

# SONERAI NEWSLETTER

APRIL-MAY-JUNE 2000

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(AFTER 6PM CDT)

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## **DON HEGEMAN'S SONERAI II**

*The black-and-white photo doesn't do justice to Don's beautiful orange and black mid-wing II. It is powered by a 2180. He keeps the airplane at Rochester, MN.*

## **SUN-N-FUN 2000**

If you haven't noticed, Sun-N-Fun 2000 is coming up really soon. In fact, when you get this, it will probably be less than a week away. The dates are from Sunday, April 9<sup>th</sup> through Saturday, April 15<sup>th</sup>.

Your intrepid editor is planning to be there. Unfortunately, I will be Sonerai-less. I again have the opportunity to be the F.R.E.D. autopilot in the back seat of a brand spanking new American Champion Citabria that my hangar partner will be flying down to Florida for ACAC's New Jersey dealer.. It's a comfortable ride, and best of all, it's free. I only have to buy a one-way airline ticket home (which is already done).

We have a number of Sonerai-related events planned. First of all, the Sonerai Forum is scheduled for Tuesday, April 11<sup>th</sup> at 1:00 PM. This is a great time to have it because it is the last scheduled forum of the day, so we won't have hustle out to make room for the next forum. I will hang around to answer questions and talk Sonerai's for as long as you want.

Second, Dean Mc Ginnis has again set things up for the Sonerai Dinner at Vito's on Wednesday evening at 7:00 PM. I know I promised to come up with a "Sonerai Fight Song" last year. We'll see what happens this year. Please leave word at the Great Plains Booth if you plan to come.

Third, Steve and Linda Bennett are throwing their 2<sup>nd</sup> Annual Great Plains Aircraft Supply Customer

Appreciation Picnic Monday evening, April 10<sup>th</sup>, starting right after the commercial buildings close at 5:00 PM. It's free, and Linda promises good brats for all you southern folk who don't get good ones like we do up north.

And finally, Steve will be doing a VW Engines Forum on Monday, and a VW Engine Assembly Workshop each afternoon on Monday, Tuesday, Wednesday, and Thursday in the Workshop area. Check the program for times and places.

I'm planning to fly home on Thursday, so I'll be there through Wednesday. If there are any Sonerai's there, I will try to hang around them for a while each morning, and around the Great Plains booth part of each afternoon. I'd certainly like to talk to each of you. See you there.

## SONERAI NEWS

- Great Plains News: Steve says that he'll have the latest version of his rear drive conversion at Sun-N-Fun. It will have the latest intake manifold set up, as well as provisions for a vacuum pump and a low-profile, side-mounted fuel pump. (The fuel pump will also fit front-drive engines.) He's also beginning testing of a new 1.3:1 belt reduction drive.
- Back Issues: **Sonerai Newsletter** back issues are available in two forms. A 3-1/2" diskette which contains most of the significant newsletter articles published by Ed Sterba from 1987 through 1995 is available for a mere \$10.00. There are also hardcopy back issues for \$3.00 each. I have the last two issues from 1994, and all of the issues from 1995, 1996, 1997, 1998, and 1999. If you want any of the above, send me a note requesting the ones you want and a check for the correct amount. The postage is included.

## MERFI '99

Back in September 1999, I flew my Sonerai IIL to the annual Mid East Regional Fly-in (MERFI) at Marion, OH. This was my first-ever visit to MERFI, and my first adventure with a group of "old" guys from southeastern Wisconsin who call themselves "The Over-the-Hill-and-Dale Pancake Destroyer Squadron, Wisconsin Wing." This bunch of mostly retired guys like to plan at least one major fly-out event each year, and usually go to one of the major regional fly-ins. This time it was MERFI and

they let me come along. (Now, when I say "old" and "retired" I'm not kidding. They all use CB-like call-signs for air-to-air communications, and their "handles" are indicative of this. On this trip there was "Moe" in his Cherokee 180, "Curley" in Ol' Ironsides, "Farmer" in his Marquart Charger, "Geezer" in his Cessna 150, "Judge" who was 84 in his Cessna 182, "GiGi" who flew with Judge, and "Slo-Poke" in his T-craft. Since I didn't have a "handle," mine became "Volkster.")

We planned our route to leave the Burlington/East Troy, WI area and fly straight south, more or less, to the Cushing, IL airport to circumnavigate the O'Hare 30 mile vail, since most of us didn't have transponders. Then, we'd turn east toward Marion, with a stop at Rochester, IN for gas. The group decided to make a long weekend of it, and leave on Thursday with a return on Sunday. Since I was the only one young enough to have to be employed, I decided to work on Thursday and catch up with them on Friday.

Bright and early Friday morning, I loaded up N99FK with my sleeping bag, pup tent, clothes, tools, and 16 gallons of gas, and departed south under a high cloud cover and into a 20 mph quartering head wind. But, it was smooth, I was showing a 108 mph ground speed, and life was good. As I passed abeam of Chicago, I passed out from under the overcast into absolutely clear skies, and as I turned the corner at Cushing, I looked down at the GPS and it was showing 154 mph! Life was definitely good.

The stop for gas at Rochester was uneventful, except there seemed to be a little more oil than usual on the bottom of the airplane. I always get a little oil blowing out the breather pipe (maybe a quart in 20 hours). The oil level wasn't down much, so I didn't think a lot about it. The flight to Marion was uneventful and I arrived around lunch time. The Over-the-Hill Gang found me, and helped me get the airplane gassed and parked, and after I got my tent set-up we went into town for lunch. An inspection of the bottom of 99FK again showed more oil than usual, so, while I was in town, I bought a quart of oil, too.

The fly-in was scheduled for Saturday and Sunday, and there were commercial displays, good food, camping, and lots of airplanes. Lots of nice airplanes, including four Sonerai's (Shoot, we only had 6 at OSH.) In the evenings after dinner, we all gathered around a big campfire, told lies, and listened to Lowell Borchers provide live music with his magic electric piano.





**CAMPING WITH N99FK AT MERFI '99**

On Sunday morning , a check of the weather showed a big line of thunderstorms and rain heading through Minnesota toward Wisconsin, so we decided to leave right after breakfast in order to beat the weather home. Packed up and heading west, I was now paying for the tailwinds of two days before, and was only making 110 mph ground speed. But other than that the flight was reasonably smooth.

The gas stop at Rochester this time was not routine though. This time the bottom of the airplane was absolutely soaked with oil. And it all appeared to be coming from the breather pipe. The dipstick had no oil on it. She had blown a little over a quart out in two hours. This was not good. The curious part was that there was no indication on the instrument panel or in how she ran. In fact, the whole time she ran like a Swiss watch. After pulling the top cowl and looking things over, the general consensus was that there must be a cracked ring in one of the cylinders, even though I couldn't detect a drop in compression on any of the cylinders when I pulled it through. So, I decided to top it off with the oil I bought in Marion and fly her home, carefully watching and listening the whole time.

Needless to say, with the exception of flying around some rain showers southeast of Chicago, the flight went fine. The airplane again blew out almost a quart of oil, but at least she was home

where I could work on her in the comfort of my hangar with my own tools.

So, what was wrong with her, you ask? To find out, the first thing I did was to run a differential compression check to find the possible offending cylinder. It turned out to be #3 (LH front). So, I stripped the LH baffling and pulled the LH cylinder head. A check of the #3 cylinder showed no scratching, so I pulled it off, expecting pieces of ring to fall to the floor. But none did. In fact, the rings were just fine.

What I found amazed me.

(Actually the airplane has tried to amaze me several times over the years.) All of the ring gaps on the compression rings had somehow become lined up, including the gaps on the Total Seal ring in the #2 groove, allowing a straight path for the combustion gasses to blow past the piston and pressurize the crankcase. I couldn't believe it. I know I installed the rings correctly initially. So, to fix the engine, all I had to do was realign the ring gaps into their correct positions and reassemble the engine. Subsequent long flights on the next two weekends showed that my oil consumption returned to normal levels.

What's the moral of this story? I don't have a clue. I thought it was kind of strange that the piston rings would move around the piston. And I don't understand what forces would cause them all to do that. (If any of you engine gurus out there have an explanation, please call me or drop me a line. I'm really curious.) But, on the other hand, my Sonerai has always delighted in doing these unusual things to me.

## **E-MAIL UPDATE #2**

Here's a list of the e-mail addresses that I've been supplied to date:

Don Archangeli (IL-1835) scalywag@concentric.net  
 Bob Barton (IL-1835) rabarton@mindspring.com  
 Al Bertelmann (IL) altonb@singnet.com.sg  
 Dave Bilgri dbcpa@powerweb.net

Wes Blake (IIL-Revmaster) blakew@web-ster.com  
 Daniel Blatter danblatt.swi@datacomm.ch  
 Dan Bohn (IILTS) daniel.bohn@gte.net  
 Jim Bohnsack (II) bohnsackja@gvl.esys.com  
 Kyle Bond bondracing@aol.com  
 John Borra johnborra@media-net.net  
 David Bubolz (IILTS-2180) dabubolz@umich.edu  
 Mark Burnham desmo@interport.net  
 Michel Cariotis michel@cariotis.com  
 George Chapman (II) cgk@mb.sympatico.ca  
 Earl Evans (IILS-A65) avmtearl@aol.com  
 Timothy Eyer (I-1600) foils@tds.net  
 Bruce Farrington bfarring@harbornet.com  
 Gene Forsthoefel (IIT) gene12@uswest.net  
 Nick Fourdraine (II) fourdraine@auracom.com  
 Randy Gaskins (IIL) randy@icomnet.com  
 Robert Halsmer halsmer@air.ups.com  
 Jim Hardy (I) jehardy@nortexinfo.net  
 Don Hegeman (II-2180) dwh6305@aol.com  
 George Henderson (II-1835) geowade@airmail.net  
 James Hodge (IILTS) grnpaj@aol.com  
 Jack Holgate (I-1600) jholgate@bellsouth.net  
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 Edward Larsen (IILS) eclarsen@aol.com  
 Jack Locamy (II) soneraipilot@juno.com  
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 Vince Nicely (IILTS) vincenicely@intermediatn.net  
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 Jeffery Penn jetajeff@aol.com  
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 Callum Simcoe (IILS) csimcoe@ibm.net  
 Kevin Smith (I) ksmith@interhop.net  
 Larry West (IIL-2276) tailskidwest@sprintmail.com  
 Ron Wright (IIL-1835) wright.ronald1@mcleodusa.net  
 Gary Zahn (IILT-2165) gzahn@vbe.com

If your address isn't here and you'd like me to add it, call me or send it by snail-mail. (No, I don't have an address, yet.)

## CO ??? by Dave Wilcox

Recently, I have converted my Sonerai IILTS from a tricycle gear to tail wheel. At the same time I added wheel pants and a spinner. The plane has gained over 25 mph in cruise, now about 135 true. On my last flight I flew to Calexico, CA, approximately a 200 mile trip at about 3500 feet altitude. On the way back I decided to climb to 8500 feet altitude. After reaching altitude I felt a little light headed. Within a few minutes I felt a flush like you feel when you get up fast. My head nodded and I knew something was wrong. I descended to 2500 feet and felt totally disconnected from reality. I could read numbers and make sense of things, but I couldn't feel the airplane. The airspeed indicated 130 but I felt as if it were ready to stall. I continued the flight until

the next airport at Gila Bend and landed. I hit the runway and must have bounced 50 ft, but got the plane stopped safely. After about 30 minutes on the ground I felt better and decided to continue on to Phoenix. After I was in the air again, I knew that there was only a partial improvement in my senses.

I could not explain the occurrence. I was quite sure it was carbon monoxide, but why now, after 400 hours on the plane, and multiple successful excursions to 10,000 feet? In addition to changing the gear I lengthened the exhaust pipes by one inch and added the spinner. I focused on finding a leak around the canopy. The exhaust makes quite a stain on the fabric after about ten hours but the stains were at least six inches from the bottom of the canopy skirt.

The answer became obvious when I removed the upper cowl for a compression test this weekend. The fumes were entering the cockpit in the last six inches or so of the horizontal split line on the cowling. Exhaust stains could be seen on the lower cowling hinge area which is hidden by the upper cowling lip, and on the inside cowling surfaces. It may be that I have simply never noticed these stains before, but it don't think so. The cowlings were completely washed during the annual / gear change 25 hours previous. Something about the increased speed, the spinner, or the exhaust pipe length caused the exhaust to adhere to the surface in this area.

Dave Wilcox  
 Gilbert, AZ

*Freditorial Comment: Wow! Kinda scary. Thanks for the story, Dave. If anything, it shows that sometimes, even relatively small changes can have a more dramatic effect than we might anticipate. I assume that you've sealed the cowling joint so that it no longer leaks, and increased the cockpit ventilation to provide more fresh air.*

## ANOTHER SET OF WINGS - PART 2

When I ended the last article, it was mid-December and I was getting ready to put the first wing in the fixture. Now, it's mid-March and they are done and gone. The last rivet was pulled on Sunday, February 27, and I delivered them to Greg Klomp on Monday, the 28<sup>th</sup>.



As usual, it took a little longer than planned. My original plan was to have them done by the end of 1999, and actually the wings themselves were pretty much done by then. But that still left the ailerons. Then right after the first of the year, my boss decided that I needed to go to South America, so I got to spend five weeks at a new copper mine high up in the Andes of central Peru. (At 14,500 feet in the Andes, but that's another story in itself.)

After I got back, and Greg sent me the wing tips and aileron counterbalance arms, things got finished pretty quickly. By the end of the project, I had logged slightly more than 235 man-hours over a period of 5 months and 10 days. If you take out the five weeks I was out of the country, it was more like 4 months and 3 days. These hours did not include any time to build the wing fixture, since I had my original one, but they do include the time spent making the arbor press rivet squeezer. I really think if I built another set, I could do it 220 hours.

So, what new additional hints can I pass along? Not many, really, but here's a couple. First, I used a different method to layout and pre-drill the skin rivet holes than the one I described in my "Skinning the Wings" article in the April-May-June 1999 issue. Basically, this time the layout was done entirely on the outside of the skin.

Before the skins are placed on the structure, it was necessary to record the rib flange centerline dimensions from the end of the spar channel for each rib. I measured at the top and bottom of each rib, ending up with four dimensions for each rib on each side of the wing. Next, I clamped the wing skin in position. Then, I laid down a strip of  $\frac{3}{4}$ " masking tape at each rib location and along the spar flange rivet line locations. Using the dimensions taken earlier, I laid out the rivet lines and locations on the tape as shown on the drawings. Then, center punched each hole location using an automatic center punch. After that was done, the skin was unclamped, moved over an inch or two, and all of the rib holes were pre-drilled with a  $\frac{3}{32}$ " drill. I then slid the skin back into position, clamped it down, and started the final rib drilling process. The great thing about doing the layout this way is that it is entirely a one person operation.

The second hint relates to clamping the wing skins prior to layout and drilling. I used two devices to guarantee that the skin was held tight to the ribs. The first was a pair of ratchet-style tie down

straps. These work really well and can be installed and removed quickly. The second was a pair of  $\frac{3}{4}$ " plywood forms cut out in the shape of the airfoil from the leading edge back to just behind the main spar flange. These forms will guarantee that the leading edge radius is in the correct position along the entire length of the wing, and also keep the skin tight on the front wing ribs. You can also use one of the forms to properly locate the front ribs on the main spar. I found that it was necessary to line the inside of the form with reinforced strapping tape to keep the forms from scratching the skin.



**SKIN CLAMPING FORM**

And a third and final hint is simple. Beg, borrow, buy, or steal a pneumatic pop rivet puller to rivet the wing skins. I borrowed one from my hangar partner, and it allowed me to pull all of the rivets on both skins of a wing in less than an hour. Believe me, you don't want to pull them by hand.

So, that's it. As I promised last time, I'm just beginning to work on the Wing Construction

Manual, and hope to have it available before Oshkosh. I'll have details in the next newsletter.

## BRAKING NEWS

Back in the April/May/June 1993 (My, how time flies.) of the **Sonerai Newsletter**, Ed Sterba published an article I wrote about my installation of a set of Enginetics hydraulic disc brakes on N99FK. They replaced the original Azusa mechanical shoe-type brakes that I had installed when the airplane was new.

Well, time marches on, and along with it better products come along. Last year, Great Plains Aircraft Supply introduced a new set of hydraulic disc brakes that appeared to me to have the potential to be even better than the seven year old Enginetics brakes on my airplane. They are very similar in concept to the Cleveland brakes found on most factory-builts, only smaller (and much less expensive).

Given that I wasn't entirely happy with my Enginetics (They weeped brake fluid, didn't like getting real hot, and weren't as effective as I would have liked.), and that I'd gotten excellent reviews from a couple of other Sonerai guys, I decided to give them a try. A call to Steve got them on the way.

The installation was pretty easy, once I figured out where to put the caliper mounting bracket. Photo 1 shows the parts that come with the kit, with the exception of the stack of washers in front of the two tube spacers and the castle nuts, which I provided. It was necessary to drill the mounting plates to match the hole pattern of the axles. Ignore the large holes in the center of the 4-bolt mounting pattern. The brackets come with a 5/8" hole there. I opened that hole because I originally thought I would mount the bracket on the outside of the axle mounting plate and it would have been necessary to clear the head of the axle bolt. (The axles are 3/4" bolts welded to 1/4" mounting plates.) But, with the bracket in that position, the brake caliper interfered with the tire, so I moved it to the inside of the axle.

Since the caliper brackets are supplied in the as-cast condition, it was necessary to file out the interior of the caliper pocket so that the caliper can slide easily back and forth to line up with the disc. Photo 2 shows the assembly installed without the wheel, tire, and disc assembly. I decided I wanted the caliper behind the landing gear leg. This

allowed me to use my existing brake lines and fittings without any modifications. Other builders have mounted the caliper on the front side of the gear. It really doesn't make any difference. To get it all to fit on the backside, it was necessary to file the caliper bracket to clear the rear slope of the gear leg. To get enough clearance to install the brake line elbow, I found it necessary to enlarge the slot at the back of the bracket. And to increase the amount of caliper travel, I increased the depth of the bleeder valve slots.

The disc hat/disc assembly bolted directly to my 5" Azusa wheels, but I found that I had to use 4 AN washers between the hat and the wheel at each bolt to get everything to clamp properly and keep the disc square with the axle. (Apparently the new Azusa wheels are a little different from my 20 year old wheels. That's why I needed the washers.)

Photos 3 and 4 show everything assembled into a nice, neat package. Because of the close fit of the bleeder screw to the bracket slot, I found it easier to bleed the system if I slid the caliper out of the bracket and used a small c-clamp to hold the piston in place.

So, how do they work? Definitely better than the Enginetics, and substantially better than the Azusas. I'm still using my Enginetics master cylinders with hand levers, so the brakes themselves are more effective. As this is being written, I've only made a few landings with them, and they seem to be getting more effective with each landing. They still need to be broken in some more.

Now, all I have left to do is to figure out how to mount my new wheel pants. My old pants were pretty much worn out, and the old mounting brackets don't fit the new arrangement. So, I get to do a little re-engineering. Ah, the joys of homebuilt airplanes. (They're never done, you know.)



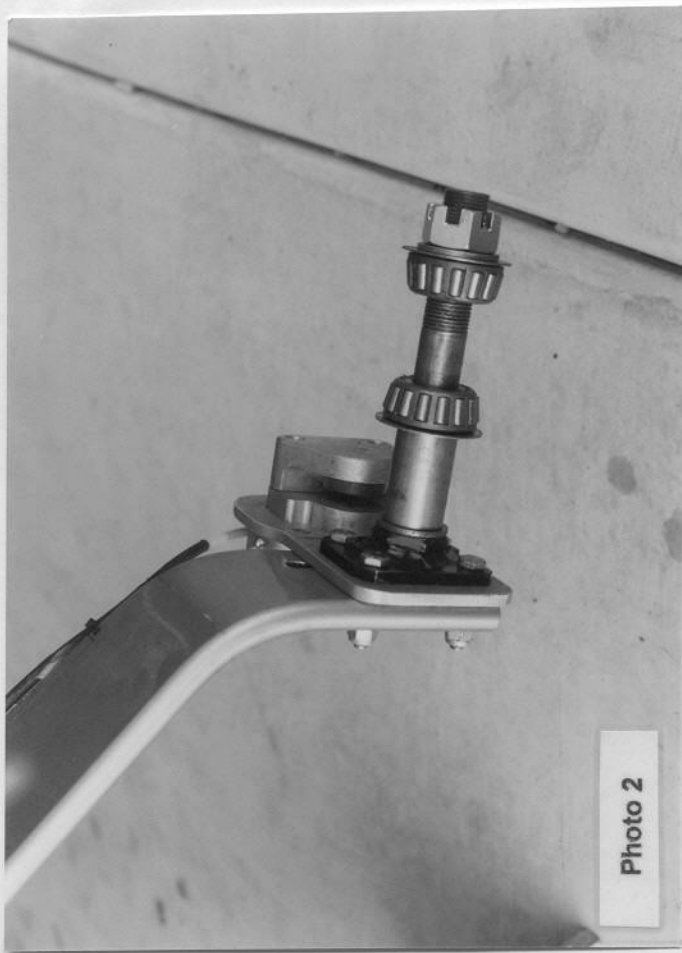


Photo 2

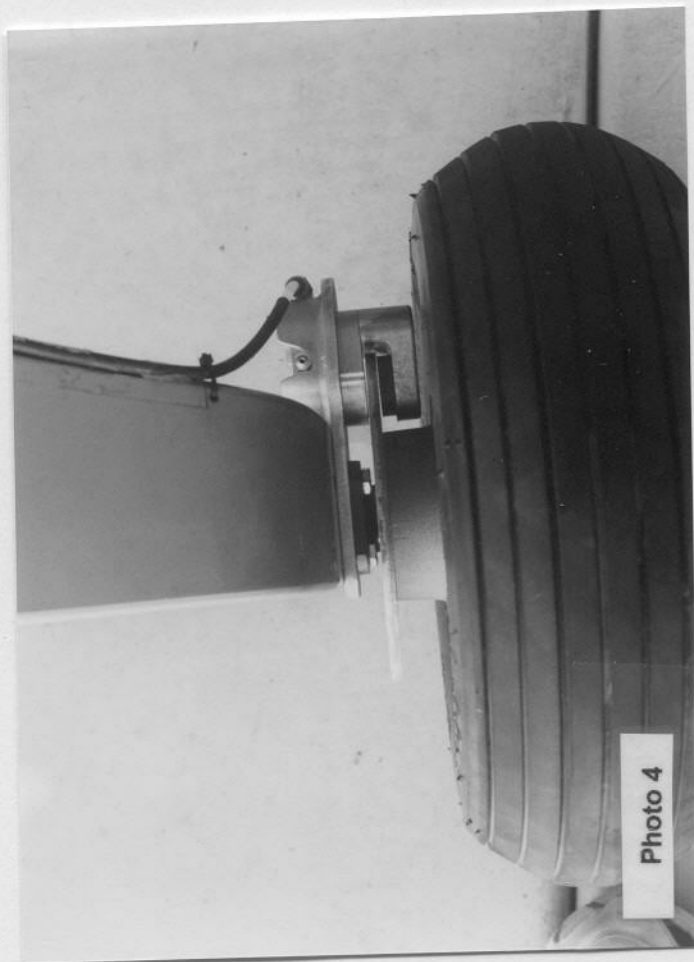


Photo 4

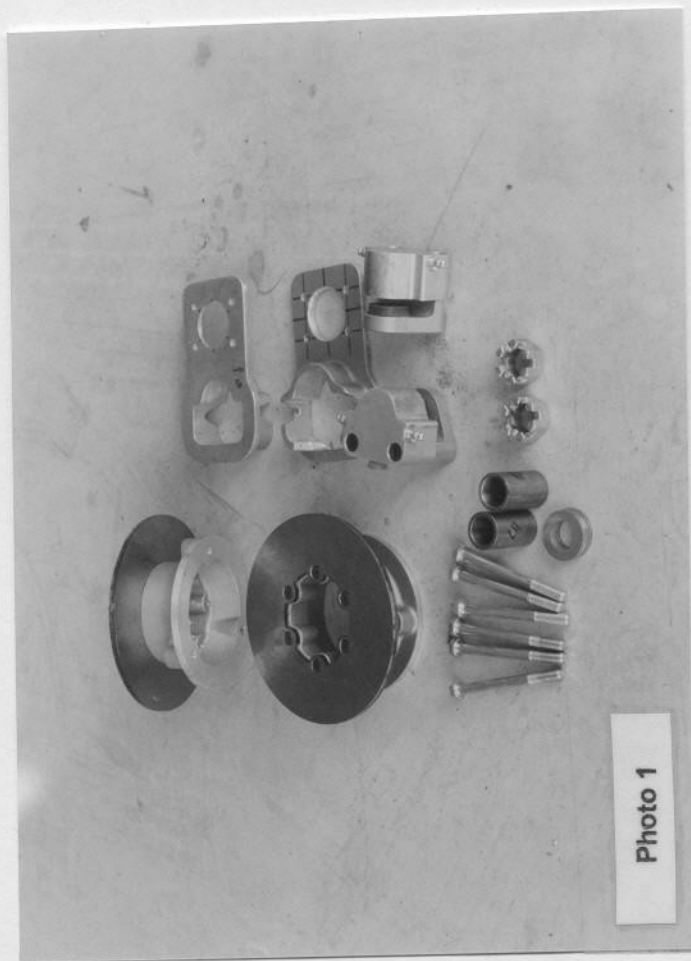


Photo 1



Photo 3

# 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 FOR RENT - Brown & Sharp #3 and #5 for AN386-3 and AN386-5 taper pins. \$1.00 per day for both reamers, \$150 deposit. David E. Wilcox, 517 E. Saratoga St., Gilbert, AZ 85296, (602)231-5824

QUALITY RIBS L.L.C. SELLS COMPLETED RIBS FOR SONERAI AIRCRAFT. Contact Great Plains Aircraft or Quality Ribs L.L.C. direct at (602) 892-7189 for a brochure.

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)

Wanted: Starter and flywheel to fit Mosler/Hapi accessory case. Kevin Hosp (317)899-8456 (3/99)

For Sale: Sonerai ILL, 1834 VW, 201TT AF & Engine, 83 STOH included new heads (dual Ignition), cylinders, pistons, rings, valves, valve springs; elec. start, no alt, wheel pants, EBC ELT, Sterba 54x42 prop. This is a good solid aircraft with low time. \$9800; Also have custom-built a/c trailer for Sonerai, with drop down ramp for loading. \$300. Ken Christian (660)263-7937 (3/99)

For Sale: Complete Sonerai ILLTS kit w/o engine and instruments. \$2200 (worth \$4500). Charlie Quit, (516)423-8673 (3/99)

For Sale: 1978 Sonerai II mid-wing, 110 hrs TTAF, 10 hrs on engine, Excellent condition, \$10,000. Vic Verhassect, (765)962-8913 work, (765)935-7016 home (4/99)

For Sale: #5 B&S taper reamer, \$25; Hamilton vertical card compass, \$200 (new); 40-169 mph airspeed (yellow tag), \$125; altimeter (yellow tag), \$150; Mac trim system, \$125; fuel pressure gauge, \$65 Dick Morrow, (309)755-1495 (1/00)

For Sale: 2-6 ply Airhawk tires with tubes (new), \$120; auxiliary fuel system (6 gal) with accessories for a Sonerai, \$75. LeRoy Taylor, (271)935-5345 (4/99)

For Sale: Sonerai ILL; fuselage complete except for tank straps, on gear, wings complete, canopy, cowling, and firewall fitted, basic instruments, ballistic chute,

Great Plains 1915 VW. Family emergencies make it a must sell. \$5000 for everything. Jerry Kennedy, (405)733-4932 (4/99)

For Sale or Trade: Older Sonerai kit - tack welded two place low wing taildragger fuselage, all fiberglass, new canopy, etc. Want motorglider for 220 lb person with broad shoulders and beam. M. Lee Wachs, call nights Pacific time, (707)463-0467 (1/00)

For Sale: VW engine - 1915 complete FWF as removed from Sonerai II, TT since OH 175 hrs. Includes: new crank, cyl./pistons, valve train (Scat), dual ign., carb system, alternator, air/oil separator, prop hub, spinner, prop, engine baffling; truly a complete bolt on and fly system. Included in the package - tail wheel with spare wheels and a single master brake handle. \$2800 OBO. Gene @ (218)525-6758 or e-mail: gene12@uswest.net (1/00)

For Sale: Monnett X-mount, set of heads bored for 92 mm, 92 mm cyl. & pistons, set of REL37B spark plugs. Don Shipley, (912)756-6543, or e-mail: donan5@aol.com (1/00)

For Sale: Used Bogie tailwheel and Monnett tailwheel caster with 2-5 1/2" springs (needs the chains) \$25.00, New unmachined Monnett "Electro X" casting \$100.00, Used Monnett Sonerai I fuel tank (needs cleaning) \$55.00, Used pair of axles, 3/4" shaft, 5 3/4" long \$4.00, Used fuel shutoff valve \$5.00, Used set of rudder pedals asm. with toe brakes (see Sonerai I drawing page 11 and 15c) \$20.00, Used Sonerai I torque tube asm, (see drawing page 5) \$40.00, New (4) 87.5 cylinders and pistons \$75.00. You pay the shipping. Bob Schank (734)697-7057 (2/00)

For Sale: Sonerai ILLTS w/ Great Plains 2180 cc, 95% complete, excellent workmanship, \$13,000. Chris Mullaney (301)872-9308 (2/00)

For Sale: Sonerai II project; fuselage frame on gear, controls & spar box done, canopy frame tacked, tow hitch, canopy, ABS wheel pants, spars riveted, ribs fitted, ailerons 80%, ELT, reman. 1835 w/ Monnett mount, Posa & Zenith carbs, \$3995. Loris Mandel (918)343-0697 (2/00)

For Sale: Revmaster 2100 w/ dual Bendix mag, starter, Revflow carb, oil cooler, prop (56x45), approx 400 hrs, came off KR-2, \$2250, Doug Evenson,

devenson@mindspring.com, (770)445-6826, (678)643-6826 (2/00)

For Sale: Sonerai II w/ folding wings. Pretty airplane. Always hangared. ELT, intercom, Matco hyd. brakes, 1834 w/ Supervisee prop extension, Warnke prop, TTAF 636, TTE667, new GP case & crank, TTSTOH 328 new GP cylinders & heads, new exhaust stacks, \$7500. Fred Flynn (610)873-9122 (2/00)

Wanted: 20 amp Syncro magnet ring for HAPI 1834 VW engine and 20 amp Syncro stator for same. Must be in perfect condition. Ken Christian (620)263-7937 (2/00)

For Sale: Plans for Sonerai II midwing. Also have Cassutt & Varieze. All Plans are complete, unused, & with newsletters, \$30 each. Joe Mayer (904)532-0292 (2/00)

Looking For: Sonerai I and Sonerai II or ILL. Both need to be well-built, nice & Clean. Roy Roberts (512)575-2744 (2/00)

For Sale: Welded chromoly Sonerai One fuselage w/ horizontal stabilizer, elevator, rudder, aluminum seat, aluminum fuel tank, main landing gear, including additional components to finish as trike, wheels, mech. rakes, elevator push-pull tube, rudder pedals, rudder cables, misc. control system components, plans, builder's manual, supplements, & instructions for installing optional nose gear. Entire project fits into a pickup. \$1250. John Borra (785)628-0658, johnborra@media-net.net (2/00)