

# SONERAI NEWSLETTER

JULY-AUG-SEPT 2006

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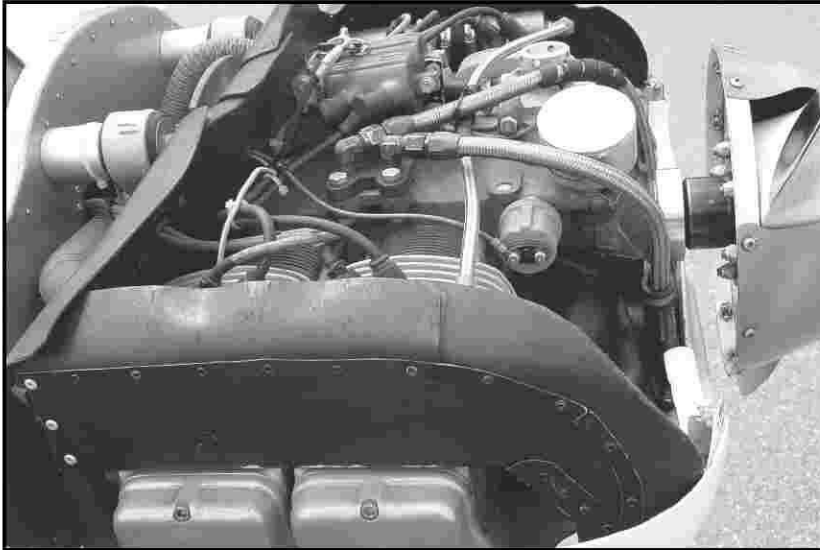
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## MARIO GAGGIOTTI'S SONERAI IIL

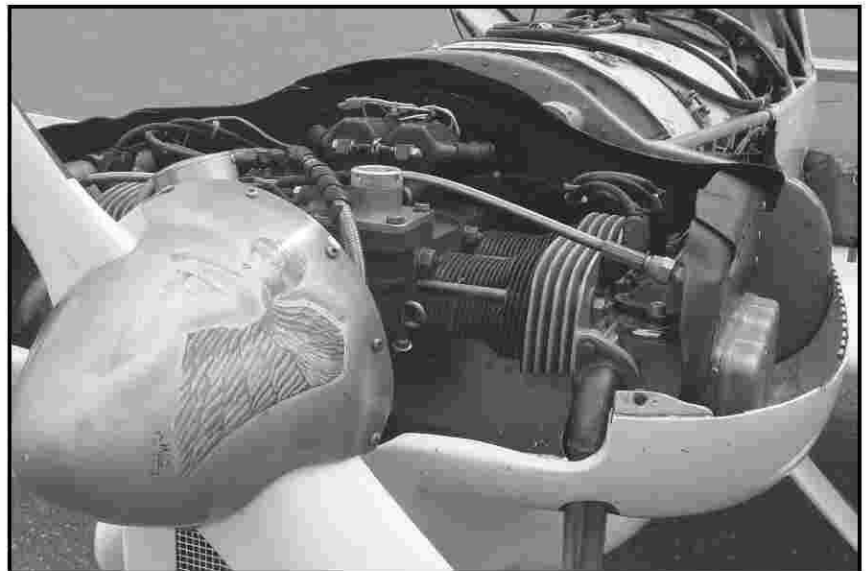
*When Mario sent in the renewal for his subscription, he attached a copy of this photo of his very nice looking single-place Sonerai IIL. As you can tell from the registration on the fuselage, Mario is from Italy. After a minimum of coercion, he sent several more photos and some details on his machine. The engine is a Mosler Red 82DX VW, 2165 cc and 82 HP. (This engine was supplied with individual Scat heads.) It has a Slick 4316 magneto along with an electronic secondary ignition, and a Zenith carburetor. There is a 30 liter main fuel tank and a 30 liter secondary tank. The propeller is a GT 59 x 42. Mario has installed a Becker VHF comm., a Bendix transponder, a Garmin Pilot III GPS, and a Narco VOR. (I don't think I've ever seen that many radios in a Sonerai before.) At 3100 RPM, he claims a cruise speed of 130 MPH, and a rate of climb of 900 FPM. See some more photos on the next page, and pay particular attention to the spinner. If any of you would like contact him, his email address is gaggmario@libero.it*



## More Photos of Mario's IIL

RH View of the Mosler Red 82DX Installation. Note the individual dual-ignition Scat heads.

See what I mean by paying close attention to the spinner?



The twin 30 l fuel tank installation and a basic IFR panel.

## GOING TO OSHKOSH?

It's almost that time again: July 24 thru July 30. Oshkosh AirVenture 2006. I hope you're planning to come, as it's always a great time.

As usual, there are several Sonerai-related things planned:

- The Sonerai Builder's Forum, Wednesday, 7/26, 1:00-2:15 PM, Pavilion 05
- Formula Vee Racing Forum by Ed Fisher, Wednesday, 7/26, 7:00-8:15 PM, Pavilion 04
- VW Engines for Sport Aircraft Forum by Steve Bennett, Tuesday, 7/25, 8:30-9:45 AM, Pavilion 04
- VW Engine Assembly Workshop by Steve Bennett, Tuesday, Wednesday, and Thursday, 7/25, 26, & 27, 1:00-2:15 PM, Engine Workshop
- AeroVee and the AeroCarb Forum by John Monnett, Thursday, 7/27, 11:30 AM – 12:45 PM, Pavilion 03
- Sonerai Picnic hosted again by Jeff Lang, at his hangar on the NE side of Wittman Field. Thursday evening, 7/27, after the airshow. Cost \$5.00. Let Jeff or me know if you're coming, so the proper preparations can be made.

Of course, there are all sorts of other things to do, like looking at thousands of airplanes, shopping in the exhibit buildings and the Fly Market, and watching the airshows.

As usual, I'm planning to camp in Camp Scholler, and will have N99FK on the flightline in the Auto Engines row next to the Homebuilder's Headquarters most of the week.

Stop by, and talk Sonerai's for a while

## SONERAI NEWS

- Great Plains News: For those of you venturing to AirVenture this year, Steve and Linda will again have their booth set up in Building D. Be sure to stop by and take a look at their latest offerings, and of course, talk Sonerai's and VW's.
- 2006 Fly-In Schedule:  
Here's a list of the big ones this year. Make plans now to go to the one nearest you:
  - Northwest, Arlington, WA 7/5-9
  - AirVenture OSH, Oshkosh, WI 7/24-30
  - MERFI, Marion, OH 8/25-27
  - Virginia, Petersburg, VA 9/30-10/1

- SERFI, Evergreen, AL 10/6-8
- Copperstate, Phoenix, AZ 10/12-15

- Sonerai Wing Construction Manual: There are 18 pages of text, 85 photographs, and 12 drawings, as well as a complete materials and a tools list. If you have an older set of plans (The manual is now included with the plans, so you new plans holders already have it.) and would like your own personal copy, sent me cash, check, money order, or PayPal (at the email address on the front page) for \$25.00. Postage is included.
- Back Issues: Sonerai Newsletter back issues are now available in three forms. The first is a CD which contains all of the complete newsletters published by Ed Sterba from 1987 through 1995 in ".pdf" format. It costs \$40.00. The second is a CD which contains complete copies of all of the newsletters published from 1996 through 2005, also in ".pdf" format. The cost is \$50.00. If you buy both CD's, the package price is \$75.00. And finally, there are also hardcopy back issues for \$3.50 each. I have the last two issues from 1994, and all of the issues from 1995 thru 2005 (That's 46 issues!). If you want any of the above, send me a note requesting the ones you want and cash, check, money order, or PayPal for the correct amount. Postage is included.

## BACK ISSUES UPDATE

For those of you who haven't completed your collection of the **Sonerai Newsletter** back issues, I now have available a CD with the collection of the complete newsletters published by my predecessor, Ed Sterba, from 1987 thru 1995. Like my other back issues CD, this one has all 38 newsletters in ".pdf" format with all of the photos, sketches, etc. included. It sells for \$40.00, postage included anywhere in the world. If you haven't yet purchased my 1996 thru 2005 CD, which sells for \$50.00, and want both, you can have them for \$75.00. As usual, I accept cash, check, money order, and now PayPal.

## ROGER GODFREY'S 2<sup>ND</sup> FIRST FLIGHT

by Roger Godfrey

*Back on April 4<sup>th</sup>, Roger sent me the following email outlining the status of his IIL. It's an interesting story.*

Hi, Fred: Well she is finally ready to rejoin the dance. I flew 49RG for the first time in 1989 and flew it off and on ever since then. With several

unplanned landings when it gave me the silent treatment. When my job (school superintendent) brought me to Ottumwa, Iowa I met a whole load of crazies who build and fly their own planes in chapter 409. I miss some of the guys in 291 (Sioux City, Iowa) but there are some great flying buddies here. One of the gang is a retired John Deere engineer who flies a Cougar. It was a ground loving slug which presented lots of drama on take off with a passenger. He put a Harry Riblett. Wing on it and kept his speed and got a vastly improved climb and a snail's pace landing speed. He has been after me to put a Riblett wing on my Sonerai IIL to "Make it into a true two place airplane" Last Fall a raging thunder storm blew in a whole row of hanger doors at the airport. It trapped and wrecked a lot of planes between the rampaging doors and the rear wall of the hangers. My plane was small enough that the pressure blew the rear wall out of the hanger before the door could put the squeeze on it. It did bash one wing.

I built new Riblett wings each two feet longer, used a combination of Sonerai and RV plan form. I increased the vertical stab. by 9 inches faired the gear and the wing roots, added a screw jack trim to the horizontal stab. I built a Great Planes 2180cc engine with dual ignition, and electric start. I had to add a box between the front rudder pedals to allow the starter to stick back through the fire wall. The trim screw jack is from an old car jack and is activated by a set of pulleys which run to a crank in the rear cockpit.



Roger Godfrey's N49RG

I'm on my third carburetor, this one is an AeroCarb and I don't have it adjusted yet. The electric start should make that process much easier. I had a moped battery in the tail for my radio. Now I have a motorcycle battery designed for a HD big twin. It works well and the extra weight in the tail balances the starter. My weight and balance came out real close to the same as last time. With more wing, a starter, trim, more verticle tail and more fairings, the plane weighs 65 lbs more than it did. I called Riblett for a wing recommendation before I built

these. I also called Fletcher Burns who has a Riblett wing on a Sonerai in Cedar Rapids. He said he hauled two 200+ guys in his. Nice weather is coming we will see how she flies.

*On May 21, he sent the following. Congratulations, Roger!*

Hi Fred: It flies. Truth be told it probably flies better than I do. With the new wings it lifted off way before I expected it to do so. It seems like it is going to be a floater as I used a lot of runway waiting for it to slow down enough to come down. With the taller tail and longer wings it seems more stable and would appear to have a lot more lift and climb capability. Don't know yet about speed as I cut the flight short due to an oil leak and a too rich mixture. Fixed the leak with new prop hub seals and re adjusted the carb. Think I may have it right now (aerocarb). I'll try to write it up later when I get it checked out.

Roger Godfrey  
rvgodfrey@earthlink.net

## **SWRFI 2006** by Ivan Martinez

The "Three Amigos" met for the third time at the SWRFI. Wade Jones and his lovely wife Ann towed their trailer to the show. They provided five star lodging and meals for Dave and Ivan (boy, were we lucky.) Wade would have liked to have flown his Sonerai to the show...but then his wife would not have been able to go (we also would have been out of the 5 star lodging.) Thanks Wade and Ann.



The 3 Amigos (Wade Jones, Ivan Martinez, and Dave Wilcox) with Dave's IILTS

Dave Wilcox flew his Sonerai 2LTS from Phoenix, Arizona Thursday, and Ivan Martinez (yours truly)

flew his Sonerai 2LS from Sugar Land, Texas on Friday. As noted earlier, Dave flew from Phoenix...his third year in a row. That is a long flight. It took him 12 hours to Hondo, Texas and 11 hours back home. My flight was slightly over 1½ hours each way. With just over 12 hours on my engine, I was a little apprehensive, but not to worry, she purred at 140 MPH 2400 RPM both ways with everything in the green.



Ivan with his ILS

This is the first major fly-in that my Sonerai has ever flown to. The feeling of having one's experimental parked along with the others, and having the placard on the propeller is indescribable. Todd Nelson drove in from San Antonio Saturday. Unfortunately, he missed Wade and Dave, for they left that morning. Todd's Sonerai progress has him with the wings finished, and the fabric on the fuselage ready for the Poly Fiber coatings. He plans on finishing by this summer...that's ambitious. The SWRFI has had its troubles finding a good home, and it looks like it has found one in Hondo. This location is adequate for pilots from all the major Texas cities. New Mexico, Oklahoma and Louisiana flyers can also make it in without too long of a flight. The town is friendly to airplanes and the airport is huge. With many runways, and acres and acres of concrete ramps and tie down rings everywhere, many planes can be accommodated. Camp sites abound throughout, and this is important since the town is small and motel accommodations are limited. Showers were available at several locations, and portable toilets were all over too. An Air Force flight school used to be at the airport and it has showers and bathrooms that are also used. Tram service ran till 8:00 PM (you need it, the airport is big.) They had shuttles into town (Wal-Mart, restaurants) a short drive. We could use more forums next year. The "Three Amigos" Wade, Dave and Ivan plan on being there for 2007, and we could use some company.

Ivan Martinez/Sugar Land, Texas/N567JM

## OFFSET DIMPLER by Ed Schrom

During wing construction, dimpling rivet holes is pretty easy with a rivet puller and the \$5 dimpling set available from Aircraft Spruce, the thing comprising the punch and die the size of calculator batteries and a nail to pull them together. The inboard half of the top flange of the main spar becomes a problem, however, because the 1-1/4 x 1-1/4 reinforcing angle blocks access for the nail. You could drill clearance holes through the angle or resign yourself to using non-flush rivets in these holes, but here is a homemade offset dimpling tool that enables you to use flush rivets without perforating the angle.

You'll need the above mentioned dimpling set plus two pieces of steel bar, 1/4-inch thick, 1-1/4 inches wide (give or take) and about six or eight inches long. See Photo 1. Clamp the two pieces of steel together and match drill two pairs of small holes, the first one a quarter inch away from the end of the bars and the second about an inch away from the first. The hole size should be selected to give clearance for the riveting nail, not too sloppy.



Photo 1

In the photo you'll see a third pair of holes. This is only because I didn't achieve enough reach with the second pair and had to make another one.

Remove the clamp and make a 100° countersink around the end hole of one of the bars. This bar is the die. It helps to taper and round the end of the die for getting at the holes that are near the ribs.

In the second bar drill the end hole out to 21/64 and tap it with 3/8-inch fine thread. This hole is



used to hold the punch half of the commercial dimpler.

To use the offset dimpler, align the punch and die around the hole to be dimpled and insert a cut-off nail from the front. The purpose of the cut-off nail is only to maintain good alignment of the tool to the hole. Insert the pulling nail through the second pair of holes from the back side. Now you're ready to dimple. A spring clamp comes in handy to hold it all together as you reach for your pneumatic riveter. You'll be surprised at how much the steel bars flex when you pull the trigger, so it's probably a good idea to wear your safety goggles. Photo 2 shows the tool in use on a piece of scrap. A spacer between the far ends of the bars keeps them parallel, which ensures a nice, symmetrical dimple. That's what the drill bit held in place with a rubber band is all about.



Photo 2

They'd never tolerate a Rube Goldberg gadget like this at the Cessna factory but it works pretty well and you only need it for 40 holes.

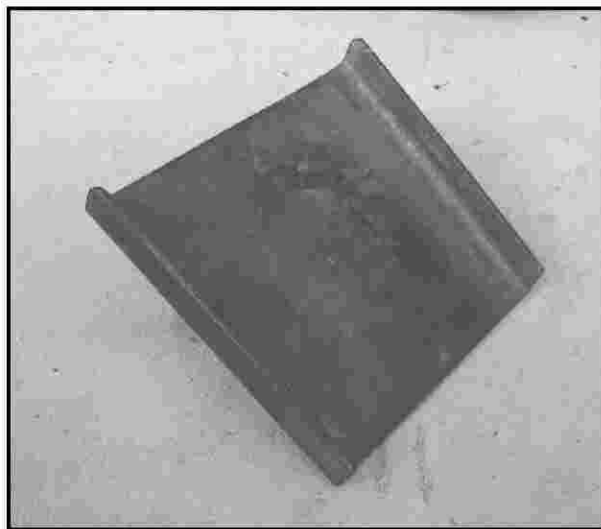
Ed Schrom  
2-LS  
Harrisburg, PA

## JACKING 'ER UP

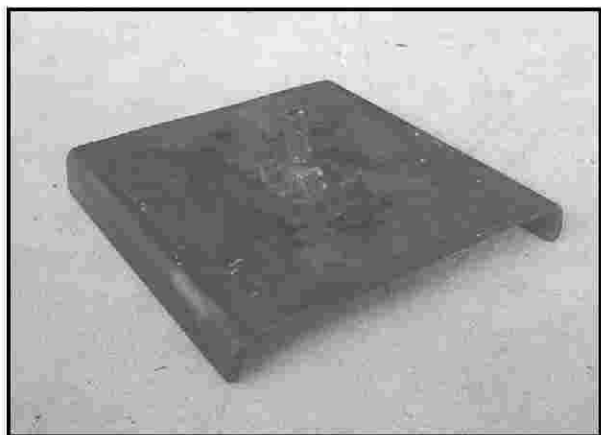
One of the quandaries you'll run into after the airplane is flying, is finding a convenient way to jack up the airplane to do maintenance on the wheels, bearings, tires, tubes, and brakes. I've tried a couple of different set-ups, but the one shown in the sketch and photos works extremely well. I'll admit that I didn't fabricate the jack pad that slips onto the gear leg. It was a gift from Ed Sterba. He called me one day as he was cleaning out his garage/prop shop in Delevan, WI, getting ready for his move to Florida, and said "I've got a

bunch of stuff you can have, just come and get it." Well, I've never been one to turn down free stuff...

The jack pad is made from steel. I have no idea which alloy, but mild steel will work fine, and will be easier to bend and weld to than some fancy alloy. It's in the neighborhood of .090" thick, but .063" would work fine, too. The sketch shows the finished dimensions, and the first three photos show three different views. The bolt is 5/16" and about 3/4" long, and is welded to bottom of the plate with a nice sized fillet all around. Once welded to the plate it is heated and bent down to meet the jack at a better angle.



Jack Pad Top View



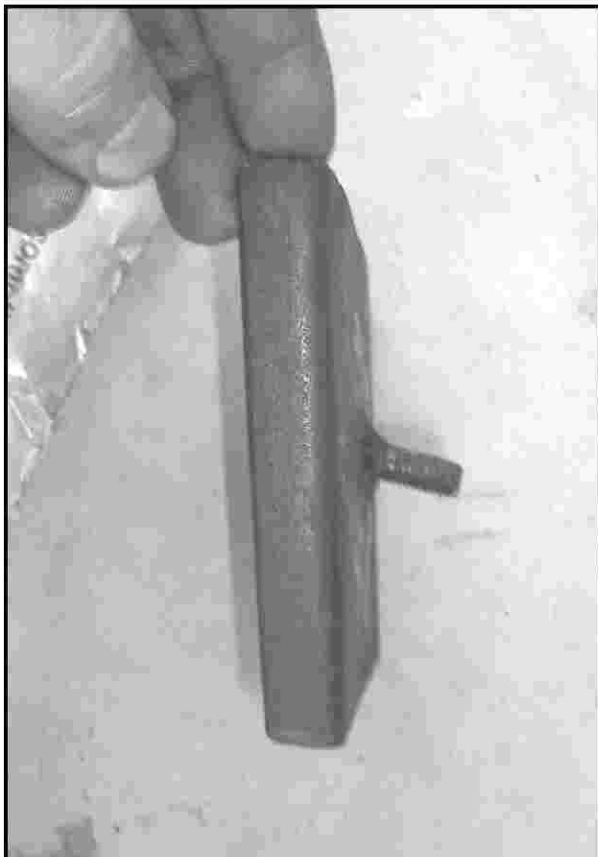
Jack Pad Bottom View

The fourth photo shows the complete jacking arrangement. The jack itself is a 1-1/2 ton bottle jack. The stack of 2x4's, which are nailed together, is used to raise the jack to meet the jack pad bolt so that it will not be necessary to operate the jack

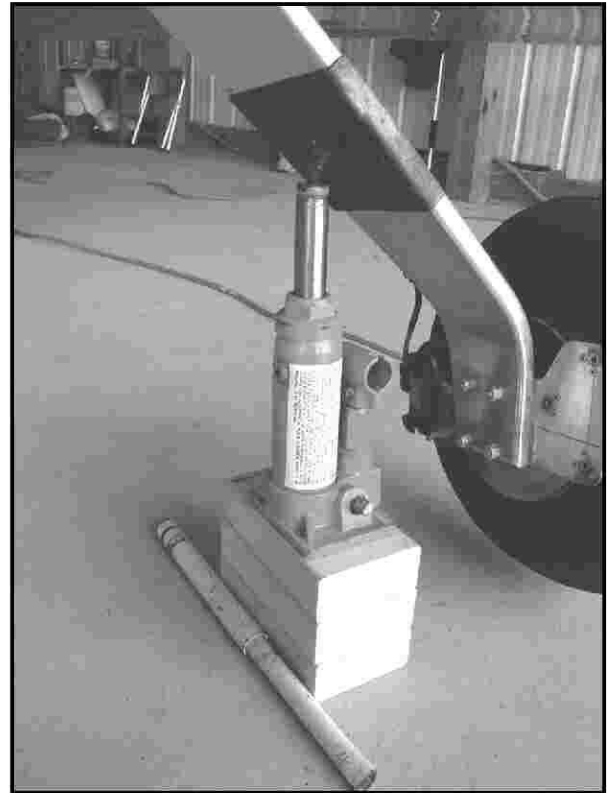
at long extensions. The jack pad is slid onto the gear leg until it is snug, the jack aligned, and pumped until it touches the pad bolt. As the jack is extended the gear leg will move inboard some as the tire loses contact with the ground. This will tip the jack past vertical, so release the jack, reposition it, and jack it again. It will be straighter the second time.

With the tire completely off the ground, you can do any required wheel/brake maintenance. When it comes time to remove the pad, it'll be necessary to tap it off with a hammer, since it wedges on pretty well. Also, the pad works on both the LH and RH gear.

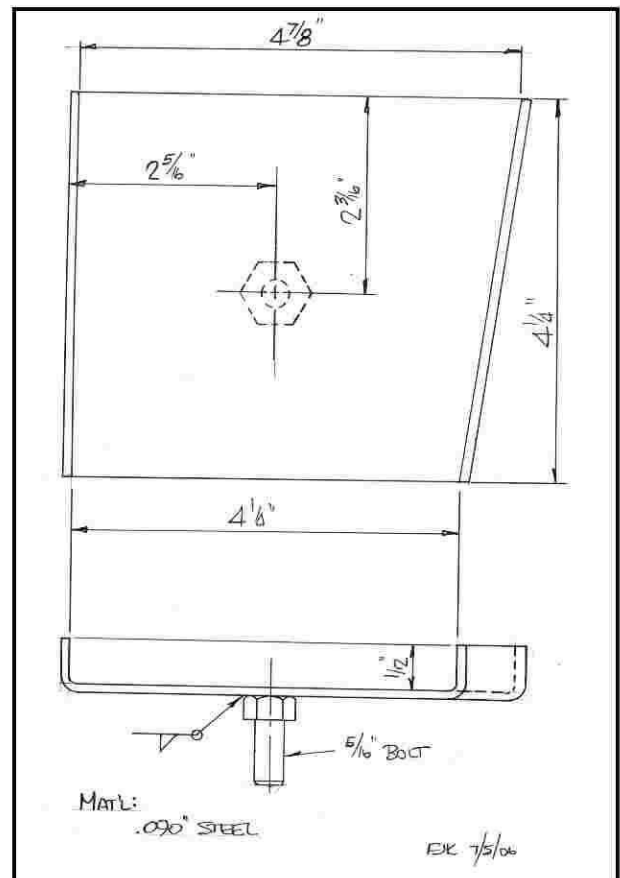
So, there you have it, another fun thing to fabricate for your machine. Have fun...



Jack Pad Bolt Position



Jacking Arrangement



Jack Pad Dimensions

# WANT ADS

*These Ads are provided as a service to you, the subscriber, and are free of charge. I only ask to be informed when the Ad is no longer valid, and needs to be removed. Thanks.*

TAPER PIN REAMERS & WING RIB LIGHTENING HOLE FLANGING DIES FOR FREE LOAN. Brown & Sharp #3 and #5 for AN386-3 and AN386-5 taper pins. \$150 deposit, shipping one way ~ \$5. Free loan for 14 days, \$2 per day after that. David E. Wilcox, 517 E. Saratoga St., Gilbert AZ 85296. [dwilcox@ispwest.com](mailto:dwilcox@ispwest.com)

SPECIALTY WELDING CAN SUPPLY YOUR COMPLETELY WELDED SONERAI FUSELAGE AND OTHER WELDED COMPONENTS. Contact Greg Klemp at *Specialty Welding*, W6461 County YY, Neshkoro, WI 54960, (920)293-8089 or (920)293-8007 (Fax)

RACEAIR DESIGNS IS AVAILABLE FOR YOUR FABRICATION AND RESTORATION NEEDS. Contact Ed Fisher, (330)856-7520, [raceairdesigns@hotmail.com](mailto:raceairdesigns@hotmail.com). Over 30 years experience in dope, fabric, welding, and sheet metal. Numerous awards including 1991 and 2004 Oshkosh Grand Champion Ultralight. No job is too big or small. Need a fuselage welded? Give Ed a try!!

FOR SALE: Sonerai II with 8 total hours of flight time. It has been garage kept the entire time. It has a production date of Feb 1982. It has an air cooled 4 cyl. 70 hp Volkswagen engine. Engine has been turned over from time to time to keep it from seizing up etc. Charlie Barnes, cell # 469 853-6472 or email at [tx-rmef-1@swbell.net](mailto:tx-rmef-1@swbell.net) (2/05)

FOR SALE: Sonerai IILTS w/ 100 hp liquid-cooled Rotorway engine. 67 hrs TT, covered with Stits Aerothane. Always hangared. A good flyer. Reason for selling: too many birds in the roost. \$15,000 Fred Ninneman, 816-353-1161. (2/06)

FOR SALE: Magellan Skystar Plus handheld GPS, with moving map, aviation database, 12 volt DC power chord, remote antenna adapter, and yoke mount. Works great, but can no longer get database updates. \$50. Fred Keip, 262-835-7714, [fredkeip@aol.com](mailto:fredkeip@aol.com) (1/06)

FOR SALE: Sonerai II. Fuselage complete; 2 sets of tail feathers;

landing gear with disc brakes; tailwheel; 2 sets of wing tips; cowling; wheel pants; rebuilt 1850 VW with alternator, posa carb; many extra parts. \$2500. Joe Kelly, 10141 Flagstone Rd., Brooksville, FL 34601, 352-796-9793 (1/06)

FOR SALE: 5/8" Sonerai II landing gear, including Tracy O'Brien C-90 hydraulic brakes, 3/4" Cessna-style axles, 5" Azusa aluminum wheels, tires. Used but low time. New \$850. Sell for \$425 plus shipping. Located in Juneau, WI. Email [dbcpa@powerweb.net](mailto:dbcpa@powerweb.net) for photos. Dave 920-887-3131 (2/06)

WANTED: Sonerai I complete airplane or well-along project. Solid workmanship and light weight. Bill, [machouse3462@sbcglobal.net](mailto:machouse3462@sbcglobal.net) (2/06)

FOR SALE: Monnett Electro-X engine mount, \$150; alternator for Electro-X mount, \$25; GPASC Y intake manifold, \$25. Jordan Klein Sr., 352-288-6060, [jordan.sr@comcast.net](mailto:jordan.sr@comcast.net) ....(3/06)



## Happy 20<sup>th</sup> Anniversary!

Here I am, your faithful newsletter editor standing next to N99FK on the evening of June 8, 2006, the 20<sup>th</sup> anniversary of her first flight. To celebrate, I decided to fly over to the Kenosha, WI airport, where the first flight took place late in the afternoon on a Sunday in 1986. This time, both the takeoff and landing took place on the runway. (For those of you who haven't heard the story, my first flight ended rather unceremoniously in a farmer's field next to the airport after the canopy came open.) So, now she's 20 years old, and has 1076 hours. I guess I'll have to treat her as an adult, rather than a teenager...