



NEWSLETTER

Carb Heat

Hot Air and Flying Rumours

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Thursday September 17, 1998 8:00 PM
National Aviation Museum

Presentation by:

Peter Zuuring

director of the Arrow Alliance

"Surprising evidence turns the table on many accepted myths"

President:	Gary Palmer	596-2172	gpalmer@nortel.com
Vice Pres:	L. DeSadeleer	727-0285	ldesadeleer@kpmg.ca
Ops , Publishing, Tools:	Dick Moore	836-5554	rjmoore@uottawa.ca
Membership:	Barney de Schneider	225-6003	bdeschneider@sympatico.ca
Secretary:	Andy Douma	591-7622	adouma@ftn.net
Treasurer:	George Elliott	592-8327	gelliott@igs.net
Editor:	Charles Gregoire	828-7493	cbg@nortel.ca
EAA 245 Website:	http://www3.sympatico.ca/bdeschneider		

Fall seems to have arrived in dramatic fashion after an excellent Labour Day weekend. We have enjoyed an exceptionally fine summer for flying.

With Oshkosh behind us, many will be re-energized to either start a project, or return to work on an existing project. If you are working on a project, please consider giving a presentation on your progress at a future meeting. Sharing our aviation hopes, dreams, and experiences is what makes chapter membership really worthwhile.

If a presentation seems too daunting, how about a brief article for the newsletter, or perhaps a couple of progress photos to inspire others?

Oshkosh 98

Luc and I set out for Oshkosh in the RV-6 a day early on Monday July 27th to try and beat a couple of frontal systems moving in from the west. The northern route was closed, and the forecast for the southern route was not promising, but warranted a look see. We expected to get as far as Port Huron, possibly needing to wait out the weather for a day somewhere in Michigan.

We also anticipated a rough ride with forecast headwinds of 30 knots. The forecast was accurate with at least 30 knots on the nose, but mechanical turbulence was relatively light, even though 3500 ft was our cruise altitude for much of the flight.

Turbulence on landing was substantial, but Luke set her down smoothly, challenging me to do likewise on the next leg to Oshkosh itself.

Customs clearance went smoothly, and after a weather briefing, we set off for Luddington, and the hop across the lake to Manitowoc. While we saw some very dark areas just to the north of our track; we were able to skirt them without receiving a drop of rain. As we got within 50 miles of Lake Michigan, the 3,000 ft. overcast started to break up, and we were able to climb to 10,500 for the over water leg in near CAVU conditions, albeit with 37 knots on the nose. This is where a high cruise speed really comes in handy as we saw 114 knots ground speed.

Arrival at Oshkosh was busy, but not too hectic other than the guy in front who interpreted 90 knots as 80 mph; eventually, I was forced to simply pass him. I also chose to decline the controller's invitation to try runway 36 with a 90 degree, 20 knot gusting 25 cross wind. Runway 27 seemed to be everyone's choice that day.

The weather at Oshkosh itself was just about perfect with warm sunny days, and cool evenings, perfect for sleeping. Another great holiday!

August 9th Breakfast

Barney De Schneider and his merry band of cooks made our annual breakfast a roaring

success! The weather was fine, although a bit hazy, and saw a steady stream of aircraft arrivals that kept the parking volunteers busy. While at times we almost ran out of parking spots, there seemed to be just enough departures to keep us from overflowing.

Attendance was down slightly, probably due to Rockcliffe holding a competing event on the same date.

A special thanks to all the volunteers, well done!

Thursday Sept. 17th Meeting

Our September meeting sees a return to the Bush theatre at the National Aviation museum, for our normal 8:00 PM start.

Our feature speaker will be **Peter Zuuring**, director of the **Arrow Alliance**. Peter had a display on the **Avro Arrow**, at the Alexandria breakfast. He has conducted a lot of research under the freedom to information act, unearthing a number of documents that change the usual perception of the real villains in this sorry point in Canadian aviation history. Peter will share his surprising findings with us, and introduce his ambitious plans to **rebuild the Arrow**.

This is a must attend meeting, and I look forward to seeing you as we kick off our fall '98 meeting schedule.

Gary

The Annual Fly-In Breakfast

by Barney DeSchneider

Our annual fly-in breakfast was held on August 9th and was again a success due to the effort of those who volunteered their time and skills.

As has become the tradition, a core of volunteers gathered on Saturday morning at 0900 hours to clean up and set up. Thanks to the efforts of those who had cleaned the hangar earlier in the spring we were able to accomplish the task of preparing for the breakfast in record time.

Sunday morning the crew gathered at 0700 hours. Fresh coffee was already available thanks to Ron Johnstone who brewed the first pot at home and brought it along. With the stoves heated up, the toasters popping, and the cooks in their finest form we were soon enjoying a fine breakfast and awaiting our first fly-in arrivals.

Guests began arriving and although we were never overly busy, traffic was steady. By 1130 hours Bob Taylor our COPA volunteer air traffic controller had handed off more than 50 aircraft to our marshalling team who had parked them. Our cooking team served 210 paying customers and all the hungry helpers. Everyone pitched in afterwards to clean up and most people were on their way home shortly after noon.

I would like to once again thank all of those who helped make the breakfast possible. Without the eager volunteers we simply wouldn't be able to do it. Many of you have volunteered year after year, and I wish to thank you for that incredible assistance.

After five years of coordinating the breakfast fly-in I have decided to step down. We are actively looking for someone to take over these duties next year. I have created a fairly comprehensive checklist so that the transition to a new coordinator can be done smoothly.

Thanks again to everyone who has made the breakfast a continued success.

Young Eagles Flyday

by Russ Robinson

Our Young Eagles Flyday finally got off the ground on Saturday June 20 after the initial date June 13 was rained out. The Chapter produced 36 Young Eagles on Flyday thanks to our 9 volunteer pilot and many volunteer ground crew. It was both successful and safe as a result of all the support from the volunteers. Special thanks to the pilots Gary Palmer, Jim Bradley, Garry Fancy, Manfred Ficker, Charles Gregoire, Mike McGrath, Irving Slone, Win Cotnam and Brian Fumerton.

I will be checking the EAA web site to see that our Young Eagles have been added to the "World's Largest

Logbook". I know that a number of members are continuing to fly Young Eagles and are sending in the forms on their own. This is great - just make sure you put the Chapter info on the form so that we get credit. Also there is always a supply of forms in the Clubhouse.

While I was at Oshkosh I stopped in at the Young Eagles tent and was very impressed with the interest being shown in this program. I also requested a supply of the signs that they have recently produced to further advertise the program. These cardboard signs are hung on the propeller (only when it is stopped) and indicates how many Young Eagles have been flown in the aircraft. I have a small supply (5) to distribute but if more pilots are interested I will request more from EAA. Let me know at the next meeting.

It has been suggested to me that the Chapter consider two Flydays per season - one in the spring and another one in the fall (late September). I would be happy to organize another one this year but clearly this needs the support of all the volunteers - ground crew and especially the pilots willing to help. If you would give this some thought and let me know what the members think at the next meeting - or e-mail me at russ.robinson@ec.gc.ca.

Thanks again to all of the volunteers who made this such a success.

EXTERNAL GPS ANTENNA

by Olav Peterson

How could we have ever made it without GPS?

Remember the old-time radio-stack on your aircraft panel used to have an ADF and VOR for navigation. Now with a GPS on the panel I'm even beginning to question the utility of a gyro compass!

You don't want to put "all the eggs into one basket" and rely solely on one nav-aid, the GPS, you say. But have we not been relying already for a long time on one prop and one engine and not to mention, one pilot! And we are talking here about well-controlled, hi-rel, hi-tech electronics!

GPS is the stupendous application of leading-edge engineering know-how which has truly revolutionized navigation. It's a coordinated mating of celestial mechanics, satellite technology and rocketry technology, communication theory, electronics technology, time transfer, and computer science. The only drawback which detracts it from earning a 100% score is the questionable antenna arrangement provided on the 'hand-held' units for aviation use. I have never quite understood why all(?) portable GPS units are supplied with an antenna, intended for suction-cup mounting on windshield or dashboard where, invariably, the location is far from optimum. The signal from orbiting satellites could be badly attenuated or even completely shielded by the high wing of a Cessna or the metal roof of a Piper Cherokee.

Do a slow orbit with your present GPS installation and examine the effects on signal strength. I have found occasions when the GPS starts asking for altitude input; at other instances there have been outright crashes (I mean, the GPS output display goes to lala-land) and the unit power has to be recycled.

There is an optimum location for any antenna. Hence, a transponder antenna should be installed on the belly; an ELT antenna has the best chance of surviving if mounted topside; and the GPS antenna, on top of an aircraft, has an unobstructed view of satellites from horizon-to- horizon.

External antennas are advertised costing in excess of several hundred dollars. Perhaps the high price is justified if the antenna is wideband, intended for the reception of both the civil, coarse acquisition or the C/A code at 1575.42MHz, as well as the military P-code at 1227.6MHz; however, for general aviation use, only the former is reliably available and the antenna for this case remains much less critical.

Amongst the many degrees, skills, talents and hobbies, of our own Laurent Ruel, is amateur radio work and he brought my attention to an article which appeared in an issue of the QST magazine where they describe the construction of a GPS antenna for external, car-roof mounting; it is computer-designed by a professional electrical engineer with many years of relevant experience. The full reference is:

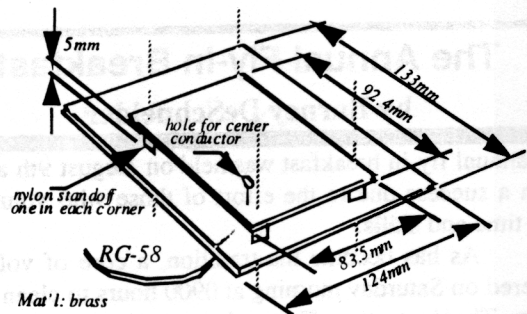
QST, October 1995, pp.44-45, by Harold Ward:
 "A Patch Antenna for the Global Positioning System."

All the necessary construction details are included. And where could you find a copy? Both the Nepean Centerpoint and Emily Dickinson branches of the Nepean Library carry them in their reference sections and their coping machine requires 20 cents per page. I will also post a copy on the club-house bulletin board; if you are interested, get a Xerox and re-post the copy.

I have built and 'tested' one and it appears to perform as predicted! There is still a fiberglass dome to be fabricated for an enclosure. An initial trial dome, unfortunately of wrong dimensions, fitted over the antenna structure remained transparent to signal strength.

The approximate overall dimensions for the finished unit will be: 5"x 5.5"x3/4". The diagram below gives you an idea of its configuration.

This will provide you with an optimum reception of the GPS signals with no blind spots and no catastrophic loss of navigational reference.



Classifieds

Place your ads by phone with Charles Gregoire @ 828-7493 or e-mail to cbg@nortel.ca
Deadline is first of the month.
Ads will run for three months with a renewal option of two more months.

Garmin GPS-55 AVD + Mount	\$500.00 obo
IC-A20 VHF Air band X'cvr	\$500 obo
Andrea Thorne	613-741-4273 09/98

Davis-DA2 TT400,	
C-85 25 SMOH, all metal, 110 MPH, \$13,500	
Jim Bradley	613-839-5542 06/98

Canox Model 250 Arc Welding Unit			
AC/DC Amps	76	38	30
	Volts	230	460 575
Secondary AC/DC	Volts	30	
	Amps	250	
Duty Cycle	40%		
\$700 or best offer			
Les Staples	613-831-9079		05/98

Tim's Parts Bin

Cessna 140 exhaust system complete \$500.00
 Cessna 140 engine baffles \$50.00
 MS24566-4B pulley NEW \$8.00ea.,
 Large HF radio (ex Otter), good ham project \$25.00,
 Large Radar Screen (possible coffee table???) \$25.00,
 Beech 18 oil cooler, new (possible rad??) \$50.00, 6 Gal.
 J-3 wing Tanks (2) \$200.00, Box of VW engine Parts
 (possible 1/2 vw project) \$50.00, New autopilot , 12
 volt trim servos and stuff \$25.00, Air Path and Pioneer
 3 1/8 compass cores \$75.00/ea, Shark Fin pitot tube
 24volt, new in box \$25.00, Beaver U/L Lotus float
 rigging (spreader bars, etc.) \$25.00, Continental prop.
 spacer (O.E.M. alum) \$50.00

Tim Robinson 613-824-5044 03/98
 75714.2136@compuserve.com

McCauley Metal Prop, 70-38 for a continental A65 or C85.

Jim Robinson 613-830-1476 01/98

Garry's Parts Bin

Dynafocal engine mount
 Wheel pants \$100.00
 Oil, break-in, 12 litres, Shell, Esso
 Wing Tip Nav Lights
 NACA air inlets
 Elevator trim assembly
 Primer
 Valves, Fuel selector
 Valve, Parking brake
 Accelerometer (G-meter) 2.25 inch
 Oil cooler - Continental 6cyl.
 CHT guage and probe
 Lycoming, Accessory case, dual take-off adapter for
 hydraulic and vacuum pumps.
 Piston rings for Continental E-185 or O-470.
 Light weight starter & bracket for Lycoming O320 or
 O360.

Control wheel yoke assembly from Piper Tomahawk

Engine, VW 1600cc completely rebuilt
 Garry Fancy (613)-836-2829 01/98

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
 send me an e-mail attachment at:

cbg@nortel.ca 01/98



EAA Chapter 245 Membership Application

NEW:___ RENEWAL:___ DATE:___/___/___
 EAA NUMBER:.....
 EXP Date:___/___/___
 NAME:.....
 ADDRESS:.....
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 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

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:

EAA Chapter 245 (Ottawa)

Mail to - P.O. Box 24149, 300 Eagleson Road, Kanata, Ontario, K2M 2C3