



**NEWSLETTER**

# *Carb Heat*

**Hot Air and Flying Rumours**

**Vol 33 No. 03**

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## ***MARCH 2003***

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*Next Meeting:*

**Thursday, Mar 20 2003 8:00 PM**

**Canadian Aviation Museum**

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**By Rem Walker**

### **Feature Presentation**

#### **CONFIGURABLE FLIGHT INSTRUMENTS**

**development of a modular interactive instrument system**

**By**

**Gary Loubert**

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**President's Page  
by Gary Palmer**

Winter retains its icy grip on us, in the form of a vigorous March Lion which shows no sign of weakening. Hopefully by our March meeting spring will truly be on the horizon, not just a date on the calendar.

**Homeland Security redefines creativity**

The ever busy security gnomes in the U.S. have apparently decided that air cooled engines pose a serious security threat to the U.S. public. They are proposing to define all such engines as export controlled items. Hopefully, some sanity will prevail, and we won't find ourselves unable to obtain our favourite Lycoming or Continental. On the bright side it may encourage development of alternative power plants, outside the U.S.

**Young Eagles Pilots needed.**

Russ Robinson, our Young Eagles co-ordinator continues to receive ad hoc requests from the public for a Young Eagles flight. If you are interested in giving the gift of flight to a youngster, please let Russ know so he can put you in touch with interested parties. The most recent request was for a Birthday flight for a nine year old boy, hopefully on April 26<sup>th</sup>. If this fits your availability, please give Russ a call for more details.

**Chapter Bylaw revisions adopted.**

Unanimous approval was received from the voting membership for the revisions to our chapter bylaws to bring us into line with current EAA guidelines, and prepare us for potential future change.

**Canadian Aircraft Insurance now available via EAA.**

EAA's insurer Falcon Insurance now offers insurance similar to that previously available from Avemco. Check with EAA at their 800 number or via the web site if you are interested.

**Membership Renewals.**

Our 2003 membership drive continues with the upcoming March meeting being the deadline for renewals. As a reminder, all Associate, and Full members are required to keep their **EAA national membership current**.

**Upcoming meetings.**

Looking forward we have an interesting tentative slate of speakers and topics planned including:

<b>April</b>	Martin Poettcker will describe the overall design and fabrication issues for building a planetary gear reduction drive for his Subaru EA81 powered CH601.
<b>May</b>	Partenavia Mystere S45 presentation, last meeting of spring at NAM, Bush Theatre
<b>June</b>	Oshkosh planning meeting Saturday June 14, 10:00 AM, Carp chapter clubhouse

**Thursday Feb 20th meeting Martin Poettcker's Torsional Damper Design**

**Martin Poettcker** provided an extremely educational session on the problem of torsional resonance in auto engine conversion PSRUs. His unique design and construction of a damper was explained in fascinating detail along with the engineering principles behind the various design choices. Of particular note, was his planned method for operational testing to validate the effectiveness of his design in damping the engine input pulses, using optical pickups from the input and output sections and comparing the phase relationships using the audio input channels of a PC. This is true engineering talent at work.

**Thursday March 20th meeting @ NAM: Custom Engine Instrumentation Design**

**Gary Loubert** will describe the progress made on the design of a custom, modular engine instrumentation system that he first described in an earlier meeting. Gary tells me, he may have a prototype system to show fellow chapter members. This session, like last month's promises to be very educational.

I look forward to seeing you at the Aviation museum, at our normal start time of 8:00 PM.

**Gary**

## IN THE REARVIEW MIRROR

On October 3, 1955 Keith Hopkinson of Goderich, Ontario, under the authority of Flight Permit 001, made the first flight in an aircraft constructed under Department of Transport regulations that recognised homebuilt aircraft in Canada.

This flight actually started in 1953 when EAA was formed in the United States. EAA was successful in formalising requests that had been made to allow homebuilts to be officially recognised in that country. This provided the impetus for Keith Hopkinson to try to persuade the Department of Transport to allow this activity in Canada. With encouragement and help of EAA founder Paul Poberezny and the support of a petition presented through the Canadian Owners and Pilots Association, a portion of which was prepared by Al Bartlett, the Federal Government agreed to use Hopkinson's construction of a Stits SA-3A Playboy as the test case. The rest is history.

The Department of Transport, Air Services, Civil Aviation Branch, issued Information Circular 0/32/58 that outlined the rules, for homebuilts. They were required to conform to paragraph 1,8, Chapter I, Part II of the Engineering and Inspection Manual.

Original homebuilts were called "ultra-lights" and they kept that name until 1982 when the present Ultralight Category was introduced and the homebuilt aircraft became known as Amateur-Built Aircraft and built to the Airworthiness Manual Chapter 549 standards.

The first homebuilts were limited to two seats, a gross weight of 1200 pounds and a wing loading of 10 pounds per square foot. The gross weight was later upped to 1500 pounds.

As the number of EAA members began to grow in Canada they formed themselves into EAA Chapters and it became evident that a Canadian organisation was needed to represent their interests to the Department of Transport. In the mid 1960's a meeting was held in Toronto, gathering EAA Chapter executive officers, who elected Al Ludford as President and Herb Cunningham as Vice-President of the newly-formed EAA Canadian Council. Herb became President several months later.

Originally, the Presidents and Vice-Presidents of the EAA Chapters formed the EAACC and the organisation was funded by donations from each chapter, based on its membership. For liability reasons it was decided that the EAACC should be incorporated in the Province of Ontario and at the same time the name was changed to EAA Canada (EAAC).

Money to finance EAAC was raised by organising the Qrillia Fly-In and running several airshows and aerobatics competitions in Ontario and Quebec. This was not a dependable way to ensure adequate financing so in the early 1970's Canadians were asked to send an additional two dollars when they renewed their EAA membership. This extra two dollars was returned to the EAAC by EAA. However, some members complained about this, wondering what they were getting for their money. This method of funding was discontinued after a couple of years.

In 1969 the first aerobatics contest in Canada was held at Peterborough, Ontario. Unfortunately, several pilots were not permitted to fly Canadian homebuilts in the contest because the regulations did not permit that activity. This provided EAA Canada with the goal to convince Transport Canada to change the regulations. EAAC President Herb Cunningham and the board of directors realised that success depended on having proper technical material to back up the request.

The next two years were spent bringing together people with technical backgrounds in all phases of design, engineering and test flying. The group was chaired by Ted Slack and they were called the EAA Technical Committee. The EAA Technical Committee prepared a proposal that Transport Canada approved, resulting in waivers being granted for qualified acrobatic homebuilts. Gerry Younger, with his Pitts Special, received the first of many similar waivers granted to other qualified aerobatics homebuilts.

On June 1, 1974 the first issue of Canadian Sport Aviation News, edited by Herb Cunningham, was sent to members of the EAAC and in bulk to EAA Chapters in Canada for distribution to chapter members. This continued until February 10, 1976 when COPA and the EAAC made a deal that continues to this day. COPA has always been a staunch supporter of EAA, right from the early 1950's when COPA supported the petition mentioned in paragraph two, which led to the official recognition of homebuilt aircraft in Canada. While discussing the many problems involved in keeping the EAAC members advised as to Canadian activities, COPA Manager, Bill Pepler and EAAC President, Herb Cunningham came up with the idea to send COPA's monthly Canadian General Aviation News free, to EAA Chapters and members. This began the practice of including EAA news in COPA's publication.

In 1976 Herb Cunningham resigned as EAAC President. The officers and directors were a new bunch in keeping with the desire to let the people from the west take over the responsibility to run the organisation. Gogi Goguillot of Vancouver was President with Tony Swain, also of Vancouver, Vice-President.

In the meantime, the EAA Technical Committee, chaired by Ted Slack, was busy with a submission to Transport Canada in September 1974. This resulted in the increase in the gross weight for homebuilts from 1500 pounds to 1985 pounds and the wing loading to 20.4 lbs. pounds per square foot. More designs became available to Canadian builders.

The 1970s also saw the advent of composite construction, something that was not familiar to Transport Canada so they were not permitted to be built and flown in this country. To sort this out Ted Slack and the Tech Committee organised a conference/workshop at Centennial College in Toronto, December 3-10, 1977. Burt Rutan and Larry Haig attended from the United States with senior officials from Transport Canada present. At the end of the week Ken Owen, then Chief of Airworthiness and John Mew, then Chief of Inspections, expressed their satisfaction with this type of construction.

In December 1982 Slack and the Technical Committee presented a report to Transport Canada with several recommendations that would bring Canada's homebuilt activities in step with the many advances taking place. All recommendations were accepted. They were allowing helicopters to be constructed by amateur-builders. Russ Gerrish of Calgary built a RotorWay Exec, the first under the new regulations. Test Flight was on June 11, 1985.

- Increasing the number of seats from two to four.
- Increasing the gross weight from 1985 pounds to 3968 pounds.
- Increasing the gross weight of gyroplanes and fixed wing gliders.
- Changing the initial test period from 50 hours to 25 hours of trouble free operation

In 1983 the EAA Technical Committee formed an autonomous organisation known as the Canadian Aerosport Technical Committee (CASTC). Same people but with a new name and without formal ties to EAAC whose leadership had moved from the west to a new group in Ontario. The new leadership held a directors meeting on February 28, 1987 at which time it was decided to discontinue operating under the auspices of EAA and to be a Canadian-only organisation but to continue using EAA's name and to recruit EAA's members and chapters. The prospect of an expensive legal battle over the use of the name encouraged the break away group to call itself the RAAC (Recreational Aircraft Association Canada). This was in 1988.

Of the slightly more than 25 EAA Chapters in Canada at the time most went to the RAA leaving EAA with eight. Since that time a few new chapters have been formed and some have moved from the RAA to EAA so that today, there are 16 but this figure may change. Individual membership in EAA has grown steadily over the years probably doubling what it was at the time of the split, 2312.

Early in 1987 Paul Poberezny asked Rem Walker to bring together a group of EAA members from across Canada and to reactivate the EAA Canadian Council. EAA Chapters were asked to suggest a person from their group to be on the EAACC and a couple of fellows volunteered their services. A total of nine form the EAACC. Herb Cunningham was one of those volunteering his services. He spent countless hours attending CARAC meetings when they were initiated in 1993 and continues this important task to this day.

#### EAA CHAPTERS

#30 Edmonton, AB	#65 Hamilton, ON	#911 Peterborough, ON
#923 Lethbridge, AB	#115 Brantford, ON	#1126 Timmins, ON
#679 Duncan, BC	#185 Windsor, ON	#1233 Thunder Bay, ON
#305 Stanley, NS	#245 Ottawa, ON	#353 O'Leary, PEI
#1051 Kentville, NS	#366 North Bay, ON	#266 Montreal, QC
#154 Regina, SK		

#### EAA CANADIAN COUNCIL ACTIVITIES BEGINNING IN 1988.

The first meeting of the EAA Canadian Council, with Transport Canada officials, was on January,5, 1988. The meeting became the springboard for initiatives that have proven to be of benefit to homebuilt aircraft enthusiasts. They are

1. High-performance Aircraft/Rating. Completed 1992.
2. 2. IFR for Amateur-Built Aircraft. Completed 1996.  
Note; COPA, EAA, GASTC and several individuals assisted the EAACC with its 1988 proposal to Transport Canada. Support from the RAA for the concept of Amateur built Aircraft IFR was received by Transport Canada after Barry Miller became RAA President, four years after the process had been started.
3. Simplified Acrobatic Procedure. Completed 1996.

4. Provided funds to enable representatives from Aerobatics Canada to travel to Ottawa to attend CARAC meetings when aerobatics was on the table.
5. Requested an Exemption for Amateur-Built Aircraft and Advanced Ultralights from the Approved Aircraft Seats and Safety-Belts Order of August 30, 1994. This was completed in December 1994.
6. Tens of thousands of dollars have been provided, since the CARAC process began in 1993, to enable representatives to travel to Ottawa to attend CARAC meetings. This continues to the present time although not as frequently as in -the early days of the meetings.
7. Funding to develop the standards for the Sport Aircraft Category was provided by Zenair, Murphy, Seawind, COPA and EAACC.
8. EAACC has provided thousands of copies (free) of the Handbook, Ultralight Summary, Tire-Kickers' Special, Finnish Report and Flight Test Manual to anyone asking for a copy.
 

- Handbook	3040	printed	21 on hand.
- UL Summary	1420	printed	13 on Hand
- Test Manual	110	printed	09 on Hand
- Tire-Kicker	3200	printed	17 on Hand
- Finnish Rep.	220	printed	04 on Hand
9. On August 1, 1999 during AirVenture Oshkosh 1999, it was jointly announced by the FAA and TC that a "blanket" Special Flight Authorisation, can be obtained that will allow you to fly your Amateur-Built across the Canada/US border, without the need for an application each time. this was the result of representation by EAA and the EAACC over a long period of time to both the FAA and TC, and with considerable help from COPA.
10. Supported the Owner-Maintenance Category and is supporting the joint effort of EAA and COPA to convince the FAA. to permit O-M to fly in the U.S.
11. EAA hosted meetings between TC, E4A, EAACC, GASTC and various light aircraft manufacturers in Oshkosh to bring commonality between the homebuilt regulations in the two countries.
12. EAACC placed these items on the agenda for the COPA-sponsored meeting in Calgary in January, 2001, re Amateur-Built and Ultralights.
  - Revisit the 51 Rule. Done, CAR 507.
  - Increase the gross weight for Amateur-Built. Done, CAR 507
  - Increase the number of passenger seats. No.
  - Permit the importation of foreign-built homebuilts. Done, CAR 507.
13. The meetings noted in item 11 paid off when TC approved the importation of foreign built home builts, completed and partially completed.
14. Organise a yearly Information Symposium during Oshkosh, attended by TC officials.
15. EAACC and COPA expressed concern with TC's action regarding the AME sign-out required for Amateur-Built Aircraft repairs, as noted in Canadian flight of last fall. An exemption was printed in the September -Issue of Canadian Flight.
16. Advise chapters when NAV CANADA studies are scheduled in their area.
17. Working with TC to preserve the AMA's now in AWM 549. NPA 2002-003 Evaluation of Amateur-built, Aircraft Kits will be in CAR 507 Appendix X, More to follow.
18. Supported NAV CANADA'S plan to raise the weight limit for fee exempt light aircraft.
19. Worked with TC re the Regulatory Workshops in Hamilton and Midland in Nov. 2002.
20. Supported the National Aviation Museum in its quest for funding.
21. EAACC. reps have attended TC's Canadian Aviation Safety Seminars.

22. Many miscellaneous items:

- distributing TSB reports to chapters when they involve homebuilts.
  - support, MAAC and EAACC Super Saturdays for kids.
  - participation in the National Aviation Institute study in 1991.
  - participation in the TC evaluation and study on UL.
  - participation in the TC Ministerial Task force on Aviation Matters in 1992,
  - participation in the Regulatory Review by TC in 1993.
  - co-operatives efforts with NRAC re recreational aeroplanes, UL, FTU's and AULA.
  - supported the Sport Builders' Conference in Vancouver in 1994.
  - notified members of the Mobil Oil class action lawsuit in the mid 1990's,
  - supported efforts to save Delta Air Park in 1995.
  - support Youth Flight Canada in its efforts to fly kids.
  - encouraged members and chapters to fly Young Eagles, participate in EAA Air Academies for kids and adults. Air Adventure Days, Scholarships, Flying Start, etc.
- TC meeting in Toronto in May 1988 re Amateur-Builts and Ultralights.  
-TC meeting in Toronto in September 1989 re UL policy.  
-EAACC meetings in Oshkosh in 1987, 1992 and 1993. Toronto in 2003.etc.

EAA CANADIAN COUNCIL

Denis Browne,  
Campbell River, BC  
November 1996

Lars Eif  
Orleans, ON  
February 1993

Ralph Howling  
Harrow, ON  
October 1989

Brain Chappell  
Bedford, NS  
March 1992

Chris Falconar  
Edmonton, AB  
December 1992

Earl Kickley  
Lampman, SK  
October 1997

Herb Cunningham  
Beaverton, ON  
Dec 1989

Frank Hoffman  
Pierrefonds, QC  
January 1990

Rem Walker  
Regina, SK  
May 1997

*By Rem Walker.*

## COPA REGULAR MEETING FEATURES

Nav Canada's Francois Robert talking about emergencies, how to declare one. ATC's roles, pilots roles, how to help in someone else's emergency. Who does what paper work. Goal is to dispel any myths and relieve unnecessary anxieties.

Date / Time: 26 March 2003 / 1930 to 2100

Location: Ottawa Flying Club Lounge

All are welcome.

Later in March you will want to attend the all day special seminar on "Decision Making for Aviators". Presented by Transport Canada in conjunction with the Ottawa Flying Club. Transport Canada's Michel Treskin, Regional Aviation Safety Officer-Training and Paul Allore, Regional Aviation Inspector will lead the seminar.

Date / Time: Saturday, 29 March 2003 0900 to 1600

Location:

RCAF Air Force Officers' Mess 158 Gloucester Street, Ottawa Admission: \$15 for room rental, lunch and refreshments

All pilots, student pilots and interested individuals are welcome! As well, it meets Transport Canada's recurrent training requirements.

Topics Include:

The human factors involved in decision making, judgement, risk management, stress, fatigue, and ways to recognise and prevent poor decision making, and improve your decision making skills. As well, assessment of the use and development of checklists.

Free parking Saturdays on city streets, or parking is \$3.00 at the corner of Gloucester & O'Connor.

Tickets can be purchased at most local flight training services and flying clubs, including Ottawa Flying Club, Rockcliffe Flying Club, Westair, Ottawa Aviation Services, etc.

For additional information contact Ottawa Flying Club - Dispatch, or Steve Roach - General Manager, 613- 523-2142 <mailto:info@ofc.ca> or browse to

[www.ofc.ca](http://www.ofc.ca)

Honda Motors and TCM (Continental) are working on a Honda based 4 cylinder horizontally opposed liquid cooled Aviation engine. Few details yet.

Place your ads by phone with Rodney Stead  
 @ 836-1410 or e-mail to [sttstmp@sympatico.ca](mailto:sttstmp@sympatico.ca)  
 Deadline is first of the month. Ads will run for three  
 months with a renewal option of two more months.

For Sale: 25 lbs. Aluminium 6061 T6 Very small pieces.  
 Some pieces partially annealed, a very labour intensive  
 process!! WOW!!!!?????  
 01/03 "Super" Martin @ 613-271 6113

For Sale: new easy-lift 2000 amphibious aluminium  
 floats  
 Electric /hydraulic operated.  
 01/03 Paul Sicard @ 613-487-2614 or 613-715-0575

New engine mount, suitable for 0-540, I 0-540 Lycoming  
 Engines Set up for tail dragger, also has tabs and  
 reinforcement for a nose gear config. Priced to sell  
 quickly.  
 02/03 [Stan.ironstone@sympatico.ca](mailto:Stan.ironstone@sympatico.ca) 613-258-2660

ICOM A20 VHF air band Transceiver	\$295.00
ICOM HS-20SB PTT Switch box	\$25.00
ICOM CM-12G Battery case	\$25.00
12 Volt adapter	\$25.00
Telex ProAir 2000E Headsets-2	\$195.00 ea.
Sigtronics Transcom 11 Intercom	\$175.00
E6B computer	half price
Sportplane Construction Techniques, The Sportplane Builder, Firewall Forward	\$25.00
Bingilis on Engines (new)	\$30.00

email; [adouma@rogers.com](mailto:adouma@rogers.com)  
 03/03 Call Andy @ 613-591-7622

### Articles Wanted

I am always interested in receiving submissions for this,  
 your Newsletter. You may bring articles to the monthly  
 meetings, or mail information to the post office box, or  
 e-mail [sttstmp@sympatico.ca](mailto:sttstmp@sympatico.ca)



### EAA Chapter 245 Membership Application

NEW:\_\_\_ RENEWAL:\_\_\_ DATE:\_\_\_/\_\_\_/\_\_\_  
 EAA NUMBER:.....  
 EXP Date:\_\_\_/\_\_\_/\_\_\_  
 NAME:.....  
 ADDRESS:.....  
 CITY/TOWN:.....  
 PROV:.....PC:.....  
 PHONE:(.....).....H (.....).....W  
 EMAIL:.....  
 DISTRIBUTION Preference: email..... post.....  
 AIRCRAFT &  
 REGISTRATION:.....  
 .....

OTHER AVIATION AFFILIATIONS:  
 COPA:\_\_\_ RAAC:\_\_\_  
 OTHER:\_\_\_\_\_

**Annual Dues:** January 1st to December 31st. (porated after March31st  
 for new members/subscribers).  
 Associate Member \_\_\_: \$30.00 Newsletter plus Chapter facilities  
 Full Member: \_\_\_: \$55.00 Newsletter, hangar, workshop,  
 tiedowns. (Note: there is a one time \$200 initiation fee when you become a  
 Full Member)  
 Newsletter subscriber \_\_\_: \$30.00 Newsletter  
 Note Associate and full members must also be members of EAA's parent  
 body in Oshkosh WI, USA

Make cheque payable to:  
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 Mail to - P.O. Box 24149, Hazeldean R.P.O., Kanata,  
 Ontario, K2M 2C3