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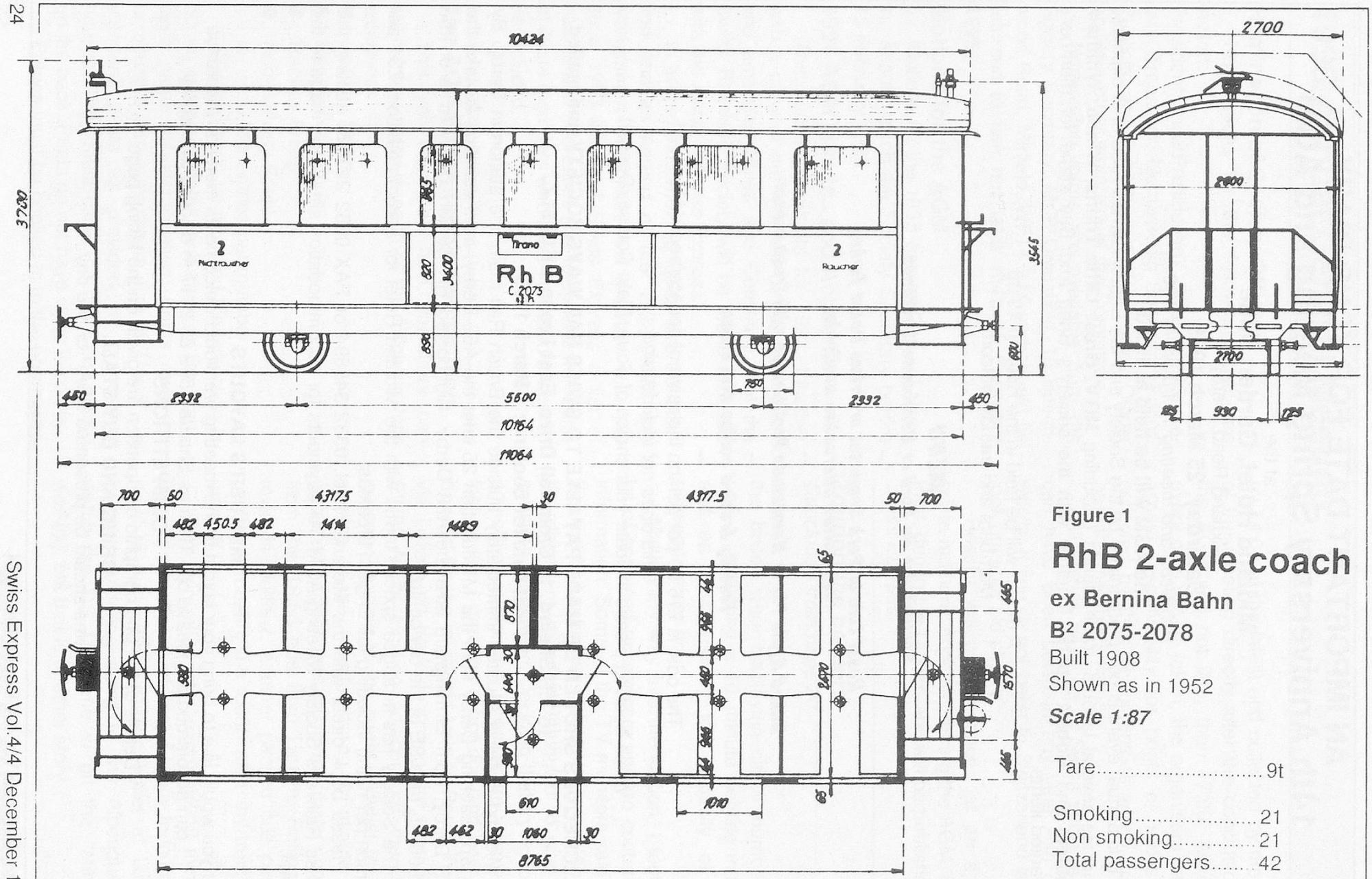


Figure 1

RhB 2-axle coach

ex Bernina Bahn

B² 2075-2078

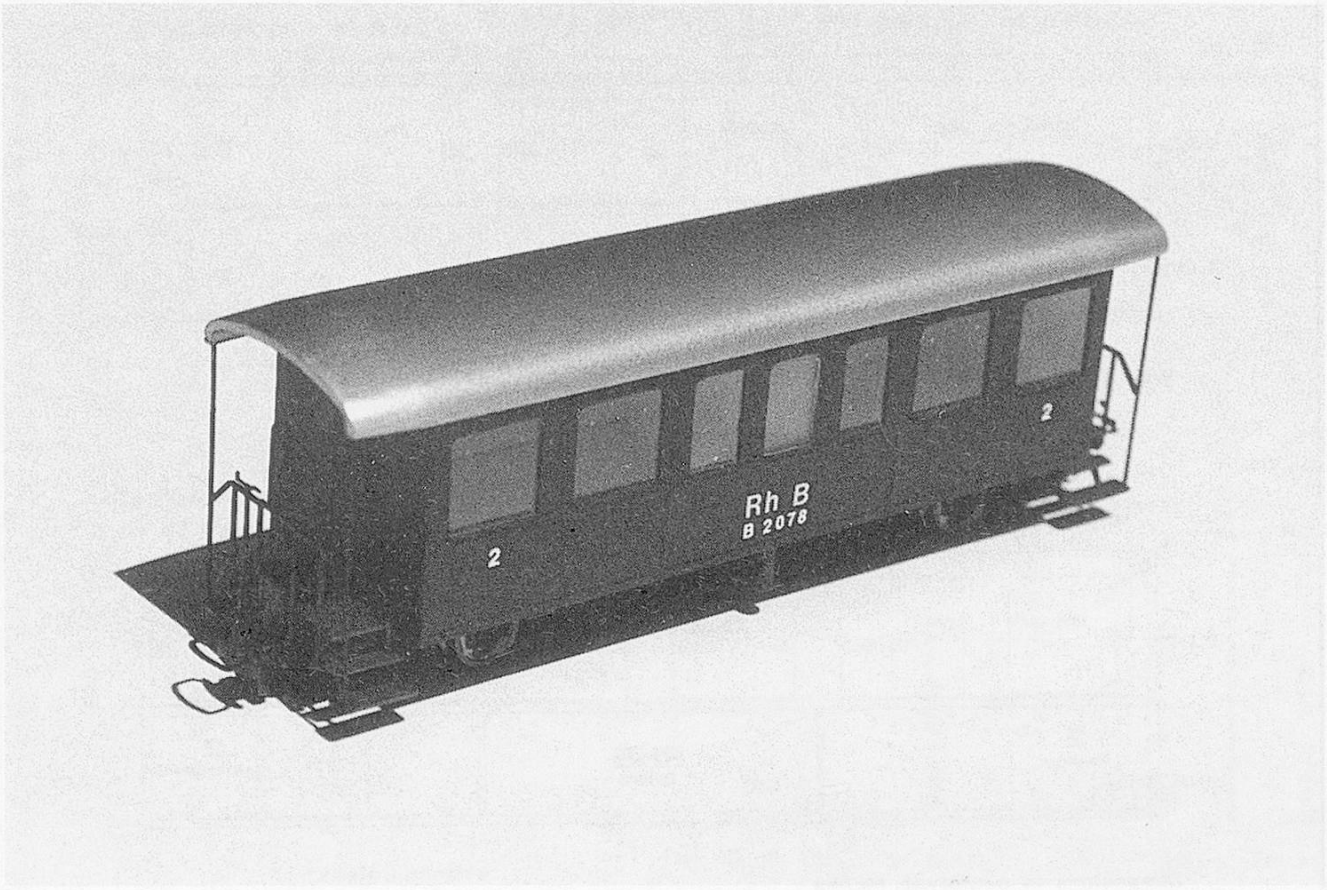
Built 1908

Shown as in 1952

Scale 1:87

Tare..... 9t

Smoking..... 21
Non smoking..... 21
Total passengers..... 42



Building a B² Coach for the RhB

The finished coach from the toilet side *Photo D.W.Ruess*

by D.W.Ruess

The superb HOm models produced by Bemo make scratchbuilding almost unnecessary for the modeller interested in the RhB. However, one model Bemo does not produce in its extensive range is a 4-wheel B² coach. I needed such a coach for a cattle transport train.

The coach body sides and ends are fabricated from 0.010in thick polystyrene sheet, using liquid cement to bond the component parts. A chassis from a Bemo luggage van (catalogue No. 3265-1xx) was used because it provides a close-to-prototype basis. The roof can be from any of the Bemo RhB or FO coaches. Plans for this model accompany the article, but to fit the body to the chassis the prototype body length of 28ft 11in had to shortened to 27ft 3in. This article will describe the basic concepts of construction but will not belabour the reader with a step-by-step description.

Chassis

The chassis is very easily removed from the van body and is used as is with very minor modifications. Drill four .040in dia holes $^{5}/_{32}$in to each side of the chassis centre line and $^{1}/_{8}$in from each end. Once these holes are transferred to the coach body they can be enlarged with a .052'in drill for the 00-90 screws that are used to fasten the body to the chassis.

Body

The sides and ends of the body are made from .010in thick styrene sheet. To simplify the task of cutting out the window openings the sides are made from two strips. The lower one is a scale 39in wide and the upper one is a scale 47in wide. The window openings are cut into the upper strip after which the two strip car be bonded together with liquid cement.

Each window opening is made by drilling two .079in dia holes at the upper corners of each window opening. Three cuts made

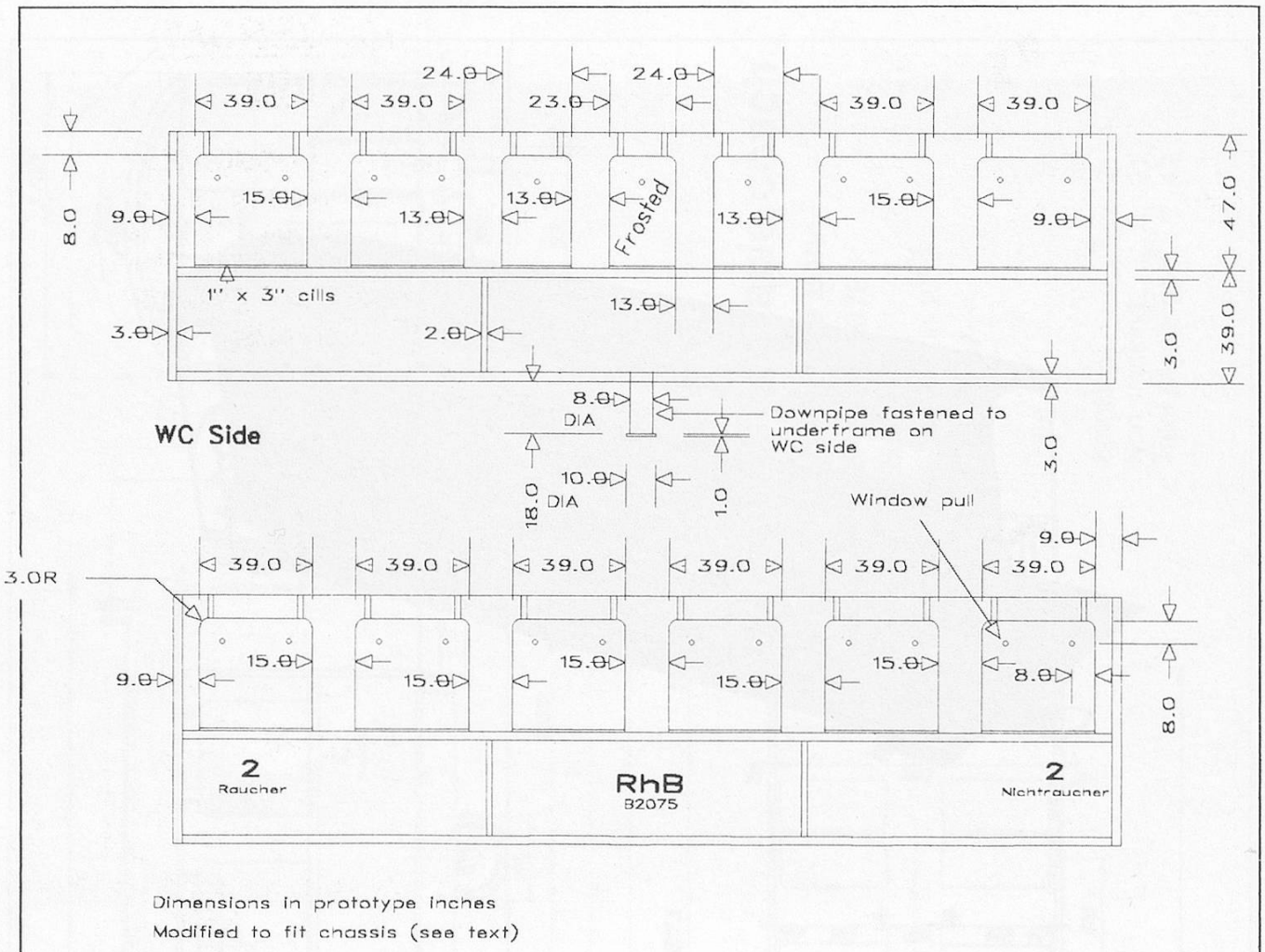


Figure 2 Coach body sides

tangentially to the holes produces the window top and side edges. A make these cuts on a small piece of window glass (4in x 16in) to produce a clean sharp edge. Bonding the styrene to the glass with liquid cement will keep it from shifting during the cutting process.

The most critical dimensions on the window strip is the location of the corner holes for the windows. It is essential that these should line up horizontally so that the upper edges of all the windows are in line. After many years of model building I have found that it is almost impossible to lay out accurately hole locations on the actual component. It is far easier to make a template that locates the corner holes accurately. It is also much easier to begin by drilling a small hole exactly in place. Therefore .020in dia holes are drilled first to establish the precise positions, after which they can be enlarged to the required .079in dia.

Hole location templates, one for each side, are made from .020in thick styrene sheet. Dimensions on the drawing of these templates (Figure 4) are given in decimal inches, while the coach side drawing (Figure 2) has the dimensions in prototype feet and inches. To make an accurate template I use a micrometer to make accurate spacers from .020in x .030in plastic strip. When the .396in wide strip and the various length spacer bars are bonded in place it is easy to drill the .020in holes accurately by lightly pressing the drill into each corner before drilling the hole through the template. Lightly bond the template to the window strip to prevent movement during the drilling of the required 12 or 14 holes.

Each side and end has raised 2in and 3in wide seams that are simulated by .005in thick styrene strips. I cut these from sheet using a sharp craft knife and a heavy metal straight edge, with the styrene sheet laying on the glass work surface. A few light strokes with the knife, rather than one heavy stroke, results in a strip that is less likely to curl. These strips are bonded to the side panels with liquid cement, using a very small brush. The .010in x .030in window sills should also be cemented in position at this time.

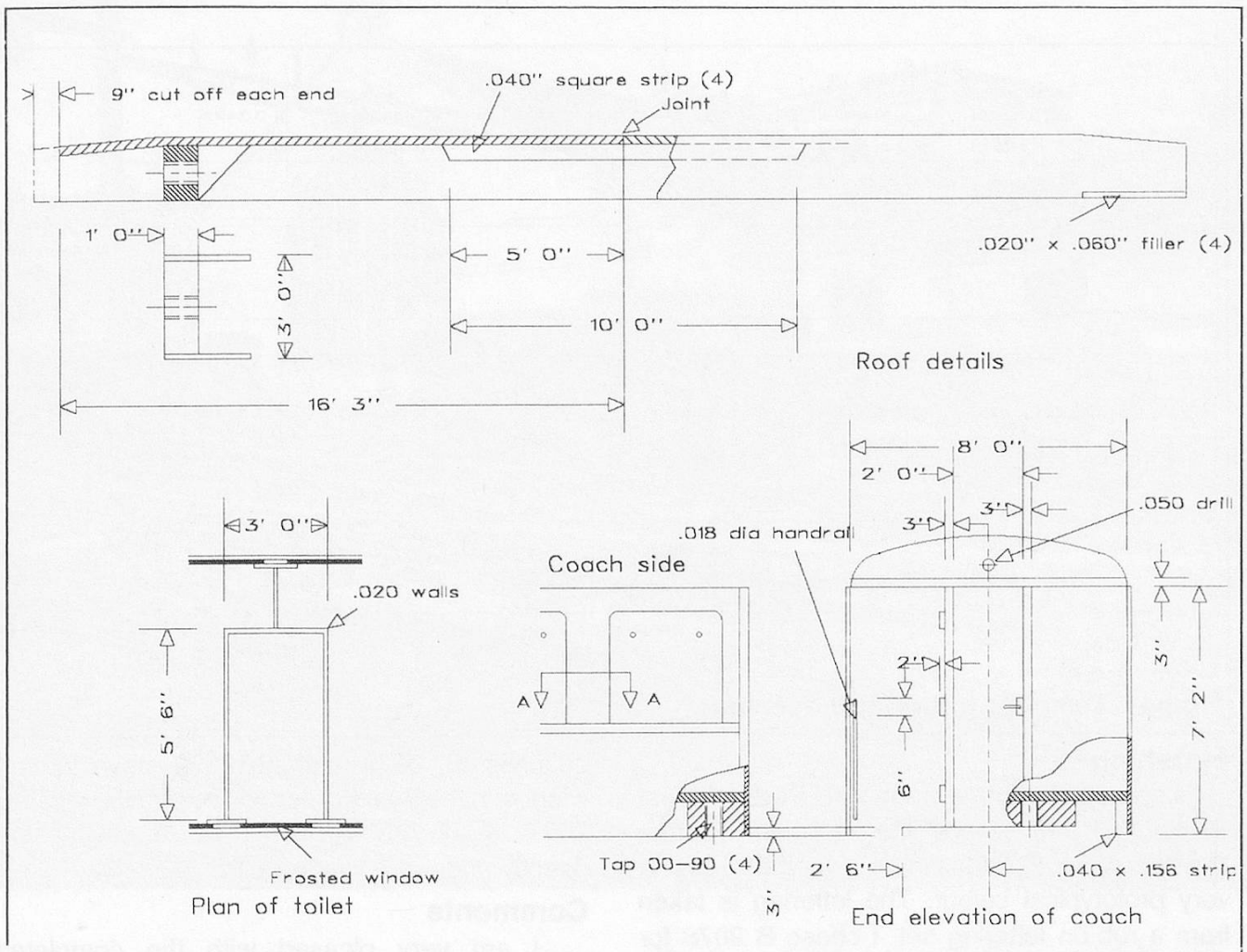


Figure 3 Body details

Section A-A in Figure 5 details the construction employed at the window openings, both to strengthen the sides and form channels for the window glazing. Cut the .010in thick glazing to a width that will slide into the side channels. Do not cement the glazing in place, since it is only practical to paint the sides with the window glazing removed.

The window pull detail is easily simulated by using a .016in dia drill in a pin vice to produce a dimple on the inner face of the glazing, as shown in Figure 5. Make a template to locate these holes accurately and do not allow the tip of the drill to break the surface of the glazing.

The coach ends, shown in Figure 3, are also made from .010in styrene sheet a scale 8ft 0in wide. To obtain the correct contour for the elliptical roof on each end, use the discarded body end to trace the contour onto the new ends, thus ensuring a good fit onto the roof. The .020in thick floor is also a scale 8ft 0in wide. Details are given in Figure 3. The completed coach body should slip snugly over the chassis. At this time the four .040in dia holes can be transferred from the chassis to the coach underside.

Roof

The roof is easily made, given the roof from a Bemo coach. To shorten this to fit the 4-wheeled coach, it is necessary to make four square cuts through the moulding with a razor saw. It is vital that these cuts are made square, particularly for the central cuts which need to form an invisible butt joint. I made a special mitre box for this purpose. In addition to the slice taken from the middle of the roof, a scale 9in is taken from each end.

I used a thicker cement to secure the ends together and added four .040in square strengthening ribs under the roof to add strength. The mitre box was used to ensure accurate alignment.

When the joint had cured (allow at least 24 hours for this), the roof ribs can be pared away with a sharp craft knife and the top surface smoothed with fine wet-and-dry abrasive paper.

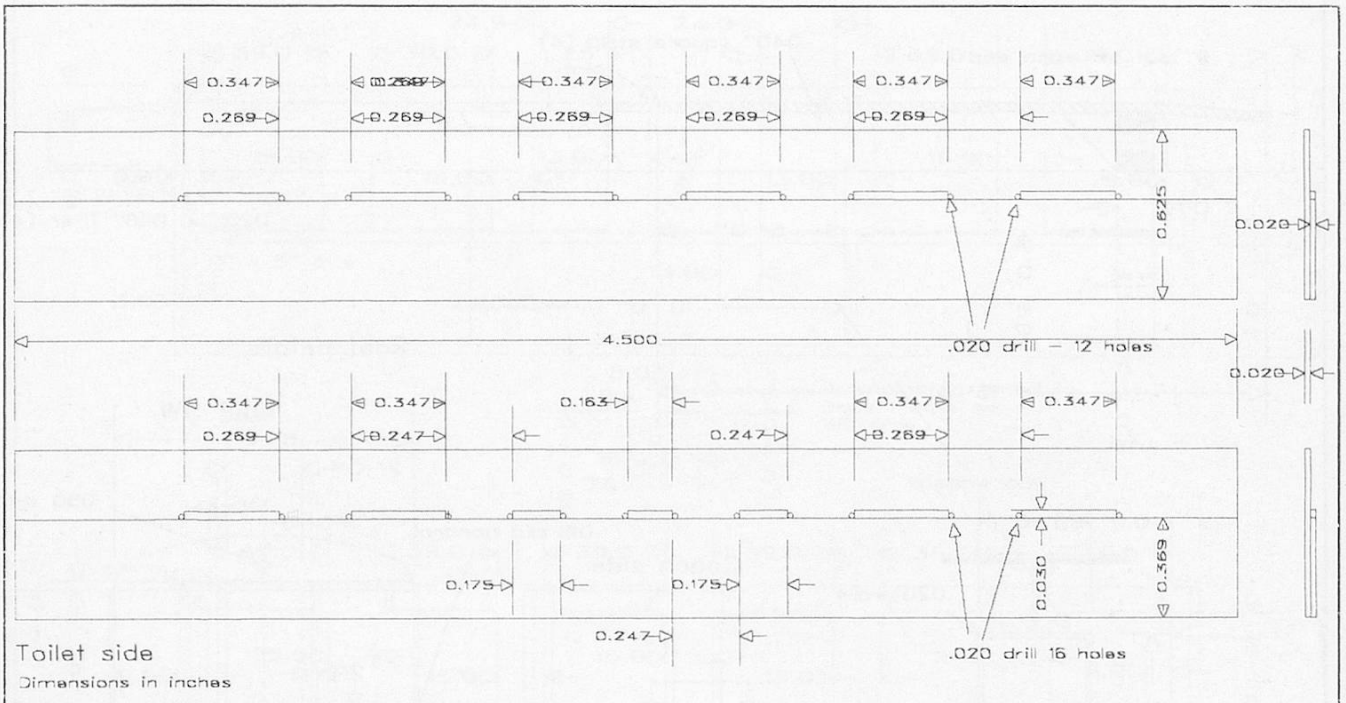


Figure 4 Template for window openings

Finishing

I spray painted the body with Pactra Forest Green (FS 34079) and the roof with Testors Metallic silver (1246), which give the model a very prototypical colour. The lettering is taken from a rub-on lettering set. I chose B 2078 for my coach as this coach is all green, whereas coaches B 2075 and B 2076 have cream window panels and green lower panels, while B 2077 is all green except for a silver strip directly under the window cills.

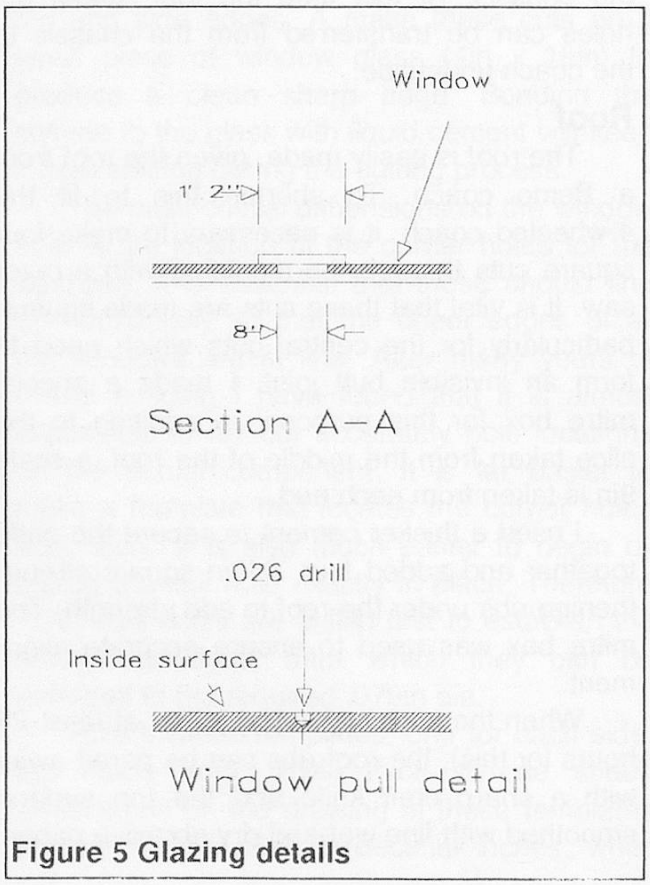


Figure 5 Glazing details

Comments

I am very pleased with the completed model. Using styrene sheet and careful constructional techniques, it is possible to produce a model that is a worthy companion to the Bemo and STL ranges.

Editor's Note.

This article came from a member in the USA, where the imperial system of measurement is still employed, hence the conversion of the original metric dimensions of the prototype. As the length was adapted to a shorter chassis, I made no attempt to add further to confusion by converting back to millimetres. A scale rule giving feet and inches in $3^1/_2$mm scale will be found helpful.

I would suggest that a vernier caliper is more convenient for measurement, use the depth gauge to set off lengths. Also I think that the central offcut from the roof would make a better template for the ends. Finally, I find that the self-sealing plastic cutting pads are far superior to glass as a working surface, the latter has a nasty habit of blunting the blade after a couple of strokes.