

December 1977

Dear Sonerai Plansholder,

Seems like it was just a few weeks ago we sent a newsletter rather than several months. To say the least we have been busy with many things. Oshkosh of course keeps us busy for quite awhile. While we're constantly trying to improve our service and delivery time, seems we still have a few of the same problems. Those being the custom made parts, ie, cowls, gears, and canopy's. With the first two is the problem of distance and getting them made in batches. We think we're slowly but surely getting on top of things though. We should be able to start doing alot better on tubing orders now as our supplier has built a new warehouse several miles away. We will be able to get tubing in one or two days instead of weeks from Calif. or Atlanta.

A lot of you may know we've been running an 1850cc E-V engine in one of our Sonerai II's this summer. We have been very pleased with its operation. This engine is made up with the 88mm cyl. and pistons, a 76mm stroker crankshaft, and a high lift camshaft. The cam has a lift of 420" and a duration of 264". The engine has run very cool and smooth. It has no oil cooler, yet the oil has never run higher than 180° F. Cylinder head temp. runs around 410° F on climbout and then settles down to 350° F. Initially in the break in period it ran higher. We have a 52" Jarne prop on it. It was set so static was right around 3000 R.P.M. Max. R.P.M. straight & level was 3800. This gave us an indicated of 150 mph. Flying this plane, N221X, alongside the original, N21X, there was very little difference in performance, though the 1850 engine was turning a few R.P.M. less. As a side note we have just recently tried a 54" Jarne prop on this plane with noticeably different results. In order to get the performance we wanted we had to flatten the pitch so the static was nearly 3400 R.P.M. At first we were leary as that high of a static R.P.M. usually meant the engine would over rev in flight. However with the 54" prop such was not the case. We were able to attain 3900 R.P.M. full throttle straight and level. Indicated airspeed was 158 mph. This was with an OAT of 46°F, 2900 ft. MSL. We had full fuel on board and a 195 lb. pilot.

So what does this all mean? Got me. I just tossed it in for fill. No seriously though, either the 52" or 54" dia. props will work fine. Just isn't that much difference to worry about.

While we're talking about engines, a few more comments. First an important one on the E-V Hub Unit. When you install the retaining bolt be extra careful it doesn't bottom out in the threads. We had this happen on one of ours. The reason for this is the crankshafts are not all tapped to the exact same depth. If you should tighten the bolt down so much that it bottoms out it could act as a wedge and put undue stresses on the end of the crankshaft and cause it to crack. This is what happened to ours. A simple solution is to put an extra one or two washers on with the bolt. We do not feel this is a super critical problem, but you should take the time to make sure the bolt doesn't bottom out.

Effective December 1, 1978 we will no longer sell the S-V engine as a complete unit. We will continue to sell the S-V Conversion and short blocks assemblies so you can do it yourself. There are several reasons for this. Since we came out with E-V engine and Hub Unit, the S-V has not been a very big seller. This we expected, and it should be that way. The S-V unit just isn't necessary for 90% of the builders who are not planning to compete in Aerobatics. It always amazes me how many K1-2 and VP-2 builders that call me wanting the

S-V Hub Unit. Those are planes where the cost and weight just doesn't make sense. Another factor is the cost of machining the unit. Seems like everytime we have a batch of hubs made they cost more. This item is virtually our loss leader, though it isn't much of a leader. John just felt that with the low profit margin we have on the complete engines we couldn't justify the extra time it took him to set up an S-V engine. While the process is simple enough and our instructions are very complete, it is somewhat time consuming and we can no longer afford it.

The ABS vacuum molded plastic products we introduced at Cshkosh this year are working out just fine and have proved to be popular. The two we're real proud of are the wheel pants and the Aero-Vators (cockpit vents). The wheel pants we sell for \$35.00 a pair in kit form. They come in two halves that are nearly trimmed and glued together with the glue provided, lightly sanded and painted. There is no messy filling to do. We've had a pair on R2LX all summer and they are holding up real good. While they turn out the same weight as the fiberglass, they are more flexible, hence they are much more resistant to cracking. They have the exact same profile.

The other item, the Aero-Vator's have sold real fast. For \$5.00 a pair they can't be beat. For those unfamiliar with them they have a flush NASA cut-out on the outside (very low drag) and inside is the adjustable air duct that can also be turned off. They are designed so they can also be mounted ahead of the cockpit area and duct attached and run to where the fresh air is wanted.

Some of you may be interested in the Monerai project. Well it's still coming along, not as fast as we'd like, but the business and Sonerai orders have taken first priority. We are back to burning the midnite oil quite often. The fuselage and controls have been finished as has the canopy boom attachment, and tail surfaces. The wing spars and fittings are now complete and just this week we did the static load test. We took the assembly to 6 G's negative (throwing is designed to be as strong or stronger to the positive side.) This would be 9 G's ultimate. The tips were deflected a little over 12 inches. We used over 1800 lbs. of sand. John is finishing up the ribs and skin bonding, should be only a few weeks away.

Since the first flight is coming into sight it was time someone here learned to fly sailplanes. Since I'd just returned from a month off (it was well deserved) and since John is the boss and hadn't had a vacation in five years, he decided he would go out to the Black Forest Glider Port in Colorado and get his rating. Next time you talk to him ask him about his mountain wave flight where he earned his silver gold, and "Lennie" altitude gains.

While on the sailplane subject we just recently found out a completed and flying Sonerai II just changed hands. The new owner is none other than George Moffat many time National Soaring Champion along with winning several World Championships. An interesting thing about this particular Sonerai II is that it has a C-85 Cont. with extra wing tanks and is basically a single place now. Even more interesting is its performance figures, or lack of them. Straight and level speed is only 125 mph. Climb very poor. Gross weight is over 1000 lbs. The performance figures do seem a little low, though the aircraft is somewhat rough. It should be remembered that an airplane with an aft C.G. will have better performance than forward C.G. plane. To us the extra weight doesn't seem worth it.

I would like to review some of the more often asked questions as they may help someone else about to reach this stage.

Fuel Line: size, 5/16" gas tank to gasolator and 1/4" gasolator to carb.

Axel Bolts: we mentioned this oncecouple of years ago. We've used a good quality 3/4" hardware bolt. You can use either coarse or medium threads. Use castle head nut and secure with cotter pin by drilling through bolt. Correction #7 gives the length as 6 1/2" long. We have the same original axels on the prototype Sonerai I & II. Each has over 500 hrs. now. Both have been flown hard, but the axels and mounting plates have given no problems. A lot of you are machining your own axels and this certainly is O.K.

Motor Mount Spacers: The cast motor mount spacers we sell are 2 3/8" long. This is the correct length. It is not necessary or recommended to cut them to the length called out on the plans. The prototype has the short spacers because the original cowl we used was made too short. We have not used this supplier since then. The short spacers make fitting instruments very tight. This is why we cannot fit an sensitive altimeter in the prototype N21X.

Fabric: you'll need 18 yards of 50" material. Any of the brands sold are alright. N21X has Razorback. N11E and N221X have the Coopers Ceconite process.

Status Report on Fiberglass Fuselage = same as before, same as before.... We have had another shell made (I've lost count how many this makes) and it still isn't the way we'd like it to be. We really haven't spent much time at all with it, and don't plan to until the Sonerai is developed. John Brosseau, who makes the wing kits for us has been working on his Sonerai II again. This is the one that is being made into a low wing. While it to was to have the fiberglass shell, we will probably wind up just covering it with fabric this spring as he's getting antsy to get it flying.

There are over 80 Sonerai's flying now, with more popping up all the time. Again we would really like to have a photo of your bird. I have one entire bulletin board in the lobby with Sonerai photos and newspaper articles from builders, but I do not have half of the 80 or so flying. We are expecting to have 15-20 flying right here in the northern Ill. area this summer.

FOR SALE

Sonerai II project- 93% complete, needs some canopy work on hinges and wings finished. Engine ready with full Monnett conversion. Jarnte adjustable prop. All engine instruments. No flight inst. \$4,200.00
B.H. Testphal, Box 667, Anderson, CA 96007

Sonerai I cowl- 100.00 to 125.00 Herb Robbins, 3535 Ross Ave., San Jose, CA 95124

Taper Pin Reamer Set- used once 45.00 Wade Jones, 759 Spruce Lane, Bartlett, IL 60103

Wing Jig, Water Pipes- ? Tom Freeman, 404 Clearview Ave., Lauconda, IL 60084

Sonerai II project- 90% complete, 1700 cc engine with 6 hours test time, 54-40 Aymar prop, fuselage complete on gear, elevator trim and heel brakes, wings skinned and primed, 2 hours taxi time. Needs some work on canopy and covering yet. \$3300.00. K. J. Jeffers, 1009 Lakeview, Lee's Summit, MO 64063 (816)524-0916

SUPER WINTER SPECIAL!!

Starting January 1, 1978 until February 28, 1978 we will mark everything down 10%. (excluding radios and Telex products). To take advantage of this super savings you must send payment with your order. No C.O.D.'s. Also we have 2 1600 E-V engines with Alternator's, Closeout special \$1,200.00 each. This is our way of thanking All of You for your support throughout the year.

So from all of us here at Monnett Experimental Aircraft, Karla, Rob, Randy, Pete, John and me have a very MERRY CHRISTMAS AND A HAPPY NEW YEAR!

Gregg

P.S.

Spot sends Christmas Cheer also!!

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