

SONERAI NEWSLETTER

APRIL-MAY-JUNE 1998

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(AFTER 6 PM CDT)



DON ARCHANGELI AND HIS SONERAI IIL

Don's airplane flew for the first time just before Oshkosh '97 with Doug Dodge at the controls. Don flew it himself in October 1997. See his story "Sallywag" elsewhere in this issue.

SUN-N-FUN '98

Sun-N-Fun, the "Oshkosh" of spring, is almost here. It is now less than two weeks away, and I hope that you've got your plans to attend all formalized, and are just waiting for the time to pass so that you can go. Unfortunately, as I write this in the middle of March, I still don't have my plans anywhere near settled. I'm definitely planning to be there, but I just don't know how I'm getting there. The choice is between flying the Sonerai down, using up some frequent flier miles on United, and driving. Flying the Sonerai is the first choice, but the weather has been so bizarre this year,

that I won't make that decision until the bitter end. Also, I'm not real excited about flying down solo. If I can find someone to fly along with, it would be a whole lot more fun. We'll see.

We've got a few things planned for the event this year. First of all, the Sonerai Builders Forum will be on Tuesday, April 21, at 1:00 PM in Forum Tent #5. Second, Dean McGinnes has set the Annual Sonerai Dinner for Wednesday evening, April 22, at Vito's Italian Restaurant. We get to order off the menu and the food is really good. And third, Steve Bennett is giving a VW engines forum on Thursday, April 23.

Steve is also running a daily workshop on building-up and tearing-down VW engines.

So, come on down and get Spring off to a great flying start. If any of you are planning to fly your Sonerai's, please give me a call, maybe we can meet somewhere and fly down together.

SONERAI NEWS

→ I got a note from Alan Goins of Virginia Beach, VA in January informing me that his Sonerai ILLTS had flown for the first time on December 13, 1997. Congratulations, Alan.

→ Oshkosh 1998 is going to be happening from July 29 to August 4. Have you started making plans yet? We have a forum scheduled and are working on some other things. More in the next issue.

→ The "Field of Dreams Invitational Fly-In" that I mentioned in the last issue is now set for Labor Day Weekend, September 5, 6, and 7, at the Ottawa, Kansas airport. This fly-in is being organized by Bill "Spud" Spornitz, the editor and publisher of **the Dragonfly Builders and Fliers Newsletter**, the **VW Aviation News**, and the **GP-4 Newsletter**. It is "invitational" in that it will be restricted to aircraft that have a design gross weight of less than 1350 lbs. The goal is to have a fly-in for us VW types.

→ For those of you who are at the point of needing a canopy and are pondering the high price and availability, here's some good news. John Monnett and his new company Sonex Ltd. is now ready to produce and market Sonerai canopy bubbles. John tells me that his canopies will be priced very competitively and should be available soon. Initially, only the bronze tint will be available. If you're interested, contact John at:

Sonex Ltd.

167 N. Oakwood Rd.

Oshkosh, WI 54901

920-231-8297

e-mail: www.sonerai@vbe.com

web site: <http://www.vbe.com/~sonerai>

→ The prototype Sonex with John Monnett at the controls flew for the first time on February 28. John said that it flies very well, and lands really slowly with its flaps deployed. The Jabiru performed well and was a little like a de-tuned 2180 VW. Congratulations, John.

→ **Sonerai Newsletter** back issues are available for \$3.00 each. I still have the last two issues for 1994, all four for 1995, all four for 1996, and all four for 1997. If you want any of them, send me a note requesting the ones that you want, along with a check for the correct amount. Postage is included.

SCALLYWAG by Don Archangeli

My airplane "Sallywag" was completed in the summer of 1997 after a four and one half year gestation period. I had the fuselage welded up and on the gear with the tail feathers complete in 18 consecutive days. I thought at that time that the project would be flying in about another year. Other interests that are popular in Michigan, Wisconsin and Florida stretched out my time somewhat more than I was expecting!

The airplane was test flown by a friend of mine by the name of Doug Dodge, who is an experienced air show performer and the owner of Acro Specialties in Bay City, MI. His comment upon landing was "it works". He thought that a Pitts would be a good airplane to use to get ready for the Sonerai. Since there were none available here I chose to get some time in a Citabria as my 300 hours of tail wheel time was 20 years in the past. I don't believe the Citabria time helped at all. A month long trip to Oshkosh and then six weeks in Hawaii delayed my first flight until the second week in October, and it definitely is something I won't forget. My take off was exciting as rudder control was much too sensitive, but I got in the air OK at about 65 mph indicated and climbed out at about 80 mph with my ground support yelling for me to "get the nose down". After two laps around the pattern, I decided to climb to a little higher altitude to get out of the way of the spam cans and relax a little. The engine runs very smooth and wasn't presenting any indications of giving me a heart attack (I'm 67). I was getting pretty close to 2500 ft. AGL and began wondering why it was so hazy at that altitude. It took a little while to realize that the haze was inside the airplane and not outside. I radioed down that I had a problem and descended to pattern and made a landing (about five feet up from the cement). The 5/8" gear soaked it up and the airplane didn't bounce at all. After convincing it to stay on the cement, I taxied back to the hangar and started thinking about what I had just done. The smoke/haze in the cockpit came from a tiny oil leak from the port valve cover. Extended climb attitude let it run back and get on the exhaust pipe. Easy fix, no more problems. I did notice the cylinder head temp. got a little too high for my comfort and a change in the inlet setup fixed that. I flew it one more time for about 40 minutes, and then bad weather and hunting seasons set in. It will be May before it flies again, as we are heading for Sun N Fun on the 8th of February to help get the place ready for all of you guys that still have to work for a living.

The airplane did everything I asked it to when I was flying, but I definitely was not ready for its' sensitivity factor on the controls. All of them are 10 times quicker than anything I had flown before. I will admit to anyone that it intimidated me but next spring I will fly it again with much respect and no bravado.

Sallywag is a Sonerai III that doesn't have a front seat. It weighed in empty at 592 lbs. I have a starter, alternator and dual ignition, all from Great Plains. The engine is a highly balanced 1835 VW and has an S&S carb which is aftermarket for a Harley motorcycle. The carb from Great plains would not fit in the space I had, as the engine dimensions from front to rear was lengthened due to the Force one prop extension.

The fuel tank is a custom made fiberglass unit that I made a pattern and mold for, and holds just under 16 useable gallons. I put a fairly large battery from a Honda Goldwing well behind the seat and the weight & balance worked out very nicely. The wheels and brakes are Rosenhan and have drum brakes. They don't grab and are quite stiff but with diligence they will hold steady at full static rpm of 3100 revs. My additions have raised the empty weight quite a bit over what I hear others tell me theirs came out, but without the front seat I gained some wing loading and will still never exceed the recommended gross wt.

I will send a couple of pictures along with this letter and you can do with them whatever you wish. My wife tells me it is time to start another project so only time and this trip to Sun N Fun will dictate what it will be.

I will be glad to answer any questions concerning the airplane and its construction from any of your readers and/or builders.

My e-mail address is scalywag@concentric.net and I will be on line at Sun N Fun site after about Feb. 20th 1998.

A story about Sallywag appears on the internet at this address:

<http://members.mdn.net/lpowell/chesaning.htm>

Don Archangeli
4110 N. Wayside dr.
Saginaw, Michigan 48603-3054
Ph. 517-792-3031

BUILDING WING RIBS

This article is the first of several "how-to's" having to do with the construction of the Sonerai wings. The first is on building ribs. Subsequent articles will cover building the spars, attaching the ribs and reinforcing parts to the spars, skinning the wings, and building the ailerons. I have had several requests for this information, so I hope it is useful.

When it comes to wing ribs for your Sonerai project, you really have two options for obtaining them. The first, and easiest, of course, is to just go out and buy them completely manufactured. Dave Wilcox and his company, **Quality Ribs** (see his ad in the back), or **Great Plains Aircraft Supply** will sell you a complete set of ribs ready to be attached to your spars. They are high-quality, and will save a lot of time and effort, but will require the outlay of a chunk of money.

The other option is to trade "sweat equity" for money and build them from scratch. This method requires considerably more manual labor, but will reduce your out-of-pocket expense by a bunch. The process is really fairly simple, and what I will do here is walk you through the steps, on-by-one, so that in the end you will have a complete set of ribs.

Step One - Airfoil Layout

The first step in fabricating the ribs is to develop an accurate drawing of the required airfoil shape. The Sonerai airfoil is a modified NACA 64-A212 "laminar-flow" airfoil. This airfoil has a maximum thickness of 12% of the chord length at a position of 40% of the chord length from the leading edge. The airfoil outside shape is defined by the coordinates shown on Figure 1.

Layout these coordinate points on a piece of heavy paper and connect the dots, using a thin piece of wood or plastic as a guide, to obtain a smooth, continuous line for each of the top and bottom surfaces. The leading edge radius is .50". Layout and draw in all of the tooling pin holes, lightening holes, stiffening ribs, the front and rear spar channels, and the rib cutouts. Next, offset the airfoil shape inward .045" all the way around. This is to allow for the wing skin and rib flange thicknesses, and defines the edge of the form blocks. Then, offset the airfoil shape outward 1/2" to define the rib flanges. You will also need to draw in the 1/2" flanges from the spar web surfaces as well. In other words, you need a flange to attach the front rib to the main spar, and flanges on the main rib for attachment to

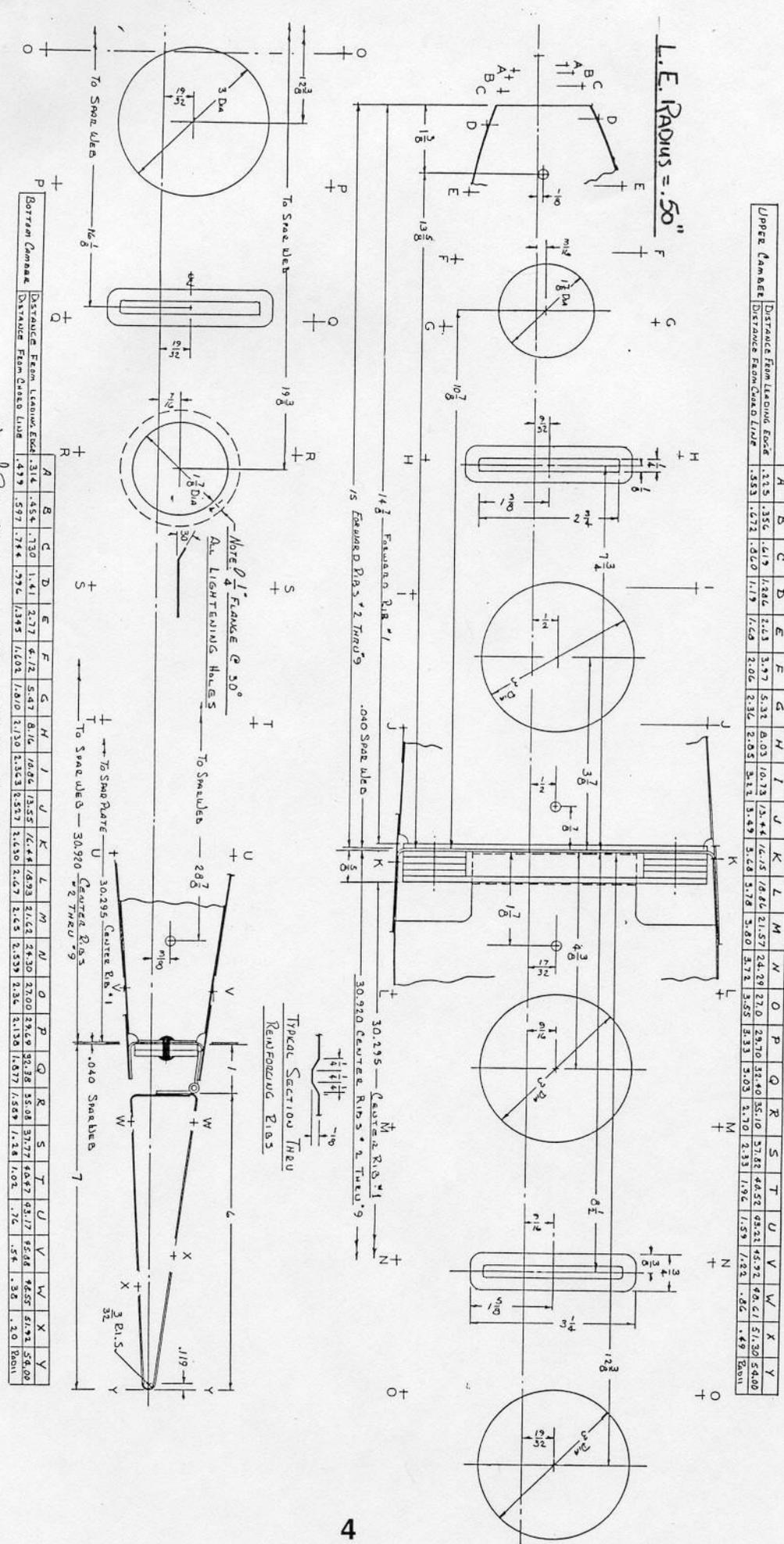


Figure 1

the rear side of the main spar and the front side of the rear spar.

Once you have this drawing done, take it to your local print shop and have a half dozen reproductions made of it. Make sure that the prints remain reasonably accurate, as paper does shrink and stretch. Now you have what you need to start making the tooling.

Step Two - Flat Pattern Templates

The rib flat pattern templates can be made from any reasonably dimensionally stable material. I used .040" thick 2024-T3 aluminum. Thin masonite, plywood, or some plastics will also work. A template for the front rib, and one for the main rib will be required.

Take two of the airfoil layout prints and roughly cut out the front rib with its flanges from one, and the main rib with its flanges from the other. Rubber cement these to the template flat stock. Then, rough out the shape on a bandsaw and file to the proper outline. Carefully locate and drill a 3/32" hole at the center of each of the tooling pin holes and lightening holes. Your templates should look like those in Figure 2.

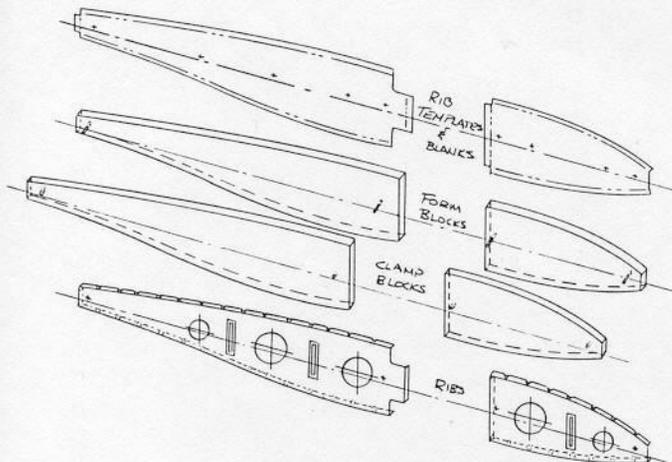


FIGURE 2 FK 3/8/98

Step Three - Form Blocks

The first thing you will need to do is acquire a 3/4" to 1" thick hard maple, oak, or similar board, roughly 8" wide by 5 feet long. Make sure that it is planed smooth on both sides. Cut one piece 20" long for the front rib form block and use the remainder for the main rib block.

Again, take two more of the airfoil layout prints and rough cut out the front rib and main rib shapes, and rubber cement them to the appropriate wood blocks. Rough cut the rib shapes out with a bandsaw, and then sand to the final shape using a disc sander. The final shape is to the .045" offset line. The edge of the form block should be 90° to the flat surfaces of the block. That way one side of the block can be used for making RH ribs and the other side can be used for LH ribs. (Most of you will be building S-wing which uses only LH ribs, with all of the flanges pointing to the left.)

Next, take a router and put a 1/16" radius on all of the corners where a flange will be bent. This is necessary because the 2024-T3 Alclad aluminum that is used to make the ribs is already heat-treated and is sensitive to bending radius. If you try to bend it over too sharp of a radius it will crack. You can also radius the edges with a file or sanding block. To check the radius, make a little checking template as shown in Figure 3.

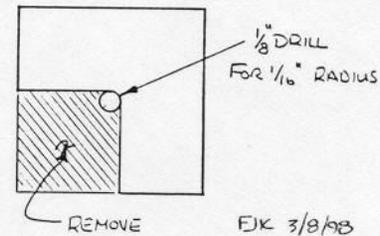


FIGURE 3

To properly locate the tooling pin holes, accurately locate and clamp the rib template to the form block and drill the two 3/32" holes using the template as a drill guide. Make sure the holes are square to the form block top surface. Remove the template and drill out the holes in the blocks to 1/4".

Next, using 1/2" or 5/8" plywood, make clamping blocks. First trace the form block shape on to the plywood and then offset this line inboard 1/8". Cut out and sand to shape. Then clamp the clamping block to the form block, assuring the 1/8" offset all around, and using the form block as a drill guide, drill 1/4" tooling pin holes in the clamping blocks. Remove the clamping block and drill the clamping block hole out to 17/64" to provide a loose fit over the tooling pins.

Using 1/4" rod stock, cut two pins 1-1/4" long for each form block, round off the edges, and press into the form blocks. You should now have a pair of form blocks that look like figure 2.

Step Four - Rib Blanks

Now comes the fun part. You actually get to start making parts. First, lay your .020" or .025" thick 2024-T3 Alclad sheet stock flat on the floor, preferably on a piece of carpet to avoid scratches. (Remember, scratches are fatigue crack initiation points.) Using the flat pattern templates and a steel scribing tool, lay out your rib blanks on the sheet. You can nest the ribs so that you minimize the amount of scrap material. Also, lay out the ribs so that the long axis of the rib is perpendicular to the rolling direction of the sheet. (That's the long direction of a 4 x 8 or 4 x 12 sheet; the same direction that the printing runs.)

Cut out the blanks using a good quality tin snips. What works well is to rough cut to within 1/8" of the scribe line, and then come back and finish cut to the scribe line, just "saving the line." Be sure to drill the inside corners with a 1/4" drill before making the cutouts. After the blanks are cut, file the edges down to the scribe lines, making sure all of the edges are smooth. It is a good idea to make a pair of clamping plates to hold the blanks in a vise for filing. Use 1/4" plywood cut 1/8" smaller than the blanks and glue felt to the inside surface of each plate. This will help to keep the blanks free of scratches.

Once all of the blanks are filed to final size, stack them all together with the flat pattern on top and clamp together. Using the template as a drill guide, drill 3/32" holes at the tooling pin and lightening hole centers. Remove the pattern and deburr all of the holes. (You might as well get used to the concept of deburring holes. Deburring tools are available from the aircraft tool supply houses, but a drill bit larger than the hole being deburred works just as well. Just spin the cutting edges of the bit on the edge of the hole with your fingers.)

Next, stack the blanks together again, and using a pair of old 3/32" drill bits as alignment pins through the lightening hole centers to maintain alignment, clamp and drill the tooling pin holes to 1/4". Unclamp the stack and deburr the holes again.

Step Five - Forming the Flanges

Forming the rib flanges is the primary function of the form blocks. The process is very simple. First, slip a rib blank over the form block tooling pins, and cover with the clamping block. Then, take this

assembly and clamp in your bench vise with one of the long flanges pointing up. It helps to use a c-clamp on each end of the assembly as well. Using a plastic-faced hammer, start at one end of the flange and start gradually pounding the flange down over the form block. You want to do this gradually, working back and forth along the flange. Work the flange down maybe 10° per pass until the flange will not go down any further. Because of material springback, you will not be able to get the flange to 90°. That's OK, we'll fix that in a minute.

Use the same process on the other flanges of the rib, then remove the c-clamps and the clamping block, and slide the rib off the tooling pins. It should be a pretty nice looking blank rib except that it will be bowed a little bit like a banana. Don't worry about this either. That'll get fixed in step seven. Now go ahead and form the flanges on all of the ribs.

After all the flanges are formed, it will be necessary to set the flanges to 90°. This is done by pushing the rib flat on the work bench with one hand, with the flanges pointing up, and working the flanges with the plastic-faced hammer until they are square with the rib. Again, it is a good idea to work on a piece of carpet to avoid scratches.

Step Six - Reinforcing Ribs

To form the reinforcing ribs (one is required in the front rib, and two are needed in the main rib), it is necessary to modify the form blocks and clamping blocks. First, it is necessary to cut holes in the shape of the outside of the reinforcing ribs in the form blocks. This can be done by drilling holes to define the corners of holes and then cutting between the drilled holes with a saber saw. Sand the inside surfaces of the holes smooth and then radius the corners.

Next, cut three pieces of 1/8" aluminum bar stock so that they are about 1/16" smaller than the holes in the form blocks and file them to a cross-section to match the section shown on Figure 1. Drill and countersink the bars and attach them to the clamp blocks so that they are in alignment with the holes in the form blocks. Make sure that the surface of the aluminum bars is smooth, and that the heads of the countersunk screws are below the surface of the bars.

The reinforcing ribs are formed by placing the rib back over the form block, sliding the clamping block over the rib, and then pounding the clamping block with a large rubber mallet to push the aluminum bars

into the holes. You can use a large vise, or a hydraulic press, too. Whatever suits your fancy.

Step Seven - Fluting

No, this does not involve blowing air across a long metal tube. What we are going to do is make the banana-shaped ribs into straight ribs. The first thing to do is to take one of the Airfoil Layout prints that we made back in Step One, and layout the wing skin rivet hole pattern for both the top and bottom surfaces. Next, take each rib blank and set it on the drawing. Push it down flat and transfer the rivet hole locations to the curved flanges using a felt-tip pen. (Never use a pencil to mark aluminum as it can provide a starting point for future corrosion.) With the hole locations defined, grab your fluting pliers and start squeezing the flutes into the ribs half way between each of the rivet hole marks. Be sure that the flutes are bent away from the skin side of the flange. Work the flutes slowly up and down the length of the flanges until the rib lies flat on the bench. After a while you'll develop a feel for the process and it will go quickly. What you'll find is that the sharper the curvature of the rib, the deeper the flute will have to be.

Step Eight - Cutting the Lightening Holes

Now that the ribs are all nice and flat, we can cut the lightening holes. This can easily be done with a fly cutter. But be careful, a fly cutter can be really dangerous. You'll need to do this in a drill press and I suggest that you make holding fixture out of plywood to hold the rib securely in place. Make a bottom piece out of $\frac{3}{4}$ " stock that is large enough to support the rib with the flanges pointing up. Locate and install tooling pins. This piece gets clamped or bolted to the drill press table. Then make a clamping plate out of $\frac{1}{4}$ " plywood that is a little smaller than the inside of the rib, with tooling pin holes, lightening hole access holes, and clearance holes for the reinforcing ribs. This, along with a couple of c-clamps will hold the rib in place.

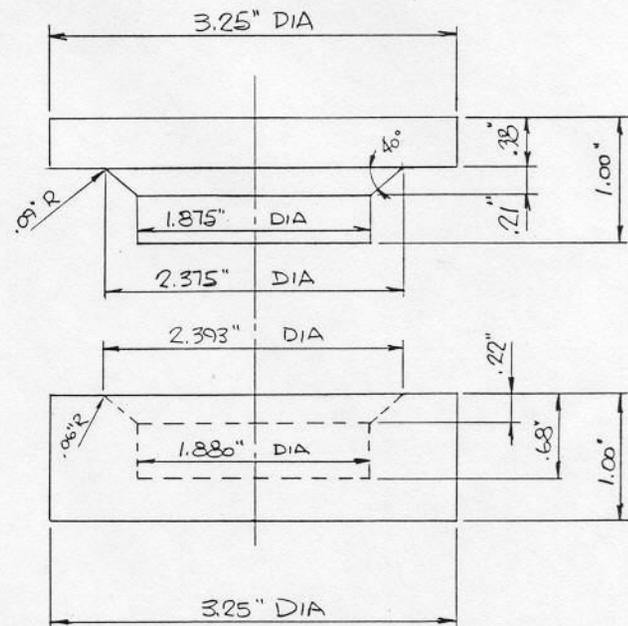
After all of the holes have been cut, use a round file and fine emery cloth to make sure the edges of the holes are all smooth. The next step will stretch these edges and you do not want any nicks or scratches to start a crack.

Step Nine - Flanging the Lightening Holes

This is the last fabrication step. As Figure 1 shows, the holes require a $\frac{1}{4}$ " wide, 30° flange to reinforce the hole. These are most easily made with a set of flanging dies. They are best machined out of aluminum similar to those shown in Figure 4. It is also possible to make them out of hard maple or oak

as well. You form the flanges bringing the two halves of the die together through the hole and then squeezing the dies together. A rubber mallet works well, or like before, if you have a large vise or hydraulic press, use it.

You now have a complete set of ribs that should look similar to the ribs shown in Figure 2, and it's now time to tackle the spars. We'll do that next time.



SMALL HOLE FLANGING DIE

FIGURE 4

SK 3/2/93

BUILDER'S SUPPORT, AGAIN

Here are two more Sonerai builder/pilots who have volunteered to answer questions. These guys will be particularly useful for you west coast builders.

1. Dave Wilcox, Gilbert, AZ, Phone: 602-231-5824. Dave has a Sonerai IILTS with a Continental A-80.
2. Larry West, Tum Tum, WA, Phone: 509-258-4024. Larry's airplane is a Sonerai IIL with a 2275 cc VW.

As usual, please call these guys at reasonable hours, and, of course, no collect calls.

WANT ADS

For Sale - Sonerai I, 4 Hrs T.T., less Engine.
\$3,900
Jim Jaeger, Box 438, Kewaskum, WI
53040, (414)626-2611 (3/97)

For Sale - Set of Enginetics brakes with 5"
wheels. \$175.00
Dick Foster (515)287-2554 (2/97)

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. (2/97)

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
(2/97)

For Sale - Limbach 1700 Engine.
Don Brinkley, (414)335-6519 (1/97)

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. (4/96)

Wanted - Sonerai engine, instruments, and
airframe parts.
Gene Cook, 114 Imperial Ave.,
Friendswood, TX 77546 (4/96)

Wanted - Monnett Super Vee prop hub
extension assembly and magneto/engine
mount unit. Please call with price and
condition of available parts. Mike Smith
(601)324-2801 Daytime (2/97)

For Sale - 1700 VW Engine. Posa super
carb, mag, shielded ignition, Sonerai motor
mount, alternator. Sonerai II landing gear
complete with wheels, axles, and pants.
Gas tank, all flight instruments, stab.
Complete. Prop, spinner and more. Wm.
Ziegler, 2 Theresa Ann Court, Albany, NY
12205 (518)869-0137 (2/97)

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 (1/98)

For Sale - 1992 Sonerai IIL, 300TT, dual
ignition, electric start, new tires, brakes; has

S-mod, basic VFR instruments. Not a show
plane, but well built and flies great.
\$6000.00 firm. Also have new in the box
Bendix/King KX99, Garmin GPS-90,
intercom. Dennis Barnette, (601)256-9767
or e-mail at dennis1@mail.tsixroads.com
(3/97)

For Sale - VW remanufactured block, late
model, line-bored .010 under, case savers,
etc. \$250.00; Rare Sonerai I Rattray cowl,
straight cheek, firewall and engine mount to
match. Buyer pays freight & crate. \$450.00
Elliot Willoughby, (502)477-2466 (3/97)

Wanted: Sonerai IIL completed and flying,
prefer something built in the 1990's. Contact
Ed Collins, (530)872-4400, or write
261 Chandler Dr., Paradise, CA 95969, or
email BEIDMAN@AOL.com (1/98)

Wanted: Single-port Sonerai intake
manifold, Zenith or Ellison Carb, 12" spinner
assembly. Steve Prosser, (702)436-0245
after 3 PM Pacific (3/97)

For Sale: Sonerai II kit. Welded airframe
with tail feathers, flight controls, and gear.
1835 cc VW with Electro-X mount (10 amp
alternator), 4016 Slick Magneto, Posa carb,
propeller, spars finished, Super-Vee
cowling, fuel tank, most instruments.
\$2750.00 OBO Zeke Zechini, (703)707-
1949(work), (703)830-1046(home), or
mark.zechini@lmco.com (1/98)

For Sale: Complete Sonerai II kit. Fuselage
and tail welded, some instruments, all parts
to complete except engine and paint.
\$3800. Ed Torbett, (815)895-3888 (3/97)

Wanted: Any Sonerai parts to help add to
Sonerai/KR-1 Museum, tax deductible. Call
or write: Tom Hall, 658 S. Abbey Ave.,
Springfield, MO 65803, (417)862-3837
(1/98)

For Sale: Sonerai IIL w/ 75 hp Lycoming 0-
145-C3, Magnum Ivo-Prop, ground
adjustable, 12 gal wing tanks, S-wing, new
3/4" Grove landing gear, new canopy,
improved cowling, 60 hrs TT. Flies great
at 3.5 to 4 gph! \$9500 OBO. Call Craig
Merrill, (803)521-4577 (2/98)

For Sale: Sonerai IIL, 175 hrs TT engine &
airframe. 2020 Aero Vee, wing mod, 6 gal
aux tank, wheel pants, position lights,
Sterba prop, Jefferson Ioran, 135 mph
cruise. Asking \$9500 or trade for good
Lycoming O-320 or O-360. Photos
available, will deliver within reason. Call Bob
Jaeger, (815)498-3945 (1/98)

For Sale: Sonerai IILTS (convertible to LS),
Fuselage 95% complete, Wings assembled,
cowling, gear, fuel tank, ailerons, and wing

tips. Mike Land (414)843-2808 (1/98)

Wanted: Engine/project for Sonerai II, prefer
2180 w/ dual ignition but will consider all.
Jeff Newlin, 12173 E. 1700th Ave,
Hutsonville, IL 62433, (618)563-4456 before
10 PM central. (1/98)

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 on the company. (2/98)

Wanted: Sonerai I, Prefer flying, but call on
any type. Jack Spring, 248 Jack Spring Ln.,
Kentwood, LA 70444, Home (504)229-8297,
Work (504)344-1533. (2/98)

For Sale: Complete VW intake system,
professionally built with a Rajay
turbocharger, heads, and Posa carb. \$600.
David Fitzjurs, (501)963-6037 after 5 pm
CST. (2/98)

For Sale: Sonerai IILT on gear (easily
converted to IIL), Trim system, controls &
rudder cables in, Fuel tank, pump, and all
plumbing included. Built per Monnett to stay
light. Project 95% complete. Bubble canopy
needed. Panel done, instruments in. Lots of
hardware. Spars done. 1 wing 75% finished
on steel jig. Junker engine on fuse for
cowling fitting. New pickled 1914 VW with
all plumbing except carb. New Sterba prop.
This is a very nice and complete project.
Too much to list. Will consider parting out.
Bob Wood - Sheboygan, WI, (920)803-9205
(work), (920)803-9206 (fax), (920)452-4095
(home) (2/98)

For Sale: Sonerai II, fuselage welded, 5/8
gear, wheels, brakes, canopy, fuel tank,
instruments, no fabric. Engine is Monnett
EV, 90.5B x 78S, dual ignition (one Slick
mag and one electronic ignition), Warnke
52" prop, spinner, Diehl case, oil cooler, and
Mosler carb. Wings are ready to assemble
and include prefab Monnett ribs, completed
spars and sheet skin material. \$6500.
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