

# SONERAI

# NEWSLETTER

Welcome to this Fall 1988 edition of the Sonerai Newsletter. As they say, the year has gone quickly although this past summer did seem to drag on a few times when the temperature really got up there. One of the first things to let you all know is that we have moved shop and home to southern Wisconsin as of the first of September and are still getting settled in. The real estate lady promised us that kids don't argue or fight in Wisconsin so we just had to make the move. So far she has been right on the money, although I can't explain it. ( We figured it meant to leave the kids in Illinois. ) So, please address all future correspondence to:

Ed Sterba  
 412 S. 5th  
 Delavan, WI 53115  
 414-728-1367

While on the subject of address, may I mention that all subscriptions to the Sonerai Newsletter are on an annual basis so this will be your last issue for the year. The cost for 1989 will be the same \$ 12 as in the past. If you folks are like me it will probably take a postcard about January to jog your memory as to why Sterba forgot to send the next issue. Most of us are human after all.

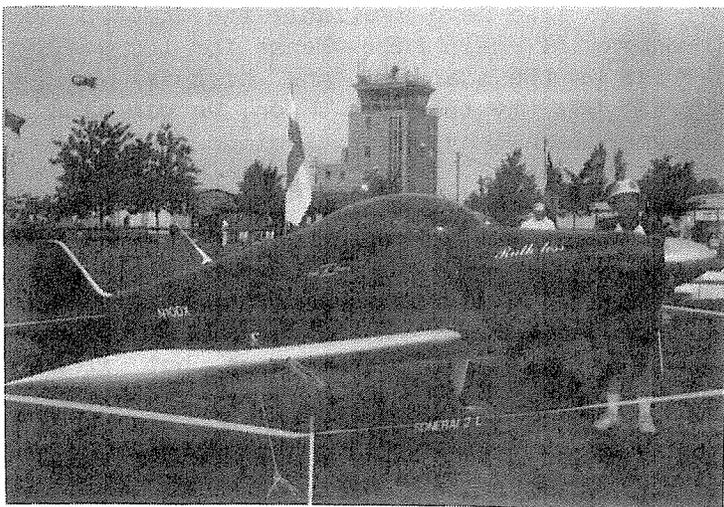


Pete Newkirk is as gorgeous as his airplane and they both know it. He was caught by Oshkosh Security on the last day of the Convention trying to steal the whole Control Tower on his lap. A little over gross aren't you, Pete?

### Oshkosh 1988

As you have no doubt read in Sport Aviation, Oshkosh is over and has been for a few weeks now. Sorry if you missed it. We had a very good turn out of Sonerai's this year considering the weather and the general level of activity you need to brave to get into the place. Seventeen of you did that this year and I'd sure like to thank you all for the effort. Here's who I counted:

- |                 |                 |
|-----------------|-----------------|
| Ed Hasch        | Bill Callahan   |
| Clyde Seager    | Jim Record      |
| Fred Kiep       | Dale Severs     |
| Steve Bourne    | Dennis Overson  |
| Bob Scanlon     | Mike Kasuboski  |
| Ned Wood        | Fred Kugel      |
| Tony Castellano | Blackie Malzahn |
| Pete Newkirk    | Jerry Shilt     |
| Ed Sterba       | Doug Laursen    |



Dale Severs' beautiful Ruth-Less at Oshkosh this year.

Steve Bourne and his partner flew in dual from Florida and Doug Laursen came all the way from California to make the show. Having done some of that X-C work myself I can appreciate the trip although California seems like an awfully long distance to sit in that little cockpit. We had a very well attended gathering at the Homebuilders corner on the flight line with everyone getting a chance to talk for a few minutes anyway whether it be to discuss reoccurring problems or a few of the joys of flying our great little airplanes. As always it was quite educational to me since I usually try to hog all the conversations. We were personally invited by EAA to use the fly-by circuit, and Jim Record did his best to show the crowd how the VW sounds when it gets wound up a bit.

Our attempt at a last minute dinner went off better than hoped for with over 40 people enjoying the food at Butch's. John and Betty Monnett were in attendance and most people hoped we could get it scheduled for an earlier night next year so that looks like the thing to do. It probably sounds a bit crazy but we can all look forward to next year even if you haven't got your film back from this year.



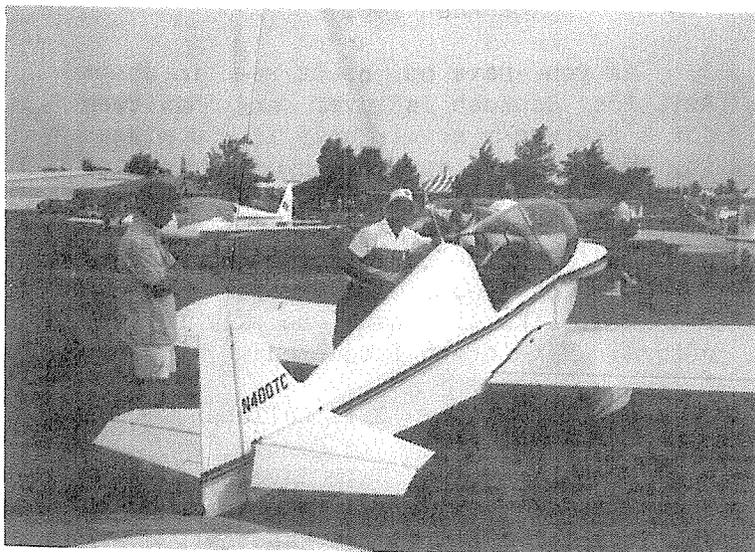
Blackie Malzahn's Sonerai II at Oshkosh this year being inspected by Dennis Brannon and I believe Ned Wood? He has a lot of hours on this machine.

\*\*\* New Parts \*\*\*

We tried to get word out at Oshkosh that the 5/8 " landing gear was now available through Great Plains Aircraft for the price of \$ 310.00. At the same time, we should mention that custom gears are available to meet all your aluminum landing gear needs.

We also have available the Stretch Sonerai II main Fuel Tanks for the same price as the standard tank which is \$ 275.00. By the same token, we can also custom make any shape aluminum fuel tank that is needed. Send the specs and we'll get a price quote to you.

This won't apply to most of you builders but we also can provide pre-welded fuselages for any of the aircraft. I don't believe this was ever a big seller for the Sonerai line but if a person doesn't want to tackle the welding there is no reason he should be denied the pleasure of flying a new Sonerai. Prices available on request.

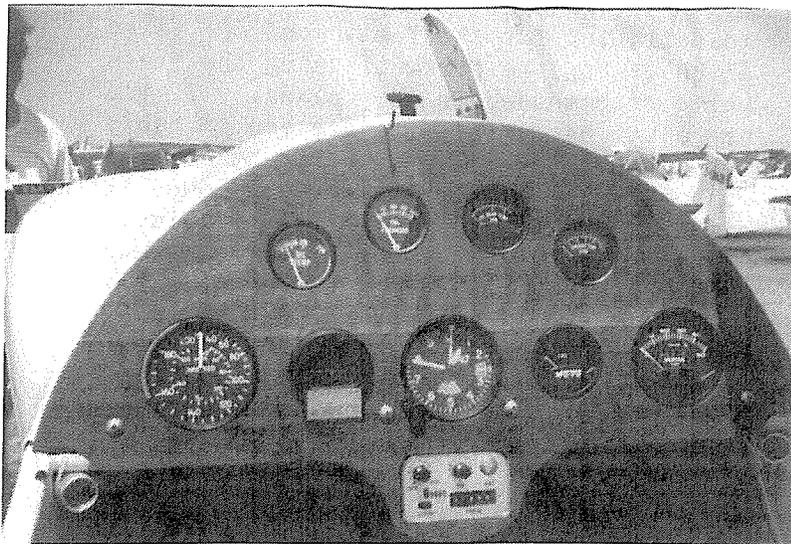


Tony Castellano at Oshkosh 88

Syphoning Problems?  
(Please read this if nothing else!!)

The Tech Counselor Newsletter had an article about the possible syphoning of fuel out the fuel vent line on the Sonerai aircraft. Several of you owners have also called about a possible problem. I am not talking about refuelling and then watching fuel start to drain overboard as you pay your fuel bill. I am talking about the engine quitting on takeoff as the fuel surges to the back of the tank, starts to flow out the vent line creating a syphoning action which then attempts to pull more fuel out of the tank. Since the tank vent is covered with fuel there is no room for air to get into the tank (thereby stopping the syphoning) other than through the carburetor which would introduce air into your fuel line. I don't know what this would mean to a float type carb but with the Posa it just might mean fuel stoppage. This has apparently happened to Sonerai pilots in the past. The engine has stopped running about the time you break ground and not caught again until the nose was lowered exposing the tank vent to incoming air.

What can be done? One simple fix is to keep the level of fuel in the tank at a lower level so there is more air space in the tank during the important rotation period so the syphoning can't get started. This is probably what most of us are doing without thinking about it since the problem isn't all that prevalent. There might also be a way to allow for air to enter the tank through another source, the most obvious idea being a vented fuel cap. There would be a chance for fuel to get on the canopy so it would take some testing. Any further ideas on this subject?



Jerry Shilt's fine looking instrument panel. Note the little wire to open the fuel door, and the cooling tubes left and right so you always fly in air-conditioned comfort.

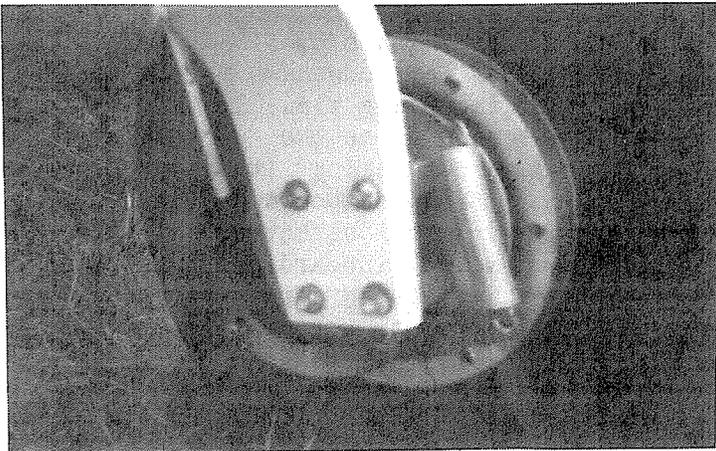
Buzz again?  
(Inboard aileron arms)

Ed Hasch said I could use his name on this quick note so we thank his honesty. As he was leaving Oshkosh he found a note on the canopy advising him that his left aileron counterweight arm was cracked and would require a close look. He had had this happen in the past and had made an effort to carefully reach under the wing on each preflight to give the arms a feel for looseness along with a look from the wing tip. In this case the arm was cracked on the upper, lower and inboard sides making it appear fine when viewed from outboard or given a shake in the vertical direction but prone to fail when moved inboard and outboard. It wouldn't have lasted very long at all. Our thanks go out to the EAA volunteers in the aircraft repair station for their help in getting the arm reinforced and welded up again. (Ed wondered why it was that I seemed to know most of the people getting their aircraft fixed.)

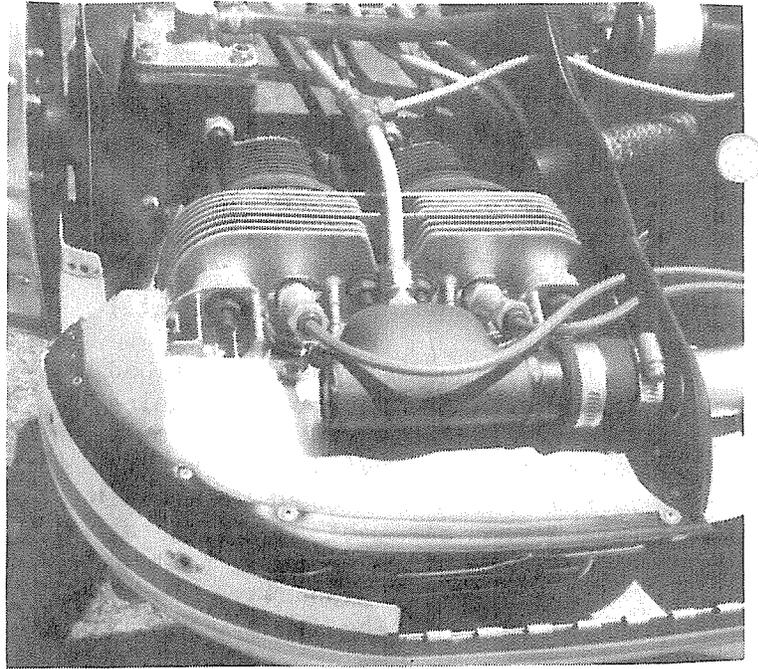
## A Wet Start ?

My Sonerai has the original installation for the fuel shut off valve which is on the firewall using the brass valve recommended in the plans. If you are also using this device you probably already know that it needs to be greased with the special Fuel-Lube grease once in a while or it tends to get very difficult to turn. And can also tend to leak slightly if things get bad enough. This is evidenced either through leaking (obviously) or through a prolonged shut down time at the end of a flight. Well, I've experienced these problems before but I believe can add one more to the list.

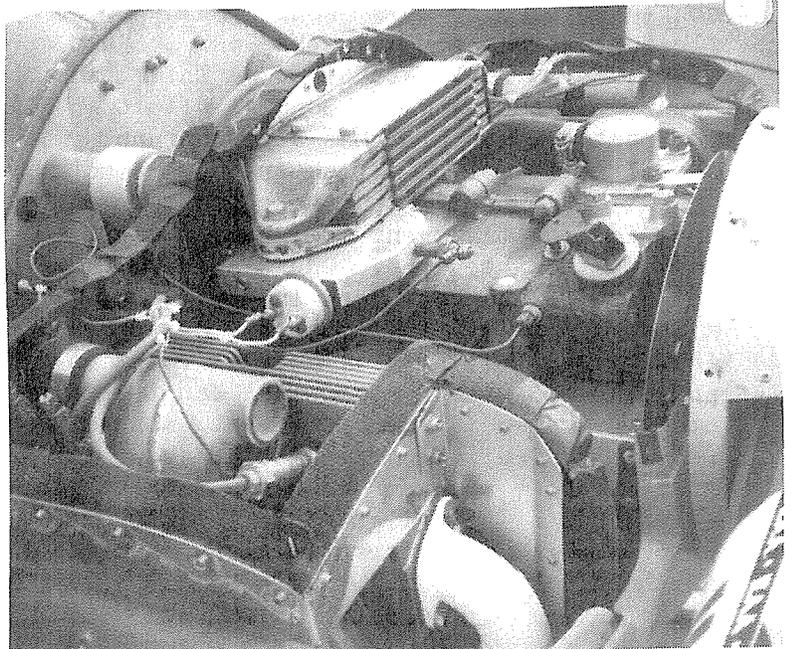
When cold 78ES is normally very dependable in starting requiring 7 to 10 pulls with the fuel valve on and the throttle cracked before roaring into action. A few weeks ago it started and ran on the second pull after sitting for a week and caught me leaning back in for the next blade. I'm still here to tell the story but I woke up pretty quick after that since it had never happened before. My only guess is that "yes, the fuel valve has needed grease for a while" and has actually been losing a noticeable amount of fuel in a weeks time, but it never dawned on me that it might also be keeping itself primed and ready to go. The answer to this little problem is self evident--- stay awake and treat every pull as though it as the live one. Or, as they say, it might be your last.



I believe this is Bob Scanlon's brake installation with a return spring to keep the Azusa' from sticking on. Gee, his must actually work!



Tony Castellano's engine and baffle arrangement. He has a balance tube to connect the intake manifolds and the very necessary blast tube for the magneto.



Fred Kiep's new oil cooler adapter to allow a low installation. He also has a plate behind the spinner to force air into the cowl openings.

## OIL TEMPERATURES AND COOLERS by Fred Keip

I thought I might add some commentary on oil temperatures to those in the Summer '88 Newsletter. I started out with the standard Rochester mechanical oil temperature gauge which I also calibrated using boiling water. Instead of mounting the probe in the Monnett sump cover, I put mine in the left front corner cover (it's a type 3 universal case) with the same low reading results (130° to 140°F max.) This was most likely due to the probe also being in a high velocity airflow plus I suspect that the oil in that part of the sump is relatively stagnant.

Since I didn't trust these readings, I converted to a Stewart-Warner marine 12V electric oil temp gauge with the probe mounted in the oil cooler by-pass block. The oil temperature reading shot up to over 220°F on a warm day and in the winter it would read 195 F with a 30° - 40°F OAT. I really feel that this is a more realistic temperature reading. First of all it is being taken right after the oil leaves the oil pump and therefore is the temp the bearings see. I also think that crankcase temperature has little effect since the primary heater of the case is the oil that's splashing around inside.

The problem with reading oil temperature at the bottom sump cover is not only one of high velocity cooling air flowing over the cover and probe, but more importantly the fact that the oil being probed is "dead" oil. It is oil that is beneath the oil sump screen assembly. Oil flows through the top and side of the screen on its way to the oil pick-up tube. The oil sitting under the screen moves very little, if at all. Therefore, it gets cooled by the under-sump air flow and gives a false oil temp reading.

I now firmly believe that our VW engines need to have an oil cooler to operate optimally, since not only are they air-cooled but oil-cooled as well. With that in mind, I'd like to offer to anyone interested, an oil cooler arrangement that works very well, is very simple (i.e. no hoses or fittings) and is very easy to install.

As most of you are probably aware, there has been available for some time from HAPI and Great Plains a top-mount oil cooler adapter for mounting a late model type 1 or type 3 VW oil cooler to our engines. This is a simple little adapter that works well with one exception, the cooler doesn't fit inside a standard Sonerai II cowling. In order to solve this problem, I've come up with an adapter that top-mounts the oil cooler but moves the cooler rearward 1.58" and .31" toward the engine centerline. It is made from 2024-t351 or

equivalent .75" thick plate stock and is relatively simple to make if one has access to a small vertical mill or a good drill press and the proper milling cutters. It uses the standard VW rubber oil cooler seals and bolts directly to the engine. My engine is set up with a normal Cessna or Piper style plenum baffling arrangement with the top center baffle directly behind the cooler. Holes are cut in this baffle to allow air to pass through the cooler.

To give you some idea as to how well it works, this summer when ambient temperatures were running well over 80°F, my oil temp before I installed the cooler would run over 230°F. With the oil cooler installed, the oil temp dropped to 185°F. That's a 45° drop. Now that it's cooled off some, I find that it runs between 150° and 170°F, so I plan to block off some of the exit area to bring the temp above 180°. For the winter I expect that the cooler will get blocked off entirely.

If any of you would like to install a cooler in this manner, I would be more than willing to send you a detail drawing of my adapter. All that I ask is that you send me a self-addressed stamped business-size envelope. My address is:

Fred Keip  
11428 Six Mile Rd.  
Franksville, WI 53126  
(414) 835-7714

If you'd rather buy one already made, they are available for \$100.00 ea. from:

Dale Seavers  
1801 Fairfield  
Lindenhurst, IL 60046  
(312) 356-3025

Dale had one made shortly after I installed mine and has met with similar success.

Finally, I'd like to give credit to Ed Brannon of Racine, WI for coming up with the basic idea for this type of adapter. He machined a similar one for his son Dennis' Sonerai IIL. All I did was take his basic dimensions and come up with a simple drilling method to provide the needed oil galleries. Thanks, Ed, it's much appreciated.

## Sonerai N2EX first flight

\* \* \*

Pucker factor at max but still fun

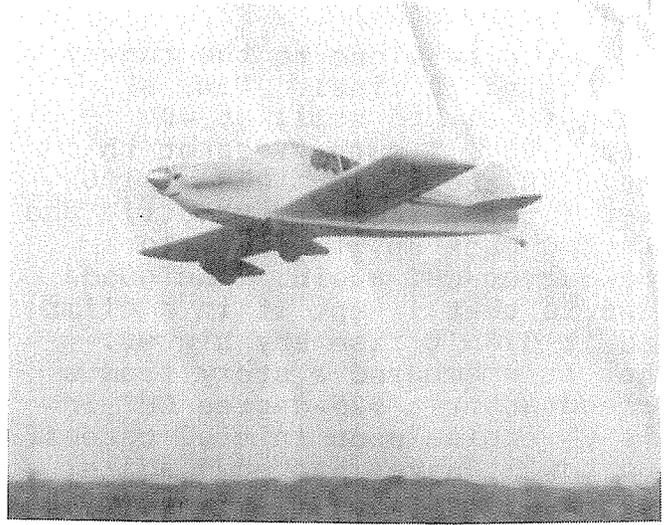
Sonerai builders take heart!  
Keep working because it's all  
worth it!

Tuesday, September 6 was  
absolutely gorgeous here in the  
Midwest, and I knew that evening I  
was going to fly. I even violated  
the first law of flight testing  
and invited several friends to  
watch. Conditions couldn't have  
been better, and I had learned all  
I could about the airplane from  
taxiing.

The grass strip I operate from  
is only 2300 feet, so the  
takeoff-and-immediate-landing  
method was out for me anyway. So  
I taxied at about 35 mph which  
gives you a very good feel for the  
Sonerai, and if you're short on  
recent taildragger time it will  
sharpen your centerline-tracking  
ability. After eight or ten  
sessions for 15 minutes at a time,  
I felt I could handle it pretty  
well. However, I was only able to  
get the tail up a few times; it  
seems to require about 40 mph to  
get the elevator airborne. The  
tail up made handling a little  
more tricky but it wasn't too  
bad. I should point out that I  
never attempted it in much wind at  
all.

Well, all the friends had  
gathered around, and it was time  
to go. I performed a radio check  
with my ground station--a friend  
with a hand-held transceiver--and  
taxied out the end of the runway.

The takeoff roll was routine  
to the 40-mph mark, but I kept it  
firewalled and attempted to lift  
off a bit too early. The Sonerai  
hopped gently, then settled down  
to take another breath. Several  
seconds later I was airborne for  
good, and then the damndest thing  
happened.



John Giordano's First Flight

Despite all my mental  
preparation, I was absolutely  
shocked to be in the air.  
Mesmerized might even be a better  
word for it. Sunlight was  
flooding the canopy, and I felt I  
was suspended over the cornfield.  
Automatic pressure sensors in my  
rear end told me the airplane was  
in a shallow climb, but it took a  
good 5-8 seconds to collect my  
thoughts enough to look at the  
airspeed. It was too low--about  
85 and descending. Yikes! I  
leveled out at about 150 AGL and  
searched frantically for a  
problem. Tach showed 2300. Only  
2300?! I checked the throttle and  
saw a good inch between the lever  
and the forward stop. I jammed it  
forward, and the HAPI 65 roared  
into a climb.

I watched altimeter and  
airspeed increase and listened to  
my heartbeat decrease as I turned  
the Sonerai downwind, now  
established in a climb at 90. Now  
what's wrong?! I looked at the  
CHT to discover that the tape for  
the red line had fallen off. It  
didn't fall off, stupid, my  
guardian angel said. That's the  
red needle on the instrument right  
behind the tape you stuck on it!  
The CHT had soared to 450 degrees;  
a quick check of all four  
cylinders showed the same thing.  
At 600 AGL I leveled off and  
within ten seconds the temp was  
375.

I stayed close to the runway and turned on final. Now, at short final and still at 400 feet. Boy, I sure overshot this one! At about mid-field at 100 feet I firewalled the throttle and started back up, right up to a 450-degree-CHT again. The good news is that I kept it in a climb and it didn't rise any higher. Then I remembered a story from a friend about a 525-degree CHT in his VW engine upon initial takeoff and how it never happened again. The rings have to get good and hot before they seat, he said. Don't worry about it.

This time I got to 800 AGL on the downwind leg and began to relax for the first time. I watched airplanes circling merrily around the pattern and a flock of birds in the distance. The visibility is incredible in a Sonerai. I peered over at my house just two miles away. I jiggled the controls up and down and sideways. I did a series of dutch rolls and had no trouble keeping the nose right on the horizon. Sitting right on the centerline thrust is an amazing sensation; you feel like you're wearing the airplane.

I was also pleased that the noise level wasn't any worse than most light airplanes. (I wear a headset, though.) Another friend had told me he grew tired of flying his Sonerai: ("like flying a trash can with someone beating on it.")

The biggest problem I had was controlling airspeed. The Sonerai is very sensitive in pitch; one moment I'd be at 110, the next at 95. I think (and hope) that speed control comes with experience, but I don't think it's something you can't handle the first time. I suppose I'm living proof.

Time to wake up, now, for another shot at the runway. I set up for a longer approach this time. Still too high. I pulled the throttle to idle and stabilized at 80 mph. Still high! Where are the flaps? The darn thing just won't go down! Well, at least I was a bit closer to the end of the runway.

To make a long story short, it took a couple more trips around the pattern, each time a bit closer to the end of the runway, before I realized I was really going to have to drag her in low and flat. Randy suggested from the ground that there was no hurry, that I should go around as many times as I needed. That helped calm me down.

The last time around (is this four or five?) I was getting worn out from a combination of terror and elation. On my final final, I skimmed the trees at the runway end with a bit of power, somewhere between 75 and 90 mph, still having trouble with pitch control. I was reasonably close to the runway numbers, so I started to pull the nose up to flare. The airplane started to go up and I wanted to go down, so I pushed the nose down. Big mistake! I pranged the mains on at too high an airspeed and she started flying again. Another 200 feet or so and I flared again, this time landing in a three-point, and it stayed put. But then the tailwheel swerved to the left, and I caught it with right rudder and overcontrolled, of course, so over to the left side of the runway we went.

At this point there was only 800 feet of runway left, so I had to make a decision. I left the airplane pointed at the cornfield on the left side and jumped on the toebrakes. After what seemed an eternity, they took hold and I saw I would probably stop, so I ruddered her back to the centerline. I came to a halt about 50 feet from the last runway lights and 100 feet from a drainage ditch along a road at the end of the runway.

I was one relieved Sonerai driver, let me tell you. But at the same time I knew that I would probably never do that bad a job again. Next time, I'll make a better judgment on a go-around decision and pay better attention to airspeed.

I've not exaggerated anything, but my graphic description might make this account seem scarier than it was. My first flight was one I'll never forget, and I can't wait for the next one because I know I'll be better at it. If you need a comparison to my level of experience, I'm a low-time pilot--400 hours in mostly spam cans with 20-odd hours in a Piper Clipper taildragger, the latter over 18 months ago. I flew very little while building for five years.

More stats: Five years, three months, and 18 days building; 1,680 hours of hard labor; and over 10 grand, and I can honestly say it's all worth it, based on one flight. I feel like I just got a big toy for Christmas.

A few tips: It really helps to have someone on the ground holding your hand electronically, to speak. (Thanks, Randy.) Do a lot of runway flying. Get some time in a taidragger, even if it's just five hours. And don't even think about going up the first time with any wind.

And, now, I'd like to thank Ray, Gary, Randy, Woody, another Randy, Daryl, Chuck, my wife Susan, and our three boys. It couldn't have happened without you.

\* \* \*

What a difference a day makes. The second flight in dead calm morning air was magnificent--no problems with takeoff or landing. I hit the numbers the first time around.

--John Giordano  
6916 Brentwood Drive, NE  
Cedar Rapids, Iowa 52402  
(319) 377-3399

#### For Sale

( Please let me know if the items are already sold to keep your phone from ringing )

Narco MK 12A to trade or sell for unit with glideslope -- Archie Frangoudis  
162 Naticook Rd. Merrimack NH 03054  
603-883-5800

1834 VW engine w/Posa carb, Slick mag, tuned exhaust, oil cooler, prop, spinner, Sonerai motor mount  
R.E. Mitchell 8 Harbour Hts. Ln  
St. Catharines, Ont. CANADA L2N 4K3  
416-646-2440

Sonerai Wheels and brakes and axles/  
Revmaster Acc. case w/starter, intake system Dick Morrow 418-24th Ave. Ct.  
East Moline, IL 61244 309-755-1495

1800 VW Monnett conv. w/ Super Vee Ext  
Ron Reimer 2113 Speed Ave. #1  
Louisville, KY 40205

UltraCarb-- John Santonocito  
28 Wetherstone Dr. W. Seneca NY 14224  
716-674-7403

Sonerai II LT 1834 to part out  
Ken Wasielek 29 W 153 Janet Ct  
Naperville, IL 60565

Sonerai II 1700 N 13JS total 50 hrs  
715-623-5366

Misc Sonerai parts from partially completed kit  
Pete Palmi 312-882-0018  
(weekends or from 7 to 9 PM)

Wanted--- Completed Sonerai II or IIL within 400 to 500 miles of NW Tenn. --or partially finished project.  
Gene Leonard  
Rt 1 Box 256  
Martin, TN 38237  
901-587-6473

FRED KIEP  
11428 SIX MILE RD  
FRANKSVILLE MI 53126

To:

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



# Sonerai News

## SONERAI PARTS LIST UPDATE

Great Plains Aircraft Supply Co. Inc.,  
has the following parts in stock ready to  
ship.

- |     |   |             |
|-----|---|-------------|
| 1.  | FIBERGLASS WING TIPS                                | \$ 79.95 PR |
| 2.  | FIBERGLASS WHEEL PANTS                              | \$109.95 PR |
| 3.  | FIBERGLASS BEAUTY BUMP                              | \$ 19.95 EA |
| 4.  | WING RIB KITS<br>(WHILE CURRENT SUPPLY LASTS)       | \$289.95 ST |
| 5.  | TAILWHEEL SPRINGS<br>(WHILE CURRENT SUPPLY LASTS)   | \$ 65.00 EA |
| 6.  | TAILWHEELS  | \$ 19.95 EA |
| 7.  | COWLINGS (SONERAI II)<br>(PLUS \$15.00 CRATING FEE) | \$275.00 EA |
| 8.  | 5/8" LANDING GEAR                                   | \$310.00 EA |
| 9.  | SPINNERS 12"  | \$ 40.64 EA |
| 10. | BACKPLATES  | \$ 18.95 EA |
| 11. | FRONT PLATES  | \$ 26.95 EA |
| 12. | 12V ROTARY FUEL TRANSFER<br>PUMP                    | \$ 24.94 EA |
| 13. | SHRINK FIT PROP HUBS                                | \$119.95 EA |
| 14. | ACCESSORY CASE<br>(LYCOMING MOUNTING HOLES)         | \$135.00 EA |

In addition to the above parts, Great Plains Aircraft Supply Co. Inc., can supply on demand Sonerai I cowlings. Great Plains catalog is \$3.00 It has a full listing of VW engine parts and accessories as well as much technical data. Write to Great Plains Aircraft Supply Co. Inc., P.O. Box 1481, Palatine, IL. 60078, or call 312-359-6558. Be sure to look up the Great Plains booth at Sun & Fun 88 in Lakeland, FL to see the full line of VW Aero engine and Sonerai parts in stock.