



*Winnipeg Area Chapter of RAA Canada*

*February 2012*

***Executive***

***President: Jim Oke – 344-5396***

***Past President: Ben Toenders – 895-8779***

***Memberships: Steven Sadler – 736-3138***

***Secretary: still looking for a volunteer***

***Treasurer: Don Hutchison – 895-1005***

***Directors***

***Harry Hill - 888-3518***

***Bert Elam – 955-2448***

***Ken Podaima – 257-1275***

***Jill Oakes - 261-1007***

***Gilbert Bourrier – 254-1912***

***Tom Stoyka – 444-3838***

***Bob Stewart – 853-7776***

**NEWSLETTER:**

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## ***CALENDAR OF EVENTS***

**February 16**

Meeting is cancelled

**March 15**

Fabric covering workshop

**April 19**

3 projects Project tour planned

**May 17**

Tire Kick – Summer Plans – Lyncrest Airport

## **RAA Membership Dues Reduction**

The executive of the Winnipeg Chapter of the RAA has examined our finances and believe that we are financially in fairly good shape. The executive has decided to reduce the annual dues from \$50.00 to \$25. For those members who have already paid \$50 for their 2012 dues, you can either request a refund of \$25 or apply

## **Tiger Moth Restoration Project**

*By Jill Oakes and Rick Riewe, University of Manitoba*

The Commonwealth Air Training Plan (CATP) Museum is a non-profit, charitable organization founded and operated by volunteers. The Museum is dedicated to the preservation of the history of the British Commonwealth Air Training Plan and serves as a unique memorial to those airmen who trained and served, and especially those who died, while serving their country in the air war of 1939-1945. This is the only Museum in the world dedicated solely to this goal and we think it is fitting that it is located in Manitoba where so much of the training was carried out. At the time the Plan was signed in December 1939, Canada had only 4,000 people in the Royal Canadian Air Force but enrolment reached 250,000 by the end of 1943.

Aircrew personnel from Australia, New Zealand, England and Canada were all trained under The Plan. Canada was chosen as the training country because of its preferable climate and the fact it was far from the dangers of enemy activity. The Plan was referred to by Winston Churchill as Canada's greatest contribution to the allied victory and referred to by President Roosevelt as the "aerodrome of democracy."

Restoring an antique open-cockpit biplane – which wing to start on first? Brandon's WWII Commonwealth Air Training Plan (CATP) Museum's Tiger Moth DH82A hasn't flown for about 20 years. The trailing edge of each wing looked pretty wavy and some 'broken bones' were protruding from the fabric so the RAA Winnipeg Area and Brandon Chapter members were curious to see the extent of repairs needed to bring this beautiful plane back to flying condition.

Mid-January, we slit into the taugt fabric on the lower left wing – it had the most unusual protrusions indicating several broken ribs and collapsed cap strips. Cutting each rib stitch holding the fabric in position and peeling back the fabric, slowly the ribs and spars appeared. Dozens of people dropped in to see the insides of a 1938 wing first-hand. Imagine, these wings were built about 30 years after the Wright brothers' first flight! The Tiger Moth wing is similar to Citabria, Champ, Cub, Pietenpol and other aircraft with wooden spars and ribs that we've seen restored at the RAA Workshop Final Assembly building at Lyncrest Airport.

Details found in the Tiger Moth wing proudly show its age! For example, some of the aileron control cables are still the original cables with hand braided connections rather than the modern Niccopress connections. Tom Phinney is trying to remember how he used to make those braided lines! If you know how, we'd love to learn from you!! The drag and anti-drag wires holding each section of the wing square have handmade connections that look like large-scale twisted safety wire. Each connection is identical to the other – we'd love to have a photo of the machine or tool that made those wires. Splices and joints are wrapped with fabric tape and metal brackets secure each rib to the spar. The brass tacks are as slim as a sliver, much narrower than contemporary brass tacks, and they are truly made from brass.

Volunteers removed five layers of paint covering the ribs so the wooden parts could be inspected for wood rot and cracks. Fortunately, the wood is in excellent condition, and surprisingly only a half dozen ribs have minor cracks to be repaired. In addition to volunteering time and expertise, local builders have brought in valuable supplies, including:

- Gil Bourrier – tools, leftover sitka spruce and glue from his Acro Sport project, brass tacks, buckets of clamps
- Vic Prefontaine – Wentworth wrenches, specialty tools, hardware

- Larry Brown – Sitka spruce
- George Inman – tools, sanding blocks, paint removing supplies, drummel tool
- Harvey McKinnon – primer, tools, and sand blaster
- Nancy McKinnon – stripped the flying wires
- Scarlettte and Ed Ulrich – access to Ed’s entire tool box
- Bill Gibson – Tiger Moth Pilot’s Notes, including rigging details!
- Adrian Meilleur – 1/8 thick aircraft grade plywood
- Maurice April – clamps, cardboard
- John and Jan McNarry – tools, wing racks, trailer, paperwork, museum logistics
- Gary Wolf – engine cowl
- Bill LeBrun – sitka spruce from his Jungmeister project
- Ken Podaima – tools
- Rick Riewe and Jill Oakes – tools, supplies

Gerry Ricard, Transport Canada, is providing advice needed to manage the paperwork for variances so the original WWII paint scheme can be used, including the aircraft’s military identification. Tom and Steve Phinney have volunteered to serve as the AMO: Structures-Wood for the project and have developed the work plan needed to restore the plane to flying condition. Ted Hector, AME, has rebuilt several Tiger Moths and has volunteered to provide advice.

The Brandon CATP Museum’s Tiger Moth lower left wing has now been cleaned up, repairs are being completed over the next week or so while some volunteers are priming the metal parts and varnishing those ribs that are ready for the next step. Once the wing is complete we’re looking forward to opening up the upper left wing to see if repairs are needed on that wing. We’re planning to cover the upper and lower left wings, and then open up the wings on the right side...so we have the opposite wing as a reference. As we proceed the plan is expected to evolve, leading to the final restoration of Brandon’s Tiger Moth to flying condition. The finished Tiger Moth will be used to commemorate veterans from the CATP and to bring to life the historic role Canada played in training hundreds of thousands of airman from throughout the British Commonwealth. We can hardly wait to see the Tiger Moth back in the sky over the Prairies. Thanks to George Gregory, the Tiger Moth project is now live on the RAA website. From the home page ([www.raa.ca](http://www.raa.ca)) just click on the News tab. It's right after the Forum announcement near the top.

## Work Schedule

Weekdays: 7:00 – 9:00 pm with some working in the afternoon

Weekends: 9:30 – Noon with some working in the afternoon (except Feb 4-5, 11-12 and 17-18<sup>th</sup>)



*Tiger Moth Harvey McKinnon, Jill Oakes and John McNarry each take a few minutes to sit in Brandon CATP Museum’s Tiger Moth DH28a before beginning to dismantle the wings.*



*Air Canada Pilots Bill Gibson, Bert Elam and Bob Wisner (Captains with Air Canada), Bryan Kirk and Bill Dawson are a few of the dozens of pilots who drop in with supplies, volunteer time, and provide useful advice. Rick Riewe is bending a piece of steamed sitka spruce to replace a broken nose rib.*



*Bill Gibson trained on a Tiger Moth around 1936 when he took his initial flying lessons from Brandon Flying Club. He donated the original Tiger Moth Pilot Notes to the Brandon Museum. Inside the Pilot Notes is a detailed rigging drawing we were looking for!*



*John McNarry machined tools needed to disassemble the Tiger Moth and waited for a super calm early morning to bring the wings to the RAA Workshop Final Assembly Building at Lyncrest Airport on the outskirts of Winnipeg in the RM of Springfield.*



*Tom Phinney began working on aircraft over 50 years ago. While inspecting the Tiger Moth wing and developing a work plan, Tom recalled some great stories, including bringing out a 1930s Fairchild from Great Bear Lake in the Northwest Territories back in the 1960s. His son, Steve, also works as an AMO: Structures-Wood. Tom and Steve have volunteered to be the AMO for the Tiger Moth Restoration Project. They were especially interested in the way the drag and anti-drag wires were made. If anyone knows the tool or technique used to make these wires, we'd love to hear from you.*

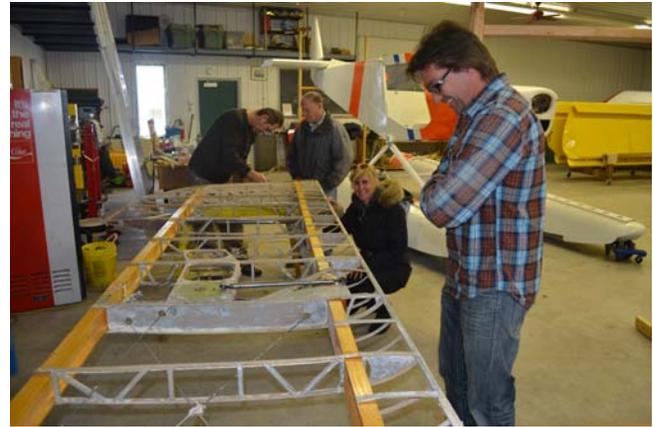
*Maurice April lives adjacent to the Lyncrest Airport and walks over regularly in the evening to help prepare the wings and ailerons for recovering. The Tiger Moth Restoration Team work on the wings every evening from 7:00 – 9:00 and almost every weekend from 9:30 – noon with a few volunteers working in the afternoon.*



*Vic Prefontaine and Rick Riewe look on as Ken Podaima tries out using a heat gun to loosen the packing tape stuck to all the surfaces*



*Paul Dyck, George Inman and Gilbert Bourier check over the lower left aileron for ideas of how to straighten up the trailing edge.*



*Ed and Scarlette Ulrich are finishing off their 701 in the RAA Workshop Final Assembly building and have kindly let the Tiger Moth Restoration Team access to their tool box! Gil Bourrier and Doug Render are working on the root rib in the background.*



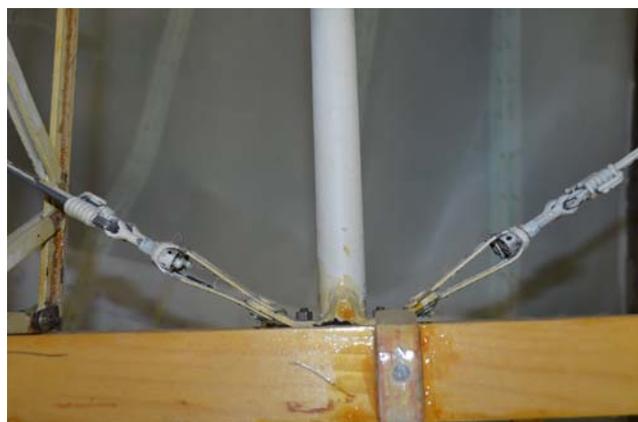
*Jill Oakes and Gilbert Bourrier stripped five layers of paint off the ribs so they could be inspected for wood rot and fractures. Approximately six broken or split ribs were found and are currently being repaired.*



*Gil Bourrier prepares the surface for gluing on a newly fitted cap strip from Bill LeBrun's donation of sitka spruce - for the nose rib near the aileron control box.*



*Ted Hector, AME, has restored two Tiger Moths and volunteered to provide advice.*



*Close up of the drag and anti-drag wires showing the distinct twisted connection system.*

**2012 Membership Form**

**Winnipeg Area Chapter RAA**

Full (\$25.00)

**Required Information**

Name		<b>OFFICE USE ONLY</b>	
Mailing Address		Renewal Date	
Phone(s)		Chq.	Cash
E-mail		Other	Initials
Are you an RAA national member? <sup>(1)</sup>		<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 Make/model: Registration:	Are you a member of other aviation groups?	EAA: <input type="checkbox"/> COPA: <input type="checkbox"/> Others:
Are you building or restoring an aircraft?	<input type="checkbox"/> Yes <input type="checkbox"/> No Make and model of project(s):	What Pilots licences and ratings do you hold?	

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

**Notes:**

- 1) RAA Winnipeg contributes \$15 per member towards the insurance program maintained by RAA National. This program provides liability insurance to cover local chapter events. The \$15 does not provide membership in RAAC.