

T-18 Newsletter

April 2003

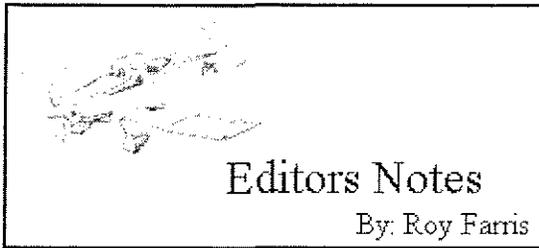


N172 ~ Built by Norman Buehler ~ 1976
Acquired by Jim Kirk ~ Fall 2002

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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.



Editors Notes

By: Roy Farris

Wow this issue has been a tough one to get out. I apologize for the tardiness of this issue, and I am not making excuses, I have just had a lot of things going on and I really had to scrounge to get enough good information gathered to fill the pages. Hopefully I am through the rough spot and the next issue will come a little easier.

I know that I repeat my plea each and every issue for you people out there to send me some information to print in these newsletters, so here I am doing it again. I have had a little feedback from some of you. One gentleman suggested that I should dig out information from past issues and reprint it, others strongly protest such an endeavour and want new information. Some of you are pleased with my efforts and some obviously are not. I give a lot of thought to what goes on the pages of our newsletter and devote considerable time to making each issue a reality. I wish it were possible to please everyone all of the time, but I have found that it's not at all possible. I am always open to comments and suggestions and really enjoy talking with those of you who telephone me.

I hope by now that everyone has figured out our new membership policy. I am sending this issue to nearly everyone on the current mailing list. Some of you still have not renewed your membership dues, yet are still expecting to receive the issues on time. **This will absolutely be your last issue if your membership is not current !!** Starting this year, memberships expire on the last day of December. You need to take a look at your mailing label. Look just above your name ... if it says "Membership Expires Dec 2003" then you are ok if it says anything else, your membership has expired. If you are unsure of your status and want to keep your membership current, please

get in touch with me. We will get things worked out. If you are not current ... this will be your last issue. Enough said !!

I was very happy to hear that Jim Paine won the best T-18 award at Sun&Fun this year. I cannot think of anyone who is more T-18 oriented and is a true mentor. Jim has been a wonderful friend since I meet him in 1980 and has helped me numerous times. I have flown many times with Jim and he truly loves and believes in the Thorp, he is the guy that really sold me on building the T-18. I sure wish he lived a little closer, maybe he could beat me over the head and get me to finish mine. Congratulations Jim !!

Email Address Change

Recently, I was forced to change my Internet Service Provider, so I now have a new email address for those of you who wish to contact me. My new address is:
rfarris@shawneelink.com

T-18 Hats

Its been quite awhile since I asked so I wondered if there might be some new blood in the group that doesnt have a T-18 hat yet. I still have several available and there is also some of you out there that ordered them before but never came through. Anyone interested in a T-18 Hat they are \$20 each including shipping. Contact me at "Rotortime@AOL.Com" If you would like one of these hats. James W.



MA-4SPA Carburetor Data

Credit has to be given to Ken Morgan, Mark Batchelor and the newsletters for some information on the MS-4APA. However, further research developed the table for nozzles that come with the different numbered units. Additionally, I found the stated nozzle pin gauge sizes and their orifice flow developed. This gave me an opportunity to make a best guess for ordering a carb for the GPU conversion to an O-290D with the O-320 sump. Maybe this information will help some others. It has been noted in the newsletters that air intake configuration can affect carburetor performance also.

<u>Number</u>	<u>Nozzle</u>	<u>PinGauge</u>
10-3678-32	47-773	0.101
10-4910	47-806	0.099
10-5009	47-813	0.090
10-5009N(*)		
10-5135	47-828	0.093
10-5217	47-828	0.093

* Ref: Lycoming 1305-E service builetin to add atomizing jet

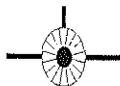
Notes:

10-3678-32 and 10-4910 have economizer jets

Last two numbers 09,35,17 accomodate temperature probes

Nozzle removal requires a 7/16" deep well socket

Tom Worth
Edgewood, WA



Tire Pressure Woes

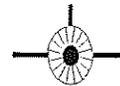
Several months back, there was discussion on the Thorplis of the difficulty in maintaining tire pressure. Removal of wheel fairings was time consuming and often pressures weren't maintained. An A&P friend

cont

Tire Pressure Woe's,cont

Dean Boyd (ex AF flight engineer) suggested the use of a "Wilke" button. By that he meant a rubber, plastic, or metal button plug sold in auto parts and paint stores. The first ones tried were about 3/4" and the current ones are about 1-1/2". Holes in the fiberglass fairings were cut at the bottom edge. These holes required careful filing to provide a sharp edge to the outside as the plugs can only grip an equivalent thickness to sheet metal. Yes some have blown away (miniature frisbees all over Puget Sound), but new ones stay in place several months. Perhaps some adhesive would help, but a close fit work fine. I'm more aware of tire pressure with this easier access method. Cost of plugs is ten to twenty cents at the Tacoma Lacquer Distributors, an auto paint supply store.

Tom Worth
Edgewood, WA



Throttle/Mixture Support

Earlier this year, I pulled the T-18 out of the hanger for a leisure flight. I did the external pre-flight and then went through the cockpit procedures: Fuel On, Mixture In, Throttle - 2 turns but, the mixture /throttle wouldn't go but half way in. I started the engine and taxied down to the PAVCO shop and pulled the cowling cheek off. When the mechanic got in he found the controls would go all the way in.

By this time, I had found the problem as being a broken support bracket for the throttle/ mixture control cables. It was constructed of some tubing, and went from the carburetor back about 18" to some welded on support tabs (for the cable clamps). A diagonal piece of tubing went from the midpoint up to the engine as a brace against vibration. The repair was to remove this part and weld an

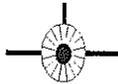
cont pg 4

Throttle/Mixture Support, cont.

internal rod at the break and then gussets on each side of the diagonal brace.

Though the part lasted about 1000 hours, it appeared the tubing was too thin walled and it extended to far from the brace providing a bending moment destined to cause the failure. For an alternate source for this part, Van's offers P?N VA-149-320-PC kit at \$18.00 (for o-320). Since I am in Aurora, Oregon frequently, one was purchased for the T/S-18 project (S/N 341). If you haven't inspected this area recently you might want to. This could cause you some grief if it happened in flight.

Tom Worth
N925RS

Exhaust System Cracking

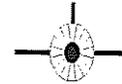
I just installed a new Dean Cochran exhaust system on my old T-18. After 23 years and over 2000 hours, I discovered a crack around the exhaust flange on the right rear cylinder. It was broken nearly all the way around. Only about 3/4 inch remained holding it together. It was a Dean Cochran system that I had installed in early 1980. The failure was all my fault. It had only been removed once in the past 23 years, and that was when I installed a new engine and put the old exhaust system on it. I do not think I ever separated the slip joints on the system and inspected them or lubricated them with anti-seize compound. Ignorance is bliss. The system still looked great. But, you could not budge the slip joints. I tried every trick I knew— heat, mouse milk, etc. They might as well have been welded together. In lieu of cutting the offending sections out and re-welding new slip joints in, I elected to buy a new Dean Cochran system (Larry Vetterman makes them).

In the future, I will add this to my annual.

Exhaust System Cracking, cont.

Remove the exhaust system, separate the slip joints and lubricate them with a bit of anti-seize compound like you use on your spark plugs. Had I done this over the past 23 years, I'll bet my old system would still be alive and well.

Gary Green

Inboard Wing Assy

Sunderland (200 Assy)

Submitted by: Don Doubleday

The first thing that needs to happen when embarking on a trip, mission or just doing a simple task; is to gather all information, materials, tools and whatever else would be needed by way of equipment to achieve the goal. So, get out your drill motor, fire-up your compressor and sharpen all your drills and reamers. If you don't have an air driven drill motor, a good battery operated one would do if work will be done at a location that has no electricity. Just be sure you have extra batteries, which you will need while drilling. You will also need about a dozen #40 size drills, some .125 dia drills and reamers for the required hole sizes. . You don't want to drill too many holes with one drill. There is nothing like a dull drill to ruin an otherwise good hole.

Several variations of the Thorp's drawings have been created. Make sure the version you're working on contains all drawings complementing the entire assembly you hope to complete.

I have a set of Thorp and a set of Sunderland drawings. One is strictly original and the other one is for convertible wings. The wide body information I have is in dimensions changes only. A problem I encountered has to do with my trying to fit the folding wings built for a narrow fuselage

cont pg 5

Inboard Wing Assy, cont.

unto a wide fuselage I had already built. I ended up having to modify the 228 rear beams to fit the wide fuselage. What's the point here you ask? Go back to paragraph two above.

After assembling the beam caps, web, wing attach fittings and other detail parts to resemble a 227 Main Beam, and completed fabricating the 228 aft Beams; clean and position the 227 Main Beam on workbench such that access may be possible (you'll need to) from all directions and store the L&R 228 assemblies (not for long) for later use. The best way to place the 227 beam assy on the work bench so that access can be obtain from all directions is to clamp down four 1 x 2 pieces of lumber, some twelve inches long extending from edge the work bench. These pieces of lumber should be clamped such that support for the assembly will not correspond with the location of the ribs. Using a 24" scale (if you don't have one, a 12" one would do) for locating each of the fwd and aft ribs positions within the 227 Beam; mark fwd and aft rib flanges centerlines as noted on 227 dwg. Locate and drill pilot size holes (.040 in dia) in web and caps as required. Apply a strip of double faced tape to each of the rib's flanges common to the beam and mark rivet attach holes centerlines using a felt tip pen. Secured to beam with previously marked centerline showing through pilot holes using clamps and transfer holes to all ribs using existing holes in beam as guide, inserting clecos to secure in place. It's extremely important to use a cleco in every hole in order to keep items from walking (loosing alignment) on you. Even when securing items very tight you may end up with an accumulation of tolerances, which will make the assemblies difficult to realign and put together. Once the ribs have been located, drilled and clecoed to the main beam; retrieve the 228 beams from the shelves and properly secure to the aft flanges of the aft ribs same as with the main beam and continue the drilling process until all holes are drilled. The assembly is now ready to step-up holes to B/P sizes and should be done at this time. Make sure that everything is where it's supposed to be.

Inboard Wing Assy, cont.

. One advantage of pre-drilling items using a pilot size drill is the ability to move the holes or parts to their correct locations as you step size them up to B/P size. Get the Metal Aircraft Building Manual out and do a little reading on installing rivets. Installation of rivets can be a tedious task. Make sure the set is squared on the rivet and the gun perpendicular to the assembly. I used a flush rivet flat set two inches (2") in diameter, which makes less dents on the exterior of the aircraft. I also placed some pieces of masking tape on the 1/8th sets to prevent the set from coming into contact with the material. Additionally, used a minimum of 2X rivet gun. There's a great deal of better control over the trigger on the heavier rivet guns, which prevents or cuts back on runaways guns. With center wing section frame completely drilled, deburred, chem. film and primed; install rivets and fasteners using wet primer as required. At this point you would want to install the aileron bell-cranks and inner flap assembly hinges. I would hold off on them until after the entire inner and outer wing assemblies were complete less the skins. Installation of the bell-cranks brackets can be accomplished after the entire assembly is complete. The wing frames, flaps and ailerons should be clamped down and pre-fitted to the fuselage in order to locate and drill the flap hinges into their respective positions. Some adjustments will be required aligned all assemblies with respect to one another. Hope you didn't make the mistake of drilling some of the hinge plate holes as shown on the dwgs. The less holes you have to deal with, the less problems you'll have. No additional burden when attempting to align the flaps, wing and ailerons together. Assuming all wing's major components are to the point of getting the skin into position; you are now ready for the skins. But first you must fabricate the 532-2 step plates, 532-7 angles, 532-3 stiffeners with the required 532-9 clips for step plates and re-enforcements installation. Once this is done, put the step plates aside and locate

Inboard Wing Assy. cont.

the -9 clips on each of the ribs using double faced tape to hold them in place during the drilling process. I used a straight edge atop of the assembly to simulate the skin surface in order to locate the -7 angles just below the skin. After drilling, deburring, and chem.-film, install -9 clips with B/P type rivets using wet primer. Temporarily secure the inner wing structure to the fuselage. This can be done using pins and clamps, or using set-up bolts. In the same fashion, locate the left and right wing frames to the center wing frame assembly for temporary fitting of ailerons and flaps. Once all assemblies are located on their B/P locations; locate, drill, deburr, chem. film and install flap hinges with rivets using primer as required. Some folks have used or prefer the holes transfer method using a fabricated template as mentioned in the Thorp article within the Metal Aircraft Building Method pamphlet published by EAA. That may prove to be a better way; but I felt very comfortable doing it the way I did. I also used hole templates for transferring holes, which I made for onetime use since they were made of thin material and not capable of sustaining continuing use. Using a felt tip pen, mark the location of the skin common to the fuselage mating area known as the "Wing Root" and transfer the fuselage contour onto a piece of cardboard of sufficient size for use as flat layout template for the skins. Once the skin's leading edges are formed, additional trimming will be required. With a sheet of .032 in. 2024T3 aluminum on flat level surface and with the aid of the layout template; trace, mark and cut two skins materials for left and right side, using a felt tip pen and metal cutting shears.

Once the skins flat layout have been cut and trimmed, locate the point where the wing leading edge will be and form each piece to obtain the required radius. Put the skins aside until ready to locate on assembly. Using several straight edge pieces of material or metal yard sticks, align and clamp each rib set from forward to aft such that a straight line with a .250 in. edge distance is visible for rivet holes location mark same using a felt

Inboard Wing Assy. cont.

tip pen. At this point the distance between this mark and the fuselage skin at the front and rearmost rivet location for each of the ribs should be recorded on the side of the fuselage for future reference corresponding with the Station location of each rivet to aid in locating the rivet attach holes centerline for each of the ribs. Remember, the skin will be clamped down to the assembly and the ribs flanges will not be visible. As a minimum, I recorded these dimensions at three locations for each rib. Load and secure the skins to the center structure assembly using clamps and mark rivet attach holes for each of the ribs using the dimensions recorded on the side of the fuselage as reference points. Having located and marked all rivet attach holes on wing skins upper surfaces, remove skins from structure and drill pilot size holes and secure back on the assembly using clamps as before. This time the felt tip pen mark placed on each of the rib flanges should be visible through the pilot holes in the skin. Since the fwd ribs are not secured at the leading edge and will move from side to side, some adjustment will be required. Also bear in mind that when ribs are formed, a slight warping will exist which may cause holes to be drilled to close to the edge of the flanges minimizing proper edge distance for rivets. This warping may be reduced by use of fluting pliers. Once assured that all holes will fall in their respective places, transfer holes to each of the ribs and beams securing with clecos in every hole. You may want to follow the advise of previous builders regarding hole spacing and additional row of rivet holes common to the forward beams. Repeat the process for opposite and lower wing surfaces until all holes have been properly drilled or transferred. It will now be necessary to remove sufficient clecos from lower surface of left and right sides and allow skin to sag in order to gain access for and drilling 532-7 step angles and 532-2 step plates. The angles are placed over the -9 clips and the -2 plates secured to the upper surface as noted on dwg using double

cont pg 7

Inboard Wing Assy. cont.

face tape. Drill rivet attach holes for -7 angles common to -2 plates as noted on dwg. Locate 532-3 upper stiffeners on B/P noted location and transfer holes as required. Repeat the process for lower -3 stiffeners. Now that the drilling process is complete, it is now time to raise all holes to B/P size and disassemble as required. Since the wings were to be put together using flush head rivets; it was necessary to dimple and machine countersink the holes. Remember that holes in the step plates common to the -3 stiffeners and common to the main beam caps will require special attention. What I mean is that some of the material will require countersinking, some dimples, while other require absolutely nothing. I used a .125 in dia drill to raise all holes. Now, I know that a 1/8 rivet will not fit a 1/8 hole. The hole would have to be drilled using a .128 in dia drill (and I did so for the holes common to the step plate supports, stiffeners and main beam caps), but because the holes were dimpled, the process of dimpling expanded the holes plus a .128 dia reamer was subsequently used to clean the holes up and deburred. This makes for cleaner looking finished assembly. About two weekends of full work had taken to get to this point. It's now time to do the plumbing and air-conditioning err- I mean fuel and pitot-static system plumbing provisions as well as wiring installation for the heated air data probe, aileron trim and wing tip light. Depending on the setup and the type of flying anticipated, there may not be a need for plumbing or wiring. I would at least make provisions for wing tip lights wiring just in.... It may be a good idea to apply primer to the wing structure prior to securing and riveting the skins with other detail parts together. It gives better protection against corrosion in the more temperate climate and coastal areas. Secure skins to the structure using as many clecos as required for everything to remain where is supposed to be. Now. Stand back, look at the work and think about what needs to happen when. What this means, is that you must plan the riveting sequence so that no rivet would have to be drilled out because something was left off or out.

Inboard Wing Assy. cont.

I removed the wing assembly from the fuselage and took the 1 x 2 pieces of lumber that were clamped on the workbench and repositioned them close together for stronger support near the middle of the assembly (closer to the walking beam area) and placed the assembly upon it same as before. It may be necessary to add support since the assembly will be considerably heavier. One thing I did in order to have better access for rivet installation, was to make several lightening holes within the ribs. I have regular size hands and three (3) inch holes were big enough. Some of the folks with medium and large size hands may have problems.

It may be necessary to bribe friends and relatives with a beer, or hamburger, or steak dinner, or...**(But no beer until after it's over with!)** to help with the riveting. I used all of the above. Again, I used a large size rivet set for setting the flush head rivets. I'd loan you mine, but I'm still using it. Crank the compressor up to 100 psi, get out you ear plugs and muffs, mix the primer you'll be using on the rivets, have the correct rivet sizes sorted and handy but most importantly, be safe. Since the assembly will have lightning holes and ways to access the rivets for setting the shop formed rivet head; a need for a riveting sequence will not be necessary. I would however, start the riveting at the leading edge and work aft. I hope this can be of help to someone or just provide added reading to aid in deciding how to go about putting the wings together.



Mr. and Mrs. Elmer Hymen
Ramsey, NJ.

Letters From Member

I would like to bring a point up again In newsletter issue 121, page 17, there is a comment in error by Steph Mickelsen about John Thorp and Tiger (El Tigre). I suggest that anyone interested in the real story, first read newsletter 88, page 9 and not propagate the nonsense that comes now and then, that is not correct and I find it disrespectful.

Then real story that I am suggesting was expressed by Bill Warwick for the same reason that I am bringing this to our attention again. I am not going to rewrite it, but those interested should look it up and straighten the comments of those who do not know better.

Alberto Pereira
Tucson, AZ.

Proud Owners

My brother Chris and I are the owners of a 1978 T-18 (N6CM), which was advertised in the newsletter. We Love our Thorp !! Chris has around 2000 flight hours and I am a rookie with 150. My brother says that the Thorp we have flies better than the RV-4 that he has flown. N6CM has an 0-290 GPU and we are amazed at her performance. At 2350 rpm, we are indicating 150 to 160 mph, and at 2450 rpm we see between 170 and 180 mph. Flat out it seems to max out at 2600 rpm and indicates 190 mph. I only have 160 hours flight time, but have had no major problems to date. I have flown N6CM about 20 hours and am delighted with its flight abilities. John Thorp was Right On with this design. N6CM is pretty light, weighing it at around 900 pounds. She is equipped with a light weight starter, alternator, small battery and basic VFR instrument package. We just can't wait for Saturdays, so we can go flying again. Everyone should have a Thorp if they really want to enjoy flying. Hope to see you at a fly-in some day.

Brent Schultz
Orange, CA.

Styling Now !

Or the story of how I goy my T-18
(OK ... Our T-18)

I love to build things, always have. I love aviation (in all its forms), always have. Hmmm sounds like a perfect EAA situation ... building airplanes. But a long road to get there. Of course the early years were model airplanes. After getting side tracked with professional motorcycle racing and injuries to prevent furthering the career. What could be as exciting? Hang gliding of course! And I could afford it! But then 200 hours later, life happened .. marriage, children and responsibilities. (no it wasn't my wife's fault, I met her hang gliding, she was a pilot too) Many years went by and I only wished I could fly. I had always heard of the one in a million deals on airplanes that you have to be right there at that second to get (the only way I could afford it) but thought "yeh right, like that would happen to me". Well it did! I got a barely started Sorrell Hiperlight (it's a cream of the crop ultralight) for \$4000 when the kit new was \$8500. That was fun. From building to flying it the first time, what an experience!! After 30 hrs I had to sell it to keep a new business afloat ... and so it goes. I (like millions of others) got ahold of a BD-5 cheat, and spent a lot of time working on it and learning, but of course .. never finishing it. I decided to get my ticket (pilot licence) so I did. I was somewhat content to rent wrecks, never thinking I could afford a real airplane. I began building a Hummel Bird, but then one day while riding my mountain bike through the airport (of course I live right next to one) an older savvy pilot just sold me his 1969 Corben Jr Ace. Honest it was just like that. He made me an offer I couldn't refuse and carried the paper. Wow .. my first real airplane. Now .. I love to fly anything, but my copilot/best friend/ wife flies for different reasons. She loves to go places, and after two years of putting at the speed of slow dance, she was done. So we decided to go to Oshkosh and find a plane/kit to build, then we could sell the Corben for the price of the engine

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Sun 'n' Fun 2003
by Andrew Robinson

My trip to Sun 'n' Fun was once again a 1-day affair, with that single day coinciding with the Thorp forum and dinner. So yer humble reporter's tale will be limited in scope.

I learned my lesson last year when I went to the builder's forum and through the vendor's saunas in the early morning and was then evicted from the flight line for the afternoon airshow. So this year I headed straight for the flight line to look at the completed planes in order to take pictures and take notes for my own project. I walked up to the T-18 parking rows to see Bernie Freid wiping down his airplane and already fielding questions from others who wanted to talk about his award-winning aircraft. None of the other builders were in evidence at the time and only about 5 T-18/S-18's were parked. I don't know if it was the weather or what, but that was nothing like last year's display of planes. We (the Thorp community) also need to do a better job of staking out some territory so that we aren't getting all those Mustang II's and stuff mixed in with our parking rows. After photographing some interiors and panels, I headed off to the vendor booths to drool over the latest avionics and electronic instruments. For less than 10 grand, a builder can put a glass cockpit in his homebuilt that far outshines the cockpit of some of the older "big iron". For just a few grand, a builder can put together a nice VFR and "accidental IFR" panel. Later I wandered over to the ultralight area to check out Titan's new all-metal scale P-51. The flying prototype was off on a photoshoot, but another partially-built airframe was there for inspection. The Titan P-51 is my latest "I wanna" airplane. Yes, it will have less performance than the slowest T-18, but it is an all-metal P-51 replica at a relatively affordable price, especially compared to kits such as the Stewart S-51 and the Thunder Mustang. But that will have to wait until long after my T-18 is completed. While over there I bumped into David Taylor and we walked over to the Parts Mart tent. I suppose if you had a certified airplane that you might be able to find

something there that was a bargain, but otherwise most of it was darned near to being junk or was priced almost as much as a new item. Too many "pigs-in-a-poke" for me. Some instruction time in the metal-working shop and then it was off to Bill's On Dranefield for the forum and dinner.

There was apparently a T-18 builders forum on Friday at noon, but I wasn't there. On Saturday afternoon we all met at Bill's On Dranefield Road located, well, on Dranefield Road across the main terminal. There were a little over 50 builders, family, and guests present, and Bob Highley led the discussion of topics. There was discussion about performing aerobatics in a T-18, the essence of which was that one should perform only "gentle" aerobatics of 3-g or less. Bob noted that while people may increase the strength of their wing structure, other critical items such as the engine mount are still subject to the same old safety margins. This segued into some discussion about the outer wing skin wanting to buckle at the inboard end rib, this due to the rib being free to deflect under load. Bob talked about some angle stiffeners that he had made to try to correct this, but I will confess to not being sure of just where and how he was attaching those angles. This would make a real good newsletter submittal (hint, hint), so maybe he can submit some drawings. Bob also talked about his adventures in making his wings wet and his fuel transfer system. Again, this would make a nifty newsletter submittal. In listening to Bob tell about it, this could be either a "how to" or a "how not to" article, depending on how things go. There was a question asking if there are any T-18's with the standard fuselage and wing flying with the Sunderland airfoil. When his airplane is completed, your humble author will be flying with such a combination, but I would be surprised to find that I was the first to do this. There were a few other questions about this and that and then we sat down to eat. As usual, Bill Williams and his crew did a fine job of cooking up some steaks. This year's Outstanding Thorp award went to Jim Paine and his airplane, N747JP.

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Photo's From Sun 'n' Fun 2002

Courtesy: Robert Jaeger ~ Lake City, FL.



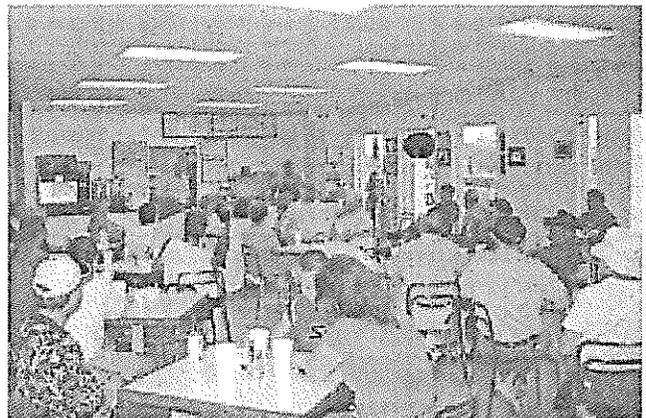
Thorps parked at Sun 'n' Fun



Lining up for Chow at Bill's



Jim Paine from Hendersonville, North Carolina won the award for the best T-18. Congratulations Jim -- You really deserves this honor -- You are a true T-18 Ambassador



Looks Like Bob has the group spellbound

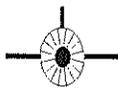


Looks like the T-18 Forum went well

Sun 'n' Fun 2003, cont.

As was noted during the presentation, this is not necessarily awarded to the best looking airplane in attendance, but to the one that best exemplifies the spirit of Thorp ownership and building. Afterward, we all headed outside to watch the night airshow.

A few other thoughts in no certain order: It seems that the last time a Thorp competed in the Sun 100 race was 12 or 13 years ago, and it managed to beat an RV-4. Why doesn't any of our crowd go out and participate? There is a standing offer from either Williams or Highley (I forget which one mentioned it) to take any of us out and show them the course turns in advance. I was asked if I had noticed that most everyone (the owners and builders) there was old. Since the person asking the question was somewhat older than I was, I was a bit surprised at the question, but I understood his point: most of the current T-18 crowd built their airplanes (or started their airplanes) long before Vans aircraft came along to start offering all-metal aircraft kits with performance that met or exceeded the Thorps. The T-18 and S-18 designs have had very little exposure to the people who have joined the EAA in the last twenty years. I hope that this trend can be reversed, or else the Thorp design will fall by the wayside. Mike Archer's tri-gear development of the S-18 could go a long way toward helping this by giving potential builders

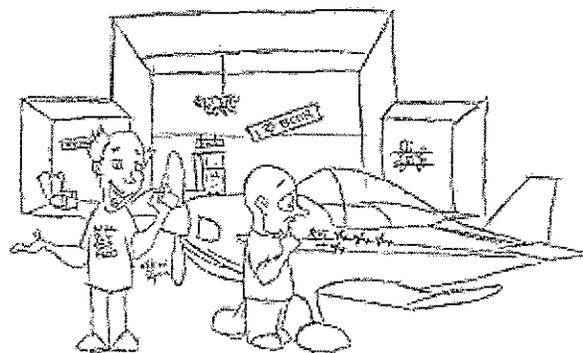
Styling Now !, cont.

when the airframe was complete. Before going, I was leaning toward a T-18 because I had known Frank Roncelli for at least ten years and it just made sense to build one with such a wizz close at hand. But the Sonex could be built inexpensively, now that's what I'm talking about. So to Airventures 50th anniversary we went. We sat in the Sonex, and were impressed. Very roomy and

Styling Now !, cont.

inexpensive, Now that's what I'm talking about. But then we say Bernie's Tiger, awesome!! Knew it was a winner, so we sat in (I wish I knew who's) a T-18 and an S-18, and looked at Bernie's Tiger again and again, And .. It was done. When we got home I seriously considered an email from someone in the T-18 website who said he would sell me his just completed T-18 cheaper than I could build one, and he was right. Well if there is one thing I have learned in life, you only get what you pay for .. That I Did. But after going and getting it (2000 mile road trip .. remember the wife loves going places) and going over it tail to spinner (literally) spending no additional money, I have flown it. **What A Thrill !!** I won't go into what I paid for it, but you can figure it out. I was able to acquire it for very little over what I sold the Corben for. What a trade !! So we are looking forward to meeting other Thorpies at the various fly-ins. And as I continue to clean this bird up and refine it, I can't help think "one day Bernie .. one day", but until then .. "I'm styling now" !

Skeet Wyman
Apple Valley, CA.



So Why did you build a T-18 instead of an S-18 Again??

Duh Because I have a "T" hanger

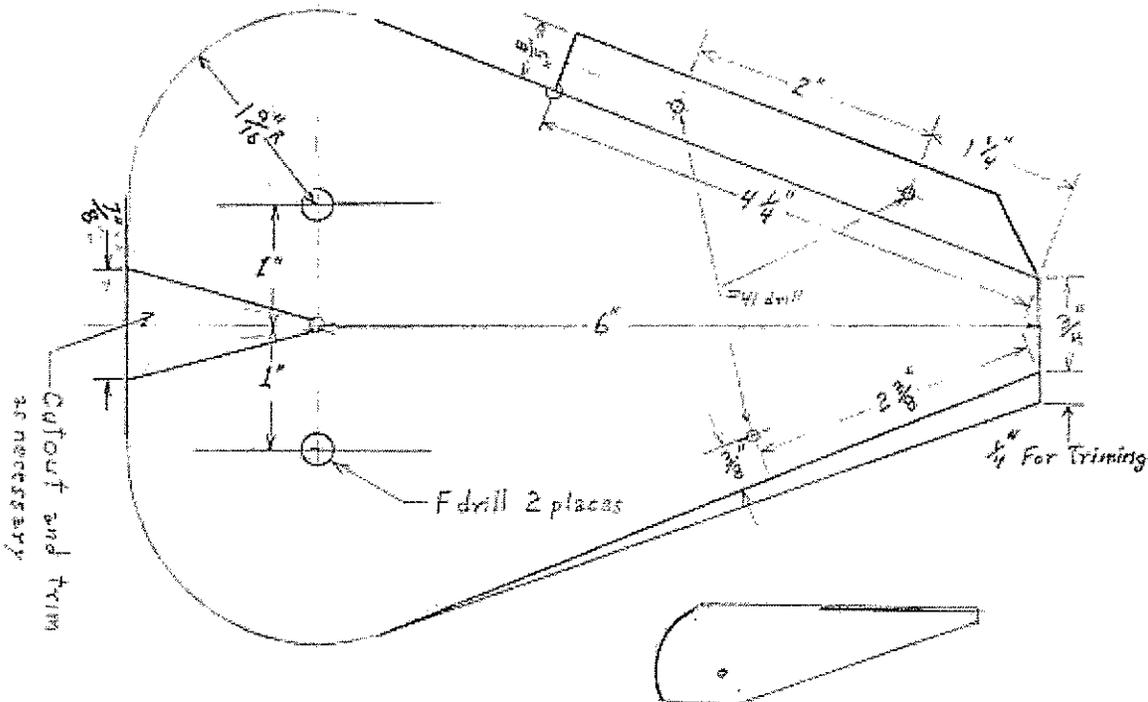
Flap Hinge Fairing

Submitted by: Hurrant Kariban

I think this fairing will improve the looks of the flap hinge area and even reduce the drag a little.

1. The $1 \frac{9}{16}$ radius is the distance from the flap pivot point to a line parallel to the bottom of the wing. Yours may be different and I suggest you make the first pattern out of flashing aluminum to check for fit.
2. Drill and dimple three #41 holes, two "F" drill holes and two #30 holes for corner stress relief.
3. The 2 inch dimension between pivot holes can be widened to accommodate the width across your hinge points.
4. Bend the $4 \frac{1}{4} \times \frac{5}{8}$ inch flange 90%, two to the left and two to the right to be riveted to the bottom wing skin edge.
5. To get the middle bend started wedge the pattern between a $\frac{3}{4}$ " tube and a length of aluminum angle in a vise to clamp it tight. Then clamp the $\frac{3}{4}$ " tube at the cutout relief hole and at the front, force down into the vise to complete the main bend.
6. With a spacer the width of your hinge point, bolted through the "F" holes, bend and trim the cutout section to parallel the top. This section can be left open or alumina brazed shut.
7. Glue a plastic foam plug to close off the front.
8. The flange portion is to be riveted to the bottom wing skin edge and the #41 hole $2 \frac{3}{8}$ " from the front is for riveting to the fixed flap hinge plate, although .025 or .032" aluminum may be rigid enough to not require it.

Note: Out of the six fairings I have made so far I had trouble getting the front side opposite the flange to bend up far enough so I suggest the front measurement on that side be extended another $\frac{1}{4}$ inch and then trimming back when all the bending is completed.



"Original Style" Wheel Fairings

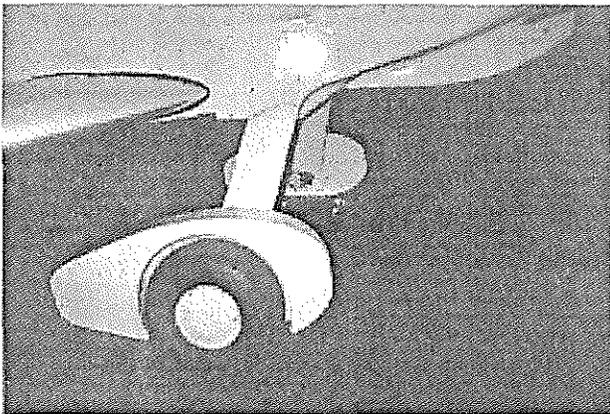
If anyone is interested I can supply plans for original Thorp wheel fairings. They are aluminum with no compound curves. All that is needed to build these fairings is a form block which is shown in the plans. The benefit of these fairings are:

1. No lying on your back to find the valve stem.
2. You can remove the wheel without removing the fairings.
3. You can change the brake linings without removing the fairings.

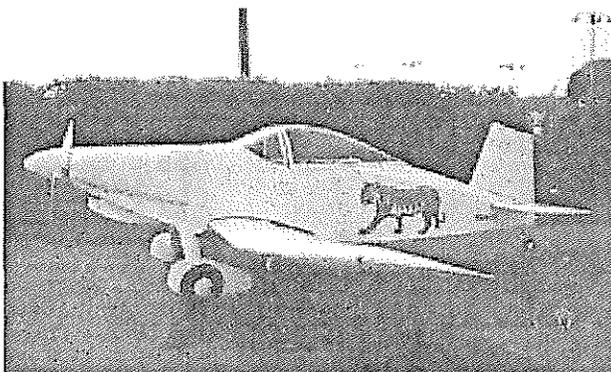
Also, I notice no degradation in performance. As my metal working skills are somewhat limited, my fairings were built by Frank Roncelli of Lancaster, CA. You might give Frank a call at (661)943-7625 if you are interested. If anyone wants plans .. call Roy at (310)327-0251

N64EC

(Name not supplied)



Original Style Wheel Fairing

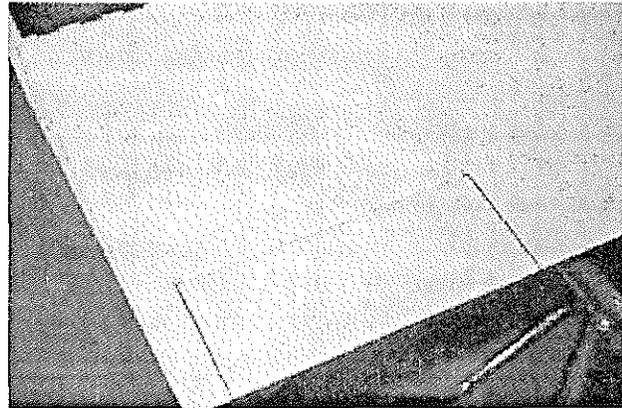


Nice Looking T-18

Aileron Trim

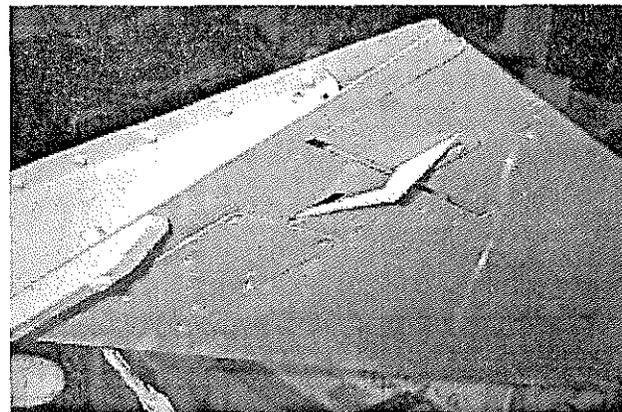
As installed on T-18CW ~ N711SH

Submitted by: Bob Highley



Bob's Trim Tab

The trim tab is about the size of a dollar bill. The general layout is the same as the antiservo tab on the stab. As you can see, my aileron has folded trailing edges that keep the high speed forces light. The tab is folded out of one piece of .020 2024 T-3. There is a small sub-spar that the hinge is riveted to and the pin can be pulled from the end.



View of bottom side of Aileron

This shot shows the underside. The clevis is from a model airplane. The stock one from Richard Allen is a bit fat for my taste. The panel gives access to the servo, which is mounted on the panel. The wires lead out of the aileron spar to a plug on the rear of the wing. That's about it. Put the trim on the left side so you don't have to look around your passenger to see it.

I have over 1700 trouble free hours with this setup.

For Sale

T-18 for Sale - Reason I'm thinking about selling is the typical one. Too busy!

I got it licensed in 1995 flew it about five hours and on the 13th landing had a ground "incident" while my friend was flying. Insurance co totaled it so I bought it back and have been slowly working on it.

Problem is after I retired I was appointed an FAA DER in 1996 and then an FAA DAR in 2002.

These Structural and Airworthiness projects keep me pretty busy. So the T-18 seems to be last priority all the time.

I'll think it through and develop a list of T-18 details along with two 0-290-G4's, one and a half disassembled 0-320's. Probably sell all and clean out the cellar and garage.

I'm also particular who I sell it to from both a liability issue and the fact that I built the thing over a very long period of time.. Should be an A &P to get the engine situation all sorted out.

Keep me in mind from that standpoint and I'll get back to you in due time. Any hot prospects might make me decide what to do and move quicker. OK to release my e-mail on a selective basis.

Keep in touch,
John Cragin tel/fax 508-351-9767
jqcragin@juno.com

Project for Sale

The project is definitely not hammered, but it needs some TLC. It's been sitting for close to 40 years and been passed around a few times. I've been watching projects for years, as I was in the market for one....and you're right, they don't bring what they should. After all, I bought a flying Thorp(the one you saw at OSH last summer) and it didn't cost much more than what I'm asking for the project (although it took alot of work to get it flying). Also, I work for UAL,

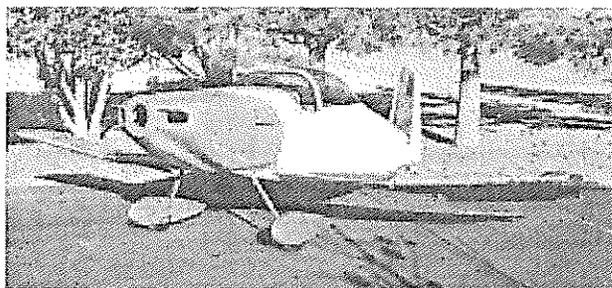
For Sale, cont.

and we're very serious right now about liquidating some assets in a hurry!!!

If you here of anyone looking for a project, please send them my way...I'll get back to ya on the finders fee. HA! Great meeting you in OSH and hope to see you next summer.

Scott Ginn

Sdiginn@aol.com



T-18

I HAVE DECIDED TO SELL MY T-18 N118JT, IT HAS A 0320 150 HP WITH A AMAR DEMUTH PROPELLER. I WANTED TO GIVE THE T-18 FAMILY FIRST CHANCE. ASKING PRICE 37,000.

THANKS,
JERRY TINDELL, PHONE 334-899-5971
jerrylinda@graceba.net

T-18

N467JF is for sale! IThis Thorp is a standard T-18, narrow fuselage, short gear legs, 150 HP. I'm the third owner, it was completed and first flown by Ford Hendrick's and showed up in a couple of editions of Jane's Aircraft.

Mechanically the aircraft is in good shape, the interior is good with a great instrument panel, but it really needs a new paint job in the not too distant future.

For Sale, cont.

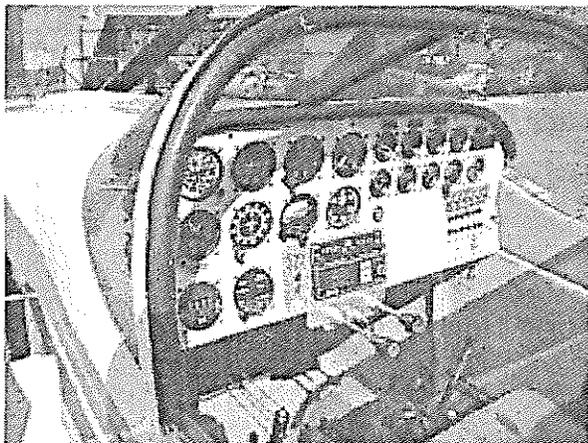
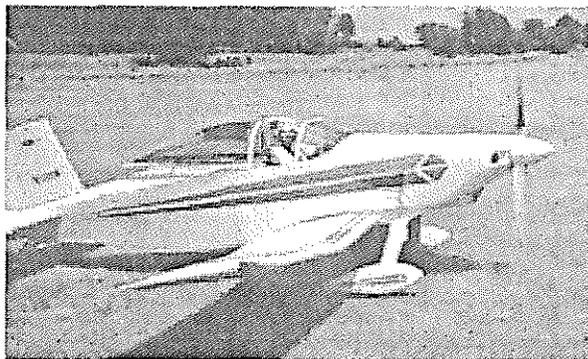
I'm asking \$27,500. The aircraft is located in Washington State. Email or call for more details and photos.

Ross Mahon
425.827.2493
rossair@aol.com

T-18

My failing eyesight forces me to sell this great plane.sn;1064 118KM,tt699 tsmo296,terra txn920-trinav trt250 at3000 encoder morrow 618Tca aux fuel elet. trim o-320B2B 160 hp lightweight starter/alternator,extended gearlegs pacesetter prop,no damage history,light(871)and fast, built in intercom,full gyro panel.near show quality. Price 30K

Ron Garey
Cleburne Tx
ron_garey@msn.com



For Sale, cont.

We have a thorp for sale in Oakdale, California. Anyone interested?

Tom Thompson
thompson23@sbcglobal.net

I have a T18 project if you are interested. I will send you information. I am located in Creston, IA.

Matt Smith
matts@mddc.com
641-782-8782

T-18

I have decided to sell my project for personal reasons. All componates are completed just assemblage remaining. Includes: 0320 150 hp E2D, 640 total hours since factory new, cleavland disc brakes, 2 cowlings, canopy, panel, seats, plumbing, flight equiptment (digital electronic) and some misc. Price \$18,500. Pictures of componates upon request. Delivery possible west of Colorado, contingent upon sales price.

Richard Bouge
775-738-5278
Bouge@elko.net

T-18

The structural portion is about 90% complete with the fuselage on the gear and a Lycoming 0-290D engine on the front. There are extra pistons & rods for the engine as well as a Sensenich 66x74 propellor. Price is \$10,000 obo. Contact me for pictures and list of extras.

Don Ruffner
610-366-1941
ralflies@rcn.com

For Sale, cont.

I have a couple of .040 aluminum sheet webs for the center wing beam. As I recall, one of them is for the original T-18, and one of them is for the S-18. Anyone interested in them? If so, contact me at rmardis@dart.org

Robert Mardis
SN 214

John Starr has a riveted fuselage on the gear and enough parts to call it a kit to build a second T-18..also, has a 0-320 runout lycoming. Contact him at 863.644.4452 in Lakeland, FL.

Lee Skilman has a 0-320 with 0-480 cylinders that probably will produce 170 HP... contact him at 863.648.4115 in Lakeland, FL.

FOR SALE

A new Lycoming 0-340 crankshaft preserved and in the original box addressed to John Thorp. John used the 0-340 cranks in a number of 0-290 G engines to boost the horsepower significantly. Recently I had the Lycon Aircraft Engine Company in Visalia, California inspect the crank according to the Lycoming New Crank Specifications. Lycon issued an F.A.A. authorized release certificate and a copy of all the measurements.

If you are interested, please send your bid to me by e-mail to ggpahs@aol.com or call 661-942-3046. I will accept the first reasonable bid and hand deliver it, if not to far away. I do not trust a shipping company with this item.

Henry Steiginga

Leaf Spring

I have a double leaf spring for sale it has been flattend out rides nice. regards J.P.
jperan@ozemail.com.au

For Sale, cont.

Back in 1999 I purchased a set of S-18 Plans with Roll Trim Plans and Wet Wing Option from Classic Sport Aircraft. The plans are untouched and still in the original box they were shipped in.

I wish to sell the plans and would like to get \$175.00 OBO for everything. I originally paid \$195.00 plus another \$30 for the Roll and Wet Wing Plans.

Please contact me using my e-mail address.

Steven
Longezav8r@yahoo.com

Garmin GPS

I have for sale a Garmin 190 hand-held moving-map GPS/Transceiver/Weather-band receiver. It is approx 5 years old and cost over \$1,200 new. I am the only owner/user and it is in excellent condition with all original manuals/instructions and accessories. The rechargeable battery was replaced approx one year ago and the data base is approx 3 years old.

It can be your ONLY radio/nav because it is capable of doing so many different things.....or since it has the headphone/boom mike attachment included it can serve as your standby 5-watt transceiver.

I would like \$400.00 or best offer.

Larry Church N14GM
churchl@mindspring.com

Engine Mount

T-18 engine mount for Lycoming 0-320
Asking \$200.00

William Gardner
bill@hiline.net

Parts For Sale

Alternators and Accessories

ES ALTERNATOR 35A KIT: Kit includes alternator, bracket, and hardware for mounting on the boss mount style Lycoming engines. Does not include belt or voltage regulator (belts are not available at Van's). Complete Alternator Kit 35 AMP Part Number = ES

ALTERNATOR 35A KIT Price = \$160.00

Fixed 13.8v Voltage Regulator Part Number = ES VR-1751

Price = \$40.00

ASKING \$160 for Both OBO.

Airflow Performance Fuel Injection Fuel Pump

The AIRFLOW PERFORMANCE pump and filter is appropriate for any of the fuel injected Lycoming engine. Pump Only, Part Number = ES AIRFLOW FUEL PUMP, Price = \$375.00 ASKING \$325.00 OBO

Prime for Easy Starting 2 CYLINDER ELECTRIC PRIME

Part Number = EA ENGINE PRIMER SYS Price = \$99.00 I HAVE THE PRIMER ONLY! ASKING \$50.00 Champion Oil Filter CH-48108 320/360 LYCOMING Part Number = EA OIL FILTER 48110 Price = \$15.00 ASKING \$10.00 OBO

Inverted Oil System Christen System is the Standard for Sustained Inverted Flight Basic 4-Cylinder System (YOU WILL NEED HOSE, FITTING AND SUMP KITS) 802 Oil Valve / 806-4 Breather Tee /803 Oil Separator Part Number = EA 801-4 INV OIL SYS, Price = \$777.00 ASKING \$675.00 OBO

External Power Jumper Plug and Recepticle Standard 3-pin female plug equivalent to AN2551 plug. Red Lexan construction is unbreakable and screws together in minutes. Sleeves are solid copper, silver plated. With solenoid pin. Corrosion proof. Mates with AN2552-3A external power receptacle. Jumper Plug #6216 Aircraft Spruce PN Price = \$44.65 AN2552-3A external power receptacle is designed to mount in hole in skin of aircraft. Hole is then covered with hinged access door (not included). Mates with AN2551 type plugs. Model 4621B. External Power Recepticle PN AN2552-3A Price = \$66.95 ASKING \$90.00 for both OBO

SLICK START MAGNETO BOOSTER P/N SS1001 Rev A. The FAA-PMA approved SlickSTART™ magneto booster system integrates solid state electronics with conventional ignition hardware to deliver optimum spark energy for improved engine starting under all operating conditions. SlickSTART™ delivers over 400% more spark energy during start than conventional impulse coupled or retard breaker systems. This added energy enables the magnetos to fire partially fouled spark plugs, ignite less than optimum fuel mixtures, improve hot engine restarts, and improve starting performance during extreme cold weather operations. SlickSTART™ is designed to replace all TCM/Bendix starting vibrators used in conjunction with Slick Aircraft Products magnetos. SlickSTART™ is also approved for use with Slick impulse coupled magnetos to enhance engine starting performance. SlickSTART™ is not approved for installation on any airframe equipped with TCM/Bendix 20, 200, 1200, D-2000, or D-3000 series impulse coupled or retard breaker magnetos. SlickSTART™ can be installed with either impulse coupled or retard breaker magnetos and can be used with either 12 volt or 24 volt electrical systems. Fits all Slick impulse

cont pg 18

Parts for sale, cont.

impulse coupled and retard breaker 4200/6200 Series and 4300/6300 Series magnetos. P/N 08-01000 \$339.950 ASKING \$290.00 OBO

POTTER & BRUMFIELD CIRCUIT BREAKERS WX23-X1A1G (PULL-OUT TYPE) -2AMP QTY 5 \$19.90 / -3AMP QTY 1 \$20.95 / -5AMP QTY 1 \$11.95/ -7.5AMP QTY 2 \$13.85 / -10AMP QTY 1 \$11.95 WX31-X2M1G(SWITCH TYPE) -10AMP QTY 1 \$13.90 / -25AMP QTY 1 \$13.90 / -50AMP QTY 1 \$13.90 W58-XC4C12A(STD BREAKER) - 2AMP QTY 2 \$7.95 / -1AMP QTY 1 \$7.95 / -15AMP QTY1 \$6.50 / -20AMP QTY 1 \$6.95 / -30AMP QTY 1 \$5.95
ASKING \$200.00 FOR ALL THE BREAKERS OBO

RAC STICK GRIPS (formerly MAC) The G101 grip (4.75" height) features a momentary contact switch on top that can be used as a PTT button. P/N 11-09930 \$33.00 ASKING \$25.00 OBO

Quadrant Cables Cables with 10-32 Threads on Each End The following cables are designed for use with quadrants. 10-32 (AN3) thread on each end. Primarily used on tandem and single place aircraft. CT Q-55 Throttle / Mixture 0-320/360 QTY 2 \$36.50 CT Q-60 Throttle / Mixture 0-320/360 QTY 1 \$38.00 ASKING \$65.00 OBO for all 3

Rocky Mountain Instrument Accessories MicroMonitor Accessories ASKING \$475.00 OBO (everything listed below between START and END)

START

Manifold Pressure Sensor 10.0 to 51.0 InHg. .\$. \$ 57.00
EGT/CHT Multiplex Switch 2 to 6 cylinders . .\$. \$ 40.00
Fuel Flow sensor - .6 to 60.0 GPH. \$185.00
EGT Thermocouple - tubing clamp type . Qty 4 X \$40.00
CHT Thermocouple - bayonet typeQty 4 X \$40.00

Transducer Manifold Mount for 3 Transducers This device mounts on the firewall and provides a mount for 3 individual pressure systems (manifold, oil and fuel pressure). Each section has three ports, one for the flex hose, one for the transducer and one for a second transducer/switch. Flex hoses will go between the engine and the manifold. Transducers are typically not mounted on the engine due to possible failure because of vibration. Pipe plugs are available to terminate the third port if not used. port manifold/mounting block Part Number = VA-168 Price = \$15.56 Plus Fuel, Oil temp, Oil Pressure for RMI MicroMonitor

END

Micro Encoder Accessories Model 303 Compass Module . \$250.00 ASKING \$200 OBO Connects to microEncoder serial input port to enable compass heading functions. Includes connectors and 10 feet of cable.

Steven
longezav8r@yahoo.com

2003 Thorp Events

T-18 Gathering at Cannon Creek ~ May 16-18 - Cannon Creek Airpark, Lake City, FL. Contact Bob Highley at: n711sh@aol.com For more information go to the EVENTS page on the T-18 website at: www.t18.net

SAA 2nd. Annual Fly-In ~ June 13-15 - Frascia Field, Urbana, Illinois
The T-18 family received a letter from Mr. Paul Poberezny asking that we try to put together a nice gathering of Thorps for this fly-in. He understands the importance of the T-18 in the early grassroots years of homebuilding. So far I have had 10 confirmations by Thorp drivers that they will be in attendance. Lets all work together here and put together a nice group of T/S-18's, after all we have a personal invitation from the man himself. Lets show those RV people that we can show up in numbers too. I will be coordinating the efforts for this gathering so contact me for more information. Roy Farris rfarris@shawneelink.com (618)723-2594

EAA AirVenture 2003 ~ July 29- August 4 - Oshkosh, WI. www.airventure.org
Maybe this would be a good time to remind everyone that this is the 40th anniversary for the Thorp T-18 and the it would be a good year to make that trip to Oshkosh and remind the EAA crowd that this was the one of aircraft the that put some excitement in the home built arena. I don't have any exact plans yet, but our normal routine for the last few years is to have a lunch/forum at 12:00 Noon on Friday. I will post information here as soon as I get it. Contact: Roy Farris rfarris@shawneelink.com (618)723-2594

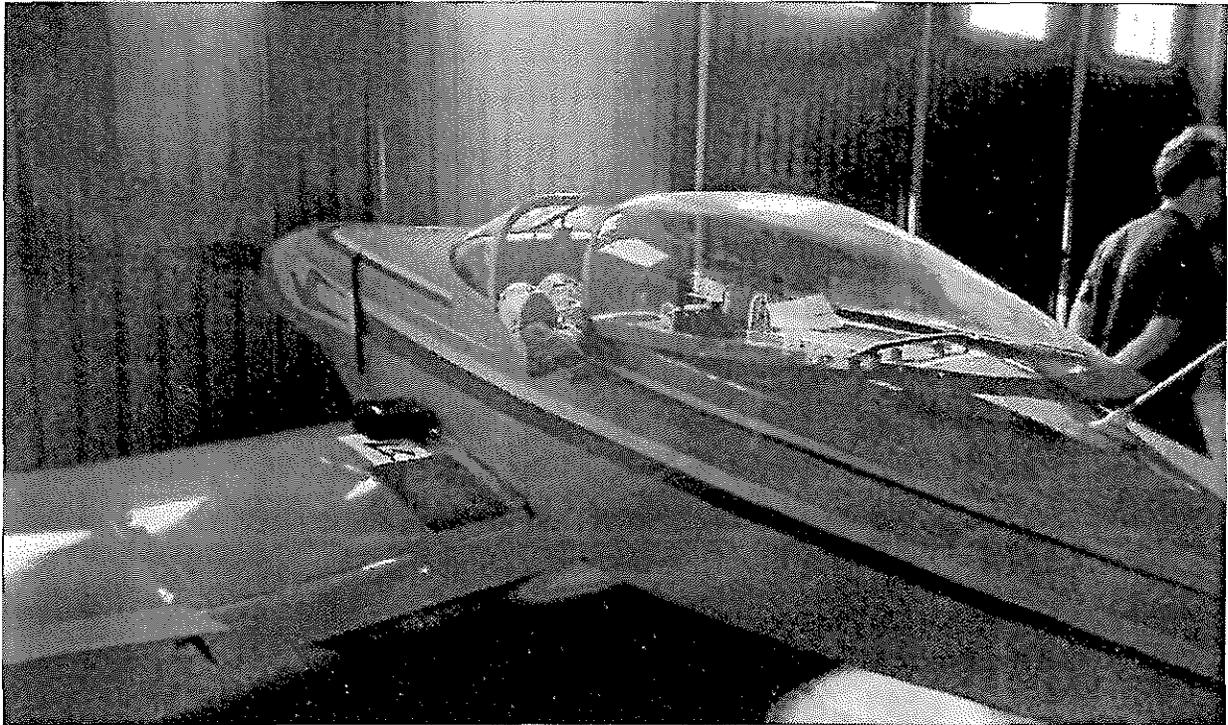
T-18 Gathering ~ August 23 - Mifflin County Airport (RVL), Reedsville PA. RVL is in central PA and about 35 miles south east of Penn State. Contact Jim Hockenbrock at Hockey@acsworld.com. Phone 717.667.2790. Mailing address: 193 Fawn Road, Reedsville, PA 17084

Kentucky Dam Fly-In ~ Held every year in October at the Kentucky Dam State Resort in Gilbertsville, KY. The next get together will be October 10 -12, 2003 For reservations call 1-800- 325-0146. Specify that you are with the "Paine" party. Reservations must be made before Sept. 10, 2003. For more information contact Teresa Scola at: btscola@aol.com

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T-18/S-18 Thorp Newsletter
Roy Farris
P.O. Box 182
Noble, IL. 62868
Phone: (618)723-2594
email: rfarris@wworld.com

April 2003



Oh my aching back !!! I am sure we have all been here.
Tim Mason ~ Diteriech, Illinois ~ New intercom installation