Skywriter

Feb 2017

Next Meeting Wednesday Feb8 at the AeroSpace Museum

Monthly Newsletter of the Calgary Recreational & Ultralight Flying Club – COPA Flight 114

Our Mission: To promote safety and camaraderie amongst aviation enthusiasts.

President's Message

Ed D'Antoni

Presidents message Feb 2017.

As a follow up to Carl Forman's January Flight Plan filing presentation, Bob Kirkby will do a technical presentation on Flight Planning this coming meeting, Feb 8.

The movie "One Six Right" was shown at the January meeting. I apologise for not previewing it beforehand, as one hour was just too long. I think a 20-minute video should be max.

The Space Flight presentation by Astronaut Dr. Robert Thirsk was well attended and enjoyed by all. There were over 120 Air Cadets, parents and invited guests. Total attendance was well over 200. Dr. Thirsk was enthused by the number of Cadets in attendance and the quality of questions asked.

Over the last few days I used the list of all paid up members to put together a PowerPoint to be used as a Member Profile, an editable OneDrive copy of which was sent to all. The PowerPoint only included information approved by members with their 2017 application. We will produce a hard copy for display at meetings and club events. We can produce an electronic version however before doing so we must get each member's permission before they can be added. All information on the OneDrive version will have been addes just before the February newsletter is distributed. Templates will still be available for those who wish to have their information added or changed. Whenever a change or addition is made I am automatically notified. At that point I will take the page, put the information onto the Private PowerPoint and delete the information so that it will not be available online.

President Ed

Calgary Recreational and Ultralight Flying Club

COPA Flight 114

Meetings are held on the second Wednesday of every month, except July and August, starting 7:00 PM at the Aerospace Museum, 4629 McCall Way NE Calgary.

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KitFox IV

As most of you know, I had been flying a C-170A for about 7 years. In that time I was able to log approximately 450 hours in it. The 170 is a very roomy, forgiving airplane that I was able to get very comfortable in. Unfortunately due to several factors, most of which was the economy, the amount of time in the air had been severely reduced. At its last annual inspection I had told my AME that if he found anything wrong I would just have to park it. I just didn't have the money for any repairs. As it turned out, he had a friend who had been looking for a 170. After a few calls and emails back and forth, a deal was struck, and the new owner came and flew it away to Saskatchewan. The timing was perfect. It was a great airplane for me, but the continued cost of the annual inspections was really sucking the fun out of flying.

During the following 12 months I was able to stay current by being lucky enough to rent Pat Cunningham's C-120. This kept me in the air, but it's not really the same as owning your own.

Since even before buying my first airplane I've always been interested in the Kitfox. The idea of building and maintaining an airplane really intrigued me. An airplane where you can do our own maintenance and upkeep is a definite bonus. I also like the tube and fabric design, simple and easily repairable. Jim Corner has always been a frequent visitor to Carstairs, first in his Kitfox 3, and more recently in his Kitfox 5 which always boosted my interest.

During the year following the sale of the 170, Stu was great at sending me links to all the available aircraft that he thought might interest me. The whole time I was really just waiting for the right Kitfox to come along. I was looking at unfinished projects, or whatever was out there.

When I first started looking again, I spoke with Wade Miller about his and how he enjoyed it, flight characteristics and his overall thoughts about the design. He relayed how much fun it was and that he probably would never sell it because it did everything he wanted it to do. Easy to maintain, inexpensive to operate, and fun to fly. Four or Five months go by and the search was continuing. In a conversation with Stu, he suggested getting a hold of Wade because things may have changed and he may be willing to part with the Kitfox. A couple of emails later, I was the new owner. Perfect!!!

The folding wings of the Kitfox were a necessity because of the available hangar space in Carstairs.

With the wings folded I'm able to store it inside, tucked under Richard Schmidt's Stinson 108-2.

I was able to fab up a simple tow bar that allows me to push and pull the airplane while keeping an eye on everything. Making sure it doesn't rub or bump into other airplanes or the hangar.

A great big thanks to Norm who was generous enough to give me an introductory flight in his Kitfox 4. As well as check me out to make sure I was safe before picking up mine. So far, I've only been able to get a few flights in it. The weather has been either too cold, or too windy. It's an incredibly fun airplane to fly. My 170 was bit underpowered to say the least but the Kitfox 4 with the 912 ULS almost has too much power, if that's possible. The climb is incredible and it cruises at about 110mph. I'm still adjusting the prop to get it just right, but so far I'm really enjoying it. The cockpit is a bit tight, but comfortable once you get yourself all folded into it. Surprising really, considering the small looking exterior size.

Making the switch from a certified aircraft to an ultralight has been an easy one. The Kitfox 4 is responsive and predictable. A real delight to fly and I would recommend it to anyone who is thinking of making the switch.

When the Airplane Speaks

By Stu Simpson

Something was wrong. Or was it? I was in the Cavalier one November day, rolling down runway 16 at Kirkby Field. Gerry Macdonald was beside me as we were about to launch on a test flight to check some work we'd done on the Cav's alternator.

But the Cav didn't seem to accelerate like it normally does. I tried to discern the reason with the few seconds remaining before my decision point. I decided to abort. I pulled the power and told Gerry that things simply didn't feel right. But I just couldn't pinpoint why.

We did a 180 and returned to the end of the runway where we did another engine run-up. All looked good so I released the brakes and the Cav seemed, maybe, to move a bit more sprightly.

The takeoff was successful, and I spent most of the flight trying to put my finger on why the first takeoff run was so subdued.

I eventually crafted a theory: I'd installed a much coarser prop on the Cav earlier in the year. This was the first time I'd flown that prop in such cool temperatures, hovering just over zero Celsius. Perhaps the prop's bite in the cold air was a bit much. But I even argued with that idea because the colder air should have given the engine more power to overcome that coarseness.

And once in the air the engine just didn't sound like its normal smooth self. Gerry said he couldn't detect anything wrong. It started and ran well, and the run-ups were normal. But in cruise the sound was just a little bit off, a little bit rougher than normal. It continued to niggle at me.

Weather from then to the end of December was terrible for flying. Just before the end of the year I made another flight, this time up to Carstairs. Again, things sounded just a little off in cruise. Or did they? I didn't know for sure, but it seemed something was amiss.

I did a touch and go at Bishell's, waving as I went by to Mike Sweere and Richard Schmitt. On the overshoot things started to deteriorate. It was very subtle at first, then developed into a more noticeable roughness. I tried carb heat but there was no change. Same thing when adjusting the mixture.

I headed back to Bishell's and made a safe, though long landing. On the ground I once again couldn't locate any fault. The engine ran smoothly on run up and the takeoff roll, so I decided to head home.

There was some more engine roughness enroute to Kirkby's and I tried in vain to diagnose the fault in the air.

I spoke that evening with Wade Miller and he felt the likely culprit was carb ice. The weather conditions were about right for ice, but the Cav's never, ever shown any propensity for it. I have a deep respect for Miller's knowledge on such matters, but I was still unsure.

The next flight was short and close to home. The roughness persisted, but only subtly, and still I wondered if it was real or just a result of running the engine in colder air with a coarse prop. I just couldn't replicate the stumbling and abnormal roughness on the ground. Nor could I definitively attribute it to carb ice.

I started trouble-shooting in earnest. With Bob Kirkby's help I checked the quality and resistance of the spark plugs. If anything looked worn or dirty I fixed it or changed the plug completely. Fuel checks showed nothing anomalous.

I flew the Cav one perfect afternoon in January and the engine stumbled just slightly and for only a second. There was nothing left to speculation at that point. There was very real problem, not an imagined one, and it wasn't carb ice, mixture or fuel.

I grounded the Cav until I could locate the fault.

Late in the month, Kirkby very generously donated warm, well-lit hangar space so Gerry Macdonald and I could dig into the engine in detail. We pulled the gascolator and checked it. We found only a very small amount of debris in the screen and in no way did it block fuel flow.

Gerry found a broken manifold pressure sensor line for the electronic ignition on the right side. The broken line spoiled the mag's sensing ability, and thus, its ability to optimize the ignition performance. Gerry repaired that and we thought we'd found the smoking gun.

We also discovered the carb heat airbox flapper axle had worn through it's bushings and was way out of whack. Gerry and I rigged up a field repair that will hold it until I get the new airbox I've ordered.

I changed one SCAT tube that had worn through, and finally, Gerry discovered a dead short in the wires to my landing light in the nose. He and Bob repaired it and installed a new LED lamp that only draws half an amp. The Cav should be a bit easier to find in the sky with that lit up, even in the winter.

Gerry then did something really remarkable; he listened to the engine. He placed a mechanic's stethoscope into each cylinder and slowly turned the engine over. The stethoscope can detect sounds like grinding, parts slapping, and other noises that indicate anomalies inside the engine. In this case there was nothing but normal, smooth action from the O-320's innards.

The next day I did a test flight to check the results of our work. The first thing apparent was an immediate improvement in ignition smoothness all the way through take off. The repaired MP sensor line clearly made a positive impact on performance. However, on powering back after climb out, the slight roughness was still present, though measurably reduced.

I stayed up for about half an hour within a mile or two of the field trying all sorts of combinations of power, mixture, carb heat and mag settings. I completed two touch & go's and one full stop landing. Very consistently the left mag, a Bendix one, was running the engine very roughly, especially at high rpm. Now I'd found the real culprit in this mystery. The other issues were merely accessories to the crime.

It was quite a relief to have a clearly identifiable problem to attack. The left mag was from the Cav's previous engine, an O-290. My engine re-builder had tested the mag prior to installation on the O-320 and reported that it tested fine. Then it ran beautifully right up until it didn't anymore.

Now on to solving the problem. When shopping for an AME for the Cav, I'd spoken with club member Doug Eaglesham who highly recommended Brad Kingsmith of High River AirMotive. The next day, with Bob Kirkby flying escort for me, I flew the Cav down to Brad's shop so he could examine the left mag.

I really debated about flying the Cav to HR. On one hand the engine was definitely acting up. On the other, I felt confident after weighing all the facts that I could get the plane there safely. As it turned out the flight from Kirkby's to HR took about seventeen minutes and was totally uneventful.

Brad removed the mag and I left to fly back with Bob before Brad had opened it up completely.

Just after Kirkby set the Cherokee smoothly down on his runway, Brad sent pictures of the mag's internal bearings. As you can see from the photos, the bearings were all in terrible condition. The main bearing was oval shaped, and the bearing race on the mag's rotor was heavily pitted. Brad felt the mag was a few minutes from a catastrophic failure.

It only took Brad a few days to rebuild and re-install the mag. On the flight home the difference in the engine's smoothness and performance was easily noticeable. The roughness and hesitation had vanished. To my great relief, the Cav was back to normal.

How did the mag get that bad? It's clear I should have been more diligent in getting it checked. I'm not sure how many hours were on it since the last service or inspection, and that's clearly my responsibility. I put just shy of 300 hours on it since installing the engine in April 2015. I'll certainly be more attentive to the mag in the future.

We're naturally very closely attuned to our airplanes; their burps and bangs, their gasps and gurgles, and their surges and sighs. And the more often we fly, the more sensitive we become.

My airplane had been talking to me. I was trying to listen, but I was unsure exactly what it was saying. I tried my best to interpret, I just didn't know the language well enough. It took quite a while and quite an effort, but eventually I heard what the Cav was telling me. It certainly pays to listen when the airplane speaks.

Thanks to all who submitted articles for this months Skywriter. I asked Mike if he liked his Kitfox as much as I do mine. His take on the KItFox is this months lead story. There was a discussion on one of the internet groups about the perils of landing on ice. After an email from Troy I asked him true or false. His article makes great reading with some fine pictures. Stu's quiz of the month is contained here in but Stu also shared his experience with his plane trying to tell him something.
Brian Byl spent much time refining a form for overdue flights. It is shared here for your use. Brian also submitted an article for reprint from one of his newsletters. (with prior permission) Thanks to all that help make your skywriter an interesting read.
Editor Norm

Flying the Carbon Cub Ex2

It has been a great seven months with the Cub. With just short of 100 hours on it, it has given my family some great adventures. Back in June 2016, I finished the Cub Crafters Carbon Cub after a ten month build. It has 31 inch Alaska Bushwheels, Baby Bush tail wheel, G3X panel with A/P, and a 180HP Titan 340 Stroker. I figured I would write about the fun I have had thus far.

It is not an airplane that I fly for travel; it is what I fly just to fly. When I get in the cub I never really have a plan. I never really know where I might end up. That is what I like about it; I have so many choices as to where I can go. Everything from river gravel bars, lake shores, landing in friends fields for a visit, old non maintained back country strips to frozen lakes. The places you can go become quite unlimited. Going fishing on the river is always fun. I have taken many people to the Old Man River and the Bow River. The first landing on any gravel bar needs to be done with caution. There is always something where you wish it wasn't. I like to do a high inspection pass to decide on the best location to roll out and then I make the approach as if I was landing with full flaps and get really slow and tight in to have a good look.

Everything is much different close to the ground. Next approach I land. The best is to land tail low and get the mains stuck on by letting the stick forward. Keep the tail up with heavy braking and be ready to weave around obstacles on roll out. The rocks can be fairly large so you want the tail up until you stop and keep the tire pressure in the mains low. Five Pounds really smooths out the ride on the rough stuff. With the tail up it also decreases the chance for rocks hitting the tail. It is almost impossible to avoid but you can at least reduce it. Once stopped, I shut down and clear the debris. The first time in is always the trickiest. If you don't land in a particular spot often, do as above each time because things change. Take off is easier as you are now familiar with what is on the ground. Get the tail up right away and accelerate on the mains. In no wind conditions I take off down river and land up river. Gravel bars look much smaller in the air, so sometimes you need to get a closer look to really know if it is safe. Four hundred feet allows me to get in and out with a load comfortably.

When landing at a friends' place, there are usually obstacles like power lines, trees and fences. Make sure you know the area before

going in. Fields are never really smooth and the badger holes can be pretty big. The large tires allow for these types of landings to be done safely. You never fly near a house and make the approach in such a way that will give you the most distance from neighbors. If I visit someone for the first time, I always checked the area out on the ground first. Checking it out like I do a gravel bar is not good airmanship. I commit, then power back and quietly "glide" in. Most likely not even heard by anyone. Same thing on departure. Make what ever turn required to stay clear of the neighbors. If you don't need full power after leaving the ground, pull it back for less noise once at a safe altitude.

Flying in the snow is a lot of fun as well with the large tires. Six inches of snow is about the maximum I would land in unless I took off out of it first. Dry snow is much different than heavy, wet, or packed snow. When landing on unknown snow, (you should know its depth based on your area) I keep the speed up. I use two notches of flap for less drag than full flaps. As I approach the touch down I carry about 15-20mph above stall and let the wheels kiss the snow. If they pull hard I just pull back and the plane flies off. If they feel good I load them up a bit more with forward stick and see if there is any change. If all is well, I then start to slow down by pulling some power. Don't ever commit to the landing until you know for sure. If you went in full flaps and slowed right down before touch down, if the snow was too deep you would likely nose over. An expensive mistake!

Lastly are lake landings. If there are no cars on the lake I don't land. Well, that doesn't always work, but the important point is making sure you know how thick the ice is. I have landed with 6" of snow to perfect black ice. If there is snow I use the snow landing technique mention earlier. If it is smooth ice it will be the nicest surface you will ever wheel land on. Unfortunately there is not always smooth ice. Quite often the drifts freeze and create large ramps so you will have a rough landing. You can generally find smooth areas from the air before landing though. Even smooth black ice has some braking resistance. So yes, you will be able to come to a stop with the engine running.

Since the lakes are so large, the use of brakes is not required and I think is best not to use them at all on roll out. If you land a bit side ways the ice will be more forgiving than the

pave. The rudder will give you plenty of directional control. You will likely not notice any difference unless you hit the brake and nothing really happens.

After landing, pull out the auger, fishing rod and enjoy the day.

For take off, your tires may or may not hold for run up. Do your best to get your engine checks done before takeoff. The only difference with taking off from the lake is the runway doesn't end. Direction control is much the same as grass. Keep you movements small and there should not be any trouble. Be sure to stay well clear of people, cars and fishing shacks for both the landing and takeoff.

Flying the Cub is completely different then jumping in the RV10 and going somewhere. I love doing both types of flying equally well. Travelling great distances, up high on oxygen, dealing with many different controllers, and airspace is just as rewarding as stopping really short on that tiny gravel bar, talking to no one. Both teach skills that are very useful.

FOR SALE

Leburg crank triggered electronic ignition for four cylinder engines. Will work on any four cylinder engine. Comes with Ford Visteon coil, trigger wheel, electronics and manual. Dwell curve built into the electronics. Easy installation. $ 700.00 invested. Asking $300.00. Tim Vader, 403 620-3848, vadert@shaw.ca

Suzuki 1.3 litre 4cyl auto engine with gearbox for aircraft use. Call 587-225-3944 and talk to Norm for more information Email normrdt@gmail.com

New type Chinook 582 all yellow. Turn key. A-1 condition. Radios helmets included. $18,000. Dave Dedul 1-403-823-2214.

<u>Cuby II with Rotax 582 for sale $12000.00</u>
195 hrs on Rotax 582
Approximately 500 on airframe
Oil Injected - no mixing
2 x 10 gallon tanks
85 MPH Cruise
Icom A5 radio
Intercom and headset
Ballistic parachute cost $4200.00 US never mounted in any aircraft available for $2000.00
Call Gary Abel 403-801-3117
garyabel@shaw.ca

Hanger at Springbank for sale. ½ share of 66'Wide x 40'Deep x 16'High, with 50' x 14' bifold doors, south opening. Insulated, gas roughed in. $100,000. Call Cam at 403-970-5394.

Indoor Hangar Space available to be shared at Springbank Airport – complete with heat, electrical and water - Bathroom, Kitchen, Wifi, Alarm system and digital video recording. Email: emailabellamario@gmail.com or call at Mario 403 354-8967 for more details

FOR SALE :
60 x 40 Hangar at Drumheller Municipal Airport CEG4. New Steel Roof 2013. Gravel / Sand floor. Located on Tarmac, directly off runway 34.
Asking Price 20K OBO.
Phone: George at 403-931-1645
E-Mail george7@hughes.net

Take your plane skiing in the winter snow. These skis were off my former Bushmaster and should be suitable for most Ultralights. They are 9-1/2 x 56 inches. Asking $250.
Bob Kooyman – (403) 650-3243.

METAR/TAF Quiz

METAR CYQF 172300Z 21005KT 15SM FEW120 BKN250
M18/M23 A2985 RMK
AC2CI4 SLP204=

METAR CYQF 172200Z 19005KT 15SM FEW120 SCT250
M17/M23 A2985 RMK
AC1CI3 SLP203=

METAR CYQF 172100Z 23005KT 15SM SCT120 BKN250
M17/M24 A2985 RMK
AC3CI3 SLP202=

Use the above information to answer the following questions.

1. When was the most recent METAR issued for Red Deer on this winter day in both UTC and local?

2. With the above noted data, were the flying conditions VFR, marginal VFR or IFR?

3. At the time of the second most recent observation what portion of the sky featured altocumulus clouds? What portion featured cirrus cloud cover?

TAF CYCG 171838Z 1719/1801 VRB03KT P6SM
SCT040 BKN100 TEMPO 1719/1721 BKN040
OVC100
RMK NXT FCST WILL BE ISSUED AT
181545Z=

Use the above noted TAF to answer the following questions.

4. What time was the Castlegar TAF issued? For what period is it valid? Use UTC and local time for both questions.

5. What is the expected prevailing wind speed and direction over the forecast
period?

6. What will be the lowest expected cloud ceiling over the forecast period?

METAR/TAF Quiz Answers

1. It was issued on the 17th day of the month at 2300Z, or 1500 hrs local time.

2. Definitely VFR.

3. At 2200Z, conditions were AC1CI3, or altocumulus 1/8, and cirrus 3/8.

4. It was issued on the 17th day of the month at 1838Z or 1038 hrs local, and is valid from the 17th from 1900Z (1100 local) to the 18th at 0100Z (1700 local **on the 17th**).

5. Forecast winds are of variable direction at about 3 knots.

6. The lowest expected cloud ceiling will be a broken layer at 4000' between 1900Z and 2100Z on the 17th.

C – Ixxx Overdue Notification

These instructions review what you need to do if I don't call you after a flight.

I will tell you when I'm leaving and when I expect to arrive. I will also tell you when to expect my call after arrival. If I don't call when I said I would, call my cel phone first (403 xxx-xxxx) before calling Search and Rescue. I may have gotten distracted and forgot to call.
If I don't call and you can't contact me you will need to contact Search and Rescue as per the following instructions:

1/ Call any of the following numbers:

Trenton Joint Rescue Coordination Centre
1-800-267-7270 or 1-613-965-3870
(they will accept collect calls dealing with overdue or missing aircraft)

Or Edmonton Flight Information Centre -- 1-866-992-7433
Or Canada Flight Brief - 1-866-541-4102

2/ Tell them you'd like to report an overdue aircraft. They will probably ask for some of the following information:

Type: Xxxx Xxxxx
Registration: C – Fxxx (Foxtrot Xray Xray Xray)

Real time Tracking for todays flight is visable at:
http://www.greenalp.com/RealtimeTracker/index.php?viewuser=xxxxxxxxx etc.

Ask the person you are calling if you can forward them an email with the above information.

3/ Pilot: Xxxxxxx X Xxxxxxx License: 3xxxxx Cell phone: 403 xxx-xxxx

4/ People on board: _____ (I will tell you how many are in the plane before I leave)

5/ Going from _____ to _____

6/ Time Departed _____ Expected arrival _____

7/ Fuel on board: _____ hours. (I will tell you how much fuel I have on board before I leave.)

8/ Colour: White with blue trim.

Last Minute Changes - When to restart your checklist!

By Ian Brown, EAA 657159, Editor and Canadian Council Board Member

January 2017 - It is fair to say that there is more risk in flying an aircraft that you built or modified than, say, watching a game on TV. Generally we work hard to mitigate any risk by the use of checklists. Those lists are meant to cover any eventualities that may arise, but one specific risk is in making any changes after the list is complete. I thought I'd report a potential problem that I encountered recently, in the hope that I'm not the only one who can learn from the error.

Part of the run-up checklist includes a check for controls free and clear. Waggling the stick in all directions, making sure the rudder pedals move, all confirm that the control locks have been removed and that there is no impediment to controlling the aircraft. This check includes full deflection of the stick in all directions.

Having back-tracked the runway, I took off in full confidence that everything was as it should be. But on the climb-out I found that I could not push the nose down, because the stick was jamming against something! There was no real risk since the climb could just continue while the problem was sorted out, but what could be causing the stick to jam when it had been clear during the run-up checks?

After back-tracking the runway I had noticed that the sun was on my iPad screen, so I adjusted the position just a tad to get better visibility. That "tad" was just enough for the passenger-side control stick to come into contact with the bottom of the iPad mount! Lesson learned. The problem was quickly resolved, but did cause a moment of consternation.

Here is a much worse example of what can happen if you make ANY modifications that might impinge on the flight controls after your checklists are complete. The pilot of a Thorpe T-18 survived, but his aircraft was seriously damaged after having adjusted his seat position and prevented a full range of motion of his control stick. Unable to climb out, the pilot eventually ran out of runway and flipped the aircraft. In both instances, problems could have been avoided if the pre-takeoff checklists had been completed and then nothing adjusted. Now it's obvious that most of you will be frowning when reading this. You might say, "Well that's just stupidity," and you may be right. Let's just say that one of the missions of this electronic newsletter is to promote flight safety, and here is an example of where we might just save someone's bacon.

The obvious red flag here is anything that impinges on free movement of the flight controls. But we should also be alert to anything on the checklist that was checked and then changed afterwards, like seat belts, canopy latches, fuel supply. Does anyone else want to confess to a horror story? We all learn from mistakes. One is making changes after checklists are complete.