

# monink

The Newsletter of Monnett Experimental Aircraft, Inc.

January, February 1983

Cheers!

John has really made it big now. For sure. He appeared in The Star on January 25th! Now what more can you ask for? Popular Science in December and The Star in January. All that's left is Playboy - right? Believe it or not the Star article was very accurately written. (I was hoping to find out something really interesting about my husband!)

I do know a couple of interesting things that have happened around here that you will read about in this issue. The Tri-cycle gear Sonerai flies, Monerai and Moni Service Bulletins go out, Moni available in separate kits. All in this issue. Along with some important dates to put on your calendar:

March 13-19 **Sun N Fun Fly-In**, Lakeland, FL. M.E.A. will definitely be there this year. John will be premiering the Sonerai II-LT and flying it there.

May 14 The **Sonerai Workshop** has been rescheduled for this date. It had to be cancelled in January and we decided to wait till really nice weather. Mark your calendar now and call early to reserve a spot. This is an all day workshop on construction of the Sonerai and it's variants.

June 25 An **M.E.A. Fly-In!!** Last year we had a Sonerai Fly-In - This year we decided to make it an annual affair but make it a Sonerai, Monerai, and Moni Fly-In. It will be held at our facilities and include a BBQ Lunch, some simple competition, some awards (longest distance flown in, etc.), even hope to have a tow plane available! This is during the E.A.A. Ultralight Fly-In here at Wittman Field. So plan on coming in and buzzing a few Ultralights!!

For those old Soaring Society Convention friends, we will miss you this year! Because Sun N Fun is just the week before, we had to forfeit this 1983 convention due to the long distance clear across country. It will be the first SSA one we have missed in Five Years!! But - we are going to try to get to California for a couple of Fly-Ins this summer. Mainly Watsonville on Memorial Day Weekend and Merced on June 3, 4, 5.

Now a couple notes and quotes from John this time.  
**Best Insurance You Can Get -**

Each year it seems to become evident that many of you get caught up in the construction of your airplanes and do not spend your time or money in staying current which results in an exciting, if not scary, first flight. In many cases, we realize it is difficult to get the proper training

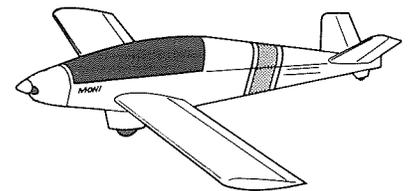
locally and many of you have to travel great distances to do so.

If you are building a Sonerai and you have not flown taildraggers by all means seek out a taildragger and get checked out. If you are building a Monerai or Moni, it is imperative that you have some high performance sailplane time. Just having flown conventional airplanes does not properly prepare you for the extended glide ratio and single wheel landings that you will be experiencing. The vast majority of homebuilt aircraft have extremely light controls and quick response coupled with their high performance. If the airplane is built according to plans and is within the C.G. envelope it will fly well. The best insurance you can have towards successfully flying and enjoying of your new homebuilt, protecting your investment, and above all protecting yourself is getting prepared at any length or expense. Please feel free to call before your first flight to get a preflight briefing so you'll have a fresh appraisal of what to expect. Don't go to uniformed or inexperienced pilots for advice on homebuilt flying techniques!

**Service Bulletins -**

M.E.A. has recently issued our first two Service Bulletins for the Monerai and Moni. A Service Bulletin is an (in house) instrument that we will be using to inform our builders of any service difficulties that arise or mandatory modifications that may be necessary in any of our products or designs. These are preventative notices designed to inform about potential problems and their solutions. Altho we keep very careful records of our builders and their addresses, we have found a number which have evidently changed without notifying us. Communicating this important information can only be accomplished if you make sure to notify us of any changes in address or transfer of ownership of plans, parts, or kits. We follow up with notices to the General Aviation press but this always takes time and is only a back up. So please keep us informed.

# moni



Moni is now available in separate kits! It is now possible to purchase "as you go". Here is the new breakdown:

**INDIVIDUAL MONI COMPONENT KITS**

**1) Construction Plans & Manual**

Please note because Moni has many unique components not "defined" in the plans, it cannot be built from the plans without our component kits. A signed Release Form and Buyer's Agreement (on back or release form) must accompany order. ALL PLAN SALES ARE FINAL . . . . . \$215.00

**2) Airframe Kit**

Includes all necessary formed, extruded, machined, cast and sheet aluminum products as well as chrome moly sheet, stainless steel, welded assemblies and piano hinge for the basic air frame (wings, tail, fuselage and landing gear). \$500 deposit required with order. Approximately 4 weeks delivery time.

. . . . . \$2,700.00  
crating . . . . . \$50.00

**3) Hardware Kit**

Includes all necessary bolts, nuts, washers, screws, rivets, special fasteners, cable assemblies, electrical wiring components, wheels, tires, battery, seat belts, shoulder harness, knobs, latches, tubing, fuel line and special pins, etc. . . . . \$670.00

**4) Molded Plastics Kits**

Includes plexiglass canopy, fiberglass cowl, wing tips, instrument panel, seat bucket, as well as the ABS interior panels, wheel fairings and tail surface tips.

. . . . . \$970.00  
crating . . . . . \$25.00

**5) Engine Accessory Kit**

Includes the propeller, prop spinner, bulkhead, thrust plate, alloy engine mount and fuel tank . . . . \$320.00

**6) KFM 107 Engine Kit**

Includes engine, carb, assembled exhaust system, regulator, starter solenoid and manual . . . \$1,250.00

**7) Basic Instrument Kit**

Includes Deluxe airspeed indicator, 20,000 ft. altimeter, combination tachometer-cylinder head temperature gauge, CHT probe and compass.

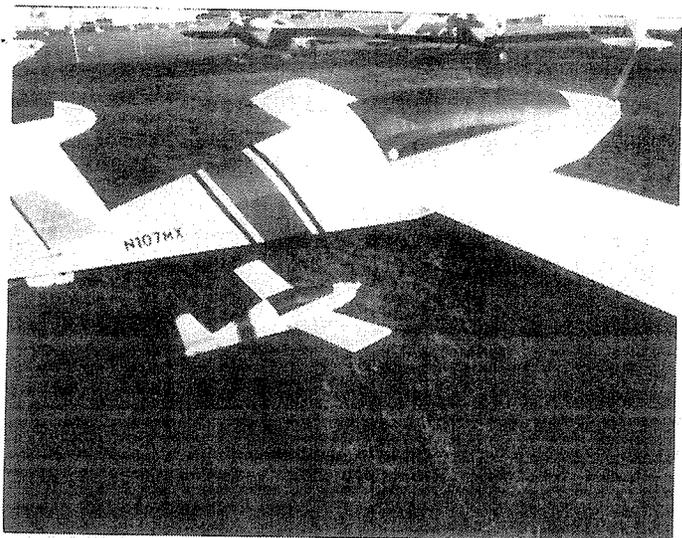
. . . . . \$375.00

Delivery time is approximately four weeks now on the basic Moni kit. Again, prices subject to change without notice.

The Moni Service Bulletin #1 was sent out the week of February 14th. It involves checking the main spar fittings for heat treating. (Related to Monerai as they use the same spar fitting) Since some of the fitting material was not properly heat treated by our extrusion house, we are recalling the fittings to be checked and corrected if necessary. Thank you for your co-operation in this matter.

**News From Builders**

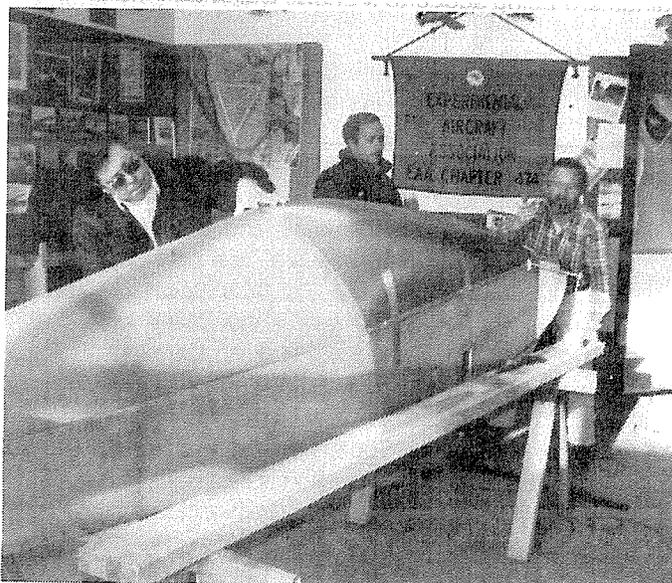
Mark Peterson  
P.O. Box 927  
Scooby, MT 59263



Mark is not a plan holder but a builder! He sent us this photo of his 1/5 scale model Moni next to our Moni at Oshkosh '81. It was finished within two weeks of the first flight of N107MX using a 3 view in Sportsman Pilot. Mark writes, "While I was setting up the photo I heard one fellow remark that it sure looks like the Moni's don't waste any time reproducing."

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Don Black #132  
7 Old Quaker Hill Rd.  
Monroe, N.Y. 10950



Here is Henry Law and "friends" working on Don's Moni. Progress as of Jan. 20.

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R.A. Keating #00130  
23615-52 Ave. E  
Graham, WA 98338

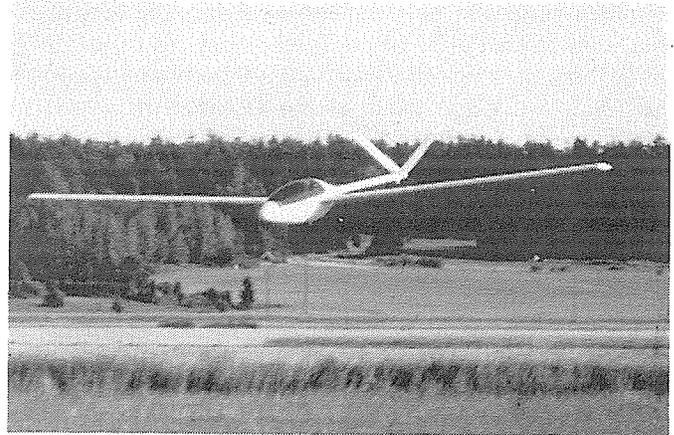
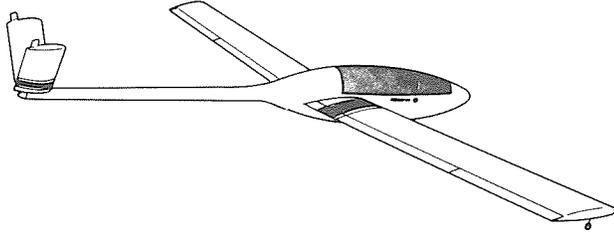
Robert writes, "...My neighbors four year old boy was watching me carefully attaching longerons to the Moni side

skin with double stick tape - then turned to me and said, 'When you fly, that airplane is going to come apart.' Well, now I know what to do with all those rivets!"

## First Flights

Ragnar Fries #303  
Angsvagen 27  
19630 Kungsangen  
SWEDEN

# monerai



In January we issued a Monerai Service Bulletin relating to a potential weakness in the spar fittings that was pointed out by an independent stress analysis. We have subsequently done static load testing which proved the fittings much better than anticipated. But we did see some spar web compression near the fittings which allowed the spars to deform at about 8.25 G's. Two simple steel plate fittings are being added to Monerai which will give an added margin to the wing joint. This is particularly necessary for Monerai's using the maxi wing tip extension unit.

Subsequent testing also showed some inconsistency in the heat treating of the fittings from our supplier. Since we now have our own heat treat test equipment, we are able to verify all new fittings and materials and test existing fittings. It is necessary of course to have our builders return their fittings for this testing and re-heat treat if necessary.

We appreciate the big headache this causes for our builders. But we are making every attempt to minimize the inconvenience as well as increase the safety margin of our products. We appreciate your co-operation. Monerai Builders have all been notified and should be sending back their fittings for testing. Once the fittings have been tested they can install the reinforcing plates from the plans provided by us.

We did not receive the photos of the static testing back in time for this newsletter. However, we will publish them in a short report in the next edition of Monink.

We finally received data back on our exhaust system for the KFM! We are integrating an improved design into our pod and that's all I can say for now. To all who are waiting for this KFM Engine, patience is the word!

We now have lightweight steel wheels available for the main wheel of the Monerai and Moni. Some of you heavier pilots or those flying off of rough fields, may want to replace your plastic one. Prices are: Monerai 4" - \$13.50; Moni 5" - \$18.00.



Ragnar writes: "I will send you some photos of my first flight which was very exciting. Everything works well and I have had no reason to adjust anything afterwards."

## News From Builders

Jim McCulloch  
121 Madeline Road  
Manchester, N.H. 03104

Jim is editing a Northeast Monerai Newsletter. He has planned a Get-Together on March 12th & 13th at Hartness House Inn, 20 Orchard St., Springfield, VT 05156. (If you are interested call the motel 885-2115 and ask for Cherrill Staudter for reservation.) They plan to swap photos, slides and building info. Jim has also planned a flying weekend on June 3, 4, 5 at Springfield Airport, VT. These meetings have an open invitation to all Monerai builders. So if you want to travel east, you are welcome. Contact Jim!

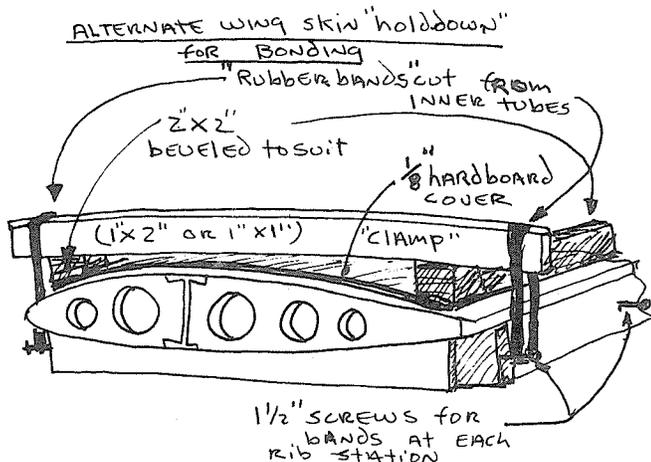
Thermal Flites, Inc.  
 RR3 Airport Rd.  
 Montpelier, OH 43543  
 419/485-5731

In the mid-west, Thermal Flites is going to have monthly Sport Contests beginning the first weekend in April, and the first weekend (rain date 2nd weekend) of every month thru and including October. Total points will be compiled after the Oct. meet and an award will be presented to the 1st, 2nd, 3rd place pilots at the Octoberfest which will tentatively be October 15th & 16th. Call for more information.

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### Builders Tips

Laurence Kelly #327  
 2 Dunree Park  
 St. Brendans Est.  
 Cooloch, Dublin  
 IRELAND



Laurence sends us this: This arrangement gives a perfect top wing surface and eliminates the need for sand bags. Also a lighter bench structure can be used. If wallboard is damped a few days before bonding it will take on the top correct shape. With this set up myself and my wife bonded one wing in two hours.

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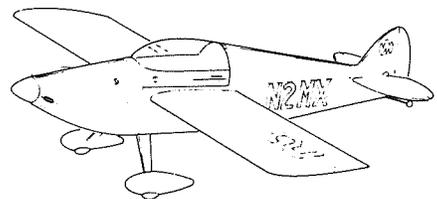
### For Sale

Steve Schrage #292  
 RFD Box 106  
 Bristow, IA 50611  
 319/864-3282 after 6

Complete Monerai Kit. Some work done. \$4,000.00

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# sonerai



Sonerai II LT is Here!! I know some of you have seen the sneak preview in Sport Aviation already. It has created quite a stir! Big news is it flies well, is extremely easy to handle on the ground, and didn't change the performance much at all. The retrofit is simple too. We did the retrofit to our existing airplane without ruining the paint job!

## SONERAI TWO HAS THREE! (Tricycle Gear that is!)

Now you can enjoy exciting Sonerai performance and economy with the flying ease of tricycle gear. Sonerai II-LT's superb visibility, ground handling, take off and landing characteristics allows low time tricycle gear pilots easy transition into this high performance low cost leader!!!

Among homebuilts in its class none offer the versatility of the Sonerai II-LT!!

Existing Sonerai's with conventional gear can be converted with a simple retro-kit. The folding wings and self trailering features are retained so you take it home!

### PERFORMANCE

	2180 c.c
Cruising Speed 75% (sea level)	150 mph
Top Speed (sea level)	170 mph
Stall Speed	45 mph
T.O. Distance - gross (turf runway)	700 ft.
Range 75% (with reserve)	350 miles
Rate of Climb	800 fpm

### SPECIFICATIONS

Span	18'8"
Length	18'10"
Wing Area	84 sq. ft.
Empty Weight	510 lbs.
Gross Weight	950 lbs.
Useful Load	450 lbs.
Fuel Capacity	10 gal.
Design Limits	6 g's ± Solo 4.4 g's ± at Gross

There have been some other changes in the Sonari Kits and prices. So I have included it here for you. This should be self explanatory. Tri-Gear Plans \$15.00. Tri-gear kit \$582.00. Available in April. For those already with Sonerai II plans and materials or with Sonerai flying, the Retrofit kit

is what you want. Total cost \$297.00. Includes the plans and everything you need to convert to the II LT!! Again not available until April!! Other big change is in the Fuselage kit. It now includes more items.

**PRICE LIST - FEBRUARY 21, 1983**

SONERAI	I	II	II"LT"
Plans, Manual and Pilot Handbook	50.00	75.00	75.00
Low Wing Modification Plans	n/a	15.00	15.00
Tricycle Gear Modification Plans	n/a	---	15.00
<b>(AVAILABLE APRIL 1983)</b>			
Wing Kit *	778.00*	798.00*	798.00*
Crating	25.00	25.00	25.00
Cherry Rivet Kit	163.00	163.00	163.00
Fuselage Kit * (1)	941.50*	1,041.50*	1,041.50*
Hardware Kit	130.00	168.00	168.00
Canopy * (Specify Bronze or Green Tint)	85.00	165.00*	165.00*
Crating	---	15.00	15.00
Full Cowling *	200.00*	200.00*	200.00*
Crating	20.00	20.00	20.00
Spinner Kit	52.50	52.50	52.50
Gas Tank	130.00	130.00	130.00
Standard Landing Gear Kit (2)	520.50	530.50 (3)	---
Tricycle Gear Kit (2)	n/a	---	582.00 (4)
Instrument Kit	395.00	395.00	395.00
Interior Kit	n/a	60.00	60.00
Seat Belt-Shoulder Harness Set	26.00	52.00	52.00
<b>TOTAL</b>	<b>\$3,516.50</b>	<b>\$3,905.50</b>	<b>\$3,972.00</b>

\* Must Be Shipped Motor Freight

- (1) Now includes aluminum turtle deck, canopy skirt, step, bearing block and stringer material, in addition to all X-moly tube and flat stock.
- (2) NOTE: Landing Gear Kits include formed main gear, wheels, bearings, tires, tubes, brakes, cables, ABS wheel pants and necessary hardware.
- (3) Add \$30.00 for fiberglass wheel pants.
- (4) Add \$37.50 for fiberglass wheel pants.

**SONERAI II"LT"**

Tricycle gear retrofit kit. Converts existing Sonerai's to new tricycle gear. Kit includes plans, compact ABS wheel pants, three tires and tubes, 5" nose wheel and necessary material and hardware.

AVAILABLE APRIL 1983 ..... \$297.00  
(Add \$37.50 for Fiberglass Pants)

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**First Flights**

Robert Van Scoyco #1023 IIL  
B977 Rd. 2 R. 1  
Deshler, OH 43516



First flight Nov. 4th 1982.  
Robert writes:

Nov. 29, 1982

"John and all the crew;

I'm happy to be able to write to you and tell you my Sonerai 2L is completed and the darn thing flies. I want to thank you and your group for your support on the project. Now for some of the facts about my plane;

I have plans #1023. I started building Feb. 3, 1981 and it was signed off for flight Nov. 1, 1982. The test flights were all done at Findly airport on a 6500 ft. runway. First flight was made on Nov. 4 by our chapter 636 designee Fred Broun. Fred has flown many different types of planes and he agreed to test fly mine for me. Fred came back from that first flight grinning from ear to ear and said he couldn't find one thing wrong with the plane except it was so slippery it didn't want to slow down. We didn't have to make any trim changes at all.....

After a number of test flights by Fred, I first flew the plane on Sunday Nov. 7. I went back on Monday morning and Fred and I spent the morning getting further acquainted with the plane. About noon I flew the 20 miles to my 2000 ft. grass strip and it arrived home for the first time.....

This was my first time to do many things with this plane. This was my first homebuilt, my first time to fly a homebuilt, my first time to fly a stick controlled plane, and the first time to fly a taildragger. Each time Fred flew the plane we would have a debriefing session on what was taking place. Fred concluded there was no plane available that would fly like the Sonerai so we decided to go this route. (I know this is not recommended procedure).

The plane weighted in at 512 lbs. and the weight and balance, I would say, came out about perfect. I used the finish process of 2 coats of Polyurathane varnish on the Dacron then 2 cross coats of John Deere Yellow Enamel on the whole plane for a total of 1 pt. of varnish and 5 qts. of enamel.

I'm enclosing a photo of the plane and a photo of my instrument panels. I built a higher structure for the shoulder harness so I put in a rear panel to cover the structure. The panels are white ash 1/8 inch veneer over aluminum,. The trim and interior are painted with a brown metallic enamel. I guess I've rambled on long enough but it's hard to stop talking about my Sonerai 2L."

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## First Flights

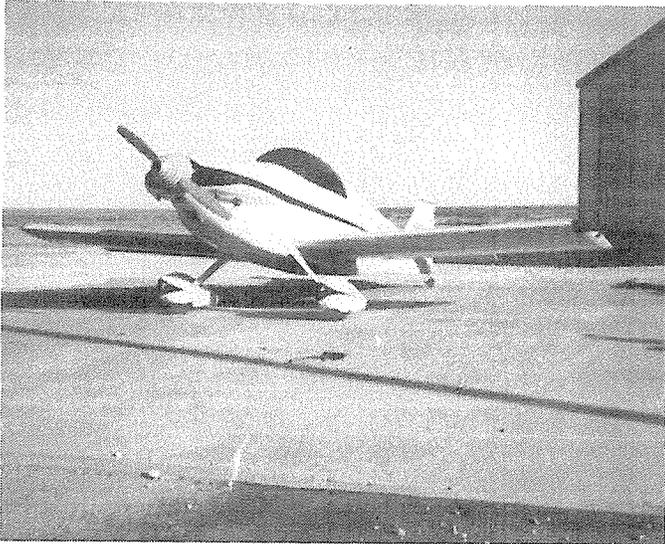
Fred Hauser #1087IIL  
Rd 1  
Johnson, KS 67855

First flight was January 12, 1983  
*Congratulations Fred!*

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## News From Builders

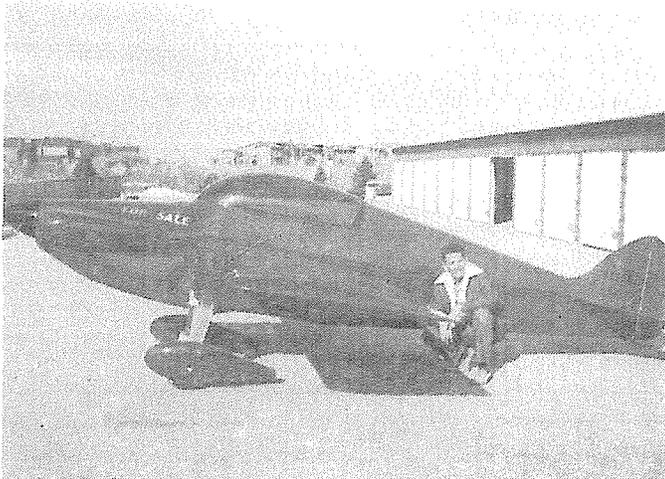
Leon Stovall #1025IIL  
208 Elm  
Dumas, TX 79029



First Flight was March 16, 1982, but Leon just sent me a picture. Total time 90 hrs!

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Bill Magee #616 II  
3082 So. Wheeling Way  
Aurora, CO 80236



Bill writes: ....snapshots of my Sonerai II which my wife chooses to name "For Sale". And I think she means now!

.Of course, it is not for sale. Getting some time in a citabria before I try my hand at flying "For Sale".

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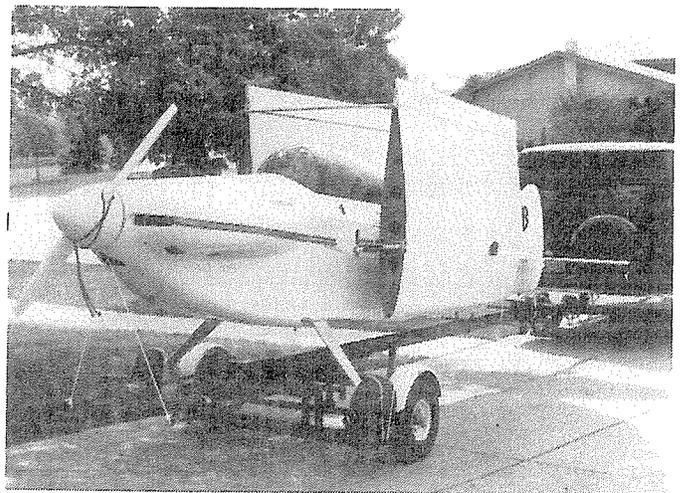
H.D. Mitchell #500IIL  
26 Tennyson Drive  
Beaumont  
South Australia 5066



This beautiful little airplane is permanently hangered until the Low wing variation of Sonerai is accepted in Australia by the Department of Aviation. (Thanks to you Low Wing pilots who have filled out a questionnaire for us. If you have a low wing with 80 - 100 hours on your airplane would you let us know and we'll send you a form to help out!)

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Pete Buck #425II  
154 N. Pass Ave. Apt. 109  
Burbank, CA 91505



Pete did not sell his little beauty after all and has it in CA now. The photo shows a modified boat trailer which has taken two airplanes to CA!

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Bob Schank #683 II  
35 Clarence St.  
Belleville, MI 48111



Bob sends photo of progress.

\*\*\*\*\*

### Wanted

William R. Woelpper  
1712 Cherrywood Apt.  
Clementon, N.J. 08021  
609/784-4211

Mr. Woelpper wants a completed and flying Sonerai III!

\*\*\*\*\*

### For Sale

Dan Seybert  
C/O Mary DePre  
6 Heather Pl.  
Millbrae, CA 94030

Sonerai II kit - 50% completed \$3,500.00

Mr. Seybert is ill with Alzheimers's Disease, a neurological disorder and his family needs the money to help him.

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Jim Palmer  
1842 Dogwood Drive  
Holt, MI 48892  
517/694-5503

Electro X Casting - New \$90.00  
Other miscellaneous Engine Parts - call for info.

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## NOVAK'S NUTS AND BOLTS

### MONI BUILDERS

**Access Panel** - In its original configuration, it is very difficult to obtain access to the mixer assembly, tailwheel springs, etc., after the turtle deck is installed. An access panel may be added to the fuselage bottom skin in this area to facilitate maintenance.

The size of the cutout shall be no larger than a 5" x 8" rectangle, with the corners having a 1 1/2" radius, and no closer than 1" to the mixer mount channel. An inspection hole of this size will not require a skin doubler.

The panel cover should be large enough to extend at least 1/2" beyond the perimeter of the sheet metal screws or machines screws and nut plates may be used. The panel cover can be made from .020" aluminum.

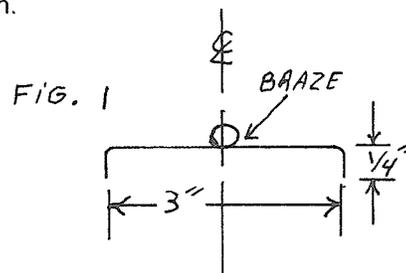
**Building the Stabilizer Structure** - When building and assembling the structure for the stabilizer, the dimensions called out on Sh. 4 (for correct positioning of the front spar relative to the rear spar) of the drawings must be adhered to. This is somewhat difficult while also trying to fit the skin. Filament type adhesive packing tape (or any strong tape) applied in a "X" pattern across the structure will help it retain its shape until you're ready to start drilling. Check your dimensions again for a final time before drilling.

**Electrical Wiring** - On Sh. 41, the tachometer wiring is shown incorrectly. The blue wire from pin 4 has a common terminal on the tachometer with the green wire from pin 6. There are only two terminals on the tachometer.

The tachometer switch is used to prevent failure of the ignition system, should the tachometer ever fail and ground out internally. In addition, at idle or low power settings, the tachometer will draw excessive current from the primary ignition source, preventing good spark at one of the cylinders spark plugs. At idle the tachometer is turned off, to prevent plug misfire or fouling, and is turned on again once engine RPM has been increased.

**Ruddervators** - On Sh. 4, it was noted to trim the inboard trailing edge tip as required to clear each other in full up position. Do not be concerned if you find no need to trim this area.

**Bending Spar Caps** - On Sh. 17, it is important to keep the rod directly over the center of the spar web to ensure equal bending of caps. One method is to bend up a shallow "U" channel from thin steel sheet, and braze or solder the rod to the center of it. (See Figure 1). The large "C" clamps need only to be placed 5" outboard from the root edge, one on each side. Use the wedge shaped backing plates (as shown on Sh. 17) to prevent damage caused by the clamps. Tighten the clamps evenly, frequently using a small square to check that the flanges will be 90° to the web. The flanges will have to be over bent approximately 1/16", and will then spring back to their correct position.



**Tail, Plastic Tips** - Install the ABS plastic tips in the same manner that the drawings show for the wing tips. That is, using an aluminum strip for backing material inside of the plastic. The ruddervator surface will have to be attached to the stabilizer so that the tip may be lined up and positioned correctly. Only cleco the tip in place, do not rivet until the pitot tube has been hooked up to the block.

### SONERAI BUILDERS

**Bending Fuselage Longerons** - The top and bottom longerons are bent inward at stations 29 1/2, 73 3/8 and 78 1/2. This is done after the sides have been squared up and tack welded around the cockpit area. Heat is applied and the longerons bent at the respective stations. On the midwing drawings, the bottom longeron is shown bent

several inches aft of station 73 3/8. This was corrected in the low wing drawings.

**Tubing Layout** - Sh. 3, Sonerai II plans, please note that the layout shown at the bottom of the page is the **bottom** view of the bottom fuselage truss. The top layout drawing is the **top** view of the top fuselage truss. It's easy to get confused when jumping between the drawings and the welding jig, so be careful!

**Longeron Splice** - Both top and bottom longerons are spliced to reduce the longeron tube diameter just aft of the cockpit section. The 5/8" longeron is inserted into the 3/4" longeron so that it extends a minimum of 1" beyond the most forward point of the angled cut.

**Horizontal Tail Spar** - Sh. 6, Sonerai II plans, there are six, 1 inch long weld beads shown on the tubular spar. After the beads are layed on, they are filed down enough to permit a snug fit when sliding the horizontal stabilizers onto the tubes. The 7/8 x .065 x 12 inch inner sleeve of the spar is held in position by bleed through from the main cluster weld and the one inch beads. A Rosette weld is optional.

**Posa Carb** - The needle/adjusting screw must have sufficient friction to prevent it from rotating and altering the fuel mixture. There have been several cases of the needle turning, even enough to cause in-flight power failure due to fuel starvation. If your adjuster requires no effort in turning, contact the manufacturer for instructions. Otherwise, a single repair is to carefully peen several of the threads to provide some friction. In addition, the fibre inserts (that the needle passes through in the slide) could be loose. Several have been found sticking partially out into the carb throat. Again, contact the manufacturer for repair procedures.

*Randy Brown*

We are feeling very fortunate lately as it is the end of Feb. and no big snows or bitter cold yet this winter. Nothing to complain about there! My big complaint has been our house. It is a 20 yr. old house in a beautiful wooded lot just outside of Oshkosh. I asked for a dishwasher and ended up with a total remodeling job of kitchen, living room, dining room, garage! If any of you have done any remodeling you can have great empathy. We began the project the end of October and the kitchen has been "gutted" for four weeks now. We have managed eating and washing dishes in the laundry room. The end has come of the prepared meals in the freezer along with the end of the family's patience and good humor! I am doing the newsletter as my last piece of work for a few weeks while we paint and put ourselves back together. I Hope!

As if that's not enough, the shop here is all torn up while Pat and crew seal the floors and fix up an office for Pat out back.

Remember that phone calls for technical questions are taken between 4 & 5 PM C.S.T. For builders who have specific technical questions for our staff please call then.

Spring will be just around the corner and we hope to see you all flying around Here or There. Maybe at Sun N Fun, maybe here at Wittman field. Remember June 25th -our M.E.A. Fly-In. Plan on coming and bring a friend!

So long for now -

*Betty Monnett*

9/83  
Franksville, WI 53126  
11429 Six Mile Rd.  
Frederick Keip SII#356L



monnett experimental aircraft, inc.  
p. o. box 2984  
oshkosh, wisconsin 54903

