

DONALD A. DALE  
P. O. Box 699  
Orleans, Ontario  
Canada

MUTUAL AID LETTER #37

FEBRUARY 1972

Dear Fellow Builders:

I wish very much to thank the kind people who wrote and wished me luck as our new editor. It is gratifying to know you have a cheering section--thanks again.

In the last issue much space was devoted to the subject of locating material and I must confess that I did a lot of soul-searching before printing it because it seemed quite elementary to me. Well, a number of people have written to thank me for this information so I think I will have a "How I Did It" space every month and if some people have passed this point in construction then perhaps they can contribute something to this space for the benefit of those who are not so far along. In this manner we can stimulate communication among our members. It is not my intention to decide what should be printed but rather my function is to print that which the members want so "keep the cards and letters coming folks" and you will be heard.

#### LABOR SAVERS

When it came time to cut out the fillets on the spar plates (.080 2024) I was in a bind because there was no band-saw available for me so after much thinking I decided to try the following, which by the way, turned out beautifully.

Obtain an ordinary sabre-saw of the hand-held, reciprocating blade type and buy some high-speed, metal-cutting blades for it. Be sure you have a couple of extra blades on hand because it is easy to break a blade while you are cutting.

If the material to be cut is not paper-covered, then using masking tape or some other method cover the material on the top side. If you do not cover it, chips will get under the metal plate of the saw and scratch your work beyond repair. Lay out your cutting line on the masking tape and saw along the line, leaving about 1/16 inch waste material which you will remove later with a file. Be sure the work is clamped firmly before you begin sawing or the results will be disastrous--also be sure your family is out of the house before you start because the noise of this little saw is very irritating. In places where a 90-degree or similar bend is encountered, I drilled a hole and sawed up to the hole from one direction and away from it in the other. After a couple of broken blades and some bad language you will get the hang of it, in fact you will begin using it more and the hack-saw less. I have not tried this little saw with steel and the heaviest aluminum was .125. You may find that it gets quite hot to hold so use your own judgement on when to rest it.

Another tool that is very handy and saves hours of time is a belt-sander and it can be used for a multitude of other household projects as well. Tapers on heavy fittings, whether they be steel or aluminum can be accomplished in minutes whereas it would take hours with a file or cost a fortune to mill. Since spar caps may now be purchased it is probably old-fashioned to make your own but if you choose this method you will find the sander a real boon. Be very careful when using it because heat builds up very fast and your work may become warped before you are aware of it; also, choose your sander belts carefully because the coarser ones leave small gouges in your work. I suggest you practice with some waste material to get the hang of it.

For cutting holes I used a Sears "Craftsman" model 3645 circle cutter which is adjustable from 7/8 to 4 inches, costs about \$4.00 and takes 45 seconds to learn to use. Mine is over 4 years old, has cut every circle in my PL-1 and is going strong yet so one gets his money's worth with it.

I received a very interesting letter from Duane C. Seymour, PL-2 #25 whom I believe is in the military in Japan. He suggests that one agree with the supplier in advance on who pays shipping charges and what is his policy on returned, unacceptable items. This cat has some good words also on fly-cutters and I will quote him verbatim on the subject.

### FLYCUTTER

The flycutter is a very good tool at cutting flies---and fingers. I have a one inch scar on my left hand middle finger to prove the latter. I was using the flycutter in a drill press with the part properly clamped and the cutter on the lowest RPM possible. I had cut the series of lightening holes in the rudder spar satisfactorily but when the last one was finished I reached into the arc of the cutter before it stopped rotating after I switched off the drill-press. Thinking back I believe it was a normal habit pattern because of constant, safe, use of twist drills plus (and the main thing) you can't see the cutter as it rotates. After stopping the bleeding and swearing, I did a little thinking on how to make the cutter's arc visible. My Sears cutter came with a small bright red plastic cap over the sharp end which I tried putting on the opposite end but the arc still wasn't visible. Second successful try was to tape to the top a 2½" x ½" piece of white cloth. This acts as a flag that trails behind clearly showing you the cutter arc. Words of advice on using flycutters are:

1. Use the cutter in a drill press only.
2. Securely clamp the material being cut. If the cutter digs in and the work piece isn't clamped it will merrily beat hell out of anything within range.
3. Use the slowest drill press RPM.
4. Feed the cutter into the work slowly, evenly, and carefully.
5. Always have a scrap piece of wood behind the material as a backup board.
6. Tape a piece ow white cloth to the top of the cutter to outline the arc.
7. Keep a first aid kit handy.
8. See Newsletter #27, page 3, Mr. J.K. Becker, for a safer way to do it, if hole saws are not available.

"Duane C. Seymour"

Duane also is concerned about the T-18 problem of matching props to the Lycoming O-290-G. Perhaps I can hear from the experts and I will publish all material on the subject that members' send in. I personally am a little concerned about the subject of "harmonic fatigue failures in propellers so let's hear from anyone who has some facts or details.

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If you PL-2 builders do not already have a copy of "Light Airplane Construction" by Paz, you are advised to obtain a copy because it is worth its weight in gold. The price is \$7.00 and may be obtained from this address,

Pazmany Aircraft Corp.  
Box 10051 S  
San Diego, Calif. 92110

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Lowell Kleuen, PL-2 #18 has asked for help in using Alodine and chossing a paint process. His questions are listed here so if you can help him, please send your donations to me and I will publish it so that all may share your wisdom.

1. How does one obtain an even coating of Alodine on the aluminum parts? He is using Alodine 1200-S.
2. What painting process does one use; enamels, urethanes, laquers, etc.?
3. What primer; what wash prime; what sequence, does one use?

George Rattray is back in the news this month. He writes to say he has received several tip-tank orders and he included a beautiful colour picture of the tank parts. They look exceptionally good and I do wish I had a picture each for you to see--(perhaps when I become as successful an editor as Hugh Hefner I can afford a colour newsletter). George learned how to drive airplanes as a member of the Royal Canadian Air Force in Ottawa, but that was a couple of years ago.

I have received a couple of complaints about a pair of operators who appeared in Newsletter #20 with an ad for formed parts. It seems they don't answer their mail so if any of you can comment on whether they are still alive or not, please advise.

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In closing, thanks again to all the kind souls who have written to wish me luck . I didn't know what a good bunch you were.

Best regards,

*Dan Dale*