

# SONERAI NEWSLETTER

JAN-FEB-MARCH 1997

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**DAVE SIEKMAN'S SONERAI II**

## **HAPPY HOLIDAYS !**

And welcome to the first 1997 issue of the SONERAI NEWSLETTER "The Next Generation" (I couldn't help that. I'm something of a Star Trek fan.) It is my hope that I can fill in where Ed Sterba left off, and continue to make this newsletter a useful tool for all of you Sonerai fans.

I have a few goals in the editing and publishing of this newsletter. First, I would like to provide as much information as possible to help those of who are building the various versions of the Sonerai. Having built one, I know that the more information you have, the easier it is build. Second, I would like to make available as much data

as I can on the first flight and subsequent flight testing so that you can do it as safely as possible. Thirdly, I'd like to provide as much operational and maintenance information as possible for those of us who are already flying these great little airplanes. Basically, the goal is to make building, owning, and flying our Sonerai's more fun and exciting.

## **SUBSCRIPTION RENEWAL TIME**

As you all know, the Sonerai Newsletter subscription runs from January to January. So, you know what that means: It's time to renew again. Please take a look at the

mailing label on this newsletter and check the "PD" date. If it does not have a "PD 97" on it, this will be the last issue you will receive until you renew. Don't forget. Do it now! The cost is still \$12.00, and please make the checks out to me (Fred Keip) and not the "Sonera Newsletter". My bank won't accept them without my name on them. Also, I'd appreciate it if you would attach a note telling me which Sonera you're building and which engine you're using. Thanks.



### SO, WHO IS THIS GUY, ANYWAY?

That's probably the question that is many of your minds. Who is he, and why is he crazy enough to be writing this newsletter? Well, I know that some of you have talked to me at Oshkosh and Sun-N-Fun, so you know who I am, but for the rest of you, here are some details. First, I am a dyed-in-the-wool Sonera guy. I am the proud owner, mechanic, and pilot of Sonera IIL, N99FK, s/n 356. (That's her picture above.) Her

airframe was completely scratch-built by me, including all of the wing components. I started construction in January 1977 and flew her for the first time in June of 1986. Since then I have put over 450 hours on the Hobbs meter.

As for me, I'm 47 years old, had my Private Pilot's license since 1975, been an EAA member since 1975 and an AOPA member since 1978. I'm a member of EAA Chapter 18 in Milwaukee, where I've been Newsletter Editor, President, Vice-President, Board Member, and am now Secretary. I have been one of their Technical Counselors for several years. I've been a resident of Wisconsin for most of my life, and lived in the Milwaukee area for about half of it. I have a B.S. in Mechanical Engineering from the University of Wisconsin - Madison (Go Badgers!) and have worked in engineering in the open pit mining equipment business for most of the past 23 years.

So, that's a little about me. I don't know if it qualifies me as an editor, but I'll let you be the judge.

### THANKS, ED!

I went back through all of my back issues of the Sonera Newsletter the other day, and did a little counting. Do you realize that as editor and publisher, Ed Sterba produced this collection of words for over nine years? That's thirty-seven consecutive issues, starting in the fall of 1987, and ending with the last issue of 1996. Ed, for all your fine words, your humor, your advice, and your dedication to the Sonera line of airplanes, I would like, on behalf of all the Sonera aficionados out there, to thank you for everything you've done to keep our little



airplanes alive and well. I hope your future endeavors are successful and enjoyable. Thanks again, and happy sailing.

## A REQUEST

I have a request of you, the subscribers of this newsletter: I NEED YOUR INPUT!!! In order for me to meet the goals I've set for myself, I need to know what you want to know. You can help out in any number of ways, some easier than others. First, send me (or call me with) your questions about building, testing, or flying. I'll do my best to provide answers. Secondly, write and submit an article, or letter, with information you feel could be valuable to others. (These don't need to be really elaborate, that's why I'm the editor.) Thirdly, send photos of your airplane and any unique project details. Finally, if you're flying, let us know about any trips that you've taken or any adventures that you've had. These are always fun to read and will give our builders a little more incentive to finish their projects. And, please let me know if there are any ways that I can improve this newsletter. I'm open to any suggestions.

## BUILDER'S SUPPORT

For those of you who are in the process of building your Sonerai, I know there are times when the plans just don't sense, or there is problem for which you can't see the solution. Well, I'm willing to try to help you out. Ed Sterba has been the "product support" guy for the last several years, and he would like to retire. So, call me instead. I have to work for a living, so don't call during the day. My wife will likely answer the phone and she won't have any answers

for you. Just call me after 6:00 PM Central time. I do have an answering machine, but please don't ask me to call you back.

Also, I would like to ask for some help. Any of you who have finished and are flying your airplanes, and would like to help others do the same, please let me know. I will publish your names and phone numbers in the next issue. Thanks.



## PITCH TRIM (ONE MORE TIME)

In the last issue, Ed published my article on the details of the jackscrew style pitch trim system that I installed last spring during the recover job. It continues to work well, and I wish it had been installed earlier. This time I would like to offer one more alternative for those of you who are building, or rebuilding to consider. That is the elevator mounted trim tab. This is probably easier to install than the jackscrew, and should be at least as reliable. The photo shows a typical trim mounted on a Sonerai at Oshkosh.

Unfortunately, I took the photo several years ago and I don't know who built it.

Rather than spending a lot of time describing how to build and install a trim tab and its controls, I'm going to refer you to one of the best books that a homebuilder can buy: **THE SPORT PLANE BUILDER** by Tony Bingelis. Tony has written four books for us airplane builders, and as far as I'm concerned everyone should have all of them. They are available from EAA headquarters. Anyway, read pages 129 thru 133 in the book, and you will have virtually all the information you will need to do it right. Just one word of caution, though. Make sure that there is no slop in the trim tab hinge or the rest of the system to minimize the risk of flutter.

## FROM THE ARCHIVES

*The **Sonerai Newsletter** has been in print now, under various names and by various people, since 1976 or 1977. I bought my Sonerai II plans in 1976, and have received or subscribed to the newsletter ever since. (And I have kept them all.) As you can probably imagine, over the years a ton of really good information has been printed, and for those of you have joined the ranks of Sonerai builders and flyers only recently, you've missed a lot of it. So, to help you catch up, each issue will contain this feature. Most of these reprints will come from the newsletters published by Monnett Experimental from 1976 thru 1984. As you are aware, Ed Sterba made copies of all the significant articles he published available on a floppy disc. I will hopefully be able to continue that service in the near future. So, for the first entry, the following is taken from the May 1, 1977 letter and was written Gregg Erickson:*

"Several of you are getting close to flying, as I've received several letters and calls about the first flight. My only real firm suggestion is DO NOT do any high speed taxi tests, but DO taxi around a lot. Remember, you'll need LEFT rudder. Once off the ground, climb to 500 ft. before any turns if at all possible. Landing should be no problem, just use a full stall and if you tracked your gear properly, roll out should be simple with no tending to ground loop. Engine temps on initial flight should be: Cylinder head up to 425°F on climb out, down to 350-380°F at cruise. If it remains real high, check to see if the thermacouple is tight around the spark plug. Oil temp can go to 230-240°F as long as the pressure stays above 20 pounds or better unless you're using synthetic oil. The oil should come down to 190-200°F in cruise. If it stays around 225-230°F you should seriously consider a cooler. EGT should be around 1050-1200°F. RPM on climbout 3000 to 3300. We like to see a static of at least 2900 RPM. If you're using a Warnke ground adjustable, you may want to flatten the pitch a little so you get 3100 RPM. This will give you a good climb but will only show about 130 mph cruise around 3600 RPM. If your airspeed is close to being accurate you should be able to lift off at 60-65 mph, and fly final around 80 mph."

## SUN'N'FUN '97

If you haven't started planning for it yet, Sun'N'Fun '97 is scheduled for **April 6 - 12, 1997**. Because that is the first week in April and that will probably be the week that the next newsletter goes to press, I won't be able to get the specifics of the Sonerai activities out to you before the event. So, let me tell you what I know so far. First, we will be having a Sonerai forum. Check the



program for date and time. Second, there will in all probability be a Sonerai dinner around mid-week. Check with Steve Bennett at the Great Plains Aircraft Supply booth for details. Third, let's get some Sonerai's down there this year, particularly you guys who live close by. And finally, yours truly will be there. I haven't yet decided whether I'll be ambitious and fly my airplane down, or be lazy and use one of my frequent flyer tickets. It's too early to tell.



## TO TOW, OR NOT TO TOW

Got a note from Steve Prosser in Henderson, Nevada in which he says, "I live in the Las Vegas, NV area and own a Sonerai II. The guy that I got it from tried to put a two-cycle engine in it, and it didn't work. He cut holes in the cowl that I'm fixing. I am putting a VW 1835 in it. The airframe has a total of 80 hrs on it and is still in very good shape. I am interested in

information on the towbar. The plans don't show much on it."

Well, Steve about the only thing I could find on the towbar, that was of any value, was this photo (see below) of the towbar that was built by Glenn Eisenbrandt of Fort Atkinson, WI. As you can see it is made from steel angle stock, and it has a bracket for securing the the tailwheel spring. The hitch itself appears to be a commercially available unit. I think the secret is to make the towbar long enough so that there is sufficient clearance to the horizontal tail for sharp turns, and that you have a good, secure clamp for the tailwheel spring.

## WINTER IS HERE- WATCH THOSE COLD TEMPS

*This article was stolen (with Steve's permission) from the Great Plains Aircraft Supply **Beetle Flyer** from the Winter 1991 edition.*

Old Mother Nature's cold shoulder is back for the next five months or so. Keep in mind a few important items when flying your VW this winter:

**OIL!** Please do not use aviation oil in your VW. It's just too thick! The VW has tiny oil passages in comparison to the aircraft brothers. Use 10W-30 or straight 20 or 30W automobile oil.

**REAR SEAL!** In cold weather, slowly advance your throttle if you do not preheat your engine. If you've never seen a rear seal blow out, or an oil cooler blow up, you haven't missed anything! Below 40 degrees F, please preheat your engine. A simple hair dryer works fine.

**CARB ICING!** On those cool, moist days with the temps between 30 and 60 F, carb ice is most likely to occur. With the minimal carb heat muffs most of us use, we do not have a good 90 degree increase between outside air temp and carb heat temp. With the power at idle for landing, very little temperature difference exists at all. Use a little power, perhaps, down final!

## SONERAI NEWS

- Steve Bennett at Great Plains Aircraft Supply is working on a VW conversion which will drive the propellor off the flywheel end of the engine. He plans on testing it on an airboat, and is planning to have it at Sun'N'Fun this spring.
- Ed Sterba has sold his Sonerai II and it's on its way to Italy. He's already spent the money on a 30 foot sailboat in Florida.
- John Monnett is now in the process of building five of his new design Sonex airplanes. For those of you who missed the photo in **Sport Aviation** several months ago, the Sonex is an all metal, low wing, two place side-by-side machine powered by a VW.
- Sky Struck Enterprises is planning to offer Sonerai Builders classes again this year, and as of now they don't have the dates firmed up yet. If you're interested, give John Monnett a call at 414-231-8297.
- Congratulations to Dave Patterson of Fall River, WI for winning the 1996 Formula V National Championship in his Sonerai "Zoomy". There's a great photo of Dave and his airplane on page 5 of the January **Sport Aviation**.

## A LETTER FROM MARTY HAMMERSMITH

### FOR SALE:

It's been a lifelong dream of mine to learn to fly helicopters and at the age of 34 it's time to go for it or forget it. I want to be young enough to learn to fly and enjoy helicopters but I've had to wait for the finances to improve. Well, the money's not all there, but with the sale of my beloved Sonerai, I should be able to get started.

I reluctantly offer for sale the 1987 Sonerai IIL I purchased two years ago. (I've put better than 100 hours on it since then.) Power is by a Great Plains 2180cc VW engine and "force one" propeller hub. Engine features include Ellison throttle body injector, primer, Slick magneto, 54 X 48" Sterba propeller, and 20 amp electrical system.

Airframe features include hydraulic toe brakes, tinted canopy, wheel pants, Terra Xponder with mode C encoder, fuel pressure boost pump, external comm antenna, and large battery. Tires are almost new Goodyear Flight Custom II's on Azusa aluminum wheels.

This aircraft will not win any shows for appearance but it was built light (currently empty weight is 546#,) and flies great. Aircraft has always been hangared and you can see a photo of it on the cover of the Oct-Dec 1996 **Sonerai Newsletter**. Aircraft is in annual, pitot static test is current, and the aircraft flies regularly (except in the cold of winter.) I'm asking \$8700 and am only selling it to help finance helicopter flight instruction.

Related to the Sonerai, I have a 22 year old 16 ft 7500 GVW tandem axle trailer used to bring this aircraft home from Wisconsin. It



features electric brakes and battery powered "break away" kit, lights and wiring harness. Over \$1500 invested, available for \$1000. Sonerai fits it perfectly. Trailer only available if aircraft is sold.

Marty Hammersmith  
1777 Oakridge Dr.  
Lawrenceburg, IN 47025

## A LETTER FROM DAVE WILCOX

### Wing Folding Hinges:

Prospective builders of the Sonerai IILT or LTS should realize that the wing folding hinge as shown in the plans will not work. When folded downward, the leading edge of the low wing will not clear the landing gear on the tricycle configuration. The 16.125 sliding tube would have to be made 3-4 inches longer in order to get the wing behind the gear leg. Fred, you mentioned that the system was a little springy as is, so making it longer would not be an improvement. Also, when folding the low wing against the fuselage, it misses the static port / wing support tube by more than a foot. I suppose the fuselage hinge support could be heated and twisted as mentioned in the plans, but that looks a little messy. I'm not sure that the note was intended for the gross adjustment necessary between the mid wing and low wing versions. I've already covered the fuselage so it's not possible even if I wanted to.

I plan to design a set of tooling that will do the same job and keep the weight off of the plane. The hinges and fittings weigh about 2 pounds. The tooling should be not too hard to design. The wing tang only needs to get started into the carry through spar.

Then the tooling could be removed for the final insertion. Let me know if anyone has already done this so I don't reinvent the wheel.

### Fabric Layout Plans:

I've sent a sketch of two ways to layout the fuselage fabric. I used the longer plan that has a doped seam on the turtle deck centerline. This plan gives a nice transition from the turtle deck into the vertical stabilizer. The other plan uses less fabric, but a sewed seam would be necessary at the vertical stabilizer. No seam would be on the top of the turtle deck. Dope seams would be at the longerons (which must be taped anyway.)

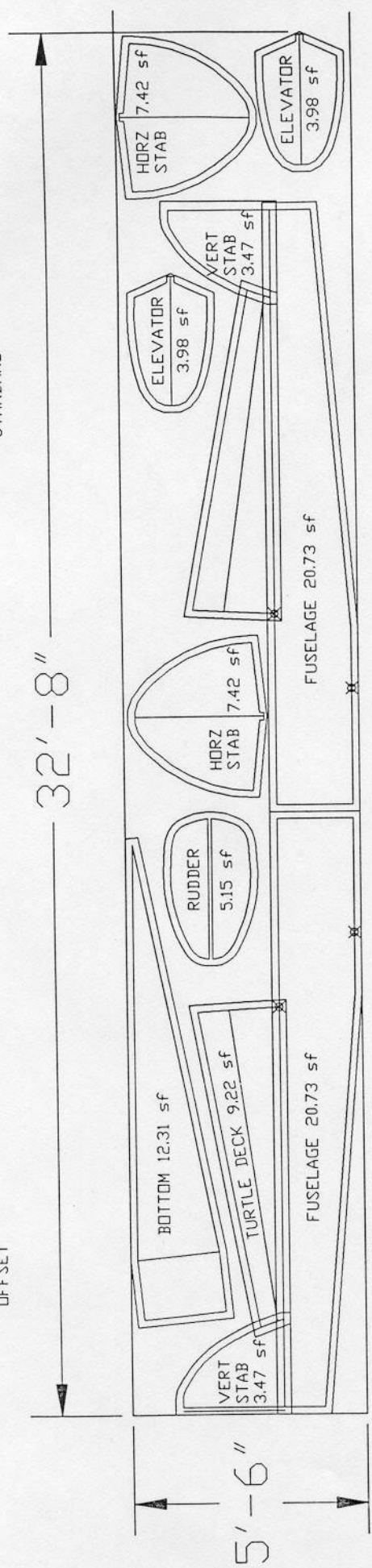
Dave Wilcox, Gilbert AZ

Freditorial Comments: First of all, I had never given much thought to folding the wings on a tri-gear, low wing airplane, but appears to me that the wing would interfere with the main gear. If any of you tri-gear guys fold your wings, let us know how you do it. One problem with making the sliding tube longer is that I don't think the folded wing will fit in front of the horizontal stabilizer. (On the standard fuselage, anyway.) As far as the fuselage support tube welded on just ahead of the carry through box is concerned, if you do a little layout work before you weld it on, it can be welded at the correct angle and won't require any twisting. And one comment about the fabric layouts: Be careful if you plan to precut your fabric before you glue it down because the fabric tends to move around as you glue it and pull it tight. Most people lay the fabric on the framework like a blanket, and trim and glue as they go. I plan to have some articles on fabric installation in future issues showing how I used the Superflight process. Stay tuned.

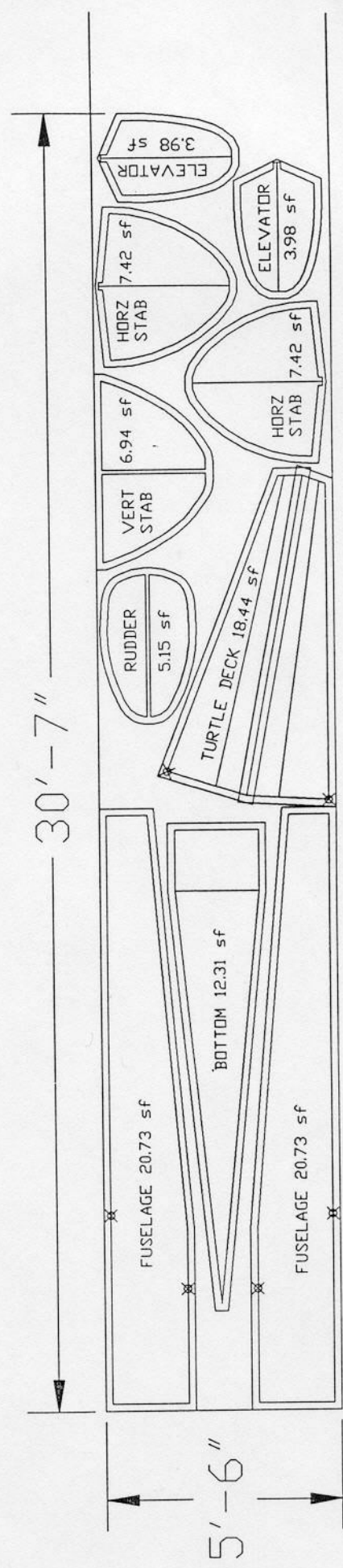
TOTAL AREA  
119.41 SQUARE FT  
NOT INCLUDING  
OFFSET

PERIMETERS INCLUDE  
2" OFFSET FROM  
TUBE CENTERLINE

RUDDER AND  
VERTICAL STABILIZER  
ARE 4" HIGHER THAN  
STANDARD



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# WANT ADS

For Sale - Sonerai I, 4 Hrs T.T., less Engine. \$4,900  
Jim Jaeger, Box 438, Kewaskum, WI 53040, (414)626-2611

For Sale - Set of Enginetics brakes with 5" wheels. \$175.00  
Dick Foster (515)287-2554

Air Schank Going Out Of Business Sale - New and used Sonerai parts, Engine parts, Tools and hardware, New and used instruments. Call or write for 5 page list.  
Bob Schank, 35 Clarence St., Belleville, MI 48111, (313)697-7057 after 5 pm.

For Sale - 1600 VW engine, 0 TT. Disassembled - all new parts. Complete engine. Mexico universal AS41 case, Case inserts. Case machined for Great Plains Force One Prop Hub. Has Force One Hub Parts. Dual Port Heads. Forged counter weight balanced crankshaft. Balanced pistons and rods. Pauter performance cam. Horz oil cooler and adapter plate. \$2100  
Bob Schank, (313)697-7057 after 5 pm

For Sale - Limbach 1700 Engine.  
Don Brinkley, (414)335-6519

For Sale - VW 1835 engine. All new hyd. lifters, SCAT heads, HAPI Access. case w/ dual alt., elec. ignition, prop hub installed, Zenith carb. Might separate. Apart for inspection. Can assemble.  
Bob Steig, (815)397-1533 days, (815)234-2283 eves.

For Sale - Sonerai II midwing, Supervee cowl, Sterba prop, 2100 engine w/ Revmaster prop ext. Also 4016 Slick Mag w/ 100 hrs, and misc. instruments.  
Eddie Eiland, 1350 Thunderbrook, De Soto, TX, (214)230-8475

For Sale - Porsche 914 2 liter engine project, Motor ran, mostly converted. 9" prop extension. Ellison Carb. 650 Honda alt., Aluminum welded manifold. Potentially the best VW conversion yet. Very cheap.  
Roger Durham, 1370 Thompson Ave., Glendale, CA 91201, (818)846-9163

For Sale - 2 Valve Covers, 2 Dual port int. man., 1 external oil cooler adapter, 1 oil cooler eliminator(bypass). All above are cast aluminum. \$65.00 total. Also, 4 exh. flanges, 2 steel "U" bends for exh. \$25.00 total. Also, 1 dist. hole rubber plug \$5.00. Everything together \$85.00. (210)899-4824 eves. or (210)438-3154 week.

For Sale - 1 Type 3 Supercase by Claudes Buggies, 1 forged crankshaft w/ hub and prop extension, 2 cyl. heads w/ S.S. valves, 1 set NPR piston rings. All for \$500.00  
(217)935-5345

Wanted - Sonerai II project or completed aircraft. Preferred to have it 70-80% completed.  
Dave Valaer, 2833 Summit St., Sioux City, IA 51104, (712)277-2823.

Wanted - Variety of good used or new Sonerai parts: cowl, canopy, 5/8" landing gear, spinner, S wing kit. Also interested in a Sonerai IIL project.  
Mike (219)534-2900

For Sale - Sonerai IIL, A&P built, Dual ign., hydraulic toe brakes, wing mod., much more, AeroVee 2020 w/ 60 hrs.  
Russ Larson (406)857-3304

For Sale - Sonerai I fuse. and flt. controls, complete except cover. Wings complete and skinned, 1600 VW rebuilt, SuperVee casting, spinner and prop, L.G., most everything else.  
John Ricchio (847)413-4962 or (708)447-0448 evenings.

For Sale - Sonerai I kit, welded fuse., wing kit, cowl, canopy, gear, wheels and brakes. \$2000  
John Dialogue (801)571-3063

For Sale - SoneraiII bubble canopy, smoked brown, complete with latches, etc. \$300 (US)  
(613)632-9601 home, (514)437-6129 work

For Sale - Sonerai II midwing fuselage, nice welding, controls, tailfeathers, spar box, gas tank, seats, on gear w/ 6X6 Azusa wheels, \$1000 or \$1250 w/ new Slick mag and harness. Might trade for Son I parts, other airplane parts, or ?  
Harry Fenton (815)965-4700 work

Wanted - 5/8" landing gear and fuel tank for Sonerai II.  
Jerry Campbell, 722 N. Main, Aberdeen, SD 57401, (605)225-8675

For Sale - Sonerai IIL, 275 TT, 1834 HAPI, Aerobatic tested, light damage. Must sell \$3750  
(309)944-2366 weekends

Wanted - Sonerai engine, instruments, and airframe parts.  
Gene Cook, 114 Imperial Ave., Friendswood, TX 77546

For Sale - HAPI motor mt., Bosch starter, Alternator, 3" prop ext, ignition switch, tailwheel assy., taper pins, #8 pin reamer

Greg Jannakos, 994 Vineyard Circle, Stone Mtn, GA 30083

For Sale - Sonerai IILT fuselage approx. 85% complete. Sticks, rudder pedals in, tail feathers on. \$850.00  
Bill Waters (770)466-2464

For Sale - 1600 VW w/ SuperVee Hub and oil filter. 156 hrs TT, 40 hrs since new top end. \$900. Also Slick 4016 mag. 156 hrs for \$50  
Nick Foudraine (902)755-1666

For Sale - Sonerai IILT (easily conv. back to convential gear) Wing Mod, VFR instr., Cleveland wheels and brakes, No engine or prop  
Ivan Haecker, 8434 FM 2673, Canyon Lake, TX 78133, (210)438-3354 weekend, (210)899-4824 evenings.

Wanted - Sonerai prewelded or tacked fuselage with tail feathers. Also, landing gear kit.  
Joe Burr, 4098 Eddystone Dr., Cincinnati, OH 45251 (317)827-7195

For Sale - 2 Ray Jeff Lorans, PL-99 w/ self contained battery packs, both w/ new chargers. \$175.00 ea or both for \$300.00. In cartons w/ manuals.  
Mike (219)534-2900

Wanted - Cont. A65 taper shaft prop hub and professionally welded fuselage for Sonerai (set up for Cont.) Also, I have Bendix mag rotors to correct the S-20 AD. For Sale - Cont. A75-8, 300 SMOH.  
John McLaughlin, 25839 Tallwood Dr., North Olmstead, OH 44070 (216)734-5578

For Sale - Sonerai I project, wings complete and ready for paint. Fuselage frame and tail completed and primed. \$1400. Can deliver Eastern US at cost.  
Jim Vliet, 80 W. Jericho Turnpike #102, Syosset, NY 11791 (516)364-457

For Sale - Revmaster 2100D with prop, all acces. included, starter, alternator, oil filter, carb, eng. mount. \$3975.00  
Len (616)676-9711

Wanted - Early style Monnett SuperVee motor mount (not x-mount), 32mm Posa Supercarb w/ needles, AC42 sparkplugs, broken tapered rod tailspring.  
Dave Patterson, N 3280 Hwy 146, Fall River, WI 53932

For Sale - Assembled wing spars w/ mod parts, nose rib blanks w/ holes cut. \$900 invested, will sell for \$500.  
Frank Dwelley (860)653-7106

SONERAI NEWSLETTER  
Fred Keip  
11428 Six Mile Rd.  
Franksville, WI 53126

**Real Pilots Fly  
SONERAI'S**