

Tower Talk

Upcoming Events:

March

- **1 - Saturday, 8:30:**
Breakfast, Ramada
Waterloo
- **4 - Tuesday, 7:00:**
Board Meeting, Airport
Conference Room
- **18 - Tuesday, 7:00:**
Chapter Meeting, Airport
Conference Room
Dave Lammers , Guest
Speaker

April

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

June

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

July

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

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John Livingston Chapter

March 2014

Runway Zero

by Warren Breicheisen, Chapter 227 President

I'll start by saying welcome to our three new members who joined the Chapter at the meeting on February 18: John and Sue Dutcher have a Skyhawk and Scott Lowe (not the Scott Lowe employed by Livingston) is just getting started on an RV-12 project.

Speaking of the February 18th Chapter meeting, the main topic was the 2014 calendar for our Chapter. In addition to our usual activities for the year, we have added a special activity in May, probably a fly out to someplace where we can visit a museum or other attraction. If you have any ideas for a fly out, please let me or John Bender know.

The August Waterloo Air Show is being held again this year and we are planning participation in two areas: a pancake breakfast and an aircraft display similar to

what we did 3 years ago. I volunteered to chair a committee to do the planning and implementation, but I need some volunteers to serve on the committee to spread out the workload. Please let me know if you are willing to be on the committee.

New member John Dutcher presented us with a unique opportunity. On May 4th the local Boy Scout Council is planning an aviation day. Up to 80 Scouts will participate. John asked if we could provide the Scouts with Young Eagle airplane rides as a parallel aviation event. He also pointed out that this could be a way to get some media coverage that would benefit the chapter. John is going to follow up on some questions



that were raised during the discussion. At this point it appears to be doable.

The weather finally got warm enough for me to work in the hangar and finish a few details to complete the longest annual in the history of the world. I went out and shot landings to confirm that the airplane is airworthy. It really felt good to be back in the air again.

Let's fly somewhere!

Warren Breicheisen
President,
EAA Chapter 227

Welcome Michael Wilson! New Director of Aviation

Michael Wilson comes to the Waterloo Regional Airport as the new Director of Aviation. He was most recently

the Transportation Director at the Aberdeen Regional Airport in South Dakota. His first day was February 18th.

Look for more about Michael Wilson in future issues!

In Memory of DALE NELSON September 20, 1931 – January 13, 2014



Long-time Chapter member, Dale E. Nelson, 82, of Cedar Falls, died January 13, 2014. He was born September 20, 1931, in Cedar Falls, the son of Carl F. and Alta K. (Hansen) Nelson. He married Shirley Othmer on May 13, 1951. Dale graduated from Cedar Falls High School in 1949 and worked for many

years as a carpenter for N.H. Hansen in Cedar Falls. He was an agent for Metropolitan Life Insurance Company for 21 years in Cedar Falls, Waterloo, and Oelwein before retiring in 1981.

He was an avid outdoorsman especially enjoying hunting, fishing, and nature. Dale and Shirley loved flying their plane to Alaska,

New York, and traveled to many air shows. Dale was very active in the Chapter for many years. We remember him at many Chapter events, meetings, and breakfasts. It was always a treat for many of us to visit Dale and Shirley in their motor home at Oshkosh AirVenture and tour the grounds in his golf cart. He will be greatly missed.

Chapter Meeting & Program March 18th Dave Lammers: Flying Adventure to Alaska

**Please join
us on
March 18th
at 7:00 PM**

For the March 18th Meeting we are privileged to have, as our guest speaker, Mr. Dave Lammers. Dave comes to us from our neighboring Chapter 33 in Cedar Rapids.

Last summer he flew his RV-10 to Alaska! Dave has documented his trip with a presentation that he will share with us. This is sure to be of great interest to everyone who dreams of such a trip, and of course,

for all RV aficionados.

So, please join us on March 18th at 7:00 PM in the Waterloo Airport terminal building (upstairs) for this entertaining and informative presentation!

2014 CHAPTER DUES ARE DUE!

**Would you like
to contribute to
Tower Talk?**

**Please send your
articles,
comments,
information, for
sale or wanted,
and/or pictures
to:**

chrir@cfu.net

If you have not renewed your membership yet,

Dues are due!

According to the bylaws, anyone who hasn't paid dues by March 31st shall forfeit membership privileges.

If you haven't already paid your dues, please make your check to:
EAA Chapter 227



A single membership is \$15 and a family (spouse/children) is \$20.

Send/give your dues to:
**Dave Hummel
621 Eagle Ridge Rd
Cedar Falls IA 50613**

Not a member but would like to join?

See our website:
eaa227.com

or ask any chapter member.

Mag Trouble...hopefully never again *by Matt Evers*



As it appeared to be good flying conditions over last labor day weekend, with the caveat of some temporary low ceilings around northern Iowa, we decided to fly the Mooney down to MO to visit family. On engine start-up, we noticed the E.I. electronic tach was erratic at idle, but smoothed out, mostly, during run-up. The mag drop check was normal, the Lyc ran smooth, so we figured it was just an electronic tach issue. The bird had been flown regularly since annual (which included mag inspection, two months prior) by my partner, accumulating ~30 hours, so we figured we were good to go. Once en-route, it was amazing to see how the ground really moved for the first few minutes of the flight. Great flight down. Got to see some stray clouds around us.

So on Tuesday to come home, the three of us got all loaded up. Went to start

the engine, and it was all I could do to coax it up to low idle speed. It was coughing and popping severely, in the 400-600 rpm range. I was going back and forth on throttle and mixture without much success, wondering if I flooded the injection system upon the fuel pump prime. I can't remember if I shut it off and tried a second crank, but after 30 seconds to a minute it finally straightened out. My mom was watching from the fence, horrified I would later find out. Then I recalled a conversation I had previously with my partner about his recent experience with a hard start, where he assumed he flooded it. But I've never had a start like this, and I've recovered from flooded carburetor starts with no issue. Then the idea of mag trouble hit me. So I did a quick mag switch check at low idle, and found the right mag wouldn't sustain the engine. So I knew we were ground-

ed, but I decided to let it warm up a bit and do a proper run-up... same result. The FBO rep came out, as he heard the popping too. So we piled out and they dragged the bird to their service area.

The mechanics first found a questionably

weak spark plug or two, so they were replaced, to no avail. Next was removing the Bendix dual mag cover. They found both sets of points had closed up to almost no gap (spec is 0.014" – 0.018", from memory, don't quote me). They were surprised it would run at all. So then I'm thinking...

how and when did this happen!? The mechanics figured the points were set wrong at annual, so they reset them, checked the spark timing and found it ok, then buttoned it all back up. I had concerns, but we had the assurance of the



Dual mag's points

"...how and when did this happen!?"

Continued on page 4

Mag Trouble from page 3

“I was concerned the root of the problem wasn’t fixed.”

mechanics, and we wanted to get home. So we were back in the air by mid-afternoon, with a pleasant flight home. We noted at start-up the erratic tach issue had fixed itself. I would later find out my partner had observed the same erratic tach several times before, had asked several folks about it, and found no good answers. I would also later find out the electronic tach connects to the mags’ P-leads (the primary leads to the key switch, which I believe are just ungrounded when on).

The week later I started researching mags on the internet, as I was concerned the root of the problem wasn’t fixed. I learned that mags have both external timing (spark timing to crankshaft, at 25 degrees before TDC on older “good” Lycs, vs. 20 on newer Lycs, which sounds to me to be the result of overreaction to a detonation scare) and internal timing (“E-gap”, in degrees, between the neutral magnetic position and breaker point opening). I also read that the nylon followers on the points can wear if they get too hot, and saw from pictures that both



sets of points operate off the single cam in the dual mag. Still not finding real answers, I contacted Willmar Air Service, who did our annual. He assured us they reassembled the mag correctly at annual, emphasized that the Bendix dual mag is very reliable when maintained properly, and disagreed with the repair method done in MO. He said adjusting the points can screw up the internal timing, which can lead to eroded distributor contacts and chipped gears. He even mentioned a new 400-hour Lyc in their shop with internal timing miss-set that had that damage. So long story short, they repaired our mag with new points of a different manufacturer and new capaci-

tors at no charge. They could not explain why the first set wore so quickly. Was it inadequate pre-lube on the point followers’ felt? I guess we’ll never know. We’re appreciative to Charlie for helping us out by removing and replacing the mag here. And the Lyc’s been running great ever since.

Lesson learned: don’t ignore an erratic electronic tach. It’s likely telling you your mags are malfunctioning. In any possible future aircraft we own, I will opt for an electronic tach for this very reason. The tach’s operating manual doesn’t list this safety feature... I’ll have to inform E.I. at OSH next year!

Visit eaa227.com for:

- ⇒ Upcoming Events
- ⇒ Newsletters - Current & Archived
- ⇒ The Tool Box
- ⇒ Cool Aviation Links
- ⇒ For Members Only - Membership Roster & Meeting Minutes

TECH NOTES - ANN AND AL *by Mike Lewis*

This is a story about an Irish couple; Ann O'Dize and Al O'dine. O.K. enough foolishness. I decided to talk about aluminum surface treatments, namely Alodine and anodize simply because I have heard so many statements of misunderstanding concerning these two aluminum surface treatments.

Alodine is a trade name, owned by the Henkel Corp (Loctite). It is a chromate conversion coating. While Alodine may be used on magnesium, let's just consider it as used on aluminum. It cannot be used on bare ferrous materials (steel). Alodining may be done for improved corrosion resistance, improved paint adhesion or improved electrical conductivity. The process is one that can be quite easily accomplished by the homebuilder. Aircraft Spruce and others sell Alodine, or you can buy an equivalent product from your local auto body repair supply shop (Wheeler's in Waterloo). The process generally consists of cleaning the part per instructions, and then immersing in the Alodine solution for the manufacturer's recommended time and rinsing. That's it! The DuPont equivalent products are 225S cleaner and 226S conversion coating. Perhaps another note here. Whether DuPont, Henkel, PPG or others, all require cleaning with a special cleaner i.e. DuPont 225S.

Don't kid yourself into thinking you can clean adequately with anything else!

Anodizing is a different cat. I even heard the seller of a conversion coating once claim that it was the same as anodizing. Don't believe it. All similarity ends with the second letter of the name!

Anodizing may be done for improved corrosion resistance, decorative reasons or slight improvement in surface hardness.

While there are a few die hard hobbyists that do anodizing at home, it would generally not be regarded as something the homebuilder would do himself. Anodizing is an electrolytic process. The part to be treated becomes the anode of an electrical circuit. The part is connected to the positive side of a direct current electrical source and immersed in an electrolyte. Commonly used electrolytes are sulfuric acid or Chromic acid. The negative side of the circuit may be the tank walls or a metal plate (lead works fine). The electrical current causes a buildup in the aluminum oxide skin on the part. Aluminum oxide is basically an electrical insulator, thus the process is somewhat self limiting. The oxide skin will build up to the point that current will no longer flow. Typically this skin is about .0002 inch thick.

When taken out of the electrolyte, the part will accept many different dyes if decorative color is desired (e.g. the blue AN fittings). A sealer must be applied to retain the die.

There is a very significant difference in usage between Alodined parts and anodized parts. As mentioned, the anodized skin is essentially an electrical insulator. The Alodined surface however is just the opposite - it is a very good conductor. So if the part will be part of an electrical circuit such as the ground plane for your radio antenna, Alodining is a good choice.

You may also have heard of Hard Coating or Hard Anodizing. These processes are done to significantly increase the surface hardness of aluminum. The surface is still aluminum oxide (like some sandpaper grits), but the thickness is much greater than simple anodizing, typically about .002 inch. Because of the electrical insulating properties of the aluminum oxide, a much more sophisticated process is required, involving much greater power supplies and very cold temperatures. Think \$\$\$! Hardcoating does provide a very nice, hard surface that retains oil well though.

So much for Al and Ann.

“The process is one that can be quite easily accomplished by the homebuilder.”

February Meeting Program:

Malcolm Cleope – Tax Considerations of Aircraft Ownership

“...certain deductions may be taken at Fair Market Value.”

Following the Chapter meeting on February 18th, we were privileged to hear Malcolm Cleope speak about tax considerations of aircraft ownership. Malcolm Cleope is the owner at *The Accounting Group*, an accounting, tax preparation, and consulting firm in Waterloo. He is also a commercial pilot for single engine and multi-engine airplanes, has an instrument rating, and is a CFI and CFII. He also teaches accounting and business at Hawkeye Community College.



Malcolm Cleope

Malcolm spoke to us about tax implications and responsibilities for both business and personal

use aviation. He stressed the importance of documenting expenses in a “logbook of expenses.” We also learned that charitable, search-and-rescue, and mercy flights may be considered donations and certain deductions may be taken at Fair Market Value.

More information is available at AOPA and on *The Accounting Group* website at theaccountinggroup.biz.

Malcolm Cleope may also be contacted at info@theaccountinggroup.biz.

Featured Links of the Month

Helicopter Ride: Want a good laugh? The ride is over before it begins; however, the facial expressions of the passengers are memorable!

http://www.youtube.com/embed/bAYrcu5_Pko?rel=0

Flying with Hawks “ParaHawking”: Here are the cliffs next to the Torrey Pines Golf Course just north of San Diego. These men release their hawks and then soar with them. This is really spectacular.

http://www.youtube.com/v/pd5BMP_41bl%26rel=0%26hl=en_US%26feature=player_embedded%26version=3

Thunder in the Valley Air Show 2014

The Air Force Thunderbirds will thrill us with another air show at the Waterloo Regional Airport on Aug. 23-24, 2014. Plans are underway including how Chapter 227 will be involved.

As before, a youth day is planned for Aug. 22 during rehearsal. If you have any suggestions or would like to volunteer, please contact Warren Brecheisen or Chris Roberts.



For more information, visit www.cedarvalleyairshow.com

Check out these cool links!

Sponsored by the Kiwanis Club of Waterloo

THE BOOK NOOK

A Higher Call by Adam Makos

Reviewed by Warren Brecheisen

This is the amazing story of an encounter between a B-17 and an ME 109 over the skies of Germany during World War II. Although versions of this story have been available on the internet for some time, they have all focused on what happened on that fateful day—December 20, 1943. The author spent eight years doing research, including interviews with those involved, before writing this book. He not only documents the event itself, but also gives the reader insight into the backgrounds and thoughts of those involved.

The ME 109 pilot was Franz Stigler. He was a highly decorated ace with 27 victories to his credit at that time. He knew that one more bomber kill would give him enough victories to receive the coveted Knight's Cross. Until this day his primary motivation was revenge for

the death of his brother, who was a Luftwaffe Ju-88 bomber pilot. After December 20, 1943, he continued to fight to save his people from the unrelenting Allied bombing of Germany.

The pilot of the B-17, named Ye Old Pub, was Charlie Brown. It was the first mission for him and his crew. The mission was to bomb an FW 190 factory in Bremen. Since they were the newest crew, they were assigned to fly "Purple Heart Corner", the lowest slot on the outside edge of the formation. During the raid they sustained heavy damage and fell behind the other bombers. Alone and defenseless, with their guns frozen, they were nursing their battered bomber home when a lone ME 109, piloted by Stigler, approached to finish them

off. What happened next was, well let's just say that both pilots survived the war. Many years later, they met and became good friends.

The history and insight into the operations of the Luftwaffe fighter pilots is an especially interesting part of this book. It gives accounts of the air war in North Africa, Italy and Germany through Stigler's eyes. Stigler knew many of the famous German fighter pilots personally and the book relates his memories of what they were like. It also shows how arrogance and poor decisions on the part of the top leadership shortened the air war.

This book is highly recommended for anyone interested in aviation and especially those interested in World War II aircraft and pilots.

**"...well
let's just
say that
both pilots
survived
the war."**

Sun 'n Fun International Fly In and Expo April 1-6

This year marks the 40th Sun 'n Fun International Fly-In and Expo at Lakeland, Florida, which runs April 1-6 at Lakeland Linder Regional Airport. Sun 'n Fun is the traditional opening of the flying season, and EAAers

will be there in force.

EAA members who want to purchase Sun 'n Fun admission in advance can do so on the [Sun 'n Fun website](#) and receive the discounted member rate.

When purchasing your admission, use the promotional code **EAA543**.



Follow Up to Last Month's Article: Call to Support the Iowa Recreational Use Statute Amendment to include Aviation Activities

RUS

Statute Amendment

The EAA-supported Recreational Use Statute Amendment protecting exposure for

private owners of public use aviation landing facilities did not make it out of Committee

this Session. We will update you with the future status of this important issue.

House Passes Sleep Apnea Bill

"EAA remains dedicated to finding a solution..."

The House of Representatives on Tuesday passed a bill that would compel any FAA requirements for sleep apnea testing and evaluation to be part of a public rulemaking process. The legislation was in response to controversial policy changes first announced by the FAA in November, with a similar bill awaiting action in the Senate.

EAA and its Aeromedical Council had joined other general aviation and aeromedical organizations in op-

posing the FAA's initial policy proposal, maintaining that the decision was not data-driven and had little correlation to actual accident causes. EAA was also greatly concerned about the possible costs to individual pilots who could be subject to the testing and that the subsequent backlog would overtax FAA's special issuance system for medical certifications.

"EAA remains dedicated to finding a solution to this conflict, but one that includes the

input of those who will be affected by any policy change," said Sean Elliott, EAA's vice president of advocacy and safety. "EAA and its Aeromedical Council have offered alternative ways to address this issue without adding burdens to aviators or venturing into predictive medicine, even as this legislation works its way through Congress. We continue to urge that education is a much better remedy than regulation on medical certification issues."

2014 Iowa Aviation Conference Safety Seminar - Captain Al Haynes, featured speaker

"...team- work in a crisis..."

Tuesday, April 22, 2014,
7:00pm
Sheraton Hotel
1800 50th Street
West Des Moines, IA 50266

On Tuesday, April 22 Captain Al Haynes will return to Iowa to present to pilots, airport operators, and first respond-

ers on the concept of teamwork in a crisis based on the story of the crash of Flight 232 in Sioux City. In 1989, 25 years ago this year, the nation and the world were gripped by the news of United Airlines Flight 232 that crashed at the Sioux Gateway Airport in Sioux City.

For more information and to register online visit:
http://www.faasafety.gov/SPANS/event_details.aspx?eid=53841&caller=/SPANS/events/EventList.aspx?zip=50701&rad=200

Service Bulletins from Van's Aircraft

by Warren Brecheisen

Two newly issued service bulletins from Van's Aircraft have been causing quite a stir on the Matronics and Vans Air Force forums. The first, SB 14-01-31, calls for an inspection for cracks in the front spar of the horizontal stabilizer before further flight. It applies to all RV-6/6A, 7/7A and 8/8A whether flying or under construction. If no cracks are found then this inspection must be completed during all subsequent annuals or until the repair work, developed by Van's is accomplished. The parts required are available from Van's. Inspection results posted thus far are showing a low but significant percentage have cracks. This is a safety issue and therefore needs to be taken seriously. Van's proposed fix is to install reinforcement plates on the spar-one on the left and one on the right. It appears to be a difficult job. Many rivets have to be

drilled out of the stabilizer skin and front spar to gain access to the area requiring reinforcement and the space to do the drilling is quite cramped in some cases. Accomplishing this repair appears to be something akin to delicate surgery where a slipup could kill the patient.

The second SB is 14-02-03 and applies to all RV-3, 4 as well as the models above. This is an inspection for cracks in the elevator spar web near the elevator attachment points and is to be done before further flight and at each annual thereafter as long as no cracks are found. This also is a safety issue. If cracks are found then Van's has a repair worked out which is described in the bulletin. This repair appears to be more easily accomplished than the one above, however access around the elevator mounting hinges, where

reinforcing plates are to be installed is very limited, so this could turn out to be a tricky job also. I haven't found any inspection data posted for this SB yet.

This seems to have considerably shaken up the RV community. RV folks have pretty much considered Van's airframe designs to be bulletproof as far as structural integrity is concerned. This thinking is prevalent because all of the models affected are aerobatic. Since I'm writing this on Feb 4, there should be a lot of data and reports on the success or failures to accomplish the repairs on the forum sites. To follow this go to <http://vansairforce.net/> and follow the appropriate thread. The service bulletins themselves can be seen at: <http://www.vansaircraft.com/public/service>

"This seems to have considerably shaken up the RV community."

TOWER TALK IS LOOKING FOR YOUR INPUT!

We hope you will consider submitting anything that is aviation related including:

- * Progress on your project with photos
- * Pictures of your aircraft or from your aircraft
- * Fun places to fly
- * Memories of flights and interesting people you met along the way
- * Book reviews
- * Suggestions for upcoming events
- * Classifieds - Do you have an item to sell or want to buy?
- * Any item that may be of interest to the membership

Please send your articles, pictures, stories, whatever you want to share to chrisr@cfu.net.

Your Chapter needs you!

Chapter Classifieds

FOR SALE: Miter Saw, Delta 10", excellent condition \$50.
Call Warren @ 319-277-2118.

Whether you are looking to sell something or looking to buy, please send you classified ad to chrisr@cfu.net.
And be sure to let me know when it sells!

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
chr isr@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

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Flight Advisor			

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 Board Room. Please contact any officer for information about Chapter activities.

