

Racine EAA Chapter 838
Monthly Newsletter
February 2015 Volume XXVII Issue 2
<a href="http://eaa838.org/">http://eaa838.org/</a>

Meetings Third Thursday's 7:00 pm Social at 6:30 pm

Welcome to <u>your</u> EAA Chapter 838 monthly newsletter. I will need your assistance with articles. Please email anything that you would like me to include in a future newsletter to me at <u>newsletter@eaa838.org</u>.

Dave Finstad has taken over the membership chairman. Do not forget to send in your membership renewal unless you have recently renewed. If you have questions about when your membership expires, please email Dave at <a href="mailto:membership@eaa838.org">membership@eaa838.org</a>.

## **President's Corner**

As I write this, we've just have our biggest snow blast of the season, 14 or so inches of snow and 30 mph winds. It was a dandy. The kind of weather that makes us glad we were down here and not up there. I always figure that February is about half way through the Winter season. Another 8 weeks and we should be able to fly again.

There are a few of our members to keep in your thoughts and prayers this month. Chapter member, and Hall of Fame pilot Elmo Halverson, passed away in late January. He was a great pilot and he will be missed. In the sick house, but on the road to recovery, are Phil Fountain, Roy Stuart and Jim Hanschel. Let's help them get better before the next meeting!

I want to thank several of our Chapter members for their service in the past, present and the future. Thank you to long time member Dave DeGroot on becoming a Lifetime member to Chapter 838. Dave is a past president and past award winning editor of the newsletter. As most of you know Steve Jenkins needs to step down as Treasurer to the Chapter. Steve is the recepient of this year's President's Award. Thank you Steve for your work the past 4 years.

Now we have some newer members who have stepped up and joined your Board of Directors. Oliver Kottke has volunteered to be our new Treasurer. This is a very important position, critical to the operation of the Chapter and Oliver will make an excellent addition! We have 2 of our younger members joining the Board as well. Nick Fisher and Alex Clement, both active Explorer alumni, are Directors at Large. Carl Bumpurs is also a Director at Large, serving as the Building Use Chairman. Thank you to everyone for taking an active role in our Chapter.

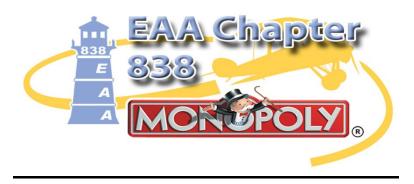
Stay warm and blue skies! Daryl

# **Elmo Halverson**

Age 93, passed away on January 25, 2015. Elmo was a Chapter Life member, and Hall of Fame pilot.



To see his obituary, please go to: http://www.legacy.com/obituaries/journaltimes/obituary.aspx?pid=173990676



# **Monopoly Night Fun and Games 2015**

The seventh annual Monopoly Night, EAA Chapter 838's 2015 Fall Fundraiser will be held on Saturday October 10<sup>th</sup>. Mark this on your calendar so you do not commit yourself to something else. We hope that you can join us this year.

See you then.



# **Chapter 838 Young Eagles for 2015**

Remember that we have our Young Eagle Rally's the second Saturday each month from March through November. This is a great time for you to inform any relatives, neighbors, or friends that are between the ages of 8 and 17 about Young Eagles.



## **Aviation Explorer Club Post 5218**

This is part of our youth education, and is for co-ed middle school students.

We will be sending out invitations for the 2015 class in spring. If we do not get a sufficient number of young adults, we may not have anything planned this year.

Once again, if you know someone ages 11 to 13, please inform them about the program, and let Ken Sack know.



## **Aviation Explorer Post 218**

This is another part of our youth education, and is for co-ed high school students.

The Post's annual holiday pizza party was held on Thursday, January 8th. They had pizza and a meeting at the chapter building. Previous members, or those still in college were invited to talk about their college and post experiences and give the post a chance to ask questions. The snow was quite heavy, but many post members attended. John Grueter came and told about his time as an Explorer, in college, graduating from college, and his working career. He told the post about his airplane that he is building in his garage. Also attending were current post members still in college.

On January 23rd we had our first Post 218 lock-in! We had seven post members come, and we had a great time. We first held a general meeting, talking about t-shirt designs and such. Next we played games, such as Ships and Sailors and Apples to Apples. Then we decided to settle in for a couple movies and snacks. We decided on Guardians of the Galaxy, a sci-fi adventure based off of Marvel comics. We tried to stick with the aviation theme, but the closest we achieved was futuristic space ships. It was a really fun and hopefully this will become an annual event!

# **Subject: Cockpit Concepts: September 2014**

Aviation Safety Connection Go to: http://aviation.org

from Phil Fountain

#### Technology, New and Old.

Maintaining control in the cockpit is a recurring theme in our discussions. The challenge during automated flight is to stay on top of the situation as changes are occurring and all seems to be going well. But, as we all know, things aren't always as they seem.

A recent *AINonline* article<sup>1</sup> by Robert P. Mark makes reference to the Dutch Safety Board's desire to "publicize the existence of false glideslope indications that could cause the aircraft, when coupled to the autopilot, to pitch up rather than down." Links to this article and the Dutch press release<sup>2</sup> on this flight safety concern are provided in the footnotes below.

Instrument pilots know that ILS signals can have lobes that may provide faulty glideslope indications. A 3 degree signal may also generate spurious lobes in multiples of 3 degrees, most significantly 6 and 9 degrees. If approached from above, the ILS may lock on to one of these false signals. Pilots may know, but autopilots do not as the Dutch safety bulletin testifies. In addition, in some circumstances the signals may be reversed—and this particular incident is one example—and autopilot pitch up may be commanded. Is unwavering faith in your automation justified? Trust but verify.

Tried and true lessons to be learned/re-learned: Approach the glideslope from below; Verify your position, altitude and descent rate at key checkpoints.

Thomas P. Turner, a contributor to this forum, writes a newsletter, *FLYING LESSONS weekly*, and covered the Dutch incident and the false glideslope phenomenon in a recent edition<sup>3</sup>. Thomas is a highly experienced CFII and author and provides detailed visuals, explanations and examples that served as an inspiration for this *Cockpit Concepts*. You are able to subscribe to FLYING LESSONS weekly on his website, <a href="http://www.mastery-flight-training.com">http://www.mastery-flight-training.com</a>, and I encourage this readership to do so and take advantage of Thomas' expertise, particularly with respect to the full range of general aviation aircraft.

Safe flying,

--Bob Jenney (rmj@aviation.org)

<sup>1</sup>AINonline, Dutch Report on False Glideslope Signals, Robert P. Mark, July 14, 2014. Go to: <a href="http://www.ainonline.com/aviation-news/ainsafety/2014-07-14/dutch-report-false-glideslope-signals">http://www.ainonline.com/aviation-news/ainsafety/2014-07-14/dutch-report-false-glideslope-signals</a>.

<sup>2</sup>Press Release, Dangerous autopilot response due to false glide slope, Dutch Safety Board, June 26, 2014. Go to: <a href="http://onderzoeksraad.nl/uploads/fm/PB\_stickshaker\_en\_ILS\_-\_EN\_DEF.pdf">http://onderzoeksraad.nl/uploads/fm/PB\_stickshaker\_en\_ILS\_-\_EN\_DEF.pdf</a>.

<sup>3</sup>FLYING LESSONS weekly, Thomas P. Turner, August 21, 2014. Go to: <a href="http://www.mastery-flight-training.com/20140821flying-lessons.pdf">http://www.mastery-flight-training.com/20140821flying-lessons.pdf</a>.

Aviation.Org Update: September 2014.

Join us on LinkedIn:

- \*\*Aviation Pilot Lounge at http://www.linkedin.com/groups?gid=3898927&trk=hb side g.
- \*\*Sustaining Safe Flight Operations at <a href="http://www.linkedin.com/groups?gid=3955879&trk=hb\_side\_g">http://www.linkedin.com/groups?gid=3955879&trk=hb\_side\_g</a>. This and prior issues of *Cockpit Concepts* are posted to Hangar 13's Ready Room.

Welcome to our newest author: Scott Sherer

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# High Anxiety: It's Flight Review Time Again By Scott Sherer

*Ugh. Here we go again. Every two years I ask myself the same question: What would my idol, the venerable Lyn Freeman, do about my upcoming flight review?* 

I've been following Freeman's writing career for decades and have smiled many times while reading his work—and occasionally I have even agreed with him. So again I asked myself, what would Lyn do? I don't really know what Lyn would do, but as for me, three things come to mind: procrastination, procrastination, procrastination—and of course, procrastination. (I know... that's four items.)

So here it is, just one week from my flight review. I have an appointment lined up with my flight instructor, who we'll call Dave in this article, but who shall go nameless to protect the innocent. (Actually, his name *is* Dave.)

Every two years I have the same routine: I wait until a week before the review to actually get ready. However, I have a plan that has proven to work well for me with a minimum of fuss and effort. And my preparation accomplishes what it's supposed to accomplish—a review of my flight skills and a general cleaning-off of the accumulated aviation dust from the last two years.

My plan has two phases. Phase One is an intellectual plan, and Phase Two is a flight skill plan.

#### My intellectual plan

I have two review items that I rely on for my refresher. One's a book and one's a DVD.

Aviation Supplies and Academics, Inc. (ASA) is a major publisher of anything and everything to do with aviation training, and they offer a 75-page digest-sized book entitled "Guide to the Flight Review" by Jackie Spanitz. Now in its seventh edition, this non-intimidating book is short, to-the-point—and spot-on for a review. It costs a mere \$12.95.

The book reviews just the important stuff. Along with introductory information about what a flight review is, it also includes a 63-page chapter aptly named "Ground Instruction Requirement." This chapter is a very easy read—either with or without a glass of wine or a cocktail at your side—and it'll take you only an hour or two. (In the event that you want to have an adult beverage while you read the book, Lyn Freeman and I both know that there is no FAR prohibiting such an activity. In other words, "eight hours from bottle to flight review book" does not exist. But I digress.)

The Ground Instruction Requirement chapter includes one or two pages devoted to each of the following areas:

- A. Privileges and Limitations
- **B.** Currency Requirements
- C. Aircraft Certificates and Documents
- D. Aircraft Maintenance Requirements
- E. Weather
- F. Obtaining Weather Information
- G. Weather Reports, Forecasts and Charts
- H. Aerodynamics

- I. Weight and Balance
- J. Aircraft Performance
- K. Navigation
- L. Cross Country Flying
- M. Radio Communications
- N. Federal Aviation Regulations Part 91
- O. Airspace
- P. National Transportation Safety Board
- Q. Airport Operations
- R. Aircraft and Engine Operations
- S. System and Equipment Malfunctions
- T. Airplane Instruments
- U. Aeromedical Factors

In addition, there are some other resources in the book which you may find useful. "Flight Review: Private and Commercial" gives a list of maneuvers that you may do during the flight portion of your flight review. I give this book an A for helping me prepare for a flight review with a minimum of stress.

The second part of Phase One is what my attorney would call the "belt and suspenders"—that is to say, a backup. Many of us learn better from visual displays information rather than through reading. I'm one of those people, so my no-muss, no-fuss learning plan includes a video component, too.

Sporty's produces a DVD entitled "Flight Review" that is nothing short of outstanding. The video is but a couple of hours in duration, and the presentation is simple, clear, concise and fast-moving. There are six chapters that can be watched from beginning to end or restarted or skipped at any time.

The contents of the DVD are very similar to the ASA book, but the information is presented in a visually-compelling format.

The six chapters are:

- A. Regulations
- B. Weather Reports and Forecasts
- C. Airspace
- D. Aeromedical
- E. Charts and Notams
- F. Signs, Markings and Lighting at Airports

This DVD is also accepted as part of the FAA's Wings pilot proficiency program. Sporty's "Flight Review" DVD gets an A from me for being an effective learning tool. The DVD costs \$34.95. (Sporty's website shows the purchase includes a bonus MP3 audio file for studying in the car. —Ed.)

#### My flight skill plan

Phase Two of my flight review plan uses a section in ASA's "Guide to the Flight Review" book as a guide for practicing my piloting skills. Chapter 4 in the book, "Flight Instruction Requirement," has separate maneuvers tables for both private and commercial licenses.

As I'm a private pilot, I'm only interested in the Private Pilot page, and on it I can see exactly what I need to practice before my flight review. I generally take my aircraft up one day before my flight review and first practice slow flight and stalls. (Arrival and departure stalls are where, in my opinion, the highest risk is.)

Since I own a twin, I have to practice engine loss on takeoff and single-engine landings, too. Both of these are easy and stress-free when you know it's coming. Of course, life isn't like that in reality—but a flight review isn't reality, as Lyn Freeman would probably say.

The other maneuver that I practice is steep turns around a point. Frankly, I find these difficult. However, if I practice these maneuvers the day before my flight review, my performance during the actual flight review is much improved.

So, that's my plan and it's worked well for many years. In fact, I just successfully completed my last flight review this morning. Dave said I did a good job—and that my preparation was much more than most of his students do. He appreciated that, and was able to keep my review to a minimum as a result. Thanks, Dave!

Piper Flyer Association member Scott Sherer is a multi-engine and instrument rated private pilot. He's logged 2,600 hours and is the owner of a 1977 PA-34-200T based at Burlington Municipal (KBUU) in Burlington, Wis. Sherer anxiously awaits the day when N344TB finally gets new paint. Send questions or comments to editor@piperflyer.org.

#### RESOURCES >>>>

#### Aviation Supplies & Academics, Inc.

asa2fly.com

800-ASA-2FLY

#### **Sporty's Pilot Shop**

sportys.com

800-776-7897





#### SIDEBAR: Even More Resources for Flight Review Information

The learning tools that I use are not the only learning tools out there. There are many other sources that offer flight review resources.

Here's a short list with some of the other places you can find effective and useful flight review information.

- 1. **The FAA. faa.gov.** A 27-page document titled "Conducting an Effective Flight Review" provides very useful information that I didn't know was available until I started researching this article. By all means, do reference this PDF. It's available at FAA.gov and through the Piper Flyer website: PiperFlyer.org/FAA-FR.
- 2. **King Schools. kingschools.com.** John and Martha King have been training pilots for over 40 years. A search of the words "flight review" in the search bar will yield you several results that can be purchased individually or as a bundle, and utilized either online or as a DVD for PC.
- 3. **Gleim Publishing. gleim.com.** This well respected mainstay of the aviation training world offers an outstanding online Flight Review Ground Training course for a mere \$29.95.

Spend a little time online with your favorite web browser and you'll probably find many more solutions to the flight review challenge.

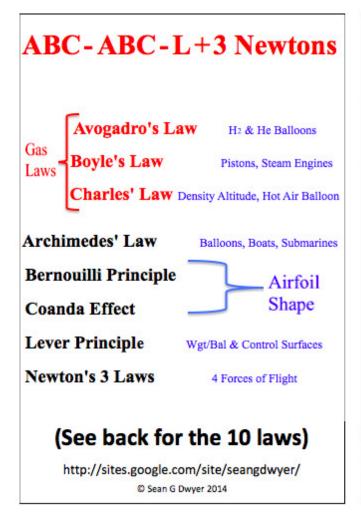
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## **ABC - ABC - L + 3 Newtons** - 10 Laws of Science for Aviators

by Seán G. Dwyer

OK, it is not the Bill of Rights, and it lacks the cachet of the 10 Commandments. There is no "*I am the Lord thy God*" at the start to grab your attention, but I found a way to enhance recall of the laws of physics and chemistry relevant to flying. Significantly, these laws also apply to many other aspects of life.

My goal for last summer's Young Aviators program was to craft something like those pithy military acronyms that create a word picture, like CAVU "Clear all quadrants, visibility unlimited" or SNAFU "Situation normal, all fouled up" (or words to that effect). I settled on ABC - ABC - L + 3 Newtons. It is depicted on two sides of a card, as shown below:



#### 10 Laws of Chemistry & Physics for Aviation

- AVOGADRO'S LAW: Equal volumes of ideal gases at the same pressure and temperature contain the same number of molecules
- BOYLE'S LAW: At constant temperature, volume of an ideal gas is inversely proportional to its pressure
- CHARLES' LAW: At a fixed pressure, volume of an ideal gas is proportional to its absolute temperature
- 4) ARCHIMEDES' LAW: An object, wholly or partially immersed in a fluid, is buoyed up by a force equal to the weight of displaced fluid
- 5) BERNOUILLI'S PRINCIPLE: As the velocity of a fluid increases, the pressure exerted by that fluid on a surface decreases
- 6) COANDA EFFECT: When a jet stream of water or air contacts a curved surface, it will attach itself to and follow the curve
- 7) LEVER PRINCIPLE: Magnitudes of forces on a lever are at equilibrium at distances reciprocally proportional to their weights (Moment=Weight x Arm)
- 8) NEWTON'S 1st LAW OF MOTION: Objects at equilibrium will not speed up, slow down, or turn unless influenced by an external force
- NEWTON'S 2nd LAW: Acceleration equals the net force on an object divided by its mass (a=Fnet/mass)
- 10) NEWTON'S 3rd LAW: Every action has an equal and opposite reaction

The card can be as large as a page or as small as a business card. The first ABC stands for Avogadro's, Boyle's, and Charles' laws, the Ideal Gas laws that one learns about in chemistry class. Boyle's law was credited with starting the science of chemistry in the 1600s, and applies to any engine that uses pistons. For more than 2,000 years Archimedes' law has explained why boats float, and more recently how balloons and submarines go up and down. Combine Archimedes law with the Ideal Gas laws and you can explain the lift of hot air and hydrogen or helium balloons. Charles' law explains not only the lift of a hot air balloon, but also why a football filled with air in a hot room will have lower pressure if left outside on a cold day.

The 4 Forces of Flight are explained by Newton's 3 laws. When combined with the Ideal Gas laws, the latter opened the door to the Industrial Revolution, the first manned aircraft, and Piggly Wiggly's open-top freezers. Some later laws (Bernouilli and Coanda) show how airfoils contribute to lift. Finally, almost every tool that you use, from hammers to axes to wrenches to scissors, is based on the Lever Principle, which is also used to achieve proper weight and balance in airplanes. In the case of aircraft, the Lever Principle delivers directional control when combined with Newton's 3rd law.

Most big breakthroughs came when two or more laws were combined. For example, the first commercial airliners, first long range bombers, and first trans-Atlantic airliners were Zeppelins, not airplanes. They got their lift from Archimedes' Law combined with Avogadro's Law, their propulsion from Newton's 3rd Law, and their directional control from a combination of Newton's 3rd Law and the Lever Principle. This mixing and matching is why it is important to be familiar with all of the laws.

How do you enhance familiarity with the laws of science? To start with, you have to be exposed to them, and then remember them. That is where youth programs in EAA 838 and ABC - ABC - L + 3 Newtons are aimed. All four youth programs that take place in our facility include a large element of STEM, a topic for which aviation is particularly suited, and one where American teenagers tend to do poorly in global tests. In the post Industrial Age, that deficiency is will be problematic. If we don't fix it soon, the whole country will be FUBAR.

## Winter Flying: a plan and reality b

by R.G. Blocks

Do a bit of research, make a plan, execute the plan and make folks happy. Business and piloting are approached in that manner. Marge will go on a flying trip if the place to be visited has grandkids, relatives, friends, history, beauty, walking or biking trails and isn't too warm. We had a business in Florida for a number of years. She'd go south if it were cool. Summer? Forget it: she'd rather go north.

Let's look at our decision tree for a late February trip in the C162.

I wanted to visit my first boss at Alcoa of forty-eight years ago lives in Franklin, TN. Marge's girlfriend in Newburgh, IN., my sister and her husband and their families in Atlanta, biking buddies in Macon, GA, best friends wintering in Gulf Shores, AL. forms a nice semi-circular path.

Weather was key: we'll be flying VFR in a new airplane. We let two major storms pass overhead while we visited. All flying was done in nice VFR: thank you NOAA.

We wrote each group a couple of weeks ahead of time and told we'd like to be 'dropping in'. Three of the five stops insisted on our staying with them. Each was called and discussed a two or three day window of our probable arrival. It was then we discovered their favorite local attractions. The calls also gave us a clue regarding our auto needs.

Turned out we needed to rent cars at three of six overnight stops. We stopped at Towered airports overnight: cars, hangars, fresh fuel and they were open!

Consider your own bounds or limits. They should be well inside published limits for both the aircraft and terms of VFR. Mine are fairly simple. Less than 3000 Ft AGL; hence, I need not rigidly hold altitude nor follow East West rules. Less than 5000 Ft MSL; my lungs, while pretty good from years biking, are those of an older person.

Don't plan early morning winter flights due to lower temperature, fog potential, hoar frost and sleep habits. Two-hour maximum flight legs. Refuel at each stop.

Don't fly over water if not possible to glide back to land.

Plan to land a half-hour before sundown at latest.

Don't fly in winter rains, hail, slush or near winter warm fronts. Snow? Only enter snow if it is very cold and appears thin or scattered. Don't blind the air filter!

Winds? Look for intersections of fronts. Avoid them if the angle approaches 90 or less degrees. Look at deep lows. Where is jet stream? TAFs; > 30 Knots think twice.

Ceilings? How low? Fly above widely scattered only if I can see ground. Need 500 feet below and plenty of ground clearance (like 2000 feet). Low ceilings and poor visibility are a common problem. If the MVR is marginal or deteriorating: don't go.

Visibility. The published minimum is three miles for a Sport Pilot. Don't go with less than 7 miles current and/or forecast. It begins to get tough seeing anything straight ahead when visibility is less than 10 miles; hence 7 miles is prudent for a personal minimum. Use exterior lights and strobes when visibility is lacking.

Airports seem to have arrangements with hotels and motels in their area. It's unnecessary to book rooms in advance. You'll get an AOPA, airport, or pilot discount and pickup/return service to the hotel. The caveat: buy aviation fuel at that airport.

Larger towns and city airports seem to have overnight hangar space for a price. Some hangars are heated. We were offered and took one in Terre Haute, IN.

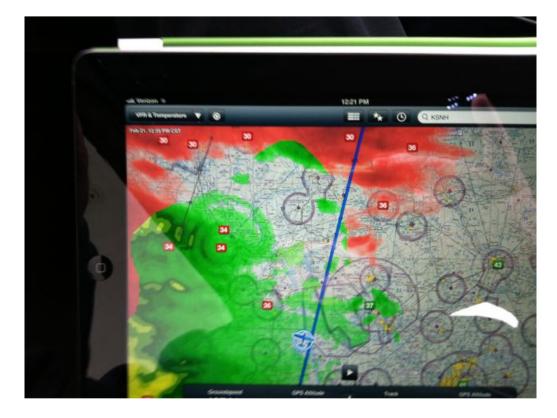
Rental cars are available at any city with a Tower and regular airline service. We paid about 45 dollars a day for new Hertz and Enterprise Cars.

Plan a flight route to make any alternate an enjoyable stay. If weather turns bad: have one or two day layover options. AOPA, ForeFlight, AirNav or the Chamber of Commerce each provide logical starting points for places to consider.

Follow your plan but have low risk alternative destinations. As an example, we had planned to fly VFR from KJKA Jack Edwards, Gulf Shores, AL to KEVV Evansville Dress, IN. in the morning. We noted green or rain (on ForeFlight) but rain was not being reported by any AWOS: hence it was virga. See our photo: our sky was very high cirrus. KEVV's ATIS was reporting rain. Henderson KEHR or Owensboro KOWB were alternatives. We were in warm, 43 F air. Near freezing conditions were fifty miles west (winter warm-front) and north of KEVV. Red IFR showed twenty left of course; hence our window was closing. We landed at KEHR within 30 min. avoiding all moisture.







Above the chart shows us about 30 minutes out from Henderson and still on course to Evansville. The red was hail and snow pellets. Some had fallen on Henderson before we got there. An area clear of precipitation was where we remained throughout. The storm was moving to the NNE quite rapidly. The clear area gave us almost an hour to unpack the airplane, obtain and load a rental car, hangar the airplane, and contact Marge's girlfriend for a late lunch and stay dry. Then, it rained and hailed again as you might expect.

This weather encounter was a flying 'non event' due to excellent work by NOAA, Foreflight, Garmin, and a FSS Lockheed Martin Briefer who suggested VFR all the way but to be very careful at the very end since the temps would be falling rapidly and be potentially hazardous. The briefer was absolutely correct. You can see the red temperatures. All are above freezing but suggest freezing aloft (and hail or pellets). Our air was not less than 40 F at any time and we remained well away from any precipitation.

This is all about VFR flight planning with alternatives and executing the plan. Evansville, only 16 NMi further turned out to be VFR when we got to Henderson. We were not going further. Bad weather was too close for comfort.

Written by Roger G Blocks to remind himself that good endings come as a result of plans offering safe solutions when nasty situations would otherwise be possible.

## **Welcome New Chapter Members**

Nick Fisher Alex Clement

## **Monthly Meetings**

Board Meetings: Second Wednesdays 7:00 pm

Chapter Meeting: Third Thursdays

Social 6:30 pm Meeting 7:00 pm

Shop Night Every Monday 7:00 pm

Explorer Post 218 Second Thursdays 7:00 pm and Fourth Thursdays 7:00 pm

Young Eagles Second Saturday 9:00 am (March - November)

## **Upcoming Meetings & Speakers**

Feb 19th Peter Bianco and Larry Stys of the local CAP unit. The topic will be Interception in Restricted Airspace – What to do and not to do. Peter and Larry have been involved in several practice intercepts with the CAP and USAF and will show and discuss what happens if you find yourself flying in restricted airspace. They will also talk about their work in the CAP unit.

Mar 19<sup>th</sup> To be Announced

Apr 16<sup>th</sup> The speaker will be Jim O'Connor who will do a presentation on Drones, their history since the 1700's and current issues with their increasing numbers in the sky.

May 14<sup>th</sup> To be Announced

### **Officers**

# **Committee Chairpersons**

#### **Directors**

Jim Hantschel..... 262-637-3376 Ken Sack .............. 262-554-9714 Roy Stuart .......... 262-884-0371 Eddy Huffman ... 262-639-8301 Alex Clement .... Nick Fisher .......

**Chapter Messaging (262) 634-7575** 

Location: 3333 N. Green Bay Rd. Racine, WI 53404