

Wing Flap

Monthly Newsletter of the EAA Chapter 52
Sacramento, CA - **March 2022**

**Experimental
Aircraft
Association**



FROM The Left Seat - Gill Wright

Spring equinox has arrived, trees have bloomed, the flowers are emerging and California clear sky flying season for 2022 has begun! In preparation, the Chapter held our annual March Hangar clean on March 13. We cleared out the Northeast corner in a manner not accomplished in many years, the skylights were washed from above, and the mopped floors shined. Outside, the West ramp was trimmed, the trees were tamed, limbs shredded & chipped, and then spread to the redwoods roots for mulch to keep these costal trees hydrated during the summer heat in the next few months.

Over the past year we have been making steady progress in organizing the hangar, and the chapter, on many different levels. To see the Taylorcraft and Long Easy resting in the cleaned hangar was very heart warming. It is the people of this chapter who are making the difference as we work together for a better possibility from what we have navigated for the last 24 months. The upcoming Ray Scholarship Alumni gathering on June 18th will be a good opportunity for us to share our 'Spirit of Aviation' here in California from the 'hearth of our home' in Yolo County. We should be proud of what we have accomplished over the years and decades of this Chapter's life. We do Change people's lives. In that Chapter tradition, we now have a fifth Ray Scholar with Nick Theodorovic, that we have sponsored with EAA. It will be interesting to see how his life will evolve from this support, in the years and decades to come.

On March 19th, I was reminded of this communities continuum that aviation is for people, as I attended a Master Pilot Award for Greg Popejoy, with his 50 years of safe flying. This is quite an accomplishment for those who are bestowed this award, but it also happens within a village community that is vibrant and dynamic. In the prelude to the formal presentation, there was a background shared of Greg's journey to that afternoon, which began long ago at SAC Executive airport when his father helped to start EAA Chapter 52. It was discovering deeper roots of the Sacramento aviation village that I never knew, adding to the richness of this enterprise we all love, and enjoy. Hopefully Greg will share some of his airman's journey perspectives, and what has seen of the chapter over the decades at the General meeting on March 29th at 7:00 PM. The ZOOM details will be sent out before the meeting this coming Tuesday, I look forward to seeing everyone there.

On a final note, early Monday morning Roberta Taylor passed in her sleep. Her unique spirit, and Thom Taylor's participation in this Chapter's life over the last decade has touched everyone's lives. Her voice, contributions, and prospectives will be missed. Prayers and support for Thom in the journey ahead. Namaste...

Safe travels to all until the 29th,

Gill Wright, President EAA Chapter 52

FROM The Right Seat - Jim Hefelfinger

Chapter outreach at Elk Grove's Pleasant Grove HS after-school Aviation Club continues to support aviation awareness . Latest programs were on Charting : charts v maps, the coordinate system, magnetic v true north, WAC charts / sectionals and the introduction of symbology. This last Monday we covered the design/construction and function of wing ribs with the first half of a rib build. These are a full size 40" wood rib. Although down to 4 students [from 20 at the start] this hands-on project might bring back some of the students that were lost – feedback was that it was too much like a regular school class. Hands-on needs to be balanced with the “ground school” materials. This being the first year for this program and an adaptation of the original in-class mission it is a steep learning curve. AeroEducate materials are being researched to fit into this format as well as looking into a collaborative with a local AMA club for the “Build and Fly” program. A 1-hour time window is pretty narrow for build projects.

Chapter is looking for a member to step up and take leadership with the website content. Training will be provided.

As always, we are looking for members to step up for leadership and newsletter content. The hangar is looking good after the March clean up and nearly ready for PANCAKES !! Hope to see all of you at the first pancakes of the year - April 10 at 9:00 . Bring a guest. Jim Hefelfinger

Leadership webinar - Become a Better Chapter Leader. Member area – log in <https://www.eaa.org/Videos/Webinars/6292918749001#>

Chapter 690 flew their 10,000th Young Eagle 2/19/22



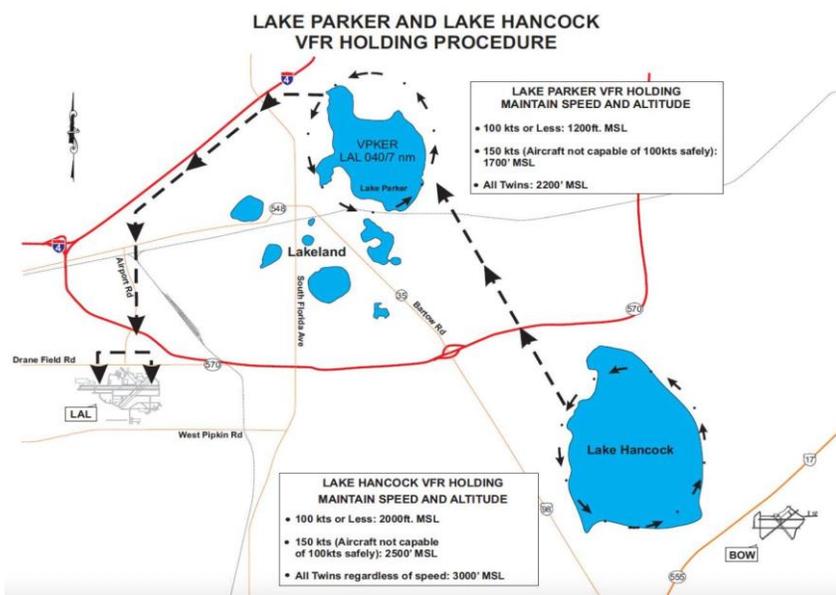
Stockton, CA (SCK) Aviation Taxilanes Rehabilitation Project Notice Number: NOTC2307

On March 21, 2022, work will begin on a \$9.2 million construction project to rehabilitate part of the General Aviation Taxilanes Area at Stockton Metropolitan Airport (SCK). The existing asphalt is showing signs of distress and failure and a reconstruction of the full-strength pavement accompanied by a rehabilitation of the surrounding areas is necessary to mitigate FOD and extend the life of the pavement.

Please refer to attachment for additional details of the Taxilane Rehabilitation Project.

[https://www.faa.gov/files/notices/2022/Mar/SCK_General_Aviation_Taxilanes_Rehabilitation_Project_Flyer_for_FAAST_Blast_rev_\(1\).pdf](https://www.faa.gov/files/notices/2022/Mar/SCK_General_Aviation_Taxilanes_Rehabilitation_Project_Flyer_for_FAAST_Blast_rev_(1).pdf)

The FAA has released the NOTAM for [#SNF22!](#) Get it on our website at <https://flysnf.org/.../plan-your-trip/flyinginformation/>



Ann Shaw Carter received her helicopter license in 1947 in a Bell Model 47B, becoming the nation's first female commercial helicopter pilot. She was hired as a pilot for the Metropolitan Aviation Corporation, one of the first passenger helicopter services in the country, and flew sightseeing flights around New York City and

charter trips to nearby communities. She was one of the



first members of the Whirly Girls, an international organization of women helicopter pilots, where she was known as "Whirly Girl #2."

Pleasant Grove HS Aviation Club Rib Build 44" wood ribs

I have 4 complete rib jig stations including mini-miter boxes, razor saws, sanding blocks, sheers. For continued service >>> I am looking for 1/4" square stock source - some 48" long.



StratoLaunch flight test # 4 - https://www.youtube.com/watch?v=i5sebur_1ok

Kermit Weeks..... <https://fb.watch/bl0CHD20iq/>

Some excellent UL webinars were presented by EAA during UL week 22-25 Feb. . Look forward to seeing them in the video archives section of the EAA.org website. Upper tool bar – News and Media

Humboldt FBO and Airports.... <https://www.flyingmag.com/pilots-accuse-california-county-of-neglecting-airport-while-asking-for-massive-rent-increase/?fbclid=IwAR3xThld5fjERvTw9HgP4XXTzd5q5nOKJ6zSRiVXg8kcOtJoGChnZcftvbY>

Note from National.....

Reminder about EAA dues increase ...

Effective 01 May 2022, EAA National dues will increase for the first time in 24 years, with individual membership going from \$40.00 to \$48.00. However, EAA National is offering memberships the opportunity to renew at the current rates and lock in savings for the future. If you renew your membership before 01 May 2022, you can:

- Save \$8.00 on an individual, one-year membership (total cost of \$40.00).
- Save \$45.00 on an individual, three-year membership (total cost of \$99.00).
- Save \$81.00 on an individual, five-year membership (total cost of \$159.00).

Members that renew before 01 May 2022, will have their membership extended by the length of the term selected, regardless of their expiration date.

From the Internet.....

E-Aircraft – Tony Williams

I hope to see many of you at Oshkosh 2022, where I will be giving a talk on electric powered aircraft (as I did in 2021). I like to tell everybody that we are just one major metric away from ubiquitous electric powered personal aircraft.

That metric is battery energy density (specific energy), normally referred to in units of watt-hours per kilogram of mass (wh/kg). For the sake of commonality with electric powered cars, where this technology will be optimized, we will use units of 1000 wh/kg, or kWh/kg.

The typical Tesla car has a battery cell energy density of approximately 0.250 kWh/kg. Tesla is a worldwide leading company in advanced electric vehicles. That means that the 100 kWh battery in the Tesla Model S or X has a weight of 400 kg (880 pounds) of battery cells (100 kWh divided by 0.250 equals 400 kg of battery cells).

$$100 / 0.250 = 400$$

In addition, there are hardware bits that are required for the battery, notably a cooling system and its coolant, bus bars, switches (contactors), fire suppression, “G” switches, electronics for a Battery Management System (BMS), and of course, some type of battery container.

A car needs a battery container that is robust enough to handle severe impacts from crashes, while an aircraft does not. Let’s say that a car battery has a 20% weight penalty for its battery hardware, and an optimized aircraft battery design might only have a 15% penalty for the same hardware.

In addition, the battery can only use about 97% of the total capacity of the cells, so there’s a 3% penalty of additional cells required to reach the usable battery capacity. For example, a Tesla battery with 100 kWh of usable capacity needs 103 kWh of actual battery cells.

So, how much battery energy density is required for a practical 4 seat 200 hp (150 kW) aircraft that can fly about 3 hours? Using 75% of the rated power of 150 kW equals 112.5 kW of power. There’s another metric to consider, and that is the 90% efficiency of the motor and inverter assembly., so we need 111% of that power, or 125 kW.

Over 3 hours of flying, plus the typical regulatory requirement of 45 minutes of reserve energy at cruise power requires 469 kWh of usable energy, plus 3% of unusable battery cells equals 483 kWh of total battery energy.

Using our weight metric of 0.250 kWh/kg, that 483 kWh battery weighs 1932 kg (4250 pounds), plus

15% for ancillary bits equals 4888 pounds battery weight.

Using a 4 times multiple of 1.000 kWh/kg battery density for a 483 kWh battery equals just 483 kg (1063 pounds), plus 15% for ancillary bits equals 556 kg (1223 pounds).

The electric motor and inverter assembly might only weigh 68 kg (150 pounds), therefore the entire conversion from a petroleum powered aircraft in this example is 624 kg (1373 pounds).

GASOLINE POWERED AIRPLANE

Compare that to the petroleum powered 200 hp engine with all accessories at about 227 kg (500 pounds), and 50 US gallons of gasoline is about 136 kg (300 pounds), for a total of 363 kg (800 pounds)

So, carrying only two people instead of four people is possible with the 1.000 kWh/kg battery cell energy density, or 4 people and less endurance with a physically smaller capacity battery, or a lighter battery (higher battery energy density above 1.000 kWh/kg).

I expect us to reach that energy density with a viable battery (that can be recharged repeatedly without serious degradation) within the next 20-30 years.

In the interim, a reasonable combination of batteries with a cell energy to weight density of 0.250-0.500 kWh/kg with the addition of some type of lightweight electrical generator (turbine APU?) will needed to be employed in a hybrid arrangement.

Once those higher energy density batteries arrive, we will then need electric vehicle recharging infrastructure at 10,000 airports across the USA, and that is likely a bigger challenge than building electric powered aircraft in the future.

FAA Hot Spots About to Sizzle....

Hot spot identification is essential for pilots, particularly during preflight planning and while taxiing on airport surfaces. However, hot spots are currently depicted in a variety of shapes with no particular meaning. Well, that's about to change! On May 19, hot spots on the FAA's aeronautical charts and publications will have three shapes with two distinct meanings. Circles and ellipses will depict ground movement surface safety risk areas like taxiway/runway configurations and intersections. A cylinder will be used to highlight runway confusion areas, mitigating wrong surface event risk areas such as offset parallel runways.

A new visual enhancement tool will help pilots with runway confusion at certain airport locations.

These new Arrival Alert Notices offer a visual aid to pilots to enhance situational awareness when a Wrong Surface Hot Spot related to Arrivals is identified.

Check out the National Association of Flight Instructors (NAFI) MentorLive! Webinar on March 16 to learn more about standardized hot spot symbology and the new Arrival Alert Notice. To register and get WINGS credit, go to www.mentorlive.site/program/54.html.

6 Tips for Winning Aviation Scholarships

Plenty of aviation scholarships are out there if you know where to look and if you know what decision makers want and don't want.

<https://www.flyingmag.com/tips-for-winning-aviation-scholarships/?fbclid=IwAR3-gvW0yL-KgjzfMpREUvbM4bLStOeELw4dtpCgimh3yZPI4xz91GDOdo>

THE LAST OF THE LEARJETS. The final production Learjet had its factory test flight today. The iconic small jet was the first civilian jet to enter the burgeoning market for business aircraft to replace the aging fleet of WWII airplanes. The first production Learjet first flew on October 7, 1963. The last production Learjet flew its first flight today. That's a production run of 58 years, 5 months! Few products of any kind achieve that landmark.



Regional Events

FlyIn- Dine In Events

Placerville EAA – First Saturday Pancakes

Sutter County Airport – Cheese Steaks and Fly In - First Saturday

Watts-Woodland Fly In and Drive In 3rd Sat

California Capitol AirShow - **October 1-2**

Confirm with events contact pages to see if restrictions/cancellations are in effect based on weather and COVID regulations.

Flying With Nick...

Flying is something that I have wanted to do since I was a young kid. I have always had a passion for flying and everything that goes along with it. The airports, the planes, ATC. All of it. And now I can fly. My first flight is Tuesday 3/29/2022. I can't wait. I finally get to be in the flight deck of a Cessna 152 flying. A real dream is coming true.

As for how I see my self in 10 years, that's hopefully as an airline pilot flying all the time taking passengers to their destinations safely and efficiently. That's all for now. I will keep you all updated on my journey into the amazing world of Aviation.

Nicholas Theodorovic



NorCal Regional Ray Scholars Gathering EAA Youth Flight And Fly-In!



June 18, 2022 9am-2pm
Davis Woodland (Yolo) Airport – KDWA
24893 Aviation Ave, Davis, CA 95616

<https://chapters.eaa.org/ea52/ray-aviation-scholarship>

**Calling All Ray Scholars, Aspiring Ray Scholars, Ray Pilots
-EAA Chapters, and ALL OTHERS INTERESTED!**



Pancake Breakfast – Flying – Friends – Resources

Kids will:

- Meet fellow Ray Scholars
- Make Friends for Life
- Learn about Flight Training and Career Resources
- FLY! – Ray Alum Pilots will fly aspiring Ray Scholars!

Chapters will:

- Review Ray Program Rules, Procedures, and Best Practices
- Share Ray Chapter Application Examples
- Share/Discuss Flight Training Resources
- Review external funding options for 50/50 Match Program
- Explore Fund Raising Resources and Programs
- Learn EAA Chapter Associated Flying and Flight Training Clubs
- Initiate inter-chapter activities and projects!



Contact: Owen Hughes – EAA 52 Ray Coordinator Email: osprey220@yahoo.com
VAA 25 Phone/Txt: 530.761.8293

Chapter 52 2022 Events / Important Dates.

This is a working doc and we will add events throughout the year.

January

11 Jan, Board Meeting @ 7:00 PM
25 Jan, General Meeting @ 7:00 PM

July

10 July, Pancake Breakfast @ KDWA
12 July, Board Meeting @ 7:00 PM
No General Meeting: AirVenture22

February

8 Feb, Board Meeting @7:00 PM
22 Feb, General Meeting @ 7:00 PM

March

8 March, Board Meeting @7:00 PM
13 March, KDWA Hangar Clean
29 March, Membership @ 7:00 PM
Pot Luck gathering? 26 March?

April

10 April, Pancake Breakfast @ KDWA
12 April, Board Meeting @ 7:00 PM
26 April, General Meeting @ 7:00 PM

May

8 May, Pancake Breakfast @ KDWA
10 May, Board Meeting @ 7:00 PM
31 May, General Meeting @ 7:00 PM

June

12 June, Pancake Breakfast @ KDWA
14 June, Board Meeting @ 7:00 PM
28 June, General Meeting @ 7:00 PM

August

9 Aug, Board Meeting @ 7:00 PM
14 Aug, Pancake Breakfast @ KDWA
30 Aug, General Meeting

September

11 Sept, Pancake Breakfast @ KDWA
13 Sept, Board Meeting @ 7:00 PM
27 Sept General Meeting @ 7:00 PM

October

1-2 October Cal Capitol AirShow
9 Oct, Pancake Breakfast @ KDWA
11 Oct, Board Meeting @ 7:00 PM
25 October General Meeting @ 7:00 PM

November

8 Nov, Board Meeting @ 7:00 PM
29 Nov General Meeting @ 7:00 PM

December

3 Dec, Christmas Dinner @ KSAC
13 Dec, Board Meeting @ 7:00 PM
No General Meeting for Dec

For Sale

Bendix AV8OR GPS - \$25 –
see jim Heffelfinger

Kuntzleman - DOUBLE DUAL
MAGNUM –SYSTEM 12 volt
Model with Driver and Two
STANDARD STREAMLINE
Heads – New in Box - \$100.
jimheffelfinger@gmail.com

Giving away a mid-tower
PC

The screenshot shows the Quicksilver Aircraft website. The header includes the logo and navigation links: Home, Ready To Fly, Build & Fly, Gallery, Owners, About, Contact, and Buy Quicksilver. The main content area features the text: "ARE YOU INTERESTED IN PRODUCING AND SELLING THE LEGENDARY QUICKS AIRCRAFT?" and "ARE YOU INTERESTED IN OWNING THIS BRAND?". Below this, it states: "Quicksilver is looking for a buyer for its intellectual property: designs, blue prints, certificated marketing materials, molds, etc." and provides contact information: "If you are interested contact: will.escutia@qsair.com dan.perez@qsair.com".

MB: ASUS 88 GPU on board gpu R7, RAM: 16 GB DDR3, HD/SSD– none, slots for 4 drives
PS: 400 w , Disc media drive– None– empty bay. Jim Heffelfinger jimheffelfinger@gmail.com

Watts-Woodland Airport, Inc.
Circa 1919

**Monthly
Meet & Greet**

12-18-2021



Welcome to our breakfast Kick-Off!

Future 2022 Dates:

1/15, 2/19, 3/19, 4/16, 5/21, 6/18, 7/16, 8/20, 9/17, 10/15, 11/19, 12/17

Breakfast

8:00 - 12:00

Suggested Donation:

\$15

Menu:

Pancakes + Butter/Syrup

Scrambled Eggs

Skillet Potatoes Medley

Sausage

Orange Juice

Coffee & Hot Chocolate

All Donated Funds are used entirely by

*The Woodland Sunrise Rotary Foundation to provide financial support
in the ongoing effort to eradicate Polio worldwide.*

Published Food safety standards and guidelines are followed and practiced to help ensure health and safety for all. However, meat food products, eggs and dairy all have the potential risk for foodborne illness - participants that partake in this free breakfast do so at their own risk.



Rotary Club of Woodland Sunrise



Be first to identify March Mystery Airplane by emailing chapter52.news@gmail.com



Last month's mystery plane _ Bruster "Buffalo" F2A-3

First ID – Jamie

Stowell - Congrats !!





Countries that DON'T use the metric system- in red

A little congrats to Mr. Popejoy



THE Last Page.....

FROM THE EDITOR(s)

We are trying several different formats for the newsletter – feedback would be appreciated!

If you would like to contribute a story or news article it would be great. All submissions should be emailed to no later than the 15th of the month. Remember if you submit an article from a publication;

EAA Chapter 52 Sacramento
Membership Application

2022 Dues are \$30
Mail to : EAA Chapter 52,
PO Box 15743,
Sacramento, CA 95852-5743



Full Name _____ Date _____
Mailing Address _____
Names of family members _____
Email Address _____
EAA National Membership Number _____ (Chapter charter requires National Membership)
Have you been/ are a member of another EAA Chapter ? _____
What brings you to Chapter 52? _____
What elements of aviation interest you? _____
What chapter elements might you be interested in? _____

Chapter 52, like all chapters, is looking for skills/ talent to support the chapter activities. What are you willing to do to support the chapter? Circle all that apply: Leadership, committee chair, youth outreach/mentor, social media, aircraft building skills, breakfast cooks, flight training/support, facility maintenance, social activities, newsletter. ? _____

Comments/ additional information _____

Internal use only

Treasurer _____
Membership _____ emailing list/newsletter _____
VP/PP _____ Mentor assigned _____
Committee _____ Comments _____

please include the name and date of publication so that proper credit can be given. Chapter52.news@gmail.com.

IF YOUR MEMBERSHIP HAS LAPSED let me encourage you to re-engage! We miss you and your involvement in Chapter 52!

If you would prefer to be removed from our mailing list, just drop an email to Chapter52.news@gmail.com requesting to be unsubscribed and we will do so promptly.

If there is anything you wish to be mentioned in the Wing Flap email both these emails-- to
Chapter52.news@gmail.com
nicktheodorovic2406@gmail.com

BOARD MEETING

2nd Tuesday of each month

7PM-9

Zoom

Meeting ID:

858 9594 7691

Passcode: 63860

*(Interested members
always welcome!)*

CHAPTER 52 MEMBERSHIP MEETING

Last Tuesday of each month

7:00 PM – 9PM

Zoom

<https://us02web.zoom.us/j/86295420288?pwd=ZzFxeXNRU0NZZWRRRL0pmbHBfYjJXQT09>

Meeting ID: 862 9542 0288

Passcode: EAA52

Leadership Contacts: EAA Chapter 52, PO Box 15743 , Sacramento, CA 95852-5743

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Webpage	TBD	