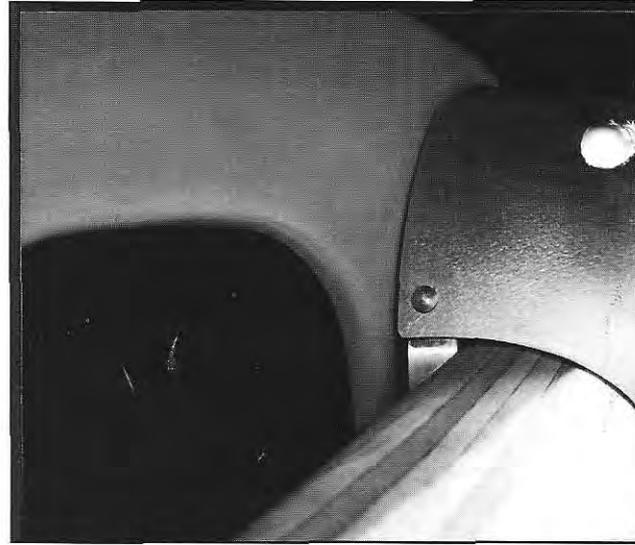


The 12" spinner does not clear the bump on the Pitts type nose bowl.



The rear bulkhead sets in about 5/32" before trimming

Tips On Spinners From The Briar Patch

Most people use the Pitts style nose bowl or similar such as Aircraft Spruce part number MC-3A for the Acro Sport biplane, and a 10 1/2" diameter spinner. If you look at the bowl, you will notice that the flat area around the propeller opening ends up beyond the diameter of the spinner when a 10 1/2" spinner is used. This isn't a big deal, but I wanted the curve of the bowl to blend to the spinner a little better. A little measuring showed that a 12 inch spinner would be just about perfect. The spinner I chose, (Aircraft Spruce P/N BN-3), is 12 1/16" in diameter and 13 1/4" long. This was the most favorable ratio of length to diameter for this style airplane of the spinners I found in the 12 inch range. (This is my opinion – you get what you like!). The only real problem with this combination is the spinner won't clear the starter bump.

A decision must be made to a) cut a hole in the nose bowl for the spinner to clear, thus letting dirt invade the starter drive and snout bearing; or b) use a Toyota or B&C style light weight starter without the forward support bearing and remove the bump altogether. I'm, going to go with b). If you are still in the planning stages you could simply purchase the nosebowl without the bump, (A/C Spruce P/N MC-3B), and save the fiberglass work.

Now let's talk about spinner bulkheads. The first thing you need to know is that a spinner that is worth the trouble of putting on probably won't survive without a front bulkhead as well as the rear one. If the front bulkhead fits properly, you won't need to put screws through the spinner for it. When order-

ing the bulkhead you will have to know your propeller thickness or plan on a dimension greater than you expect to use and use shims to make up the difference.

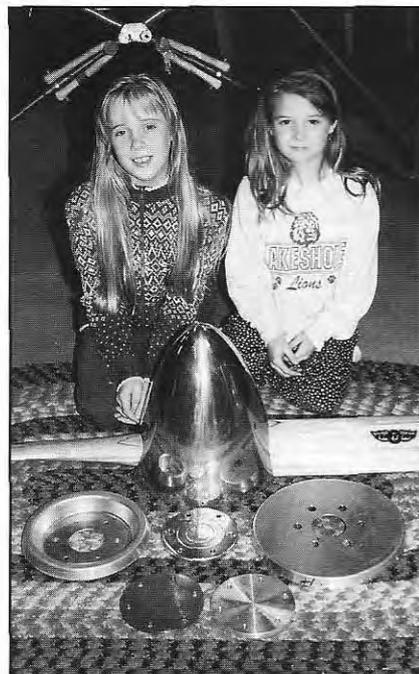
The propeller I'm using is 3 3/8 inches thick. Another prop that I may want to try is 3 3/4 inches thick so I specified a bulkhead for a 3 3/4" stack up, and I made a 3/8" thick spacer. Keep this in mind; I'll come back to it later.

When fitting the spinner, the first step is to check the seating of the rear

bulkhead to the dome. In my case the rear bulkhead seated into the dome about 5/32 of an inch. This is evident in photo #2. You can trim this off or leave it; it's your choice. I made some bushings to locate the propeller to the rear bulkhead, made paper patterns of the blade profile, and transferred this to the spinner dome per the instructions that come with the dome. The instructions also say you can trim the cutouts for the blades with tin snips – don't you believe it! The best method I found was to drill a series of holes inside the line then file up to the line. Take a lot of time here and it will pay off in a nice fit. Don't be surprised to find some difference in the shape of your prop blades from side to side this close to the hub. It won't be much, but your spinner will probably fit best in only one position. Once all this was done, I installed my 3/8" spacer and front bulkhead, then suddenly nothing came together anymore, but the back edge of the spinner and the bulkhead lined up perfectly. (Photo #3). The spinner was no longer seated on the rear bulkhead.

If you've ever noticed an airplane at a fly-in with the rear edge of the spinner pulled in at the screw holes, this condition is probably the reason why. The builder probably had no means by which to face off the spacer or his prop was too thick for the front bulkhead he chose. Prop spacers are available from 1/16" to 3/8" in 1/16" increments. There is no good reason for not having a spinner with a proper fit.

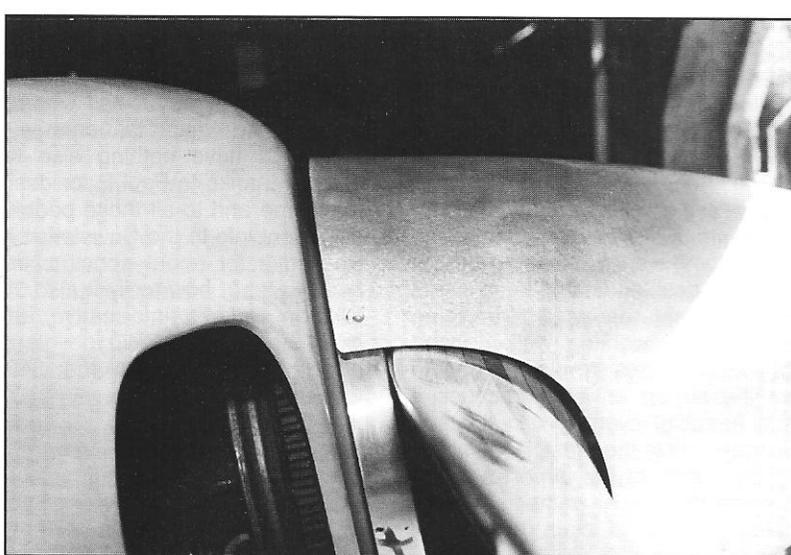
In my case I made another spacer and machined a little off at a time until the front and rear bulkheads seated out



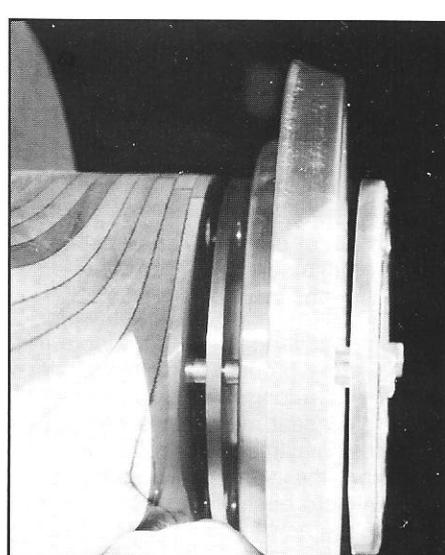
THREE BEAUTIES! Becky on the left, Laura on the right—and spinner.



spinner.



The back edges of spinner and bulkhead line up with spacer in place.



Left to right are: prop, 0.200" spacer, spinner front bulkhead, crush plate.

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together. The spacer ended up 0.200" thick or just barely over 3/16" which would have been fine.

I've also seen front bulkheads with cracks running out from the screw holes. For this reason, I like to capture the bulkhead between the spacer and the crush plate. Photo #4 shows the assembly spread out on the prop bolts for illustrative purposes. Left to right are: prop, 0.200" spacer, spinner front bulkhead and crush plate.

The other point of concern here is the spinner to nosebowl clearance. Photo #2 is a little tight. Because I am using a conical mount engine, I could almost get away with it. At this point the simplest thing to do is to trim the back

edge of the spinner even with the bulkhead. This will provide the same clearance that appears in photo #3 which is more acceptable. Just remember, dynafocal mount engines move around a lot more than conical mount engines.

I purchased my spinner unpolished. There are a lot of tool marks that need to be removed from the spinner dome before it can be polished or painted. I didn't mind the work involved but I polish lens molds for a living. If you are not willing to spend about 20 hours of metal finishing, the \$68 polishing cost might be a bargain.

Photo #5 shows Becky on the left and Laura showing off the finished spinner and related components. The

crush plate is in the center with the front and rear bulkheads on either side. At the bottom are the two spacers. The spacer to the left is 0.200" thick, steel, blanchard ground; the other is 3/8" aluminum, (6061-T6). The crush plate has the early Lycoming "L" inside a hexagon symbol to match the early Lycoming valve covers on the engine. It won't show on the airplane, but it was fun to do.

Well, that's about it. The only problem is that the 3 3/4" thick prop I was wanting to try won't work with the front bulkhead that I have. That's probably just as well because I would have to re-cut the blade openings to use the spinner. Decisions, decisions - !

June Acro Sport Fly-In!

Dear Acro Sport Enthusiast:

I know that you have built or own an aircraft designed by Acro Sport Inc. and we would like to advise you that there will be an Acro Sport - All Airplanes - Fly-in; Saturday, June 6, 1998 and Sunday, June 7, 1998 here at the Pioneer Airport at EAA.

We expect to have activities running all day Saturday and a half day or more on Sunday. There will be camping facilities on the premises and there are also hotels nearby. The closest one is the Super 8 Motel which is within walking distance and the telephone number is 920/426-2885.

If anyone is interested in participating in setting-up, helping with food serving, and putting on forums, etc., we would be happy to hear from you. Any suggestions

for the event will be welcomed.

You will hear more from us as the event program is organized. You can contact either Bill Berrick, 11803 Hunters Cove, Omaha, Nebraska 68123-1119; telephone number 402/292-6832 or Ben Owen at the EAA 920/426-6530 to make reservations.

We are looking for this to be first in a long line of such events and hope you will consider participating. My very best personal regards.

Sincerely,
EXPERIMENTAL AIRCRAFT ASSOCIATION
Ben Owen
Executive Director
Information Services
inforsew@eaa.org