Brian, who resides in Austin, Texas, has other interesting projects on the table. As some of you may know, the Austin Mueller Airport, which has been the main airport for years, is closing in the next year or two and moving its operations to the old Bergstrom airfield. Executive Airport, a reliever for Bergstrom, is closing as well. Since this affects many general aviation pilots, the small airports surrounding Austin have waiting lists that are filled. As a result, Brian is looking at what is involved in purchasing land just outside of Austin and putting in an aviation community.

Anyone wanting to relocate to the beautiful city of Austin, contact Brian! He welcomes any suggestions, warnings, tips, etc. in making these projects run smoothly.

Interested people may write to:
Brian Michalk
2204 Lockwood Cove
Austin, TX, 78723
(512)467-3935 voice at work
(512)928-1112 voice at home
(512)465-7914 fax
michalk@awpi.com

• • • • •

From Dennis Martin, Provo Utah

TIPS FROM A ONE-YEAR BUILDER AT THE HALF WAY MARK

Nose gear wheels today. What a rush! It gives you the confidence that you will indeed finish building this plane and THAT YOU WILL FLY.

As I whistled while I worked, I promised to share a few tips that might help future builders. Nothing absolute or empirical here, but these things worked for me. (I whistled most of the time, cussed some of the time).

TIPS ON STRAKES

1) Easy way to fit baffles/bulkheads: Cut three dozen small blocks (rip a 2 X 4 in half) and hot glue small blocks in place on the bottom strake to hold the baffles/bulkheads in place while you mark and fit them. They slide in and out of the blocks easily so you can grind and cut them outside the strake. Don't remove the blocks until you're sure you have a good fit on all pieces and there's no contact with the top strake. Thank Jim Agnew.

2) The diamond cutting wheels from Harbor Freight (for use in Dremmel tool) are great for trimming off your bulkheads/baffles to fit, but the wheel diameter is too small to cut through the whole "sandwich." Solution: Force the shaft into the foam so it cuts between the glass sandwich; it will cut both sides of the glass sandwich with one pass.

3) Pre-bedding strakes (a tip I got from Malcolm Collier - Hangar 18) is a great way to go. I haven't pressure tested yet, but everyone I've talked to who used pre-bedding got a bullet proof seal on their fuel cells. Pre-bedding is accomplished by applying duct tape to the top strake lined up with your baffles/bulkheads and leading edge. You "pop the top" after cure and inspect for any voids. Repeat the process until you have nice, wide flat "rails" on top of the baffles that resemble railroad tracks. When everything is mated properly, you do the final bed.

4) Watch out for exotherming epoxy when applying microglass to baffles. I had two batches therm on me, and both drooped and ran down sides of my bulkheads. Mix small quantities depending on ambient temps. I resorted to using no more than 6 to 8 shots from my pump, and that was with OAT at about 75 F. Be careful using Zip Loc bags - they transfer body heat. Also, after mixing your micro, spread it out on the sides of your mixing cup. (Another Malcolm tip). The thinner you spread it out, the less exotherming potential. Hold the cup by the lip to avoid transferring body heat into your micro. Maybe no one else had this exotherming problem when trying to get micro to "stand at attention" on top of the baffles, but it drove me crazy. Once it starts to therm and run, scrape it off and start over - it's hopeless.

5) How to get epoxy to "stand at attention." It's important to get the epoxy to stand up, fat and tall, on top of the baffles and bulkheads. This worked for me: Mix 1/3 milled glass, 1/3 flox, 1/3 cabosil. Test on small sections and experiment until you get the right formula.

6) How to get an even bead of micro for the final bedding: Buy a half dozen empty caulking tubes from your local fiberglass supply house. Mix your microglass to a consistency of cold, thick honey. Put it into the tube. My final micro material "stood at attention" on top of the bulkheads perfectly. It never ran or drooped - even on the downhill bulkheads at the leading edge. If you don't have a local supplier for empty tubes, (about 80¢ each) call this number: (813) 327-8117 or fax (327-6691) Tell them Jim Agnew sent you.

NEED FOR SPEED? GET CARBIDE/TUNGSTEN GRINDING TOOLS Back in March I posted a note on the reflector. I needed some good glass grinding tools for my dremel and die grinder. Bill Wade responded. The tips he recommended are MEGA-TIME-SAVERS in my opinion. I don't know how I would have done the fuel strakes (and many other tasks) without them. Call Woodcraft at 1-800-225-1153. Bill told me they last long time and any crud can be burned out of them with a torch. Avoid grinding steel - flattens the burrs. The three tools I used most include a cylindrical shape, a rounded bottom, and a flame shape. All are very useful for roughing up corners when prepping for glass; they leave a nice, rough bonding finish. One of Bill's tips: "I needed some large holes in the instrument panel, so I drilled with a 1/2" bit then opened them out with the 1/4" shaft conical bit."

THREE RECOMMENDED CARBIDE-TUNGSTEN GRINDING TOOLS

1) Silver Burr Coarse F ($17.99) Part Number: 18N1F Description: 1/4" shank. Has 7/8" diameter cylinder with squared, flat bottom.

2) Silver Burr Coarse E ($17.99) Part Number 18N1E Description: 1/4" shank. Has 7/8" diameter cylinder with half-round bottom

3) Silver Burr Coarse I ($11.99) Part Number 18N1I Description: Shank fits dremmel tool. This burr is pencil or flame shaped with 3/16" diameter. I use it a lot to grind in small spaces. It was essential for installing

my fixed gear legs. It allowed me to grind-to-fit a tear shaped hole with the gear legs inside the fuselage. With this tool, I could also install the gear saddles with the gear legs inside the fuselage. No endless up and down with the fuselage. Also, no need to cut the massive hole in the side of your fuselage. Call or email me if you have fixed gear, and want to follow this procedure.

USE CABOSIL FOR STRONG EDGES

The manual called for microballoon to fill the gaps in the speed brake doors, the hatch, and the door frame. I said a few "darns" as the microballon crumbled and flaked off rather easily. Malcolm Collier suggested mixing cabosil with microglass, and it holds up much better. Tape the edges of your speed brake door with two layers of duct tape. Then, mix cabo and glass (60% cabo 40% glass) and put it into a freezer bag. (Avoid exotherm problems by mixing small quantities with 6-8 shots from your epoxy pump). Squeeze the peanut butter consistency mix into the voids. Test it in one space. If it droops or runs, add more cabo. It wont droop or run with enough cabo in it, and when it dries it will be both strong and hard. Forget the microballoons for any edges that will receive abuse.

USE JEFFCO FCR FOR FUEL TANKS

Jim Agnew got me interested in JEFFCO. He said: Jeffco's FCR is a fuel resistant COATING used in fiberglass fuel tanks on racing boats that is impervious to gasoline, alcohol based fuels and even nitro-methonal. It is not a structural epoxy (I would guess because it has such a short pot life) but it seems to be very strong and somewhat flexible. Off shore racing boats are like roller skating down stairs and they will pound, flex, or loosen almost anything so the FCR must be good.

Insist on Jeffco FCR, and order the gallon kit. It's enough for two coats. Also, before applying the Jeffco, I strongly recommend application of an initial coat (a thick mixture of cabosil and epoxy) to seal the pourous skins. You should do this on both top and bottom section of each strake. I had a small section of one strake where I forgot to seal with this cabosil/epoxy mixture. It had hundreds of pinholes. I called Malcolm Collier for suggestions: He said to add some cabosil to the Jeffco. This worked really well. It thickened the Jeffco and made it impossible for it to drain down into the pinholes. No more pinholes on the second coat after adding enough cabosil to make it about the consistency of a thick pancake batter. MY TOP STRAKES HAD THE MOST PINHOLES: After applying the first coat of Jeffco to the top strakes, lots of pinholes developed, even though I had primed both of them with cabo and epoxy and let them dry over night before coating with Jeffco. Adding cabo for the second coat of Jeffco eliminated all pinholes. Also, BE SURE TO USE A FLEXIBLE SQUEEGE to apply this stuff. This reduces the pinhole problem dramatically.

WARNING: THE JEFFCO I USED HAS A RELATIVELY SHORT POT LIFE, ESPECIALLY IF LEFT SITTING IN THE MIXING CUP. We let one cup sit 10-15 minutes, and it turned to stone. I followed Jim Agnew's advice: Mix no more than 9 ounces (6 oz. of resin to 3 oz hardener). Then, pour the stuff out on the strake so it is not sitting in the cup. This gives you plenty of time to work with it. I also used a good brush after the squeege to help distribute the material more evenly. The second coat requires much less material, and it will spread much more easily with a brush. It's good to have a friend to help due to the short pot life. No panic involved, but it does require steady work. I'd be mixing up a second batch while my buddy put finishing touches on the first batch. Jeffco does have a longer pot life epoxy if you want it.

One paradox on pinholes. I had no pinholes on the bottom strake. My theory is that with all the bulkheads installed, the bottom strakes are much more like a bowl and hold more material. To order Jeffco, call (619) 576-9900. They would NOT accept credit cards when I ordered, so plan ahead.

Call or email if you have any questions. Email: dmartin@cougar.netutah.net or Phone: (801) 225-0702

• • • • • •

Canopy Latching Mechanism

From Manny Lewis, Scotia, NY

What's the worst thing that can happen to a Velocity builder? How about your canopy latching mechanism becoming disconnected when the canopy is locked and you're outside. This happened to me shortly after my first flight. After calming myself down from a few minutes of hysteria, I decided to remove the latch by carefully sawing through th two allen head bolts that secure it to the airframe. After doing that I was able to remove it by pulling it out through the side of the fuselage. At that time it became obvious that the threaded rod that is used to adjust the length of the latching mechanism had become disconnected. I must not have had one of the ends threaded in far enough. I next fashioned a tool out of a soft aluminum tube that had about the same diameter as the hole in the latching mechanism that the rod slides through. By bending the tube into an L-shape I was able t apply enough force to open the latches and release the canopy. You can imagine the relief I felt. It was then a simple matter to fabricate a longer threaded rod and two new allen head bolts. It may be worth your time to verify that you have sufficient threads captured in that adjusting rod.

• • • • •

FAA's Data Link is Coming

From Rick Lavoie, St. Augustine Florid

Soon you may have the capability to receive aviation weather text and maps through a display mounted in your Velocity's panel. Eventually information available to pilots could include:

- Real time weather and NOTAMS
- GPS outage status
- Special Use Airspace updates
- Airport status and delay info
- 60 second updates of AWOS/ASOS reports

Continued on the next pag