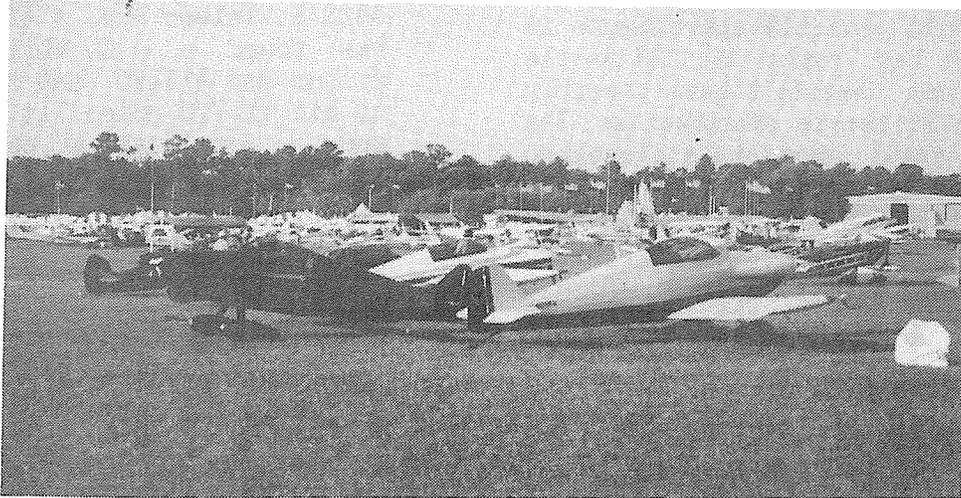


# SONERAI

JUL—AUG—SEP 92  
NEWSLETTER



Some of the Sonerai's at Sun N Fun 1992

The following were present but not necessarily in this picture: Bob Barton, Al Bertelmann, Keith Embree, Mark Elyea, Roy Adams, Fred Keip, Dean Mc Ginnis, Ed Sterba. This is about half the number that show up for Oshkosh, so it was a pretty good turnout. Al and Dean did service in the Sun 100 race and also came through for a Sonerai Showcase flight for the crowd. We hope to be able to do a Showcase at Oshkosh, maybe with several other Sonerai's also.

Oshkosh Soon!

Welcome to this issue of the Sonerai Newsletter. The weather has been cooperating in this part of the country and we've been able to get in a lot of good flying. My kids have each had two of three early evening flights around the local area. It will be time soon to get the old, old paint waxed up for Oshkosh. We haven't had the drought of 1988 yet so plan on being there with your Sonerai.

We have several Sonerai events planned as in years past -- namely, a Sonerai Pilot's Forum on the back porch of Homebuilder's Corner on the flight line. This is set for Saturday morning but please check with us for the time. Bring all your problems to this one, we can almost always come up with some answers for you.

The Official Sonerai Builder's Forum is scheduled for Monday, Aug. 3rd at 2:30 to 3:45 PM at Forum Tent 8. This meeting is for us Sonerai people and the general public so the format is a bit different than the earlier one. Most of the guys attend both. Bring your nice problems to this one so we don't impress the general public with our bravery too much. Brave, not foolish, is the word.

And lastly we have the Sonerai Dinner planned for the same night, Monday Aug. 3rd at 7:00 PM at Butch's Anchor Inn. I saw John Monnett last weekend and he thought he and Betty would be there as in the past. Dinner is off the menu with individual checks. We will have a bit more room this year, up to 125 since we filled the 100 seats exactly last year. Please notify Great Plains Aircraft at their booth as early as possible so we can get a fairly accurate head count. The early birds get the worms so to speak.

## North Central EAA Fly-In

Since this is also the September issue, I need to mention the North Central EAA Fly-In at Sterling-Rock Falls, IL. This is set for Sept. 19-20 at Whiteside Cty. Airport (SQI) with Lunch and such for Saturday and Breakfast and Lunch on Sunday. We usually have a good Sonerai turnout. Try it.

If you were at the Sonerai Dinner at Sun N Fun this year I don't need to try to impress you with it's unusual aspects. If you have ever been in a Junior High School cafeteria the last few days of school, you could probably approximate it pretty well. We had right at 28 people in a room that couldn't have possibly held more than 20 people standing up. The noise level would grow to a crescendo until everyone got scared quiet, then would begin building all over again. Our waitress (only one!) had to be dragged back in crying several times. It was something only for the brave at heart.

Dean McGinnis sent a list of everyone who signed the attendance sheet, I can give copies to anyone wanting to swap war stories of the Dinner of 1992 with each other. Apparently 4 people didn't sign up which proved to Dean that the literacy rate for Sonerai pilots and friends is right at 86 % , which is better than the national average for eighth graders. We plan to meet at Vito's again next year because of the atmosphere (?) and good food and have been assured that the larger room will be available. Our waitress should be out of therapy by then. Stop by.

#### Jim Smith in Kitplanes

Congratulations to Jim Smith and his Sonerai II for the fine article in the July (?) issue of Kitplanes Magazine. This is not the article we were told about one year ago as THE Sonerai article but it sure represents the airplane well. I don't believe I could have Jim's patience to have it ready to fly and not get some air time, but circumstances are circumstances. He seems to be enjoying it now.

As for the "Sonerai Controversy", well we never knew there was one until Kitplanes created it for us. Thanks, but no thanks for that. This time the details seem to be correct and they give us credit for an "average" safety record. The wing modifications are all old history to anyone involved with the airplane, the problem, if any, was solved almost ten years ago and proven to be the solution needed. So, to the friends of Kitplanes, "stay out of trees."

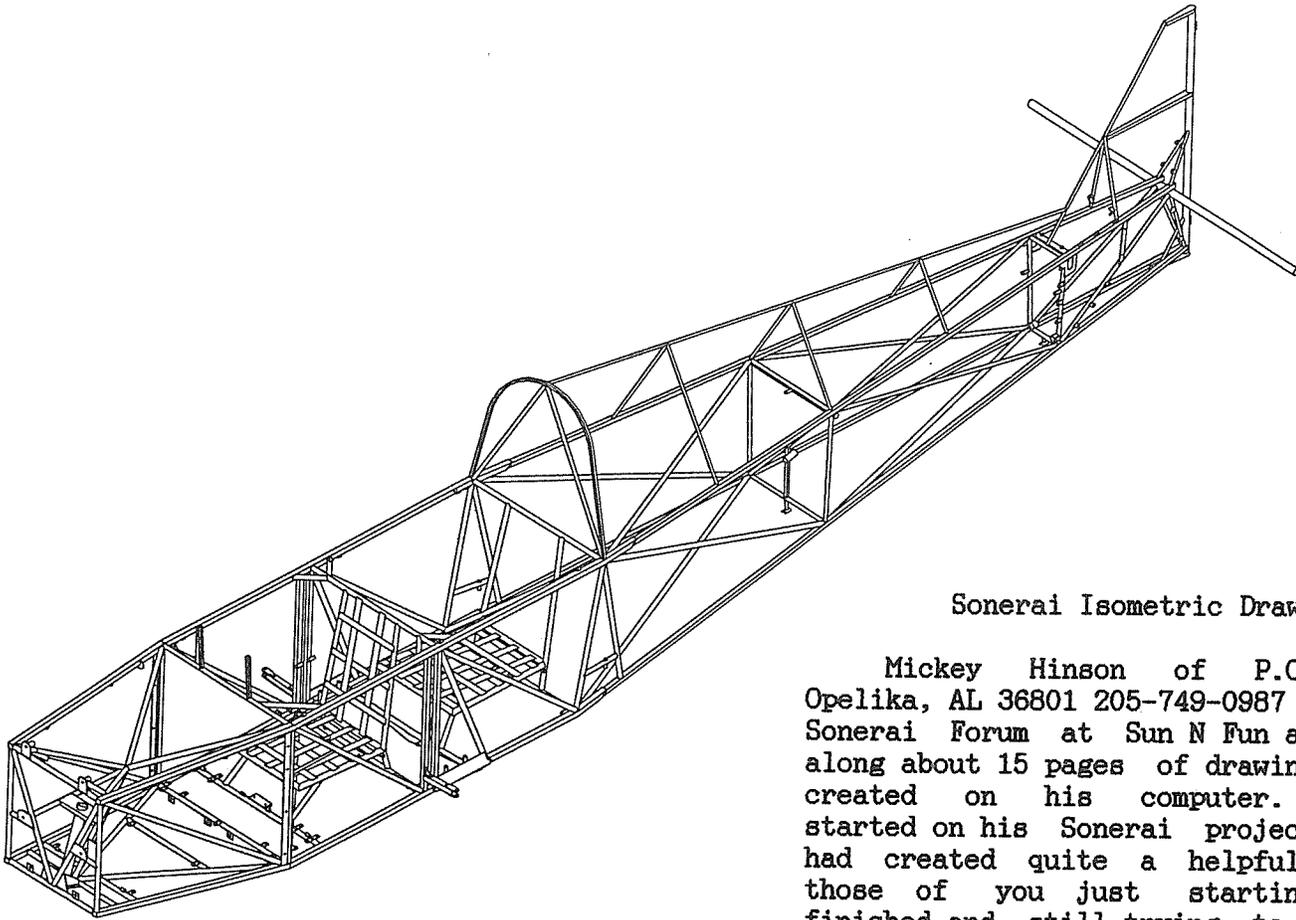
Those people using the alternator systems in Monnett and Diehl accessory cases may have a problem with alternator noise in their Comm radio. Mike Ladigo of 6822 S. Toledo Ave. # 421 Tulsa, OK 74136 has found a J.C. Whitney & Co. radio filter for \$17.95 that has really cleaned up his TX 720 noise. It is P.N. 03-7093 N and is not just a capacitor for that price. This is the first bit of information gleaned from the KR Newsletter but it may have applications for a lot of you Sonerai folks also. You may want to contact Mike for more info on it, but it might be a good idea not to tell him it is for an "aircraft installation", you know how skittish some people are about things that fly.

#### And Possible Spark Plug Stuff

Champion spark plugs for aircraft use now cost about \$18.00 a piece. That's a fact. Regular VW automotive plugs are about \$1.50. Why do we need aircraft plugs in our VW? Ignition noise, they say. Well, I tried some auto plugs in my Sonerai and ran it on the ground and had no noise in my installation. So, if you want to use those plugs but keep the shielded wires up to the spark plug area, how so you terminate the shielded wire by the plug safely so it doesn't short out the lead at some date?

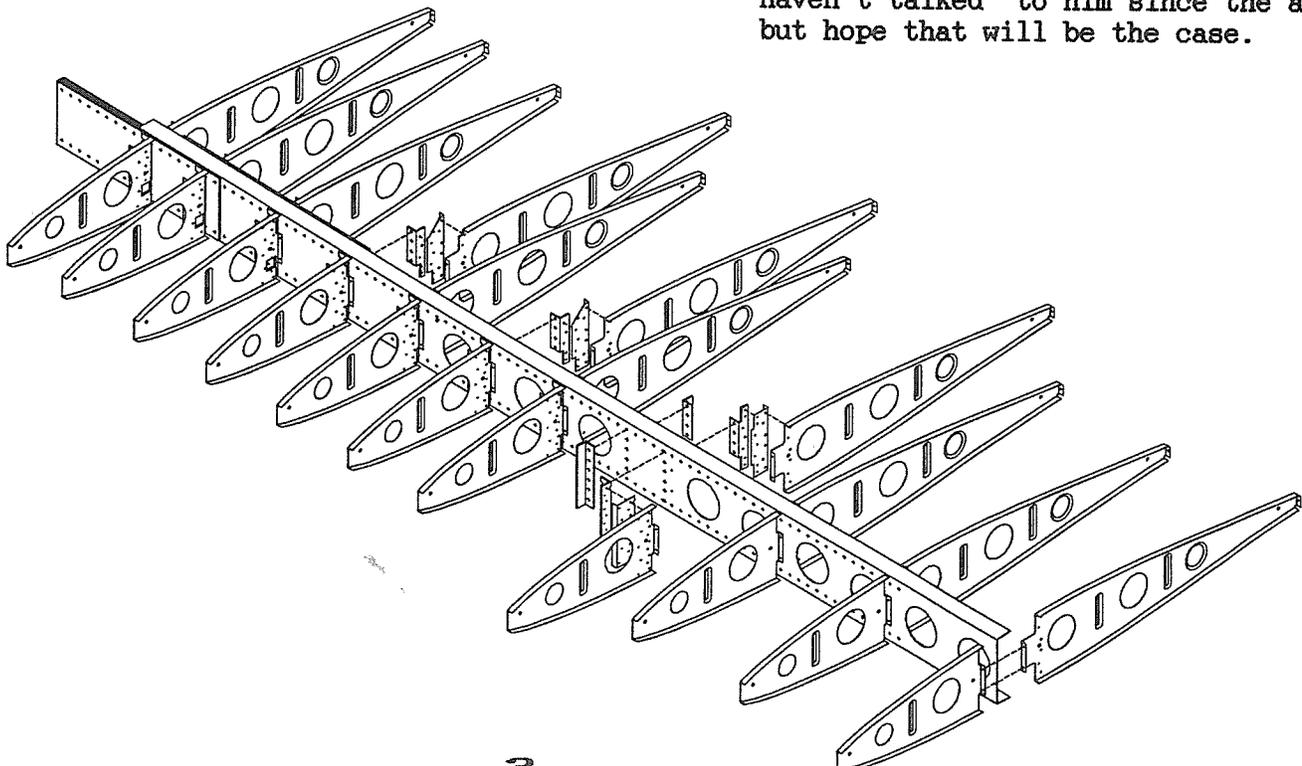
#### Great Plains Sonerai Ribs

There has been a change in the premade ribs sold through Great Plains Aircraft. It is no longer possible to have the airfoil flanges bent 90 degrees as in the past. So now the ribs are rectangular sheets with all the holes punched out (and flanged) and the small stiffening ribs formed at the correct locations. A full size cutting template is included so the builder needs to make a master rib, cut it out to trace all the rest, then make a wood form from the template to do the hand bending of the flanges. This is how the ribs were made back in the early days. A number of builders have indicated that they still have their bending form blocks and are willing to have other new builders use them. So if you are in need of this in the future, let us know and we'll get you in touch with the right people.



Sonerai Isometric Drawing

Mickey Hinson of P.O. Box 132 Opelika, AL 36801 205-749-0987 was at the Sonerai Forum at Sun N Fun and brought along about 15 pages of drawings he had created on his computer. He hadn't started on his Sonerai project yet but had created quite a helpful tool for those of you just starting out or finished and still trying to figure out how you did it. These are pictorial drawings of the isometric style - the type that shows how the whole wing is put together rather than each individual part. Anyway, I'll include one or two here to sort of help you out. We all told Mickey that he really should consider making these available to other Sonerai people and he indicated he would. I haven't talked to him since the airshow, but hope that will be the case.



## The Second Subsequent Sonerai

\*\* Air Tour \*\*

by Dean McGinnes

Those of you who are regular readers of this publication will recall that at Sun N Fun there are several Sonerai related activities. We have representatives in the race, have a forum, and a well attended dinner and last year, the Sonerai Air tour was inaugurated. Unfortunately, only two aircraft, mine and Al Bertelmann's made the tour, the restaurant was closed, my engine (temporarily) died on the runway. This year things went better -- sort of.

On Thursday, the appointed day, we had 4 planes signed up; Keith Embree's Son II as well as Al's and mine along with Ray Burgner's Pitts. As the weather closed down our intended destination, Ray slept in and Keith wandered off. Al and I decided to salvage the day by flying the short distance to River Ranch Acres Resort for lunch.

Departing at 10:45, we headed southeast. All went well until just east of Lake Wales. As we entered the restricted area 100 feet below the 1000 foot ceiling three things happened. First, my radio quit transmitting, second, F-16's began whizzing by uncomfortably close. Indeed, one pair went by with the lead 1/4 mile ahead and below us and the wingman about 200 feet over our cockpits! Third, in the middle of all this my right front exhaust pipe blew off.

After nearly force-landing in a pasture with a suspected broken engine, I collected my wits after scanning the panel and concluding that all was more or less normal. From Al: "I'm going below 500 feet NOW!" as he buried his nose. As he blew the dust off the cows backs I followed him the last few miles, my engine popping and banging in a most distressing manner.

After landing, a quick look revealed that #1 exhaust had blown apart just past the flange and was happily cooking the fiberglass next to it. Here we go again. At least the restaurant was open.

A young lady with a courtesy van gave us a ride to the little marina/restaurant bragging on the hamburgers. I kid you not, they were absolutely delicious. At least we were one up on last year in the meal department. Really worth the trip.

Soon we were back at the field, and the offending pipe was removed. There was no other solution but for Al to fly back to Lakeland with the pieces in hand, attempt to find a welding torch and patch it together. This task was accomplished by taking over the equipment at the welding forum. I understand that quite a tale was told to pull it off but as I was cooling my heels 40 miles away, others must supply the missing pieces to this tale.

As the airshow was under way at this point, Al, now re-joined by Keith, had to postpone the rescue attempt until it was over and the runways reopened. By 6:30 PM they were over River Ranch and after a proper buzz-job they broke for landing and taxied up to my waiting little wounded bird.

Soon the patched pipe was reinstalled and the cowl buttoned up. A couple local types happened by and discovering that we had VW engines, offered an opinion that we could probably go "65 or maybe 70...huh." Right. We taxied to the far end of the field, took off at 5 second intervals, and swept by showing well over 100 on the clock followed by a nearly vertical climb.

We flew home, carefully under 500 feet until passing Lake Wales in a loose 3 plane formation all the way. For once, there was no crowd over Lake Parker and we made good time to the field.

So there you have it. The Second Sonerai Air Tour was over. We had a little adventure, a little adversity (which builds character), three planes finally made the trip (one twice), and the restaurant wasn't closed. We expect better participation next year, and maybe my airplane won't break.

1503 Clairdale Ln Lakeland, FL 33801

Ed's Warning --- I feel that the Sonerai Air Tour is way too exciting for most Sonerai pilots and should only be attempted by the few -- the brave. If, however, you ever need your exhaust pipes welded on, it is a good idea to take Al Bertelmann along because he is able to reconstruct things that are not even there! The man knows his way around a welding shop, he is a pro. Dean had his long, extended exhaust pipes wrapped with heat tape to keep the heat in -- but other people have told me that you also keep moisture around the pipes that way and they corrode much quicker. It also makes it quite difficult to see any defects in the works. We talked about this potential problem and Dean seemed to agree after doing the demo for us at River Ranch. Of course, nobody's airplane could have a problem three years in a row, so it should be a trouble free trip next year. Any takers??

#### Magneto Temperatures

Fred Keip had a little trouble getting his engine started a few times on the Florida trip and started getting some engine missing on takeoff when we had returned so after trying several options, I flew on over with my spare 50 hour old magneto. Once it was changed out the engine started right up with the normal number of prop blades (about 10 to 12). Well, one problem solved, but it works out that there may be another carburetor related event going on also. That is still to be sorted out.

However, in the process of checking out his old 4216R, we split the mag case to check for causes and found quite a few signs of wear. It seemed like more than to be expected from only 250 hours of operation. The distributor rotor shaft was discolored and had excessive clearance in the bearing. A few other parts looked rather heat stressed. We had talked earlier about his magneto cooling tubes being small compared to mine and Fred decided that heat could have caused this situation. So how much cooling does your magneto need in a Sonerai? All it can get. I use 2 each 1" diameter Scat tubes from the bottom of the windage tray right onto the mag and I think that is my minimum size.

#### An Improper Impulse

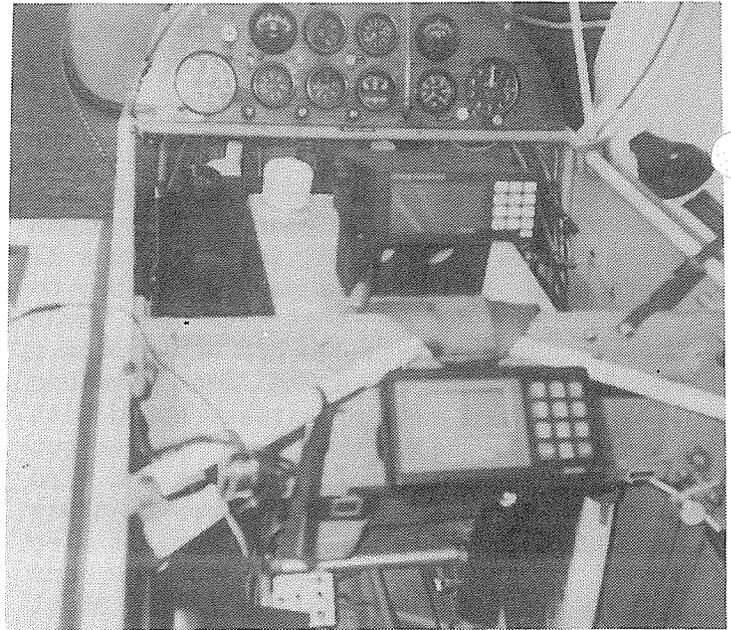
Mark Elyea arrived at Sun N Fun this year after experiencing a magneto problem on the way down. He didn't have the correct tools to do a complete magneto overhaul obviously, but did feel that the points needed to be adjusted to a wider gap. This was done and the engine was apparently back in order and he continued on his way. While at the airshow we decided to check the mag timing since he didn't have a timer but had set the firing position by clicking the impulse at TDC. Now, if the magneto has a 25 degree impulse retard as our 4016 and 4216's do, then if the impulse lets go at TDC it should mean that the timing is set for approximately 25 degrees before top center, right? Usually. ( We are normally setting the engine to mag timing at 28 degrees so the impulse would really fire at 3 degrees before top center.)

We found to our surprise that even though the impulse was firing at TDC, the actual magneto to engine timing was at about 34 degrees. What happened to the 25 degree retard setting, we thought? This couldn't be. It took a while, but it eventually soaked in that the incorrect timing was probably attributable to the change in point gap made on the way down. With the gap opened up, the points would be opening sooner in the magneto rotation, but the impulse is fixed in it's firing location by the mechanics of the stop pin that locks the impulse pawls. Anyhow, what it boiled down to was an increased point gap gave more than a 25 degree retard on his impulse so the mag was timed too early using this method.

This little problem shows why we are not really supposed to set the actual gap of the points in our magnetos -- we are supposed to get the points to open at the "E" gap position ( the point of maximum electrical stress causing the hottest spark ). Then we check to see if the point gap falls within the acceptable range of .008-.012". To do this you really need an "E" gap gauge that positions the magnet in the mag in the

correct position. The points are then adjusted with a timing light to open with the gauge in place. This wasn't available up in Tennessee as we knew. This little problem also can put stress into the distributor section of the magneto since the arm and post may not be in their correct location at spark time. You get more erosion of the metal surfaces with this situation.

So, what can we do to keep the thing running? Do the best you can with the tools at hand, but remember, this isn't a battery-distributor system at work and you have to appreciate it's differences. Actually, Mark's engine was running pretty good at the time and it continued to do so all the way home.

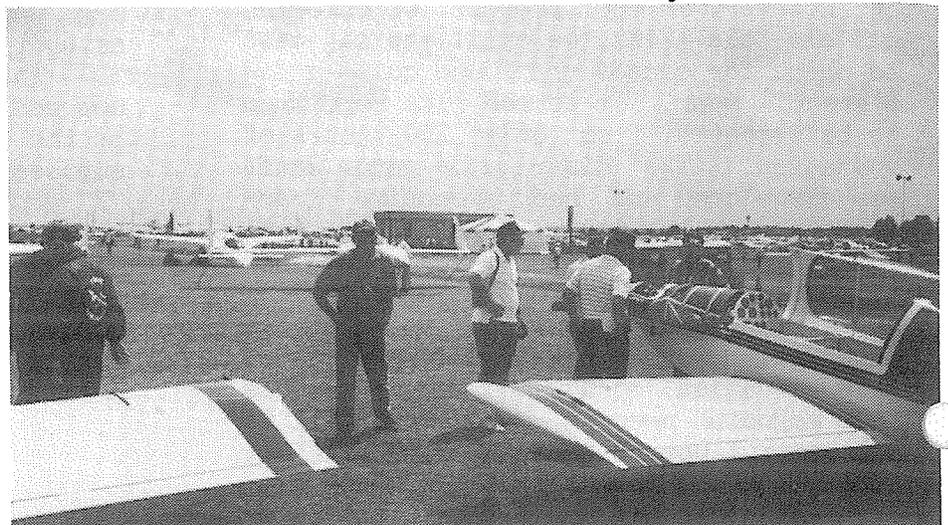


The extremely well equipped Sonerai II above is obviously used for serious IFR work, judging by the dual Loran installation and dual long range tanks. They just keep getting better and more complicated every year. The drive for perfection is strong.



I dare you to find another group of airplanes that spend so much airshow time with their cowls off. Is it unscheduled maintenance or just curiosity?

Find the famous EAA personality in the picture on the right. Mark Elyea's Sonerai drew a good crowd most of the week. Hint -- he has a hat on his head.



## The Trip to Sun N Fun 1992

I only seem to work in this one trip a year of any length so it tends to be a bigger deal than it really is. The weather can be a big deal for all involved however, so once the airplane is ready, then DUAT and AM Weather get their share of attention. This year Fred Keip of Burlington, WI decided to make the journey so after a few phone calls dealing with "Sonerai Readiness" it finally boiled down to the atmospheric conditions. Since installing the new Comm radio I was unable to transmit anything until 3 nights before departing so the schedule did seem a bit tight this year. It works out that my Delcom 960 is sensitive to Loran noise and to preamps on older Telex headsets. Fred came through with his spare headset to get us communicating. One other note is that until we met over Lake Lawn Airport at 7:00 AM on Friday, I had never flown with Fred. But anyone who can pilot a small homebuilt must be adequate in the air so no problem was forthcoming.

We had forecast winds of 15 or so knots on the tail but once in the air at our 3 to 4 thousand foot cruising altitude, that didn't prove to be the case. In talking to other people afterward, we probably should have gone to 9000 ft to get what was promised. O.K., next year. At any rate, our comm worked out better than expected and we had a cold but clear flight down to Huntingburg, IN as in years past. The OAT on the ground was about 29 F. and around 20 F at altitude which helps a bit to explain our less than keen desire to go much higher. It was a pretty shakey crew that unloaded onto the ground after that first leg. My Loran once again entered the "Indiana Triangle" and packed up over the master station as it did last year. Fred's similar type hung in there all the way even though navigating was very easy under those conditions. We needed an hour to defrost and get going again.

Our next leg was expected to last until Rome, GA or beyond but a faulty ground wire on my transfer pump kept me from getting the full 6 gallons up into the main fuel tank, so discretion called for an early stop at Brown Cty. Airport near Chattanooga. I didn't figure the problem out until most of the way home and had changed pumps while at the airshow. Live and learn as they say. This stop pretty much put the axe to any hope of making it down in one day, so the pressure was off in that respect. Fred got to experience something I've done in the past -- directional instability of the pilot after takeoff from an unfamiliar airport. We needed to make a circuit or two of the airfield to gain enough altitude to head out across the Georgia hills, but it can get you confused as to the necessary heading. I was going to Florida and Fred headed off towards New Mexico I believe. Several calls on the radio brought him in line, but I know how it can feel to get that old "head compass" realigned.

On our next stop at Cordele, GA it was my turn to get bewildered. We had enough time and light to make it into Valdosta so we fired up in much warmer weather than at the start of our trip and I noticed a different sound to the engine on climbout -- a seemingly loud whining to the engine. So I called for a return to the airport and flew a normal right hand approach and landed. My call on the radio brought everyone out of the flight office to watch me land -- and as I taxied up with the engine running I asked the locals if they saw any smoke. "Sure did", they said. "White or black?", I said. "Black!" -- "Well, that's normal for a Posa." "Did you hear any squeaking sounds?" I asked. "Sure did", they said. But my brakes squeak bad. So the locals weren't any help. The end result is we decided to spend the night and I changed oil and checked the screen in the morning with negative results. I had been running my 10W30 winter oil and changed to straight 30 weight, did a few full power run ups and spent a few minutes over the airport to be sure.

Well, I believe it was the Pat Mangan Effect at it's best. Pat built a Sonerai II and used to work for John Monnett. He once made a precautionary landing at Oshkosh after hearing a surging sound in his engine on a local flight. After a thorough investigation, it was determined that he had never flown and chewed gum at the same time and found his chewing was unseating the headset cups making the unusual sounds. Lucky for me he did it before me or "they" would be calling it the "Ed Sterba Effect". The engine ran fine the whole trip after getting used to my new headset.

The last leg from Cordele would have put us at two and a half hours into Lakeland with probably enough gas if I knew for sure my aux. pump was going to work, but I didn't so we opted for a pit stop at Ocala for gas and lunch. This way we were fresh for the last 45 minutes before running into the crowd at Lakeland. However, the very good weather all along the East coast seemed to spread out the crowd so our arrival wasn't all that exciting. Comments on the Airshow itself are elsewhere in the Newsletter.

Fred left for home on Thursday and I followed one day later. He gave us a call that first night to let us know he was safe and sound at Huntsville North, AL. The weather didn't look near as easy as it was coming down so we knew Fred would probably not make it home the next day. So, when I finally got on the road Friday morning it was with the knowledge that there would have to be a stop for the night somewhere about Illinois. The winds were quite strong for the last few hours with about 20 kts on the tail near as I could tell. My new aux. pump was acting up just like the old one which basically proved it wasn't the pump but the wiring, and I was forced to make an early stop at Owensboro. We were showing 130 kts. up to this time which is about as fast as I've ever seen in this Sonerai.

The final stop for the day Friday worked out to be Danville, IL since the ceiling and visibility were going down fast and I didn't think that it would last for the 45 miles to Kankakee. The next morning didn't look any better to the North so I sat it out and worked on the Sonerai (clean-up, adjust valves, charge battery). About noontime I heard a call on the Unicom and who should appear but Experimental N 99FK ---Fred Keip! So he left the day before me and ended up stuck about 100 miles away because of the weather and I ended up beating him to Danville. I let him know it too. I always knew my Sonerai was faster than his but never thought it was that much faster. Maybe he got stuck in some sort of time warp over Kentucky??

So for my second night in Danville I had the company of about 12 other aviators all trying to make it to the northern Illinois - southern Wisconsin area. But Sunday morning dawned clear and about 25 degrees so we returned to our home airports in about the same weather we had left in -- cold and windy. Fred's Sonerai performed great the whole way which is what I was expecting since he takes excellent care of it --- I hope he has the time to make it back down there next year. It's rare that I get to go anywhere with someone I can actually talk to in the air.

#### One Last Oshkosh Update

Tim Buechle called as this was being pasted up for the printer to let me know that the Sonerai Awards were all set for Oshkosh. He has decided to add two more this year for a total of six -- Best Overall, Best Paint, Best Cockpit, Most Innovative, -- and now -- Early Bird (for first arrival) and Greatest Distance Flown (which could be won by Neil Stevenson of Australia if he put on some extra fuel). Most of you know Tim's hand-made awards are definitely worth shooting for. See you all in a few weeks.

\*\*\*\*\* \*\* WANT ADS \*\* \*\*\*\*\*

For Sale -- Sonerai II N176EM TTA 81 hrs  
TTE 12 hrs. Excellent condition 1700 cc  
Monnett conv. Warnke adj. prop, Genave  
100 radio, 519 lbs. empty. Has Monnett  
spar beef-up done. Asking \$6500.00  
Tom Kolb 216-257-7529  
Ed Fisher 216-428-7947 after 6 PM

For Sale -- Sonerai I Project: Welded  
fuselage-tail-controls--primed-- spars,  
caps, ribs and sheet stock, some hardware.  
Manuals and video. \$2000.00  
Bob Schank 313-697-7057 home

Wanted -- Aerospace Propulsion Power-  
plants Book 4th Ed. Cargino and Korvinen  
---or let me know where to get one.  
Bob 313-697-7057

For Sale -- Almost new tailwheel &  
casting fork \$25.00 Slightly bent 1/2"  
landing gear \$30.00  
Gary Eichhorn 4680 Glenridge Tr.  
Stuart, FL 34997 407-287-3912

For Sale -- Sonerai II EV Cowling  
\$200.00 plus freight  
also Wanted -- Sonerai I Fuel Tank  
Mike Kellems P.O. Box 507  
Burkesville, Ky 42717 502-864-5658

For Sale -- Canopy for Sonerai II, bronze  
standard size \$165.00 + ship  
Bill Rossman 1754 Parkview Cr.  
Palmyra, WI 53156 414-495-4370

For Sale -- Sonerai II 1850 Monnett conv.  
427 hrs. TT, 35 hrs. on top OH, wing mod.  
Genave radio, Sterba prop, asking \$7000.00  
James Mc Dougall 13950 Oxnard St.  
Van Nuys, CA 91401 818-782-9031

For Sale -- Sonerai II L 170 TT, 20 on  
new engine, 720 Comm, Loran, excellent  
workmanship Asking \$10,000.00 firm  
Dale Severs 221 Southridge Dr.  
Gurnee, IL 60031

Wanted -- Sonerai II Stand. or Stretch  
Finished or project  
Mike Agin 614-872-4201

For Sale -- parting out Sonerai II LT  
airframe repairable, some wing damage,  
HAPI 1834 w/ starter, with trailer  
asking \$2000.00

Jim Poole Box 2483  
Boone, NC 28607 704-963-4091

For Sale -- Used Son. Super Vee Cowling  
asking \$175.00 OBO, used Super Vee prop  
extension housing, brackets and hub \$475  
or best offer. Jim Meier 200 W. Beltline  
Madison, WI 53701  
608-255-6773 work  
608-835-8300 home

For Sale -- Sonerai II midwing 177 hr.  
TTAE, new -- tires, tailwheel spring,  
paint and fabric. Must sell \$6000 OBO  
513-378-3040 after 4 PM

Wanted -- HAPI accessory case, preferably  
with starter and alternator. Will  
consider complete engine. Have Monnett X  
casting and Posa carb for sale. Looking  
for used Ellison throttle body.  
Bill Essenberg 608-637-2571 days  
608-637-2663 eve.

For Sale -- Sonerai II 1834 HAPI 100 TTAF  
with S-wing, folding wings, dual ign.,  
starter, gen. Health forces sale. Asking  
\$6000. Dave Zeidler 516-868-8827

For Sale -- HAPI 55 hp 70 hr. TT POSA,  
hyd. lifters, starter, stub exh, dual  
elec. ign, Sterba prop, oil press & temp  
tach. \$2600 or best offer.  
John Mitchell 402 S. Hickory  
Shannon, IL 61078

Wanted -- Right wing for Son. II L and  
landing gear for Son II.  
Jerry Van Nort 719-738-1290 day  
719-742-3746 nite

FRED KEIP PD 91 PD 92  
11428 SIX MILE RD  
FRANKSVILLE WI 53126

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# Sonerai News

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