



Skywriter

Monthly Newsletter of the Calgary Ultralight Flying Club

January 1991

View From Above

by Paul Hemingson



At the December meeting Bernie Kespe became the new Secretary and Gord Keegan the Vice-President. A big thank you to these guys for letting their names stand and I look forward to working with them to make 1991 a great year.

The STARS air ambulance group, represented by Dave Jensen, gave an overview of their services and problems. This group carries out about 500 airlifts of serious/critical patients every year. One thing I found interesting was that the pilot is not informed as to the nature of the emergency ... only the destination ... and he makes his decision to fly or not to fly based only on the weather conditions. His decision is not encumbered by the humanness of the rescue, the condition of the patient or the accident scene. For sure, this keeps his mind more alert for safe pilotage, and leaves the trauma to the paramedics. There is a lesson here in that we should not fly if something is weighing heavy on our minds. Fly with your head, not your heart.

Ralph and Wayne Winters gave a proposal on the sale of Ralph's airport property for all to consider. It is getting harder to find a place to fly out of, and future growth and restrictions will make tie-down and hangarage more expensive in the future. If you are interested in learning more, contact Ralph for details.

The Christmas party was attended by about 40 folks and lots of fun was had by all.

The "View From Above" is pretty limited today. It's turkey day plus two (Dec.

27) and a wizard blizzard is in full progress. This one is expected to last for four days so I guess it will be the last one this year. Flying is the furthest thing from my mind today. Just for the fun of it I switched on my ICOM handheld to listen in on the Calgary International frequency to see how the pros handle conditions like these. A

howling north wind greater than 70 km/hour and near zero visibility with blowing snow and minus 25C temperatures make for slow but interesting approaches. It sounded like business as usual, but between the lines you could hear the extra concern expressed as they asked for updates on runway 34 conditions and preplanned a possible go around. A few diverted to alternate locations ... even the Big Iron Boys have their limits ... safety first.

I am hoping that 1991 brings us all the
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Checklist

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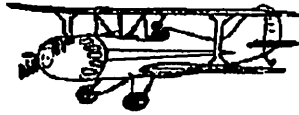
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One Pilot's Opinion

by Bob Kirkby



Radio Installations

This is the first in a series of articles in which I will discuss radio installations and RF interference. With the cost of VHF radios coming down many of us are now installing portable transceivers in our airplanes. These installations have met with varying degrees of success and I know some of you are very frustrated with the poor quality of reception after spending hundreds of dollars and hours of installation time.

In this article I will go over some of the basics and try to give you a picture of where the problems are and set the stage for solving these problems in future articles. There are two fundamental concerns that need to be addressed. These will lead into secondary concerns as we proceed. Right off the bat I must emphasize that getting the most out of your radio installation is an art rather than a science. I cannot give you a set of procedures to follow that will produce the same results in every case. In addressing these problems I will give you suggested solutions, and as you implement these solutions you will find that some are very effective and others aren't. Each installation will be different. It is a matter of trying one thing after another until the results are acceptable to you for the use to which you will put your radio.

The first concern is that we want to maximize the capabilities of the radio that we purchased by providing it with the most efficient transmission and reception facility that our pocket book and imagination will allow. What I am talking about here is the antenna "system". Any radio is useless without the proper antenna. Notice I said antenna system. There is much more to installing an antenna than simply connecting it to the radio. A poorly installed antenna can easily reduce the radio's efficiency by 50%. This may not matter, or even be noticeable, when you are only 2 miles away from the station you are communicating with, but at 40 or 50 miles it can mean the difference between communicating and not communicating.

By tuning our antenna system to peak performance our radio will be able to get most of its transmit power out into the air, thus sending our signal as far as possible and it will also be able to

receive desired incoming signals as strongly as possible.

The second concern is that we want to minimize the reception of background signals or noise that make it difficult to understand the desired signal. We usually call this noise RF interference (RF standing for Radio Frequency). We are constantly being bombarded by RF radiation from thousands of different sources. What we are concerned with is radiation that is at the same frequency, or in the same frequency range, that we are using. In the case of VHF radios we are using frequencies in the range of 118 to 135 Mhz.

We have no control over RF interference from sources outside of our airplane. But we can control, or try to control, the RF interference that is radiating from sources within our airplane. As we all know, the major source of this interference is from the ignition system of our engine. We will discuss ways of minimizing this radiation. By doing so we will improve the signal-to-noise ratio of the received signal and make listening to someone else's transmissions a whole lot easier. Generally speaking, attacking this problem improves our reception but does nothing for our transmission. When we come to it, I will point out one case where transmissions will benefit.

I will continue next month with a discussion of the antenna system. Stay tuned!

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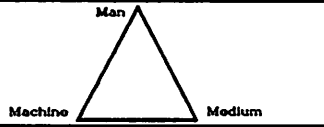
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Meetings of the Calgary Ultralight Flying Club are held the first Wednesday of every month at 7:30pm at

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Safety Corner

by Paul Hemingson



What to Wear... What to Wear??

Your cannot tell a pilot by his cloths. Some of the better pilots I have known did not look like pilots at all, or at least the image that many people have of what a pilot should look like. But judging a person by his clothes is akin to judging a book by its cover. To a large extent the type of clothing is determined by your type of flying machine and the conditions under which you fly. The pilot in an enclosed cabin can dress much lighter than the pilot of a more open machine. Winter flying obviously requires more protection than summer flying. Then there is the matter of personal taste, style and preference. But, the reason for this article is not to make a fashion statement. I believe that your degree of comfort and well being can contribute to the safety of your flight. Choosing style over substance can be hazardous to your health. Being too hot, too cold or too uncomfortable can be fatiguing and takes away, or distracts you from your tasks at hand. There are some items you should never leave home without.

Personally, I like comfortable clothing. I prefer loose fitting clothing rather than clothing that binds and pinches and constrains. For example, when it comes to jackets, I prefer a lightweight fabric such as goretex, which breathes yet is wind resistant and water repellant, and loose fitting with plenty of elbow and shoulder room. Extra pockets with flaps that can be buttoned or snapped shut are always handy to stow away things like chocolate bars, a sandwich, kleenex or even some parts or tools. Most leather jackets I find too heavy and not that warm or comfortable... even though they look great. Overalls or insulated overalls are good if they are large enough to fit over your underclothing and keep the body heat in... and the slipstream out. And what can you say about underwear, or "inner fashions" as the department stores now call them? The only thing I remember is the old adage: "keep it clean"... you never know when you might have to show it. Don't forget that what is just right on the ground might be a little cooler at altitude and airspeed.

For footwear I like a lightweight, soft-soled type of shoe/booty that gives some feeling for rudder feedback. I try

to avoid heavy boots with thick soles, but with ultralights sometimes you need to be prepared to walk, so I guess there are arguments both ways. The pilots of yesterday used to say, "If you're going flying, wear a pair of boots that are good for walking".

Gloves. I like to wear a very lightweight pair that allows me to flip switches or adjust small things enroute. My favourite pair of gloves are made of light weight goatskin, or something, that I bought at a welding supply store. They are soft and supple, and feel like a second skin.

Hats. Your typical baseball hat is a must for flying to keep the sun out of your eyes which allows for much better visibility. I find that the lightweight cap easily fits under your helmet. Sure, it looks kind of weird, but we're not here for a beauty contest. My favourite hat has an extra long bil, but everyone has their own preference. If you want to look like a general from some country, there are lots of hats complete with golden "scrambled eggs" braid.

Sunglasses. Another must! It seems a quirk of pilotage that in whatever direction you want to go, its against the wind and sun. I believe eyestrain is a major factor in fatigue. The color and darkness of your shades is a matter of personal preference. Myself, I prefer the light amber colored type that filter out the blue portion of the spectrum. I find it much easier to spot traffic using this type, and on an overcast day they brighten and sharpen the scene. A good idea is to buy a pair of sunglasses and leave them in your aircraft. That way they are always there when you need them. I found that a mirror glaze that you use on your windscreen also works well in keeping your glasses clean as well as taking out minor scratches.

Earplugs. Say what? Say again? If you're not wearing them maybe it is time to reconsider. The ringing in your ears after a flight without airplugs is evidence that the decibel level is beyond the ear's capacity to handle. The sound level in most ultralights is sufficient to cause a little bit of permanent damage on each flight. Wearing them might be an annoyance at first, but you will soon get used to them, and want to use them all the time. That way, when your
(continued on page 4)

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Fly Paper

by Gord Keegan



Need a cold weather project?

I heard an announcer the other day talking about 3 brass monkeys checking into the Foothills hospital. So far, this has been one of the coldest, windiest, snowiest winters I have seen in many years. Not good flying weather to say the least! But, just because we can't fly doesn't mean we should not be busy.

This is the perfect opportunity to do that major overhaul on your ultralight. I own a 1986 Beaver 2 place with approximately 300 hours on engine and airframe. Although I have done good annual inspections on my aircraft, I have decided that this is the time to really strip it down to the bare bones and look carefully at every nut, bolt, cable and joint on the aircraft. The following is a brief summary of the work I intend to do over the next few weeks.

Remove the Rotax 503 engine and probably send away to have a major overhaul done if deemed necessary after close inspection.

Remove the wings primarily to replace the spar brackets which are now steel instead of the aluminum in which cracks have been found. While the wings are off I will also replace aileron cables, check tension on the internal bracing cables and carefully examine the aileron linkage for cracks or loose rivets. The fabric on both wings is in virtually new condition due to inside storage and use of wing covers, so I hope not to have to remove and discard my Dacron.

At this point I am left with just the frame of the turkey (an old Christmas tradition, usually boiled to make soup). I will remove the fairing, windshield, instrument panel, rudder and throttle cables and the horizontal and vertical stabilizers. The brake system and landing gear components will be next to come off, leaving me with something resembling a flagpole with rudder pedals.

The primary reason for removal of every nut and washer is the insidious tendency of aluminum to begin cracking at a bolt hole, behind a washer, hidden from the probing eye of the conscientious pilot as he does his thorough pre-flight. This is the source

of the aforementioned problem with the wing spar brackets. From my experience, it is the things you can not see that are most likely to bite you in the butt, or worse.

After checking every bolt hole and attachment point on the fuselage and thoroughly cleaning those hard to get places, I will begin the process of assembly.

Firstly, re-attach the landing gear, carefully inspecting and lubricating axles and wheel bearings. Remember the landing gear takes more abuse and stress than almost any other part of the plane. Treat it right and it will never let you down, as it were. It is very important to check for stress cracks on struts and wing bracing. If a part seems to be discolored or does not appear as it should, discard and replace.

Next is the messy job of re-installing the brakes. For those of you who have trouble keeping the bubbles out and the fluid in, call President Paul Hemingson, he has a great system.

With the number of hours on my aircraft, the manufacturer recommends replacement of all critical cables and close inspection of turnbuckles.

I will remove all instruments from the panel, clean and re-calibrate where necessary, particularly the airspeed indicator, which on most ultralights is more of a source of comic relief than valuable information.

Wherever possible, as I proceed, I will touch-up marks on painted parts to protect the underlying metal. The windshield plastic, which is now badly scratched, will be replaced along with paint touch-up on the fairing and wheel pants.

Time to re-mount the wings with a little help from my friends and hopefully the engine will be ready for installation at this point as well. The prop will also get close attention now, although with the epoxy leading edges I find that dings are a thing of the past. Finally, the ballistic chute, which is overdue for repacking, will be mounted.

Before I start this project I want to check with the manufacturer to

confirm whether there are any retrofit features that may be good to install while the aircraft is disassembled.

So, don't let this god maintenance weather go to waste, remember the last thing you will want to do when spring arrives is take your airplane apart, do it now and have fun!

(View continued from page 1)

things we dream of. Here is a short list of what I would like to see: Blue Skies, Light Winds, some new enthusiasm with the membership, great meeting presentations, increased safety awareness, the promulgation of the new Regs and successful involvement in various airshows.

A Happy and Safe New Year to all. Mark your '91 calendars with the meeting dates - the first Wednesday of each month.

(Safety continued from page 3)

grandchildren ask you about your flying days, you will be able to answer their questions. A good way to feel extra fatigued on any flight over 45 minutes is to go without some kind of ear protection. Of course, if your helmet fits tightly enough you might find that earplugs are not necessary.

In summary, the key idea is to wear clothing that is comfortable and suitable for the conditions you expect to encounter. It is easy to forget things like sunglasses or earplugs that reduce fatigue. An idea might be to add these items to your pre-flight checklist.

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