Skywriter

December 1989

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Message from the Prez

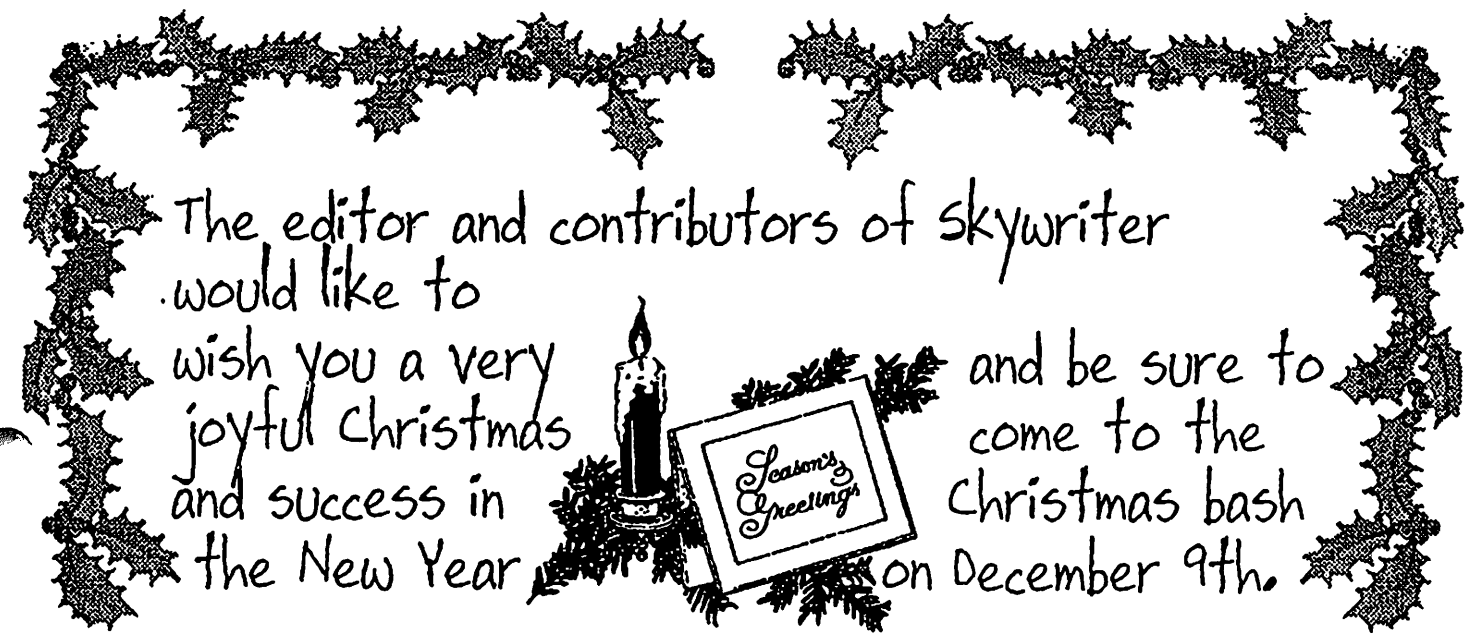
by Gordon Keegan

Since this will be my last "message from the prez", I would like to take this opportunity to thank some of the people that have made my job very easy over the past year. Vice-president Paul Hemmingson, along with writing an outstanding safety article every month, has chaired several meetings in my absence. Secretary Gord Sorensen worked hard at filling in as newsletter editor as well as keeping minutes and other club records. Treasurer Gord Tebbutt has done a great job of keeping the club finances on the straight and narrow. Director Jim Creaser has freely shared his knowledge and expertise, and was a big help in every aspect of club operations. Newsletter editor Bob Kirkby has taken a keen interest in the major job of producing this fine newsletter every month. There are many others, too numerous to mention, who have made their contributions to this club and helped to make it the success that it clearly has become.

I am looking forward to continuing my participation in the club and supporting a new president, who can bring fresh ideas and enthusiasm to the position. The sport of ultralight flying is presently going throught a metamorphosis. Many new developments will be upon us in the coming year. I know that, as it grows, C.U.F.C. will become an influential voice in the direction of this development in Western Canada.

I have been proud to be, and continue to be, associated with this club and to tell anyone who will listen about ultralight flying. Thanks to each and every one of you for your support and assistance over the past year!

Merry Christmas,
Gord Keegan



Safety Corner

by Paul Hemingson

The Times They Are A-Changin'

Five years ago, I never thought I'd be buying an aircraft radio. Infact, one of the greatest appeals of ultralight flight was the freedom of restrictions. Pure and simple recreational flying, uncluttered by the restrictions, procedures and clearances that go with heavier machines. At that time, I did most of my flying some 50 miles northwest of Calgary; I'd forgotten what a control zone was. Aeroplanes of any kind were rare in the area and I was always welcomed as a novelty if I dropped in on some lonesome farmer. I was a little bird in a big sky. Hell, I was the local entertainment to porch dwellers of the area. Then I moved to the Priddis area, some 15 miles west of Calgary; some other space cadet now entertains the locals - fame is a fleeting thing. Along with the move, I became a little bird in a little sky.

The intensity of air traffic bears a direct relationship to the proximity of Calgary. A lot of things appear to be drawn into the influence of the city - just like a magnet. You can tell you're getting close to a city just by the frequency of signs, towns, villages, and improved roads... even 30 miles out. Contrast this with the area 30 miles around Bassano, or some other rural Alberta town.

Figure 1 is a map of the Calgary area. Progress has made its mark. Within 30 miles of Calgary are more than 50 airports/aerodromes. Not to mention the unshown strips. All of this within an area of 2,500 square miles. Note the city covers more than 200 square miles and the Calgary control zone is 100 miles. Note also, the restricted area on the Sarcee Reserve, and the "ALERT" or training area north of Cochrane.

We would all like to keep our flying simple and basic - the primary tenants underlying our mode of flight. But the times are changing.

The new regulations (September 7, 1989) will certainly hatch a newer, faster, heavier, more sophisticated machine. There will be more demand on controlled/uncontrolled airports. As it is now, it's difficult to fly around the Calgary area without encountering a control zone or heavy weekend traffic. The big sky theory keeps collisions from occurring, until the time comes when all the birds want to return to the roost; the big sky quickly becomes crowded. Most of us fly around low, slow and solo, avoiding controlled/uncontrolled airports so that we don't create a hazard for ourselves or others. I envy those who have lots of open space and light traffic. For those who fly in high traffic areas, an additional safety edge might be radio. The wave of the future will involve radio communication. Remember though, that radios can't see and the best collision avoidance equipment lies between your ears. Never neglect looking around for traffic.

Catching the Wave

Progress and safety are gradually creating more sophistication in all things. Radio communication is an added safety feature for those who want to get safely in or out of many places in the Calgary area. But radio doesn't come cheaply. Still, it's as cheap now as it's ever been. If your kind of flying is away from the mainstream, great, I envy you. You will get along fine without a radio; however; for those who have to share the sky with others, you might want to consider the cost/benefit of radio.

Here's five reasons to convince Santa why you might want to get into radio (notice I said "want," not "must"):

1. Contacting a control tower to get permission (clearance) to land/take-off, taxi or fly near/through a control zone.

2. Announcing your intentions at uncontrolled aerodromes or conversely, listening to the intentions of others.

3. Getting inflight weather from a nearby ATIS.

4. Listening in to get an idea of the air traffic in a particular area.

5. Monitoring the FSS frequency to receive PIREPS, SIGMETS, etc.

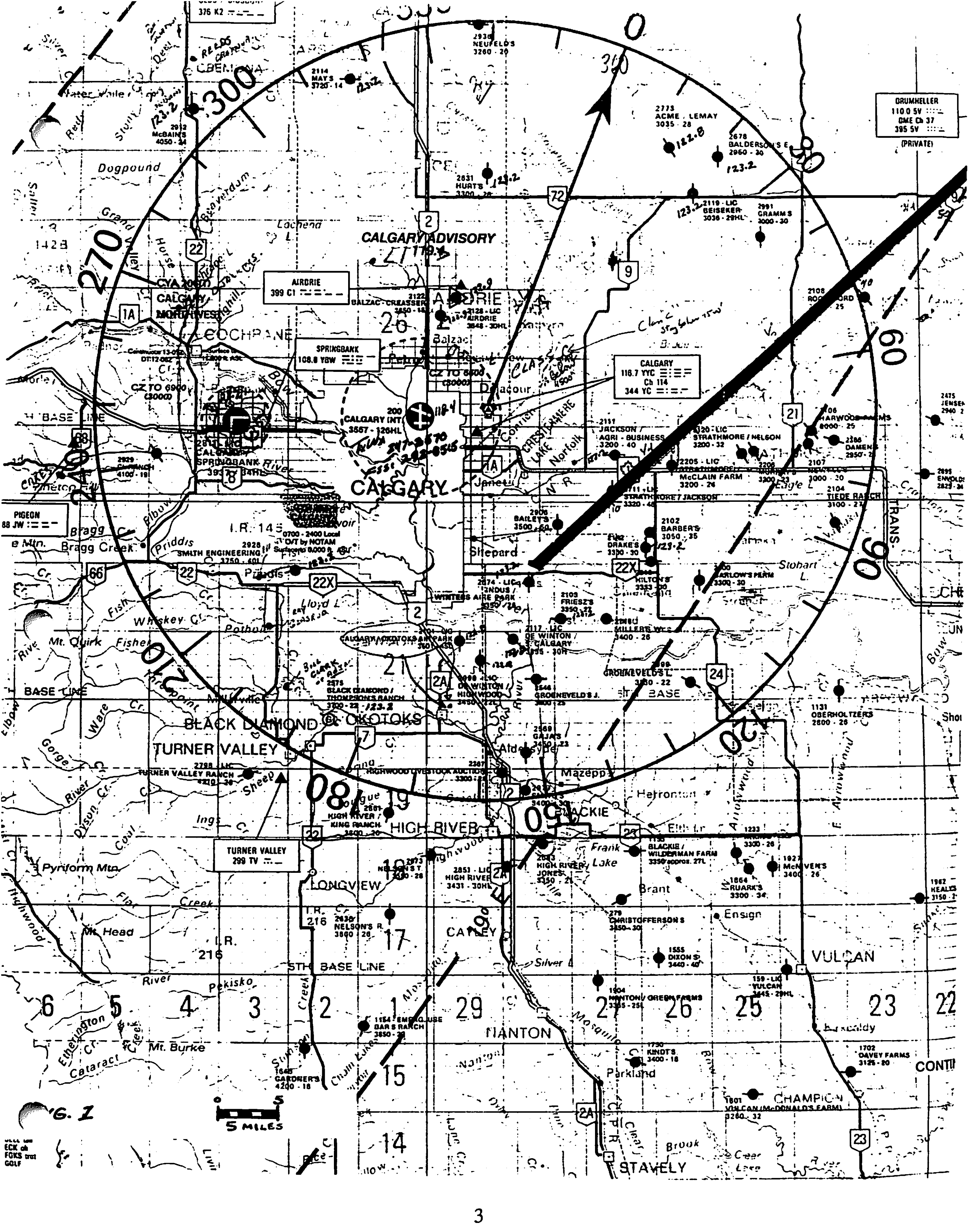
Compulsive "knob twirlers" and "button-pushers" will like the new breed of VHF hand-held transceivers. Most of them come with rechargeable battery packs that will last six to eight hours in the receive mode.

If your're going somewhere with a group, it's O.K. for the flight leader to announce your collective arrival and intentions -i.e., one radio is enough. You simply have to follow the leader. Do what he does - unless he crashes! If so, simply land gracefully alongside and hope his radio has been thrown clear. For those who like to have control over their own machine, it can set you back close to $1,000 to be wired. Handheld transceivers run in the $500 - 600 range, then the headset/helmet units are another $250- 300. Add to this an antenna ($40) and push to talk patch cord ($40), plus the shielding hardware and licence fees ($35). And this is before 9% goods and services tax.

At last month's meeting, Bob Kirkby enlightened us about the nuts and bolts radio installation and shielding to decrease noise (N) and increase signal (S), to improve the S/N ratio. Here is a brief summary of Bob's key ideas about shielding:

1. Ground engine to air frame, using a short piece of wire attached to some non-structural bolt. Your lord mounts likely keep the engine insulated from the air frame.

2. Install resistor plug caps - for Rotax it's part No. LB50EZ. Resistor plugs are not recommended.



CALGARY ADVISORY
CALGARY
AIRDRIE 399 CI
SPRINGBANK 108.8 YBW
CALGARY 116.7 YYC Ch 114 344 YC
TURNER VALLEY 299 TV
PIGEON 88 JW
DRUMHELLER 110 0 SV DME Ch 37 395 SV (PRIVATE)
COCHRANE
CALGARY INT
BLACK DIAMOND
OKOTOKS
TURNER VALLEY
HIGH RIVER
BLACKIE
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3. Cover the plug leads with a wire braid and ground at both ends. This wire braid is available through Bob at $2 per foot. You will need about 3 feet to do the job.

4. Mount antenna and "groundplane" for antenna in a suitable location. One wavelength is about 8.2 feet, so a quarter-wave antenna is about 2.0 feet.

5. Use coax cable to connect antenna to radio. The optimum length of coax should be an even multiple of "typical" wavelength used:

$$w = c/f$$

where:
w = wavelength
c = speed of propagation of radio waves which is 186,000 mile per second.
f = mid-point of VHF frequency spectrum or 120,000,000 cycles per second (120 MHz).

Therefore, wavelength, in feet, is:

$$w = \frac{186{,}000 \text{ mi/sec} \times 5280 \text{ ft/mile}}{120{,}000{,}000 \text{ cycles/sec}}$$

Cancelling the units gives:

w = 8.2 feet/cycle (i.e. wavelength = 8.2 feet).

Hence, your antenna lead should be 8.2 feet or 16.4 feet, and so on.

6. Consider shielding the coils if there's still too much static.

Several club members have already installed radios and done the shielding on various types of aircraft. So, when it comes time to do yours, ask around for advice. I've enclosed some information which I obtained from one avionics company, to which I've added some notes. Bon reception!

Push to Talk (PTT)

Getting your radio installed and working properly is one thing. The other thing is getting yourself working properly. You will require a radio operator's licence and a licence to install and operate a VHF aircraft radio station. A good way to make the ultralight community seem like a bunch of amateurs, unsafe at any altitude, would be to skip the above licences. To ensure you become known as the "Radio Operator from Hell," simply use CB lingo, cut people off in the circuit, broadcast with a motor-mouth, step on other transmissions, use non-standard phraseology, speak rapidly and acknowledge nothing!

Clearly, there is more we need to know than how to activate the push to talk switch to sound professional. There are two ways to learn; one is reading, the other is listening - which is the same as reading with your ears instead of your eyes. That's why someone invented cassette style books.

Reading to Talk

You need two licences to operate your radio. To get your radio operators licence, you will be required to pass a test. These are given orally at most flight training schools for a minimal charge. A CFI will ask you questions about regulations, procedures and emergency communications. To prepare for this test, you will need to spend a few nights studying. The most common reference studied is a booklet from Communications Canada (DOC) called the "Radio-Telephone Operators Handbook." It costs $1.75 and is available at most flight schools. Study up a bit, then simply make an appointment at the place of your choice to get the test administered. You will get a temporary licence after the test and a formal paper from the DOC in a few weeks.

The second licence required is the radio station licence for your aircraft radio station. This is obtained from the DOC on the 8th floor of the Federal building in Calgary. There is a fee of $35 per year. Basically, all you have to do is supply them information, such as make and model of radio, frequency band, aircraft registration, etc.

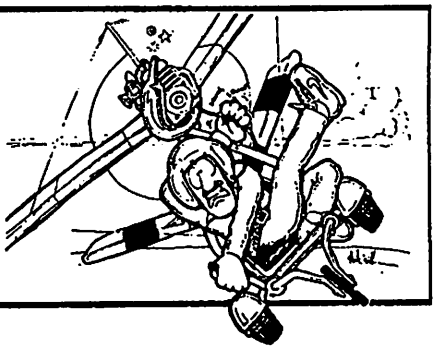
Listening In/Listen Up

Reading about radio procedure is one thing, doing it, another. I think one of the best ways to learn is to listen in. Simply tune in a controlled airport and monitor the conversations between pilot and controller - just don't try transmitting yet. Monitor the communications and listen for content, intent and achnowledgments. At first, it will sound like gibberish, like some codes - not to worry, it is a code. After you've listened for a while, all makes sense. It will make sense because there are certain procedures to use and you will begin to anticipate the reporting out of a pilot and the clearances and instructions of the controller. Soon you will hear pilots making mistakes and ommitting information. This is a good sign - it shows you're learning what should be said, when it's said, how it's said and why.

There is a lot more to know. Next month I will summarize the procedures for sending or receiving a message; the proper procedures at controlled and uncontrolled aerodromes and some tips on effective use of the radio, all in the spirit of safety and professionalism.

Fly safe.

Here's a great shot of Gord during his emergency landing. Notice how he has his deadstick procedures down pat!



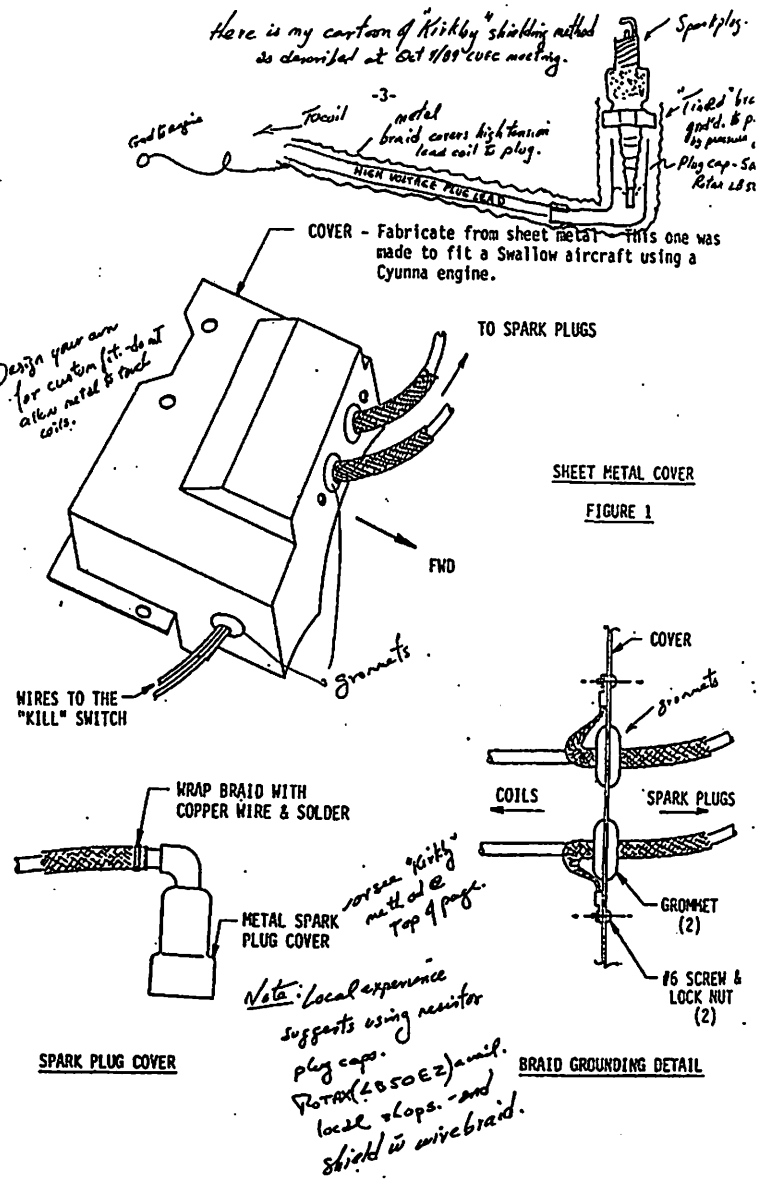
Letter from the Editor

by Bob Kirkby

I am delighted to be able to bring you a newsletter this month that is so full I barely have room for my own column (but I'm going to squeeze it in anyway). Not only do we have our usual heady contributions from Paul and Jim but you will also find a superb article by Buzz Mawdsley on the other side of flying and a controversial commentary by Don Richter. And of course we have our pillar of diplomacy column from our pres and your editor's synical ramblings. I am greatly appreciative of their contributions and I hope that their efforts will not only enlighten and entertain you but will also encourage you to make a contribution to the newsletter.

In the new year I intend to spruce up the format of the Skywriter a bit and establish a consistant format. I want two to four regular columnists who can rotate so that they don't all have to product a column for every issue. In addition I will be looking for one or two one-time articles from various members for each issue. If there is anything you would like to see in the newsletter, please let me know.

To close out 1989 I would like to say thank you on behalf of all club members, to our outgoing President, Gord Keegan. Gord has put a tremendous amount of energy into the club to make it the success that it is today. He has always been very enthusiastic and committed to every aspect of the Calgary Ultralight Flying Club. Thanks, Gord, for a job well done.



Editor's note - this is a reproduction of the letter from Comtronics referred to in Paul's article. A full size copy may be obtained from the editor if desired.

SUBJECT: ELECTRONIC SHIELDING OF IGNITION SYSTEMS ON LOW HORSE POWER AIR-COOLED GASOLINE ENGINES

This news letter is to provide a guide for shielding your aircraft for the successful installation and operation of any AM radio system.

Engines used in ultralight aircraft are traditionally air-cooled 20 to 50 horse-power units which use a magneto to generate electric current in order to produce a high energy spark for ignition. This type of ignition is reliable and effective and used on most aircraft utilizing gasoline-fueled engines.

However, this set-up interferes with radio broadcasting. The problem with high energy spark ignition is its inherent characteristic of broadcasting a complete spectrum of radio signals in the form of static, especially on the AM band.

Years ago, when aircraft communication was initiated, the only radios available were of the amplitude modulation (AM type). Since that time, no major changes in aircraft radio design have been made.

Engine ignition noise (static) has always been a problem for aircraft communication systems, and it remains so today. With the advent of the all-metal airplane, the problem has been reduced for a number of reasons. Most important of these is the complete shrouding of the engine in a metal cowl with a metal firewall between the engine and radio installation. But even shrouding the engine in metal does not remove all of the interference. By shielding the actual source, most unwanted signals can be suppressed. High tension wires should be shielded with wire braid, spark plugs jacketed in metal, and the magnetos housed in a metal case with all of these grounded to the engine block. As a final measure, the antenna for the radio should be placed some distance from the engine and connected to the radio with a shielded coaxial cable which has its outer braid grounded at each end.

AM communication equipment installed in an ultralight aircraft will operate satisfactorily if properly installed and protected from the high energy ignition system.

The following steps should be taken in order to assure clear communication to and from your ultralight aircraft:

1. Obtain and install resistor spark plugs of the same type you are now using. (May be located at your auto parts store.)
2. Install metal spark plug covers. (Covers can be purchased from Parts Unlimited - 204 West Lawton Street - Edgerton, Wisconsin 53534
3. Shield your spark plug wires with wire braid. The end closest to the spark plug end should be grounded to the metal plug cover. (The braid can be obtained from your local electronic supply store). Other end of braid should also be grounded
4. Fabricate a sheet metal cover (.020 aluminum is sufficient) to fit over the spark coil or coils. This cover should fit tight to the engine block and should be grounded there. All wires should emerge through rubber grommets set in the cover. The wire braid should be grounded inside the cover. (See Figure 1 and 2).
5. Last and probably most important, fabricate a bracket attaching your antenna to the wing tip, jack post, or vertical fin of your aircraft.
6. Install the antenna on the bracket and connect it to the radio transceiver using a coaxial cable. (Both the antenna and cable may be purchased at your nearest aircraft radio shop.

   Secure the coaxial cable from the antenna to the radio using duct tape or similar material. The coax should be secured to a structural member every 18 to 24 inches.

Remember, shielding an ignition system for radio communications is more an art than a science. What may work in some cases, may not in others. This news letter is intended to be a guide to you the user. You may find that you'll have satisfactory results using any one or a combination of steps shown here.

P.S. Don't forget to ground the engine itself to the airframe.

Regulations

by Jim Creaser

We could have mandatory liability insurance regulations by January 1, 1990 or sometime in 1990.

The Government's Canada Gazette, No. 34, Vol. 123, dated August 26, 1989 indicates that Transport Canada is to require all private aircraft **operators** to carry at least $100,000 liability protection if they operate an aircraft having a certified gross weight of 2,300 lbs. or less.

I checked the definition of "private aircraft" and, yes, an ultralight is one. The owner doesn't necessarily have to purchase insurance, it is the pilot or operator of the aircraft that is responsible for ensuring adequate coverage as required by the law in force when he takes to the air. The regulations provide for stiff penalties, including loss of license and fines of up to $5,000 for individuals who do not comply.

This liability insurance being made mandatory is intended to pay for damages to property owned by third parties and injuries to third parties. For instance, if you land at Paul Hemingson's strip and hit his prize bull, killing it, your ultralight will be demolished but the insurance will compensate Paul for the bull. If you land at my strip and inadvertently run over me while I am filling gopher holes and kill me, your new liability insurance will pay my wife up to the policy limits (she will be happy to learn this). According to the rules as printed in the Gazette, you must carry on board proof of insurance, and produce this for a Civil Aviation Inspector or, I would guess the RCMP, if asked.

The next problem is where to purchase this insurance and how much will it cost? C.O.P.A. has insurance available - the cost is $125.00 for the $100,000 liability, but you must be a C.O.P.A. member, another $30.00 per year. The C.O.P.A. insurance, GALIP, which stands for General Aviation Liability Insurance Protection, insures the pilot and not any particular aircraft. The benefit of this type of insurance is that a pilot is free to either fly his own craft, a rented machine or a borrowed one. Another advantage is a father takes out the GALIP insurance and a son or daughter, living at home, is also covered. The disadvantage of this type is that your ultralight could blow away in a storm and wreck another aircraft. If the owner is insured, OK, but if a friend has GALIP and has been flying this craft, there is no protection for the owner who is responsible.

Your executive is presently negotiating with a major aviation underwriter for a group plan for C.U.F.C. members. We are looking at the possibility of covering all ultralight pilots in Alberta by offering associate memberships. This would lower the overall cost for insurance and help other ultralight flyers. The projected cost is about $110.00 per year and the more we could sign up, the lower the cost. This would be liability insurance on the craft, which I think suits most of our members. More on this as time progresses.

Another interesting bit of information I heard when talking to Transport Canada Regulations in Edmonton, was that two Ultralights in the frozen north country (Edmonton) were deregistered because of being slightly overweight. I asked this question of the head man, Air Regs, Western Region: "You wouldn't be that drastic as to deregister an ultralight if the owner added a few pounds of safety equipment, would you?". The answer was "Overweight is overweight, regulations must be enforced". Nice to know we have bureaucrats like that and even better that they live in the frozen north.

Dates to Remember

Next CUFC Meeting is Wednesday, January 3, 1990, 1930 hours, at the RCAFA, 110-7220 Fisher St. S.E.

CUFC Christmas Party is Saturday, December 9, 1989, 2000 hours, at the RCAFA, 110-7220 Fisher St. S.E. A cold buffet will be provided by the RCAFA. There will be a cash bar, music, dancing and lots of fun! Call Gord Keegan for reservations.

CARES Christmas Dinner will be held December 8 at 1830 hours, Legion Branch #286, Bay 7- 640-28 St. N.E. Tickets ate $6.50 each. This is an excellent way to kick off the Christmas season.

Please call Bob Kirkby with the dates of any coming events for this column.

Flying a gyro

by Buzz Mawdsley

When you meet gyro pilots, you will notice a degree of eccentricity in every one of them. Whether this is a prerequisite to or result of the interest in this unusual aircraft, I can't say.

The gyro is probably the least understood and the most maligned of any aircraft kit ever manufactured. It is also one of the most fun. Jump in and we'll go on a typical ride.

After the usual pre-flight inspection, the engine jumps to life with an angry snarl. While it is warming up is a good time for some mental reassurance to keep in mind what kind of aircraft we are about to fly. While this is a very stable aircraft, it is very unforgiving of porpoising (pio) or negative "G" manouvers.

With the engine warmed up, and prior to taxiing, the rotor blades must be brought up to 100 RPM. With the blades moving, ground

stability is established. The newcomer to gyro flying, at this point, usually becomes nervous as hell. Why, you say? Because at this point, when you have engaged the pre-rotator, the machine seems to be trying to tear itself apart. Everything that you can see is in motion, bending, twisting, jumping and vibrating.

Now that the blades are up to 100 RPM, you can taxi to the runway and the incoming air turns the rotor without your assistance. The openness of the aircraft makes spotting incoming air traffic a breeze. We pull out onto the threshold and now the fun begins. Point it straight down the runway and apply full brakes. Pull the stick to the neutral position and apply full power while at the same time engaging the pre-rotator. Now the adrenalin really starts flowing because all the motion and sensation of spinning the blades up for taxiing triples. Scan the gauges and rotor tach. RPM and heat are ok and rotor tach says 220 RPM, so its time to go. Bring the stick to the full back position and release the brakes. The acceleration for the first 10-20 feet is slow because of the high drag attitude of the rotor, but this is about to change. The machine suddenly rocks back onto the tail wheel and signals that most of the lift required for flight is there. We ease the stick forward so that the machine is balanced on the main gear only, but when this happens the drag on the rotor is greatly reduced and the acceleration is hard to believe. As the aircraft breaks ground, the normally heavy feel in the stick becomes feather-light and sensitive, and a new sensation occurs. As the rotor loads and develops greater lift, the aircraft slows and almost stops. Now the fixed wing pilot knows its time to bend over and kiss it goodbye, because you've stalled. But the gyro pilot adds more power and claims to circuit height.

As we cruise across country, dust and smoke tell us that wind and thermal activity is high, but flying the gyro in these conditions is common. The ride is smooth and there is no need for corrections. The ride is now similar to a small helicopter. At this point there is no difference between flying a fixed wing aircraft and a gyro, aside from the sports-car like handling.

The cross-country flight is now over and as we enter the circuit we can make the decision on landing technique. As there is no local traffic or circuit activity, we can opt for a vertical descent. With the vertical descent from circuit height, we have to check very carefully for other traffic. Having verified this, and being directly over the runway at circuit height, we bring power full back! Stick full back and a very strange thing starts to to happen. Airspeed bleeds away to nothing, but the rotor speeds up and the descent is at 700 FPM - about the same as a parachute. The aircraft is in a nose-down attitude, but the rotor is level. At 100 feet AGL we ease the stick forward to dive and regain airspeed to flare. Entering ground effect produces that usual tendency to lift, so attention is necessary to level out at 3 feet AGL. Landings are FUN! At 3-5 feet AGL power is cut and the stick is slowly but firmly pulled back. The deceleration is phenominal and the machine enters a hover, then settles slowly to the ground at zero ground speed. Take a deep breath, but don't relax because this is one of the most dangerous times in a gyro. The rotor is still at full flight speed and capable of flying. A gust could topple the gyro. The rotor must be allowed to slow down before carefully taxiing back.

I think we can all agree that flying is fun and gyros supply a different and challenging variety. While this aircraft may not be for everyone, I hope this lends some insight to others not familiar with this particular mode of flying.

The Real Difference Between Rigid and Flex Wing

by Don Richter

As my favourite gyrocopter pilot is continually quoting to myself and anybody within earshot, "Some companies are actually going out and re-inventing the airplane". Who are these companies? The rigid wing companies, of course. Ultralights, when they first came out, were basically hang-gliders with motors. Through evolution we have seen them grow to become what they are today. Unfortunately, some companies have been sreaming for changes in the ultralight industry for what they say is to increase safety in our sport (Zenair comes to mind as do many others). If you really look carefully you will see that they are actually getting their homebuilts to qualify as ultralights. This will drive the cost of a so-called ultralight up, up and away.

Don't believe me? Okay, here's an example. My company, Fun Flight Aviation, was recently solicited by an Ontario firm to become a dealer for their aircraft. Here is a direct quote from their information brochure: "Finally an INEXPENSIVE, economical, safe ultra-light for only $27,900.00". This $27,900.00 model, by the way, still has to be built by you, the purchaser, to the tune of 300 hours, or they'll build it for you for the grand total of $32,000.00. All this money for an aircraft that is being held hostage by the infamous Rotax "when they crap out you're screwed" 2 cycle engine.

If I'm going to spend that much money I'll buy a Cessna 152 or 172, get my license on my own aircraft and still have enough money left over to operate the damn thing for two years. At least I know if I fly somewhere my chances of getting back are a lot better than with a $27,900.00 ultralight that has a proven unreliable engine and a lousy ground speed for high winds, which, as we can all atest to, come up fairly frequently in the Calgary area.

Now on to the major differences between rigid wing and flex. When you build a rigid wing aircraft, you are looking at committing a minimum of 250 to 350 hours. When you build a flex wing aircraft, you are looking at 125 to

175 hours. A big selling point on rigid is that they have a welded frame. That's great right up until your aircraft is smacked up, or until it flies out of the sky doing a tail slide. You bend a welded frame and you are looking at: a) hiring someone to re-weld the basic airframe; b) a major time committment to rebuild because now you have to strip down the majority of your fabric, check all welds for cracks, replace all bent aluminum etc.; c) rebuild and repaint you aircraft. If you bend a flex wing all you do is asses the damage and replace broken and bent parts. No fuss, no muss.

Another bit of misinformation is that you can leave a rigid wing plane outside and there will be no deterioration. Only a damn fool would leave an ultralight aircraft outside. Calgary has duststorms, hailstorms, windstorms, dust devils, etc. All of these will beat the heck out of "Stits", which is what most rigid wings are covered with. A flex has a problem with dacron because dacron is suseptable to ultra-violet rays. Preventative medicine for that is: when you are finished flying put your airplane away. You can increase your sail life to well over 800 hours just by using your head. Another option is a Hypec covering. Going to performance, both types of aircraft, rigid and flex, perform equally well. Basically the same climb, stall and roll rate. Some perform better than others; like a small biplane with a big engine, but then again if I took a Yamaha 125cc motorcycle and put a 750cc engine in it, it too would go like heck. Catch my drift?

Basically, what I am saying is that all types of ultralights have their place in the market. The Beaver and Challenger lines of aircraft are well proven and more established in Alberta than any rigid wing aircraft. The reason is that when it comes to safety, reliability, performance and cost, people will look at flex wing aircraft. Don't believe me? Okay, let's see how many flex wing and rigid wing show up on the C.U.F.C. list of owners.

Think about this. The more you ask the government "D.O.T." for, the more you'll get. But in return "D.O.T." will ask for more. Like more hours for training, flight tests done by "D.O.T." examiners, C of A's, more instrumentation, etc. Then by the time you buy a plane, you'll have spent somewhere in the neighourhood of $25,000. just to own and fly an ultralight. This takes the chance to own and fly an ultralight away from the average guy and gives it once again to the elitest only. What a pity! And all because a group of people are re-inventing the airplane.

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. Call Gord Keegan, H. 242-7791, W. 265-3636.

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.

R/C Scale Modeller - magazines 1970-1989, A1 condition, 260 available, $1. each. Dave Bendall 278-9175.

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.

Classified ads for aircraft and related equipment are free to CUFC members. Call Bob Kirkby to place an ad.