

# monink

The Newsletter of Monnett Experimental Aircraft, Inc.

May, June, 1981

Dear Friends,

I begin this newsletter on a very very tragic note. Our dear friend, Vance Graeber, was killed in his Sonerai I on Memorial Day. Perhaps many of you knew him as he had been flying around in his white and black Sonerai for six years. He truly loved to fly, and attended many many Fly-Ins across the country. Vance and Bob O'Day were out flying together. Vance did a roll, the first he had ever done, and at the end of it, the plane went into a nose dive from 4000 ft. Evidently he suffered some sort of physical incapacitation since Bob was unable to reach him on the radio and there was no attempt to throttle back or recover from the dive.

Need I say how very sad we all feel at such a great loss. Although Vance never worked for us as an employee, he was in on the ground floor of our business. He was our first flying friend in Elgin fifteen years ago and helped John on all our airplanes. He was in the garage every night giving a hand. Those beautiful paint jobs on our airplanes are Vance's handiwork. Char, his wife, has set up a Memorial Fund and is planning on using the contributions for something in the atrium area of the new E.A.A. Museum at Oshkosh. If anyone is interested in contributing to Vance's Memorial, send it to us in care of Char Graeber.

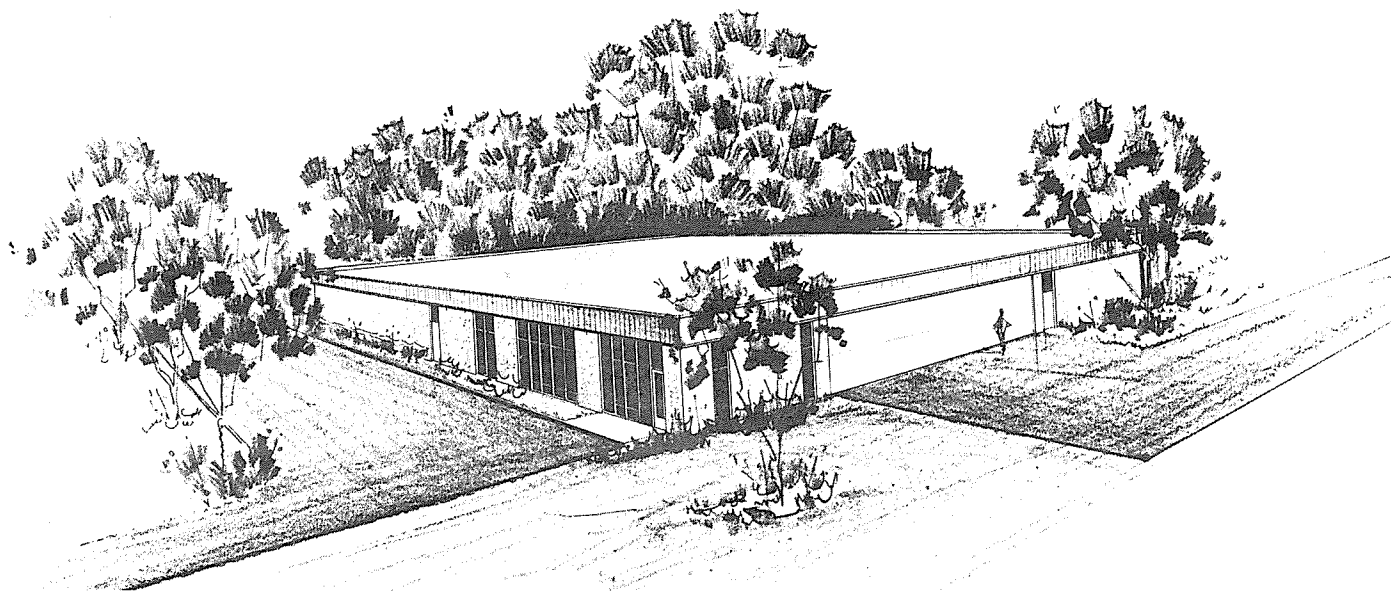
A happy occasion took place two weeks later. Pete Buck was married June 6! Most of you know Pete from Oshkosh, fly-ins, newsletters, workshops, etc. He has been with us for about three years working with John in R & D. The only catch with his getting married is he also took a job with Lockheed in their "Skunk Works" and moved to Burbank, CA. We hated to see him leave us but certainly wish him good luck on his new ventures: marriage, career, and move.

Fortunately Randy Novak came to apply for a job about two weeks before Pete left. We worked for the E.A.A. in Hales Corners and Burlington. He has stepped right into our shop and is a very competent, capable young man - as well as a Sonerai owner!! He has a wife and a baby and the best news is he will be moving to Oshkosh with us. Welcome Randy!!

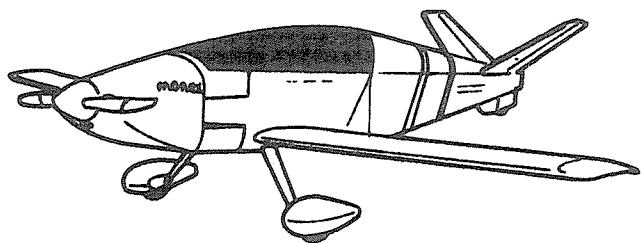
Yes, you read that right. **WE ARE MOVING TO OSHKOSH!!!** Our 18,000 sq. ft. precast concrete and glass building is now under construction. It should be ready in early fall. The new facilities will house offices, hanger, showroom, research and development, warehouse, and manufacturing. It is located right on Wittman Field next to the post office on 20th Street. You can imagine our excitement about such a move! What this means to our builders and customers is not only can they fly in to visit, but can view all the airplanes in the hanger-showroom and even see them fly. (Without driving out to the airport!) To us it means we can increase our efficiency of testing, flying, and developing our aircraft. We can also have some excellent workshops, forums, and open houses throughout the year, as well as during the Fly-In.

We expect the transition from buildings to run smoothly but there will no doubt be some delays in orders. We expect to shut down only for a couple of weeks. So if you will be desperate for something this fall, it might not be a bad idea to order it now.

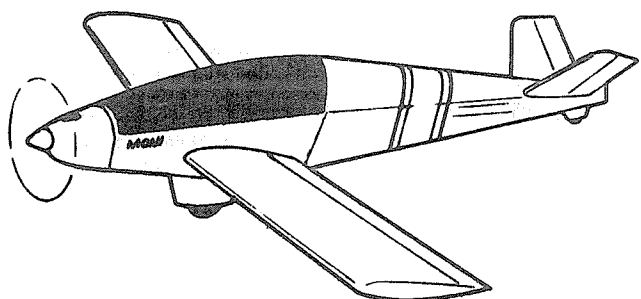
With our new move there will be some changes. Our change coming is we are not going to produce any more ready to run VW Engines. John considers our line of VW components the finest available, but he feels the components are fairly easy to put together and it is best for the builder to learn the engine first hand-inside out.



As we have hinted in the past newsletters, we have been testing a new engine, the K.F.M.-104, comparable in size with the VW. It is a true aircraft engine designed specifically for aircraft application. It will not be considered the economy way to go but should prove to be a viable alternative between the converted auto engine and the bigger bore aircraft engines. The test program will be quite extensive. We have been keeping this engine a secret at the request of the manufacturer. But it will appear at Oshkosh in our Sonerai II mid-wing. The manufacturers will be at Oshkosh in the booths next to ours showing their wares and answering questions!



The Monex will be fitted with another one of the new engines prior to Oshkosh but it is doubtful if we will be able to get the flight restrictions off the airplane. The Monex is still in the test stage. It has been somewhat on the back burner and delayed in development due to John's concentration on the Moni.



John's newest design to premier at Oshkosh is the **MONI**. Some of you may have read about it in the first issue of *Sportsman Pilot*. The specifications are listed in the article and we will have an info sheet at Oshkosh.

John calls this his ARV - Aircraft Recreational Vehicle. Although it is actually a motor glider, it is a synthesis of many popular concepts: inexpensive to fly, trailerable, aerobatic glider with reasonable cruise speeds for sport flying and an electric starter for air restart capability. It is powered by an entirely new engine developed for the Moni by the people who produced the engine for the Sonerai -K.F.M.! The Moni is nearing completion but the schedule is tight as usual! We plan to have it flying prior to Oshkosh.

Which leads us to the Oshkosh Fly-In. Only five weeks away as I write this today. What can I say? It promises to be better than ever! MEA will certainly have an exciting 1981 Fly-In with the new building going up, new engines to premier, and a new aircraft design to debut. Our new booth location will be isle D across from the Christen Eagle booth. As I mentioned the K.F.M. Engine people will be in three booths next to us. We will again have a Hospitality

Night and also a Hanger Party. Check with us during the fly-in because plans are tentative on this. We plan on something at the building site on Tues. night after the air-show. John will also have three forums this year of his own and will be helping out a little during the Soaring Society Forum. Plan to attend and bring your friends.

### Annual Hospitality Night Monerai and Sonerai Builders

Saturday, August 1  
8:30 p.m.  
Butch's Anchor Inn

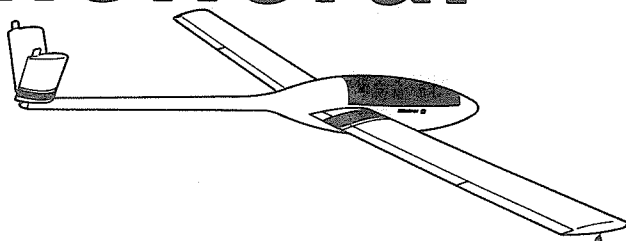
### Forums for Oshkosh '81

Sunday, August 2  
10:30 - 11:45 - K.F.M. -107 Engine - Don Black  
1:30 - 2:45 - Monerai, Sonerai, Monex

Thursday, August 6  
3:00 - 4:15 - Monnett Moni - ARV Motor Glider

Friday, August 7  
10:50 - 11:45 - Monerai, Sonerai, Monex  
1:30 - 2:45 - K.F.M. - 104 Engine - Don Black

# monerai

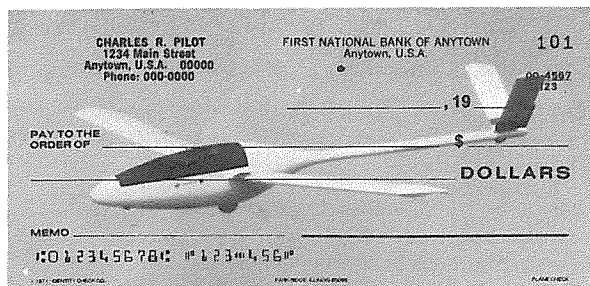


"Doc" Roy completed his workshop in Greeley. They were able to complete 75% of the Monerai in one week! We were the sponsors of this project so we will be completing it - one of these days!

### Plane Checks

Identity Check Company has made this offer for our Monerai Builders. This one "Monerai" Check will be available through August 31, 1981 only. After that there will be four sailplanes in the series. You can deduct \$1.00 on 200 and \$2.00 on 400. Here is the scoop:

# MONERAI



## PLANE CHECKS

A prestige check created especially for the MONERAI builder.

Are you tired of "Generic" checks that look like everyone else's. Then step out from the crowd! Show your stuff with a MONERAI Plane Check!

**You do not have to order checks from your bank.** Identity Check Co. will print all the information on your checks necessary to make them conform to A.B.A. standards and to be acceptable to your bank. It is often helpful to ask your bank if the Federal Reserve has assigned them any new routing numbers, or if they have changed their MICR layout.

So that your order for Plane Checks can be processed quickly and accurately please enclose:

1. A check in payment of the order.
2. A voided sample check.
3. A deposit slip (If you desire any address changes, etc., clearly indicate the changes on the deposit slip.)
4. The order form below completely filled out. Indicate starting number. If none is given, checks will be printed beginning with No. 101.

Please allow four weeks for delivery.

**Start Using Monerai Plane Checks Now!**

**Identity Check Co.      Box 149-D      Park Ridge, IL 60068**

Checks are printed with blue backgrounds, and are top-bound. One part deposit slips and registers are included in each order.

Activate my order for **MONERAI** Checks

STARTING No. \_\_\_\_\_

- ☐ 200 checks — \$9.00      ☐ 400 checks — \$16.00  
☐ Checkbook cover \$.50 (if needed)  
☐ First Class Mail (Optional) — \$3.00

Ship To: \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

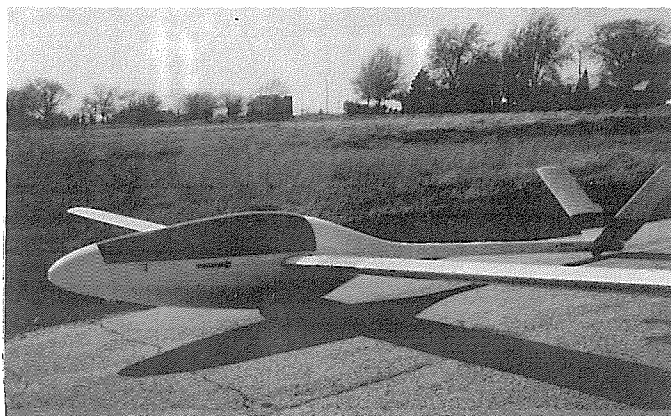
**Please see instructions No. 1-2-3-4 before mailing.**

## Monerai Contest

I know I have been promising you contest rules and registration information. But we have decided not to put all this in the newsletter as space is somewhat limited. Instead we will put together a packet of information and mail to those of you interested. It will include: entry blank, contest rules, motels, campgrounds, restaurants, and directions to Elf Soaring. After you receive this info, you will contact Elf Soaring directly. They will be handling registration.

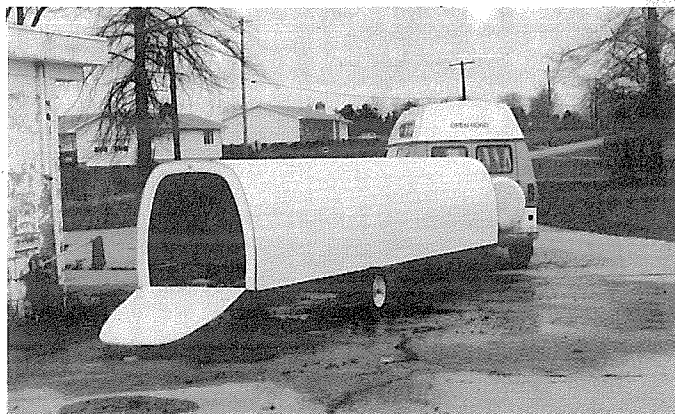
The contest will be August 20-23 at Elf Soaring in Montpelier, Ohio. It will be a sport style-fun contest. Looks like it will be small if you guys don't get busy! Even if you haven't flown in a contest, come on out. It will be a fun get-together. If your Monerai isn't finished, you are still welcome. Ed Frapier is building a Monerai for Dario Toffenitti at Elf and it will no doubt be under construction. We will have informal get-togethers on Monerai construction and flying, etc. So just drop us a line or call or see us at Oshkosh for your packet of information.

## News From Builders



Jimmy Frank - #101, 2848 - 44th Street, Highland, IN 46322.

First Flight June 15, 1981!! Purchased Monerai on 6-3-79 - almost two years to date.



J.B. Reznor - #45-P.O.49, 2203 Lakewood Manor, West Middlesex, PA 16159.

Jesse writes: Light boat trailer frame extended 3 ft. .025 pre-painted aluminum rib siding. Pop rivet to 1/2" conduit. Hand formed. Double lapped about 12" over small radius to form good stiff upper beam. Seems to be quite strong -time will tell!

Joe Jordon #310, 1843 Poplar Ridge Drive, Lawrenceville, GA 30245.

Has Monerai fixtures to be given away.

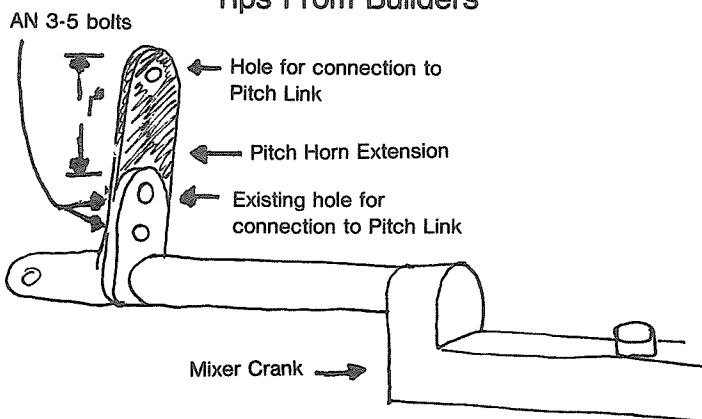
Phil Simon, 296 Knight Drive, San Rafael, CA 94901 (415) 454-5946.

Will give to anyone who will pick them up: Monerai tail surface crate fixture (complete), welding fixture for Station E (complete), other miscellaneous fixtures.

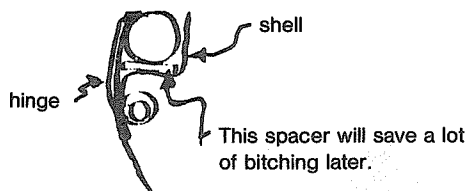
Jim Mahoney #46-PO64, 703 Milton Ave. Anderson, IN 46012 (317) 642-4770.

For Sale: Monerai Stabilizer and Fuselage Jigs.

### Tips From Builders



Don Pratt - #153, Box 238 Rd. 1, Endicott, NY 13760. Don writes: *After reading the March-April Newsletter, I came up with a fix for my elevator control which had too much movement. After installation, I have measured 9° of tail travel in either direction with no decrease in stick throw. Result: Pitch Horn is extended by one inch.*



Virgil Paggen #172, 123 Loomis Street, North Granby, CT 06060.

Virgil writes: *Please put a note in the next newsletter advising Monerai builders to put a shim (.063") between the canopy tube and the fiberglass when locating the hinge pieces.*

John Watkins - #152, 117 Moreland Street, Worchester, MA 01609.

John writes: *There are two ideas that I found helpful during the wing spar construction that you may like. The first one I learned from Bob Bell and Paul McNally, and that is to clamp the spar webs between two flat pieces of metal, at the correct dihedral angle, when drilling the spar pin holes. This keeps the webs in alignment which is very important in maintaining the wings at the same incidence angle. I used an aluminum bar 2" X 2" X 34". The second idea is to use a tube level to help level the wing spar while drilling the holes in the web for the 5/16" pins. This tube level consists of 50' of clear tygon tube (you need it for instrument plumbing later on) filled 6 - 12" from each end with water colored with food coloring. The ends of the tube are taped to the outer ends of the spars. Adjust the spars so the fluid level is even with the top of each spar. Don't use the tube level outside when the wind is blowing. Also, all large bub-*

*bles that separate the water must be out, as the water must be a continuous column.*

Bruce Shannon - #238, 1430 - 7th Street, Bethlehem, PA 18017.

Bruce sent us this letter. Hopefully we'll have pictures of his airplane next time. John is anxious to see his airplane since we saw his workmanship on his other homebuilt and it was excellent!

Received my kit on November 20, 1980 - Completed March 27, 1981 - First flight March 31, 1981.

I didn't keep close track of hours but I estimated approximately 600 hours. I was able to borrow all the fixtures from a friend and fellow builder, Tom Darlington (thanks Tom) which of course saved a lot of time.

I also had help with much of the welding by another friend and fellow builder, Pepe Limantour. We found that the easiest way to fit the tubing was to cut it approximately 1/4" long then fishmouth it by grinding it at the appropriate angle on a rounded grinding wheel. Between me cutting the tubing and Pepe T.E.G. welding it, we cranked out the truss and most of the controls in about four afternoons.

I found an easy way to cut the rear of the fiberglass shell. Just take the small piece of the boom tube and shove it in the opening as far as it will go from the inside. Then insert a light and mark it on the outside. This saves a lot of time and gives a very good fit.

The wings proved to be much easier than anticipated, with the exception of the lightening holes in the main spar; these were a real bear. When attaching the main spar fitting, be sure to clamp the spar webs perfectly parallel or you will end up with mismatched incidence because the fittings do not allow any movement. I found it necessary to square the rib flanges and reform the rear portion of the ribs to match the rear spar (for this procedure, form blocks were necessary). I used an orbital sander to prepare for bonding. I shutter to think about having to do this by hand using Scotch Brite. When hinging the flaps to the wings, it is absolutely essential that you find the center axis of the flap drive tubes and line the hinge pins up with it, otherwise the flaps will bind in operation. I found this out too late and had to modify my rear spar carrythrough by narrowing it at the ends to allow the wing to shift front slightly. An easy way to find the center is to stick the drive tubes in a lathe and use the center to mark it.

When attaching the hinges to the wings, the manual calls for a #32 drill but I found that this produces an enlarged hole after dimpling. I used a 3/32 drill first then after dimpling, I drilled through with an 1/8 drill. This method produces a perfect hole and also allows you to use 3/32 clecos when drilling. I also used a Whitney punch with dimple die set which made the dimpling operation a snap. I used this method of drilling throughout to prevent the possibility of the pop rivets vibrating loose.

A fail safe way to attach control surfaces to the wing: First lay the surfaces flat on your table allowing the end to hang over enough to clear rivet heads, then shim the hinge to be fastened up with the appropriate thickness and clamp. (Shim and clamp the part which will fasten to the wing). Now hold the surface against the loose leaf of the hinge and drill. (Pilot drill the hinge first.) Once all the hinges are fastened, install on the wing with small C-clamps at the extremities. (Don't install wing tip until ailerons are in place.) For the center hinge cut two small wedges, out of wood, to fit in the rear spar channel, place one on top of the other, move the surface to allow access, insert both wedges under the hinge and slide them together so as to jam the hinge against the flange, now drill away.

An easy method of rigging the flaps to the drive tubes: First drill the connecting hole outside the ship by placing it on a flat table and holding the appropriate width. Then fabricate the drive plates undersize so you have room for adjustment. Install drive tubes and wings to fuselage, check fit of drive plates by slipping them in place and lining up flaps. (Flaps can be taken on and off by removing the hinge pins.) When satisfied with alignment, mix up some epoxy and bond in place, (grease flap drive to prevent sticking) allow to cure, remove, drill and rivet. Works like a charm.

When setting my tail surface travel it was necessary to shorten the pitch bellcrank 50% (at the top end) and increase the rudder stop pegs to about 1/2 inch diameter. Without these mods, I got almost twice the specified travel, which may account for severe pitch sensitivity if anyone is experiencing it.

I have about 18 hours on my ship now, with one flight over 3 1/2 hours.

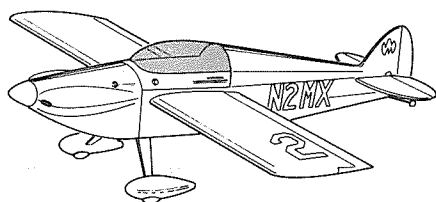
My Monerai flies great, didn't even have to make any adjustments and every time I've flown it I've been the last one back on the ground. It seems to thermal best with two notches of flaps at 45 to 50 mph. and penetrates best with negative 8 at about 65 mph.

I must say that building the Monerai has been a real pleasure and the Monnett factory just fantastic. Having some previous experience with the homebuilt kit market with my first project, I must commend Monnett Experimental Aircraft for extraordinary professionalism, promptness of shipment and just great people to deal with. Also thanks to Bill for putting up with all my calls and helping me over those gray areas.

I plan to be at Oshkosh again this year, with the Monerai this time, and hope to see more Monerai's there along with the Monnett people. If enough powered Monerai's show up it would be fun to perform a formation fly-by like the Vari Eze did last year.

Had some great pictures of my first auto tows and first flight, if only I had made sure the film was properly engaged in the camera. So this is one of the shots taken just before the event to finish off the old roll of film. Typical!

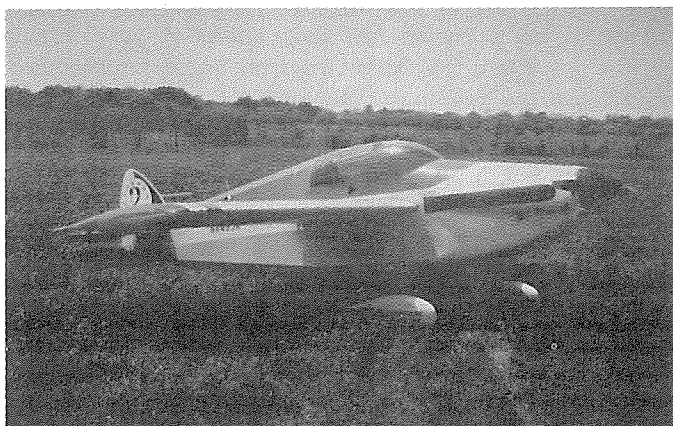
# sonerai



We have a new VW Prop supplier! He is Ed Sterba, 3209 So. Woods, McHenry, IL 60050 (815) 455-2475.

## First Flights

Congratulations to all of you! See you at Oshkosh!



Howard E. Haecker - #596 II, 16525 Blanco, San Antonio, TX 78232.

First Flight April 17, 1981 2 years, 9 months building time. Howard writes: *Building the Sonerai II has given me pain and pleasure like other builders have known, but the feeling of elation climaxed the day of the first flight. That's the day I wanted to thank you the most. New found unexpected pleasures best describes my experience, consequently "Serendipity" is the name I've given my airplane.*

Ron Bronne #812-II, 2415 N. Heck Hill Rd. St. Paris, OH 43072.

First flight June 14, 1981.

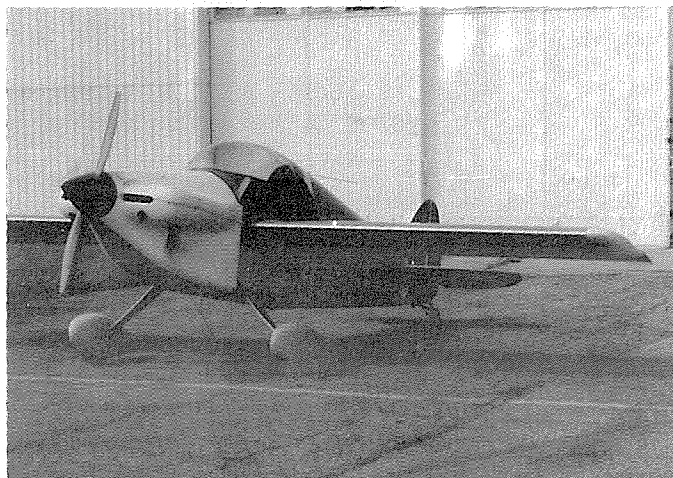


Ned Wood, Jr. #714 II, R 2, Wisconsin Dells, WI 53965.  
First flight April 11, 1981.

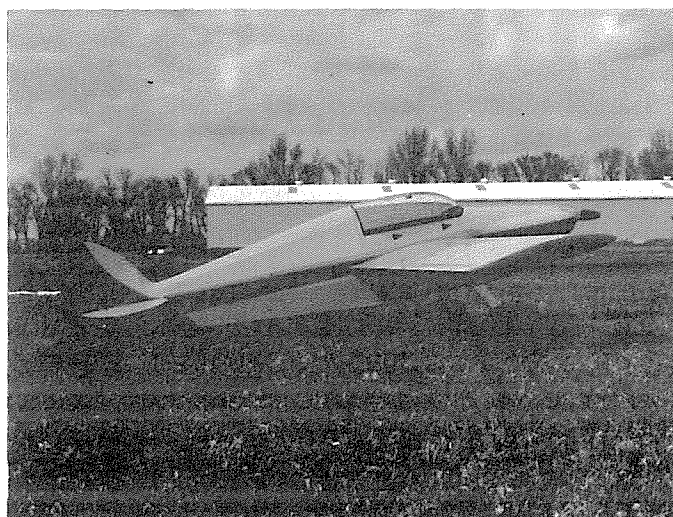
Ralph "Buz" Lauritsen #509 II, 713 Keeler Street, Boone, IA 50036.

First flight May 26, 1981.

## News From Builders

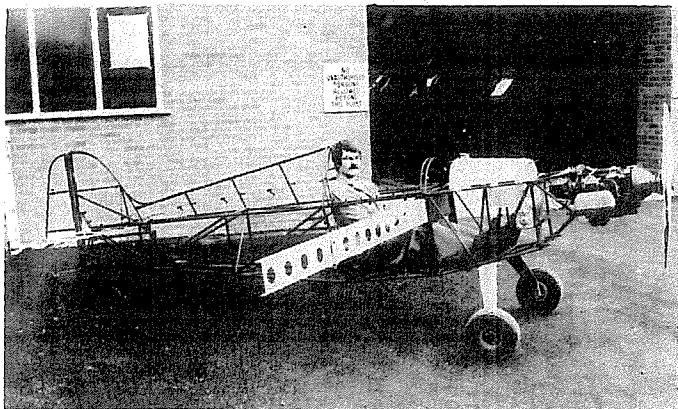


Lyle E. Ogden - #168 II, 2897 Iowa, Topeka, KS.  
Before paint. Signed off 4-17-81.



Byron Poppenhagen - #706 II, 315 W. 4th Street, Larimore, ND 58251.

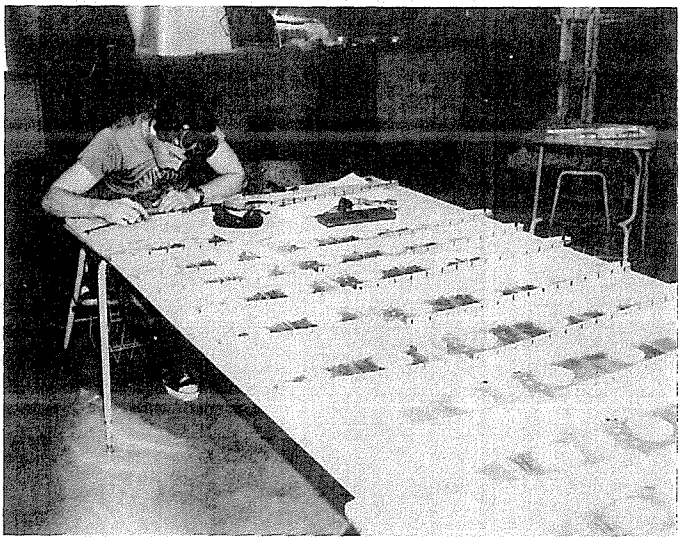
Construction time 26 months. Waiting for final inspection.



John Lowe

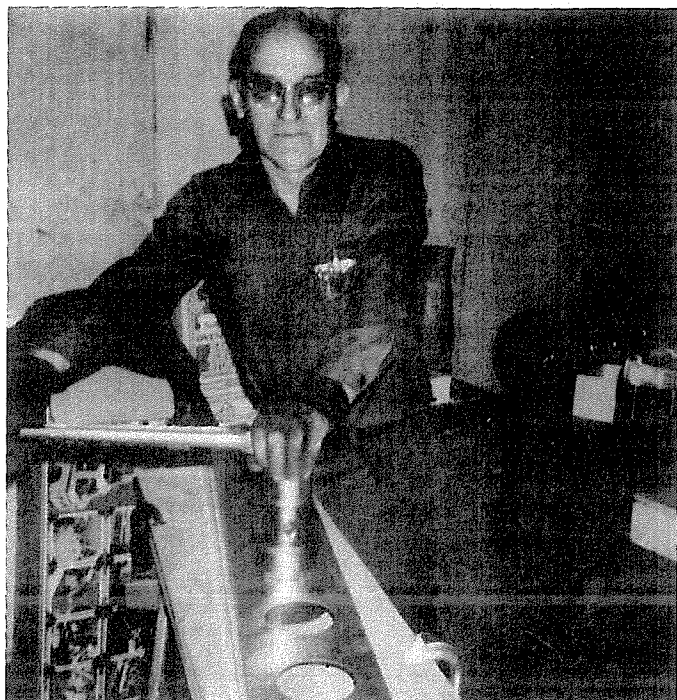
40 Brook Street, Wall Heath, Brierley Hill, West Midlands, England.

Doing a little "hanger" flying!



visability. It is slower which he thinks might be wing rigging. "The mid-wing flies good," he says, "but the low wing flies terrific!"

## Tips From Builders



Donald D. Licocci #495 IIL, 27793 Knief, Rock Falls, IL 61071.

Don writes: *Thought you might like to see how the lightening holes were cut in my wing spars. A very helpful gentleman, Clarence Witte, from our local Chapter is a machinist from Kewanee. He made the punch die as you see it in the picture. We cut all the holes in about 30 minutes.*

Enterprise Aviation Co. - #1101-IIL, Peter Laper, Box 1103, Rhinelander, WI 54501.

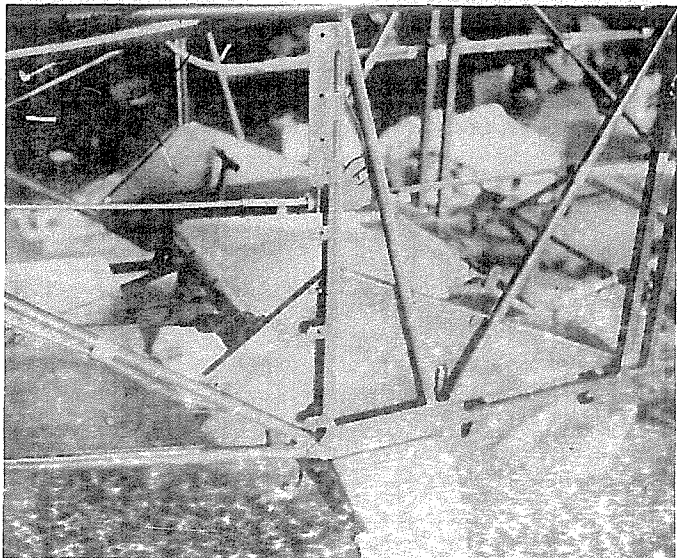
This picture of Dean Cook, shows one of the 16 boys working at Rhinelander High School in their Aircraft Construction Course. They are building a Sonerai IIL in an 8 week summer program. Working 4 1/4 hours a day, 5 days a week, they expect to finish August 8th. This is school flight project #416 run by Rick Northrup, Instructor, Rhinelander High School and sponsored by Enterprise Aviation.

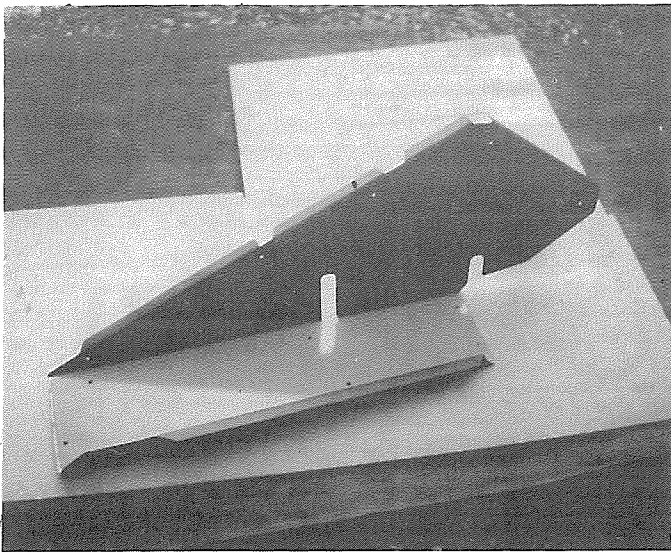
Craig Hockelberg #233 I, 5910 Flagstaff, Wichita, KS 67220, (316) 744-3296.

Has for sale: Machined Magneto Mount casting Mag coupling, drive, rubber bushings.

K.V. Lundy - #428 IIL, 225 W. Old Pass Rd., Long Beach, MS.

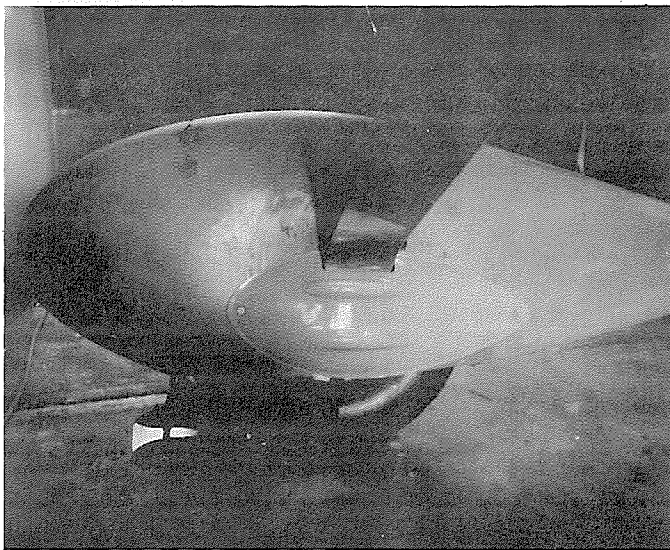
K.V. has the third Sonerai Low-Wing flying. He converted his flying midwing. Lundy says that the Low-Wing takes off sooner, climbs better, is more comfortable, and has better





Hugh Mitchell #500 IIL, 26 Tennyson Drive, Beaumont, South Australia 5066.

Hugh sends a couple of ideas: 1. Extra foot width for rear rudder pedals: I folded channels from .025 aluminum and attached to tabs welded to fuse verticals. The pedal disc is eliminated, allowing about 1 inch extra width to miss the front seat. Side and bottom of the channel is protected from scuffing by contact glued thin laminex strips.



2. Also I have moulded a low frontal area pvc tear drop cover that cleans up the landing gear leg/wheel pant junction nicely. The mould is symmetrical and therefore suffices for both L/H and R/H.

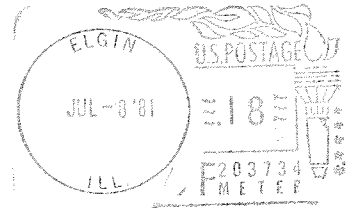
I hope you have liked our combined newsletter John has dubbed the Monink! It will be coming out every two months. Six issues a year for \$10.00. Congratulations to all of you who got your airplanes flying this spring. Now on to Oshkosh - Fly em, Tow em, Push em - Just Get Them There!!!

See you in Oshkosh -b 'gosh!

*Betty Mennett*



Monnett Experimental Aircraft, Inc.  
955 grace street  
elgin, illinois 60120



Frederick J. Keip  
11428 Six Mile Rd.  
Franksville, WI 53126  
ex 9/81

See You At Oshkosh!!  
August 1 - 7, 1981