

FLASH!....BEN CUPP, Rt. 1, Box 300, Yellville, Ark. 72687 (501/436-5618) just flew his Javelin Ford V-6 powered T-18, the first t-18 with this power plant to fly! At this writing he had made about five flights, all just around the pattern at the Boone Co. airport at Harrison, AR. He has a Warnke 68 x 74'almost' constant speed (fixed pitch) wood prop on it and he has already found that this is not the optimum prop for it and will try another soon, he thinks. It's much too early to get any meaningful numbers yet, but he said he had hit 160 mph in the pattern pretty quickly. He also said his Empty Weight was 960 lbs. and that's pretty impressive in itself, too. He also told me he was doing high speed runs with it on the ground and after several of these he found himself airborne and with not enough room to stop on the runway with the new brakes, so it was go fly time. He came right around and landed, as he thought the temp was on the hot side. Ben made his own cowling (of fiberglas) and his air intake is under the prop, sorta like an old Navion probably. After he called Dave Blanton and talked over the situation with him he found he needed to open up the exit air side of the cowl quite a bit.

Ben has his radiator lying flat on the "floor" of the cowl, just forward of the firewall and it's 19" x 26" in size (don't know how thick or how many tubes it has, etc.) and it's a copper radiator. His first flight gave him a 240° F water temp, with 22-24 psi system pressure. The last time I talked to him he had opened up the bottom cowl opening and had brought the temp down about 10° or 15°. He says the torque seems to be pretty high, as he couldn't keep from sliding the tires at 2300 prop rpm, but felt that maybe his brakes were just too new yet.

Ben is a retired Air Force maintenance specialist and other than that, I don't have any other pertinent information at this time. I hope to be able to fly up to Harrison this coming week in a borrowed 172 with Bobby Collard a local T-18 builder. If this pans out I can possibly get some pictures and more details in time to get them in this issue of the NL.

One of the question marks on installing the V-6 in the T-18 has been the design of a suitable engine mount. Most everyone has been scratching their heads to figure out how to tie into the top hole in the fitting at the very top of the landing gear and that WAS a problem. Now we have two solutions to the problem. The way Ben did it was to lay a 1/2" thick piece of aluminum bar stock on top of the water line 42 extrusion from the firewall back to the dash frame, and protruding thru the firewall by about an inch or so (long enough to attach a tube there that would run diagonally down to the front end of the large horizontal tube of the bed-type mount). On top of the bar stock he laid another piece of aluminum angle, with one leg of the angle in contact with the side skin. Vertical rivets were then installed to tie the two angles and the bar stock and the skin together. The top angle was also riveted to the skin. (I don't know the width of the bar stock, but assume it was the same width of the WL 42 extrusion, 3/4". I also assume the top angle was the same 3/4" width. More on this later). Ben did all this while the ~~over~~ top of the tank ~~I left out the word "skin")~~ was still un-riveted.

Our other T-18 builder who is installing the V-6 made his decision after the skin over the tank had been riveted and he did it a little differently. He laid a piece of heavy wall 4130 steel tubing (square) on top of the W.L. 42 extrusion, going back about the same distance as Ben did. He used blind rivets to attach the skin and tubing and also used them to rivet the tube to the WL 42 angle from the bottom.

This builder is JOHN POPEJOY, P.O. box 1, Univ. of Neb. at Omaha, Omaha Ne 68182

BEN CUPP FLIES!

THE JAVELIN V-6 FLIES!  
V-6 ENGINE MOUNT

(cont'd)

We have included a picture of John's work in this issue.

In a note from John he said that he wouldn't have his T-18 at OSH, as he had had a delay in getting delivery on his engine unit from Javelin and he still had to rivet up his wings and do some other things. We'll be looking forward to seeing his bird at our next re-union (or even maybe at Kerrville '88, if every thing works out okay in the meantime).

John Pope-Job

I counted 13 rivets in the picture John sent. He is using some brand of a "pop" rivet, which isn't specified. Perhaps plain monel pops would be okay there in the long run, but I personally would be more comfortable with using Cherry-Lok rivets in that application, primarily because of the vibration fed into the tube and the tensile load on landing. Maybe I'm too conservative about these things, tho'. In any case if rivets work loose they'll be where they can be seen.....Anyway, both Ben and John are to be congratulated for being pathfinders.

MORE ON LIQUID COOLED ENGINES

Ben said his battery was in the baggage compartment. He had to do his weight and balance one wheel at a time, but he used a platform scale. His first weighing only gave him a tail wheel weight of 15 lbs., so he added 31 lbs. to the tail, so his true empty weight may or not be 960 lbs. In any case the empty wt. looks GOOD and he can eliminate part or maybe all of that 31 lbs. by moving his battery back one bay. He could also gain a little more by using one of the aluminum radiators that Dave can get. They only weigh 12 lbs., quite a bit lighter than the copper ones, and are more efficient in cooling.

Amigos, the door is finally open for much lower cost power for our airplanes and the threshold has certainly been crossed. In the near future the V-6 engine will be an aluminum engine, saving even more pounds. At long last automotive technology will break the grip that greedy corporations that control Lycoming and Continental have had on aviation for so many years. We're going to see it in all size engines, large and small, too. Dave says the new 351 cu. in Ford engine will be worth about 400 hp in an airplane. There are several engines in lower hp ranges that are available right NOW, one of which is the Subaru and soon we'll be seeing airplanes designed specifically around automotive liquid cooled engines.

I was talking to Jack Cox about Ben's T-18 a day or so ago and in our discussion on the V-6 engine he told me of an RV-4 at the Merced fly-in that he had seen a week or so before and he watched it fly. The builder had shown him how he had built a small false bottom (plenum chamber) below the belly, about under the pilot's area. He had mounted two SMALL radiators in the area in the form of a VEE and the radiators were somewhere around 2" thick, 4" wide, and maybe 20-24" long and he said it cools very well.

Such a set-up could be used on the T-18, with very little drag penalty if done right. The T-18 could also easily mount its radiator in the bay just aft of the cockpit, using a flush NASA scoop on the belly for inlet air and an exit air door on top of the fuselage, that would be controllable to regulate flow. It could also incorporate a fan for extended ground operation....or it could help in scavenging cockpit air, too. Liquid lines could run under the belly and be enclosed in U shaped metal channels of perhaps .016, thus isolating the cockpit from hot water or steam in case of a leak. Radiators could also be mounted in the gills of a regular T-18 cowl, it would seem. For those of you in northern climes, you can have a hot water heater and windshield defroster for those nippy mornings, too.

New Look Cowl

JOHN POPEJOY said in his note that he wanted to make his cowling look a lot like the P-51's, with a minimum size ring shaped opening around the prop. Dan Dudash, of North Hollywood, CA, built a Tailwind long years ago that had such an opening around the prop hub. John Thorp had designed an augmentor-type cooling for it that used exhaust gases to pump cooling air in around the jugs. It cooled fine, but was noisy, as all augmentor tubes are, and it was a pain to remove all that to change plugs. Experience has shown that all engines seem to need airflow around the oil pan, whether liquid cooled or not, so no doubt the V-6 won't be any different. The V-6 uses a combination oil filter/heat exchanger that is very efficient and eliminates the need for a separate oil radiator. This will save some weight as well as money, since it's a standard Ford item. It will also do away with potential oil leaks from a cooler & its piping.

Metal Cowl

It's not quite clear yet what the average cowl will look like on a T-18 with the V-6 engine. Jack Cox said the cowl on the RV-4 looked somewhat like a Ranger-powered PT-19 or Fairchild 24. This may well mean that the builder can build all or most of it of metal himself, possibly only needing a fiberglass nose cowl. Look for the RV-4 picture in Sport Aviation soon. Take note, also of the picture of the metal cowl that Paul Shifflett is building over a laminated wood male mold. He brought the mold and cowl to our Arrowhead re-union and it looks VERY GOOD. He MAY have to use a small amount of fiberglass to go in the compound curve areas, but my guess is he will make it all-metal. We covered it on the video we took, incidentally. If a simple, good looking metal cowl emerges, this will be another area that can save the new builder a few bucks. I well know that there are still a lot of builders out there that have to cut costs to the bone to get their airplane built without busting the family budget.

LORD MOUNTS

Aircraft Lord mounts are another big expense item that deserves attention. Local builder, Bob Yeakey says there are new automotive engine mounts available on several foreign cars that have viscous liquid centers and are a marvel in super smoothness and he is optimistic that we can use them on the V-6...so if this pans out we can do away with a lot of the vibration we now put up with from 4 cyl. opposed aircraft engines and save \$,too.

EXHAUST SYSTEM

I think we may well come up with exhaust system with effective mufflers with such engines, too. Again, excessive noise is something we now put up with, but it doesn't have to be that way. We wouldn't put up with it in our cars, so why should we in our airplanes? Why should we have to wear those big and uncomfortable head sets to hear our radio and converse with each other without screaming? You probably know that in Europe each airplane has to meet a certain decibel test to fly. This could be a very fruitful field for the amateur experimenter. It's probably in the cards for U.S. aircraft in the not too distant future, too, so you might give it some serious thought.

C/S PROPS

We are finally on the verge, too, of having light, relatively cheap constant speed props available. They will be controlled by solid state electronics and have wood and plastic blades. If noise gets to be a big factor you'll be seeing four blade props on a lot of airplanes using two blade props now. More blades are less efficient, true, but they are also quieter. The props we are now using on T-18s are FAIRLY efficient...for one condition only, but a constant speed prop doesn't have to give up performance in one area to get it in another. All in all, it's safer, reduces operating costs for fuel used, and allows us to operate out of smaller fields with safety. The Prescott Pusher people have such a prop. Another is from New Zealand and is being marketed in the U.S. by Aero Trading Ltd., Box 336 Colchester, IL, 62326. (It'll be at OSH '88 on a RANS S-10).

18 T-18s  
ARROWHEAD LODGE  
AFTER DINNER SPEAKERS

ARROWHEAD REPORT:.....IT WAS GREAT! We had a ball! We had 18 beautiful T-18s there, and I do mean beautiful. There were five of them there from Texas, three from Oklahoma, three from Illinois, two from Ohio, one from Michigan, one from Missouri, one from South Dakota, one from Colorado, two from Arizona. We also had an RV-4 and a Sonerai II drop in on us, in addition to Dave Blanton's Javelin powered Cessna 175

Dean Cochran, from Broomfield, Co. came down with the flu at the last minute and Karl and Mazie Lipscomb had a last minute problem that forced them to cancel. We also had expected Lee Reilly from Wagoner, Ok, just a few miles away to be there and Jim Laney from Springfield, Mo, too, but they didn't make it for whatever reason. Also, Gary Cotner, from Tulsa would have been there in his new bird, but it only had 1.5 hours on it, but he'll be there with bells on the next time.

Our weather was beautiful. The temperature was in the '80s, and the wind was usually 10 to 15 mph pretty much right down the runway. Our parking area was at the north end of the runway and accomodated all 18 airplanes okay. The lodge itself was a couple of miles away, on the edge of Lake Eufala, which is one of the largest artificial lakes in the country, I'm told. The airport itself is nearly 500' above the lodge, as it sits on a flat shelf on the side of a hill and has a golf course alongside the runway. The golf course has a beautiful modernistic clubhouse about halfway down to the Lodge. Numerous large duplex type cabins are scattered about a one square mile area near the lodge. Everything is a little too far to walk to, so they have buses or vans that pick one up promptly. The lodge is built of native stone, as are the cottages. It has several large dining areas, indoors and out, plus a large lobby. There was another convention there when we were, the Binks paint gun dealers. The lodge has a considerable number of guest rooms on two levels, all very nicely furnished. There are also camping areas nearby.

We had our big family reunion dinner in one of the larger dining rooms. It was served buffet style and the food was excellent. Waitresses served sald, bread and butter, dessert, and coffee. Other meals there were also excellent, everyone said. The lodge itself is leased to the Choctaw Indian Nation, one of the five big Indian Nations in Okla.

Gary Green led off our after dinner speaking, paying tribute to Mary and Leroy Holt, who did the lion's share of organizing the reunion, and also to Maxine Green. The Holts went in the hole about \$70 on postage for mailing of the reunion notices, but we passed the hat and made that up. We also heard from Harlo (Skinny) McKinty, Gary Cotner, Bob Sanderson, who brought a clever cardboard mockup of his tilt-down instrument panel for our perusal, and Bill Warwick and I shared a few anecdotes and memories of the early days of the T-18. Everyone in the room was introduced and stood up and said a few words about their airplane or project and it was all thoroughly enjoyed by all present.

At the dinner we concocted the idea of an early morning giant rat race formation around the traffic pattern, that would have all 18 T-18s in trail formation. We actually should have thought of that one for Saturday afternoon, as it didn't work out for Sunday morning, as some of the group that had a long way to go (like AZ & CO, etc) wanted to get an early start before afternoon thunderstorms popped up in the mountains. Maybe we can do that ring-around-the-rosie routine at OSH this year. We will do it for sure at our next reunion, you can bet.

METAL COWLING

PAUL SHIFFLETT brought the laminated wood mold for his new metal cowling down in the back of his van, with an almost complete metal cowl on it. Paul has been the star of our last three re-unions, with the T-18 components he has brought in to each. We also covered this unit on our video. This reunion we had three of us shooting video, John Crook, Jim Hidalgo, and myself and we are again putting it all together for those of you that were not able to be there. They will be available after OSH for cost only. We will ldt you know after OSH. One nice thing about home video is that it's available immediately for viewing. After the Saturday nite dinner a bunch of us went up to Jim Hidalgo's room to look at the tape Jim had taken that afternoon. John Crook covered the dinner, but the sound wasn't quite as good as it might have been....but we're learning. One of the big problems I have when shooting outdoors is considerable wind noise that beats on the mike. The mike has a foam shield around it, but that's not adequate to keep out wind noise. Maybe some of you know the answer?

TAPES

Speaking of tapes, John Crook recently made a tape of the entire operation when he and John Russell painted the outer wing panel of Vern Peppard's T-18 and it's an excellent step-by-step procedure and is accompanied with thorough explanations of each step. If you are contemplating painting your own bird soon this would be a good tape for you. It runs the full length of the tape, too. If you want one, send John a check for \$8.50 to cover the costs and send it to John c/o my address. \*

THOSE ATTENDING ARROWHEAD

We were so pleased that Bill and Millie Warwick were able to make the party and were also pleased to see Bill's new paint job, which is light silver gray, with darker gray highlights. He doesn't have the new tiger painted on the side yet, but expects to by OSH. He now has over 2100 hrs on the ol' Tiger and it has been nearly free of any maintenance items. They are now retired in Aguila, AZ, but spend the hot months in Idaho, where Bill is the curator of the Henly aerodrome collection.

Steve Hawley and his wife were again there from Tucson, AZ. Steve has also shed about 25-30 lbs. We again interviewed him on our video, so we won't go into great detail on his bird here, except to say it still is really an outstanding jewel of an airplane, cosmetically and mechanically.

This was the first T-18 reunion for Walt and Bev Giffin, now living in Pueblo, where Walt is department head of a college. Walt's T-18 is a 100% stock T-18. He replaced the original 135 hp engine with the present 160 one and the airplane still looks like new after several hundred hours on it.

Another first timer this year was Paul Kirik's beautiful bird from Moline IL, where Paul is Maintenance supervisor for John Deere's fleet of jets. Paul will also be flying copilot on one of their jets this fall. His son, Steve, is a Lt. in the AF at Vance AFB, learning to fly T-38s. Steve took his instrument rating in dad's T-18 before he went in the AF. Paul just arranged for me to go along on a test flight of a co. G-2 and the Capt. very graciously took pity on me and let me fly it awhile to kill the worms in me. I haven't come down yet! Thanks again, Paul. Paul will also be one of the moderators at our T-18 forum at OSH this year.

Also from Illinois way was Ken Rhoads. Ken Has one of the DOERR cowls on his bird and has yet to paint it. The cowl design was attributed to Peter Garrison, but a reliable source told me that John Thorp actually did the numbers on it. Ken says it cools very well. Ken also has gear extensions on his bird, but he cautions that they should be heat treated!

\* WE NOW HAVE ARROWHEAD & TEXHOMA I-II TAPES FOR \$850 ppd.

BILL COX, of Baytown, Tx, was another of those coming for the first time. This is Bill's second T-18 and it has a very attractive paint job on it, basically yellow, with red striping. Bill has a Lyc. 0-360 engine in it that's been de-rated to 165 hp, and he also has a c/s prop on it. Bill has made several Kerrville fly-ins in past years with his bird.

Another first timer was Jerry Turner, from Marion, IL, and his bird is also a S-18 and still fairly new. He hadn't had a chance to get his upholstery in yet, but this gave the troops a chance to discuss insulation with him. He also had a very nice multi-colored paint scheme.

My old airplane is now owned by Jim Hidalgo, of Wimberly, TX, and it missed our earlier Texhoma re-unions as Jim was getting checked out on the bird. Jim French was riding shotgun with Hidalgo on this trip, as his T-18 was all apart at his home in Wimberly, getting a new paint job and new interior. He also has added gear extensions in the process.

A regular fixture at all three of our re-unions has been Dave and Pat Eby's beautiful bird from Wichita Falls, TX. Dave likes to fly right handed on the stick, so set his cockpit up to fly from the right seat. This often gets them double takes as they taxi in someplace new with Pat in the left seat. Dave's airplane will soon be joined with an identically painted one that's now ready to fly by Dave's hangar mate, John Mihaila. John Kleber was the first to paint his T-18 this way and he sold that airplane to Doug Frantz, of OKC. His new airplane is also painted that way, so you might well see three or four T-18s at OSH with the same paint scheme.

Another of our reunion regulars is Dick Amsden, of Mt. Clements, MI and he, too, has an outstanding paint scheme. He now has around 400 hours on it and it still looks like new.

From Dayton, OH, way again came Jim Paine, another of our regulars and his immaculate T-18. Jim also has an outstanding yellow and brown paint scheme of his own design. His neighbor, from Tipp City, OH, Cliff Redden, came down with Jim in formation in his relatively new T-18. It was also an outstandingly finished airplane of basic white and deep blue trim.

Still another there for the first time was Ed Luedke and wife, from Sioux Falls, SD. They, too, were justly proud of their finely crafted T-18. Their paint scheme was basic white and multi-color striping, most excellently done.

Randle Woolaway, our 77 yr. old elder statesman, and his son were again on deck with his blue and white T-18 that he flies from his own airport, Timberline Airpark, in Cassville, MO, and his airplane also still looks like new.

Leroy and Mary Holt didn't have too far to come, only about 20 miles from McAlester, OK, where they base their bird. Their son, Gary Holt, was the last to arrive from his home in Tulsa and he had to do some last minute buttoning up of the cowl and baffles, where he was doing some major modifying. As usual, he and Leroy's airplane spent more time in the air than they did on the ground. Leroy again let me fly his bird and I really like the way it flies.

Gary Green had to go all the way up to Enid, OK, to get his T-18, as he had to go off and leave it there when he got out of the AF and signed on with Delta a few days later.

ATTENDEES AT ARROWHEAD (COAST)

*JOHN CROOK*  
 Last on our list of the 18 T-18s at the re-union was Vern Peppard's bird from Dallas, flown in by John Crook. John has been flying Vern's airplane almost continuously since the new wing and painting was completed and he and John Russell got kudos from those present for their paint efforts and perfect match of colors.

*VERN PEPPARD*  
 Unknown to us at the time, Vern was in surgery for a quadruple by-pass at the time we were all in Arrowhead. It came about quite suddenly as he was taking his daily walk and started to have chest pains. He was savvy enough about these things to get to the doctor pronto and in a matter of an hour was on the operating table. It was a success and he is now recuperating in good shape, altho' as expected his energy level is still quite low. We all wish him a speedy recovery. A lot of the success of the newsletter is due to his generosity in doing the printing and collating in his plant. His plant is a 55,000 sq.ft. facility that turns out geology maps for the oil industry world wide. They do our work for a very nominal fee that covers just the cost of materials, so we are very indebted to him. I seriously doubt if I could singlehandedly write, publish, collate, fold, address, stamp, and mail the NL like I once did. My good wife has taken a lot off my back by taking care of the NL member list, dues, etc.

*JOHN WALTON*  
SOME MORE GOOD NEWS:....JOHN WALTON is back in Houston after a several month ordeal in the hospital in Boston and is showing every indication that the treatment was a success. He is gaining strength by the day, but he has to admit he won't be up to the OSH trip this year, but don't count him out for the Kerrville bash in Sept. just yet and this is the best news of the year for all of us.

*HARLO MCKINTY*  
HARLO MCKINTY FLIES!....After ten long years Harlo's T-18 got daylight under its wheels the first of July. Gary Green was planning to come up to Lincoln and test fly it for Harlo on the 1st, but being a brand new pilot for Delta all but wipes out days off options for new hires. Steve....., who was doing the annual on Harlo's airplane offered to fly it and he did a fine job, Harlo said. It behaved like a winner in every respect and now has several hours on it with no problems. Harlo will soon do a complete report on it for a future NL. No, he won't have it at OSH, as he will have a Temperfoam booth again and he can't bring the airplane and booth stock, too. It hasn't been painted yet either, so we'll be looking for it later this year. Congrats, Harlo, from all of us. Just one negative note, tho, Harlo. Do you realize that you've gone and worked yourself completely out of your hobby? Now what?

*HARLO MCKINTY*  
Plans of MICE AND MEN DEPT: We've all said that the most dangerous part of this flying business was the drive to and from the airport, right? Well, take it from me...BELIEVE IT! Jim French had just flown his newly re-painted and refurbished T-18 a few days before June 29, so decided to make a cross country up to MO from his Wimberly, TX, home, making a stop at McKinney (TX) to let me see it and fly it. As I was driving merrily along to meet him and going along a brand new 2 lane street in the outskirts of Plano I started up a small hill and to my horror saw TWO cars abreast coming at me at considerable speed. I had about two seconds to deal with it and I started to take to the ditch on the right, but just as I started to turn this hot dog turned right in front of me. I caught the last few feet of his truck that stopped me in less than two feet and spun him around out into the field. I pulled an estimated 35 Gs against my belt, but it held and I didn't break any bones or get cut, but I got a massive bruise inside my chest. I have spent a week of agony with the worst pain I've ever had and have been living on pain pills and shots, but am finally some better.

Because my accident has cost me about ten or twelve days that I couldn't work on the NL and time is getting VERY short until OSH time, I am having to cut the NL shorter than usual, but I will save the material I have on hand until later in the year.

As we said in the last NL our post-OSH issue will be a big 'un, as it will be our 25th anniversary issue. We will be doing a personal profile on each and every T-18 owner that is present at OSH this year. We are going to have some cream puff T-18s there, yes, but what we really want to accomplish in this, our 25th Silver Anniversary year is to have as many T-18s there as possible.....NO MATTER WHAT THEY LOOK LIKE! If your T-18 is in need of new paint or upholstery, what the heck? Bring it anyway! Almost every one of you at one time or another have said you would like to convey your appreciation to JOHN THORP for designing the best airplane in the homebuilder's world.....well, now is your chance to put your T-18 where your mouth is. It would be a tremendous tribute to John to have 50 T-18s at OSH in '88, so please you guys...ELIMINATE THE NEGATIVE AND ACCENT THE POSITIVE...John can't be there, because of his health problem, but his personal T-18 will be there, as he has given permission for Marc Bourget to bring it there. There will be T-18s from California, Washington, Oregon, Florida, Texas, Louisiana, Illinois, Missouri, Arkansas, Colorado, Arizona, Ohio, Connecticut, Massachusetts, Michigan, Iowa, Minnesota, Nebraska, Georgia, Colorado, Tennessee, Virginia, Oklahoma, South Dakota, North Dakota, North Carolina, Kentucky, Pennsylvania, New York, New Jersey, and also from Canada. There is a 50-50 chance that Ben Cupp will be there with his Javelin T-18 if he can get his test time flown off by then. Anyway guys, you get the idea....I hope. This is an event that will go down in sport aviation history, but only if each one of you T-18 owners do your part and don't pull back into a shell. ....Let's lay it on the line. When you decided to build an airplane you joined EAA and asked for all the help you could get and MANY people generously GAVE of themselves, helping YOU in many ways, either directly or indirectly. You well know that you would never have made it without their help, you would never have made that dream real ALL BY YOURSELF....none of us could....so now it's time to square your account! The T-18 group is a brotherhood actually...and a special one at that. We were the first to organize and publish a newsletter and we have left a trail of a lot of other firsts since then. It would be a disgrace if only a handful of T-18s showed up at OSH. The T-18 has so much to be proud of, so let's not put a smear on that record, whether you built your bird or bought it. If you are one of those that has to sell your bird for some important reason, don't forget that you'll never have a better chance to sell it at a good price. If you are not sure of housing when you get there, don't let that stop you. We've got a committee working on that, too, and if nothing else, throw a sleeping bag in the bird and we'll find you someplace to bed down.

APPEAL FOR OSH T-18s TO BE THERE

We need some volunteers to do photography, get EACH new arrival registered with US immediately, check on housing, transportation, and a half dozen other details, so please check in with our T-18 desk on the field. We need someone to bring a folding table and chair or two in, like in past years. If everyone will take on a little job it will be no burden on anyone and we'll all enjoy it and take home a great memory. Bring your camera or camcorder and we'll have NL #71 that will be a treasure... and we'll have some TV tapes of it ,too.

What else can I say, amigos? All I have been trying to do is talk to you about having one of the greatest times of your life, maybe reminding you that like everything worthwhile, you get out of it what you put in.!!!..

- So DON'T BE AN OLD STICK IN THE MUD -

Since writing the copy on page 8 I've had a little setback of a couple of days, when my pain got worse for some unknown reason and I had to back off. I'm still pretty tender but am up and around again today, so I hope to get the NL over to the print plant early tomorrow.

I haven't used pictures of all the T-18s at Arrowhead in this issue, as I had done a story on the reunion for Sport Aviation and sent them my other set of prints and also the negs. Anyway, the ones I left out are ones you have previously seen anyway. All of you that have ordered TV tapes will see them all much better in it ...and in color, too.

*John Popejoy*  
JOHN POPEJOY (Omaha) called today to tell me more on his V-6 T-18, which will fly late this fall. We will do a complete story on it at that time, but to sum up it looks very good. He told me that he figures the complete engine and redux system will cost him about \$2600,...and he said that is LESS than the cost of overhauling a carb for a Lyc. 0-360! I asked John to be at the T-18 Forum at OSH, so we'll let him fill in more details. He has been down to see Ben Cupp's project and gives it high marks. He also told me that MONROE MAXFIELD, Of Glendale, AZ, has a V-6 T-18 that's well along. BEN CUPP has sent me black and white pix of his bird, that are supposed to be here tomorrow, so I am going to do a full foto page in the NL when they get here.

*FOR SALE*  
T-18s FOR SALE: OATS TOKLE, 3483 Skyline Blve, Reno, NV, 89509 has decided to sell his beautiful T-18, one of the best T-18s ever built. It has an IO-360, c/s prop, is full IFR, and is loaded with avionics and is in the 20k range...and worth every penny of it.....JIM HIDALGO's wife, Marty, says the ir T-18 is too small, so he reluctantly is putting it on the block ( for \$15,500). He has a new Loran and other extras that he will sell separately for his cost. For details call him at 512/ 847-3881 nites or 512/847-5571 days. (That's Wimberly, TX, near Austin). In case you want a single place T-18 with retractable gear The airplane is owned now by the Swift Association, Athens, TENN. Contact Chas. Nelson, for details (his no., 615/745-9547). The a/c was slightly damaged in a gear up landing it will take over 10k to buy it, as they already have a 10k offer on it.

*SAFETY TIP*  
WATCH THOSE SEATS! JIM FRENCH called to tell how close he came to getting it on a landing in Houston Saturday. When he pulled all power off the a/c pitched nose down sharply and full aft stick didn't correct it, nor did the electric trim. He gave a blast of power at the last second that raised the nose slightly, but he hit hard and bounced high. More bounces and it finally stopped, but he said it gave his long gear and extensions the acid test, but all came out ok. The culprit was his seat had slipped out of its res training angle and slipped forward enough to prevent normal full aft stick movement. It's those "little" things that will kill you, things you wouldn't give a second thought. Jim had flown over to visit John Walton, who he said is looking good, altho'still very weak.

*DISCLAIMER*  
 STANDARD DISCLAIMER:As always, we advise our readers that in all past, present, and future newsletters of the T-18/S-18 Builders and Owners Association (formerly known as T-18 Mutual Aid Society) that we would make you aware these newsletters and/or video tapes we issue are ONLY presented as a clearing house for ideas, opinions, and personal experiences of both our members and non-members in both building or flying the T-18, S-18, or any derivatives of each and anyone using these ideas, opinions, or experiences do so at their own discretion and risk and no liability is implied or assumed.

(The following four pages were  
left over from NL #69)

07-APR-88  
804 LEADING LANE  
City of Allen  
Republic of Texas  
75002-3124

Mr Richard Cavin  
10529 Somerton  
City of Dallas  
Republic of Texas  
75229

Dear Dick,

Well let's see, I'm about four or five conversations behind with you. So I'm going to try to catch up all at once in this letter.

#### Video Report

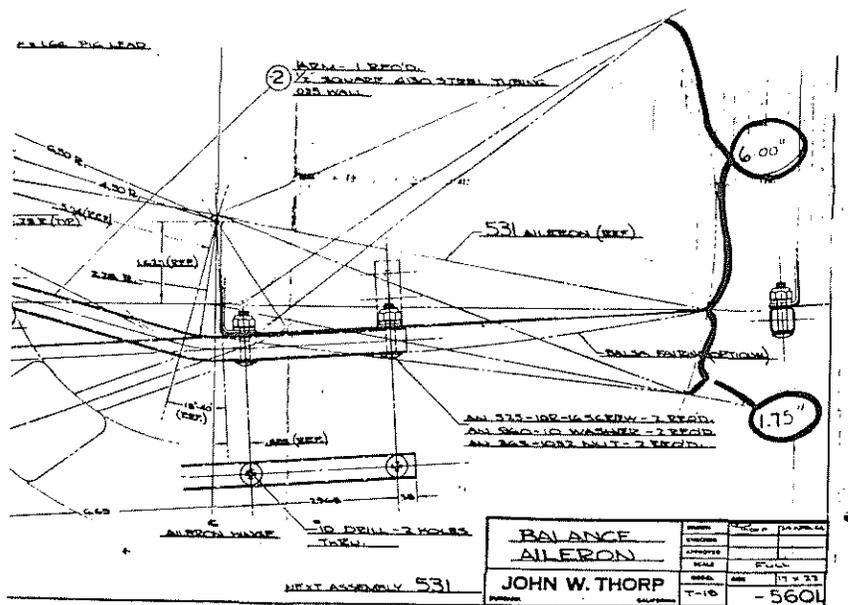
In the wonderful world of amateur video film making we (the camera, my secretary, and myself) have made a great many improvements as we figured out what we are doing and how we were messin' up. First from this time forward we will shoot original tapes on only the extra high quality tape stock. Secondly, we will construct the masters on only extra high quality tape. Thirdly, we will only reproduce ten copies from each master. Number four, we will continue to buy only the better quality Name Brand Tapes for distribution. In order to do so at this time, we have to wait on the sales at the local wholesale houses but the results will be a quality tape for viewing with no surprises and bad pictures other than those taken by yourself and myself. These steps should give everybody better viewing.

John Russell and myself have just finished a two hour tape on painting a wing panel for a T-18. This tape includes every step that we went through and will illustrate some of the classic techniques as well as mistakes. We'll probably put this on the back of the May '88 Arrowhead Fly-in Tape, if we have room.

#### Ailerons :

In October of '87 I measured the aileron throw on at least ten different T-18s at Texoma during the Fly-in. Drawing 560L shows that the throw as measured from the trailing edge should be 6.00" up (meaning aileron trailing edge above wing trailing edge) and 1.75" down. The average I found at Texoma was 4.28" up and 1.68" down with a couple of cases in which the left and right ailerons had different up and down measurements of more than one inch on the same plane. Dick, please note that even with the planes that had throws that measured different from left to right there were no cases of substandard or detrimental performance. It should also be noted that some of the builders used the old method of (TLAR), "that looks about right," for determining the throw settings. Just for the record the min and max throws were max up 4.9", min up 3.3", max down 2.0", and min down 1.1". In all cases for example the max up

say 4.9" was always coupled with a max down of 2.0". So big throws up were coupled with big throws down and small throws up were coupled with small throws down. In all cases, the full throw, no matter how small, would only be used in strong cross-wind landings.



ED. NOTE INSERT

(Ed. note: After John Crook finished repainting the aileron and was re-installing it he noticed that it fell down without the push rod connected. Thinking they had put on too much paint and destroyed the balance and might be setting it up for flutter he checked the other aileron. Same same. Another T-18 was the same. Now came the question. "To what extent should we balance the aileron--80%, 90%, or 100%? I remembered Thorp once told me that you should not balance to 100% or it might go divergent and he said as a general rule that 80% was a good ball park figure. To be sure, I gave John a call. He said, "Don't worry about it! Probably there would be no problem if there were NO weights on them at all, except for ailerons being very stiff to move at cruise". To sum up, just use the standard weight called for in the plans and don't worry how much paint (or lack of paint) you have on it...and it's perfectly normal for the ailerons to fall down when push rods are disconnected. John's health hasn't significantly gotten better, but apparently it's not much worse, either. He has good days and bad ones, as most of us old folks do. He does appreciate the calls and letters from you guys, as he misses the Good Old Days of building T-18s by the "clan" in his Burbank shop...and that frustrates him, naturally. I hope to visit with him again one of these days soon, I hope).

CONTINUING JOHN CROOK'S LETTER:

The above is the good news, the bad news is that I found only two cases where the control input to the ailerons was stopped at the adjustable stops on the control stick down near the walking beam mount. All the other planes were "stopped" by a number of different methods. Six were stopped when the mass balance weights on the end of the aileron hit the inside top of the fiberglass wing tip. One was stopped when the push/pull rod hit the auto-pilot that

had been installed and coupled to the control stick. The point here is that the stops on the control stick stop the movement of the control inputs without loading the system detrimentally. If the ailerons are "stopped" by the mass balance weight striking the inside top of the fiberglass wing tips, then a pilot could be bending the aileron push/pull rods. An example would be holding a cold drink straw by one end and pushing on the other end. If enough force is applied the straw will bend and/or kink in the middle. After repeated applications the straw will fatigue crack and fail. So to the moral of the story, I know of a number of older T-18s that, if this type of situation has been occurring for a number of years, then they are to say the least strained. Dick we need to tell everybody to make sure they are "stopping at the right place".

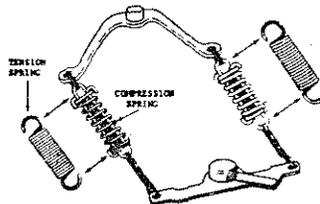
### Old Tailwheels :

Thanks for all the help you gave us in putting all the pieces back together in the wing panel. The plane is now flying again and the paint video mentioned above may help some other T-18ers. As a review of all the things one could do to not repeat the accident, There are two majors things that should be passed along. Even if you used compression type tailwheel springs, all springs, connectors etc are subject to wear and tear. Dick, as a Special Note tell everyone not to even think about using tension type springs on their tail wheels. The reason is, when they break or stretch - there goes your tailwheel steering. With a compression type, if the spring breaks, the clips (the long pieces that fit inside the springs) inside the spring will continue to allow you to steer the tailwheel. Regardless, it would pay all T-18ers to, at least at annual time, raise the tail up on blocks. This to relieve all the pressure on the tailwheel components and inspect the fire out of the entire assembly.

I found as part of the accident investigation that the compression spring clips were all well worn and one had failed. Note again some T-18s are getting up in age. These clips had been on this particular plane for 12 years.

### TENSION SPRINGS ( FAR LEFT AND FAR RIGHT)

THIS TYPE OF SPRING IS A NO-NO

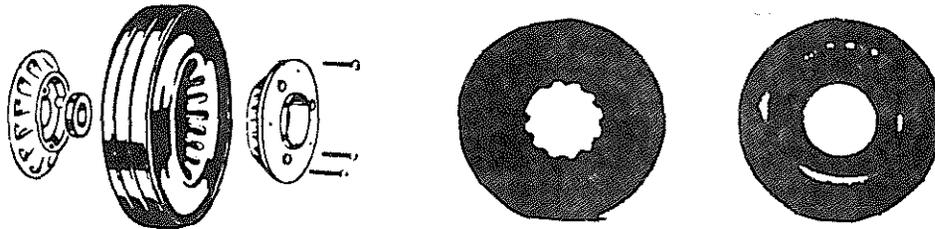


COMPRESSION SPRINGS SHOWN ATTACHED TO TAIL WHEEL STEERING ARM

The tailwheel tire (a solid soft General tire) had left the wheel at some during the ground loop. I found out why when the new tailwheel

CONT'D

re-installation was attempted. When the two halves of the wheel were bolted together they put absolutely N-O pressure on the tire. The tire that was on the plane was a big soft solid General rubber tire. Inside that tire there are normally four rubber knobs that fit into slots in the Scott wheel halves. All of the knobs were gone, worn smooth. In fact the entire inside of the tire was worn smooth and could be spun freely with the wheel assembled (the two halves bolted together). This is the point where a good inspection of the tailwheel with the tail blocked up could have saved some big bucks. When the spring let go. The tire soon followed. Or it could have been the other way first.



I installed a new solid hard rubber Goodyear tire with 11 knobs and new springs and clips. Note to assemble the wheel the tire is sandwiched between the wheel halves and it takes no less than a 6 inch vise to compress the whole thing together. That's a tight fit and it should be. Again, Dick, tell all the T-18 drivers that a good heart-to-heart with your tailwheel group at least once a year may save them a \$1,000 or 2.

Dave Blanton's Ford 302 V6 :

I have fallen in love with the Dave Blanton Ford 302 V6 conversion and intend to install it in my new T-18. Have you or any of the T-18ers heard anything about motor mounts, cowlings, raditors, etc. If you have any info plez to put same in the Newsletter. I'll have the new T-18 ready for the engine in 18 months.

Thanks

Dick, thanks for all the work with the newsletter etc. I'll see you at Arrowhead in May.

Respectfully submitted as always your humble servant.

Very T/S/CW/X-18ly,

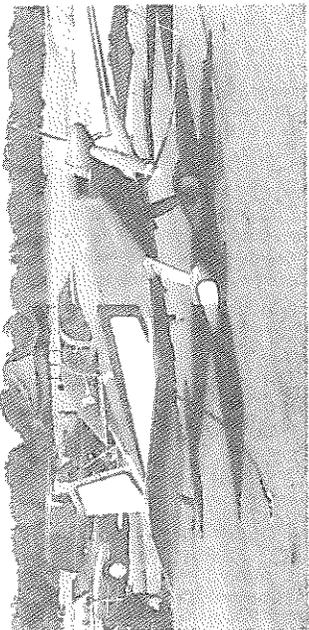
*J. C. Crook*

J Cunnick Crook ATP/CFII/DGP

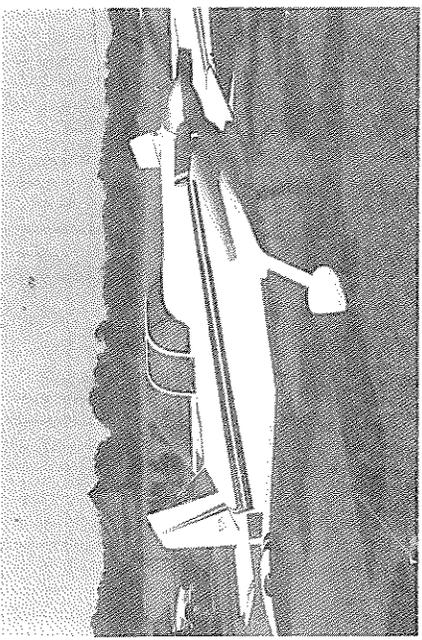
etc/etc/etc

*NOW ENJOY THE FOTO PAGES*





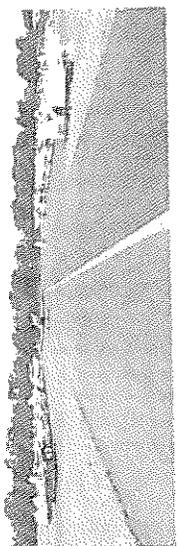
HOW PERHARD'S T-18 from Dallas, TX



PAUL KIRK'S chazler, from McInno, IL



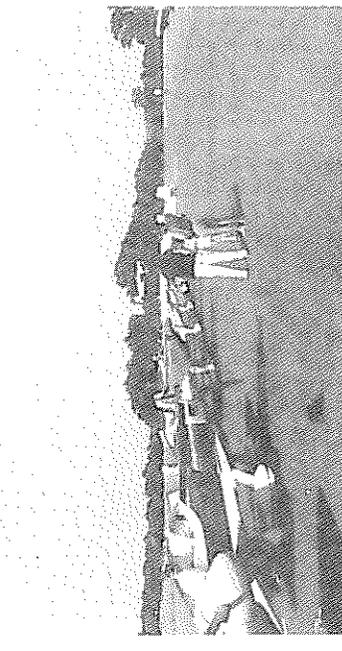
BILL COX'S second T-18 from Baytown, TX



T-18 LINEUP AT ARROWHEAD



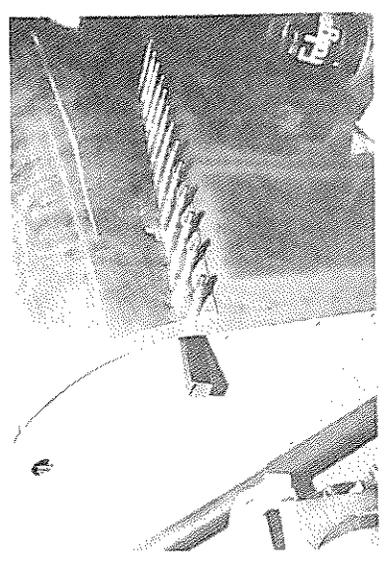
JEFF THOMPSON'S S-18, from Marietta, IL



VIEW OF THE T-18 LINES AT ARROWHEAD



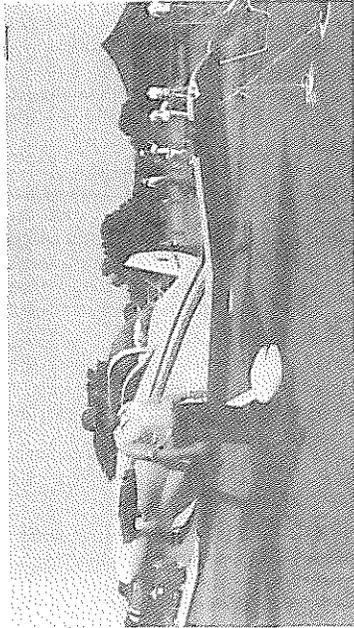
BRAVO SIERRA ACTION WITH WIVES IN THE SHADE



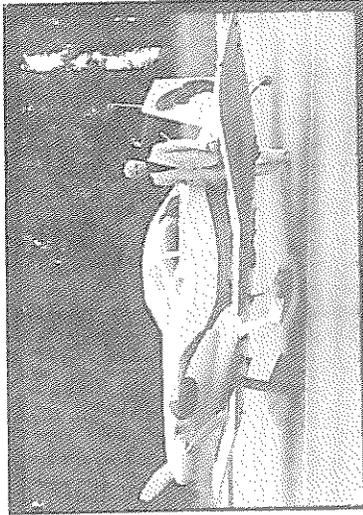
JOHN POPEJOY'S TOP ATTACH POINT ON V-ENGINE MOUNT. DIAGONAL TUBE GOES FWD & DOWN FROM THIS POINT. LOWER POINTS ATTACH TO PRESENT LUGS ON GEAR LEGS.



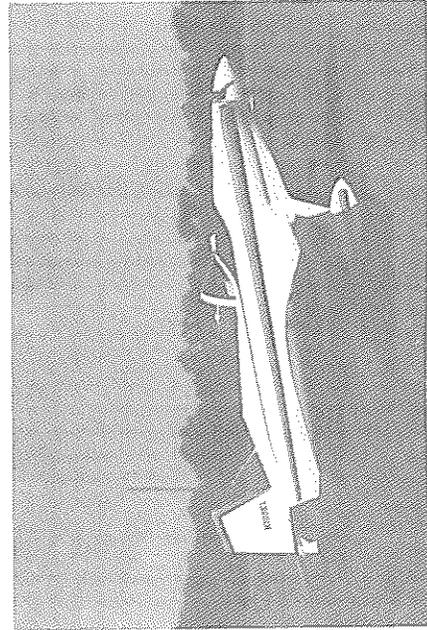
KEN REARDS, PEORIA, IL, SHOWS THE DOORS COWL ON HIS T-18



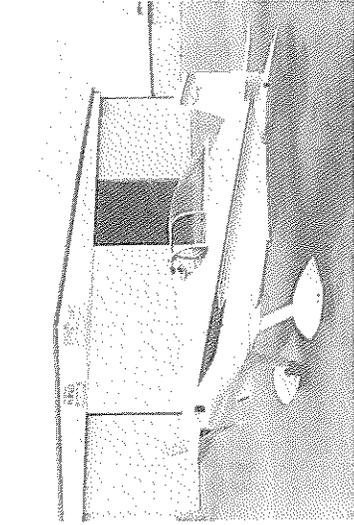
JIM PAINE, DAYTON, OH, AND HIS PROUD BIRD



CATS TORLE (RENO, NV) STANDS BESIDE HIS T-18 WITH ITS FABULOUS FREE FORM PAINT SCHEME, A REALLY IMMACULATE BIRD.



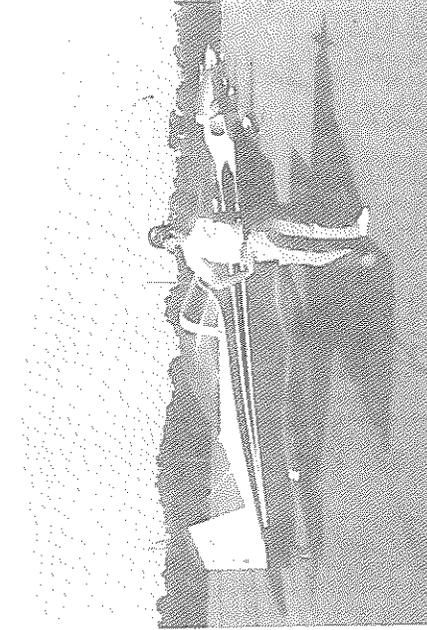
ED LUECKE, (SIOUX FALLS, SD) AND HIS NICELY BORN T-18



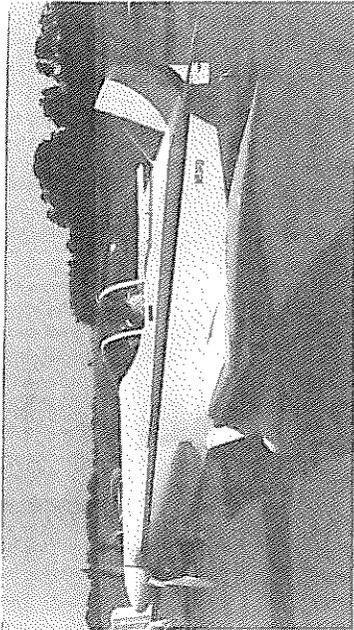
JIM FRENCH'S LONG LEGGED T-18 and its sassy new paint job, from Wimberly, TX. PURTY!



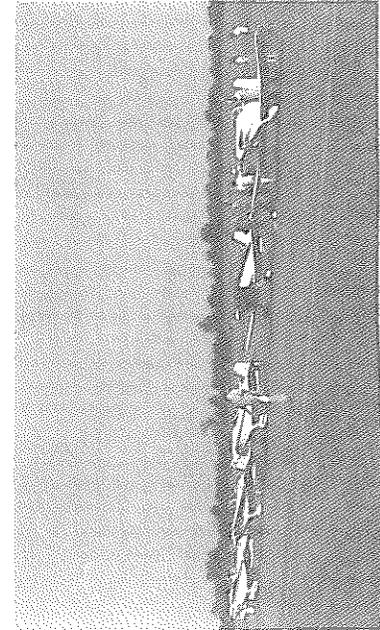
RON JOHNSON, RENO, NV AND HIS T-18



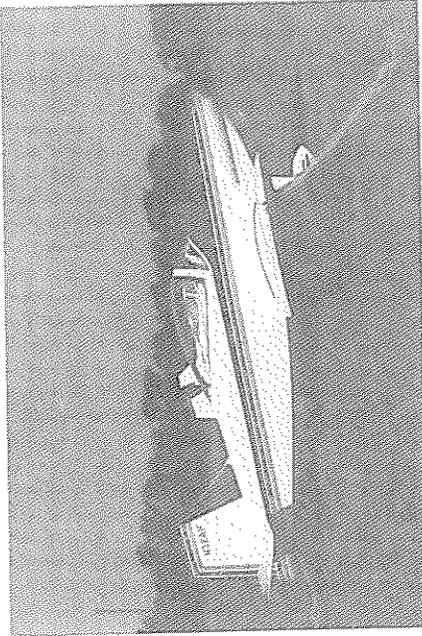
WALT GIFFIN (PUEBLO, CO) & HIS STOCK T-18



CRAG CAESAR JUST BACK FROM A LEAFY BEAR RIDE IN DAVE EBY'S BIRD (NICHITA FALLS, TX)



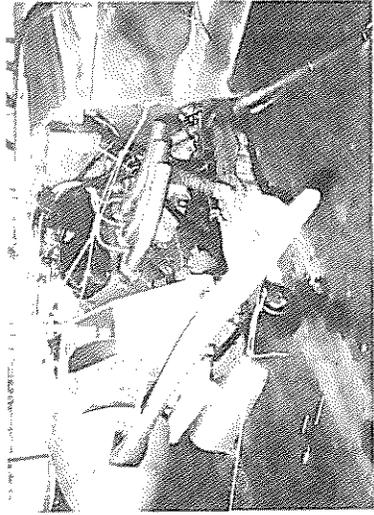
THE OTHER T-18 LINE AT ARROWHEAD



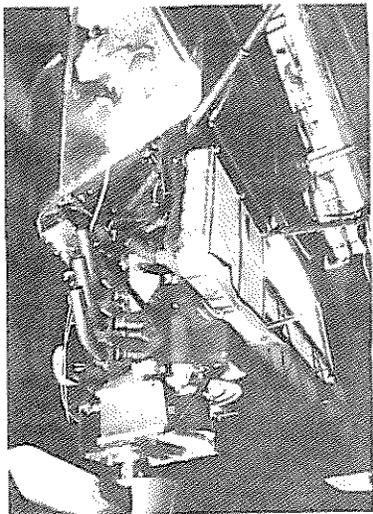
DICK ABSDEN, MT. CLEMENTS, MI, BACK AGAIN.



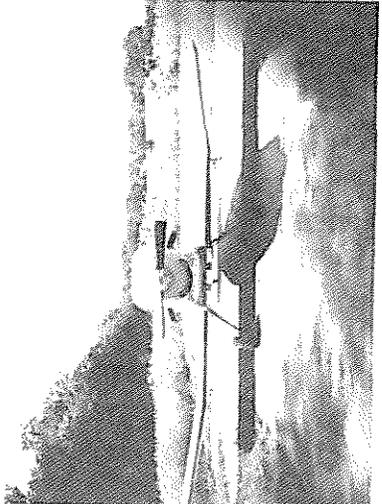
HERE'S BEN CUPP'S JAVELIN FORD U-6 POWERED T-18 THE FIRST OF THIS TYPE TO FLY (SEE TEXT). DO WE CALL IT A T-18V?



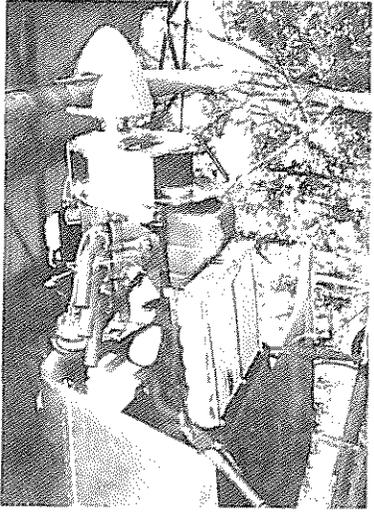
TRACE THE ENGINE MOUNT MEMBERS, PROF. TE A WARNER ALMOST CONSTANT STEEL.



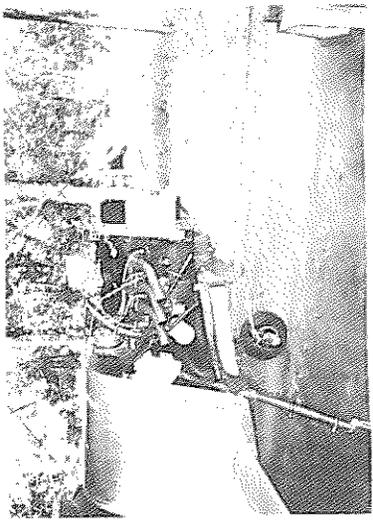
LOWER VIEW OF SPEED REDUX UNIT & COGG BELT DRIVE. COOLING AIR EXITS BELOW THE RADIATOR.



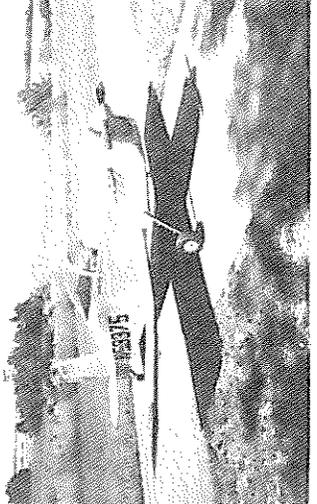
WOULDN'T YOU SMILE, TOO, IF YOU HAD SUCH A FIRE ENGINE AT A BARGAIN BASEMENT PRICE?



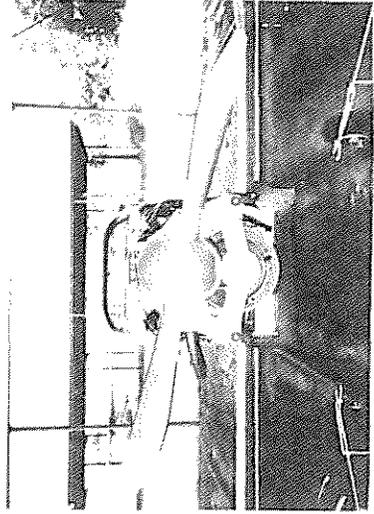
GOOD VIEW OF RADIATOR LOCATION, SPEED REDUX UNIT, EXHAUST STACKS. NOTE OIL COOLER/FILTER (ROUND).



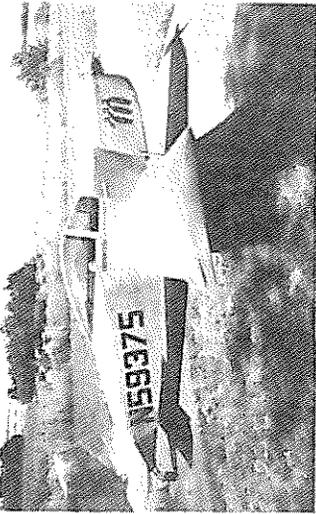
NOTE EXPANSION TANK LOCATION, WITH OIL FILTER COOLER FORWARD & SLIGHTLY LOWER. ALSO NOTE THE COOLANT ROSE JUST BELOW EXPANSION TANK.



DISTINCTIVE LOOPING FROM ANY ANGLE, I'D SAY



COMPARE SPINNER DIA. WITH TOTAL ENGINE WIDTH. FRONT VIEW OF SPEED REDUX UNIT.



SHAPE OF THINGS TO COME? REAY, TOO. THE N NUMBER IS NOW DIFFERENT, DUE FAA FOUR-UP. (N20152, Now)

SEE ALL OF YOU AT OSH '88  
- DICK

