T-18 NEWSLETTER #43 6 July 75
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REGIONAL T-18 COORDINATORS- A good response was received to the request for regional coordinators. The latest list of T-18 plans owners will be mailed to each coordinator, except of course for the many blanks representing persons who moved without sending in a change of address. Builders can contact the nearest coordinator for information on other nearby builders and on local material sources. Most coordinators have sufficient experience to assist new builders with answers to their questions. This initial listing reveals areas not covered, so if your area needs a coordinator, why not volunteer? If I have missed listing anyone who wrote in, please write again for it is easy to place letters in the wrong file.

No.	Region	Name	Address
1	New Jersey	Elmer Hyman,	36 Center St, Midland Park, NJ 07432
2	Pa	Grover Rahiser, Jr,	517 Van Buren St, Evans City, Pa 16033
3	Ga	Conrad H Hagle,	90 Martin Point Court, Roswell, Ga 30075
4	Fla	Tom Daniels,	335 Okaloosa Dr, Winter Haven, Fla 33880
5	Ohio	Lewis Cunningham,	8180 Deepwood Blvd, Bldg H Apt 12,Mentor, Ohio 44060
6	Mich	William Beswick, Jr,	7144 Heatherwood Dr, Jenison, Mich 49428
7	Wis	B. C. Roemer,	Manitowish Waters, Wis 54545
8	Minn	James A Borg,	2451 115th Ave NW, Coon Rapids, Minn 55433
9	Ark	Lloyd Toll,	Box 303, H azen, Ark 72064
10	Neb	N. L. "Nate" Eastman,	Box 183, Kimball, Neb 69145
11	Tex	Richard Cavin,	10529 Somerton, Dallas, Tex 75229
12	N M	Vic J. Plath,	6109 Natalie NE, Albuquerque, NM 87110
13	Wash	Ford Hendricks,	PO Box 68097, Seattle, Wash 98188
14	Calif	Paul A Harris,	PO Box 7304, Menlo Park, Calif 94025

#844 Flies - M. B. Mantooth, 4109 Barnsley Lane, Olney, Md 20832. First flight was June 7, 75 but don't have any data since the canopy is off. No problems as far as I know except the oil temp went up too much. Airspeed indicator really goes to pot about 85 just above stall. Hope it does better with the canopy on.

#200 Flies - Jerry Ewing, Box 307 East Jordan, Mich 49727. After three and a half years, serial number 200 took to the sky on May 11th, mother's day. I have read in the past newsletters about first flights, how to taxi and how to fly. I taxied for about an hour and it felt so good on the ground that I knew it would fly. I used an airport 35 miles away with 7500 feet long runways made of blacktop. I took off, climbed to 3000 feet and leveled off. It handled just like an old airplane for everything was perfect. Did slow flight and came back to the airport and landed. By that time all of chapter 510 was there. I told them I was going back to East Jordan with a 3000 feet long sod strip. Am flying almost every day trying to get 50 hours before Oshkosh. Weight empty - 894 lbs. Engine - 320 150 hp. Prop - 68-63 metal. I will be going to a wood propeller. Static - 2200 rpm. Max level is 2750 rpm at 2000 feet. Max indicated is 165. Have gear fairings and pants. I am using a corvair oil cooler and oil temp never gets over 180° F. Cost to build was $5700 with full panel and 360 radio. Thanks alot for a very fine job on the Newsletter. It was a great help.

WOODEN PROPS - Lloyd Toll just reported that after some recent flying in 90° temp weather, he is convinced he needs less pitch in his wooden prop. He has a metal tipped Sensenich with 78" pitch and is going to replace it with a 76" pitch prop. His engine is the 150 hp O-320. For some reason, Sensenich is still sending out pitch information based on their early estimates before any tests were flown. The 150 hp engines need 76 " pitch and the 160 hp engines need 78". Lloyd will sell his 78" pitch W68LM-63 prop for 10 percent off original price.

Props Cont'd - At the last report, Sensenich had sold 80 wooden props of which about 40 had been ordered with plastic tipping. Just talked to Henry Rose and he reports that the only cases where the plastic tipping eroded involved aircraft which were being flown in IFR conditions of heavy rain. He said that Sensenich has now changed their literature on pitch recommendations and it is consistent with what I have been suggesting. Here it is:

0-290G	W68LM72	125 hp
0-290 D2	W68LM74	135 hp
0-320	W68LM76	150 hp
0-320	W68LM78	160 hp
0-360	W68LY80	180 hp

Dick Walen had used both an 80 and 82 inch pitch wood prop on his O-360 and he has now switched back to the 80 inch pitch preferring the higher rate of climb in hot weather.

George Rattray finally sold all of his super expensive prop extensions which Sensenich had designed for the W68LY wooden props. (This is the only wooden prop which takes the larger than standard SAE 4 size flange.) Now he is making and selling the spool type prop extension which I designed and which John Thorp now will sell you on request ($2.00 I believe , for the drawing that is.) Don't have the exact price, but I hear it is less than $100 from Rattray.

METAL PROP SURVEY - I am happy to report that there have been no further incidents with cut-down metal props since the Hartzell in-flight vibration tests. Since a large percentage of T-18 builders already have metal propellers and don't want to incur the expense of another propeller, it would be of special interest and value if we could obtain service information on the cut-down metal props that are now or have been in service. If you have used a cut-down metal prop on a T-18, please fill out the questionaire at the end of this Newsletter. Results of the survey will be published in the next issue and also sent to Sensenich.

The value of metal in a propeller became evident recently when my W68LM74 began to run a bit rough. I took it off and checked the balance finding that it was 1.75 grams out of balance. No wonder it felt rough! There must be a quarter of a cup of water running around in there. Otherwise, I am quite happy with it.

BALANCING A PROPELLER - To balance a propeller, it is necessary to get a good tight mandrel through the hub and level parallel bars. The mandrel can be made in the form of two aluminum plugs inserted from either side. Or it can be made of a wooden plug with a 1/2" or larger pin through the center to provide a good smooth rolling surface. To obtain best results, the parallel bars should be mounted on two long pedestals to permit the prop to be rotated to any position, but it will suffice if they are just high enough to permit the prop to be oriented horizontally. I use my table saw top which I level up by placing shims under the legs and checking with a good carpenter's level. Then I place two 3-inch long pieces of scrap main spar extruded angle on two 1-inch high steel blocks. I cleaned off the edge of the extrusion with a file to get a smooth straight surface. To compensate for a slight non-level condition of the parallel bars, always check balance with the prop pointed in first one direction and then the other. Happiness if very definitely a smooth running propeller.

MY J-3 FLIES AGAIN - Happiness is also flying a Cub low and slow. After spending 10 years standing on its nose beside my T-18, my J-3 just took to the air last week end with a shiny new re-build job and overhauled engine. After three or four evenings of flying, I filled it up with a whole 8 gallons of gas. With a 34" pitch climb prop, that 65 hp Lycoming engine really stands it on its tail on climbout. The only problem was a rough running prop, but after I took it off and balanced it, now it runs as smooth as a sewing machine, instead of a threshing machine. But after getting used to the T-18, its ability to roll seems infinitely slow. One thing I can say for sure, if you learn to land a T-18, landing a Cub is a snap!

Embrittlement cont'd - The Federal Specification regarding cadmium plating is QQ -P-416C. Note in paragraph 3.2.8 that it is appropriate to bake a part for three hours or more after plating."

The following is a quote from par 3.2.8: Embrittlement relief. Unless otherwise specified or stated in the end product specifications, all steel parts having a hardness of Rockwell C40 and higher shall be baked at a minimum of 375 ± 25 °F (191± 14 °C) for three hours or more, within four hours after plating to provide hydrogen embrittlement relief.

The above note is included on T-18C drawing #231. Any plating shop worth their salt will be quite familiar with this procedure.

DRILLING HOLES IN PLEXIGLAS - Elmer Hymen, 36 Center St, Midland Park, New Jer 0743 I have tried lots of ways to drill large holes in plexi and had lots of cracks. Now what I do is drill a small hole 1/8" in diameter using a standard 1850 rpm electric drill. Use a rate that lets the bit do the work. Then I have a reamer that is tapered from 1/8" to 1/2". I feed this in the hole with a slow speed drill stopping at the right size and that's it. I find that this method works quite well with no cracks so far. I tried it on some scrap pieces first to see how rough I could get and it works real good! The same procedure works for making large holes in aluminum sheet also.

BATTERY CABLE ROUTING - Elmer Hymen asked how he might route the cables forward from the b attery. It is probably possible to run them through an aluminum tube mounted in the tummel in such a way that it does not interfere with push-tube or cables, but I ran mine up the side of the fuselage over the wing cut-out. I simply drilled holes in frames and put in grommets. One which I saw that routed cables through the tunnel had them rubbing the tube.

FUEL TANK CONSTRUCTION - Bill Johnson warns that builders who make fiberglass ends for fuel tanks and join them to an aluminum sheet center portion with Pop rivets might be asking for trouble. Even though one uses epoxy tank sealant, a reliable bond cannot be achieved unless the metal is chromic acid or phosphoric acid anodized. All of the other surface prep systems break down in the presence of water. It is my personal opinion that the entire tank should be made of fiberglass as described in previous Newsletters. So far, mine constructed in this fashion hasn't leaked a drop.

T-18 PROPELLER QUESTIONNAIRE Please fill out and return if your T-18 is flying

Make and model of propeller original blank - M74___M76___ Other_____
Length____" Pitch____" Which prop shop cut it down?_____
T-18 Registration No - N_____ Engine make and model_____HP____
Owner's name and address_____
Original builder_____
Total hours flown with above prop_____ If more than one prop used, make additional forms as required.
Maximum static rpm_____ Max level flt rpm_____ altitude?_____
Max level flight TAS_____mph. Full throttle rate of climb at 2000 ft_____.

The above information would also be of value for wooden props, so will all persons with flying T-18's please fill out and return this form as soon as possible.