

The chapter is proposing a new operating model this year. To date nine pilots have indicated their willingness to sign on to the new program. These individuals will pay 350 dollars up front and will receive preferential access to the airplane and other benefits. Call Raymond Colley for more information on this program.

Trevor Skillen is the new chairman of the Delta Air Park Committee (DAPCOM). He is also a member of the RAA and will serve on our executive. Trevor has a keen interest in vintage aircraft. He owns a Stearman and a Beaver. He is very interested in the activities of the airpark.

At the February Meeting, Eric Munzer and Gordon Hindle delivered a presentation on gyrocopters with the idea that one could be purchased and constructed during chapter meetings as a project for chapter members. The cost to purchase would be about 20 thousand dollars. One complication to the selection of a gyrocopter seems to be the necessity for training. A person wanting to fly a gyrocopter requires training and certification and at present there are no certified instructors here in British Columbia.

On March 2, a birthday party was held in honor of Dan McGowan and Charlie Longstaff at the Canadian Museum of Flight. Dan is 90 years old and Charlie is 89. The event was organized by Robin McNamara and turned out to be a great success. Approximately 60-70 people were in attendance. The museum rolled the airplanes aside to make room for the guests and a buffet lunch was provided.

Dan and Charlie are the oldest active members of RAA. Dan recently rebuilt his Aeronca Champ and Charlie is constructing another amateur built aircraft at the airfield. These two are an inspiration to us all. We all aspire to develop the skills these two have acquired in their lifetime.

All members are reminded that the Annual Awards Banquet is to be held on March 30 at the Delta Town and Country Inn. Cocktails start at 18:30 hours and dinner commences shortly after 7:00 PM. Tickets are 35 dollars per person. All enquiries go to the Vice President, Peter Whittaker.

Best wishes for the new season. Hopefully good weather is coming soon.

John Macready

Grinder Explosions

A few weeks ago a member of my chapter brought a copy of the Australian sport aviation magazine, with a letter to the editor from a fellow who had burnt himself severely when grinding some aluminum. Apparently there was a loud explosion and a huge orange flame, resulting in third degree burns to the builder. It appears that the fellow had inadvertently created Thermite by having previously ground some steel. Since on a daily basis, I alternately grind all sorts of materials on my belt grinder, I thought it might be advisable to check this out. I did a search on Google for "Thermite" and was directed to a couple of papers on the subject, one from an anarchist's handbook, and the other from a science textbook site. They both explained that if finely-divided dry iron oxide is mixed in the correct proportions with aluminum powder, it produces the powerful explosive that is known as Thermite. The aluminum reduces the iron oxide to produce aluminum oxide and free iron, plus a lot of heat as the reaction is exothermic. It releases heat in amounts large enough to melt the iron immediately and to burn through steel hulls of ships and bank vaults, and in this case, the fellow's leg. Before you go out to buy more grinders to segregate your filings, you should know that it takes much more than a spark or flame to set off this reaction. Both references suggested a magnesium flare as being suitable to initiate the reaction, and they were quite specific about the proportions of rust and aluminum. I expect that in this case, the fellow must have previously been grinding magnesium, perhaps from a set of VW engine cases and inadvertently created the right conditions. Still, it gives one pause to think.

Editors note: Another danger exists when you grind aluminum on a bench grinder. The wheels will absorb the aluminum and become quickly saturated. The result is an imbalance and an unstable grinder wheel which can fly apart causing great harm to the operator. DO NOT GIND ALUMINUM WITH A STONE WHEEL!

TURN AND BANK

January - February 2013

Building Tips

Jim Stunden, Chapter 85

Fibreglass

The process that adds the most weight is probably fibreglass.

Polyester: Does not bond well to wood and will not bond to epoxy. Polyester has a short working time but has a strong odor. It can be both waxed and/or unwaxed. The unwaxed polyester does not cure. It is used for doing multiple layers. Waxed polyester does cure and needs to be sanded between separate coats.

Epoxy: West system is a trade name. It bonds well and can be bonded to polyester. In my opinion, it does everything better and does not have an odor. It is easier to work with but, of course, costs more. You can use epoxy for your hull and it can be thinned with acetone or lacquer thinner; however, you lose strength and water resistance by the amount thinned. If you try to apply very light cloth (less than 6oz), without thinning the resin, it will ball up, pull the weave and be difficult to use. Years ago I gave up using polyester resin and went to a 6 ounce cloth. Epoxy resin was new back then and I did not know you could thin it. Now you do!

Paint

I used to think that the latest high tech processes were better but sometimes there are advantages to old school processes

All metal wants to oxidize, so by painting it you slow down the process to varying degrees; you do not stop it. The traditional painting process involves having the primer sacrifice before the metal. When the metal oxidizes, the paint forms bubbles and, therefore, is easy to see and repair. The more modern processes have really tough paint that does not scratch or bubble. They are more like plastic. Corrosion starts underneath the finish and moves towards the surface. You do not see it until it is really



Robin McNamara putting in a good word at the recent bash to honour longtime members Charlie Longstaff (left) and Dan McGowan (right). Erstwhile treasurer Tom Boulanger looks on from behind. See President John's message for more on this great event.

bad. RV's have their engine mount powder coated from the factory. The builders tell me that there is controversy now about corrosion occurring underneath the coating. Time will tell.

Spray can paint is convenient but I find that the paint fades with time. It is not durable. Zinc chromate bonds really well when properly applied but it is hard to get now. I do not know if it is the best, but I like to use Polyurethane paint, Imron or Endura. It is a two part epoxy. Car people use it for under carriage parts. It is chemical resistant and durable. There is one primer coat and one top coat. It is not good for your health. Labels on most of the chemical containers involved in airplane building read that they cause health problems.

I like to prepare my metal parts in batches: collect them up and sand blast them, then handle them with rubber gloves and paint them right away.

I use old coat hangars, cut and bent, to hang parts. You will have a lot of small parts, so I string them on a suspended ladder or

on garage tracks. I have used a variety of spray guns. At a small hobby shop you can buy a Bradner paint gun. This has become a favorite because it does not waste any paint. It is really good for painting small metal parts holding about 1ounce of paint it will easily paint an Osprey gear leg on one fill.

To paint the hawk on the tail, make a slide for a projector and project the slide onto the tail. Move the projector about 6 feet away to get the size that you want and paint by numbers. Reverse the slide and repeat on the opposite side.

Scarf Joints

Make your scarf joints using a hand plane, router or saw blade for Sitka spruce. Sitka spruce should not be sanded prior to gluing as it pulls the resin out of the wood and interferes with the glue joint. Birch plywood should be sanded. Round the corners in sheet metal. Do not leave sharp corners especially on the inside of parts because they could

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News and Stuff

Forum Up and Running

RAA's Forum is live online! If you want to join in the fun, go to the RAA website and click on the "forum" button and join up. You can advertise, ask questions, find out new places to fly - join us!

Pancake Breakfast Helpers

If you would like to help out during our pancake breakfasts please give your name to Joan Cox, so that we may if needed. Contact her at jr_rosicox@telus.net or leave a message at 604-596-7635.

Airplane Pictures

Lynn Walker is working on a wall of

planes. If you want your picture on the wall or have founding members' planes pictures please contact her. 8x10, 5x7, 7x8 or 4x6 frame sizes are available.

Awards Banquet

Saturday, March 30 at the Delta Town and Country Inn. Bar at 6:30, Dinner at 7. Tickets are \$35. If you know anyone worthy of an award, consider nominating them. Contact Peter Whittaker (peterterry@telus.net) to nominate and/or let him know you're coming!

Chapter Fly-In

June 29 at Delta Heritage Air Park.

Regional Director Election

It's getting to be that time again - if you've thought of serving, or know anyone who is qualified, nominate them! Talk to John Macready for more information and watch the next edition of the Recreational Flyer for the nomination forms.

The Turn and Bank is a Publication of Chapter 85 of the Recreational Aircraft Association of Canada. We are located at Delta Heritage Air Park 4103 104 St, Delta, BC V4K 3N3. Design and printing by George Gregory. Any suggestions, pictures or newsletter contributions can be emailed to George Gregory at george@sidekickgraphics.com

RECREATIONAL AIRCRAFT ASSOCIATION CANADA
Vancouver Chapter 85
General Meeting Tuesday 5 February 2013

Attending: 32 persons attended the meeting. Executive members attending included: Tom Boulanger, George Gregory, Cyril Henderson, Peter Lenger, John Macready, David Marsden, Tim Novak, Bruce Prior and Peter Whittaker.

Call to Order: At 1929 by President John.

Program: John introduced Eric Munzer. Eric and Gordon Hindle presented an Introduction to Gyrocopters, and Eric proposed a plan whereby the chapter would build one during chapter meeting nights. Two of Eric's slides are reproduced below. Cyril thanked the speakers for their presentations.

New Members: Michael Day, a student Aerospace Technology at the University of the Fraser Valley, and Trevor Skillen, the new DapCom Chair, attended.
General Meeting Call to Order: At 2104 by President John.
President's Comments: John introduced Trevor Skillen, the new DapCom chair. Trevor said a few words about himself and agreed that he could give RAA a report sometime on the current status and future planning of the Air Park.

Minutes: Bruce described two corrections to the minutes of the January meeting. The Beech 1800 should have read Beech 1900. The report that Gerard had repaired the sloppiness in the Turbi control sticks was not correct. Gerard removed them, and later Dan McGowan made new bushings for them. Gerard then reinstalled them. With those corrections, John called for a Motion: (Lalonde/Whittaker) that the Minutes of the 8 January 2013 General Meeting be adopted. Carried.

Secretary: Bruce reported that Sharon Hunter, wife of now-departed Jim Hunter, the respected secretary of the chapter for many years, has donated a floor model drill press to the chapter. John de Visser offered to help Bruce retrieve it from Sharon's home. [Post-meeting note: the drill press is now installed in its new home in the RAA engine shop.]

Treasurer: Tom described the creation of a Chapter Budget Subcommittee (Tom, John, Bruce, and Cyril). The Subcommittee reviewed Tom's budget development work, and the Chapter Executive approved the 2013 Chapter 85 Budget at their January Executive Meeting. It was suggested the budget could be added to the Chapter Website.

Tom explained the change in hangar rent which will eventually bring chapter hangar rent into parity with other Air Park hangar rents. He also briefly described the new Turbi financial plan and how it is intended to ensure Turbi operation costs are paid by those who fly it.

Tom presented the financial statements for the period 1

Jan 2013 to 5 Feb 2013. For January, we took in \$6,507 and spent \$3,602. A copy of the statements will be attached to the file copy of the minutes.

President John lauded Tom's considerable effort to produce a comprehensive budget for the chapter. Loud Applause!

Membership: David reported that we have 25 members signed up for 2013. Annual chapter membership fees are \$30 for national members, \$45 if not national members. All new members must join the national organization.
Hangar and Workshop: John de Visser has started building the porch over the east doorway.

Custodian: Hugo reported that Air Share will pay \$75 for use of our clubhouse for their Annual General Meeting. David Marsden is next in line to use the Workshop when the Turbi project is finished.

Vice-President: The Awards Banquet will be held in the Reiffel Room at the Town and Country Inn on Saturday 30 March. Peter handed out nomination forms for members to anonymously propose awards recipients.

Aircraft: John reported on Turbi repair/restoration progress. The structural repair and fabric work is completed and painted. The Turbi repair team is now focused on parts cleaning, replacement and reinstallation. We are about a week or two from re-installing the wing on the fuselage. John estimated the Turbi should be flying before 1 April. Raymond couldn't attend but passed on his report that nine members have now signed up as Chapter Flying Members.

DapCom: Trevor reported on recent activities at the Air Park. He told us that he learned to fly during the last season of training at YVR before the schools shut down or moved out to Pitt Meadows. He has always been fascinated by airplanes (one year he was disappointed when his birthday gift was a Commodore 64 instead of a model Spitfire). He is looking forward to his role as DapCom Chair. He has a Beaver and a Stearman. He suggested you might get a ride if you help him with his struggle each time he moves the Stearman out of the barn.

Trevor described a party is being planned at the Museum of Flight for two respected members of the local RAA community.

The party is intended to be a surprise for the honorees, so the details have been suppressed in these minutes. They will be reinstated later in the file copy. Trevor asked everyone for their financial support of this event.

Trevor explained that the big DapCom budget item for 2013 is barn refurbishment--the barn hangar is at risk of collapsing. Runway levelling is still under review. Runway improvement would include levelling and new sod and would likely mean the runway would be out of service for at least a week. Nothing new is happening on the Embree House. One new tenant joined the Air Park recently: James Smith with a Rans Coyote. There was an incident recently involving a Cessna 172; no one was hurt. A wind sock is

contemplated for the west end of the runway. Mary Swain isn't well enough to carry on with Coffee Shop work; others will have to fill the void. Gerald Ohm has volunteered to maintain the Coffee Shop's stock of supplies. For the longer term DapCom will assess the option of a non-profit staffed operation. Rob Prior is stepping down as Flight Safety Officer and the position is open.

The minutes of DapCom monthly meetings are posted on the Air Park website. The next Sunday Breakfast is on 10 February sponsored by the DapCom Tenants Group. The Annual Delta Fly-In will be on Saturday 29 June. Also a biplane fly-in is being considered; no date has been set.

RAAC National: No report.

Newsletter: George reported he's in the middle of the publication cycle now. As always, he needs articles and also a heads-up for any tidbits of publishable news. If you are a new author, George will help you get it right.

Programs: An option for March will be to continue discussion of Eric's gyrocopter project proposal. COPA5-BBFC will host three safety seminars here in the Clubhouse in the coming months, the first on 28 February in our clubhouse. The speaker is Gary Peare on the subject of iPads and GPS. You must register with Jim Niessen to attend (jrm7997@shaw.ca) as space is limited. Go to the COPA5-BBFC website for more information (<http://copa5.wordpress.com>).

Old Business: None.

New Business: Bruce will promote our Workshop Rental Service at the COPA5-BBFC meeting tomorrow night.
Announcements: Please submit awards nomination forms.

Next Meeting: Tuesday 5 March 2013.

Adjourn: Motion (Prior/Skillen) That we adjourn. Carried. And we did, at 2158.

*Don't Forget!
RAA Chapter 85*

Awards Banquet

*Town and Country Inn
Delta, BC
Saturday, March 30
Cocktails 18:30 hrs
Dinner 19:00 hrs
Tickets \$35*

*Contact Peter Whittaker
peterterry@telus.net
for info and Tickets*

Building Tips / continued from page 1

cause stress cracks. Sharp corners will cut you, scratch other parts, and add weight. Airplanes should be built light. 1/16 inch and 3/32 inch plywood can be cut with a box cutter and a straight edge. A light weight starter saves 8 lbs. A 10 amp alternator will save weight. Riding a bike to the airport saves gas and 15lbs.

Welding

Welding jigs can be made with a sheet of plywood and some common nails to hold pieces (EAA Video Webinar). A piece of stainless sheet can be used for a heat shield.

Tools

You can build only using hand tools like a hack saw and file with some other common tools. Some power equipment will really speed things up. There is no end to what you can buy. Some of the more common equipment I decided to use:

Table Saw - This will cut all your wood, aluminum, 4130 steel, and work as a disc sander. A carbide tipped blade will stay sharp and cut all your wood and aluminum. Carbide tipped blades tend to be wide blades though and waste a lot of wood when ripping long boards with multiple passes; maybe an eighth of an inch per cut. A cut off wheel for 4130 steel can be installed or a sanding disc for wood. The down side of this set up is that it may not always be that convenient to switch attachments.

A Drill Press with a tube jig (EAA Books).

A band saw - A band saw with a bi-metal blade and 14 teeth/inch will cut aluminum all day at 400 ft/min. A jack shaft will slow it down if it is too fast.

Small 6 inch Belt Sander - A belt sander can be used with one hand. A 14 inch belt is only 6 inches long.

Scarfing Machine - You can craft an electric motor with a sanding drum to make scarf joints. It is quick and easy. I made all my scarf joints with a hand plane. You can get quite fast at it. I can do a better job with a hand plane and for me it is hard to say which method is faster. You have to build the tool first.

Work Benches - I built the work benches in the EAA books. They are made to go through a standard door and are on wheels. My florescent lights are portable and hang on chains so they are easily adjustable. I can now easily move my shop and lights. I never have to build benches or wire lights again; one of my greatest achievements.

Air Compressor - 3 HP will do everything well except sand blast.

Sand Blaster - A sand blaster can clean metal parts before painting. My experience is that even a cabinet style sand blaster will make a mess. Dust will go everywhere and you will need a lot of air. I have seen people mount them on wheels and push them outside. The abrasive will not be very effective below 110 pounds air pressure. 140

pounds of air pressure is good. If you have a self-serve U-Blast in your area, I would recommend going there. It cost me about \$1 per minute and is the best way to prepare my non-aluminum metal parts before painting.

CFB Edmonton (Namao) is a military field just outside of Edmonton. All aircraft touching down at Namao require a PPR (Prior Permission Request) number, and have to recite it to the controller at first contact.

One day, a Tomahawk from a local flight school announced inbound for circuits. The controllers asked for the PPR #, and the pilot said they didn't know about one. The controller cleared them right-base for 29.

Tomahawk: "F-XAA is final 29, touch and go."

Tower: "XAA is cleared touch and go, 29□."

Tomahawk: "F-XAA is final 29, touch and go"

Tower: "F-XAA is cleared touch and go, 29. How many more circuits were you planning on making?"

Tomahawk: "We though we'd make one or two more."

Tower: "Roger. I just wondered because we were calculating your landing fees, and you're up to \$13,000 now."

Tomahawk: "THAT WAS OUR LAST ONE!!!!!"

Tower: "Just kidding. Next time, read your flight supplement."

to join our chapter. In reality it seems the membership renewal rate is actually lower this year. By the end of February we have 40 paid up members.

John de Visser has been hard at work on the buildings. A new awning has been installed over the front door of the clubhouse. The chapter emblem was attached to the front wall of the workshop providing some advertising for us. Two clocks have been hung in the clubhouse, one indicating PST and one UTC to facilitate flight planning for those pilots who prefer to use analogue instruments. Overall our facilities are looking very professional.

Hugo Regier is the new Custodian responsible for the booking the clubhouse and itemizing our inventory. The chapter received a floor mounted drill press from Sharon Hunter, wife of deceased secretary Jim Hunter. The drill press will be kept in the "engine room" for use by chapter members.

All enquiries for the use of the clubhouse should be sent to Hugo Regier.

The restoration of the Turbi is progressing smoothly. The wing has been reattached to the fuselage.

The restoration team will meet on Saturday March 9 to continue work. We hope to have the aircraft in the air by the first of April.