



Skywriter

November 2015



*The Buzzard, Jim's KitFox and Royal's SavageCub
Enjoying the great fall Sunshine at Red Deer Forestry Strip*

Next Meeting Wednesday Nov 11th 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.

From the Cockpit

By Bashar Hussien

Two Airplanes

I, like most of the hard working Canadians, drive daily morning to work and evening back home. My route to work takes me eastbound on 9th or 12th AV and on route back home I usually go off Northwestern end of Crowchiled trail to northbound Stony Trail. Over the last few years, while driving to work I always enjoyed watching the morning airplanes on final approach landing YYC. It fascinates me looking to those big marvelous machines passing high in the horizon over Calgary Tower and disappearing behind the downtown skyscrapers on their way landing 35L. On the way back home I enjoyed watching the airliners over the northwest tip of the city approaching the airport. I always imagine what the pilot is doing at that moment, how busy he is, what he is broadcasting and what other pilots in the sky doing in listening to this fellow landing his airplane.

Beginning of last year I start to see two airplanes on final approaches to YYC! Yes two airplanes. This was obviously due to commencing the operations of the runway 35R. The pictorial image of two airplanes passing over Calgary tower becomes more fascinating and Calgary airport is becoming busier.

Last month with the help of Stu Simpson, I flew the Merlin that I recently bought in the State to Canada. So I have now Two Airplanes. The experience was very rich, it was my first time to be acting as a test pilot to fly and airplane after it was sitting idle for about two years, it was the first real mountain flying in an ultralight, it was the first border crossing and I am planning to not make it the last. I have to admit that crossing the border with your own airplane is much simpler than what anyone expect. It requires the pilot a prior registration into eAPIS system (eAPIS stands for Electronic Advanced Passenger Information System) that is administered by the Department of Homeland

Security of US. Registering in eAPIS takes maximum 10 minutes and requires entering normal data of name, address, passport number and pilot license / permit number. Once the registration is completed then the pilot can file for departure notice in case of leaving the state or arrival notice in the case of flying into the state. So I did filed a departure notice, which is a process of filling information of the departing airport, destination airport, departure time, passenger names (if any) and passport numbers. Within one minute of filing a departure notice the pilot receives e-mail with clearance to depart.

Pilot arriving to Canada flying a general aviation airplane should file an arrival notice with Canada Boarder Security Agency. The arrival notice is filed via phone and it called CANPASS notice. The CBSA person will ask few questions about the call sign, departing airport, destination airport, questions related to money,

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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tobacco, alcohol onboard etc., and will ask you to stay in the airplane upon arrival to the destination airport and call CANPASS again. Final the pilot should file a flight plan with FAA and off he goes.

Upon arrival to the destination airport (there are few designated port of entries that the pilot should use), and before leaving the airplane, the pilot should call CANPASS and they either clear him to proceed (and provide him with his authorization number), or send someone to physically check the document and the airplane.

It is worth to note that filing a flight plan in the state doesn't mean automatically activating the flight plan. The pilot should call or radio in and activate the flight plan, when you see me, ask me how I know that.

Finally, I would like to remind you about the upcoming club president election in the month of December. Being the president of the club is fun and rewarding and would like you folks to consider volunteering your time and talent for the best serving our beloved club.

Bashar

Bashar reports that his trip to bring home his new plane was easy as could be. He left Sandpoint at 8 am and arrived in Cranbrook 1 hour and 45 minutes later. The flight from Cranbrook to Indus took 2 hours and 45 minutes and was uneventful. Stu Simpson was along as ground crew and support.



Notes from the Editor
November has given us some great flying opportunities. Wednesday November 4th had temperatures in the teens, sunny skies, and light winds. I put out some calls and soon three of us would take to the air. Royal and I left from

Didsbury and Jim Corner departed Airdrie. We met in Sundre and then we were off to the Red Deer Forestry Strip. After a quick comfort stop we jumped back into the planes and were off to Rocky Mountain House for flying fun.

Later in the week it appeared that Friday was looking good for more air time. Once again Jim Royal and I took to the air and headed to the Red Deer River Valley east of Three Hills.

After some low level flights up the river we headed back to Linden for lunch. Country Cousins is still a prime eatery for Pilots.

I got reports that there were 11 planes on the ground at Linden on Saturday.

I know the old saying goes better to be on the ground wishing you were in the air, than in the air wishing you were on the ground. But be careful to not get caught into wishing too much. Get in the air and enjoy some flight.

By the way

I met Royal when I answered an email requesting information about CRUFC and I met Jim as a result of being a CRUFC member. Royal and I not only fly our Ultralights but also share time flying RC models and strumming the guitar and making music. Jim and I have enjoyed many rounds of golf and have a laughing good time when we are out smacking the ball. These are friendships that I would not have made and enjoyed had I not been active in our club. I encourage you to consider taking an active part in the club and take a position on the board.



Exciting Announcement

Pay your annual CRUFC membership at or before the December 9, 2015 meeting and you have a chance of never again having to purchase a VFR chart or Flight Supplement. The club will hold a draw for an 8.1" Android tablet loaded with FltPlanGo, AV Weather, Glass Panel and other aviation software. All paid up member names will be included in the draw. You DO NOT have to be present to win. FltPlanGo allows you to access for free, all Canadian and US VFR Charts and airport information. Attached are a few pictures of the mapping and flight supplement. The line on the Map is a flight path from Indus to Kirkby Field. The Flt Instrument Panel pictures were taken on a flight from Stefanich Field to Linden in Andy Gustafson's Merlin. From left to right; Speed, Artificial Horizon with Heading Indication of 21 degrees below then Altitude. Right of the Altitude is a bar that shows descending at 200 ft/min. The bottom line always displays the distance to the nearest airport listed in the Canadian Flight Supplement (CFS). The other instrument application is Aero Panel. Tapping on any instrument turns it into Full Screen. The last photo is of the flight supplement page for Indus.



One Guy – Two Airplanes

Since I joined the CRUFC in 1994, I've built two airplanes. I'm what they call a repeat offender. The first airplane was a Team Minimax. Its first flight was in 1998. It was considered a pretty fast ultralight in its time. By the time I sold it in 2011 it was one of the slower aircraft in the club. In 2004, I started to build an RV9. Its first flight was in 2013. There are a few faster airplanes in the club but not many. So what is it like to transition from two such dissimilar airplanes?

No table can adequately describe the differences in flying qualities of the two aircraft but I have to start somewhere. Here is some selected data for comparison of the two airplanes.

	Minimax	RV9
Empty weight	320 pounds	1080 pounds
Gross weight (GW)	560 pounds	1750 pounds
Wing area – square feet	112.5	124.0
Horse Power	39.6 Rotax 2 Cycle	160 Lycoming
Wing loading – pounds per sq. ft.	5.0	14.1
Power loading – GW/horsepower	14.1	10.9
Top Speed - MPH	85	197
Cruise Speed - MPH	70	155-160 @60%
Stall speed @ GW - MPH	30	50 - full flap
Climb rate – Solo – FPM	1000	2000
Climb rate – GW	1000	1400
Glide Ratio	7-1	12-1
Flaps	No	Yes
Range – St. miles – 30 min. reserve	150	850 @ 60%

Take off

On a dry strip, 3340 ASL, no wind, standard temperature pressure, the Minimax would accelerate like a scared rabbit and in 5 seconds be airborne – in about 350 feet. In the same conditions, the RV9 would take about 10 seconds to take off and use

about 1200 feet of runway. The Minimax's relative stellar performance is the result of several factors. The Minimax takes off at 35 MPH compared to about 60 MPH for the RV9. The Minimax's Rotax two cycle engine provides full power early in the takeoff roll while the Lycoming builds power more slowly as it accelerates. The Minimax's propeller is designed for a top speed of 85 MPH vs. a much courser prop on the RV9 which is designed for a top speed of 197 MPH. The initial rolling resistance of the Minimax is less than the RV9 due to its relatively large tires supporting a smaller weight. I've had a few really astonishingly quick takeoffs in the Minimax off of paved strips at lower altitudes and I'm certain that I'll be able to say the same about the RV9.



Cruise

The differences between the two airplanes really become apparent as you level off and commence the cruise portion of the flight. In the Minimax, set the tachometer to about 5500 RPM. At 70 miles per hour you'll have plenty of time to enjoy the scenery. There is a greater workload in the RV9. After take-off, quickly raise the flaps before you exceed flap extension speed (V_{FE}) - 90 MPH. At about 500 feet, switch off the electric fuel pump – watch the fuel pressure gauge to see that the engine driven fuel pump is working correctly. Reduce power pretty significantly and trim the nose down. Lean the mixture. The speed and RPM's continue to increase and the nose has risen and you are climbing again. Once again, trim the nose, reduce power, tweak the mixture and again look at the altimeter. After the third tweak, things have settled down quite a bit and I can concentrate on the mixture which has to be

done slowly and takes a while. This process goes on for the first ten miles. When all the dust has settled, I'm cruising between 155 and 160 MPH at 2250 RPM (60% power), consuming a little less than 6 gallons per hour. On a recent 31 mile trip to High River I only had about 5 minutes of cruise speed before I had to start my landing procedure.

Landing

The Minimax has quite a bit of drag and relatively little mass. It slows down quite promptly when you cut the throttle. The glide ratio is about 7 to 1 and you can drop the nose quite steeply. Tight circuits and sloppy speed management are easily forgiven and become habit forming. The air in your tires are all you've got to cushion the landing. I got pretty good at doing a three point landing and a reasonable squeeze on the brake lever had me stopped in about 200 feet.

The RV9 is quite a different story. Virtually nothing about the Minimax applies to the RV9. I start my power reduction 7 miles from the airport, reducing power slowly to avoid shock cooling the engine. It's a chore to get the airspeed under 90 MPH, the flap extension speed. Any attempt to push the nose down results in rapid speed build up even with the flaps. The excellent streamlining and efficient wing combine to give it a 12 to 1 glide ratio so you need a large circuit and precise speed and altitude management. With full flaps, I cross the threshold at about 70 miles per hour, 3 feet in the air. If I'm a little high and/or a little fast, I'll have a long disconcerting float down the runway. The spring loaded gear legs caused most of my early landings to be a series of bounces as I waited not so patiently for the plane to quit flying. I'm nailing most of my landings these days but it took me quite a while to get it right.

Handling

The Minimax had a powerful elevator and rudder. The ailerons – not so much. The aileron was particularly weak in the landing flair. I made a few interesting cross wind landings with the stick hard against my leg and the wings refusing to depart from level flight.

So many good things have been written about the RV9 handling characteristics that I have little to add except to state that they are all true. Although the RV9 is not an aerobatic airplane, all its predecessors in the RV line where. It shows!



Instrumentation

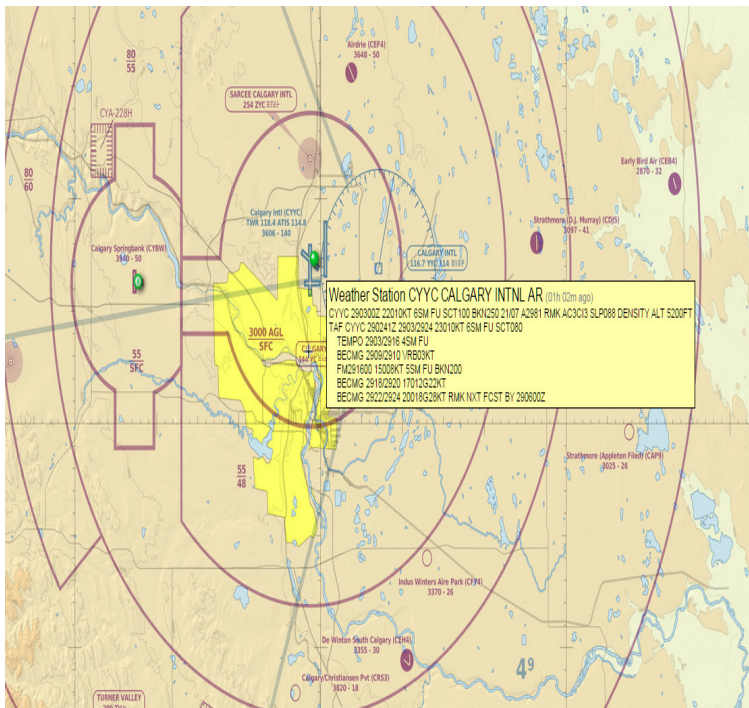
The Minimax had a Tach, CHT, EGT, ASI, altimeter, a portable radio and prehistoric GPS. It also had a completely useless compass whose only function was to make the cockpit look cool.

The RV9 has a Dynon 180 with about all of the optional extra's money can buy. It has a very good electronic flight instrument system (EFIS) and engine monitoring system (EMS) and I just love it. Initially it provided too much information and was overwhelming. It didn't take long for me to suppress surplus information. For instance, the Dynon provides 8 pages of information that can be displayed by hitting the appropriate button 7 times. I have suppressed about 5 of these pages. Now I hit the button a maximum of twice. I spend less time flipping pages and more time keeping my eyes looking out the window.

For navigation I have my GPS enabled Ipad with Flightplan.go as well as a Garmin 496 which provides information to the EFIS and the auto pilot. Other instrumentation includes an Icom A210 radio, Garmin 327 transponder and a carbon dioxide detector. I've also installed a compass.

Conclusion

The Minimax served me well for 13 years and was well suited for its mission –low-slow-short range. It was a great airplane. However my flying buddies were getting more capable airplanes and I was tired of monitoring their backsides so I decided to upgrade. Now I'm really enjoying my RV9.



You subsequently get a pile of data similar to what you'd find in the Canada Flight Supplement. What's missing, though, are things like the airport diagram as well as the Procedures and Caution sections found in the CFS. There are quick links to the default map view, a Google Maps view and an IFR chart view. Fuel prices are listed if they're known.

For airports in the US, there is more information. There are links to the field's complete Airport Facility Directory entry (equivalent to the CFS), a detailed sectional map, IFR charts and approach plates, and the Google Map view.

Let's go back to the map. In the top right corner of the screen are a series of other links, buttons and information to explore. Zulu time is displayed, as is the lat/long set of the current centre of the map. The 'Layers' button shows tabbed menus for toggling weather features and fuel prices in various units and currencies. This is really useful for planning flights into the US, where fuel prices are much more widely shared, but it also shows some fuel prices in Canada.

There are also buttons that allow you to look specifically at certain maps. Centre the map on Seattle Boeing Field, KBFI, which is under some busy and complicated airspace. To make viewing this area easier, let's look at the terminal area chart by clicking on the 'Seattle TAC' button in the top right corner.

Now you see an exact replica of the printed map with all the detail it provides, including margin and legend data. You can get frequencies for various facilities and information on MOAs and other airspace. These buttons can be really useful and it's shameful that Canada's maps are not yet available this way. Select the World VFR button to return to the default view.

Let's look at how to build a quick and simple flight plan. The easiest way is to move to your departure airport and right click over top of it. A small box appears asking if you want to select

The colour of the buttons has meaning. Green means VFR weather, red or pink means IFR or close to it. Purple denotes automated stations. I confess that I don't know what blue represents and I haven't been able to find out.

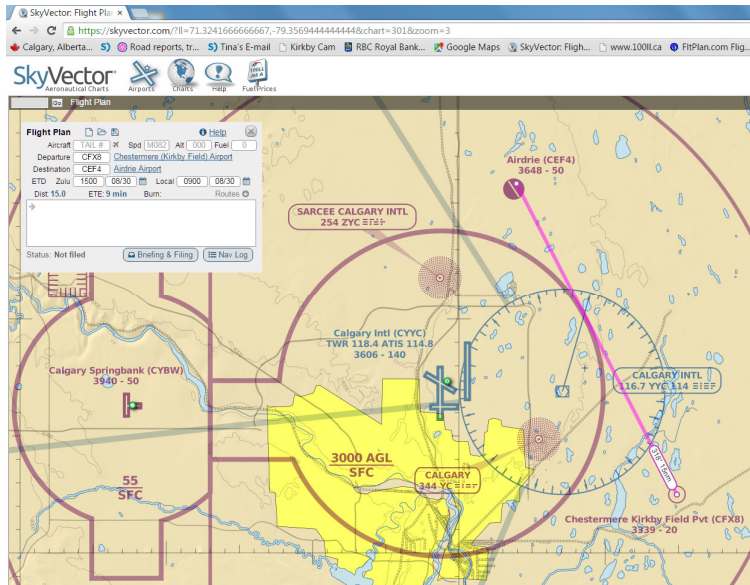
SkyVector's rendering of Canada is pretty good in some respects. It has excellent topographical detail, as though it uses the Canadian VNCs with nearly all other details removed. It also shows airspace boundaries and altitudes, but doesn't show all the airspace classifications. And as far as I can tell, it shows all the airports and nav aids that Canada's VNCs display.

SkyVector also shows in default view any SIGMETs for Canada and the US, marked out as blue shaded areas; and any TFR areas, shown as red shaded areas, but only in the US.

Looking at the top of the screen beside the SkyVector logo are large icons for Airports, Charts, Help and Fuel Prices. To see details of Red Deer's airport, for example we can select Airports and enter either the ICAO code for Red Deer, or the actual name. I find it best to just enter the code.

the airport, another nearby feature like a VOR or NDB, or a lat/long set as your waypoint. I selected Kirkby Field.

My next waypoint is Airdrie, so I move the mouse cursor there and right click on it and select the airport. A magenta line appears between my selected waypoints with a course and distance label. Note also the flight plan box in the top left corner of the map. More on that later. The maps looks like this.



durations of each leg based on forecast weather data along your route.

The best way to learn about building a route and flight plan in SkyVector is to access the video in the Help menu. Click on the Help icon at the top of the screen to get there. However, once you start playing with the program you'll be surprised how intuitive it really is.

I recommend building an account and profile in SkyVector and adding your airplane's details, which will make your flight planning nearly effortless.

As I said, I love this program, and the fact that it's free is just another reason to love it and the Internet in general.

Next month we'll conclude the series on free online flight planning resources with a peek at Fltplan.com and 100ll.ca.

It's a simple matter to add and delete waypoints. Just right click on the next one and select it. It automatically gets added to your route and all required calculations are done for you. To delete a waypoint simply move the cursor to it, get the cross-hairs icon and drag it a short distance. When you release the mouse button you have the option of setting this spot as the new waypoint, or deleting it all together. Of course this also allows you to move your waypoints around as you like.

You'll notice that as you add waypoints to your route they appear in the flight planning box. You can add or remove waypoints from here, too. You can also set your airplane's speed, departure date and time, and simultaneously build a printable nav log. Just click on the Nav Log button to see your plan. It shows the route waypoints, distances and the anticipated



WE NEED YOU

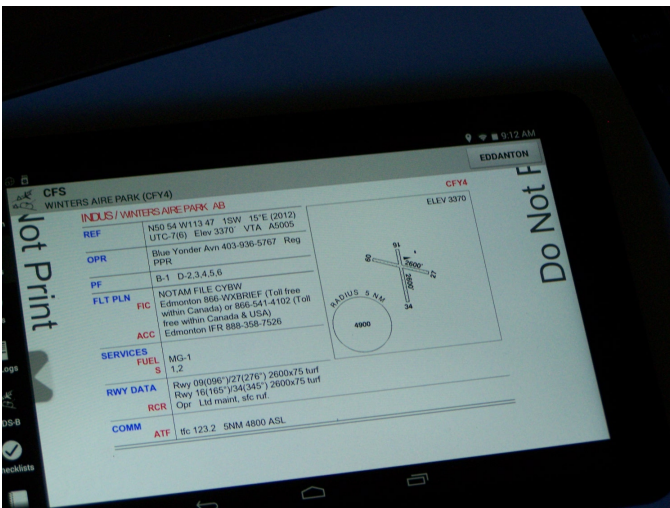
Its that time of year when we start looking for volunteers to volunteer for the board for CRUFC

Get involved in your club and help make a difference in Light Sport Aviation

Don't wait for someone to approach you check with one of the current executive to see how you can help.



Flight Instruments from draw tablet



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1998 Lil Buzzard With Greyhead 582 updated to Bluehead specs including magneto balancer. The Buzzard features an extra large cabin with adjustable seats. The panel is on a hinge for easy servicing. Good easy to fly solid airplane. I hate to see it go but I hate to see it sit even more. This is not a hanger queen and it used to spending most Saturdays in the air. \$19,900 and open to offers. Call Norm at 587-225-3944 Hangerage may be included in the short term.

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FLYING EVENTS

Please note the Olds/Didsbury flying club and the Three Hills flying club usually serve donuts and coffee on Saturday mornings with each taking alternate weekends. Dennis Fox from Three Hills has more information on this.