



Carb Heat

NEWSLETTER

Hot Air and Flying Rumours

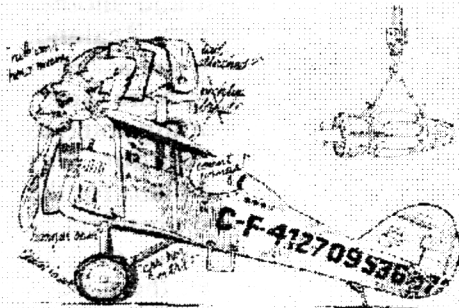
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April 1996

**Next Meeting: Thursday 18th April 2000hrs
Bush Theatre
National Aviation Museum
Rockcliffe**

Program: - Regular monthly business
Video Evening: - basic aircraft fabrication training videos
courtesy of Boeing Arnprior

Inside: - Summer Flying - an interesting offering from
Ottawa Aviation Services
- Young Eagles International Flight Rally by Lars Eif
- Metals Supermarkets comes to Ottawa by Lars Eif
- Biennial Certs...Who Needs 'Em? from "the Net"



President:	Gary Palmer	596-2172	Aircraft Ops:	Dick Moore	836-5554
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Treasurer:	George Elliott	592-8327	Classifieds:	Andy Douma	591-7622
Editor:	Andy Douma	591-7622	Publishing:	Dick Moore	836-5554

As I write this column, mother nature has teased us with a glorious weekend to wrap up March, and reminded us that winter in Ottawa is not yet over, despite the Easter holidays. Weather notwithstanding, many of our members are now flying for the 1996 season. While my Lancair wasn't ready to roll until Easter, I was fortunate to get a flight in Luc DeSadeleer's RV-6 at the end of March. The handling qualities of the RV-6 are first rate with pitch and roll forces perfectly harmonized; a real delight to fly. If you haven't yet made up your mind on what to build, check the RV series out; they are hard to beat for all around utility, performance, and value. If your preference lies with composite construction, you may want to check into the British Europa, that was one of the featured videos at our last meeting. It offers a unique combination of glider like sleekness and performance with good short and rough field capability with its single large main wheel.

Attention Full Members:

As you are all aware, we are self insured, and it is the responsibility of each full member to ensure that our assets are properly protected. Twice in the last two weeks, members have arrived at the hanger to find the main door unlocked. It only takes a small effort to check to ensure that the door is locked when you leave the building. Don't rely on the door closer, it is not strong enough to overcome a piece of swelled trim or a bit of ice. Dick and I did a little maintenance this Easter weekend to improve the self closing action, but don't rely on it.

Don't assume that someone else will lock up; either do it

yourself, or explicitly pass on the responsibility; **When in doubt, lock the door after you.** Anyone with a right to be there has their own key. The same thing holds true for the airport entry gate; lock it after you leave and help protect all of our assets.

March Highlights:

Our March meeting saw an excellent turnout for two top notch videos. It was encouraging to see more new faces. A particularly welcome guest was young Geordon Blackmore and his father Peter. Peter had posted a request for assistance on the Internet a couple of months ago asking for suggestions on how to best channel his thirteen year old son's interest in home-building. I noticed the query had originated with the Ottawa Carleton Freenet and suggested he attend one of our meetings to learn what it was all about, and offered a Young Eagles flight. Jurgen Weichert, one of our newer members also offered a flight in his Citabria, and suggested the time honoured tradition of starting with model aircraft, as did several others, including Peter Lert, the noted aviation journalist and another enthusiast from New Zealand. The original query had asked if a set of KR2 plans were worth purchasing as a starting point; to their surprise Geordon was given a free set of plans for the CGS Hawk by the president of the company. Those of you who have followed the dialogs on the Rec.homebuilt news group will probably agree with one reader's observation that "this discussion thread shows rec.homebuilt at its best.". To top off young Geordon's evening, Lars Eif asked him to select the winner for the 50/50

Young Eagles draw, and yes you guessed it, he picked his father's ticket, talk about luck!

Carp Airport Status

I received a call recently from Neil Stout, the project manager for the Carp Airport construction. Neil advised me that our Young Eagles day on June 8th would be unaffected, since construction work would not start any earlier than June 17th.

An *Environmental Screening* by Transport Canada remains the only significant hurdle. Once this is passed, I expect actual transfer of ownership will occur. The outlook remains positive, and hopefully I will have more concrete information in the next month or so.

WestAir Ownership:

Many of you may be aware of an ownership change at WestAir. There are four gentlemen, represented by John Rodney, who are in the process of purchasing WestAir. At least three of them are pilots, and I look forward to progressive change from the new owners. If you haven't dropped in to chat, you may want to; they are a friendly group.

Apr. 18th Mtg. at NAM:

Our next meeting is being held Thursday April. 18th at our usual Bush Theatre location, 8:00 PM sharp. The feature will be some training videos courtesy of **Boeing Aircraft** in Arnprior. Don't miss this chance to learn basic aircraft fabrication techniques from the **Pros** See you there.

Gary

Summer Flying !

Ottawa Aviation Services (OAS) , a flight training school based at the Ottawa International Airport, is planning to hold a summer camp intended to qualify students for their Recreational Pilots Licence. The summer flying camp will be held during the summer holidays with qualified instructors teaching the various aspects of flying. The flight training will be conducted in Katana's, modern aircraft, with state of the art technology. Although all candidates are welcome, those wishing to complete their Recreational Pilots Licence should be 16 years of age by the end of the summer holidays. OAS is also discussing the possibility of High School Credit.

For additional information and costs, please contact Ottawa Aviation Services:

Phone: (613) 737-2933

Fax: (613) 737-0253

email [HTTP://WWW.DEVONIA.COM/OAS](http://www.devonia.com/oas)

<p>Experimental Aircraft Association EAA245 (Ottawa) Hangar Group Cost Summary 1995</p>
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Rent	\$ 596.44
Realty Tax	\$ 722.54
Insurance	\$ 128.05
Annual Fees	\$ 600.00
Total	\$2047.03
Less (Paid)	(\$800.25)
Balance	\$1246.78
1 Bay	\$207.70
1/2 Bay	\$103.90
1/4 Bay	\$ 51.95

<p>Please make cheques payable to: EAA 245 Hangar Group and forward to: Rod Neufeld, ph 6 -370 Dominion Ave. Ottawa, Ontario, K2A 3X4</p>
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1996 EAA Young Eagles International Flight Rally

Saturday, June 8, 1996 Carp Airport

With the good flying weather virtually at our doorstep, it is once again time to gear up for the annual Young Eagles Flight Rally in June. We have already started the 50/50 draws to raise money for the refreshments which we offer our guests during the flight rally as well as for the social get-together of the pilots and ground crew after the engines have all been shut down and the hordes of visitors have left.

I received a reply from the Big Sisters Association of Ottawa regarding our invitation to give about 20 of their members a free airplane ride. Regrettably, the Association directors declined the invitation based on the advice of their legal counselors. They feel that if an accident was to occur involving one of their members, the negative effect on their association would be devastating for them. Although somewhat disappointed, I respect their decision.

Not to worry. I am still shooting for about 1/2 of the Young Eagles to come from local youth

organizations. The other 25 or so children, you, the Chapter members, will provide. I'm talking about the children of your friends, neighbours, co-workers, your children's friends, and, most importantly, your own kids and grand children.

Here's how it works: To reserve a Young Eagle flight for someone, they must be between the ages of 8 and 17 inclusive, and not have already received a Young Eagle flight certificate. On Saturday, June 8, 1996, our pilots will fly two groups of Young Eagles at the flight rally which will take place at the Chapter 245 hangar at Carp Airport. The first group should arrive at the hangar at 9:00 am and the second group at 12:30 pm. While waiting for a flight, the youngsters (and parents, friends, etc.) will be treated to a tour of the hangar line, the med-evac helicopter if it's available, and the Young Eagles video. After their flight, the Young Eagles will receive a certificate and they're free to go.

To reserve a Young Eagle spot, all you have to do is contact me, Lars Eif, at 837-6680 any evening after 6:00 pm. I will need to know the Young Eagle's name, address, age and telephone number. Your other duty will be to give one of the green permission forms to the child's parent or legal guardian for them to sign. These forms will be available at our Chapter meetings between now and June and there are some in the lounge at Carp. If you can't make it to the meetings or to the airport, I'll mail the forms to you.

Reservations will be accepted on a first-come, first-served basis. Once the quota of the 25 youngsters is filled, that's it unless someone else cancels out.

What will we do in case of inclement weather on the morning of June 8? Well, between 6:00 and 7:00 am that morning, I will call the Scout leaders and the EAA members who have reserved Young Eagle spots and advise them that we will move the Flight Rally to the following Saturday, June 15, 1996.

The Flight Rally pilots and volunteers will also get a call if we have a weather postponement. If the weather is OK, you won't get a call.

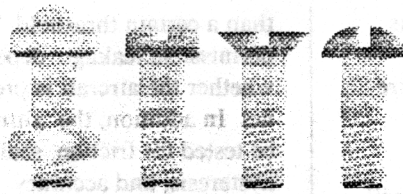
What if the runway reconstruction is to start earlier than June 8? Then we will again do a telephone fan-out and advise everyone that the Flight Rally will be moved ahead to a Saturday before the construction starts.

So, for the next meeting, here is your assignment:

1. Sign up as a volunteer for the Flight Rally. We need flight experienced, current, EAA member pilots with reliable aircraft. Rental aircraft are fine. All aircraft used for Young Eagle Flights must have a minimum of \$100,000 liability insurance on one passenger seat in the aircraft. We also need ground crew volunteers for all sorts of important jobs. No experience necessary here! We give on-the-job training that you can include in your career resumé.
2. Recruit some Young Eagles and reserve either morning or afternoon flights for them by calling 837-6680, or give me the information at the April or May meeting.
3. Bring your loonies or polar bears to the next meeting and buy some tickets on the 50/50 draw. You just might hit the big one!

That's it for now. If you need more details, just call me at home. 837-6680.

- Lars Eif, Young Eagles Co-Ordinator



METAL SUPERMARKETS COMES TO OTTAWA

One of the frustrations of building an aircraft is trying to find the right grade and thickness of metal in the small quantity needed for most projects. There are lots of metal dealers in the Ottawa-Hull region, but their stock of metal is inevitably the wrong grade, too thick, or you have to buy a 4x8 foot sheet of the stuff.

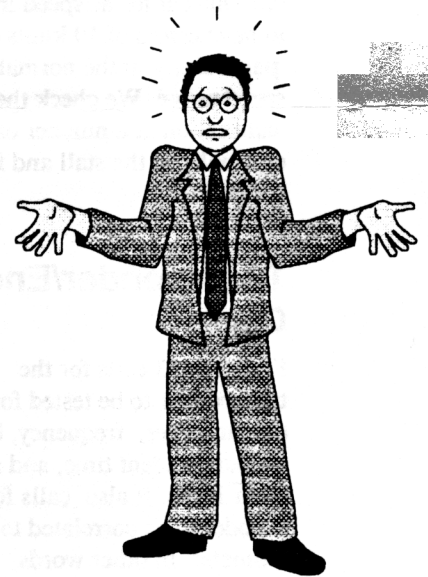
Metal Supermarkets is a chain of stores which caters to hobbyists like ourselves. These stores have been springing up in Ontario and now we have one in Ottawa. Adry Osman's store is located at 2900 Sheffield Road, Unit 1. You get to it by going East towards Montreal on Highway 417. Exit at Walkley Road going West and take the first turn to your right onto Sheffield Road. Adry's (pronounced Add-ree) store is on your left as you turn onto Sheffield.

Unlike other metal dealers, you can actually walk among the racks and see what it is you are buying before you pay for it. Adry has 6061-T6 and 2024-T3 aluminum in stock, lots of stainless steel and some 4130 steel tubing as well. What he doesn't have at the store, he can order for you. And you only pay for the quantity that you need.

I have no financial stake in Adry's business, but it's good to find a source of metal where we can buy one foot of tubing and only pay for one foot. Best of all, Adry is open on Saturdays from 9:00 am to 2:30 pm. Give him a call at (613) 747-7511 to discuss your metal needs. This is a business that aircraft builders would do well to support.

Better still, go and visit the store. Adry has built two steel boats and knows what it's like to build a large multi-year project like an aircraft. Just ask him how long the boats that he built were!

Lars Eif



Biennial Certs...Who Needs 'Em?

Every two years, the A&P or radio shop tells us that it's time for those pesky biennial altimeter and transponder certification tests. What exactly do they test, and what's the point?

This originally appeared in Cessna Pilots Association magazine.

by Tom Rogers, Ph.D.
(trogers@avweb.com)

There are two FARs that dictate the biennial checks for most general aviation aircraft: FAR 91.413 for the transponder and encoder, and FAR 91.411 for the static system and altimeter.

First, notice that I didn't mention the pitot system. While any sane

pilot would like to know that his airspeed indicator is reasonably accurate, the FARs do not require any test of the pitot system. Go figure.

An avionics shop worth its salt will check the pitot system and alert the owner if there is excessive error. My experience indicates that it is not at all unusual for airspeed indicators to have errors of 10 knots or more, particularly in the normal cruise speed range. We check the airspeed calibration at a number of points, especially at the stall and flap speeds.

Transponder/Encoder Certs

FAR 91.413 calls for the transponder to be tested for proper output power, frequency, bit encoding, ident time, and a host of other items. It also calls for the encoder to be correlated to the altimeter; in other words, whatever the altimeter reads when it is set at 29.92, the encoder must read the same within fairly close tolerances. This test is quite elaborate and takes some time to perform.

FAR 91.413 must be complied with regardless if the aircraft is flown IFR or not. We call it the "VFR FAR" because even VFR-only aircraft must have it done. Even mechanics sometimes get confused about this. Recently, some maintenance people were fined by the FAA for returning an aircraft to service without this FAR being complied with.

Static & Altimeter Certs

FAR 91.411 applies only if the aircraft is to be flown in IMC or on an IFR flight plan. It requires that the static system be tested to make certain it doesn't have leaks greater

than a certain threshold. The permissible leakage depends upon whether the aircraft is pressurized or not. In addition, the altimeter must be tested for friction, scale error, hysteresis, and accuracy at a whole series of altitudes from sea level up to the maximum altitude that the instrument is certified for (usually 20,000' for normally-aspirated aircraft or 35,000' for turbos.) Aircraft with air data computers require more elaborate testing.

If you are interested in seeing a "spec sheet" that shows just exactly what tests have to be run to comply with these FARs, give me a call at (805) 922-2580 and I'll send you a copy. The tests can get quite complex and time-consuming, particularly in pressurized aircraft.

Unpleasant Surprises

Frequently, an owner will taxi up to the shop for biennial certs and tell us that everything has been working great, only to discover later that we found problems during the tests. Common problems are weak transponder output, a Mode C report that differs from the altimeter, or a leaky static system.

This scenario is far more likely if the certification tests haven't been done for many years. In cases where the biennial certifications have been kept current, usually problems are few and any repairs are inexpensive.

I recommend that these certifications be done religiously every two years. If the aircraft is not flown IFR, then you can save some money by complying only with FAR 91.413.

Transponder Tips

If ATC reports that you have a problem with your transponder or Mode C altitude, be sure to verify this with a couple of other ATC

facilities before you panic. It could just as easily be a problem with the controller's equipment as with yours.

If your transponder is weak or intermittent, check your antenna. We often see these symptoms being caused by nothing more than an accumulation of oil or dirt on the transponder antenna, causing the signal to be attenuated. An intermittent DME can be caused by the same thing.

These antennas are of the "stubby rod" or "shark fin" variety, and are usually mounted on the belly where they are prone to getting coated with oil, exhaust, and dirt. I recommend wiping down all belly-mounted antennas at every preflight. Your avionics shop will do the same thing, but they'll charge you fifty bucks.

Another frequent cause of intermittent transponder operation is poor cooling. The Cessna/ARC transponder must be cooled with forced air or it will fail. A good avionics cooling fan is a must. I've actually seen them catch fire and burn up the main printed circuit board! This destroys the transponder, of course, and maybe some other stuff as well.



PLEASE NOTE:

ADS DEADLINE IS THE 1st OF THE MONTH

PLACE YOUR ADS BY PHONING ANDY AT 591-7622 Classifieds Editor

CLASSIFIEDS

10 April 96

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March winds bring April showers