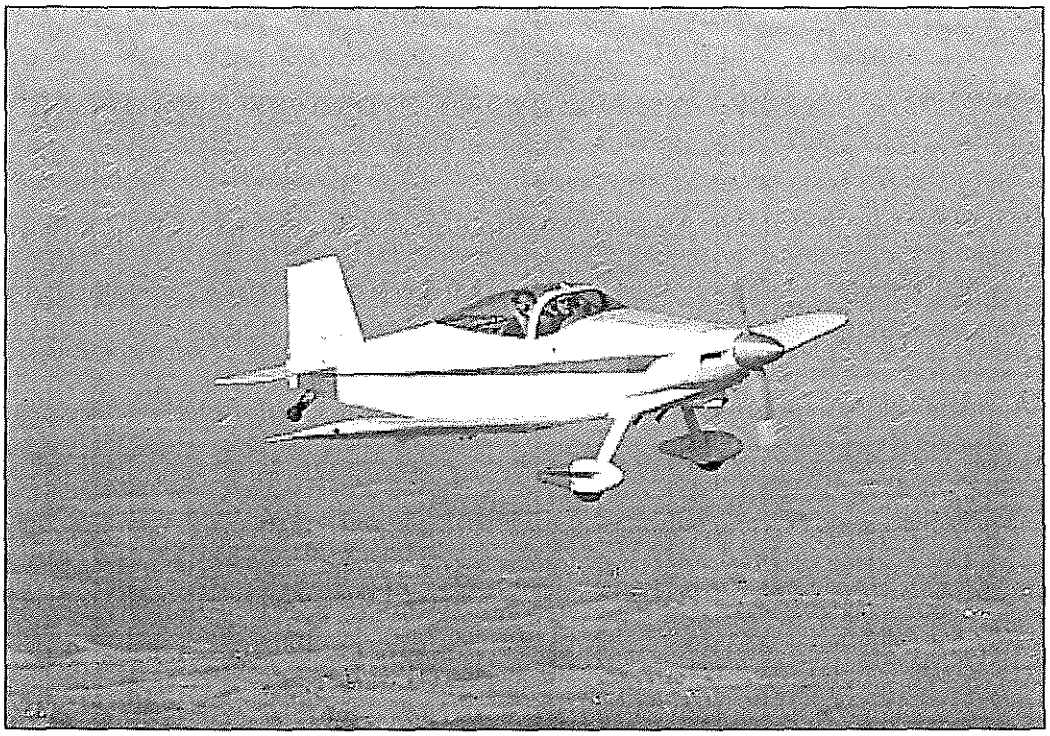
T-18 Newsletter

December 2005



Daemon Key ~ N922GH

IN THIS ISSUE:

Editors Notes
Technical Tips
Kentycky Dam 2005
Electric Flap Drive
Transporting Mo-Gas
Items For Sale

Your T-18 Mutual Aid Society Membership Expires on December 31, 2005 unless your mailing label on the back cover states otherwise. Please check the Expiration Date just above your name

Please support the T-18 Mutual Aid Society and all of Sport Aviation by renewing your membership.

Editors Notes

By: Roy Farris

I am going to start this issue by climbing up on my soapbox and venting a little. First, have any of you noticed what is happening to sport aviation? After 911, things tightened up and the government is reluctant to give up that control. I just attended my CFI refresher clinic and a representative from the TSA was there. He gave us some insight on what is in the future for our type of flying. Believe me people its not going to get any easier. He encourage pilots to band together and become a recognizable force to protect our privilege to fly. We pilots are a very small group in the grand scheme of things, and none of those big government officials would miss us if we were no longer permitted to fly. I learned that the makers of gasoline and avgas sell more car gas in one day than they do avgas in the entire year. Think about that!!

I have always said that we should band together and become a strong group, both to support Sport Aviation and the T/S-18. It peeves me a little when I read mail from the ThorpList stating that we have little or no builders support for our airplane. Every builder that I have spoken to, has been more than enthused at the help that they were offered or received from the Mutual Aid Society, Eklund Engineering, and Classic Sport Aircraft. I know that when I was building all the difficult stuff help was always just a phone call away. In fact Jim Paine flew over and looked at a problem or two when I really needed assistance. I'll admit that builders help is scattered around all over the U.S., but thats why we have this newsletter, the T-18 website, and the ThorpList email group.

Ok, so why is it that people in general want to be so independant? Independant to the point of standing back and watching something that you really enjoy disapear. I don't get it .. but I have been told once or twice that I am stubborn and hard headed. There are T-18 owners, builders and pilots that do not belong to our group. Maybe they don't know we exist, but I say if they were interested in flying with other Thorp's they would seek us out. I sure didn't have any trouble finding this group, and that was before the website or ThorpList. They simply don't care about finding us .. they want to do it alone. It's not just the T-18'ers, its all aviation type clubs. Because of this individualism, we pilots come across as small unorganized groups. So no one listens. You may disagree, but take a look at the NRA ... Gunlovers banding together to form a very powerful organization. That have a large voice and get things done. Luckily we have the AOPA and the EAA that work hard for us, but they need our support.

We need to become a more focused and organized group. I really get tired of the petty squabbles that seems to happen periodically on the ThorpList. Everyone seems to take that stuff so darn personal. Its a forum for us to use to better our group and to help others with problem they are having. Its email, its impersonal, and sometimes you don't read with the same intent as the one who wrote it. Lighten Up People.

And another thing ... everyone complains that the content in the newsletter is mostly centered on the social side of things. Well if you guys would send me the information instead of posting everything on personal webpages and internet based photo albums maybe I would have something to print. Everyone needs to thing about the "GROUP" and work together to strengthen the group, not weaken it. I hear all the time that this newsletter is not worth the $25 per year. Well maybe not ... but the T-18 MAS is worth $25 per year. The T-18 MAS is the focal point for the T/S-18, at least it always has been. I believe we need to keep that alive and to work to strengthen it. Think in terms of saving our group, the T/S-18, and our privilege to fly.

Have I rambled enough or what ??

Runaway Electric Pitch Trim

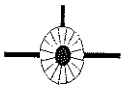
Roy - here is the narrative sent to Richard. I did turn off the master switches, but should have pulled the trim breaker (which I now know is above the pilot side stick). The COM problem was the result of a switch knocked away while addressing my trim problem. tw
If you can recall, there may be a relay for the stabilator trim motor ...please advise. I don't recall any wiring diagram with the plane papers (though most component documents are there). This past weekend on return from a rainy 3 days in Oregon, I went above the clouds to 8500'. At that altitude it was 20 degrees, so I'm guessing that moisture (going to ice) may have been involved. Descending lower, the pitch trim went into an uncontrolled "UP" about 4000' approaching Olympia. Holding full "DOWN" button had some effect, but would then return to going "UP". This continued into Tacoma where I requested a priority landing since I didn't know when the trim would go up again. The problem did not occur on landing, so all ended well. The problem did effect the COM, so I got my portable out to communicate the last few miles.

In the past few days, Paul MacMichael and I worked on the plane. The relay box is located under the pilot's seat. There was a lot of moisture under both seats (with carpet for sound deadening). This was due to the canopy not sealing well (inside latch only - need to consider replacemet witn inside/outside latch). These areas were dried out with a safe type of electric air heater. Subsequently the area under the dash/ rudders was dried out too (carpet removed and aluminum/foam insulation dug out for replacement).
The trim relay box cover was pulled to disclose a circuit board with what appeared to be Potter Brumfield type sealed relays. We did not attempt to remove the relays

cont.

as wiring was tight and we didn't want to damage the circuit board. My guess is that condensation caused by all the water on the floor (and carpet) had caused a short on the board back or on the connections of the relays to the board. First, had I used the nice airplane cover I have (was back in Tacoma hangar), this problem would not have occurred. Second, had I known my circuit breaker panel better, I could have pulled the breaker for the trim when I had gotten it back to neutral (with overide by actuating "down" on hat switch).

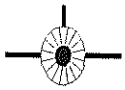
Tom Worth - Tacoma, WA



Aircraft Soundproofing Website Link

Might try this web site. I believe some of their items are sold in Wag-Aero and Aircraft Spruce. Of course, also direct.
http://soundproofing.org/infopages/soundprf.html
Probably more here than you ever wanted to know about aircraft soundproofing!

Wally Hunt
Rockford, IL.



Thorp UpGrades By: Tom Hunter

First Picture is the side view of the new ECI hot rod engine that Ly-Con in Visalia, CA built for me. As you can see in the picture the engine is fuel injected. I will write more later about the performance gains with this engine. It showed 200 HP on the dyno at Ly-Con when we ran it, so the performance

cont. pg 4

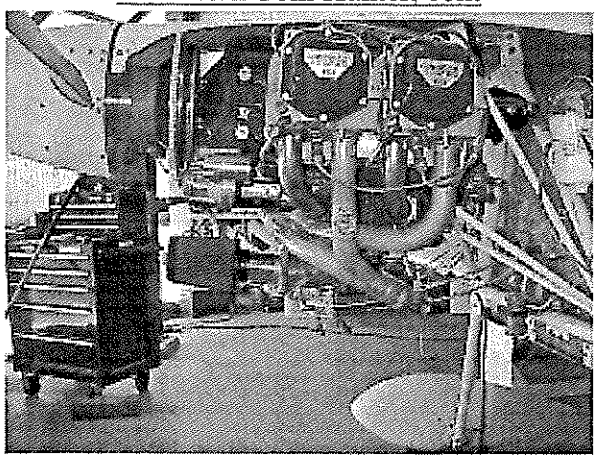
Thorp Accident

It is with regret to inform the Thorp group of the loss of Chris Beatie and his Thorp VH DTR. Chris worked with me at Cathay Pacific Airways and purchased DTR from Mal Bennett earlier this year.
Media reports suggest the aircraft broke up in flight and the wreakage was spread over a large area. The cause of the accident is under investigation and I will post information as it becomes available.

Tim Burns
VH XME

Please keep us informed Tim

Info From Tom Hunter, cont



gain should be very positive.

In replacing my old IO-320, I one of my goals was to achieve a more efficient induction system. With my first engine, I had a rear facing fuel injection servo with a filter parallel to the firewall and induction air taken off the right rear baffle. I did that so as to not have to cut a hole in my metal cowl. That proved to be aesthetically pleasing, but under high temperatures, the engine just would not idle very well. I was also aware that the induction air was being somewhat pre-heated by the heat from the engine, since the

Info From Tom Hunter, cont.

route the air took was a 360-degree route. And lastly, I was getting no ram air effect.

Many years ago I had purchased from John Thorp one of his aluminum induction snouts that sticks out like a big cannon thru the cowl. I thought about using that but I did not want to mount the air scoop onto the engine as John had done. There are some very real practical advantages to doing that but I did not want to go down that route.

I looked at Van's methods of filtering incoming air for their fuel injection versions. Ly-Con had done some testing of that filer arrangement and found some real degradation in performance. After spending all the money I spent on my new hot rod engine, I didn't want to penalize the motor by restrictions in induction. So the filter, scoop, baffle arrangement that I came up with is a result of this process of discarding what others have used and looking at other ways of creating a more efficient air scoop/ air filter arrangement for fuel injection on a T-18.

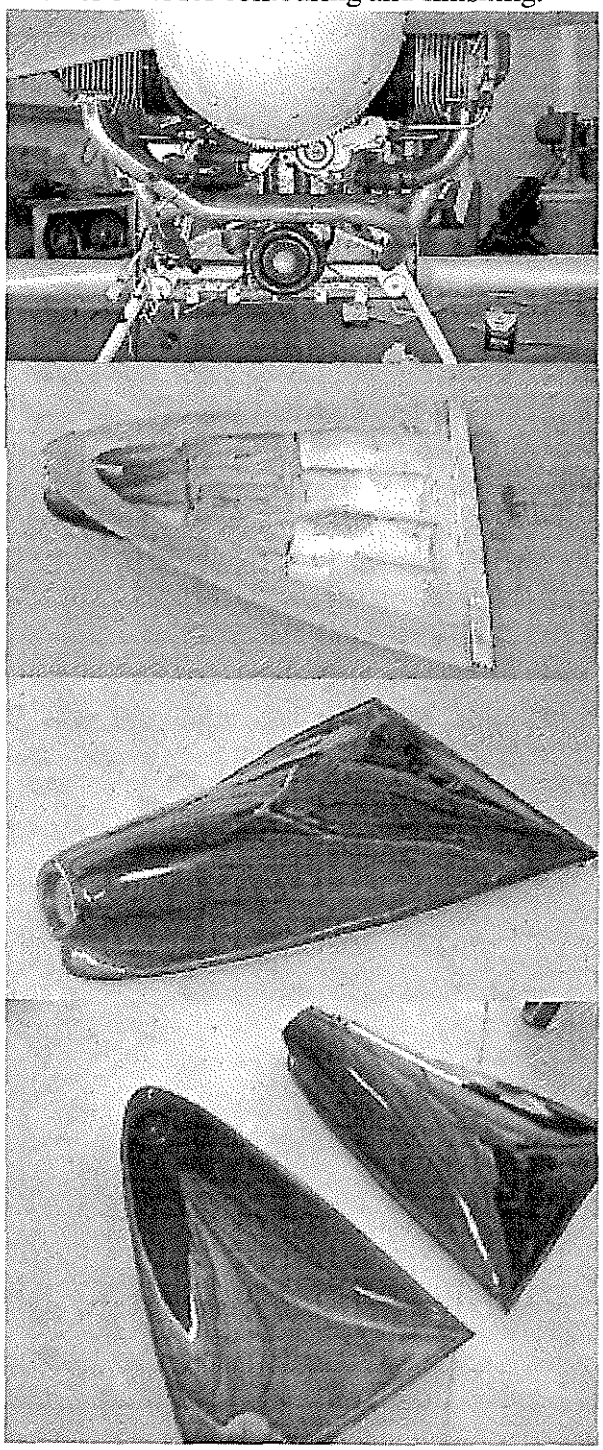
First as to the filter: it is a K&N 500 CFM cross flow filter. I added the bullet to the nose to smooth out the air that enters thru the front. The air inlet is sized to be just slightly larger than the inlet into the servo. It is possible to increase the cross section of the inlet, if testing indicates more area is needed.

There are several pictures that show the process of building the air scoop. The actual mock up took about 2 months of part time work. The mock up was done on the airplane with the lower cowling in place and the air filter installed on the servo as shown in the picture. I am not going to describe in detail how this was done, but why is was done this way is perhaps of interest. In order to achieve the min imal size and allow for lateral movement of the engine and filter within the scoop, it was necessary to build a framework with appropriate clearance. Also, to get the lofting without resorting to computer assistance in design, I needed a number of fixed points to work from. The mock up was made to be removable to it could be taken off the

cont. pg 5

Info From Tom Hunter, cont.

the lower cowl for contouring and finishing.

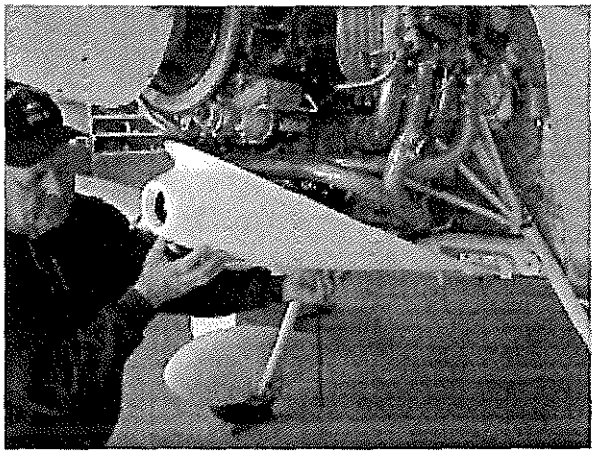


Once the mock up was finalized, it was turned into a male plug which in the picture is the black shinny object that looks a lot like an air scoop. At this point I turned the plug over to Hannah Manufacturing, which is a local company, which builds all

cont.

the Robinson Helicopter fiberglass parts as well as parts for several other aircraft companies. The plug was then used to lay up the red colored female mold. The final product shown being held in its relative position under the engine was made out of three layers of carbon fiber and pulled from the female mold as a one piece part.

The next step in the process is to create the baffles to turn the front portion of the scoop into a plenum chamber. Since the scoop is fixed to the cowl and the filter is fixed to the engine there is relative motion between the two. I envision a flat rubber circular seal just behind the filter that will due to air pressure be pressed against a metal and fiberglass baffle that is attached both to the cowl and to the scoop. The air scoop is not permanently attached to the cowl as on an RV. It is attached with nut plates. Since I have a metal cowl, I did not want to bond the scoop onto the metal cowl. I considered making a new lower cowl out of carbon fiber with the scoop molded in, but for ease of removing the cowl I discarded that idea. If the plenum chamber were a separate entity and connected to the inlet by the traditional rubber sleeve then the one piece lower cowl could be practical.

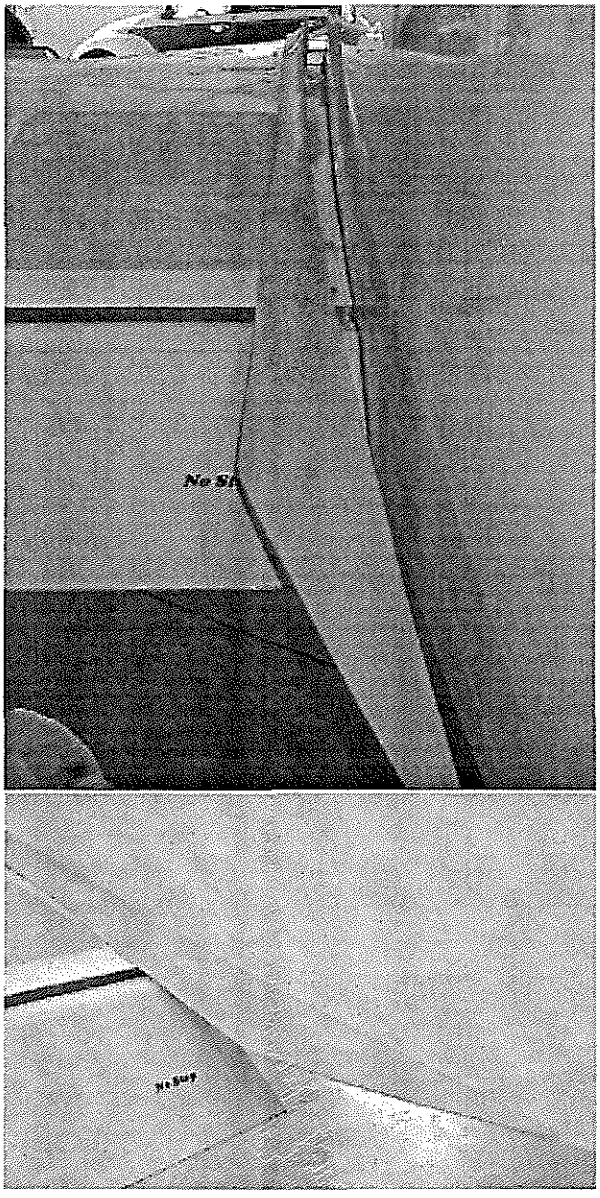


The other pictures show the wing root fairing that I created out of aircraft plywood, foam core and fiberglass clothe with epoxy. The fairing shown is for the right side of the airplane and has a pleasing curve around the leading edge. One could argue that there is nothing to be gained by extending the fairing around the leading edge but from an aesthetic point of view it gives the fairing a finished look. I have had

cont. pg 6

Info From Tom Hunter, cont.

the fairings on the plane for at least a year and while I would like to claim remarkable improvements in this and that, I would say that mainly they are nice to look at and give the plane a finished look. The right faring had several bubbles that appeared after sitting out in the sun. So while the engine upgrade was taking place, I decided to redo the fairing, hence the primmer. After painting it will be reinstalled. I only have a mounting screw at the front and at the rear and use a 3M trim adversative product for bonding to the fuselage. I let it float on the wing. It was not easy to remove it, so the bond was excellent with this product.

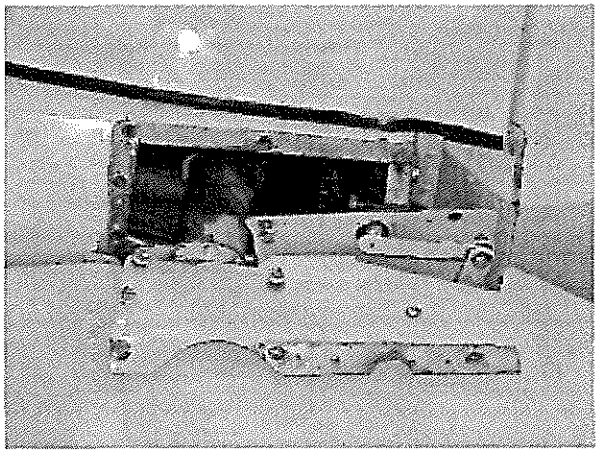


Tail Cone Access

I would appreciate hearing some voices on experience on the ideal location and size/shape of a tailcone access hole. Now is a perfect time for me to install it and I know that a small movement one way or the other can help with convenience in the end product.

Thanks
Mac Nussey

My plane has covers on both sides. I find it very handy to have both covers as I shine a light through one and view through the other. Lubrication and inspection are very straight forward. The one thing that you might want to change is the bottom Camlock stud on the fuselage. It can catch on the stabilator when the cover is removed. This is only a problem during inspection and I prevent it by putting a piece of tape on the inside to hold it in position so that I can move the tail without any problem.

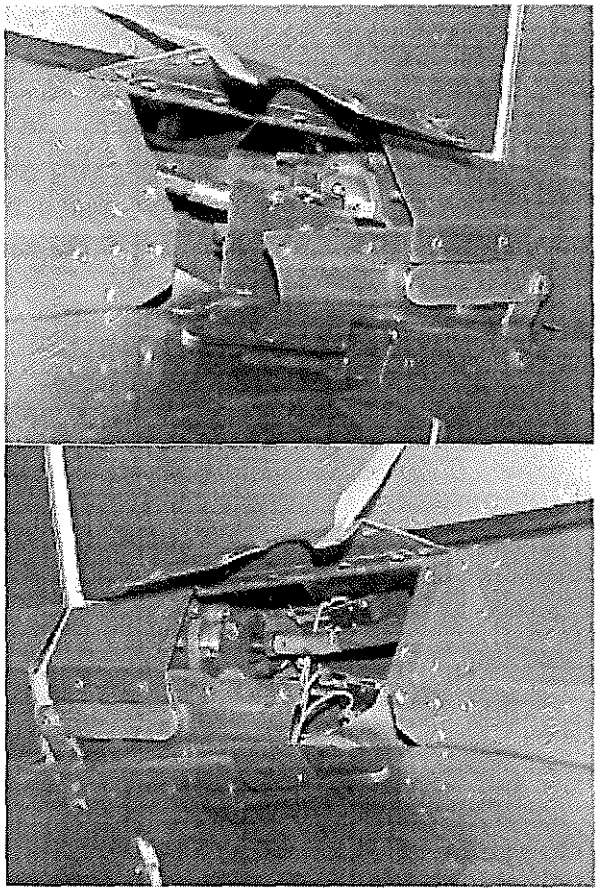


Henrey Beamer
MiddlePort, NY.

This is my solution for inspecting the trim system. Nut plates were installed for #8 screws. I copied this from a T18 I saw back in the 70's.

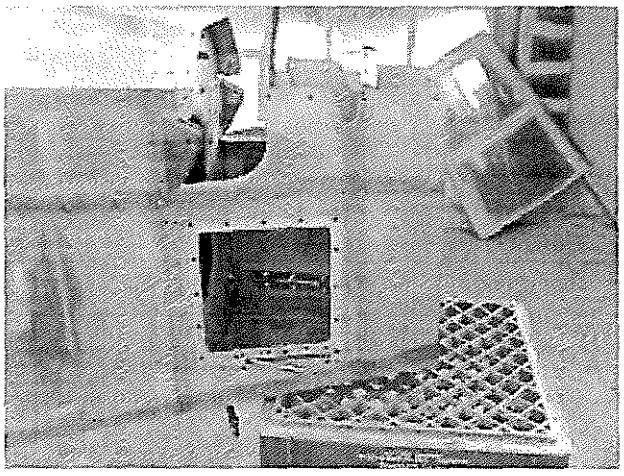
cont.pg 7

Tail Cone Access,cont.



Robert Clayton
Sandy, UT.

Maybe it was overkill but I wanted to get both hands in there at the same time to install the stab counterweight. That also makes it easier to look around and see whats going on in there.



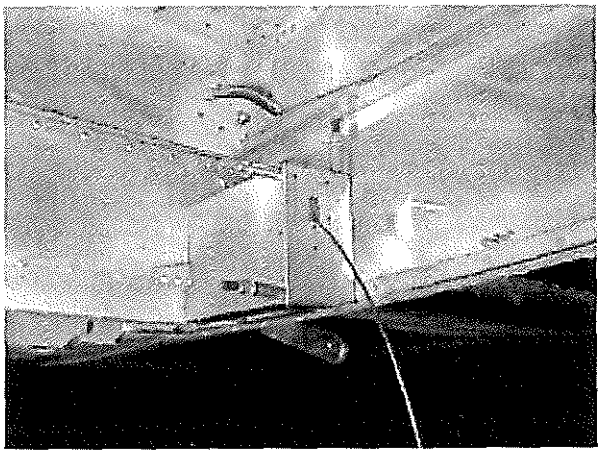
David Read Olney, IL.

Tail Cone Access,cont.

You will be glad you put that access in. Makes a whole lot of stuff easier. Remember, the area between the last two formers is a stress panel. Make sure you have plenty of fasteners to pick up the load.
Mine has a smaller opening on either side and I can work from both sides. No problems with the structure in 1990 hrs.

Bob Highley
N711SH
SN 835

Seal Those Flap Tube Holes
Submitted By: David Read



Editors Note: Dave didn't supply any text on his flap tube hole sealer. But he told me its just a little aluminum box made up of standard roofing type flashing. Weight is practically nothing, and it attaches with screws through the side skins into platenuts. Felt is used to help seal the flap cable outlet. It should help keep the drafting down.

A Comment On Matched Hole Tooling

Just a note on John's matched hole tooling method. When I built my new wing a couple of years ago I purchased ribs, premarked upper and lower center spar caps from Richard Eklung and outer main and rear beams already to install from Mike Archer. I built the original wing and original profile because I had premarked skins I purchased from Ken Knowels in the 70's. I got the holes drilled in the skins and bent them per John's method, Put everything together and VOILA! a perfect match from three different sources. John's method works! I wonder why Van's went to match hole tooling?

Robert Clayton

It is possible to pre-drill all the holes and then cleco the assembly together. In John Thorp's shop in Burbank this is how the wings were assembled: Master template wing skin (let's say outer wing) is laid over your .025 2024-T4 skin. Then all the holes are transfer punched. Note you can make yourself a transfer punch from an automatic centerpunch. You need to have a spare tip ground with to a #30 end with a nib like a Whitney punch. The holes in the ribs were created by placing the rib into an oversized rib that already had the holes punched. Then using a nibless Whitney punch, the holes were carefully transfered.
Of course this method involves the initial creation of a very precise templates and oversized ribs which are then used for both left and right wings. However, even if you don't want to go to the trouble of creating a master template for your wing skin (which would come in handy if you later have to remake the skin due to some damage to your wing), you sitll can layout and create all the holes in your skin and ribs ahead of time using transfer strips.

If anyone wants to know the steps to do that, give me your email address and I will forward them.

Tom Hunter

This Builder Doesnt Agree

For anyone who hasn't done their wing yet, here is my build tip: Don't drill the holes in the ribs first. I'm sure that John Thorp was a good enough craftsman that he could predrill the holes in the ribs and have them line up with the skin holes, but I'm not quite that good. What has worked better for me is this:
First, I clecoed all the ribs to the spar and used straps to snug the skin into place. I backdrill a couple of the upper spar holes to the skin and then use my spar hole template to finish drilling the spar holes in the skin. Do this top and bottom or just the top. Make a hole template for the nose rib holes. I found it best to use #40 holes and the appropriate clecoes. When I reskinned the outer wings I had the scrap skin cut into 1-inch wide strips that I use for rib hole templates. Lay out the hole locations per the plans (don't forget to add those extra rivets for older plans). Since my nose ribs have relief cuts, this also means making sure that I made the relief cuts in between hole locations. I pick just one (1) hole about 1/3 of the way from the nose of the rib and drill it with a #40 drill. To get things exact, I mounted all the nose ribs on the spar and then clecoed the template to the spar and, with the rib held square to the spar, drill out the #40 hole using the template. And don't forget to use a sharpie marker to make a line where the rivets should go on the rib. Then I can cleco the rib hole template to the appropriate spar hole in the skin and then drill out the rest of the holes in the skin with a #40 bit. Then I cleco the ribs to the spar and the skin to the upper spar and snug everything up. The one pilot hole in the rib is used to line that rib up with row of holes you drilled in the skin. If for some reason it doesn't want to line up, don't force it. The rivet line that you drew should be visible through the other skin holes. If not, don't fret. What I have wound up doing is removing the outer ribs so that I can reach in and move the inner ribs back and forth. Scoot the rib until you see the rivet line through the skin hole closest to the spar and

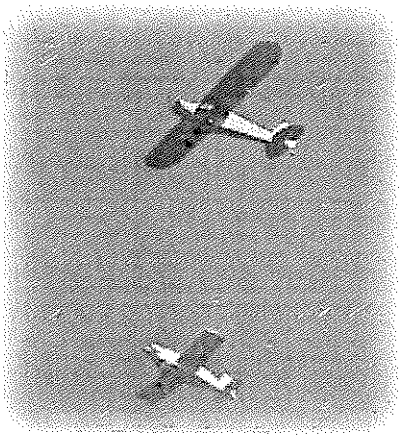
cont. pg 12

Kentucky Dam ~ 2005

Article By: David Taylor

This year was an awesome year at Kentucky Dam. The weather was really great for a change. We had clear skies and the temperature was just about right. The last time I attended the fly-in (2001) the weather was bad and only 6 airplanes showed up. This year we had approximately 19 planes fly in and 2 T-18 projects, the most T-18s I've seen in one place . Saturday morning started with a nice breakfast at the lodge. My first flight of the day started out with Jerry Sharp. He now owns my previous T-18 and was nice enough to make sure I got a flight. Sure was nice to get to fly her again. The next few hours was spent poring over airplanes and asking questions. It's really great to get opinions from those who have finished their T-18s. I walked from plane to plane admiring the awesome workmanship and asking the stupid questions that the builder has probably answered more times than they would care to admit. In all cases the builder was more than happy to pass along the treasured knowledge they have. During this time we were treated to a series of passes in the form of a 4 ship formation by Bob Highley, Gary Green, Gary Cotner (one other was in the formation but I didn't get the name).

I spent alot of time speaking with John Evens. What a great guy. He was kind enough to take me up in his T-18 which is an amazing machine. If you haven't seen it this is a well constructed airplane that is very fast. It's awesome to look at the airspeed indicator and see it passing 200 mph. John let me fly around making turns, flying fast and slow. I also spent some time speaking with David Read. He was nice enough to get technical and talk plans with me. His T-18 won't be built in 6 months but I can tell you he is making extremly fast progress. Throughout the day people were taking off and landing giving people the rides that make them want to get back home so they can get back to work on their airplane. I drove 7 hours home and still spent 2 hours working on the plane.

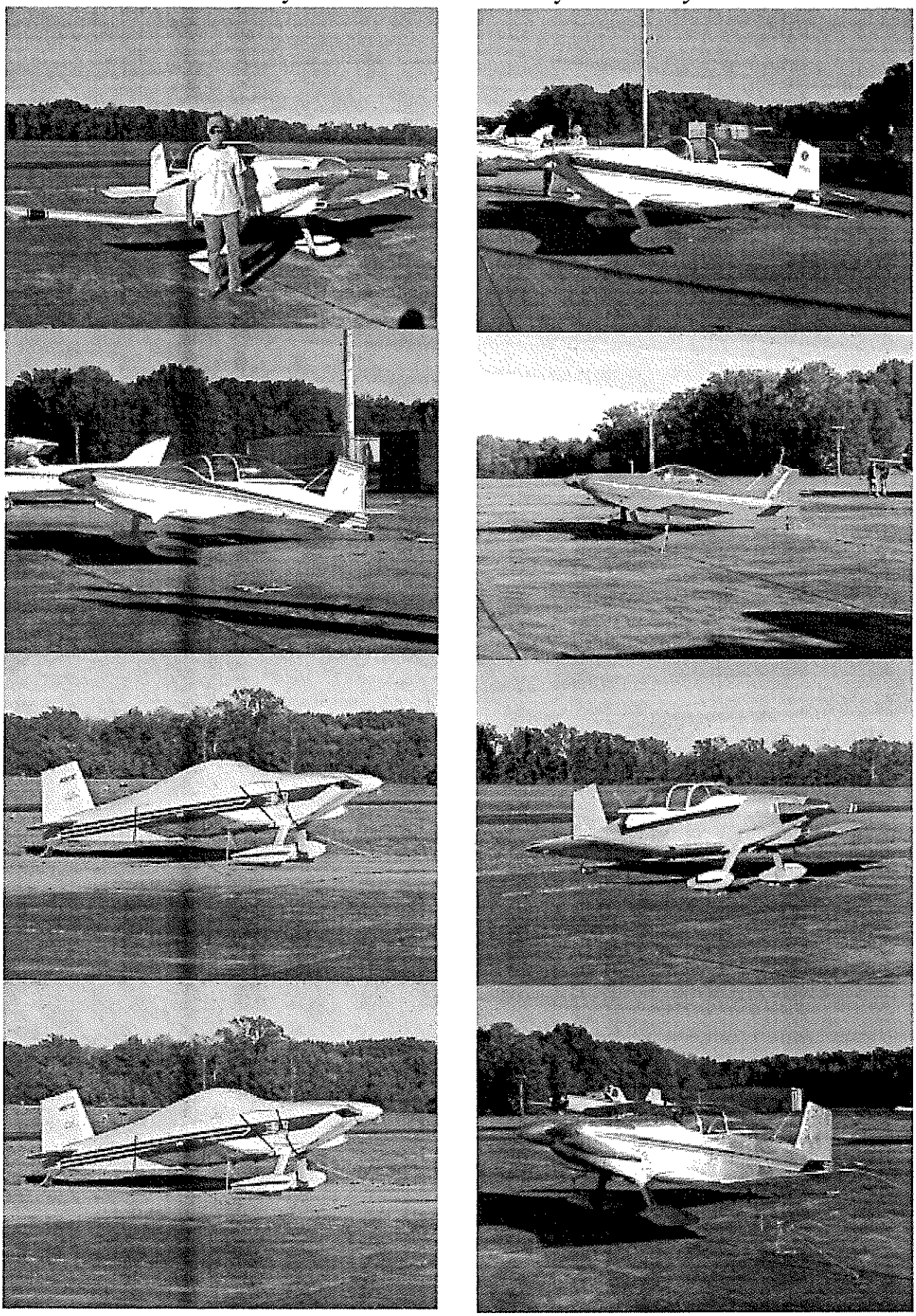


After winding down we all had a nice dinner at the lodge. It was really great to see Jim and Judy Paine make the fly-in. The Paine's have been hosting and/or attending the fly-in for some 15 years so it was really nice to see that they could make it. It takes alot to set up an event like this so I'd also like to thank Ben and Teresa Scola for their efforts this year. That's one thing about the Thorp group is that it is like a family and you can tell that the people involved are really passionate about the airplane. There is a history behind the plane that should never be forgotten.

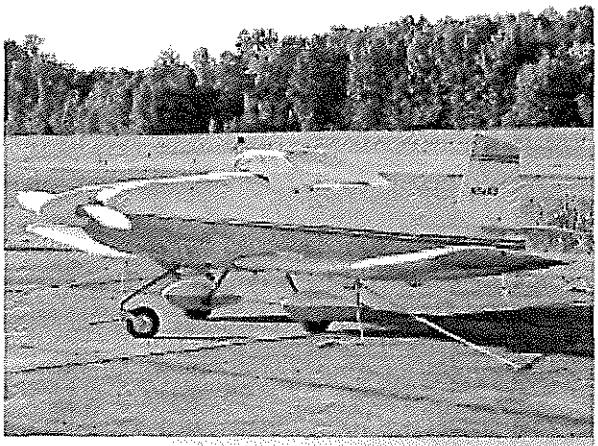
Sunday came and goodbyes were said. I went to the airport early in the morning to look over the airplanes once more before I had to leave. Gomer was giving his usual rides back and forth to the airport making sure everyone had a ride. All in all I'd have to say that this year's fly-in was a great success. I'm already looking forward to next year

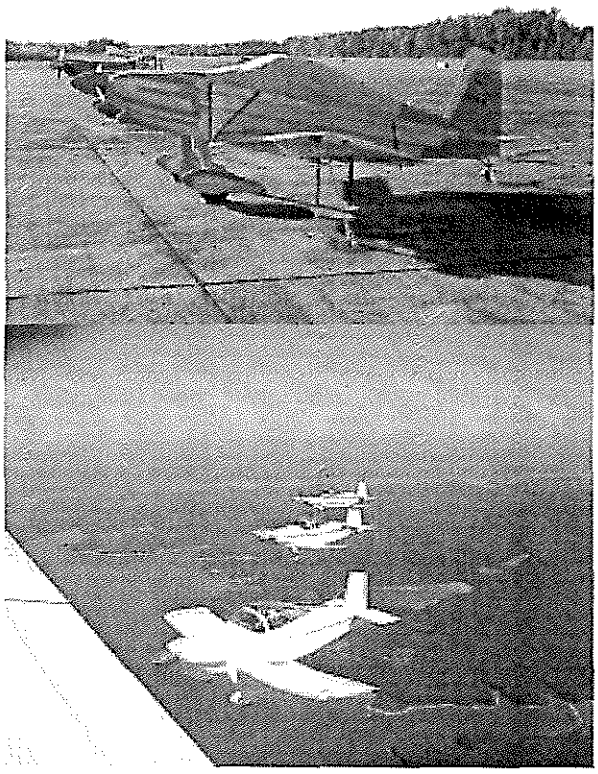
cont pg 10

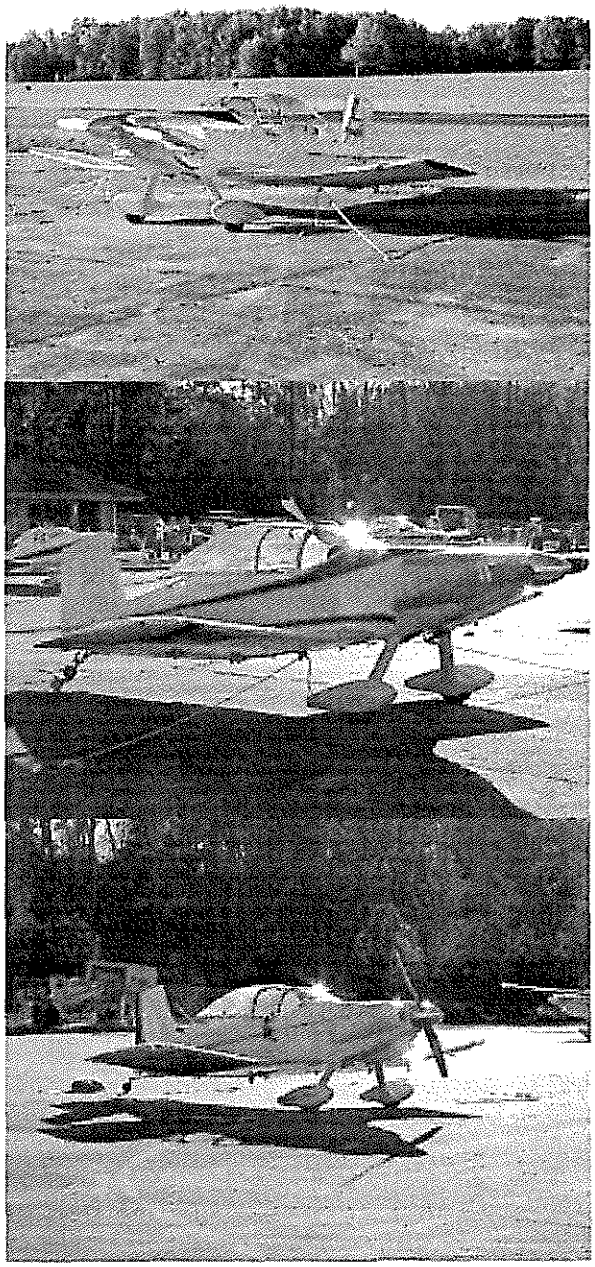
Kentucky Dam ~ 2005 Photos By: David Taylor



Kentucky Dam ~ 2005







Photo's on this page provided by David Taylor, except the formation photo to the left, it was taken by Scott Stine. Sorry if anyone was missed.

This Builder Doesnt Agree, cont.

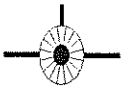
then back drill the hole. Keep repeating this step as you move toward the nose. When you are done you will have a skin that fits snugly and smoothly on the top of the nose ribs. I use bags of lead shot to keep the skin tight against the ribs. Now go to the underside. If you did a good job of forming the wing skin, then it should already fit nicely around the nose of the ribs and to the bottom of the ribs. If not, we'll take care of it. If you did not already drill the lower spar holes, then use straps to snug the skin around the ribs and spar. Make sure the skin is still square to the spar. Backdrill a few holes from the spar to the skin and finish drilling the rest of the holes with the template. Now you are able to cleco the bottom of the wing skin to the spar. Un-cleco the skin from the bottom of the spar, or pull the ribs out of the way. With all the spar holes in place, you can make a nose rib hole template for the underside of the nose ribs and drill the holes in the skin. Cleco everything back together minus the two outer nose ribs. Now you should again be able to see the rivet line through the holes in the skin. If not, gently scoot the rib into place and then backdrill the holes. Again, start at the spar and work your way forward. The reason to do this is to accomodate any tolerance buildup in the holes. If you start at the spar and work your way forward, any "excess" skin will be squeezed into the nose part of the ribs where there are no rivets. This sounds sloppy, but we are talking about less than .010 of an inch and the "air won't care" if the nose curvature is distorted by such a tiny amount. If you start at the nose and work toward the already clecoed spar holes, you could wind up with a slight bulge in the rivet line. Not good. Put the outer ribs in, clamps the skin to the rib flanges and drill them. At this point everything should be cleoed into place with #40 holes in the ribs. If everything is square and looks good, then you are ready to do the same with main ribs. If any of your #40 holes did not want to line up easily, see if all the other holes around it line up OK. If so, then leave that one hole without a cleco and the misalignment can be cleaned

cont.

up when you drill the holes out to #30. The main ribs are a LOT easier since the skin will easily lay flat on the ribs. Again, make a drill template using scrap and drill the holes in the skin first, and then use the skin to backdrill the holes into the ribs. Once this is done, cleco the skin to the main ribs and all that is left is to repeat these steps for the rear spar. Yeah, this means putting things together and taking them apart again a few times, but it is what I had to do to deal with existing holes from a prior builder.

One other tip that came from someone else on the Thorplist: When you fabricate the rear spar for the center wing, do not drill the big hole that attaches to the fitting on the fuselage. Or drill the spar hole and leave the fuselage fitting undrilled. Either way, wait until you have the center wing built and skinned and fit it up to the fueslage using the main spar. Now make sure that everthing lines up and then backdrill the undrilled hole.

Andrew Robinson
Suwanee, GA.



Brake Fairing

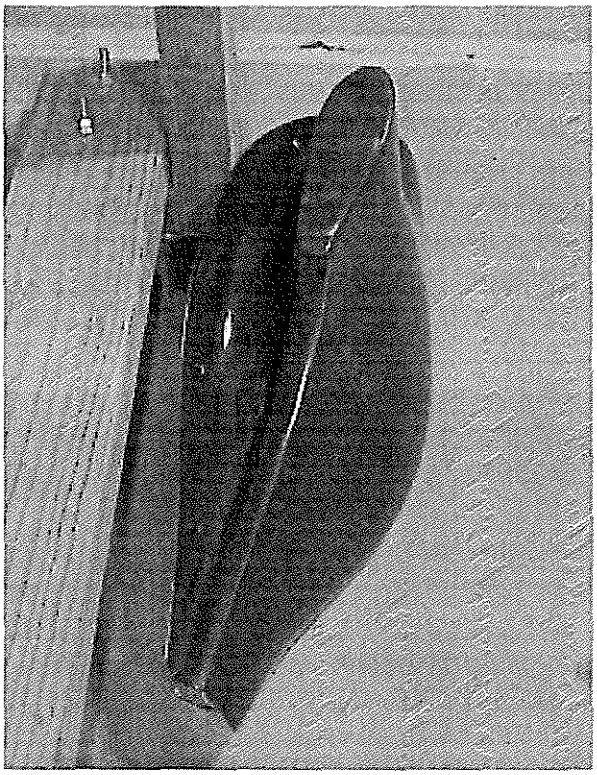
I have never been satisfied with the fit of the faring that covers the brake.

In my recent upgrade to my plane I added Heavy Duty 500/5 Cleveland Wheels and Brakes to replace the "standard" duty 500/5's that were on my plane. Since the calipers and disc are larger, the fairings did not fit. Now, they could have been "worked" and made to fit, but since I was not happy with them I decided to make new ones and make them out of carbon fiber for added strength and life. have attached a picture of the male plug that I have completed to date. The male plugs (one for the left and one for the right) started life as my older fairings. They were cut and expanded to fit my new wheels and brakes

cont. pg 13

Brake Fairing, cont.

By next week, I will have the female mold done and the first part pulled. The fairing will be laid up as one piece within the female mold. Then the cutout for the leg and the split at the rear will be done to match the pant and the leg fairing. That way the fit of the rear split will be very close.
If anyone wants a set of these let me know. Send email to Thunter@autopower.com



Tom Hunter
N18XT

Transporting MO-Gas to Your Thorp

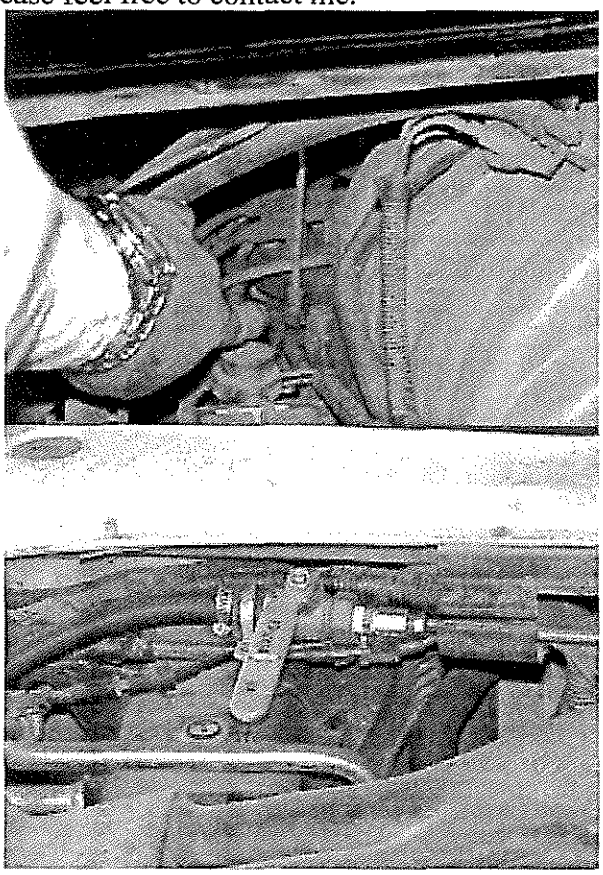
By: Skeet Wyman

The reason I decided to come up with this design was SAFTY. To transport fuel from the gas station to my airplane had to be something that was completly safe as I would be doing it a lot. Well you can not come up with a safer way to move gas than in the tank of a car or truck designed to do so. Now granted this system will not work for all because of either 1) You do a lot of crosscountry flying and 30 (or what ever tank size you have) gal of gas is just not enough, 2) You dont have a gas tank big enough to make it worth while. I however have a 94 E150 van (35 gal). The important part though is its fuel injected. The part we care about is that it has a electric fuel pump to deliver the fuel to the engine. Now most EFI (Electronic Fuel Injection) systems I have ever worked on have a schrader valve (looks just like air tire pressure valve) for diagnosing purposes. Its ussually on the fuel rail (the common line that feeds the fuel injectors) near the intake manifold. I removed my schrader valve and replaced it with a brass fitting that would recieve a 1/8" brake line aprox 3' long. I bent to shape to fit under my hood and exit to the right side terminating on the firewall in front of the pass side of vehicle. (see photo) I then attatched a gate valve on the end (see photo) and a 10 foot rubber (gas tolerant) hose, which simply coils up in that area when not in use. Now on the early EECIV (Electronic Engine Control 4th generation) systems, the diagnosing conector plug has a wire directly conected to the fuel pump (for testing purposes). You simply ground this wire with the ignition turned on and it will run the pump. I hooked a wire to this lead and it gets grounded through a small under the hood switch. Now I know not all cars or trucks will have this same system described here but I also know that they are very similar, and with a little research this can be hooked up to any EFI vehicle. Obviously a truck with a big gas tank is going to be more practicle. But if you use mogas it is a VERY safe way to fill your plane and much easier than dumping 5 gal gas can one at a time into your plane. Plus since this also my work truck, I get my gas on the way home from work or when ever and dont even have to go out of my way. I just pull next to my plane open the hood of my truck, open the aircrafts gas cap, inset the fuel hose into the tank, open the gate valve, turn the trucks ignition switch to on

cont. pg 14

Transporting MO-Gas to Your Thorp, cont.

(not starting the truck of course) and then turn on the fuel pump. The 1/8" brake line fuels the plane slowly say 1/2 gal a minute, so it never gets away from me. Now if someone wanted to fuel faster you could tap into the fuel line BEFORE the fuel rail which has a pressure regulator on it. At 150 psi verses 35psi it would be quick work to fill the tank. I like the slower fill I just plan around it. I have been using this system now for 5 years and have found it not only extremly convient but very safe. For all you boys NOT using mogas I feel sorry for you in more ways than one. BTW this van has 308,000 original miles on it and has been using the cheap Arco low octane fuel (the same thing I fly with) and it still runs on all 8 cylinders and has never had a clogged injector or any other problems for that matter. My Thorp (and my old Corben Jr Ace) both fly at a cooler operating temp. So there you have it you can see in the pics where I tapped in and the gate valve. If anyone wants to pursue this method and hase questions please feel free to contact me.



Neat Idea Skeet!!

Electric Flap Drive

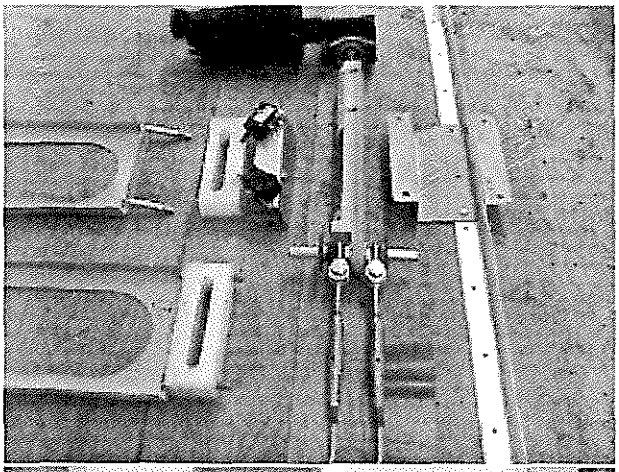
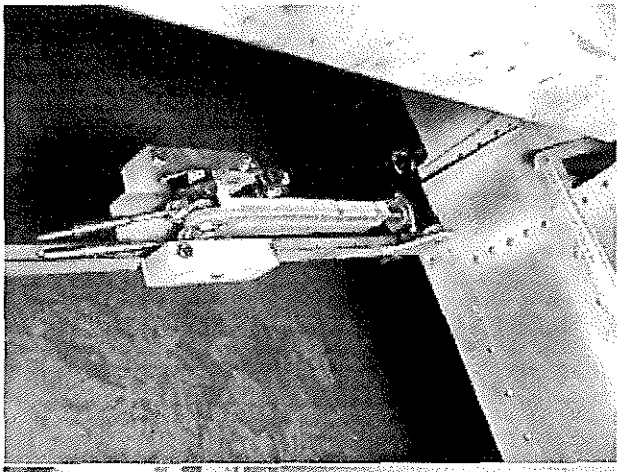
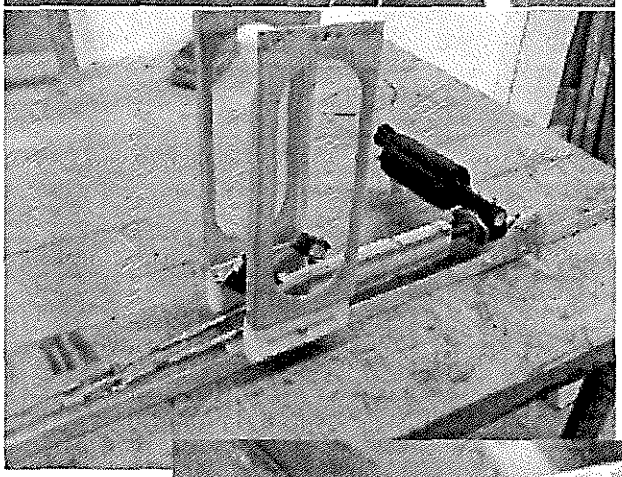
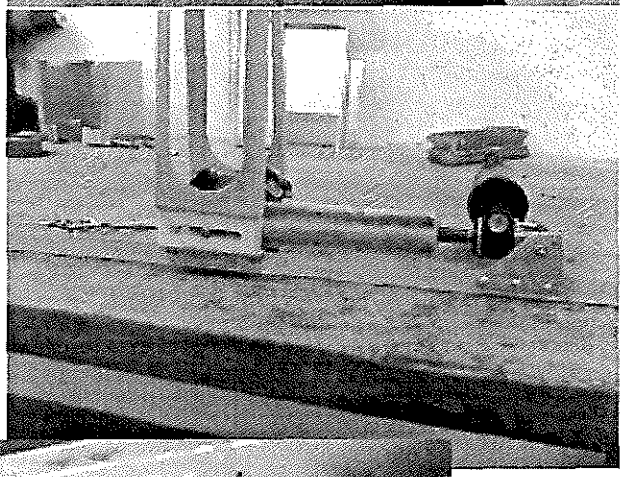
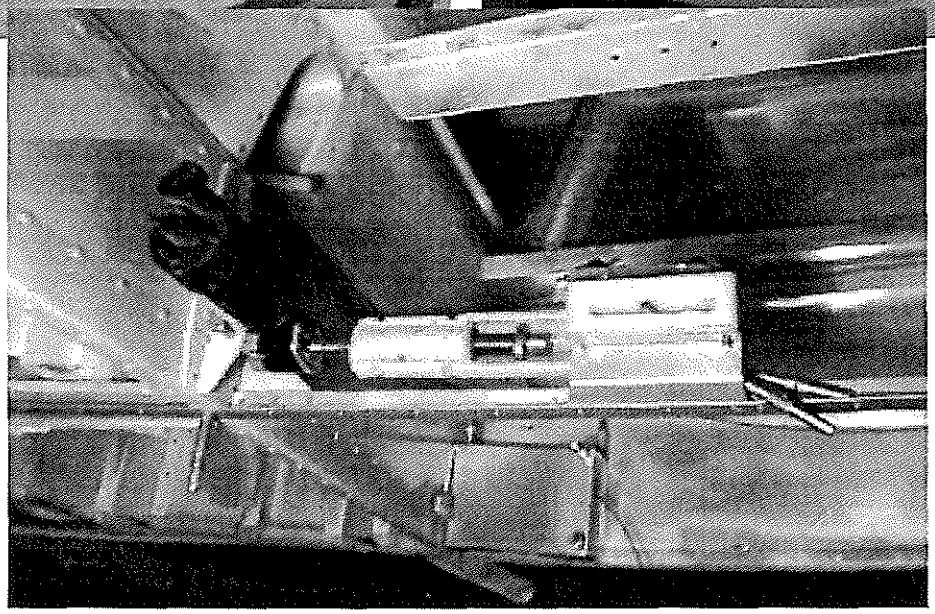
Submitted By: David Read

I am going to operate my flaps with an electric seat motor. I used the motor that tilts the seat back in a 99 Dodge Grand Caravan. Most of the other motors I found in my search had a length of flexible shaft between the motor and jackscrew. That would have complicated the mounting process. The unit for the seat back completes its just under 2" of travel in about 15 seconds. That is enough to get full flap deployment with no additional linkages required. Incidentally the other 2 motors in the seat track assembly are the same; they are just mounted to different types of jackscrews so I have a couple of spares in case of a motor failure. In checking to see if the setup would be powerful enough I hooked it to the ceiling of my shop and lifted 70 pounds without noticeably lugging the motor. I left the outboard pulleys as per the prints, but brought the inboard ones closer together so the cables would pull straight in line with the jackscrew. The motor will mount with a single 5/16 bolt at the front of the floor under the baggage compartment. Using the angle extrusion down the center of the belly skin for a starting point I brought a piece of aluminum up the upright leg and tied it into the 596 bulkhead. On the other side of the motor I used a piece of angle that runs top to bottom of the bulkhead. This provides a sturdy front mount which allows the motor to pivot up and down if necessary. I needed a track of some sort to prevent the screw end from spinning, so I ran a bolt through the hole in the end of the receiver, then cut slots in nylon blocks to receive the ends of the bolts. I made brackets to stand the nylon off of the center belly angle again, and then made brackets off the top to brace off of the baggage compartment floor. I feel this should be enough to hold the nylon blocks steady during operation. To tie the cables to the bolt at the end of the jackscrew I used a clevis around the main bolt, then a small bolt to attach a turnbuckle between the clevis and cable. This allows adjustment to give even flap deployment. Then you

cont. pg 15

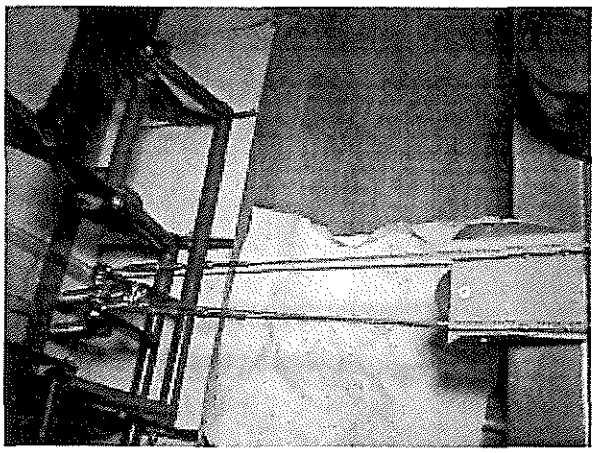
Electric Flap Drive, cont.

simply add limit switches at the end of the desired travel like those used for the electric stabilator trim.As usual I used a slightly different method to seal up the flap torque tube holes in the side skins too. Since it is not structural, to save weight I used termite shield (.010 aluminum) to build a box which encloses the flap tube with only a slot where the cable exits. To further seal the slot I am sandwiching a piece of felt so the cable can't touch metal. I put nut plates in the box and the whole thing mounts with #6 screws. *(Note: See Dave's flap tube hole seal earlier in this issue)*

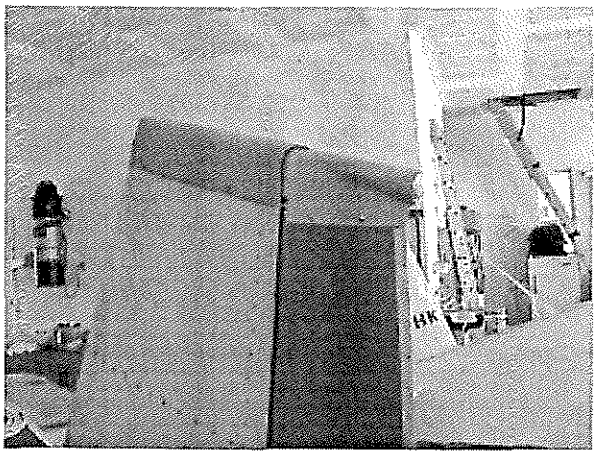






TidBits From Hurant Karibian

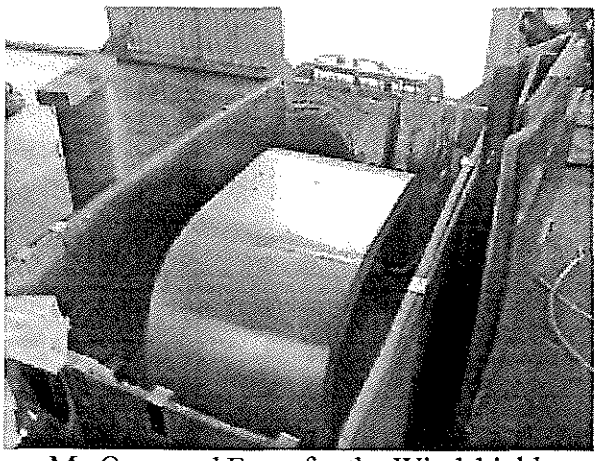
This is the extra cable and pulley I installed so you will still have brakes if the rudder cable breaks.



Note the pulley just in front of the wing spar, and the cable that wraps around it. The cable then attaches to both rudder pedals



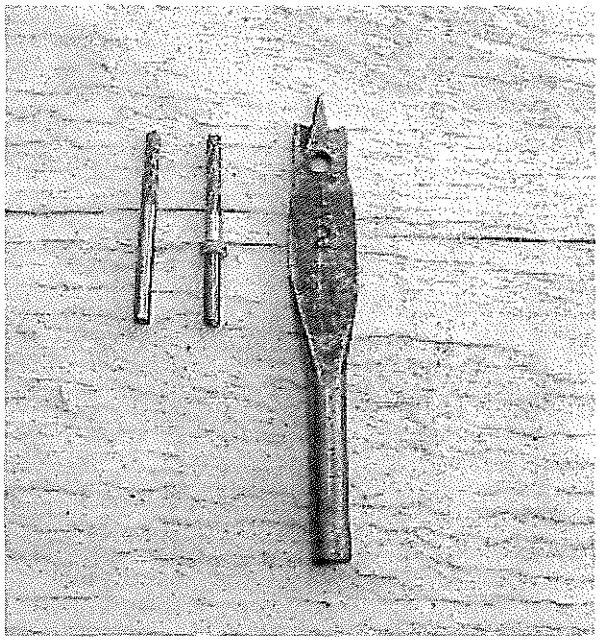
My Fin and Rudder Tips



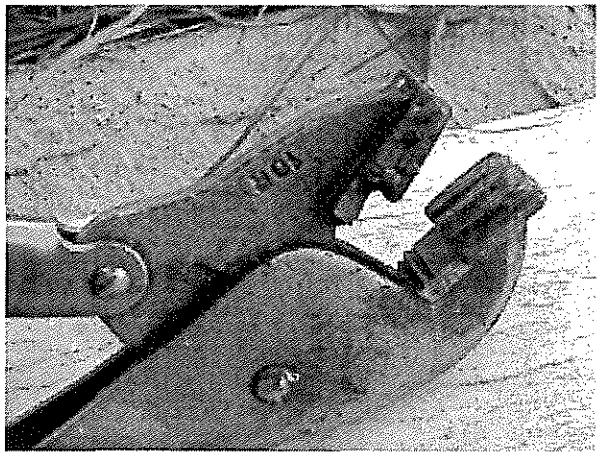
My Oven and Form for the Windshield

TidBits From Hurant Karibian, cont.

I used this negative ground wood bit to drill Plexiglas holes. I have also taped a metal washer to the Plexiglas and used a Dremel with a dentist abrasive bit to make these holes. I always flense the holes with a piece of emery clothe in a slotted bolt shank in a drill.



These homemade ripple crimp pliers do a really neat job of fluting compared to the huge flutes made by the store bought kind.



The Lighter Side

I want to be a pilot

A fifth grader

I want to be a pilot when I grow up because it's fun and easy to do. Pilots don't need much school, they just have to learn numbers so they can read instruments. I guess they should be able to read maps so they can find their way if they get lost. Pilots should be brave so they won't get scared if it's foggy and they can't see or if a wing or motor falls off they should stay calm so they'll know what to do. Pilots have to have good eyes so they can see through clouds and they can't be afraid of lightning or thunder because they are closer to them than we are. The salary pilots make is another thing I like. They make more money than they can spend. This is because most people think airplane flying is dangerous except pilots don't because they know how easy it is. There isn't much I don't like, except girls like pilots and all the stewardesses want to marry them and they always have to chase them away so they won't bother them. I hope I don't get airsick because if I do I couldn't be a pilot and would have to go to work.

Bleeding Brakes

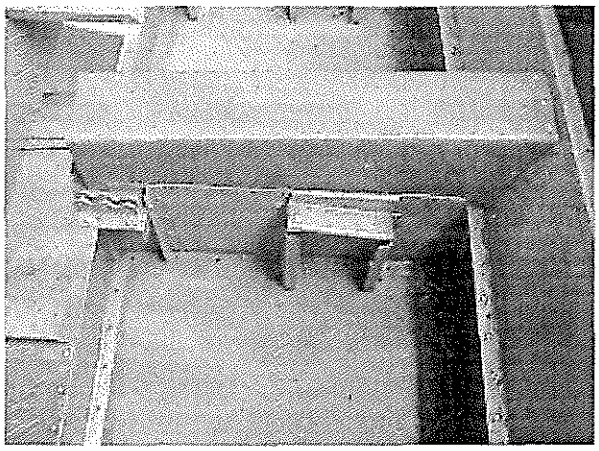
For bleeding brakes with the built in reservoir Isoldered (or epoxy) a tube through a 1/8th plug, extending 1/4" out the bottom, screw it into the reservoir with a plastic tube extending from the topinto a cup or jar, and bleed from the wheel brake up.The 1/4" extension on the plug keeps you from overfilling the reservoir.

Hurant Karibian

Installing The Seat Mount Brackets

Frank Roncelli

I cut the tunnel between the seats to install the seat brackets. This made access for riveting much easier.



Another thought on "Canopy Breakers"

For 23 years I have flown with a military canopy breaker in its holder on the tunnel of my T-18. It is a heavy, blunt knife in a mount secure enough to survive a crash. After it all stops, if the canopy is not operative, the breaker is my alternate exit (it will handle sheet metal as well, ask the Viet Nam Vets). The unit is nice, but fairly heavy and it is a specialized escape tool.In my Pitts, I strap a "Leatherman Charge Titanium" to my parachute harness. It is the heaviest of the Leathermans, and the pointy nosed pliers would have NO difficulty hacking my Plexiglas canopy. The Leatherman also has a couple of wicked blades (easily cut seat belts or parachute risers), screwdrivers, and files. It has already been used for repairs in a pinch and makes a decent survival tool, at much less weight than the traditional canopy breaker. I would recommend securing a Leatherman within reach of the pilot seat.....

Tom Kerns

Spring Fling in Arkansas

We discussed the location for the Spring Fly-in while at Ky Dam and it was decided that the Green's would host it again at their place near Cotter, Arkansas.
The dates will be June 9,10, and 11. We'll gather at "the Valley" airport where we congregated in June of 2004. Other close airports are Baxter County (KBPK) and Flippin (KFLP). The Valley has 2800' of asphalt 22' wide. Don't be spooked by that. Barons, Bonanzas, Saratogas, and Centurions, use it all the time. We even had a T-28 in here last month. It is located along the north bank of the White River. The pattern altitude is 1100' and the pattern is always on the south side (right traffic to rwy 10 and left traffic to rwy 28). There is a bluff on the north side of the valley that makes left traffic to rwy 10 challenging. The preferred arrival pattern is to enter from the north at 1100' and overfly the center of the runway. Observe the windsocks and flags to see which runway is favored. Turn to a left downwind to land to the west or right downwind to land to the east. Use caution for traffic in the pattern at Flippin which is 2 miles south of the Valley. Flippin's pattern is 1900' so you should be below them, but folks on a wide (bomber pattern) left base to rwy 22 at Flippin are close to the downwind path at the Valley.

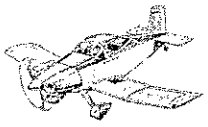
We'll figure out later what the Friday nite agenda will be. Saturday nite we'll have the BBQ brisket feed at Green's hangar like we did last time. I made arrangements with the same motel we used before to set aside 15 rooms. They have 4 "mini-suites" with two king beds, refrig, microwave, etc for $59/nite for one person and $67/nite for two. Their other rooms with 2 twin beds are $49/nite for singles and $57/nite for two. All are non-smoking. They want 48 hrs cancellation notice as before, but may work with you if the weather turns sour and prevents your arriving. If enough folks make early reservations and it looks like the Brass Door will run out of rooms, I'll work out something with other motels in Mountain Home. But I think you'll find the Brass Door the most convenient.

Early June is a busy time for them and they book up early, so it is in your best interest to make your reservations now if you think you have any chance of attending this fly-in.
Call the Brass Door Motel at 870-435-2988 and mention you are with the "Green party fly-in".
You'll probably be talking to Mary Nell.

Gary & Maxine Green
870-430-5428

T-18 Mutual Aid Society Annual Dues Notice

Check your mailing label on the back page of this issue.
Your membership expiration date will be on the top line.
If it says "Membership Expires Dec 2005"
You need to send your renewal !!!



Please send your T-18 MAS dues to:
Roy Farris ~1220 Steller Drive ~ Franklin, IN 46131

Or pay by credit card on the T-18 Website at: http://www.t18.net/newsletterinfo.htm

Support the T-18 Mutual Aid Society -- Send Your Dues Today

For Sale

Ken Brock Manufacturing

Marie Brock called me and said that the entire Ken Brock Manufacturing business is for sale. All parts, supplies and tooling included.
Call Marie at:(714)898-4366 or (714)827-0956

New Bernie Warnke Wood prop I believe. This prop is a 68X74, 229square inch beauty that is drilled for a O360 lycoming. I own an 0320 and the prop is just too much for my engine. I need to sell it or trade it for a wood prop and extension for my Thorp. I'll include the new extension that fits the prop as well as new prop bolts and crush plate. I'm looking for $1000.00 dollars before I put it on E-Bay if any one is interested. Clark at Performance Propellers in AZ checked it out and tells me it is well balanced and well made. (Clark is at 520-394-2059) Call me or drop me an E-mail.

Randy White in Colorado at 719-275-1169
pr_white@prodigy.net

Seat frames, if he still has anymore.
Paul Krough. 262-534-6916

New Rattray cowl that I am willing to part with. I think I also have their address in my hangar file. If you want it email me direct at
hkaribian@yahoo.com.

Having converted my T-18 to tricycle gear, I have the convential gear for sale. I am unaware of the value, Make an offer. It was originally built in two pieces, but has been welded together at the top. It ia 3" longer than standard. I also have the tailwheel spring with tailwheel. If interested I can send pictures.

Bill Beswick 54WB

For Sale

T-18 project, 95% complete, .025 skins, very light (should come in below 800lbs), all ADs c/w, O-290 with around 500hrs (came off an acrosport), almost everything is there, needs final assembly and prop, everything is already signed-off by the FSDO. All plans, newsletters, etc. I have $12,600 in receipts, would sell for around $11,000, or consider a trade of some kind (up or down, what've ya got??) Located in Jackson, CA, by Sacramento.

Adam
209-304-1740

Canopy Covers

The canopy covers are $125 each. You can reach me at 605 940 9420 or edludtke@sio.midco.net.

Ed Ludtke

Thorp Logo

I have new logo transfers for the Thorp T-18. I have attached the instruction sheet .doc file. The transfer no longer has the clear oval background and looks like it is painted on. I am asking $15 each the same as before.

Richard Eklund
Eklund Engineering, Inc. www.thorpt18.com

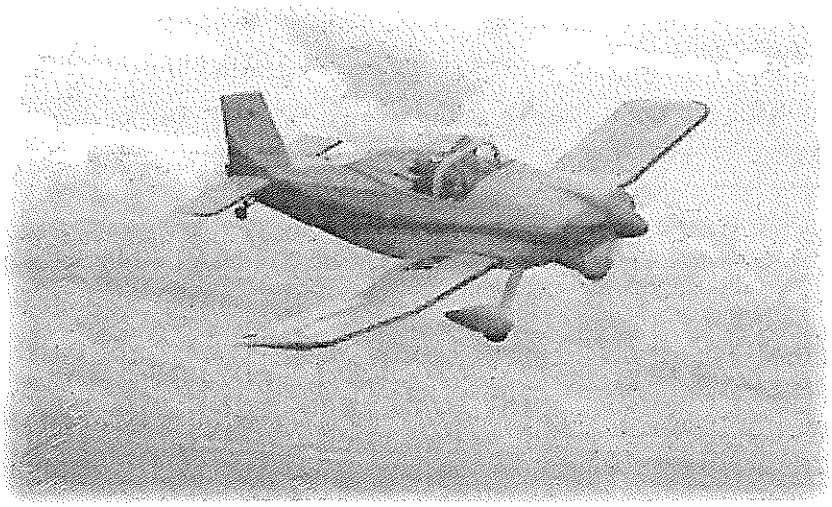
Wanted

I want to buy a T18 preferably with an O-320 or O-360. If anyone knows of one that may be for sale or one that someone would consider selling, **please email me directly** at ruecat@comcast.net. I do check Barnstormers and Trade-A-Plane but haven't yet found "the one" for me.

Thanks,
Roy Palmer
(H) 206-236-0520 (C) 206-920-1958

T-18/S-18 Thorp Newsletter **December 2005**

Roy Farris
1220 Stellar Drive
Franklin, IN. 46131
Phone: (317)736-8903
email: royfarris@earthlink.net



David Prince ~ N55RC over the Florida Everglades