

you've never had a bad attack of asthma you can experience the symptoms by taking a casual whiff or two of the di-isocyanate and Freon 12 used in the foam. One of my friends says it feels as though the foam were forming in your lungs instead of where you poured it. This is serious business.

It is important to replace the lid on the can that contains the Freon 12 "blowing agent" immediately after a portion of the contents is used. This is the can that goes "whoosh" every time you loosen the lid. Once the lid is cracked the material starts losing the blowing agent and, as a consequence, its foaming power. After first use the deterioration can be postponed by storing that particular can in the refrigerator (not the deep freeze) when not scheduled for use in the next several days. Obviously, however, it has to warm up again before it can be used. I find it appropriate to set the cans out in the sun while I'm working. A small amount of heating of the cans seems to improve the quality of the foam. However, if it is heated too much the Freon 12 is driven off, thereby defeating the purpose. I know one chap who placed his cans in the oven to heat them up. I don't know if the oven and the kitchen are now full of foam, but the idea would make a fine movie.

A quart kit of polyurethane foam in liquid form (two quarts total, one quart Part A, one quart Part B)

will retail at around \$8.50 and will yield 2½ cubic feet of foam of 2-lbs.-per-cubic-foot density. A gallon kit (two gallons total liquid) will retail at about \$29.00. The material I use is distributed nationally (to marine supply houses, mostly) by Taylor and Art Plastics, Inc., Oakland, California. The smallest kit they package is a pint (one pint of each).

A quart kit will, on the basis of 2.5-cubic-foot yield, produce 30 board feet of foam for a cost of about 28 cents per board foot. Compare this with 45 cents per board foot one often pays for polyurethane planks or blocks which, although superbly consistent in cell structure, are harder to use in most sailplane application than the foam-in-place material.

Block styrofoam is less expensive but it attacked by polyester resin. One needs to protect the foam against this attack by applying two to three thin coats of Weldwood Synthetic Resin glue (available at any hardware store) or by coating with epoxy resin. Although I haven't experienced any trouble with the Weldwood technique I find that polyester resin doesn't bond well with it. And epoxy resin is expensive. Everything considered, if you plan to foam, I recommend polyurethane. Just stay alert as you use it. You might as a last resort also read the instructions on the can.

## SAFETY CORNER

Last month's article by Dick Johnson was most interesting and informative—a perfect example of the type of story that should appear more often in our magazine. Perhaps the trouble is that the pilots who have such interesting experiences don't feel they can do justice to the story, and the pilots with literary talents don't have exciting experiences. Whatever the reason may be it's a pity, because such stories are tremendously helpful in teaching the rest of us about possible problems and how to avoid them. Now that the drought has been broken perhaps others will come forward to share their experiences and thus help us to enjoy our sport more safely.

Dick's analysis of what might have been going on during the spin (arrived at later when he had time to reason it out) may some day be tremendously important to another pilot in a similar situation, and we should all remember the suggestions concerning jettisoning the canopy to reduce the nose-up moment and bringing the control stick back in an attempt to unstall the tail surfaces of a V-tail. But there is another lesson of importance to be learned from the story and that is, if a soaring pilot of Dick Johnson's skill and experience can get into trouble in a sailplane he had flown and spun many times before then the rest of us had better be very conscientious about our training and safety procedures, for some day the unexpected may sneak up and bite us too.

One aspect of the training program that is of definite importance and yet is often slighted is spin instruction, as was mentioned in the last Safety Column. There are a lot of soaring pilots, and in particular those who have learned with relatively brief checkouts after many, many hours of power flying, who have never experienced a spin and have no appreciation of the dan-

gers involved particularly near the ground. Any instruction in a sailplane, therefore, whether it be from the beginning or simply a checkout for a rated power pilot, must include stall and spin recognition and recovery to be considered adequate from a safety standpoint.

Another area in which we can all make a positive effort concerns the self-discipline and control we show in our everyday flying. Every now and then we see some clown who considers himself so good a pilot that the rules don't apply to him, and who flaunts his stupidity by doing the very things we know to be unsafe. The sad part is that his actions hurt us all in one way or another, either by influencing a lesser pilot to try breaking the rules too, or convincing a spectator that the sport is a dangerous one practiced by fools, or giving the whole soaring movement a black eye when he finally has an accident. As we all know, soaring is a most rewarding sport but it requires a certain amount of skill and at the same time deserves our best efforts and self-discipline to make it safe not only for ourselves but for others.

Finally, a word of caution is in order concerning the flying stories you may read, to urge that you realize many of them describe unsafe practices but in an appealing manner. Do not, therefore, go and do likewise just because you read about it in print. For instance, the following situations have all been described in past articles in various magazines and books, and without any accompanying criticism or warning that such flying is highly dangerous and not to be attempted by others: very low thermalling; just making it over the airport boundary at the end of a contest flight; high altitude without oxygen; and a high-speed beat-up and chandelle over the airport after a good flight. Don't be tempted by the foolishness of others—always fly in accordance with a good set of nonsense rules.

— MILES COVERDALE