

October, 1974

Dear Sonerai Planholder,

This is a newsletter! Items of noteworthy news are: President Nixon steps down, hurricane hits Gulf Coast, etc. Seriously tho, we have to apologize for the long period of time since the last newsletter. Oshkosh this year was busier than we ever hoped to expect. We ran out of brochures on almost everything by Thursday afternoon! We are just now getting caught up with orders and inquiries.

There are lots of new things and most are available now. We'll try to give enough info on them now to save alot of questions later.

Something everyone has been interested in is just how strong are the airplanes? Well, a very complete stress analysis is being run on both. We finally found an aeronautical engineer that was close by, had some free time, and was willing to undertake the project. We are having this done for several reasons: 1. to formalize the stress figures for our foreign friends - Australia, New Zealand, England so they can obtain type approval to build the Sonerai. 2. to meet the NASAD requirements. 3. to put on paper what we already have demonstrated!

As most of you know, we have been using the Posa Carbs instead of the Lake this year. Basically, they both work on the same principle with a few mechanical differences. The Posa Carb was originally developed with Revmaster by Posa Industries and has been around much longer than the Lake. The Posa sells for only \$50.00 as compared to \$150.00 for the Lake now. The Posa has some nice features. First it has a little "sniffer" valve with a ball check that helps eliminate flooding if you mount the carb parallel to the bottom of the engine so as to use ram air. This lets fuel that has accumulated at the bottom of the throat drain out. When the engine catches, a slight vacuum is created which draws the ball check up tight. There is also a mechanical throttle linkage available. We have been carrying a pretty good stock of them. There have been absolutely no problems with them.

While talking about carburetion, we now have available complete intake systems for the dual port VW Engines. There is a "Y" casting that goes from carb and leads up to the heads. At the other end we have dual port head castings. These are designed to fit real close for tight cowlings, yet allow you to get the plugs out without having to take apart the system. Oh yes - we also supply all the necessary hoses, 90° elbows, and clamps to complete the system. This all sells for \$50.00. So add \$50.00 for the carb and for \$100.00 you have the entire carburetion and intake system in a neat compact package.

For those of you that just don't have the time or the know how to build yourselves a complete engine, we have worked out a deal with the company that was supplying us with VW Parts and we now can supply a brand new 1600cc or 1700cc (larger on request) complete and ready to run engine. All you have to do is install a prop, exhaust stacks, and gas. We supply the engine company with our conversion parts, carb, and intake system and he puts them together very professionally. Since all the parts are new, they carry standard new parts warranty. 1600cc cost \$1295. 1700cc cost \$1395. or send us your specs for a quote.

In addition to the 22 inch fiberglass spinners we have been selling, we now have available a 12" all aluminum spinner. They cost \$25.00 with backplate. Some of you may have heard we lost two spinners in flight this summer. Well, it is true but not the main reason we now offer metal ones. The main reason we lost ours was we fly the planes pretty hard and are always testing new props and as a result are constantly taking

the spinners on and off and cutting them out more and more for different props. In this process we sometimes drop them and don't always re-file them enough. Hence any small cracks are constantly enlarging until they let go. In normal use we know of no problems with them.

The small tail surfaces we used early in the summer just did not work out. They were too small! They had only a  $4\frac{1}{2}$  ft. span and we tried to retain the curved or ellipitical shape. What this did was elinated enough area outboard on the stabilizer portion so it didn't stabilize! Since most of the stabilization in pitch was coming from the elevator, it was SUPER Sensitive! It made flying very tiresome and uncomfortable. On some of the first flights John was recording 6 G's just correcting for minor bumps in the traffic pattern. Because of a lack of time we just put the old tail back on for the rest of the summer. The tail called for on the plans is just right. It will become fairly sensitive if you seal the gaps, otherwise it has a nice feel.

Those of you at Oshkosh the last couple of days may have noticed a fiberglass shell fuselage for the 2-place. Well that one was the original prototype and was out of the mold only the day before it was set up. We will be putting it on a square tubing modified fuselage we have all welded up to see if it's going to really work! To answer two most often asked questions: we don't know what it will cost nor how much it will weigh. Our answer has been if we can't supply them at a reasonable price or if they add any weight, they just won't be available. assuming everything works out it should be ready in early spring. All aluminum tail surfaces are planned for this version. For those of you who may want to use the fiberglass version, build the wings first. They will be the same. We will supply you augmented drawings of the fuselage after we have flight tested the concept.

For those of you nearing completion of your planes we have the decal kits now. They're of the self sticking Mylar type. The lettering comes in white, black, and of course green. Along with the word Sonerai they have many of the necessary placard wording - mag on and off, fuel on and off, etc. When ordering state color and type. The type indicates strip for the wheel pants. "Formula Vee" for the 1-place and "Super Vee" for 2-place. Cost is \$300 a set.

As mentioned at the beginning the summer was very busy and both planes were going every weekend and quite often several evenings a week. We made most of the local fly-ins in the Chicago area, plus taking the planes to the Evansville Formula I Races in June. We were also down to Salem, IL, just east of St. Louis. On these long cross-countries we had no trouble getting an honest 135-140 mph cruise at 3500 rpm on the 2-place. Fuel consumption was a shade over  $3\frac{1}{2}$  gph. We have been using a 32mm carb and are going to try the 29mm and feel that should reduce consumption. Right now we reach maximum rpm and still have throttle left which is wasting fuel. We still have not installed a reliable USI to get some good figures, though we have taped one in place. At gross on a hot day the 2-place will initially climb out at around 500 fpm tapering off to around 300 to 350 fpm sustained. While this isn't super, it's more than acceptable, especially on 60 hp. Look at the figures for a Cessna 150 or Cher-spun tested and while it takes a nearly verticle attitude and has a fairly rapid rotation, it recovers almost instantly with no hesitation. We did not get more deeply into aerobatics this year as we had planned, because we were without parachutes. We've had a Security Chute on order since April and the other one we had we sent out for re-packing. The packer

called to say, "Hey, this canopy is a special one us sky divers really like as it allows a good forward speed and is worth over \$200, by itself" and do we really need it or would we like to sell it? We told him in no uncertain terms we really don't need it and don't plan on ever having to use it and if he wanted to buy it or knew someone that did, fine with us. Well, to make a long story short, he somehow misunderstood us and sold the whole bloomin chute and hasn't been able to get it back or find a similiar one.

Since spring we have put about 75 hrs. on each plane - actually a little more on the 2-place as it flew nearly 20 hrs. alone at Oshkosh. We were able to give a lot of rides there and really wish it could have been alot more! However for several mornings the weather was really terrible and that put us behind. In the afternoons we were generally busy with the booth or the fly-by pattern was saturated. As it was the 2-place got a good work out with no problems except an eyelet on the brake handle breaking. This didn't really cause any problems but did lessen the brake leverage. In normal use there should be no problems, thought there are many other ways the brake handle can be set up. We want to this set up for simplicity and low cost. With the direct steering tailwheel differential braking is not necessary, even for tight turns.

Also with single ignition there is no run-up so no need for brakes to hold at high power settings.

A second ago I mentioned the tailwheel, well we now have available the caster unit as a casting with the bushing. Price \$8.00.

An often asked question is how much does the Engine Conversion weigh? Here are the figures -

Prop Hub Unit - 10 $\frac{1}{2}$  lbs.

Magneto Mount Unit - 10 lbs.

Entire Conversion - about 21 lbs.

Monnett Twins:

Jason -

Jeromey -

oops slipped there!

The Twins are doing fine and now that they are finally getting down to similar schedules and sleeping more, they are getting into the tooth-ing stage. Surprisingly enough John doesn't have any plans on the board yet for a 5 place. Could it be he's planning more?????!!

As many of you are nearing completion, we would appreciate a photo of your project. If any of you have any problems with the CG coming out tail heavy, redo your measurements and weights very carefully and make sure you get someone to help you that really knows how to figure weight and balance. If you build the engine mount the correct size or a little longer, if you're real heavy and keep the empty weight under 470 lbs. you shouldn't have any problems. The optimum CG is about 14.25 inches behind the wing leading edge. KEEP in mind = each ounce added behind the CG contributes to tail heaviness!

John and I got out to the Reno Air Races last month and they were really something. We had to take the big kerosene burner as they would not allow the Formula Vee's on the airport. We weren't too crazy about flying over those mountains anyway. Those that are used to seeing how well Oshkosh is run, especially for it's tremendous size would be terribly disappointed at Reno. The Chamber of Commerce and Reno Race Assoc. run everything with an Iron Hand. All the PRPA does is supply millions of dollars worth of aircraft for a measly \$50,000. in prize money! Their rules are no aircraft are allowed on the field unless they're there to race or in the airshow. Also the planes that don't qualify or are eliminated in the heat races have to pack up and leave right away. By Sunday, the day of the big finals, the pit area is like a ghost town with only 6 Formula I's, 6 Biplanes, 6 T-6s, and 6 Unlimiteds left.

Outside of being away from any main area of population to draw people from, the sight is really great for racing.

I have just returned from a 7 day, 1500 mile, barnstorming tour with the 2-place. Went down to Tulsa, Okla. for the fly-in there, then to Wichita to see how span cans are built, and up to Newton to spy on Bede. More info in next newsletter.

Gregg Erikson

Notes from John: (CG notes are for I builders)

On Props - Questions on props are frequent. We have used props from just about every propmaker in the U.S. Ray Hegy rates very high in our book for performance. We have not completed the test work on the fiber-glass prop. There has been a problem with asymmetrical deflection of the blades which adds up to serious vibrations. The most exciting props we have flown are the ground adjustable props made by Bernard Warnke, Box 50762, Tucson, Arizona, 85705. They are extremely well made, have all wood hubs with x-molly blade retainers, and are easy to adjust on the plane. They are really the thing for the 2-place since we can set the blades down in pitch for hot weather climbing or up for solo cruise. The price is about \$200. each - a small amount for the versatility you get. Also, the blades are standardized so they are replaceable! For the price you get the equal of many, many props - and you won't have to wait 3 to 9 months to try a new pitch.

On CG - A One builder had to add 3" to his motor mount and get a new cowl to make up for excessive weight gain on the tailend caused by the final paint job and cockpit upholstery. KEEP THE TAIL LIGHT!!!! If you are heavy, consider adding 3 to 4" to the motor mount! The cowl will still fit, and you may keep from killing yourself with an aft CG problem. Remember, elevator sensitivity goes up with aft CG! Consider it!! Tom Cassut, who has been in the business a long time, still wonders how two people building planes off the same set of plans end up with a considerable weight difference. The prototype Sonerai I weighs 460# empty in its present configuration. You should be lighter than that!!

On Wing Jig - Mount the two vertical 2 x 4's on the carry-through end of the jig at least 8" apart. This will allow for adjustment back and forth on the rib center line for right and left panels.

On Cowls - Our new 2-piece cowls reflect the latest improvements we have developed. They eliminate many of the short comings of the earlier 3 piece cowls. The single place cowl has redesigned cheeks for speed and much easier wing folding and initial fit up. No extra fill in pieces are needed at the wing root! The 2-place cowl is much rounder than the original and has the canopy lip molded in. This eliminates the need for the instrument panel bow. Just weld vertical braces for the panel.

On 2-place Canopys - Still working on them. We will endeavor to get them out as soon as possible.

On Fabric - The Cooper "Super Shield" process of covering is the easiest and slickest I have used yet. The single place has it on with a total of 6 coats of paint! Sure saves time. I believe it is an excellent process for you beginners.

Of Interest - We are working on clam shell wheel pants that will enclose the entire wheel assembly - similar to Bede's except price! More news later. Also, the tailwheel pant is being worked on in earnest. Available soon.

On Canadian Requirements - As of the new regulations issued Oct.1, 1974 the Sonerai II meets the requirements as is!!

On Sonerai Flying - Here is a listing of Sonerai Flying thus far:

- I Bob Hughes North Aurora, Ill.
- I Dennis Rader Greencastle, Ind.
- I Ken Bailey Antioch, Tenn.
- II Robert Hancik Springfield, Mo.

This Sonerai II was built at Stout University in the two weeks before Oshkosh by Bill Ghan of Springfield, Mo. It was an Industrial Arts Teacher's Workshop set up by Dr. Charles Thomas at Stout. The plane was on display at Oshkosh and flown right after it was brought home to Mo. Congratulations on a fine job. It was quite an achievement for everybody involved in the workshop!

Congratulations to all the completed and flying Sonerai Builders!- Bob, Dennis, and Ken!!

John Monnett

Notes from Betty:

Yes! It is true as Gregg mentioned. I certainly did add to the Homebuilts around here. Our Twins were born June 12th. Jason and Jeremy were quite a surprise. Now at almost five months, things are calmed down, almost. This summer was wild and I apologize for all the delays in office work and shipping. I relied upon John alot for help and consequently he did not get things done as he should have. Gregg has always been John's No. 1 helper - now I have one too! Carol Dendy is doing a fantastic job of learning the office routines so bare with us!

You may have called and gotten our answering machine. Sorry but the hazards of a business in your home got to us. Now we turn it on during dinner hour - 6 to 7. Also Please Call or Write before you show up on our doorstep. We really hate to turn people away who travel from a distance and we hate to miss you completely. Occasionally we do go away! John or Gregg or someone can meet you at DuPage Airport where we have a hanger if we know you are coming. Don't get me wrong - we still like company and you are welcome but we are just not as flexible as we used to be !! I occasionally need a hand around the house. As now for instance. We have a little remodeling project going on in the attic. All three boys are in one bedroom which is not working out. Our older son will soon(?) be in the attic with an escape from those twins!! Needless to say it is hard to convince John that that is as important as the planes and business.

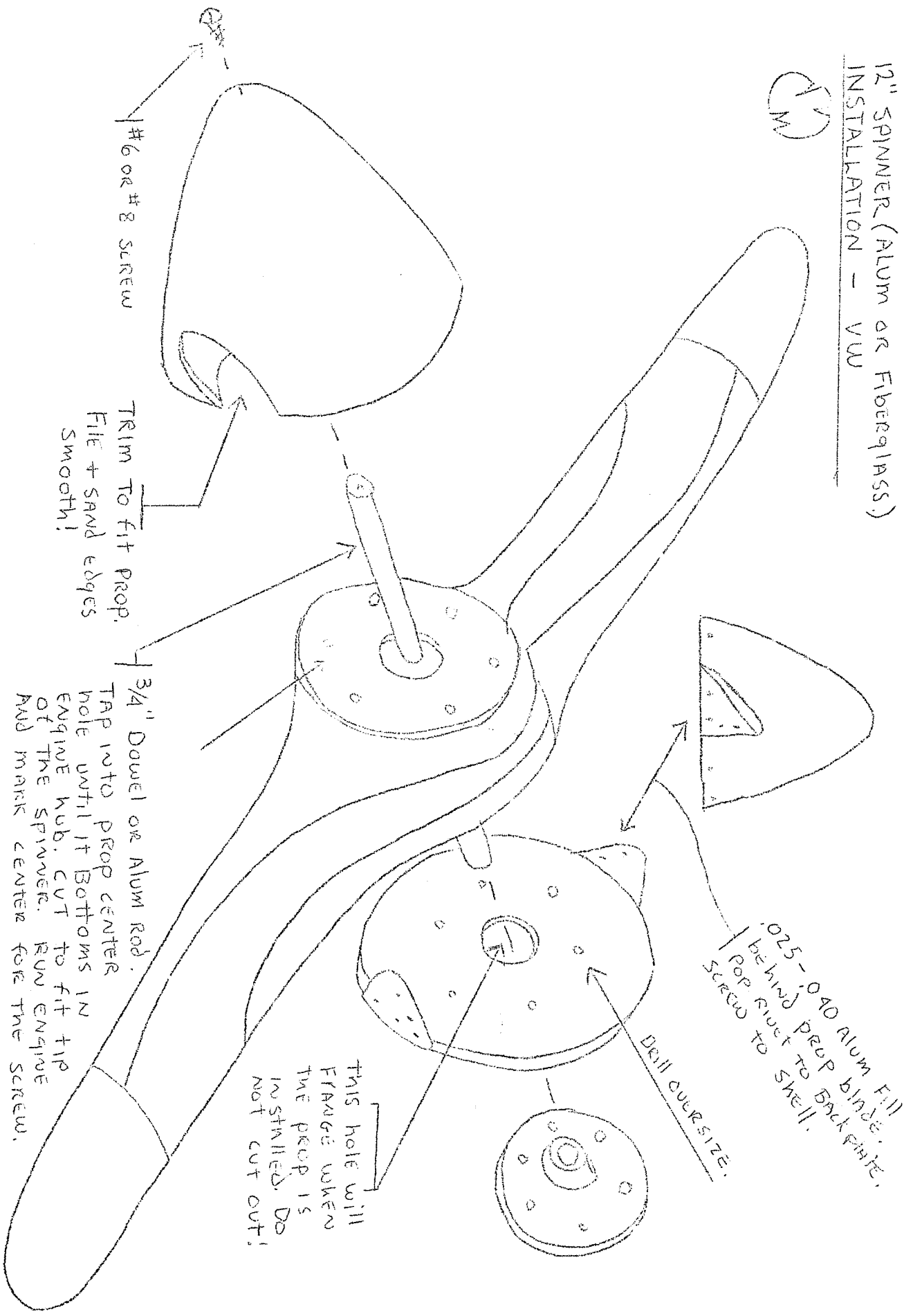
Guess I'm ending up this newsletter. You have heard from Gregg, John, and I - a real bonaza! Also find enclosed the latest price list, a correction sheet on the 2-place plans, and a sheet on installing a spinner.

One last note on prices, I must apologize for not notifying you when they occurred throughtout the summer. I know it is aggravating to order and find an increase. I hope we can do better about letting you know from now on.

Betty Monnett

Attention I Builders: one correction for you - drawing #4 - stabilizer leading edge bushing should be 3/4 x .058 x-moly.

# 12" SPINNER (ALUM OR FIBERGLASS) INSTALLATION - VU



#6 or #8 screw

Trim to fit prop.  
 File + sand edges  
 smooth!

3/4" Dowel or Alum Rod.  
 Tap into prop center  
 hole until it bottoms in  
 engine hub. Cut to fit tip  
 of the spinner. Run engine  
 and mark center for the screw.

This hole will  
 fringe when  
 the prop is  
 installed. Do  
 not cut out!

0.25-0.40 Alum Fill  
 behind prop blade.  
 Pop rivet to back plate.  
 screw to shell.

Drill over size.

PRICE LIST

Oct. 30, 1974

Instruments

131-1	39.90	tach aircraft
132-1	28.70	C.H.T.
133-1	29.70	E.G.T.
134-1	43.60	Carb temp.
131-2	33.90	Tach automotive
131-3	39.90	Tach
132-2	22.70	C.H.T.
133-2	22.70	E.G.T.

Fuselage

141-1	45.00	clear canopy
141-2	50.00	green
141-3	50.00	bronze
241-2		
241-3	NYA	
142	17.00	canopy cap
143-1	170.00	cowl
243-1	170.00	cowl
143-2	50.00	cowl nose bowl
144	16.00	spinner
145	95.00	tank
245	95.00	tank
247	NYA	motor mount spacers
146	25.00	metal spinners

Wings

151	100.00	ribs
251	110.00	ribs
153	22.00	wing tips
155		taper pins

Gear

160	110.00	gear
260	120.00	gear
162	52.00	wheels and brakes
163	4.00	cables
164	35.00	wheel pants - regular
164-2	45.00	wheel pants - split
165-1	16.50ea.	tires
165-2	3.50ea.	tubes

Illinois Residents add 5% sales tax.

Prices subject to change without notice. Prices do not include shipping. Items listed in catalog but not on price list are not available.

NYA - Not Yet Available. Will be available sometime at a future date.

Due to the custom built category of many of our components, allow 8 wks. for delivery just to be sure. It does not always take that long.

Tail

171	8.50	tailwheel
172	35.00	tailspring
171-2	8.00	caster
171-3	NYA	wheel pant

Engine Conversion

111-C	385.00	complete
111-1	198.00	back
111-2	198.00	front
111-3	50.00	rough back
111-4	50.00	rough front
111-12	90.00	magneto
112	25.00	adaptor
113	50.00	manifold system
(Cast intake manifold for dual port heads with hose and clamps. replaces 113-1 113-2)		
114	50.00	Posa Carb
115	1.75	Throttle cables

Engines

Complete engines available with our conversion, carb, and manifold. Write for a quote on your requirements.

Components Packages

150	440.00	wing for I
250	450.00	wing for II
240	350.00	fuse for II

Plans

50.00	Sonerai I
75.00	Sonerai II

Purchase of plans requires signing an agreement. Purchase includes newsletter. II plans includes a construction manual. Available to I planholders for \$5.00.

Decals

3.00 white, black, green.

Slide Presentation

15.00- 5.00 rental, 10.00 deposit. Available to anyone. On construction of I & II. 150 slides.