



## NEWSLETTER

# Carb Heat

Hot Air and Flying Rumours

Vol 31 No. 8

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## September 2001

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Thursday, September 20, 2001 8:00 PM  
Carp EAA245 Hangar

### Featuring:

Carl Bertrand's CH701 Project; part one

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**President's Page**  
**by Gary Palmer**

The summer is waning, and with the cooler weather comes the last few fly in breakfasts and a return to the construction season for those with active projects. I know there are many of you quietly working away on your projects, so why not share your challenges and triumphs with your fellow members by either giving a presentation, writing an article, some pictures for the web site, or hosting a Saturday project visit.

### **Chapter work projects**

Dick Moore will be calling for willing workers to help out on installation of our new septic system that will bring us into the modern era with real toilet facilities, hopefully before the snow flies. I am sure we can count on your help!

### **Oshkosh 2001, the slowbird route**

This year I exchanged the speed, convenience, and challenge of flying to Oshkosh for the certainty, lower cost, and air conditioned comfort of the road. George Elliott's C-172 had come down with a severe case of engine indigestion, causing a last minute change of plans. I teamed up with Martin Poettcker, and we drove the scenic northern route in Martin's Explorer. One thing was a constant however, good fellowship both enroute and throughout our 4 day stay at the big show. The more often I go to Oshkosh, the more I appreciate the weird and wonderful people who share this crazy obsession known as homebuilt aviation. There were a large number of chapter members present again this year and we got to meet at various venues, particularly the homebuilders and International visitor dinners at the EAA Nature center; highly recommended events.

### **August 12<sup>th</sup> Carp EAA 245 Fly-in breakfast a big success –Stan Acres ready to pass on the torch**

The weather gods smiled on us and we had a good, though not record-breaking turnout for our annual breakfast. The Rockliffe event, which unfortunately coincides with our long established date, has had an undeniable effect. **Stan Acres** and his able band of helpers did a superlative job as usual and made the event a huge success in the eyes of the attendees. This is the last year that Stan will be running the event and I strongly encourage some of the new members to please consider stepping forward and take on the role of Grande Chef.

### **August 11<sup>th</sup> RV-6 project visit.**

Following the Saturday August 11<sup>th</sup> breakfast setup, **Russ Robinson** hosted a visit to his RV-6 project, which is coming along very well; possibly first flight next year. Thanks Russ for the hospitality, and a great BBQ.

### **October Elections**

An early reminder that our October meeting signals our annual call for fresh blood on the chapter executive. As any current executive member will remind you, it is far more fun than work; a great way to give back to the chapter and sport for the benefits you receive. This year the positions of **Vice President, Treasurer, News Letter Editor,** and **Secretary** are up for election. If you are interested in joining our merry band, please contact any member of the executive to volunteer your services.

### **First Air Tour a resounding Success.**

Our July meeting at Carp featured a tour of the First Air workshop hosted by the workshop manager. This tour was well worth taking and if you notice a bunch of First Air caps and pens, it is courtesy of our very gracious hosts; thanks Leo.

### **Thursday Sept 20<sup>th</sup> meeting @ NAM 8:00 PM start \_Carl Bertrand's CH701 Project; part one**

Our Thursday Sept 20<sup>th</sup> meeting marks our return to the National Aviation Museum for our meeting venue. Our featured speaker will be **Carl Bertrand** who will give us the first of a two-part presentation on his **Zenith CH-701 STOL** aircraft. Carl will describe his project highlights during his first 150 hours of flight, and the reasons why he decided to undertake the design of his own high performance wing for his craft. The design of this wing will be the topic of a future presentation, but I

can assure you it turned out well as Carl joined Andy DePippo and Ray Jones in an Oshkosh Odyssey to rival Irving Slone's Pietenpol experience; a future meeting topic I hope, right Andy?

See you there. **Gary**

***The Corn Was As High As An Elephant's Eye***  
***by Linda Pendleton***

This article by Linda Pendleton appeared on avweb ([www.avweb.com](http://www.avweb.com))

I was on an airliner flying over the Midwest on my way to a business appointment in June and it struck me that I had forgotten just how green it is in the middle of the country in the summertime. Southern California is a lot of things, but green in the summer is not one of them. I looked down on the neat section lines and remembered how easy it is to navigate when you have such a prominent directional reference. The roads in SoCal that do go straight, don't go straight for far before they run into a canyon or a mountain. Later, as I was driving through the countryside on the way to the printing plant, I noticed that the corn was well on its way to being knee-high by the 4th of July. My Grandpa told me that was a sign of a good crop. Looking at the corn also reminded me of a close encounter with corn that a student of mine and I had some 24 years ago.

Dick was a quick study and we met at Chicago's Midway Airport (MDW) at 8:00 that morning to go out and begin his first concentrated session of takeoffs and landings. He had about 6.5 hours at the time, but he was the type of student to whom you show maneuvers once and then watch him perfect them. I wanted to get going before the heat thermals started and Dick wanted to get in some good flying before he had to go to work. The day was typical brown-haze-August in Chicago, but the visibility was an unusual seven miles.

***The Takeoff***

We departed MDW in a Cessna 150 and headed southeast toward Indiana. I planned to do the practice at the Hobart Sky ranch (3HO) and we contacted the Gary, Ind., ATC tower to transit their area. When we got to the Hobart area, I took the airplane to demonstrate the first pattern. After we landed, I talked all through the taxi back to the takeoff position of runway 36. I remember pointing out the trees at the departure end of the runway and telling Dick that there would be turbulence over them, but that he should not fight it because he'd make it worse.

Dick took the airplane, did the before-takeoff checks and pushed in the throttle. I was pleased to see the airplane track straight down the centerline and lift off at the proper speed. Dick established the climb and kept the ball in the center -- a very good takeoff to say the least. Just as we got over the trees the whole airplane began to shake violently. My student looked over at me with a questioning look and I know he thought the turbulence was pretty weird -- right up until I uttered those infamous CFI words, "Oh, %\$#! I've got it."

***The "Landing"***

I established best glide speed and did the mixture-master-mags drill. The problem seemed to get worse. There are some houses directly north of the airport and then a cornfield. I'd had that cornfield in mind ever since I started flying at Hobart as a place to go if the engine quit on takeoff from 36. The south end of the airport tucked up to a nice golf course, so that was the obvious choice in case of an engine failure departing 18.

It seemed to take a very long time to get to the cornfield and the houses were looking really, really big, but eventually we were descending into corn. I planned to mush in just above stall speed and that's exactly what we did. As we settled through the corn the nosewheel caught in the dirt and the airplane began to go over. It was almost as though it happened in slow motion -- so slow, in fact, that the vertical stabilizer never touched the ground. The cornstalks cushioned the horizontal stab and held the tail off the ground.

After the motion stopped, Dick and I were hanging from the seatbelts and he asked, "Do we get out now?" You bet we get out now! I could smell avgas and I had no inclination to stick around for any fireworks.

***Finding Civilization Again***

Once we got out of the airplane, the next problem was getting out of the cornfield. On the way into the cornfield, I was somewhat occupied with flying the airplane and was not looking around to plan the walk out. But I was always taught that in the event of a cornfield landing, the proper procedure to leave the cornfield was to walk with the rows. This makes sense because it keeps you from

wandering aimlessly around in circles. You have no idea how tall the corn can get in Indiana in late August until you've been unceremoniously plunked down into the middle of it. All we could see was corn, and straight overhead, the sky.

We followed the cornrows north until we came to the end of the cornfield and found it was bounded by a wide, stagnant drainage ditch and a very steep bank up to the expressway. That obviously wasn't going to do, so we turned around and followed the rows back past the airplane to the southern border of the field only to find that the south boundary of the field was a river. Old Indian ancestor once say, "Follow river. Find home." So we began following the riverbank. What we found was right out of *Deliverance*, complete with a couple of snarling, mangy hound dogs. We avoided the dogs and followed the deeply rutted driveway out to a country road and that road took us out to a highway where we found a construction company office.

All the way back to civilization, Dick questioned me about the procedures and techniques I had used to handle the emergency. I told you he was the perfect student -- he considered everything a lesson to master. The only thing I had expected him to see was corn and yet all the while he was making mental notes for questions he wanted me to answer!

Now, you've got to realize that by this time Dick and I were somewhat the worse for wear. Neither of us was injured getting into the cornfield, but we sure got dirty getting out. We had mud up about to our knees and grass stains all across our bodies from pushing through the corn. I knocked on the door and told the man that answered that we had just crashed in the field and that I needed to use a phone. He gave me one of those "Yeah, sure, lady. Everyone knows that nobody lives through plane crashes" looks, but he did let us in to use the phone.

### ***Taking Care of Details***

There were lots of calls to make. We had crashed right under the approach course for the ILS 30 at Gary so they needed to be told that the airplane was there and everyone was okay in case an overflight reported the crash to them. I called the local FSS to tell them in case the ELT had gone off -- it hadn't -- and the South Bend FSDO to tell them I had a little story to relate to them. I called the flying club at Midway to tell them to mark me off for the rest of the day, poor little N63155 indefinitely, and to send a plane out to pick Dick up. I phoned the FBO at Hobart and asked them to come over to the construction company and pick us up. They kept insisting I was kidding them when I said I crashed. I made all these calls in an efficient and businesslike manner.

Then I called David. He's MY instructor. I lost it. Maybe it's a girl thing, but what we had just experienced didn't hit me until I heard his voice and then I just dissolved. I got over it quickly, though, and we went on with business.

We arrived back at the Hobart airport at about the same time the plane arrived from MDW to pick Dick up. The first thing he asked the instructor that came to get him was, "Can I fly back?" When I commented about this later he told me that he had always thought the worst thing that could happen in a single-engine airplane was an engine loss on takeoff. Since that had already happened to him and he had come through it unscathed, he considered that he was ahead of the game.

Needless to say, the rest of my day was occupied with the FAA, the insurance company and the local police authorities. The really scary part came when the Gary police helicopter came to pick me up so that we could hover over the 150 to enable the FAA to find it again. The corn was really tall and the airplane was not visible from the ground. Helicopters are not my favorite flying machine and hovering over tall corn is uncomfortable at best.

### ***Engine Failure On Takeoff Considerations***

Our trip into -- and out of -- the corn was successful. So, what can you do to assure that a similar failure will leave you intact? Here are a few things to consider:

- **Pick out your intended landing spot BEFORE you begin your takeoff roll.** One of the best times to do this is on your way into the airport on arrival. Local pilots can also provide you with the lay of the land and help you with likely candidates. At your home airport you should have a spot picked for each departure runway. Reinforce this selection as part of your pretakeoff checks. The shock factor of an engine failure shortly after takeoff will rob you of valuable decision time and you have other important tasks to accomplish.
- **Fly the airplane first.** This may seem elementary, but pilots getting distracted by other chores during an emergency cause many accidents.
- **Remember, your prime responsibility is to the folks inside the plane, not to the airplane itself.** That airplane has already let you down, so don't be worried about damaging it. Keep the cabin intact. Wings and landing gear are expendable items and will absorb some of the energy of impact.
- **This is where your energy management skills will shine.** You'll want to land the airplane as slowly as possible while maintaining positive control. Go out and practice this. The reason we drill on emergency procedures is so that they will come as second nature when they're needed.

Hopefully you'll never be faced with an engine failure shortly after takeoff in a single-engine airplane. Most pilots aren't. I've had a dozen engines take the day off in 10,000+ hours but that 150 was the only single-engine airplane that let me down.

Dick continued to fly after our excellent adventure and soloed in a few hours. I later found out that he was somewhat of a hero when he got back to his place of business. He had a small cut over his eyebrow that his coworkers all assumed he had sustained in the "crash." I never told them that he had walked into the back of the wing of the 150 during the preflight.

***Maintenance Corner***  
***Submitted by Olav Peterson***

I would like to submit a problem on sparkplug helicoil inserts which I forwarded to Dick Moore. His response was well-informed and helpful which directed me to a more intelligent solution. I would like to include his answer below and perhaps you can edit the contents for a submission for our Chapter newsletter

Dick writes:

You might be best off by taking this problem to the experts. You could do more harm than good. Read the following:

**AAC 6-5 Spark Plug Helicoil Repairs 6/95**

Following a Major Defect Report investigation involving two in-flight incidents of blown spark plugs from the same cylinder position on the same aircraft, there is clear evidence a large number of approved workshops are not aware of the correct procedure for replacing spark plug helicoil inserts. The Lycoming published procedure for replacing spark plug helicoils is detailed in Service Instruction No. 1043A. The Continental (TCM) procedure for replacing spark plug helicoil inserts is in the respective engine's overhaul manual. Lycoming in SI 1043A recommends all spark plug helicoil defects should be repaired by tapping oversize and fitting an 0.010" oversize helicoil, regardless of whether the defect is helicoil thread damage or the helicoil is loose, the TCM procedure only addresses a damaged spark plug helicoil. Thereby lies one of the problems; there is a difference between a damaged helicoil thread and a loose helicoil. As with all aircraft defect rectification tasks, it is important to recognize the primary defect. Is it a damaged helicoil thread resulting from improper spark plug installation? Or, is it a loose helicoil resulting from erosion of the cylinder head material? Replacing a damaged spark plug helicoil with a standard size helicoil will fix the damaged helicoil. Repairing an eroded spark plug helicoil insert thread with a standard size helicoil will almost certainly result in a blown out spark plug (complete with the new helicoil). The second issue is; not all commercially available helicoil repair kits, such as those produced by Heli-Coil, have oversize helicoil inserts. The kits may not contain the expanding and staking tool, as required by Lycoming Service Instruction 1043A and, in most cases, do not have the 0.010" oversize helicoil inserts or tap. Many maintenance organisations buy these kits from their local supplier and repair damaged or loose spark plug helicoils by simply replacing the helicoil. Again, what is the defect, what is the correct repair?

When carrying out a spark plug helicoil repair, specific care should be taken to prevent further damage to the cylinder head. Certain cylinders, such as high time cylinder heads with short reach spark plugs, are particularly susceptible to spark plug helicoil insert thread damage. Care should be taken when replacing the helicoil to reduce the possibility of further damage to the cylinder head material. Approved workshops and AME's should also be aware that repairs to cylinder heads, as with any aircraft component, must meet approved maintenance data, (CAO 106, AD/ENG/4, para 2.4 and CAR 42V refer). Whilst repairing a spark plug helicoil with an oversize insert on a Lycoming engine is covered in Lycoming SI No. 1043A, TCM engines are a different story. For other than Lycoming engines, a CAR 35 approved repair procedure may be required. In the absence of manufacturer's data on repairing spark plug helicoils with oversize inserts, contact your District Airworthiness Office for advice on the availability of an existing CAR 35 procedure on this subject. Off hand I don't know who would be best but you could give Red Sutton a call at Rockcliffe flying club.

**Some Young Eagles submitted by Bill Reed**



Erica Wilcox (10)



Shane Keller (11)

**Classifieds**

Place your ads by phone with Charles Gregoire  
@ 828-7493 or e-mail to [cbgregoire@sympatico.ca](mailto:cbgregoire@sympatico.ca)  
Deadline is first of the month. Ads will run for three  
months with a renewal option of two more months.

Airspeed indicator by Aerosonic Corp., U.S.,  
20 - 250 kts, MS28021-4, manufactured in 1988, last  
calibrated in 1996. For RV series of aircraft and others.  
\$180.00

Wolfgang Weichert      836-1318      09/2001

**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:

[cbgregoire@sympatico.ca](mailto:cbgregoire@sympatico.ca)



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