



# Carb Heat

**NEWSLETTER**

Hot Air and Flying Rumours

Vol 27 No. 5

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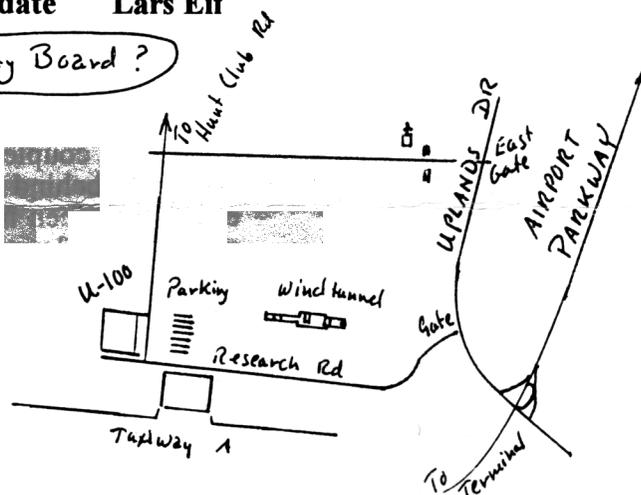
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## May 1997

>>>>> Next Meeting: Thursday 15th May <<<<<<  
 >>> 1930 hrs Sharp <<<  
 Building U-100  
 1901 Research Road, Uplands

**Program:** Regular monthly business  
 Tour of the Facilities

**Inside:** Presidents Page by Gary Palmer  
 Future of the piston aircraft engine - A visit to  
 Lycoming (part 1) by Paul Bertorelli and Mike Busch  
 Young Eagles update Lars Eif



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Spring seems to be almost at hand, but the ground is still not as firm as we would like, particularly after a heavy rain. I would like to encourage members to avoid driving on grass or dirt areas when the ground is likely to be soft. Remember that the construction left a number of areas without the stabilizing influence of well rooted grass, and many, many tire ruts have been left by careless operation of both aircraft and automobiles.

If you do inadvertently create a rut, it would be appreciated if you did your best to remove same before departing the scene. While I enjoy some exercise, I really don't appreciate fixing up after members who feel more compelled to ridicule my efforts, than fix things.

The rear road should now be unusable, although it too can be treacherous after a heavy rain. Three or four members have been buried up to their axles. A bit of **poetic justice** occurred last week when the WCAA truck was also trapped in mud; now if only the regional engineer who insisted on building this sorry excuse for a road would suffer the same fate.

### Cleanup May 31st

Our annual spring cleaning is scheduled for Saturday May 31st this year. This is our opportunity to spruce things up in preparation for the Young Eagles, and to get rid of accumulated junk.

This is probably a good time to remind everyone that **EAAers don't Litter**. We can all do our part by cleaning up after ourselves, and yes occasionally after others.

We have provided trash containers and plastic garbage bags to keep things in order. I encourage you to take a bag home for your weekly trash pickup. That includes taking some crushed cans for inclusion in your blue box as well.

Please remember to **lock up** after use of the building, **turn off the heat** in the workshop, and keep all **flammable materials** stored in the outside shed. Recently, Barney De Schneider noticed a box of trash touching the grey space heater, with the heat left turned up. That is a recipe for a fire; remember we are self-insured.

### Carp Airport Status

Unfortunately (or fortunately if you are tired of the circus) I have nothing new to report on the status of our negotiations with the WCAA. I wish I could say things are day to day, but it seems more like month to month. Keep tuned.

### Rotary News

Les Staples delivered on his promises, firing up his Mazda rotary engine in early April. An unfortunate pin-hole leak in his oil coolant glycol loop set him back for a couple of days, but was soon behind him, and the engine has seen many refining runs since. The next step is to complete the reduction drive, and get some proper load on the engine to further tune the carbs.

I happened to be in the Orlando area the last week of April on business, and managed to find a few hours to visit Tracy Crook, the RV-4 Mazda prophet who inspired Les in his project. Tracy now has approximately 450 hours flight time on his rotary powered bird, and continues to prove the reliability of this conversion. While Tracy

earlier flew at lower speeds of 145 to 150 mph for maximum fuel efficiency, he now routinely cruises at 170 to 180 mph TAS at 7500 feet altitude, registering just 5.5 gph fuel burn.

### April highlights

**Glenn Priestly**, from COPA was our featured speaker. He updated us on the latest round of meetings with **Nav Canada** to review the local airspace screwup last fall and the various user fee proposals being floated by our Nav Canada friends.

Not surprisingly, resistance to Nav Canada seems to be hardening within the aviation community, and it seems like they may be backing off a bit based on the latest issue of COPA.

The newest acronym in our community seems to be UPOC (Unlicensed Pilots Of Canada) which I think succinctly sums up the extent of our displeasure and is a measure of the growing appeal of civil disobedience. Hopefully in time, common sense will prevail. In the meantime keep the letters, flowing to both Transport Canada, and Nav Canada. Wouldn't be a bad time to bend your favourite MP's ear as well.

### May 15th Mtg.

**The NTSB site at Uplands** is the venue for our next meeting on Thursday May 15th. Note that the **start time will be 7:30 PM**, 1/2 hour earlier than normal.



Gary

## Future of the piston aircraft engine... A Visit to Lycoming

With Cessna back in the new piston airplane business, Lycoming should soon be top dog of the OEM engine market. But while they're busy gearing up for Cessna, the company still plans to expand its overhaul and parts business. **This originally appeared in The Aviation Consumer.**

by Paul Bertorelli and Mike Busch.

Will the piston engines of tomorrow incorporate new technology or will they just be more of the same? Do piston aircraft engines even have a future? To answer these questions, we've been touring the country talking to as many engine experts as we could find. This is the second article in a periodic series on the current state and future of the engine business. The first article in this series recounts our visit to Teledyne-Continental Motors. A companion piece presents our long and revealing one-on-one interview with Lycoming's CEO.

When we embarked upon our grand tour of engine plants and shops last fall, a mechanic we know advised us to brace for a shock when our travels took us to Textron Lycoming's plant in Williamsport, Pennsylvania. "You won't believe that place," he said. "It's like a ghost town."

While that admonition proved to be an exaggeration, there's truth to it, too. Lycoming's aviation engine business is a fraction of what it was in the late 1970s, during the heyday of general aviation manufacturing in the U.S. The plant is a working monument to the term "sunset industry," but it also shows that even in the midst of a declining market, a determined company can prosper at a volume of business that would have seemed preposterously low by 1970s standards. As has Continental, Lycoming has survived by brutally downsizing itself during the late 1980s and by ruthlessly cutting costs. But unlike Continental, which plans to capitalize on what may be a modest recovery by investing in new plant, Lycoming will continue to shrink its Williamsport workforce and to outsource most of its primary manufacturing. In effect, the plant is evolving into a large, highly specialized assembly operation whose competition is field overhaul shops and the companies that make engine parts. As we reported in the August Aviation Consumer, Continental is investing substantial money into clean-sheet

engine designs while Lycoming intends only incremental improvements, with no revolutionary products in the works. (At least none that they would tell us about.) What limited R & D money it has goes into improved and more efficient manufacturing processes and--an industry buzzword these days--"enhanced customer service." Shortly after our third visit to Lycoming, Cessna announced that all of its new production will use Lycoming engines, thus Lycoming will soon be far ahead of Continental in new engine sales. Yet even though Lycoming execs seemed happy with this development, they weren't exactly dancing in the streets at Williamsport. Cessna hasn't ordered production-run engines yet and in general, we sensed that at Lycoming, any euphoria over a glorious recovery is tempered by the trauma of cutbacks that seem all too recent.

### The Old Line

A visitor to Lycoming's Williamsport plant is struck by one thing: the place is old, seemingly but a generation beyond the days when factories ran on steam-driven lineshafts. Lycoming's "modern" history--meaning the manufacture of airplane engines--dates to early 1920s, when it produced a nine-cylinder radial, the R-680, which powered such aircraft as Stinsons and Stearmans. Before that, the Lycoming Company, on the same site it now occupies, manufactured auto engines for the Cord, Auburn and Duesenberg and before that, it made a successful line of sewing machines. (The company files still contain spec sheets and price lists for the sewing machines; evidently, before turning to engines, Lycoming (then called Demorest Fashion and Sewing) achieved no small success in the sewing and garment industry.) In 1932, Lycoming got gobbled up by the Aviation Corporation (Avco), which already consisted of 81 companies, including Fairchild, Bendix, Fokker and several airlines. Through the 1930s and 1940s, it built aircraft engines of all designs (including radials) and, eventually, tank and turbine engines. In 1986, Avco was bought (including Lycoming) by Textron, yet another old-line industrial conglomerate that evolved from the New England textile industry (hence the name). Cessna wound up in the Textron fold in 1992, having been bought from General Dynamics. Like Continental, Lycoming had been going great guns through the 1970s. The industry seemed to accept periodic downturns but everyone assumed the inevitable rebound

would yield yet ever higher demand for engines. The crash of 1980-81 changed all that. In little more than three years, piston production sagged from a high of 17,000 to barely 3500 in 1982. The engine industry practically went down the tubes with the OEMs.

At its peak production, Lycoming had three shifts of workers, turning out 1500 new engines a month. There was no need to bother with remans or overhauls in those days. Now the output hovers between 300 and 400 engines a month, most of them remans and factory overhauls. The workforce stands at just less than 600, down from a peak of about 1800 during the heyday. Two years from now, it will decline to 300 or so, according to Phil Boob, Lycoming's CEO, with production at or above the 300-engines-a-month level and plenty of additional capacity.

**On the Factory Floor**

The downsizing is obvious to even a casual observer touring the Williamsport plant. The factory is a complex of classic, old-style industrial buildings, with high ceilings dimly lighted with fluorescent tubes and populated by rows of old machine tools, some dating to the 1940s and 1950s. Large areas of the plant floor are given over to...nothing. As production plummeted, Lycoming laid off workers and did away with defunct and unused machinery. Until recently, the Williamsport plant made parts for the turbine division in Bridgeport, but that business was sold to Allied-Signal and now all that remains are a few pieces of advanced CNC machinery.

During our tours, we were shown some machine tools upgraded with numerical controls, but generally, the factory runs on the tools it had 20 or 30 years ago. During the early 1970s, Lycoming built a high-output line for connecting rods and a fully automated crankcase machining line that trundles cases from one machining operation to the next on a little trolley. It was state of the art for its day and still holds its own. But it has far more capacity than Lycoming has orders.

We were told that incremental improvements are made on machining and tooling processes, but no capital-intensive upgrades of the sort we saw at Continental are planned. Instead, the Holy Grail at Lycoming is outsourcing. Lycoming insists that it's more than profitable enough to invest in new plant, but it chooses not to.

"We are in the position to invest," says Phil Boob, "but that would be the wrong answer for us. The reason is that other people have already made that investment in modern equipment that's being under utilized. There's just tremendous excess quality machining all over the world and in the U.S. As long the quality is there in the finished product, the customer doesn't care who makes it."

Continental, of course, also outsources but it has aggressively invested in modern machinery, a strategy that Boob says Lycoming considered but rejected.

"I'm wondering what the financials are going to look like when they start getting hit with the depreciation on that equipment in a skinny market. Five years from now, are they going to wake up and find that the company can't be profitable because of the depreciation? One of us is gonna be right and one of us is gonna be wrong. The world isn't going to vertical integration anymore. It hasn't been for years. Why fight the world?"

Managers at Lycoming are fond of the phrase "added value" and throughout our tours, we were shown operations in which Lycoming workers were machining or processing parts which had originally been produced by another manufacturer. About 75 percent of its manufacturing is "value added," meaning that 25 percent of what goes into a Lycoming engine arrives at the factory in finished condition, with no need for the factory to do anything but install it.

Within two to three years, that number will be closer to 95 percent. The factory will require a fraction of the floor space it now occupies and the workforce is expected to stabilize at about 300 workers. <>

to be continued next month

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**Upcoming Events**

**Barney de Schneider**

Our June meeting this year will be held at the Chapter hangar on Saturday, June 21<sup>st</sup>. Ultravia, manufacturers of the Pelican line of aircraft have kindly agreed to provide a presentation that day. Weather permitting, Norman White from Ultravia will fly a Pelican into Carp for the event. He will also try and encourage some local owners of Pelicans to attend so you can hear from owners as well as the company.

As it stands, Norman will likely show us their latest video (lots of float flying), followed by a presentation about the aircraft, including, of course, a close-up inspection of the real thing.

This should be a very interesting presentation, so mark your calendars now. The meeting will start at 10:00 a.m. and will be finished by lunch time. We will provide further information about Ultravia in our June newsletter. <>

**1997 EAA Young Eagles International Flight Rally  
Saturday, June 14, 1997 at Carp Airport  
(Rain Date Saturday, June 21, 1997)**



This is just a reminder to all Chapter members that there is still time left to volunteer to help with the Flight Rally and to sign up children between the ages of 8 and 17 inclusive for a first-time flight in a light aircraft.

The initial response for pilots and ground crew at the April meeting was excellent! We have a good fleet of reliable pilots and aircraft ready to take the youngsters flying. However, there is no cap on the number of aircraft, so if you are looking for that first opportunity to participate in flying Young Eagles, please sign up at the May meeting or call Lars Eif at 837-6680.

Response from the membership to man/woman the Ground Crew positions was also good. If we had about four more volunteers, we could spell each other off during the day. This is a fun event for the Chapter and part of the fun is to walk around, take pictures, and shoot the breeze with fellow members.

If you're free on June 14 and haven't yet signed up for ground duty, the clipboard will be out at the May meeting at Uplands. Or call Lars at 837-6680.

If you know of children who would like to become Young Eagles, please call the names in to Lars sooner rather than later. Our 50-flight quota is usually filled up several days before the rally date, so do it now rather than wait and have to disappoint a child.

Permission forms will also be available at the May meeting. If you can't make it to the meeting, please call Lars and you will receive the forms via good old Canada Post.

That's it for now. Any questions, don't hesitate to call Lars at 837-6680.

<<===== **On the Horizon** =====>>  
 <<=====>>  
 <<=====>>

courtesy of Tom Smith

Date	Day	Time	Event	Location
May 10-11	Sat Sun		Air Show	Ottawa Airport
May 15	Thu	2000hrs	EAA245 meeting	National Aviation Museum, Rockcliffe
May.20	Tue	1930 hrs	RAA meeting	Smiths Falls
May 25	Sun	a.m.	Fly-in Breakfast	Embrun
May 25	Sun	a.m.	Fly-in Breakfast	Stirling
May.25	Sun	a.m	Embrun Breakfast	
June 1	Sun	A.M	Fly-in Breakfast	Smiths Falls
June 1	Sun	noon	IFF Brunch	Upper Canada Golf
June.1	Sun		99's Poker Run Carp-Gat-YOW-YRO-YSH,info-Susan224-0568	
June. 3	Tue	1930 hrs	RAA meeting KARS	
June 5	Thu	1930hrs	Embrun Aero Club Mtg.	C. Martel
June.8	Sun		Cobden Breakfast	
June.8	Sun		ST. LAZARE BREAKFAST	
June 14	Sat	all day	Young Eagles Fly Day	EAA Hangar Carp Airport
June 14-15	Sat-Sun		HAMILTON-Airshow	
June 15	Sun	Noon	IFF Fly-in	Bearbrook International
June.15	Sun		PICTON BREAKFAST	
June 17	Tue	1930hrs	RAA meeting	Smiths Falls
June 21	Sat	1000hrs	EAA 245 meeting	Carp Airport
June.22	Sun		EAA MASSENA BREAKFAST CUSTOMS ON FIELD( MUST)	
June 19-22	Thu-Sun		SUMMERSIDE PEI-COPA Convention	
June 28-30	Sat		SHERBROOKE Flymarket	
June 28-30	Sat		GORE BAY BREAKFAST & MORE !!	
June 29	Sun		Brockville Breakfast	
July 1	Tue		EAA display at National Aviation Museum, Rockcliffe	
July.1	Tue		ROCKCLIFFE BREAKFAST	
July.1	Tue	1930hrs	EMBRUN AERO CLUB MEETING (T.Smith)	
July.9	Wed	1930hrs	RAA meeting KINGSTON	
July.15	Tue	1930hrs	RAA meeting SMITHSFALLS	
July. 5	Sat		IROQUOIS BARBECUE ICOA	
July. 6	Sun		ARNPRIOR BREAKFAST	
July.17	Thu	1930hrs	EAA meeting ROCKCLIFFE MUSEUM	
July.20	Sun		IROQUOIS BREAKFAST (& CAMP OVER SAT.NIGHT)	
July.27	Sun		GATINEAU BREAKFAST	
July.30- Aug.5			OSHKOSH	
Aug. 7	Thu	19:30hrs	EMBRUN AERO CLUB MEETING (T.Smith)	
Aug.5	Tue	19:30hrs	RAA meeting KARS	

Aug.10	Sun		EAA245 CARP BREAKFAST
Aug.13	Wed	19:30hrs	RAA meeting KINGSTON
Aug.17	Sun		ALEXANDRIA-Breakfast
Aug.19	Tue	19:30hrs	RAA meeting SMITHSFALLS

## Classifieds

6 May 1997

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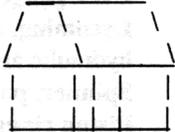
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**Sharon and Rodney Stead**

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**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 **adouma@ftn.net**

Editor *Carl Heat*



**EAA Chapter 245 Membership  
Application**

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**Annual Dues:** January 1st to December 31st. (porated after March 31st 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:  
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