CALGARY ULTRALIGHT FLYING CLUB

Skywriter

Monthly Newsletter of the Calgary Ultralight Flying Club

January 2001

Membership Raffle

1st PRIZE - ICOM IC-A4 Transceiver

2nd PRIZE - Softcomm Stereo Head Set

and

Membership Renewal
JANUARY 11th , 2001

As part of the membership renewal drive for 2001 the Calgary Ultralight Flying Club will raffle an ICOM IC-A4 transceiver and a SoftComm stereo head set, which was donated by Kin Skulsky - THANKS KIM. Ticket cost for the transceiver and head set will remain at $5.00 each or 3 for $10.00. The draws will be held at the January 11th meeting and will be limited to MEMBERS ONLY.

Since all memberships expire at the end of January you may consider renewing your membership at the same time.

Thanks to the proceeds of these raffles, the silent auction at the annual dinner and our monthly door prize receipts the club has been able to stay within budget, so once again membership will remain at $20.00 for the year. A sincere thanks goes out to all those that have supported the club.

For those that are not able to attend the meeting you can send your membership renewal/raffle ticket cheques to:

The Calgary Ultralight Flying Club
c/o Bernie Kespe
6 Spokane Street S.W.
Calgary, AB
T2W 0M5.

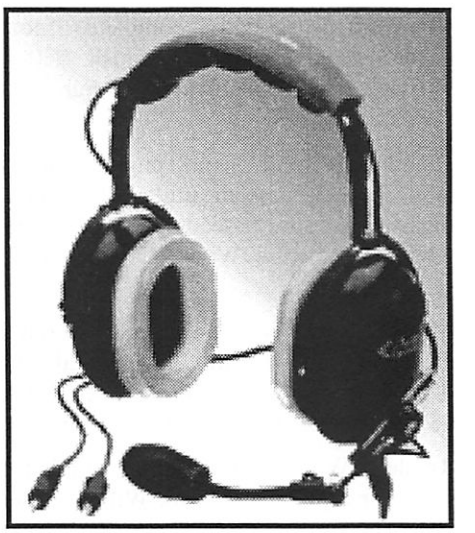
Please make cheques payable to: The Calgary Ultralight Flying Club. Raffle tickets will be filled out on your behalf and placed in the drum.

NOTE:
Anyone still interested in the raffle can call me prior to Jan 11th at (403) 255-7419 or e-mail at kespeb@cadvision.com

Prize winners will be announced in the February news letter.

For more information on the ICOM go to their internet site at:
http://www.icomamerica.com/index.html

First Prize



Second Prize

For more information on the SoftComm products visit their web site at:
http://www.softcommheadsets.com/

The January meeting is also Election night. The positions of Vice-President and Secretary are up for election.

Bernie Kespe
Secretary

For Sale

1998 Fisher Avenger - 90 TTAF, 200 TTE, Rotax 503 DC, 2-blade wood prop. Many new parts including hardware, fuel system, canopy and more. Canopy converts to open cockpit by pulling one pin. Great handling, great visibility. $8500 OBO. Call Stu at (403) 255-6998 or e-mail at simpsont@cadvison.com (1/01)

Hiperlite - single place, Rotax 447, totally rebuilt in 2000, $12,500. Chuck Duff 938-6157. (1/01)

VP1 Kit - partially complete. Most materials and hardware to finish. $2000 invested, $900 obo. Brian Vasseur 226-5281 (12/00)

Honcho Nomad - no engine, needs rebuild, with custom trailer. This is a high-wing, strut-braced motor glider, $2000. Call Russ White 250-353-2492. (12/00)

MiniMax - Rotax 447, GSC Ground adjustable prop, full panel, always hangared, only 115 hours since new. $8,500. OBO. Dale 293-3826. (12/99)

Trade - Western Star Dump Truck for single or 2-place ultralight. Will consider trades up or down from $14K. Call Russ at 250-353-2495 or leave msg at 2492. (11/00)

Parting out - Rans S12 Airaile parts and pieces with AULA registration. Call Russ at 250-353-2495 or leave msg at 2492. (11/00)

Rotax 503 - single carb, new single ignition, requires A drive, $2750.00. Call Glen Munro 403-335-3764 or Paddy Munro 403-638-5067. (10/00)

Beaver RX550 - excellent condition, 400 hrs on air frame, 7 hrs on new Rotax 503, dual carb, single ignition, A drive, always hangared, $8500.00. Call Wayne Winters 403-936-5767. (10/00)

Hirth 2706 engine - 65HP, dual Bing 54 carbs, dual ignition, electric starter, 3.66 gearbox, 2 complete exhaust systems (1 side mount, 1 straight mount). Freshly broken in (6 hours) and ready to go! Very strong engine. Must sell, have purchased a new engine. Asking $4000 obo. Pictures available. Call 519-448-4816 or email at: tpage@sentex.ca (9/00)

Challenger II - 1989, Rotax 503 DCDI, DFP, Bat, ASI, VSI, ALT, CHT, Tach, radio, intercom, doors, cabin heat, brakes, skis, dust covers, always hangared, air frame painted and recovered (Stits) 1996, $19,000 Cdn. Fly away, phone 403-783-5153 Ponoka AB. E-mail: hammondv@home.com (9/00)

Forward ads to Bob Kirkby 569-9541.

Ads reprinted from the St. Albert Flying Club Newsletter

1986 Bushmaster II - ultralight, high cabin, side by side seating, dual controls, heater. 130 TTSN. Rotax 503, SCSI, 120 TTE. Complete manuals, drawings, & logs. Never a trainer, only 2 pilots. Very good condition, $16,500 OBO 780-459-0813 or e-mail tya@compusmart.ab.ca

Maule tailwheel - 6" pneumatic, $100 firm. Simon 963-0737

Hirth F-23 - used 6 hrs, 40 Hp, $2,800.00 Dan (780) 452-2491

Three bladed GSC prop - 64", almost new, $500. Contact Viv 460- 8753.

REDUCED! 60" x 38 Culver wood prop (left hand) drilled for Rotax. $250.00 Contact Viv Branson 460-8753.

Skywriter

Skywriter is the official newsletter of the Calgary Ultralight Flying Club and is published 12 times per year. Forward your articles and letters to:

Editor: Bob Kirkby 569-9541
e-mail: kirkby@telusplanet.net

Assistant-editor: Bernie Kespe (see below)

Calgary Ultralight Flying Club

Meetings of the Calgary Ultralight Flying Club are held on the second Thursday of every month, except July and August, at 7:00 pm, at the Northeast Armoury, 1227 - 38 Avenue NE.

President: Brian Vasseur 226-5281
e-mail: vasseurb@cadvision.com

Vice-President: Stu Simpson 255-6998
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Secretary: Bernie Kespe 255-7419
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Treasurer: Carl Forman 283-3855
e-mail: formanc@cadvision.com

Director: Dan Mitchell 238-4254
e-mail: mitchell@cadvision.com

Past President: Wilf Stark 935-4248
e-mail: wstark@compuserve.com

Visit the CUFC web site:
www.cadvision.com/cufc/

A Good Day Gone Bad

by Bernie Kespe

As many of you already know I have just recently finished rebuilding my Renegade Spirit, a process I DO NOT wish to repeat! I hear it now - "why would any sane person break down a perfectly good airplane and then rebuild it, what could possibly warrant doing that?!"

For those uniformed, in the spring of '98 I had planned a late afternoon flight. I would depart Kirkby-Chestermere field head east to Strathmore, south to Carseland, west along the Bow River to Indus and then north back to Kirkby field, a pleasant 45 minute to an hour flight. Since I was flying alone that day and was under no time constraints I proceeded to do a thorough preflight, one I hadn't done for a while. This included checking the engines' plugs, electrical connectors and all hose fittings, pulled off inspection covers and checked all moving parts along with those that shouldn't move. If I recall I spent a good hour looking over the aircraft. Satisfied I fueled up and prepared for the flight. As usual after two pumps of the primer and a short turn of the starter the Rotax 532 roared to life. While the engine warmed up I donned my helmet, did up my harness, competed my cockpit and control movement checks set the altimeter to 3350 (Kirkby's field elevation) then connected the radio and tape player. I had been looking forward to this moment all day and remember thinking how great a flight this was going to be. By this time the CHT, EGT and water temperature gauges had crept up to near operating temperatures, I was ready to taxi. Radio set to 123.4 I announced my intentions and then proceeded to back track on runway 34 for take off.

As I sat at the end of the runway doing my final checks I detected what seemed to be a slight surging of the engines' rpm. A long look at each tachometer (amateur built aircraft require tandem aircraft to have instrumentation available for each position) showed no variation, the engine was turning a 2500 rpm. EGT, CHT and water temp were all reading normally. As I advanced the throttle to full stop, the engine revved to 6300 rpm without hesitation. Throttling back to 2500 rpm the apparent surging disappeared. After a final check I dismissed the apparent surging as a figment of my imagination, advanced the throttle and proceeded with my planned flight. The climb out to 3800 ASL was uneventful though I found myself scanning the engine gauges more often than usual. After circling the airfield several times I was satisfied that all was well, the engine was performing as it should, so I struck a coarse for Strathmore.

Bernie's Renegade after the forced landing. Photo by Bernie

On route to Strathmore the plan was to climb to 5500 ASL and keep to the north and clear of town. I would turn south along the east side and drop back down to 4500 ASL, fly over Bob Campbell's airfield then head south to Carseland. The flight to this point was uneventful - which was good - although I never did use the tape player. Instead I found that I was monitoring the engine for any tell tale sounds that were out of the ordinary. Apparently the surging I thought that I heard earlier had indeed spooked me even though I might not have admitted it even to myself.

Dropping through 4800 ASL I was now over Bob Campbell's airfield and as I looked around I thought "what a terrible place to be in for a forced landing - lake on my left, houses, trees and fences on my right, a feed lot behind and communication towers, bushes and acreage fences in front and Bob's strip directly below." These thoughts had barely passed when things started to go bad. The Rotax started to loose rpm for no apparent reason, a quick scan of the gauges showed nothing out of the ordinary. Carb icing was the first thing that came to mind so I switched on the carb heaters and advanced the throttle. As I advanced the throttle it became very apparent that carb ice was not the problem. During the flight something had caused the mag side connecting rod bearings to fail. They had literally melted from the heat that was generated, the crank in this area was tempered and blue from the heat and enough material had melted away that the connecting rod had enough play that it was impacting the lower portion of the engine casing just prior to seizure. This of course was all determined at a later date and wouldn't have made any difference at the time. All this occurred in less time than it takes you to read these few sentences. The "Rotax music" as Andy so eloquently put it had gone silent. The first few thoughts that came to mind unfortunately are not printable but the one thing that I do recall as clearly today as at that moment was how strange it was to see the propeller not moving and still be airborne. I was now at 4500 ASL (Bob Campbell's field is about 3250 ASL), the Renegade without power makes for a very poor glider and can be likened to a lawn dart.

The sequence of events that followed and the decisions made were almost instinctive. I had practiced many times over Kirkby field landing the Renegade with engine at idle from various altitudes, I knew exactly how the plane would react and what airspeed would be required to land safely but yet with all that practice and training this situation made me very nervous, I was over a foreign airfield with obstacles all around and there was no second chance to go

(continued on page 4)

Day Gone Bad *- continued from page 3*

around and try again.

There were two possible landing sites, Bob's airfield or a pasture just north east of the airfield, both of which required that I make two 180 degree turns. I tightened my harness, turned off the ignition and all electric's and closed the fuel lines all while I initiated the first turn. As I leveled out I realized that I had misread the winds, I was now on the down wind for landing but the runway was still under me in stead of on my left. I was now at mid field and losing precious altitude fast. To land on the runway now would require that I turn through at least 300 degrees. From experience I knew that I did not have the altitude to do this. A downwind landing was also out of the question, even if I side slipped to lose altitude I would still end up overshooting the runway and end up in the feed lot immediately south of the airfield. At that moment all I could envision was the scene from the movie "Back To The Future" where one of the characters ends up face down in a manure pile, I focused on option two, the pasture (if I was going to eat grass I didn't what it to be second hand). Option two required that I turn 180 degrees into the wind immediately. Since the ground to the east of the runway was higher and I couldn't afford to loose altitude unnecessarily I was forced to keep my turn shallow. The turn was completed with utmost precision, the airspeed never wavered from 55 mph and the VSI showed a constant rate of descent I was quite proud of myself until I realized that Bob's house was between me and my intended landing site. Having no place to turn I leveled out losing airspeed but not as much altitude thus clearing the house and trees. How close was I - let's just say that "Bob, you need the services of a chimney sweep." Once clear of the house and trees I had to get the nose down - I was dangerously close to stalling. Fortunately the ground dropped off allowing me a bit of room to gain airspeed. Touchdown was now imminent and I still had to clear a fence that I hadn't seen up to this point. Once again I leveled out to clear the fence and once again I came dangerously close to stalling. I desperately needed airspeed and putting the nose down at 10 to 15 feet above the ground was not an option. The ground continued to drop off allowing me enough room to drop the nose a bit and regain some airspeed but time ran out, I needed to flair now, I pulled back hard on the elevator and just as the nose was coming up the main gear touched down followed closely by the tail wheel, I was down and in one piece or so I thought. I had barely rolled 5 to 10 feet when the gear collapsed. The left gear folded up under the fuselage while the right gear ended up just behind the right wing. I had hit a hole that was deep enough that the left wheel dropped in and didn't come out. I was carrying sufficient forward momentum that the left gear just gave way while the rest of the plane carried on.

Bernie's Renegade after the rebuild. *Photo by Bernie*

After the dust settled had there been a Rotax representative nearby, suffice to say that I would be writing this from a jail cell. I was not only angry towards Rotax but at myself for not heeding the possible signs of trouble right from the beginning. After 68 hours the fully rebuilt power plant for my Renegade was now a boat anchor, never to be used again. In hindsight had I returned to the hangar and taken the engine out for internal inspection I might have discovered a problem, or not. This failure may have occurred seconds prior to seizure, either way I'll never known. From a monetary perspective it would definitely have been less expensive than repairing the airplane not to mention the time involved.

In closing I think back at what was learned from the experience.

1. I have learned that more training on forced landings would be helpful and beneficial.
2. I have learned the need to trust my instincts as well as my instruments. A good balance of both is required.
3. I have learned if at all possible to steer clear of areas that have no place to land in the event of a failure.
4. To always have a second option just in case the first doesn't work.
5. To fly with friends and remain either in visual or radio contact. I could have been seriously injured and no one would have known where I was.
6. Altitude, Altitude, Altitude, Altitude, you can't have enough of it in this situation.
7. The most important of all is what I've learned about myself. Given the experience and training I felt that I handled the situation calmly and instinctively. At no point did I hesitate or panic. Decisions were based on training and my knowledge of the aircraft and it's flight characteristics. I constantly assessed the situation and adjusted accordingly, and most important of all, I flew the plane.

Over the past two years I've had dialog with other pilots and non pilots regarding this situation. Many have offered advise on what I should have done even though they themselves have never experienced an engine failure in flight. Some of this advise was good so I keep a mental note of it. Other advise offered required time and altitude and what many do not realize is that this entire event took about a minute, from engine failure to touchdown. Time is not on your side if you do not have the altitude. The entire event is all over in but a few heart beats. ✈

Weight and Balance

by Carl Forman

I recently helped Bernie Kespe calculate the weight and balance on his newly restored Renegade. Proper weight and balance is very important for flight safety. The total weight and its distribution must stay within design limits.

The procedure is quite simple. Three sets of scales that weighed accurately in the weight range for the Renegade were used. The tail was raised to a position as nearly identical to level flight as possible and the three wheels of the Renegade were positioned onto the scales. The readings of the scales were written down first with the aircraft empty, then with Bernie aboard but no fuel and finally with Bernie aboard and full fuel. With this information, the weight and balance of the aircraft can be calculated.

The total weight is simply the sum of the three scales. Next, the center of gravity (C of G) is calculated. The center of gravity of an airplane is the imaginary point from which the airplane can be suspended and remain balanced. The ultimate goal is to find out how far the center of gravity is from the leading edge of the wing. Ideally, for most monoplanes, the C of G will be at a point somewhere between 20% and 30% from the front of the wing. On a biplane an equivalent point is determined.

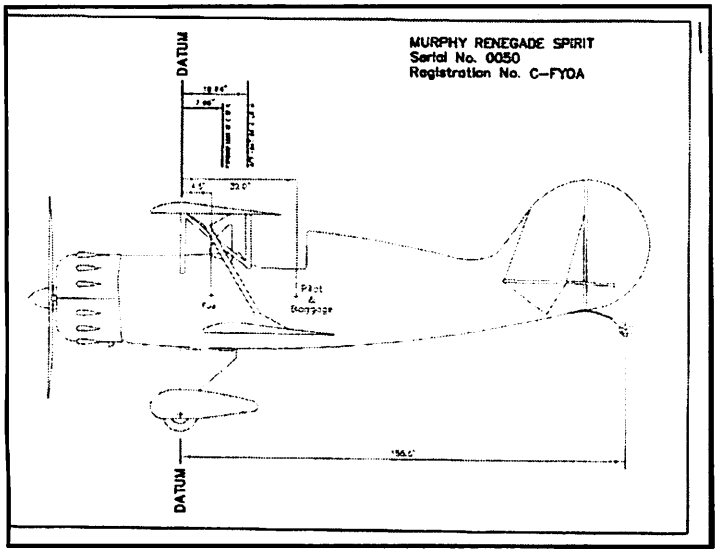
In a typical C of G calculation, a reference point called the balance datum is used for the purposes of measuring distances. The aircraft designer has conveniently measured the distance from this arbitrarily picked balance datum to the desired C of G location. See the illustration). With the Renegade, it is the centerline of the two main gear axles. The correct C of G range is between 7.96 and 18.84 inches behind the Renegade's balance datum. Different distances are required for the different loads.

With Bernie in the Renegade, the weight on the tail wheel was 70 pounds and the weight on the main landing gear was 367 pounds on each side. The tail wheel was 155.5 inches from the balance datum and the main wheels were right over it (i.e. zero inches.) The total weight was 804 pounds (367+367+70). The center of gravity was determined by the following formula

$$\frac{155.5 \text{ inches} \times 70 \text{pounds}}{804 \text{ pounds}}$$

which is 13.54 inches in behind the main axles. This is within an acceptable range of 7.96 to 18.84 inches. The calculations were repeated for the other weight configurations.

An airplane that is heavily loaded will see performance degradation in all phases of flight. Take off runs will be longer, rate and angle of climb will be smaller, speeds at any given power setting will be slower, stall speeds will be higher and range will be decreased. Severe "G" loads such as those experienced in gust conditions or steep turns could exceed designed safety limits. Maximum loading with the center of gravity at either the fore or aft limits will further degrade the handling characteristics of the aircraft.



An aircraft with a forward C of G will be more stable. However, the stall speed is slightly faster. As the aircraft slows down the nose will want to drop and more elevator defection is required to hold it up. This will make landing flares more difficult. I had personal experience with this when I tried to land a Cessna 182 with no passengers in the rear seat. The control yoke was pulled completely back to its stops and I couldn't get the nose up. I stalled from about six feet up. The aircraft was OK but my pride got damaged. Naturally I did this in front of an audience.

An aircraft with an aft C of G is more dangerous. It will behave less predictably in gusty conditions, as it is less stable. Recoveries from maneuvers such as stalls will be more difficult. I once inadvertently stalled a Cessna 172 with passengers in the rear seat. The Cessna 172 is placarded against being stalled with passengers in the rear seat. We were several thousand feet in the air at the time. Before I realized I had lost control we were upside down. Instinctive recovery procedures that I learned in my student days were all that kept the situation from getting completely out of hand. I was lucky we all didn't become statistics.

An aft C of G has one benefit. In normal weight and balance situations, the horizontal stabilizer actually pushes the tail down in flight. This enhances stability but produces what is called trim drag. As the C of G moves rearward trim drag is decreased and the aircraft flies faster and has a greater range. The trade off for the aerodynamic efficiency is less stability and therefore safety.

In my Minimax, the C of G isn't altered much with or without me in it. I sit right at the C of G. In a two-seat pusher ultralight, the pilot usually sits at the front and offsets the rearward C of G of the empty aircraft. Depending on the weight of the pilot, the location of the C of G will vary. It may be advisable to shift baggage to help balance the aircraft in extreme cases. ✈

Stay Balanced

by Andy Gustafsson

The Quad City Challenger II that I fly has, as so many other ultra-lights, landing gear wheels that are out of balance. When winter arrives and the runway is building up with snow and ice ridges, I replace my summer wheels with the bigger 6.00 X 6 tires. The bigger the wheels, the more prone they are to be out of balance and every time after lift-off, you can feel the wheels bouncing as they spin freely. I don't have brakes so I can not apply a little braking action to stop the vibration. I have been looking for some way of correcting the problem and set my sights on Canadian Tire for some of those stick-on wheel weights. With my luck they told me that they do not carry those things anymore.

I happened to see a fellow at the balancing machine, and bold as I am sometimes, went out there and asked him for a few of those regular clip-on weights. He said take as many as you want, as he handed me a box. I said thanks and filled the box with old dirty lead weights of different sizes. Under the dirt they were good as new. Back home I found a piece of pipe that fit the axle hole of the wheel. The HAGAR rims do not have the lip on the rim as do car rims, but with a little persuasion and a pair of pliers I managed to make them fit OK.

Balancing weight install Photo by Andy

To start with you spin the wheel slowly until it stops. It goes back-and-forth a bit until it stops, with the heavy part of the tire at the bottom. Next, you snap on a wheel balancing weight at the top on each side of the rim. I had to try a number of different weights before the wheel stayed still, not turning. I then snapped them into place with some silicon for extra assurance that they would not come apart. The difference after balancing is clearly a vast improvement. No more landing gear shaking. If you want more info, just call me at 403-247-3245. ✈

From The Cockpit

by Brian Vasseur

I've spent a lot of time this month looking at my newsletters for my new KR-2. The previous owner kept 1974 thru to 1995 so I've got a good pile of material to go thru. These newsletters are incredibly valuable, pointing out solutions to problems and the results of changes that others have made.

It's interesting to see how the KR-2S evolved from other people making changes to their KR's until they had developed a truly improved version of the KR-2. I think these newsletters are the reason for the success of the KR-2 over the years. Without it I believe that we would have seen the KR disappear long ago.

The CUFC newsletter serves the same purpose. I'm one of those that keeps all my issues in a binder, and occasionally read thru them from time to time to catch up on the past. It's amazing the valuable information that can be found in past issues. I also think it's the glue that keeps people interested in ultralights, and is part of what makes our club successful.

Safety has been one of the items that we keep at the forefront of our meetings, and write about in our newsletters. Two years ago we had 12 accidents causing 18 fatalities in Canada. Those aren't good numbers no matter how you look at it. I haven't gotten the numbers for 2000 yet so I don't know if we've gotten better or worse. This is the start of a new year and I'd like to see that we do a lot better than 12 fatal accidents.

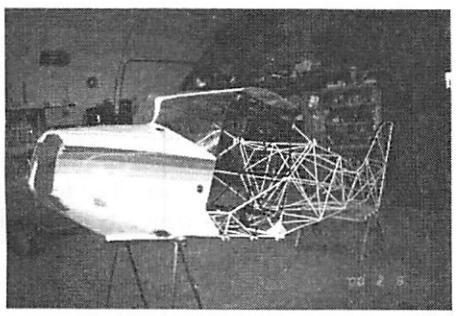
I hope you made flying one of your new years resolutions, I'll see you up there.✈

An $1800 Avid Flyer

by Ed D'Antoni

While browsing the Internet a few years ago I saw an add for an $2500 Avid Flyer. Much later I decided to inquire about the aircraft but could not find the ad. Last September (1999) I saw a similar ad for an Avid Flyer for $1800. This time I copied the ad and phoning the owner, Bill Picken of West Canaan, New Hampshire, and discovered it was the same plane I saw advertised a year earlier. It was complete with instruments but no engine. Except for the fuselage it was even covered. Several of the false ribs were damaged. False ribs are used between the main wing ribs to maintain the leading edge airfoil shape at flying speed.

Wilf Stark was delivering an aircraft to West Virginia, and returning via Montreal and offered to pick up the Avid for expenses. Having a way to get the aircraft back to Calgary I called and offered the full $1800. Bill did not even want a deposit but I forwarded a $100 deposit with a request for the assembly manual. Within a week I had the assembly manuals and all of the original FAA construction, inspection and registration documentation. I immediately prepared my garage for my new project. I even built a wall to protect my wife's car from possible hanger damage from the aircraft. Wilf went the extra mile in picking up the aircraft. Upon arrival in West Canaan he found the aircraft was assembled in an old barn. He spent the better part of a day disassembling and loading the aircraft. Upon seeing the aircraft on its arrival in Calgary my friend Ben Stefanich



demanded I do the assembly in his hanger. The aircraft was taken to Ben's and partially assembled in mid October. The covering and paint on the wings and tail surfaces were extremely dirty but in excellent condition, so only the fuselage had to be covered and painted.

I was considering registering the aircraft as a Canadian Amateur Built, or Advanced Ultralight but upon inquiring was told by a Mr. Shultz of Transport Canada that if only 2 bolts were put together on a kit before it was imported into Canada it could not be registered as an Amateur Built in Canada. That made

my decision easy, it would be an Advanced Ultralight. To register it as an Advanced Ultralight I would need a Certificate of Compliance and Fit to Fly form from the Manufacturer. While in Helena Montana on business I called AVID and met the new owners just as they were relocating to Ennis Montana. I presented detailed Photo's of the aircraft before and after covering and they confirmed it met the Advanced Ultralight standards and signed the appropriate documents.

I received the aircraft the first week of November 1999. There were a few small things on the aircraft I wanted to refurbish before registering it. I decided that all repairs would be done as if I was dealing with a certified aircraft so I purchased an FAA repair manual and got to work. The Avid was ready to fly in mid September 2000.

I learned a lot about aircraft reconstruction over the last year. Mostly I learned what to do next time. I will share these experiences in articles over the next few months. In the meantime here are photographs of the complete aircraft as received, during weigh in, and a close up of the cowl. The finish is not Bernie Kespe's show quality, but it is the best I am capable of.

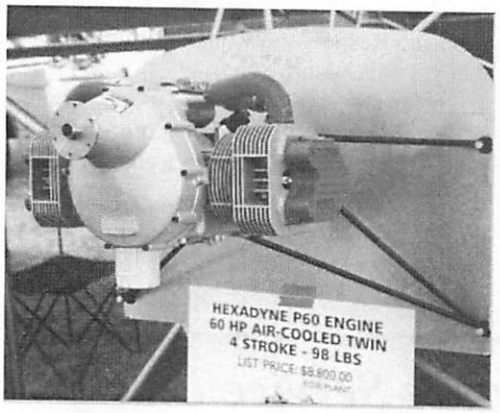
Next Month I will show photo's of the fabric repairs made necessary when false ribs were replaced. ✈

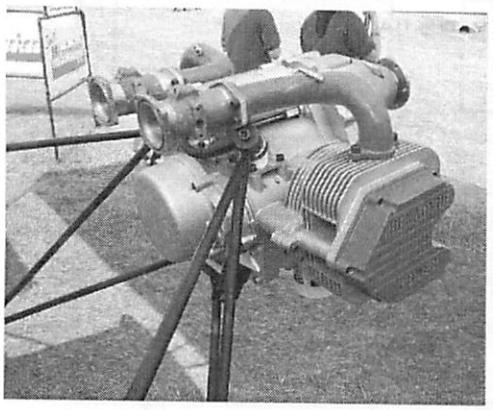
Hexadyne Aviation P60 air-cooled engine

The P60 air-cooled engine is a twin cylinder 797 cc, opposed four stroke that claims to produce 60 hp. at 5750 rpm.

According to the factory, advantages of the Hexadyne engine design include an engine management system, for better fuel economy. The in line cylinders eliminate the "rocking couple vibration" for smoother running and less wear. Short push rods eliminating the need for hydraulic lifters. A low compression ratio 9.0 to 1 for longer engine life. Four valves per cylinder for better heat dissipation. Plain bearings are used in the journals, for less weight, and economy of replacement. Air cooling for superb heat dissipation. Both cylinder, crankcase halves, and cylinder heads are machined in gravity cast permanent steel molds for reproducible geometry.

The engine mount used on the Hexadyne P60 uses a 4 point dyna-focal mount coming off the rear of the engine similar to that used in conventional aircraft.





Specifications

60 HP
Four stroke OHV - 4 valves/cylinder
Air cooled
Displacement: 800 cc
Compression ratio: 9 to 1
Cylinder bore: 3.625"
Rated power: 60 HP @ 5750 rpm
Cruise power (75% of max) 45 HP @ 5750 rpm prop speed = 2300 rpm
Induction system: Single throttle or (optional) Dual throttle
Electronic ignition
Fuel injection
Fuel: Mogas or LL Ethanol-free
Consumption: 3 gallons per hour
Engine Management System: Computer controlled with 6-sensor inputs
Engine Size, approx. 22.5 inches wide, 17.8 inches deep, 16 inches high
Propeller: 55 to 60 inch
Reduction drive: 2.5 to 1 spur gear
Total weight: 98 lbs. (44.5 kg)
Total installation weight includes alternator, electric starter, engine management system, oil tank (filter and oil pressure feed system) connector pipes.

2nd Dynamometer test has been running for two months - over 100 hours

TBO is expected to be greater than 1000 hours due to simplicity and reliability.

Standard Engine break-in conducted at the factory: Two (2) hour "Hot" Test Stand

Warranty: 2 years against defective parts

We will start shipping engines the 1st quarter 2001

Sales Price: $8800.00 (US)

For more information contact:

Hexatron Engineering Co. Inc.
1998 N Redwood Road, PO Box 26896
Salt Lake City 84126-0896
(801) 363-8010

Web Site:
http://www.hexatronengineering.com/prod02.htm

Rules to fly by

1.Good judgment comes from experience. Unfortunately, the experience usually comes from bad judgment.

2. Keep looking around. There's always something you've missed.

3. Flying isn't dangerous, crashing is what's dangerous.

4. It's always better to be down here wishing you were up there than up there wishing you were down here.

5. The only time you have too much fuel is when you're on fire.

6. There are three simple rules for making a smooth landing. Unfortunately no one knows what they are.

7. When in doubt, hold on to your altitude. No one has ever collided with the sky.

8. A 'good' landing is one from which you can walk away. A 'great' landing is one after which they can use the plane again.

9. Learn from the mistakes of others. You won't live long enough to make all of them yourself.

10. You know you've landed with the wheels up if it takes full power to taxi to the ramp.

11. The probability of survival is inversely proportional to the angle of arrival.

12. Never let an aircraft take you somewhere your brain didn't get to five minutes earlier.

13. Stay out of clouds. That silver lining might be another airplane going in the opposite direction.

14. You start with a bag full of luck and an empty bag of experience. The trick is to fill the bag of experience before you empty the bag of luck.

Calgary Ultralight Flying Club
Cash Receipts and Disbursements
Year Ended December 31, 2000

	2000		1999	
Receipts				
Member dues	1700.00		2280.00	
New Years party	-20.15		45.64	
Raffles	638.10		772.16	
Skywriter advertising	150.00		300.00	
Caps and Crests	86.00		35.00	
Map - net	84.00		109.05	
Other including interest	94.50	2732.45	0.00	3541.85
Disbursements				
Postage	585.97		644.84	
Printing	1132.23		1226.53	
Club events (fly-ins)	237.95		285.10	
Meeting hall rent	500.00		950.00	
Cadvision	212.93		212.93	
Flowers	40.61		149.22	
Other	12.79	-2722.48	51.66	-3520.28
Excess of receipts over disbursements		9.97		21.57
Cash, beginning of period		4298.20		4276.63
Cash, end of period		4308.17		4298.20

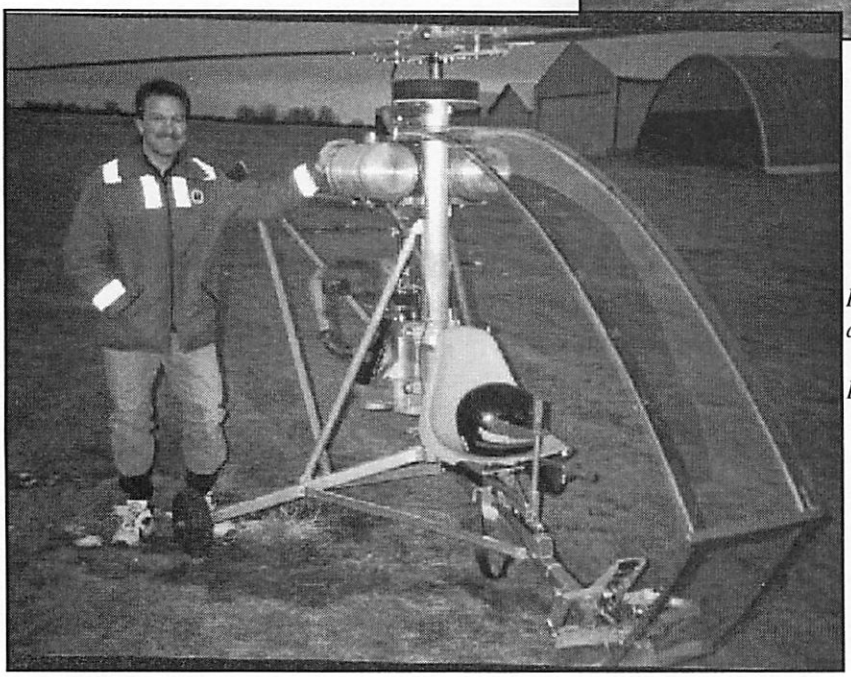
New in the Calgary sky

Knud Rasmussen with the Tundra recently restored by partner Garrett Komm

Photo by Adrian Anderson

Al McNeil and his new Easy Flyer

Photo by Adrian Anderson



Home built helicopter designed and built by John Uptigrove

Photo by Adrian Anderson