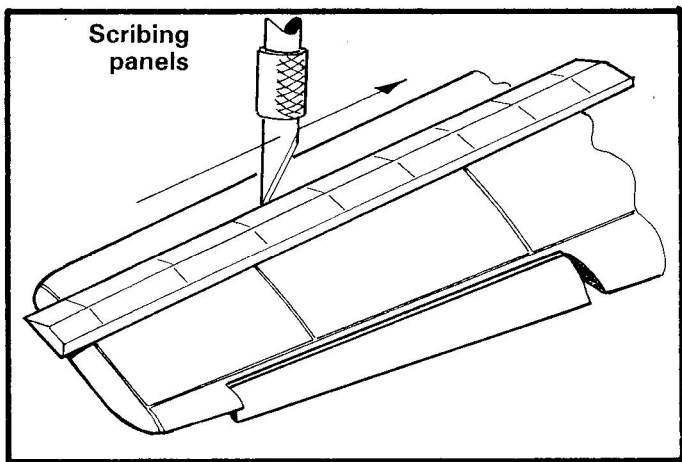


and dry and *plenty* of water but, prepare for a very messy sludge over everything. Alternatively do without the water and put up with clouds of dust — I would advise here the use of basic face mask because I'm sure all that powdered plastic can't be too good for you.

More problems: it is all too easy to sand too far, particularly in localised areas. The trouble is that where your fingers are you apply more pressure than elsewhere so the plastic vanishes rather faster there. If you don't watch out you can arrive at a result which should be flat but is, in fact, shaped like a switchback. Wings are particularly prone to this since they require a great deal of work to refine the trailing edges. While you are attacking the trailing edge, the leading edge will be subjected to pressure and while you are not watching them they can vanish!

Patience and vigilance is the only way to proceed, it may help to run a pencil around the edge of each part before you remove it from the sheet; this will at least give you a guide to work to. Change the position of your tape handles or fingers from time to time. It also helps to work on matching parts together; do a little on each fuselage half in turn and compare them regularly until the correct cross-section and match is achieved. As you pursue the art of vacform modelling you will find that sand, check, sand, check, compare, sand, check, is the essential routine. Match mating parts regularly, compare everything against whatever plans you have and check fit any cross-section items you may have been provided — bulkheads, radial cowling fronts, etc.

If you do this diligently enough you should arrive, in time, at a set of major parts which more or less fit each other and tally with the drawings. There are no guarantees given that both, or even either, of these criteria will be met. Some manufacturer's kits will be giving a reasonable imitation of an injection moulded kit, others will be looking like they were never intended to match either a drawing or each other — don't say I didn't warn you, but on to . . .



Above, an easy method of reproducing panel lines on vacform components using a steel straight edge as a guide to *light* scribing.

Assembly

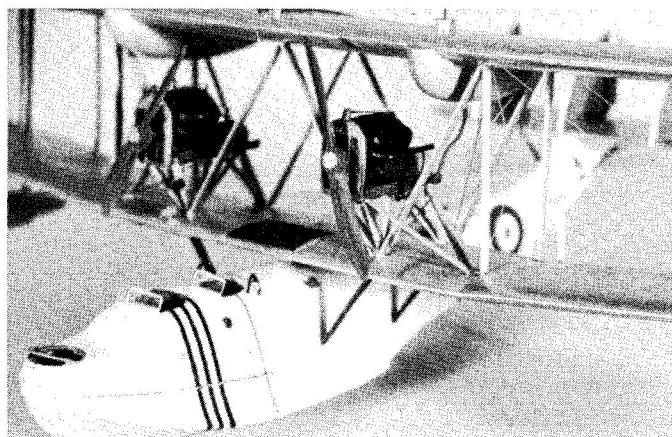
Now this is where you can start to enjoy the game and get away from all that dust for a while. Assembly is not simplified by the absence of locating pins, tongues, etc., but it isn't the end of the world. First you may well find that the kit provides bulkheads and floors to stiffen the fuselage halves and to provide extra location points. If it does fine — install them. If not, it's up to you to supply a few. Structurally, the most important are those inside, in the area of the wing roots, because if this area flexes too much when the wings are on, you will find the airframe alignment gets lost and joints start opening up. For other reasons you will also want bulkheads to enclose the cockpit area, intakes, undercarriage wells, etc., etc. Some builders, in my view, take internal bracing to extremes — don't forget that monocoque structures are naturally strong. Having said that there is a strong case for taking any chance that may present itself to build in spars to support, and align, wings and tailplanes.

It is also advisable on larger models to glue scrap plastic along the inside of such parts as fuselage halves to create a shelf upon which to seat the mating half. This is not essential in most cases but whenever you expect to do a lot of filling it is a great advantage to have the shelf inside as it gives extra support to the filler.

Having decided on the internal fittings the fuselage halves may be joined; I find that the best way is to hold the halves in position and to flood liquid glue into the seam from a mapping pen.

Wings are treated similarly except that the bracing takes the form of spanwise spars and boxing around u/c wells. Before you commit yourself to gluing the wing surfaces it is advisable to give the trailing edges a final sanding because somehow they are never quite as thin as you think they are.

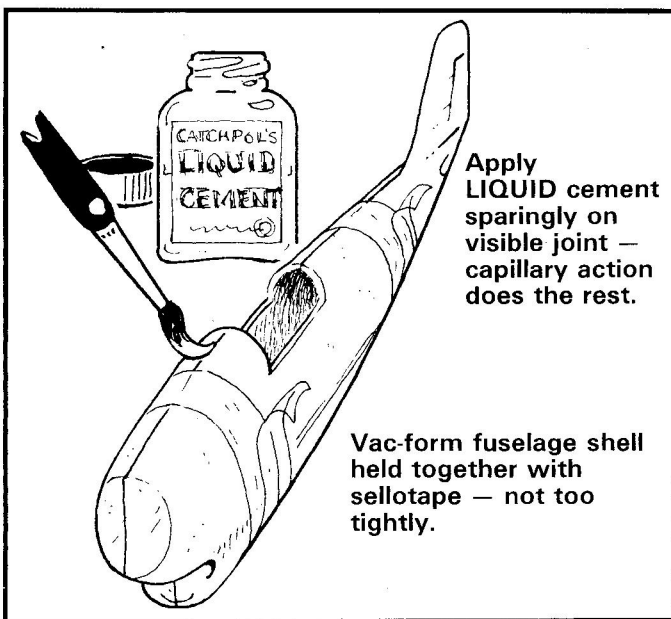
Joining main sections together is not quite what you may be used to. Vacforms don't feature all those nice flat surfaces to butt up against each other. The moulding process dictates that everything must slope to permit separation from the mould so you can't rely on any mating surfaces being true. Often it is necessary to remove much, or all, of the wing roots either on the wing, or fuselage, sides. This isn't too important if you have



Super 1/72nd scale Contrail Supermarine Southampton built by Hugh Markham. Much added detail improves the appearance of this beauty — a subject unlikely to be produced in injection-form.

installed spars through the fuselage, though if you haven't you may have some regrets.

It is also too easy to forget just how much is done for you by way of rigging alignment in a normal kit. There you might have to pack the odd joint or prop up the wingtip now and then. With a vacform you are on your own all the way. It's up to you if the wings are at the right angle, if the fin leans it's because you made it that way; you can't blame the kit. Why am I labouring this — trying to frighten you off? Far from it, but if you don't realise these problems you can slave away for weeks then realise the fin has the 'leanies' and the model is ruined — better worry while you can still do something about it.



The 'something' will usually take the form of packing out with slivers of scrap plastic and filling the resulting gaps. Seams are often no worse to deal with on these kits than on others; wing roots, etc., on the other hand, almost invariably need extensive filling.

I prefer to leave such filling and sanding until the main airframe has been assembled (excluding the upper wing in the case of biplanes) so that the whole process can be undertaken in one go. Leaving it in this manner avoids duplication of effort — it can be galling to smooth out a fuselage joint and rescribe the detail only to find you have to bury the whole lot in order to fair in the wings.

Having finished the major part of the airframe it is a good time to rescribe such detail as is lost, or missing, from the kit — the tip of a razor-saw is one ideal implement for this. Rescribing tends to raise ridges which can prove unsightly so once that phase is complete, and after a final check is made for moulding pimples, an overall rubbing down with fine sandpaper is useful as a preparation for painting.

Canopies

Transparencies are usually the worst feature of vacforms and one of the most difficult to overcome. The material used is either hard and brittle or is so thin it has collapsed before it reaches you. Also the canopy is likely to have to seat around complex curves and to require much trial and error fitting.