



Runway 15



The Monthly Newsletter for Experimental Aircraft Association Chapter 1541, Lincoln, California

In This Issue

Calendar of Events	1
EAA 1541 Chapter Information	1
President's Corner	2
April Member Meeting Program	3
Young Eagle/Airport Events	3
New Members	3
Words of Wisdom	4
Tying the Knot, Airport Style	4
Project Corner	4
Sightings	7

On the Horizon: Calendar of Events

For the most up-to-date information, go to the chapter website: <http://eaal1541.org/>

Date	Topic
Note	On Thursday, March 12, 2020 the chapter Board voted to suspend face to face meetings in compliance with public health directions from the state of California, to limit spread of the COVID-19 virus. We are continuing our IMC club and monthly chapter meetings online. Join us!
April 21, 2021 7 p.m. Hangar Chat at 6:40	April online chapter meeting. Program by chapter member Rob Burmeister on "A walk through time with Pitot and Kollsman"
May 5, 2021 7 – 8 pm	Online IMC Club meeting with FAA Wings credit. Online registration link will be

distributed to chapter members by email. All are invited to participate.

EAA CHAPTER 1541 INFORMATION

Meetings	Usually the third Wednesday of each month held at KLHM Hangar S-12. Details available on the website
E-mail	eaal1541@gmail.com
Website	http://eaal1541.org
Mailing Address	EAA chapter 1541, PO Box 1126, Lincoln, CA 95648
Chapter Hangar	Hangar S-12, Lincoln Airport
President	Darren Coomler
Vice President	Dan Masys
Secretary/Treasurer	Jim Hughes
Chapter Board of Directors	Cheryl Andrade John House Mike Lagomarsino Ray McNaught Bruce Robinson Scott Thompson Scott Whelan
Webmaster	Dug Smith dug@dugbert.com
Newsletter and Tech Counselor	Dan Masys dmasys2@gmail.com
Membership	Chapter dues: \$20 per year for individuals; \$30 for families; \$300 for gold membership

President's Corner



Welcome Chapter 1541 Members and Friends,

Welcome to Spring! Longer daylight and warmer weather makes you want to get out and enjoy it. This time of year has many of us planning our activities for the next few months. Your Chapter 1541 Board of Directors (BOD) has been doing the same. The online April BOD meeting had lots of discussion and planning for upcoming chapter events. This planning has been hampered greatly over the past few months due to the unknown of knowing when the local pandemic restrictions would lessen. As many of you have been tracking, with the overall improvement and the rising vaccination rates the guidance from the county and state allowing us meeting face to face (F2F) should be here within the next couple of months.

Looking forward, the BOD has tentatively set dates for a Young Eagles, Airport Fun Day, and something new to the chapter, Eagle Flights. Eagle Flight is similar to Young Eagles but for adults. We will be giving an introductory information session and rides to anyone over

the age of 18 who has an interest in aviation and possibly pursuing flight training.

Along with these mainly outdoor activities we are looking a resuming our breakfast and member meetings at the hangar. Once Placer County moves to the Orange tier -- which will permit gatherings of up to 50 persons at events -- we will announce events at the hangar. For those how are not comfortable with meeting F2F at this time some of the meetings will be a hybrid type, meaning it will a combination of an online and F2F meeting.

The BOD has recognized the success of the online IMC Club meetings, which have been regularly attracting 30 to 50 or more participants from many areas of California, Nevada and other states. As a result we are planning to keep this meeting in that format and will be testing ways to have some participants join the meeting from the EAA hangar. We believe that these hybrid type of meetings should make the educational content more accessible to more pilots, and in the spirit of experimental aviation we are going to do the experiment!

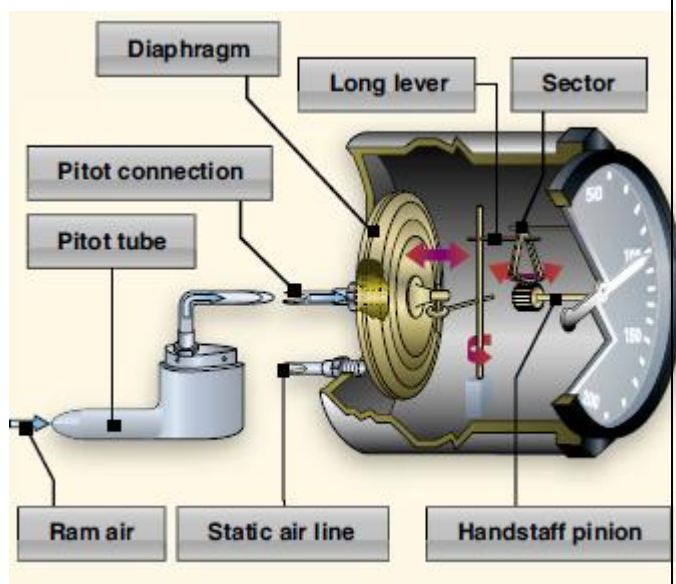
Other great news is that the chapter has been awarded another Ray Scholarship position for 2021 from EAA national. This is a \$10,000 grant to a young person to apply to flight training to obtain their PPL. Please share this news with anyone that you think may be interested. Questions on the Ray Scholarship can be sent to our email: eaal541@gmail.com

Lastly, when we do start meeting F2F again it will take many hands to help prepare food and set up events. Please step forward and be a part of this opportunity to serve your fellow aviation enthusiasts. We look forward to seeing you all in person soon!

Sincerely,
Darren

April Member Meeting: A walk through time with Pitot and Kollsman

Chapter member Rob Burmeister will give an overview of two key aircraft systems, the pitot-static system and the altimeter at this month's online chapter meeting.



Rob's presentation will be both technology and history, with "special emphasis placed on the two men I've heard of for twenty years but never knew..."



Henri Pitot and Paul Kollsman

At this month's meeting we will also having a "Hangar Chat" session 20 minutes before the meeting program begins. Beginning at 6:40 pm you can join in and talk or use the Zoom chat link to catch up with other chapter members

you see there. The meeting will officially begin at 7 pm.

You can join the member meeting on April 21 at by clicking [here](#) any time after 6:40 pm. An all hands e-mail message will go out the morning of the meeting with the Zoom meeting link.

Young Eagle/Event News



YOUNG EAGLE & AIRPORT EVENTS

Due to the current pandemic, there will not be any activities scheduled at this time until it is safe to do so. On the bright side, we are looking forward to scheduling a Young Eagle event within the next few months.

NEW MEMBERS - Please welcome the following new members for March & April, 2021:

Tom O'Hair

Tom is an instrument-rated private pilot living in Roseville. This summer he plans on building a Zenith 750 Cruiser. Tom has been an EAA member for years and looking forward to participating in our chapter along with volunteering during Airport Fun Days. Currently, he rents and flies out of Mach 5 Aviation in Auburn.

David Milton

David is interested in general aviation, and bush plane construction and flying.

Sergey Zenkin

Information not available.

WORDS of WISDOM??

“You attract what you fear: OMG, I’m scared of \$10.6 Billion!!!” ☺

Stay safe, and fly safer!

Cheryl Andrade

Tying the Knot, Airport Style

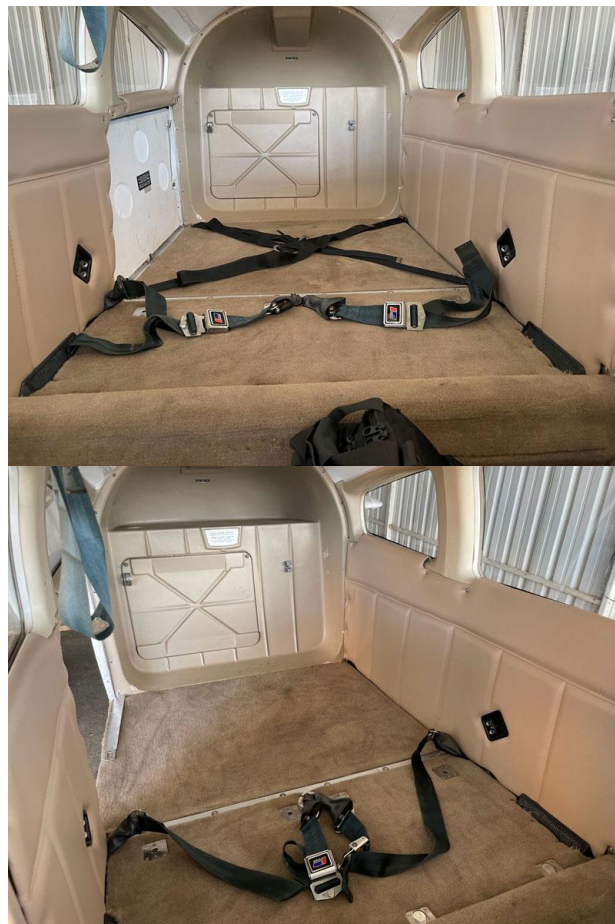
Chapter member Tony Kasabasich and his now better half Stacey were married on April 3 at the TK1 Racing (ie., Shock Monster) hangar at KLHM. Friends and family cheered the newlyweds’ kiss adjacent to Taxiway Alpha. Runway in sight. Best wishes for clear skies ahead for Tony and Stacey!

**Project Corner**

All chapter members are invited and encouraged to take a few minutes and send us a photo and description of whatever project you are working on now or have recently completed. Send your text and photo(s) to eaal541@gmail.com. Fun and education for everyone!

From Brian Peck:

The interior of the Archer is coming along nicely and I’m all done except for the seats. I’m waiting on the seat covers from Airtex and they should be here in the next week or two. It’s been a lot of work, but the Airtex product is good and it’s turned out pretty nice.





Brian Peck

From Jim Hughes:

Aluminum Fixed Pitch Propellers don't last forever.

I fly a 1961 Cessna 175B, which has a geared, GO-300 Continental engine, and drives an 84 inch fixed pitch propeller. Total time on the airframe is 4,020 hours. And since I couldn't find any info on the prop being overhauled in either of the log books, I assumed that it has been 44 years since the prop was off the engine.

McCauley recommends an overhaul at 10 years or 1,500 hours, so we were way past the recommendation by 3x+.

During our annual in February, I convinced our co-owners that it was prudent and time to send the prop for overhaul.

The leading edges were bare metal and the tips had most of the black paint sand blasted off. We struggled to remove the 6, ½ inch AN bolts and then pry the prop off the extended hub flange and the dowels that locate the prop on the flange. Here's a pic of the flange, with a bit of corrosion from the spinner backing plate:



The 33 pound prop was now off and on it's way to Stockton Propeller for overhaul, a simple - paint strip, pitch and tracking check and a new paint job.

After a week I got a call from Mike at Stockton Prop, that they had stripped the paint and had dye penetrant checked the blades and they looked ok. So the prop was off to pitch and tracking adjustment.

A few days later I got another call. In cleaning the hub area they noted something on the inside of the hub bore....it was a crack, verified with an eddy current test. A bit of grinding showed the crack getting larger. It was in-line with one of the bolt holes and the prop was now deemed un-airworthy, red tagged.

Our choice was to find a used replacement or buy a new prop from McCauley. A used prop would be ½ the cost of a new prop, so we ask them to see if there were any available.

There were two used props available, one was a 63 pitch vs our 67 pitch and had been overhauled once.

The other was a 66 pitch and was full length and chord and was a better choice. It was in Alaska, so it was a week to ship it to Stockton. I was more than a little concerned with a prop from Alaska, with the harsh conditions there. Once received, they proceeded to strip it and do both tests on it before doing anything else. It checked ok, so it was on to re-pitching to 67 inches and tracking adjustment.

We had them paint it the original McCauley gray with white tips and add the 1960's logo labels.

So, 2 months into the experience, we had a 'new' prop for '34T, and some 'wall art'.



The prop bolts, nuts and washers are all standard AN hardware, and only \$42 from A/C Spruce.

On Saturday, April 10th our favorite A&P and two of us started the process of bolting the new prop to the flange.

No surprise, it didn't just slip on! The dowels and raised hub are a bit of a press fit, which took tightening the 6 bolts and the metal lock nuts in a sequence to pull the prop onto the flange.

Then it was three increasing torques to reach the 65 ft-lb on the 6 bolts.



The hard part was done. Now to add the spinner and the cowl halves. After a few laps of the pattern to check the performance, 34T is back to airworthy condition.

But, in 10 years, the prop will be coming off for an overhaul check.



My recommendations to other pilots flying 'classic' aircraft with an aluminum, fixed pitch prop: it may look ok but may not be airworthy. Spending some \$\$ to have it overhauled as recommended may save an in-flight problem.

We were lucky, but we'll be following the McCauley overhaul times with this prop.

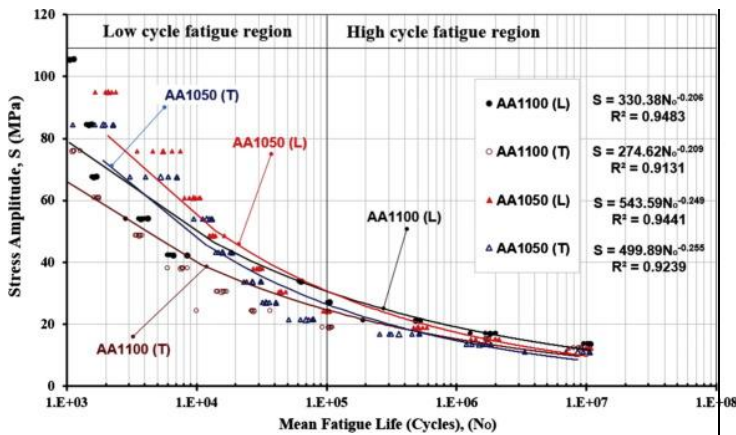
Addendum: aluminum fatigue life in cycles vs. maximum stress.

Aluminum has a finite fatigue life. For propellers the fatigue cycles that dominate are the engine firing pulses. Being an engineer, I wanted to know if the propeller was close to failure, and was it predictable?

The max stress vs. fatigue life curve for aluminum typically goes out to 10^8 cycles i.e., 100 million. (See the chart below.) The GO-300 engine is run at 3,000 rpm, and with 3 pulses per revolution results in 2×10^9 cycles at 4000 hours, which is literally 'off the chart'.

A Hartzel article that I found states that their propeller is designed for a stress of 4,700 psi. Extrapolating to 10^9 cycles, it looks like it approaches the 4,700 psi limit.

So, based on this I could expect this prop to be close to failure at 4,000 hours.



I suspect that since this engine puts 400 ft-lb of torque into the prop because of the 3:4 ratio of the gearbox, and the prop has a higher inertia, being 84 inches in diameter, it can fail at a lower number of cycles than a 4 cylinder engine running at 2,200 rpm and putting 300 ft-lb into a 72 inch prop.

The question that comes to mind, is, if we had the prop overhauled as recommended at 10 years, would the prop still be airworthy?

Jim Hughes

John Tate sent in an update on a major project launched on April 6 by his employer, United Airlines, to train new pilots. *United Aviate Academy* (UAA) is especially looking for women and people of color to help diversify the pilot workforce. The Academy will pay for initial training to obtain a private pilots license as well as discounted costs for subsequent instrument, commercial, multi-engine, and CFI training.

For details, see: <https://unitedaviate.com/>

Sightings



Nice kitty!

