

# T-18 NEWSLETTER

April 2001



*Jack Kirkham ~ G-BSVN ~ Warrington, England*

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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

Here is my next effort to provide you with a exciting and informational newsletter. I want to thank the persons who sent me the articles you will be reading. They are what this organization is all about, to share their wisdom and experience's with the rest of us. I encourage each and everyone of you to write an article on your T/S-18 experience. It could pertain to building, or completing a project, test flying your airplane or just your experience in the flying or maintaining of your Thorp. We all have ideas and experiences that we can share with others. We have a great number of new people interested in our "family" and our great little airplane. Any words of wisdom and encouragement go a long way in helping them in deciding weather the T/S-18 is the correct choice. I get several calls each month from people looking for just the "right" airplane to build. They ask many questions pertaining to the construction and the cost of building the T/S-18. Most had been unaware of the T/S-18, are surprised to hear of it's history. I always invite them to read the back issues of this newsletter, explaining that they contain everything one needs to know about the T/S-18.

The articles you provide will add to the knowledge database, and will be the tools and guidelines that future Thorp builders will rely on to construct their dream airplane. The old newsletters cover nearly every aspect of building and flying the T/S-18, but those are ideas from the sixties, seventies and the eighties. With modern technology, better tools, and fresh ideas we can sometimes improve on the methods that were once used. These are the ideas we need and desire to be printed for future generations to use. What others figured out years before and was printed in this newsletter, helped us build and fly our Thorps with a minimum of problems and trouble. Lets continue that tradition and help future builders by giving them even more information to draw from.

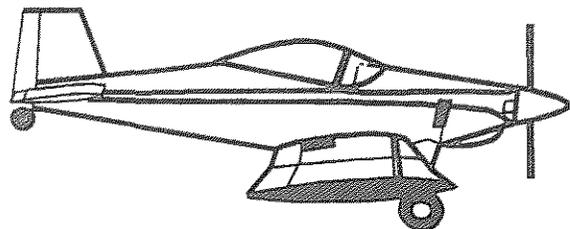
Write an article !!

## Newsletter On the Web

I have been entertaining the idea of making this newsletter available as a downloadable file from the T18.net website. I have had a few members request this feature, as well as a few contacts by email from the website visitors. This would be an addition to the newsletter service and would not replace the printed copy that you are receiving now. I would be interested in hearing from those that would like this option. Basically the way it would work is that there would be a "Members Only" page on the website, that would require you to enter a password to gain access. Once in the "Members Only" section, you would find the current newsletter as an Adobe Acrobat file that you could download to your computer. Once downloaded, you would need Adobe Acrobat to open and view the newsletter. For those who do not have the Adobe Acrobat Reader, I would provide a link to the Adobe website, where you could download and install the program on your computer for free. One neat feature of the Web Newsletter, is that all of the pictures would be in color. You would be able to view and/or print all or part of newsletter as you see fit.

The \$25.00 annual dues (\$30.00 for outside the U.S.) would continue, and as a paid member you would be granted access to the "Members Only" section. You would still receive the printed copy unless you notified me that you didn't want it.

I am in the process of collecting information needed for me to add this feature to the website, as well as sending this newsletter out by email to a few selected members as a test. If you are interested in obtaining the newsletter from the website please let me know. Email me at: [rfarris@wworld.com](mailto:rfarris@wworld.com)



Letters to the EditorMore Letters

Happy New Year. Thanks for assuming the newsletter editor duties. I almost said "congratulations", but that may not be the proper word! I write one article a month for my local EAA Chapter newsletter, so I know just how much work it can be to put together a whole newsletter.

On the subject of Burn-Out, For me it's a matter of not knowing how to do the next step, and being afraid of screwing up and ending with something that is not airworthy, ugly looking, or both. Building the structure seems to go fast once you learn the required skills. It's just a matter of measuring, cutting, bending, drilling, deburring, dimpling, riveting, and doing those actions over and over and over while listening to your favorite jazz or oldies radio station. However, it took me a long time to work out the engine compartment. The John Thorp cowl is pretty and streamlined but so tight fitting that space is at a premium under there. I didn't know where to put all the accessories so that they wouldn't interfere with each other or some future part that would have to be installed later, such as throttle and mixture cables. I took much trial and error putting everything in with tape and wire before drilling holes in the firewall or installing platenuts, and I'm still not sure if it's going to work out! Because the fuel tank takes up so much space between the firewall and instrument panel, I can see that the same will be true for the electrical and pitot-static Systems. What I'm really stuck on is the canopy. I see lots of pictures of nice looking canopies, such as Earl Ody's red T-18 that was in Sport Aviation a few years ago. It fits very well, and the windscreen blends into the canopy perfectly. But nowhere in the newsletters have I seen any information on how to do this job. How do you seal it from water and air leaks? How do you know where to trim the sides and hack off the Plexiglas? How do you get the front top and sides to blend in with the angle of the windscreen nicely? I don't know how to do this and I don't want to make mistakes with a \$600 canopy, so I just sit there in the shop and stare at it, trying to figure out how to begin.

Well, I guess I didn't provide any answers, just more questions. But any information that you can find about installing the canopy for inclusion in the newsletter would be greatly appreciated.

Robert S. Hartmaier

I really enjoyed the #114 newsletter, especially the "Burn-Out" information on page 2. I certainly am guilty of that many times over. When I first started in the early nineties, I buzzed through most of the movable, smaller assemblies in good shape and then started on the fin. Everything went quite well till the last dozen or so rivets, when the rivet gun did a take off on me and I bunged the left side rather badly. I smeared it with "bondo" but was never satisfied with the end results, so I tore it apart with the intent to redo it and that is where the whole project stopped.

I read your "burn-out" info and decided to restart. I built it the first time per John Shinn's build-info per N.L. 112 page 13 and diagram on page 16. Of course, I since destroyed the jig, so I am trying for a flat layout. I would appreciate anyone having information on measurements for the flat layout contact me.

Jim Strickenberger  
(814)825-2918

*Editors Note: I laid out my Fin and Rudder in the flat layout method. I got all of the dimensions directly from the plans, and they came out*



Here's a tidbit you may want to put in the newsletter, in case anyone else is wanting to get one of Trusty's tailwheel springs.

Gary Green

Date: Monday, February 19, 2001 12:00 AM

Just got 5 springs from Harmon Lang. When I placed the order he said that he was going to make a batch of 10. Should be 5 left. Contact Harmon Lang.

Installing Dual Brakes

Mike Archer ~ Classic Sport Aircraft

The first thing you must do for installation of dual brakes is inspect what you have on your aircraft. Check the right seat rudder pedals for the tabs welded on the 489-1 tubes. If your aircraft was built to drawing, chances are they are missing on that side. Also, check for the 492-1, -2 & -3 installation on the floorboard, right side. Parts required for the co-pilot side are:

- 2 ea 491-2
  - 1 ea 491-3
  - 1 ea 491-4
  - 4 ea 490-1 Bushings
  - 2 ea 491-1 Pedal
  - 2 ea 491-2 Mast
  - 2 ea 492-1 Bracket
  - 4 ea 492-2 Plate
  - 4 ea 492-3 Spacer
  - Two Brake Assemblies
  - Various flex lines (Aeroquip 303 or Stratoflex 111)
  - Reservoir (if you have the assembly that has the reservoir as part of the brake assembly, a separate one is not required.)
  - 4 ea AN3-5A Bolt
  - 2 ea AN3-7A "
  - 2 ea AN3-6A "
  - 8 ea AN365-1032 Nut
  - 8 ea AN960-10 Washer
- Remove the 489 rudder pedals (if you need to remove rivets from forward tunnel, (reinstall it with nutplates). Weld the 491 tabs to the pedals for the right side. You are duplicating what is on the pilot side. Install the 492-1, -2 & -3 to the floorboard on the co-pilot side. Again, note the pilot side for reference.
- Install the 491-2 to the 491-1 and bolt them to the 489 rudder assembly. Assemble the brake assemblies to the 491-2.
  - Reinstall the rudder pedals and bolt everything in position. **Don't forget to reinstall the springs and cables.**

Installing dual brakes, cont.

- Now you can finish the project by routing the flex hoses to the proper position. Routing for hoses is as follows for master cylinders requiring offsite reservoir with the master cylinder arm mounted up. The lower hole is fluid OUT. The upper hole is fluid IN.
- Install incoming line from reservoir to the top fitting on co-pilot left pedal - the tee from left top to right top. This now gives you fluid to both cylinders when using the master brake cylinders with the built-in reservoir (like Scott 4100) the incoming line is eliminated.
- Next, route a flexline **from** the co-pilot left bottom to the pilot left top. Route a flexline **from** the pilot left bottom to the left wheel brake assembly.
- Route a flexline **from** the co-pilot right bottom to the pilot right top.
- Route a flexline **from** the pilot right bottom to the right brake assembly.

I will be incorporating the Dual Brake System into the S-18 drawings. Also, we have started welding tabs on all rudder pedals, so if you want dual brakes, that step is eliminated for you.

*Editors Note: If you have any questions concerning the installation of dual brakes on your T/S-18 please don't hesitate to contact Mike at Classic Sport Aircraft.*



cont.

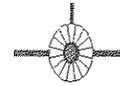
SOME THOUGHTS ON STALL - SPIN

by: Bryant Rowland

Stalls-Spins. cont.

After many years of doing flight instruction, and pilot examinations, and the past 23 years of flying my T-18, I will offer these thoughts about the stall-spin accidents in the T-18. When I test flew my T-18 in 1978, it was the biggest thrill I had ever had in an airplane. At that time I was making my living as a full time flight instructor, so was very much aware that, hey, this is not your average Cessna or Piper trainer. It is a wonderful airplane with great balanced controls that just cry out to be flown. The airplane was designed for performance. It was NOT designed for unlimited forgiveness of gross mismanagement in flight. O.K. so we have an airplane that is a great performer, and not a forgiving trainer, we all know that. So I think we should fly it accordingly. For the traffic pattern we should have some airspeed numbers in our heads that are stuck there more solid than our own names. We should know the speed that the airplane stalls at, under different loading and flap conditions. We should also know the speeds that we are going to use in the traffic pattern, downwind, base and final. We should have a number that we will NEVER, NEVER go below, until starting into the landing flair. For me these numbers are: 110 mph for the downwind, slow to 90 mph for the base leg, then once established on final with full flaps, go to 80 mph, and this is my NEVER, NEVER GO BELOW number. If the wind is cross, and or gusty, I will use one notch of flaps, and a speed as high as 90 mph, depending on how high the wind and gust. I will never maneuver below 90 mph, even medium turns. When making turns in the pattern, lower the nose a little, so as not to slow the airplane. Remember, keep it moving, it needs that airspeed in order to keep flying. If you overshoot final, do not bend it around into a steep turn, simply go around. I used to tell my students and pilot applicants that I would score them much higher for a decision to go around rather than try to make a good landing out of a bad approach. Airspeed control should be very tight, not as much as 5 mph either side, however, airspeed control is only one part of the equation, the other part of course is flight control coordination. Remember, the T-18 does not tolerate gross

mismanagement here. Keep that ball in the center. Once I am established in the traffic pattern at the proper altitude, I only have two instruments that mean a thing to me, the airspeed indicator, and that ball. Outside the airplane is your primary concern, but include those two instruments in your scan. Do it quickly, and very often. One more thing. The numbers that I offer here are only MY numbers, not necessarily the ones for you to use. Develop your own, stick close to them, and keep that ball in the center. SAFE FLYING.



One thing to remember about the T-18, it has a laminar flow airfoil.

This means a rather abrupt stall break but not a real problem. I think where a lot of people got into a little trouble was in shape of the LE of the wing. As you may know, laminar wings are very sensitive to airfoil shape. If the shape of the LE varies, even slightly, the stall point will be different. You can check your airplane by going out and doing a few stalls. I believe you most likely have the original airfoil shape that John Thorp first came up with. It should stall around 62 mph flaps up. Approach it slowly and you'll notice that the controls get mushy a few mph before the stall. A lot of people have attached a short stall strip on the LE. Your airplane may have this stall strip. If you do, you will get a vibration in the stick as you approach the stall. Stall two notches of flap is about 58 mph or so. Don't be surprised to find the speeds different as most experimental airplanes as marginal static inputs. What ever you find, use 1.3 Vs as Vref. Mine comes out about 75 to 77 mph. I have an angle of attack system installed that makes all this a lot easier. Stalls are rather abrupt but it varies from airplane to airplane. It will most likely roll toward one way or the other depending on your trim or weight

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More about Stalls

is somewhere around 30 or so. You most likely have a steerable tailwheel so if you don't raise the tail until 40 or so it is never a problem. One thing about small airplanes like this, the stickforce/g is small. That means you can develop a lot a "g's" very quickly. I am sure you find that out. I find the airplane on landing will float once it is in ground effect. I have no problem with a power off approach if I maintain a 1.3 Vef.

Have fun! It is a good airplane

Thorp Email List ~ Author unknown



Flying the Thorp

More comments from our Members

I must comment on the articles about landing the Thorp. Either I don't fly a Thorp or someone poured a whole barrel of pussycat all over my airplane when I wasn't looking. Simply said, it ain't that complicated, nor should it be. My advise would be to: take care of the preflight requirements, and then fly the damn plane!

- 1.) Preflight the airplane and fix it for nice ground handling characteristics, ie.. fix what needs fixed!!
  - a.) You need a good steerable tailwheel with no slack in the steering springs
  - b.) Check the main wheel alignment. My main gear assembly (store bought) came with the left axle pad skewed outboard.(left wheel toe-out) The plane would dart one way or the other depending on which main had the most weight on it. Using Cessna tapered shims at the axle pad, I aligned the mains to be exactly parallel. That tamed my Tiger.
  - c.) Tire inflation - look at the tire ribs (tread). Reduce pressure until all of the outside ribs on each tire contact the ground, but not so low as to cause bulging sidewalls.

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More on Flying the Thorp

I suspect people who use six ply tires and keep the tires inflated to what is recommended for a Piper or Cessna, will experience some crow-hopping on landing if not a high bounce on occasion.

d.) Taxi the airplane around until you can recognize the three point attitude. WATCH OUT, if you taxi to fast, the plane will fly, Mine did. Don't fast taxi any airplane you can't fly !! Make sure the airplane is airworthy...just in case.

- 2.) Fly the airplane. This assumes of course that you know how to fly and have at least a normal amount of talent. If you are not fully current with your flying, get some dual to get sharpened up.
  - a.) Takeoff - Flaps Up (always) Make sure you and your Thorp are ready to fly. Trim set slightly nose up from neutral. Ease the throttle in, holding full aft stick to keep the tailwheel planted until the rudder becomes effective. Then ease the stick to neutral, the tail will start flying. Let the nose rotate down just a bit, and hold it there (the tailwheel will be slightly off the ground) with the stick until she flies off.
  - b.) Landing - 110 mph downwind, 100mph with 20\* flaps on base (solo), 90 mph on final. Nail the speeds every time. Add 5 mph for higher gross weights, and add 1/2 the gust factor to these speeds if gusty winds are present. If you aren't carrying a little power on final with 20\* of flaps your decent rate is to steep. Fly down the runway(very close to the runway but not touching), this is your flare. Once you are very close to the runway with rate of decent in check, ease the throttle to idle and fly the plane. Hold it off until you reach the landing attitude. Be ready with a little bit of power to keep the rate of decent in check. The airplane will touch down in the three-point attitude. Don't try to salvage a bad approach--go around. Any lateral deviations are usually caused by uneven brake application or crosswind.

Ted Conrad

**Technical Tips****79-83 Honda Accord or Prelude Starter Bracket  
for Lycoming Engines**

Submitted by: H Karibian ~ Panama City, FL.

I have enclosed a drawing and notes of the starter bracket I used on my project. A rebuilt starter from Wester Auto cost me \$67.00 and saved 8 pounds. (refer to drawing on page 8)

**Tech Notes for Starter Bracket**

1. This clearance is only required on engines with larger (9 3/4") alternator drive pulley (L2C)
2. This edge may be further contoured for baffle clearance.
3. Standard starters have 2 dowel pins. I find them unnecessary. If used they should not extend more than 11/32"
4. Some minor contour modification may be required on some model in this area.
5. The 25/64" hole is required for a 10mm bolt. Required is a 10x1.25x50mm bolt, obtainable from most NAPA dealers. (Threads directly into starter)
6. An AN6-16 bolt is required to assemble the 1981 Honda Accord starter, and the 10mm in note 5.
7. All edges and inside corners must have a generous radius. No sharp inside corners.
8. Material: 2024 or 6061 aluminum angle, 3/8x4x4.5". (A professionally welded angle can work)
9. Extruded aluminum angles have a generous radius on inside corner. It is better to remove material from the starter flange to permit assembly, than to remove material from the radius.
10. After mechanical assembly, pull starter gear into ring gear. If clearance is minimal, add .010" shims under the four base mounting bolts.
11. Disconnect battery and complete assembly of electrical wires and switches to starter. Connect battery and crank engine. Be very careful to keep a safe -

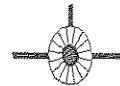
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**Honda Starter Notes cont.**

distance from the prop while observing the engagement. Solenoid should engage gears 65% or more.

12. Complete assembly of alternator and any modifications to the engine baffle, if required. A small mechanical link that connects the alternator to the starter may be required for stability.
13. Scale all dimensions not shown. Drawing reduced and reproduced to 11x17. (Scale: 4" = 5.75")

*Editors Note: If anyone has questions regarding the fabrication and use of this bracket, contact Mr. Karibian at: (904)874-1586*

**Landing light installation**

Submitted by: James Wolhaupter  
McMinnville, Oregon

Recently on the Thorp Email, a series of questions and replies were written about landing light installation. I recently finished my installation and thought I would share my solution to this issue.

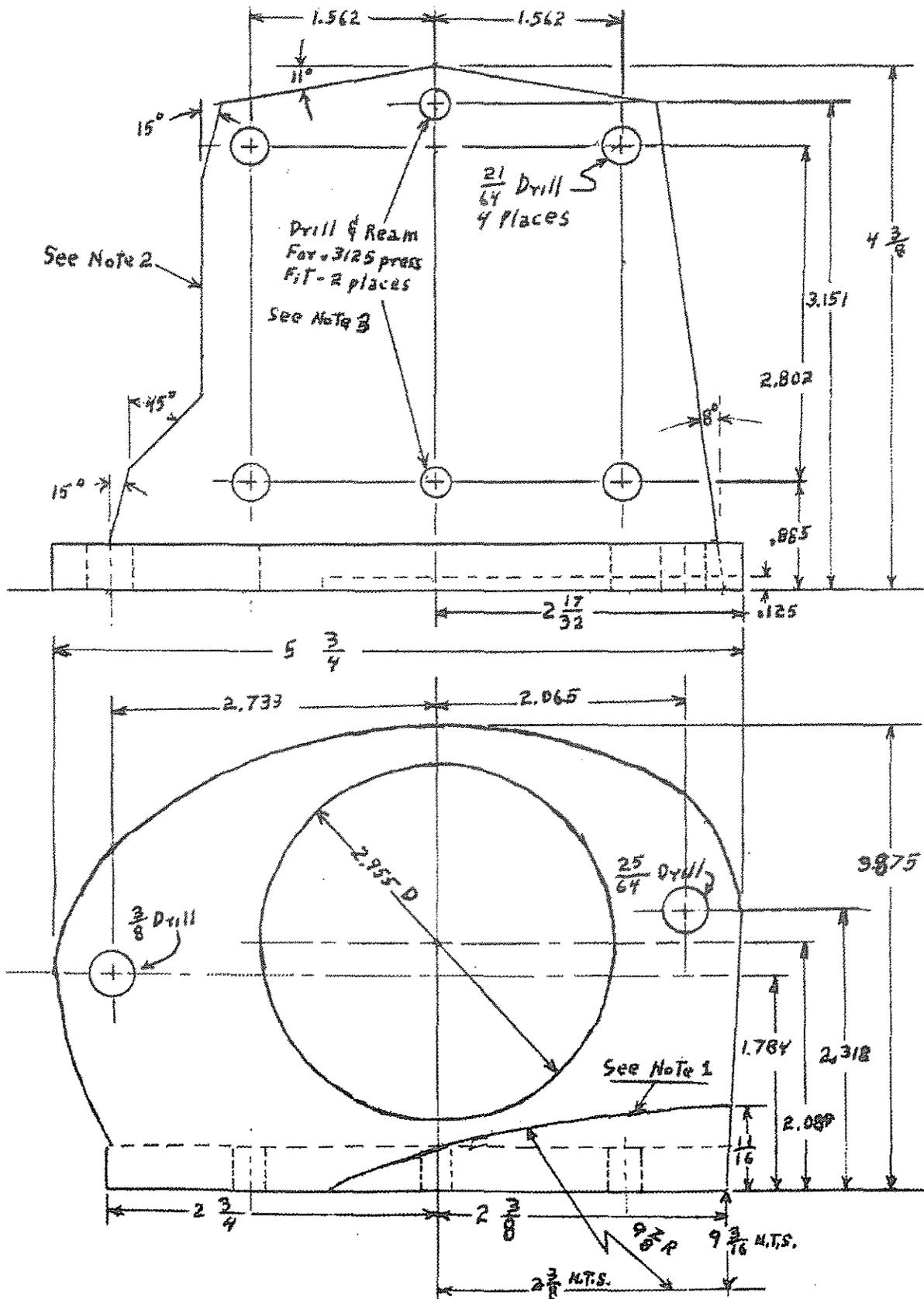
The previous owner of N2NE had installed a single landing light in the left wing and is just outboard of the wing folding point. During talks with him he informed me that after the installation he had made only ONE landing in the dark and he would not try it again. He warned me of insufficient light and fast landing speeds of the Thorp made for a pretty scary situation.

I did not really want to cut into my wing and I could not find any place acceptable to glass one in on the nose anywhere so an external light was my only recourse. I did not want anything hanging down in the air stream messing up Johns incredibly sleek aircraft so I needed to make them easily removable. Most all of our flights are during the day but on occasion we also like a night hop so a simple removable landing light -

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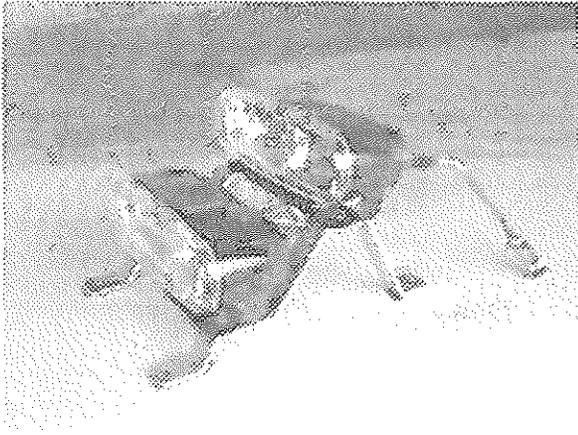
79-83 Honda Accord or Prelude Starter Bracket for Lycoming Engine

Submitted by: H. Karibian

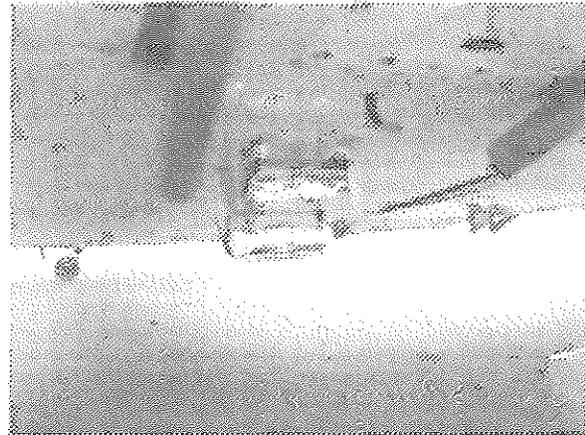


**Landing Light Installation**

James Wolhaupter ~ N2NE



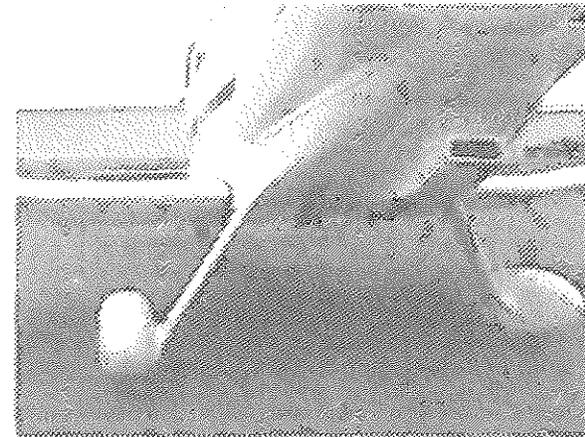
Low profile automotive driving/fog light assemblies mounted on simple aluminum frame. 2 lights per unit



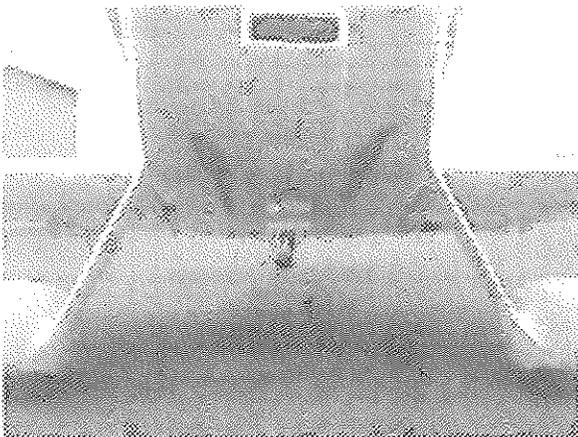
Lights mounted on forward belly, just behind and between exhaust stacks



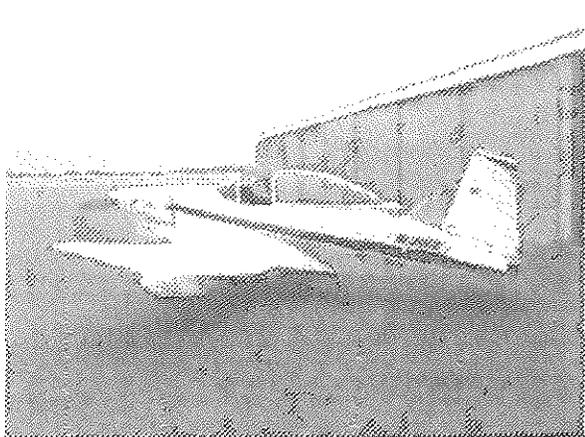
Lights are removable, bolted to the center tunnel forward mount points. Power via a cannon plug.



Non intrusive lights, no cutting into the wing. Removable simply via four bolts and a cannon plug.



Lights cast no shadows. One set is aimed for 3 point landings and the other for wheel landings



N2NE McMinnville, Oregon

More on Landing Light Installation

- would allow this yet keep the airframe clean for most flights.

I found a very nice light set made by Hella in the JC Whitney catalog that contains a driving light and fog light built into one low profile unit. These lights give me the long range look down the runway with the driving lights and also a wider near area is lit very well with the fog lights. I tried them in several locations under the main spar but found the exhaust stacks and the gear legs created too many shadows.

I decided on a location using the existing mounting screws for the forward tunnel. This placed the lights up front, forward enough to be clear of the exhaust and landing gear. The units were stacked and placed inline to fit in between the exhaust flow. I fabricated a riser mount out of bar stock aluminum that lifted the lower light off the belly and the upper one just above that and aligned the mount to fit the existing holes. A single cannon plug was installed directly behind the unit making the unit removable with 4 bolts and the cannon plug.

The problem with the existing light is that during landing it shines well down the runway in a three point attitude but just makes a bright spot right in front of your left wing in a two point attitude. The advantage of these dual lights is that you can set one light for a 3 point and the other for wheel landings. No matter how you land one light is always shining down the runway. The fog lights really light up the sides well and work great for taxi. I have the two driving lights wired to one switch and the fogs to another and usually use all 4 plus the original during landings, as I believe there is no such thing as too much light while landing this fast little airplane at night.

*Refer to the pictures of Jim's landing light installation on page 9.*

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**Beware of Projects**

The "project" Larry Liposky and I purchased had two prior owners. It had an S-18 fuselage up on saw horses and skins were cleco'd on.

cont.

Beware of Projects, cont.

The center section of a T-18 wing (with S-18 airfoil) was bolted on (no skin). I hauled all of the pieces back to Tacoma (TIW) and Larry started work on it.

He found the bottom fuselage skin to be 1/8" to 3/16" shy of reaching to the edge of the stringer. He then pulled the skin off and I learned about bucking rivets while replacing it. The side skins were also slightly shy, but Larry said they can be corrected with " aerodynamic smoothing compound". (from his military C-141 repair background)

Next Larry found a corner bracket that had not been made in an "L" shape per the plans. In the accompanying pictures the removed stiffener is shown next to the fuselage bottom forward spar box area, (fuselage is upside down in photo) with the correct part shown installed. From the second photo it can be seen that the angle bracket (1"x1"x.050") had a notch cut out of the forward end. This prevented the angle bracket from being attached to the side skin/ firewall joint.

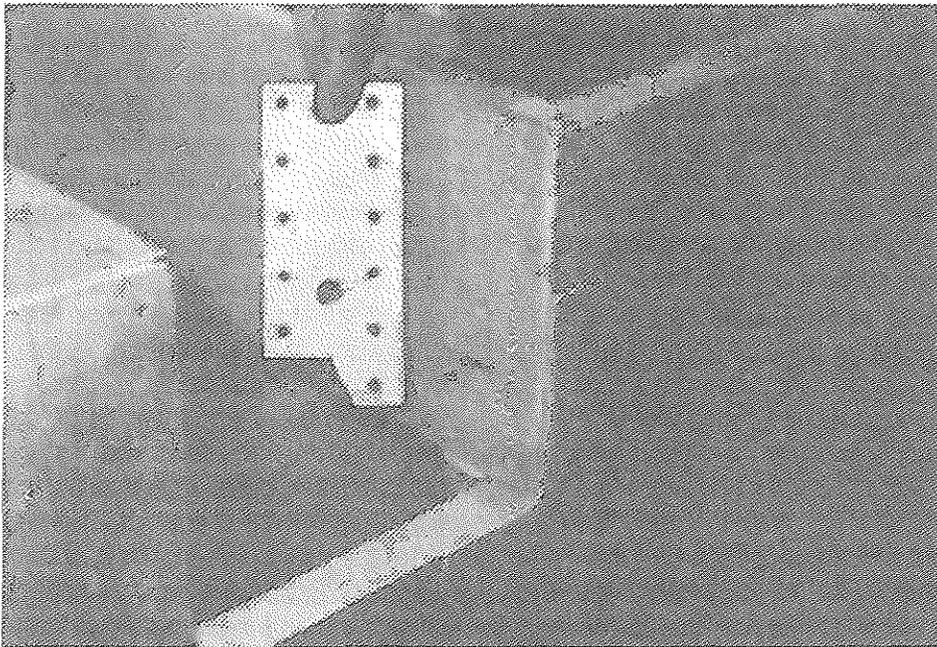
Tom Worth ~ Edgewood, WA.

*Editors Note: Refer to the pictures of Tom and Larry's project on page 11. The "corner bracket" Tom refers to is found on drawings - 601. The original drawings (ref -601) show a .032" bearing plate (601-3) to be installed as was found on their project. That was superceded sometime in the late sixties by drawing C-580. This called for the bearing plate to be replaced with a .032" doubler that is bent ninety degrees and wraps around the corners of the - 601 frame. Drawing C-580 had a note stating that this modification would be added to the - 580 drawing sometime in the future. I am not sure if this was ever done, but I am sure that Richard Eklund at Eklund Engineering can answer that question. If anyone has questions regarding that modification please contact him at: (209)727-0318 or email at: thorpt18@jps.net*

tech tips cont pg 14

### Beware of Projects

Pictures submitted by Tom Worth



Reference drawing -601 and C-580. The part being held is the 601-3 part that was originally called out on the -601 drawing. The new "doubler" is shown installed. As you can see it wraps around the -601 frame and is placed between the frame and the side skin.



Reference drawing -580 to find these angle stiffners or "brackets". You can see the notch cut out of the lower unattached bracket. As Tom noted this is incorrect. The correct bracket is shown installed. As a note here.. My brackets are fabricated from 3/4"x3/4" 2024 extruded aluminum angle

More Technical TalkScribe Lines. cont.Scribe Lines

Scattered throughout the T-18/S-18 build instructions is the phrase “scribe a line” or words to that effect. The intent is for the builder to mark a line, fastener location, etc on a piece of aluminum, but I have seen examples where a line was actually scribed (scratched) into the metal! This is a no-no; however, the builder will know with near certainty just where his plane will form cracks. Most of us are using alclad sheet metal (bear with me if you already know this) in which the cladding is a very thin layer of almost pure aluminum for corrosion resistance. The cladding layer is considered to have practically no strength, so scratches to the cladding are not a structural or fatigue problem. However, if the physically scribed line penetrates the cladding, then the builder should assume that structural integrity has been compromised and that the scratch mark is where cracking will initiate. Of course, the urgency of the matter depends on how long the scratch is, where it is located, and the amount of load or fatigue cycles experience by that region of metal. Be particularly concerned about any scratches or gouges near fasteners. In the example that I observed, the scribed line was for a row of fasteners on a wing panel; that wing will need to be reskinned. If the scratch in question is small enough, shallow enough, or in a non-critical enough location, it can be blended out with a 10-to1 (or better) blend ratio. And if you have any doubt, consult with a technical counselor who knows his stuff and can evaluate the scratch in person.

The aircraft builder should also know that marking aluminum with a pencil is also a no-no. The pencil “lead” is graphite and will work its way between the grains of the aluminum and cause intergranular cracking. The best means of marking metal is with a fine-line felt-tipped marker. A ball-point pen is OK to use in a pinch, but the ball-point usually skips so badly that it isn’t worth the trouble. A grease pencil will work, but you’ll have to thoroughly clean off all the residue before painting. The best route is to buy a box of “sharpie” permanent markers and use them...

cont.

..liberally for marking trim lines, fastener locations and builder notes (such as “this side up when assembling”). The one exception I can think of is when it comes time to mark the canopy; anything that will clean off permanent marker will probably cloud the canopy, so I will be using a crayon or grease pencil.

Andrew Robinson

Landing Gear Cracking

I am sending you an update on my two already identified cracked landing gear-to-firewall mounting bracket welds.

Bottom line today: **TWO ADDITIONAL CRACKED LOWER HORIZONTAL WELDS FOUND ON THE BACKSIDE (HIDDEN FROM VIEW) ON EACH OF THE TWO LOWEST HORIZONTAL WELD CRACKS LOCATED BELOW THE TWO LOWER BOLT HOLES.** That makes a total of **FOUR** cracked welds for this landing gear that was reportedly bought from Ken Brock Manufacturing (not his fault—the landing gear is simply made by Ken to the plan specs.) by the previous owner.

To determine if you have cracks on the front of your lower landing gear wells: Clean the actual welds with acetate, then spray the fluorescent dye onto the area, wipe off excess, then use a black light on the area. Mine stood out with a black line of grease in the middle of the hairline crack prior to cleaning—thought it was just a crack in the paint—it wasn’t. The cracks on the back side appear slightly wider—two ‘hair’ widths vs. one.

Solution: What the certified A&P mechanic (and proficient aircraft welder) recommended I have done—and am going to do, to my airplane’s landing gear:

cont pg 15

Landing Gear Cracking, cont.

1. Take your landing gear mount off the firewall.
2. Have a professional A&P welder completely inspect the landing gear, additional dye checking, etc.
3. Repair the old welds by grinding out the old welds that are cracked and rewelding.
4. IMPORTANT: Then add additional steel straps from the existing leg/brackets through additional welding to help take up the stress in the area of those two stress points.
5. Stress relieve the area through additional welding heat.
6. Check the legs for straightness while your at this too!

Do have a certified mechanic do all work, including jacking up the T-18, removing the engine, and the landing gear.

Some additional background information on my airplane: not built by me; not flown off of grass; very heavy empty weight—1180lbs; both of the previous

co-owners learned to fly taildraggers in this airplane so I'm sure it has had hard landings; airplane has 250 hrs total flying hours on it. The mechanics felt that the design of the two lower landing gear mount/brackets were designed in such a way that it is similar to hyper-extending your own arm at the elbow joint—the more you extend your arm fully out or beyond it's normal range (hard landings, grass landings, or less than a smooth landing), the greater the stress on that joint (i.e., the welds). The two welded brackets need additional steel-strap support. Don't hesitate to contact me on this subject. Thanks.

Pete Lemaire  
Omaha, Nebraska  
(402)-291-0987

*Editors Note: Cracks in the gear at this point is common, however it appears that Pete's gear cracked more than normal. I am not sure why you need a certified A&P to work on your Thorp. I wouldn't want one to work on mine.*

First Flights

Tom Hunter's Thorp T-18 takes to the skies! The airplane is a standard body T-18 with the Bill Johnson airfoil and extra fuel in the wings (similar to Lyle Trusty's). It is powered with a 160hp Lycoming IO-320 turning a Warnke wood propeller. The plane has electric roll and pitch trim, manual flaps, wing leveler, and other goodies. Tom is a craftsman and did a terrific job of building. Much attention to detail. Tony Ginn flew N18XT on it's maiden voyage on January 9, 2001 at Paso Robles, CA.

The first flight was 45 minutes long. The airplane weighed in at only 975# so the initial R.O.C. was the first indicator that Tom has a real performer on his hands. The airplane flew great with just a slightly heavy left wing that was easily corrected with roll trim. Since the engine is a fresh overhaul with chrome cylinders the flight concentrated on engine break-in rather than slow speed/stall regime. That will come soon. Congratulations to Tom for a job well done!

Hail all,

Happy Spring news from the central San Joaquin valley, California. I got my first hop in N432YP, ~ 45mins, over retired Castle AFB this morning. Temps nominal even without an oil cooler, (0290-D accessory plate coming with oil cooler connections etc.) pressure nominal, EGT, CHT all nominal on our GPU. Ambient air in the 60s f.

Initial stats:

- Margie Warnke's 'Air Claw' 68x64-76
- max static 2150rs on a GPU with a MA4SPA 10-5062 mounted on a 0290 pan with a RV6 carb scoop below.

- flatout to the firewall level 5k = 2500rpm indicating 157mph on GPS

- 2100rs level indicating 147 on GPS

NO pants, gear fairings yet.

She drops-off to the left in level flt as expected with pilot (~170lbs only) (We'll tab the right ...

cont pg 18

For Sale

I have A nice T-18 That first flew in 1997. If anyone wants more info they can call me at (661)940-1709 between 8am-4pm or (661)256-8613 after 5pm California Time. I would deliver

Steve.

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I have a Thorp S-18 kit in my basement that I need to sell. I am working on my master's degree and intend to start my doctorate after that, so I cannot see a beginning to the project. The fuselage kit is untouched. The wing portion came off of a flying S-18. Apparently the wing suffered barbed wire damage and was reskinned. The wing was reskinned incorrectly, so it will have to be redone. The control system for the ailerons is complete from the sticks to the aileron push rods. The flaps and ailerons have not been built yet. I have the landing gear and the canopy and frame. I have a complete set of drawings and newsletters. I am looking for about \$6500, but I am willing to negotiate. Please pass the word if you know of someone interested. The project is located in the Atlanta, GA area, and I can be reached at the following:

Forrest D. Ferdon  
 (678) 432-1696  
[theferdons@mindspring.com](mailto:theferdons@mindspring.com)

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Thorp N97SE is for sale. The airplane is located in So. California Registered in 1997. Lycoming O-320 180 Hp. Estimated. Electronic ignition, Rat Ray cowling and new spare. Four cylinder EGT, CHT, digital fuel flow, OAT, Fixed pitch metal prop (polished), Full Gyro panel, Garman 250XL GPS com, Vor/Glideslope, Elec. trim, Wheelen Strobes  
 Panel lights. Baggage compartment top is cut out for easy access. \$ 42,000.00 For more info and pictures E-Mail: [irving@qnet.com](mailto:irving@qnet.com) or call (661)256-8613 Eve. (661) 940-1709 Day.

For Sale

I'd consider selling my S/18 !!! I'm in Tennessee and if intrested just e-mail me or call me !!! 931-473-5401 Days or 931-668-9899 nights !!!

Danny Cummings

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Perhaps it fell through the cracks, but I have a 7-1/2 gallon tank for sale @ \$300. It fits under the rear deck. E-mail [wocon@att.net](mailto:wocon@att.net)

Tom Worth - (253) 922-0137



Thorp Wanted

I told you a few weeks ago that I had purchased a T-18, and had no need for an ad. I did, and it was a beauty. Due to insurance requirements, I had to have 15 hours dual with an instructor who was current in T-18s. None was local, so I got a CFI in LA County who had one to come out and make an instructor here current. He came out on January 14, and those two characters went out and wrecked my nice plane, totalling it. Now I need another.

I am hangared in Palm Springs (PSP). Would like a good T-18, with a 125 to 160 h.p. engine. Low to mid time. All ADs against the engine addressed, Mode C, vacuum panel; nice looking; no radio or intercom problems; no odors in cockpit (wife's requirement). Please contact me at 760-837-0222 - Work; 760-202-0108 - Home; [gr8dds@desertsurf.com](mailto:gr8dds@desertsurf.com)

George Avans

## News from Eklund Engineering

### Eklund Engineering T-18 Kit and Plans Update

We continue to develop the laser cut and formed sub-assembly kits for the T-18 airframe. The process is proceeding slowly for several resource reasons. In order to clear the path somewhat, we are offering the following in-stock kits at reduced prices:

- 1 Rudder Kit - \$320 plus \$10 crating charge and UPS shipping cost. (Originally \$375)
- 5 Vertical Tail Kits - \$245 (each) plus \$10 crating and UPS shipping cost. (Originally \$290)
- 2 Horizontal Tail Kits - \$1180 (each) plus \$15 crating and UPS shipping cost. (Originally \$1328)
- 2 Aileron Kits - \$176 x 2 = \$352 plus \$10 crating and UPS shipping cost. (Originally \$221 each)

It is hoped that the Flap kits will be complete by the Oshkosh 2001 fly-in.

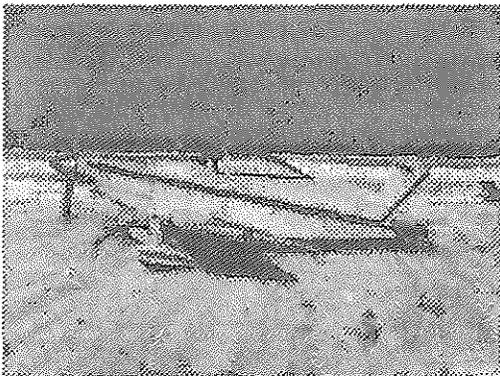
Because we will be changing the publishing technique for the plans sets, we are offering the last 2 Blueline drawing sets for \$270 each plus UPS shipping cost.

Future ordering procedures will require 50% non-refundable payment with the order. Full payment will be required at shipping. Orders will be shipped in less than 30 days or a full refund can be requested.

Eklund Engineering, Inc.  
P.O. Box 1510  
Lockeford, CA 95237  
209-727-0318  
Fax 209-727-0873  
[thorpt18@jps.net](mailto:thorpt18@jps.net)

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### Our Members Photo's



Bill Beswick ~ N2618B



Roger ? ~ N8613A

**Newsletter Dues**

Man is this a tough subject!! I want to thank everyone who sent his or her dues. I still have many of you that have not paid last years dues. I even show several unpaid for 1999, and several unpaid for 1998. **PLEASE** look on the mailing label on the back of this newsletter. Look above your name. If you see a "PD" then you are paid through 2001. If you see an amount, (ie \$25 or \$50) above your name, that is the amount you owe. Look below for samples of the mailing labels.

Several of you sent your 2000 dues at the end of the year. I am not sure how the dues have been handled in the past, but I want to establish a policy for everyone. Beginning now, the newsletter subscription is due in January. So those of you who paid late for last year need to check your mailing label. **For those of you who are three years or more behind, this will be your last newsletter.**

If you have any questions, please don't hesitate to contact me. I hope we can resolve this

**Sample Mailing Labels**

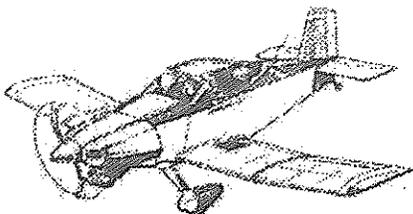
<p><b>PD</b> Roy Farris PO Box 182 Noble, IL. 62868</p>
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This Label shows "PD" above the name. This indicates that your membership is current.

This label shows "25" above the name, indicating that you owe \$25.00 to make your membership current.

<p><b>25</b> Roy Farris PO Box 182 Noble, IL. 62868</p>
---

**Send Your Dues    Send Your Dues**



**Items Wanted**

Hi ... I purchased SN510 from Earl Atha... I am looking for a conical engine mount for a Lycoming 0-290. I would like to hear from T-18 builders and fliers in the Atlanta area.

Jeff Maynard  
213 Barry Whatley Way  
Griffin, Georgia 30224

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**Wanted**

- Canopy (preferably 3/16" thick)
- Engine Cowl (have the T18 nose cowl for 4" extension)
- Wood Propeller for Lycoming 0-320 (150hp)
- Cleveland 500x5 wheels and brakes

Lionel Robidoux  
195 Crestview Road  
Ottawa, Ontario K1H5G1  
(613)783-1066  
[lionelr@mondenet.com](mailto:lionelr@mondenet.com)



**First Flights, cont.**

...aileron this year and do Lyle T's ingenious roll trim mod next winter.)  
Power-off stall ~65mph straight ahead to buffet ONLY for today.  
Three wheeled her with a hop and power-on halfway down 31 right traffic Castle with flaps UP. She doesn't slow down! ;)

ecstatic, exhausted,  
Stretch

## Upcoming Thorp Events

*If anyone has an upcoming Thorp Event that they would like listed here,  
Please notify me by phone or Email*

May 18 -20, 2001 ~ Thorp Fly-In at McAlester, OK. the Ramada Inn at McAlester has rooms for \$49 single and \$54 for doubles. Cancellations until 6:00 P.M. on the day of arrival. Their phone number is (918)423-7766. Ask for the "Holt-Green party" Contact Gary Green by Email at: [ggreen@itexas.net](mailto:ggreen@itexas.net) for further information.

July 24 - 30, 2001 ~ Airventure 2001 ~ Oshkosh, Wisconsin The T-18'ers usually have a combined lunch and forum on Friday at noon in the Nature Center. We have a nice lunch followed by a small but informative forum. This years activities are tentatively scheduled for Friday July 27. Anyone who has an interest in the T/S-18 is encouraged to attend, and bring a friend. For more information contact Roy Farris at (618)723-2594 or by Email at: [rfarris@wworld.com](mailto:rfarris@wworld.com)

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](mailto:aerohal@inforum.net)

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](mailto:jpaine@cytechcis.net)

*Editors Note: In the last Newsletter (#114) I misprinted the Kentucky Dam Fly-In date as October 5-7, 2001. The above Date of October 12-14, 2001 is the correct date. Sorry for the confusion.*

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



\$25



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 your membership is not current, and we may be forced to stop sending your newsletter. 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.

Make a photocopy or clip out this form and return it with your payment.

**THORP T-18 MUTUAL AID SOCIETY NEWSLETTER 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 the U.S.

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email address: \_\_\_\_\_  
Notes: (building, flying, thinking about it, etc): \_\_\_\_\_