Skywriter...

Monthly Newsletter of the Calgary Ultralight Flying Club

December 1991

View From Above

by Paul Hemingson

I missed the November 6th CUFC meeting due to a two week business trip to Houston, Texas. You might think this was a treat but I'd rather be in Canada any day. Thanks to VP Gord Keegan for taking the chair and organizing the program.

Members were informed of the upcoming elections and nominations are being accepted. A report out of the Hobby Show indicated that we may not paticipate next year. Thanks go to Bev Befus for organizing our show this year.

The hi-lite of the meeting was a discussion with local TC rep Jamie Roth. Jamie discussed the new Advanced Ultralight Regs and offered some thoughts on improvements to the UL training program. I understand this was a two-way flow of ideas and we will pursue this further in January 1992. Jamie takes a keen interest in the Ultralight scene and is willing and wanting to work with us to make the sport even safer. Last week I talked over a number of issues with this TC rep.

The next CUFC meeting will be Wednesday, January 8th (I think, since a meeting on January 1/92 would not likely be well attended, but I will confirm this at the December 4/91 meeting). At this meeting Jamie Roth will show two very interesting videos on Pilot Decision Making. One is a real-life, real-time experience of a pilot losing an aileron and illustrates good decision making. The other video is on Bad Decision Making. I don't want to scoop this anymore...just come out and see for yourself. At that time we can also get into a lively discussion of regs and the UL training syllabus or anything else that is burning in your ears. The November issue of CGAN contains the most recent summary of the newly proposed regs and I will try to get copies for handouts at the December meeting. Read it over and then, as a Club, we can discuss the implications for us.

Even though I missed the November meeting, my heart was with the aviation scene. Travelling down to Houston, I had to make a connection in Dallas, but we put into a hold over Dallas due to severe thunder storms. In Dallas they are real sensitive to wind shear and don't go in until they are sure everything is right. That is fine with me. It was exciting and a new experience for me to see the lightning flashes at the same elevation as the aircraft, even if a little bumpy. Finally, we got clearance to land but I think the Houston flight pulled away from the gate early so that the arriving traffic could deplane. More airplanes than gate and you got a problem. I only had to walk about 4 gates to the connecting

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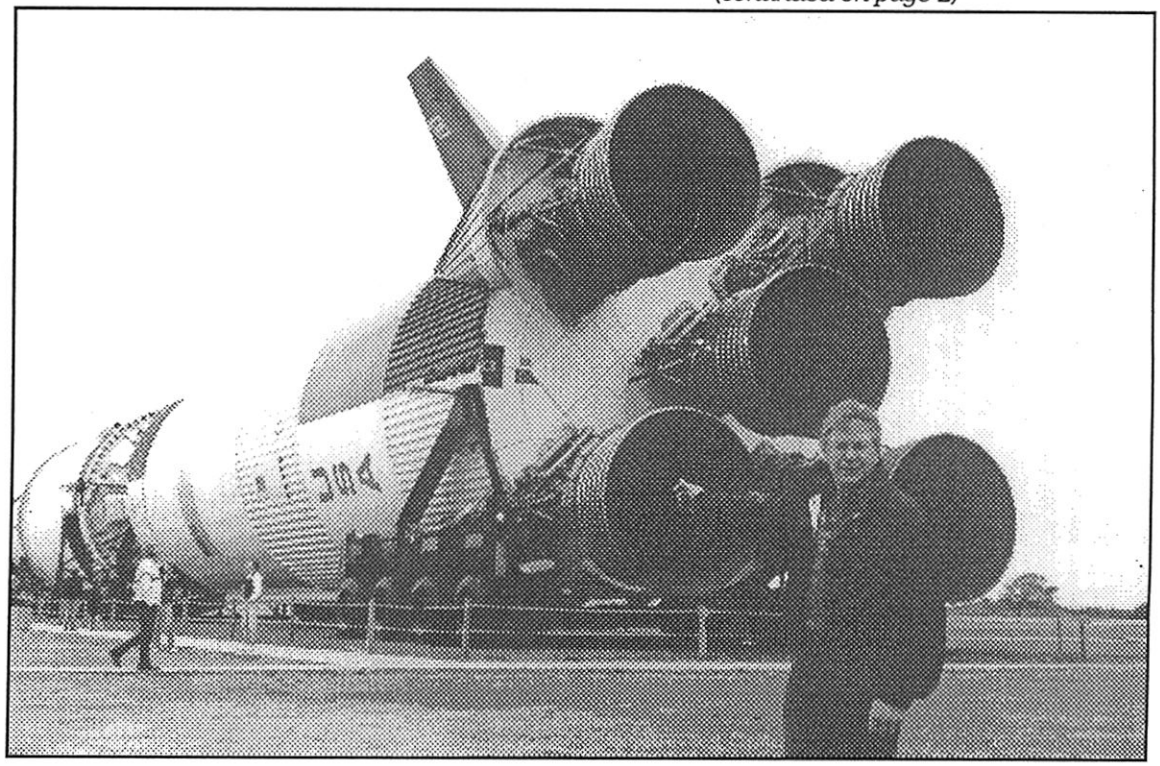
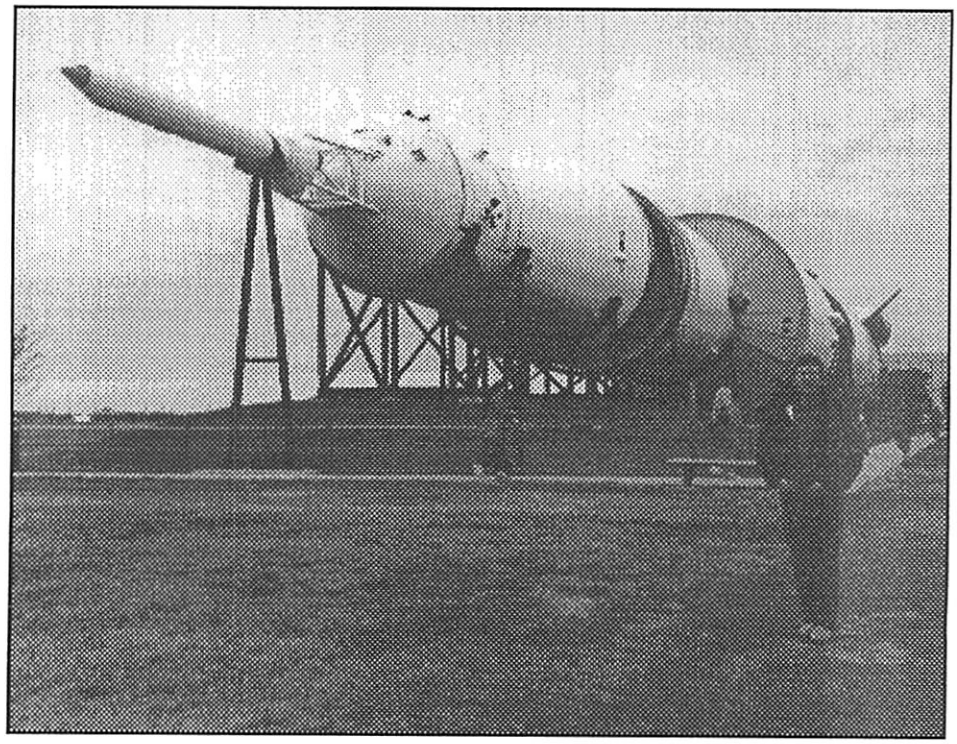


(View continued from page 1)
flight, but you guessed it...yep, he took off without me. Me, the President of the CUFC, left loitering in the hallways of DAllas-Ft. Worth airport for 4 hours. Can you imagine the humiliation? He took off without me!

After a week in my hotel rom I was looking for something to do...so on Saturday I toured the NASA space center. This research and command center covers about 4 square miles. The accompanying photos shwo a few of the exhibits. One photo is a Saturn rocket thingy that pushes the space capsule into orbit. This thing is big! I found it hard to believe how much energy it takes to put a space capsule into the nether regions of the Galaxy. I also felt a little nervous standing behind something that develops umpteen jillion gigapounds of thrust. The other photo shows the "pointy" part of the rocket and the "cockpit" of the capsule. I think me UL has more room. The mind boggles of men riding this thing into space. And some people think UL pilots have a deathwish. We pale by comparison with the dangers these guys face. What goes up, doesn't necessarily come down. Of course, I also had the obligatory photo of myself in space in my official Noflame, pressurized Captain Canuck spacesuit, complete with phasor guns, kryptonite, helmet and Sony Video Cam. Some folks think I have been spaced out for years, and commented that I looked at home in these ethereal surroundings.

On Sunday, I visited a bookstore to find some hotel and airplane reading material. I struck gold with two books. One was Janes Encyclopedia of Aviation (Volumes 1 thru 5), for only $29.95. This is a thick book, and I think it works out to about $1.00 per pound. It contains photos, and brief description of over 5000 aircraft models...and this encyclopedia does not include military aircraft...that's Volume 6 of the set. The second book I stumbled onto was Ernest Gann's classic, "Fate is the Hunter", which I am still reading and do not want to finish. It's so good. Like a fine meal, one wants to go slowly, savouring every word and phrase and thought. I found myself stopping frequently to reflect on my own experiences. Gann bares his experiences, thoughts and observations on flying...and combines this with an ability to put into words the inner feelings of many pilots. He is a thoughtful man, and I think this makes for the best book I have ever read.

OFF ON ANOTHER ADVENTURE



Book Review

by Stu Simpson

Flight to Abbotsford

There are several members of the Calgary Ultralight Flying Club who have expressed an interest in flying their aircraft from the Calgary area to Abbotsford, BC for the 1992 Abbotsford International Airshow. This event usually runs the second weekend in August, which is the 7th, 8th and 9th for 1992.

Todd MacArthur and Stu Simpson sat down and did some preliminary planning on the trip route and itinerary. They decided the best route would be from Springbank, up the Bow Valley to Eisenhower Junction. Then, south to Radium, north again up the Columbia Valley to Golden and then follow the Trans-Canada highway through the Roger's pass to Kamloops. From there, south to Hope along the Coquihalla highway and then west into the lower mainland area.

This path was selected bescause it offers the best possibilities for emergency landings, the easiest terrain to fly over, and the best spacing of refueling stops. The south route, along Crow's Nest highway, was deemed unsuitable because of the high terrain and poor selection of emergency landing sites along the route. It should be noted that the route suggested by MacArthur and Simpson also happens to be a recommended VFR route as listed on the YYC and YVR VNCs.

A ground crew will be essential for the success of the flight. Depending on the number of aircraft making the trip, one or two vehicles (preferably pickup trucks or similar) will travel the route on the ground. The crew will be responsible for filling jerry cans with gas at the various fuel stop locations, and will provide ground transport during overnight stops. The trip will be extremely difficult, if not impossible, without a ground crew.

Preparations for the flight will begin immediately with the interested people meeting to decide the various aspects of the trip, such as budget, a flight schedule, a possibility of corporate sponsorship and enroute accommodations. We will also have to contact the Abbotsford Airshow People.

In terms of flight preparation, we should look at getting as much mountain flying experience as we can before we depart. We recently had a guest speaker who regularly flies his ultralight into the mountains. Perhaps we could approach him to lead us on a few mountian expeditions this coming spring and early summer. Also, a weekend trip to Radium would be the ideal way to get some mountain experience on the route we'll be flying.

This is a trip that could really put Calgary's ultralight community on the map. And the potential for improving our sport's image is absolutely enormous. We may even want to approach the media and invite a camera crew along. And for those who make the trip, it will be the adventure of a lifetime.

If anyone is interested in flying or acting as groundcrew, please contact Todd MacArthur at 229-1367 or Stu Simpson at 249-0235 (work 249-7701). We need your support and we want any ideas or suggestions you can offer. Please contact us with any questions or ideas you might have.

Here, now is a rough itinerary for the trip out. Those who are going along should plan for two weeks vacation time from work. That being the weeks from August 2 to August 16. We plan to leave Monday, August 3 to allow for delays in weather, etc. If we get there early, there's still plenty of flying and activities to be done in the lower mainland area before the show.

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

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

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

***(Abbotsford** continued from page 3)*
Proposed Flight Schedule: Calgary-Abbotsford

Monday, August 3

- Depart Springbank 0530. 55 miles to Banff
- Arrive Banff 0630.
- Depart Banff 0715. 81 miles to Radium
- Arrive Radium 0845.
- Depart Radium 0930. 60 miles to Golden
- Arrive Golden 1030. Stay overnight in Golden, prepare to tackle the Roger's Pass the next day.

Tuesday, August 4

- Depart Golden 0530. 75 miles to Revelstoke
- Arrive Revelstoke 0730.
- Depart Revelstoke 0815. 65 miles to Salmon Arm
- Arrive Salmon Arm 0930.
- Depart Salmon Arm 1015. 65 miles to Kamloops
- Arrive Kamloops 1135.
- Depart Kamloops 1230. 45 miles to Merritt
- Arrive Merrit 1315. Stay overnight in Merritt.

Wednesday, August 5

- Depart Merritt 0700. 65 miles to Hope
- Arrive Hope 0815
- Depart Hope 0900. 25 miles to Chilliwack
- Arrive Chilliwack 0930
- Depart Chilliwack 1015. 20 miles to Abbotsford
- Arrive Abbotsford 1045

We planned on approximately 45 minutes on the ground at each stop to allow for refueling, food and other delays. We will have to make arrangements in advance for accommodation for pilots, ground crew and airplanes. There may be FBO's along the route who will hangar our planes overnight.

As mentioned, this is only a preliminary flight itinerary. It is certainly flexible and open to change. For instance, we might make it though the Roger's Pass through to Revelstoke on the first day. Or, we may get all the way to Hope or Chilliwack the second day. We wanted to allow the maximum amount of time in case of weather delays and mechanical troubles. It's noteworthy that the time we plan to fly the Rocks traditionally has the best weather of the year.

We hope to hear from everyone who wants to contribute to the flight. We would really appreciate your input and suggestions. Mostly, we want to see as many pilots and planes as possible make the flight. Just think of the stories we're going to be able to tell for years after this trip.

Classified

ABC Ballistic Chute - never used, hermetically sealed, excellent - $1000. OBO. Paul Hemingson 931-2363.

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

Rotax 503 - single carb, excellent condition. $1200. OBO. Paul Hemingson 931-2363.

Chinook 2 place - with floats, Rotax 447, needs some work, $4000.00. Terry Spokes 533-3748.

Ritz Standard A - completed and ready for covering, includes covering materials, Zenoah engine, $2000.00. Jim Creasser 226-0180.

Lazair - Estate sale. Needs recovering but selling for parts. $1000. OBO. 262-3959.

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

Donation Received

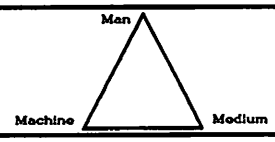
A $100.00 donation was received by the Club from Mel Haakenson. Mel has been a remote member of CUFC for some time, living in Burwyn, Alberta.

Mel flies a Chinook and is a regular reader of Skywriter.

We would like to thank Mel for his generous support and challenge other members to do likewise.

Safety Corner

by Paul Hemingson



SETILARTLU's

You see a lot of them around these days. I know you have. Everyone has. They're everywhere...just like mosquitoes.

They smeel like ultralites...look like ultralites...but thet're not ultralites...they just look like ultralites. They are setilartlu's, or setils fro short. That's right. Rather than call them psuedo-lites, since they really are different, I was searching for a new name for this new breed. Setilartlus is ultralite spelled backwards. Let's just call them setils. Not everyone wants or approves of setils. Some folks think they are a backwards move and, consequently, feel threatened.

The new regulations (in Canada) are making the ultralights of the past, ultralights of the past. Not that there isn't a place for them. Far from it. For those who chose to stay under the existing regs, they can fly their ultralights into the sunset just as they have always done. Not everyone wants or needs to register under the new regs. If you wish to fly your machine the way you have since 1984, you can continue to do so. Many manufacturers will stay in the traditional market, supplying relatively low cost fun lfying machines. Especially for the US market, since they are a few years behind the progressive policies being adopted in Canada. All in all, I think the traditional ultralights will be around for a long time. And so they should.

Elsewhere in the light aircraft industry, manufacturers are choosing to design higher performance machines that fill a gap. The gap is created by ultalight pilots wanting higher performance machines and general aviation pilots wanting a cheaper operating recreational machine. As I understand the issue, the traditional suppliers (and owners) of low cost private machines can no longer afford to design, sell and maintain aircraft in an increasingly liability prone environment. That's where setils come into the picture. They weigh more, have higher wing loading, fly faster and further, and can carry heavier payloads. They are also more sophisticated, more expensive and more demanding on their owners. When you have a 15-20 thousand dollar investment, you tend to look after it.

If you're thinking of moving into a higher performance machine I am describing, there are a few things you need to know. Firstly, higher performance machines demand a slightly higher performance factor from the pilot. Not in all cases, but in some. In some situations, and under some conditions, the higher performance machine is easier to fly. For example, under windy conditions the higher wing loading and speed of a setil is an advantage in combatting turbulance or penetrating against a headwind. In other cases, the higher performance machine can be a liability if an ultrashort landing is desired. Another advantage of the lighter weight machine is having a lot less energy to dissipate on landing rollout or in the case of a crash.

As a general rule, higher performance machines put more demands on the pilot to be more "ahead" of the aircraft in conducting manouvers. Things just happen sooner and quicker. The approach and landing speeds are higher and less forgiving of error when a pilot miscalculates. Many of the setils now on the market can also develop a proper spin. A little spin training is therefore in order for those who have never experienced a fully developed spin.

Setils are more expensive to fix up after the fact. With more sophistication comes more items requiring maintenance and attention. Another caution before considering buying, building or flying a higher performance machine is the temptation to get into the air by yourself at the earliest convenience. I highly recommend that you get checked out on-type if you can. Failing that, get some time in a machine of comparable performance characteristics. It's false reasoning to think that just because you have umpteen dozen, or hundreds on your past rooster rocket that you can safely pilot a higher performance machine. Maybe you can, but maybe you can't. The same thing can be said for transitioning down as well as up. A 727 air-transport pilot wouldn't consider flying an ultralight without getting an adequate checkout before soloing. The prudent thing to do is to leave less to chance and get checked out first, to the extent that you can. This goes for transitioning up or down. Especially if you and prudence haven't been seeing eye-to-eye. This is no time for the exhuberence that accompanies macho pilots to get in the way of common sense.

You see more and more setils these days and maybe one is in your future. Failing to set time and money aside for additional training in a higher performance machine may result in higher cost mistakes.

ABOUT INSTRUMENTS Part 3

Reprinted in several installments from an instructional booklet by SKY SPORTS

FLIGHT INSRUMENTS

Round or Square? Engine instruments come in two types of housings called "round" or "square". Actually, both have round faces. The difference is that "round" instruments have a 3/8" thick bezel and mount from the front of the panel and thus hide any hole-cutting sins. "Square" instruments mount from behind the panel in standard 2 1/4" holes and attach with screws in each corner, matching flight instrument mountings such as the airspeed indicator, altimeter, compass, slip, vario, etc. The mechanisms in both types are the same. The "round" instruments cost a little less.

Heat - Your Engine's Mortal Enemy - Two-stroke engines are made from aluminum which has a very high rate of expansion and contraction. As your engine warms up, the piston expands to fill the cylinder properly. If the heat is not controlled, however, the piston will continue to expand until it contacts the cylinder wall and locks, called seizing. Or the heat can become so intense that it actually melts a hole in the piston.

Engines overheat because they are not getting enough cooling air over their fins, because the fuel mixture they are being fed is too lean (too little fuel to air) or there is too little oil in the fuel.

A lean mixture burns hotter, and therefore puts out more power -- but there is a fine line between greatest power output and so much heat that the engine seizes or the piston partially melts. While you don't want an extra rich condition (plugs tend to foul) either, it's better and safer to be a little rich than a little lean. You can also create a too-lean condition by not feeding your engine enough volume of fuel, even if the mixture itself is right. In the parts of the country which experience wide temperature changes, it's necessary to change jets often to compensate.

Avoiding overheating is easy. Simply keep your engine tuned to your engine manufacturer's recommendations. If you have a choice, running a little rich is better than running lean. And, of course, keep an eye on your heat gauge or (CHT or EGT) at all times for any overheating signal.

CYLINDER HEAD TEMPERATURE GAUGE (CHT)

The CHT is the choice of the vast majority of ultralight pilots for engine temperature information. The gauge's sensor is a copper ring which takes the place of the washer under the spark plug. Thus it is sensing the temperature at the most critical spot in the engine. On the most popular CHT, the ring is part of a thermocouple which converts sensor heat into a minute electrical charge

and sends it to the gauge which has a range of 0-700 degrees F. Other types of CHTs operate electrically, by sensing the electrical resistance change of the sensor ring as it heats up and sending the information to an analog or digital gauge.

Typically, the CHT gauge has a red arc beginning at the temperature which should never be exceeded. The red line on the Westach CHT begins at 450 degrees F., but most feel that 425 degrees F. is the temperature which, if exceeded, indicates trouble.

CHTs are inexpensive and are available in 2"D., 2 1/4"D., 3 1/8"D. and rectangular digital gauges, as well as in combination gauges sharing space with tachometers, exhaust gas temperature gauges, etc. to save panel space. They can also be installed in a special vibration-resistant "can" which in turn clamps to a tube if you have no pod or panel. Extensions of ordinary #20 or #22 stranded copper wiring can be added if the standard 4' long thermocouple lead is not long enough to reach from the sensor to the gauge. However, never cut the thermocouple wire itself, as it is part of the circuit. No modification needs to be made to the engine to mount a CHT and no outside electrical power is required.

Free Advice - Don't fly without a CHT.

EXHAUST GAS TEMPERATURE GAUGE (EGT)

This is the other gauge which indicates the temperature of the engine. It takes the temperature of the exhaust gas from a sensor placed in the exhaust manifold or pipe. Most manufacturers specify that the sensor be placed between 4" and 6" from the skirt of the piston.

Because it gives you an instantaneous indication of temperature change, the EGT is the gauge to use when tuning your engine as exhaust temperature is the real measure of your engine's internal performance. Again, your engine manufacturer's recommendations as to tuning should always be followed. This gauge is available in the same variety as the CHT.

Free Advice - Some pilots swear by an EGT gauge in flight rather than a CHT. However, we believe the CHT is more important because an EGT cannot tell you when your engine is about to seize, as it is the temperature of the engine metal itself which is critical. Two-stroke engines have

a tendency to seize when the power is being reduced after a full power situation, when an EGT would be showing a safe engine temperature. Why? Because the engine, at full power may be able to overcome increasing friction of the expanding piston in the cylinder, but when the power is reduced, and the engine can no longer overcome the increasing friction, the engine seizes. And just when you least expect it.

During this same scenario, a CHT would have been showing the increase in cylinder head temperature and alerting the pilot to impending danger. Also, an EGT cannot warn you of a broken cooling fan belt, or for that matter, a lack of oil. Accordingly, we believe in the saying, "Fly with your CHT, tune with your EGT".

TACHOMETER

The tach is the basic instrument for engine performance for most ultralights and air recreational vehicles. Though they only tell the how fast his engine is turning, the experienced pilot can tell a lot about his situation from that little tidbit. For example, if the engine will not turn up normal takeoff rpm, there is obviously some sort ot problem which needs to be solved before takeoff is attempted. If the engine is turning more than normal rpms at full throttle, it could mean that the mixture is too lean and that the engine will overheat if full throttle is maintained. Or overrevving could mean slipping drive belts, slipping clutch, loose prop bolts - or even that the wrong prop has been installed.

In addition, private pilots are taught to set their cruise speed not by airspeed indication, which is influenced by wind, but by the tachometer.

Tachs are made in electrical and mechanical versions, but most recreational aircraft use the electrical type. These instruments count the electrical pulses being generated by the magneto or lighting coils of the engine.

Magneto-powered tachometers will not function on capacitive discharge ignition (CDI) systems, so a different tach, called CDI, was designed for engines with CDI ignition systems. It is wired to the lighting coils of the engine. You can tell which tach you have by checking the case. Mag tachs, designed for hooking up to the ignition (typically wired to the kill switch), usually have a small loop of yellow wire sticking out of the back of the case, while CDI tachs do not. If you hook up a Mag. tach to a lighting coil, you will destroy the tach. But you can hook up CDI tachs to any engine having a lighting coil, regardless of the type of ignition it uses.

Electrical tachometers are available in a variety of analog (pointer) versions, 2"D., 2 1/4"D., 3 1/8"D., and in a variety of dual gauges, sharing space with CHTs, EGTs, etc. None require any additional electrical hookup, and are wired to the kill switch (Mag, tach) or lighting coils (CDI tach) with #18 stranded, two conductor wire. All are panel mount gauges, but the "round" gauge can be tube mounted in a special vibration resistant housing.

Several digital (LCD) gauges are available as well, usually in conjunction with other gauges. The newest, smallest, lightest and least expensive of these is the DET-301, a self-powered tach/hourmeter combination. It counts the electrical impulses being fed to a spark plug through a pickup wire wrapped around the spark plug wire. When the engine is shut off, the display changes from the rpm reading to engine time, then shuts itself off, installing the new engine time reading in memory. It is powered by two lithium batteries having a five-year life.

Free Advice - Install a tach and learn to use it. We recommend CDI tachs for all engines having lighting coils, as using the lighting coil as the power source takes the tach out of the engine's ignition circuit. This hookup prevents a tach failure from affecting the engine and perhaps ruining your whole day.

HOURMETERS

Hourmeters are available in several versions - the familiar rectangular-shaped Hobbs meter which has been the standard gauge used in general aviation for many years - as well as 2"D, and 2 1/4"D. round panel mount versions and the newer LCD readout digital gauges, usually in combination with other instruments.

All hourmeters, however, are devices requiring DC power, the only instrument discussed which requires external power. Because lighting coils are not generators but actually alternators producing AC power, it is necessary to wire a regulator/rectifier into your circuit to power your hourmeter. These are available as low output devices, providing only enough power for your hourmeter, or as high power devices which will convert all of your lighting coil power to 12 - 14 VDC. Such regulator/rectifiers will not only power your hourmeter, but can be the power source for lights (not strobe lights) and will recharge your battery if you have electric start capability. If you choose the low power device, follow the wiring instructions carefully, as the unit cannot handle the total power being generated by the lighting coils. Hook it up to the green and green/black leads from the lighting coil only, cutting the yellow wires if necessary. If you choose the high powered unit, hook it up to both the green and the yellow wires unless you have an ultralight strobe light. Hook the yellows to the strobe, the greens to the regulator/rectifier. Also, the output of any regulator/rectifier cannot be used for radios as the current is not "clean" enough for solid state devices. A 12VDC battery is required in the circuit.

Free Advice - Hourmeters are a good idea, as there is no other way to determine accurately when it is time for engine or airframe maintenance. Logbooks are fine, but rarely do ultralight pilots maintain them over a long period of time.

FUEL GAUGE

For most ultralights, the sight gauge, that piece of plastic tubing running down the outside of the fuel tank, is the only fuel gauge required. It's fool-proof and inexpensive.However, the "little airplane" type ultralights have fuel tanks buried in the fuselage or in the wings, requiring an acrobat to check fuel, if the tank or tanks can be seen at all. And the FAA requires some sort of fuel level indication, other than your watch, if you are seeking an "N" number for your craft.

Until recently, the only choice was somehow running sight tubing up to the cockpit, like many of even the most sophisticated homebuilt aircraft do, or figuring out how to adapt a float-type fuel gauge to your tank -- gauges which have proven to be unreliable in most aircraft applications.

Over the past three years, however, a solid-state, electronic fuel gauge with no moving parts except the needle in the gauge has been developed for use in ultralights, homebuilts and experimental aircraft. It works through a principle used in military and commercial aircraft for many years - capacitance.

Versions are now available for metal, fiberglass or plastic tanks, regardless of their depth, capacity or shape. For metal and fiberglass tanks, a 4"D. 6061T6 tapped

(Continued from page 7)
aluminum flange is provided which can be welded or glassed into the tank. The probe is then bolted through a gasket to the flange.

The gauge fits a standard aircraft 2 1/4" hole in the instrument panel, or, for machines without panels, a version which clamps to a tube is offered.

For those who remove their tanks for filling, a wiring harness with a quick disconnect fitting is available.

If the aircraft has a 12VDC battery aboard, the gauge reads whenever the master is switched on. For aircraft without batteries, a 9 volt transistor battery power system is available which reads on demand. That is, a button is pushed to power the system and get a reading. When the button is released, the gauge needle returns to zero, preserving battery life. Battery life is 500+ flying hours.

As a safety feature, the gauge begins to read low as the battery weakens.

The electronics, including a microprocessor, are epoxy-potted into the probe head, protecting them from contamination by weather, fuel, dirt, etc. Also in the probe head is a pair of calibration "pots" which enable the user to calibrate the system.

The probes come 12" and 24" long and can easily be cut to exactly fit the tank depth. Longer probes are also available.

Unusually shaped of difficult to access tanks can also be accommodated with a version of the probe which can be bent up to 90 degrees. This feature enables the probe to enter the tank from the side instead of the top - or to better fit an odd-shaped tank. Multiple tank systems can also be accommodated using two or more probes, a single gauge and a switch.

The system was developed by SkySports and introduced as a prototype at the Toronto ultralight exposition in 1983.

Since then, units have been installed in hundreds of ultralights and homebuilts, ranging from Eipper GTs, Challengers, J-3 Kittens, and Rotec Panthers to homebuilt Glassairs and Pitts and everything in between, including Bensen gyrocopters and Rotorway helicopters.

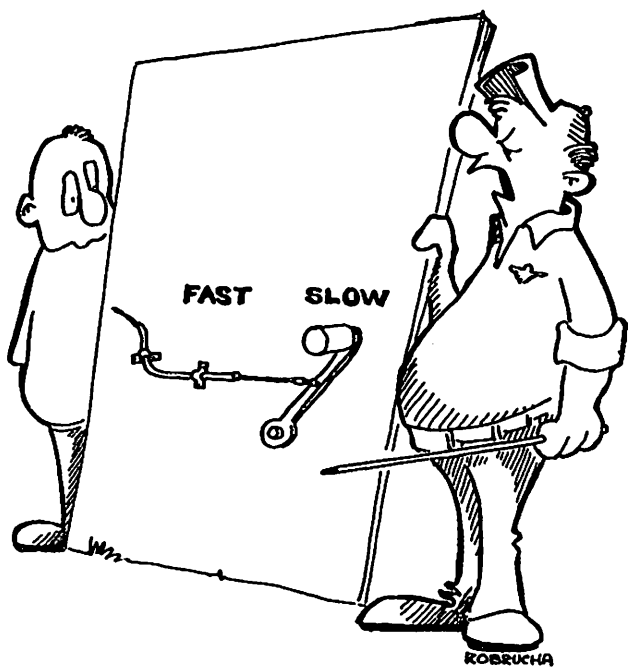
The system is an exclusive SkySports product.

SkySport, Hendersonville, NC 28739
(704) 693-3383

Season's Greetings

The executive of The Calgary Ultralight Flying Club would like to wish you and your family a very Merry Christmas and a Happy New Year.

Paul Hemingson
Gord Keegan
Gord Tebbutt
Bernie Kespie
Jim Creaser
and Editor Bob Kirkby



"It's a 'systems trainer' for ultralights."