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T-18 NEWSLETTER POLICY - No, we haven't gone out of existence, even though the newsletters are few and far between. The existing back issues seem to contain about everything a builder needs to know to build a T-18, so there isn't a pressing need for more. If anything, there is already too much material for builders to read and remember because most of the questions I get in almost every mail have been adequately answered in the Newsletter. We will publish future issues only when something comes up which needs publishing.

On the subject of mail, my wife Marilyn has been taking most of the load and it uses up most of the morning everyday. This seems to be an endless job, so please try to follow these rules when you have questions or need back issues:

1. Always have the courtesy to include a stamped, self-addressed envelope (unless you are from outside the US). About one out of 10 now do this.
2. List all questions on a separate sheet of paper with space for answers.
3. Your best chance of reaching me by phone is between 10:00 PM and 11:00 PM 607-625 3084.
4. Read your back Newsletters first to try to get answers.
5. Contact your nearest Regional Coordinator or other experienced builder whose address is listed in back issues. The builders who have flown are a bunch of nice guys who don't mind helping others.

Back issues of the first 44 Newsletters are available for a contribution of \$6.00. If you don't need the whole set, we can usually accommodate your request.

Stencils for the back issues are getting in pretty poor condition, so we are looking for a reasonable way to publish the valuable material in a more readable form. EAA won't undertake a manual unless they can be assured of at least a sale of 2,000 and that would take some time. Does anybody have any ideas?

MOST FREQUENTLY ASKED QUESTIONS -

Are Pop rivets satisfactory, safe and approved? ANS: Yes. They have stood up for about 10 years now with no more problems than AN rivets.

Should flush rivets be used? ANS: On the wings and tail surfaces, yes. It is just a matter of appearance on the fuselage for little performance improvement will be realized with flush rivets there.

Should rivets be filled with body putty? ANS: Yes, on the wings and tail. The two-part putty sold in auto supply stores has worked out well. It seems unavoidable to get little circular cracks around some rivet heads on the main wing spar but they never seem to become a problem.

Where can I obtain materials? ANS: Write to Ken Knowles Sport Aircraft, 27902 Alvarez Dr, Palos Verdes Peninsula, Calif 90274 or Merrill Jenkins, 2413 Moreton St, Torrance, Calif 90505 for catalogs. They have about everything except canopies which can be obtained from GB. All-Aircraft Parts sells cowlings made to the shape on my T-18, Ken Knowles and Rattray both have nice cowlings also. Dewberry makes machined parts.

Where can I get prop bolts? ANS: Spencer Aircraft, Dallas Ave, Seattle has any length AN bolt. See my May 75 Sport Aviation article to figure dash numbers.

Questions Cont'd -

Which propeller do you recommend? ANS: The Sensenich wooden props listed in NL 43 have been performing and holding up well. For best performance, get the plastic tipping but if you expect to fly in much rain, get the brass tipping. My W66LM74 makes me awfully happy during cruise, but I miss those skyrocket climbs. Wouldn't want to try to get out of real short strips with it.

How can I get more width in the cockpit? ANS: I have drawn up the necessary changes to add 2 inches more width to the fuselage. Several fuselages are being constructed to this configuration. Drawings will be for sale for \$10.00 consisting of one new drawing and a list of changes to 29 others. We are looking for someone who could assemble a fuselage in rather short order to check everything out first. The wing has remained unchanged except for fittings. In order to keep the same fuselage side curves which John carefully had designed to minimize drag, the side skins were simply moved apart 2 inches and the tail extended 5 inches. The extra length was added between the canopy and fin. Everything aft of the fin leading edge was unchanged except the bottom trim line on two frames. How much the performance will be affected, we haven't been able to estimate, but it should be minimal. John Shinn and I don't go any slower with our 3/4" higher canopies, so maybe the same thing will happen here. One thing is certain, we of bigger stature will have plenty of shoulder room.

EXHAUST SYSTEM BALL AND SLIP JOINTS - As you know, it is necessary to install both slip joints and ball joints in an exhaust system to prevent cracking. If you are building your own, I still have these available to fit 1.75" tubing. Two ball joints and two slip joints are \$15.00. This also includes detailed instructions on how to make perfect wrinkleless bends in stainless tubing.

EXHAUST-SYSTEM PARTS - Dean Cockran, 255 Hemlock St, Broomfield, Colo 80020 supplies all the bends and parts cut ready to weld for T-18 exhaust systems. He found it uneconomical to supply welded systems. Write for latest prices.

T-18 COFFEE CUPS - Ken Knowles sells nice coffee cups with a picture of his T-18 glazed on the side. A good conversation piece, but you had better get two for your helper will want one also. I see the picture has the "new look" wing. Looks sharp. Ken also has nice 3-dimensional T-18 tie tacs.

O-320-A2C ENGINE FOR SALE - Gayle LeCount, 301 East West St. Gerogetown, Ill. 61846 - Since I now have my O-360 I will be interested in selling my Lycoming O-320 A2C and all the following: The O-320 had 980 hours since new when I put in 1/2" exhaust valves and almost a complete top overhaul. I have since put on 180 hours and the engine absolutely does not use any oil. I feel it should easily run 1000 more hours also motor mount, Lord mounts, starter, starter ring, carb MA4-SPA, prop extension, metal prop 68-72, and complete cowl from firewall forward. Pictured on page 34 of July 1973 issue of Sport Aviation. also carb heat box and prop bolts, I will sell the entire unit at \$2500, which I feel is a very reasonable price and I have quite a bit more in it. The price is firm and I will be interested in selling in March after I have a few hours on the O-360.

DIMPLE CRACK QUESTION - John Walton, 1088 Edin Dr. Neenah, Wis. 54956
In my test pieces, it appears that I am getting small cracks adjacent to the rivet, after it is upset. These are mentioned a lot in the Newsletters, with various polishing ideas to smooth the hole prior to setting the dimple (and/or rivet?). I've tried several of these, but the small cracks are still there - (they aren't there before the rivet is upset.) ANS. The best way to prevent

Cracks cont. -

cracks around dimples is to de-burr before riveting and then use new soft rivets. Rivets harden with age. Once before, I recommended solution annealing of hard rivets to make them soft again. This means heat treating them to the original 17S state which is not dead soft. Nearly every T-18 has some tiny cracks around dimples. They've been flying for years with no problems.

Question 2 - How do you bend the joggle in 580-3 3/4" angle longeron at the horizontal tail fitting? **ANS:** With great difficulty. After you have tried to make the joggle as best you can, just forget it even if the fitting is not completely recessed. The slight bulge in the side skin is not noticeable.

I've been getting most of my materials from Ken Knowles - He deserves some notice for being prompt on deliveries-even for the little orders. J.W.

END OF A NIGHTMARE - I have just been notified that the Finney Case against me has been dismissed and this has been a long and painful experience and except for T-18 builders' help it would also have been quite costly. John Thorp

SPORT AERO CLOSE-OUT SALE - Lu Bigelow, P.O. Box 7189, Myrtle Beach, SC, 29577 Sport Aero has been defunct since we moved here, however I still have a great deal of inventory which should be of use to T-18 builders. Sport Aero could be reactivated or builders might "Group" purchase and share. At any rate, at last inventory-shortly before we moved here we had material which cost around \$3500 (3-4 years ago). I'd like to sell it all so I don't have to move it again (building new house) would like to get cost out of it (which should be bargain based on present replacement cost) but would entertain any reasonable offer.

INSTANT PAINT BOOTH - The article "Homebuilt Paint Booth" in August SA reminded me of Bill Johnson's temporary paint booth he built in his driveway for painting his T-18.

When Bill gave me directions to get to his house, he directed me around alot of twists and turns over the hills of Kent, Washington and then said, "You can't miss it-it's the only house with a paint booth and a T-18 sitting in the driveway." As I drove up his street, sure enough, there it was, a wooden framework big as a garage with its clear plastic covering revealing a T-18 which it had just swallowed. Seeing it there, I couldn't help wonder what questions the neighbors must have asked when he started building it. Kinda like Noah's neighbors when they asked him what he was building in his driveway.

PROJECT FOR SALE - J. Mott, 368 Xavier St, Las Vegas, Nev. 89107 It has been sometime since I received this notice, but if it hasn't been sold here is a project on the gear with engine hung and about everything completed but the center wing which needs skinning. The engine is 150 HP out of a Beech Sport. Total hours on engine only 400. Asking price \$8,800. Owner passed away. Call Mrs. Julia Mott 702 870 4517

SUN IN FUN FLYING - Bill Sattler won the best metal aircraft award with his beautiful T-18. Bill says that the secret of making a nice airplane is practice. This was his third T-18. One of the novel features incorporated in this aircraft is the electric trim. He uses a headlight door motor from a 1967 Camaro. It is a standard GM-Delco part. The motor is mounted with the output shaft pointed aft on the frame at station 191.75. The motor is on the forward side of the frame. Two universal joints and a short piece of tubing connect the motor with the trim screw. The nylon universal joints fit 1/4" tubing and are available from any radio supply house. He installed limit switches to prevent a stuck trim switch from applying continuous current to the motor. Bill reports ideal operation, 15 sec. for full travel.

TRIM CONTINUED - The limit switches are actuated by a hose clamp that is clamped to the 1/2" 703 trim torque tube. This system appears to be an ideal arrangement with little if any complexity.

BILL BARRON FLIES - LX 863, 1210 Country Club Prado, Coral Gables, Fla. 33134. Three years from the start T-18 #863 today headed for the Wild Blue Yonder, the first flight was twenty five minutes and everything was perfect except the right wing was a little heavy above 125 M.P.H.

ENGINE PACKAGE FOR SALE Peter K. Beck, 2226 White Cornus Ln, Reston, Va. 22091. I'd like to offer a whole T-18 front end including: O290-D engine, 415 SMOA, 95 STOII (all accessories), T-18 engine mount, aluminum engine mount ring, Sensenich DM 74 prop 68" dia 67" pitch, exhaust system for this engine, T-18 cowling with spinner. This whole package is off my T-18, since I am upgrading to an Q320 engine. I have been cruising at 158-159 mph TAS with this cowl and prop. The cowling is not a terribly pretty one, and doesn't use the extension on the prop. But the whole package would probably go a long way toward getting someone into the air in short order until they have the time to finish details. I am asking \$1600 for the whole lot, or will consider individual prices on pieces.

DRILLING HOLES IN PLEXIGLASS - E.S. Arvidson, 8918 Birch Ave., Morton Gr., Ill., 60053. I just received your newsletter and see there are still problems with drilling holes in plastic. I have not had any problem with cracking. I use a solid shank wood spade, for the small holes a 1/4" solid shank wood spade. Don't use changeable heads. I would never use a twist drill, they heat and build up material and crack 1 in 10 times, but wood spade and 1/4" high speed drill motor, full bore will give you a clean hole without cracking. Try it on scrap, it really works. On cutting my canopy, being one of the older ones, I trimmed on the band saw and finished with 1/4" drill motor and 2" sanding disc. Don't be afraid to cut it, just don't twist it. Do every thing high speed.

REGIONAL COORDINATOR - Jack O'Keefe, General Delivery, Highland Lakes, NJ 07422 has offered to act as coordinator for his area of NJ. Anyone wishing to contact Jack should do so by mail if possible since he has a hearing problem. His wife Juanita will handle phone communications 201 764 3337.

BOB DIAL DOES IT AGAIN - Congratulations to one of the most famous T-18 pilots who should be in charge of our public relations department for Bob has gotten more publicity through the Bendix ads than all the rest of us put together. Aug. '75 Professional Pilot contains his full page photograph and another page of narrative.

HOWARD HENDERSON FLIES SN 600 - 444 Bryon, Kirkwood, Mo. 63122. Inclosed is a copy of my summary of the performance of SN600. The equiv flat plate is 2.8 sq. ft. as compared to approx. 2.4 to 2.5 for Roemers or Thorps. The data assumes a propeller efficiency of 85 per cent and a gross weight of 1300 lbs. My static source is located on the fuselage side at sta 149 and W.L. 38 and produces only a 3 mph error at cruise. Possibly locating it 4 - 5 inches more to the front would produce even less error.

I am using a M74DM 68-76 propeller and do not have wheel pants. If any ham operators would like to talk to me join in on the EAA net (WJZJR).

Ed. Note: Howard sent graphs of airplane performance which will now be reproduced here. The range curve at 7500 ft. shows a maximum at 123 mph TAS. Maximum duration is under 100 mph. Range computation assumes 6 gal. reserve. He obtains 190 mph TAS.

SURPLUS DEALER - Ralph Borden expresses his appreciation to the T-18 builders for the time extended in the sheet metal shop at Oshkosh '75. He says he has received many compliments and thanks from those who came and learned by seeing and doing. He could not remember all the names but did wish to thank Joe Wood, Ernest Kent, Richard Lane, Lewis Armstrong and Charlie Harris. He also sends the name of a surplus dealer: Craig S. Hollis, 24431 Encorvado, Mission Viejo, Calif. 92675. "Craig is a back yard surplus dealer in aircraft tools and hardware. Would suggest that his name be handed out to the T-18 builders and let them write for a listing directly from him. I have seen some of the things he handles and most all will appeal to the metal aircraft builder, from new clecos at \$30.00/100 to nut plate drill jigs, rivet sets, rivet nuts, etc."

NOISE REDUCTION KIT - Ken Knowles has just arranged with a professional noise reduction expert to obtain ready-made noise reduction kits for the T-18. There are two separate kits, one which makes a complete liner for the cockpit forward of the seat back and the second just for the baggage compartment. The liner is composed of a fiberglass mat sewed inside a fiber glass screen. It is cemented inside the fuselage skin including the floor. Weight of Kit #1 is 16 lbs., which seems a bit heavy, but acoustic engineers claim that it takes mass to make effective sound insulation. Price of Kit #1 \$69.95 and Kit #2 \$25.20.

OTHER MATERIALS - Ken Knowles presently sells T-18C steel main spar fittings only in prefabricated form. They are already heat treated and plated. The complete set is \$160. For those builders who have machining facilities, Ken will make 4130 plate stock available from his next wholesale purchase. I haven't checked with Murle Jenkins but I assume he also supplies plate stock. Builders report that they have been unsuccessful in locating 3/8" 4130 plate from other suppliers. Price of the T-18 coffered cups is \$3 each. Either gold or silver tie tac is \$3.95 each.

ALLAN CHIVERS FLIES SN287 - 45108 11st. West, Lancaster, Ca. 93534. The following data applies to T-18 N18AL: Engine-0320 E2D 150 HP, propeller M76EM-8-76, Max RPM static 2050, OAT 70° F at 2785 ft. alt., Max level flight at 5000 ft. 178 MPH IAS at 2700 RPM, OAT 5° C, Max ground speed 190 MPH at 1300 lbs. weight. Airspeed was calibrated over measured course. Oil temp. 83° C at 70° OAT. Oil cooler is a corvair type mounted forward of the left front cylinder. Max rate of climb is 1250 FPM. Construction cost is \$4,000 in 8 years. First flight 21Dec. '75. Empty weight 947 lbs. Most forward cg at sta 63.0. Most aft cg 69.96. Empty cg 60.32. Gross weight cg 67.3.

PROJECT WANTED - Joseph Gauthier, 9 Kowal Dr. Cromwell, Conn. 06416. Is interested in building a T-18 or acquiring one that is finished. He presently owns a conventional gear 160 HP BD-4 that he will trade for a T-18 project.

OSHKOSH '76 - Benj Roemer is planning another interesting time at the flight line for the T-18 Gang. Last year he couldn't get as many rows of parking as was needed so he had to make double rows back to back. Although only 35 T-18's were there it made a most impressive display. It is hard to understand why no aviation publication in the world managed to publish a picture of these fine airplanes. It seems only the funny airplanes get the publicity. This year let's line up all 50 T-18's (or more if they can make it) along the main runway just before the airshow for photographs. Perhaps some Air Progress photographer taking a picture of a Breezy will accidentally use us for a backdrop. The colored feather idea went over in great style so we'll do the same thing this year. Let's all pray for cooler weather so we don't melt. Those of you who have helped in the sheet metal shop and know the ropes should try to bring tools etc. to help demonstrate various metal working operations.

C-GRAF #644 ELIES - R.A. Froebel, 54 Cumber Avenue, West Hill, Ontario, M6E1T3
 I first flew my Thorp on the 28 Sep '75. That day was also my oldest son's birthday and my youngest son won \$ 100 in the Olympic Lottery. Good things seem to happen in bunches. There is really no way to describe a first flight on an aircraft that you have constructed yourself so I will not try. I purchased the plans from John late in the fall of 1968 and then working on and off again, my three sons (Eric 14, Mike 15, and Peter 17) and I finished it late in August. I estimate that it required about 4 1/2 years of steady part-time work since there were several long periods when we did not even look at it. As far as cost goes I do not know. I have yet to add up all the bills. It has got to be more than \$6000. If we had some spare money we would spend it on parts. If we did not have it we didn't spend. It is essentially a stock Thorp with a good smattering of stock 1966 Mooney Mark 21. We bought a wreck and salvaged many, many parts from it including a full panel, radio and engine. Basic Details of T-18 #644. Engine: Lycoming O 360-ALD 180HP (carb: MA4-5); Propeller: Sensenich Wood 68LY82. More on this later; Landing gear: Jenkins, 2 1/2 inches longer; Tail gear: Thorp steel spring made by local auto spring shop, \$8.00; Cowl: John Thorp. All snap-locked together and to the fuselage; Engine Mount: Dynafocal, John Thorp. Mounts, Lord from the Mooney, reversed; Canopy: GeeB ee, clear; Spinner, Tips and wheel pants: Rattray; Radio: Narco Mk 12A 90 channel plus 100 nav channels; Panel: full, vac. & elec. driven, plus fuel press, man, press, g-meter, vac gauge and voltmeter. also cyl. head temp; Misc: Remote ELT with panel switch, rotating beacon, Alumigrip paint done by my sons and I; mufflers both sides with muffs for cabin heat; carb heat off cross-over exhaust pipes; air intake highly modified Thorp with 360 cubic inch 300HP auto air filter. Hot air also filtered; small access door right center fuse. for battery and ground-power plug, snap-lock fastened (booster battery must below -10 deg.); pitot-static right wing 18 inches ahead of leading edge; VOR ant. inside canopy works well saves eyes; fully upholstered including indoor-outdoor rug on the floor, all panels including floor and firewall leadened with sticky lead tape (8-10 lbs.) before upholstering All AM-flush riveted except key structural elements front sides of fuse.

Weight and Balance Data from C-GRAF #644

Empty weight: 950 lbs.; empty cg STA 63.52; Most forward cg pilot, full fuel Sta 64.68; Most rearward cof g pilot, pass, zero fuel plus 64 lbs. of bagg. STA 71.00. Now to bring things up to date. We finished the thing late in August, had big launching party on the 13th of Sep and hauled it out to the airport the next day. (Oshawa Airport, 20 miles east of Toronto.) We assembled it, checked everything over for the third time, did some taxiing and waited for the MOT inspector to come and give us the go ahead. He came finally, pointed out a few little things he did not like which we were able to correct in an hour or so and then we got our flight permit for the first 50 hours: no passengers, no aerobatics, day VFR only and 25 nm radius from the airport. Next I had to wait for the proper day. Oshawa is a controlled and rather busy place most of the time. I did not want to have to talk to the tower or look out for Cessna 150's so that meant an early morning flight. Meanwhile we did some more high speed taxiing. Bad shimmy in the tail wheel. Tightening up the friction screw fixed that. Finally got up at 0500 hours on the 28 Sep and looked outside. It was clear, temp 10 C and you could see a million miles- the sun was just coming up to the horizon and not a breath of wind. Told my wife that this was the morning she went back to sleep and I went to the airport. We did not tell the boys. Got to the airport and it was just me, C-GRAF and a bunch of seagulls (just a couple of miles north of Lake Ontario). Just looking at her for the umpteenth time I knew she would fly. Another couple of high speed runs, lifted it off a couple of times and it did not seem to have any bad tricks. One more run to clean off the seagulls from Oshawa's longest (3500') runway and away we went. Absolutely indescribable- we were at circuit altitude before we were ready to turn downwind. Key climbing to 4000' still directly over the airport. At 4000' we very carefully turned off the electric

cont. C-GRAF

fuel boost pump and the engine pump carried the fuel just fine, though at 3.8 instead of 6.0 psi. All the temps and press were just fine and she was flying at about 125 indicated at about 2000 rpm and 19 inches. Next for some slow flight and stalls. Stalls in an exceedingly nose high attitude at about 60 indicated without flaps, rapid right wing drop and fall through recovered in about 400' that first time. G-meter tell tale read -0.5. Did a couple more stalls, no flaps and same results but recovered in about 300'. Now it was time to land it. I figured that if anyone ever stalls this airplane below 500' he has had it so I decided to approach at 90 mph with power about 1300-1400 rpm. No problems, crossed the button at 85 indicated, power off and eventually hit tail first. No problem controlling it. I stopped and took off again more to convince myself that I had really built an airplane and that it was flying than for any other reason. Landed again uneventfully but not well tied it down and went home for breakfast. It was 0730. Later the whole family came out and we flew it again with many witnesses. We had 50 hours on it by 29 Nov 75 including a climb test which the MOT requires before they will give you the final flight permit. The climb test has to be at full gross with the density altitude reduced to standard day conditions. I decided to make this a careful full load handling check as well as the climb test so we started out by loading in 50 lbs. of scrap iron, flying it and then 50 more lbs of scrap and so on up to 225 lbs. No problems at all though she handles somewhat differently. Finally the climb test at full gross. According to the MOT requirements I had to be able to climb at least 1210 feet in three minutes. My measured climb in three minutes was 3800 feet. Took all the paper work into the MOT last week and got my final flight permit without restrictions. I can now go anywhere in Canada, VFR and no aerobatics, and carry passengers. The test period was completely uneventful except for a sheared vacuum pump drive (new pump required). The longer gear makes the airplane a little softer on the ground and gives more prop clearance. The steel tail gear makes all the difference in the world. I have flown Fred Kracht's Thorp CF-YEI a lot and early on we had the aluminum tail spring on it. When I got my steel one made up we got two and changed Fred's as well. That aluminum one should be banned. In my opinion it is part of the problem why people have trouble on roll out in the Thorp. I have the large Mule tailwheel on mine and that helps too as the tire is pneumatic and quite soft. I went to the large tail wheel because of the large engine. However I did not need it for that reason. I have only one complaint about the plane and I am not sure if it is my piloting or the plane itself. I find it very hard to three point land well. The tail wheel almost hits first with a resounding thump of the front wheels whortly thereafter. I have pretty well given up three point landings and now do almost all wheel landings which are relatively easy. If I can ever find a really good tail wheel instructor I am going to ask him to come up with me and we will try some three pointers. (Ed: Try using full flaps. Makes a world of difference.)

I do not have much performance data yet. Partly because I have not had the time yet to lay out a really good measured course and partly because I am not sure how good my airspeed indicator is particularly at the top end. I compared it with the local Citabria one day and it appeared to be about 7 or 8 mph low but that is not much of a check. The max. speed that I have been able to get on the deck (500' indicated) is about 180. At this speed the control forces are exceedingly high (much higher than in CF-YEI) so I think that might be going a little faster. I have not taken it faster than 195 in a dive for this reason. I did one altitude cruise check on a leg about 125 miles long. For this leg which I flew at 16500 indicated I has an IAS of 137 which gave me a TAS of 176 mph at 2300 rpm and 18 inches. At this power setting I was fully leaned out and my fuel consumption was 6.5 gallons (imperial) per hour.

Now for that propeller. It is the standard Sensenich with metal edges 68LY82 I believe it is slightly too much prop for this engine. At a density altitude

C-GR F #644 cont.

of 50 feet; 29 inches (on my man. press. gauge) the max rpm that I can get static is 1950-2000. This is less than 50 per cent power. I believe this checks out because it takes me about 700 to 800' to get airborne, paved runway zero wind. By lift off 75-80 mph the rpm is up to about 2250. I get max rate of climb at about 110 indicated (1600-1700 fpm with just me) but the rpm will not go above 2350. I have to get above 6000 feet to get 2700 rpm at full throttle. On the deck full power the best rpm is about 2550-2600. At 10000' my best climb would appear to be about 105 indicated and the rate of climb is just over 900 fpm. I am in a bit of a quandry as to what to do about this propeller. As a cruise machine it has got to be the cats whiskers. However, she is not going to be much good for short field work or high altitude fields especially at full gross.

The engine came from the wrecked Mooney. It had only 1100 hours total time on it so I thought that I would simply pull it out, check the crank and stick it in the Thorp. One of the cylinders had some broken fins which I thought I could get welded. Oh how wrong one can be. I put a dial indicator on the front flange of the crank it was off about 13 thou, not bad considering that the Mooney went through a ditch and hit a tree on take off. Pilot claimed that he lost power. The Lycoming engine manual says that a crank can be straightened as long as the flange is bent less than 17 thou. So I bought me a lead hammer and started to strip the engine to get the crank out. Surprise #1. All the plugs were completely lead-fouled right up to and touching the electrodes. So much for why he lost power. I do not see how it could have run at all. Now I was really worried. Pulled off #1 cylinder. All the rings except the oil scraper were broken in one or more places and the cylinder was badly scored. The oil scraper was seized. Ditto for #'s 2, 3, & 4. Practically all the rings broken or seized, cylinders scored and all the ring lands in the pistons plugged full of carbon. Heavens what a mess! Worse was yet to come. The crankcase oil pan had almost 1" of sludge and sand in the bottom of it. Finally on magnafluxing we found a tiny hair line crack on the front thrust washer of the crank neatly following a thin tool mark in the radius. Good old Lycoming. Well I sent out the cylinders for boring and chroming, bought new pistons, rings, bearings, valves and springs, crank, gaskets and much misc and put the whole thing back together again. I put oil in it cranked over without the plugs and the oil pressure came right up so I figured that it was time to try and start it. It started after about three blades and has never missed a beat since. The rings seated themselves perfectly in less than 10 hours and now she is using about 1 quart of oil every six hours or so. At high power settings I figure she will use about 1 quart every 4 hours. I now use AD oil and change it every 25 hours. It comes out almost as clean as it went in.

Now for the cowling. I bought John's cowl because I wanted a metal cowl, easily removable and because I liked its looks. When I measured the size of the cooling air inlets I became a little worried since they were slightly smaller than those in CF-YEI and we had cooling problems in it with an G-290 D2. I decided to modify and use the Mooney baffles. I put the oil-cooler sloping about 15° from the horizontal in the bottom of the left cheek inlet. Cooling is very good. In fact it is almost too good. Oil temp. never gets above 165-170° F and the head temp never gets above 400° F even in a long slow climb.

Finally a word about painting. Needless to say I was scared silly of painting. I did not want to mess a nice airplane up if I could help it but I was not about to lay out the money that the so called professionals wanted to do it. I had repainted one of my cars once with a cheap old spray gun. It did not work out too badly but it was not up to the standard that I wanted for my aircraft. There is not much information around on painting. The News Letters were the biggest help by far. I went around and visited most of the aircraft suppliers in the Toronto area to get information on different types of paint, application and so on. Most of them could not even give me prices

GRAF #644

except for Randolph never mind the other info I required. Finally I got mad, decided that I would use Alumigrip (not withstanding the fact that the experts all said that I would not be able to put it on) and I called the Ontario Distributer. If I had had any doubts before calling him they were dispelled. I explained what I wanted to do and he treated me as if I was going to give him an order for \$50k. I went to see him. He gave me all kinds of literature and said that I would have no trouble if I followed the instructions exactly and did two other things: 1. Buy a professional spray gun, which I did, and 2. Buy an industrial carbon filtered breathing mask which I also did (the stuff is pretty potent.) The Alumigrip procedure is as follows: a. Go over the whole aircraft with scotch brite (just a scouring pad) panel by panel and get rid of all the shine. Wash with much water and dry. b. Next put on Metalprep 33 (an acidic etch) and wash off with much water. c. Next Alodine 1201 and wash with much water. d. Tack rag everything. e. Alumigrip 2-part zinc chromate primer. f. Alumigrip enamel. You have to watch the temp and humidity fairly carefully but otherwise it is just work. The enamel goes on very easily. Most people do not believe that I put it on myself. It is not perfect. I know where the bad spots are, they don't. The top of the fuselage has one cat's paw print on it. She is part of the family.

The airplane went together very easily. John's drawings are excellent and the newsletters did everything else. I would like to express my thanks to you for all the work you have and are doing in connection with the building of T-18's. The newsletters helped me to solve hundreds of problems quickly and easily. Matched hole technique is foolproof. I had a bit of an advantage because of all the help I got from Fred Kracht and his Thorp CF-YEI which I also flew a lot. I also got a lot of help from Herb Cunningham President of EAAC. Finally thanks to my wife, Ann who put up with a lot through all this. I will be happy to help any potential or T-18 builders in this area. My phone # is 416 284-5237.

(Ed. Note: It appears that 80 inches pitch would do the job. Otherwise, replacing the brass with plastic would pick up about 100 rpm. Also, try stall spoilers on the wings for that right wing drop off. Works great.)

MORE COORDINATORS: Roger Wesselman SN #179, 4054 Suburban Dr., Waterloo, Iowa 50702. Corwin L. Sylvester, 478 Monticello Blvd., Lexington, Ky. 40503, (Built 11 aircraft). Ken A. Rhoads, 175 Hickory Lane-Far Hills, East Peoria, Ill. 61611. Bob Froebel, 54 Cumber Ave., West Hill, Ontario M1E1T3. Bill Shaw, 174 Croydon Rd., Rochester, NY 14613

HELP DON TAYLOR FLY ALL THE WAY -- 44455 Benton Rd., Hemet, Ca. 92343.

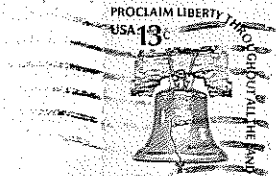
I am preparing my T-18, Victoria, for another trip around the world. I have wet the leading edge of the center section so have about 150 gals. capacity. Have eliminated the baggage tank since it was too far aft.

The local E.A.A. chapters, my own 92 and 1, 11, 7, 96, 448 & 494 are trying to raise the capitol for a 2nd world flight. I plan to depart 1 Aug 75 from Oshkosh. All financial assistance will be appreciated. As you know I feel our T-18's are capable of the flight and would like to show the world.

Ed. Note: Let's all help Don make the T-18 the world's first homebuilt to fly around the world. Bring this up at the next chapter meeting. Pass the hat and you'll probably get at least \$25. Don's address is shown above.

BOB DEVRING JR. FLIES #478 7638 Jupiter Way, Chandler, Ariz. 85224. Well, it finally flew on Thanksgiving Day '75. I live at Stellar Airpark a community of houses on a private airport. We have taxi ways to the back of our houses and most have planeports or hangers on our own lots. I started the T-18 Dec of '66 & it took 9 years. I worked pretty fast the 1st 2 years or so. Then I got involved in building houses (after my normal working hours). I'm on 5th house now. I don't think I would have finished it at all without the newsletters. It seems someone already solved all my problems before I got to them. I have read them probably twenty times over.

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