



# CARB HEAT



Newsletter of the Experimental Aircraft Association Chapter 245  
Ottawa (Carp CYRP), Ontario, Canada  
Volume 54 No. 3 December 31<sup>st</sup>, 2024

## Next Meeting

There is no December meeting because Christmas is too close. The next meeting will be on Saturday January 18<sup>th</sup>, 2025, and will be held at Helicopter Transport (CYRP) with a tour of the facility and a presentation by Helicopter Transport.

WHERE: Zoom Meeting, unless otherwise noted – see above!

*Check your email in-box for a possible ZOOM meeting invitation to be sent by our Chapter President.* (it's not hard at all to join a Zoom meeting – try it, if you're having trouble, contact one of the execs who will help you out). This will be a backup to in person meetings if needed.



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# EXECUTIVE ROUNDUP

## President's Message

Nick Papadopoli – EAA Chapter 245 President



On behalf of the entire membership, I would like to thank Mark for his efforts over the last 6 years (Wow!). It goes without saying that he's been instrumental in the continuing success of the chapter. I also want to thank him for spearheading my apparent campaign to volunteer!

I would also like to thank all the members of the executive for their ongoing contributions which are key to ensuring that the chapter continues to thrive. In the meantime, please feel free to contact me with any ideas, comments, concerns or anything else. Rest assured that I will do my best to help maintain the chapter's excellent status!

As the festive period draws near, I want to take this moment to express my heartfelt gratitude to each of you for your contributions, support, energy, and dedication throughout the year. Whether you've been with the Chapter for years or just joined recently, your passion and enthusiasm are what make our group so special!

I hope this holiday season brings you joy, peace, and time spent with loved ones. May the new year ahead be filled with safe & exciting adventures, new opportunities, and shared success.

Thank you for being a part of our incredible community. I look forward to another year of fun, friendship, and growth together!

Wishing you all great holidays and a Happy and Healthy New Year!

Cheers!  
Nick P.

# Editor's Comments

Peter Whittaker – Newsletter Editor



Welcome to the third and final edition of Carb Heat for 2024. This starts with updates from the executive, and I included a short update on my Zenith 750 Cruiser project.

On a separate note, Ian Brown, editor of the EAA Canada Council Newsletter, has asked for a few photos and a brief note from the Gatineau Air Show held in September. Yves Marchand kindly arranged for a friend of his to provide a few photos from the event and they are included in this edition of Carb Heat with a few notes from yours truly.

And finally, 2025 is around the corner and this January will see the 5<sup>th</sup> Annual EAA Homebuilders Week online event. Charlie Becker from EAA headquarters has provided the schedule of seminars for homebuilder's week and directions for signing up and this is included in

this issue of Carb Heat.

Keep on Building and/or Flying and Best Wishes for Christmas and the New Year,

*Peter W*

## Vice-President

Mark Briggs – EAA Chapter 245 Vice-President

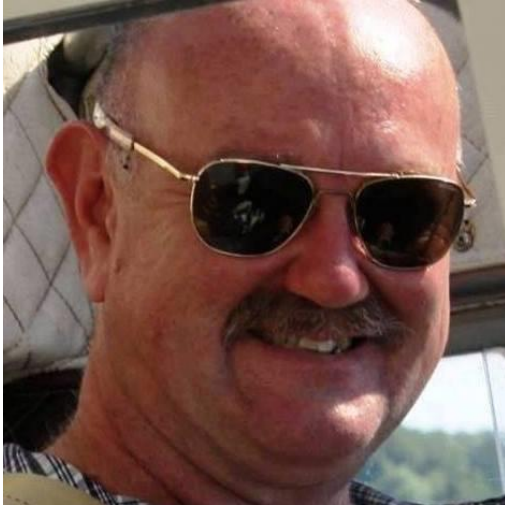


Happy Winter and Spring, Folks!

**Mark**

# Treasurer and Marketing Manager

Ken Potter – EAA Chapter 245 Treasurer & Marketing Manager



Hello Everyone,

2024 has seen the chapter continue to emerge from the pandemic, including financially. With the sale of the Cruiser project we replenished our reserves and had some funds left over to put into upgrades to the Chapter hanger in the form of desperately needed new windows. Our fly-in breakfast was also moderately successful and netted us a profit of approximately \$600. (I know, I know; it's a hard way to make 600 bucks, but it was a fun day) All in all, we finish the year in good financial shape.

## Moving my Lake Amphib into my hangar

Most of you know that I purchased a 1968 Lake LA 4 180 amphib last spring and have been pursuing my seaplane rating.



When I purchased it I knew that, at 9' 4" high it would not fit into my 8'11.5" high hangar door opening. When it was time to do the annual in November, I carefully measured the plane and hangar door again and came to the conclusion that, if would fit under the door if I deflated the tires. I put out a call for volunteers and Chapter members responded with 14 coming out to help. We lined the plane up for the opening and carefully moved it towards the hangar. When the engine nacelle was just about to make contact, we deflated the tires and.... dang'it... just slightly to high to fit. Someone suggested letting some nitrogen out of the main gear oleos and just like that we gained the extra inch or two that we needed, and the plane slid into the hangar, easily clearing the front beam. My thanks to all that came out. Some photos of the event follow:



The moving team did a great job of fitting the Lake into the hangar and negotiating the low beam.



Cheers,  
**Ken**

# Secretary

Mark Cianfaglione – EAA Chapter 245 Secretary



Hello Everyone,

Winter has finally set in just in time for my MD-RA inspection (Sorry Mark). The delay was more due to the postal strike than anything in my control.

So, now back to planning my next spring's activities. Only 90 something days to go.

*Mark C.*

# Operations

Chris Hepburn – EAA Chapter 245 Operations and Tools



Hi All,

This summer has proven to be a bit busy for us all. Our new large windows for the chapter lounge arrived in mid-July. They were installed with volunteer help (4x6 foot windows are not light) along with smaller windows for the shop which replaced the rotted ones.

Cheers,

**Chris**



# Membership and Webmaster's Report

Phillip Johnson – EAA Chapter 245 Membership Coordinator & Webmaster



Hello All,

So here we are again, a few days before Christmas 2024, and again I'm down south enjoying the sun and good weather whilst avoiding that nastiness we call winter in Ottawa. In the meantime, the following is a synopsis of the chapter membership as we approach the end of the year.

As you can see, we've picked up three new members at the end of 2024 but, alas, we've also lost a few. The data given below indicates 74 members yet to renew which is quite normal for this time in the year as that figure is for the 2025 renewal. What we do have is 22 members who are either life members or members who have already renewed which is looking good for this time of year. I must remind you all that membership dues are due at the beginning of the calendar year. The good news is that we have not raised the annual subscription amount for yet another year so that's \$50 for Associate membership and \$100 for Full.

Total Number of New Members	3
Total Number of Full Members Including Tiedown(s)	10
Total Number of full Members with Tiedown.	1
Total Number of Associate Members.	3
Total Number of Life Members	2
Total Number of Young Eagles	6
Total Number of other types of membership.	1
Total Number of Chapter Members.	22
Number of previous year members who have yet to renew	74

Anyway, back to the business side of being the membership coordinator. Please checkout our website to see the entitlement for each membership class. [Membership \(eaa.org\)](http://Membership(eaa.org)). So please, everyone, send your monies to [treasurer@eaa245.org](mailto:treasurer@eaa245.org) for your membership renewal.

While we are still in 2024 the Canadian Council is preparing for Airventure 2025, and we will be moving forward with Canadian Camping in a similar vein to that of 2023/24. EAA has made it very clear that want to promote this venture.

On the personal side I've had some activity on my Cozy. Back when I sent my letter to Transport Canada requesting my Cozy build, I provided them with the details for the Cozy, and in particular, I had increased the gross weight by 100lbs to allow for the increased weight of the Subaru engine and the retractable landing gear. At each MDRA inspection I made a point of including the increased gross weight. In 2015 when I submitted my paperwork to MDRA for my final inspection, MDRA took it upon themselves to revert the gross weight back to the

Cozy standard weight identified by the designer, Nat Puffer. This was not within the rules and my gross weight figures should have stood true.

After I received my C of A, TC (Transport Canada) told me that I could get this gross weight figure changed downstream after I'd flown a few hours. That was my plan, but I was having too much fun flying and I never got to go through that process

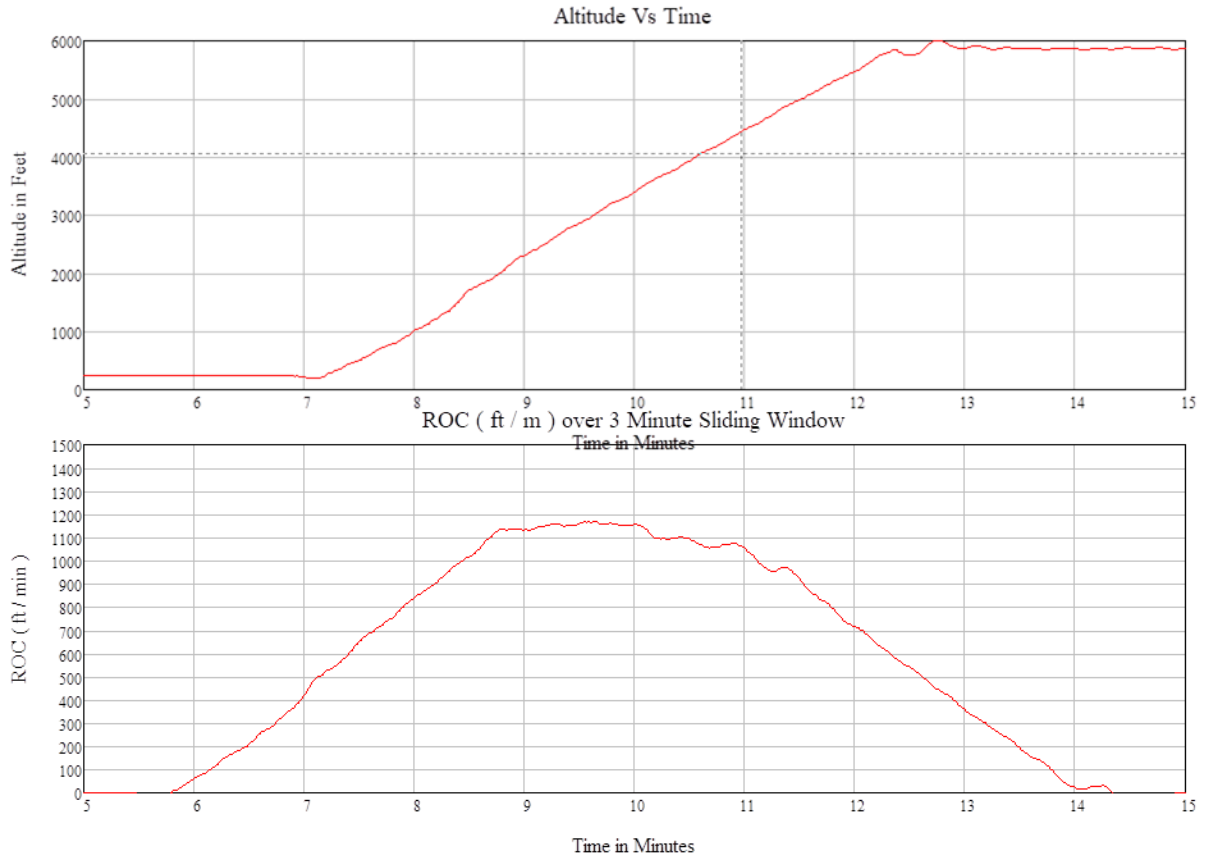
until 2024. I finally contacted TC and told them what I wanted to do. I submitted a number of calculations and also cited a number of US Cozy aircraft examples with the increased weight. Since I was making the upgrade, I decided to increase the gross weight by 200lbs thereby eliminating the future possibility for being overweight. The only issue was that I needed to do a climb test at this 200lb increased gross weight. Whilst I was not worried about doing the climb test per se as I had so much surplus power, I was concerned about doing the test in the high summer temperatures and with the prevailing wind from the west as Smiths Falls CYSH has an uphill runway for the first 1,500ft of the 4,000ft available when using runway 24. I explained this to Jason Morrison of TC when he visited me at my CYSH hangar, and he agreed to extend the validity period of my special CofA to allow me to find cooler weather. Well, surprise surprise, two days later, the wind was straight down runway 06 and from the east and the day was close to a standard day of 15C. (Actually, it was 20°C by the time I did the test).

As you may know CYSH runway 24 has an uphill grade for the first 1,500 feet whereas runway 06 is flat for the first 2,500 feet and then has a downhill grade for the following 1,500 feet. On my return home and watching the weather forecast for the weekend through Monday, the weather was CAVOK with a light wind from the east and directly down runway 06. With this in mind, I decided to go ahead with the climb test ASAP. To this end, on Sunday 29<sup>th</sup> September, I pumped all of the useable fuel from the fuel tanks and conducted a weight and balance on the empty airframe but with all other fluids at their maximum levels i.e. Hydraulic fluid, engine coolant, Engine oil, and unusable fuel included in the measurement. The certified scales were borrowed from EAA245's tool crib ( [Chapter Tool Crib \(eaa.org\)](#) ). The resulting W & B gave the empty aircraft a weight of 1533lbs @ 110.6 inches. Four 50 lb weights were also borrowed and were to be used in the co-pilot's location being held in place using the co-pilot's seatbelts. After doing the weight and balance, the four 50lb weights were installed in the co-pilots seat along with two 25lb bags of lead shot on the rear passenger seats being held in place each with 4 x 300lb breaking strength Zip-Ties (1200lbs per 25lb bag).

On Monday morning, and with the aircraft having been prepared the previous day, the first flight of one circuit at 2150lbs was conducted. The Cozy is equipped with a GoPro camera which is immediately behind the pilot's head and can see the same view as the pilot. Furthermore, the GoPro records everything from the audio panel making it a wonderful voice and video cockpit recorder. The take-off roll was 1,362 feet, measured by counting the runway markers from the video and using the measurement tool from Google Earth to make this determination.

The second flight was again a single circuit but with the weight increased to 2187 lbs @ 98.6 inches. Again, the take-off roll was measured to be 1,645 feet.

Now that I was comfortable that the conditions were good for doing the climb test, I loaded the aircraft to 2249lbs @ 98.7 inches and prepared to conduct the test. The take-off roll was 2,100 feet which was more than acceptable. Once at a safe altitude of 500ft AGL I made a left 180 degree turn to avoid entering the Ottawa terminal airspace and continued to climb and using the pitch autopilot to control the forward speed in the climb to 105 KIAS. The climb was made to 6,000ft MSL. The Cozy is equipped with two data acquisition flight data computers which drive the two EFIS's. Data is stored across 64 channels at a rate of 1Hz. Using the EFIS data allowed me to focus on the flight and analyse the data post flight. The two graphs below show the pressure altitude, and the ROC based on a sliding window of  $\pm 90$  seconds i.e. the required 3 minutes. With a requirement for around 300 ft per minute over three minutes I achieved 4470ft within the three-minute period or an average of 1490 ft per minute which is a highly respectable number at this new gross weight. TC has subsequently increased my gross weight to 2250lbs, 975.22kg



**Aircraft Information**

<b>Mark:</b>	C-GPLE		
<b>Common Name:</b>	PHILLIP JOHNSON	<b>Model Name:</b>	COZY MKIV
<b>Serial No.:</b>	0030		
<b>Basis for Eligibility for Registration:</b>	CAR Standard 549 - Amateur Built Aircraft		
<b>Category:</b>	Aeroplane	<b>Engine:</b>	1, Piston
<b>Max Take-Off Weight:</b>	975.22 kg		

Regards,

*Phillip Johnson*

# Young Eagles

Tom Weichert – EAA Chapter 245 Young Eagles Coordinator

Hello Members,

Pilot and ground crew volunteers are needed for future events, if you can volunteer the email contact is below with which to contact me.

Thanks, and Happy Flying!

Tom Weichert

Young Eagles Coordinator

EAA245

[Young.eagles@eaa245.org](mailto:Young.eagles@eaa245.org)

# EAA MEMBER ARTICLES & PROJECTS

## Zenith 750 Cruiser Update – Peter Whittaker



Since the last issue of Carb Heat, the lens for the LED landing light taxi light combination was completed and the frame was vinyl wrapped with remnants left over from the full airframe wrapping.

Flaperons have been installed and tested for movement to check that nothing is binding and that both the “Y” center stick and flap motor have free and full range of motion. Flaperon balance weights were fitted and the weights adjusted to give neutral



balance for each flap and aileron section when disconnected from each other and from the control rod linkages. The setup used for balance checking is shown below and employs two right angle shelf brackets. Hinge or pivot points in each shelf bracket were drilled for AN3 bolts and each control surface was tested for a free return to horizontal without assistance (photo). This was done after the flaps and ailerons were vinyl wrapped and again after the adjusted counterbalance weights were painted red and prior to mounting to the wing flaperon brackets.

Final balance was checked after the flaps and ailerons were mounted, first as separate parts (photo) and then again after bolting together to make complete flaperons. The flap and aileron balance checks were done with two right angle shelf brackets and the pivot holes drilled to take AN3 bolts which are used in the flaperon mounting brackets at the wings. This method came from a Cruiser build video from Scott Matthews – “The Aussie Cruiser Builder”.

Flaperon balancing:



Left flap balanced on shelf brackets.



Right flap mounted to wing brackets and balanced

## EAA VMC Club – Mark Briggs



## EAA VMC Club

Question of the Month

### This Month's Question:

Consider the yellow tinted areas on a sectional chart. If you are flying outside a yellow area, is that considered flying over a sparsely populated area with regards to minimum safe flight altitudes (FAR 91.119)?

**Mark**

## EAA Online Homebuilders Week – Charlie Becker

**Homebuilders Week – Online Event Starts Monday, January 27th**

***30 online sessions to expand your knowledge of building your own aircraft***

By Charlie Becker, EAA Homebuilt Community Manager

Homebuilders Week is an online opportunity to carry on the founding mission of EAA by sharing as much knowledge and information about building your own aircraft as possible in five days. We start on Monday, January 27<sup>th</sup>, 2025, and end on Friday, January 31<sup>st</sup>, 2025. Each day, we offer six live webinars running back-to-back, starting at 11:30 am central time and running every hour and a half until the last session at 7pm central. The sessions are live and allow time for questions. To sign up for the sessions, visit [www.EAA.org/HomebuildersWeek](http://www.EAA.org/HomebuildersWeek)

The topics cover something for everyone, whether you are just considering the idea of building an aircraft, are knee deep in a project or getting ready for test flying. We even have EAA president Jack Pelton lined up on, January 30<sup>th</sup>, to talk about EAA's Advocacy efforts on behalf of the homebuilt members.

EAA Homebuilders Week follows immediately after the anniversary of the founding of the Experimental Aircraft Association on January 26<sup>th</sup>, 1953. I can't think of a better way to recognize our organization's founding than to spend 5 straight days learning about homebuilding.

EAA Homebuilders Week is made possible through the generous sponsorships of Aircraft Spruce & Specialty Co., Dynon, Scheme Designers, and Van's Aircraft.

Visit [www.EAA.org/HomebuildersWeek](http://www.EAA.org/HomebuildersWeek) to sign up.

The schedule follows on the next page.



# Homebuilders Week Schedule

## January 27 - 31, 2025

To sign up: [EAA.org/HomebuildersWeek](https://EAA.org/HomebuildersWeek)

Time CST	Monday 1/27/25	Tuesday 1/28/25	Wednesday 1/29/25	Thursday 1/30/25	Friday 1/31/25
11:30-12:45	Building an Aircraft: What You Need to Know - Charlie Becker	Wiring Basics - Dick Koehler	Flight Testing 101 - Paul Dye	EAA Advocacy Update: Top Homebuilding Issues and the Impact of MOSAIC - Sean Elliott, Rob Hackman, & Jack J. Pelton	Staying Alive: Analysis of Homebuilt Fatal Accidents - Dave Nelson
1:00-2:15	Sheet Metal Basics - Mike Dooley	TIG Welding - Charlie Becker & Shaun Walker	Composite Construction - Mark Forss	Amateur-Built Aircraft Certification Process - Joe Norris	Liability of Selling Your Homebuilt - Kathy Yodice
2:30-3:45	Fabric-Covering Basics - Nate Hammond	Getting Your Project Finished and Flying - Vic Syracuse	Buying a Used Homebuilt - Vic Syracuse	Sonex Highwing Update - Mark Schaible	Zenith Aircraft Kits & Plans - Sebastien Heintz & Roger Dubbert
4:00-5:15	The Need for Speed: Kitbuilt Options - Dave Forster	Hardware for Homebuilts - John Cox	Advanced Flight Systems - Rob Hickman	Garmin Experimental Avionics Solutions - Brad Breising	Weight and Balance - Joe Norris
5:30-6:45	Panel Planning and Wiring - Marc Ausman	Dynon Avionics - Michael Schofield	Engine Selection Basics - Dick Koehler	Gas Welding - Budd Davisson	Working With Wood 101 - John Egan
7:00-8:15	Rotax 9 Series Installation & Operation - Phil Lockwood	Designing the Perfect Paint Scheme and Its Impact on Budget - Craig Barnett	Data-Driven Diagnosis of Engine Issues - Mike Busch	Van's RV Aircraft Kits - Greg Hughes	Common Builder & Maintenance Errors - Vic Syracuse

Sponsored by



## Gatineau Air Show Photos – September 9, 2024

(Photos courtesy of Patrick Vergobbi via Chapter 245 member Yves Marchand)

The weather was not the best but was flyable for low level formation flying featuring Canadian, British and American military precision air demonstration teams which all commemorate the 100th anniversary of the RCAF. There were also a few vintage fighters flying including a spitfire, a hurricane and a mustang. A hangar museum / restoration workshop was also open where a beautifully restored Tiger moth biplane was on display. The photographer's platform was well populated with large telephoto lenses regardless of the weather! A water bomber (CL215T or CL415) was also prominent on the ramp, and these are now well used in the extended fire seasons that Canada experiences as well as in many other parts of the world.









# CLASSIFIEDS – Aircraft, Avionics & Parts

Does anyone have anything aviation related to list? Drop me a line at [newsletter@eaa245.org](mailto:newsletter@eaa245.org) or [pwhittaker@bell.net](mailto:pwhittaker@bell.net) to let me know and I will add your treasure to the classifieds listings.

## 1. From Mark Richardson (rv8bldr@gmail.com)

Take advantage of my impatience/short attention span on these items. I bought these for my Bearhawk build over the last 6-8 years. Some of the stuff I bought was used from guys on the VAF forums and all were working when removed. Other stuff is new. In all cases I bought this with the intention of keeping the cost down with older equipment but then I got distracted by shiny new stuff. SQUIRREL!

Two Garmin GDU 370 EFIS units. Each comes with the mounting ring that is riveted to your panel. No config module or any of the other LRUs. Just the displays. Currently these are going for about \$1500 USD each. \$2,500 CDN for the pair, or \$1,500 CDN each.

One Garmin GTX-23ES remote transponder/ADS-B with mount tray and back plate and Garmin connector. Used. New at Aircraft Spruce \$3,380 CDN. Asking \$1,500 CDN.

One Garmin SL-40 Comm with mounting tray. Used. Currently going for around \$1,300 USD. Asking \$1,000 CDN.

One INS-429 nav radio from VAL Avionics. Used.

- VOR, Localizer, Glide Slope and Marker receivers.
- Active and standby frequency with flip-flop.
- Milled billet aluminum construction.
- Digital OBS with push-button auto-radial centering and 180-degree reciprocal.

Comes with a custom harness from the RV-6 it came out of. New at Aircraft Spruce it is \$2,900 CDN. You can have it for \$750 CDN.

One pair of Aero-Lites PAR36 landing/taxi lights. New, in box. From Aero-Lites they are about \$280 USD. Asking \$200 CDN.

One RAM AV-569 DME antenna (bought to go with the INS-429 above). New in box. Currently \$265 CDN at Aircraft Spruce. Asking \$175 CDN.

One 2.5" Saber prop extension kit with the AN7-82 bolt kit (6). New, unused, in box. Vans wants \$725 USD for this set. You can have this one for \$600 CDN.

*Pro-tip: don't buy your avionics (or any other expensive thingies) until the last possible moment. Now you know why.*

# WHO WE ARE - Website: <https://chapters.eaa.org/EAA245>

**Experimental Aircraft Association Chapter 245 Ottawa.** We are a group of Amateur Aircraft Builders, Owners, and Enthusiasts with a hangar, lounge and workshop facility located at the Carp Airport (CYRP & 122.8), just west of Ottawa.

President: Nick Papadopoli - [president@eaa245.org](mailto:president@eaa245.org)

Vice President: Mark Briggs - [vice.president@eaa245.org](mailto:vice.president@eaa245.org)

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Young Eagles Coordinator: Tom Weichert - [young.eagles@eaa245.org](mailto:young.eagles@eaa245.org)

Hangar Group Liaison: Bill Reed - 613-858-7333 [Bill@ncf.ca](mailto:Bill@ncf.ca)

Past President: Mark Richardson- 613-983-7764

# Membership Application and Renewal Form



We have a “Google Group” for the EAA Chapter. If you are not familiar with Google Groups, it is a service from Google that provides discussion groups for people sharing common interests. If you would prefer NOT to be a member of the group, please tick the box in the membership application form when you renew your membership.

Application Date: \_\_\_\_\_

New:                       Renewal:

Name: \_\_\_\_\_

Street: \_\_\_\_\_

City/Town: \_\_\_\_\_

Province: \_\_\_\_\_

Post Code: \_\_\_\_\_

Email Address: \_\_\_\_\_

Home Phone: (    ) \_\_\_\_\_

Mobile Phone: (    ) \_\_\_\_\_

EAA Number: \_\_\_\_\_

EAA Expiry Date: \_\_\_\_\_

I do **NOT** wish to be part of the  
EAA Google Group

Annual Dues: run from  
January 1st to December 31st.

**Associate Member:**            \$50

**Full Member:**                    \$100\*

- Newsletter, hangar, workshop, tie-downs.

**Note 1:** Members must also be members of EAA’s parent body.

**Note 2:** On-Line E-Transfers to  
[Treasurer@eaa245.org](mailto:Treasurer@eaa245.org) are the preferred method of payment.

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