

T-18 Newsletter

September 2001

Oshkosh 2001 ~ Reserve Grand Champion ~ Plans Built



Bernie and Melva Fried ~ N18XS ~ San Antonio, TX

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NOTICE: (STANDARD DISCLAIMER) As always , in the past, present, and future newsletters, we would like to make you aware that this newsletter is only presented as a clearing house for ideas and opinions, or personal experiences and that anyone using these ideas, opinions, or experiences, do so at their own discretion and risk. Therefore, no responsibility or liability is expressed or implied and is without recourse against anyone.

T-18.Net



Here it is, time once again to set down in front of the old computer and create twenty pages or so of T/S-18 news, tips and related information. I really enjoy doing the newsletter, and I enjoy the countless emails and phone calls I get from you - our members, but it sure would be nice to receive some good technical input from some of you. I tell you, it is difficult to pull together enough good information to keep these newsletters alive. I know that there is a wealth of untapped information from you members out there. The question is, how do I get you properly motivated to set down and write me ?? I haven't been able to answer that question yet, and I feel the editors before me were unable to answer it. As of now all I can say is that any and all help would be greatly appreciated. Please help me out and send me something ! It doesn't have to be fancy, and you can mail it to me or send it by email.

I was somewhat disappointed in the lunch/forum turnout at Oshkosh this year. I know of several T-18'ers that were at Oshkosh, but did not attend our Friday noon activity. I guess I don't understand why T/S-18 owners and pilots would not want to be part of the Thorp Family. My mind must work differently than most, I am completely ate up with Thorp's and want to be a part of the "Movement". I enjoy the camaraderie and being around people with the same interests. Doing things as a group is just plain fun, and as a group, we are able to promote our great airplane, and expose it to more potential owner/builders than any one of us could do alone. As a group we are stronger, and have a wealth of knowledge to draw from. Most of us would not have access to this otherwise. Lets all work together as a family, and try to attend more Thorp functions. We have a wonderful family, be positive and lets all support it.

For those of you who are computer savvy and visit the T-18 website, you may have noticed some changes. With the help of David Taylor, (a future T-18 owner - he has one bought) the picture on the homepage now switches at random each time the page is loaded. This is a neat feature and keeps the homepage from being boring. I could use some more pictures to use in the rotation. If you have a neat picture of your Thorp, I would love to include it on the website. You can send me a photo through the mail, or you can email it to me.

I am trying to keep the website as current as my time allows. Events like Sun n' Fun and Oshkosh are being posted in the "Events" section and usually contain color pictures taken at the event. Be sure to check them out.

The current newsletters are also available for download from the "Newsletter" section, beginning with newsletter 114. The downloaded newsletter is exactly like this hard copy, with the exception that the pictures are in color. The detail in the color pictures really helps the quality of the publication. There is no additional cost for the downloadable newsletter. If you are a current Mutual Aid Society member, and your dues are current, all you need is a password to access the newsletter page on the website. You can sign up on the website by going to the "T-18 Newsletter" page, clicking on "Subscribe", and filling out the registration form, or contact me by email and we can work out your password that way.

I am thinking about dropping the T-18.net email option from the website. I have found that it is not working properly, and that not many of you are actually using the service. If any of you out there are using it, I would like to hear from you. I am trying to figure out if there is enough usage to justify keeping it, and getting it to operate correctly. So please let me know by sending me an email at: rfarris@wworld.com and giving me your comments.

Check it out at: www.t18.net

Help Wanted

I need an artist !! Any of you like to draw ? I am gearing up for a rewrite of newsletters 45 through 90. The quality of the masters is getting poor, and the backissues I am sending out leave much to be desired. Therefore, I am going to rewrite the newsletters and put them in book format similar to what Lu Sunderland did on newsletters 1 through 44. What I need is someone to redraw the illustrations and drawings that are contained in those newsletters. They can be ink drawn or done on a computer, it really doesn't matter, as long as I can either scan the image or import it directly from a computer file. It won't be a real easy job, but I know someone out there is up to the challenge. I would love to hear from anyone interested in tackling this project. Call me at: (618)723-2594 or email me at: rfarris@wworld.com

**Newsletter Index**

I am working on an updated newsletter index that will cover newsletters 1 through 115. Thanks to Jim Strickenberger's work, I have the index he created and was published in newsletter 102. All I need to do is get it updated and published. I think what I plan to do is publish an updated index each year. Instead of including it in a newsletter issue, I am going to print it separate. That way, when you receive the new current index each year, you can discard the old one and always be current. As the list of newsletters keeps growing, it is becoming more important to have a good current index. I get several calls and emails each month by members trying to locate information in the newsletters. My goal is to have a current version out by the end of this year. Any comments on the index would be appreciated.

Work by A&P Mechanics

A comment was made in newsletter 115 about not wanting an A&P to work on a T/S-18. My original intent was that if you build your airplane, then you know more about it than anyone else, and I believe this to be true. However it was brought to my attention that many Thorp drivers are not homebuilders and did not build the airplane that they are flying. The T/S-18 has been around for a long time now, and many have changed hands several time. Many Thorp pilots have purchased their pride and joy from someone who bought from someone else who may have acquired it from the guy who actually built it. Many are not mechanically inclined, and I am finding that many T/S-18 owners and pilots do not even own a set of plans for their airplane. The FAA says that if you did not build the airplane, and possess a repairmans certificate, then you can not sign off any of the work, including the condition inspection. That means that if you are the second, third or fourth owner, you are going to have to contact a professional A&P or probably an IA to help you out. If you are mechanically inclined, you are permitted to do the work on your airplane, provided the A&P is ok with it and supervises all of the work, but keep in mind that he must make all of the logbook entries and signoffs. For those that are not inclined to do the work, you must rely on the professional to do his thing, and by all means do so. We don't want to fly unsafe machines now do we?

One point that this brings up is that in order for the A&P to be able to do his job correctly, he must possess the documentation pertinent to the job at hand. I don't think he will find any airframe data for the Thorp on his micro-fish or his computer. The only source for relevant T/S-18 airframe information are the blueprints. Anyone who owns and operates a Thorp must have the blueprints its really not an option its mandatory. How else can you or your A&P know the proper way to repair your airplane ? If you don't have a set of blueprints, please get smart and contact Eklund Engineering or Classic Sport Aircraft and order them today.

Landing Gear Repair - Safety Concern

In newsletter number 115, there was an article on repairing the cracking that is common in our T/S-18 landing gear. The article was submitted by Mr. Pete Lemaire, and was published as I received it. It has been brought to my attention that there is a problem in the way the repair was performed. (at least in the way the procedure was written for the newsletter) The -515 landing gear as we all know is a heat treated assembly. The landing gear drawing (-515) clearly states this, and states in note #2 "Heat Treat To 180,000 #in squared". In Mr. Lemaire's article, it appears that perhaps the actual repair in itself is ok, although I have been advised that adding the additional straps was probably not necessary, and may simply cause the stress and cracking to move to a different location, but nowhere does the procedure call for the gear to be re-heat treated. Step five says to stress relieve the area through additional welding heat, which is a common step for most steel welding, but is not a substitute for the heat treatment. **This is a dangerous situation and could lead to premature gear failure.** In making the repairs to the gear, his certified mechanic made several welds, and the heat from the welding changes the quality and the strength of the original heat treatment. Any time that you weld on material that has been heat treated, you must heat treat it again to bring it back to the same strength that is was before. So in this case, **the landing gear must be re-heat treated.** If it is not, then the gear will be soft in the area around the repair, and will most likely fail. This could be quite a surprise on landing.

This may be a situation where the owner did not have a set of drawings and was unaware that the gear was in fact a heat treated assembly. The mechanic, also unaware, made what he considered a normal repair to a cracked steel structure. Both had good intentions, just did not have the information pertinent to the job, and have possibly set a future accident in motion. (It is also possible that the gear was heat treated after the repair, but just wasn't listed in the article.)

Lets Talk Propellers

My T-18 is a standard version with the O-320-E2D, 150 HP engine. It has a Ted Hendrickson 68 X 72 wood prop and is a good match for the airplane overall. The engine turns up to a high cruise RPM - I run in the 2500 - 2800 rpm region, and at altitude even see 2900 - 3000 rpm. The prop has been on the airplane for most of its 1800 hours of flying time, and when the cylinder barrels were removed not that long ago for leaking cylinder base gaskets the engine shop said they had never seen an engine with 1800 hours on it and so little wear!

The climb performance at sea level on a cold day with one person is over 2000 ft/minute and I have taken off with no problem from Leadville, CO (10,000 MSL or so).

But, as has been mentioned before..... Each prop manufacturer has different rating systems for what they are building so the numbers I use as stated above are probably not the same as what you would order - Ask the propeller manufacturer. However my suggestion is that you opt for a flatter pitch and higher cruise rpm if you want better take-off performance. Also strongly recommend the plastic leading edges as they are resistant to rain and replaceable when severely damaged.

Ross Mahon

Metal Props

After seeing some of the comments regarding the safe use of certain model props I found a letter by John Thorp in newsletter #80, stating that the Sensenich M74DM prop was involved in three in-flight failures and is NOT to be used on the T-18. The preferred Sensenich prop for us is the 76EM series cut to 68 inches. The pitch seems to vary somewhat depending on engine choices from what I've seen in the newsletters by T-18'ers. But again, I would check Newsletters 78 & 80 for reference

Robert Jaeger

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Tips From Down Under

Submitted by: Ray Tilley ~ Tasmania, Australia

Some Comments on my T-18 VH-TLY (my wife's initials) Now flown 300 hours
Built from original plans with the following little "mods", or difficulties highlighted, which may be helpful to other builders.

1. FORWARD CENTRE TUNNEL Will not fit if built to plans - make a cardboard mock-up and try it first.
Fit several large inspection plates.
2. BRAKES. Fit them both sides with a Park Brake. (sorry I didn't)

Do not replenish brake fluid with automobile fluid. (how dumb can you get?)
Fit pump oil can with plastic tube to top up from the wheels (its great!).
Do not throw the brake bleed rag on the wing (good paint stripper!)
3. TIP TANKS: Fit extra tip tanks (very good idea!)
But bought many four port fuel shut off valves - sooner or later they all jammed, graunched and leaked.
Suggested to manufacturer that they "Teflon" coat them - not interested, so I had one done locally - has now worked beautifully for six years. Difficult to get fuel caps for tip tanks which are rain proof {mine are under a flap and sit in a well with a drain, but they still leak.} Plan carefully!
4. FUEL PUMP mounted on firewall works well despite theoretical disadvantages.
5. WEIGHING don't let the weight and balance engineer push your plane off your platform scales. Damage to the spats and their brackets will result. Do it yourself and if it happens, replace the aluminum brackets with stronger more durable stainless steel ones
6. COWL FLAPS: Fitted on each side operated by "T" handle on the instrument panel. Look great but they do not seem to contribute anything to speed.
7. LANDING LIGHT Retracts under one seat, very challenging to get the action right but very effective.
Three positions, landing, taxiing and retracted.
8. A.S.I. Tried several, finished up with a Piper Pitot mounted under wing with static points each side of fuselage (as recommended by Vans Aircraft) the one in the photo is from a "Victa Air Tourer" very inaccurate!
- 9 VENTS: Built several manufactured exactly to plans NASA Ducts of various sizes. All proved much less effective than scoops with which I replaced them.
10. TACHOMETER The original instrument was geared wrongly and had us chasing carburation, timing etc. after checking the propeller revs with a spectroscope, found the tac. had the wrong gearing.
11. IDLE. Make sure you can reduce your idle to about 500 r.p.m. otherwise your Thorp will float on ground effect the full length of the runway.

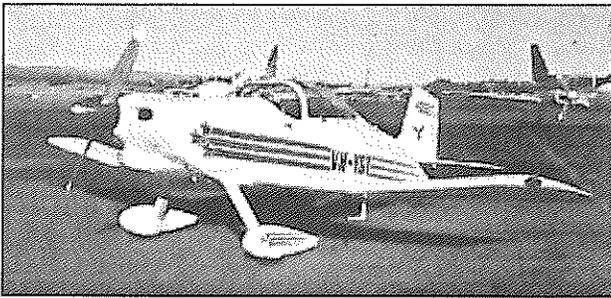
Tips from Down Under, cont.

12. Despite ball joints and sleeves, my crossover 0320 Exhaust pipes cracked. Make sure they are very flexibly attached to the airframe.
13. OIL TEMPERATURE was a bit high flying in the tropics. The fitting of an ADC. Filter on the firewall does a great job filtering the oil, has a warning light if dirty and drops the oil temp well down.
14. WHEEL ALIGNMENT Tyre scuffing and lively ground run on landing proved that the undercarriage stubaxles were out of parallel. Cured this with tapered aluminum shims.
15. STALL STRIPS Triangular section, faired 8" long mounted 3" out from wing fuselage junction, made stall innocuous.
16. COWL Tight fitting fibreglass, faired to fuselage - looked lovely, but fit was too neat. Hammered aluminum bumps to clear alternator pulley exhaust bends etc. and riveted these on to cowl after numerous attempts to get an acceptable fibreglass bump to clear hot or moving bits.
17. TRIM WHEEL Check the ergonomics. Mine is too far forward and too close to my leg. My first trim indicator arrow (attached to a specially made coarse thread nut and spiral screw in brass at great expense) had to be remade because it did not indicate in the natural sense.
18. TAIL WHEEL the Maule" was a poor article. Hubcap dented, grease nipple fell out, steering assembly arm was assembled with slop in the attachment. Cam was asymmetrically formed allowing tail wheel to release too easily on one side with disastrous cross wind landing results. Top cover cap is a press on and gets lost in the grass. Connector spring chains are of bath plug type, quickly rust, wear and break with more disastrous results.
 - a.) Make a heavier aluminum hubcap that will take a thread for the grease nipple and not dent so easily.
 - b.) Reform the cam to make it release equally to pressure both sides.
 - c.) Carefully press the cover cap sides to a circular shape and ensure snug fit. Inspect daily.
 - d.) Replace the bath plug chain segments frequently. After careful daily inspections. (Being VERY prudent, I have locked out the fully castoring" feature and carry a length of nylon rope to loop under the tail wheel to make it easy to pick up the tail for moving backwards.)
 - e.) TAIL WHEEL FORK: For convenient ground movement. Cut a short length of U shaped aluminum extrusion and cut slots to fit over the tail wheel steering arms. Rivet on two barrel bolts fashioned to pass under the arms to secure it. Weld on a tube bent down to clear the rudder and bent up to hand height. Fit cross tube for handle.
19. 0320 E2A RUNNING IN Zero time engine burnt oil because I "babied" it too much and glazed the bores. Advised to climb full bore to 10,000 ft! it no longer burns oil.
20. BUILT WOODEN GANTRY ON CASTORS: Great idea for moving engine fuselage and wings etc. So light, wife and I could manoeuvre it about easily - (steel gantry was impossibly heavy and awkward). We frequently sat wings on a wooden castored mount and easily fitted wing mount bolts etc.

Tips from Down Under, cont.

21. FINAL ASSEMBLY at the aerodrome. Helpful engineers rushed to help. Served up the wing to the fuselage carelessly and forced the rear spar attachments on the wrong side of the fuselage attachments. Despite my cries of anguish, they forced the bolts home. The result was a rebuild of the rear spars. Next time, refilled by family members who would slowly do exactly as they were told, it fitted snugly and easily (beware a lot of over enthusiastic and helpful engineers.)

I hope these notes help other builders!



Rat Tilley - VH-TLY - Tasmania, Australia



Lets Talk Propellers, cont.

My Ivoprop, installed on a IO360 almost killed me. I changed blades to Ivo's new high pitch range blades and after 9.6 hours, the blades failed. Assuming that the high density foam cores don't provide any strength, my blades lost all but 30% of their strength during a 1.5 hour flight. The aft carbon fiber face was cut at the edge of the aluminum plate completely across each blade. This allowed the spinner to cut the front face 20% across the blades. These blades had been installed and inspected and re-torqued according to Ivo's instructions. Ivo is refunding my money. I am now flying with a Prince wooden prop. The word is that the problems with the Ivoprop are only with engines of 150 hp and up.

cont.

Lets Talk Propellers, cont.

Ivo admits that there are problems. The design is weak in terms of handling the torque pulses, particularly with four-bangers. He uses knurled plates which bite into the carbon fiber skins. He has a schedule for torque the prop bolts to establish the "bite". If any movement occurs the knurls become a sawblade and destroy the skins and thus all of the strength of the blades.

Harvey Mickelsen
N118HM - Fat Cat

I just replaced my Ted Hendrickson 68 x 74 with an Aymar Demuth 68 x 75. I have a 160 hp O-320. Here's what I found; The original prop would turn 2200rpm on initial takeoff roll. The top speed (all things being equal) was around 133kts. After the switch, I only get 2150 on takeoff roll. However, I estimate getting off the ground 3 to 500ft shorter! My top speed is now a solid 140kts. I believe that no 2 manufacturers can be compared. They all carve different airfoils on the props. Do I like the ADP? You bet! Do I think I can do better? I think slightly less pitch is warranted for this engine. I can only turn 2600rpm, even with the harmonic dampener. My next deal will be to time my tach.

Jim Grahn
831 GR

I use an Aymar-Demuth 68 x 70 on my 125 hp g-motored T18. It will turn 2250 rpm static. A 68 x 68 probably would have been a slightly better choice.

Ed Pernic
137EP.

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Lets Talk Propellers, cont

Im using a 68x68 on my 0-290g and my next prop will be a 68x70. I have exceptional climb performance now but I can sacrifice a little for a little more speed. my airplane now will true out at 180mph turning 2700rpm. that is exactly what John Thorp told me it would do.

Bill Jennings
N18WJ

The Sensenich M76 prop IS the correct prop. The M74 is the killer on a T-18. The M76 is the right one BUT, it must be vibration tested to determine the potential danger areas (RPM) to avoid. As soon as a prop is cut down, the vibration characteristics become an unknown until that prop is tested. The only source that I know of for testing is "SPECIALIZED TESTING SERVICE", only a couple of blocks from Whiteman Airport in San Fernando, CA. The last phone no. I had is 818 344-1851. The owner is Sandy Freizner....who did the flutter testing on the T-18 in it's early days. The last one I had tested was \$75 and it is the cheapest insurance that you will ever buy. If you can find anyone else ..who is qualified and equipped to do such a test, I suspect the cost would be far greater. Sandy does it as a favor for T-18er's as he worked with John Thorp for many years, and is very aware of our need to have these props tested. I would suggest calling and verifying the current status, cost etc, and then update the info on the thorplist. Most folks will not understand all of the modes, nodes and frequency's, but he will give you a plot showing clearly any RPM ranges to avoid (continuously). Of course the new pitch must be established before the vibration test. Without the testing it is strictly Russian Roulette.

Howard Ginn

Lets Talk Propellers, cont.

I have an Aymer Demuth 68 x 72 prop on my 150 hp Lycoming Thorp. It added 15+ knots to cruise over the old metal 68X68 Flottorp with only a slight decrease in indicated climb rate, once we get going. But the old prop (which cannot be run at full throttle in level flight because it will overspeed) gets me off the runway faster, and allows me to climb at 2,500 fpm as soon as I pull up, at my 1,040 ASL airport elevation. It all depends on what you want: I don't have much of anyplace to go in a hurry, but I like the snappy performance so I run the old prop most of the time and cruise at 120 kts at 2300 rpm at 6 gph. But when I travel, on goes the A-D prop for 140-kt cruise, 2400 rpm and 8 gph — the price you pay for speed in a plane that isn't particularly clean.

John Sullivan

I have an Aymar-Demuth prop that has about 800 hrs on it and and it is the only one you want. I switched from a Warnke prop and gained 14 knots and climb performance.

Mike builds a very good prop.

Gary Cotner
N57GC

I concur about the Aymar Demuth giving excellent performance and it seems to be a quality prop. In addition I wish to pay them a very big compliment. Their first prop for me was a bit too much.....I carefully recorded and forwarded the performance criteria as per their request. They built me another prop at no additional charge and had a good attitude about doing so. Their second try is a great prop and I would buy from them again.

cont. Larry Church ~ N14GM

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Lets Talk Propellers, cont.

I'd suggest caution. Several people that I have talked to have informed me that there isn't a clearly defined standard for measuring prop pitch. Most notably, Sensenich wood props are reported to be 6" in pitch more than a similar wood prop from someone else. I'm replacing a wood prop in another experimental plane due to a mishap, and ordered a prop from Props, Inc. If I'd stayed with Sensenich, I'd have gone with a 68/62, but I ordered a 66/56. If it ever comes in I'll let you know how it works out. I've been waiting over two months.

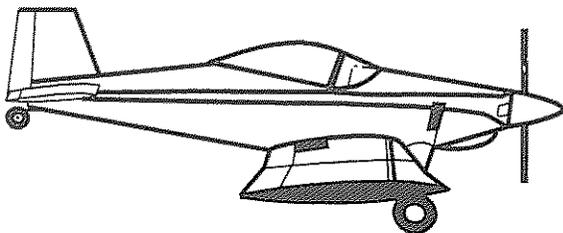
Best information I have is that you should track down someone with a similar plane and if he likes his prop, try to get one like it. I've gotten quite a bit of advice, varying from: "Get a prop that turns 2300 static on your engine, and don't worry about the cruise." (Probably OK for a climb optimized prop.)to:

"If it turns 2000 RPM's static, it'll fly" (from a Thorp owner. - probably a good cruise prop.)

Rich Woodcock

If you supply details about your plane to a reputable procarver, he can probably hit it pretty close. Instead of ordering a particular pitch, tell him what hp you have, how clean the airframe is, whether you want climb or cruise, etc & let him pick the pitch based on his measurement system. Most will tweak the pitch after you fly it if needed.

Charlie England



T-18 Mutual Aid Society

In the early days of the Mutual Aid Society, many Thorp pilots traveling across this great United States were invited to stay in the homes of fellow T-18'ers. This enabled them to spend time with people of the same interest, and had to make for a wonderful vacation. Wasn't that a neat idea. As time progressed, the world seemed to run at a faster pace, and people seemed to loose site of that "family" concept. Now everyone has to be here or there, and just can't seem to find the time for their own life, let alone inviting some stranger into their home or can they ?? Recently on the Thorp email list, a new discussion has been taking place. Many of you have expressed interest in bringing that "family" concept back to life, and I for one think its a terrific idea. What better way to meet new friends that share the same interest in flying and airplanes.

My idea then, is to start a list of Mutual Aid Society members that are willing to open their homes to T/S-18 travelers. Several of you emailed me that if a list were started that you wanted to be on it, so here's your chance. If you wish to be on the list please let me know. You can call me at (618)723-2594, or email me at rfarris@wworld.com, or even send me a letter by snail mail. The address is on the back cover. I will compile the list and publish it in future newsletters. I will also create a new page for the T-18 website and place the list on it as well.

Any comments or ideas on this venture are welcome. Let me know what you think.

Roy Farris

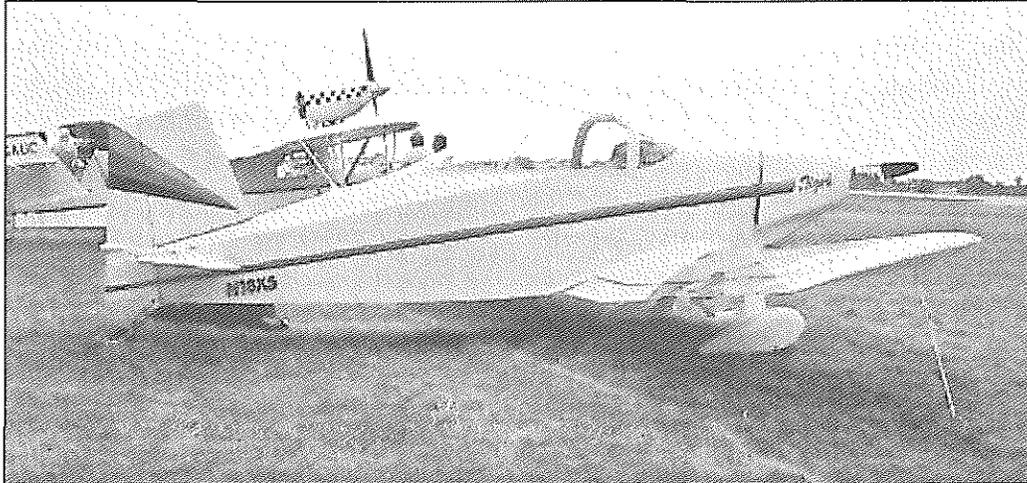
Keep thy airspeed up, less the earth come from below and smit thee. -William Kershner

When a prang seems inevitable, endeavour to strike the softest, cheapest object in the vicinity, as slowly and gently as possible.

- Advice given to RAF pilots during W.W.II.

Oshkosh 2001

**Congratulations to Bernie and Melva Fried
Winners - Silver Lindy - Plans Built**



Bernie and Melva Fried's award winning T-18C ~ N18XS

Congratulations To Bernie and Melva Fried for receiving the Reserve Grand Champion Plans Built Award. Their T-18C was beautiful, and showed great attention to detail. Bernie stated that he had purchased the airplane in flying condition, but was not happy with some of the small things, so he began fixing all those little things that annoyed him. I am not sure he knew where to stop. He sure did a fine job, and truly deserves the attention that he received.

It seemed to me that the attendance at this years AirVenture was noticeably down. I was able to walk the exhibit buildings and the flight line at any time without being pushed or prodded, and I never had any wait time at any of the exhibits. I spent four nights in Camp Schroller, and the attendance there was smaller too I think, and people seemed to be leaving much sooner. The campgrounds were showing bare spots by Saturday.

The T/S-18 population was down this year as well with somewhere around fifteen Thorps present. Thirteen were fairly close together in the homebuilt area, and I heard of a couple more somewhere in aircraft camping.

The T-18 forum attendance was also quite low, with forty two persons signing the register. We all renewed old friendships and had a nice lunch, before the actual forum began. Several people had topics that they wanted discussed, so each one in turn took the floor. Some excellent topics were discussed, and of course a couple of war stories surfaced, about off runway experiences and the like.

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Oshkosh 2001, cont.

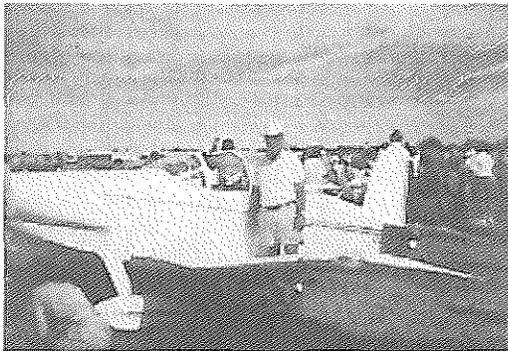
I was a bit disappointed at this years turnout. I am not sure why the Thorp people are not turning out for this unique event. Perhaps it is the constantly rising cost of attendance, or perhaps the fear of getting ones airplane damaged. I do know that the Thorp family is the most wonderful bunch that I have ever been around, and I strongly wish that we could come together at least once a year, (you know, a family reunion) whether it be at Oshkosh, Sun & Fun, or just a really big Thorp Get-Together. We need to hold this group together, and show the world that we really do have the best airplane in the world.



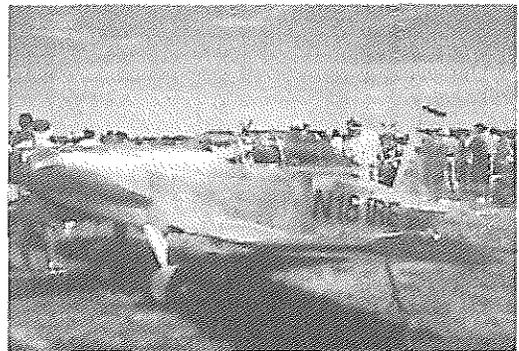
Ron and Jane Hayse - N102RH



Tom Kerns - N10TK

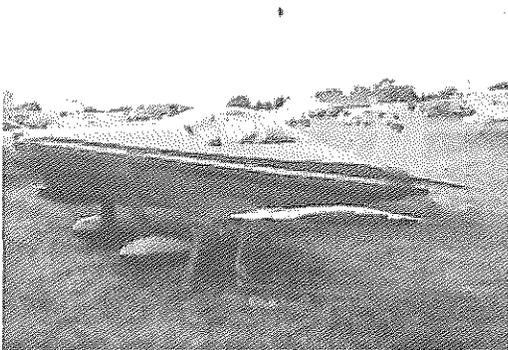


Gary Green - N118GG



Richard Eklund - N181RE

More Pictures
on page 12



Ed Pernic - N137EP



Gary Cotner - N57GC

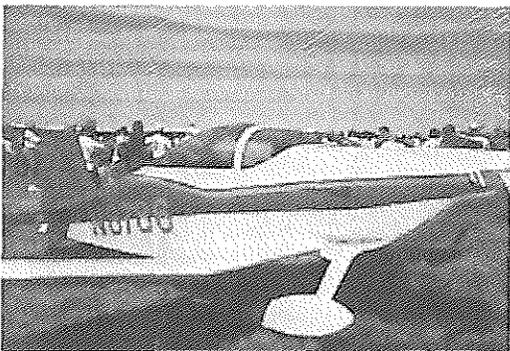
More pictures from Oshkosh 2001



C. W. Shuster - N3706



Gale LeCount - N5GL



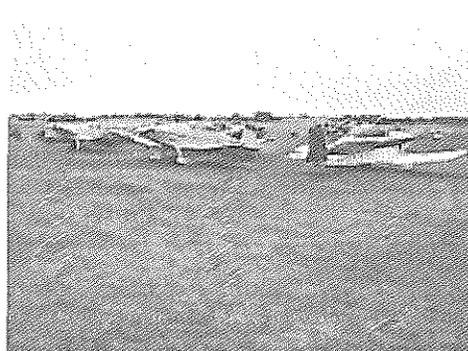
Glen Baumgartner - N8786



Bernie Fried - N18XS



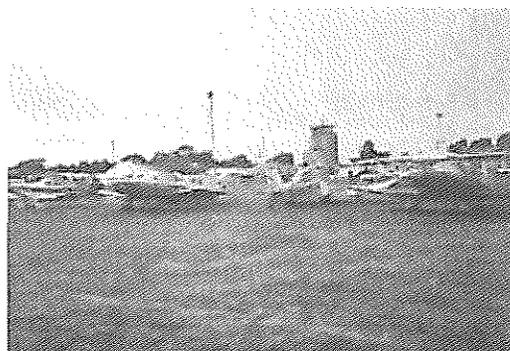
Bob Pernic - N966RP



Flight Line



Flight Line

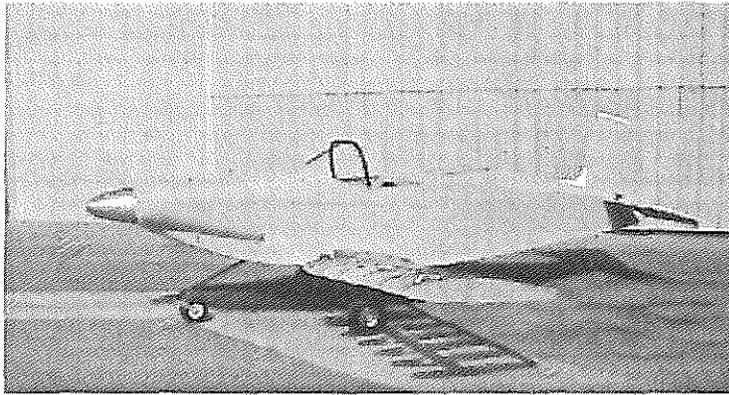


Flight Line

News From Classic Sport Aircraft

I have finally found the "lost picture" I told you I would send a month ago. This is the S-18 Tri-gear. As you can see, we still have a ways to go to get the wings, canopy and all the fairings completed. I have the instrument panel in with the engine instruments operating. Also, even though you cannot see it, our V-4 engine is under the cowling. I will keep you posted as we progress.

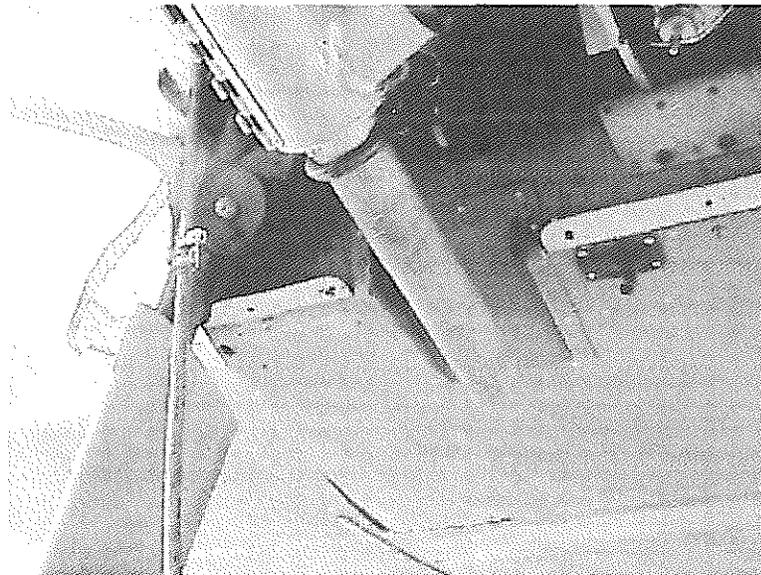
Thanks,
Mike Archer



Exhaust Pans By; Frank Roncelli

This looks like a good picture to put in the newsletter. The pans, I call them fit between the rudder pedals. With sound proofing and wood floor boards the noise is kept down to a low roar. Keep up the good work

Editors Note: The installation of these exhaust pans are covered in depth in past newsletters. I have seen several Thorps with this neat little mod. Good for drag reduction.



Oil Coolers & Filters

I used an adapter that was available from Volkswagen people back then. I installed it on the firewall as high as possible on the pilots' side. The fittings for the oil line are the same size as the fittings on the accessory case. Initially, I had intended to use a Cessna spin on filter, which would fit on this adapter, but I discovered that one of the auto filters, don't remember the brand, would filter particles of a smaller micron than the aircraft filter so I started using it. Nowadays I use any good brand since they all keep my oil clean. I place a large hose clamp on the top of the filter with a hole drilled where the screw driver goes in such a way that the safety wire goes through the screwdriver slot after the clamp is tightened then safety it to a small hole drilled on the web of the adapter. Never had one leak and as you know, the Volkswagen oil pressure runs quite high-as high as the Lycoming-so that you can be sure that it will handle the pressure. Also, the filter I get are the ones with an internal bypass.

Pete Gonzalez

For a partial flow system I used a Franz oil filter, don't know if they are still available or not. This was installed on an 0290GPU. Install AN4 fitting at pressure port, silver solder a plate over diameter of this fitting and drill 0.090 in hole in the soldered plate. Can be brass on brass, or brass on steel. This will restrict flow from pressurized gallery to filter. Restricted flow is required to maintain oil pressure at idle. The 0.090 dia hole is about right to get good flow to filter and not lose oil pressure. The output of the filter is then dumped back into the crankcase via plate covering the fuel pump pad on accessory case. Mount appropriate fitting on the plate to accommodate the AN4 hoses. This will give you a partial flow filtering of oil. Maybe about as effective as full flow, as full flow is bypassing part of the time

cont.

Oil Coolers & Filters, cont.

with higher oil pressures. In place of the Franz filter, one of the firewall mounted units sold by the auto specialty houses will do. The Franz filter was popular some years ago, and was certified for aircraft use.

N118TX uses an Oberg filter, it is great but heavy. It has a reusable screen, with a warning light for supposed high pressure operation due to dirty clogged filter screen. A filter of full or partial flow is good insurance for your engine.

Ken C. Morgan

I too am using a Frantz filter on Fat Cat. I have had one on my cars and trucks for 35 years and am a real believer in them. I am also considering becoming a dealer to try to promote them to the EAA world. The company doesn't advertise, but is alive and well and has a websight: www.wefilterit.com/frantz.htm.

Harvey
Fat Cat N118HM

I purchased an ADC oil filter system about five years ago and its a GREAT system !!! It comes apart so you don't have to buy a filter opener to inspect what your engine may have spit out. It also has other features as well, like a oil pressure bypass valve (with a panel mounted yellow warning lite),also a low oil pressure valve(with a panel mounted red lite) and also a chip detector that detects engine metal partials. I got everything that they had to offer except for the chip detector. The filter is reusable again and again. You need only to wash it out with warm soapy water and reinstall ! The unit is FAA approved and comes with STC certificate.

cont pg. 15

Oil Coolers & Filters,cont.

It also extended my oil changes from twenty hours to forty hours too ! Oil filters systems is a must in my book for all engines I think !!! I mounted it on the pilot's side firewall for easy access. The system comes complete with the oil filter adapter, hoses and electrical connections too ! The cost was around seven hundred dollars then, don't know what they are now, but it is one of the best and cheapest things you can do for your engine !!!

If you'd like to call ,here is their number, their in Washington state. 1-800-944-3011

Danny Cummings

J.C. Whitney, an auto supply parts outfit in Chicago sells a remote filter assembly that is of very high quality and costs around 30 bucks. It comes with all the necessary hoses and fittings for an auto installation, throw those away and use standard aircraft hoses and fittings. I mounted mine on the fire-wall in a convenient location near the gill opening on the right side. It will take a standard aircraft filter. One caution that must be observed is to make sure the threaded hole which receives the filter is tapped deep enough. This is easily enough accomplished with a standard tap of the correct size.

Bob Pernic
N966RP

I used this same remote filter assembly mounted on the firewall. I flew for 7 years using an automotive oil filter with no trouble. Then the manufacturer changed the gasket material and I suddenly had unpredictable massive oil leaks when the gasket would pop out. The entire oil sump would be drained in about a minute! Don't trust the automotive filters. Stick to the aviation type. They are heavier and the gaskets are glued into position.

Carl N647C

Oil Temp Problems ?

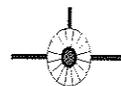
OK guys put your thinking caps on and help me figure out this problem. Lycoming manual says my O-360 should run 180 degrees oil temp and 245 degrees maximum. Mine is running in the cold and cool air of Oregon at 220 degrees! So far I have,

1. Tested and checked ok that the gauge is reading correctly, it is.
2. Removed and tested that the thermister is expending fully and it does at 180 degrees.
3. Removed and checked that the oil lines to the cooler are free and not clogged, they are open.
4. Removed and checked the oil cooler is flowing free both with air pressure and fluid, cleaned it out with solvent and it has good flow in both directions.
5. Checked and rechecked the cooler for free air passage through it. It is fine and my oil cooler is mounted just inside the left air inlet, it gets plenty of air.

So whats the problem? I took off yesterday morning with the outside temp at 32 degrees. I should have a problem with my oil being too cool with those air temps but the oil temp climbed to 220 degrees within 20 minutes. It never goes above 225 but I would like to see it cooler around the recommended 180 degrees. My oil pressure runs at 65 pounds and I wonder if it is over-powering the thermister valve and not letting the oil into the cooler, is that possible? It truly seems to me no oil is going through the cooler as it always tops out around 220. The cylinder head temps run a cool 250 degrees or so. How and why would no oil be going to or through the cooler with good engine oil pressure of 60-70 lbs?

If anyone has some answers for me please get back to me as Im stumped!

James W. N2NE



Oil Temp Problems ?,cont.

The thermostatic valve or “vernitherm” has a “cone” on the end of it which closes a hole in the accessory housing when the unit gets hot and extends the cone towards that hole. If the hole is not being closed off, little or no oil will be forced through the cooler circuit. Check the vernitherm to make sure it is extending sufficiently at around 180 deg. Also make sure that the cone and the hole it mates with are in good shape.

John Evens N71JE

Make darned sure that you are using the proper in and out fitting ports on the back of your engine’s accessory case. We had a fellow here in Florida ruin a new 180 Lyc by using the wrong holes. He fried the engine after 1/2 hr of flight. Your temps and pressures are what one would expect if you had no oil going through the cooler at your ambient temperature. Also, don’t assume that new hoses are good!

Bob Highley
N711SH, Ser. # 835

Oil Overboard ?

We have a GA oil/air breather installed as follows:

- oil out of vacuum port to the oil/air breather
- returning oil to fuel pad
- running air breather overboard out an alum. pipe between pipes.

The belly is covered in oil after an hour hop and there is an oil drip on the end of the alum. tube we run overboard. Is possible we are sucking oil out of the engine? Suggestions?

cont. Don Conner

Oil Overboard ?, cont.

Have you done a blow-by test on all 4 cylinders? What can happen with pistons and rings if they don’t seal between the piston groove and the ring. The gases then don’t blow by between the ring and the cylinder but get between the ring and the piston groove. This is easily remedied if identified as the problem. The place to start is to do a blow-by test. If you have a leak into the crankcase it would result in oil carryover through the breather. By “blow-by” test I mean the standard differential pressure compression test on the cylinders.

Darrell Miller
South Africa

If the vent discharge line is angled backwards in the slip stream and/or cut off on an angle, you can create a slight suction on the crank case and it will pull some oil overboard. I remedied this on my aircraft by bringing the vent line back up just inside the cowling (it could still drip out but was not in the slip stream any longer) and by drilling a small hole in the vent line about one+ inches above the end (flow will come from the area of least resistance - therefore if a slight suction is created it will pull the air from inside the cowling versus from the crankcase - also acts as a secondary vent if the end were to ice over).

Donald Conner
Houston, Tx.

Sometimes, even if the end of the pipe is out of the slip stream, there can be enough flow through the cowl opening where (if the vent tube is in line with this flow out of the cowling) it can still act like a suction on the line.

cont pg.17

Oil Overboard ?, cont.

Just adding another point to this discussion - I started running my oil quantity at 6 quarts and it cut the oil consumption out the breather (And the oily belly syndrome).

Ross

It is not normal to have mid to upper 70's on compression (hot I assume) and still have enough blow by to carry oil over like that (assuming the quantity is as large as you indicate - a little oil goes a longgggg way).

The only other thing I have seen and heard of is to ask where you mounted your oil separator relative to the crank case vent on the engine. I generally try to put an upward slope in the vent line where it leaves the case and goes to the oil separator. I have mine run up over the engine mount tubing (giving a roughly two inch rise in the tubing) and then over to the separator which I mounted as high as possible on the fire wall. You hope that the more you use gravity to help let the oil mist drop out (especially if the velocity is low like it should be) the less oil there will be for the separator to have to handle in the first place. Most of the oil separators, like the quart size can type Wagaero and Aircraft Spruce sell, are pure centrifugal separators and do not use a mist extractor element inside them. The vent tube enters on an angle near the outer edge of the can and the overboard vent line comes into the unit about mid point and goes inside to the middle of the space. Theory is oil will be extracted due to centrifugal forces and decreasing velocity as it enters the can. Vent is in the middle because the center should be devoid of oil. The higher the velocity of incoming gases the truer this becomes. In higher priced oil separators they will usually use the same principle but with the addition of a mesh screen like material inside to also act as a trap or collection mechanism for the oil particles.

If you feel

cont.

Oil Overboard ?, cont.

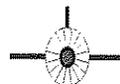
comfortable dropping your oil level to around 6 1/2 quarts it should help some. Otherwise if you continue to have the problem you may have to look at a more sophisticated separator (translates into dollars).

Don Conner

**Brake Linings**

I have been making my own for years. Buy a brake lining tool (Aircraft Spruce P/N 824 \$16.95) Buy Rivets " " \$.05 each (Get the correct length) You might be able to eliminate the brake tool by using pop rivets, but I don't know about this. Go to an automotive brake specialty shop and they will sell you a flat piece of brake lining material approx. 3/16 inch thick. Use your old lining as a pattern and cut with a bandsaw or jigsaw or even a hacksaw. Drill the rivet holes. Drill the countersunk holes. (You will have to dedicate a 1/4in. drill bit by grinding the cutting edge flat so that the rivet head lies flat in the lining. Clean up the edges with sandpaper. Inasmuch as they don't use asbestos anymore I don't think there is any danger if you breath any of the dust however you should wear a mask. Insert the rivets and set with your tool.

Ted Strange



Well guys I just ran out of stuff to put in this newsletter. I hope you all decide to send me something before the next one. It just ain't gonna be easy to fill twenty pages with nothing, so get to sending !!

For Sale

I am dismantling a project that was highly modified and have some parts for sale:

Std landing gear
New Maule tailwheel
Elevator push-pull tube
Trim & Bearing assembly
Std seats frames & pan
Windscreen frame
Alum fuel tank
Fiberglass fuel tank
Rudder
Fin
Horizontal stab with alum. tips
Brake pedals & assembly
Std outer wing panels with glass droop tips
Complete walking beam with control sockets
Canopy rails
Call for details and prices.
Bob Jaeger 815-498-3945

rjaeger@prairienet.com

Sensenich metal prop for 180 HP Lycoming.
Sensenich EM76 blade shortened to 68 inches with 84 inches pitch. Prop was purchased from Santa Monica Prop, Inc and the vibration analysis was completed by Specialized Testing Service in N. Hollywood. This is a complete assembly, ready to bolt on to your 0-360. The prop is polished and has a polished Ken Brock spinner and has the Ken Brock 4 inch prop extension, complete with prop bolts.

This is the same prop set-up that John Thorp used on his T-18 and is the same set-up that Don Taylor used on all of his around-the-world record setting flights.

Asking \$1800 and I'll pay the shipping (CONUS only).

Gary Green
817-579-1995

ggreen@itexas.net

For Sale

I have both outer wing panels completed from the original print #547 which I would like to sell to any one who might be interested you could take a look at them and make me an offer { P.S. im not looking to get rich }

Ed.Mason

Ed.Mason@valley.net

sensenich 76mm 400smoh 68/81 with 4in ext all bolts a good by at \$1000.00

slauff@aol.com

(352)867-0372 days

(352)347-2181 eve

I have a complete Horz Stab heavy duty landing gear fuel tank and several other T-18 parts for sale if Interested I can send photo's

Make me an offer

Thanks

Edward Williams

ewilliams1@jam.rr.com

(601) 502-1804

1 belly skin with 1/8" holes (rear)

2 side skins with 1/8" holes

The skins were copied from John Thorps Templates.

Nearly complete set of fuselage frames cut out in the flat, no holes

Rather that sell this stuff for scrap, I will give them to someone for the cost of shipping.

Dean Cochran

(303)466-3472

T-18 For Sale

1985 Thorp T-18
Lycoming O-360 956 TTSN
1130 TTAF
KX-155 Navcom
Apollo GPS
AT-50 Mode C
Voice Actuated Intercom
Electric Trim

Asking \$29,000 Call for Details

Roy Medan
(310)327-0251

Landing Gear Jig

I've got some crude jigs I made for making my landing gear if somebody would like to borrow them. I couldn't find anybody who carries 1 1/4"dia. 4130 in .313 anymore but Dillsburg, Pa. had 1 3/8"dia. that could be turned down on a lathe. The problem is, the machinist told me not to bring him any more.

Hurant Karibian
N407HK
(904)874-1586

Upcoming Thorp Events

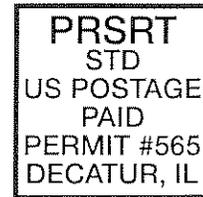
September 1 - 3, 2001 ~ 10 Annual Thorp Fly-In, Porterville, CA. ~ A reminder about the P'ville California Labor Day Thorp Gathering. Again this year put on by Hal Stephens and a great team of people from California and held in Porterville. Mike and Frankie Archer's Classic Sport Aircraft, home of the Thorp parts and plans will provide hangar space, and will be hosts to the guests flying their beautiful Thorps or driving in to see them. Labor Day is the first weekend in September.....It's the Tenth Annual.....can you believe it.....9 proceeded this one and they only get better....Everyone is invited....ya'll come! For more information contact Hal Stephens at (530)295-1867 or by Email at: aerohal@inforum.net

September 15, 2001 ~ Goderich, Ontario ~ Aviation Day, Hosted by Sky Harbour Aircraft and COPA 45. We will be providing breakfast, and are eager for members of the T-18 Mutual Aid Society to display their aircraft. For more information contact Jerry Hall at (519)524-2165

October 12 -14, 2001 ~ Kentucky Dam Fly-In, Gilbertsville, KY. For Lodge reservations phone (800)325-0146 and ask for the "Paine Party". For more information contact Jim Paine at: (828)698-0368 or by Email at: jpaine@cytechcis.net

T-18/S-18 Thorp Newsletter
Roy Farris
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Noble, IL. 62868
Phone: (618)723-2594
email: rfarris@wworld.com

September 2001



Please check your mailing label for the "PD" entry in the upper left corner above your name. If you don't see the "PD" entry, then you have not paid this years dues. Please send the dollar amount listed on the label. Any amount over 25(US) or 30 (outside US) indicates that you have failed to send previous years dues. Please be kind and send your dues now.

THORP T-18 MUTUAL AID SOCIETY ----- 2001 DUES

Please continue your support of this valuable exchange of ideas, building tips and safety information covering John Thorp's greatest design. Please make checks payable to: Roy Farris P.O. Box 182 Noble, Illinois 62868. Make check for \$25.00 US, \$30.00 for outside. I don't know yet how the postage increase will affect out mailing costs.

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