

Tower Talk

Upcoming Events:

April Chapter Events

- **5 - Saturday, 8:30:**
Breakfast, Ramada
Waterloo
- **8 - Tuesday, 7:00:**
Board Meeting, Airport
Conference Room
- **22 - Tuesday, 7:00:**
Chapter Meeting, Airport
Conference Room
Program: ALO ATC

April

- **1 - 6:**
Sun 'n Fun, Lakeland FL
www.sun-n-fun.org
- **22:**
Iowa Aviation Conference
Safety Seminar, West Des
Moines IA

May

- **3:**
Young Eagles Rally for Boy
Scouts

June

- **28 - 29:**
Fly Iowa 2014, Iowa City
www.flyiowa.org

July

- **July 28 - August 3:**
EAA AirVenture Oshkosh
www.eaa.org

August

- **23 - 24:**
Thunder in the Valley,
Waterloo

Inside this Issue:

April Chapter Meeting Program: ALO ATC	2
Young Eagles Rally for Boy Scouts May 3 rd	2
Mike Wilson, Director of Aviation	3
Dave Lammers: Alaska - A Flying Paradise	5
Carl Campbell to be Honored for His Service	6
Thunder in the Valley	6
Should We Purchase A Prop Balancer?	6
Why Balance? from Doug Mattson	7
Tech Notes - A Balancing Act by Mike Lewis	8
Leadership Contacts	10

John Livingston Chapter

April 2014

Runway Zero

by Warren Breicheisen, Chapter 227 President

Spring seems to be having a difficult time getting hatched this year, but a few decent days have popped up and given me hope that some better flying weather is coming soon. As most of you know, I had back surgery several weeks ago. During the six week recovery period, I can't do anything strenuous, so it'll be several more weeks before I can get the airplane out of the hangar. From that point of view, most of the recent weather hasn't made me feel too badly about not being able to get in the sky. At least my period of limited activity afforded me an opportunity to finish the pilot operating handbook and technical manual for the RV-6.

I sent some information to all of you about contacting senators and congressmen to ask their support for House Bill H.R. 3708 and Senate Bill S. 2103, commonly known as the General Aviation Pilot Protection Act. This expands the medical self certification process, used in Light Sport Category, to include quite a number of Private

Pilots that are currently required to have a Class III physical every 2 years. If you haven't contacted your congressmen to enlist their support for this legislation, please do so as soon as possible.

Carl Campbell has been invited to participate in the Honor Flight on May 6th. This truly is an honor for a deserving individual. Congratulate him when you see him.

The nametags are available. Those of you who attend the April 22nd meeting will be able to pick up your name tags there. If you don't have yours, feel free to contact me and we can set up a time for you to pick it up. You will be responsible for keeping track of your nametag and wearing it at chapter meetings and events. The nametags were purchased out of chapter funds.

Plans for the Young Eagles Rally on May 3rd are pro-



gressing. This special YE Rally will be an EAA event and will be part of a Boy Scout camping weekend involving up to 40 troops in two districts in north-east Iowa. YE flights during this event will be by "invitation only". John Dutcher has provided YE permission forms to the local scout leaders for distribution and parent/guardian signatures. Since this event is sponsored exclusively by EAA Chapter 227, the chapter insurance will cover it. The YE Rally replaces the special May event that appeared on early versions of the calendar of events for the chapter. To show John's dedication, he chopped ice for about an hour so we could get into our storage room at the airport to get the YE forms!

Continued on page 2

Runway Zero from page 1

**“Let’s fly
somewhere!”**

Please keep sending pictures and articles to Chris Roberts for the newsletter and giving ideas for programs to Marty Hoel. How about volunteering to present a program?

Let’s fly somewhere!

Warren Brecheisen
President,
EAA Chapter 227

Visit eaa227.com to find:

- Upcoming Events
- Newsletters - Current & Past
- Young Eagles Information
- The Tool Box
- Cool Aviation Links
- How to Join 227
- For Members Only (Membership Roster, Meeting Minutes & Bylaws)

***Chapter Meeting - April 22nd
Program and Q&A with ALO Air Traffic Controllers***

***Please join
us on
April 22nd
at 7:00 PM***

For the April Meeting, our guests will be a couple of the Air Traffic Controllers from the Waterloo Tower. By necessity, nearly all of the interactions between the Pilots and the Controllers are

brief and formal. We will have a rare opportunity for friendly conversation and for placing a “face-with-a-voice”. They will give a brief presentation and then join us in a question and answer session.

So, please join us on April 22nd at 7:00 PM in the Waterloo Airport terminal building (upstairs) for this interesting and informative presentation.

YOUNG EAGLES RALLY FOR BOY SCOUTS MAY 3RD!

***We need
planes, pilots
and support
volunteers!***

Chapter 227 will host a Young Eagles Rally on May 3rd as part of the Boy Scout Spring Camporee. The theme of the scout event is “Fly High with Scouting” and our chapter has been approached by member John Dutcher to provide airplane rides for the scouts. Wabuha and Sun Rivers Districts are hosting the camporee May 2nd- 4th.

More than 40 scout troops are expected that weekend from Black Hawk, Bremer, Buchanan, Butler, Fayette, and Grundy counties. The Rally is open only to scouts participating in the camporee and by early registration. Details are being worked out and we will continue to update you by email and phone.



***WE WILL NEED
PLANES, PILOTS,
AND SUPPORT
VOLUNTEERS!***

Mike Wilson, Director of Aviation

My name is Mike Wilson, I am the new Director of Aviation for the City of Waterloo. Chris Roberts asked me to do a small write-up about myself for the newsletter, so here goes! My father was a pilot for the Minnesota State Patrol, which is what started me in aviation. He used to do flight instruction in Anoka, MN and I would tag along when my parents couldn't find a babysitter. We moved to the small town of Carlton, MN which is about 15 miles south of Duluth when I was seven years old. I attended Carlton High School which had a graduating class of 57.

After graduating high school, I went to the University of Minnesota Crookston to learn to fly and play college basketball. I earned my private pilot certificate my freshman year and received my tail wheel endorsement shortly after. Soon after that first year of college I realized that I needed some income other than my work study position at the airport, so I enlisted in the Air National Guard. I went to basic training in San Antonio, TX during the summer of 2000, and then returned to Crookston for another year of school. After my sophomore year I once again found myself in Texas, this time in Wichita Falls for my advanced training in Aircraft Armament. I returned home in early September and had my first day of on

the job training on September 10th, 2001. On my second day of training I found myself trying to help the base out anyway I could without being fully trained. That day we scrambled F16s with live missiles to the East Coast to patrol over Washington, DC.

I was supposed to complete sixty days of on the job training, but before it was finished, the entire base was called up for active duty for one full year. We ran 24 hour operations and many of the people in my shop cross trained and helped out other shops as needed. During two of these months I sat on alert at Tyndall Air Force Base. I could go on for a while about this, so I will stop. I have now been in the Air National Guard for 14 years. I am a Master Sergeant in the weapons loading shop in Sioux Falls, SD (I transferred to Sioux Falls in 2007).

After coming off active duty, I moved to Saint Cloud, MN. I purchased a home using the money I saved during my activation and enrolled in Saint Cloud State University. While I was in St. Cloud, I met my wife, Sarah, through her roommate. Her roommate and I were really good friends and hung out a lot and pretty soon I found myself dating Sarah. I graduated in 2006 with a BS in Aviation Management. I

was unable to find employment in airport management right away, but the Guard was able to provide me with about a year of man days. As the man days were coming to an end, I had found a position in my field with the City of Brookings. I had no real world experience to speak of, but they took the chance and hired me. It was a bit overwhelming at first, but what job isn't. I will talk about some of the projects that I have worked on in a newsletter later. I started in Brookings in June, 2007 and I worked there until January, 2011. Sarah and I got married about a month after moving to Brookings.

The Transportation Director position opened in Aberdeen late in 2010. I really wasn't interested in the position at first but I had some people persuade me into applying for it. I was president of the South Dakota Airport Management Association from 2009-2012, VP in 2013, and president again in 2014. During our annual meeting in 2010, I had four people from the City of Aberdeen sit in on the meeting and each of them talked to me afterward about the position in Aberdeen. Their persuasion worked, I applied for the position and we found ourselves moving to Aberdeen. This is probably a bit of a sore subject for my

“It was a bit overwhelming at first, but what job isn't.”

Continued on page 4

Mike Wilson from page 3

“...and really make this airport a viable travel option again.”

wife still, she really didn't care for the fact that we were moving an hour and a half further from family. It wasn't too big of a deal at first, but we had our daughter in August of 2011 and it did become a big deal then. It isn't a lot of fun traveling for six hours in a car; it can become miserable with a baby that needs to be fed and changed every couple of hours. We had one drive home that took us about nine hours – that's about the time that we decided we needed to live closer to family.

Okay, back to the Aberdeen position. I started with the City of Aberdeen in January, 2011. I really enjoyed my job there, the airport had some interesting projects that I was working on (I will go into detail another time), my coworkers and staff were all great to work with, and the airport was growing – both GA and Commercial. I will focus on the airport in this article, but I was also in charge of City Transit. When I started in Aberdeen, the enplanements were declining and were at about 20,000 per year. When I left, we surpassed 26,000 enplanements per year and we were receiving one additional flight per day for about six weeks during pheasant season. General aviation was doing extremely well in Aberdeen, the third full service FBO was officially opened for business in 2011. All three of these

FBOs, as a provision to sell fuel, had to: have two rental aircraft, provide charter service, give pilot instruction, and be certified FAA repair stations. At one point we had three aerial applicators operating facilities on the airport, although it had decreased to two when I left. I must say, although my wife was not the biggest fan of Aberdeen (mostly because we were further from family), it was tough leaving there. We made some great friends, we remodeled our home, and we will always have some fantastic memories from our time there.

I saw the position come open in Waterloo and mentioned it to my wife. She immediately wanted to know what there was to do here, how large of a city it was and how far it would be to see her family (it is three hours, so we cut our drive time in half). I am from a town of 900 people, so community size and the amount of things (shopping) to do in the area did not bother me about Aberdeen. Sarah is from a suburb of the Twin Cities and was used to being able to go shopping at the Mall of America and visit the Science Museum anytime she wanted. I was most interested in the position here; the runways are in excellent condition (6/24 excluded), the terminal has been recently remodeled, the airport is financially self-

sufficient, and I feel there is room to grow the passenger enplanements and really make this airport a viable travel option again. My wife was interested in the activities; she loves that there are huge farmers markets, a children's museum, a science museum, the splash pad downtown, two large malls, and many activities for kids. Prior to my interview, we spent quite a few nights looking up information on Waterloo. I would throw out a fact about the airport and she would tell me about something to do in the area (mostly activities for kids). I did a phone interview and was invited for an in-person interview shortly after. I had a great time during the interview; I received a tour of the airport, the Sportsplex, the Children's Museum, and a portion of the town.

We have been here for one month now and we are really enjoying it. We were able to sell our house prior to moving and purchased one here. The house that we bought here is a large ranch style home complete with a bomb shelter in the basement. As you can probably guess, the house was built during the Cuban missile crisis and hasn't been updated since, so I have my work cut out for me. I completely remodeled my last

Continued on page 5

Mike Wilson from page 4

house and I do enjoy this type of work. I have a lot of hobbies, some (my wife), would say too many. I love playing basketball, racquetball, ping pong, snowboarding, mountain biking, shooting, hunting, fishing, and many other things. The house remodel usually takes precedence over these other activities, especially since our second child will be here by the end of April. We have already found out that we

are having a boy and my wife has been trying to nest and get everything setup for him, but we were without a home for a couple weeks! Now that we are in the house, I need to replace some carpet, paint rooms and stain trim before he arrives.

As far as work goes, I have been trying to get out and meet everyone around the airport, but some days I don't get too far from the

office. I have been going through employee training records, revising the FAA required documents, planning for the air show, planning for the airport emergency exercise, organizing files and leases, and trying to figure out how the Central region, the State of Iowa, and the City of Waterloo operate. If I haven't met you yet, please stop in and see me or give me a call at 291-4483. I hope to meet everyone soon!

"...please stop in and see me or give me a call..."

*March Meeting Program:**Dave Lammers – Alaska: A Flying Paradise*

After the March 18th meeting, Chapter 227 members along with some members from Chapter 94 were treated to Dave Lammers' program *Alaska: A Flying Paradise*. Dave is a CFI, CFII, and MEI with a very prestigious list of accomplishments and is a member of EAA Chapter 33 in Cedar Rapids. Dave and his friend, Joe Schumacher, the retired Director of Air Operations at AirVenture Oshkosh, flew to Alaska in his recently completed RV10 last summer. Dave emphasized that traveling by air is the most practical way to see Alaska and his pictorial presentation was spectacular. Alaskans love airplanes. In fact airplanes are their workhorses—like their pickup trucks. There are 6 times

more pilots and 16 times more airplanes per capita than anywhere else in this country. Dave shared several of his many memories of places visited, sightings of animals, and conversations with local people along the 45 flight hour trip.

Dave recommends to anyone thinking of flying to Alaska in a small aircraft to take a sat phone, know the Canada and Alaska rules, and be prepared for challenges crossing the border into Canada. Homeland Security came up with a manifest notification system called *eApis* which has a reputation for being extremely difficult and user unfriendly. Dave found that Alaska has many microclimates. He also em-

phasized the importance of planning daily flights using the Alaska

Weather Cams website which is composed of camera images designated by the FAA and updated every 10 minutes at <http://akweathercams.faa.gov>.

You can learn more about Dave, his exciting background, and follow his trip at www.flywithdave.com. It is a great website with lots of useful information.

Please contact Dave for more information and other questions at dave@flywithdave.com.



Carl Campbell to be Honored for His Service

***Carl will be
on the
Honor Flight
May 6th***

Carl Campbell has been chosen to take another "tour of honor". On May 6th, Carl will be taking an Honor Flight out of Waterloo where he will visit veteran memorials and other historic sites in Washington DC.

Carl entered the United States Air Force in 1952 when he was nineteen. As a green kid from Iowa, Carl's first trip was to California for Basic Training. He was then sent to Sheppard AFB in Wichita Falls, Texas for B-29 school for six months. After that, he moved to Chanute AFB in Rantoul, Illinois to



attend engine school. At Chanute, Carl became an instructor

on 28-cylinder radial engines for a year. When school was shut down, Carl relocated to Yokota AFB in Fussa, Tokyo, Japan where he spent his last 22 months. Carl served in the USAF until 1956.

Carl will attend a meeting on April 24th where he will learn more about the Honor Flight. Information covered that day will include airport procedures, trip safety, and he will be given an itinerary for May 6th. Congratulations to Carl for being selected to visit those memorials dedicated to honor the service and sacrifice of our veterans!

Thunder in the Valley Air Show 2014

***Sponsored
by the
Kiwanis Club
of Waterloo***

The Air Force Thunderbirds will thrill us with another air show at the Waterloo Regional Airport on Aug. 23-24, 2014. Planning committee meetings are underway. Currently, we are planning the static display again and will host a pancake breakfast.

If you have any suggestions or would like to volunteer, please contact Warren Brecheisen or Chris Roberts.



For more information, visit www.cedarvalleyairshow.com

Should Chapter 227 Purchase a Prop Balancer ?

***We will
vote at the
April
Chapter
Meeting.***

At the March Chapter Meeting, Doug Mattson moved that the Chapter purchase a Prop Balancer for member use. Doug has provided information, rationale, and pricing on the following page. This month's *Tech Notes* by Mike Lewis also

gives us additional information and alternative thoughts so we can make more informed decisions. We will vote on whether or not to purchase the Prop Balancer at the April Chapter Meeting. Bylaws mandate we publish information in

writing at least 3 days prior to a vote. For those who are not able to be at the Chapter Meeting on April 22nd, we encourage you to vote by proxy. Instructions about voting by proxy will come from Warren following the April Board meeting.

How Much Will A Prop Balancer Cost?

Aces Probalancer Sport 1015	\$1495.00
Rubber protective case and carry case	44.95
Approximate Shipping	\$15.00
Postage scale	<u>\$15.00</u>
Total	\$1569.95



Why Balance? from Doug Mattson

Aircraft vibration isn't just uncomfortable— it constantly damages all parts of the aircraft including the engine, airframe and avionics. We all know that piston engines vibrate, but it may surprise you how much of this vibration is from propeller assembly imbalance and not from combustion.



Vibration damage to props can be extremely dangerous



Airframe fatigue cracks continue to grow

Even though most props are statically balanced at the factory, vibration is induced by imbalance and the slightest misalignment of any part of the rotating assembly. This includes the spinner, propeller, prop mounting hardware, starter ring, crank, and everything else that rotates when the engine is

running. Even the slightest mass imbalance in any of these components can be felt throughout the aircraft and can put an enormous strain on the engine and instrumentation.



Spinner back plates can be damaged

To correct these vibrations the entire assembly must be dynamically balanced. To balance the prop assembly, two sensors, an optical

tachometer and an accelerometer, are mounted on the engine. The prop balancer then 1) analyzes the vibra-



Avionics are continually stressed and fail prematurely

tion signals from the two sensors while the engine is running at cruise RPM and 2) displays the information needed to correct the mass imbalance. Mass adjustments are then made to the assembly (usually washers under spinner bolts) and the process is repeated a few times until the vibration reading is below 0.1 IPS (inches per second). The difference before and after balancing is surprising to most pilots. Once balanced, your plane may feel like an entirely different aircraft.

“To correct these vibrations the entire assembly must be dynamically balanced.”

Tech Notes - Balancing Act by Mike Lewis

“The propeller can be statically balanced about as accurately as the care and effort you want to put into it.”

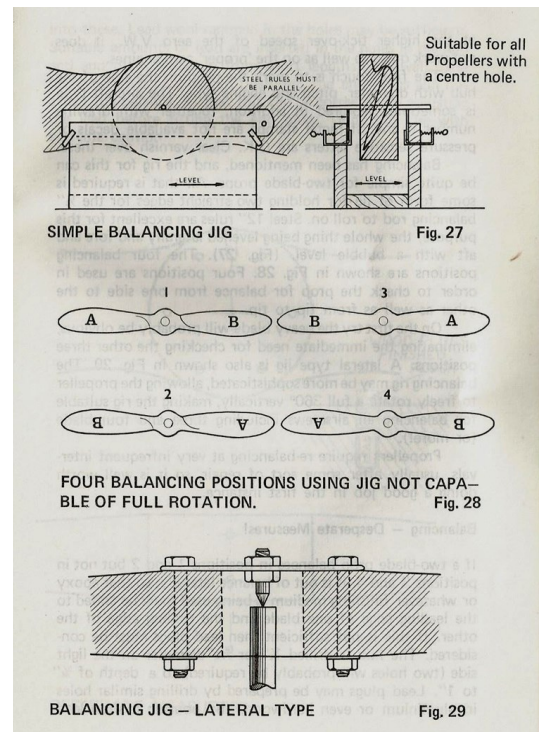
There was a proposal to purchase some prop balancing equipment presented at the March meeting. The proposal prompted me to write this article, albeit with a great deal of soul searching. I do not want this to be an incitement of the idea; merely a presentation of some alternative thoughts.

First maybe we should briefly talk about engine balance (or imbalance). I'm reaching back to my college years which is a mighty long time ago, i.e. painful! When engine people talk about balance, they usually talk about three different types of balance; primary, secondary and rocking couple. Primary imbalance is a shaking of the engine that occurs at crankshaft speed and secondary imbalance occurs at twice crankshaft speed. Rocking couple is a shaking that causes the engine to pivot back and forth about one of its axis which is perpendicular to the crankshaft axis. There are some configurations of engines that are naturally balanced in one or all of these modes; other configurations are not balanced and cannot be balanced without additional rotating balance devices. You may have already heard of this-the classic example is that an inline six cylinder is naturally balance. Furthermore in the inline configuration, six cylinders is the lowest number that is balanced. A three cylinder inline is naturally balanced in the primary and secondary modes, but it does have a rocking couple. So if you put two three cylinders together, you can make the arrangement so that the rocking couples of the two three cylinder pairs cancel each other. Since most of us don't fly behind Rangers (or other inline engines) let's consider the opposed cylinder, Lycoming and Continental. It so happens that a four cylinder opposed arrangement is one of those configurations that is naturally balanced. That means that if all of the moving parts were perfectly made, all pistons, rods etc. were exactly the same weight and the crankshaft was perfectly balanced with perfectly machined throw dimensions, that four cylinder opposed engine would be perfectly balanced in all modes. (I believe this is true of an opposed six too). Now we all know that nothing is perfectly made. It is generally accepted however, that the Lycoming and Continental engines are adequately balanced for their intended operating speeds, and unless you plan to race at Reno, additional balancing to the engine per se is not done.

So how does this relate to the prop balancer under consideration? Perhaps the combination of minor engine imbalance (due to manufacturing variance), and or spinner errors, etc. could increase vibration levels that may or may not be

detectable and correctable by an electronic balancing device.

The major component of the “add-ons” is obviously the propeller. The propeller can be statically balanced about as accurately as the care and effort you want to put into it. That is the standard that has been successfully used since the Wright brothers. Below is an illustration of some equipment and methods for statically balancing a propeller. To give credit, these illustrations are by Mr. Eric Clutton from his book “Propeller Making for The Amateur”. If you would like more from this book, call me.



How about the spinner assembly? Probably a little tougher to balance that. Perhaps inspection is the key phrase here. One thing you can do is inspect the back plate (and front bulkhead). Insure that the metal thickness is consistent all the way around. Next make sure that the holes in the back plate accurately fit the drive lugs on your crankshaft. Inspect the spinner, again insure that the material thickness is the same all the way around the circumference. Insure that the prop cutouts are the same for both blades and the fastener pattern is symmetrical. Install the spinner and run the engine slowly and then have an observer watch the spinner. Does it wobble? If so fix it!

Continued on page 9

Tech Notes from page 8

How about the engine flywheel? I'll assume the manufacturer has done his due diligence in balancing the flywheel so the only way the flywheel can add to a vibration issue is if there is sufficient clearance between the mount holes and the drive lugs. Unless the flywheel has been damaged that should not be the case. Just to put that into perspective, if we assume the flywheel weighs five lbs and the clearance between the bolt holes is .002 inch (I'm guessing here but it's probably in the ball park). That means the flywheel can only get off center by about .001 inch. The unbalanced moment is then $.001 \text{ in} \times 5 \text{ lbs} = .005 \text{ in-lbs}$. If we are to use an AN 3 bolt and nut for a counterbalance to correct this situation, the shortest increment of bolt you could use is about $\frac{1}{4}$ inch. That bolt weighs about .018 lbs and if we mount it at a five inch radius on the spinner back plate, that is a moment of $5 \text{ in} \times .018 \text{ Lb} = .09 \text{ in-lbs}$ or about 18 times more imbalance than what we were trying to correct for! The point of this is that positioning errors of the flywheel are pretty insignificant unless there is damage to the flywheel. Actually the same is pretty true of the spinner assembly. The real sensitive issue is unbalanced mass well out on the prop blade. In reality if a grasshopper leaves his guts on your prop near the tip, he probably causes more imbalance than any positioning error of your spinner or flywheel.

There is another very significant issue having to do with vibration loads on your airframe. So far I have been talking about vibration loads that are caused by unbalanced masses. There is another very significant cyclic force on your airframe. That is the torque impulse. A four cylinder engine fires every 180° (twice per revolution). The torque (twisting force) delivered to the propeller is certainly not uniform as the prop goes around. According to Mr. Newton, for every action there is an equal and opposite reaction. That reaction is felt in the airplane as a vibration. As an analogy, visualize firing a shotgun. The shot going downrange is your propeller; your shoulder is the airframe. Now put on a pair of roller skates and fire that shotgun at about 80 times per second. The reaction will push you down the road (maybe down to the road) but it certainly won't be a smooth push! Perhaps another example of the significance of torque impulse is to consider what happens as you lean a carbureted engine. The normal procedure is to gradually lean until you feel roughness. So what is that roughness you feel? That roughness occurs because at least one cylinder has gone lean enough to be developing significantly less power (lower torque impulse) than the others. It results in what we would all consider a moderately severe vibra-

tion. The point to this is that the airframe and all equipment must be designed to be capable of withstanding this "torque impulse vibration" and that vibration may well be greater than a vibration due to unbalanced masses (assuming reasonable care in static balancing of your prop). As another factor in this issue, I can share a bit of firsthand experience. When I built the RV-4 I flew it for several hundred hours with a wooden prop and vibration levels were quite low. It was a smooth running bird. Around 600 hours I put a Sensenich aluminum prop on it. All of a sudden there was a rather annoying vibration at about 1200 rpm. I called Van's to ask about that. Ken's response was "that is not uncommon with 4's – how much flying do you do at 1200 rpm?" So much for that help, but I did have to acknowledge that it wasn't a huge issue. I checked static balance of the prop, and I tried mounting the prop at different positions. No help. So, when Warren came along and asked if I would like to try balancing with the electronic balancer which he had borrowed from chapter 75, I thought that would be a good try. We went through the procedure and wound up adding a very tiny amount of weight to the spinner back plate as the system directed. When I flew the airplane, I could tell no difference at any rpm; my 1200 rpm buzz was still there. Second chapter to this story. About a year later I decided to change the engine mount and landing gear in the RV. Van had a newer design that incorporated slightly longer and stiffer gear legs. Well since I had the engine off, it would be a good opportunity to replace the vibration isolator mounts. The isolators that originally came with my kit were manufactured by Barry Controls. The replacements were Lord mounts. When I got the airplane back together and flew it, my 1200 rpm vibration was gone! I am not sure if the original Barry Isolators were shot, or the Lord mounts just did a better job. If I had to guess, I guess that the Lord mounts were better – doesn't seem like 600 hours should wear out a set of isolators and I could see no visible damage to the Barry isolators. There is even another possibility. Perhaps the old mount and softer gear legs had a resonant frequency in that 1200 range and the new equipment with stiffer gear legs drove the resonant frequency up out of the engine's operating range. Who knows! Anyway, that's some of my thoughts on the subject. Like I said, I don't want to rain on somebody's parade. On the other hand I don't know that we need to swat flies with a howitzer!

“That reaction is felt in the airplane as a vibration.”

“So what is that roughness you feel?”

NEWSLETTER INFORMATION

If you have an article, picture, or anything else you would like to share in a future newsletter, please contact:
Chris Roberts
507 Chateau Court
Cedar Falls IA 50613
c) 319-240-8128
h) 319-277-8128
chrissr@cfu.net

Visit our website:
eaa227.com

Do you have anything aviation related that you would like to sell? Please let us know so we can include items in our new
CLASSIFIED ADS



EAA CHAPTER 227 LEADERSHIP

Executive Officers

President	Warren Brecheisen	n156wb@cfu.net	319-277-2118
Vice President	Bob Federhoffer	Fedico94@mchsi.com	319-230-6555
Secretary	Robert Gutknecht	robert.gutknecht.rg@gmail.com	319-269-7970
Treasurer	Dave Roberts	drdave@cfu.net	319-277-8128

Board of Directors

Executive Officers	See Above		
Members at Large	Marty Hoel	hoelm@mchsi.com	319-233-5126
	Dave Hummel	cfihum@cfu.net	319-266-9561
Past President	Dave Dunn	djrwcd@hotmail.com	319-296-2914

Standing Committees/Positions

Membership	Dave Hummel	cfihum@cfu.net	319-266-9561
	Carl Campbell	annam39c@aol.com	319-234-2394
Program Committee	Marty Hoel	hoelm@mchsi.com	319-233-5126
	Dick Poppe	richpoppe@mchsi.com	319-287-4788
	Scott Weinberg	scottw@butler-bremer.com	319-404-4401
Nominating Committee	Warren Brecheisen	n156wb@cfu.net	319-277-2118
	Dave Hummel	cfihum@cfu.net	319-266-9561
	Dave Roberts	drdave@cfu.net	319-277-8128
Budget	Dave Roberts	drdave@cfu.net	319-277-8128
Newsletter	Chris Roberts	chrissr@cfu.net	319-240-8128
Webmaster	Dave Roberts	drdave@cfu.net	319-277-8128
Public Relations	Chris Roberts	chrissr@cfu.net	319-240-8128
	Bob Dieter	dieter@cfu.net	319-290-4447
Fly Outs	John Bender	JABGood@aol.com	319-827-3513
Young Eagles			
Coordinators	Matt & Rebecca Evers	matthewevers@mchsi.com	319-266-0421
Tech Advisor	Mike Lewis	mlewis@cfu.net	319-266-6461
Tool Manager	Doug Mattson	doug mattson@gmail.com	319-939-0179

Chapter Classifieds

FOR SALE: Miter Saw, Delta 10",
excellent condition \$50.

Call Warren @ 319-277-2118.

Experimental Aircraft Association Chapter 227 publishes Tower Talk for the use education and enjoyment of Chapter members and others to whom it is provided. Chapter and national events, news of members, member projects, activities and general aviation items of interest to the membership are included. Editorial content is the opinion of the contributor and does not necessarily reflect the position of Chapter 227 or EAA and no claim is made for technical accuracy of material presented. Meetings are normally held the third Tuesday of each month in the Airport Conference Room. Please contact any officer for information about Chapter activities.