

INAV^{INC.} INK

JANUARY/FEBRUARY 1986

Dear Friends,

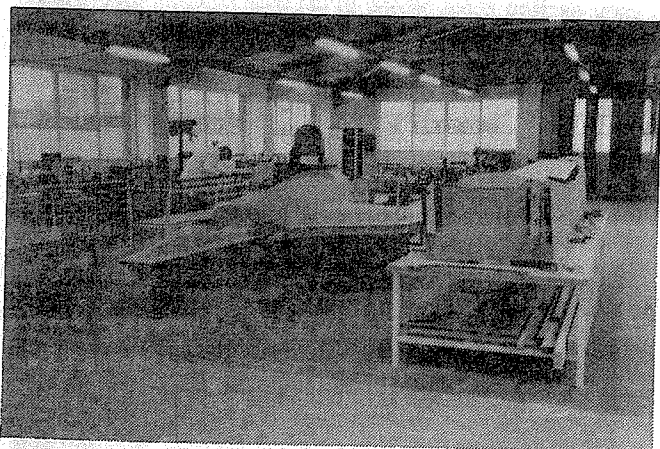
Now Wisconsin has been hit by an Ice Storm! Last issue I wrote in December during a big blizzard. Lo and behold today the schools are closed due to freezing rain and very icy road conditions (Ah those midwest winters). Once more I am writing this at home as I look out into our glistening woods with ice on every tree branch and bush. It is a beautiful sight and the boys and I are ooing and aahing. But then we do not have to venture out and can work at home, stay inside, and enjoy! INAV employees again braved the elements and kept the place running.

January 1986. It has been a busy month--and an interesting beginning to the new year. The month began with John traveling to Europe once again. This time he visited Aviation Composites in London, England; Konig in Berlin, Germany; and KFM in Milan, Italy. He was gone for only six days so it was a real whirlwind trip and strictly business. But he did manage to snap a few photos along the way.

Aviation Composites

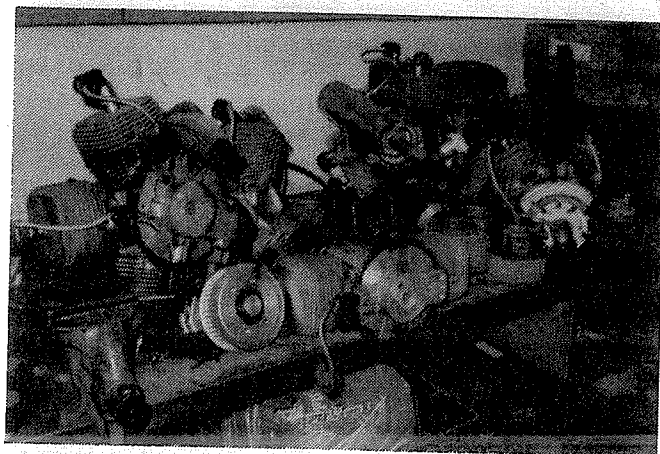
John met with Malcolm Lawrence at Aviation Composites. He saw their new facilities and talked with the employees. This photo shows the pattern shop at Aviation Composites.

The patterns for the Mercury are being worked on and the production tooling is being completed for these molds.

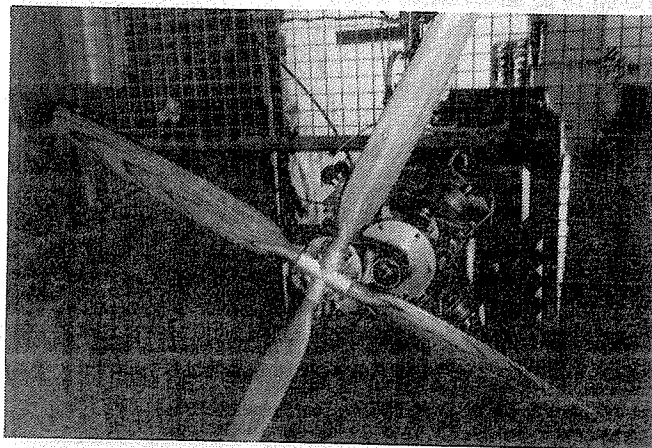


Konig

Next John and Malcolm spent a day with Dieter Konig in Berlin touring his factory and discussing his engines. They saw engines running, engine production, and the World Record Setting 2 cyl. outboard Konig boat engines.

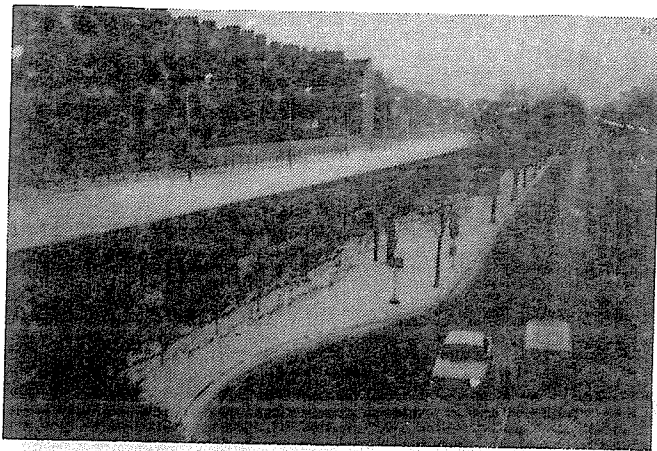


This interesting photo shows some of the R&D engines Konig has been testing using his modular concept. In the photo you can pick out, along with various other parts, a 5 cyl. radial, 2 cyl. opposed, 6 cyl. double (Siamese Twin) and a V-2 cyl.



The new 4 cyl. radial 50 h.p. prototype shown here on the test stand is now ready for limited production. Due to this limited production it will not be cheap but will make a very good engine for special applications. The good news from

Konig is that INAV will now be the U.S. distributor for Konig Radial Engines with a direct link to the factory. We think the Konig is an excellent engine for use in motorgliders and light aircraft. We have found the Konig Power Pod for Monera to be an excellent application.



This photo shows the Berlin Wall, a sobering sight only a few blocks away from the Konig Factory. The tall buildings are on the East side and there is much graffiti on the western side. This is the only sightseeing John did and he found it unforgettable.

KFM

The last stop on the trip was the KFM factory in Milan, Italy. Here John met with KFM President, Bruno Grana and the General Manager, Paul Conde. They discussed our being a service center, training a technician, and new engine developments. They did tour the facility and had a very interesting day. INAV currently stocks all of the parts required to service the KFM 107 Engine. We should have a trained technician on staff by March. Our supply catalog contains a full page of information on the KFM. Carol and Livia have a list of all the parts available and their prices. The KFM has been used on Moni since its inception and has proven to be an excellent engine!

Workshop

On January 18th, the week John returned from Europe, there were over 70 guests in our hanger for the Builder's Workshop. Many people this time were not building one of our designs but found the day very rewarding and the information helpful—as you will see by reading excerpts of this letter we received from an attendee:

"...First of all I must thank everyone involved on the workshop and to everyone at INAV that made me feel like one of the family. Every person at the workshop was treated nicely regardless of the fact if they owned an airplane (Yours, Brand X or none at all). This is very important to me for the reason that if I should purchase one of your plane kits I know I'll have 100% of your support to help guide me through construction and completion of the plane. John did a wonderful job at the presentation and covered the material very well. Maybe next year he can expand lectures to cover and go more deeply into wing construction and alignment and covering techniques to include actually covering a section showing the right way, wrong way and how to correct mistakes..."

Sonerai builders Carol and Dick Morrow are becoming a very familiar sight at these workshops. They have come to every one we have held since we moved to Oshkosh!! Carol says they keep coming because they always learn something new and useful, they enjoy the comradarie of homebuilders, and a vacation weekend in Oshkosh! This year Carol had her embroidery work with her and gave me a copy for the newsletter knowing you would get a chuckle out of it and might even want to do one for your house! See her Valentine's Day message on the back cover.

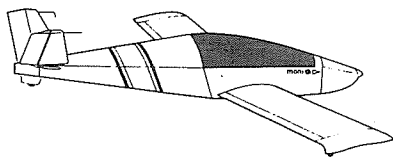


New Employee

That same weekend in January, Brian Bristol came to join our staff!! We welcome him and the new dimension he adds to our company. Brian is an Aeronautical Engineer and John is very excited about having Brian with INAV as they will be putting their heads together on some new exciting projects—for future certified aircraft.

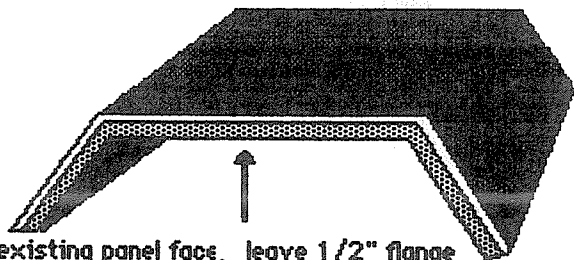
Brian was working for Scaled Composites in Mojave, CA prior to joining our staff. He has been putting up with much ribbing about leaving such a climate for our winters! But Brian is a native of Minnesota and grew up in Cottage Grove, a suburb of St. Paul. (In an EAA aviation orientated family.) He received his BS from Rensselaer Polytechnic Institute in Troy, NY. His first job was working as a Flight Test Engineer for McDonnell Aircraft Company in St. Louis. The February issue of Sport Aviation has a synopsis of Brian's Career in an article about recipients of EAA Scholarships. He has remained in the aviation field and also remained a private pilot. In fact, he is currently working on an instrument rating. Brian says, "I promise unbiased pilot reports on all the airplanes here as soon as John lets me fly them!" You will no doubt have a chance to meet Brian as he helps out at Fly-Ins and Conventions. I know you will enjoy getting to know him as we have—Welcome Aboard, Brian!!!

moni



Six Gallon Tank Installation Notes

When installing the six gallon fuel tank in the Moni, the standard instrument panel layout will have to be changed. The altimeter and air speed should be relocated in order to clear the top rear of the tank. An extra black ABS instrument panel will replace the fiberglass panel face (it may be screwed or riveted to the panel face flange). The new ABS overlay will maintain the "stock" look.



cut out existing panel face. leave 1/2" flange to attach new panel to.

News From Builders

Christopher C. Smith #114
P.O. Box 53
Waterbury, VT 05676

Chris wrote the following about his Moni project:

"I am the proud owner of Moni S/N 114, purchased from Mr. Paul Bounaito of Boston, Mass. I bought the plane on September 1, 1984, and began construction one month later.

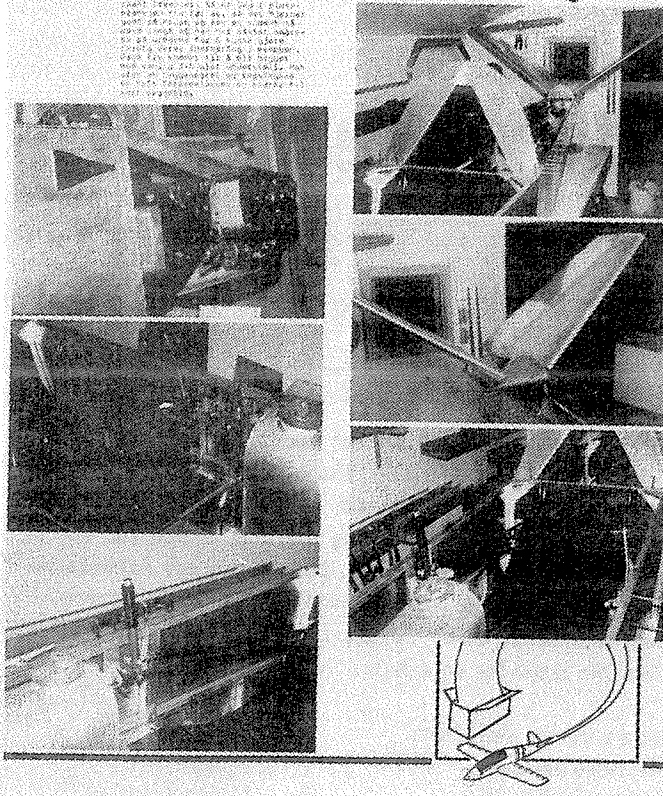
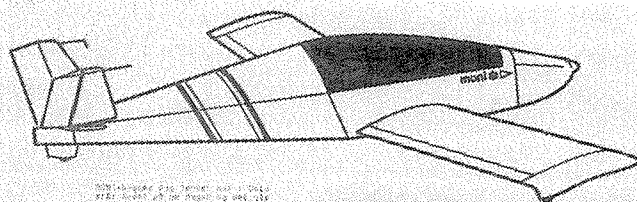
"Construction has moved inside for the winter, as I do not have a heated garage in which to work. I now spend my evenings fabricating smaller pieces, and by the end of winter will have a shop full. They go together fairly rapidly, though, and it seems like overnight a major assembly is done."

"I have completed both tail sections, about 45% of the fuselage, 40% of the left wing, and 25% of the right wing. The plans have been very easy to follow, and the mistakes that I have made have been due to pilot error and not errors in the drafting."

"I would like to take this opportunity to wish the best of luck to the whole group in the transition stage from MEA to INAV. I am very glad to see that business will go on as usual and that you will maintain the same level of outstanding support that I have experienced in the past."

Dag Jensen #328T
Lyngvn 508
Oslo 11
NORWAY

A Journalist & EAA'er in Norway, Kjell Masch, sent me the December 1985 issue of EAA Bulletin/EAA Chapter 153 in Oslo. He writes: "...One of the kits can you see in the EAA Bulletin I send you hereby. The pictures is taken in November and the builder is Mr. Dag Jensen. The fuselage is more complete now and the wings is well underway. He is very satisfied with the kit and the work he does is of top quality. This Moni will surely be an inspiration for many more interested in Homebuilding over here..."



Ed. Note: Unfortunately, I can't translate the paragraph shown here!

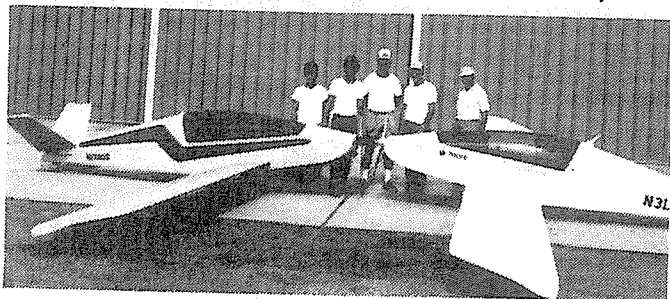
Gary L. Zeigler #23
5566 Denois Street
Columbus, IN 47201

Gary writes that as of December 1985 he has 100 hours flying time on his Moni!!! (First flow Oct. 1983)

Hy Gordon #138
5659 Beechnut Street
Houston, TX 77096

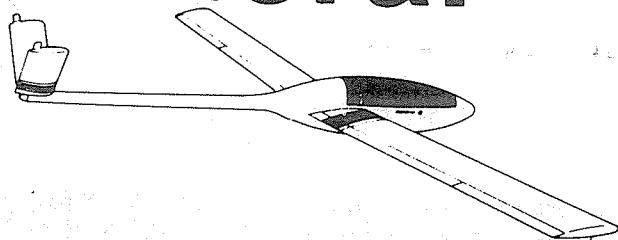
David Surbrook #139
17214 Mellow Ridge
Spring, TX 77379

Hy sent us this note with the some photos: "Here are some photos of the Mitey Mini Moni Airforce. Have plane will travel. . . We are all enjoying the Moni. . . Flies beautifully."



Eric Davis, Barry Gordon, David Surbrook (N138DS), Hy Gordon (N3LG), Louis Lechenger.

monerai



The first group of Konig Power Pods have been shipped out with more on order. We should be seeing some Konig Powered Monerai in the air this Spring!! There have been several inquiries about buying only the engine for use in other applications. Also about buying only the Accessories Package for those builders who already have an engine. Yes, this can be done. See the column on News of Items for Sale this issue for details on prices.

News from Builders
Nils-Ake Sandberg #253 P
Shonsmogatan 25A
SS-852 43 Sundsvall
SWEDEN

Nils sends the following account of happenings in his country:

"Dear Monerai People! As you know by now Swedes are a bit slow but now we have made it. For several years we have talked about a Monerai Fly-In and suddenly in August 1985 we did.

All three airborne Monerai were present on the apron of Gavle/Sandvallon Airport.

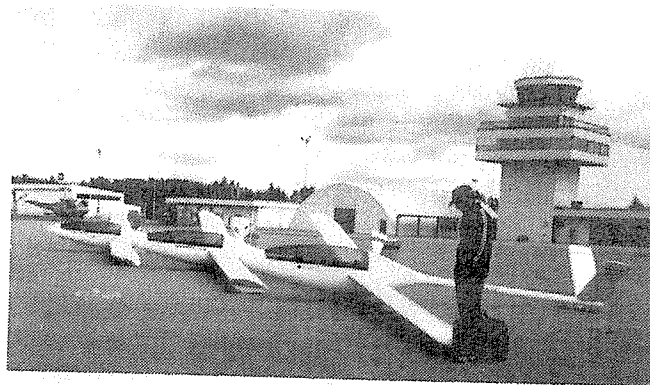
The wingman on the picture is Ragnar Fries, builder and pilot of the unpowered Monerai.

With the one built in Norway by now there is eight more Monerai to be airborne in the future. Who is next to fly?

There are some wing panels glued so watch out suddenly there is one more flying.

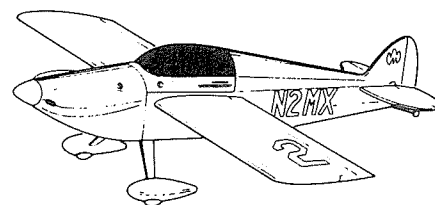
Monerai is a nice little sailplane with moderate performance just in the range we want it. But there is a need for a two seater version, powered as well.

Sorry to tell you that our airborne time is still very low. We have to modify a little to fit our conditions. Well the progress will come faster after our meeting it was really a vitamin injection. There is always a simplist way to do anything and we reach that point a bit faster I hope."



Monerai shown are: Ragnar Fries #303, Tommy Lundmark #295 P, and Nils Sandberg #253 P.

sonerai



Performance Wing Tips

We know there is still a lot of interest in the new wing tips! Don't despair. Our staff is currently working on simplification of the construction. They should be available later on in the Spring.

First Flights

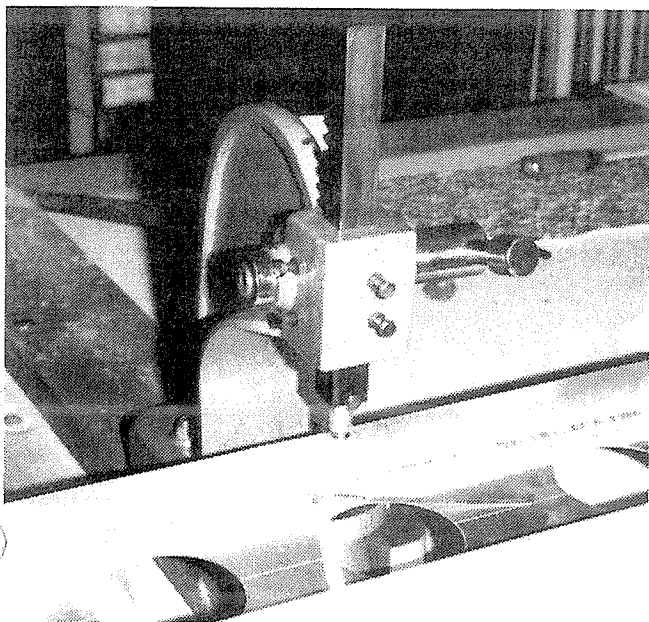
John Santonocito #1420 IIL
28 Wetherstone
W. Seneca, NY 14224

Bob Inglut #1410 IIL
218 Maryknoll Drive
Lackawanna, NY

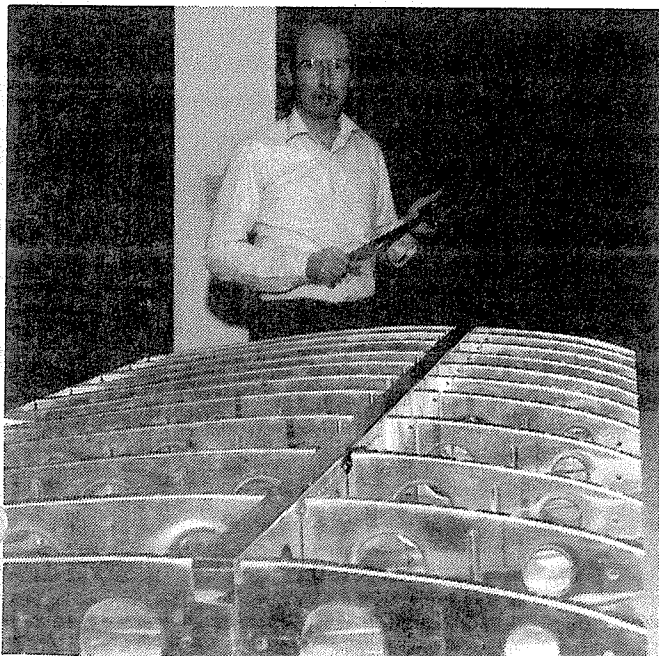
John and Bob first flew their "Look Alike" Sonerai in August 1985 right after Oshkosh. They began as taildraggers and both are now flying as Tri-Gears.

News From Builders
Allen Kruger #56 IILTS
7891 Thornwood
Canton, MI 48187

Alan sends the following tip with his photo: "a small inexpensive one or two ton Arbor press is very helpful for squeezing the 5/32 rivets when assembling the spar cap strips."



He also shows us the progress on his wings.



Charlie Terry #231
131 Boxwood Drive
Kings Park, NY 11754

News about Charlie again. I quote from the V-Gram (Jan Issue of Jim Villet's newsletter.) "Well, it looks like Charlie Terry is well on his way to becoming the second Formula Vee celebrity (after Steve Wittman, of course!!). A photograph of Charlie Terry's F-Vee raceplane "Beetlebomb" was published in the February, 1986 issue of "Dune Buggies & Hot VW's" magazine, the largest and best-known VW auto publication (look on page 98, just to the southwest of those tomatoes). Maybe this means we might get a little more notice from the VW auto enthusiasts in the future. After all, our Formula Vee raceplanes are among the very fastest VW-powered vehicles...especially considering the relatively stock engines we're using."

Ron Paulbicki #1664IIL
Wheel World
Niawa Star Route Box 334-A
Highway 34 East
Park Rapids, MN 56470

Began building October 28th, 1984.
First flight was November 6, 1985!!

Ron sent us this marvelous letter about his building and flying experiences and his love affair with his homebuilt project.

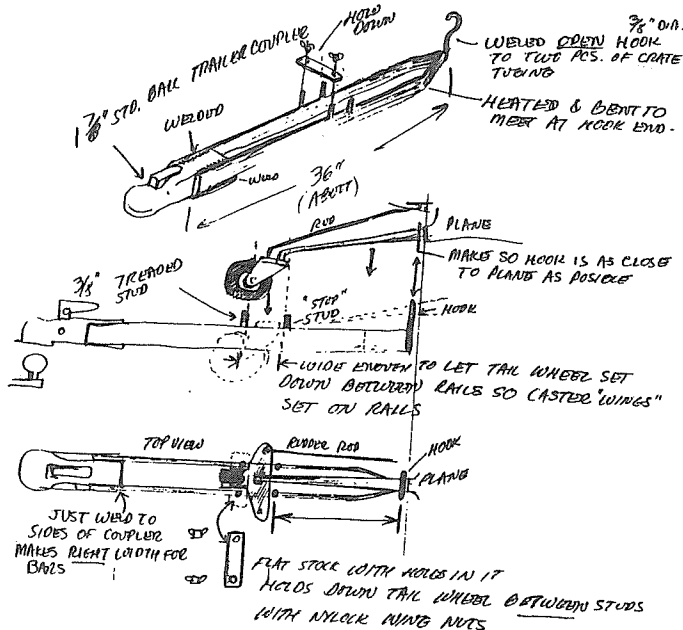
To All INAV (MEA) People:

Well it flies--and very well too! Pure fun and actually more performance than I figured on. I'm really glad I picked your Sonerai II to build. I looked at many different kits, plans, and info packs before picking your "kit". I think what sold me was looking at a Sonerai IIL at Alexandria that a Don Erickson built. It just seemed to fit all my needs and as it turned out, was as easy (if not easier) to build than some of the race cars I've built in the past.

Started October 28, 1984--flew November 6, 1985--actual time spent on building was 8 months.

I found your plans very easy to read and never "modified" or "redesigned" any part of the construction. The only changes I made were minor--used Cessna pitot tube under wing/battery and electric start/flight instruments on panel fitted to canopy frame (behind front seat) engine instruments on standard front panel. Also, Cessna (cut down) rear seat rudder pedals which I modified to make individual toe brakes.

For towing my plane I made a very simple tow bar which works great. I use it for holding plane to make power checks, etc. I used 1/2" x 1-1/2" John Deere (steel) crating material. All John Deere dealers have tons of this steel as all garden tractors, etc., come crated this way.



I've tried all angles up/on, etc., to get the plane to un-hook before I towed it, but when the tail spring and wheel is fastened to the bar, it won't come loose. I was concerned about breaking or bending the axle but I've taken many trips to the airport (3 miles one way) without any problems (wings folded).

To install I just lift plane up by bottom of rudder with my left hand--holding bar in my right--slip "hook" over tail spring axle--set tail wheel in between studs--hook-up to ball hitch--install hold down plate with wing nuts and off to the airport. Time: about 15 seconds (if your slow) Reverse to unhook.

I used a 2275cc Claudes Buggies engine kit. Used forged steel stroker crank--used your prop hub kit--made my own intake manifolds (complete) out of your 4 pc. exhaust pipe kit, and the exhaust out of another exhaust pipe kit. I used a 2 barrel carb out of a 85 h.p. Evinrude. I made an equalizer tube between the intake manifolds (to head ports). Used a (standby) electric fuel pump/installed primer system/used battery ignition/stock distributor and coil, also made a "carb heat" box/also cockpit "heater"/oil cooler

Here's some specs I've gotten so far!
 52" x 48" wood prop (Great American Prop Co.)
 Engine: Using 100LL Gas, 4 qts. oil.
 RPM - 3400 Static (wide open)
 Oil Pres. 60 PSI
 Oil Temp. Never above 175 deg.
 CHT wide open climb 425 deg. cruise 350 deg.
 Wide open, level flight 3800 rpm

Plane - One Word would cover it FUN!
 Take-Off (quick) 45-48 MPH
 Empty Wt. 570 lbs.
 Climb-(yes) @ 80 mph (rpm?)
 Cruise @ 3450 RPM's 150 MPH
 Top Speed @ 3800 RPM's 165 MPH+
 Stall (power off) 46 MPH (No crazy Break-Piece of Cake)
 Landing (power off) around 50 touch down (not really looking at air speed during this phase of flt.)

Comment: This has to be the easiest plane to land I've ever flown. The FBO (Steve Thomas) took her up and couldn't believe how easy it is to land and especially the control on the ground. Just slight rudder pedal pressure to keep her straight.

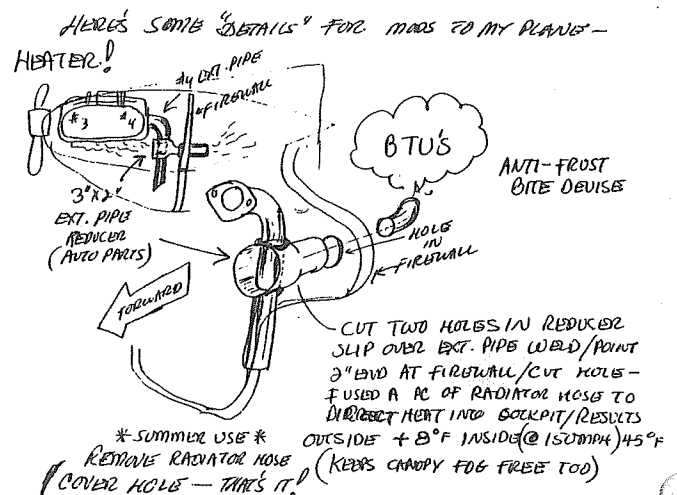
I've tried different stick positions for take-off but the wing has always lifted off before the tail. I've tried full forward stick which has caused this--just as tail gets lite, wing lifts off followed by tail coming up fast--followed by a unplanned touch-N-go on mains--then up-up-and away! I gave up this sort of take-off for a very easy--smoth and controlled three point attitude lift off. I've got about 8 hours of flying since November 6th, but the weather has been bad.

Well enough for now. Just want to say all went very easy and I'm getting bored without something to build. If you ever decide to let out a set of Monex plans--don't forget me. I'd really like to build one.

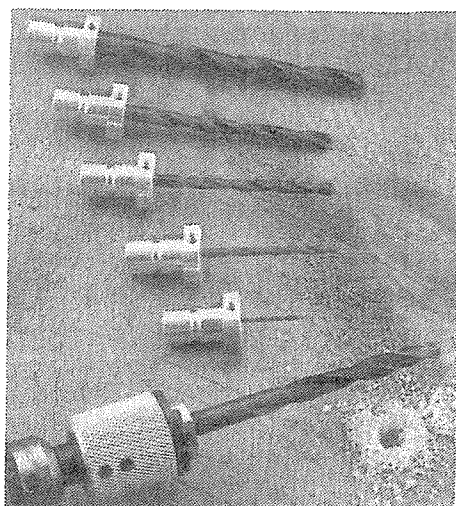
If you have any one that would like to ask me any questions about my engine, etc., please contact me at the address on this stationery.

I'm going to build another plane starting next fall (of 86) so stock-up those shelves.

From a satisfied customer and Sonerai driver.



News of Items for Sale



New Item

Quick Connect Drill Bits

Check out this new tool for changing drill bits! The package consists of a "special" adaptor chuck you place in your drill and six special aluminum bit collars that range in size from 1/16" to 3/8" (in 1/16" increments). You just press the bit collars into the adaptor chuck and click them into position. To release and change drill size, just pull the knurled section of the adaptor chuck toward the drill to release the bit-holding mechanism. The bits are held in place in the collars by two set-screws. They can be removed if you wish to sharpen or change the drill. The "unit" can be used on all electric drills with chucks of 1/4" or larger and on light duty drillpresses. 1 set includes adaptor chuck and 6 bit collars.....\$18.00

Monera! Seat Slings - Several of the new style

Seat Slings are made up (in black) and available immediately.....\$48.00

Seat Belt and Shoulder Harness - INAV has a new supplier for belts and harnesses and we once again have them in stock. (Our original supplier could no longer afford products liability and therefore has quit manufacturing anything for aircraft.)

1 set	\$60.00
Belt Only	\$32.00
Harness Only	\$35.00

Cowl Seal - This wire reinforced sponge rubber seal is now listed in our supply catalog. It is for use between the firewall and cowling on the Sonera! and other applications. It may be riveted or glued in place. 3/8" dia. x 7/8" W x 17'.\$ 4.50

INAV Slide Presentation - Our rental slide/audio cassette program is ready to ship out to anyone interested in INAV's products, facilities, and services. We have raised the rental to \$25.00 as an incentive to return—believe it or not many were not returned before!.....\$25.00

Konig Power Pod - The complete Power Pod includes: engine, prop, pylon, shroud, tank, instruments, hardware. The Power Pod package less engine is everything listed above except the engine itself.....Complete \$2450.00
.....less engine \$1250.00
.....engine only \$1600.00

Tailwind Kits

You may have seen some press releases about our offering kits for Steve Wittman's tailwind. John and Steve had discussed for sometime the possibility of our producing a kit. He has received the OK from Steve and our staff will begin working on this soon. As you can guess, it is rather involved to go thru the plans and kit an airplane so it will take some time before we have the material packages together. In the meantime, we are prepared to handle any requests for supplies from our stock of steel tubing, flat stock, aluminum, hardware. We are pleased to be associated with Steve.

Special Guest

Speaking of famous pilots, George Moffat came to Oshkosh for a weekend in January! He was milling around the workshop as a very special guest. We invited George to come to the workshop but more importantly to engage in some airplane talk! As we have in the past, we used him as an advisor to review the direction that our company is taking with its design philosophy. John feels strongly that George's input is important. He is a two time World Soaring Champion and continues to fly and compete in high performance ships. But he is also very much interested in Sport Aviation. At present he has a Smith Sidewinder he is reworking to get it ready to fly. Many years ago, George even had a second-hand Sonera!. Thanks George for your input and expertise!!

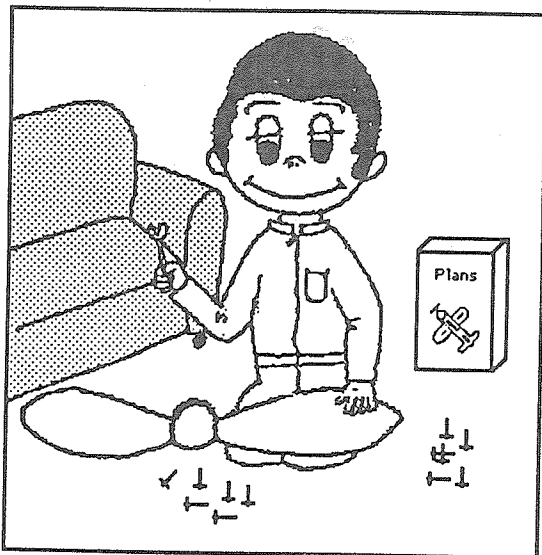
SSA

The Soaring Society Convention at Valley Forge, PA is coming up February 27 - March 2. John and Brian will be there so look for them! INAV will not have a booth this year but they will try to talk at one of the Sailplane Homebuilders scheduled meetings to keep in touch and tell what's new at INAV. Otherwise Brian and John will be attending sessions, listening to guest speakers (like George), and looking over the ships on display.

Sun N Fun

The Fly-In is March 16 - 22 this year as you all know by now I'm sure. INAV will be there with some airplanes and have a booth inside this year - C93. This time it will not be the family vacation—as we tried to incorporate both last year and it was a disaster for John. He needed a vacation from his vacation when we got home! At any rate, we will do more flying and be more visible this Sun N Fun!!

Love is ...



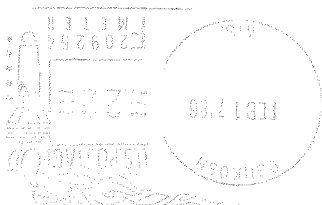
... letting him keep
his airplane parts
in the house.

Must tell you why this issue may look a little different. We are doing this INAV-INK "in-house" on our Macintosh. I say "our" because it belongs to the Monnetts! Dad took it into the office several months ago to run some design programs he had purchased. (Much to the dismay of the boys, it is still there.) It seems as tho the whole office has decided it is neat, fun, easy to understand and use compared to the other two computers we have! So they have been doing word processing, manuals, drawings, design programs, etc. The other day Carol and I decided to try the newsletter. Should be a piece of cake--right? We'll see how late into February we finally deliver this issue!

Now I've told you all the exciting things that happened around here during January. Well, not quite--I haven't mentioned the Most Important--the Bears Victory in the Super Bowl!

Bear Mania "Struck" at our house.

Betty Monnett



Oshkosh, WI 54903
P.O. Box 2984

