



Skywriter...



February 2012



It's hard to believe that it's February... winter flying has never been so good! Pat Cunningham heads north from High River to Linden for pie this past Saturday.

Meeting Change Notice!

The February CRUFC meeting will be held at the Calgary Aerospace Museum on Wednesday, February 8, 2012!

From the Cockpit

By Norm Vienneau

The Day the Music Died

As some of you may have discovered by now, the new president is a little like the new kid on the block that seems to run up to the group of kids and shouts "Whatcha doin'?" Can I play with you guys?" My enthusiasm for flying and flying machines makes me always interested in what's happening and curious about what's going on. One of the issues that seem to plague all organizations is dying memberships and lack of interest by new young prospective members. I have seen this occur in model airplane clubs, Rotary clubs and flying clubs. In fact, just about every organization in existence tends to go through this phase.

I remember discussions at just about every club on what to do to encourage new members. Sometimes it seems like those that are already club members are scared to recruit new members because it might change club dynamics to a direction that makes people uncomfortable. Change is inevitable and growth is nonstop. The question is: will the growth be positive or negative and remember negative growth leads to death. If we can agree that positive growth is better than death then the next question is how do we foster growth.

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That new kid (AKA President) being self-employed and semi-retired likes to stop by flying fields and facilities just to check out the activity as various stops. Recently I stopped at the Indus field and as I drove around some of the hangers, there was someone outside his hanger cutting up pallets to burn for heat in his pot-bellied stove. Though he was busy with a task he wanted to complete, he smiled and asked "Are there any questions about the facility that I can answer for you?" I think this is the first time I have ever been invited to a conversation in such a positive manner in my life. "Are there any questions about the facility that I can answer for you?"

If we get blinded by the goal we can sometimes forget about the simple easy things that we can all do to encourage new members. "Are there any questions about the field that I can answer for you." It is such an easy way to start a conversation, yet warm and friendly. I have to ask what do you say when you see an unfamiliar person lurking around your flying site. We all get so wrapped up in our tasks that we all forget to take five minutes. Recently, on a flight to Linden I noted some of the local town's folk engaging a couple of members in conversation. It occurred to me after that I was not as friendly and as engaging as I

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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might have been. Maybe there was a prospective pilot in the group and we did not do enough to encourage and foster the interest. As we all know, it is definitely more enjoyable flying when we share the experience. If new members are not recruited then we may run out of fellow pilots to share the experience with. I challenge us all to be friendly and assertive about our hobby and share the excitement we all feel every time we meet someone that even gives us a hint of interest.

I was at a store in the line at customer service when my phone rang and someone was enquiring about a plane I had for sale. I tried to excuse myself but the lady that was helping me said it was OK and she was interested in planes because she was a pilot. This was before I had access to the business cards that the club has. You can bet that I have since been back and given a business card to the young lady. (The club has business cards and if you want a few to carry with you. Ask any of the executive at the meeting and we will give you some.)

I think the bottom line is we are all part of the membership recruitment committee and it is in our best interest to encourage others to join us. We all know that one of the target markets for our group is probably the empty nester. The family is grown and moved on and now they want to get back to flying. They may have tried it 25 or 30 years ago but family and life got in the way and the dream was given up. Now that life has progressed and the kids have moved on time may permit the dream to live. If you know of someone like that let's encourage him or her to join our group. In closing if we do not want to have the MUSIC DIE, remember the line: "Are there any questions about the facility that I can answer for you?"

By the way, thank you Garret Komm for providing me with a positive way to engage people into a conversation.

Till next time as a golf fanatic and ultralight flyer I wish you: Good lies and Smooth Skies

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FOR SALE

KR2 For Sale: NOT AN OLD FARTS AIRPLANE! Air frame TT 30 hours. Engine Continental A 65/75 TSMOH 970, No Electrics, No Electronics \$15,000.00 OBO. Glen Clarke 403-279-1036 clarkeqk@telus.net (11/11)



Shop for Rent: It's a bit far from Calgary, out by my place which is N 51' 01 06.88 & W 112' 51 59.43. It would be a great place to build an airplane with the exception that it's not on an airstrip and the doors are not hangar doors but is 40 x 60, fully heated & has concrete floors. It was used to build an airplane previously. If interested call Guy Cristie at (403) 901-5594 (11/11)

1991 Macair Merlin (BULA): 782 hrs TTAF, Rotax 503 DCI, 172 hrs SMOH, dual controls, \$18,500 OBO. Arnim Haase, (403) 240-1183, ah1183@telus.net (05/11).

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FLYING EVENTS

WEEKLY Lethbridge, AB - The Lethbridge Sport Flyers (COPA Flight 24) would like to invite you to our weekly Saturday morning breakfast, 7:30 am, held at Smitty's Pancake House, 2053 Magrath Dr. S. in Lethbridge, Alberta. To contact us please call our club President, Brian Wilson 403-345-6603 or send us an email at Lethbridge-Sport-Flyers@telus.net.

MONTHLY First Thursday of every month High River Airport (CEN4), AB - EAA Chapter 1410 Monthly Meeting at the Dueck Hangar the 18:30hrs to 21:00hrs. Come by and visit! Please contact Paul evenings at 403-271-5330 or eaahighriver@shaw.ca or visit www.eaahighriver.org for more details. →

CAVU Dreams

By Ken Beanlands

February is here, but you wouldn't know it! Our weather has been more like April. I even heard that the city has started its spring road repairs! I got in a few hours of flying, but wind has been my nemesis.

Fortunately, the first weekend in February was absolutely phenomenal! I know that a number of club members took Friday off to take advantage of the warm, sunny, calm day that was forecasted. As it turned out, this wasn't necessary as both Saturday and Sunday were equally beautiful.

I had planned to meet with Pat Cunningham at Carstairs with Barry Wood and Gerry MacDonald joining us along the way. I had a small job to do with one of our clients down in High River (actually, I had to deliver and install a navigation light bulb... no biggie) and decided that it would make a good enough destination to start.

Pat and I got in the air around 9:30 and headed southeast toward Strathmore. As planned, Barry and Gerry got in the air as we passed Airdrie and informed us that they would be taking a more direct route over the city. We continued on and heard from them again as we crossed the river south of Strathmore. At High River, I fixed the plane... a process that was made up of five minutes of repair and 15 minutes of paperwork. We discussed the plan for the rest of the day and, although a trip up the Kananaskis Valley and Invermere were both seriously considered, we decided on Linden for lunch.

Lunch was great and it seemed as though pilots were not the only ones out taking advantage of the fine

weather. The Country Cousins was packed! After a great lunch, we decided to go our separate ways. Barry had been flying the day before and said something about chores. Pat had to be back to Carstairs by 2 PM. However, I still had four and a half hours until official night and wanted to take full advantage of it!

I had the perfect destination in mind. Our neighbor at the lake, Doug McKay, has started building a new cabin, a process that's going incredibly quick (about a month from excavation to lockup). I decided that a few aerial photos of the property were in order. It took about 45 minutes to travel from Linden to Red Deer Lake. It's quite startling as you travel north as there is a very definite line demarking winter from spring which runs east to west about 25 miles south of Red Deer. As I continued north, I noticed that although the ground was white, the snow wasn't really that deep. More importantly, I noticed that the ice on the lakes and ponds, especially near the middle of the larger lakes, was about a quarter bare with half covered with a thin layer of snow and a quarter with shallow drifts.

As I passed Buffalo Lake, I started to form a plan to land on the lake itself. This would be my first ever lake landing... more precisely, it would be my first lake landing without FLOATS! The drifts seemed to be lined up running from northwest to southeast; exactly parallel to Red Deer Lake's long axis. As I thought about this, I noticed that the adrenalin was starting to flow and I was getting rather excited at the prospect. Red Deer Lake finally came up under the plane and, just like Buffalo Lake, there were long, thinly covered sections of ice that looked safe to land on. There were plenty of snowmobile and quad tracks on the lake to both help determine the depth of the snow and that the ice was thick enough for the plane.



My initial pass over the lake was at about 1300' AGL. I continued into a circuit that had my approach heading approximately northwest. This approach was a precautionary approach to get a good look at the conditions and, in particular, look for pressure cracks in the ice. I've seen these while snowmobiling on the lake and know that they can represent a 6" to 8" vertical displacement of the ice sheet. Hitting one at any speed would be catastrophic to the plane. Fortunately, with the bright sun low in the southern sky, every ripple and blemish on the ice surface stood out in stark relief with long shadows. There were no pressure cracks visible and the surface looked safe to land on.

As I climbed out the downwind, I realized that I hadn't checked the wind direction. There were no telltales that I could find so I decided to try another northwest approach. On short final, I checked the airspeed and groundspeed and realized that I had a light, five knot tailwind. I powered up and reversed my circuit coming back in on a southeast approach. The soft field landing went perfectly and, aside from a few "grabby" patches of deeper snow, it was actually

smoother than landing at Carstairs. However, I was having a little trouble stopping, so I headed for a small drift to help me stop. I stopped alright, and got stuck. I shut down and pushed the plane back out along its own tracks to a bare patch.

After a visit with Doug, I decided to head for home. I walked a stretch of the lake about 2000' long to check for deep snow or drifts and Doug ran his quad along the track to mark it. I fired up and headed to the end of my makeshift runway and powered up. I was having trouble seeing my track with the tail down, so I raised it for a little peek. Just as I raised it, I hit a small drift that grabbed at the wheels a bit, so I slammed the tail back on the ground and relied on blind faith to keep me straight. In less than 1000', I was airborne. The flight back home was uneventful, but I had a huge grin on my face all the way back! There is definitely a pair of skis for Chrissy in the future!

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Conditions were ideal to attempt my first lake landing... without floats. That's our cabin above the "G"



Pitot/Static Systems

By Ken Beanlands

Last week I helped one of our customers import an RV-7A. The airplane is a very nice example and sports an EFIS system and autopilot. My job was to conduct a two year recertification of the pitot and static systems.

On the surface, this appeared to be a simple enough task so the altimeter, transponder and encoder were removed and sent to us for bench checking. When we were done on the bench I talked to the owner to schedule the system leak check and discovered that there was also an EFIS system.

Since the system included a standby altimeter and airspeed indicator, two calibrations had to be carried out: one on the EFIS and one on the standby altimeter. CAR 625 Appendix C requires calibration of all altimetry devices if the aircraft is to be operated in Mode C airspace.

We started in on the leak check and it quickly became apparent that we had some major leaks. We started troubleshooting the system by clamping off the static line in various spots to try and isolate the problem. Eventually, we discover the problem in the TruTrak autopilot control head. It has a pitot and static port in the form of a plastic block on the back of the instrument. The block had cracked at both the pitot AND static ports giving us a massive leak.

We also found some homemade tees in the system made from copper pipe soldered together. The tees were connected to the Nylaflow lines with 1/4" rubber hose that simply slide over the tees and Nylaflow lines. AN fittings were used on the back of the instruments and on the ADAHRS box, but the beads at the end of the fittings had been cut off to make the lines fit on easier. None of the fittings nor the tees provided a tight fit to the rubber hose. I also suspected that the homemade tees were leaking on the butt type solder joints. We decided that all the fittings and tees had to be replaced.

All of this started me thinking about the design of the static and pitot systems. The first real issue with this installation was the sheer complexity of the system. Starting at the dual static ports in the back, the system moves forward through a tee using three rubber hoses as connectors. The line travels forward to a proper tee mounted in the back of the autopilot with two rubber hose connectors. Next it goes to the airspeed indicator and altimeter; each with a homemade tee, cut-off AN fitting and three rubber hose connectors. From there it goes to one final

homemade tee and three more hose connectors finishing up at the ADAHRS box and encoder through cut-off AN fittings.

Every one of those tees, rubber hose connectors and fittings has the potential for leakage. In addition, the devices themselves can leak. If you're designing a new static system for your plane, try and keep the system as simple as possible.

In this system, the encoder is somewhat redundant as the EFIS system will talk directly with the transponder. It also makes the recertification easier as the correlation between encoder and altimeter is moot as the data is coming from the same device. Using the EFIS to drive the autopilot would also reduce the number of devices. Finally, having a redundant altimeter and airspeed may be a bit of overkill for a VFR aircraft. Of course, this is up to the builder and his comfort level in the reliability of the EFIS.

Next, and somewhat obvious, is to use the right lines and fittings in your system. If you plan on using nylon lines, use the fittings available for them. Make your tee fittings right at the devices rather than in the lines. Most devices have a 1/8" pipe thread hole in the static and pitot ports. The nylon tees are available with one branch having a 1/8" pipe thread. This eliminates more connections reducing the potential leaks.

As for lines, Nylaflow lines are OK, but we find the best results using aluminum hard lines with AN fittings. The weight difference is negligible and the potential for leakage is far less. From a servicing point of view, it does require access to the back of the panel to release and cap lines while you're troubleshooting issues. It also becomes a bit more difficult to remove instruments with hard lines attached. Also, not all of the encoders have the ability to use hard lines.

My final point is to add a service port to your static system. A simple tee with one branch capped off that's easily accessible makes the job of static leak checks so much easier.

In summary:

- Keep the system simple.
- Eliminate standby instruments if practical.
- Use as few joints as possible
- Use the correct fittings and hoses
- If possible, use aluminum lines and fittings
- Add a service port.

With two-year recertifications costing from \$500-\$1000, it makes a lot of sense to design your system to reduce this as much as possible. →