



# The ThunderWord

Thunderbird Field EAA Chapter 1217 September 2019

Scottsdale, Arizona

## PRESIDENT'S CORNER

Greetings from my corner of the hangar! At last month's meeting we had Chapter member Rich Lyon who is a World War I aficionado talk about the life and history of Manfred von Richthofen. Rich's passion for the history this young aviator was very interesting and everyone got a behind the scenes look into his background.

Hopefully the hot weather is starting to break up and working in the hangar will be less of a survival experience and we can get back to fun flying. I am finally figuring out why so many Chapter members have biplanes, it's for the shade and air conditioning.

Good news on our meeting room which is a very positive thing. Even more positive was the refund of this year's rent.

We have lots of ideas for speakers but trying to pin them down can sometimes be challenging. If you have an idea please let me know. Thanks to Jordan Ross for the fly out article, if you fly somewhere drop us a note. After hunting around for speakers and stories for twenty one years it gets a little challenging.

See you at the September meeting!

*Curtis*

## SEPTEMBER CHAPTER MEETING

The September meeting of Thunderbird Field EAA Chapter 1217 will be held on Thursday, September 19, beginning at 7 pm.

This month's guest speaker will be Nancy Coenen Christensen who was in the front row audience at Cape Canaveral July 16, 1969 when Apollo Eleven blasted off on its journey to the moon. Nancy was seated in the VIP box next to former President Lyndon Johnson, Johnny Carson, Ed McMahon, Walt and Roy Disney, and numerous government

officials. She has a unique story with VIP perks because her Father Bud Coenen was directing the space flight for NASA.

Nancy will talk about her Dad's connection to the space program as well as bring numerous artifacts for us to examine. It should be a unique perspective on an interesting time in history.

Guests are always welcome!

## MEETING ROOM GOOD NEWS

Last month, Chapter 1217 was represented by VP Terry Emig, SEC/TRES Jack Pollack, and Sanders Achen at a lunch meeting with Scottsdale City Manager Jim Thompson. They discussed the mission of our Chapter and the positive impact we make on the aviation community. They also talked about how our organization is the perfect fit for the new terminal building meeting rooms.

After a few weeks went by an agreement was reached with the City that allows the Thunderbird room to be our permanent home. A big thanks to Jim Thompson, Scottsdale Airport Manager; Gary Mascaro, Terry Emig, Jack Pollack, and Sanders Achen for working through the politics and resolving our problem.

A follow up lunch meeting is scheduled for end of September.

So thanks to these diligent members hard work it can be said:

**The location for our monthly meetings is The Scottsdale Airport Terminal Building, 15000 North Airport Drive, upstairs in the Thunderbird room. This location will be our permanent meeting place.**

## **FUTURE GUEST SPEAKERS**

Now that we have this cool meeting venue, it's time to get some great presentations! In October the plan is to have Chapter member Dave Kujawa give a talk about EAA's 50 years at Oshkosh.

November brings back an interesting speaker from our Chapter's past; Bob Funk is going to tell the story of the Funk Aircraft Corporation. Bob has only done this presentation two other times and says this is the final curtain for this talk. It is a very emotional story for him.

For future meetings we have Travis Foss who is going to talk about flying a DC-3 from Arizona to the Normandy Celebration, as well as a talk from Otteson Propellers on their company's history and what they do.

## **MY ADS-B**

*By Curtis Clark*

I finally faced the reality that ADS-B is going to be a requirement if I want to keep flying my RV-8. I had real personal dilemma in that I was being forced to do this by the FAA who was making more regulations to make money for the avionics manufacturers. I somehow missed the outcry from the nation's pilots that this would be a good thing

Since my plane was equipped with a Garmin transponder I went with a Garmin unit that provides ADS-B out. Through ForeFlight I was already getting the IN traffic function.

Cost was \$1,650 from Pacific Coast Avionics with the installation kit. I had a local avionics guy install it while the plane was torn apart for the condition inspection in July.

He had a small snag in that the rear turtledeck on an RV-8 is curved and the base of the antenna is flat. He had a custom motorcycle shop mill a curved to flat adapter plate so everything fits together with no stress on the antenna. The cost for installation was \$1,450. Also included was a charge from Westwind Avionics to do the certification using a tester rather than doing test flights. Cost for them to do this was \$135. The tester is part of the transponder test box and allows

trouble shooting on the spot without the delay of doing test flights. Probably the biggest delay was that it was so unbelievably hot working in the plane in a hangar!

Total cost installed was \$3,100 and I am now in full compliance. Please pass the Kool-Aid.

## **AVIATION INTEL**

### **OSHKOSH BREAKS RECORDS**

642,000 attended the week long Air Venture EAA Fly-In Oshkosh, the number was 6.8% higher than the 2018 record attendance

### **TRUTRACK AUTOPILOTS**

Tru Track Flight Systems which builds autopilots for Experimental aircraft has been acquired by Honeywell.

### **QUEST SOLD**

Quest Aircraft Company, Sandpoint Idaho, manufacturer of the Kodiak single engine turboprop is being acquired by French aircraft manufacturer Daher. Daher is based in the south of France and builds the popular TBM single engine turboprop.

### **JORDAN ROSS FLYOUT**

Jordan Ross has some great intel on flying and visiting Seligman after a trip last April with Denny Myrick.

Seligman Airport is an ideal destination for recreational fly-ins. The 4800 x 75 paved runway is in excellent condition as is the large parking ramp. It is unattended and there are no services except for a restroom on the ramp.

You have to walk about half a mile to get from the airport to one of the restaurants on old Route 66. Our preference is Westside Lilo's Cafe. Alternatively, the Road Kill Cafe is right across the street from Lilo's. From the airport, exit the ramp using the walk through gate (no code needed) and head south on the gravel path. That path takes you to the trailer park on Pine Street. Cut through the trailer park, past the general store, past Historic Route 66 Automotive and cross the main highway to get to Lilo's. I understand Lilo's

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may be able to have someone pick you up at the airport and take you back if unable to

make the walk. Call them before going if you need that service.



**Turning to Final for 22 at Seligman**



**Gravel Walking Path from the Airport to Town.**



**Our fly-in group at Westside Lilo's Cafe. Left to right: Hank Rogers; Jordan Ross; Denny Myrick; Jan Keiser, Lee Bergman, Brian Scott and Mike McCann.**



**Our planes on the Ramp at Seligman.**

## **OWNER PILOT BUILDER MAINTENANCE**

As an owner-pilot and builder, FAR Part 43 allows you to perform certain types of inspections and maintenance on your airplane. As the builder you are considered the manufacturer and as such you may receive a repairman's certification by due process as outlined in Advisory Circular 65-23A. The partial list to follow does not apply to a builder with a repairman's certificate. The builder has full capability to relicense (do an annual), and do the full range of maintenance tasks to keep the aircraft airworthy.

The following is a partial list of inspections and maintenance that you as owner-pilot can do.

1. Repair or change tires and tubes.
2. Clean, grease, or replace landing gear wheel bearings.
3. Add air or oil to landing gear shock struts.
4. Replace defective safety wire and cotter keys.
5. Lubricate items not requiring disassembly (other than removal of nonstructural items such as cover plates, cowling or fairings).
6. Replenish hydraulic fluid.
7. Refinish the exterior or interior of the aircraft (excluding balanced control surfaces) when removal or disassembly of any primary structure or operating system is not required.
8. Replace side windows and safety belts. Replace seats or seat parts with approved replacement parts.
9. Replace bulbs, reflectors, and lenses of position and landing lights.
10. Replace cowling if removal of the propeller is not required.
11. Replace, clean or set spark plug clearances.

12. Replace hose connections, except hydraulic connections.
13. Replace prefabricated fuel lines.
14. Replace the battery and check fluid level and specific gravity.

Although the aforementioned work is allowed by FARs, each individual should make a self-analysis as to whether or not he or she has the ability to perform the work satisfactorily.

If any of the fore mentioned work is accomplished, an entry must be made in the appropriate logbook. The entry shall contain:

1. A description of the work performed (or references to data that is acceptable to the Administrator).
2. Date of completion.
3. Name of the person performing the work.
4. Signature, certificate number and kind of certificate held by the person performing the work.

The signature constitutes approval for return to service only for work performed.

Note: References and content of this article are from FAA-P-8740-15A / AFO-0783

### **To G or Not To G**

*Vance W. Jaqua Jaqua Systems,  
Aerospace Engineering Consultants*

When people ask how strong a particular airplane is, the answer is usually given in "G's." When they ask me this question I am a bit hesitant in response because I know that this is not totally true, and is a somewhat misleading, answer. The "G" answer is only proper for the specific load assumption that went into the original calculations. Also, in spite of the fancy diagrams, you do not fly around with your eye on the "G" meter saying "oops, that's enough - back off." This may be OK for the lads and lasses bounding about the aerobatic

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"box," but that is not very applicable to the way the average pilot treats the airplane.

Those of you that may know me, are aware that I am never satisfied with the "pat" established view of engineering problems. "Just because that is the way it has always been done" is like waving the red cape at the proverbial bull. My approach is to step back and ask something like "What is it that is likely to break an airplane?" Unless you hit something solid (sorry that is not a design point) the culprit has to be aerodynamic air loads, generally on one of the lifting surfaces. The maximum force that these surfaces can react on the structure are limited by the maximum lift coefficient and the local dynamic pressure (the technical term for this pressure is "Q" just to confuse you ordinary people). Fortunately, almost every airplane has a handy little meter that is measuring this "Q" - it's called an airspeed indicator.

If your airplane designer did his job right, the critical level of this dynamic pressure is labeled "Max. Maneuvering Speed." Strange as it may seem, this is not really a speed at all, but a pressure level that corresponds to an INDICATED air speed. No corrections for temperature or altitude - the critical thing is indicated air speed which is an established, directly measured pressure level. The maximum maneuvering speed is generally defined as that value where you can make any input with the controls without fear of damaging the structural integrity of the airplane. It also is described as the operating point where you can run into any PROBABLE level of gust without structural distress (bona fide funnel clouds are also not a design point - any force that can drive a straw through a tree trunk is not some place where you can survive in your airplane).

Now the "G" number that would be indicated (if you had the meter) can be over a wide range of values depending on the loading conditions of your plane when this gust is encountered. For most systems the stated design value corresponds to the expected "G" levels if you encounter these conditions at

maximum gross weight. If you are lightly loaded the indicated "G" level will be higher (and the seat of your pants would be given a bigger whack), but the structural stress is the same. conversely, if you are loaded over gross weight - do you break? NO, the stresses are the same, but the perceived "G" forces are less. The limiting indicated air speed remains the same.

There is a rough correlation between "G" levels and maximum maneuvering speed, and it points out why those slippery, high efficiency designs have to be made extra stout. Everyone wants one of those airplanes that will land at a brisk walk, and cruise at over 200 mph. Well that is a real tough call because a basic 4G type structure can be over stressed if it flies any speed over twice stalling speed. For example - 50 is a nice landing speed, but twice that for potential 4G forces is only 100 mph. The fabled "unbreakable" 9G design only takes you to 150, and if you intend to hit big gusts while cruising at 200 you better be ready for a 16G hit. The light wing loading for those slow stall speeds will really loosen your teeth in rough air, which is one reason that effective flap systems are so popular for high performance planes.

That is one problem with aerodynamically "clean" airplanes. Another alligator waiting to snap up the unwary pilot is the rapid speed buildup if you fall out of a botched aerobatic maneuver. The speed builds up and the fast approaching hard ground pumps the adrenalin into the efforts to keep the blue side up and the green side down. This has often folded the wing halves up in a low lift "prayer like" position as you plummet to earth.

The more optimistic side to this is that the key word in max. maneuvering speed is INDICATED. This is another good reason to fly fairly high. At altitude the actual true airspeed is quite a bit higher than indicated airspeed, and you can cover quite a bit of ground without venturing too far above the magic indicated number in regions of

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questionable roughness. The vertical speed of the gust that might break your airplane has to be high enough that the resultant angle of attack on your wing approaches the 15 or so degrees of stall angle. The likelihood of the first gust you encounter at the edge of

"turbulence" being this high, is very small, and you should have sufficient time after your teeth have been slammed together, to drop the speed to a safe (but not necessarily comfortable) level.



Beautiful Freshly Restored Skybolt for Sale in this month's ThunderAds

**Land of Enchantment Fly-In**  
**September 21, 2019**  
Double Eagle II Airport  
Albuquerque - KAEG Open 7am

  
EAA179.org  


FREE ADMISSION & PARKING   AIRCRAFT DISPLAYS   YOUTH ACTIVITIES  
Pancakes & Lunch   Exhibit Hall   Military Vehicles   Aircraft Awards   Seminars



Chapter members Pat and Mike McGarry have been working long hours preparing their plane for the air races. New prop, spinner, cowling, exhaust, pumped up cylinders, smaller wheels and tires and custom ultra-low drag wheel pants are just a few of the mods to make this plane faster.



**Pat McGarry's much modified Pitts Special testing out the Course at this year's Reno Air Races**



# ThunderAds

## **SKYBOLT**

Built in 1980 - Restored in 2018 with new Fabric and paint. Lycoming 180 HP - 1520 TT - 560 since all new cylinders. Christen inverted oil. Canopy. See picture on page 7. \$41,000 Bill Unternaehrer 602 931 8598

## **LONGEZ AND SONEX**

Tom Partin has decided to stop flying and has two airplanes for sale at Thunder Ridge air park (AZ28), a 180hp LongEz and a 120hp Sonex. Anyone interested can contact Bertha Partin at [bmpartin@gmail.com](mailto:bmpartin@gmail.com)

## **GLASAIR III**

Lynn Babcock has decided it's time to sell his Glasair III. This aircraft has every upgrade from speed brakes to airconditioning and cruises at 220 kts. He is asking \$215,000. Lynn is the original builder and the plane has been based at Scottsdale Airport its entire life. 480-227-5945.

## **THATCHER CX-4 PLANS & BUILDERS MANUAL**

New, never used, donated to our Chapter. Curtis 602 710-4494

## **ONEX, WELL-EQUIPED LSA FOR SALE**

ONEX, folding-wing, fighter-like, single-seat, tricycle-gear LSA, an 85%-scale Sonex. Powered by 100 HP, turbo-charged VW engine. Dynon SkyView, 2020-compliant ADS-B Out avionics. Ipad for navigation fits in center console. With wings folded, Onex shares space in small T-hangar behind one wing of RV-12. Offered at \$21,500. Denny Myrick 480-213-4906. [Dennymyrick@me.com](mailto:Dennymyrick@me.com)...

## **COOL PLANES FOR SALE**

Only flown by little old ladies to church on Sundays. <http://captainbillywalker.com/aircraft-for-sale/aircraft-for-sale>

## **CESSNA 172'S FOR RENT**

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Two IFR Cessna 172s for rent at Chandler. Owned by Chapter member Pat McGarry. Contact Chris Hoel for more information and to schedule [birdgangft@gmail.com](mailto:birdgangft@gmail.com)

## **RV-4 PARTIALLY BUILT KIT**

\$13,500 Lycoming O-290-D2, kit for \$3,000 or \$16,000 for both. Bill Refrow 602-843-9862 [w7lov@cox.net](mailto:w7lov@cox.net)

## **LYCOMING O-360 A1A**

Engine built up for RV project never completed. Invested \$50,000. Price very firm at \$25,000. Martin Del Giorgio [delgiorgiopels@gmail.com](mailto:delgiorgiopels@gmail.com)

## **GARMIN GDL39 PORTABLE GPS**

ADS-B Receiver with free Weather and Dual-Link Traffic. Battery Pack with extra Battery included. Works with all Apple Products. Brand new in the box, \$400. Ken Roth 602-228-5000, or e-mail: [RothDevCor@aol.com](mailto:RothDevCor@aol.com)

## **SERVICES, ETC.**

### **High-Perf Tailwheel & Akro Instruction**

Pitts, Skybolts, all experimental tailwheel aircraft. 46 year's experience. Scottsdale Airport Budd Davison, Plus-5 Aviation, 602-738-2045, [www.airbum.com](http://www.airbum.com), [buddairbum@cox.net](mailto:buddairbum@cox.net)

### **OIL COOLER REPAIR AND SALES**

Chapter member owned. R & E Cooler Service 800-657-0977 [www.oilcoolersvs.com](http://www.oilcoolersvs.com)

### **FLIGHT INSTRUCTION, ETC.**

Fred Gorrell Designated Pilot Examiner: Airplane: Private, Commercial, Instrument, ATP, ME and Lighter than Air: Private and Commercial. 602-942-2255, 602-418-2045, [fgorrell2@cox.net](mailto:fgorrell2@cox.net)

### **HOMEBUILT AIRCRAFT CERTIFICATION**

ABDAR Gary Towner 928-535-3600

### **ANNUALS, RESTORATIONS, FABRIC WORK**

Eloy Airport Julie White 520-466-3442

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