

# INAV LTJ INK

September/October 1986

Dear Friends,

Great News!! INAV is having a sale!! All newsletter subscribers should have received a green flyer in the mail explaining our INAV Holiday "Take Off" Sale! The "Take Off" Ticket is worth 15% off with any order placed from now until Dec. 24, 1986. (Does not apply to KFM or Konig Engines) Now is the time to make out your Christmas List!! Or to treat yourself to your own gift!! If you did not receive your flyer, notify the office and they will see you get one right away.

## **New Items For Sale**

### Limited Supply Items - not listed in our catalog.

We have enclosed a flyer of items that we have in inventory but are not listed in our Supply Catalog.

This includes miscellaneous Aluminum Tubing, Strip & Bar Stock, Channel, Rod, Chrome-moly Tubing & Stock, AD rivets, and 3/4" binders we no longer use for our manuals. Look over the list and see if there is anything you can use. I might mention that our catalog was revised July 1986. If you are in need of a new one just ask for one on your next order and we will include free of charge!!

## New Polo Shirts



At last we have new polo shirts !! As you can see they come with Sonerai, Monerai, or Moni on them. As you can not see they are green with white lettering! ( What else? ) For now we are only offering adult sizes S,M,L, XL. They are 50/50 and do not seem to shrink much. Price is \$14.00 each.

We still have a supply (of some sizes) of the old T-Shirts and you can still order them. There are many Children's sizes left so now might be the time to order (with 15% off) for Christmas Stocking Stuffer!!

## New Hats

We also brought out new hats for Oshkosh 86. They are bright green with the same black patches on them but the patches are sewn on and look terrific!

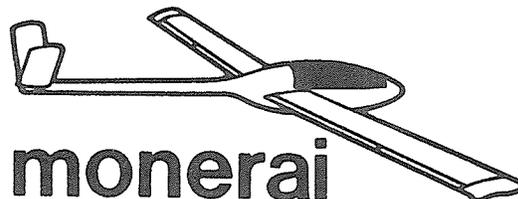
## Builder's Workshop

As of this printing, no definite date has been set yet. But we do hope to have another workshop this winter. Hopefully the end of January or first of February will work out. Check back with us during December, we should have a date picked soon!!

## KFM 112

KFM has confirmed that the 112 will be in limited production before the first of the year. It will be 60 hp, 4 cycle engine, with a list price of about \$5500.00. (This engine is not intended, nor is it all at suitable, for the Sonerai by the way.) Due to the limited supply of these engines in the beginning, we have not planned an extensive sales campaign for right now. More information will be available in the near future.

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## News from Builders

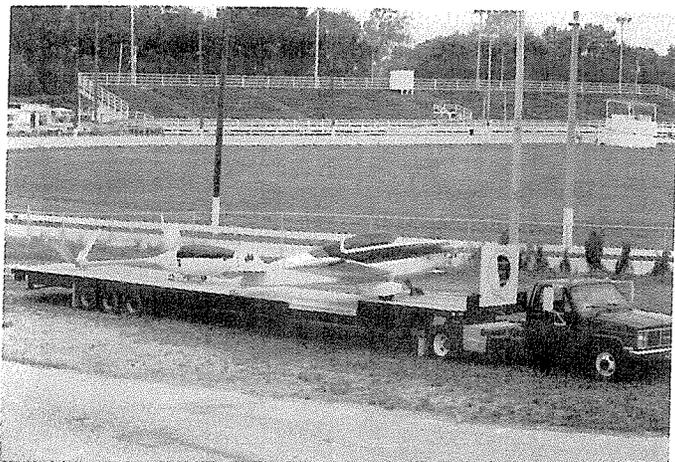
Lars Hillstrom #295  
 Brandstromsgat 10 B  
 S-903 54 Gavle  
 SWEDEN



Again we find the trio of Monerai's at the airport in Gavle during August of 1986. Mr. Hillstrom wrote about their experiences. "I am a member of a group of EAA-builders who have operated a Monerai aircraft with the Zenoah engine since 1982. The aircraft is just beautiful but the engine has given us quite a lot of problems. We therefore changed to a Konig 3-cylinder engine. We are using a Swedish built fixed pitch propeller. This is the first Monerai aircraft that has been supplied with the Konig engine in this country, and the Monerai builders in Sweden have followed the project with great interest. Enclosed please find a photo from a recent Monerai Fly-In in our town. ...."

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Jim Mahoney # 46  
 703 Milton Ave  
 Anderson, IN 46012



This photo of Jim's Monerai on a trailer for a Shrine Parade-EAA Float-came from Chuck Stottlemeyer. That is his beautiful Sonerai II #59CS!

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Kjell Masch  
 Hagaveien 10 c  
 Oslo 9  
 NORWAY

Kjell sent us a status report of the Moni and Monerai Kits being built in Norway. As of August 1985 Kjell reports:

Dag Jensen -Oslo : Fuselage: 80 % Wings : one finished/ other wing 30%. Will fly early next year.  
 (photo)

Tore Paulsen -Oslo Fuselage 90% Wings: not started. Top quality workmanship.

Leif Lysand - Bergen Just received kit and beginning to build now.

Henning Lundstrom - Ordered kit and anxious to receive.

Haavard Maelum - (Monerai) Good Progress after report from the Chairman of EAA.

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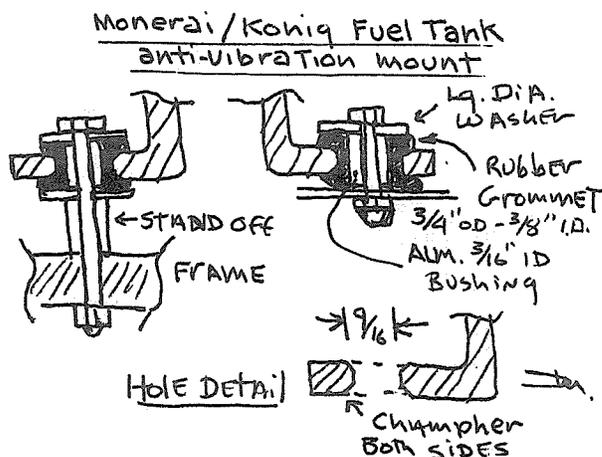
## Builder's Tip

Ray Bussey #56  
 6363 Pineridge Road N. E.  
 Calgary, Alberta  
 Canada T1Y 1M4

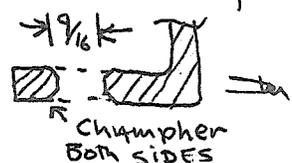


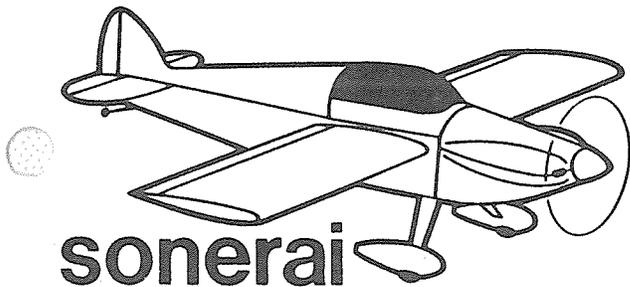
"When lifting the wing structure in to the wing skin during bonding, have two persons one at each end hold the skin open and also each hold a pin up through the bottom rear end skin rivet holes. This allows the spar structure to be aligned with the pins and dropped into its final exact position without disturbing the epoxy. These pins can be made from a wire coat hanger and look like this....."

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HOLE DETAIL





# sonerai

## First Flights

E.W. C. Cunningham SII #60 LTS  
 14622 Quail Haven Lane  
 El Cajon, CA 92021



This is the first Stretched to fly!

"I flew the first flight of my Sonerai II LTS on Sept. 8, 1986 from Brown Field in San Diego. Taxi tests showed that the plane was very responsive to control on the ground, and after a couple of high speed runs, during which the plane begged to fly, I lifted it off for a half hour flight in the local vicinity. It flies great, and is in good trim without any correction. Building time a year and a half and about 1200 hours. ...."

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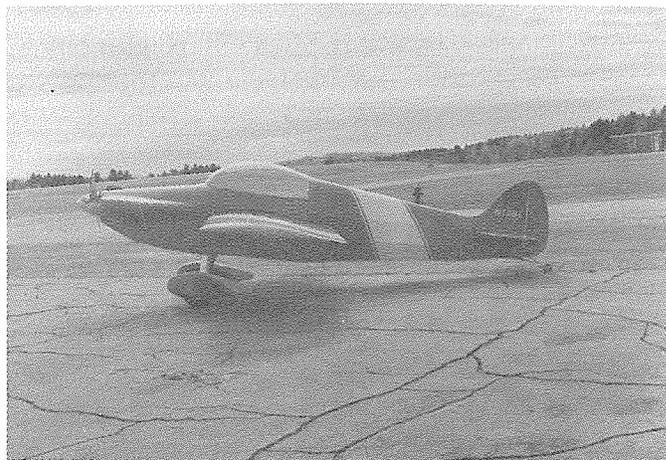
Ed Hasch SII LTS #38  
 1202 Surrey Court  
 Algonquin, IL 60102

Ed writes: "Sonerai II LTS #38 first test flight was on Oct. 18, 1986 at Lake in the Hills Airport. It went very well.... Engine is a 2180 CC VW Aero Vee Conversion. Aircraft was constructed as per plans except for the addition of an elevator trim tab. Construction started in Dec. 1984 and was completed in Sept. of 1986. In June of this year we moved from NJ to IL and because I wanted to get the first flight

in before the cold weather, it was quite an effort. My wife Sandy should get all the credit since I did nothing but work on my airplane since I started the project....."

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Bruce E. Lewis SII #1329  
 Box 502 RR2  
 Gorham, ME 04038



From Maine comes news of Bruce's Sonerai II: "Four years of work (aprox. 1200 hours including engine build up ) and Sonerai II N12BL is in the air. First flight was on 10/10/86 and now has 12.5 hours. Other than a trim adjustment and a broken distributor cap have had no problems. Handles great. As you can see the cowl has the tell-tale bump for the 009 distributor. I would caution other builders to make sure that the distributor cap has adequate clearance as I did have the back of the cap contact the bump and break at the retention clip tab while playing with the timing. I have set my timing at 7.5 degrees static.

I have made a few minor changes from the plans. Elevator trim is a two cable system. A belly pan has been installed for easy access to a removeable elevator pushrod guide, master solenoid, trim cables and antenna mount on bottom of turtle deck. A starter is installed along with a "large" motorcycle main battery (mounted just behind the rear seat) for starting as well as a small backup one at the aft inspection cover. Heel brakes with the standard wheels brakes are utilized. Mixture and carb heat are both provided. No ballast was required. Wings were riveted with AD rivets instead of pops. The spar mod is installed along with the later style aileron counterweights. I built up an engine from all new parts primarily from Claude's Buggies..... One word of caution to others ordering from them: watch out for back

orders and I finally had to get my rocker shafts from SCAT since two sets from CB would not fit (holes not spaced properly).

A few Particulars:

Engine - 2180cc balanced, comp ratio 8.25:1, posa supercarb, primarily conversion parts from GPASC, rest either from INAY or homemade.

Prop - Ed Sterba

Cover /finish - Fabric is Stits H590X with pinked tapes, Polybrush and Polyspray topcoat is Aerothane Eagle Purple/Lemon Yellow trim.

Cruise at 780# is 140-155 mph depending on the amount of fuel I want to burn and the amount of noise I'm willing to live with.

Empty weight - 553 pounds.

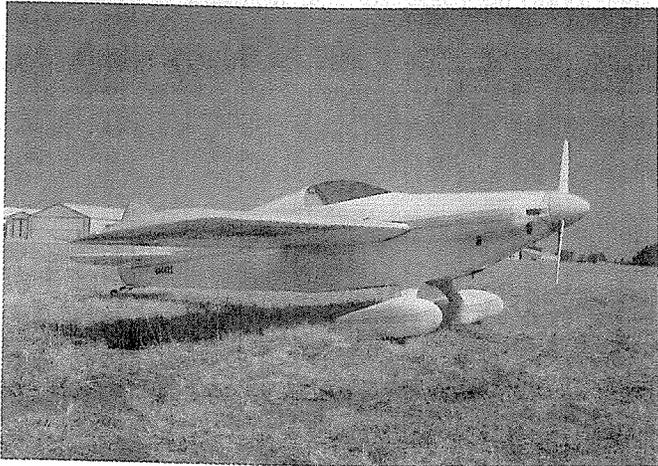
I'd like to thank John and Randy (wherever he is) for taking the time to answer my questions and giving advice during construction....."

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Marvin Brott SI #251

1317 Seminole

Richardson, TX 75080



Marvin's Sonerai I was first flown in 1978 and was repainted in 1984. In looking back thru Fall/Winter 1979 newsletter just for fun, I rediscovered he won Best Auto-Powered award at Oshkosh 1979.

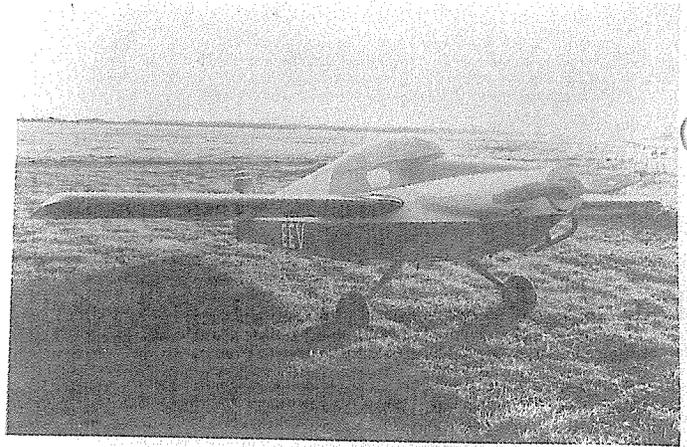
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Nevill Cameron S II #257

P.O. Box 3

Coromandel

New Zealand



Nevill writes of an interesting experience with his Sonerai:

" I am writing to tell you that I purchased the first Sonerai II constructed in New Zealand. It was built by a Royal New Zealand Airforce ground crewman. It has a 1700 Super Vee motor with a 2 in 1 Bendix Magneto and apart from occasional hard starts, runs perfectly. ....was very well constructed, with probably more corrosion proofing than any other ever. When purchased, ZK -EEV had only 40 hours total time..... I found it very difficult to find a tailwheel aircraft to learn on, so I had only 1 hour tail-dragger time when I first flew EEV. Apart from holding on the ground too long during taking off, I have had no problems, and consequently was able to teach myself how to fly in it. I would say that the Sonerai is easier to fly than a Cub and will take-off and land much shorter than anyone believed it could being well able to land in 500 yards and take off in considerably shorter distance. It has astounded many local members of the New Zealand Amateur Aircraft Constructors Association as well as myself. I decided that I might as well have a flying holiday around New Zealand and clocked up 22 hours and covered about 2500 miles including many long sea stretches. As the radio had died I was unable to fly through controlled airspace. It shows how much faith I have in the Sonerai! My only criticism is, that it being midwing and having no dihedral or trim, it has to be flown all the time..... The builder was originally plagued with overheating problems and hacked the cowling around before finding the gages were faulty! I don't have spats on EEV as the grass where it is hangared is too long and rips them off. I feel that with a new cowling and spats it would go like a rocket....."

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Fred Bainbridge SII #749  
37 Limerick Road  
Royersford, PA 19468



Fred's First Flight was in 1982 but he did recently send this nice long very newsworthy letter!

"Like the old saying goes, better late than never. I have been flying my Sonerai II since 1982 and I am just getting around to sending you a picture of my plane. I have approximately 250 hours on my Sonerai II and enjoy every hour I fly it. I would like to thank you for designing such a super performing airplane. I would like to pass on a few helpful hints to other Sonerai builders.

#### 1. Engine Cooling

I feel that many problems with the VW Engine are related to Engine cooling and fuel starvation. I never really had a problem with the cylinder head temperature or oil temperature on the 1850 CC VW I use. The cylinder temperature would go to 400o F on climb-out and the oil temperature never exceeds 170o F. I feel the cooler the better so I cut small scoops in the cowling to force air over the cylinder heads and valve covers. I also installed a set of baffles under the cylinder heads. My cylinder head temperature never exceeds 350o F on climb-out and runs around 310o F at cruise. The idea for the baffles came from Ed Sterba at Oshkosh. If other builders are interested, just drop Ed a line, I am sure he would be happy to send the drawings. Ed also builds a fine prop if you need one. His address can be found in the Classified Section of Sport Aviation under Propellers.

#### 2. Posa Carb

The Posa Carb is an ideal Carb for the Sonerai because of its simplicity, but because of this simplicity, I found it almost impossible to get the

carb set properly at all RPM ranges. In order to get your engine running when it is cold you have to set the Posa extremely rich, as the engine warms up the mixture continues to enrichen because the air is thinner. When the engine is at normal operating temperature the mixture is so rich that black smoke pours out of the exhaust stacks. After 4 years of frustration this is what I did to cure the problem. This may not be the total answer but it sure beats black smoke pouring out of Exhaust Stacks.

The most important setting on the Posa Carb is the cruise setting. Tie the airplane down and have a few friends hold the tail of the airplane just for safety sake. Start the engine and allow the engine to warm up a few minutes then gradually advance the Throttle to the full open position. Make sure that the engine runs at least 3 minutes, this is to insure that the engine will stay running on climb-out. This should be done on the side of a hill to simulate climb-out attitude. With the engine running at full throttle turn the fuel valve off at the same time watching the Tach. The Tach should show a slight RPM increase as the valve is closed. At full throttle the mixture should be slightly rich. Okay, we now know the engine will run at full throttle, but as we bring the throttle back to idle the mixture is going to get increasingly richer because this is the way you have to set the Posa to get it to run and stay running when the engine is cold. To cure the extremely rich mixture at idle, I tapped a line into the Intake Manifold just above the Posa Carb, the line runs to a On/Off valve in the cockpit. When the engine runs rich at idle, I open the valve which allows air to lean the mixture. This valve can be used to get a perfect mixture at any RPM setting. I only use this valve on the ground, when I take off, I close the valve. This is my solution to the problems with the Posa Carb. Maybe someone else has a better idea. ...."

Fred finishes his letter by saying he would like to organize an East Coast Sonerai Fly-In next fall. Anyone interested out there might want to call him. 215/ 948-8363!!

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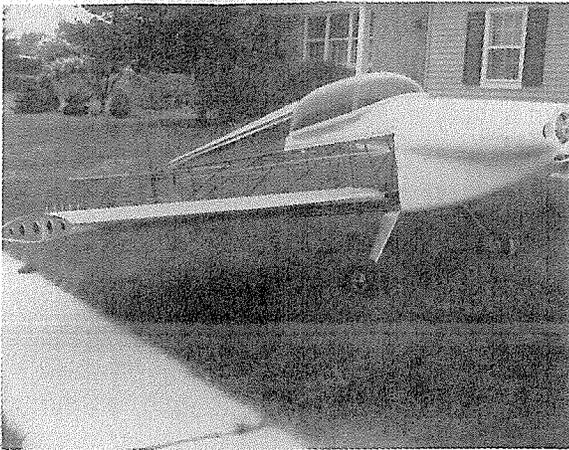
## News from Builders

Garry S Simmons SI #104  
2300 Old Tavern Rd. Ap 203  
Lisle, IL 60532

Garry sends us word from EAA Chapter #153 our old Alma Mater: "John , Chapter 153 had its 4th CAFE race 2 weeks ago without you. We had between 8 and 12 Sonerai in attendance out of 16 racers. Bob O'Day came in first for two place aircraft. ....We look forward to some "Factory Competition" next Spring form you. Thanks for the fun of flying a Sonerai I....."

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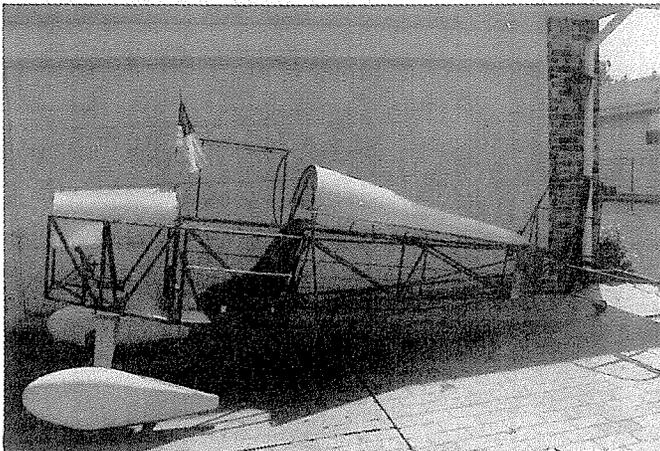
Joe Koch SII #1493 L  
23 Robinhood Drive  
Fallsington, PA 19054



Joe sent me a few pictures of his progress. Don't know if you can see him, but he is in the cockpit doing some "Front Yard Flying"!!

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Richard Badzinski SI #540 L  
7648 S. Pine Ave  
Oak Creek, WI 53154



Progress as of 7/4/86. Took me awhile to grasp the meaning of the flag until I transposed 7/4 to July 4th!!

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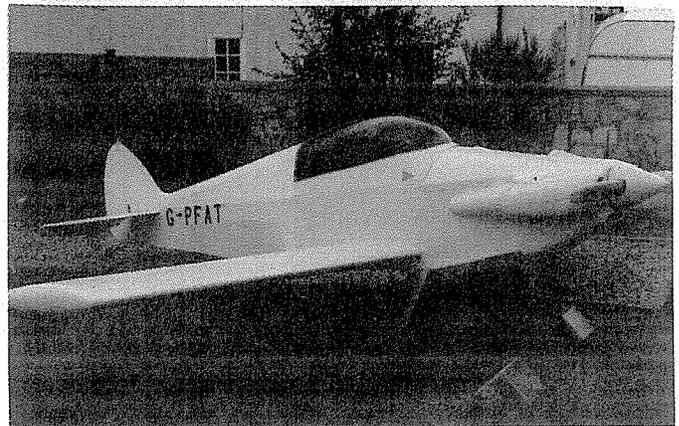
Milton Gordon SII #902  
24 Horton Road  
Orange, MA 01364



Milton hasn't flown yet but sure looks about ready!

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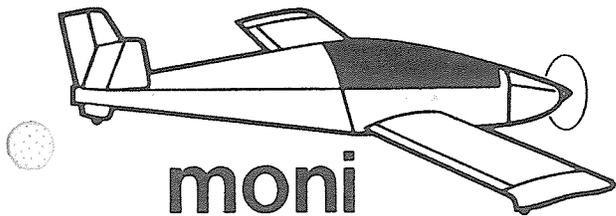
H. B. Carter S I I L #565  
Iwy Cottage 43 Front St.  
East Boldon , Tyne & Wear  
ENGLAND



With the photo Mr. Carter writes:

"I enclose photograph of my completed aircraft, and hope to fly it soon. The fuselage for my second Sonerai I will move into my garage for assembly soon....."

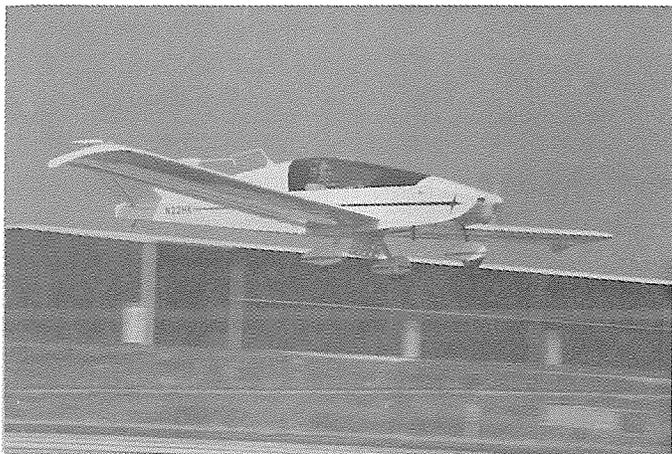
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moni

## NEWS FROM BUILDERS

Herb Kunz #118T  
19017 Crowley Road  
Harvard, IL 60033



Herb first flew #118 as a standard gear in August of 1983 and in August of 1986 wrote of his conversion to a tri-gear.

"Here is a picture of my Moni since the Tri-Gear conversion. Ground handling is very easy and the nose gear is very responsive when taxiing. The air brake is very efficient and reduces my ground roll approximately 20%. This together with the spoilers gets me down on the numbers even with a higher approach altitude. The spoilers and air brake work independently of each other. I made a separate pull cable bracket for the air brake and I apply this on downwind at 60 MPH. On base and final I use the spoilers for altitude adjustments with fully retarded throttle. Closing the spoilers and applying throttle will quickly give me any extra altitude needed for final touchdown. On landing, the ground effect makes for a very soft landing. However, on takeoff, it's best to follow the good pilot practice of letting the plane fly itself off the runway. Pulling it off too soon will only cause it to settle back on the runway."

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Ron Fischer #173  
1621 Norene  
Anchorage, AK 99508

Ron sent us this update about flying his Moni :  
" So far I have about 60 hours on it and have had no big problems yet. The engine still runs like a top and nothing has fallen off yet. I especially like flying it since I installed the spoilers. I took a little instruction in a sailplane and that convinced me about the spoilers. ....Since building the Moni, I have restored a basket case Ercoupe and built a Gyrocopter. Both are flying very well and if the Alaska weather would break, I might get a chance to put a few more hours on my Toys! It seems like I spend more time building and waiting for weather than anything. I guess that's the reason I have only put 60 hours on the Moni in the last two years....."

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Dag Jensen , Oslo, Norway



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Todeschini Verena  
Lurnbichl 39  
9851 Lieserbrucke  
Spittal/Drau,  
Karnten , AUSTRIA

I was excited to received a very interesting letter from Mr. Verena. It seems he has translated the Moni Tri Gear Construction Manual, 107 Maxi Engine Installation Manual, and our Moni Flight Manual into German for one of our plan holders , Bernard Pasteka of Vienna , Austria. As far as we know this is the first German translation of any of our manuals. (Some are also translated in Spanish)

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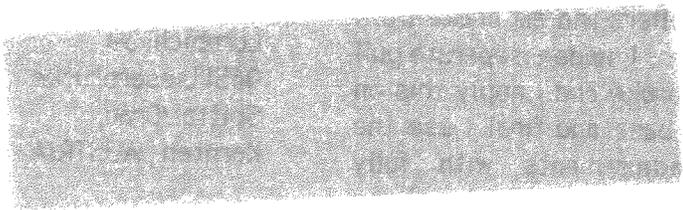
Changes ahead -

This is my last newsletter. It is with great regret that I tell you this is the last issue that I will be editor. Someone else on the staff will take on this position from now on altho as of press time we are not certain just whom it will be.

As time marches on, so do our lives and changes do occur. I had an opportunity to make a career change and to work full-time as a public relations person for a local agency called Supportive HomeCare. I began on October 20th. I decided the time was right

for me to make a change and to work full time in a new and very interesting field of HomeCare. The Public Relations background I have ..... the knowledge of HomeCare and this Agency I'm still learning and have a long way to go..... I will miss you all and as you can guess have had a few anxious moments about this decision. But I will still be in touch with you through John and I do hope you will still stay in touch with me. Keep sending your wonderful letters and photos addressed to Carol, Livia, or John for now.

Betty Monnett



Oshkosh, WI 54903  
P.O. Box 2984

