

SONERAI

APR-MAY-JUN 1995

NEWSLETTER



THIS IS WHAT MAKES IT FUN ON A SATURDAY MORNING

EARL FOLSOM, TONY CASTELLANO, VIC GILES, JIM QUINN AND OUR MYSTERY SONERAI PILOT DOING WHAT THIS AIRPLANE WAS MADE TO DO ON A SUMMER DAY. WOULD THE MYSTERY PILOT PLEASE LET US KNOW WHO YOU ARE?

Welcome to the second issue of the Sonerai Newsletter for 1995. I am planning to get this to you all before the Sun N Fun fly-in but we'll see how it goes. The Sonerai Forum is scheduled for Tuesday at 10 AM according to my spies in the program department. Dean Mc Ginnes also called last week to ask about a Sonerai Dinner during the weeks festivities. I believe it will be held either on Tuesday night or Wednesday night. If you are in the vicinity, please check at the Great Plains Aircraft Booth to find out when and where. (Actually the Where should be Vitos.) While you are at the Great Plains booth, you may want to ask Steve Bennett about his latest development at the Factory. Al Bertelmann may be interested in this one because it floats on purpose, not accident. It's worth a look anyhow.

Most of you probably don't get the EAA Experimenter Magazine. If you have anyway of getting hold of the March issue from some other EAA member, you will be

hard pressed to ignore the great article on Mark Elyea's Sonerai II L. Starting with a beautiful cover photo that looks like Mark is pulling up behind a KC-135 tanker on his way to a rendezvous over Bagdad, he goes on in detail about life in the Sonerai lane. I would imagine that the March issue can be had at the EAA sales building at Sun N Fun or later at Oshkosh. In 1977 I read two articles written by Mel Lamb that really encouraged me to work hard to finish my Sonerai. Such is the power of the pen.

Also, the Nashville Network on Turner Broadcasting has rescheduled the "Exciting World of Speed and Beauty" for Sat. April 8th at 3:30 PM. This show will cover the Powerade Formula V Championship for 1994 from Dayton, OH. The tentative race schedule for 1995 is -- July 22-23 Dayton, OH -- Sept. 2-4 Jackson, MS -- Oct. 8-9 Myrtle Beach, SC. Another race in mid-August in Indiana is looking real good. We'll try to keep you posted.

A letter from Roy Adams

Dear Ed,

I could use a little help.

Enclosed please find photos of N610BS, a Sonerai II originally built by Frank Dalie of North Hampton, OH. This aircraft was completed in 1981. I am the fifth owner, as I purchased it from Ben Cannon of Social Circle, GA in 1992.

I love the aircraft, but never was able to get over my fears about the lack of Dual ignition on the 1835 cc VW. I flew it into Peachtree Dekalb Airport (PDK) in NE Atlanta, and as I was coming back out, I kept looking for places to land if the engine quit. That was a very long 15 minutes, because there was just nothing but businesses, apartment building, shopping centers, etc. I guess it's different where you live.

I talked a friend into flying me up to North Carolina shortly thereafter, where I bought new dual plug heads, and an electric ignition from Mosler Motors. This works great, but the plane has had the alternator removed, so I installed a 6 amp/hour gell cell hobby shop battery, and just use the second ignition system like a fuel pump; on for takeoff and landing, and off for cruise.

Now I would like to add back the alternator, but am at a loss as to what parts I need. Perhaps you could advise me?

I found a logbook entry, dated 12/84, saying "6. Installed new voltage regulator and rectifier. 7. Installed new 10 amp Monnett alternator." A later entry on 3/91 says "removed inoperative alternator system".

Roy Adams 489 Ebenezer Rd.
Fayetteville, GA 30214-5103

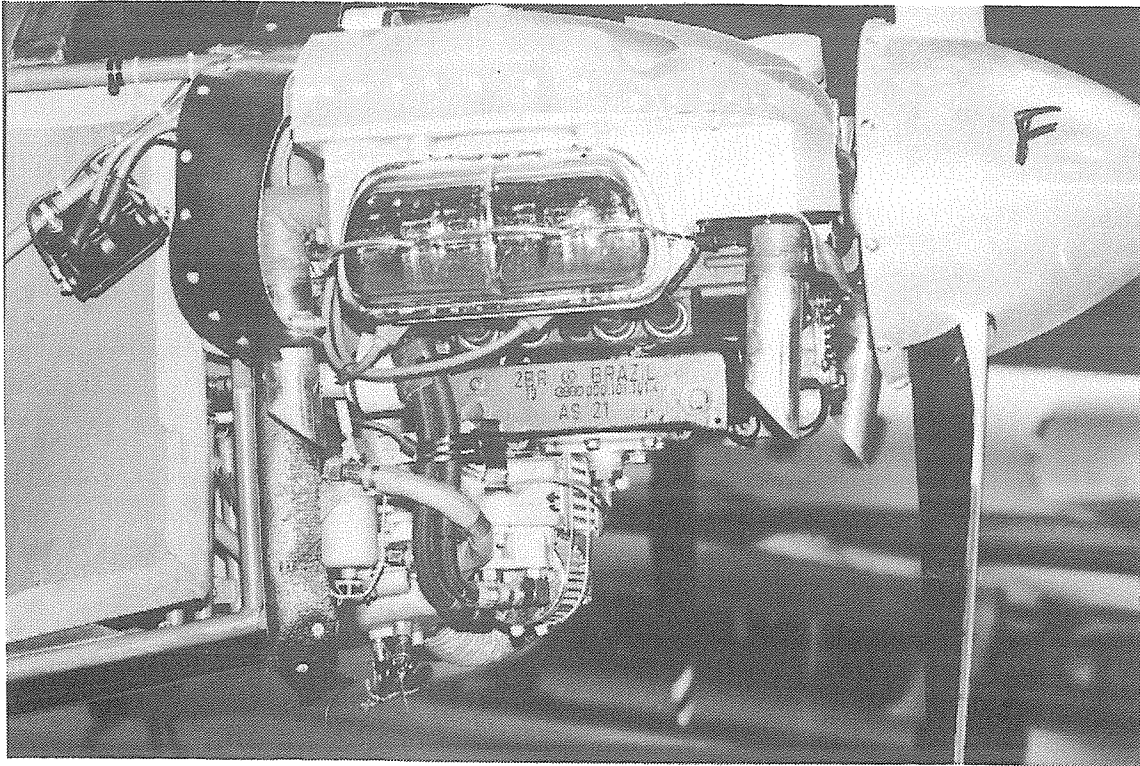
Ed's comments -- Living in Illinois and now Wisconsin, I agree that it is easy to forget about the terrain that I overfly, but as most of you know, we don't always

spend all our time over familiar areas. The annual trip to Sun N Fun brought that into full focus every year. About the time you hit the Kentucky border, the farms no longer seem laid out in straight lines like around here. South of Nashville you are into absolutely beautiful country as the ground comes up to meet you near Monteagle. You could spend your time following roads, but for some reason they don't go in nice straight lines either, so you don't want to waste too much energy and fuel following them. South and west of Atlanta the hills level out some, but for me, I always felt most naked over the seemingly endless miles of forest land with very few roads (there are substantial rivers around, but most of us already know how the typical Sonerai floats).

As for Roy's alternator problem, yes the Monnett systems are no longer available from Synchro Corp. They found out that we were putting them in small airplanes and pulled the plug on us. Some of us decided to do without an alternator (and chose to operate on a higher plain of consciousness), but Great Plains found they could modify their existing 20 amp alternator to do the job. They take a standard VW flywheel, cut it down to about a 5" diameter and machine it for their usual mag drive. The magnets on their normal magnet ring are installed deeper into the ring to provide most of the clearance we need.

When everything is installed, it is necessary to space the engine .090" farther from the X-casting than before. This can be done either by welding on more material to the casting and machining it smooth or simply using .090" shims (probably my way of doing it). The Monnett mag drive and coupling is discarded in favor of the Great Plains type. There is also the need to make sure the magneto has the proper spacing and the impulse coupling isn't jammed too tight to the magneto.

The flywheel and magneto drive assembly will set you back \$119.95 and the alternator with regulator/rectifier another \$185.00. So for a little over \$300.00 you are back in business with a 20 amp alternator instead of 10 amp.



A look at the right side of Roy Adams engine installation.

Sky Struck Strikes Again

John Monnett and RJ Segal hosted a Sonerai workshop on March 13 and 14 in Oshkosh at John's hanger. Be advised that there is another Sonerai weekend scheduled for May 20 and 21, so if you are a Newsletter subscriber but not a builder yet, you may want to learn to speak "Sonerai" from the man who started it all. Contact John and Sky Struck at 1-800-Sky-Strk 1-800-759-7875. For those of you busy in May, the last workshop is set for August 26 and 27. There is also a VW/Subaru engine weekend set for June 17th and 18th so you can feel more comfortable with airplanes powered by car engines.

Louisville, KY Fly-in Brunch

Elliott Willoughby asked if I could put a notice in the Newsletter about his attempt to have a regional Sonerai fly-in at Bowman Field Airport. The date is April 22 from 10 AM to 1 PM. This corresponds with Thunder Over Louisville the "kick-off" to the Kentucky Derby Festival. For more information contact Chris Hammon the newsletter editor for Chapter 110 at 502-893-6040. Elliot would like to see as many Sonerai's as possible, so if the Sun N Fun trip doesn't fit your budget, perhaps you could make it a shorter trip to the Derby.



This is Roy Adams answer to the full tank fuel syphoning problem that has brought so many of us wide awake a few seconds after lift off. Fiberglass cloth and a few pop rivets relocated the fuel vent to a position above the fuel level in climb attitude. Remember, the problem is a takeoff related one.

Cowldoor or Not????

I had a call from a potential Sonerai builder not too long ago asking a number of questions about the design. One of the things he was concerned about was the fiberglass cowl and how we manage to provide access to the engine for preflight and adding oil, etc. One way to go is just use the newest synthetic oil and then Bondo the whole cowl shut figuring a VW never really needs any maintenance and the new oils are good for 500 hours of flying or so. Well, it's one way to do it. Another way to look at it is to make it very simple and quick to get the cowl on and off so it isn't a chore. This is actually the approach I took back in 1978.

N78ES doesn't have an oil filler door or dipstick door in the cowl. Checking the oil or adding more requires removing the top cowl each time. I figured that the engine could stand a look just about every time it was flown (figuring once a week as a weekend warrior). This meant the top cowl had to be off and on the ground in less than a minute or

someone I know would be too lazy to do it. It takes the removal of two PK type screws, two camlock type fasteners and pulling of the side hinge pins to get at everything. My Leatherman tool does it all in less than a minute.

For long trips where the Aux. tank sat on the front floorboard, it was a whole lot easier and less messy to just pop the top, also. So this became SOP at every stop. The fiberglass at the front of the cowl where your oil doors need to be is in a compound curvature area that seems to be more stressed than on one of the flatter cowl areas. If you decide to put the doors in, please take time to stiffen them up some and provide a good latching mechanism. If they come open or off in flight, you will probably know about it rather quickly. Of course, by not having them there to begin with, there is no danger of forgetting to reinstall or fasten anything other than the cowl itself. We all know that it is possible for the hinge pins themselves to come loose, so please make sure they also can be secured in some manner.



Well, there always seems to be someone who doesn't get the whole picture. I believe Don Hegeman thought that I said ALL the plans are full size, instead of just the three template sheets. Maybe the gun is for me?

A Call from Scott Plischke

There is always that last minute shopping you end up doing for Christmas, when you find yourself sneaking through the stores with all the other last minute Charlies. Well, as a newsletter editor, you get that feeling just before every issue. You're trying to get everything to fit and find yourself a bit short as usual. This Quarter it was Scott Plischke who called as the clock was ticking down to zero. He is in the process of doing a dry run on his cowling installation on a Sonerai II and called with a question about the fit between the cowl and the engine. He wanted to know if "anyone else had ever had a problem getting the cowl to sit down low enough on the airframe."

Well, Scott, you are in extremely good company (probably irrespective of the type of homebuilt you are working on). I don't know of anyone who hasn't had to fudge the works a bit on their cowl and canopy installation. On 78ES it was necessary to file the tops off the Electro-X casting on the top motor mount, to bevel the tops of the top longerons and to make sure that the hose clamps on the intake manifold rubbers are turned down. Other people have had to cut their fuel filler necks off shorter. Any one of these was enough to rub on the inside of the top cowl somewhere. Even with all of this done, the top of the cowling sticks up about 1/2" above the top of the

spinner. There is a reason they call it a Custom Built Aircraft, everything hinges on everything else. As the Boy Scouts say --- "Do your best". To be fair to Scott, he was doing this first setup without the engine in place, so it would be very hard to judge exactly where that spinner bulkhead is going to end up. Just be prepared to take advantage of every quarter inch of space available.

Scott's next question dealt with the need for a trim tab. As stated before, some of us use a spring device on the control stick to help remove the stick pressure caused by a passenger or full tank of fuel. This normally diminishes as the flight continues (or the passenger jumps out --- sky diving, say?) but a lot of you prefer to use a more conventional trim system. The second easiest method to use would be to incorporate an elevator trim tab. This needs to be adequately sized so it has enough power to move the elevator against any and all friction in the system. If it is too small or your system has too much resistance as Bob Brown's did, it tends to work as a mini elevator --- in other words, it works backwards. The tab's purpose is to move the elevator, so make sure it can. Scott is in the process of welding up his elevator and thought that it might work best to use a 3" deep by 12" wide section for his tab.

A letter from Don Hegeman

Hello Ed,

Enclosed is my check for another year of your Newsletter. Also enclosed is a picture of me flying over the North Pole helping Santa corral the reindeer for hitching.

My Sonerai II was built by Blackie Malzahn in 1980 and I've had it for 3 years and about 110 hours for flying. It has a 2180 cc VW.

The only problems I've had have been:

1. Fuel leaks from gas tank seams cracking (I've reinforced them with fiberglass.)
2. Prop spinner support cracked -- welded and machined to repair.
3. Leaky engine valve (#4 exhaust)
4. Some oil leakage from the rear crank seal -- still.
5. Compass replacement with auto -- Airguide type.

I've been using a Ray Jefferson Loran and ICOM A-21 for Nav and Comm but have no alternator. Considering price and reliability, I don't see how you could stay aloft any cheaper without being born with feathers! And being 2-place with a 135 mph cruise and folding wings to boot!!

Specifics I'd like to see in the Newsletter are --

1. What's involved in retrofitting an alternator.
2. Hand fuel transfer method from front seat Aux. tank -- any aux. tank ideas.
3. Subscription list of Newsletter for interaction with other owners.
4. Enclosed trailer ideas for storing and transport.

Don Hegeman 2014 30th Place NW
Rochester, MN 55901

Ed's comments --- Don obviously has a better heater in his Sonerai than I do in order to fly in those northern latitudes. (And more baggage space too!) He has a good airplane in Blackie's there.

Don is not the only one to have cracking seams on his fuel tank. Most people have solved the problem by

rewelding the tank or using the fiberglass method. A fuel leak probably gets a pilot's attention faster than about anything else and is the least tolerated of any maintenance problems.

The cracking prop spinner bulkhead has been covered in the past in this Newsletter. My recommendation is to reinforce both the forward bulkhead and the blade cutouts in the spinner itself. This should be done with a brand new spinner assembly in my opinion. The forward bulkhead can have a disc of sheetmetal approximately 5" in dia. fastened just under the front plate. The blade cutouts need a pop riveted piece of metal that follows the blade contour about 3/4" wide. For both of these items I use 28 or 26 ga. galvanized sheet steel. It takes the vibration better than aluminum.

As stated in the past, I feel it is a good idea to plug your exhaust ports with foam rubber plugs to minimize air transfer in and out over night with the moisture that is sure to follow. This seems to prohibit the corrosion of the residue from the 100 LL that most people use. Yes, Don may have had other valve problems.

Don's rear seal (on his engine that is) has a leak. On my engine I replaced the rear seal twice and still had the leak and then discovered that it wasn't the seal but the O-ring around the mag drive that was leaking. This can normally only be replaced by removing the mag drive, but I didn't want to do that on my engine, so I used high temp silicone rubber to seal the 9 dowel pin holes. I then made a gasket of sorts with it and put the alternator ring back in place. This effectively kept the oil locked in place for about 12 years. If this isn't clear, give me a call.

As for Don's requests ----- I have covered the alternator problem in this issue (see the Adam's article). Transferring fuel from a aux tank is always interesting if you don't have an alternator. I used the Facet pump for my last Sun N Fun trip. The 6 amp Gel-Cell and solar cell array did the job, but I also carried a spare battery just in case the sun wasn't shining (it was). This pump took about 18 minutes to pump 6

gallons to the main tank. As for the amount of power it took overall, I don't think I ever checked the amperage required. Our 6 gallon outboard tank is fastened to the front floorboards although some of the guys put it on the front seat. The choice is yours as they say.

When people call to find other Sonerai folks in their area, I usually have the label program print out a list of nearby enthusiasts. It would take about 10 pages to print everyone's name.

I haven't ever printed anything on trailers. The Formula V people know quite a bit about this aspect of Sonerai Life in the Fast Lane, maybe one of them could respond.

An Update from Dean Mc Ginnes

Dear Ed,

Well, it's a little like the well-known line "Half-a-league, Half-a-league onward ...". At long last, more things are going together than coming apart. The engine had been reassembled. When line-boring the case, the guy doing it managed to ruin the rear main bearing area and therefore, bought me a new "universal" case. It has lots more studs and stuff for mounting things. I discovered that my old Monnett engine did not have the welded reinforcement behind #2 cylinder and a few other things that are common practice now. I traded the crank to a buggy-builder. Magnaflux showed no cracks in the webs or journals but I didn't want to take a chance. Besides, in order to accommodate the Great Plains Force One, I had to make a boring bar. I now have one and am laying in wait for the next guy in the area that needs the work done. Haw haw -- I didn't know how to spell "sheenist", and now I is one. Bought myself a fancy Henrob torch. What a device! With that I'm a welder, with anything else I'm a poor tacker. After regarding the nice, evenly-rippled fillets on my exhaust flanges, one guy declared that I had used a "mig" welder. I let it be known that the machine was also used very effectively on Sukhois and Ilyushins. He went away a Believer.

The new exhaust system is finished. There remains three Herculean tasks, as well as several minor ones. I gotta do a

bit more machine work to fit my new ignition system, and the engine will be ready to run. Also, the heel cylinders need to be mounted, lines run to the brakes, and landing gear and wheel fairings mounted. The three biggies are, making the nose to accommodate the new cooling system and engine hardware, reskinning at least one and possibly both wings, and recovering and repainting the whole thing.

First engine runup is planned for the end of February and the first flight is planned for the end of June -- probably. It will be two years more or less. You can bet that I won't miss a cotter pin again as long as I live.

Dean Mc Ginnes 1503 Clairdale Ln.
Lakeland, FL 33801

Ed's comments--- As some or most of you know, Dean had a landing accident wherein the cotter pin on his tailspring came loose allowing the tailwheel assembly to depart the aircraft. The resulting out-of-control situation caused the Sonerai to be damaged substantially. Dean, being Dean and not you or me, had decided it was time to install all the modifications he had in mind and so you can see where his time has gone.

The Henrod welder has been given high praise by other people in the past. Great Plains doesn't provide prewelded fuselages and the fear of welding up the airframe has probably deterred potential builders in the past. John Monnett's Skystruck enterprise is designed to allay these doubts for people. Gosh, if Dean can do it ----- (Fill in the blanks yourself.)

It will be good to see Dean back in action in the Lakeland area. Perhaps another trip to Oshkosh is also in the offing.

FRANKSVILLE WI 53126
11428 SIX MILE RD
FRED KEIP PD 95

Delavan, WI 53115
412 S. 5th
C/O Ed Sterba

SONERAI NEWSLETTER



WANT ADS --- FOR SALE --- GIVE AWAYS

For Sale -- HAPI 55 hp 70 hr. TT POSA, hyd. lifters, starter, stub exh, dual elec. ign, Sterba prop, oil press & temp tach. \$2600 or best offer.

John Mitchell 402 S. Hickory
Shannon, IL 61078

Wanted -- Right wing for Son. II L and landing gear for Son II.

Jerry Van Nort 719-738-1290 day
719-742-3746 nite

For Sale -- Sonerai II midwing w/ 1700 Monnett conv. needing to be rebuilt. Aircraft partially disassembled. \$6000.

Tom Freeman 708-526-3180

Wanted -- 5/8" main gear, S-wing kit, taper pins, fabric, canopy, interior kit, wheel pants for 5.00 X 5 and 11.4 X 5 Lamb, rubber donuts for tri-gear, rivets and misc. hardware.

Darwin Mc Kinney 610 S. 318th Pl.
Federal Way, WA 98003 206-839-6531

Wanted -- Clecos and Rib Forms used to build Sonerai wings.

Walt Augustine 6948 Neptune Ct.
New Orleans, LA 70126 504-245-8940

For Sale -- Sonerai II LT, Great Plains 2180 (brand new), Sterba prop, hydraulic brakes, fuse, primed, canopy finished, fabric covering, some minor finishing, wings ready to skin. Owner actively working on project. Great project for quick finish.

501-968-2794 or 501-964-5384

Wanted -- Sonerai II Builder looking for Engine and airframe parts

Martin Roy 1342 Magnolia Ave.

Escondido, CA 92027 619-743-2144

Wanted -- Sonerai II in flyable condition with trailer if possible.

Steve 916-489-5514

For Sale -- Sonerai IIL 1700 VW, 1000 TT 100 STOH, new ICOM A21, Intercom, new interior, excellent paint, 110 mph on 3.5 gph \$8000 Runs Flies and looks great!

Steve 605-336-7791

Wanted -- Sonerai parts

John Bauer 14601 SW 272 St.

Naranja, FL 33032 658-8357 beeper

For Sale -- Smith Miniplane 40 TT 0-290 40 SMOH Stretched-widened, txp, enc, com elt, room for 6'2" 200+lb pilot \$15,000

Robert Wray 1806 Kansas Ave.
San Angelo, TX 76904 915-949-5813

For Sale -- 1991 Sonerai II VW 2074 TTAE 75 hrs \$7000 Call after 7 PM

404-296-0937 Buying engine for Ercoupe

Wanted -- Son II project or completed aircraft. Preferred to have it 70-80% completed.

Dave Valaer 2833 Summit St
Souix City, IA 51104 712-277-2823

Wanted -- Variety of good used or new Sonerai parts: cowling, canopy, 5/8" landing gear, spinner, S wing kit. Also interested in a Son III project.

Mike -- 219-534-2900

For Sale -- unused fuel tank for Sonerai II, intake manifold for 2180 Engine and Stub Exhaust kit for 2180

Raymond Bergner 1310 Parker Rd.
Lakeland, FL 33811 813-646-0953

For Sale -- Sonerai II midwing, 1979. 1700 Monnett conv., Slick mag, 260 TTAE, 150 STOH, 4 into 1 exh., Smoke system, Loran. Built for 6' pilot. \$7500 OBO

Mike Smith P.O.Box 800 Starksville, MS 39759-0800 ph. 601-324-2801

Wanted -- Used, worn out, junk 4000 series Slick magneto. Super Vee prop hub and casting.

Bob Schank 313-697-7057 after 5 P.M.
35 Clarence St. Belleville, MI 48111

For Sale -- Sonerai I 8 1/2" long engine mount \$35, Monnett intake "Y" casting \$25.00, four 2 3/8" Sonerai II engine mount alum spacers \$6, wing and aileron fiberglass wing tips \$30, Revmaster accy. case w/ flywheel, starter and solenoid, rubber mount bushings, alternator stator and rotor \$250.

Bob Schank 313-697-7057 after 5 P.M.

Wanted-- 1850 or larger long block suitable for Sonerai II Super Vee, in good working order.

Nick Fourdraine RR # 1
New Glasgow, N.S. Canada B2H 5C4

For Sale -- Sonerai II LT fuselage on gear 1834 installed, dual plug heads, VFR instruments in panel, wing kit. (No canopy, cowling, spinner or prop.) Flat bed trailer included. \$5500 invested, sell for material price.

Curtis Anderson 714-521-4075 Calif.

For Sale -- Sonerai II LT (easily conv. back to conventional gear) Wing Mod, VFR instr., Cleveland wheels and toe brakes No engine or prop.

Ivan Haecker 8434 FM 2673
Canyon Lake, TX 78133

210-438-3354 weekend 210-899-4824 eve.

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.

John Mc Laughlin 25839 Tallwood Dr.
North Olmsted, OH 44070 216-734-5575

For Sale -- Suburu engine 1985 EA82 turbo engine complete with EFI, computer, turbo all access. 5 suburu repair manuals. \$1400 for all. Also, EA82 non-turbo engine TBI injection. Car ran but engine may need work. Bob Stieg 815-397-1533 days

815-234-2283 eves.

For Sale -- VW 1835 engine. All new. Hd. 11:1 ratio, SCAT heads, Hapi access case w/ dual alt., elec. ignition, prop hub installed, Zenith carb. Might separate. Apart for inspection. Can assemble.

Bob Stieg 815-397-1533 days
815-234-2283 eves.