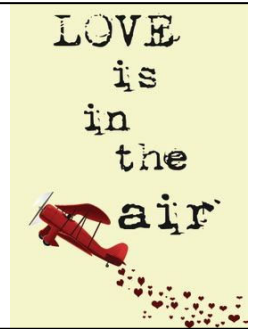




Mile High Flyer

*The Official Newsletter of
The Experimental Aircraft Association,
Chapter 43
Established May, 1958*



Volume 47 Issue 2

On the web @ www.eaa43.org

February, 2020

Members' Corner - by Chapter President Cliff Goldstein

Chapter 43 is all about the members.

Mission Statement

EAA Chapter 43 will focus on the development of

- | | |
|-----------------------|------------------------|
| 1. Social Butterflies | Leader Stan Specht |
| 2. Builders Corner | Leader Jim Sutton |
| 3. Young Aviators | Leader Scott Serani |
| 4. Young Eagles | Leader Cliff Hasenbalg |

My Goal is to make this job so much fun that 4 members want the position when my term is up, or I get thrown out.

I've identified 4 distinct groups within Chapter 43. I'd like ALL our members to enjoy all the aspects of our Chapter, and feel free to move about the groups above. I'm asking the group leaders to look for opportunities to engage the chapter members in Social activities within each group.

Being a part of Chapter 43 is all about enjoying and appreciating all aspects of aviation or that which leaves the earth.

Young Eagles and Young Aviators are well defined and well attended by those that enjoy that aspect of Aviation. I feel we've left building and the social aspects of our group waiver, and I'm asking those members that enjoy those aspects of aviation to get off the side lines and help Stan and Jim be successful in growing participation in Building and just plain flying.

This week Jim was instrumental in starting a Chapter tool Crib, and while it's not quite up and running, it got a great start by Jim Barber an A+P who retired and donated enough tools to build several airplanes. Stan Specht is working with Steve Beach to reach out to members who've floated away. A perfect example of the social side of aviation is the Wednesday lunches at BJC.

Arranging something as simple as a pancake breakfast only requires we let our members know it's going on. It does not need to include the entire aviation community but just to create an opportunity for us to "get together".

This month will be builder tip month and I know I'll be bringing my favorite tip in; I hope you do the same. In March we'll be having "bring a piece of your past or present project" to the meetings. You know how much we all enjoy looking at rivets or a good rib stitching job.

This is NOT my Chapter, it's ours and to grow, we all need to find that niche, and get involved.

I'll be adlibbing the meeting so the more builder hints you bring, the less you have to listen to me.

See you all on Saturday!

Next Gathering - [Saturday, February 8, 2020](#)

6 PM @ the Mt. Evans Room in the Terminal Building @ Metro Airport (BJC)

Presentation for the February Membership Gathering

Reg Nicoson, EarthX Lithium Batteries Founder & Chief Technology Officer

The presentation is designed to help educate users on the pros and cons of using a lithium battery in aircraft and to present facts vs. fiction on the topic.

Upcoming Events Calendar

2020 CHAPTER EVENTS

FEBRUARY

Sat 8 EAA Chapter 43 Membership Gathering, BJC, 6 PM

MARCH

Sat 14 EAA Chapter 43 Membership Gathering, BJC, 6 PM

Sat 21 EAA Chapter 43 Young Eagles Rally, EIK, 7:45 AM (First rally of 2020!)

Tue 31 New Chapter Website deadline; current website goes offline, see page 15 for more info.

2020 AREA EVENTS

FEBRUARY

6-9 Copper State Fly-In and Buckeye Air Fair, Buckeye Municipal Airport (KBXK), Buckeye AZ (west of Phoenix) <https://www.copperstate.org/>

Mon 10 EAA Chapter 648 Membership Gathering, LMO, 7 PM

Sat 15 Exploration of Flight Young Eagles, 13005 Wings Way, Englewood CO, 8AM-12
<https://explorationofflight.org/event/young-eagles-saturdays2-2-2-2019-02-16/all/>

Wed 19 EAA Chapter 1627 Membership Gathering, KBDU, 6 PM

Fri 21 EAA Chapter 301 Membership Gathering, South Metro Fire Rescue Authority Building, 9195 East Mineral Avenue, Centennial, 7 PM

MARCH

6-7 62nd Annual Cactus Fly-In, Casa Grande Municipal Airport, AZ (CGZ), 8 AM
<http://www.cactusflyin.org/>

Sat 7 Pancake Breakfast Fly-In/Drive-In, Centennial Airport, 13005 Wings Way, Englewood CO, 8-11AM, <https://explorationofflight.org/event/pancake-breakfast-fly-in-or-drive-in-7/>

Mon 9 EAA Chapter 648 Membership Gathering, LMO, 7 PM

Wed 18 EAA Chapter 1627 Membership Gathering, KBDU, 6 PM

Fri 20 EAA Chapter 301 Membership Gathering, South Metro Fire Rescue Authority Building, 9195 East Mineral Avenue, Centennial, 7 PM

Sat 21 Exploration of Flight Young Eagles, 13005 Wings Way, Englewood CO, 8AM-12
<https://explorationofflight.org/event/young-eagles-saturdays2-2-2-2019-02-16/all/>

In this issue:

- Chapter members are submitting articles and ideas for the newsletter. Steve Beach has been sending me stuff for the past 2 or 3 months, and it really keeps things interesting. This month his contribution got added to by another member who just happened to be in the right place at the right time - see "The Rest of the Story" on page 3.
- In keeping with President Cliff Goldstein's stated goal of focusing a little more on builders, see the included "Savvy Maintenance" column from January's AOPA magazine (thanks for forwarding, Phil Brown!) It starts on page 4.
- I had to truncate an important article on FAA's MedXPress - see page 7 for the link.
- Lots of planes (or plane shares) for sale in this issue - if you're less interested in building than in flying (there's nothing wrong with that), one of these may get you in the air sooner rather than later.
- Since I currently don't have a second set of eyes to review the newsletter, I'd like to ask all of you to help find my boo-boos for cookies! Let me know at newsletter@eaa43.org. Then come to the next chapter membership gathering for your cookies!

If you'd like to contribute calendar event, a newsletter article on a trip, a tool, component, or aircraft review, a how-to for build or test, historical or ANYTHING airplane or chapter related, don't be shy. You can email newsletter@eaa43.org with anything ya got in electronic format, or hand me a hardcopy. Be aware that Gmail limits attachments to 25MB, so if it's bigger than that, try multiple emails.

The Rest of the Story...

From Steve Beach and Carl Harris

One of the more unusual items sold at the recent Barrett-Jackson - Scottsdale auction

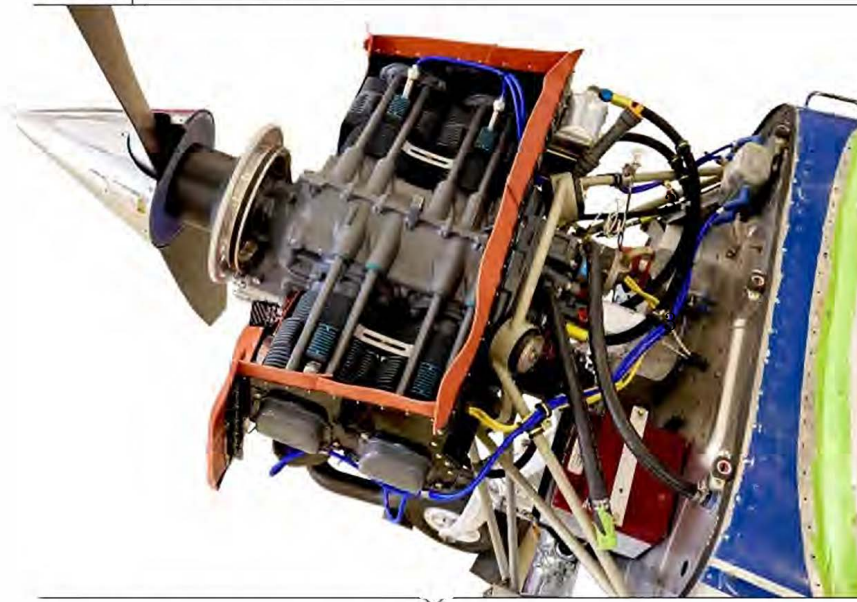
Lot #1354 - This 1954 Taylor AEROCAR is one of only five ever built. It is the only vehicle in the United States that is both air and roadworthy with full FAA certification. Developed by aeronautical engineer Moulton (Molt) Taylor, the AEROCAR is the quintessential vision of the flying automobile. Powered by a Lycoming O-320 engine, the 320ci naturally aspirated H4 produces 150hp paired to a 3-speed manual transmission. While set in "car mode," the rear-mounted engine sends drive to the front wheels, and in "aircraft mode," a Hartzell two-blade HA12 UF propeller pushes it through the air. While on the road, the wings, propeller and fuselage maybe towed behind and can be attached in under 30 minutes. The cabin seats two abreast, and both car and aircraft controls are integrated seamlessly. A 300-mile cruising range with a 100 mph cruising speed highlight the aircraft's prowess in the air. With 15,254 miles (mileage not indicated on title) and 781 flight hours, this is an incredible artifact of transportation history.

Sold for \$275,000.00



And now, the rest of the story. At the last BJC Wednesday lunch (Jan 29), Carl Harris told the Editor he'd seen something very unusual during a recent visit to LMO (Vance Brand Airport, Longmont) and showed me a photo of the above being moved into a hangar belonging to Dale Katechis. Dale is the founder of Oskar Blues Brewery, and has a collection of planes (including Oskar Blues' corporate jet) and cars. The plan is to get this Aerocar flying again. Lucky Dale is one of the few people who knows the answer to the question we all ask, "Where's my flying car?!?"

Savvy Maintenance coverage
 sponsored by AIRCRAFT SPRUCE



TIGHTENING A CYLINDER hold-down nut is an extraordinarily critical task. Failure to do it exactly right can result in catastrophic engine failure.

OPINION |

Tense bolts

When using threaded fasteners in tension, it's all about the preload

BY MIKE BUSCH

THREADED FASTENERS are ubiquitous in aviation. Look at any GA aircraft and you'll find hundreds of them, if not thousands. They attach wings to the fuselage, cylinders to the crankcase, connecting rods to the crankshaft, and instruments and avionics to the panel. They hold on cowlings, fairings, inspection plates, floorboards, and just about anything else that might need to be removed to gain maintenance access. They're so numerous and so familiar that we tend to take them for granted.

But, when used in safety-critical high-stress applications—such as holding on wings, cylinders, and connecting rods—there's complexity to threaded fasteners that

often is not well understood or fully appreciated by the maintenance personnel who are responsible for ensuring that they're safe and secure. Mechanics often don't treat these critical fasteners with the respect they deserve. The result can be scary.

Threaded fasteners go by a variety of names. As a general rule, they are called *bolts* if they are designed to mate with one or two threaded nuts, *screws* if they are designed to mate with a threaded hole in one of the items to be joined, and *studs* if they are designed to mate with a nut on one end and a threaded hole on the other end.

The cylinders on most Continental and Lycoming engines are secured to the

crankcase by eight threaded fasteners: six studs that thread into the crankcase casting on one end and mate with threaded nuts on the other end, plus two long through bolts that pass all the way through the crankcase and are secured by two threaded nuts.

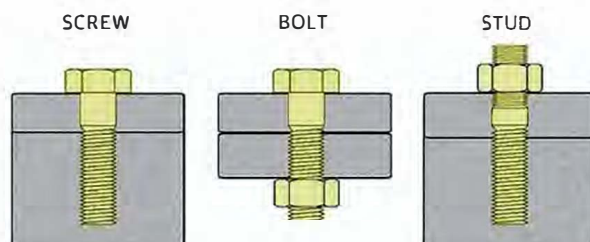
This naming convention is often violated. For example, most machine screws are designed to mate with nuts and so they really should be called bolts. In this article, I'll use the term *bolted joint* to refer to any joint that is held together by any kind of threaded fastener.

Bolted joints come in two basic flavors: those where the bolt is loaded in tension (i.e., along its axis) and those where the bolt is loaded in shear (i.e., at right angles to its axis). The wing bolts of Beechcraft Bonanzas and Barons are loaded in tension, while the wing bolts of Cessnas and Pipers are loaded in shear. The cylinder hold-down studs and through bolts and connecting rod bolts of Continental and Lycoming engines are all loaded in tension.

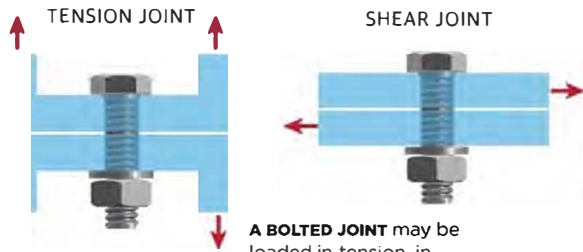
This article will focus on tension joints; we'll look at shear joints next month.

HOW TENSION JOINTS WORK

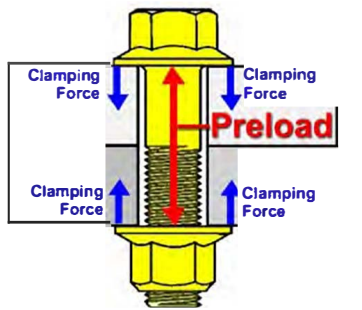
A bolted tension joint is one where loads are trying to pull the joint apart with forces parallel to the bolt's axis. The bolt is tightened in order to prevent those forces from separating the joint. Think about the bolted joint that attaches a cylinder to the crankcase of a Continental or Lycoming engine—combustion forces in the cylinder



GENERALLY, threaded fasteners are called *bolts* if they mate with a nut, *screws* if they mate with a threaded hole, and *studs* if they do both.



A BOLTED JOINT may be loaded in tension, in shear, or in a combination of the two.



TIGHTENING THE BOLT stretches it like a spring, establishing an elastic tension called preload and an opposite clamping force that holds the joint firmly together.

are trying to pull that joint apart 1,200 times a minute

The key to understanding how such joints work is realizing that the tightened bolt is acting like a stretched spring (albeit a very stiff one). The more the bolt is tight-ened, the more it stretches. The stretching force on the bolt caused by tightening it is called preload and it creates the clamping force that holds the joint firmly together so that the joined items cannot separate.

Now, if you pull on a spring you can see it stretch. When you release the tension, the spring returns to its original shape. The technical term for this property is elastic. However, if you stretch a spring too much, it will deform and not return to its original shape—it will become plastic if stretched beyond its elastic limit.

The same is true of a bolt. There's a limit to how far you can stretch it before it deforms permanently. It's variously known as the elastic limit or the yield point of the bolt. So, to make the tension joint as strong as possible, the bolt

should be tightened to obtain a preload that is close to but not beyond the bolt's yield point. Critical fasteners typically have a proof load rating that provides a bit of safety margin below the actual yield point.

WHY PRELOAD IS CRUCIAL

Suppose we tighten the bolt and stretch it enough to create a preload of 2,000 pounds. That produces an equal but opposite 2,000-pound clamping force on the joint. Now we try to pull the joint apart with a load of, say, 1,500 pounds, the joint won't budge. Because the joint doesn't budge, the application of a 1,500-pound load doesn't cause the bolt to stretch any more than it is already stretched. So, the bolt doesn't "feel" the 1,500-pound load at all—not even if that load is applied cyclically 1,200 times a minute (as it would be if this were a cylinder hold-down joint). Since the bolt doesn't "feel" the cyclic loads, it will never be subject to repetitive-stress fatigue. And since the joint doesn't budge, there's nothing to cause the nut to loosen and cause a loss of preload. (If you ever wondered why cylinder hold-down nuts don't need cotter pins or safety wire, now you know.)

Now imagine the bolt is undertightened so that it has a preload of only 1,200 pounds. This changes everything. Each time the joint sustains a 1,500-pound load, the 1,200-pound clamping force isn't enough to hold the joint firmly together. The joint will separate slightly under peak load. The separation will stretch the bolt, which will now feel every bit of that 300-pound preload deficit. If the load is applied to the joint cyclically 1,200 times a minute, then the bolt will be subject to 300-pound repetitive stress that could cause the



THE REDUCED-DIAMETER shanks of Lycoming connecting rod and crankcase through bolts make them less stiff and therefore their joints harder.

bolt to develop fatigue cracking (typically at the threads) and ultimately fail catastrophically. Worse still, the repetitive separation of the joint would likely result in self-loosening of the nut, causing the bolt's preload to be progressively lost and hastening catastrophic failure of the joint.

That's why having adequate preload on the bolt (and therefore enough clamping force on the joint) is so crucial.

NOT QUITE THAT SIMPLE

I just lied to you. My explanations made the implicit assumption that the bolt is the only part of the joint that acts like a spring. In the real world, that's not quite true. As the bolt is tightened, not only does the bolt stretch a bit (like a stiff tension spring), but also the joint compresses ever so slightly (like an ultra-stiff compression spring).

What this means is that when load is applied to the joint, even if the load is less than the bolt's preload (e.g., 1,500-pound load versus 2,000-pound preload), the load causes the joint to decompress ever so slightly, which causes the bolt to stretch ever so slightly. Thus, the bolt actually "feels" a small part of the load.

How much stress the bolt feels is a function of the relative stiffness of the bolt and the joint. If the joint is much stiffer than the bolt (which is usually the case), then the bolt feels very little load—this is referred to as a hard joint. But if the bolt is stiffer than the joint—a soft joint—then the bolt feels the lion's share of the load. That's why it's important for the joint to be as stiff as possible and for the bolt not to be excessively stiff.

You'll often find that critical bolts are manufactured with reduced-diameter shanks to make them less stiff and easier to stretch. You can see this clearly in the photo of Lycoming connecting rod bolts and a

crankcase through bolt on the preceding page. By making the bolts more “stretchable” (i.e., less stiff), the joint becomes harder and the bolts feel less stress when the joint is under load.

TIGHTENING THE BOLT

By far the most popular method of obtaining the necessary bolt preload is using a calibrated torque wrench to tighten the bolt to a specified torque value. This method is simple and well understood by every mechanic. Unfortunately, it’s also a very inaccurate method, a fact that is not well understood by most mechanics.

The reason the torque method is so inaccurate is that roughly 85 percent of the torque applied by the torque wrench is used to overcome friction, leaving only about 15 percent to actually stretch the bolt. One study showed that 47 percent of the torque is dissipated overcoming friction between the heads of the bolt and nut and the items being joined, and 38 percent is dissipated overcoming friction between the bolt and nut threads.

The most popular method is using a calibrated torque wrench to tighten the bolt to a specified torque value. This method is simple and well understood by every mechanic. Unfortunately, it’s also very inaccurate.

What’s worse, these frictional losses tend to be highly variable and difficult to predict. They’re profoundly affected by the presence or absence of lubricant, the presence or absence of plating, the condition of the threads (new, worn, damaged, or corroded, for instance), the use of washers or flange-headed nuts and bolts, and how many times the fasteners have been reused.

Studies have shown that when fasteners are tightened using the torque method, the resulting preload may vary by as much as 25 percent. Thus, tightening a bolt that should have a preload of 2,000 pounds using the torque method might result



TIGHTENING TO TORQUE is the most common (but inaccurate) way to ensure proper bolt preload.

in a preload of anywhere between 1,500 and 2,000 pounds. Clearly not a good situation. The most accurate way to obtain a predictable preload is to measure the stretch of the bolt. This is precisely how many Lycoming connecting rod bolts are tightened. The bolt length is measured with a special micrometer, then the nut is tight-ened until the micrometer shows that the bolt has stretched by a specified amount.

This stretch method is extremely accurate and virtually guarantees that the resulting preload is spot-on.

Unfortunately, the stretch method is impractical for many kinds of tension joints. It’s impossible to use when tightening a screw or stud because one end of the fastener is inaccessible, so the fastener length can’t be measured accurately. It’s also infeasible when tightening engine through bolts because a micrometer big enough to bridge the entire width of the crankcase doesn’t exist. That’s why the less-accurate torque method is used.

However, a third method combines the simplicity of the torque method with



USING THE TORQUE-ANGLE method in an automotive application. Why don’t we do this on our Continentals and Lycomings?

an accuracy that’s nearly as good as the stretch method. Known variously as the torque-turn or torque-angle method, it’s widely used for tightening critical fasteners on everything from race cars to diesel locomotives. Inexplicably, however, it’s almost unheard of in GA maintenance, and that’s a shame.

Tightening a fastener using the torque-angle method involves two steps. First, a torque wrench is used to tighten the fastener to a specified “snug torque” to ensure that the joint is in metal-to-metal contact. Second, the fastener is further tightened by rotating it by a specified number of degrees to obtain the final preload, something that’s easy to do by using an inexpensive torque-angle gauge. This step results in a precise amount of stretch that is completely independent of friction, and therefore vastly more accurate than using torque alone.

Catastrophic engine failures following cylinder work are depressingly common and are almost always attributed to inadequate fastener preload during cylinder installation in the field. If Continental and Lycoming encouraged mechanics to use the torque-angle method to tighten through bolts and hold-down studs instead of the far less-accurate torque method, I’m convinced that many of these failures could be avoided. Why don’t they? **AOPA**

MIKE BUSCH is an A&P/IA.

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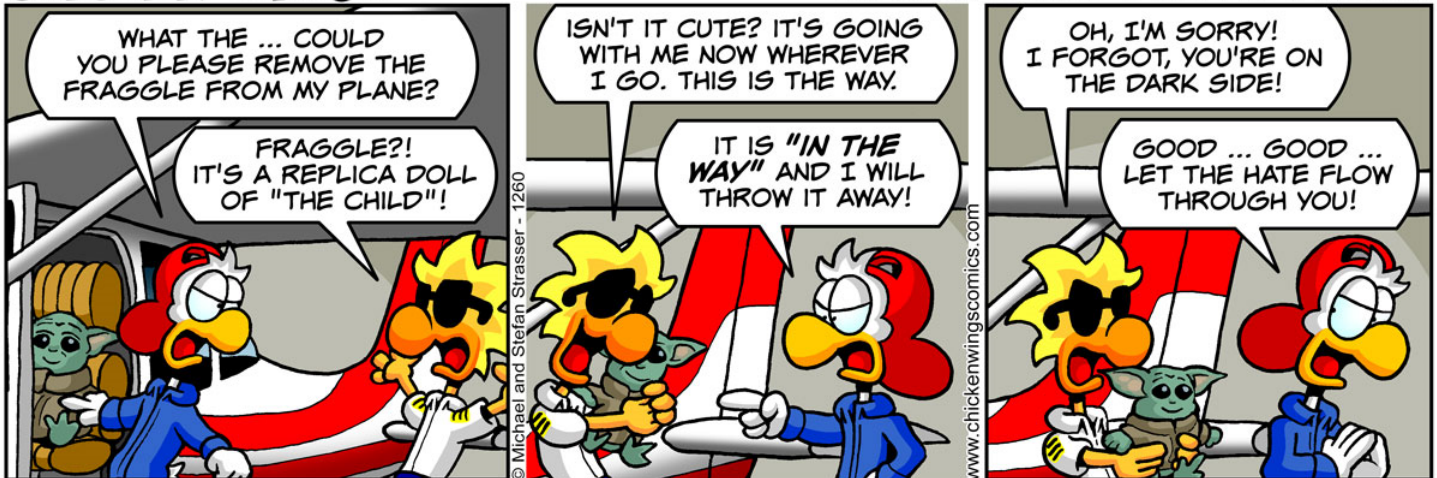
► savvyaviation.com

AOPA comments on renewed FAA information collection for medicals

Read the article at <https://www.aopa.org/news-and-media/all-news/2019/november/08/aopa-officially-comments-on-the-renewed-faa-information-collection-for-airman-medical-certificates>

CHICKEN WINGS®

BY MICHAEL AND STEFAN STRASSER



One of the consequences of having the grands come visit at Christmas is that their parents hooked Nana and Papa on The Mandalorian...apparently we're not the only ones!

Want Ads & articles for publication may be sent to the editor - newsletter@eaa43.org

Want Ads



Custom Embroidery
Valerie Wait
 720-352-2630
 1705 Flemming Drive
 Longmont, CO 80501
 email: valandjimw@yahoo.com

Bill Mitchell reports that Valerie can embroider a couple of different sizes of our chapter logo on jackets, shirts, etc. Bill showed some examples at one of our gatherings, and they were beautifully done! The Gregorys had her embroider their tail art and N-number on their plane's seat cushion covers!

1946 Aeronca Champ 7AC – Like New Condition – Must See to Appreciate - \$35,000

2008 complete restoration – Cont. O-200 (118 SMOH), no-bounce landing gear, Cleveland hydraulic toe brakes, metal spars, twin 13 gal. wing tanks, new Sensenich wood prop, Poly Fiber covering, Icon IC-A200 radio and Flightcom 403MC intercom (both run off battery). Entire restoration done with relevant STC's and 337's.

Registration: NC83365 S/N: 7AC-2032 Based/Hangered at KEIK (Erie, CO)

Remarks:

Needs Annual, but Seller is perfectly willing to conduct/pay for annual in conjunction with a pre-buy.

Sale includes IFly 700 and battery pack.

Honest and straight flying Champ! Sad to see it go but it just doesn't get flown as much as it deserves.

If interested, contact: sserani@instakey.com



FOR SALE

LIGHT SPORT

2011 Experimental Zodiac 601XLB, N601WL, TTA/E 340 hr., Jabiru 3300, Dynon 180 EMS/EFIS, Garmin AERA500 GPS, ICOM A-200, ELT, Garmin GTX 320A Xpdr, AOA, Sensenich GA prop, elevator & aileron trim, dual brakes and throttle, always hangared, fresh annual, builder and maintenance logs. Laramie, WY. **MEDICAL ISSUE**, Price reduced, \$35,000 Wes (307) 721-8804

bressler@wyoming.com



ALSO INCLUDED: MISC. PARTS, LIGHTSPEED HEADSETS, NEW UPHOLSTERY AND NECESSARY TOOLS

DATA SHEET
ZENITH 601XL-B - \$35K

By owner/builder

- 2011 Zodiac 601XL-B; always hangared (KLAR); TT340 hrs.
- Fresh condition inspection
- Sensenich ground adjustable composite propeller
- 15 gallon fuel tanks
- Navigation and strobe lights
- Electric elevator and aileron trim; electric flaps
- Center yoke with dual brake and throttle controls
- Jabiru 3300 with oil cooler
- High Altitude Control-manual (HAC man)
- Dynon 180 EFIS/EMS
- Dual VSI, AS, & Alt.
- Removable GPS – Garmin AERA 500
- Communication-ICOM A-200; Intercom-Flight Com 403mc
- Transponder- Garmin GTX 320A
- ELT – Ameri King AK450
- Tannis engine heater; baggage wing lockers; Koger sunshade
- Necessary maintenance tools, Lightspeed Zulu headsets (2), canopy cover, new upholstery set, extra tires, manuals

FOR SALE ½ INTEREST

VANS RV7A CO LLC



This RV 7A, registration N765J, first flew in September of 2015. It has just had its annual inspection and has a total of 343 hours on the airframe and engine. The plane is equipped with the following:

Vans RV 7A Kit, Sam James Cowl and Plenum, Overhauled Lycoming IO-360-A1B6 experimental engine serial # L-15725-51A, with left Slick Impulse Magneto, Right P-Mag, Whirl Wind Aviation 74 RV propeller, Garmin avionics panel including: IFR GPS 400 W, GTR 200 radio, GLD 39R (ADS-B in), GTX 23 ES transponder, Dual G3X panels with XM radio on right panel, Garmin GMC 305 auto pilot with pitch and roll servos, GEA 24 engine sensor system with sensor kit, GSU 25 AHARS, GMU 22 Magnetometer, GAP 26 regulated pitot with AOA sensor, GTP 59 Oat, ACK E-04 ELT, G5 back up PFD, mechanical altimeter, and Flightline Interiors seat cushions.

This 200 HP RV 7A is a great flying machine with a balance between positive G aerobatics and cross county flying. The plane is hangered at Erie airport (KEIK). Half interest in this fully equipped RV is \$50,000. If interested contact Jeffery Jones at: jeffj@flatironslc.com or call at 303-809-3994

**Mile High Chapter 43
Denver, Colorado
Annual Banquet Ceremony
Saturday, January 11, 2020**

Outgoing president Phil Brown opened at 7:28 PM.

1. Phil noted that he's still got a bunch of aviation and other models from Don Smith. He pointed out the donation box at the dining hall entry as well as noting a display from the Quaking Aspen Quilting Club.
2. He reiterated that he's bad with names and thanked us for tolerating that.
3. He's been a member of 3 EAA Chapters, and 43 is the best by far. So many activities, inclusive, outreaching, and just a BIG chapter.
4. Previous president Ken Scott was so organized - the meeting agenda section format shows newcomers all that we do.
5. So many people with amazing backgrounds. The Cross Pollinating meeting segment let those who presented introduce themselves more fully to the membership. Phil thanked those presenters from 2019.
6. He thanked the chapter for its outreach to kids (Young Eagles, rib building) and Young Aviators to further aviation.
7. He noted that this is a participatory ceremony, if anyone wants to compliment or share with the chapter, feel free.

ANNUAL AWARDS

Roxie Juul - monthly gathering chair/table setup and snacks, as well as Scholarship Committee Co-chair.

Membership Coordinator - Tim Stansbury

Young Eagles Coordinator - Cliff Hasenbalg

Flight Advisor - Bill Mitchell

Tech Counselor - John Reuterskiold

Tech Counselor - Jim Sutton

Tech Counselor - Phil Brown

Web Master - Steve Paschke

Newsletter Editor - Val Gregory

Treasurer - Myles Lee

Secretary - Val Gregory

Chapter MVP 2019 - Val Gregory

Vice President - Scott McEwen

Vice President - Cliff Goldstein

Phil introduced Cliff Goldstein as the new chapter president, and turned the mike over to him.

Cliff thanked Phil for the past two years, and noted that Young Eagles, Young Aviators, and the chapter Scholarship programs had all expanded during that time. Cliff also appreciated the exposure to ham radio. He awarded Phil a plaque for his service.

YOUNG EAGLES - Cliff Hasenbalg

Cliff is proud to be involved and said the other volunteers make his job easy. In 2019, the chapter provided 342 Young Eagle flights, including the rural outreach events in Limon and Fort Morgan. This earned the chapter \$1710 for Scholarship! Cliff presented awards and thanks to the following Young Eagle Pilots:

Name	2019 Flights	Lifetime Flights						
Jeff Caine	8	85						
Herrell Davenport	36	444						
Emmett Dowling	10	22						
Larry Earnshaw	4	4						
Tony Garrett	23	66						
Al Godman	24	172						
Cliff Goldstein	13	128						
Paul Hahn	23	120						
Cliff Hasenbalg	29	137						
Jeff Hinkle	6	36						
Jeff Johnson	4	11						
Mitch Johnson	6	6	A former Young Aviator and Scholarship awardee!					
Pete Kelly	6	207						
Bill Kendall	16	109						
Myles Lee	37	218						
Robery Quinlan	1	1	From Chapter 1627, Boulder					
John Reading	8	19						
John Reuterskiold	6	18						
Stan Specht	30	469	21 with Chapter 43, 9 with Chapter 301					
Michael Sutton	4	4						
Richard Treat	8	23						
Patrick Webb	5	5						
Stephanie Wells	4	63						
Steve Zimmerman	3	3						
Terry Brazos	1	60						
Tal Clark	19	28						
Robert Ellis	28	744						

Cliff also thanked his Ground Crew, who provide airplane handling and registration - Daphne Davenport, Wendy Elliott (who flew with Cliff to Limon and is an EAA Scholarship recipient), Scott Griffith, Elam Kelly (Pete's grandson), Nick Koutsakis, Nila Lee, Young Aviator J.T. McLusky, Patrice and Scott McEwen, Ken and Phyllis Scott, Scott Serani and Dale Serani. He also thanked some special volunteers who document the events with photos and maintain the Young Eagles Facebook page - Carol Serani, Ingrid Jacobsen (videos) and George Kent.

A question was asked on how many flights the chapter has done since Young Eagles started. The answer is 5,591 flights. Cliff has been told this figure is a bit shy due to a past coordinator who didn't send a years worth of flights into Oshkosh.

Cliff asked for volunteers for a school expo at Aspen Grove (K-8) on Wednesday, February 5. Last year the school had to cancel their expo due to a security threat. Volunteers to talk with kids and parents, and Cliff will send out an email next week.

Cliff Hasenbalg turned the mike back over to Cliff Goldstein.

Cliff admires Phil and watched him find his passion at KidVenture with rib building. There wasn't a large contingency at the banquet, but...Cliff's #1 goal over the next two years is to have multiple contenders for the office of president, not an (arm twisted) appointee. Cliff sees four main groups in the chapter:

1. Young Eagles. Some of the kids may just take one flight, others blossom. Stan Specht especially embraces his role as a Young Eagles pilot, and Cliff asked that he be nominated for an Honorary membership. Scott Serani made the nomination, there were multiple seconds, and Stan was made an Honorary Member.
2. Young Aviators. Without kids like these, aviation dies. Cliff loves to watch them flying their drones. Scott Serani calls them in.
3. Builders. That's what the EAA is about. Chapter 43 may be drifting away from that? Builders need to give back to those getting started and share their experience. Cliff Hasenbalg noted that he'd recently done a little fiberglass work with a new builder, and it was so satisfying.
4. Need to get the Wednesday Lunch crowd more involved.

Cliff Goldstein said he caught his personal aviation bug at 7 years old and loves watching a plane claw its way into the sky. He loves watching the kids light up, finds it similar to gardening. He's seen that in his own boys, the smartest kids on Earth, challenging their Dad. A few kids have reached out to give back, like Wendy Elliott. One day Wendy or someone like her will be up front talking to us old farts. Cliff said he's not an organizer, nor a great speaker. He'll be asking the Board to reach out to all members to give and get involved. He'll be changing the regular meeting format a bit - February will be Builder's Tips - showing folks how to do things. March will be Lessons Learned - bring in parts (good or failed) to illustrate. He talked about the new Chapter Forum, which Steve Paschke is setting up, and asked membership to get involved. Our group is a social group with a shared passion. Nothing illustrates the spirit of our Chapter, and the EAA in general, better than AirVenture, where if you dropped your wallet, you'd find it at Lost and Found, contents intact.

Respectfully Submitted,
Val Gregory
EAA Chapter 43 Secretary

Coming Soon!

EAA National is changing their website provider from Webs to SiteCore, which means chapters who currently have their website with Webs as part of the EAA also need to migrate to SiteCore. Chapter 43's effort is already underway, with the Home Page, Newsletter, and Join/Renew pages at least partially set up. We'll be maintaining both websites until March 31, at which time the EAA National contract with Webs will end and presumably the old webpage will no longer be accessible. If you'd like to check things out, the Newsletter Editor will offer cookies if someone finds a busted link or other issue with the Newsletter and its sub-pages - that section is pretty much done.

Parting Shot!





Membership Enrollment Information
(Needed for Current Roster & Chapter Correspondence)



MANDATORY INFORMATION: *If nothing has changed from last year, this is all the information required. We need EAA Membership # and EAA Renewal date to comply with EAA Charter and Chapter 43 by-laws.*

Date: _____	Annual Dues or	\$25.00
Name: _____	Save! 5 years for	100.00
National EAA Membership #: _____	Scholarship Donation (Optional)	<u> .00</u>
EAA Membership Renewal Date: _____	Total	.00

Are you a:

Technical Counselor	Yes ___ No ___
Flight Advisor	Yes ___ No ___
CFI	Yes ___ No ___

Scholarship donations are tax deductible.

*Please make check(s) payable to:
EAA Chapter 43
P.O. Box 1725
Broomfield, Co. 80038-1725*

NEW MEMBERS PLEASE COMPLETE - RETURNING MEMBERS OPTIONAL INFORMATION: *Supply any information that may have changed from previous year (if you want a field deleted from your record, please tag it).*

E-Mail Address: _____	Home Phone: _____ - _____ - _____
Spouse: _____	Cell Phone: _____ - _____ - _____
Street: _____	
City, State, and Zip: _____	

HOW WOULD YOU LIKE TO BE INVOLVED IN THE CHAPTER?

Participate in Young Eagles functions, either as pilot or volunteer?	Pilot	Yes ___ No ___
	Ground Crew	Yes ___ No ___
Arrange, Or Be, The Program For One Of Our Meetings? -----		Yes ___ No ___
Host A Chapter Meeting At Your Project? -----		Yes ___ No ___
Run for a Chapter Officer Post? -----		Yes ___ No ___
Interested in attending hands-on workshops (under consideration)		Yes ___ No ___

AIRCRAFT INFORMATION:

Note: Status: ---Built, Building, Restoring, Considering, etc.

<u>Make, Model</u>	<u>Status</u>	<u>Based At</u>
_____	_____	_____
_____	_____	_____

To keep costs down the monthly newsletter is delivered via E-Mail (unless otherwise requested). We also send out periodic news items by e-mail.

2020 Chapter Officers

President	Cliff Goldstein	720-280-2916
Vice President	Zach Malone	443-610-3469
Vice President	Scott McEwen	303-895-5058
Secretary	Val Gregory	303-908-1252
Treasurer	Myles Lee	720-295-8778

Board of Directors

Cliff Goldstein (Chairman)
 Pete Watkins*
 Stephanie Wells*
 John Evens**
 Stan Specht**

(Note: *- 2 year terms expire end of 2020, **- 2 year terms expire end of 2021)

Volunteer Officers

Technical Counselor	Jim Sutton	303-598-4205
Technical Counselor	John Reuterskiold	303-881-3517
Technical Counselor	Phil Brown (fabric, wood & tube)	303-506-3886
Technical Counselor	Stewart Bergner	303-229-7799
Flight Advisor	Bill Mitchell	303-427-4025
Newsletter Editor	Val Gregory	303-908-1252
Young Eagles Coordinator	Cliff Hasenbalg	303-744-8180
Young Aviators Advisor	Pat Miller	303-666-8233
Young Aviators Advisor	Scott Serani	303-358-2858
Data Base Editor	Tim Stansbury	719-494-7398
Web Master	Steve Paschke	303-451-8490
Safety Officer	Stephanie Wells	303-503-0147
Refreshments	John & Roxie Juul	303-466-2600
Audio/Visual	Herrill Davenport	303-460-7789
Scholarship Co-Chairs	Roxie Juul	303-466-2600
	Zach Malone	443-610-3469
Scholarship Fundraising	(Volunteer Needed)	

CFI's in Chapter 43

Phil Brown	303-506-3886
Richard Brown	303-558-0793
Mark Davis	303-425-4080
Joe Gilmore	720-318-5100
Jeff Hinkle	303-550-2291
Bill Mitchell	303-427-4025
Tom Shaw	303-275-0904
Mike Sutton	720-515-5269
Stephanie Wells	303-503-0147

Mile High EAA Chapter 43

Disclaimer

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Mile High Flyer
EAA Chapter 43
P.O. Box 1725
Broomfield, CO 80038-1725

First Class



Gatherings are normally held on the second Saturday of each month at 6:00 P.M.—Location determined monthly. See Page 1 for details of the upcoming gathering.