



Skywriter...



May 2010



*Al Botting's Vagabond patiently awaits another flight.
Picture by Stu Simpson*

From The Cockpit

By Robin Orsulak

I have to confess, one of the things that really annoys me when I'm flying is when something just isn't working right. How many of you have been up flying and find yourself trying to troubleshoot a problem. Obviously when you're in the cockpit you don't have unlimited time nor the luxury of having your attention stretched to distraction.

My recent peeve came in the form of radio troubles, one minute you're flying along with everything working well and the next your suspicious as to why it seems just a little too quiet. My radio decided to quit while on a flight and. As a result, I found myself troubleshooting radio issues while contemplating a NORDO approach to my destination.

A thought from ground school long ago came to mind "Rule number one: always fly the plane". This is a good thought to have and to share indeed. In the subsequent days that have passed I've had the radio repaired and now hopefully all is well.

While on the topic of flying, there is, in the works, a COPA for Kids flight planned for May 29th in Vulcan with a rain date scheduled for June 5th. We need a few of our members who can or would be willing to volunteer for a few positions. If you would please either contact myself or Graham Millington at 403 601-6853 and advise your interest. Your help is greatly appreciated and needed for the advancement of our pastime. Remember how exciting flying is and how much fun it is to share with others...especially the kids. Stay safe, have fun... and take along a friend!

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FOR SALE

Volksplane VP2 for sale. Modified 2 place Volksplane made into a comfortable single with a 29" cockpit, TTSN 354 Many extras and modifications including full canopy (fiberglass), cubby style landing gear with springs. Has extended wing tips which are counterbalanced below. Push pull tubes instead of cables for control surfaces, adjustable pilots seat, 4 point harness. VW engine is 1800 cc and is fully balanced with tuned exhaust and a reduction drive of 1.6:1 Climbs at 800 FPM and cruises at 80 MPH @ 3500 RPM using only about 3 GPH. Two wing tanks with gauges, each 9 gallons. Prop is from Culver

(wood) 72" x 44 pitch Built with all AN hardware, Sitka Spruce and African Mahogany and covered with fabric. Automotive paint with clear coat and flex agent for fabric. Looking to trade up to a two seat airplane or sell. Asking \$15,000 OBO. Contact Guy Christie at c) 403 901-5594 or Bernie Kespe at h) 403 255-7419 Or Guy at gcpegasus@gmail.com or Bernie at stardustertoo@shaw.ca. 05/10

1992 Rans S-6ES Coyote-II (BULA), Rotax 503 DCDI Single Carb with 100hrs SMOH, great plane just a little too small for a 6'3" 240lb pilot, \$11,000 or trade. Always hangared at Indus, you buy you can take over the space. Dave Goldsmith (403) 289-9310 (home) 203-8201 ext. 6224 (work) dgoldsmith@gienow.com

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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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Sun 'n Fun 2010

By Robin Orsulak

“Spring Break for Pilots” the caption read as I placed a new T-shirt in my shopping bag. I was thinking how appropriate for us pilots looking to get away from the cold winter.

This year’s Sun ‘n Fun held in Lakeland Florida proved to be an interesting trip since my last visit here three years ago. The weather was warm and the winds were breezy yet there were many flight demos taking place in the ultralight and LSA category



Not bad when you're talking turbine!

While in the Lakeland area, I had to stop by and visit the Fantasy of Flight museum. Just a short drive away, located near Polk City, the museum boasts 40 rare and vintage aircraft with most of them in flying condition.

I have a thing for flying boats so I immediately had to go and take a detailed look at the 1944 Short Sunderland M.V flying boat. It's equipped with four Pratt and Whitney R-1830 radial engines rated at 1200 HP each. By the way, that translated into an average of 98 gph per engine. It was an awesome machine to see up close.

The agony of it all! So many airplanes and not enough time, like so many other worthwhile pursuits. For those of you who haven't yet or are thinking about it, I highly recommend a winter's blues break by visiting Sun n Fun. The good news.... we are getting into airshow season as well as warmer weather. I can hardly wait to remove the doors from airplane and enjoy the warm breeze! Blue skies!!! →



aircraft not to mention some airshow aerobatics. If you haven't visited before, I would suggest to plan a two day visit as a minimum as there are plenty of aircraft to view and workshops one can attend. There is no shortage of vendor's to appease your search for new and unique products to fulfill your piloting needs.

An example of a new variation of an already innovative product was the Mosquito XET ultralight helicopter originally developed locally here in Calgary. This helicopter came equipped with a Solar T62-2A1 turbine engine. What started as an open frame aircraft has now evolved into a powerful, reliable personal helicopter. The Mosquito XET boasts a 100+ mph max speed, a ranges of 160 miles and a meager 8.5 gph of Jet A fuel.



Brake Repairs

By Brian Vasseur

Since I bought my Zenair CH250 a few years ago I've done a number of repair and upgrade projects. I've decided to write about a few of them to help out those that may have to do the same thing. This article is replacing o-rings in your brake cylinders to get rid of those oil leaks that stain the floor of your plane.

Aircraft brakes are a bit different than the brakes in your car. Some of these differences are:

- Aircraft do not use DOT brake fluid but instead use hydraulic fluid which is red in color. A common spec is MIL-H-5606G. Auto brake fluid isn't compatible with the o-rings.
- Aircraft brakes are normally filled from the bottom because master cylinders are mounted vertically and not horizontally.
- Aircraft brakes won't have vacuum power assist or electronic antilock mechanisms.

In my plane I had Cleveland brakes and master cylinders. The installation consists of a single reservoir in the engine compartment with a T fitting to the two brake master cylinders. Those feed with rubber hoses and copper lines to the brakes on each main gear. The problem I was having is that the o-rings that sealed the master cylinders were leaking and every month or so I ended up wiping up oil stains. The solution was to pull the guts out of the master cylinder, replace the o-rings, bleed the brakes and go flying.



First, there are a number of different models of brakes and each requires different parts. I was lucky in that there was a label still attached that hadn't been detached by leaky oil. From that I determined that my model was a 10-24C. My first action was to go to the AircraftSpruce.ca website and find a suitable rebuild kit. Unfortunately I have a model that's not on their list. Next was a Google search for Cleveland Master Cylinder and that turned up a PDF of the Cleveland parts manual. Although there wasn't a specific rebuild kit for my model they did indicate the four sizes of o-rings required to do my repair. These had MS28755-*nnn* numbers and a search of those on the Aircraft Spruce website quickly found what I needed. For the cost of a couple of coffees I had what I needed mailed out to me and within a week had the o-rings wrapped in individual paper wrappers. If you can't determine your model of brakes then your best bet is to disassemble the brakes and measure the o-rings with calipers. In addition to diameter the thickness is also important. Find a MS28755-*nnn* part number that matches those dimension and you're in business. You might be able to find these parts at a hydraulic or industrial supply store but make sure they are compatible with hydraulic fluid and match all the dimensions. "Sort of close" isn't going to work in this situation.

First, disconnect the brake lines near the wheels and let all the fluid drain out of the system. If you don't do this, any fluid in the brake system or reservoirs will pour all over the floor when you take everything apart. Getting the brakes apart was simple once I was able to crawl in under the dash. First I made sure to wipe everything down and make sure there was no dirt or contaminants anywhere before I started taking things apart. Using snap ring pliers it was a fairly easy task to remove the top retainer ring. Then remove the pushrod from the rudder pedal and with a fairly substantial pull the inner guts came out in one piece. Since your brakes are installed with both hoses and castle nuts you might find it's more work to remove the whole assembly than it is to just pull the piston assembly out and leave everything else in place.

On the bench it was a simple case of removing a single snap ring to take the three pieces apart and get at the four o-rings that needed to be replaced. Again make sure your work area is perfectly clean, a small amount of dirt can ruin a hydraulic system. Using dental picks carefully pry out the o-rings being careful not to scratch or damage the metal parts. Using a tiny amount of brake fluid

lubricate the new o-rings and slip them back into place. Reassemble the piston assembly, insert in the airplane and replace the snap ring. Cleveland brakes have an adjustable spring between the brake pedal and piston. Make sure you have enough spring pressure to pull the pedal all the way up. You won't be able to fill the brakes unless the pistons are all the way to the top.



Once everything is together then you're going to fill the system from the bottom by pushing fluid into the brake bleeder at the wheels. Since the master cylinders are vertical air will sit at the top of the piston assembly and cannot be pushed down out of the system. The standard method you use in your car won't work in your airplane. Put a rubber hose into the brake reservoir so once it fills it will run out the hose and not into the plane. This will also help you tell when the system is full.

There's a few ways to pump oil into the system. If you are by yourself then an IV bag setup that is hung higher than the brake reservoir will fill the system, although very slowly. Option 2 is to use a regular oil can with a rubber hose connected to the brake



bleeder. Option 3 is to spend the money for a pressurized canister with specialized fittings. This works very well but isn't necessary if you're only going to be doing this once or twice in your life. Google brake bleeder and you'll see lots of different solutions to the problem. Cars and motorcycles use the same brake bleeder fitting.

Using a 1/4" wrench loosen the brake bleeder about 1/2 turn and slip the rubber hose over the end. Start pumping oil into the system until you see oil coming out the top of the brake reservoir. If you can't push oil into the system make sure the bleeder is loose (oil should drain out) and pull the brake pedal all the way up to allow free flow of oil. Once full tighten the bleeder and then go to the other wheel and repeat the process. You will find this takes less than a pint of oil to fill both sides. Using a syringe or other method, drain some fluid out of the reservoir leaving about 1" of room at the top. This allows expansion of hot oil once the brakes heat up. Put the cap back on the reservoir making sure that the vent isn't clogged and then test everything out. You should easily be able to lock the brakes without bottoming the brake pedals. If you are able to bottom the brake pedals then you have air in the system and you need to repeat the bleeder process.

Here are the details on what you need to get this job done. Plan for 3-4 hours if this is the first time doing this:

1. Get the model of your master cylinder so you know which parts you'll need to order. If you can do this before taking everything apart then you can have the new o-rings ready and do the whole project in one day.
2. You will need snap ring pliers, needle-nose pliers, dental picks, lots of paper towels, small wrench for the bleeder screw, oil can, 1/8 rubber hose, oil can, brake fluid. You'll also need some kind of rubber hose and possibly a fitting to connect to the top of the brake reservoir.
3. A couple of 300-500ml pop bottles are a handy to get the oil drained out of the system. Disconnect the brake lines and let all the old oil drain into these. If the oil looks clean you can probably re-use it but you will need additional oil to top up the system.
4. Since your brake pedals use castle nuts don't forget to put new cotter pins in after you reassemble everything.



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. We encourage you to call ahead if you're in the area. For more information see our site at www.lethbridgesportflyers.com. 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.

May 16th, Barrhead, Alberta, Barrhead CEP3 – Fly-In, Drive-In Hungry Persons' Breakfast - 8:00 a.m. to 11:00 a.m. at the Barrhead Airport. Golfers bring your clubs to enjoy the day at the adjacent course. Contact Person: Peter Stupniski 780-915-1569 pstupniski@xplornet.com. Additional Details: N54 05.81 W114 26 .33. Fuel available, ATF 123.2.

May 23rd, Westlock, AB, (CES4) – St. Albert Flying Club, COPA Flight 61 NavDash Fun Event, Westlock Airport (CES4). Precision flying exercise around a course. Two classes: 1. Ultralights and 2. Homebuilts/Certified combined. Each class will have it's own course geographically separated to ensure no conflict. Plaques for 1, 2, 3 in each class and a complementary barbeque to follow. Pilot briefing 9 a.m. in terminal building. Join us for a fun day of flying. Rain date Monday, May 24. For more information contact Ben Strafford 780-458-1606 or email larandben@cruzinternet.com.

May 29th, Cold Lake, AB, (CEN5) – COPA Flight 90 Cold Lake/Bonnyville. Annual Spring Fly-in/Drive-in breakfast pancakes and sausage 0800-1200. Reduced fuel pricing for attendee's. Located at the Cold Lake Regional Airport - Terminal Building. For more information please contact Cliff Conrad 780-594-5707 or email cbconrad@incentre.net.

May 29th, Indus, AB – CRUFC Poker Run 2010 This year's Poker Run will include: Stefanics , Kirkbys, Shoperlys, Okotoks, High River, AJ Ranch, and Vulcan. The Breakfast at Indus will begin at 900 AM until 1045 AM with the last two cards available at the

breakfast. Rain Date of June 5th. For more information, contact Garrett Komm at kommair@telusplanet.net.

May 29th, Sedgewick, AB – COPA For Kids with a rain day of June 05. Located Killam Sedgewick. For more information please contact Collin Cumberland at 780-384-2031 or email ccumberland@persona.ca.

May 30th, Saint Paul, AB (CEW3) – Fly-In Breakfast. Pancake, ham & egg breakfast at \$5.00/plate served from 8:00 to 12:00. Come and show your airplanes, motorcycles, antique or sports cars. Co-ordinates N53 59 36 W111 22 49. For more information please contact Tyler Elliot at 780-808-7094.

May 30th, Camrose Airport – 55th Annual Fly-in Breakfast. A hearty western breakfast will be served from 7 AM to 12 noon. All you can eat for \$7.00 per person. For more information, contact club president, Barry Graham at (780) 678-3308 (days) or (780)781-7004 (cell) or at graham@cable-lynx.net.

June 5th, Cardston, AB (CEA6) – Fourth Annual Fly-In Breakfast. Location: Latitude (N): 49 09 45 Longitude (W): 112 09 45 Pancake Breakfast for all starting at 0800 - 1000. Everyone is encouraged to fly in and enjoy the beautiful scenery of Southern Alberta and the Waterton Lakes Park area. For more information contact Douglas G. Murray at dgmurray@toughcountry.net

June 6th, Lacombe, AB, Lacombe (CEG3) – Fly In Breakfast. Come join the Lacombe Flying Club COPA Flight 155 for the 48th annual Fly In Breakfast. Rain or Shine From 8:00 am to 12:00 pm For more information please call Don (403) 396-4323. E-mail: dhwarner@telus.net

June 12th, Taber, AB (CED5) – COPA Flight 24, The Lethbridge Sport Flyers will be hosting their annual Fly-In, Drive-In breakfast at the Taber municipal airport from 8 a.m. to 11 a.m. For more information please contact Andy Cumming email cgrzz1@telus.net or visit our website at www.lethbridgesportflyers.com.

June 13th, Innisfail, AB (CEM4) – Innisfail Flying Club 50th Anniversary Fly-In pancake breakfast 7:00 a.m. to 11:00 a.m. \$7.00 for adults. Come celebrate our 50th anniversary featuring 3 Harvard Formation Fly-Bys. Runways 16/34 Frequency 123.00 100LL fuel available. For more information please contact Jim Romane at 403-391-2497 or jromane@telus.net.

June 13th, Bonnyville, AB (CYBF) – COPA Flight 90, Bonnyville Flying Club. Annual Fly-In Breakfast from 07:00 – 12:00. Co-ordinates N54 18 15 W110 44 37. For more information please contact Yvon Rondeau at 780-826-7457.

June 19th, Carstairs Bishell (CGB2) – 14th Annual Fly-In Breakfast 8:00 A.M. until noon. for more details please contact Glenn (403)337-2564.

June 20th, Tisdale, SK – Fly-In, Drive-In Hungry Persons Breakfast – 8 a.m. to 11 a.m. Eggs, sausage, hash browns, toast, coffee, juice and lots of airplane talk - Everyone welcome. Located at the Tisdale Airport. For more information please contact David Lamb at 306-873-2718 or email d.g.lamb@sasktel.net.

June 20th, Lloydminster, AB (CYLL) – Fathers day Fly-In Breakfast from 8.00 a.m. to 12:00 p.m. Hotcakes, sausages and eggs fresh fruit platter, \$8.00. For more information please email Person Barney Creech at wendysabwest@hotmail.com.

June 20th, Morinville, AB – Mike's Father's Day Fly-In in breakfast Sunday from 8:00 a.m. to 11:00 a.m. Located at Mike and Rose Poworoznik's farm strip. One mile north, three miles east of Morinville. Strip Information: Coordinates: N53-50 W113-33 Runway length: 2600 ft. North/South orientation. 60 foot wide groomed grass. Caution: Wires at south end. For more information please call Ben Strafford 780-458-1606 or email larandben@cruzinternet.com.

June 20th, High River, AB (CEN4) – Father's Day Fly-In. Location: N50 32 W113 50.0800-1500, Breakfast/Lunch available. For more information contact Keith Dempsey at 403-601-7010, r.keith.dempsey@gmail.com or Dan Nash at 403-589-5705. www.flyhighriver.ca

June 27th, Edmonton, AB – The Alberta Aviation Museum at Edmonton City Centre Airport is holding Airfest 2010. Aircraft featured at the show will be military, training, homebuilt and many others. The show will also feature a trade show and car exhibit. For more information contact the museum Tel.: 780-451-1175 or email: aama@live.ca.

July 3rd, Chestermere/Kirkby, AB – The 19th annual Chestermere-Kirkby Field Fly-In Breakfast from 0830 to 1200. For More Information, contact Bob Kirkby 403-569-9541.

July 9th-11th, 2010 Wetaskiwin, AB (CEX3) – "Westebello 2010", Fourth Annual Western Canadian Challenger Rendezvous. for Challenger Owners and anyone interested. More details at: <http://www.challengerwest.com/westebello.htm>. Contact Mike and Tracy Hughes 780-985-4231, or info@challengerwest.com.

July 17th, Nanton, Alberta – Joe English Memorial Fly-In Location: A-J Flying Ranch (6.4 miles east of Cayley, Alberta; Coordinates: N50 27 32; W113 45 46). Sponsored by the Bomber Command Museum of Canada; Breakfast and Lunch Available; Vintage

aircraft will be participating but all are welcome; Transportation to the museum provided; Details at www.bombercommandmuseum.ca

July 17th, Nelson, BC (CZNL) – FlightFest 2010, Fly-In breakfast. Displays of antique, classic, military and homebuilt aircraft. Tour historic Baker Street, shopping, golf, under wing camping. Lunch and BBQ. Lots of fun for the whole family. Located at the Nelson Municipality Airport co-ordinates N49 29 39 W117 18 02. For more information please contact Case Grypma at 250-505-3249.

July 18th, Vulcan, AB (CFX6) – Vulcan Flying Club 35th Annual Fly-In Breakfast. Commencing 0800-1100 local. Co-ordinate N 50 24 17; W 113 17 00. For more information please contact Norm Kristjansson at 403-485-2791 or cfiwc@telus.net

July 26th, August 1, Oshkosh, WI – EAA Airventure

August 8th, Westlock, AB – COPA-Flight 139 Fly-In breakfast from 07:00 to 11:00. If you have any questions please contact Georg Hertz-Kleptow at 780-349-1094.

August 18-20th, Calgary, AB – Webster Trophy Competition to select Canada's top amateur pilot. COPA is a key contributor and President Kevin Psutka is one of the judges. Regional competitions are on now, visit <http://webstertrophy.ca/> for more information on how you can participate. Lots of fun and a great opportunity to hone and demonstrate your skills. Download poster here (for French here) and post it at your airport to encourage others to participate.

August 28th, Medicine Hat, AB – Walk-In, Fly-In, or Drive-In! Everyone is welcome to sample the hospitality at the Medicine Hat Airport. Core hours are from 10:00 a.m. to 2:00 p.m. Activities will be centered near the RAA Hangar. Enjoy the corn, special sausage, hot dogs, etc.. Rain date is August 29. Additional info may be obtained by contacting Boyne Lewis at balewis@shaw.ca or by telephoning Boyne at 403-527-9571.

September 6th, Stettler, AB (EJ3) – COPA Flight 135 Stettler Flying Club annual Fly-In Breakfast Labour Day Monday. All you can eat pancakes, eggs, ham & sausages from 8:00 a.m. until 11:00 a.m. For more information, please contact Henry Johnson at 403-740-6415 or e-mail ohana@telus.net also Garry Fix at 403-742-6104 or email gagafix@gmail.com.

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