

# Tower Talk

2015 Newsletter Award Winner

John Livingston

October 2016

## Upcoming Events:

### October Chapter Events

- **1 - Saturday, 8:30**  
Breakfast, Cedar Falls Family Restaurant
- **4 - Tuesday, 7:00**  
Board Meeting, Airport Conference Room
- **18 - Tuesday, 6:00**  
Chili, Soup & Salad Potluck, Livingston Hangar

### Iowa DOT Calendar:

[iowadot.gov/aviation](http://iowadot.gov/aviation)

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## Runway Zero

by Warren Brecheisen,  
Chapter 227 President



It was a great disappointment that the weather didn't cooperate for our annual Young Eagles Rally. There is so much preparation for the event it's a big letdown when we can't take the kids for rides. My first disappointment came when I discovered the passenger step on my plane was cracked, effectively keeping me from even thinking about flying passengers. As they say every cloud does have a silver lining. We had a number of members come that we don't get to see very often and I think everyone enjoyed all the hangar talk, along with donuts and coffee. From that perspective, I don't consider the event to be a total failure, it just didn't take the course that we had planned. Thanks to all of you who supported the event by performing the numerous tasks that need to be done to put this on. A special thanks goes to Matt and Rebecca Evers for taking their valuable time to serve as the overall coordinators for Young Eagles.

As mentioned above I found the right side step on my RV-6 had cracked. It was close to actually falling off the airplane. It turns out, this is a common problem with the steps that Van's Aircraft sells. It seems there are several causes such as residual stresses from manufacturing and vibration caused by engine and aerodynamics. The majority of failures are on the right step. When I first thought about what needed to be done to repair it, the job of removal seemed pretty intimidating as the step is riveted to the fuselage and there is an internal support under the baggage compartment floorboards. The whole thing seemed kind of intimidating, but as with a lot of jobs one doesn't want to do, getting psyched up to do the job was the worst part. Once I figured out what I needed to do, the actual execution wasn't nearly as bad as I had anticipated. Doug Mattson had seen a thread on the Van's Air Force web site about step failures and when I checked it out I found that the person who manufactures the steps can repair and strengthen the steps using a fix approved by Van's. The bottom line here is if you have steps on your RV, inspect them often.

While on the subject of working on airplanes, Brian Finnegan bought Bill Salyer's RV-6A project. The airframe had already been completed, but the systems, cowling and panel were yet to be done. Brian is making rapid progress on the plane and expects to have it flying next spring. No pressure Brian!

## *Runway Zero from page 1*

Elsewhere in the newsletter you will find an announcement for our fall soup and salad potluck on October 18<sup>th</sup>. The airport director, Keith Kaspari, is our featured speaker. I hope to see all of you there.

The monthly breakfast for October will be at the Cedar Falls Family Restaurant this Saturday, October 1<sup>st</sup> at 8:30am.

Let's get some daylight under those airplane tires!

Warren Brecheisen

President,

EAA Chapter 227

## ***EAA Presents Marv Hoppenworth with EAA Lifetime Achievement Award from EAA Sport Aviation, October issue***

Marv Hoppenworth, EAA 2519, was presented with EAA's Lifetime Achievement last weekend at EAA Chapter 33's August meeting.

Because Marv was unable to attend the Chapter Leadership Breakfast during AirVenture this year, Charlie Becker, EAA director of chapters and communities and homebuilt community manager, surprised Marv by visiting Chapter 33 to present the award.

Although best known to the EAA membership as the original designer of pedal planes sold at Oshkosh, Marv has made a number of other incredible contributions to the organization over the years, including:

- Fourth person to sign up as an EAA Lifetime member
- Founding member of Chapter 33 in Cedar Rapids, Iowa
- EAA regional representative for a five-state area from 1962 to 1965.
- Helping to organize and form Chapter 227 in Waterloo and Chapter 214 in Fort Dodge
- Forming the first emergency repair tent for convention in the early 1960s with Marshall Turner
- Participating in the first group of tech counselors (his tech counselor number is 11)
- Serving as program chair and chapter president in years past
- Serving as a classic airplane judge at Oshkosh from 1980 to 1990
- Teaching welding at the Oshkosh workshops
- Making countless technical presentations to Chapter 33 and at Oshkosh forums
- Giving airplane rides to children at chapter events long before the Young Eagles program
- Providing the pedal planes for children near the main Oshkosh flightline entrance
- Designing and providing the pedal planes for KidVenture
- Designing and building six Wright Flyer pedal planes for EAA to commemorate the 100th anniversary of flight



2016 marked Marv's [60th consecutive year](#) of attending convention. "Marv Hoppenworth is someone who I wish could be in every EAA chapter," Becker said. "His enthusiasm and willingness to share his knowledge and skills is just as strong today as it was when he joined EAA back in 1956."

Fly In - Drive In  
Chapter 227 Annual



# Chili, Soup & Salad Potluck

Tuesday, October 18<sup>th</sup>  
6:00pm (set up at 5:00)  
Waterloo Regional Airport (KALO)  
Livingston Aviation Hangar

Please bring your choice of one:  
chili or soup  
an appetizer  
a side: salad, vegetable, sandwiches or bread  
a dessert

Please bring your own table service.  
The chapter will provide:  
toppings, crackers  
soda, water, coffee

*Program to follow:*

**Keith Kaspari**, Director of Aviation, Waterloo Regional Airport

1. The snow and ice control plan;
2. CIP update (Bravo Discussion);
3. 2016 Taxiway Charlie, Runway Joint (at B-1 intersection) and 12/30 Rehab – now bumped to the spring/summer of 2017;
4. Other – TBD and some good time for some Q&A.

### Platteville Fly Out, August 31<sup>st</sup> by John Bender

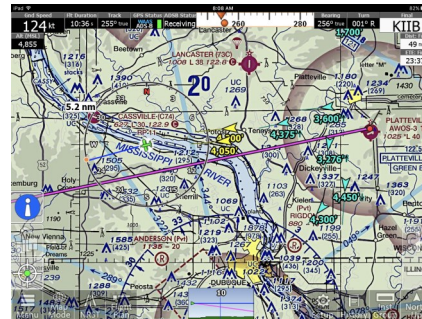
Great time by all 10 of us. Went south to Cuba City. NICK's is very good. Clouds were low around Platteville, but good 10 miles west of there. We had a great time. Glad to see Gretchen join us.

Here are 2 screenshots of to and from Platteville. Got busy for a while. Still really like seeing where the traffic is. I did see the one that crossed under me on the way home. Showed up where it said he was.



Thanks to all.

Photo courtesy Warren Brecheisen



### Fillmore County & Rushford Fly Out, September 1<sup>st</sup> by John Bender

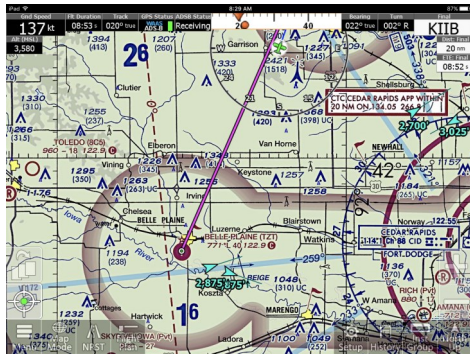


Super day. All went well. Local told us where best eating place was, and it was that. Then we flew to Rushford for RootBeer Floats. What a day.



### Belle Plaine Fly In, September 5<sup>th</sup> by John Bender

Another great day for a Fly In at Belle Plaine.  
My guess - 40 planes.  
Food was good.  
Large crowd. Glad so many could make it.



These are a couple screenshots of traffic out of Belle Plaine.



### Ames Fly Out, September 8<sup>th</sup> by John Bender

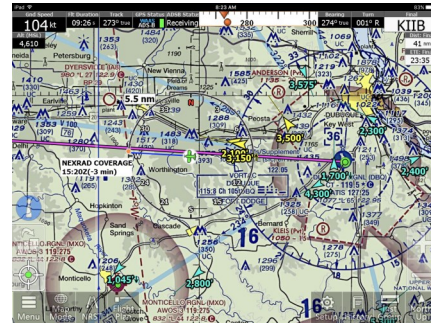
Another great day.  
Weather cleared up in good time for us to get there in plenty of time.

Food at Hickory Park is just outstanding.



### Dubuque Fly In, Sept. 11<sup>th</sup> by John Bender

SUPER DAY!!!!  
Can't get much better.  
Very clear air, smooth, light winds.  
The one pic is of the new Delhi Dam.  
The screenshot shows 11 planes total including mine in  
one shot. BUSY!



## ***EAA Ensuring No GA Aircraft Left Behind in ADS-B Mandate from eaa.org***

As the FAA announces [its rebate program](#) for installation of ADS-B in GA aircraft flying in controlled airspace by the required date of 2020, EAA continues to support the efforts through its involvement in the FAA/industry Equip 2020 working group, especially for some groups of airplanes that are not given attention as part of the larger general aviation fleet.

“Great progress has been made, but there is still more work to do,” said Sean Elliott, EAA’s vice president of advocacy and safety. “EAA continues to press for a clear pathway for S-LSA equipage does that not currently exist, because a significant number of S-LSAs no longer have factory support or are orphaned with literally no more factory!”

The problem arises because S-LSAs cannot be modified without manufacturer consent. If the manufacturer does not exist or is unwilling to permit choices in the way of ADS-B equipage, it’s a barrier to 2020 compliance for owners. EAA is working to ensure that those aircraft, numbering in the thousands, have an affordable process to equip by the deadline just as the rest of GA aircraft are doing. This month, Elliott will represent EAA members in Washington at an Equip 2020 working group meeting to continue the dialogue and give all aircraft owners an equal voice as this important deadline nears.

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## ***EAA Surpasses 200,000 Members—Continuing To Grow and Engage Flying Enthusiasts from eaa.org***

EAA has reached a major milestone, as our association has surpassed 200,000 members!

“We reached this milestone by building on the legacy established by our founder, Paul Poberezny, more than 60 years ago when he stated that all who wish to participate are welcome,” said Jack J. Pelton, EAA CEO and chairman of the board. “Paul understood the basic desire for the freedom of flight, and the dedication from EAA’s members, chapters, and staff have made it possible to grow the organization to new levels. I thank every EAA member who has contributed through the years to EAA’s achievements. We celebrate this milestone together.”

Pelton added that EAA’s value and growth are especially notable as a counter to a decreasing number of active pilots in the U.S. Fewer than 600,000 active pilot certificates are now held by U.S. residents, a number that EAA and its members have sought to reverse with programs to meet the organization’s mission, which focuses on “growing participation in aviation by sharing The Spirit of Aviation.”

EAA continues to expand its programs for members involved in homebuilding and restoration of aircraft. We’ve also created partnerships with other aviation-minded organizations, such as the Soaring Society of America, IMC Clubs, and the Academy of Model Aeronautics. These cooperative ventures are discovering ways to work together to inspire interest in all forms of flight, including emerging unmanned aerial technology or “drones,” as well as creating pathways for people to engage in and enjoy aviation in various ways in their own hometowns, whether it is directly through flight or other educational activities.

“EAA’s success is based on a basic principle of sharing the knowledge, information, and passion for aviation,” Pelton said. “Our organization is also dedicated to getting it done – breaking down barriers that keep people from pursuing their own dreams, and encouraging innovation to take us over the next horizon of flight.”

***“Great  
progress  
has been  
made...”***

***“...all who  
wish to  
participate  
are  
welcome...”***

## *Drone Rules in Effect from eaa.org*

***“...into  
the same  
aeronautical  
knowledge  
process...”***

On August 29, the FAA’s new [rules](#) governing the commercial use of small Unmanned Aircraft Systems (sUAS), or drones, went into effect. This was the culmination of a more than 18-month process to bring the increasingly popular segment of aviation under FAA authority. The rules, which exist in Part 107 of the Federal Aviation Regulations, address the operating limitations as well as airman certification and aircraft requirements related to commercial drone use.



Under the new rules, a person who wishes to operate a drone weighing less than 55 pounds for commercial purposes must obtain a remote pilot airman certificate with an sUAS rating, or be directly supervised by a person who holds the certificate. To obtain the remote pilot certificate, one must be at least 16 years of age and pass an aeronautical knowledge test at an FAA-approved testing center. Pilots with a current airman certificate (other than student pilot), must take an FAA-provided UAS training course. This brings commercial drone operations at least partially into the same aeronautical knowledge process as certificated pilots of manned flights. That’s an important element in the effort to establish safety minimums.

The rules also require visual line of sight with the drone as well as ATC notification for operations in class B, C, D, and E airspace, and prohibit operation at night. Operators must remain below 400 feet AGL and yield the right-of-way to manned aircraft, among other requirements.

***“...manned  
aircraft should  
always have  
priority...”***

Though Part 107 does not create additional requirements for recreational use of drones or model aircraft, it does codify the FAA’s enforcement authority over recreational users that endanger the safety of the National Airspace System (NAS).

After the commercial drone NPRM was released in February 2015, [EAA commented on](#) the proposed rule, stressing that manned aircraft should always have priority over drones within the NAS and that no new equipment mandates should be required of manned aircraft as a result of drone integration. EAA has also taken the position that airspace access for manned aircraft should not change as a result of the increase in commercial drone operations.

“Part 107 represents a significant step in bringing commercial drone operations under FAA oversight,” said Sean Elliott, EAA’s vice president of advocacy and safety. “While we recognize the popularity and potential of drones, EAA will continue to work with FAA and industry to ensure manned aircraft are not adversely impacted by their integration into the NAS.”

Members who are interested in learning more about the new rules or wish to pursue a remote pilot certificate are encouraged to visit the FAA [website](#) for more information.



## Contact Tower *by Larry Lyman, Retired ATC*

As in everything else in life, unusual situations can and do occur. If you find yourself in a situation that has you feeling like you need help, don't keep it a secret! Let your controller know if you need special handling. Maybe you have been at altitude for a while and you are getting a headache, or, worse yet, you are starting to feel early stages of hypoxia...do not wait to see if things get better! Tell the controller what is going on, and the controller will find a better altitude for you as soon as possible. Suppose your altimeter is malfunctioning, or your GPS has failed, or your gear indicator says the gear didn't go down; how long should you wait to ask for help? Once a problem has become apparent, ask for help! Controllers are trained to respond quickly to emergency situations. There is no reason to avoid telling the controller what you need. Don't be surprised when, as a part of the controller's checklist, they ask you how much fuel you have left ("say fuel remaining in time"), or how many people are on board. The controller will be asked these questions by Crash, Fire and Rescue (CFR) if they are called to respond to your situation. A bad gear indication will trigger a call to the CFR folks, and the sooner they have this information the more accurately they can respond to your emergency correctly. As we get into the fall and winter months, icing can be a real hazard. Flying in areas of forecast icing must be carefully considered. Do you have the experience for this? Is the aircraft properly equipped for icing situations? If you have no de-icing capabilities, avoid flying into areas forecast to have icing. If you notice ice forming on your aircraft, tell your controller ASAP! Another altitude that is out of the icing area might be available. Controllers won't know about your icing unless you tell them, and ice can and does bring aircraft down too often. Don't keep secrets and we will help you to stay safe on your journey.

**“...do not  
wait  
to see  
if things  
get better!”**



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## ***Tech Notes - Power Up! Part 4***

***by Mike Lewis***

We've been talking about overhauling your own engine. In the last few months we talked about disassembling the lower end. It's time to address cylinders. The cylinder is composed of two major parts; the barrel and the head.

***“The  
significant  
part of  
this  
assembly...”***

The first thing you will need to do (assuming you are going to do your own inspection) is remove the valves and valve springs. If you are going to “farm out” the cylinder inspection you might as well leave them assembled as the shop that does the work will do all of that anyway.

The cylinder barrel will generally need to be inspected for bore wear. You will need to measure diameter, bore roundness, and bore taper. If you do not have the proper tools (inside diameter micrometer) you will probably have your local A&P measure the bores. Again the engine's shop manual will have a table of limits that defines what is acceptable, both as a new part (new limits) and as a reusable part (serviceable limits).

The next major part is the cylinder head. Most (if not all) aircraft cylinder heads are made of aluminum. In the case of both Lycoming and Continental (at least in our common engines) the cylinder head is threaded onto the barrel. As you might imagine the pitch on these threads is very fine. The significant part of this assembly though is that the threads are made as an interference fit. For assembly purposes the cylinder head is heated, causing it to expand before the barrel is threaded into it. Of note in this process, because the exact position of the barrel is not predictable when it tightens, the holes in the cylinder base flange are not machined until after assembly. This makes the assembly impossible to disassemble and then reassemble.

There is a God given fact here, e.g. aluminum cylinder heads will crack sooner or later. So you will need to have the cylinder head inspected for cracks. This is again done with a Zyglol process. There are some other parts that are generally pressed into the head, primarily the valve guides, valve seats and probably rocker shaft bushings. These need to be inspected for compliance with your table of limits. I think in most cases, it is probably most appropriate and cost effective to farm out the entire cylinder inspection to your A & P or send it to a cylinder shop for inspection.

***“...then your  
rebuilding  
steps are  
rather  
simple.”***

Assuming there are no cracks detected in the cylinder head, and the cylinder bore is within limits (your choice if you wish to stay within new limits or serviceable limits), then your rebuilding steps are rather simple. I didn't mention pistons yet (I assume they came out when you took the cylinders out), but they will need to be inspected as well and a decision made as to reuse or replace. Actually pistons are quite inexpensive so it may not even be worth inspecting.

In the reassembly process, you will need to hone the cylinders (glaze break), touch up valve seats (shop will have to do that), replace any springs that do not meet the spring rate specs, and **replace exhaust valves**. I'm not certain on Continentals, but Lycoming specifies new exhaust valves at overhaul, and I certainly wouldn't cheat on that one. Exhaust valves are worked very hard, and you can probably guess what happens if the head (tulip) of an exhaust valve breaks off. The unfortunate part is exhaust valves are expensive! (But so is an off airport landing!)

I think I'll continue with options for repair for a cylinder that does not meet all the inspection criteria next month.

## Chapter Classifieds

**Thank you to Rex Pershing who has donated some tools to the chapter!**  
 Along with them is a prop extension to sell and donate the proceeds to the chapter.

**FOR SALE:**

**SAE 1 Prop Spacer**

It is a 6 inch extension off a  
 Lycoming 235 that uses 3/8 inch bolts.  
 \$100 or best offer

Please Contact:

Doug Mattson

[dougmatton@gmail.com](mailto:dougmatton@gmail.com)

319-939-0179



**FOR SALE:**

**Continental C85-12F Engine**  
 from a Cessna 140.

I cleaned and pickled  
 this engine before 2000.  
 Asking \$2500

C85-12F Engine

**Carburetor "MA3SPA"**

I used it on the O290 engine in  
 my exp Mustang II.  
 Asking \$400

I have more photos if needed.

In my hangar.

Please contact:

John Peacock

[Johnnyfpeacock@gmail.com](mailto:Johnnyfpeacock@gmail.com)

319-266-3417 voice only.



Carburetor

Whether you are looking to sell something or looking to buy,  
 please send your information to [chrisr@cfu.net](mailto: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:  
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## EAA CHAPTER 227 LEADERSHIP

### Executive Officers

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Past President	Dave Dunn	<a href="mailto:djrwcd@hotmail.com">djrwcd@hotmail.com</a>	319-296-2914

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

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.