



Skywriter...



Monthly newsletter of the Calgary Ultralight Flying Club - COPA Flight 114

February 2009



***Kyle Petryshen's Sukhoi SU-29 along side of a Canadian CL-415 water bomber
in Ramona California***

Photo by Kyle Petryshen

From The Cockpit

By Pat Cunningham

Warmer weather is upon once again, at least for the time being. I'm sure we have colder temperatures in store for us but hopefully not for prolonged periods. The C-120 is in for the annual so I haven't been doing much flying lately. I took it up to Red Deer on January 17th for a quick little annual (wishful thinking)... it's still there and will be for another couple of weeks. We decided that it was a good time to fix an annoying little oil leak. While investigating the cause of the leak, we discovered some things didn't quite look right so the digging kept going deeper until the engine was totally dismantled. Looks like I'll be doing an unexpected major overhaul on the C90 engine! There was some entries made in the log books that didn't quite add up and, after some detective work and a few phone calls, it was discovered that work wasn't completed as it should have been. However, that will be the subject of future discussions at one of our meetings as there is a lesson to be learned here (as with many of you the lessons come fast, furious and expensive once ownership finally arrives).

If you missed the last meeting, you now belong to "The Calgary Recreational and Ultralight Flying Club" as voted on by you and your fellow members. The Calgary Ultralight Flying Club will go down in history as one of the best flying clubs in Canada.

Don't Forget Your Cheque Books!

- 2009 dues are due... \$30.00
- The Annual CUFC Dinner and auction tickets will be available from Dave Procyshen for \$35.00 each (\$70.00 per couple)
- Raffle Tickets are available



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Get your tickets for the annual raffle coming up at the end of March. There are some great prizes up for grabs that will be on display at the next meeting. Also the annual banquet will be held on Feb 28th ... see Dave Procyshen for tickets and information.

The Rust Remover has been scheduled for April 4th from 0900 to 1200 so mark that on your calendar and plan to attend. The City of Airdrie has scheduled an airshow for Wednesday July 22nd with an appearance from the Canadian Forces Snowbirds among other attractions. If you are interested in having your plane in a static display for the airshow please let me know. If there is a enough interest I will pursue getting a spot for our club to display some of its fine aircraft.

If you haven't already done so please pay your membership dues as soon as possible.

Clark Seaborn will be our guest speaker at the Feb.12th meeting. He is planning to show us a short video on the history of Yukon aviation featuring, in places, the old Fokker airplane that he had a hand in restoring among other things. For those that have heard Clark speak before you know what an interesting evening we are in for!

See you soon!➔

Calgary Recreational and Ultralight Flying Club

COPA Flight 114

Meetings are held on the second Thursday of every month, except July and August, starting 7:00 PM at the Northeast Armory, 1227 - 38 Avenue NE, Calgary.

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Skywriter

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CAVU Dreams

by Ken Beanlands

Welcome to February. The weather is finally starting to cooperate and there is a hope of flying in the near future. So far, I've been able to get only one day of flying since the beginning of the year.

As some of you may have noticed, the Skywriter is still using the old club in our logo. Unfortunately, making this change has been a bit of a challenge for the applications I have. If anyone out there has a graphics package that can modify our logo to reflect the new name and is willing to do it, please drop me and e-mail and I'll send you the current one.

AME school is coming along well. This term is heavy on the shop work and a lot lighter on theory. We've already completed inspections on the Gulfstream G1, Boeing 737 and Cessna 185. We got to run the G1's Rolls Royce turbines and swap the C-185 from skis to wheels to amphibious floats.

The theory classes have been primarily avionics. One course is concentrated on control systems like autopilots, slave compasses and radar systems. The other electronics course covers the use of standard avionics systems like ADF, VOR, HIS, RMI, ADI, and other TLA's - that would be "Three Letter Acronyms".

One course we're taking is in technical documents. An interesting rule of thumb is taught in this course which helps in understanding how log entries should be made. Basically put, there are three things that must be included in a log entry:

- i) What work was done. This, simply put, is what was done to the plane. ie. annual inspection, replace landing light, change tires, etc.
- ii) What authority under which the work was done. For certified aircraft, this may be the maintenance manual or STC document for modifications. For homebuilts, this can be AC.43-13.
- iii) What was the result? On an annual inspection this could be as simple as "No defects found". If you replace a light bulb, "Function test – satisfactory".

After you conduct maintenance on your aircraft, you should also include a maintenance release statement such as:

"The described maintenance has been performed in accordance with the applicable airworthiness requirements."

Another rule which should also be followed is the use of Independent Control Checks (ICC) or dual inspections. These are required whenever primary flight controls or engine controls are worked on. An ICC can be performed by any qualified person such as a pilot or AME. Inspections should ensure that fasteners are properly installed and safetied and that the controls are free and correct. The ICC should be performed and signed out **BEFORE** the maintenance release. In this case, the following entry should be made by the individual doing the check:

"I have conducted an inspection for conformance to the type of flight/power plant controls that were affected by the work accomplished."

Finally, some maintenance tasks require a flight test to ensure that the work is satisfactory such as adjusting wing struts to trim out an undesired roll. In this case, the maintenance cannot be released until the flight is done to confirm that the problem is fixed. A conditional maintenance release can be entered to allow for the flight test as follows:

"The described maintenance has been performed in accordance with the applicable airworthiness requirements, subject to the satisfactory flight test"

The pilot conducting the flight test must enter that the *"flight test conducted – satisfactory"*. This releases the aircraft to normal flight and also covers requirement iii) above.

With less than three months to go, I've started to do a little job hunting (hint, hint). I'm certainly looking forward to getting back into the work force. Although there has definitely been a downturn in the economy in general, there still seems to be a reasonably good interest in hiring AME apprentices.

This week I was looking over the AIP Supplements and Aeronautical Information Circulars (AIC) published by Nav Canada. Of interest is AIC 44/08 which the replacement of the old Automated Weather Observation Systems (AWOS) and Limited Weather Information Systems (LWIS). These 20 year old systems will be replaced with updated systems over the next four years. These systems include numerous new features and reporting criteria. One of the neat features is the addition of digital weather cameras (WxCam). For more information check out the AIC at:

http://www.navcanada.ca/ContentDefinitionFiles/Publications/AeronauticalInfoProducts/AIP/Current/PDF/EN/part_5_aic/5aic_eng.pdf

Once again, I'm in need of articles for the Skywriter. Please send me anything you might have...

See you Thursday night. →

Controlled Flat Spin

By Kyle Petryshen

The Machine Under the Man

My aerobatic dreams have come one step closer now that I have finally finalized the deal on my new plane several months ago. It has been a long road getting here with several missed opportunities along the way. The new plane, as many of you readers will already know, is a Sukhoi 29.

Before the Sukhoi I primarily flew a Cessna 172 while logging a bunch of time in a Citabria and a Super Decathlon. All these planes are great planes but they just held me back from accomplishing what I wanted with aerobatic flight. Now there is nothing wrong with a Super Decathlon, for most people they're great planes. I am not most people, seeing how I am 6'4" and 280lbs, so my desire for a solid 2 place aerobatic plane lead me to Russia. My first interest was a Yak 54 but that deal fell apart for various reasons. Actually I am quite glad it did as I now have a far superior plane, although in the same breath the Yak 54 was a whole bunch cheaper then the Sukhoi.

Seeing how this is my first try at what will hopefully be a regular article in the Sky Writer, I will start with some specs and some details about the Sukhoi's and they're history. In the future, if everyone wants to hear more I will move into more human based stories about my experiences with aerobatics and flying in general.

The former Soviet Union was always a country that put state before people yet within the government

military ranks airplanes are named in some way after the men who designed or pioneered them. Engineers with talent were given the task of managing whole engineering teams and production facilities to make airplanes. A notable example is the "MiG" designation, which is short for Mikoyan-Gurevich, which in turn came from the last names of A. I. Mikoyan and M.I. Gurevich. These two fighter designers founded the world famous family of "MiG" aircraft. In the case of the Sukhoi line, they were named after Pavel Osipovich Sukhoi. Sukhoi Graduated from Moscow Technical Aircraft University in 1925 and had a great hand in designing many aircraft. The Sukhoi design bureau produced the first Soviet supersonic interceptors before closing in 1949. It was subsequently re-opened by Pavel Sukhoi shortly after Stalin died. The experimental jet aircraft produced by the Sukhoi bureau set various world speed and height records. Pavel Sukhoi died in 1975 but even today the Su design bureau exists and continues to produce some of the best airplanes in the world.

In the early 80's Russian superiority within the aerobatic circles started to falter. This prompted the commissioning of the Sukhoi design bureau to build a no holds bared aerobatic airplane. They were given a clean slate and a blank check to complete this task, the evidence of that is seen in the construction materials used and the building techniques employed in the first Su 26's built in the early 80's. The factory even stayed light on there feet throughout the entire run of airplanes, during production various changes were made to improve the design or repair deficiencies found during use. Later on they added the Su 29 and the Su 31 to there line of planes. What they built stands even today as the benchmark for all competition aerobatic airplanes.



Sukhoi 29 Design Features

Two-seat redevelopment of the mid-wing Su-26M single-seat aerobatic competition aircraft, the wing span and overall length was increased; they improved the aerodynamics and reduced the stability margin for enhanced maneuverability.

The wing leading-edges have a sweepback of 3 deg / 28'; it has a specially developed symmetrical section that is variable along the span; symmetrical section thickness / chord ratio is 16 per cent at root and 12 per cent at the tip. It is also slightly concave in region of the ailerons to increase their effectiveness. The leading-edge is somewhat sharper than usual to improve responsiveness to control surface movement. The dihedral is 0 deg and the incidence is 0 deg.

Structure

Composites comprise more than 60% of the airframe weight, it has a one-piece wing covered with honeycomb composites panels; the front box spar is foam-filled with carbon fiber reinforced plastic (CFRP) booms and wound glass fiber webs. The channel section rear spar is also made of CFRP and the truss ribs are titanium. The ailerons are foam filled and have a CFRP box spar and a Glass Fiber Reinforced Polymer (GFRP) skin. The fuselage has a basic welded truss structure of VNS-2 high-strength stainless steel tubing. The lower nose section of the truss is removable for wing detachment. The fuselage skin panels remove quickly and are made from a honeycomb composite. The integral fin and tailplane construction are the same as the wings. The rudder and elevator construction are the same as the ailerons. The exhaust, battery box and firewall are all titanium. The engine cowlings are made from a light alloy. The control linkages are made from forged magnesium.

Landing Gear

The main wheel legs are a fixed arched cantilever made from titanium alloy. Hydraulic disc brakes are standard. The non retractable steerable tail wheel connects to the rudder with titanium springs, it is also lockable for take off and landings.



Dimensions, External

Wing span	8.20 m (26 ft 10 in)
Wing chord: at root / at tip	1.985 m (6 ft 6 in) / 1.04 m (3 ft 4S in)
Wing aspect ratio	5.5
Length overall	7.285 m (23 ft 10 in)
Height overall	2.885 m (9 ft 5 in)
Wheel track	2.40 m (7 ft 10 in)
Wheelbase	5.08 m (16 ft 8 in)
Propeller diameter	2.60 m (8 ft 6 in)

Dimensions, Internal

Cockpit: Length	2.60 m (8 ft 6 in)
Max width	0.82 m (2 ft 8 in)
Max height	1.05 m (3 ft 5 in)
Fuel Capacity 276 liters L / R / Fuselage	106.5 / 106.5 / 63

Weights and Loadings (two persons)

Weight: empty / empty, equipped	735 kg (1,620 lb) / 780 kg (1,720 lb)
Max fuel	207 kg (456 lb)
Max T-O weight: pilot only / two people	860 kg (1,896 lb) / 1,204 kg (2,654 lb)
Max wing loading	98.7 kg/m ² (20.21 lb/sq ft)
Max power loading: M-14PF / M9F	4.01 kg/kW (6.73 lb/hp) / 4.78 kg/kW (6.41 lb/hp)

Performance (M-14PT engine)

Never-exceed speed (VNE)	242 kt (450 km/h; 279 mph)
Max level speed	175 kt (325 km/h; 202 mph)
Stalling speed	62 kt (115 km/h; 72 mph)
Max rate of climb at S/L	1200 m (3,940 ft)/min
Service ceiling	4,000 m (13,120 ft)
Max rate of roll	400c/s
*T-O run	120 m (395 ft)
*Landing run	380 m (1,250 ft)
Range with max fuel	647 n miles (1,200 km; 745 miles)
g limits	+12 / -10

FOR SALE

Notice: Classified ads are free to CUFC members. Contact Ken Beanlands by e-mail to place or renew your ad (see masthead). Ads will be dropped after 6 months unless renewed.

Continental A-75-8 engine. Only 360 hours since 0-time rebuild in 05. Comes with Marvel carb, and Sensenich metal prop, plus prop hub and bolts. Needs exhaust and baffles (damaged exhaust available). A light-weight, extremely reliable and easily maintained engine package. \$5800. Call Stu at (403) 255-6998.

Subaru EJ25 Engine. Long block, complete engine under 10,000 miles. 165hp N.A. fuel injected. Firewall forward will weigh approx. 300 lb complete. Will require a psru – I recommend www.gappsru.com for a really good unit. This engine is a super aircraft engine, with 5 main bearings, engine block is only 13” long. I have a few spares for it, such as alternator, injectors, oil filter etc. I can help you design an engine mount as well. Invested \$1900, asking \$1200 OBO, just need the garage space. Peter Stenabaugh (403) 280-6715. (12/08)

Ivo Magnum Prop, 70” ground adjustable, 2-bladed propeller with approximately 200 hours TTSN. Designed to fit a Franklin hub (different from both Lyc. And Cont.) but can be adapted to fit most engines with appropriate hub from Ivo. \$450 OBO. Contact Ken Beanlands (403) 295-2079. (10/08)

AIRPARK LOT • \$29,000, PRICED TO SELL, Fantastic ½ acre lot with trees. Aero Estates Airpark, Lot 77 on beautiful Lake Palestine. Contact Don Usher, Telephone: (250) 223-8380. (08/08)

1992 RANS S12. 480 TTSN 100 SMOH. Always hangered and well taken care of. A really capable airplane. \$15,000. Brian Vasseur 403-828-5281 brian@brianvasseur.com (07/08)



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GSC Tech Prop - Wood - 64 X 36 RH Pusher - 2 Hrs run Can be seen at 167 Cove Place, Chestermere, AB Day – (403) 769 7019 Eve (403) 226 7224 – Jerry Bruce Freestone Gull Lake SK (306) 672 4124 \$275.00 firm. (05/07)

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FLYING EVENTS

June 14th, Bonnyville/Cold Lake, AB (CYBF) – COPA Flight 90 Fly-in Breakfast from 0700 hrs - 1200 hrs. For more information please contact John Vardy at 780-826-2132 or email jvardy@telusplanet.net.

Saturday, February 28th, Calgary, AB – CRUFC Annual Dinner and Auction will be held at the Big Rock Brewery, 5555 76th Avenue SE . Cocktails will begin at 5:00 and supper will be served at 6:00. The Auction will be from 7:00 to 9:00. Tickets will be available at the January meeting from Dave Procyshen for \$35 each (\$70 per couple).

Saturday, April 4th Calgary, AB – CRUFC Rust Remover will be held from 0900 to 1200 at the Cardel Homes Place. Contact Bob Kooyman or Carl Forman for more details.

May 3rd, Red Deer - COPA Flight 92 Rust Remover, Red Deer Flying Club will hold their spring Rust Remover. It will be held in the Sky Wings Aviation hangar. Pancake breakfast from 8:00 a.m. to 11:00 a.m.. Lunch from 12:00 p.m. to 1:00 p.m.. Rust remover sessions starting at 10:00 a.m., 11:00 a.m. and 1:00 p.m.. For more information please contact Bert at 403-350-5511.

May 30th, Wetaskiwin, AB - The 2009 Induction Ceremony and dinner for Canada's Aviation Hall of Fame will be held at the Reynolds-Alberta Museum in Wetaskiwin. For information and tickets, contact Justin Cuffe at 780-361-1351 ext. 241 or email cahf@telusplanet.net.

May 31st, Camrose, AB (CEQ3) – 54th Annual Fly-in Breakfast. A hearty Western Breakfast. One of the largest Fly-ins in Western Canada with over 100 aircraft expected. A Free picture of your aircraft on short final will be sent to all Pilots. Co-ordinates Camrose Airport N53 02 25 W112 48 56. For more information please contact Barry Graham at 780-781-7004 or email grahamb@cable-lynx.net.

June 3rd to 6th, Edmonton, AB – Canadian Women in Aviation Conference 2009, Biennial CWIA. We have secured a venue, and the hotel is already taking reservations at a reduced rate - just quote the CWIA conference! 1-800-716-6199. Coast Plaza Hotel, 10155 105 Street NW, Edmonton, AB, T5J 1E2. 780-423-4811. More information and conference registration to follow, and will be posted on the CWIA website <http://www.cwia.ca/conference.htm>.

July 8th to 12th – Arlington Fly-in and Sport Aviation Convention 2009. For more information, see <http://www.nweaa.org/>

July 10th – 12th, Wetaskiwin, AB – "Westebello" 2009, Third Annual Western Canadian Challenger Rendezvous! We'll be at COPA in Calgary, and then planning to join the flight across Canada Details at: http://www.challengerwest.com/irocncroll_tour.htm.

July 13th – 17th, Red Deer (CYQF), AB – AYA 2009 Annual Convention. AYA is the international type club for owners and pilots of Grumman American light aircraft. Grummans are renowned as fun, sporty, efficient, and safe personal aircraft with relatively simple systems, offering more performance at a lower cost than comparable models of other types. For more information please contact Steve Peach 403-932-4323 or email editor@aya.org.

July 17th to 19th Calgary, AB – The 2009 COPA Convention is being held at the Springbank Airport (CYBW). It promises pilots and flight enthusiast a well rounded program that is educational, experiential and a lot of fun.

July 27th to August 2nd, Oshkosh, WI. – EAA Airventure 2009. For more details see <http://www.airventure.org/>
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