



**NEWSLETTER**

# *Carb Heat*

**Hot Air and Flying Rumours**

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**President's Page  
by Gary Palmer**

After a soggy start to the month we are starting to see some nice fall weather. The canteen at Smiths Falls is open again, serving as a potential breakfast destination.

**New procedures for October 16<sup>th</sup> meeting at NAM.**

Just a reminder in case you missed the September meeting. The National Aviation Museum is no longer open to the public on Thursday evenings. This means we will no longer enjoy the museum exhibits prior to the start of each meeting. It also means that we are limited to the Bush Theatre, washroom facilities, and our coffee service area. We will also have to assign a chapter member to man the entrance for 30 minutes prior to the meeting start and to also ensure that all members have left the museum by 10:00 PM. This means that members should plan to arrive at the museum between 7:30 and 8:10 PM, and proceed directly to the bush theatre. A list of the chapter executive team has been given to museum security staff, and we will rotate responsibility for doorman. The director of security, Yvon Tessier gave us a briefing on the rules we must follow at our September 18th meeting. I am sure I can count on your co-operation to comply with the simple rules thus ensuring we can continue to use the museum facilities for our meetings.

**October AGM elections**

October marks our AGM, which as usual sees us looking for new blood. The positions up for election this year include:

- Vice President
- Treasurer
- Secretary
- Newsletter Editor

As per last year, **Lars Eif** will conduct the nomination process. If you are interested in running for a position, please contact Lars (tel: 837-6680) or any member of the executive team.

**DC-10 arrives at Carp**

A last minute phone call found me leaving work early, at 3:45 PM on Wednesday September 24, to rush out to Carp, just in time to catch the 4:25 arrival of a Continental DC-10. The DC-10 had been originally scheduled to arrive the day before but mechanical and radio problems had scuttled the departure. While the arrival was supposed to be a secret; since the DC-10 was destined for anti terrorism training units of the RCMP and other forces not to be mentioned. There were a large number of chapter members who had heard of the event and were there with cameras at the ready. The RCMP did their best to keep the crowd hiding behind the hanger; but knew when they were outnumbered and let us get the photo of a lifetime.

For those not fortunate to be there, we will be showing a few of the best photos I was able to capture along with a video clip captured by Lars Eif at the next meeting, along with our Oshkosh picture show.

**Upcoming meetings/Events.**

<b>Nov 1/2</b>	Air Cadet Fly day. Cadets will be using our clubhouse facilities.
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**Thursday October 16<sup>th</sup> 8:00 PM NAM: Oshkosh Memories, a digital reverie**

I have received some queries from our newer members about the Oshkosh experience, so your executive team, who turned out at Oshkosh in force this year, have put together a collection of digital pictures and movie clips that captures some of the flavour of Oshkosh. As I work at editing this substantial collection of pictures, I am reminded of how fortunate we are to have the freedom to fly, and visit so many fascinating places and events; but most of all meet so many truly memorable people who quickly feel like friends and family. I hope you enjoy it! See you there!

*Gary*

## **Engine Failure!!**

Friday August 1<sup>st</sup>. 2003 I awoke in my tent at Oshkosh and prepared plans for our departure from a wonderful vacation trip. I was packing and preparing the aircraft and Gary was doing the flight planning. An FAA briefing told us weather was bad to the north and a thunderstorm was stalled over Lake Michigan. This left little alternative but to go south around Chicago and then head east towards Ottawa. We lifted off from OSH at 09:50 into less than ideal conditions. With 2 experienced pilots 2 GPS and a good flight plan we headed west for 5 miles and then took up a southerly heading and departed the area. We overheard a pilot just a head of us report smooth air and good visibility at 3,500 feet so we departed our pea soup atmosphere at 1,600 feet and climbed up to see for ourselves that in deed he had dispensed good advice.

We proceeded uneventfully past many checkpoints and eventually landed at Valpariso Indiana at 12:35. We taxied to the refuelling area and arranged fuel for both passengers and trusty aircraft.

Upon start up for departure we realised we had a problem OPPS! Three cylinders working and 1 taking the afternoon off. What to do? We returned to the lunch tent hosted by the local EAA chapter hoping for some nuggets of wisdom and we were not disappointed. They advised us to go and see Jim Bowers at ARS Aviation. We taxied over to Jim's hanger and being the crew operating a 3 cylinder Continental engine soon attracted their complete attention. I guess on Friday afternoon at 2:30 they were looking for a distraction from working on a twin Commanchie and a Piper Arrow that had been entrusted to their care by owners from South Carolina and Arizona. After the plugs had been removed and cleaned and compression checked on 3 cylinders up came cylinder number 2 with zero compression. A few carefully applied wrenches and twenty minutes of diagnosis determined that after 1400 hours of faithful service it was pension time for cylinder # 2. Jim explained that the cylinder was cracked at the head and was flexing out of round and applying lateral pressure to the valve guide and jammed the exhaust valve open.

I inquired how long it might be till we could fly away. Jim answered "sometime between to night and the middle of next week" OPPS!! I have business trip and need to get home. Jim went to his office and returned a few minutes later and advised that he could get a cylinder that afternoon and perhaps we could leave on Saturday. I gave approval for the work and we arranged a motel and a courtesy car for the night.

Saturday morning we returned to the airport at 07:30 and heard the sweetest sound a pilot can hear, a smooth running engine. Not just any engine but mine. Wow my airplane is working again. Some final adjustments were made and I returned from a successful test flight at 08:20. With the help of Jim and the crew at ARS Aviation and lets not forget Master card we were ready to leave at 09:00.

I am writing this letter to share with you the outstanding service that we received from Jim and his staff at ARS Aviation at Valpariso Indiana. It is almost unbelievable that from Friday at 2:30 until Saturday at 09:00 was all the lost time that we had lost due to a needed cylinder replacement.

I will always remember that wonderful service from Jim and his staff received at a difficult time and definitely recommend Valpariso as a must stop airport for anyone flying in the northern Indiana or southern Illinois are.

Rodney Stead

Editor Carb Heat

## Trivia Tease

By Jeff Pardo <mailto:Jeff.Pardo@ipilot.com>

### Are Two "I's" Better Than One?

True or False: A private pilot with an airplane, single-engine land rating can always be guaranteed to receive better flight instruction if he gets it from an instrument flight instructor.

*Answer:* There are quite a few (like, nine) instructor ratings: Airplane Single Engine, Airplane Multi-Engine, Rotorcraft Helicopter, Rotorcraft Gyroplane, Glider, Instrument Airplane, Instrument Helicopter, Powered-Lift, and Instrument Powered-Lift. (There aren't many of those, yet.) And despite what you'd think, a CFII doesn't have to be a CFI, first; these ratings are all totally independent of one another. There is no such thing as a basic instructor rating (the well-known "CFI") that is a mandatory first step to being any other kind of a flight instructor. One doesn't necessarily have to start as a CFI in a single-engine airplane, for example. Or to be more esoteric, CFI applicant can initially qualify as an instrument powered-lift instructor. As retired FAA Aviation Safety Inspector, Designated Pilot Examiner, and attorney Frank Phillips, Jr. wrote in a recent issue of "FAAviationews", each CFI rating stands alone. So the answer to the question is: "false" and although it might indeed be better instruction, it might not be, and it also might not be legal! The bottom line is that, although there are a hierarchy of pilot certificates, as well as ground instructor certificates, and the vast majority of flight instructors working in single-engine trainers probably did work their way up the food chain, as one would expect, it isn't necessarily always going to be so...so, check!

## The Homebuilt Alternative

By Rick Durden  
Columnist The Pilot's Lounge

An undercurrent to many of the conversations that occur here in the Pilot's Lounge at the virtual airport is the unpleasantly high cost of flying. From time to time we are treated to pronouncements from those who are convinced that general aviation would be saturated with pilots buying and flying airplanes if only a new four-place airplane could be sold for X dollars. Depending on the speaker, the value of X tends to vary a great deal, but each is sure that someone is making a killing somewhere because airplane prices are so high. One of our number is fond of reciting that in the 1920s when Amelia Earhart took her initial dual the rate was one dollar per minute for the airplane alone -- which works out to about \$10.01 every 60 seconds in today's dollars. Compared to that, paying \$60 for an hour in a 172 isn't bad at all.

I'm always looking for ways to fly for less money, particularly when the purpose of the flight is simply for the joy of being in the sky, or on one of those days when I want to take the aeronautical version of what my grandfather used to love to do, go for a drive in the country. If I'm renting, I try not to take more airplane than I need. If I want to go alone to just look at the fall colors or the new snowfall, a Cessna 150 will let me do so just as well as a Cessna 210 or 310, and for far less damage to my wallet. In fact, if I have the time, I'll drive a ways to a place where I can rent a Piper J-3 because there are times when the most basic flying machines provide the most enjoyable experiences in the sky.

An avenue for cutting the cost of flying is to step into the world of homebuilts. As one who has never had the confidence to attempt to build an airplane, my contact with owner-built aircraft has been far more restricted than I would like. Doc Truthan, the guy I used to own an airplane with, built a SeaRey some years ago. That provided me with a chance to fly that two-place amphibian, which proved to be some of the most fun I'd ever had with an airplane, and developed into a column. I like well-designed and well-built homebuilts in which I fit. I also like the fact that they are generally cheaper to own and operate than most factory-built airplanes. On the negative side of the scale, I spend a fair amount of time looking at accident reports in my day job, so I'm also very aware that the accident rate for homebuilts is significantly higher than factory-built. I've also observed that the designs of some

homebuilts are just plain awful when it comes to protecting the occupants in the event of an accident. With fuel tanks in front of the instrument panel, poor restraint systems, limited flail space, lack of energy-absorbing structure and sharp objects in the cockpit. Nevertheless, if a pilot takes the time to look over the design of an airplane he or she is considering building or buying used (in which case the quality of construction becomes extremely important), a homebuilt can prove to be the solution to economical aviating.

## Hiperlight

What this is all leading up to is that I had the good fortune this fall to run into Ron Jones, the gentleman who owns the company that builds the Hiperlight, a two-place homebuilt biplane that I'd admired from a distance for some time. I freely admit to being of the opinion that one of the loveliest airplanes ever to fly is the Beech Model 17, nicknamed the Staggerwing due to its negatively staggered wings. The Hiperlight caught my attention because it, too, has the top wing set further aft than the lower. Most designers of biplanes found that things worked better aerodynamically with the upper wing set slightly ahead of the lower. Making negative stagger wing biplanes pretty rare. Yet, if done correctly, the negative stagger does provide one advantage over the conventional plan form: visibility in turns.

The Hiperlight actually describes two airplanes that are the smaller siblings of the much older, fully aerobatic Hiperbipe. They are smaller, and not being aerobatic, are much less expensive to build and operate. The two-place Hiperlight can comply with the rules that keep it in the ultralight category as a trainer, but with its ease of construction, it is worth licensing as experimental so that one can carry a passenger without worry of being an illegal ultralight. The single-place version is considered an ultralight. I did not get to fly one, but was quite intrigued with the one I observed. The quality of materials and construction was outstanding. It can be broken down for trailering in an unusual fashion: The entire rear fuselage and empennage comes off as a unit, just aft of the wings. For a person who wants an enclosed-cockpit, single-place airplane for motoring about locally or on short trips, it's worth a serious look. Price of the kit, including the 45-hp Zanzaterra engine, is \$15,900. Even though it has two wings, construction time is said to be on the order of 150 hours. As far as I'm concerned, even if it's twice that, that's a heck of a deal for an aircraft that has more power than the original Piper Cub, an enclosed cockpit and can turn the \$100 hamburger into a \$50 event.

The two-place Hiperlight runs \$19,900, which includes a 54-hp Rotax 503 engine. Build time is said to be on the order of 300 hours, as it is a more complex aircraft. From my observations, many people install larger engines. Bill Wolverton of Niles, Mich., owned the Hiperlight I flew. He had installed an 80-hp Jabiru engine, which proved to give it satisfactory performance for two big guys on a warm evening.

Bill started flying in ultralights, found them to be a ball, gained quite a bit of experience with them and became an ultralight instructor. Along the way he also picked up his private pilot certificate, so he has what amounts to maximum flexibility in the world of grassroots aviation. His Hiperlight had the Rotax 503 engine on it when he bought it, but he installed the Jabiru. He has a small airstrip on his property, so the Hiperlight is perfect for VFR travel from home or just enjoying himself.

Empty weight of the Hiperlight with the Jabiru engine is 457 pounds, with gross at 910. Full fuel is 14 gallons, with the burn rate just less than 4 gph, so a full 84 pounds of gas is good for three hours plus reserves. With full fuel, 369 pounds can be put in the cabin. No, we didn't have full fuel. The Rotax-powered two-place Hiperlight weighs 360 pounds empty, has ten gallons of fuel available and a gross weight of 814 pounds. With full fuel 394 pounds may be carried in the cabin. While I don't know how the Sport Pilot regulations are going to come out, it seems to me that the Hiperlight series is going to fit perfectly.

## Preflight

Ron and Bill explained a great deal about the airplane during the walk-around inspection. The engine hold 2 quarts of oil and gets its fuel from a fuel tank in the aft fuselage. The fuel filler is on top of the fuselage, behind the top wing. Bill uses 93-octane auto fuel with a lead additive. The 23'-4" wings have a high aspect ratio for a biplane, which benefits low-speed handling and performance, and have a single "I" strut and a pair of flying and landing wires per side. The spar and ribs are aluminum. The all-metal ailerons are on the lower wing, are full span, and are actuated by push-pull tubes rather than cables. There is no elevator trim, something that troubled me until actually flying the

airplane. The landing gear is steel tube, somewhat similar to that used on newer Cessna singles. One of the reasons for the fast build time is a relative absence of compound curves. The fuselage has virtually no taper, staying pretty much a constant width. The fuselage does have somewhat of a wing shape, perhaps in keeping with the once-upon-a-time idea that the fuselage could provide lift. It doesn't. However, it is not a particularly high-drag design, as even with two sets of wings, various wires and only 80 horses up front, Bill's Hiperlight generated a TAS of just over 90 mph. The Rotax powered two-place is advertised with an 85-mph cruise.

Entry to the Hiperlight is via the left half of the fold-open windshield. Despite appearing awkward, it proved to be easier than it looked and much easier than getting into a Cub or Champ. Foot room is amazingly good, with head and shoulder room adequate for tall people. Bill's panel was simple and appropriate for the airplane, having an electronic engine information system that was more sophisticated than any I'd seen on two-place, general aviation airplanes. Despite having two control sticks, one per person, there was but one throttle, located on the left cabin wall, so stick handling was the conventional right-handed affair.

## Flight

Startup was a snap, with the Jabiru lighting off immediately. Noise level was consistent with airplanes of this size, therefore headsets were appreciated. Taxiing on relatively rough ground proved to be easy. The Hiperlight is a tailwheel airplane with fairly small wheels all around, yet directional control on the grass was never difficult and so long as we took our time, it rode over the bumps without difficulty.

Runup was brief. Once the mags and carb heat were checked, the strobe turned on, controls checked, and instruments set, we ran out of things to do. On takeoff from a paved runway, the Hiperlight required some attention. It was more challenging than a Citabria, although it cannot be said to be difficult. Rudder authority was more than adequate as soon as power is applied. As tailwheel airplanes go, the Hiperlight was about average in terms of skill needed on takeoff. The rudder on Bill's airplane had a breakout force that made fine tuning directional control in yaw difficult. The force necessary to get the initial movement of the rudder was more than was needed to get further travel, probably due to some glitch in the system increasing friction at the center point.

On the takeoff roll, the tail comes up at about 35 mph indicated, with the Hiperlight flying off at 50 mph. Normal climb is about 61 mph. We used very little runway due to the combination of decent acceleration and a low unstick speed. We did have some difficulty getting to altitude as one cylinder head temperature hit 397 degrees, which triggered a warning on the engine information system and Bill suggested we fly level until the temperature dropped. Leveling out proved to be the answer, but the engine cooling dictated that we make a step climb.

The controls proved to be crisper than I expected for an airplane that cruised at 90 mph. Many under-100-mph airplanes (and some faster planes) have controls that seem no more effective than a stick in a bowl of oatmeal -- one feels as if a lot of stirring is needed to get a result. That was never the case with the Hiperlight. The elevator was so light that the absence of a pitch trim was not a problem, although for a cross country it would be nice to have. Roll rate was pleasantly quick; causing steep turns to be a lot of fun although looking for traffic required a lot of effort.

Slow flight proved to be honest, with a noticeable buffet as the stall was approached either power off or power on. Stalls themselves did result in some mild roll-off at the break, something a pilot used to factory-built airplanes needs to be prepared for in homebuilts. It is difficult to get both wings to stall at the same time, so it's wise to be ready with the rudder to stop any incipient roll or autorotation. The rudder and ailerons remained very effective at the stall. Recovery was without surprises. Rudder brought up the dropped set of wings as the nose was lowered and the airplane was flying again. With only 80 hp and a fair amount of drag at low speed, transitioning to a positive rate of climb took several seconds, as might be expected.

While keeping the upper wing aft of the lower helps cockpit visibility, it still left quite a bit to be desired. This is probably not an airplane for flight in an urban environment. Cockpit visibility is comparable to an Aeronca Chief, but with an additional wing below the pilot blocking a bit more of the view.

Back in the pattern, 70 mph worked well until turning final and then speed was modulated to control the glide path. Drag builds rapidly below about 70 mph and the Hiperlight sinks much faster at 60 than at 70. About 55 mph works over the fence. No vices were observed in the flare, touchdown or rollout, in either three-point or wheel landings.

The airplane does not let the pilot snooze on rollout, as the flat-sided fuselage will catch a crosswind, but an alert pilot will find that the rudder and heel brakes can be used to keep things going straight if properly applied. The Citabria is often used as an example of an easy ground-handling tailwheel airplane. The Hiperlight is not that easy to steer on the ground, but it is less work to control than a Boeing Stearman.

### Final Thoughts and Pleasures

Bill and I taxied in as the evening was starting to wind down and chatted about the airplane and the flight. We were in full agreement that flying a Hiperlight is one of the best ways of spending time aloft. The respectable cruising speed and range with the Jabiru engine allows it to travel a couple hundred miles faster, and cheaper, than one can do so in a car. I couldn't help but think of those 80 - 130 mile, one-way drives we tend to make on business, on an out-and-back day. On a VFR day, the Hiperlight would make it a much more enjoyable trip, in less time. I came away from the airplane feeling that it is more than just a knock around, recreational airplane. With an electrical system and basic radios, there's a lot of capability in a kit that is under \$20,000.

If you are interested, Ron Jones runs Thunderbird Aviation in Shelby Township, Mich. (that's north of Detroit). He can be reached at 586-212-5862. The website is <http://www.hiperlightaircraft.com/>.

Afterwards, I spent some time talking with other pilots here in the Lounge. We agreed that all of us look for ways to go aloft and feed our addiction, without threatening the family fortune. It was interesting to note that there was a certain amount of "macho" sentiment expressed and the thought that many of us think that bigger is better when it comes to airplanes, although that does tend to be less of an influence when we discuss flying purely for fun. We sometimes forget that knowledge and skill in aviation is not correlated with personal wealth, and that there is nothing wrong with wrestling with a budget and desiring to aviate. Because virtually all of us are in that boat, homebuilt airplanes may be the answer for a lot of us, and the Hiperlight may be the way to go for many of us.

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. You may request a two month extension.

For sale or trade: 6 inch McCauly wheel, Continental 32 cub.in. aircooled 4 cyl. horizontally opposed engine, dual magnetos, about 40 lbs and 35 HP, ex military, spares, \$490 or best offer,  
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09/03 Email: [murphyrebel@aol.com](mailto:murphyrebel@aol.com), tel : 905-432-2481

For Sale: Lycoming 0-320 approx. 300 hrs since overhaul  
07/03 Jim Robinson @ 613-830-4317

## 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)



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