SOUTHWARK BRIDGE
MODELS

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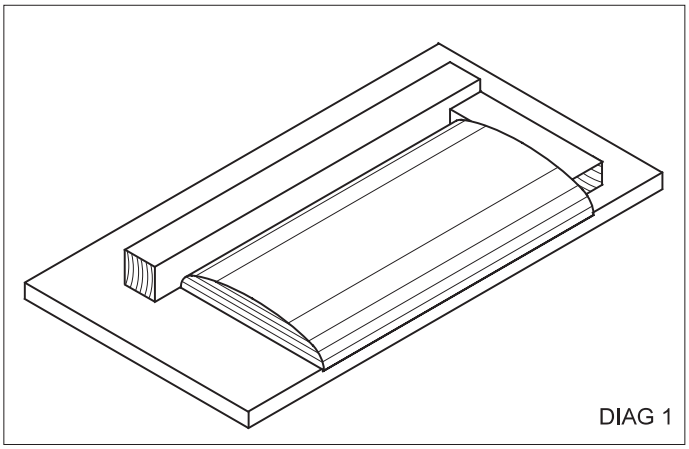
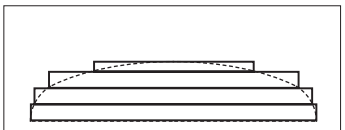
Roof construction in 4/7mm scale. (roofs with domed ends)

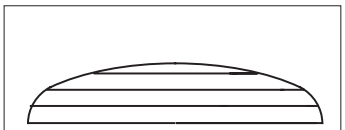
I believe that roofs are one of the more important aspects of model construction and sadly one of the items most frequently modelled badly. We spend most of our viewing time looking down on our models so a little time spent here is well worthwhile.

Experience has shown that there is no quick way of building roofs and the Southwark Bridge Group has tried many techniques and come to the eventual conclusion that an almost solid roof provides the best solution. Kits from Southwark Bridge Models provide the means to fit roofs satisfactorily unlike most kits on the market where the modeller is left to his or her own devices.


DIAG 1

The basic technique consists of laminations of plasticard filed/scraped to the correct profile. The solvent for joining the laminations has caused much research and problems. Plastic solvents such as MEK etc have to be used very sparingly as they cause distortion of materials, particularly in the long term. Impact adhesives such as Evostick are good, but again, have to be used very sparingly. A recent article by Gordon Gravit1 spurred me to try 'thin' cyanoacrylate (Superglue). I was very impressed with the results and all roof construction now uses this adhesive.

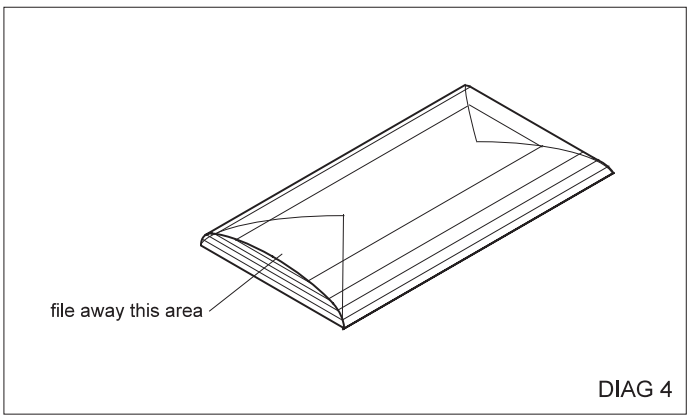

DIAG 2


DIAG 3

Reference to diag 2 shows how the laminations are cut. Make each lamination the full length of the vehicle plus a bit. Due to the amount of handling of the vehicle that is about to take place I strongly recommend that the roof be made before painting.

When sufficient laminations are cut, spread the Superglue on a lamination, even out with a cocktail stick, and assemble on a sheet of glass or similar flat surface. One of the benefits of superglue is that you don't have to wait days for solvents to dry out.

Now locate the roof carcass carefully in the correct position on the body and mark through the bracket bolt holes. Remove and drill 1.8mm X 3.5/6mm deep maximum, then tap 8BA (use a taper then plug tap to ensure the thread is cut to the bottom of the hole). Re-assemble the roof on the body, checking that it fits correctly and is not introducing any bowing or other stresses. Elongate holes in the fixing brackets if necessary.



DIAG 4

Now comes the messy bit. Make a simple jig as shown in diag 1 to hold the roof whilst using a small block plane or file to shave the roof to approximate shape. Keep checking the cross section with a profile plate. Kits from Southwark Bridge Models provide an etched brass profile plate (or a fully dimensioned paper template from which a metal template can be made). Use a metal straight edge to check for bumps and dips along the length. Use files or scrape with a scalpel to achieve the final shape. If the laminations have been cut correctly then the amount of scraping will be minimal! If over zealous shaping produces nicks or hollows they can easily be filled with thin superglue.

Eventually a correct profile roof will be produced! Now the ends can be tackled in a similar manner but this time only use files to remove the excess material. The essential requirement is that material is removed uniformly across the width, whilst following the end curve. If the curve cross sections are correct, a straight

continued

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ridge will be produced at the junction of the two curves to produce a nice balanced result.

When you are satisfied that the roof is absolutely correct – no bumps or dips – the roof can be sprayed with undercoat/primer. This will immediately reveal blemishes! Lightly sand and fill blemishes with superglue. One of the major benefits of superglue is that it dries very quickly and can be sanded to blend completely with the surface. A re-spray and check again. Don't be afraid to repeat the process several times – if it isn't correct now it will never get any better!

Next the roof furniture needs to be fitted. The positions can now be marked out directly onto the roof using the template provided in the kit. Mark, with pencil, a centre line at each end of the vehicle and lightly fix the template down onto the roof with Pritt Stick (just a narrow strip along the middle is sufficient) and then prick the various positions through with a pin. Note that the templates also show the positions of roof grab handles and rain strips. These should also be marked through.

Remove the roof and drill the location holes for gas/oil lamps, ventilators etc. Do this in a couple of stages to avoid any distortion of the roof skin. Since plasticard is very soft, and drill bits can wander very easily, it is best to start with a very small drill to locate the centre accurately.

Gas pipes need to be thin – 10/15 thou plastic filament is suitable. The pipe runs must be straight (although the prototype is often far from straight!). Start at the end furthest from the end steps and carefully solvent weld a very short (4 or 5mm) length to the roof. Use the solvent very sparingly. Wait a few minutes for the solvent to grab and then gently pull the filament into a straight line and weld in place. Keep taught for a few minutes for the solvent to grab.

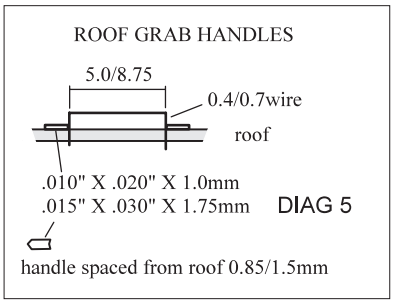
Rain strips are now added from 10 X 20/15 X 30 thou plasticard. These must follow a gentle curve. Position the strip and solvent weld a short length in the middle. Gently pull the plasticard into a curve making sure it follows the marks pricked through from the template and solvent weld at the ends. If satisfied that the curve is correct (examine from ALL directions), solvent weld along its length, making sure the brush/solvent doesn't push the strip out of position.

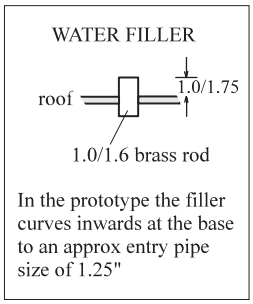
Add roof grab handles from 0.4/0.7mm wire (see diag 5) with little fillets of plasticard for the fixings. In 4mm scale I use a P4 sleeper for the spacer – it's exactly the correct thickness!

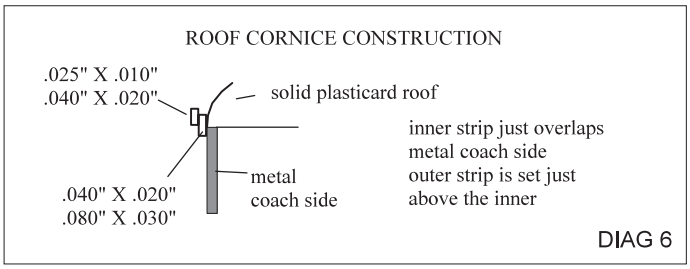
Finally the cornice needs to be constructed as shown in DIAG 6. It is vital that this feature is perfectly straight and hides any gap between body and roof.

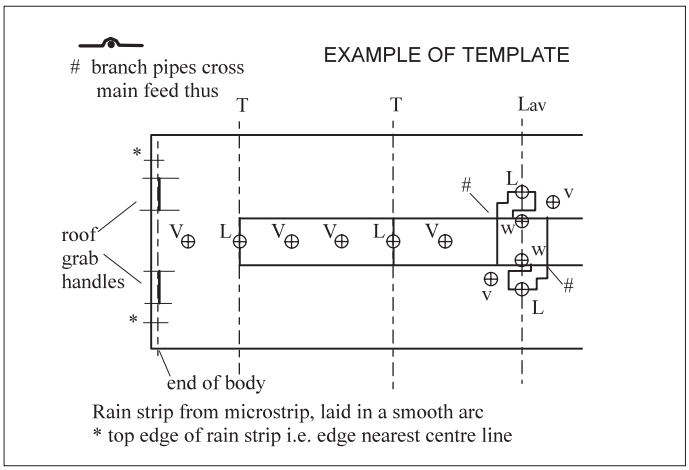
Ventilators, lamps and grab handles were originally painted black, but some photos show the ventilators and lamps white so perhaps subsequent repaints weren't quite so fussy. The vertical edge of the cornice is painted brown to match the lower body colour.

Ivan Smith 14 May 2005









Note: These construction notes are based on an article that first appeared in The South Western Circular Vol 13/6 p184.

1. Model Railway Journal No140 P27