



**NEWSLETTER**

# *Carb Heat*

Hot Air and Flying Rumours

Vol 28 No. 1

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## *January 1998*

*Inside:*

**President's Page:** by Gary Palmer  
**Just Plane Surfin'** by Curtis Hillier  
**When Your Aircraft Speaks, Listen!** by Mike Busch  
**Classifieds:**

*Next Meeting:*

**Thursday January 15, 1998 8:00 PM**  
**Aviation Museum (Bush Theatre)**

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I hope all of our members have enjoyed a relaxing and happy holiday season, and are refreshed for tackling a challenging building project.

While we have received a fair amount of snow so far this winter, some of us continue to be able to fly. With the RV-6 available, I am now able to enjoy the often sparkling conditions that were denied me with the Lancair. The normally excellent climb performance of the RV-6 becomes simply outstanding in cold dense winter air.

As you can tell, I am still enjoying my introduction to the joys of RV flying. So much so in fact that I have taken the plunge and purchased John Richards' largely completed empennage kit, and placed my order for a wing kit. For a while I vacillated between an RV-6 and an RV-8, but in the end felt the 6 was a more practical choice for my needs; offering more panel space and easy access to the baggage area in flight. Nice features on a long cross country.

Hopefully in another five years or so I will have an RV-6 of my own that does not disgrace itself in the workmanship category; the standards set by area builders seem consistently high.

I also checked out Dale Lamport's RV-6A which is nearing completion. Needless to say, his workmanship is top notch, and we should see him flying sometime in 1998.

### RV-6 Crash Update

I had the opportunity to get an update on the fatal crash of George Kovalenko's beautiful RV-6 on its maiden flight at Brampton a couple of months

ago. The TSB investigation found no aircraft defects, but did note that the mixture control was physically bent in the idle cutoff position.

It seems that the test pilot inadvertently pulled the mixture control, rather than the prop control, then bent the mixture when frantically ramming it forward when the engine sputtered. This simply indicates how easy it is to mess up, even for an experienced pilot.

Sadly, this should have meant nothing more than some minor damage to the aircraft, if only the turn back had not been attempted. Those familiar with the Brampton airport will know that there is flat farm land to the north.

I am glad to see that George is recovering well from the initial emotional devastation which was strongly fueled by his own sense of responsibility for the crash. He is now hoping to start building anew.

### Lancair Crash Update

I have finally received at the conclusion of the recent mail strike, the final TSB report on the NSI CAP hub failure. I am working together with Paul Messinger, a retired Aeronautical engineer and EAA Technical Counselor to produce a final report for distribution to various home building organizations and publication on the Internet.

Paul has developed a simple test using a dial indicator which will detect the oversize outer Rulon bearings which is the root cause of my failure, without requiring disassembly of the hub.

You may have noticed that Rem Walker of the EAA Canadian

Council has mentioned the failure in the November issue of Sport Aviation. Hopefully, this will alert those owners of NSI CAP hubs that may not have been informed of the problem by NSI.

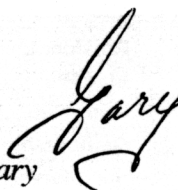
### November highlights

The November meeting featured **Ken Hitchmough** who showed a video relating his experiences while part of the Nigerian Air Beetle project. This was a development of a military trainer derived from Vans RV-6A home built. This look at life in Nigeria showed some of the stark contrasts in that society, and provided a unique perspective on some of the different *characters* making up the team. Very notable was the enthusiasm of many of the native Nigerians in the project and the quick way in which they learned the skills necessary to build the RV-6.

Ken has finished his own beautiful RV-6A which should be located at our chapter soon, once he locates hanger space. Currently it is still in Toronto. If you missed this one, you missed a beauty.

### Jan. 15th Mtg. at NAM:

Our next meeting will feature an engine overhaul training video we recently obtained. While this is based on a Continental A-65, much of the information will apply to the Lycoming. I look forward to seeing you Thursday January 15th at the **National Aviation Museum**, 8:00 PM start.

  
Gary

## Just Plane Surfin' by Curtis Hillier

This month I have looked at a few ultralight sites. Not all site holders are advertising their sites in the popular magazines so finding them is a bit of a chore. The best, (by far), search engine for aviation related information is still [www.landings.com](http://www.landings.com); this site has links to almost everything you can want info on.

I must admit that I have now been surfing for some time now and am absolutely hooked. I can get information any time of day, (almost) and usually find everything that I want. I have finally seen some evidence of heavily visited sites when I am not allowed to connect. One such site is the TEAM site: [www.tval.com/TEAM](http://www.tval.com/TEAM) - ("Team" must be all upper case). In most cases, the smaller kit/design providers are more interested in providing a better design or kit for us instead of outdoing one another in the web site appearance.

**HINT OF THE MONTH:** One thing to speed web site viewing is to deselect the "open all pictures" in your internet program. This is usually found in the options section of your program. In the Microsoft Internet Explorer it is found under "View". If you do this though you may not be able to find the pictures you need to navigate; If so, each picture can be opened individually to see where it leads. In most cases the description of the picture is given in the picture icon.

[www.tval.com/TEAM](http://www.tval.com/TEAM) - This site takes quite some time to open as they have a very large picture to open. Slow modems like mine take a few minutes to get into it. The good news is that the menu that allows to you to get around opens quick and you can move on to where you want to go. They have a section on "building with wood and fabric"; "wood and fabric kits"; "engines"; "the hanger"; "company store"; and "AirBike". There are plans to open two additional sections entitled "Our Company" and "Ultralights". The "building.." section reviews the ins and outs of wood and fabric, concerns of "rings per inch" and "grain run out". Moisture of the material is discussed and on to working with plans and plan quality/clarity. Equipment, work space and construction technique - very good information and a good primer to those who are considering a wood aircraft. The wood and fabric kits section highlights their kit/plan offering - Each product is classified by the type of engine they use. The!

engines section gives info on each of the three choices TEAM makes use of - Rotax;Zenoa;VW - lists of those who supply them with phone/FAX where applicable etc... The "Hanger" is a place where they encourage you to post your "completion's" - not too many there as of Jan/98. The Store offers everything from videos to engineering stress analysis reports on their aircraft designs; clothes; decals etc..

You can order with a VISA or MC number right there and then. Since their "AirBike" is their latest offering and is selling like "hot cakes" they have a section on just it - a lot more impressive than the other sections. (Being a motorcycle enthusiast I sure would like to get me one of these! Anybody interested in going in on one?)

[www.fisherflying.com](http://www.fisherflying.com) - They show their offerings and do it very well. Everything is well laid out and easy to navigate. Topics are: "The planes"; "The company"; "Additional Info"; "Newsletter"; "E-Mail"; "What they are saying"; "Fisher's Awards". The web site appears to be a short summary of all of their "info packs" which they offer to sell to the visitor. I think enough info is there, pricing is the most obvious thing we tend to want and they provide it completely.

[www.leadingedge-airfoils.com](http://www.leadingedge-airfoils.com) - They rep the Antares Trikes, Nieuport, Earlybird and Quicksilver aircraft. This site is very well laid out and easy to navigate without the pictures opened. An interesting bit of information with their complete kits - including the engine and prop, is the fact that the use "Ivoprop". If that is not your "cup of tea" you can buy the basic aircraft without the engine and prop. Of course you can see any of the other things they have available; the list is too long to print; They cover the catalog, events and other site links. A good site for visiting.

[www.tigeraviation.com](http://www.tigeraviation.com) - They rep the Drifter as well as the Jabiru aircraft and engine. Nothing here, looks like an abandoned air field!

[www.freebirdair.com](http://www.freebirdair.com) - They have a folding wing ultralight with several configurations and lots of pricing options. An easily navigated web site with everything you need to know.

[www.hpower-ltd.com](http://www.hpower-ltd.com) - This is relatively new light weight 60Hp non inverted operation engine. An interesting engine but at 6.2k\$ USA and only full power rated for three minutes with a 500 hour overhaul..... The 6.2K does not include the stainless exhaust nor oil cooler. Add on another \$900USA for these items. The Japanese company has been in racing engines for around 20 years and has a profile for you to browse. They even have their manuals on line so support does look very good; lots of disclaimers and warnings of use over densely populated areas!. So far only "Flightstar Sportplanes" has used them and endorsed them but claims of more are "coming in regularly". A nice site though and well laid out, easy to navigate.

[www.sea-plane.com](http://www.sea-plane.com) - You can get info on the Aventura amphibious plus the Buccaneer series and Sabre kits. I only found information on the Aventura kits, the other designs were not there. A very high tech site very nice looks and info on all different models of the Aventura sea plane. Standard features for the \$29kUSA include a BRS recover chute - I wonder why? Ok yes, they provide an IVO prop - just kidding! It looks like a great product and economical if you provide your own engine. They don't give any options other than the Rotax units.



www.vansaircraft.com - A very complete and informative site for one of the more popular designers. Everything from specifications, to pricing, delivery schedule and ordering informaton. Worth a visit.

Well, that's it for this month - I can't wait to see if RANs come out with a site to visit. Back to making 601HDS aircraft parts.

(Writers Note: Each year I have bought the December issue of Kitplanes\* magazine so I could have a reference of all the kits and plans available; They have broken the list albeit very large now, into three issues. Good marketing and sales for circulation! They also have a web site now www.kitplanes.com - very impressive by the way)\*registered trade mark of "KITPLANES Acquisition Company" The disappointment though is the lack of web site information for those suppliers who have them. A separate section at the end of the article is provided but very limited in information.

Happy Surfing, till next time, See Ya!

## *When your aircraft speaks, listen!* by Mike Busch

If you notice any change in your airplane, no matter how trivial, act immediately to determine its cause. A seemingly inconsequential thing like static in your headset might be a vital clue to an impending catastrophic failure. This article originally appeared in The Aviation Consumer.

My 310 is annualled every March. This year, the engines had reached 500 hours SMOH, so I decided it was time to pull all four magnetos and perform the 500-hour inspection as called for in the Bendix magneto service manual. The annual also involved overhaul of a sticky wastegate, replacement of a prop control cable, and a bunch of other minor items.

When the annual was done and the logbooks were signed off, I took the airplane up for a local test flight. Everything checked out perfect, except that the right engine fuel flow was a touch low at takeoff power, so I tweaked it up a quarter-turn at the completion of the test flight. During the next two weeks, I made a few short flights in the airplane, and everything (including the fuel flows) seemed flawless.

My first longish X-C after the annual was a 2.5-hour IFR early-morning flight from my home base in central California to visit an associate in Tucson, Arizona. The sky was cloudless, the flight was beautiful and the airplane behaved perfectly. That night, I departed Tucson IFR for the return flight to California. It was a particularly dark night, with no moon, few ground lights, and high cirrus clouds obscuring the stars. The autopilot

was on nav-track and alt-hold, there was hardly any ATC chatter, and almost nothing for me to do. I trekked across the vast Arizona desert at 200 knots, my eyes staring into the featureless blackness, my ears listening to the smooth drone of the engines and some static in the radios.

Wait a minute! My radios never had static before! What's going on here?

I checked each of the radios in turn. The ADF sounded fine, and the LORAN performed flawlessly. But there was definitely noise in both comm radios that wasn't there before. In fact, the noise was loud enough that I had some trouble understanding the dialogue on Albuquerque Center frequency.

I decided to switch into troubleshooting mode. Varying engine RPM a bit caused the sound of the radio noise to change. It sounded to me as if it might be ignition noise of some kind. I richened the mixtures a bit and then shut off the magneto switches one at a time. When I switched off the right mag on the left engine, the noise in my headset went away completely. None of the other three mag switches had any effect on the noise. I pulled out a Post-It Note and wrote "radio noise: left engine/right mag" on it. Recalling that all four mags had been pulled during the annual, I figured that perhaps the shield wire on that particular P-lead and broken off during the reinstallation, and that neither I nor my IA had noticed it.

I arrived home about midnight, thoroughly exhausted by the long day. I briefly considered pulling the cowling on the left engine and checking the P-lead, but I was much too tired. The next morning, I couldn't stop thinking about the ignition noise while I was taking my morning shower. I had a very busy workday planned that day, and didn't really have time to fool with the airplane. But I also had several more flights planned later in the week, and didn't want to continue to suffer with noisy radios. Should I take the time to drive down to the airport, pull the engine cowling, and check out the P-lead? Or should I get my work done? I tried to work for awhile, but my mind kept drifting. Finally, I decided to bite the bullet, put on my work-on-the-airplane clothes, drive to the airport, and take a look at that dumb P-lead.

45 minutes later, I was in the hangar, the toolbox was in place, and the left engine cowling was off. Using a flashlight and mirror, I took a look at the P-lead on the right mag. The shield looked intact, and its crimp lug properly grounded to the lower-left mounting stud on the magneto distributor cap. Darn, my ungrounded P-lead theory up in smoke!

Then I noticed something: the upper-right mounting stud was protruding bare from the mag distributor cap, with no nut or lockwasher to secure the cap. Gosh, how'd that happen? Could my mechanic possibly have forgotten to install that nut or to tighten it down properly when the mag was re-installed? Not



likely...this particular fellow is a real perfectionist, and makes fewer errors than any other A& P I've ever worked with.

Nevertheless, the nut was unaccountably missing from the upper-right stud. I found an appropriate nut and lockwasher in the parts room, installed it on the protruding stud, and tightened it down. But I was not a happy camper, because I still hadn't found anything that accounted for the ignition noise in my radios.

A little voice told me that I should double-check the tightness of the other three studs on the magneto. I put my socket over the upper-left stud, and discovered to my shock that the nut was not even finger-tight! The lower studs were difficult to reach, but I finally found a combination of extension shaft and wobbly-socket that would do the trick. Both lower nuts were loose, too. The nut on the lower-left stud (to which the P-lead shield was grounded) was so loose that I could wobble the P-lead grounding lug. At last, I found the cause of the radio noise! My face broke out into a big grin.

I tightened all four nuts, and then checked the left mag. All four of its nuts were tight. I decided to uncowl the

right engine and check its mags. The eight nuts on those two magnetos were also tight.

As I was replacing the cowlings and locking up the toolbox, I got to thinking. Suppose I had decided to do my work and put off checking the radio noise problem for a few more days. Would the other three distributor cap nuts have backed off completely like the first one did? Would the distributor cap or ignition harness have separated from the magneto? Would I have wound up having to replace the whole magneto rather than just tightening a few loose nuts? In a worst-case scenario if this happened on takeoff, would the left engine have gone into detonation and destroyed itself? Would it have taken the airplane (and me) with it?

The lesson here is simple: if you notice a change from the norm, no matter how trivial, act immediately to determine its cause. Don't put it off. A seemingly inconsequential thing like static in your headset (or a twitch of your oil pressure needle) might be a vital clue to an impending catastrophic failure.

There's also another lesson: even the best mechanics occasionally screw up (as they will be the first to admit). So be careful out there!



### EAA Chapter 245 Membership Application

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**Annual Dues:** January 1st to December 31st. (porated after March 31st for new members/subscribers).  
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 Full Member: \_\_\_\_\_: \$55.00 Newsletter, hangar, workshop, tie-downs  
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 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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