



Skywriter

February 2015



Ken Taylor's new Rans S-6ES. Photo by Stu Simpson

From the Cockpit

By Bashar Hussien

The next hour

Few years back I read Richard L. Collins book "the next hour". The book discussed the most important hour in any pilot logbook, which is the next hour. Collins said that "Pilots don't crash airplanes because they want to, therefore they call them accidents", but even experienced pilot do. He suggested that understanding and managing the risk inherent in flying is the best way to stay out of an accident.

Collins said that he keeps a his log book current and when he passed his 10,000hrs of flying, and pilots were responding to his number of flying hours with something like : "Gee that's a lot", Collins reply was always "Yes, but only the next hour counts".

Few weeks back I started reading Paul A. Craig book "The Killing Zone". The author considers the book as a survival guide for pilots identifies the pitfalls waiting inside the killing zone. The book identifies the killing zone as the period between 50 to 350 flight hours when the new pilots leave their instructors behind and fly as pilots in command.

Both books are written to increase the pilot awareness to the risk and potential accidents that lies ahead. The books are different in their focus on two different pilots categories, seasoned and non-seasoned pilots. However both books overlap in few common grounds, which can be summarized in the following:

Pilot experience is very important in building the decision making skills of the pilot, though while the pilot is building decision making skills he start to build some complacency toward the risk items. Often experienced VFR pilots run into adverse weather condition, MVFR and IFR (for non-IFR rated pilot) because of the overconfidence he has in his experience.

Just understanding the risk doesn't make us safer or better pilot. We need to know or learn how to manage those risks. When accident happened we can assume that the pilot subject of the accident took some kind of risk or mismanaged a risk that a safe pilot wouldn't have taken or would have managed differently.

The pilot thought process matters more than his experience, because with organized thought process the pilot, irrespective to his experience, is more prepared for the different situation he may face while he is flying and he can, most of the time, overcome

the situation by selecting the safest option or process to follow.

Pressing on at all cost didn't and doesn't work. Pilot have to be constantly prepared to take "no" for an answer to the question of flying into terrain or obstacles, to stay in VFR condition. Pilot should abort bad landing if they don't feel that the approach is right rather than end up in the trees or short of the runway.

I hope that we all embrace the proper thought process, be risk avoider, especially unnecessary risk, and think about our next flying hour as the most important hour in our logbook. We need to land safely and log the hour and think about next one.



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.

President:

Bashar Hussien
bashar.hussien@shaw.ca

Vice-President:

Norm Vienneau
(403) 343-6454
normrdt@shaw.ca

Secretary:

Carl Forman
(403) 283-3855
forman.c@shaw.ca

Treasurer:

Ken Taylor
(403)863-2157
KTprocessolutions@gmail.com

Director:

Ed D'Antoni
(403) 247-6621
dantoni@telusplanet.net

Past President:

Norm Vienneau
(403) 343-6454
normrdt@shaw.ca

Web site:

www.crufc.org

Skywriter

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Editor: Ken Beanlands
(403)295-2079
kbeanlan@telus.net

CAVU Dreams

*Story by Ken Beanlands
Photos by Laure Copeland*

The Mighty Mishap

Well, it all started a week ago on February 1st. Sunday morning turned out to be one of those wonderful, cold, crisp, clear winter days; perfect for flying. So, despite the -12° C temperature, I decided to commit aviation. Glenn Bishell decided to join me with his BushCaddy 164 and even cleared the runway for us. We decided that Red Deer Lake, near Bashaw would be the destination to have a look at my cabin.

It was a beautiful morning and we quickly climbed to 5500'. We formed up with Glenn staying about 300 meters or so apart from me, as we had done for years. The flight was uneventful with a temperature inversion giving us a comfortable -3°C at altitude. Glen and I chatted a bit on the radio and even discussed my plans to fly the Christava to the COPA convention in Winnipeg, then on to Halifax in late June and early July.

As we approached the lake, I descended out of 5500'. At around 11:33 AM, according to the SPOT tracker, I had just levelled out at 4500' (1800' AGL), about 4 miles southwest of the lake when there was a tremendous bang and the plane started flipping in an extremely tight, outside loop. I was pushed up to the roof of the cabin with my face planted into the skylight and my arms were stuck to the windshield. It became very loud and bright, the result of the sunglasses and headset being ripped off.

I continued like that for what seemed like an hour, but was more likely just a few seconds. I fought to gain the controls, but that wasn't happening. Finally, the plane stabilized out, inverted, and I finally got my hands on the controls... not that it did any good. The plane impacted the ground a few seconds later, still inverted, with nearly no horizontal speed. I was told that the snow directly behind the plane was undisturbed. It simply pancaked in.

To my surprise, I was alive, and conscious. I popped the harness, which was still intact, and fell out of the plane onto the wing. I reached in and turned off the fuel (whatever good that did with the plane upside down and fuel streaming out the vents), turned off the master (one of only 3 switches left in the panel of 15 or so), turned off the mags (the prop was no longer attached to the plane)

and for some strange reason, pocketed the keys!

I pulled my legs from the plane and noticed that the left one was at a very odd angle... at about 30 degrees inboard of straight. There was no pain, but I knew that would come. I pulled the phone from my pocket to find it dead. The iPad was, surprisingly, still mounted on the panel and still running ForeFlight! I grabbed it thinking I could get out a text for help. That's when I saw Glenn fly low overhead and continue around for a landing. About the same time, the Hodderites, whose property I had landed on, showed up. I asked Glenn what happened, and he said he had flown into my tail! Well, at least I didn't screw up the building of the plane :-).

Our off-duty, RCMP neighbour from the lake showed up next and started in with first aid. I found out later that she called for STARS (Alberta's Shock Trauma Air Rescue Service) and insisted they come. Fire, rescue and ambulances responded from Bashaw and showed up in quick succession. I was never so happy to hear a helicopter engine as I was that day.

It was about 40 minutes between the time I crashed and when I was finally loaded on board the helicopter. All that time, I was lying on the snow-covered wing in -20° C temps. I was shivering pretty badly when they lifted me up, and I finally saw the plane. It was missing the tail and pretty much everything behind the cabin! I later found out that the tail remained with the plane, but was nearly severed





off. The angle I was at kept me from seeing it. They put me into the wonderfully warm helicopter and I was flying again! The pilot promised that his landing would be smoother than mine, although the EMTs weren't so confident ☺. It wasn't much more than 20 minutes before we landed on the roof of the University Hospital in Edmonton.

I was scanned, X-rayed, MRI'd, poked and prodded for about seven hours, while immobilized on a backboard with a neck brace the whole time. I think I



now glow in the dark... just a little. By 9 PM I was finally moved to the trauma ward. The staff there was incredible and I was tended on like royalty. I was a bit of a celebrity around there. Everyone wanted to rub my head for luck! Whenever a staff member asked what happened and I tell, it was usually met with a "Oh, you're the guy... did you buy a lotto ticket?"

Tuesday night I was transported by ambulance to the Peter Lougheed Centre in Calgary. This was good as I was essentially naked in Edmonton without any glasses! All my clothes, except my boots and socks were cut off in the field... Did I mention it was -20° C? Now there's an image! After meeting with the surgeon, they decided to send me home to await knee surgery.

It's been quite a week, but I'm doing quite well. Two broken ribs on the right side give occasional back spasms, but they are less and less an issue. Lots of cuts to the scalp left a horrible mess in the plane. It's amazing how those little scalp wounds can bleed! The left leg was dislocated at the knee and tore a bunch of ligaments. This is what gave the initial impression of a bad leg break. Although a broken femur or tibia may have been more immediately life threatening, the torn ligaments are going to be far trickier to mend. It's stabilized in a splint now and I have been walking on it with the aid of crutches.

I tore three of the four knee ligaments; one of which, the PCL, is unrepairable. It's going to be a long recovery time and I'll likely not get full use of the knee again. I'm currently home as the surgeon wants the knee to heal somewhat before he digs in.

I am so grateful to all the first responders and medical staff who worked together to help me in this trying time. Everyone has been just wonderful! I was also overwhelmed by the outpouring of support and well-wishing I've received since the accident. Thanks everyone.

As for the plane, she'll never fly again. I fully believe that she gave her life to save mine. Why the plane stopped tumbling and stabilized before hitting the ground is a mystery. By all accounts, I shouldn't be writing this today! I started building her in 1989 and first flew her in 2004. It's been a part of my life for 26 years! Fortunately, it's fully insured but I haven't yet decided my next steps. The only thing I have decided is that this is the parting of the ways for Chrissy and I. There is not much left of her that's still intact, and any possible chance of reconstruction went away when the salvage crew cut the wing spars for removal. Either way, the spars were broken further outboard due to the impact.

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Cavalier Engine Swap

By Stu Simpson

Over the course of the last several months of flying my Cavalier I saw a substantial increase in oil consumption on the plane's Lycoming O-290D. There turned out to be a number of causes.

First there was a lack of oil-air separator, which, combined with a less than ideally routed crank case vent hose, allowed some of the engine oil to fall overboard. There was also a loose and leaky valve cover on the #1 cylinder. Carl Forman, Bob Kirkby and I repaired that during the formative stages of a three-day long snow storm that stranded us in Gillette, Wyoming on our trip to Washington, DC last September.

Upon returning home I added an oil-air separator and I did note a slight decrease in oil consumption. Though still well within limits, it remained higher than it should have been. I consulted my favourite AME, Ken Beanlands, who indicated the problem my well lay in a worn valve guide. This, he explained, would allow oil to enter the combustion chamber and deplete the oil level more quickly.

I took the Cav to Jon From's Cloud 9 Aviation in Red Deer, since Ken lacked the proper tools to confirm his diagnosis, and learned the prediction was spot on. The exhaust valve guide on the #3 cylinder was

worn. Jon stated that the engine was still plenty safe to fly, but would continue to use more oil than normal.

So, what to do now? O-290 cylinders are rare and expensive. Lycoming hasn't made them since the mid-60's and the supply sure isn't what it used to be. Well, what about shopping around for a used jug, or even another 290 all together? I realized that would be a reasonably cost effective alternative, and I even found a good engine for a good price in Saskatchewan.

But I also realized that I was merely delaying the inevitable. My 290 would have to be replaced, either in whole in part, sooner rather than later. Not a surprise, at all; in fact I'd planned for this since I bought the Cav in 2012.

My goal is to keep the Cav until I die or lose my medical, whichever comes first. Thus, the most enduring solution was to replace the 290 with a Lycoming O-320, probably the most commonly found piston aircraft engine on the planet. They typically have a TBO of about 2000 hours. I'd need one of the older variety, one with the conical style engine mounts to match the existing engine mount on the Cav. That meant a 320-A or B series engine.

I shopped around and settled on an overhauled O-320-A2B from Vike Airmotive in Kamloops, BC. I bought an engine from Ken Vike for my Bushmaster a number of years ago with excellent results, so I had no trouble doing business with Ken again. Ken and



his son Kyle are building the engine for me as of this writing.

Switching to an O-320 will be a double-edged sword. I wanted to stick with the 290D as it's an outstanding combination of power, reliability and fuel economy. It hauls the Cav at an honest 110 kts or better, climbs very well even when heavy, and burns about 5.5 gallons per hour. But, as I've indicated, parts are hard to find. I have no desire to be stranded somewhere as an engineer tells me the part I need for my engine simply no longer exists, or is outrageously expensive to acquire.

By comparison, Lycoming O-320s almost grow on trees. Parts for them are everywhere and relatively cheap. Every engineer who's worked on a Cessna 172 - and there are likely none who haven't - is familiar with the 320 and knows where to get parts for it. So if I am stranded, it won't be for long.

The 320 will burn more gas, of course, but it also means more power. The Cav is light and climbs well on 125 hp, so with the 320's 150 horses strapped on, it will climb awesomely. It means a change to the prop, too, of course. But I've already looked after that. I had Aero Propellers of Calgary twist the blades to meet O-320 specs.

A brief aside about the propeller: When examining the options surrounding what to do about a prop for the 320, my first choice was to simply have the 290's prop twisted to a new pitch that would match the engine. Gord, at Aero Propellers said it could only be twisted up to 58" of pitch from its current 54". Diameter is 74". I had hoped that I could get it pitched to 60" because that's what I read was the standard pitch (as opposed to cruise or climb pitch) for the 320 of 150 hp. Thus, I thought 60" would be the standard pitch for all 150 hp installations. Not so.

Other charts I consulted showed that only 58" was the standard pitch for a number of 150 hp Lycoming installs on planes like Piper Cherokees, Beech Musketeers, some Citabrias and even some C-172s. Sorting out why these standards might differ is way beyond what I've got time for, so I'm just happy I could get my prop re-adjusted to fit the new engine rather than having to get a replacement.

One very good thing about the 320-A2B installation is

how it's identical in all dimensions to the 290. Pull one out and put the other in. It's a bit heavier, by maybe 20 pounds, but I've already made up for that by using a light-weight starter, and eliminating the vacuum pump and associated instruments to shave off nearly the entire weight difference. The CG will be nearly unaffected.

I hope to have the 320 in hand by mid-February. I'll then begin the installation, which ought to take only a couple of days. As good a performer as the Cavalier was with 125 hp, I can't wait to see how it flies with 20 percent more power. I'll be sure to provide full details in an upcoming issue of Skywriter. →

Recent Local Airplane Sales

By Stu Simpson

Congratulations to Wade Miller who recently sold his bright red RV-4. It went to Cold Lake and is now owned by a technician who services CF-18s. Wade is in the throes of purchasing a Skystar Kitfox IV with a Rotax 912S. It should be a very impressive STOL machine that can land nearly anywhere, and still cruise close to 100 mph.

CRUFC Treasurer Ken Taylor also has a new airplane. He recently purchased the Rans S-6 that John Muncrath owned. Powered with an 80 hp Rotax 912, this is Ken's first tail-dragger with which he plans to stretch his aeronautical legs and explore further afield than might be possible with his Challenger II. The Challenger is up for sale, if you're interested. →



FOR SALE



2005 Challenger II, AULA, 220 TTSN, Rotax 503, DCDI. Full instrument panel incl. vert. compass, ball, ASI, AI, VSI, tach, EGT, CHT, fuel, voltage, GPS, radio, intercom. Throttle quadrant. Custom seats. 15 USG fuel tank. Heater. Always hangared. \$26,000. For more information, contact Ken Taylor at 403-863-2157 or ktaylor2157@gmail.com (02/15)

1960 CESSNA 150 FOR SALE. 7780 TTSN Approx 1260 SMOH Running excellent. Low oil consumption. Nav / Com. Intercom. ELT. Transponder. New ignition wiring harness. All new engine hoses. 2010 full strip and new paint. All new glass. All new exterior plastic. Seats and interior in good condition. Oleo and Shimmy Dampener O/H'd. Hangared and Flown. Great toy or time builder. Hanger space may be available at Carstairs GCB2. Contact Alex Fox \$25,400.00 403-337-0126 (06/13)

EA81 Aircraft Engine For Sale. 100 HP. 2.2 to 1 belt redrive by Reductions. Leburg electronic ignition. I have a second Leburg ignition so it can be dualled. Ran with Aeroconversions Aerocarb. Manuals for everything. Stratus Stainless steel muffler and exhaust. Custom rad with AN-20 fittings and braided stainless hoses. Engine mount fits a Kitfox IV. Very low hours. Please Contact Tim Vader at vadert@shaw.ca or 403 620-3848

KR2 For Sale: NOT AN OLD FARTS AIRPLANE! Air frame TT 30 hours. Engine Continental A 65/75 TSMOH 970, No Electrics, No Electronics \$12,000.00 OBO. Glen Clarke 403-279-1036 clarkekg@telus.net 11/11 →

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FLYING EVENTS

February 28 - March 1, Lac La Biche, AB (CYLB) – COPA Flight 165, Ice Fly-In and Winter Festival of Speed. Land your wheeled aircraft on a prepared ice runway or on skis next to the runway. Ice conditions vary therefore exact location TBD near CYLB on Lac La Biche Lake. Watch car, snowmobile, and motorcycle ice races. Freq. 123.20. Phone for runway conditions/procedures prior to launch. For more information, please contact Ken at 780-623-0673, kzach@telusplanet.net or Oriana 780-213-4647 orik1313@hotmail.com, www.classicwheels.org.

April 25th, Edmonton, AB – COPA Flight 176 Edmonton Rust Remover will be held at the Alberta Aviation Museum, 11410 Kingsway Ave NW, Edmonton, AB. Registration/coffee and muffins 8:00 – 9:00. Speakers, 9:00 – 15:00. Lunch will be provided. \$30 advance (before April 17), \$40 at the door. See our website for registration information www.copaedmonton.ca or contact Janis @ treasurer@copaedmonton.ca.

June 18th – 20th, Winnipeg, MB – COPA Annual General Meeting. As the annual meetings have shifted away from a grand convention style, a host of activities are planned in connection with the COPA business session. Participants will be able to take part in a progressive fly-out dinner.

Tours are being arranged to visit Nav Canada's Area Control Centre, CYAV Tower, Canadian Propeller, AeroRecip, the Western Canada Aviation Museum, the Museum for Human Rights and the Polar Bear Exhibit at the Winnipeg Zoo.

So mark your calendars for June 2015, arrive June 18, take in some tours and come to the "Meet and Greet" Barbecue on June 19, participate in the COPA business, have a great lunch and continue to tour or fly to different airports on Saturday afternoon. <http://www.copawinnipeg2015.ca/> for further information.

July 20th – 26th, Oshkosh, WI (KOSH) – EAA Airventure 2015. EAA's annual convention. Contact Bashar if you wish to join a group flight Oshkosh.