Skywriter

Monthly Newsletter of the Calgary Ultralight Flying Club

February 1990

View From Above

by Paul Hemingson

The January meeting was nearly a full-house. Everyone enjoyed Wayne Winters' excellent presentation on forced landings. The collective experience of thousands of flying hours of club members showed that "on average" we can expect to encounter one forced landing in every 65 hours of flight. I do not like the number 65 at all - it's much too small. We need to improve on this statistic, and we can. A discussion of causes showed that a few forced landings were unavoidable, BUT, most were related to engine problems. In hindsight, a lot of these could have been avoided with more rigorous preflights and routine maintenance. I detected an inverse correlation between the number of forced landings and an individual's mechanical skills. We need to become more astute at identifying potential hazards. Since we do not all have the same degree of mechanical aptitude and insight, maybe we can become smarter and more experienced by being around club members who have demonstrated mechanical skills. The privilege of doing your own maintenance is not one to be taken lightly. Doing things right is as important as doing the right things at the right time.

Thank you to the members who volunteered to line up presentations for future meetings. I would like to see more members step forward and share some of their expertise (or if you know someone who might make an interesting guest speaker, let me know). Thanks also to Don Rogers and Ron Sondergaard for taking on the pre-meeting phone alert. Russ Sirucek will be planning some special flying/social events. Member Barry Reswick is building a Kitfox and his video revealed a nice machine - he won't have any trouble finding a test pilot if he wants one.

I also checked out Wayne Winters' new Merlin under construction; I was impressed. This Baby-blue baby won't have any trouble finding babysitters. I noticed a lot of birds in the air on the weekend of January 13. Perfect flying weather when those big high pressure systems setup and stall over central B.C., making for light winds and warm temperatures.

I would like to assemble a collection of slides/prints to use in promoting the club and its activites. I will be packing my camera everywhere to try and capture the spirit of things. If you have some interesting photos to contribute, then let's talk. Another thing I would like to do is put together a collage of photos showing club members' aircraft. If you have an extra photo bring it to the meeting. We will mount them on a board for hysterical interest.

The RCAF cadet night, held January 24, was a success thanks to the efforts of Gord Keegan, Jim Creasser, Don Richter and Gord Tebutt. Four local flying groups entertained the cadets and informed them about the variety of aviation related activities that they might persue. Good group, good show, good deal. This is likely to become an annual event. The recreational forms of aviation related activities have come a long way in the past ten years.

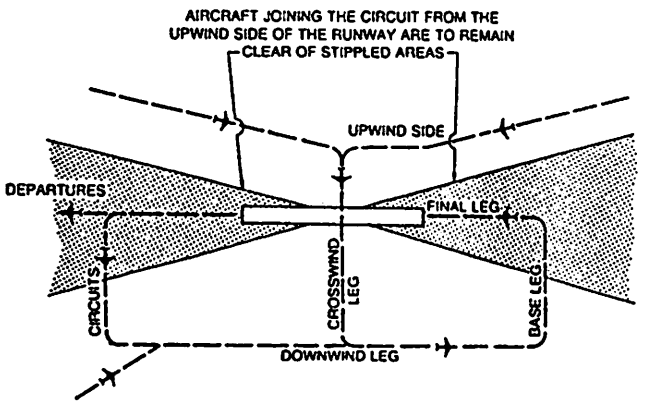
Ken Wright - passed passed away at the Tom Baker Cancer centre on January 13, 1990. Ken was an original member of both the CUFC and the Calgary UPAC Chapter and was instrumental in the amalgomation of the two clubs into the club as it exists today. Ken's contributions of enthusiasm and energy to the ultralight flying community in Calgary will be long remembered and appreciated by his fellow flyers. We would like to express our sympathy to his family.

Fly Paper

by Gord Keegan

Before we get started into this month's patter, I had a call this week from our good friend Ernie Smith at Transport Canada. He had an excellent suggestion for a safer circuit entry procedure than that shown on page 5 of the last Skywriter. Please see the diagram in the box below. This is from page RAC 4-7 of the A.I.P. manual if you wish to read the procedure that goes along with it.

Figure 4.1 - Standard Left-Hand Traffic Circuit



Continuing our discussion of parachute safety devices for ultralights, there are basically 3 types that I would like to discuss.

1. **Ballistic** cannisters are loaded with a detonating charge that fires a metal projectile with deadly force, which in turn drags the chute from the cannister to full deployment.

2. **Rocket** deployed devices which fire by an electronic switch thereby dragging the chute from its soft pack.

3. **Spring-loaded** cannisters which operate in a similar fashion to the ballistic type except that it's motive force is the uncoiling of a spring instead of detonation.

All of the above designs are considered appropriate for ultralight use, but some advantages and disadvantages follow.

1. The ballistic is probably the quickest form of deployment (one second or less), but if fired accidentally on the ground it can easily kill a man or cause serious injury. Also, the charge is subject to contamination by water or fuel and re-packing every 2 years is expensive.

2. The rocket deployment is also very quick but is sensitive to placement of the rocket and the chute. If these are not correctly mounted serious accidents from partial deployment can result. Also, with the electronic switch, accidental deployments have occurred causing one serious crash that I know of in Calgary.

3. The spring-loaded deployment is relatively slow, which may be critical at low altitudes. There is not much force relative to the other two types but the lower cost and easier maintenance are a big plus.

Whichever type you choose for your bird, please do pick one. As ultralight pilots we are given the opportunity to have this second chance, let's not waste it. If you would like further information, please write to me or give me a call and I will pass along the names of some of the manufacturers. Let's be careful out there!

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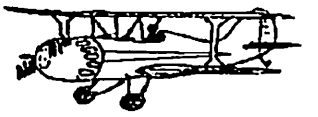
Meetings of the Calgary Ultralight Flying Club are held the first Wednesday of every month at the R.C.A.F. Association, 110 - 7220 Fisher Street S.E., Calgary at 7:30 PM.

Editorial

by Bob Kirkby



Along with freedom comes responsibility

Several years ago, while attending an Alberta Aviation Council convention, I happened to be discussing ultralight regulations with Transport Canada's Don Davidson. On the subject of controls, Don expressed the view that ultralight pilots were basically a free-spirited lot who liked to fly on their own, when and where they wished. This characterization certainly applies to me, and I believe most of the ultralight pilots I know. I know many of us would much rather fly our "freedom machines" than even consider graduating to conventional aircraft and the rigors of flying in a controlled environment.

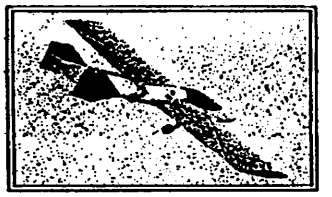
If I may be so bold, I would like to compare the relative responsibilities of an ultralight pilot to an airline transport pilot. "No comparison", you might say. Yes, but in more ways than meets the eye. You might say that the bottom-line responsibility of the ATR pilot is to get his payload from A to B without incident. This is true, and he (or she) spends much of his time practicing emergency procedures to insure that this happens. However, when one breaks down the actual chain of responsibilities for a flight, one finds the main responsibility really consists of insuring that a very complex set of rules and procedures are followed. The responsibility for maintenance is deligated to the AME's, the responsibility for where the aircraft should be at any instant of time is deligate to ATC, the climb and decent rates, cruise altitude and performance points are dictated by the flight computers to maximize passenger comfort and safety and minimize fuel burn. The only time the pilot really gets to make decisions is when something does not go according to plan. This, of course, is why the ATR pilots must be so highly trained.

The ultralight pilot, on the other hand, can deligate responsibity for his flight to nobody else. He bares full responsibility for all aspects of his flight; the maintenance of his airplane, where and when it will fly, how high, how fast, the climb and decent rates, etc. He is solely responsible for collision avoidance, he is solely responsible for staying out of controlled airspace and for insuring that his machine will keep running long enough to make it to point B. This is freedom to fly when, where and how we want provided we follow the basic safety rules of the air.

These freedoms are what we ultralight pilots cherish. I believe that most regulators within Transport Canada respect this, even though there are probably a few who would regulate us to death if they had the budget for it. We, also, must respect these freedoms by accepting the responsibilities that go along with them. The pending regulation changes that we have been reading about so much of late will change our freedom horizon considerably, as it will change our level of responsibility.

Although we like to think of ourselves as grass-roots aviators, like those of the 1920's, we must remember that today there is no free lunch. We have some of the most liberal air regulations in the world, when it comes to ultralights, because we believe in the free-spirit just as we accept the responsibilities that go along with exercising that free-spirit. For, after all, that's the Canadian way!

(I invite those with differing viewpoints to sent me a letter for the Letter's to the Editor column.)



Remember this?

Classified

ABC Ballistic Chute - never used, hermetically sealed, excellent, new $1900., offers. Paul Hemingson 931-2363.

Beaver RX-550 - 2 place, Rotax 503 air-colled engine, pitot airspeed, altimeter, tach, EGT, CHT, Hobbs, hydraulic brakes, wheel pants, custom paint, ballistic chute, wing covers, less than 200 hrs., always hangared, never damaged. Hangar space available at Black Diamond. First $10,000. offer flies it away. Willing to sell shares. Call Gord Keegan, H. 242-7791.

Fisher FP101 - fantastic flying ultralight yet looks like a conventional aircraft. New, fly it away. $7000. Ralph or Wayne Winters 936- 5347 or 238-0406.

Boom Mic - M-87 low impedance dynamic microphone, fits most headsets, new, 2 available, $25. each. Bob Kirkby 226-0720.

Braid for shielding spark plug leads and ignition wires, $2. per foot. Bob Kirkby 226-0720.

Hagar Wheels - 1 pair of 6" Hagar wheels, new, $40. Bob Kirkby 226-0720.

Chinook Parts - brakes, fuselage landing back, some damage to a wing, make an offer. Sky Master 335-3306 or Gord 293-7990.

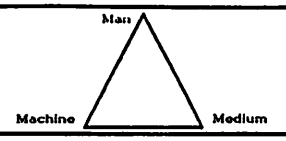
Ivo Prop - 3-bladed, ground adjustable pitch, 56" diameter, composite blades, L.H. tractor or R.H. pusher, new, $400. Jim Creaser 226-0180.

Quicksilvers - MX-II, Rotax 503, 100 hrs, inst. pod, parachute, needs fabric, $4000.; also MX, Rotax 377, 75 hrs, needs fabric, $2500. Garry Miller 343-7082, Red Deer.

Rotax 377 - rebuilt in Vernon, belt drives, 2 sets of pulleys, complete exhaust. Offers. Russ Sirocek 274-8526.

Safety Corner

by Paul Hemingson



Kicking Tires and Twanging Wires

Some things cannot be hurried. Things like home-made bread and vintage wine. Even "Minute Rice" takes at least 5 minutes! Good things take time. To this list we should add the designing, building and preflighting of aircraft. This month's Safety Corner is about preflighting. There is more to it than kicking the tires and twanging a few wires before blast-off.

Ultralights are a relatively recent update of an old invention. The popularity of ultalights is, in part, due to developments of lightweight, powerful motors, new materials and a rebirth of man's interest in affordable, fun and safe recreational flying. Unlike other kinds of flying, we are under no pressure to meet deadlines and schedules for carrying goods or people. Nor are we forced to fly in poor weather. Yet, there always seems to be an urge to get airborne once the decision to go is made. What's the hurry?

Rushing the preflight is a common occurrence. We all do it from time-to-time. There are lots of reasons why we do it - none of them any good ... it will be dark soon and I want to get in an hour or so before sunset ... I just adjusted the anti-gravity warpdrive and want to get in a quick test flight ... I'm running late and want to get in an hour of circuits before the thermals build and then I will cut the lawn. Sound familiar? If you ever find yourself rushing through any phase of flight, BEWARE.

The prime reason for preflight is to confirm that the machine is airworthy. That all the nuts and bolts are in place. Yet, most of us don't use checklists. I did for the first years but then thought I had the walkaround pretty well taped. Besides, checklists seemed kind of wimpy! A few times I had to get out to remove the pitot tube cover. But people can't see you very well at the far end of the runway. All you have to do is nonchalantly get out and put your body between any audience and the pitot cover, then coyly remove it and stuff it in your pocket. If anybody asks you later what you were doing, just tell them you spotted a quarter in the grass and stopped to pick it up. They will admire your thrift.

It's easy to overlook things, even when you know what you are looking for. It's surprising how one can look without seeing. I once heard of a guy who was sent out by his instructor to preflight an aircraft. The student returned in about five minutes declaring it airworthy. The instructor walked back to the aircraft and showed the student that the aircraft had no propeller. Sure, it was a setup, but we only see what we want to sometimes. Read the inset paragraph below and count the number of times that the letter "F" appears. Read it now and record your answer.

> Formation flying is the result of years of scientific study combined with the experience of many years.

I've shown this to a number of people and most of them see the letter "F" three times.

It's easy to overlook things, even when you know what you're looking for. I've reprinted the inset paragraph at the end of this article with the correct answer.

So, checklists seem kind of wimpy? But, it's interesting to note that professional pilots use them consistently. Confirming that the aircraft is ready for flight seems like petty important stuff. But there is another, more subtle reason.

Adequate preflighting also gives you the opportunity to see how you're doing with your regular maintenance, and to reflect on your maintenance schedule. How many hours on the plugs? On

(continued on page 5)

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Contact Jim Creasser - **226-0180**

(Safety Corner continued)

the fuel filter? When was the propeller tracking last checked? The only way I can answer these questions is to keep some kind of written record - a log. Since I regularly fly only one machine, I've taken to noting any significant items in my logbook. I find I just can't trust my memory. Not since the time I overlooked changing the fuel filter by one year.

An even better idea would be to keep a regular maintenance log in some conspicuous place. Page one of your Rotax Operators Manual, in fact, recommends keeping an engine log book. Organized people do this. Your know, the kind of guy who's oil change bucket is clean enough to use as a punchbowl. The same guy who uses a pegboard for all his tools, with neat little painted outlines showing where they go. His workbench is always clear and his toolbox has the tools aligned in order like surgical instruments. Even his nut and bolt collection is neatly sorted. Organized people are like this. Maybe this year I will get organized. I might even get one of those 25 cent pocket books to write things down. The new regs might require some documentation and a pocket book will be good discipline and practice. Then, maybe I won't forget to pick up things at Canadian Tire when I go shopping. I always forget to pick up light bulbs, lacquer thinner, gear oil, locktite, brake fluid and a bunch of other things that I can't remember right now. Oh yeah, one of those pocketbooks. I can also use it to jot down some titles of future articles. Titles like "How to bounce a landing, first time, every time"; "Cultivating with a propeller"; "Swathing with a propeller"; "Flying a Chinook in a Chinook"; "Beavers and other Canadian rodents"; "Ballooning in an aeroplane". Maybe I will get two pocket books.

Back to preflight. Some things cannot be hurried. Flying is like that. Don't forget to preflight yourself. Are you physically OK? Mentally OK? If you're frustrated, angry or upset about something, don't take it to the airfield with you. Flying a lightly wing-loaded machine takes skill and concentration, as forgiving as they are in other ways. The bigger machines are less forgiving but in other ways, they are easier to fly, especially in unsettled conditions. Just because you're not flying a Cessna 172 or Citation doesn't mean you're a lesser pilot. The basic skills are the hardest to master, and you can't go onto autopilot to think about whatever is centre stage in your mind. Leave your problems on the shelf once you decide to go flying. They will be there when you return.

The preflight is also a good time for a little prior decision making. I like to arrive at the airport early; time to check things out and dawdle a bit; time to consider the runway in use; time to consider where I would head if the engine failed at 50 feet, 100 feet, even 300 feet; time to eyeball the windsock for gustiness; time to think about density altitude; time for one last coffee and pee break; time to subdue any last minute worries, fear and trepidations; time to go now, because I've determined that I, the machine and the medium are ready to fly.

In summary, the preflight is done to:

1) determine the aircraft is airworthy;

2) determine that the maintenance schedule is being honoured;

3) determine that the pilot is airworthy;

4) review the plans for the flight and make some prior decisions on the ground.

The preflight always seems like a boring prelude to what comes next. Guard against familiarity breeding complacency.

Here is the inset paragraph repeated, with all of the letter "Fs" circled. There are six "Fs" - count 'em. It's easy to overlook things even when we know what we are looking for.

> Formation flying is the result of years of scientific study combined with the experience of many years.

Fly safe.

Safety Bulletin

-Warpdrive Ivo Props-

Attention 3-bladed Ivo Prop owners. The inside hub plates on some pusher installations have cracked. Warpdrive will replace this plate with a new design.

You may obtain your replacment at an exchange cost of $15.00 by contacting the Ivo Prop dealer where you purchased yours.

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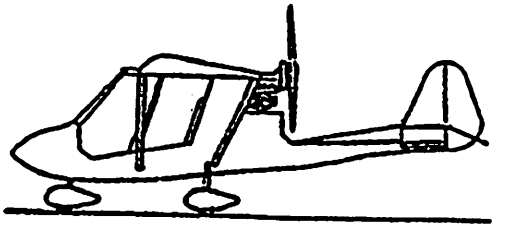

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So you want to be a test pilot?

by Jim Creasser

After giving serious thought to the flight testing procedure for a newly built kit several times, and more recently a scratch built "original" (there isn't much original any more), several questions come to mind.

Firstly, in the case of a kit, did the designer know what he was doing? Did he have any formal training; is this his first design; and more importantly did he adequately test the design? Many ultralight manufacturers have had no formal training and although this is evident in some designs, it isn't necessarily the most important criteria. To know what he is doing seems to be the important factor. This can be learned or self-taught by observation, reading, listening, etc.

I don't have the time right now to research the history of designers, but I remember several killing themselves while testing their new designs or modifications. This brings up another point; a designer/manufacturer will build a design, test it, change it and only test the modifications, but not necessarily the whole craft as modified. This has been the downfall of several would-be designers and the fall is a long way down!

What about the manufacturers that let the customers test their designs? It is a good thing that General Motors doesn't build aircraft, as they seem to test everything new on their customers. A manufacturer may show you a photo of many sandbags on an inverted wing laying between two sawhorses, but what about the wing attach brackets, or the relation of the tail to the downwash of the wing, etc.? You could be the test pilot and that job would either last the life of the aircraft or the life of the pilot. It seems that many ultralight pilots do not realize the damgers of this risky profession. I suppose they do not even think of themselves as "test pilots" but merely as pilot-owners.

The E.A.A. together with the F.A.A. is now studying the problems with homebuilders and "first flight" accidents. This is the time when homebuilders have problems, some fatal, and some very damaging both to the craft and the ego.

This particular time, the first flight after building a kit or even assembling a kit, is the time to do the most stringent walkaround and double check. If possible have someone, preferably your dealer or another owner of the same type, check it over for you. I have found that even if you have excellent plans and step-by-step instructions, builders will still interpret something differently than intended and will not recognize a problem until it may be too late.

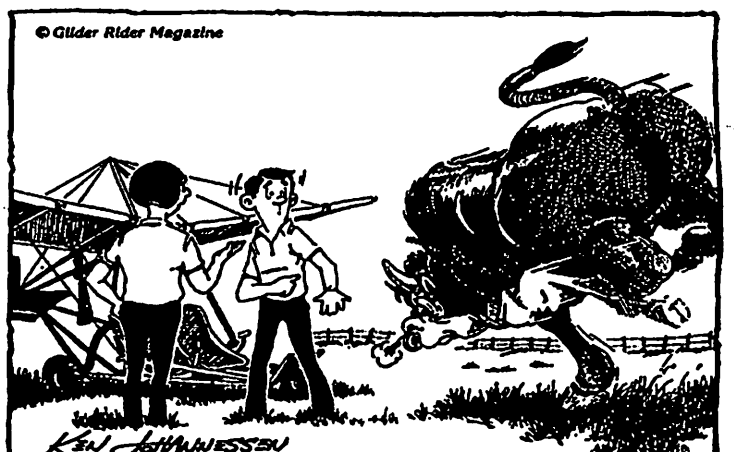
Ultralight owners who do modifications open up another problem area. Everytime you change something it usually affects several other areas. An example might be the simple addition to an existing design of a new paint job. What affect could this have on anything else, you ask? A simple layer of paint could move your center of gravity past the aft limit. In this configuration your craft may seem to fly well, but what will happen at the stall? Will it tend to spin? Will you be able to recover from the spin? Most real aircraft, when loaded with a rearward C of G, or past the limit, will not recover from a flat spin which will result from the rearward weight. The magic words are "Be Careful". If you must make these modifications, talk to the manufacturer, they may have been there already and have pertinent information for you or advise as to what may happen.

Let's continue this same senario; the paint job. To compensate for a nose up tendency we add a trim tab on one side of the elevator. This causes torque on the elevator leading edge torque tube and eventually might break the tube or jam the elevator in flight, likely with a disasterous result. Reading from a real airplane repair manual, it says if you paint the elevator it must be re-balanced. There aren't any balanced control surfaces on ultralights, but this gives you an idea of what a little paint can do.

The most important step in building or modifying an aircraft is the weight and balance. If you don't understand this procedure ask someone to help. You must know the forward and rearward limits and stay within. Some designs, particularly two seat tandem craft, can be out of limit with too little weight in the front seat, with a solo pilot.

I will be doing a weight and balance on my aircraft in the next few days. If anyone would like to help and learn, please call me (226-0180).

It's annual inspection time, have you done yours? How often should an annual inspection be done?



NO BULL!... THAT WAS A GREAT DEAD-STICK LANDING.