the parts is excellent. The instructions are quite comprehensive with very useful illustrations. If you've ever built any sort of plastic kit (such as the Airfix kits which were about when many of us were rather younger) you'll have no trouble, and you'll be fine even if you haven't.

I'm not going to go into any detail about fitting couplings as the type used will vary greatly. Do think ahead though about how you are going to fit your chosen type; it will almost certainly be necessary to modify the buffer beams and this may be easier to do before assembly. For example, I use Kadee couplings and it was necessary to remove part of the buffer beam to fit them.

A word about glues - I used Humbrol Liquid Poly for most of the work and super glue for detail items (though see below about sticking the weight in place with epoxy). Everyone has their favourites. I find the 'Zap' range excellent and I particularly like the 'Zap-A-Gap' which is a slow-setting super glue. This gives you time to position parts correctly - it doesn't set immediately. One suggestion – don't try and apply the glue straight from the bottle. Put a drop on a scrap of styrene sheet or cardboard and then use a pin to put the glue exactly where it is needed.

Initial Assembly

Each side of the coach consists of two PECO coach sides butt-jointed. Lay the two coaches sides alongside each other and you'll note there is a layer of paint where they are to be joined. Using a sharp knife, carefully scrape away the paint. To glue the pairs of sides together lay them on a flat surface (I use a mirror tile). Placing the bottom edges against a straight edge such as a steel rule will help ensure they are in line. Glue a piece of 1 x 1.5mm styrene 37mm long over the join for reinforcement. Photo 3-1 shows a pair of sides lined up after gluing and a pair showing the reinforcing strip of styrene. If you are going to repaint the sides, the beading, which extends to the ends of the sides, can be cut above and below the end windows and the rectangle completed by fixing some strip (0.5 x 0.75mm) in line with the beading on the windows and lower panels. If you want to keep the existing paintwork (to match the basic kit) as I did then this can be omitted. You should not need to fill and rub down any join between the sides but if you do it's definitely a re-paint job.

Photo 3-1. The gold lining on the beading on the outer face of the side is as it comes from the kit, while the white line on the inner face is the strip of styrene reinforcement.

Photo 3-2. Two ends, one completed side and the floor are joined together. The floor is made from styrene (plastic card) sheet which is not part of the kits.
Getting Started

The floor is made by cutting a piece of 0.75mm styrene sheet 158mm x 40mm, although do check the size of your sides and ends and adjust the size to suit if necessary. Mark the centre line of the floor (for fitting the bogies later). If you are going to fit the steps and handrail from the kit to one of the ends, drill the holes before assembly. Also paint the ends at this stage. Now assemble one side, the ends and floor, making sure that all are square and leave to dry. Don’t fit the second side at this time – omitting it means that seats and partitions are easier to fit. Photo 3-2 shows the ends and one side in place on the styrene floor.

Seating

Seating can be made from styrene sheet. Alternatively Port Wynnstay make very nice interiors for the basic kit which can be adapted. The seats looked quite comfortable and could well be used for first class with a plainer interior made from styrene sheet for third class. If you make your own, the partitions and seats need to be 38 mm wide but check against the thickness of the glazing; 1 mm styrene is fine. Note that there is no need to curve the tops of the partitions exactly, they’re not particularly visible; you could probably have them straight. I found a suitable diameter paint tin to make cutting the curve easier. About 41 mm high is fine. Seats need to be about 10 mm wide and 12mm high. Photo 3-3 shows the seating in place to check for fit; I’ve made some cushions for first class from balsa.

Completing the Bodyshell

Paint the interior at this stage. If you are repainting the sides paint the window surrounds before glazing. Cut a strip of clear styrene sheet about 5 or 6mm deeper than the windows and to fit the length of the coach or compartments. If solvent is used to stick clear styrene in place for glazing it invariably tends to get onto and mark the glazing. Good alternatives are a small amount of UHU or Humbrol Clearglaze along the top and bottom edge and fix in place; neither will mark the glazing. Finally, fit the remaining side. Photo 3-4 shows the seating and both sides in place.

The Roof

Place, but do not glue, one of the roof mouldings in place, butted up against one end. Put the other roof on. It will overlap the first roof. Mark the first roof at the overlap. Cut off the end outside of the mark (I’d suggest laying a steel rule across the roof and make a number of light cuts with a sharp knife). Gradually file the roof until both parts are a snug fit on the body. Remove them from the body and glue them together. Leave on a flat surface to dry. Fill and sand any gap. Mark and drill the roof for any vents and lamp housings you may wish to fit (Alphagraphix, IKB/Wrightlines and Sidelines all make quite a good selection).

To give a roof some texture and to make it look a bit like canvas, it is worth sticking a layer of tissue paper on it. Split the plies of tissue to give a single thickness and cut a suitable piece to cover the roof with an overlap. Lay the tissue over the roof and using solvent and a brush, start from the centre line and gradually dampen the tissue with solvent, working down to the edges a small area at a time. Hold the tissue taut round the edges when applying the solvent. When the tissue has dried trim around the edges with a sharp knife (it’s worth fitting a new blade) and open up the holes for any lamp tops or ventilators. Photo 3-5 shows the roof in position.

Bogies

If you use Ratio bogies then the body will ride very high, too high for my couplings to match up with other stock.
I cut two pieces of 1.5 mm styrene sheet, roughly 13 mm x 10 mm and stuck them together. The pin on the Ratio bogie is 2.5 mm diameter so you need to drill a hole that diameter in the centre of the block. The pin in the top of the Ratio bogie (otherwise made as per the kit instructions) is then a push fit into the block rather than the mounting in the kit. I marked the block with a centre-line before doing so, so that I could line them up with the centre-line previously marked on the floor – it’s easier to stick the block on first then push the pin into place. You may wish to vary the height of the block (or the modification you make to the kit part) depending on your coupling height. I added a 0.5 mm sheet to the mount to get the height just right for my couplings. Photo 3-6 shows the modified bogies; the right-hand one shows the bogie to be fitted to the block and the left-hand one after fitting to the block.

Underframe Detail

You can use the end beams from the kit but you may want them depending on what you intend to use the spare chassis from the kit for. I made new end beams from two pieces of 1 mm plastic card 40 mm x 6 mm (it’s worth laminating two pieces for each end beam to give a more suitable thickness). Chamfer the corners. (The end beams in the kit will give a good guide.) Fix the end beams in place. I used two pieces of Evergreen channel (264) for the sole bars but one could use two lengths of styrene strip 3 or 4 mm deep. The exact length will depend on how thick you’ve made the end beams. Glue to the floor and up against the sides.

It’s worth adding some weight to all items of plastic rolling stock. I use lead sheet from Eileen’s Emporium which can be cut to size with tin snips or a pair of kitchen scissors. Cut a piece to fit the space available and glue in place with UHU or epoxy resin (score the plastic and the lead lightly to help the adhesive grip). (About 1 oz per axle is normally considered adequate. Ed.)

The model will be improved by the addition of some truss rods (though you can get away without - my first conversion ran without any for some time and nobody noticed or were too polite to mention the omission if they did!). I found it easier to make these up out of wire as you need to solder the uprights. If you’re not keen to solder then something similar could be made up out of plastic rod. Photo 3-7 shows the truss rods, sole bars, weight and end beams in place.

Photo 3-7. The grey sheet between the truss rods is lead sheet as a ballast weight. Kadee couplings are in place.

Final Stages

Finally, glue the bogies in position, using the centre line marks to align them. I positioned mine 25 mm from the ends. Photo 3-8 shows them fitted in position.

Photo 3-8. This picture shows the completed coach ready to enter traffic.

Fix the lamp tops in place in the holes made earlier. The extension kits don’t come with door handles and grab irons and I find the plastic ones from the kit a bit fragile so its worth replacing the door handles with metal items (such as Association special AW06) and making new grab irons from wire (Eileen’s Emporium do nickel silver wire in a variety of diameters, 0.8 mm fits the holes quite well but is a bit chunky). When fitting the grab handles I used a piece of scrap card and ensure that the gap between the grab and the side is consistent. Fit the end steps and handrail if you’ve chosen to fit them. Paint to choice.

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Getting Started

As the extensions kit doesn’t come with steps, if you wish to fit them it will be necessary to fabricate some more or make a full length step. This can be done by drilling several holes in the sole bar and gluing in some lengths of 1 mm diameter micro-rod in the holes. Cut the running boards out of 0.75mm styrene sheet, 120mm long and 5mm wide and glue on to the rod.

Once the glue is dry, the couplings fitted and the final painting complete the coach is ready to be put into use.

Suppliers (See note on page 32)

With the exception of the Association Sales it’s the usual disclaimer that my only connection with the suppliers mentioned is as a satisfied customer.

Eileen’s Emporium, (Derek Russan), Russan Ltd, Unit 19, 12 Higham Business Centre, Newent Road, Gloucs. GL2 8DN Tel 01172 300045 Fax 01173 270285 Email sales@eileensemporium.com Web www.eileensemporium.com

Alphagraphix, (Roger Cromblehome), 23 Darris Road, Selly Park, BIRMINGHAM B29 7QY

IKB/Wrightlines, (Adrian Swain), 39 Napier Road, POOLE, BH15 4LX

Port Wynnstlay, (Phil Traxson), 20 Willson Road, Littleover, DERBY, DE23 7BZ. http://www.ngtrains.com/

The PECO kits, Evergreen styrene and various items such as door handles mentioned in the course of the article are available from the 7mm Narrow Gauge Association Sales.

The completed coach in service on Brian’s layout ‘Bodger’s End’.

HEALTH AND SAFETY
A Note from the Editor

Lead: Lead is toxic if ingested. Before using lead sheet to provide weight in the models which are the subject of these Quick Start Projects, Brian undertook a risk appraisal and decided that he could proceed safely because there was negligible risk of the cutting and sticking of lead sheet leading to ingestion. Readers are advised to wash their hands thoroughly after handling lead (including most solders). They should also be aware that there are EU restrictions on trading items, particularly electrical goods (which includes electric model railway locomotives), which contain lead. If concerned, they may wish to use alternative materials.

Plastic Solvents: Many of the solvents used for joining plastic sheet are potentially hazardous and should only be used in a well ventilated space. Please heed the warnings on the packaging.