

# 5 Kywriter.

Monthly Newsletter of the Calgary Ultralight Flying Club

## June 1993



by Wayne Winters



Friday morning, May 28th, at 0600 I was lying in bed in that mid-way state between sleep and awake, listening to the birds singing and the wind blowing. I thought it would be a bit windy for my 0700 introductory flight, but the sun was shining and the breeze through the window indicated it would be a warm spring morning. Just as these thoughts were passing hrough my head I heard a vehicle drive through the yard like it was on the way to a fire. I sprang from my bed, hooked my toe on the door, and yelled and screamed as I hopped across the floor. To the window I got and saw Don Rogers, in true fire fighter form, dash through the yard to his hanger adorn.

I could see Gord Tebbutt with his Beaver already out of his hanger, and then realized the Peace River trip must be on. Just the day before there was a lot of unhappy talk about the weather and long faces because the trip had to be called off. Within a few minutes, Fred Wright roared through the yard and the boys were all scurrying around getting their airplanes ready. About 0640 Ray Mackell arrived in his Renegade.

I ambled out to meet my intro and solo flight students, kicking pebbles on the way, because I wasn't going on the Peace River flight. By 0650 Gord was in his Beaver, Don and Fred were in their Chinooks, and Ray in his Renegade - all with engines running and looking at each other, trying radios, etc., and, I guess, trying to ecide who would take off first. You could really sense their anxiousness to get airborne and take advantage of the SE breeze that was blowing, and would take them to Peace River at break-neck

speed. It was apparent they wanted to get away before the weather changed again. They took off into the south, on runway 16, and swept around to the north, re-grouping and flying to the horizon. A tear rolled down my cheek as I watched them become ever smaller, then disappear from view. Darn, I wish I was going with them!

## May's Meeting

In our May meeting we focused on the weather as it pertains to ultralight flying. Transport Canada in Edmonton was kind enough to furnish us with a couple of video tapes on the weather. They also provided brochures and cloud charts that were excellent. We still have some of those charts left. Anyone who did not get one please let me know. In last month's issue of Skywriter Paul Hemingson wrote a worthwhile article on the weather.

## **Meeting Facilities**

We have had some wonderful news from the RCAFA 783 Wing. They have decided to continue with their facility for another year and have welcomed us to continue using it for our monthly meetings. This means, of course, that we will not have to find other facilities and move for at least a year.

We now need to formulate a plan that will enable us to pay them a reasonable fee for the use of their facilities. In checking around it has become apparent that we would have to pay \$35 to \$55 per month for the use of other types of meeting places, most without bar services. Your ideas please.

#### Red Deer Air Show

Be sure and step forward and let me know if you are planning to attend the Red Deer Air Show and be part of the static and flying display. We need to let the air show people know who is participating.

## X-Country Excursions

As per usual the weather did not want to cooperate for out cross country flight. We were going to go from Indus to Vulcan, but the weather was a bit rainy in that direction. Despite the crummy weather, four die-hard pilots decided to go, but in a different direction, away from the rain. Ray Mackell (Renegade), Peter Wegerich (Blue Yonder's Beaver RX- 550), Fred Wright (Chinook II), and myself (Blue Yonder's E-Z Flyer II), left the cloud and rain behind and flew to Airdrie, Beiseker, Kirkby's and back to Indus. When we arrived back, the skies had partially cleared and we didn't even get wet! It is really enjoyable flying with the boys and dropping into different air strips.

In June we will not plan any X-countries because four are already planned in the form of Fly-ins. Check the "Coming Events" column.

See you there!

## Regulations Update

No news is usually good news. Let's hope so.

#### **Door Prizes**

The May door prizes were a poster of the cockpit of a B-17 Bomber and a current copy of Trade-A-Plane. They were won by Ray Mackell and Howard Bowie.

(continued on page 2)

#### **Rotax Ignition Coils**

It is a rarity, at least around here, that we see an ignition coil fail. This past few weeks we have seen four. Ivan Myslawchuk was having problems with the 337 in his Kolb Firestar. The problem was intermittent with RPM loss after take off. After trying an assortment of things it turned out to be a faulty coil. (As fate would have it, about the time Ivan found that it was the coil and solved the problem, the crankshaft broke and gave him the opportunity to eat a little dirt on a forced landing). Ray Mackell was suffering a power loss in his Renegade's 532 after the engine became warm. It sounded a little strange and lost power, but still kept running. He had already replaced the coils 2 or 3 hours previously, but found that one of the new ones was defective. Again, a new coil solved the problem. Fred Wright had one cylinder cut out on the 503 in his Chinook, after a touch and go that turned out to be a full-stop landing, one evening. We did a top overhaul on the engine and replaced the points and condensers, finding out on start-up (for break-in) that one cylinder was not firing. One coil later it was purring like a kitten.

## Family Fun Fly

We are scheduling the summer family fun fly for Saturday, July 10, 1993. This is a family event and we have an evening barbecue where you must provide your own chow, drinks, plates, utensils, etc. We will make arrangements for fire pits for weenie roasts and grills for barbecuing steaks and burgers. The happenings will take place at the Indus Airport and everyone is welcome to fly or drive in. Activities will begin at 1500 hours (3:00 PM). If the air is a little rough we may do the flying events in the evening. Air events will include spot landings (power off from 300 ft. as well as power on attempts), flour bombing, time estimated circuits, altitude guessing (from ground), etc. A fantastic array of prizes will be available for the best in each category. Over night camping is welcome, so bring your tent or motor home. There are no showers but water and out door facilities will be provided. In the event of rain, the date will be moved one week ahead to July 17. We hope to see everyone there.

## Last Meeting Until Sept.

Remember, the June 2nd meeting will be the last C.U.F.C. formal meeting until September 1, 1993.

Ultralight Accident - Millet, AB

On May 19, 1993 there was a fatal ultralight accident close to Millet. The pilot was killed and the passenger seriously injured. The preliminary report indicates that it was a low-level stall-spin type of accident. The pilot's wife watched as she saw the aircraft, a Beaver RX550, take off and slowly climb out, and about 100 feet over a hill it developed a nose-high attitude. Next thing it dived to the ground in about a 60 degree nose-down attitude. Investigators are trying to determine if the engine was running at the time of the crash.

It is extremely upsetting when a fellow flyer goes down, but let's review some flying basics. I don't believe very many ultralights are capable of spinning because of their light wing loading. I have tried to get the Beaver RX-550 to spin and the best I can get is a wing drop at stall (usually induced) and then it starts flying again. What I think may happen is some of these incidents is that when the airplane low-level stalls and a wing drops, the pilot somtimes becomes disoriented and pushes the wrong rudder pedal, giving the appearance of a stall-spin situation. It is difficult to second guess what happened because many times no one knows for sure what happened. What we do know though, is that if it happens even once it is too often.

It is imperative that we continuously review in our minds what we should bo doing on take off and what we will do if the engine fails. The most common time for an engine failure is on take off, so we should always be prepared and ready. Instinctively, if the engine so much as wimpers, we must push the stick ahead and keep flying the airplane. If you are taking off over obstacles you must plan what you would do in advance so the plan of action is already in your mind. Each time we take off and land we should anticipate those things that could go wrong in that particular instance, and be ready. Under all situations we must have ingrained in our mind "fly the airplane first" and in an engine out condition that means pushing the stick forward to maintain flight. Steep turns on take off and close to the ground are gigantic "no nos" and should be avoided like the plague.

## Innocent Bad Habits - Deadly Bad **Habits**

We always try and keep the articles in the Skywriter up-beat, but sometimes we have to grab ourselves by the scruff of the neck and give ourselves a good shaking for the stupid things we do when we are flying.

Wednesday morning, May 12, I woke up to one of those perfect spring mornings. The sun was shining brightly, the birds were singing, the

grass and trees were becoming lush and green, and the wind were light, but best of all I was going to be able to take in this wonderful morning from the air with a brand new enthusiastic student, Bligh Jenkins. At about 0710 we took off on runway 16, into a slight steady breeze and climded upward. I remember thinking to myself, "this is what flying is all about", as we banked eastward into the sunrise. For some reason I felt drawn towards the city, so we banked around, out of the sunrise, toward Calgary. This was unusual because I virtually never take a student west toward the city. We did our normal get-aquainted exercises with the airplane and worked our way toward the subdivision of Mackenzie. Flying along the east side of the Dearfoot Trail we continued with turns and enjoyed watching the traffic scurry into the city. I thought again to myself, "Why don't I take students over here more often? It's so interesting seeing the development and changes on the south side of the city." We then picked up the Bow River and flew the river east to the abandoned South Calgary airport, then swung north to Indus. (continued on page 6)



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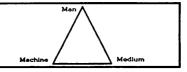
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Meetings of the Calgary Ultralight Flying Club are held the first Wednesday of every month at 7:30pm

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

# **Safety Corner**

by Paul Hemingson



# WEATHER TO FLY...OR NOT? Part II (Mechanical Turbulence)

In last month's newsletter I discussed the nature of convective turbulence. We learned what conditions create it, and what we, as pilots, can do to minimize the effects of the convective bumps. To summarize, convection is the mixing and movement of air due to the uneven heating of the earth's surface. This leads to vertically moving (rising and sinking) air that can affect our cruise attitude, and is especially important to monitor during take off and landing. Turbulence due to vertically moving air is called convective turbulence. Review last month's article to get more scoop on how to interpret and cope with convection.

This month, Part II of the weather discussion is about another kind of turbulence, called mechanical turbulence, which for the most part can be considered a horizontal force on our aircraft. Mechanical turbulence commonly creates gusts, which can it in any direction.

Horizontally moving air is created by the weather systems when a high pressure system lies adjacent to a lower pressure system and tries to rush in to fill the lower pressure area. Note that the lower pressure may be created by air masses with different temperatures (i.e. densities). For example, the difference between offshore air temps and onshore air temps creates the onshore and offshore breezes. In mountain country, the air temperature between valley bottom and top, or sunnyside and shaded side can create locally moving air masses. Regardless, the horizontally moving air masses can be deflected by objects in their path (hills, trees, buildings) and is then free to move vertically, or in any other direction. Gusts are usually defined as a change not only in the speed, but also the direction of the wind. And a pilot needs to be especially aware of the effects of gustiness on his aircraft. A rapid change in speed alone, for example, can have devastating effects on an ultralight. Consider an ultralight landing in an essentially no-wind ndition, that subsequently gets a 10 ph gust on the tail. This translates into an instant decrease of 10 mph in airspeed. Gets your attention real fast, especially if you're on short final.

Conversely, an increase in head wind component has equally dramatic effects but is a lot less threatening since it increases your airspeed.

In western Canada, our prevailing weather systems move from west to east. Adjacent to the Rocky Mountains, the air descending onto the plains warms as it descends and is responsible for the strong, warm Chinook winds which we experience. Regardless of the motive force behind the moving air mass, we pilots experience the result....Wind!

You can not 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. In this article I will mainly talk about the nemesis of gusty wind that can be encountered enroute. This translates into a discussion of the effects of mechanical turbulence on ultralight aircraft.

It was noted in the last article, but warrants repeating, that different ultralight aircraft can handle different amounts of adverse weather, so what I say needs to be tempered for the kind of machine you are flying. Also to be considered, is 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 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 while 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" to be the kind of conditions where there is minimal turbulence and minimal control input needed 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.

Bad air is typically manifested by a rough flight, with a change in direction, attitude and azimuth of your aircraft. The three dimensions of Pitch, Roll, and Yaw make the fourth dimension of Time seem

# **Coming Events**

June 5 - Linden Sportsday flyin. 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 flyby of antique aircraft, guided tours and much more.

June 6 - Okotoks annual openhouse/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 Fleld, 0800 to 1200 hrs.

June 20 - High River fly-in breakfast, 0800 to 1200 hrs. If you are flying in NORDO, call ahead and advise them at 652-3444.

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.

inconsequential. An encounter with Real Bad air can make a guy closer with his maker by asking for divine intervention to get through it and then, once safely down, to consider making up one of those "For Sale" signs. On the upside, an experience with bad air increases your confidence in handling future encounters of this type, and makes any other flying weather a piece of cake.

Ultralight aircraft with their slower speeds do not experience the kind of solid bumps or chop that heavier and faster aircraft experience. Ultralight turbulence is more of a wallowing, barrowing phenomenon that can leave (continued on page 4)

you slightly nauseated after prolonged exposure. Our inner ears can only handle unusual attitudes for so long, before the whole system seems to get overtaxed.

In an ultralight we are more susceptible to small changes in wind speed and direction. In some models the take-off, cruise and stall speeds are not markedly different. A 15-20 mph spread is not much when your dealing with winds of the same strength or gustiness. The light weight of an ultralight also means there are little mass and inertia effects that larger machines experience

For the most part a pilot's initial training exposes him to only the basics of weather. Ultralight training is commonly accomplished within one season. This is unlikely to prepare you for the air conditions of other seasons. 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 advocated 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 pilot 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 your 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 on 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. There 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 expectations (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 ultralight 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 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.

Mechanical turbulence is for the most part simply horizontal moving air and fortunately it is quite predictable. If the winds are strong you will experience an updraft due to mechanical uplift of the air on the upwind side of a hill that runs at right angles to the wind. This is where you will see hawks circling in the updraft for the free lift. Hanglider pilots look for the same motive force to sustain flight. On the downwind side of the ridge you can get a downdraft that exceeds the climb rate of your machine. Seasoned mountain pilots approach a ridge at 45 degrees to allow them to turn away from it if they experience a downdraft that they cannot out climb.

Trees or building are common around airports and one needs to consider the effects of those obstructions within the vicinity of your flight path. Especially, when taking off and landing. Trees and buildings on the upwind side of an airfield usually create gusty conditions

over the airstrip. Remember that gusts are a change in both speed and direction. If you know wind direction, it's a simple matter to predict the effects of these obstructions on your flight path. Once you start analyzing and thinking of the effects of the wind on your flight path, there will be fewer surprises.

Another effect of horizontally moving air is that the closer to the ground you get, the lower the speed. Or, the higher you go, the stronger the wind. The friction between the ground and the air slows it down. This is the old Wind Gradient phenomenon. Two effects manifest themselves.

On take-off we experience an increasing headwind, or more lift. Great! You might be tempted to perform a real astonishing climbout, with an apparent climb angle of 45 degrees or more. Beware though, that you can also experience a sudden decrease in wind velocity in a shear zone between the surface air, and air aloft. These shear zones can hide some real gusty air that will challenge your ability to determine which way is up. On the other hand, in the landing phase you will experience a decrease in the headwind component, or airspeed. Not Great. 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, and losing airspeed, NO 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 and/or decreasing headwinds. He who hesitates, don't levitate.

# **RAA Roundup**

The RAAC is holding its 1993 Roundup and Western Convention at the Old/Didsbury airport on the weekend of June 11 and 12. The Calgary Ultralight Flying Club is invited to participate.

There will be flying activities all day on Saturday. There is a breakfast in the mornings and a banquet Saturday night. Camping is available if you wish to stay overnight, or motels have been arranged.

This is a great opportunity for the members of our two clubs to meet and swap flying stories.

## Letters

From readers



#### To The Editor

FIRST IMPRESSIONS OF THE EASY-FLYER ULTRALIGHT

Ever since I saw that picture of the Easy Flyer in the November 1992 monthly newsletter, I have been hoping I would have a chance to fly it somewhere sometime. My opportunity came on the morning of Wednesday May 19, 1993.

The Easy Flyer started on the first pull of it's starter cord. It taxis easily, and with it's big wheels and wide stance undercarriage it handles irregularities of a dirt or grass strip very well. When you pour on the power it accelerates well and takes off quite smoothly. It's elevator trim is quite effective, and with it properly set the plane flew out at a steady, 50 mph. The adjustment to cruising level and speed presents no problems. It takes a few minutes to get used to the idea of having so little around you. It is a long time since I have flown anything that leaves you more exposed. Its inherent stability soon reassures one, however, and it has this without sacrificing naneuverability. The ailerons are quite ffective and the plane maintains the chosen bank without tendency to roll into a steeper bank or to flatten out when you ease the control pressure. This is perhaps in part due to the mass balances Wayne added to the ailerons. I did not notice any of the adverse yaw which one notices in the Beaver. And when you cut the power for the first approach and landing it doesn't have the tendency to stick it's nose up as the power drops that is characteristic of so many ultralights. If it does it at all it is so little that you correct for it without being aware of it. The power back approach is steeper than that of the Beaver so you have to get in a little closer for your glide to get you to the beginning of the runway. It tends to out-pace the Beaver in the circuit but it's approach is shorter and steeper.

Landing presents no particular problems. As Wayne put it, if you can fly the Beaver, you can fly the Easy Flyer. Again it's wide stance undercarriage with it's front wheel well forward, and those big soft tires, make it a very forgiving aircraft. There is little or no tendency to swing off line as you pour on the power to go around again.

got a little tired of trying to avoid neaking up on the Beaver in the circuit so I took it up to 4500' (A.S.L.) and tried its stall, I pulled up fairly gently and found I was flying at 40 mph and the aircraft was quite stable and responsive. I looked at the altimeter to see if I was just mushing down but it seemed to be holding altitude quite well. Finally with a bit more of a tug back on the stick I got it to break away and fall into a gentle stall. There did not appear to be any tendency to flick. I don't think one could get into a serious stall with this aircraft without being very unaware of your air speed. And although I did not at the time try out all the possible ways of getting into a spin, I think it probably isn't spinable or that at least one would have to work hard at it to make it spin.

Wayne has added a plastic cowling to the nose of the Easy Flyer so that it is not quite as open as it appears in the November newsletter. This will prevent one from suffering from the bug on the face syndrome and does give a fair measure of protection if one wants to fly it before the sun has warmed the air a bit more or if you were contemplating flying it in the winter. This also gives a couple of arcs in front of you that are a help if you want something to line up with the horizon to control your attitude.

Wayne asked me if I would make any changes on it. I suggested that shoulder straps might be better than lap belts and if I were flying it regularly I would want a more up right seat so one can get back support while sitting fully upright; at present you have to slouch back into a semi reclining position to get any support from the seat back. And, as an after thought I think I would like to have a larger fuel tank installed so one can reach out a bit further on cross country flights. I

believe the tank must be almost directly below the centre of gravity where it is, so a larger tank, or an additional tank, at this position should not cause a weight and balance problem.

Altogether I was quite impressed. This aircraft is fun to fly and lives up to it's name - an Easy Flyer.

## 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.



# AVIATION 936-5767

## **Dealers** for

**Easy Flyer** 

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## A little Prop Wash

by Douglas J. Ward

In my last few articles I have tried to explain why it is so important for the builder of an aircraft to try and use only the best possible fasteners that he is able to obtain. Most kits come complete with the fasteners which the aircraft company want you to use when you assemble their aircraft. However, if a builder is doing some repair work after some damage may have occured to his aircraft, he must try to use the best available.

Why must we tighten bolts? Loose assembles often spell disaster to both machine and the man who is flying that machine. Neglecting to apply and maintain enough of a preload leaves fasteners wide open to early fatigue. Using only strong bolts and nuts is just not enough. Only when you tighten the bolts beyond the working load do you get a FACTOR OF SAFETY. The greater the clamping force (preload) developed, the less will be the tendency of parts to creep or shift. Moreover, the possibility of a nut backing off or loosening in service will be greatly reduced.

To increase fastener preformance one simple rule must be observed: tighten fasteners beyond their working loads and keep them tight. If the preload applied to the fastener is greater than the service load encountered, there can be no fatigue failure. Torquing the fastener accomplishes this since it applies the necessary preload to the assembly.

What is the right torque for bolts? This is one of the toughest questions asked, because there are so many variables. The bolt takes on two stresses when it is tightened. (1) Torsion, and (2) Tension. Tension is what you want. Torsion is the necessary evil due to friction. Probably 90% of applied torque goes to overcome friction, yet only tension remains after tightening: (About 50% of the torque is absorbed in overcoming friction on the working faces of the bolt (mushing the threads) and nut while 40% is taken up by thread friction leaving only 10% to apply bolt tension (preload).

The ideal point of torque is just below the YIELD STRENGTH (when it can no longer hold the preload) of the fastener. This provides a cushion for the working load variations and helps prevent loosening. Standard torque charts are usually set for average dry unplated conditions, but surface variations such as thread roughness, scale, paint, lubrication (oils, grease, etc.), and plating may alter these values considerably. Heavy greases, oils, and special thread lubricants may decrease required torque by up to 50%.

It is therefore essential to use the best fastener products possible since only a top quality product, installed correctly will give a top quality job.

In my next article, I will try to explain how different thread lubricants can drastically affect the preload that a torque wrench can have on a fastener.

(Off We Go - continued from page 2)

After a few circuits we landed the airplane and marvelled at what a wonderful morning it was.

About 1030 Jim Creasser called and asked if anyone had crashed near our field. Apart from ourselves, Ron Sondergaard was the only ultralight pilot out that morning and I had just waived to him on the ground a few minutes earlier. The airplane that crashed was a single-place and there was no other single-place aircraft in the air around Indus. Jim said he would see what he could find out and call me back. A few minutes later, when he called back, he informed me that it was a single seat, single engine aircraft that had crashed north of Highway 22X near Priddis and that the occupant did not survive.

Three people came to mind. My mind went to mush - please not let it be someone I know! By noon I was a basket case and couldn't do anything but fly over in that direction and see if I could recognize the airplane. I did, and it was one of the three I was afraid it might be.

On my way back I kept thinking, "How could that have happened?" Ken Smith was a high-time, experienced pilot, and I couldn't imagine what would have caused the accident. The crash sight was about 1.5 miles from the end of his air strip and surrounded by open hay fields. Ken was on his way to a Mooney Mite fly-in down in California, in his pride and joy - his Mooney Mite. He had been to several such fly-ins, Oshkosh, and all over the place in that plane. He also had an Avid-flyer on floats in BC and a Cessna 182 in Calgary. We understand that the engine had quit and that the airplane likely spun in.

Only time will tell what the exact cause of the accident was, as the investigation continues. Maybe we will

never know. I wonder though, if it was something that could have been the result of a chain of events. The engine quitting will not normally cause a crash, unless we handle the situation incorrectly. At worst we may damage the airplane, but we should be able to get ourselves out safely, unless we allow the airplane to get out of control. The Mooney Mite has retractable gear and Ken had a habit of retracting it immediately after take-off, to enable the cleaner aircraft to gain air speed and altitude sooner. In a retractable I like to leave the gear down until I know I am at an altitude that will allow me ample time to lower it again should the engine fail. I wonder if, in Ken's case, he let himself get distracted trying to lower the gear (which in the Mooney is mechanical rather than hydraulic or electric) and thus s stall-spin situation developed. I am sure, when the engine failed, he thought of how he could save the airplane from damage instead of saving himself first. Naturally a gearup landing would necessitate repairs, hauling the aircraft out of the field, etc. This seemingly insignificant habit of quickly retracting the gear may have cost him his life. If that was the case things could have been different if he had decided in advance, if the gear is up and the engine quits at low altitude, that he would intend to land gear-up and not attempt to extend it unless everything else was completely under control - landing field picked out, air speed normal, wings level, etc.

We need to always be asking ourselves the what if's and thinking things through in our minds in case the "what if's happen".

Innocent bad habits ranging from never checking our fuel for water to doing steep turns close to the ground can jump up and bite us when we least expect it.

Before our next flight, let's give ourselves a checkup from the neck up.

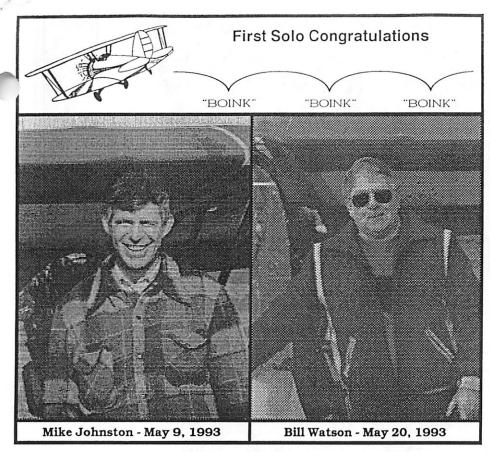
# **New Members**

**Bill Watson 295-7885** 

Bill is 51 years old and is a Conductor for the C.P.R. He decided to start viewing the world from a different perspective and has now soloed in an ultralight.

Bligh Jenkins 283-3660

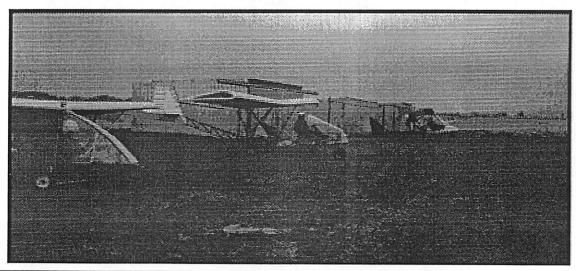
Bligh works for the Calgary Zoo (I think he is the afternoon Gorilla) and was introduced to the wonderful world of ultralight flying by Peter Wegerich. He loves to laugh and is in his 30's.

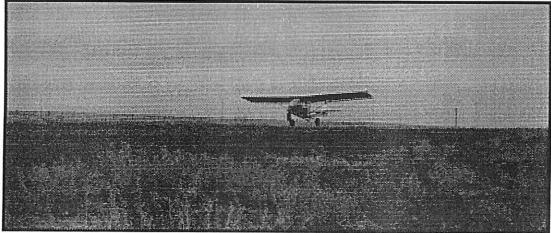




Fred Wright lifting off in his Chinook.

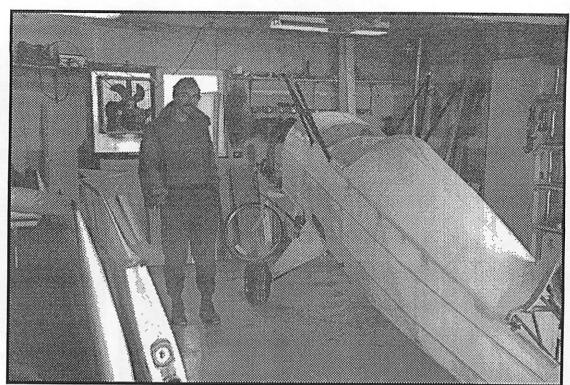
Fred Wright, Wayne Winters and Peter Wegerich prepare to taxi out from Kirkby Field on the last stop of their cross-country flight of May 15.





Wayne Winters lifting off in his E-Z Flyer.

Bernie Kespe has recently acquired a Renegade II in an almost-finished state. All it needs is a few items finshed off and a paint job. We're looking forward to seeing Bernie back in the circuit again soon.





Ray Mackel fueling up his Renegade before going flying. (Is the ceiling really as low as it looks?)

