

Tower Talk

John Livingston Chapter

August 2015

Upcoming Events:

August Events

- **1 - Saturday, 8:30**
Breakfast, Cedar Falls Family Restaurant
- **4 - Tuesday, 7:00**
Board Meeting, Airport Conference Room
- **18 - Tuesday, 7:00**
Chapter Meeting, Airport Conference Room

September Events

- **19 - Saturday, 8:00 -12:00**
Young Eagles Rally, Livingston Aviation

Iowa DOT Calendar:

www.iowadot.gov/aviation

Inside this Issue:

Young Eagles Rally - Saturday, September 19	2
Young Eagles Rally Poster	3
AirVenture Service Awards by Dave Hummel	4
AirVenture Oshkosh - A Tremendous Week! from eaa.org	4
Fly Iowa 2015 - An Amazing Airshow!	6
Tech Notes - Smoke & Mirrors, Part 2 by Mike Lewis	7
Chapter Classifieds	9
Leadership Contacts	10

Runway Zero

by Warren Brecheisen,
Chapter 227 President



I am extremely delighted that Chris Roberts was given the 2015 Newsletter Editor Award at AirVenture. Of the 900+ chapters, there were two recipients who received this honor this year. The *Tower Talk* was also a featured example used during the Newsletter Basics Forum at AirVenture. As I'm sure you all will agree, she has done a fantastic job since she took the position. I look forward to each month's edition with great anticipation. The position of newsletter editor is not an easy one as it's a challenge to gather material to include. Please continue to support Chris by providing her with your pictures, articles, and information.

As you know by now, the B-17 event was a huge success for our chapter. The response from the community was by far the best I've seen for any of the events we have held. EAA headquarters was practically ecstatic over the way our chapter handled the

event. A lot of people deserve credit for this success. As chairman of the event, Marty Hoel did a fantastic job of putting together an effective team and providing the leadership to carry the project through. Thanks so much, Marty. Also, thanks very much to the committee members who executed the plan in flawless fashion. A big thank you also to the chapter members who pitched in to help during the event.

One important measure of the success of the B-17 visit is how much money it brought to our coffers. As it turned out, we did well, the best we've done for any event I can recall. The chapter coffers are in very good shape, even when leaving out the money in the Kubicek fund, as that is tagged for a specific purpose.

Although we don't have a

mission statement per se, the Chapter 227 by laws documentation does have a series of statements that spell out our purpose. If one were to derive a mission statement from this information it might be something like this: "The mission of EAA Chapter 227 is to promote general aviation by fostering and encouraging individual participation and access to the world of flight in an environment that promotes freedom, safety, family, and personal fulfillment". We have at least two good programs to promote aviation: Young Eagles and the Kubicek Scholarship. Also, a few Eagle rides have been given by chapter members—another step in the right direction.

My question is this: What else could our chapter be

Continued on page 2

Runway Zero from page 1

“My vision is that our chapter becomes a leader...”

doing to promote individual participation and access to general aviation. The B-17 brought a lot of people to the airport, but probably did little to promote general aviation. Our display at the 2014 airshow was good, however, at best, it's once every three years and might never happen again. We have the financial resources to do more, but what does “more” consist of? For example, could we have a chapter airplane project? Or what about funding an airplane that could be used as a trainer? How about mak-

ing a video ad that we run occasionally on local TV that would encourage folks to become involved in aviation by showing that aviation is accessible to those with an interest? As I go out in the community and talk to people, I find a surprising number of folks who have had a little flight training, but never finished or that have always wanted to get a pilots' license. What can we do to bring them into the wonderful world of flight? I know there are good ideas out there. My vision is that our chapter be-

comes a leader in bringing people into aviation, but we need fresh ideas and a plan. What are your ideas?

Need an excuse to fly? Go on one of John Bender's Fly and Eats.

Let's get some daylight between the tires and the ground!

Warren Brecheisen
President,
EAA Chapter 227

Don't Miss the 227 Young Eagles Rally! ***Saturday, September 19***

The chapter is hosting a Young Eagles Flight Rally
Saturday, September 19th, 8am - 12 noon
Waterloo Regional Airport, Livingston Aviation

We are in need of a wide variety of volunteers, for the following areas:

**Let
Matt & Rebecca
know if
you can help!**

- ⇒ runners
- ⇒ airplane parking
- ⇒ gate security
- ⇒ registration
- ⇒ ground school
- ⇒ pilots

Please call or email Matt & Rebecca if you're able to volunteer that morning, and haven't already let us know:

Phone: 319-266-0421

Email: matthewevers@mchsi.com

Please help advertise the event by posting the flyer around the area!

[Click here for a downloadable Young Eagles flyer](#)

**Take to the Skies
and become a
Young Eagle!!!**



EAA Young Eagles Flight Rally

Saturday, September 19, 2015

(weather permitting, with Sunday as alternate)

8:00 am – 12:00 noon

Livingston Aviation

Waterloo Regional Airport

For ages 8-17

Experience a free airplane ride!

You must bring a parent or legal guardian

Hosted by:

Experimental Aircraft Association (EAA) Chapter 227

For more information and for updates, visit our website at www.eaa227.com

EAA Recognizes Carl, Ann and Dave for their Service *by Dave Hummel*

EAA Service Awards are presented to EAA Volunteers for every 5 years of service. At the EAA Pathways Pavilion Information Booth, Campbell's and I provided information and helped answer questions pertaining to both the EAA Young Eagles program and Eagles program. At another station, there was a plane identification activity and at the Pavilion, a Redbird (Cessna 172) Flight Simulator was programed for a spot landing contest, which was very popular because you could win prizes like free admission to 2016 EAA AirVenture and a Ford Tri Motor Ride. I also got the opportunity to help people in the simulator doing spot landings.

Congratulations

Carl, Ann & Dave!



EAA AirVenture Oshkosh - A Tremendous Week!

Pelton reports on another successful convention from eaa.org

“...the organization appears to have come back...”



Whether you're talking weather, variety of aircraft, volunteer support, air shows, or the plethora of "Only in Oshkosh" examples, a weary but happy

EAA Chairman Jack Pelton said EAA AirVenture Oshkosh 2015 was another great week.

"I don't know what else to say – it has been an absolutely incredible week, nearly perfect weather, the assortment of aircraft has been tremendous, the volunteer support has been great," he said at his closing press conference Sunday at EAA Press Headquarters.

But what's especially worth noting, he said, is the fact that the organization appears to have come back full circle to the EAA culture.

"I think what's most important to all of us at EAA is that it really felt like we are getting back to our culture, and the vibe overall on the grounds and everywhere has been back to the community-family that we've been striving to get

Continued on page 5

EAA AirVenture Oshkosh from page 4

to over the last three years,” he said.

Oh, and the numbers: they were pretty good, too. Pelton said that while final tallies won't be available until sometime next week, he said 2015 will wind up being the highest-attended convention since 2005, with total attendance around 550,000.

As of Sunday, we had already established an all-time record of aircraft movements – 16,278 for the week – with some single-day arrivals alone exceeding 3,000.

“Our air traffic controllers were boasting that it was double the number of what occurs at O'Hare at any given day, so for a controller that's a big milestone,” Pelton said.

The number of volunteers, without whom none of this could happen, again exceeded 5,000. There were just over 800 exhibitors, 970 media representatives from six continents, and camping numbers show a steady 4.3 percent increase over prior years.

EAA was focused this year on ensuring a diversity of attractions to help bring people to the show. “We worked really hard all year long on ensuring that we had something for everybody with an overarch-

ing theme that really says ‘Only in Oshkosh,’” Pelton said. “And I think that panned out very well.”



Jack Pelton

F-35, B-52, F-100 Super Sabre, Goodyear's *Wingfoot One*, the Airbus A350, and the replica Junkers F13 all made first-time appearances. The Apollo 13 reunion, Burt Rutan's return, father of ultralights John Moody's appearance - all these and more were threads in the “Only in Oshkosh” cloth.

Pelton also thanked the controllers as well as Wittman Regional Airport officials, who need to ramp up their operations for this one week out of the year.

Pelton reiterated EAA's effort to urge senate support of the Pilots Bill of Rights 2, which at this writing remained three short of the required 60 bill co-sponsors to go to the floor for

a vote. Looking ahead to 2016, which takes place July 25-31, Pelton hinted at several attractions already being discussed. “We will stick with the theme and model of this year and just inundate you with sensory overload every day in some form or fashion,” he said. For starters...

- Burt Rutan bringing his SkiGull
- Hoping that the B-29 *Doc* is flying and ready to come to Oshkosh
- The 40th anniversary of the RV-6 design, the most successful kit design ever, led by 4,000-hour RV-6A pilot Paul Rosales.
- Anniversary of the F-16
- Centennial year of Boeing

“We can say we clearly had a success, and we will continue to build on it,” Pelton said. “We will start the brainstorming process to-



Sean D. Tucker

“...2015 will wind up being the highest-attended convention since 2005...”

“We will stick with the theme and model of this year...”

Fly Iowa 2015 - An Amazing Airshow!

Dave Roberts headed Ground Operations during Fly Iowa at the Mason City Municipal Airport July 25-26. Performers included the Texas Flying Legends Museum, Matt Younkin, Julie Clark, Erik Edgren, Mike Gallaway, the Vanguard Squadron, Gunfighter, Larry Kramer, and the Des Moines Skydivers. More than 82 types of aircraft were represented. Hats off to all the sponsors and volunteers who made Fly Iowa 2015 a fantastic event!



Tech Notes -***Smoke and Mirrors- Part 2******by Mike Lewis***

Last month I discussed the beginnings of a typical home-built aircraft electrical system, namely the battery and the alternator. Standard aircraft practice dictates that we be able to disconnect the entire electrical system (without shutting off the engine). This is accomplished by means of a master relay. The master relay coil is typically controlled by a switch which may be a simple toggle switch or a Siamese rocker switch (Cessna style). If toggle switches are used, you will need two; one to disconnect the battery (batt switch) and one to disconnect the alternator field (alt). The master relay coil is permanently connected to the battery. The other side of the coil is connected to the batt switch which in turn is connected to ground. Thus, when you turn on the battery switch, you are completing master relay coil circuit by grounding it. Once the master relay is energized, the battery is connected to the electrical supply or "bus". The entire electrical system is then available for use. Once the engine is started and your alternator is turning, you would probably like to charge your battery. To do this you must close the Alt switch and connect the bus power to the alternator field through the voltage regulator. In practice you may switch both switches at once before starting.

There are two different configurations for master relays. Some have three terminals and others have four terminals. If you have the three terminal type, there will be two heavy terminals (usually 5/16 - 24 studs) and a single lighter terminal. Internally one side of the coil will be connected to one of the heavy studs. This heavy stud should be marked as Battery. The other side of the coil is connected to the lighter terminal. This lighter terminal is the one that will be switched to ground. The stud marked Battery must then be connected to the positive terminal of battery—they won't work if connected backwards. The other heavy terminal then goes to the bus.

If you have the four terminal type relay, either of the two lighter terminals can be connected to positive and the other to the master switch. Likewise either of the two heavy terminals can be connected to battery positive and the other to the bus.

I have included a schematic of the electrical system in my RV-4. I have to do a little storytelling here as there is one kind of unique feature in this set up which was driven by my previous experience with the Diamant. I used a master relay in the Diamant that was

purchased from one of the Aircraft houses (ACS, Wicks or Wag Aero—don't remember for sure which). At any rate it was manufactured by Cole-Hersee and marketed as a master relay. The relay was the three terminal type. After several hundred hours, that relay failed. Being somewhat curious, I took it apart and found the failure mode. The wire for the coil was wound around a plastic bobbin with the ground end of the coil wire just pinched between the flange of the bobbin and the inside end (head) of the ground terminal. The failure was caused by enough heat in the wire causing it to melt the plastic slightly and releasing that "pinched" contact with the ground terminal. I thought that looked pretty "cheesy" so I called Cole-Hersee and they informed me that was a relay with a 12 volt coil with a voltage tolerance of 10%. In other words a maximum voltage of 12 volts plus 1.2 volts or 13.2 volts. Guess what the normal charging voltage is in an airplane? About 14.4 volts. There goes my argument, but I still think it is cheesy. Anyway, when I built the RV-4 I thought I would do something to insure the master relay voltage stayed closer to 12 volts.

Continued on page 8

"...as there is one kind of unique feature in this set up..."

"There goes my argument, but I still think it is cheesy."

Tech Notes - from page 7

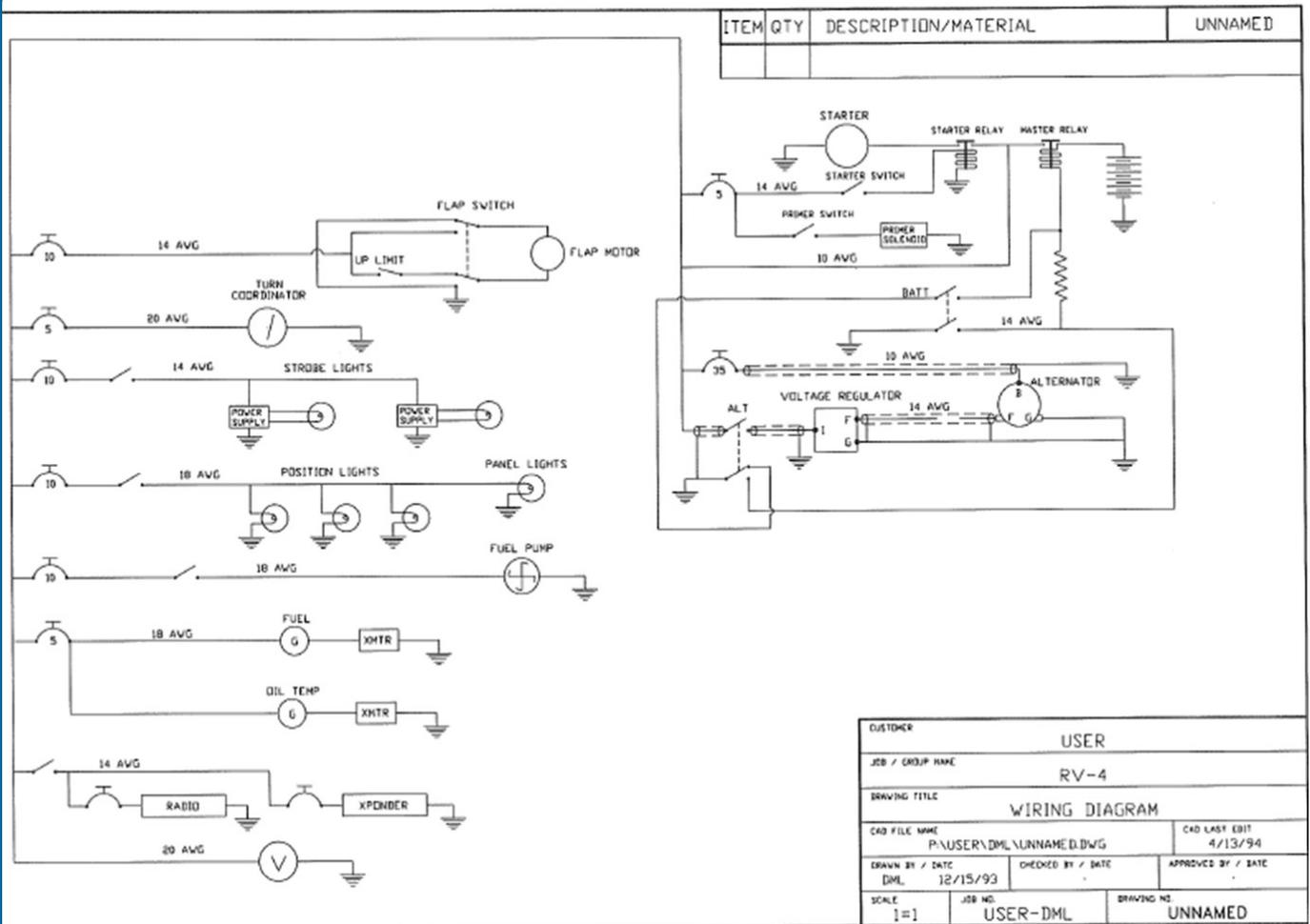
“Then I got a little gun shy.”

I decided to use a resistor in series with the coil so I calculated the resistance value necessary to keep the coil voltage at 12 volts when the system voltage was 14.4 volts. Then I got a little gun shy. When starting there is a tremendous current draw from the battery such that system voltage can be pulled down dramatically. My fear was that on some cold winter morning (when battery voltage may already be low) and

with hard cranking the system voltage may go so low that the master relay may drop out and cause chatter. Thus I came up with the system shown in the schematic. When only the Batt switch is closed the dropping resistor is bypassed. Once the engine is running and the Alt switch is closed, the dropping resistor is in the circuit. The system worked fine, although I later concluded the switch in and out of the resistor was

unnecessary. While I didn't fly in real cold weather, I did try starting with both switches closed (dropping resistor in) at about 15°F - 20°F and never saw any tendency for the master relay to chatter. Oh well. Additionally I found that most of the master relays sold today are designed to handle the 14 plus volts.

On that note, I think I'll do a little more electrical discussion next month.



Chapter Classifieds

For Sale:

**Artex 110-4 ELT
with remote switch
and antennae.**

\$100.00

Contact

Dave Roberts

drdave@cfu.net or

319-277-8128



Whether you are looking to sell something or
looking to buy,

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And be sure to let me know when it sells!

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If you have an article, picture, or anything else you would like to share in a future newsletter, please contact:
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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
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