



Winnipeg Area Chapter of RAA Canada

January 2013

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CALENDAR OF EVENTS

January 17, 2013	STARS air ambulance helicopter presentation
January 24	EAA-COPA-RAA-SFC-MAC-CASARA Rust Remover
February 28	Polishing Your Aluminum Plane (Note change from our regular meeting date)
March 21	Project tour being planned
April 18	Project tour being planned

Annual Pot Luck dinner

The 10th annual pot-luck dinner was held in the Lyncrest Flight Centre on December 1st. There were approximately 30 in attendance, the selection of food was again outstanding and the evening was enjoyed by all.

2013 Membership dues

2013 Membership dues are now due. Please complete the form at the end of this newsletter and make your cheque payable to Winnipeg Area Chapter RAA and mail your cheque to Steven Sadler PO Box 703 LaSalle Mb. R0G 1B0

Upcoming Events

January 17th – STARS air ambulance helicopter presentation inside the Lyncrest Flight Centre – after the presentation there will be a night landing demonstration, dress warmly if you want to watch it from outside.

January 24, Winnipeg, MB 11th Annual EAA-COPA-RAA-SFC-MAC-CASARA Rust Remover 7:00pm at the Army, Navy, Air Force Hall Veterans Hall (ANAF), 3584 Portage Avenue. Presentations by NavCanada, Transport Canada, General Aviation and Webster Trophy completion. This seminar qualifies for the annual recurrency training. For more information call Harry Wiebe at 204-489-0011.

RAA –UofM-SFC Igloo Building Workshop January 26 + 27th and a 2nd workshop is offered February 2nd + 3rd. Pre-registration is required and both workshops are almost full...some folks registered almost a year ago in the hopes we'd have good snow! Cost is \$150 with family rates available. The course includes igloo construction, winter survival techniques, search and rescue signalling exercises, and the opportunity to spend a magical night sleeping in an igloo on a bed of caribou skins.

Ready-made Igloos are also available to rent by the night, reservations are required. Contact jill.oakes@ad.umanitoba.ca to reserve your place in this adventure ranked by CAA as the #1 winter activity in Manitoba!

February 28, Polishing Your Aluminum Plane. 7:30 RAA Building, Clive Perry AME will share his time tested techniques, materials and tools – bring a part you'd like polished (**note change from our regular meeting date**)

March 16th - Gil Bourrier Model Aircraft Building Workshop, 9:30 am til 3:00 pm, register now as space fills fast and limited to 20 youth-parent/grandparent couples. For more information or to register, please contact Jill Oakes at 204 261-1007 or e-mail at jill.oakes@ad.umanitoba.ca

RAA "Invading the USA Red River Valley" Nov 16-17-18

Early Friday morning a fleet of vehicles headed south on Hwy 75, our first stop was to meet Tim Bloomquist and his Fishers. Tim, family and friends greeted us warmly and after a fantastic meal of Joe's Sloppy Joe's surrounded by airplane parts we walked over to another building filled with airplanes: a Miranda Falconer and four different types of Fishers, including a Fisher Super Koala! We were able to see the Fisher's plywood clad construction and



Fisher FP404



the unique wooden latticework covering the wings. It was fascinating to learn that the latticework is a substitute for drag and anti-drag wires.

Two hours later we were on our way to meet George Loranger 20 miles south west at the Grafton Airport. An original Winnipeg RAA member, John Blackner, knew George from many years ago when Canadian and American builders used to get together in Winnipeg and Grafton for the weekend. It was an RAA-EAA family reunion; the long term bond between builders and importance of RAA-EAA events was underlined seeing John and George reconnect as if time had stood still. George Loranger showed us his

High Max George Loranger's High Max with a Volkswagen engine. Also in the hangar was a Pazmany that took 20 years for the builder to complete and he did his own test flight at 86 years of age! Another Grafton area builder, Byron Poppenhagen showed us his Baby Ace, which was painted using the "Red River System". Byron uses latex house paint with a flow additive and 10% Red River water added. He then brushes on this paint mixture and the water helps to slow down the setting time, allowing the brush marks to blend together.

The Czechoslovakian YAK with a MP14 Russian Radial 360 hp engine is geared. Larry Brown explained the geared engine turns the propeller at a lower rpm, enabling a much larger prop to be mounted and significantly greater thrust. It cruises at 2900 rpm. Absolutely all systems are pneumatic on the YAK – brakes, propeller, starter, landing gear, control systems; all require air. The geared engine cannot be hand propped.

Andy Tibert's Rotorway is a two-seater helicopter that cruises at about 85 mph with about 1 hour endurance plus reserve.

Our next stop was the University of North Dakota's (UND) aerospace programs. Tour guides, Jemma Abel and Luke Werner, explained that UND has about 1500 aerospace students. With 150 to 200 flight instructors and 95 C172s, plus a few Piper Seminols, Arrows, Decathlon, C150 and 14 helicopters, they are well equipped to provide flight training to the 190 students who enter PPL training each Fall. About 55% of the student body are foreign students; surprisingly just over 10% are women. UND's altitude chamber can go from sea level to 100,000' and students experience two sessions in the chamber at 25,000'. The first session provides an opportunity to understand personal symptoms of hypoxia, the second session requires that students recognize their symptoms and successfully attach their oxygen masks. In addition, there is a rapid decompression chamber, where students get to practise recognizing the signs and getting on their oxygen masks within 5 seconds.



Clint Hanus, an ATC student at UND explained the ATC simulator, which actually simulates movements at "Academy Airport". UND's new unmanned aerospace program is the first in the

country and involved in collision avoidance research; all UND aircraft are equipped with ADSB, an automatic collision avoidance system.

Saturday morning, EAA Grand Forks Chapter 317 President, Murill Halvorson met us at the Fargo Air Museum, along with other members of EAA and the Museum Board. Fargo EAA Chapter's first aircraft project was to build a replica of the Wright Flyer using original drawings copied from the Smithsonian Institute. Retired military and airline pilot, and award winning aircraft builder, Captain Bob Miller, pointed out that Vaughn Thorstad, Ted and many others from the Grand Forks EAA Chapter 317 even applied the fabric diagonally across the wing; although it used considerably more fabric due to the bias cut, the aircraft wing has no drag and anti-drag wires, leaving only the fabric warp and weft to provide that structure. The Wright Flyer was completed in 2003 and the next year the group began finishing a Merlin GT, which was started by a member who donated his project when he had to move to another state. The Merlin originated from Saskatchewan and initially had a Rotax engine; a C200 has now been installed, working 4 hours/Saturday for the last six years. Even re-building the cowling was a challenge, Vaughn, the lead builder, said: "We've learned a lot about complex curves!" One year the Chapter decided to work on the Merlin instead of going to Oshkosh, that week a tremendous amount of work was accomplished.

Damien Gehler, Fargo Air Museum's most knowledgeable Tour Guide, introduced us to a Fisher FP 404, built by Rolf Sletter in 2007. This Fisher is powered by a single cylinder engine from a child's skidoo!



Across the apron, walking under the shadow of "Duggy" the DC3 sporting its bright yellow paint job done in Winnipeg, we arrived at Francis Butler's hangar. Francis showed us his only flying Techno Avia 55M (looks similar to a YAK) in the world! Like the YAK, its' entire system is pneumatic. Francis finds the Russian technology simple and straight forward. He was checked out by a Russian pilot who comes over to the USA periodically to provide aerobatic training for the growing number of YAK owners. "The best instructor I ever had."

Just a few of Francis Butler's toys



Cindy and John with the plaque from the Winnipeg Area RAA Chapter

summer for the test flights. We also learned more about the WarBird restoration process. Cindy explained "We are viewing Beck's 25 years of research and development in a couple of hours" and that the key to TSA's success is that Beck made sure that everyone involved with the company understood the entire process, there were no secrets. Consequently, TSA is able to continue working as a leader in the WarBird community, maintaining the excellence and innovation critical to success.

Last year the Winnipeg RAA chapter toured Tri State Aviation (TSA) at Wahpeton, North Dakota. We were keen to reconnect with Cindy and John, and to see how their P51A project was progressing. Cindy invited us for lunch and after a delicious break with some Giant sunflower seeds packed in our pockets, John began the tour. One of the highlights of this tour was recognizing the tools we were introduced to last year and learning a bit more about how they are used. Considering John's insights that initially Mustangs were only expected to last 100 hours Total Time and that Mustangs flying today can easily exceed the 500 VNE when racing, it's no wonder it's taking longer to restore the P51 A than planned. Hopefully we will be back next



One of TSA's collaborative companies is Odegaard Wings, owned for the last 10 years by Brent Meester. Brent and Cindy both underlined how their companies are built on Beck's basic plan of action, "When someone else is making a piece with excellence, buy it from them; if no one else is making the piece then we make it ourselves and others can buy it from us." The research and development needed to re-create a piece with excellence is extremely expensive. Recently a customer's wing needed two new fuselage attach fittings made from extruded aluminum. The customer funded the research and Brent is now able to produce this fitting.

The equipment needed to reproduce Corsair wings includes a 480 volt spot welder equipped with water cooled tips for spot welding aluminum. This piece weighs 10,000 pounds and it cost a small fortune in time and money to get the power hooked up. The results enable Corsair wings and other items that were originally spot welded to be restored at Odegaard Wings. Numerous Grand Champion award winning War Birds have resulted due to TSA and Odegaard Wings' attention to original details. Using the old style unmarked rivets, and going to the extreme of removing the 2024-T3 to markings on aircraft aluminium, re-stamping the aluminum with an exact copy of the original markings, and then priming over the markings so the markings bleed through like the original are a couple of examples...the results are only visible in the wheel wells! Brent's looking for employees!



Bob Miller's full scale Styrofoam Messerschmitt

We pried ourselves away from the War Bird restoration world and met Captain Bob Miller at his amazing hangar at Casselton Bob Miller Municipal Airport, which included more Grand Champion award winning aircraft. Starting with Bob's immaculate log books, test flight reports, and builder's records, through to his meticulous workmanship and innovative design elements, and finishing with his tools left in precise order...we were speechless! The EAA Chapter members joined us in awe as we learned numerous tips, a few examples were how Bob:



- Moved the electronics to the front side of the firewall for easier maintenance;
- Balanced his elevators to precision
- Camouflaged the cowl hinge pin;
- Sprayed black paint on the Fiberglas weave, allowed it to bake in the sun for a few hours before sanding the paint off and then prepping the piece for paint – so the Fiberglas weave wouldn't show through the paint: and
- The addition of a turtle deck to the second RV 8 he is currently building!

This was just the beginning of Bob's collection...his hangar is like a "Toys-R-Us" for pilots! It is no wonder that John at Tri State Aviation and Brent Meester at Odegaard Wings both started out working with Bob! We ended the evening having dinner with Bob and Janice Miller, along with the EAA Chapter and Fargo Air Museum volunteers with slides of Bob's award winning RV and RV video clips on the big screen.

Sunday morning we headed out to Detroit Lakes where a group of ingenious builders and inventors showed us their collection. The Fargo and Detroit Lakes EAA Chapter members joined us, including Merrill who flew his Long E-Z in from Fargo.



The group in front of Dr. Dennis Jacob's electric Pietenpol

the propeller. A controller converts the energy from DC to AC. During run-up tests the support crew included, Dennis' wife, who is also a pilot, other family members, physics students interested in related research, and four youth who are now EAA members. Maximum thrust is 220 pounds. At 100 amps, 80 to 85 pounds of thrust were produced and Dennis is certain that 100 pounds of thrust will be produced once weak electrical connections causing power loss are cleaned up. Damien Gehler asked a question the over 25 people in attendance were silently wondering – "What is the cost for converting?" Only \$8-10,000! The cost for the electric engine, Pietenpol, and assorted hardware is about \$4,000; the largest cost is a battery system, which is budgeted at \$4-7,000. Dennis plans to develop the Pietenpol so it runs for about one hour plus reserve before being charged. He plans to insert solar cells into the wings to extend this endurance.

Walking over to Dennis' hangar, Ted Kiebke showed us his SNB (Secret Navy Bomber) powered by a water-cooled Geometro 3 cylinder automobile engine he assembled for about \$3800. This 2.5 litre 60 hp engine burns 2.2 gal/hr; with a straight stack exhaust, and a 3-bladed IVO propeller. It leaped to life on the first try!

As we were leaving, we met Marlis and Lyndon Thompson arriving in their Super Cub on amphibian floats. We've made a lot of friends within 30 minutes of I-29 (Route 75 in Canada) and look forward to dropping into the Detroit Lakes fly-ins held every Saturday morning from about 9am until 11am throughout the year! Our American counterparts are getting their Passports in order and we hope to see them next year on the Canadian side of the Red River Valley checking out our projects.

The Winnipeg Area RAA Members thank each of the pilots, builders, institutions and EAA Chapters who participated in this action-packed weekend – it all began with Joshua Simmers, North Dakota Aeronautics Commission. THANK YOU

Sunday

Dr. Dennis Jacobs, with his students, Alexandra Mathews (Battery Research) and Wayne Hogan (Power Plant Research), are researching the feasibility of using an electric engine to power an aircraft. EAA builders, Larry Stockard and Ted are helping Dennis build the 1931 Pietenpol Scout. One of the key objectives is to develop a system for cheaper recreational flying. The use of electric engines also produces maximum torque at start up. Dennis is waiting to purchase the battery as lithium ion batteries have five times the as energy density as lead and that is expected to double with the next generation of research. The engine uses 96 volts direct drive with the hub adapter between the engine and



Ted Kiebke's SNB

History Channel "Air Aces"

For those of you with access to The History Channel take note of the following "Air Aces" series starting on Jan 7. The first features George "Buzz" Beurling.

Mon. Jan. 7th, 9pm, Ep. #1 "George Beurling"

Mon. Jan. 14th, 9pm, Ep. #2 "Douglas Bader"

Mon. Jan. 21st, 9pm, Ep. #4 "Red Tails"

Mon. Jan. 28th, 9pm, Ep. #5 "Robin Olds"

Mon. Feb. 4th, 9pm, Ep. #3 "Wing Walker"

Mon. Feb. 11th, 9pm, Ep. #6 "Gabby Gabreski"

The series is produced by Cineflix of Toronto (www.cineflix.com)

2013 Membership Form
Winnipeg Area Chapter RAA
 Full \$25

Required Information

Name		OFFICE USE ONLY
Mailing Address		Renewal Date
Phone(s)		Chq <input type="checkbox"/> Cash Other
E-mail		Initials
Are you an RAA national member? ⁽¹⁾	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Do you give permission for your information to be made available to other Winnipeg RAA members?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Optional Information

Do you own an aircraft?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Are you a member of other aviation groups?	EAA: <input type="checkbox"/> COPA: <input type="checkbox"/> Others:
	Make/model:		
	Registration:		
Are you building or restoring an aircraft?	<input type="checkbox"/> Yes <input type="checkbox"/> No	What Pilots licences and ratings do you hold?	
	Make and model of project(s):		

RAA Winnipeg contributes \$15 per member towards the insurance program maintained by RAA national **This program provides liability insurance to cover local chapter events**

Please make cheques payable to: RAA - Winnipeg Chapter
Mailing Address: RAA c/o Steven Sadler PO Box 703 LaSalle Mb R0G 1B0

1) Notes: The \$15 does not provide membership in RAAC