



April 14 Chapter Officers / Directors

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Newsletter Editor	Vince Rubatzky	
Librarian	Allen Skogsberg	
Refreshments	Paul Kendrick	
Web Master	John Scarry	
Young Eagle Coordinator	Liz Dinan	

April Program

EAA Chapter 170 meeting May 20, 2018

Weather permitting, Santa Maria Chapter member Vance Breese will be here with the *Predator* to talk about the history and present day gyroplanes, and the perils of flight instruction in a gyroplane; and much more.

Upcoming Events

May 20, 2018

Chapter 170 meeting at **11:30 am**
Hanger 49 – West side of San Luis Obispo Airport

Oceano L52 Airport Celebration
May 11-12, 2018

EAA 2018 AirVenture Oshkosh July 23 – July 29
2018 Reno Air Races Sept. 12-16

From the Left Seat

Neal Koellish – President
eaa170@yahoo.com

Greetings

In lieu of April's meeting, Paul Kendrick organized a wildly successful Young Eagles event. I don't have the numbers handy, but having worked on the ground crew, it seemed like it must have been about a 1000. Anyway, thanks to Paul for pulling this together, thanks to all who helped on the ground and a special thanks to all the pilots who donated not only their time but significant operating costs as well. This would not have been possible without you.

Next up, our very own Vance Breese is going to talk us about things with wings that go round in circles but aren't helicopters. It's a facet of aviation that I must admit I know little about, but Vance is a dedicated devotee, and I understand, does a pretty good presentation. Also, while doing a little research on him, I discovered that there is a lot more to this guy than he lets on, so I hope you'll join me on May 20th to hear his presentation.

Chapter April 14th Young Eagles Program

At the Chapters April 14 Young Eagle program there wasn't an opportunity for a business meeting. However, a planning meeting was held by Paul Kendrick in late March in order to discuss final arrangements for the April YE event. Attending with Paul, were Vince Rubatzky, Austin Dito, John Scarry, and Joe Dozso.

At that March meeting Paul indicated he had several pilots and airplanes committed and a couple of maybes. He informed potential participants about the necessity of EAA membership and their adherence of the Youth Protection Policy. To speed up the required registration paperwork Paul will bring pre-printed paste on pilot identification labels. He did not have a list of ground crew volunteers, but anticipated there would be enough volunteers.

Paul said that his son's Cub Scout Pack 51 and several other local Cub Packs were likely to bring 50 plus youngsters. Games, toy glider airplanes and several activities would be available as well as hot dogs prepared by Cub Scout parents.

On Saturday April 14, any worries about the marine layer interfering with the event were soon dismissed since this Saturday was to be a beautiful clear day. The setup crew arrived at 10 am to erect a tent, put out tables, chairs, and a roped-off area. Participating pilots also arrived early for briefing by Paul and soon after parents and youngsters were on the site.



Paul and pilots briefing



**Robin Marks Mustang,
one of the admired static airplanes**

Games and other activities kept energized youngsters occupied and made their waiting more bearable. Paul had arranged to have several items such as balsa wood toy gliders, various games, and a number of other items kept the kids busy.



Crayons and coloring materials



Gliders ready for assembly and flying

A simple experiment was prepared to illustrate the Bernoulli Principle in order to explain and illustrate airplane flight aerodynamics. Additionally, Eric Patton with *Fly This Simulator* (FTS)

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provided their high tech simulator program. These were all successful to the youngsters occupied.

Josh Cross headed up registration on the Cub Scout side. Hot dogs, chips and drinks were an appreciated component. Much appreciation is directed to the Cub Pack parents for these treats. Skylar and Jennifer Vock ran the Hot Dog booth, which earned the Pack about \$250, some of which was used to provide a Young Eagles embroidered patch to all the scouts who participated. The Cub Pack is very grateful for the event. I have heard from numerous parents and leaders about what a great time everybody had, and how impressed they all were with what we did for them.

Chapter ground crew volunteers expected to have a smooth trickle in of youngsters, but naturally many thought being early was better. Nevertheless the ground crew handled the paper work as well as they could and tried to minimized wait time for youngsters, parents and pilots. The ground crew headed by Neal Koellish was assisted by Oscar Bayer, Bob DuSair, Liz Dinan, John Scarry, and Vince Rubatzky.

Although Cessna-172's were the most predominant airplane, there was a nice mix of airplane types. Having a majority of four place airplanes was fortunate as it allowed more youngsters to enjoy their flight experience.

Thanks to all, with **special thanks** to the pilots who were so generous with their airplanes and time. They enjoyed this occasion as much as the youngsters. Participating pilots and their (aircraft) were: Jeffery Brown (C-172RG), Jim Buenrostro (C-172), Frank Chance (C-182), Joe Dezso (C-172), Paul Kendrick (Bonanza V35B), Taylor LaMascus (C-172), Robin Marks, (RV-10), Eric Paton (Cirrus SR-20), Jim Rataichak (C-172), and Manuel Wudka-Robles (C-182)

Counting all the registration forms for mailing to the EAA Young Eagles office a total of 59 youngsters received a flight experience. However, some of us feel that more flights were flown and that some registrations were either misplaced, lost or may still be in the hands of some pilots. This issue will be followed up. This was a very busy and rewarding afternoon with the 59 Young Eagles flown. The event closed at 3 pm with the last flight finishing at 3:30.

Aviation Pioneer - Samuel Langley and his Legacy

Samuel Pierpont Langley; Aug. 22, 1834 – Feb. 27, 1906) was an American [astronomer](#), [physicist](#), [inventor](#) and aviation pioneer.

Samuel Langley was a contrast to the Wrights. Unlike the Wrights, Langley had ample funding to support his efforts for developing an airplane. His stature as Secretary of the Smithsonian Institution lent credibility to his efforts as did his success with his unmanned aerodromes. In particular, his *Aerodrome No. 6* flew 4,200 feet at about 30 mph on Nov. 28, 1896. This unmanned tandem-wing craft employed a lightweight steam engine for propulsion. The wings were set at a distinct dihedral angle so that the craft was dynamically stable although there was no method of steering.

From the success of No. 6, Langley was able to convince the War Department to contribute \$50,000 toward the development of a person-carrying machine. The Smithsonian contributed a like sum. Charles Manley developed an extraordinary radial-cylinder internal combustion engine that developed 52 horsepower for the man-carrying *Great Aerodrome*. Langley felt it would be safest to fly over water, so he constructed a houseboat with a catapult to launch his new craft.

The *Great Aerodrome* might have flown if Langley had chosen to launch from the ground. The plane had to go from a dead stop to the 60 mph flying speed in only 70 feet. On a Dec. 8, 1903 flight the stress of the catapult launch was too great for the flimsy wood-and-fabric airplane and it collapsed, crashing into the river with the pilot having requiring rescue.

Eight days after Langley's failure, a sturdy, well-designed craft, costing about \$1000, struggled into the air in Kitty Hawk, thus defining the moment when man mastered the skies.

A large part of Langley's legacy was his relationship to the **U.S. Navy's First Aircraft Carrier.**

USS Langley - The US Navy's First Aircraft Carrier:

With its keel being laid down at the Mare Island Naval Shipyard on Oct. 18, 1911, the USS *Langley* began its life as the collier, USS *Jupiter*. *Jupiter* joined the fleet in April 1913, and soon after passing sea trials was sent to the Mexican coast carrying a detachment of US Marines during the 1914 Veracruz crisis.

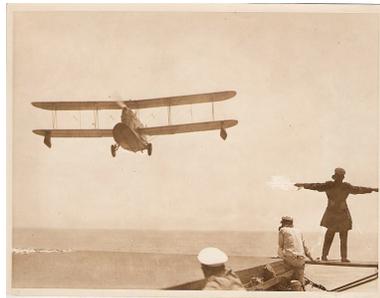
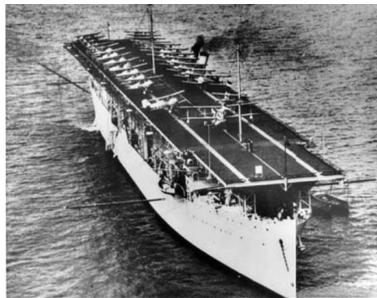
After service with the Atlantic Fleet in the Gulf of Mexico, *Jupiter* was switched to cargo duty in April 1917 and sailed to support US efforts during World War I. Following service in European waters, the ship returned to Norfolk for conversion into an aircraft carrier. The ship was renamed in honor of aviation pioneer Samuel Pierpont Langley on April 21, 1920.

Workers reduced the ship's superstructure and built a flight deck over its length. The two funnels were moved outboard and an elevator was constructed for moving aircraft between decks. *Langley*, designated as CV-1 was commissioned on March 20, 1922. Entering service, *Langley* became a test platform for the US Navy's aviation program.

On Oct. 17, 1922, Lt. Virgil Griffin became the first pilot to fly from the ship's deck when he took off in his *Vought VE-7-SF*. The ship's first landing came nine days later when Lt. Cmdr. Godfrey Chevalier came aboard in an *Aeromarine 39B*. The first naval aviator to be catapulted from a carrier soon followed.

The *Langley* joined the Pacific Battle Fleet on Nov. 29, 1924. For the next dozen years, the ship served with the fleet training aviators, conducting aviation experiments, and taking part in war games. With the arrival of the larger carriers *Lexington* and *Saratoga*, the Navy decided that the *Langley* was no longer needed. On Oct. 25, 1936, *Langley* arrived at Mare Island Naval Shipyard for conversion into a seaplane tender and was re-designated AV-3. Following a brief assignment in the Atlantic during early 1939, the ship sailed for the Far East, reaching Manila on Sept. 24.

When World War II began, the ship moved south to aid the Royal Australian Air Force in conducting anti-submarine patrols from Darwin during the first-half of Jan. 1942. Receiving new orders, the ship sailed north to deliver P-40 Warhawks to Allied forces in Java and to join allied forces to block the Japanese advance into Indonesia. On Feb. 27, 1942 the *Langley* was attacked by a flight of Japanese bombers suffering damage that resulted in her sinking.



Aircraft types flown on the USS Langley



Vought VE-7-SF



Aeromarine 39B
(also built as

amphibian)

Chapter 170 Current Roster

This is the 2018 Chapter roster to date. It identifies active members and others that have indicated an interest in Chapter activities. If your name is not listed it is because the Chapter Secretary hasn't sufficient information to contact you. Assuming you are interested in participating in this Chapter, this omission is correctable if you will send your name, e-mail address, phone number and mailing address to the Chapter Secretary.

BARONE, BILL
BAYER, OSCAR
BORDON, CHUCK
BOVA, JOHN
BRANIN, BARRY
BREESE, VANCE
BUENROSTRO, JIM
BUFO, DAVE
CABRIALES, CID
CHIVENS, DAVE
COLVIN, KURT
COONEY, SHERYL
DEL RE, TOM
DEZSO, JOSEPH
DINAN, LIZ
DITO, AUSTIN
DOLEZEL, TODD

DUBUN, MICHAEL
DU SAIR, BOB
EICHLER, JOHN
FISHER, KURT
FRENTZEL, HERMAN
HALL, MORGAN
HARRIS, WILL
JONES, RANDY
KEITHLEY, FORREST
KENDRICK, PAUL
KOELLISH, NEAL
KRAGEL, BOB
KRASSENSKY, DYLAN
MARKS, ROBIN
MC CAUL, BEN
MORET, ROM
PETERSON, MIKE

RADFORD, DARRELL
RUBATZKY, VINCENT
SALVINI, JOHN
SCARRY, JOHN
SKOGSBERG, ALLEN
SPARKS, GARY
STANLEY, TOM
STRICKLAND, JEARL
VANDERZIEL, GERRIT
VERDIN, ADAM
WARNER, DEAN
WENZEL, MARK
WEIK, KURT
WILLIAMS, TIM
YATES, KYLE

Join us

Aviation Basics-Staggerwing Ground School with Captain Bud

Following is an interesting and entertaining article provided by Barry Branin. The author, Captain Bud was the fellow that checked Barry out in his first WACO. The points that Captain Bud makes on how to handle a tail dragger are helpful to anyone trying to master one. Bud gave Barry permission to allow his story to be reprinted in any Aviation newsletter. It was slightly abridged for the Chapter 170 newsletter.

Staggerwing Ground School with Captain Bud

My name is Bub Fuchs (FOX in German), CFI, A&P, and ATP. I taught tail wheel in college at Purdue University in the early '60s. I have 900 hrs in DC-3's, and owned a dozen planes, half of them tail wheel, from Aeronca 7AC to a Tri-Motor with its three P&W 985's.

In 1985 I acquired a Staggerwing D17 c/n 6911 in pieces in Saratoga, Wyoming. That began a love affair with a trickster who taught me the "rest of the story," and what I thought I knew about instructing landings in anything from a Cub to a B767, and why the pilot does what a pilot does.

The only enemy a Staggerwing has is rust, and us! For those just interested and others possibly looking to rebuild, are building, or wanting to buy a Staggerwing or another tail wheel, I have good news. For all her mystique and hearing the hanger chatter for decades, the Staggerwing is not scary. She also is not a "needy lady" for a pilot with "the right stuff."

I have a story, true or not, I like to tell about Walter Beech drawing this thing out on a napkin and saying "build it. The engineers were aghast. They said. "Mr. Beech, it's all engine and no tail." Well, true or not, it's a fact that the Stag has lots of power and a very small rudder, as many have discovered in training or otherwise.

Well, the boss got his way and the engineers retired to their stations to figure out what to do about directional control with such a puny rudder. This is where the story really begins to get itchy for many because it's not taught today; maybe, before the 1940s, but not today.

Beech engineers added full span ailerons to make up for Walter's puny rudder. "Why so?" asked the pilot. "Adverse yaw," said the engineer, It is just physics and aerodynamics. You learned about adverse yaw in your fist hour of dual. Ailerons are the single most abused, and misunderstood control on the airplane, thanks for the introduction of the nose wheel. We see that the engineers know that even a large tail stalls at 10° relative to the wind. But, the ailerons are mostly unstalled in an arc approaching 70-80° either side of center. In the DC-3 the pilot flying on takeoff would call out "rudder's alive" because as the plane gained speed, the relative wind would shift from the crosswind angle to near straight on, and the rudder would unstall, or come alive.

On take-off the ailerons are turned hard on the stops into the known cross-wind, and the adverse yaw created would effectively steer the airplane (opposing the weather vanning, torque, P-factor, runways slope etc.,) until the rudder came alive, supporting the rudder application with direction control. With that "rudder's alive" call-out, the pilot not flying would relax the ailerons off the stops and they would then assume a position that could provide a proper bank angle to control drift at lift off. Once a positive rate of climb was verified the forward slip would become a wings level crab to track out runway course line with the ball centered.

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Dissecting the physics of the above paragraph we learn that on all airplanes the ailerons have three functions:

One: Makes the bank that turns the plane.

Two: Stops the drift with a bank, and rudder to control directions for the touchdown. Known in the past as a forward slip to landing, that today seems to be losing in favor of "landing in a crab."

Three: Directional control on the runway during roll out utilizing adverse yaw.

All of the above is in our standard ground school before any check-out flying is started. Because, as instructor and P.I.C., I must absolutely know that the student knows that turning the ailerons into the skid will exacerbate the situation and make it unrecoverable, and a broken airplane the result.

What we've lost with the introduction of the nose wheel is the forward slip to touch down, and especially using adverse yaw as a primary directional control device on roll-out as the rudder gives up its authority.

Here's where we are the Staggerwing's directional control problem. The rule of thumb is ALWAYS keeping the AILERONS PROPORTIONALLY OPPOSITE THE RUDDER. If "yin and yang" are equal, then very little if any aileron will be needed. However, as the flying machine slows, one foot will eventually find the firewall. Before that happens, feeding in OPPOSITE aileron will keep her straight to taxi-way turn off speed.

Note that everything in the above paragraph is counter-intuitive to all of us who have been driving cars for decades. It's instinctive for us to turn into a skid when driving a vehicle. This same automatic reaction in an airplane drops the wrong aileron and accelerates the demise of one flying machine. Note: lift is drag, right? The down aileron creates lift, the other wing's up aileron destroy lift, and the resultant, $1 + 1 = 2$ yaw about the vertical axis is huge!

This is our challenge as a flight instructor and pilots. We must break a good driving habit when in the airplane in order to stay on the runway. When the airplane starts weaving around we always revert back to turning into the skid and dropping the wrong aileron.

The cure is a long runway, an unlocked tail-wheel, patience, and a conscious effort to keep the AILERONS PROPORTIONALLY OPPOSITE THE RUDDER. Always; because our automatic response is to turn into the swerve and dropping the wrong aileron.

Before we ever fly we get on the runway and taxi practicing opposite aileron to rudder. It's harder than you think, but winnable. Demonstrating to the pilot how ingrained in his muscle memory it is to turn the wheel into the swerve, dropping the wrong aileron and accelerating the plane's demise. Those huge ailerons that are so effective at making good adverse yaw can just as effectively can make bad things happen, and much quicker as some will attest.

From experience it is the hardest non-flying I've ever done. It's grim work and the student hates it, hates me, and hates the airplane It gets frustrating because so ingrained is our muscle memory to turn into the swerve. Once you learn to ride a bicycle, you never forget - right? New Staggerwing owner, and new friend, Capt. Craig Copeland has a bicycle with the handle bars geared to turn the front wheel the other way! Yes, indeed it is rideable, but not without lots of practice, and recurrent training is mandated.

Now back to the runway. When I had c/n 6911, she had OEM brakes. I could let an event develop quite far before grabbing lots or rubber to straighten things out. Again, the engineers knew best what might be needed. Today's replacement brake systems don't allow me to let a swerve get very developed. So, we practice opposite aileron until both instructor and pilot know that the flying machine is safe in the hanger. Knowledge is power, is confidence, is safety, but not without practice and some sweat.

So, get that Staggerwing knowing she holds no surprises. Finish that project unafraid of hanger war stories. Fly unafraid of cross-winds. What you see is what you get. No surprises. It's just physics.

Capt. Bud.

I dedicated this to my WWII flight instructor father, Richard H. Fuchs, and his war time students who never returned from battle.



Question: What is better than a Staggerwing D-17?

Answer: Two of them.

Chapter Dues Alert

Annual dues for Chapter 170 membership are long pass due, but are still being collected. Members can make payment at the May 20th Chapter meeting or can send \$20 by check to Chapter Treasurer Vince Rubatzky at 931 Cyclamen Ct. San Luis Obispo, CA 93401.

Benefits of National EAA membership

If not already a member of the National EAA Organization, all Chapter members are encouraged to consider joining the National Organization. The benefits of that membership are many.

#1 EAA is your advocacy for the support of general aviation.

#2 Members monthly receive *SPORT AVIATION* magazine (no aviation magazine compares)

#3,4,5,6,etc. provide webinars, building advice, hints and support and many other perks.

Go to the EAA home page and check it out.

Contact the Newsletter Editor

Members having suggestions for the newsletter or wishing to submit an article for inclusion in the newsletter should contact the Newsletter Editor. Topics about or distantly related to aviation qualify. Thoughts about how to jazz-up the newsletter are welcome. Avoid shyness – it limits you.

Not too late. If you received a request for information to update the Chapters membership roster and have not responded please reconsider. Let's avoid losing contact.

Fly often, well and safely.