



The Newsletter of Monnett Experimental Aircraft, Inc.

JUNE, 1984

Dear MEA Friends,

Can it be that the Fly-In season is finally upon us here in the Mid-West? And the Biggie is just around the corner? Yes! Yes!

#### **EAA Ultralight Convention**

This Little-Oshkosh is here on Wittman Field, June 15, 16, 17. We will be open all that weekend from 9 - 5. **Saturday, June 16**, will be our annual MEA Fly-In over here on our side of the field! So fly-in, drive-in, bike-in but DO join us for an informal gathering of MEA builders and their "birds". We'll arrange some kind of picnic lunch for you and of course our coffee pot will be on as always!

John will be giving a forum Sunday morning at 10:15 at the convention site. I should add that EAA members and immediate family can park free and get into the gate free by showing their membership card!! Not a bad deal. So come on up for the weekend - see you Saturday!

#### **EAA Oshkosh '84**

We have even begun to make some plans for the Main Event - Oshkosh '84!! I'm sure you all have the dates marked on your calendar - **July 28th thru August 4th**. John will be giving two forums over in the Forums tents this year. Sunday at 10:15 - New developments from Monnett Aircraft. Wednesday at 10:15 - Sonerai, Monerai, Moni-An Overview. We will again have a booth in the south exhibit building C-12. Our shuttle service will also be in effect to get you back and forth to our building on the inside of the field. I know you are all waiting to hear what kind of surprises I have in store for John at this year's party! Well Folks, no belly dancers this year, but ya'll come anyway!!! Annual Builders' Party **Sunday night, July 29th**.

#### **New Information Package**

Alas, the new Aircraft Builder's Catalog and Aircraft Kits booklet are finished! Printed with a few little errors here and there (like 3-views sideways) but ready for you! If you are an MEA Kit builder and need new updated information, please let Carol or Livia know and they will get some off to you immediately. We do urge you to get the most current information and price sheets. There have been some changes in the kits and in the options and accessories which are available.

If you have an "aircraft builder" buddy or are in an active EAA Chapter with builders, urge them to take a look at our Aircraft Builder's Catalog. We have really revamped it. New lower prices, new products, something for everyone!!

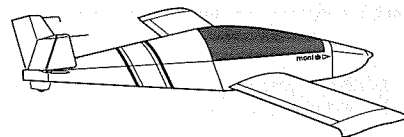
We have been in the aircraft supply business for over

10 years now, as long as we've been in the Kit business. However, most people think of us as selling only our Kits and we would like to change that!! So urge your friends to take a look. The Supply Catalog is only \$2.00 for postage and handling.

#### **Incentive Program**

I just want to mention that our incentive program is still in effect. This program enables our builders to receive a commission for selling a complete Sonerai, Monerai, or Moni Kit. If you have never received this information and are interested, just drop us a note. Also existing incentive program persons should have received the new info packs by now. If not, be sure and let us know.

# moni

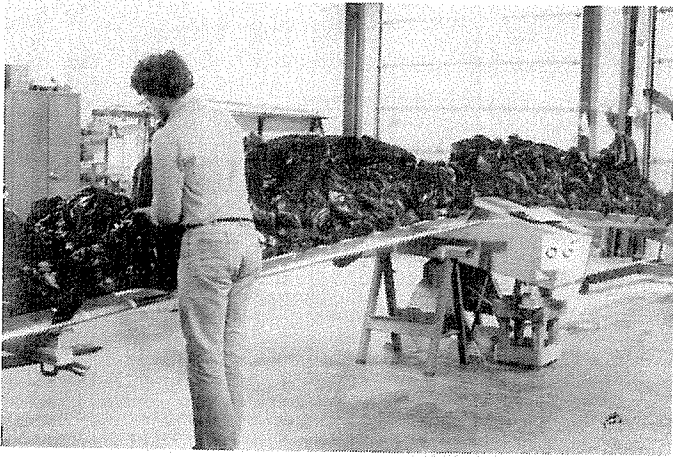


#### **Moni Riveted Wing Structural Tests**

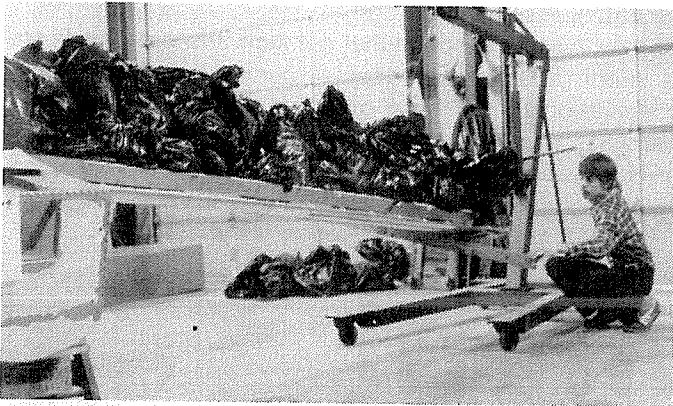
R & D recently performed Structural Static Load Testing on a completely riveted Moni. Altho an actual static test is not required in the U.S., the documentation helps for Foreign Approvals. It is also reassuring to look at the actual structure instead of just "paper".

Since the airplane is essentially symmetrical and negative loading is one-half the positive load, only positive loading was investigated. A full 6 G's yield (limit load factor) was used. This was consistent with Moni specifications and with FAA prescribed values. (for aerobatic category aircraft) Previous spar tests have indicated a safety factor of 1.5 over the values used. (9 G's) At the completion of each test no structural deformation was found and everything returned to its previous unloaded status. These results give added confidence in Moni's design, construction, and structural integrity when flown within its envelope.

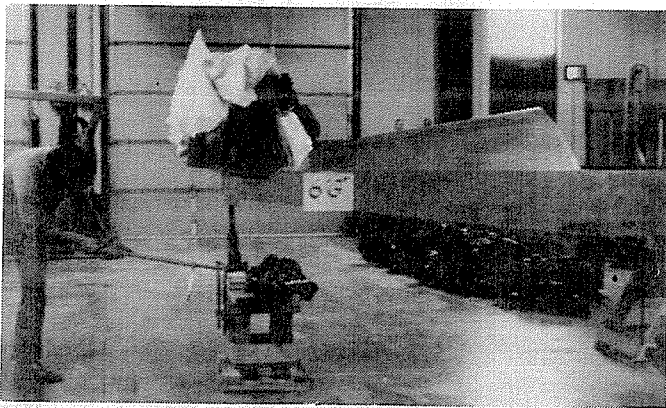
Photos show the various stages of the tests. Individual fixtures had to be constructed to hold the different aircraft components for the testing. This was very time consuming as you can imagine and involved building the airframe and fixtures and setting everything up for the various tests.



Randy putting on last sand bag for 6 G wing test.



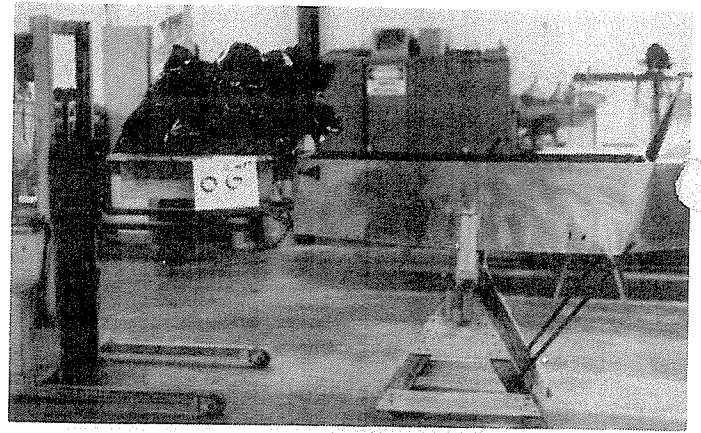
Mark releasing the load. Done at each end at the same time.



Randy removing support for the horizontal tail tests.



Set up and testing vertical surface and aft fuselage.

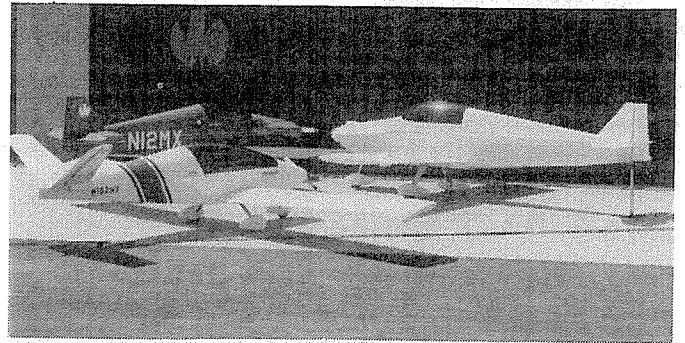


Motor mount and forward fuselage loaded.

### Midi-Wing Version of Moni

Many of you will remember the Mini-Moni we built a few years ago which had a set of short wings with a 15½' wing span. It was determined during the flight tests that these wings were very fast in roll response but that the lack of h.p. would drastically reduce the climb performance. John felt this Mini wing version was not acceptable for low time, heavy pilots and that a larger h.p. engine would be necessary. Therefore the concept was shelved.

Presently John has been flight testing a set of Midi riveted wings with a 21½' span on the prototype tri-gear Moni. It is anticipated that, as larger engines may become available in the not too distant future, this sport plane version of Moni could be another option to our builders. Although John is flying these short wings with the standard KFM 107, he emphasizes the point that the shorter wings will only be available to our builders if larger or upgraded h.p. engines become a reality. Perhaps at Oshkosh? So builders don't be too anxious to saw off your wings. The standard long wing remains as the best option for all around performance.

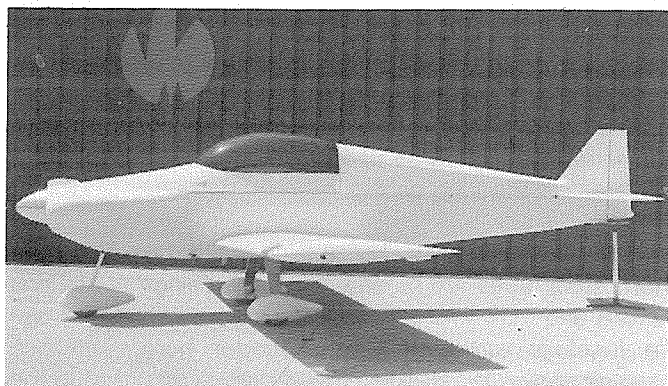


Midi-Moni and friends.

### Moni Shoulder Harness Attach Modification

We now have an improved shoulder harness mount system for the Moni. The present triangular mount bracket is removed from the seat back station and re-attached to a cable which goes all the way back to Moni's rear bulkhead. This provides better retention in a forward impact situation as may be experienced in an accident. The tail cone will now absorb the energy in retaining the upper torso on impact. The installation is extremely simple. All that is required is the swaged cable assembly and drilling one hole in the rear bulkhead plate. The swaged cable and hardware kit is available from us to convert your existing

you read this it will have flown! Plans are almost complete. Don Hardy had been working diligently on both the tri-cycle and standard gear version of this Sonerai Two, Low Wing, Stretched airplane. The photo shows it prior to the final engine installation. That and the final trim paint will make it complete. We expect to have its debut at the Ultralight Fly-In.



Stretched Sonerai less engine and green!

### Sonerai Model B Wing

The Sonerai "B" Wing is an updated version of our standard wing that was developed for the stretched Sonerai. The only difference is that it incorporates two more ribs in each wing panel. To avoid confusion with the kits all new Sonerai Wing Kits delivered will be "B" wings. Plan drawings will be included with the kits for those of you who already have your plans. To update your price lists, the B Wing Kit is now \$890.00

### Other Kit Changes

Our Spinner Kits now include the spinner, backplate, bulkhead, and mounting hardware for \$69.00. Mounting hardware is now also included in the Cowling at \$216.00. The Sonerai Fabric Kits no longer include final color paint. Our Stits Fabric Kit is \$300.00 and includes: Fabric, Poly-Brush, Poly-Spray, Poly-Tak, reducer, finishing and reinforcing tape. There were so many different color options available we decided to include everything you need up thru the aluminum coat in our kit. We are developing a long range turtledeck tank for the stretched Sonerai that will be adaptable to other Sonerai versions. It will be approximately 8 gallons, extend your range about two hours, and fit in the turtledeck behind the head rest. Available soon for \$100.00.

### VW Engine Book

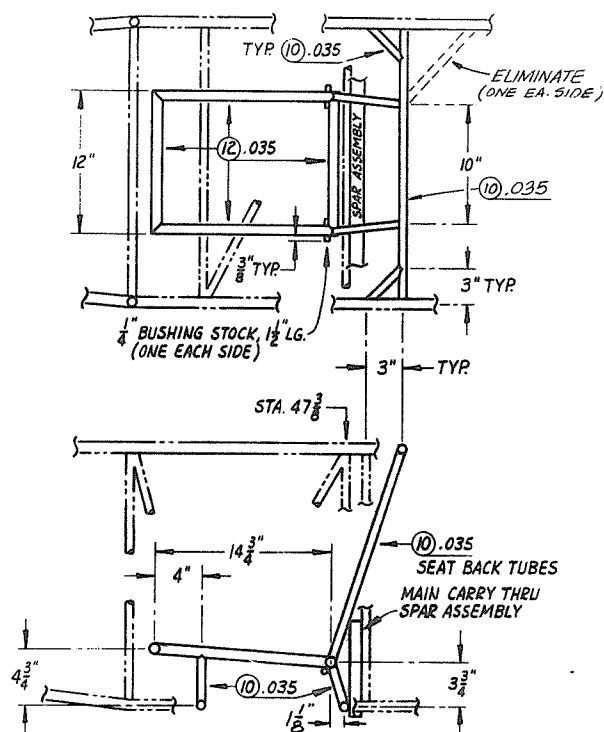
The very popular VW Engine Book that we used to sell is back in print again!! It is now revised and called "Engines for Homebuilt Aircraft & Ultralights" by Joe Christy. There is a large chapter on the Monnett Conversion System written by Greg Erikson. We have many in stock now for \$7.95!!

### Front Seat Modification Drawing

Sonerai II Low Wing builders have an option for their front seat back. The suggestion for this modification came from one of our builders: Dennis Brannon, Sonerai IIL

#545 from Racine, WI who had come up with this idea for his own Sonerai!!

### LOW WING PLANS NOTES



SEAT MODIFICATION DETAIL  
(ADDITIONAL ROOM IN FRONT SEAT)

As shown on the accompanying drawing, the back of the front seat has been sloped aft and its attachment has been modified. This offers substantial increase in front cockpit comfort for taller pilots. Not only is it easier to get into but the reclined seating position is much more comfortable since you don't have your nose in the instrument panel! John feels that after this modification, it was almost unnecessary to do the Stretched Version. All of our prewelded fuselage assemblies now incorporate the seat modification as standard. You may want to shorten the front stick torque tube approximately 5" so the front stick is moved aft to eliminate a long reach for the front pilot.

### First Flights

Dave Zeidler #223IIL  
2390 Steven Road  
Baldwin, NY 11510

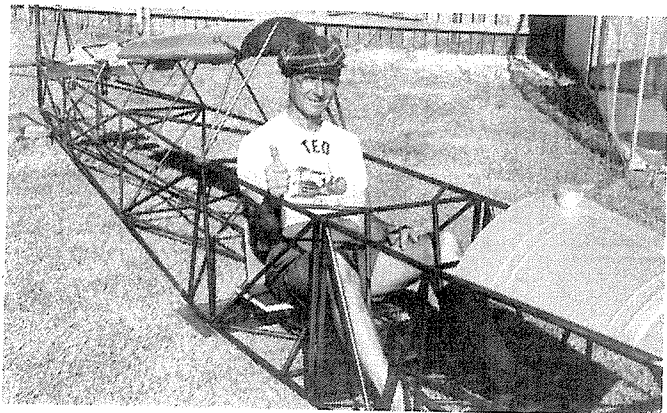


First flight - January 29, 1984

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## News from Builders

E. A. Furby #109911L  
4 Winston Ave.  
Bass Hill, N.S.W.  
AUSTRALIA 2197



The caption on the back of this picture reads: "First flight attempt. For some reason it failed to become airborne. Back to the drawing board!"

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## What's Up, Novak?

**Sonerai, Mounting Tabs** - Throughout the fuselage, tabs are used to retain the cowling, access panels, etc. If you prefer to use machine screws and nut plates as fasteners the size of the tabs should be increased to 1 inch by 1 inch, as the original size tabs may not allow enough room for mounting the nut plate.

**Sonerai, Axle Bolts** - As specified in the plans the 3/4 inch axle bolt is shown to be 6-1/2 inches long. When the axle assembly finally gets bolted to the gear leg, the width from the wheel pant mounting plate to the axle end may exceed the width of the wheel pant. The axle can be trimmed off as required so that the pant can slide over the assembly without stretching the pant out of shape.

**Sonerai, Fuel Strainer** - Normally the fuel strainer, gascolator, on a Sonerai is mounted on the forward side of the firewall. The problem is that this location exposes the fuel to the engine heat as it passes through the cowling. It has been common practice for builders to insulate the gascolator and fuel lines that are in the engine compartment in an effort to prevent the fuel from over heating, bubbling and causing intermittent or long term fuel starvation.

Another way to keep the fuel cool is to mount the gascolator on the rear side of the firewall, and have minimum length of fuel line exposed in the engine compartment. A standard, small gascolator will fit in the center of the firewall below the magneto box area, between the rudder pedals. The fuel quick drain can be remote mounted on the forward side of the firewall, accessible by reaching into the cowl outlet from the bottom, and fed by a flexible fuel line from the gascolator. The 1/4 inch I.D. aircraft fuel

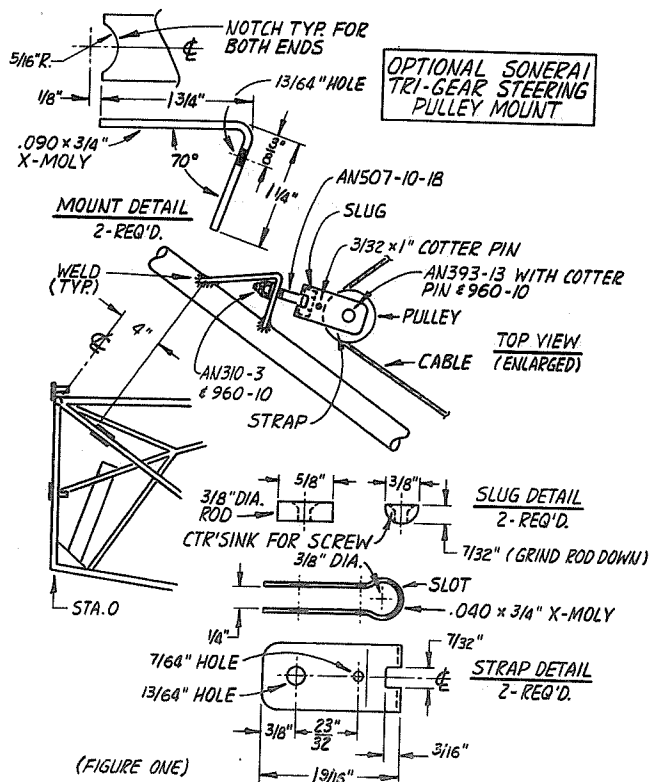
hose with the braided stainless steel external reinforcing (MIL-H-58089) is ideal for use between the gascolator and carburetor as it has high temperature limits and a small bending radius. The hose normally is used with MS style fittings; however, with the Sonerai fuel system the standard hose fitting and hose clamps work well.

**Moni, Wheel Brake** - The Standard Gear Moni kits are supplied with an 8 foot length of 1/16 inch stranded cable. This cable is used with the housing from one of the 5 foot cable and housing assemblies to form the wheel brake cable assembly. The 5 foot cable that was removed from that housing can then be used as the trim cable or one of the tailwheel steering cables.

**Sonerai, Cable Guides** - Nylon fairleads that are fitted into short, steel tubes are mounted in the fuselage at stations 73 3/8 and 154 3/8 to guide the rudder cables through the fuselage structure to the rudder horn. The two fairleads shown for station 73 3/8 can be mounted to the underside of the rear crosstube for the rear seat. This will raise the cables up a few inches and not allow them to rub on the diagonal and cross tubes back through the fuselage.

If your structure is already built, some sort of precaution should be taken to prevent the cable from chafing on any tubes. A piece of vinyl tubing with a 1/2 or 5/8 inch I.D., split down the center, and then tied to the tube works well.

**Sonerai, Tri-Gear** - The original method of mounting the nose wheel steering cable pulleys has worked satisfactorily on our own tri-gear. However, here is an alternate method that will allow the pulley to be self aligning and makes provision for tension adjustment on the steering cables.





shoulder harness assembly. It is highly recommended you make this modification, as well as the crotch belt-five point system mentioned previously in *Monink*.

## News from Builders

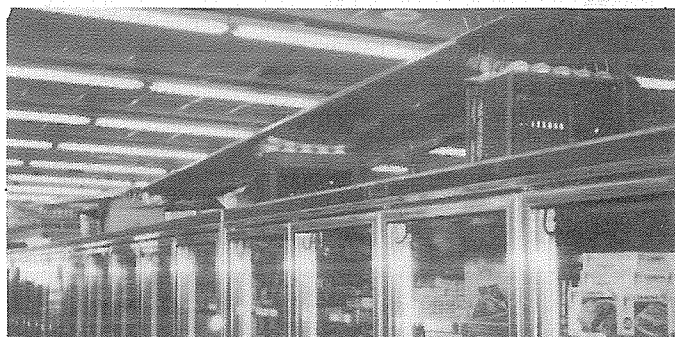
R. P. Williams #180  
M. S. Lawrence  
Denford Manor  
Hungerford, Berkshire  
ENGLAND



Moni in front of Denford Manor!

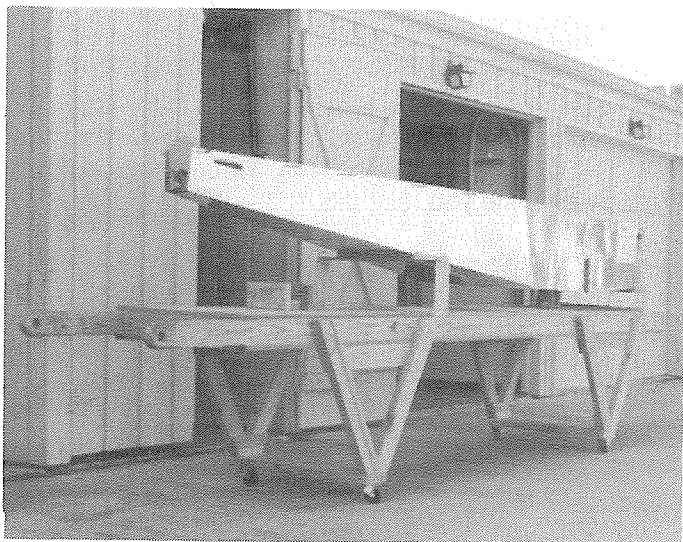


Upstairs workshop in the market.



Downstairs in the Market. Look closely at these photos. This is no ordinary grocery store!! Rather unique storage of parts I'd say!

\*\*\*\*\*  
Alan R. Paulsen #134  
1447 Fountain View Dr.  
Houston, TX 77057



Moni mounted on high-speed work table.

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Steve Golden #148  
4304 Lankershen  
North Hollywood, CA 91602

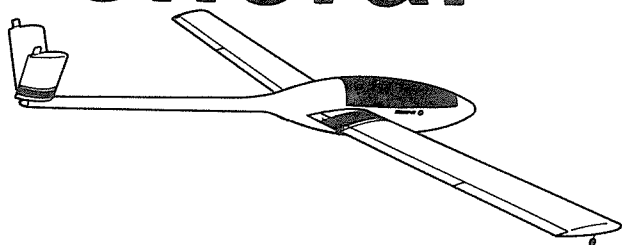
## For Sale

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Bill Liscomb #217  
Box 357  
Solana Beach, CA 92075  
619/436-0716

Glider Gear Moni. Wings prepped by Panel-Air. Restrictions flown-off and ship de-bugged. Ball Vario, VHF Antenna. Extras, spares, and system refinements. No trailer, Reason for sale - wants glass sailplane.

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# monerai



## Koenig Engine Progress

At this writing the second generation Koenig Cowl is in the fiberglass shop. We are awaiting its return to do some comparison testing. R & D is working on better ground cooling for long taxi runs. Expect to see the Monerai Pod at the Ultralight Fly-In! We are shooting for availability at the Big Oshkosh!! More photos next time.

## "Soaring" Article

Word has it that there is to appear an article written by Virgil Paggen, Monerai #172 from Granby, CT, in the June issue of *Soaring!* Virgil wrote this article about building his Monerai "many moons ago" but we are assured it is to appear soon.

## Springfield Fly-In

Be sure and save the last weekend in June to head out to Vermont for the Monerai Fly About. I'm sure that Jim McCulloch who has organized this event is looking for a fleet of Monerai's but wouldn't mind if some of you Moni builders were there too!! For further info contact: Jim McCulloch, 121 Madeline Rd., Manchester, NH 03104.

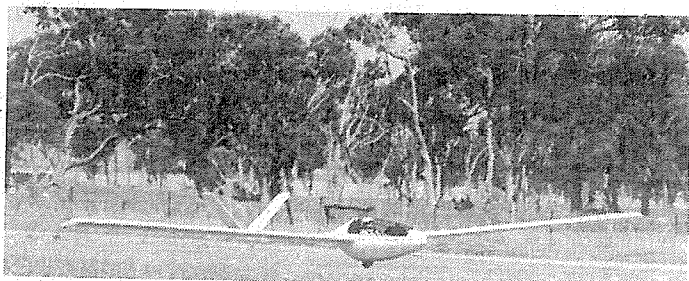
## Sailplane Homebuilders Workshop

We just received word from Dave Hudnut that the Eastern Region workshop has been set for August 18-20 at Ceasar Creek Soaring in Waynesville, Ohio. The main presentations will be Saturday and Sunday with a visit to the Air Force Museum at Wright-Pat on Monday.

For more information contact: Dave Hudnut, Eastern Region of SHA, 951 Bridge Road, Schwenksville, PA 1973

## First Flights

Bob Russ #260  
42 Clarks Road  
East Keilor, Melbourne  
3033 Australia



1st flight on February 26, 1984. First Monerai in Australia to fly!

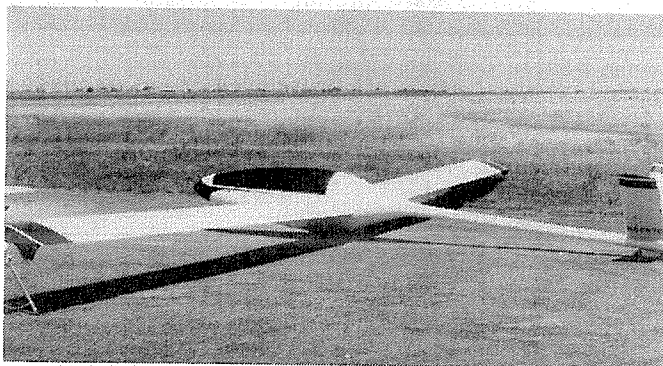
Feeling of satisfaction  
after first flight.



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## News from Builders

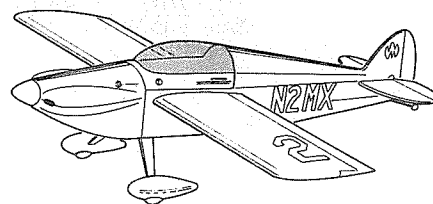
Tom Sleeper #162  
1410 Bay Shore Drive  
Garland, TX 75040



Tom writes that he had his final inspection: "Am waiting for this obnoxious weather and my days off to stop coinciding. Have her hangered at Caddo Mills, TX and hope to have flown by the time you read this."

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# sonerai



## Stretched Progress Report

The Sonerai II LTS first mentioned in March/April 1984 *Monink*, is about ready for its maiden flight. Perhaps as

The only welding required is when the attach bracket (see Fig. 1) is welded to the diagonal fuselage tube. The pulley bracket can be formed cold or hot around a piece of 3/8 inch rod stock in a bench vise. A 3/4 inch long piece of 3/8 inch steel rod stock is flattened slightly on one side for easier drilling. A #11 hole is drilled and then counter sunk with a 100° cutter for the head of the AN507-10-18 counter sunk structural machine screw. This acts as the pivoting point for the pulley bracket so the screw shank must have a 1/16 inch hole drilled through it so that a castle nut and cotter pin may be used. The pulley is assembled to the pulley bracket with the clevis pin, washer and cotter pin. A 3/32 inch cotter pin is used as a cable guard to prevent the cable from jumping off the pulley, if the cable should become slack. The steering cables can be adjusted by adding or removing washers from under the nut as required. The steering cable tension must be set up so that there is sufficient tension to prevent nose wheel shimmy, but not too much so as to cause excessive wear on the pulleys, cable fairleads and rudder hinges. The tension can be checked by measuring the cable deflection in the center of the cable length between the pulley and rudder pedal. It should require approximately 4 pounds of pull to deflect the cable 1 inch. The tension is correct for either the standard pulley arrangement or the previously described alternate method.

*Randy Novak*

## New Items for Sale

Kit Info Packs and Supply Catalog	\$ 5.00
Supply Catalog Only	2.00
Seat Belt Pads - New!	26.00
Available for all airplanes. Wide pads to slip over belt ends and give added comfort for tightly adjusted seat belt and shoulder harness. Set of 4 pads. Made of black "cordura" nylon.	
"Engines for Homebuilt Aircraft & Ultralights"	7.95
Book by Joe Christy	
Sonerai Model "B" Wing Kits	890.00
Now for all Sonerai versions.	
Sonerai Fabric Kits	300.00
Sonerai Turtledeck Tanks	100.00
Moni Shoulder Harness Modification	15.00
Swedged cable and hardware	

### Moni Interior Accessories

More new items that enhance Moni's cockpit and give that professional finishing touch. Black is the standard color but custom colors are available for an additional charge of \$5.00 (One charge for all items ordered.)

Moni Document Case	12.00
Moni Seat Cushion	67.00
Moni Stick Boot	10.00
The "boot" covers opening for the stick in the side panel. Velcro opening for stick inspection.	
Moni Side Pocket	10.00
Attaches to the ABS side panel to carry miscellaneous items. Has elastic opening to keep them secure. Made of black leather-grain vinyl.	
Moni Head Rest Cushion	15.00
Provides more pilot comfort especially while taxiing. Velcro's to an aluminum plate on canopy cross bar.	
Moni Tie Down Set	\$ 17.00
Three custom designed straps for securing wing and tail when it is necessary to tie down. (Ground anchors not included.)	
Moni Seat Belt Pads (Set of 4)	26.00
Duffle Bag	15.00
Custom zipper duffle bag designed to fit under your legs in the rudder pedal tunnel. Two may be used.	
Interior Package Special - All 8 items above	155.00
Monerai and Sonerai Canopy Covers	62.00
Now available! Made of soft, white, synthetic, water repellent fabric that won't scratch the canopy. Has adjustable straps. Used for protecting canopy when plane is tied down outside. Will help control the temperature in the cockpit and keep tampering to a minimum!	
TR-720 Communication Specialist Radio	
Builders, Note! We do offer a special price to all MEA builders.	
List \$795.00 MEA Catalog Price \$698.00	
Builder's Price - \$650.00	

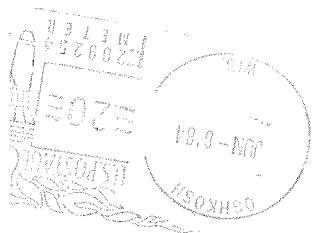
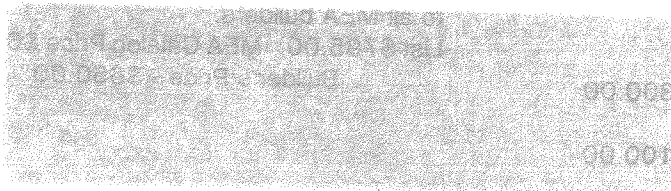
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Moni is on the cover of *Glider Rider Magazine* June, 1984 issue! There is within a nice article about Moni by Dave Martin - "The Moni Motorglider. Not an Ultralight ...and not meant to be." Dave came from CA in March for a few days of test flying, snapping photos, and swapping stories. You might want to pick up a copy on the newsstand.

Speaking of stories, the homespun variety ... Oshkosh is a great baseball town, as many of you know who have flown over the city during the Fly-In and noticed the "hundred or so" diamonds. We have just returned from the twins' Cub Scout Baseball Game and luckily they are a winning team as MEA is their sponsor again this year. Last year they won the league play and came in second in the tournament at the end of the season. John told them as they lost their 1st game last year to "turn in their shirts and caps!!" Something must have clicked then because they haven't lost a game yet this season.

From the land of Baseball,  
Fishermen, Boats, and Airplanes!!!

Betty Monnett



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

