



Skywriter

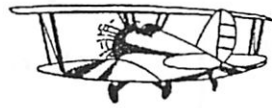


Monthly Newsletter of the Calgary Ultralight Flying Club

May 1993

Off We Go ...

by Wayne Winters



The other evening, after a leisurely flight, we were standing around and behold - a sure sign of nice weather appeared. The ver faithful mosquito. Isn't it wonderful how mom nature preserves there little blood bandits through all that -40 degree stuff! The spring varieties are not very aggressive. They land, they mill around, they get ready to drill and then splat - you have had time to tap them on the back and give them a real close-up view of your arm. Now all that remains to be done is a simple flick from the index finger and another blood vulture bites the dust. Interesting how quickly they adapt and start dive-bombing, probe ready, and before you even get a chance, they are up to their ears in your arm! OUCH! Imagine how it must look to aliens when they see a group of pilots standing around outdoors chatting and slapping themselves silly for no apparent reason.

April's Guest Speaker

We have all seen them from a distance, very few of us have really had a close up look, and almost no one has gone for a ride in one - we are talking about Hot Air Balloons. Bill Lester, the past president of the Calgary Balloon Club and Richard Clark, the president elect for 1994, came to our meeting and gave us a most interesting presentation. We viewed slides of different balloons and were informed how they operate. It was pointed out how some of the interesting shaped ones we see flying around are quite difficult to fly. It is amazing the amount of power the burners put out - 150,000,000 BTUs. The equates to a thousand plus horse power. The average fuel consumption for a flight is

a litre per minute of propane, which works out to \$17 to \$18 per hour, which is slightly over double the cost of fuel for an ultralight per hour. The cost of the balloon, basket and burners is around \$15,000 to \$16,000 for an entry-level model and can go as high as \$30,000. The cost of a replacement sail (balloon) is in neighbourhood of \$12,000. The life expectancy of the material is about 400 to 500 hours, which works out to about \$27 per hour. Wow! These balloonists must either be rich or dedicated enthusiasts! After a very interesting indoor presentation, we adjourned to the parking lot where they rolled out and inflated Bill's balloon. With the balloon tied down, a couple of members were taken for a 10-foot hop. The evening turned out to be a very enlightening one (no pun intended) and on behalf of the members of CUFC, I would like to once again thank Bill and Richard for their presentation, time and effort.

About two weeks later a student and myself were on a training flight and had an opportunity to watch about 6 balloonists land in a field 1.5 miles south of the Indus air field. We were all smiles and grins as we saw some of them come close to the ponds in their landings. Can you imagine the aggravation of swimming to shore with your basket and balloon clutched in your teeth, trying to keep them from getting wet! They all made good landings though, despite the wind of the day, and apart from upset baskets and plowing a little dirt, everything turned out well.

X-Countries

The cross country flights fizzled out

again in April. The weather keeps giving us the gears! On a non-scheduled one though, Stu Simpson, Gord Tebbutt, Fred Wright and myself flew from Indus to Ben Stephanich's strip. It was one of those typical spring days with lots of "spring" in the air - up and down and bounce you aroun'.

It is always a lot of fun to go flying with the "boys", so lets try for ONE only in May. We will make it Saturday, May 15th. We will leave Indus at 0800 hours and go to Vulcan.

Regulations Update

There is nothing that is hot off the press and should be brought to your attention.

Rotax Price Increase

In the last issue of Skywriter I mentioned about the increase in price of Rotax engines. Since, I have gone back to the May 1988 (5 years ago) prices for the 503 and 532 engines. Taking into account that there has been dual CDI added to the 503 and that the 532 is now updated to the 582 with dual CDI and oil injection, the prices have increased by about 45% for the 503 and 50% for the 582. I wonder if one would be safe in predicting another 10% increase for next spring? Since the folks at Rotax don't seem to want to let up, despite the prevailing economic conditions, be prepared to pay about \$7,246 in 1998 and \$11,658 in 2003 for your 582 engine and gear box.

I sure hope someone out there is considering manufacturing an affordable, reliable, light power plant.

Door Prize

Our door prizes for the meeting were a 1920 Air Cadet regulation poster going to Fred Wright and a "Flying Machines" paper airplane kit going to (continued on page 2)

(Off We Go - continued from page 1)

Bruce Piepgrass.

Meeting Reminder Team

Each month Don Rogers and Ron Sondergaard phone members and remind them of the meeting (those that are not long distance). We offered to give them a break and have someone else do it, but they both graciously agreed to continue in their duties. On behalf of all the club I would like to thank these gentlemen and let them know how much we appreciate the service they are providing.

Engine Failure

On Saturday, April 10, we had been flying the Beaver RX550 (532 engine) all morning without a hitch. In the early evening when Bill Watson (new member) and myself fired up the cold engine and started to board, I noticed a slight rattling noise in the engine. It was only noticeable without the intercom headset placed over my ears. Since I had never noticed it before and it was very loud, we let it warm up and taxied out to the runway.

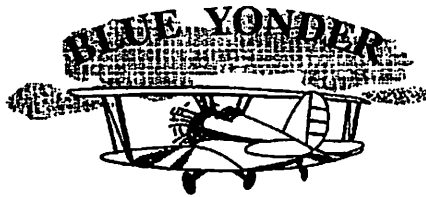
Before taking off we shut the engine down and tried to find out what was causing the rattle. Everything checked out OK and the only time we could hear it was without the headset on and at idle. We opened the taps and blasted into the sky, the objective was to gain as much altitude as possible in case of a failure. Sure enough, after a light sputter we pulled the power and set her down. Upon stripping the engine it was evident that a con rod bearing was failing. The sputter was caused by a small piece of it's cage getting into the upper cylinder. (The wrist pin bearings are cageless while the con rod bearings are rollers in cage.) The engine has a total time of 1068 hours on it and 268 since an overhaul, which was done at 800 hours. At that time new crankshaft bearings, pistons, rings, wrist pin bearings rotary valve bearings, etc. were installed. The con rod bearings were not replaced, as the crankshaft has to be split, and they were well within tolerances at the time. The boys at the Rotax Service Centre were really surprised that the engine had that many hours on it. They say that seldom do they get more than 500 to 750 hours without doing the crank. I pointed out that I was expecting 1500 to 2000 hours out of it. The crank will be going to Austria, to the factory, for examination, because of the high time, all in a training school environment, plus the fact that the hours are all documented. Overall, the lesson to be learned is to be familiar with how your engine sounds, without hearing protection (at idle, etc.), and when you hear an unusual rattling noise in it's bottom (or top) end, don't assume it is

a snake or something loose in the muffler!

Propellers - 2 or 3 Blades

Have you ever wondered which is going to give your aircraft better performance - a 2-blade or a 3-blade prop? The word is that a 2-blade with a larger diameter will out-perform its 3-blade equivalent. Well, I decided to find out for myself. The test was done on the E-Z Flyer with a 503 dual card and 2.58:1 gear box. The prop on the aircraft is a GSC wooden 60 inch ground adjustable. I am not sure on the pitch setting, but it causes the engine to produce 6250 RPM (49.5 HP) at a 45 mph climb out. It was a warm evening and conditions were almost calm. Using a stop watch the time to climb from the ground to 600 ft AGL was measured. With the 3-blade prop the results in, 3 runs, were 119, 128 and 127 seconds. The first time there was a very slight breeze and the other two, nothing noticeable.

Next the 3-blade prop was removed and a 2-blade wooden GSC fixed pitch (66 x 32) was installed and the tracking checked. This time a climb speed of 45 mph produced an engine RPM of 6600 (51 HP). the ground to 600 ft climb out was as follows: 115, 117 and 116 seconds. Winds were calm on all climb outs with the sun setting (maybe cooler) by the third run. Knowing that the HP was obviously increased with the additional RPM achieved by the 2-blade prop, I tried a climb out at 6000 RPM (46-47 HP), which took 134 seconds to climb 1/2 the distance (300 feet).



AVIATION

936-5767

- Flight Training
- Ground School
- Intro Flights \$20.00
- Gift Certificates
- Rentals (Block time \$35/hr)

Get your license for as little as **\$749.**

Located at the Indus-Winter Aire-Park

Dealers for

Easy Flyer

T.E.A.M. mini-MAX

Build and fly this popular kit for only \$6500.00

Wayne Winters is back again!



EXECUTIVE

President
Wayne Winters 936-5347

Vice-President
Doug Ward 282-0806

Treasurer
Gord Tebbutt 288-0545

Secretary
Bernie Kespe 255-7419

Director
Stu Simpson 240-3019

Skywriter Editor
Bob Kirkby 569-9541

Skywriter is the official publication of the Calgary Ultralight Flying Club and is published 12 times per year. Opinions expressed by our writers are not necessarily those of the club. Articles and letters to the editor are very welcome from any readers. Address correspondence to: Bob Kirkby, RR 7, Calgary, AB T2P 2G7

Meetings of the Calgary Ultralight Flying Club are held the first Wednesday of every month at 7:30pm at

R.C.A.F. Association
110 - 7220 Fisher Street S.E.
Calgary, Alberta

I then switched back to the 3-blade prop and tried it at 6000 RPM. The results were that it took 101 seconds (33 seconds less than the 2-blade prop) to get to the same 300 feet. I then
(continued on page 6)

Around The Patch

by Stu Simpson



My Idea Of Fun

"Well Bob, what do you figure?", I asked.

Kirkby had just landed after flying a circuit in his Renegade to check the flight conditions.

"It's pretty bumpy up there from all the thermal activity.", he replied. "You'll have more trouble with it than I will." He was referring to the light wing loading of my Beaver.

"Aw, what the hell.", I said, "Let's give it a try."

Ten minutes later I was rolling down runway 16 at Kirkby Field. The Beeve lifted easily into the afternoon sky and I turned to the southwest. I soon settled in on course and waited for Kirkby to catch up. Which he did a few minutes later, perching off my left wing, the Renegade glinting in the afternoon light.

I drank in the sensation of the day and smiled to myself. The sun was high and bright in a spring-time blue sky. The wind scooted out of the south at eight to twelve mph, warmly tickling my face as it passed by. My leather jacket flapped in the slip stream. The earth was still a blotchy black and tan, not yet awoken from a long, hard winter. The ground was casting thermals up at us like thunderbolts. The hot rising air tossed us around like a juggler tosses bowling pins. But I'll tell you, there wasn't any place else we'd rather be.

As our little formation drew near Indus I radioed my wingman with a question. "Dragonfly 02 this is Dragonfly 01. How do you read?"

"Dragonfly 01, I read you loud & clear", replied Bob.

"Good. Be advised you've got a radio tower at your twelve o'clock for three quarters of a mile."

Kirkby whipped his plane into a hard left turn. I think he was having flashbacks to his flight from Red Deer last summer, where he very nearly hit a millar tower. He thanked me for the warning and veered to the east to avoid the tower completely. No sweat, it was the least I could do.

We passed over the Bow River a short while later and watched it meander out toward Saskatchewan. We saw cars travelling the roads below us and I marvelled for the thousandth time how they, and the rest of the world's possessions, seemed like toys beneath our wings. I knew we didn't belong to the earth though. We belonged to the wind.

About five miles north-east of Okotoks we switched to 122.80, the local frequency. After listening for other traffic, I radioed our position and was pleasantly surprised to hear a reply.

"Dragonflies.", the caller stated, "conditions at the airport are: wind from the south at about 8 knots, favouring runway 16. The only traffic is a Cessna 172 taxiing for takeoff."

We entered the circuit as I watched the Cessna take off. I'm only guessing, but I'll bet the pilot was having nearly as much fun as us. We landed a few minutes later, cleared the active and walked over to the hangar building.

When we walked into the airport office, we were greeted by a grey hair fellow whose voice I recognized from the radio. His name was Mac Arbuthnot, the chief pilot at the Okotoks Flight Center. He's been flying airplanes since girls have had garters. He spent several years bush flying in Ontario and then instructing all over the place. Bob and I spent an enjoyable half hour hangar-flying with Mac and swapping lies--uh, I mean true stories. I even bought myself an official "Chick-Dig-It" Okotoks Flight Center ball cap.

Checking out the wind sock, it seemed the breeze was picking up a bit. So we decided it might be a good time to split, bug out, vamoose, and go home. Especially since Mac was starting to ask for more details about those "stories".

Bob waited patiently on the taxi-way while I strapped in. I usually takeoff from the intersection at Okotoks and this day would be no exception. I fire-walled the throttle and the Beeve was up and flying again after only a forty foot ground roll. I made an immediate left turn out and listened as Bob announced his takeoff. A few minutes later, we were formed up again and heading north to home.

Our trip back was quite a bit smoother and faster than the flight down. We had the wind at our tail and we rode with the bumps instead of against them. As we passed over Indus airport, I was disappointed to see the place deserted. I figured there'd at least be some guys out doing circuits.

Kirkby Field quickly appeared as a tiny dot on the horizon and I felt a twinge of sadness that our flight was nearly over. All too soon I watched from my downwind leg as Kirkby made a perfect touchdown on his grass runway. I had to fight my way down through the thermals just to get on the glide path. A light wing loading can be such a pain.

My landing wasn't one of the greatest, but at least I didn't break anything. Bob grabbed a strut and helped me taxi in the cross wind.

I shut down and we talked a bit about the flight and the bumps and the wind and just how much fun the whole thing was. Then we each put our planes away, said goodbye and went to the next place we had to be. I guess, for me, the end of a flight is the end of an adventure. I regret that it's all over, but I'm still happy I had a chance to be there. And I know I'll be back for more.

Classified

Airlight Model "A" Parasol - Steel tube & rag, Rotax 503, Warp Drive, lots of instruments, 800 x 6 tires, strobe, CB & VHF hookups, folding Kolb wings, \$9,950.00 (Reduced). Jim Creasser 226-0180.

Trailer - all metal, fully enclosed, 7'w x 24'l x 6'h, built for airplanes, \$800.00. Jim Creasser 226-0180.

Hiperlite 2-place - excellent condition, Rotax 503, full instruments, extras. One of the best aircraft around. Asking \$20,000. Paul Hemingson 931-2363.

Rear Fairing - for RX550, white, new, \$50.00. Doug Ward 282-0806.

Ivo Prop - updated 3-blade, ground adjustable, 60", composite blades. New - \$300. OBO. Paul Hemingson 931-2363.

Hiperlite SNS-8 - 200 Hrs. TT, hydraulic brakes, ground adjustable prop, STOL, fun aircraft to fly, good condition, \$7500.00. Bob Campbell 934-3657.

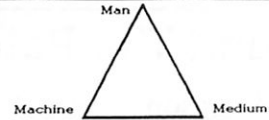
Classified ads are free to CUFC members. Call Bob Kirkby, 569-9541 to place your ad.

Quebec Chronicle

by Paul Pontois

Safety Corner

by Paul Hemingson



It is a long time that I did not tell you about our small ultralight group in Quebec.

We are, for the time being, 8 ultralight builders/pilots spread between Louiseville (Ste. Ursule) and St. Etienne (near Quebec City). We meet every 2 months. It is certainly the longest Canadian ultralight club.

Being only 8, it is very convenient to meet in private houses and/or to go together eating in a good restaurant (Ste. Ursule to Quebec is a 2 hour and 15 minute drive). Two months ago we met in Ste. Ursule. Last Saturday we met in St. Etienne (Quebec City). In two months we will meet in St. Anne. (St. Anne, where the Hivons have their private landing strip, is convenient being only 1 hour of flight time from Louiseville airport or from St. Etienne). Last fall we all went for a day to Ottawa to visit the Air Museum.

Let me introduce our members. They are all ultralight pilots.

Jocelyn Fontaine (St. Etienne) is a truck driver. He is building an FP303, modified for better aesthetics. He gave a new look to this too classical design.

Roger Saindon (St. Etienne) is building his own design. He is working for a furniture company. His project looks like an FP606. He is a very careful builder.

Marc Gravel (Quebec City) is a machinist in a paper mill. He loves engines and electronics. He is currently building a Super Koala 2-seater. His construction is superb.

Jean-Claude Hivon, Andre Hivon and Rene Mercier are already familiar to you (Skywriter - December '90 and February '91). By the way, Rene Mercier is also an already well known painter in water colours, painting the beautiful landscapes of Quebec.

Andre Saint-Pierre, a planning Specialist in Hydro-Quebec, also worked in the atomic industry. Fond of engines, he built and flies a Sky-Pup and is currently rebuilding a Pelican.

Paul Pontois, as you know, makes panty-hose during the week, flies a Sky-Pup on the weekends, and is building a Zenoah-powered Hi-Max.

As the three Musketeers were four, our

WEATHER TO FLY...OR NOT ??

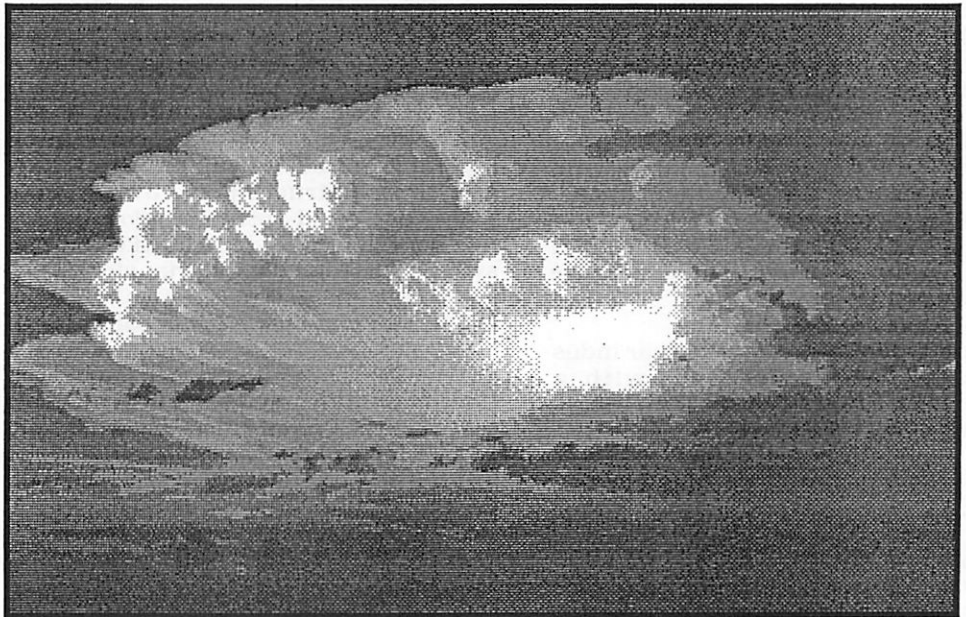
At the last UL Club meeting several members asked for some information on weather, especially weather as it affects UL flying. I will assume (possibly wrongly) that both student and experienced pilots will avoid Cumulus Horribillus clouds, winds over 15 knots, and fog, snow, rain or other obvious 'NO GO' kinds of VFR conditions. You cannot control the weather, but you do have control over the kind of weather you fly in.....or at least the weather at the beginning of the flight. So, in this article I will mainly talk about the nemesis of gusty winds encountered enroute. This translates into a discussion of the effects of convective and/or mechanical turbulence on UL aircraft.

To begin with, different UL aircraft can handle different amounts of adverse weather, so what I say needs to be tempered with the kind of machine your flying. Also to be considered are the skill and knowledge level of the pilot. In general, the lighter the wing loading, the more the aircraft will be affected by convective or mechanical

turbulence. For example a Lazair will be more affected by the relative wind conditions than a Beaver, Merlin or Rans Coyote, or Cessna 182, or 747. On the other hand, given the same conditions, an experienced pilot may feel quite comfortable in the Lazair when his novice wingman in a Beaver is highly uncomfortable. One pilot's bad air may be another pilot's acceptable weather.

In this discussion, I am defining 'good air' as the kind of conditions where there is minimal turbulence and minimal control input to keep the aircraft straight and level. Pilots will talk of good air as being smooth as silk, or thick, or simply nice. It is nice, because there are no invisible surprises lurking to unseat them.

UL aircraft with their slower speeds do not experience the kind of solid bumps or chop that heavier and faster aircraft experience. UL turbulence is more of a wallowing, harrowing phenomena that leaves me slightly nauseated after prolonged exposure. I have experienced a light chop or 'rippling' (continued on page 5)



"Cumulous Horribillus" cloud near sunset.

8 members are nine.

The ninth one is Georges Gaudet, former Air Controller, now Customs Officer and professional photographer. Georges is building a Sky-Pup, 80% completed. He is visiting us only once

in a while as he lives in the La Madeleine Islands (near Newfoundland).

We are pleased to meet and to help each other. We all pay huge bills to the telephone company.

phenomena on evening flights that is quite pleasant. For the most part a pilot's initial training exposes him to only the basics of weather. Ultralight training is usually accomplished over a short period of time. It is common to get your minimum time for licensing done all within one season, for example spring. By definition, this means you are only exposed to the nature of flight under those conditions, and once a hot summer day arrives, or a cool winter day the pilot finds himself in unfamiliar air. The best, and only way to gain experience, is to fly.

There are two schools of thought on exposure to weather during flight training.

One school of thought advocates that novice pilots learn to fly in ideal weather. The rationale being that a pilot in training does not need his initial training spiced with rowdy air. This is a time to concentrate on the mechanics of flight, as opposed to fighting the air.

The second school of thought advocates that pilots should learn to fly in 'all' kinds of weather, and the training school exposes its students to the various air conditions which he is likely to encounter. Still, the small number of hours usually means that a lot is 'signed off' without much experience.

This means that most pilots learn to fly in various kinds of conditions by their own experiences. The pilot's first encounter with adverse weather may leave him confused, disheartened and sap his/her confidence for the Joy of Flight. The airplane and weather seem to be controlling you. This kind of setback is normal. Hang in there, and your self esteem and confidence will return once you understand what is happening. Once you realize you have control, then everything falls into place.

The key to successfully learning to handle various kinds of weather is to get your experience in bite sized pieces. This puts the onus onto the pilot knowing something about the local conditions, so that he can judge for himself that weather conditions are within his personal envelope of capability. The newscast weather is for a large area, and the local microclimate may be considerably different.

Safe flight requires that three elements be considered. These are skill, knowledge, and attitude. Knowing when to go, when to wait it out, when to put it down, and when to fly another

day makes for safer flying.

A starting point for learning about the weather is watching the local TV newscast. Compare the expectation (the forecast) with the actual conditions everyday and soon you will be proficient at predicting and recognizing good, mediocre and bad conditions. As a general rule, when a strong High pressure system sets up the conditions are clear, and good for UL flying. Don't be afraid to phone your local FSS. Tell them you are an Ultralight pilot and allergic to winds over 10 knots, and that you want to know the conditions they are reporting and predicting. Also ask what the pressure gradient is in your area. A tight or high gradient usually means strong winds will develop. The FSS will be most helpful.

Here in Western Canada, there are several common weather phenomena that the pilot should be aware of, and occasionally beware of. To start with the forecast is often wrong. Don't be too quick to accuse the forecasters of incompetence. Given our proximity to the Rocky Mountains, and their effects on the weather, this is a difficult job. All the more reason for you to be able to recognize the weather for what it is, as opposed to what it is supposed to be.

Convective turbulence is simply vertically moving air and fortunately it is quite predictable. On hot summer days you will have to fly early in the morning or late in the evening to avoid the convective turbulence caused by uneven heating of the earth's surface. Vertically moving air currents are the result of air density differences. When air is heated it expands, the molecules are further apart and consequently its density is decreased. A heated air mass, surrounded by cooler and denser air rises due to its buoyancy. Presto, vertically rising air. There are several manifestations on flight of hot and rising air. For one thing, even if there is no air movement, the wings receive less sustenance on a hot day....or to think of it another way, more speed is required to get the same lifting force that one would receive on a cooler day. This manifests itself into a longer take-off run. In some cases, your summer days take-off run may be twice the distance of your winter distance take-off. One tip off to strong convective turbulence is the number, thickness and level of those puffy flat-bottomed Cumulus clouds. The more that form, and the thicker they are, the stronger the thermals. Towering Cumulus are a sure sign of instability and convective turbulence. Also the lower the base of cloud activity, the stronger the thermals. Watch and

observe for yourself the intensity and duration of puffs and eddies of wind you experience on the ground on a hot day. For example, while your doing your walk around, a light breeze may come up, disappear and then reappear. This is a tip that some instability is present, and you will experience some convective turbulence on climbout.

If no clouds exist, watch for hawks circling over the plains. This is an excellent indication of strong thermal activity. These birds are the ultimate readers of convective air. They use it to effortlessly survey their territory, occasionally twisting the end of a wingtip to circle back into the rising air. UL pilots and fieldmice commonly avoid coming out on those 'nice' days when convection means circling hawks with 20-20 vision from 1000 feet up. Another tip off is the presence of dust-devils. Those mini- tornado funnels that move across the ground in their narrow pillars of rotating air entraining dust, papers and grass.

After a while you will be more confident in flying in mid day and be able to interpret the updrafts and downdrafts. For example, over a summerfallowed field, dark in color, you will experience a rising air column. Conversely, over a forested area, or body of water you will experience a downdraft, or sinking air. You will even hear the change in pitch and intensity of your engine as the air currents change. If you peek at the airspeed indicator you will note that your airspeed changes (decreasing in the updraft, and increasing in a downdraft) accordingly. Crossing over a black asphalt Highway you will expect an upward 'bump'. With time and conditioning it will be as normal as expecting a bump when you drive your car over a manhole cover or frost heave raised or sunken by the frost action.

One obvious way to avoid the thermal activity is to confine your summer flying to the cool mornings or evening. One way to learn to handle convective turbulence is simply to begin and end your morning flights a few tens of minutes later each day.

Sooner or later you will find yourself in a midday flight, and one way to get out of the intensity of thermals is to fly higher. The higher you go, the cooler the rising air becomes, and consequently the strength or buoyancy of the thermals decrease. Do not be unduly concerned with gaining or losing a few hundred feet of altitude. In most cases, what you lose in downdraft, you will get back in an
(continued on page 6)

(Safety - continued from page 5)

adjacent updraft. If you want, you can increase power and try to climb in the downdrafts and reduce power in the updrafts, but I find this tiring and largely unwarranted. With one exception. This is explained below.

Sooner or later you will have to come down through the hotter air. It is often a good idea to carry a tad of extra airspeed on short final. This is because the closer you get to the ground, the wind speed may decrease, as well as the air getting warmer, resulting in a stagnant hot air condition close to the ground. This is often the cause for 'dropping in' giving you a hard landing and bounce or two. If you EVER find yourself descending too quickly on short final, DO NOT HESITATE to add power. Many a pilot has left his landing gear short of the runway threshold due to stalling in as he hauls back on the stick in sinking air. He who hesitates, don't levitate.

Next month, we will explore the mechanical turbulence due to chinooks, strong winds and barriers to airflow.

(Off We Go - continued from page 2)

tried another full throttle run with the 3-blade and it took 125 seconds to get to the 600 foot mark. Remember it was after sunset by now (of course the centre of the sun's disk was not more than 6 degrees below the horizon in the western hemisphere) and the cooler air would likely account for a tiny bit better performance than when I was using the 3-blade prop before.

The overall conclusion is that the performance was a little better with the 2-blade prop, but remember it was allowing the engine to produce more HP, and then it was only 7 to 8% better. I think that if the engine was allowed to produce the same RPM with the 3-blade prop the performance difference would be negligible. The torque values at 6250 and 6600 RPM are, according to the graphs, the same. The maximum torque is put out at 6400 RPM, which is 40 ft-lbs. The peak HP (52) for that engine comes in at about 7000 RPM.

When I tried both props at 6000 RPM I didn't think that the 3-blade prop should have out-performed the 2-blade by that much, if at all. There must have been a load/air displacement factor that entered into it. Actually, the difference was in the manifold pressure (amount of throttle) required

to produce 6000 RPM with each prop. The 3-blade (coarser pitch) required more throttle than the 2-blade (finer pitch) for the same RPM. The torque remains at 40 ft-lbs from 6000 to 6600 RPM, so it shouldn't be a factor.

This study was more practical than scientific, and such factors as how many kilopascals per square meter the wing was cooling down as the ambient outdoor temperature decreases and wind velocity interacting along the airfoil, etc. (who knows and who cares). Also, no account was given to the fuel consumed, thus making the aircraft lighter. I didn't allow for the pilot becoming lighter due to the burning of calories (more under stress of flying) and the loss of body moisture (sweating).

For my money I will continue to use the 3-blade props because of the smoothness. I could definitely feel the difference. As well, the noise level was harsher with the 2-blade. I didn't think the sound would be that different, but I really noticed it. As to a performance difference, I think you may be able to measure it in the laboratory, but not on a real airplane in the real air, flying above the real world.

You're Invited!

Peace River - If you would like to join the Peace River trip on May 30, contact Don Rogers - 242-6549. Fliers and ground crew are needed.

Okotoks - If you would like to participate in the Okotoks Air Show static display contact Wayne Winters - 936-5347.

Red Deer - If you would like to participate in the Red Deer Air Show fly-by and static display you must complete an information form. These can be obtained at the next meeting or by calling Wayne Winters - 936-5347. Look for further information on our Red Deer participation in the next issue of Skywriter.

Coming Events

May 15 - C.U.F.C. cross-country flight to Vulcan. Leaves Indus airport at 0800 hrs.

May 30 - Second Annual Peace Regional Airshow, Peace River, AB. Acts include Smoke N Thunder, Steve Wolf's Samson, Al Pietsch, Joann Osterud, Ross Grady's Mustang, L.A. Coombes' Pitts N Pyro, plus the C.U.F.C. Fly-by!

May 30 - Springbank Airport Breakfast, sponsored by the Calgary Flying Club and RAA Calgary. 0800 to 1100 hrs. in the Calgary Flying Club hangar.

June 5 - Linden Sportsday fly-in. Breakfast 0700-1000, events all day. Six miles north of Acme, 2500' grass strip on east side of town. For information: Dennis Wicksham, 546-4306.

June 5-6 - Vintage Airshow, Reynolds-Alberta Museum, Wetaskiwin, AB. Featuring a fly-by of antique aircraft, guided tours and much more.

June 6 - Okotoks annual open-house/airshow. Ultralights are invited to fly-in for static display.

June 11,12,13 - 1993 RAAC Roundup and Western Convention. Old/Didsbury airport. Arrive on Friday, events on Saturday and Sunday. Flour bombing, altitude guessing, spot landing and air navigation exercises. Ultralights and C.U.F.C. members invited. Camping available at airport. Contact Jim Creasser for information 226- 0180.

June 20 - Bob Kirkby's second annual fly-in breakfast at Kirkby Field, 0800 to 1200 hrs.

July 29-Aug 4 - EAA Oshkosh '93, the 41st annual EAA fly-in convention. For information: 414-426-4800.

July 31-Aug 1 - Red Deer International Air Show. For information: 403-886-5050.

Aug 6-8 - Abbotsford Airshow, Abbotsford B.C. For information: 604-852-4600.

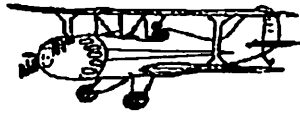
New Members

Frank Sponchia 239-7974

Frank is in his mid 40's and is in the jewelry manufacturing business and custom home construction business. He started flying in 1990 and owns a Rans S10.

One Pilot's Opinion

by Bob Kirkby



Stress Management

Stress affects everyone - it's a by-product of our busy modern life. For pilots a certain amount of stress is desirable when it is related to the task of flying. Peak performance and alertness is automatically accompanied by a degree of stress.

The problem is that stress resulting from many other factors in our lives is cumulative and too much will push us over the top of the peak performance curve. When we climb into the cockpit we want to be on the up-slope of the performance curve, not on the down-slope.

I recently came across an article on the D.R.E.A.M. approach to handling stress, by Richard F. Gerson, Ph.D. Here it is:

Diet. The foods we eat affect our moods and our reaction to stress. An excessive intake of fats, sugars, salt and caffeine weakens our immune system and makes us susceptible to illness.

Under stress, we crave foods that are the opposite of what our bodies need. People prone to excessive alcohol use or diabetes crave sugar. Heart disease candidates crave salt. Boredom or restlessness causes a craving for foods high in carbohydrates, such as potato chips and other crunchy items.

Breaking poor diet habits requires discipline. Eat slowly. Don't read, walk, talk on the phone, or drive while you're eating. If you tend to overeat when you're feeling stressed out, take a walk or visit a friend instead.

Relaxation. Contrary to what you might think, relaxation actually creates energy. With a relaxed body and mind, you're conserving energy for important matters. Worrying wears us down and saps the strength we need to deal with stressful situations.

People who are juggling a career, a family, and a social life rarely make time for themselves. One of the secrets to beating stress is to organize your time so you have at least one hour a day for relaxing. Here are some ways to unwind:

- read a book,
- take a walk by yourself,

- go fishing,
- take a nap,
- take a hot bath,
- go shopping,
- cuddle,
- watch television.

Exercise. A well-toned body can take stress in its stride. Experts recommend a minimum of 30 minutes of aerobic exercise three times a week. The sustained level of aerobic activity gives a boost to your circulatory system and improves your mental acuity.

Aerobic activities include singles tennis, skipping rope, brick walking, aerobic dancing, jogging, and swimming. There are many organizations and health clubs that offer regular exercise programs. A note: Don't look upon exercise as competition. Use it to relieve stress, not add to it!

If you prefer to start your own exercise program, set up a schedule that allows for a variety of activities. Otherwise, you may become bored and give it up.

Attitude. Are you one of the people who sees the glass half empty or half full? The way you perceive things has a direct impact on your ability to cope with stress.

There are many different personality types. Some people are hyperactive Type As, while others are more passive Type Bs. Both can minimize stress if they recognize the benefits of their particular behaviour style. The healthiest attitude is to be comfortable with who you are. Here are a few ideas for developing good attitudes:

- Structure your life according to your limits. Know yourself and your limitations. Trying to fool yourself is a self-defeating attitude.

- Participate. Join groups and associations, or simply get together with friends. Too much time alone intensifies feelings of frustration and despair. Avoid worrying about your own problems by volunteering to help the less fortunate.

- Meditate. Create a quiet scene. Close your eyes and picture yourself in a peaceful spot - like the beach, the woods, or a hot tub. With practice, you can successfully escape from a

stressful situation.

Motivation. One of life's greatest motivators is a sense of accomplishment. When you realize that you're making progress, you're inspired to keep going. Here are a few rules for sustaining a high level of motivation.

- Choose personal goals and write them down. Make sure your goals are what you want, not what someone else expects of you.

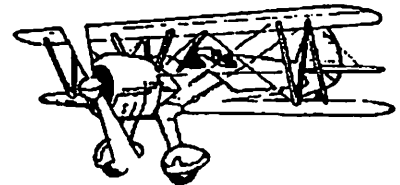
- Tell other people what you want to achieve. This strengthens your commitment to reaching your goal.

- Picture the reward. How will you spend the extra commission? What will your family say if you get that promotion? Imagine how it would feel basking in the sun on a peaceful Caribbean beach next month. Visualization makes goals more real to us and motivates us to make them come true.

- Make a list of your accomplishments. This may start as a simple "to do" list. As you complete each task, cross it off. You'll be surprised by how much you really do accomplish.

- Keep a log of your achievements, big and small. Read it from time to time to boost your self-esteem.

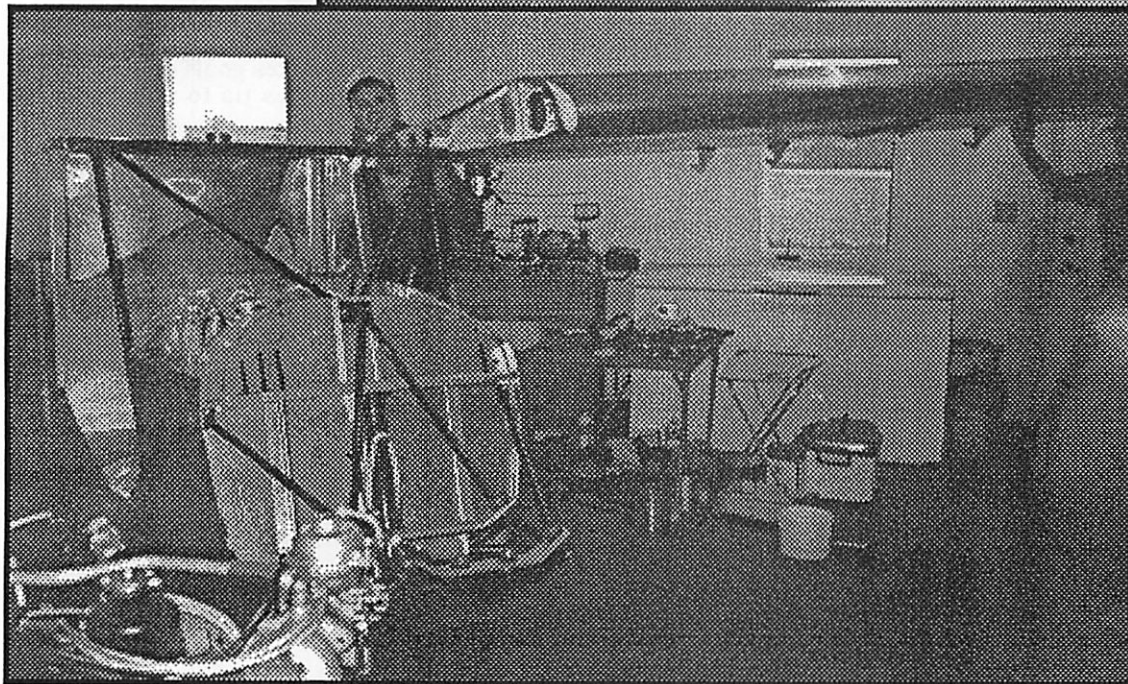
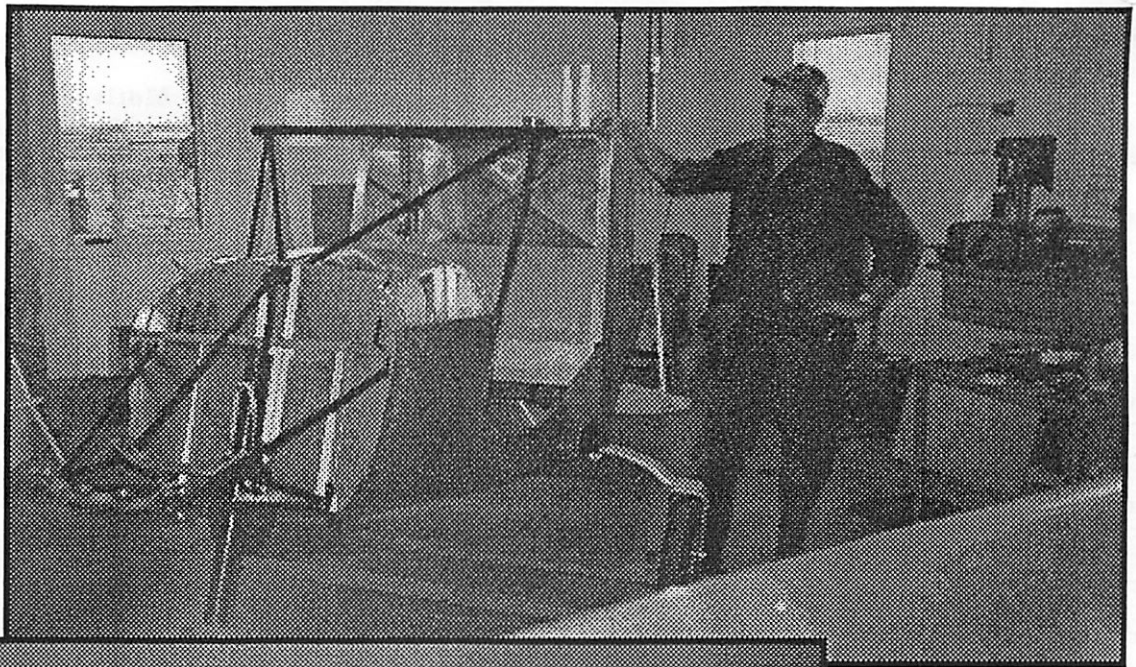
Stress can be positive - if you learn to make it work for you instead of against you. Recognize your reactions to stress and make adjustments. Practice the five steps of the D.R.E.A.M. formula. It will make an important difference in your accomplishments and in the quality of your life.



Late Classified Ad

Beaver RX550 - 2-place, built in 1986, Rotax 503 single-carb, wheel pants, full instrumentation, brakes, Xenon strobe, wing covers, always hangared and well maintained. \$5500. or best offer. Gord Keegan. 254-2806 home or 691-7064 office.

**Bob Campbell's
CH701
project under
construction**



Stu Simpson helps Bob test fit the wing. Bob was relieved to find that the wing attach brackets lined up so well.

Note the Rotax 912 in lower left.

Look at the size of those wheels!

Stu and Bob study manual in lower left.

Note wing-tip with leading-edge slats on left.

