T. W. BOURNE PASSES ON SOME TECHNIQUES THAT WILL PROVE OF USE WHEN

WORKING WITH PLASTIKARD

AND SIMILAR MATERIALS

MANY articles have been written about models made from Plastikard sheet, but there has never been a basic article on the methods used. This article has been prepared for the benefit of those who have not seen demonstrations or discovered for themselves the necessary techniques.

Setting Out

There is nothing unusual about setting out on Plastikard except that one surface sometimes has a higher glaze than the other. When this is so, set out on the matt side. The wear and tear on pencil points is greater than normal, so hard pencils should be used and frequently re-sharpened to a fine point. Finally, when it comes to reducing the size of, say, an end, to allow for the thickness of a side, the following are workable equivalents found on a normal ruler: 20 thou. = $\frac{1}{2}$ mm., 30 thou. = $\frac{1}{32}$ in. and 40 thou. = 1 mm.

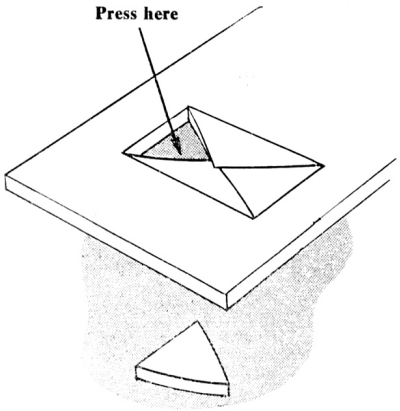

Fig. 1. Cutting out windows, etc.

Cutting

Sheets thicker than 40 thou. are best cut with a saw. My own favourite weapon is a fretsaw with a fine woodworking blade, but any saw with fine teeth will serve, except piercing saws whose teeth are too fine and are easily clogged. Having roughed out with the saw, cuts should be finished up to the marking out lines with a file. The normal range of files will be suitable, and, so far as I can see, without any detriment to them.

Sheets of 40 thou. and under can be cut with a craft knife used against a steel straight-edge, in exactly the same manner as for card. The correct procedure is to present the straight-edge to the line and draw the knife along the line once, and then again with slightly more pressure, repeating the process until the knife passes through the sheet. Unfortunately, due to the nature of the material, it is not normally possible to cut cleanly through anything over 20 thou. thick. However, the material has its compensation, for having cut deeply into one face, and the cut opened by bending the sheet, the cut will snap open very cleanly. There is no need to provide a support as in cutting glass, just break the pieces off as in breaking up a bar of chocolate. This method works out well enough until it comes to cutting out things like windows where there is no way to apply leverage to snap the cut. There is a dodge which saves getting out the saw and files; having made as deep a cut all round the opening as is possible, cut freehand from each corner towards the centre. These freehand cuts can usually be made a little deeper than more precise cutting allows, and pressure on the segments with the point of a knife will snap them out (Fig. 1). There may be a little flash around the opening, but this can soon be cleaned off with the knife. Curved cuts have to be done freehand unless the curve is a circle or part of a circle. Wherever possible, small arcs should be drilled, but larger arcs can best be cut by rotating a pair of engineer's dividers. The free point will usually cut deep enough to snap out the waste, but if not, the groove that it does cut will be an excellent guide for the knife! (Figs. 2 and 3).

Any shape which cannot be made by these methods, can, of course, be filed up, and things like mitres and solid curves can be planed up in the rough and finished with files and sand- or glass-paper.

Narrow strips for strappings or mouldings can usually be cut through (no snapping off needed), the narrowness of the strip allowing the material to deflect, letting the knife go right through. However, this deflection creates a need for special treatment, as a narrow strip cut off the edge of a sheet takes a set curve which cannot be rectified. The solution is simple; start and finish the cut before the end of the sheet (Fig. 4).

Working

Under normal circumstances Plastikard cannot be folded, therefore sharp and slightly radiused corners must be made by butt jointing and filing. Larger radius bends and compound curves such as coach roofs can be made by binding thin sheet to a former with bandage and dousing the lot under a stream of good hot tap water.

In these cases it is better to use several thicknesses of the thinnest material bonded together, rather than one thick sheet. There is a reasonable amount of flexing available so that the former does not have to be the exact shape required!

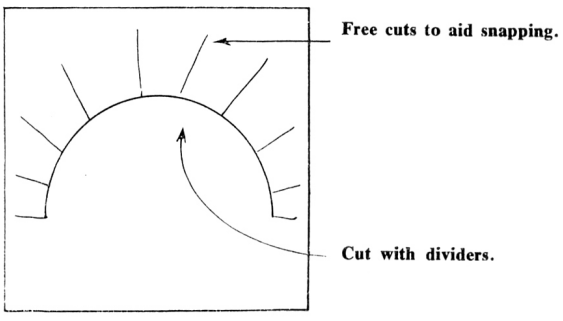

Fig. 3.

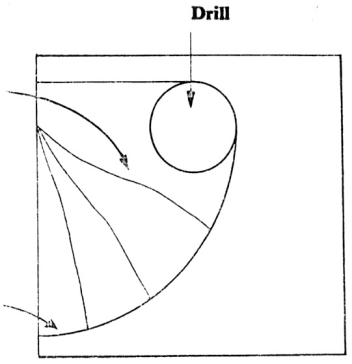

Fig. 2

Cutting curves.

Bonding

Certain glues will stick Plastikard, but not as well as the use of a solvent. Mekpak is the most easily available, commercially bottled, solvent, and it is extremely convenient to use. One piece of Plastikard is held in contact with another and a small brush, loaded with Mekpak, is drawn along the joint; the wet solvent will dry up extremely quickly and the joint is then made. Capilliary attraction draws the fluid down into the joint making for extremely good contact.

It is important not to load the brush too heavily. Keep the fingers well away from the wet plastic or the model will bear your fingersprints, in relief, for all time !

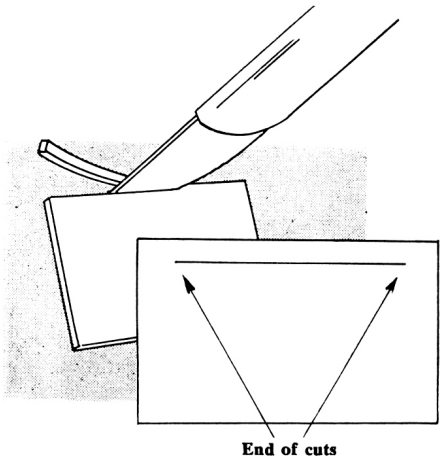

Fig. 4. The wrong way of cutting strips is illustrated behind.

The working surface can be glass or metal or even wood, but it must be clean and kept clean.

When joining small sections to form T's or angles, it is best to form the angle against a thick steel straight-edge and to only tack the two ends together. Then when the tacks have dried off, run the whole length with solvent. A large darning needle is useful for minor adjustments, in lieu of the fingers (Fig 5). Having made a joint the initial set is adequate for normal handing, but if it is necessary to file or sand in the immediate vicinity of the joint, then these operations should be left until the joint has set, at least overnight.

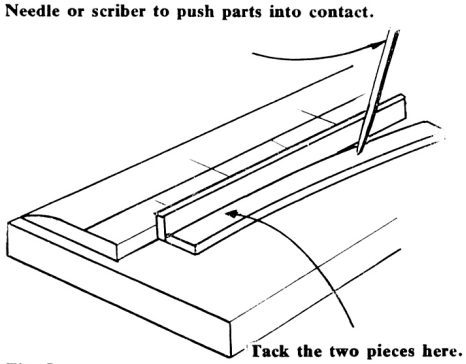

Fig. 5

Bonding to other Materials

Paper

Brick paper, lithos and the like can be applied by positioning the paper on the plastic and washing over the face of the paper with solvent, working from one edge and using a large brush (No. 6 artist brush). The solvent will soak through the paper and stick it to the plastic. Beware, unless the plastic is well braced or the paper is applied to both

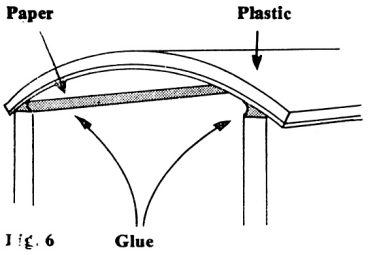

Fig. 6

sides, the paper will drastically pull the plastic out of shape. Should the paper have bubbles when dry cut an X in the bubble and wash down with solvent.

Cardboard

There are available thin card lithos for wagons and buildings which could well be backed with Plastikard. The card is too thick to wash through, so the only solution is to apply the card in as small an area as is convenient, well wash one face of the plastic and press the card down on the wet surface. When this has stuck, the brush can be run round the edge of the card to ensure a good bond. Other joints between plastic and card can be made in exactly the same manner as between plastic and plastic.

Wood

Generally speaking, wood can be treated as card, unless there is a big contact area involved, when an impact adhesive will have to be used. Beware, however, the plastic reacts adversely to impact adhesives and becomes distorted. It is safe enough if only the minimum of adhesive is used.

Metal

For preference I always drill and tap the Plastikard and bolt large pieces of metal to it. A blob of solvent applied around the screw will shrink the plastic onto the thread and thereby make a permanent joint. If this is not convenient, then it is back to the impact adhesives as described for wood.

Small metal fittings—handrail knobs, ventilators, and the like—are best fixed by drilling a reasonably tight-fitting hole for the spigot, setting the fitting in position, flooding the joint with solvent, and then leaving it for a long time. The best way of flooding on the solvent is to get a well loaded brush and touch the brush onto the metal so that the solvent runs down the metal and into the joint between the metal and plastic, forming a blob which evaporates away when it has done its job.

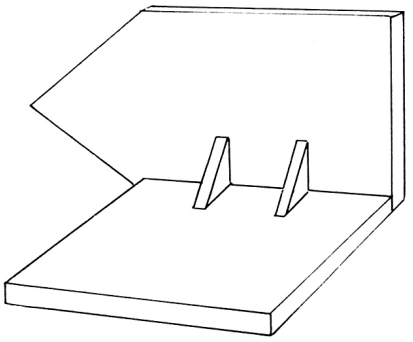

Fig. 7. Plastic fillets to aid squareness.

There is one final jointing trick which is worth remembering. I discovered it when I used Plastikard as a roof to a cardboard van. As there was next to no contact area between the top of the van side and the arc of the roof, this joint was not strong enough. The solution was to wash a thin piece of paper to the soffit of the preformed roof and then glue the paper to the edges of the card body. The glue formed a fillet and thereby had greater strength than the edge weld of card to plastic (Fig. 6).

Bracing

One of the very pleasant things about working in Plastikard is the ease with which it can be braced. The bonded joints are stronger than the material and so all the offcuts can be used up. Taking a building as an example, the sides are assembled using some small triangular insets to get square corners (Fig. 7). Then, instead of making a floor and false roof exactly to size, it is sufficient to brace all four walls with heavy strips, provided that these strips are bonded together as in Fig. 8.

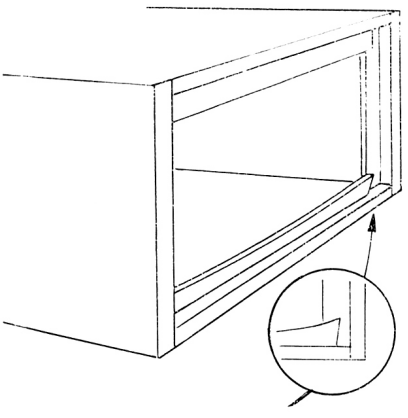

Fig. 8. It is not even necessary for the bracing to run corner to corner.