

# SONERAI

# OCT-NOV-DEC 90 NEWSLETTER

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## Brian Dempsey's Sonerai I

Brian showing off his high speed tailwheel to another racer.  
It's the little things that go into making those record speeds.

Welcome to the last 1990 issue of the Sonerai Newsletter. Don't ask where half the year went, time seems to be rapidly accelerating on me these last few years. I'm not sure I'll get over it. Oshkosh is gone for about 2 months now; that doesn't seem possible but is true they tell me. We had some great forums again thanks to you all and the Sonerai dinner at Butch's was attended by about 90 people including John and Betty Monnett and Gregg and Letty Erickson. I am always getting requests from Sonerai people about John's whereabouts. Come to the Sonerai dinner next year and find out for yourself.

The following Sonerai owners fought the rainy weather to make it to Oshkosh.

Fred Keip	N99FK	Doug Laursen	N1367H
Al Bertelmann	N39772	Bob Scannell	N29BX
John Giordano	N2EX	Bob Jaeger	N24RJ
Tim Buechle	N53TB	Brian Dempsey	N8FV
Steve Severs	N10DX	Ed Sterba	N78ES
Dave Rawlings	N79RN	Jim Phillips	N63JP
Tony Castellano	N400TC	and Bill Nelson	

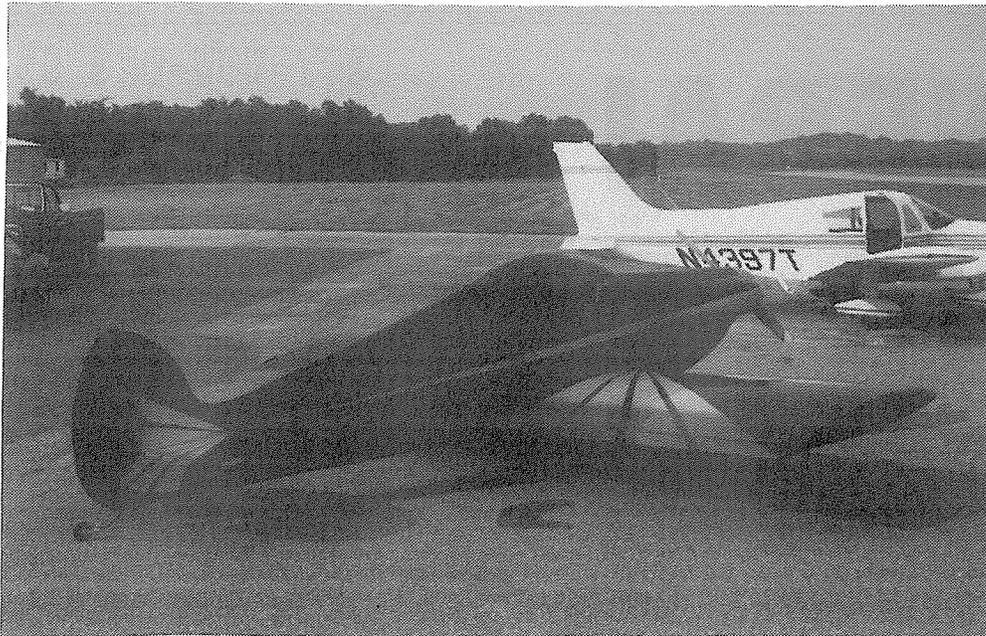
This year it was decided to give awards based on a very technical and complicated system where all Sonerai owners and builders present could vote for several categories of Sonerai's. When the dust cleared, the winners were:

Best Overall Sonerai --Tim Buechle  
Best Paint Scheme -----Tim Buechle  
Best Cockpit Area -----Fred Keip  
Most Innovative -----Bob Scannell

Thanks to John Giordano for coming through with the very nice looking awards and the inspiring speech at the awards presentation. We were all moved.

\$\$\$ Re-Up Notice \$\$\$

It's that time of year to think about signing up for next years' Sonerai Newsletter. In case you forgot, everyone gets on board at the same time in order to make my life bearable. I hope you have enjoyed this last years' issues and will not only want to sign up again but also contribute an article to the 1991 season. As before, the cost is \$12.00 for the year, checks should be made out to Ed Sterba. (Contributions over \$ 1000.00 are tax deductible.)



Dear Ed,

While everyone else was at Oshkosh, I was making my first flight. Had no real problems. It's tame in the air, but the tiller arm tail wheel combination keeps your eyes wide on landings.

I have a HAPI 1835 with a Warnke prop. Engine temperatures have been good. I have a top mounted oil cooler with the temperature between 180 and 190. CHT is 390 in climb and 335 to 350 in cruise. I'm using Hapi's electronic ignition with the coils mounted to the firewall in the cheeks. Temperature there is 135 in flight 160 in taxi and 190 after shutdown.

I built a jackscrew trim assembly patterned after a WACO. Works great. It seems like it would be a chore to fly without it. If I change the cruise power 2" M.P. the stick forces change quite a bit but a small trim change is all that it needs to relieve the pressure.

If anyone is in the area, give me a call. I hope to get the 40 hours flown off in time for the MERFI.

Keith Embree 9250 Cadiz Rd.  
Cambridge, OH 43725  
614-432-4123 or 432-2368

Ed's comments--

Congratulations Keith, too bad the pictures aren't in color to show your beautiful orange (?) and yellow paint job. We should be seeing it on the flight line at Oshkosh next year if not at Sun N Fun before that.

As for the sensitivity of the tailwheel steering, you may want to try

changing the geometry to make it a little less quick. It's also the sort of thing you get used to they tell me. I'm the one with the tiller cables back there. (Hey, if it was good enough for Ben Hur, it's good enough for me.)

It's great you can get your hours flown off without overtemping the engine. As a general rule things get even cooler after 40 hours or so.

#### Inboard Rib Attatch Points

This came up at the Sonerai Forum at Oshkosh also. Someone mentioned that they had inspected the wings while they were removed from the Sonerai II for some reason and found that the inboard rib was cracked where it attached to the rear spar. This happened to my aircraft quite a few years ago in the same place. As you know, there is only the one rivet holding the rib to the rear spar and the sheet metal isn't all that substantial next to it. I'm not sure why it cracks in this spot but I have attributed it to people leaning on the skin in that area in order to look inside. That probably isn't the correct reason, but it's a start.

My fix was to make a small gusset out of galvanized sheet metal (26 ga.) and pop rivet it in place after priming heavily. So far so good after 5 years or so. The skin in this area has a lot more strength that this one lousey rivet so the load is being carried elsewhere. But you need to watch for corrosion in this area since exhaust gasses are at work.

## A Letter from Mica Doane

I finally found time to sit down and write the letter I promised, I hope I can pass on some useful information.

On the way to Oshkosh this year, I kept feeling a strange vibration in my engine, but I could never find anything wrong when I stopped for fuel, so we kept pressing on ( a couple of friends were flying formation in their Long-EZ ). We planned our course to stay as close to airports as possible, and made it as far as Waupon, WI when the vibration became much worse. I headed for the strip at Waupon, and sent Nick on to Fond Du Lac in the Long-EZ where he dropped off his passenger and came back for me. I ended up riding the bus to Oshkosh.

Late in the week, I went back to Waupon, uncowed the Sonerai and did a thorough inspection of the engine. One cylinder head was burned through right next to the spark plug on the bottom of the head. I'd just added the dual ignition system about a week before leaving for Oshkosh and it had run great for about 10 hrs. I guess I should admit at this point that this was a do-it-yourself conversion, not one done by any of the VW engine builders. Evidently, when I spotfaced the gasket surface for the sparkplug, I didn't leave enough material to withstand combustion pressure. I've since learned that most professional engine builders weld up this area to provide more metal to work with. My heads are in the welding shop right now being done right.

I also wanted to relate some tips I've learned in the process of making two long road trips with the Sonerai. The first was when I bought the airplane in Idaho Falls, ID and then the trip back from Waupon.

First of all, I've always used trailers to move the Sonerai on the ground. I have a tow hitch to pull the airplane with, but I haven't used it, and wouldn't for any length trip over about 10 miles. I just think it's too hard on the landing gear. As for finding a trailer for hauling a light aircraft like ours, you usually end up with two

choices: either a light duty trailer that's way too short or a long trailer that's made to carry something like a small bulldozer. On the trip from Idaho, I used a large motorcycle trailer (about 12' long) and built an extension off the back out of 2 x 6's to hold the tail-wheel. This arrangement worked very well and road pretty smoothly. The trip back from Waupon on the other hand was made on a 16' car trailer. The airplane loaded easily, I just backed the trailer into a ditch and rolled it on, but the heavily sprung trailer bounced so hard on the way home it registered +4 to -2 G's. So, if I have a choice in the future, I'll try to find a lightly sprung trailer and lengthen it somehow.

After the airplane is loaded, be sure to tie it down securely. Never underestimate the ability of a load to shift after a few miles of driving. I used wooden blocks nailed to the floor of the trailer to keep the wheels from rolling, then tied the gear legs down from about 3 different angles. Don't forget to use blocks or other means to prevent any side to side movement, and check the ropes frequently during the first part of the trip. I know all this sounds pretty basic, but I've seen some loads going down the highway that really scared me.

Some things to watch that are particular to the Sonerai are mostly related to the wing fold mechanism. First you'll need some padding between the wings and the fuselage, and also between the main spar and the head of the 3/16" bolt that the wing pivots on. I used a piece of vinyl tubing split lengthwise taped over the head of the bolt and it stood the abrasion very well. Next, you'll need to secure the wings themselves from moving around. Even though the bar through the fuselage holds the wings up, there's still enough movement to cause some damage. I have a padded frame that fits over the aileron counterweights to hold them in position, and I tied rope to this and then to the trailer from two different angles. Finally, when you're all tied down, be sure to secure any loose ends on the ropes, otherwise

they can really get to whipping around at Interstate speeds and cause a lot of damage.

By the way, be prepared for a lot of stares from other cars and a lot of comments whenever you pull off for gas.

"All the way next year!"

Mica Doane Rt 2 Box 82 Meno,OK 73760

Brian Dempsey's Special Tape  
(use for pitch trim)

I finally had a chance to talk to Brian Dempsey of Formula Vee fame at Oshkosh. He was kind enough to spend some time at our Sonerai Forum on Monday and came to the dinner at Butch's that night. Everyone tried to get him to explain the "one" secret that made his Sonerai I so fast, but for me he saved his wierd experience. You write a newsletter and everyone tries to scare you with hair-raising stories. It's not fair, you guys get all the fun stuff and I get "Hey, put this in your Newsletter!"

Anyway, as a last comment before leaving for home, Brian wanted to impart this bit of info to you all. He was out in his Sonerai I cruising along over the open country (not racing) when he experienced a rather sharp pitch up. It took a lot of force to push the nose back down to the horizon and hold it there. He did an about-face and headed back to his airport holding the nose down with forward stick the whole time, right through a successful landing. What gives?

Upon landing and inspecting the airplane for obvious problems he was surprised to find a piece of his gap-seal tape on the top of the elevator sticking up. Apparently the tape had come unstuck for a few inch length and the airflow had pulled it vertical where it stayed while in flight. This several inch long piece was enough to cause quite a substantial pitch change. I never gap sealed the elevator and since my Sonerai now sits outside I'm very glad I didn't because the weather really deteriorates the tape on my ailerons fast. But, I never thought of it as a safety problem like having part of the tape come loose in flight. How is your tape?

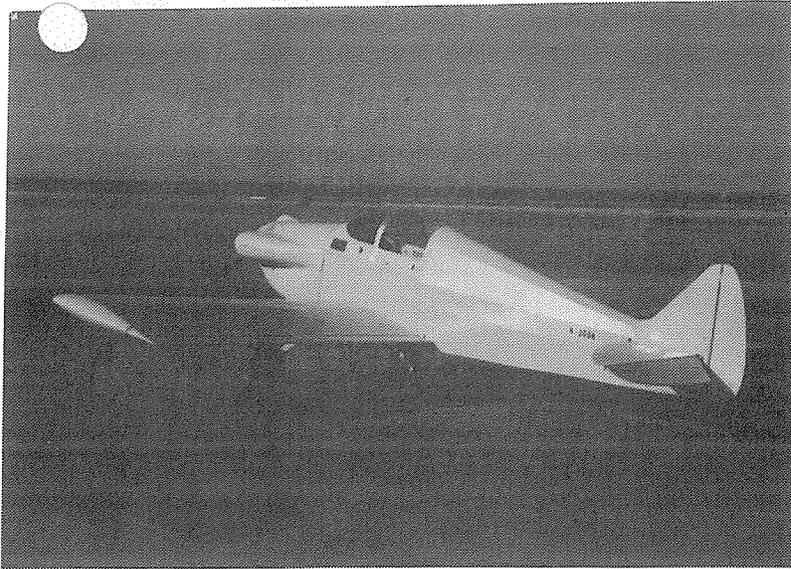
How hot was it?

It was pretty hot by 5:00 in the afternoon as I set the Sonerai down at Clow airport. I was delivering a 70" prop for the guys' Volmer Sport amphibian and this worked out to be the only time on the weekend when it could be done. (Try carrying a big prop in your Sonerai sometime, you have to thread the thing through the canopy frame as you close it, and then it rides next to your head.) As things worked out, no one was there to chat with, so I dropped off the prop in the shop and went back to fire up and head home. It was real hot and sticky.

I usually don't like to restart my engine after flying until it has had a chance to really cool off a bit. This normally means a fuel stop and pit stop which lasts 20 to 30 minutes. If it is getting fuel at my home airport then I never taxi back to the tiedown or hanger, my Sonerai gets pushed. So this time the engine was quite a bit hotter than normal. And, it refused to start. Period. I tried all the tricks in the book including hot starts and flooded starts. It kicked a few times once or twice but that was it. I pulled that mother prop through a couple hundred times in 10 minutes to no avail. What gives?

It finally became obvious (I hope), that I never tried to start the engine when it was so hot, so I pulled the top cowl off and proceeded to wait the normal 15 to 20 minutes. While waiting I looked everything over and drained some gas out of the gascolator (it was real hot). The magneto felt real hot. And finally I came to realize what Al Bertelmann had talked about down at Sun N Fun about having to stop along the way from Louisiana to put cooling tubes to his magneto. They only work up to about 200 F. Mine felt Real hot. His engine was missing and losing power in the heat and mine wouldn't start. Could there be a connection?

I pulled it through in a normal hot start procedure (fuel off, throttle cracked) and it started right up and ran fine. The top cowl went on (after shutting the engine off first) and we proceeded on home to our welcoming crowd.



Open Cockpit Sonerai  
Doug Hagerman

Thought you might like to see a picture of the Sonerai with an open cockpit. I cut the canopy even with the rear cockpit cross brace and braced it with .020 aluminum with the provision to return to it's original configuration. I added a small 1/2" aluminum tube across to brace the canopy and the entire canopy frame is intact.

She flies great! No great turbulence in the cockpit at all. All controls are normal. I re-rigged the ailerons and she now cruises at 120 mph at 3200 RPM. I think they were a little low before. No more claustrophobia for me, I just have to remember not to stick my head out too far. I do use a helmet and goggles. Noise is about the same, no problem hearing the tower. I do feel a little more heat, but that will be great in the winter. Eventually I will trim the old canopy skirt down to improve her looks.

Also the new toe brakes and Great Plains calipers much improve ground handling. Hope this finds you and the family well and happy--

If any of the guys want more info, tell them to write or call me.

Doug Hagerman 6 Saint Helens Lane  
Chico, CA 95926  
916-342-3215

## Cylinder Oil Leakage

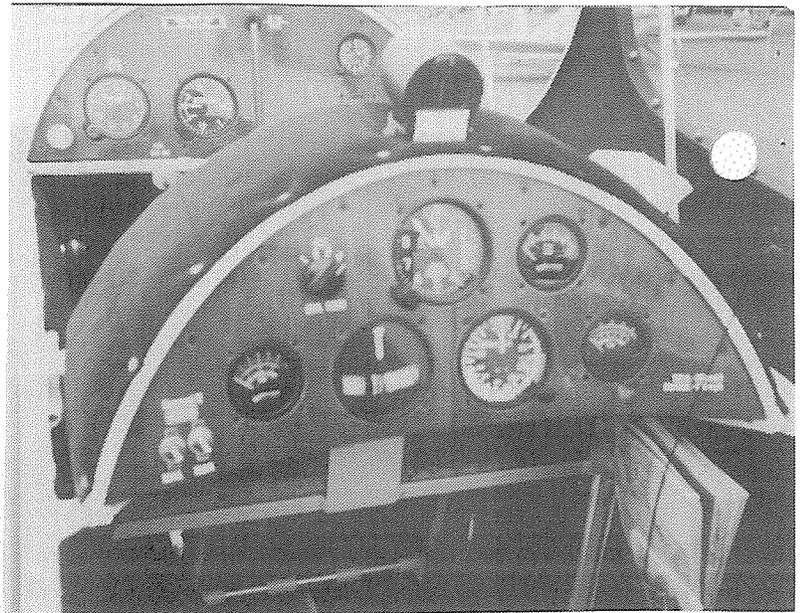
As is usual, a phone call prompted this little article. You guys always seem to bring out the best or worst of our Sport over the phone. Many of the problems that I have forgotten are brought out of the closet again. This time it was oil leaks around the cylinder base area. Maybe.

Yes, it is entirely possible that your cylinder bases are leaking oil and causing that mess in the cowling, but before you go to the drastic measure of pulling off the jugs, wash the engine down with solvent and look a little closer, it may not be quite what you think. There are two good candidates for the leak that are easier to fix.

The first place to check is at each of the cylinder holddown studs. There is no seal on these threads other than the goop that was used when the engine was put together. If you can get the engine clean and oil free (outside, not inside) then a short run-up may show one of the studs oozing out your problem. The fix is to remove the leaky stud and use a sealing compound such as high temp. silicone gasket material. The trick is to keep the area oil free until your gasket material has time to stick. Don't forget to retorque everything properly.

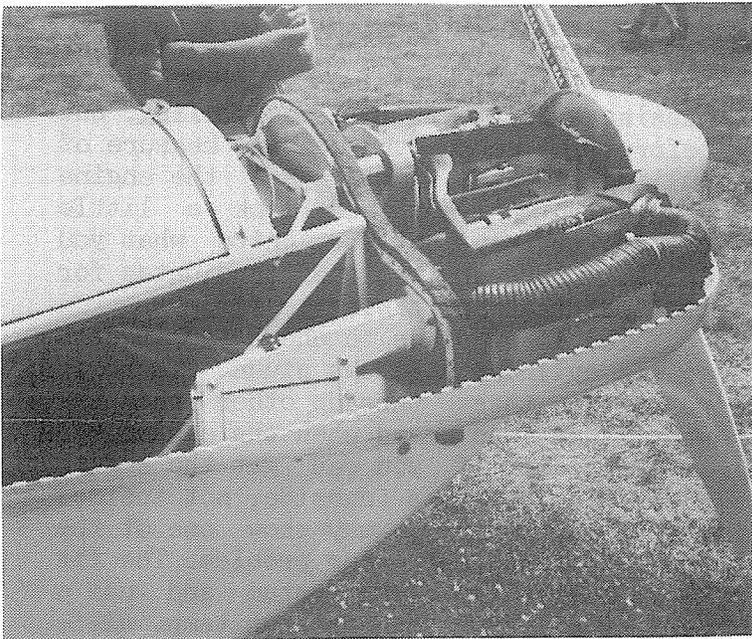
Another good candidate for a leak is around the three big case studs under the left side of the cylinder bases. The large nuts that hold the case together are notorious (?) for coming loose after a while. The force of the main bearings and the normal expansion and contraction of the case cause these three nuts to become loose and leak oil. This is what happened to my engine. It was confirmed by my German VW engine manual as a maintenance caution in the back of the book. Aside from losing torque, the studs are a very loose fit in the case and the washer under the nut is hard pressed to hold that oil in there.

My fix was to remove one of the nuts at a time, clean the area well, and then squeeze some of the high temp. silicone gasket compound into the opening around the stud. The washer and nut were then reinstalled and torqued down forming their own gasket in time. This happened several years ago and the area has remained basically dry ever since. It is the sort of thing you may not suspect, but sure beats pulling heads and cylinders for no reason. At least it is worth looking at carefully. Good Luck!



Tim Buechle's instrument panel and engine installation

Tim doesn't have an electrical system on his Sonerai II. You can't believe what a difference that makes until you look behind the instrument panel or at the engine installation. Very clean and simple. The other picture shows his interesting treatment for the oil cooler. The remote mount keeps it in a cool area. I suppose a person could rig this up to be cabin heat without too much trouble. Like any remote cooler, it is very important to use the best quality of hoses and fittings, you wouldn't want a leak on this side of the firewall.



I hope that is Tony Castellano standing on his wing.

## Flame-out at Aurora

I guess we have magnetos that are supposed to go about 500 hours or so before being overhauled. This is the Slick 4216 type. Most people know that the earlier 4016 is not overhauled by Slick but simply replaced with the 4216. This is what happened to me about 9 years ago. I changed the points in my 4216 2 years ago before heading to Sun N Fun but left the condensor alone since the point wear seemed even. The magneto itself had about 575 hours total since installation back in 1981. This is all background info for what happened this last July at Aurora, IL airport after a North Central Fly-in meeting.

My Sonerai has been operating quite well this Spring, having made the trip South and back with no signs of any real problems. Never missed a beat as they say, which with single ignition is rather important to me. I changed oil and adjusted valves as usual upon my return and tried to get out at least each weekend for some flying although the weather for quite a stretch made weekend flying pretty difficult. So the flight to Aurora went smoothly until my compass broke loose and fell forward between the forward control stick and the floor boards. There it sat as I made my turns into the pattern and landed, just waiting to jam itself in place and lock the stick hard to the right. Not a good start to a morning, but everything went O.K. and I removed it immediately upon arrival. (It is now more securely anchored in place.)

Time to head home after the meeting so I fired up and followed Gregg Erikson in his Grumman Tiger to runway 36. This was the second takeoff of the day and it was fairly warm by now so I was prepared for the engine to chatter and perhaps miss once or twice until it cleaned out the carbon from idling. Gregg left and I rolled out gradually adding power -- there was that slight chatter as we passed 2500 RPM -- then it missed once or twice which got my attention again -- and then she just spooled on down to nothing and quit! This has never happened before I thought to myself! I was only going

about 25 mph and coasted over to the next turnoff to make room for arriving aircraft. The tower wanted to know if there was any problem, so I told them not at the moment and would try a restart on the taxi-way, but I knew that I was not just going to fire up and takeoff even if it would start because something was not normal.

She quit on takeoff -- but thank goodness at the beginning of the run not at 80 mph over the end of the runway. It was like being lied to by my Mom -- this sort of thing just didn't happen. A few of the guys from the meeting had stayed to watch us all leave and came on over to see why I didn't. The engine would start but miss badly and quit then not fire for about 20 pulls then start again and miss like you were shutting off the ignition. We pulled the cowl and started looking for loose things, but it was pretty obviously an ignition problem and not just one plug or wire. We isolated the "P" lead and ignition switch and got no better results, so tools were borrowed (I left my tool kit at home since it was such a "short" flight) and the mag was pulled.

The first suspect was a broken condensor wire grounding out, followed by the points then the distributor carbon, but all looked in order. So the distributor was opened up by removing the large gear and we found lots of corroded deposits on the distributor "towers" and the sweep arm. I wouldn't let my car's distributor get this bad and expect it to run. Obviously this was not right! A field repair was made by cleaning all the components with my knife and then re-assembling carefully. The first run-up produced a limited missing which cleared up eventually. I asked the Tower to orbit the field for a few minutes to make sure it was running O.K. and then headed home marking the passage of each airport along the way.

My obvious problem was in not doing any maintenance to the distributor when changing the points two years before. I'm sure I would have seen the problem fairly well advanced at that stage and would have done something. Harry Fenton came by

the Sonerai line at Oshkosh (he's the Slick rep at the airshow and flies a Sonerai II) so I questioned him about the problem. The corrosion on my mag was concentrated at the leading edges of the sweep arm and the towers and was called "point to point" burning, in other words the points was opening before the arm and the tower were properly lined up so metal was being burned off the components as they fired too early. (It takes less voltage to jump the gap from a point than from the flat face of the parts.) This was caused by the point gap being wrong, the cam being worn or the distributor gears being mis-aligned upon magneto assembly. Any of these will greatly reduce the life of the distributor parts as I proved so well.

So where do we go from here? I have a newly rebuilt magneto that I have great confidence in and a better respect for a little more preventive maintenance on the distributor assembly. I had expected to get a little warning from the mag before it just quit - maybe a high speed miss or something, but it was my fault for not inspecting it a little better. Harry sort of gave his blessing to my practice of not changing the condenser at point time, since it is so easy to damage the condenser wire during installation. Slick will have a new type condenser out which will stop this other problem.

#### Back Issues of the Sonerai N.L.

The first issue of this Sonerai Newsletter went out in Oct. 1987, which makes this the 13 issue. Maybe I should have been numbering them. A number of people have asked for back issues over the years and I have some of them still available but not many of the early ones. If someone has a particular problem I have normally called a related article out of storage and printed it out separate, but I thought I'd try putting out an index to see just who is interested. If anyone is, then all I have to decide is how to get more copies at a reasonable price, which probably means Xerox rather than a reprint. Here goes.

Oct-Nov-Dec 87 --- Ignition timing  
Magnetos - Carbs - Fuels - Loose aileron counterweights

Jan-Feb-Mar 88 --- Flight to Sun n Fun - Spinners and Bulkheads - Broken spark plug lead - First Flight techniques - Cheap magneto timing device - Neil Sidders carb testing

Apr-May-Jun 88 --- Mag drive inspection - Valve Adjusting - Hot start/Cold start - Bob Barton's wing root fairing - Rigging with a water level - Flaming rocker box covers? - Posa and Autogas again - Sticky Azusa's

Jul-Aug-Sep 88 --- CAFE Racing - Oil Temp - Flight in Icing conditions - Formula Vee - Bruce Lewis letter - Antenna problems - Hot heads after valve jobs - Engine performance numbers

Oct-Nov-Dec 88 --- Fuel syphoning on takeoff - Aileron buzz again - Leaking fuel valve and engine start - Fred Keir and his oil cooler adapter - Joe Giordano's first flight

Jan-Feb-Mar 89 --- Sun N Fun flight - A letter from Dick Morrow on fuel tank venting - Cabin heater - Dale Severs' first few flights - Joe Hillebrand's landing gear - Tony Castellano's flight to Oshkosh - Ten years maintenance

Apr-May-Jun 89 --- Turtle deck note - A Letter from Byron Smith - Loose throttle cables - Clyde Schnars' Ellison carb - Taper Pin Tips - Chuck Stottlemeyer's letter - Engine breather problems - Fuel bubbles with autogas - A tool kit for traveling - A letter from Mel Lamb

Jul-Aug-Sep 89 --- Sun N Fun 89 - Prop covers - Al Bertellmann's wet flight - Stretch Sonerai fuel tank fit by Dick Morrow - Fuel Tank syphoning in flight - John Raven's Sonerai in New Zealand - Doug Hagerman's first flight - Broken alternator windings - A broken Azusa wheel - Otis Damron's adjustable distributor - Loctite and canopys

Oct-Nov-Dec 89 --- Oshkosh forum tapes -  
red Keip's damaged rocker arms - Rusty  
valve seats - Loose cowling hinge wires -  
Loose prop hub washers - Picking up the  
airspeed - Wing spar builder's tip - Posa  
carb needles turning - Summary of Plans  
Notes from Monnett - Loose alternator  
magnets - Rear spar re-rigging

Jan-Feb-Mar 90 --- Prop strikes and taper  
shafts - Covering a Sonerai by Keith  
Embree - Dale Severs' preflight checklist  
- Loose rear spar pins - Very cold starts  
- Hot CHT readings by Doug Hagerman -  
Soft intake rubbers - A letter from Gayle  
Lewis - Letter from Floyd Blaine on  
engine power - Chris Russell's flying  
tips - Wayne Tappan's letter

Apr-May-Jun 90 --- A call from Neil  
Sidders on the Posa - Static system setup  
- Mark Elyea's Sonerai - Letter from Bill  
Joens - Basic electrical system - Gil  
Pollnow's tailwheel mod. - Doug Laursen's  
broken exhaust pipe - John Giordano's  
valve train problem

Jul-Aug-Sep 90 --- Flight to Sun N Fun 90  
- Jim Smith's first flight - Straighten-  
ing landing gears - Dave Rawlings' Sun n  
Fun 60 Race - Clyde Schnars plastic fuel  
line - Gary Eichhorn's CG mod. - Kel  
DeVries' new wing

And this issue makes 13 so far. With  
some of the stories you guys have given  
me, I'm thinking of trying to sell the  
complete unabridged set to Steven Speil-  
berg for his next adventure movie. Maybe  
they could call it "Always, always" or  
something like that.

Let me know if any of this is worth  
getting and then I'll try to let you know  
when and how much. Probably my response  
will be in the Re-Up notice in early  
December 90.

## New Taper Pins

For those of you needing wing spar  
taper pins, they are now available from  
Great Plains Aircraft Supply. Anyone who  
has looked for them in the past knows it  
can be a problem finding the little  
beggars. Price is \$ 4.72 ea. for the big  
ones and \$ 4.50 ea. for the little  
ones. In case you forgot, you need 4 big  
ones and 2 little ones.

## Alternators -- Old and New

Those of you who may be in need of  
the electronic parts for your Monnett 10  
amp alternator (regulator and rectifier)  
can get in touch with me for a source. As  
you probably know, we cannot buy direct  
from Synchro anymore. My regulator is out  
of commission at this time, so I will be  
looking into this very soon.

If you would like to upgrade your  
electrical system for the new FAA Mode S  
transponder (and I hear radar is going to  
be required in the very near future) ----  
anyway, if you would like 20 amps instead  
of 10 amps to run your battery ignition  
system, you may wish to contact Great  
Plains Aircraft once again. Apparently  
their new 20 amp system can be almost a  
drop in fit for our Monnett Electro-X  
system. Cost will be in the \$ 140.00  
range for the magnet ring, stator, and  
combination regulator-rectifier.

## Ducks-R-Us

One of my propeller customers tried  
to save himself some money and failed to  
purchase the optional extended duck war-  
rantee. In the end, it will cost him more  
as we all know. It seems that they were  
shooting ducks quite successfully in  
their VW powered airboat and when heading  
home left a few of the critters in the  
bow of the boat. A wave bounced one of  
them into the air, and it managed to go  
through the only 6" square opening in the  
cage around the prop. The Urethane is for  
rain guys! Not ducks. Not even wet ducks,  
although I've never tried it. Mmmmm?

FRANKSVILLE WI 53126  
11428 SIX MILE RD  
FRED KEIF PD 90

To:

414-728-1367  
Delavan, WI 53115  
412 S. 5th  
c/o Ed Sterba  
SONERAI NEWSLETTER  
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# Sonerai News



## WANT ADS

Wanted--- Monnett ABS Wheel Pants can be new, used or slightly damaged  
Bob Schank 35 Clarence St.  
Belleville, MI 48111

For Sale -- Sonerai IILS 2180 Monnett Conv., 55 hrs.TT, Exc. workmanship, needs prop, canopy, minor tail damage. \$5500.00  
Larry Hurley 2153 Foxhill Dr.Apt 11  
Grand Blanc, MI 48439 313-695-0414

For Sale -- Sonerai II midwing, taildragger, Hapi 1834 dual ign., Ellison T-Body, Sterba prop, Narco 830, Loran -- 360 TT  
Asking \$6000.00 or trade on T-Craft etc.  
Fred Kugel 810 Kensington  
Celina, OH 45822 419-586-4956 ev.

Wanted to Buy -- Tubing Kit for Sonerai either II or IILTS, also spars and ailerons

Mike Drake 414 Asharoken Blvd  
Bayshore, NY 11706

For Sale -- Sonerai II Mid-wing 1700 VW Alt., Strobe and Nav. 60 hrs TT  
Ron Pfeil W 199 N11525 Rosewood  
Germantown, WI 53022  
414-628-4716

For Sale -- Sonerai II LT 95% complete  
Hapi 1834 dual ign., Great Am.Prop, Trade up or down f/ flying airplane \$ 6500 or best offer  
Roy Johnson 26 Raleigh Rd.  
Framingham, MA 01701

For Sale -- 1700 cc Monnett VW Engine w/ Electro X, tuned exhaust, oil cooler, Super-carb, Slick mag, spinner a/ prop from Q-2 77 hr TT \$ 2650.00 complete  
Bill Slattery 17119 Wentworth  
Lansing, IL 60438

For Sale -- Diehl Supercase \$80, late mod. Type 1 Case \$80, Ritz 54x36 prop drilled for G/P hub \$100, Set Azusa mech.brakes \$30.  
Stewart Bergner 6015 Brentwood  
Arvada, CO 80003

For Sale -- Sonerai IIM, original two seat, midwing prototype, NZMX, 730 hrs TT, rebuilt 2020 VW engine, recent annual by certified A&P mechanic. \$6000 or best offer.  
Gilbert Polnow 205 S.Eagle St.#10  
Oshkosh,WI 54901 414-231-3479

For Sale -- Sonerai IIL project on gear 2180 Monnett VW, canopy, cowling, Sterba prop. Everything but wings. No time to finish. Best offer over \$2200.00 Wisconsin.  
Phil -- 715-276-6476

Wanted -- Electro-Vee Magnet Ring  
Mike Huff Rt 1 box 193  
Fair Grove, MO 65648

Wanted -- Drawings for Monnett Mag Drive and Coupling or the parts themselves.  
Bob Schank 35 Clarence St.  
Belleville, MI 48111

Wanted -- Sonerai I for Formula Vee  
Bob Cowart Rt 1 Box 1346 A  
Columbus, TX 78934

For Sale -- Unused Son.II Main Fuel Tank --\$150 also Aux.Tank \$125 or Both for \$250  
Tim VanAckeren 8039 W.Howard  
Milwaukee, WI 53220  
414-546-0986

For Sale -- Sonerai IILT almost ready to fly, will finish and sell with special roll-on trailer, or trade for something slower Up or Down, 2 place. My equity \$8000.00 Claude Icard P.O.Box 274  
Rutherford College, NC 28671  
704-874-2033

For Sale -- Sonerai IIL Project, fuse. welded, wings built, L.G., wheels/brakes fuel tank, two cowls, new 1850 Monnett engine and prop, misc. \$ 4000.00  
John Brosseau 708/426-4953

Also -- Witchhawk project 2 place biplane

For Sale -- Sonerai II Midwing Tailwheel 375 TT, wing mod done, Sterba prop, Super-vee or Econo-vee cowlings, complete less short block. \$ 3500.00 or best offer  
Bob O'Day 708-742-0522

For Sale -- Sonerai II L Great Pl 2180 Cleveland wheels and brakes. 90 % complete.

Archie Parsons 708-998-2030 days

For Sale -- Sonerai IIL Kit - all welding done, 50 % complete, 1900 Limbach engine and access. \$ 6000.00 or best offer  
303-666-5494