Wing Flap

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

Experimental Aircraft Association

52 EAA SACRAMENTO

FROM The Left Seat - Gill Wright

FROM The Right Seat - Jim Hefelfinger

As I write this our first pancake breakfast is about to happen. I am out of town with the grands during their Spring Break, so I hope all had a great time and the turnout was terrific.

I know this might be way ahead for most of you, but it needs to be addressed now, so the chapter can progress with a plan. The 2023 board will be very different from the last few years and will need members to step up for leadership positions. I will be stepping away from Tier 1 leadership taking a focused roll in outreach as a board member at large. Todd Ballou noted he will be stepping down as treasurer (great job Todd Thanks), membership looks like Thom Taylor will be stepping in this year but with Roberta passing last month he may have a redirect in his life. Owen Hughes has taken a job (about time) based in Cincinnati, OH that might or might not have him local. My guess it might be a hybrid. There could be more movement within the board, but this is the current information I have. That is 3 of the 7 positions perhaps 4. Gil has done a remarkable job, but I know he is stretched between multiple roles and tasks. Asking him to do another year is selfish of us. Consider taking on a role – training provided. Oh, and we need a web editor too. Training also provided.

The chapter membership roster has been in flux the last few years and the pandemic just acerbated the need for a complete tune up. So, even if you have already paid and submitted a current application or are a life member of the chapter, please take a few minutes to resubmit.

At the end of this newsletter is a membership application. Please fill it out and either mail or send jpg [photo] of the form to this email address. Life members please note this in the "Notes" section of the form. Those who have not renewed for 2022 please note this as well and forward your check to the PO Box on the form or pay at our next pancake breakfast. Thanks from the Right Seat .

Jim Heffelfinger

A note from Nick and Lila

Hello,

In the last two months I have been fortunate enough to experience some genuinely amazing flights, with the assistance of my flight instructor Stan Lawrence. I was able to complete my 4th supervised solo, which was originally intended to take place at KSAC, but due to weather conditions ended up taking place at Rio Linda, University, and Executive. I believe we did four landings that day! It was unexpected, but very enjoyable. On March 17, I was also able to complete my first cross country flight. Stan and I went to Calaveras, Westover, Placerville, Auburn, Lincoln, Rio Linda, and back to Executive. It was definitely memorable, and I look forward to doing many more in the near future. On April 9, Stan took me on an flight up to Rio Vista. The wind was quite strong and gusty that day, so I got to practice crosswind landings. Stan also had me use the foggles for the first time, which I unexpectedly found to be quite fun. We also did a few unusual altitude recovery's with the foggles on. I am continuing to study for my written test, which I plan to take in the upcoming weeks.

Respectfully,
Lilah Harris

Hey!

These past 2 months have been a massive whirlwind for me. On Tuesday March 29 I has my first ever flight in a GA aircraft. It was everything I hoped it was and more. First, I did the all-important preflight walk and inspection. Then we were off. My instructor and I taxied over to MCC Jet Services to fuel up before enduring on greatest adventure of my life. Once we got fuel, my instructor took off and he almost immediately gave me the controls to climb to 3500 ft. and fly a heading of 060 to then later fly over Folsom Lake. Shortly after we began to flyover the lake, he had me do some steep turns and regular turns. I loved it. Then he showed me a stall. That was the most exhilarating thing I have felt, to just fall out of the sky was something else. After that, we flew back to KMCC and we did 3 landings and 2 takeoffs in the pattern. This flight has made me want to fly every day for the rest of my life, hopefully I can reach that goal.

Fly high,
Nicholas Theodorovic

FROM Owen Hughes

Joe Cool

By Owen Hughes

Yes, yes, yes… I know you have all been missing my monthly articles. So back by popular demand, this month – with our first few 90+ degree days of the year behind us – I present a home building tip to make you Joe Cool...

We live in an amazing place for flying. We enjoy a remarkably freedom to take to the skies in the United States – a freedom that is sadly uncommon throughout the world. And within the United States, we are particularly fortunate to delight in California's astounding natural beauty and aspiring topography.

We are blessed with a remarkably high number of VFR days, and better yet our weather is rarely insidious. Its either flyable, or its not. Fog may keep us on the ground, or send us to alternate airports. However, in much of the rest of the US, descending ceilings, encircling thunderstorms, and becoming trapped above clouds (VFR on Top) can make flying a puckering experience.

While we are spared these treacherous skies, heat can be an extreme issue for us. We are trained to consider heat's effect on density altitude and aircraft performance. A 100F day at KSAC has your airplane performing like its over 2,700 ft – noticeable but do-able. But when you get up to Truckee, your plane performs like it is at over 12,000 feet! More than a few unfortunate soles have perished expecting to climb the 3,000 more feet you need out of Truckee to avoid meeting the dreaded cumulogranite.

To remind pilots of the danger, some high altitude airports have a density altitude reports on their AWOS and even on runway signs.

Heat – an underestimated danger: We are trained to consider temperature's effect on aircraft performance. We forget that it also has serious effects not just on our comfort, but also on our performance. Thermal stress on pilots affects our biology, our cognition, and ultimately/critically our performance. The central nervous system is susceptible to impairment if it's temperature is raised which can cause problems with memory, attention, vigilance, reasoning, decision making and dexterity. Reflex rates start to decrease above 85F and can be reduced by more than 50% above 100F! Worse, sustained temperatures above 110F carry serious risk of heat exhaustion, heatstroke and loss of consciousness. These issues all clearly reduce the ability of a pilot to fly safely – and the problem is even worse under the bubble type canopies common on our homebuilt aircraft. We *are* the dogs left in closed a baking vehicles! Our flying greenhouses often leave us feeling like a bug in the sun under some psychopath's magnifying glass!

So how is Joe to keep his Cool? There are aircraft based air-conditioning systems available – but their costs and weight are usually prohibitive. The lightest uncertified systems weight 50 to 75 lbs, cost about $20,000, and draw 65 amps at 28Volts. Certified systems are even heavier and more expensive. If that's in your budget, these systems do an ok job for two people if you first pre-cool the cockpit using ground power.

If your budget and airplane is not quite so robust, you could try cheaping out with an ice chest modified with a blower. You can homebrew an ice-chest cooler, or purchase one for ~$500. But these ice-chest coolers provide a fairly weak and very temporary stream of cool air, occupy a lot of space, and weigh 30-50lbs.

Additionally, while their anemic cool air streams can be adjusted to blow on the pilot, the vast majority of their BTU's end up attempting to cool everything else including all the air in the plane – and even the plane! – a loosing proposition when all the cooling BTU's available derive from a few measly pounds of ice. Even if this is an inadequate solution, when you have 110+ degree temperatures in the cockpit, even a bit of cool helps!

We need something that effectively cools pilots and passengers, weights only a few pounds, lasts as long as the flight, and isn't too expensive. "Impossible!" you heatedly scream!

Well Chill-Out! We can take a lesson from race car drivers. Just like California pilots, race car drivers have to endure extreme heat without letting it impact their reflexes and performance. The solution racers have adopted is actively cooled garments. Specifically, they use shirts with cooling tubes. Cold water is pumped through these tubes stitched into the cooling shirts. Cooling the water can be achieved again *via* ice chests, but now almost all the cooling BTU's are transferred directly to the person. Cool Shirt Systems is one of the suppliers for these cooling systems – and a full system costs between $700 and $1,400.

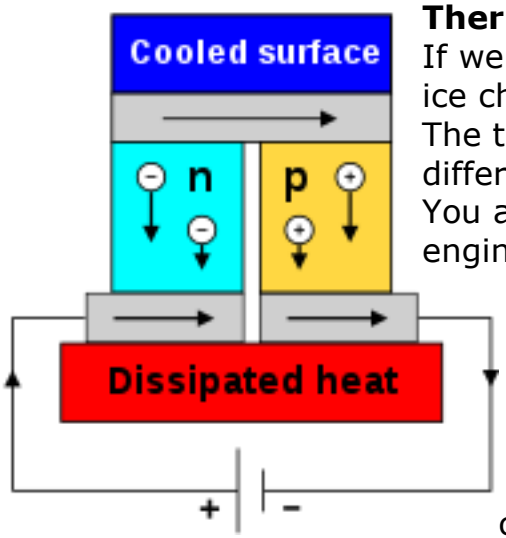
Similar systems have become common treatment options for athletes, patients, physical therapy, and have made their way into systems to cool soldiers in the middle east and fighter pilots. But "hey" you say! $700? Still pretty pricey. Any other good ideas? Well, if you are just going too stick with the Ice Chest for cooling, why not

wear it and forget about all the silly tubes? Wear it??? Yes, for about $70 you can wear your quite literal Ice Chest!

Jeez! I thought this was going to be cool. Now I look like some wannabe super-hero idiot in a Mr. Freeze outfit! And on the technical side, we are still working with the very BTU limitations and excess weight of an ice chest.

Homebuilder Super Geek to the Rescue!

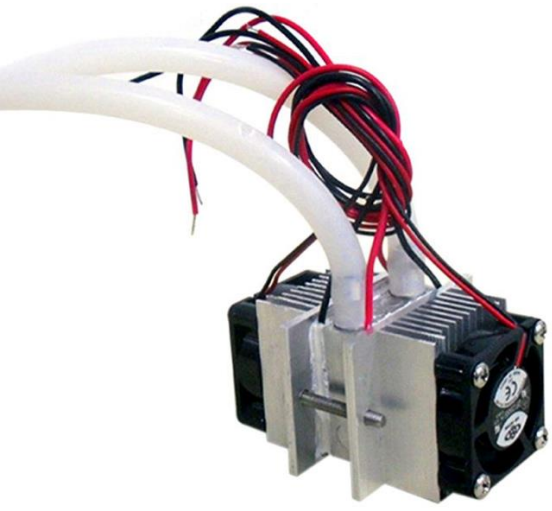
I wanted to scrounge together something to help keep me comfortable, safe – maybe even make something cool and new under the sun.

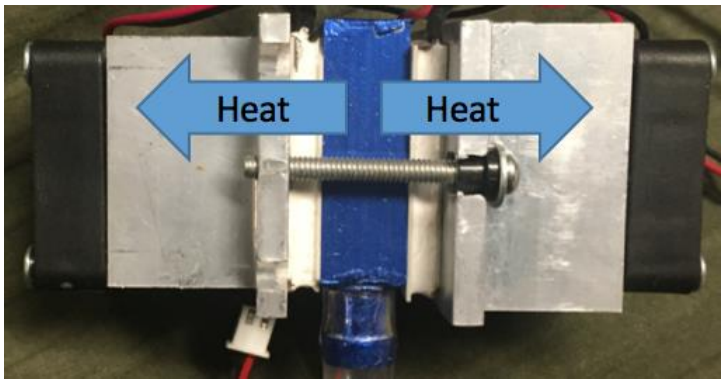


Thermoelectric Effect

If we need cooling for a long summer day of flying, relying on an ice chest isn't going to be sufficient – lets try something different. The thermoelectric effect is the direct conversion of temperature differences to electric voltage and vice versa via a thermocouple. You are probably familiar with the thermocouple probe on your engine (or you home thermostat), that generates a small voltage with heat transfer across it – and it is used by your engine instruments to measure its temperature. Well, one of the beauties of nature is that almost everything in physics is reversible. It turns out that if you drive a voltage across a thermocouple, you can drive heat transfer! At the atomic scale, an applied temperature gradient causes charge carriers in the material to diffuse from the hot side to the cold side – or if you are driving the thermoelectric chip with a voltage, then you are drive heat from one side to the other. Apply a voltage and one side of the thermocouple gets hot, and the other side gets cold. Wow! So now we have a potential mechanism to chill the water flowing through a cooling shirt without the need of an ice chest.

A little bit of scrounging around Ebay or Aliexpress and voila! You can purchase a fan/heat sink/ thermoelectric chip / liquid heat transfer bock assembly for ~$12!



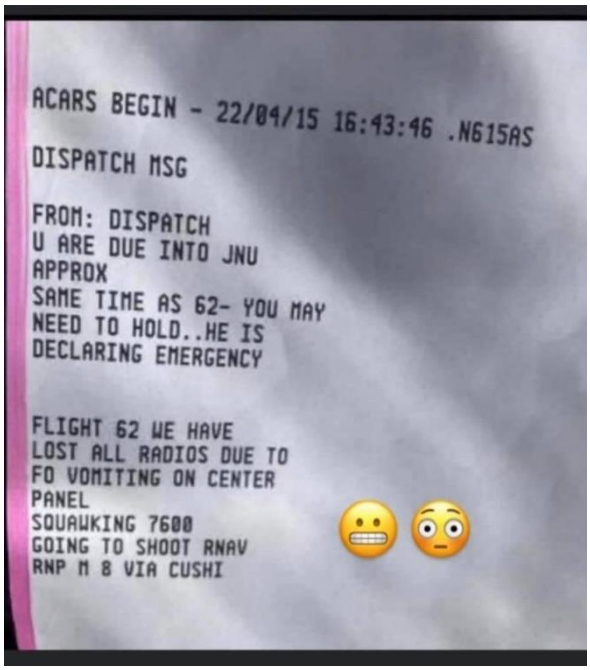


Next, we need to buy or make a cooling shirt. This is a little more difficult. Even used, the Cool Shirt Systems shirts or vests cost over $100 on Ebay. I was about to try my hand at stitching tubes onto a shirt when I found something extra ordinary. There are military surplus cooling vests you can purchase for ~$25. These are built with the highest quality components including fireproof Nomex fabric and quick tube disconnects. Finally, we finish the system with a small $5 12V pump (also from Ebay). The result is a system that quickly cools to a very comfortable 65F and will continue to provide that cooling for as long as you provide ~5 amps of 12V electricity. The complete $42, 3lb system looks a little like this:

I'll mount the chiller close to the air exit since it dumps a fair amount of heat into the air. Wearing the cooling vest, you'll climb into the airplane, connect the no-leak quick disconnect tubes, switch on the system, and chill. Pretty cool hu?

"Building a Cozy Canard" Presentation

New EAA Chapter 52 Member Mark Reiger will give a short presentation on his Cozy MIV – a four place variation of the Long-Eze. Mark has recently completed his Cozy. It usually lives in a hangar at Watts-Woodland Airport, but for some portion of its Phase I flight test it will be residing in EAA Chapter 52's hangar. This is fantastic, as the chapter hangar is intended for the completion and flight testing of member's aircraft. The 6,035' runway, a flat rural setting, and an on-site emergency response facility makes Yolo (KDWA) one of the best flight testing facilities around. Its been more than a little while since the hangar was used for its intended purpose. Come hear about the construction and characteristics of this remarkable airplane.



^^ACARS REPORT^^

Join the EAA Chapter 52 General Meeting April 26th at 7pm using the following link:
https://us02web.zoom.us/j/86295420288?pwd=ZzFxeXNRU0NZZWRRL0pmbHBFYjJXQT09

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

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 0f $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.

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-KgjfzfMpREUvbM4bLStOeELw4dtpCgimh3yZPl4xz91GDOdo

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.

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/eaa52/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!

Chapter 52 2022 Events / Important Dates.

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

July

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

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

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
18 June – Ray Scholars Gathering
28 June, 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
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

A Davenport-based company has started clearing ground in Rock Island for what it hopes will become the nation's first vertical take-off and landing facility for battery-powered aircraft.
Jake Pautsch, President and CEO of DIFCO, Inc., said site preparation had begun at 3050 3rd Ave. in Rock Island for the construction of an electric Vertical Take Off and Landing (eVTOL) aerial facility.
You can read more here: https://qctimes.com/.../article_71b430ac-b728-50b8-8e3b...

US Mail Arrows—

Back in the 1920s, the U.S. government built hundreds of large, concrete arrows across the country. The purpose of the arrows was to provide guidance for pilots who were pioneering the country's airmail system.
https://www.youtube.com/watch?v=-DfzbnW2DTI]

Early airmail pilots used a series of arrows and beacons to navigate the night sky long before radio navigation was introduced.
https://www.youtube.com/watch?v=0ERdOiVAUtU

YOUTUBE.COM
The story behind the large concrete arrows scattered across Utah
Back in the 1920s, the U.S. government built hundreds of large, concrete arrows across the country. T

Pipistrel Builds Electric Airplanes--

Insite on the Electro – Alpha from 2019.

https://www.youtube.com/watch?v=qfjCXDf9rhk&t=2s

The Hidden Airport Crisis in SoCal: How One Airport Closure Is Creating Major Problems.

'Santa Monica did the most selfish thing possible and decided to close it and screw over everyone else'

https://californiaglobe.com/.../the-hidden-airport.../

Hawk--

One of the ground-breaking designs in light aviation was the CGS Hawk, which emerged on the market precisely the same year as Part 103. This remains aviation's most free powered aircraft sector and has generated similar programs in several other countries. This article describes the restoration effort for Hawk #1.

https://bydanjohnson.com/return-to-ultralight-glory-a-one-of-a-kind-cgs-hawk-receives-a-special-honor/?fbclid=IwAR1ppmdeml9CZEX59klrLqnLUoi2I6seovv2Wd77gbAykaRG8U98qyg8_r4

FAA Safety BRIEFING
The FAA Safety Policy Voice of Non-commercial General Aviation

Why Do Good People Violate Procedures?

A Common Sense Look at Why Some Mechanics Are Prone to Bend the Rules

By Guy Minor, National FAA Safety Team

One weekend on a revenue flight, an aircraft enters a fog bank at a very low altitude. The pilot begins an immediate 180-degree turn to exit the fog. During the turn, the aircraft descends into the water and lands hard. Fortunately, the accident does not hurt anyone and just damages a very expensive turbine-powered floatplane.

Later, the operator sends a maintenance crew out to inspect the aircraft. They find the engine undamaged, but the impact has bent the fuselage. What to do? The crew is standing on the floats of a $1.5 million aircraft, bobbing about in the water. They understand it is against the rule to fly a damaged aircraft, but they also have the expertise to know the aircraft is safe to fly. They do not want to risk anchoring the aircraft overnight or tying it up to a stranger's dock. Disassembling it will take too long, and transporting the aircraft by ground will most certainly damage it even more.

Procedure violation is not really about being a bad person. Reality is much more complex than that.

It will be dark soon, and a ferry permit takes time to negotiate, so it will delay their recovery. After all, it's just a piece of paper, right? Its only purpose is to ensure that someone with expertise certifies the aircraft is in a safe condition to make the intended flight. With all this in mind, the team makes the decision to fly the aircraft home.

Later, when inspectors arrive to investigate the accident, they are surprised to find the aircraft at its base, safely in a hangar. You can imagine the conversation. Where was the accident? It happened out in the water. How did the aircraft get back home? We flew it back. You flew a damaged aircraft? May we see the ferry permit? You get the idea.

In a study called "Bending the Rules: Managing Violation in the Workplace," Patrick Hudson, et al. (2005) points out that most people seem compliant, but they are willing to violate. He also identified four indicators of violation from his research on rule violation by offshore oil drilling crews: 1) expectation that the rules will have to be bent to get the work done, 2) the feeling that one has the ability and experience to do the job without slavishly following the procedures, 3) seeing opportunities for short cuts or to do things better, and 4) inadequate advance preparation, leading to working on the fly and solving problems as they arise.

So how do these four principles apply to the story of the floatplane? Did the recovery crew feel that bending the rules was required to get the job done? Probably, since it would have taken more time than they had available to wait for the permit. Waiting for a ferry permit would have delayed the work until it was too dark to use anyway. The problem was that even though they had made decisions based on the information at hand, in hindsight, they had not planned well prior to departing home base.

Put yourself in their shoes. Events tend to unfold one small piece of information at a time. More than likely, the indications prior to departing to inspect the aircraft were that the accident had damaged the aircraft too much for it to be ferried, so it is understandable why they did not obtain a ferry permit before departing. They were under intense pressure to get the aircraft to safety. The aircraft was too valuable to allow it to spend the night on the water. It was also much quicker to fly the aircraft home than disassembling it and trucking it home. This plan avoided the damage caused by transporting the plane by ground. The aircraft would be back flying its route in days, not weeks or months. This maintenance crew is the best floatplane crew in the world.

They certainly possess the expertise to know if an aircraft is safe for a ferry flight. The outcome of the situation is that they were right; the aircraft

did make it home uneventfully, just not legally.

Why Good People Do Wrong Things

Understanding why good people violate procedures is the first step to understanding what to do to prevent it. British psychologist James Reason divides unsafe acts into two categories: errors and violations. The prevailing doctrine in our industry is that the main difference between error and violation is intent. People do not intend to err, but violations are intentional. This makes the decision to violate a matter of choice, and if it is a matter of choice, then we must take responsibility for our choices. Since violating is very dangerous, we naturally attribute violation to the aviator's lack of character. Good guys and bad guys. Is it really that simple, though?

Certainly, there are people in aviation who are less than ethical. However, it is a pathological person who would think, "I'm going to set out today to make a mistake that will hurt customers or damage equipment. Maybe I'll ruin my career or kill myself today." People just do not think like that. When presented with a list of options, they struggle to pick the best one every time. For that reason, procedure violation is not really about being a bad person. Reality is much more complex than that. It is an uncomfortable fact that the last people you would ever expect to violate the rules, people who are hard-working, loyal, sharp technicians are the ones who commit the most violations.

We tend to avoid discussing the organizational conditions promoting violations. It is more common to attribute the source of violations to the violator's lack of character. This point of view ignores the possibility of violations that are more or less well intended, i.e., violations committed out of necessity or under pressure. Many of the same conditions that cause mistakes also cause violations, conditions such as low assertiveness, poor planning, lack of resources, poorly written procedures, poorly trained procedures, the list goes on.

FAA photo by Paul Cianciolo

Violating with Good Outcome

Situations such as the floatplane accident are far more common than we care to admit. The maintenance technician's world involves the expectation to "follow the rule to the letter, but use your common sense." New technicians who try to follow procedures learn very quickly that they need to use common sense and sometimes trade ethics for efficiency, or they will face frustrated managers who view them as inefficient, unproductive, and subject to termination. If the outcome of any particular task is good, managers and peers praise violating technicians as creative, efficient, and productive. However, if the task has a tragic outcome, the technician is a rule-breaker, negligent, and culpable.

We cannot as an industry change for the better if we continue to relegate violation to the shadow world. We need to drag it out where we can see it and deal with it. It is time to discuss violations openly. It is time to acknowledge that violators are not a criminal class. It is time to understand the systemic pressures that influence good people to violate and teach managers to control and recognize these pressures.

So what is the solution? How do we control organizational conditions that influence unsafe acts? Sanne and Dekker point the way.

"We can make progress on safety once we acknowledge that people themselves create it, and we begin to understand how. Safety is not inherently built into systems or introduced via isolated technical or procedural fixes. Safety is something that people create, at all levels of an operational organization … Safety is the emergent property of a system of people who invest in their awareness of potential pathways to breakdown and devise strategies that help forestall failure."

Managers are most in control of the organizational conditions that influence unsafe acts, so it would be helpful for aviation managers to be good managers. The focus of aviation maintenance technician schools is to prepare students to be technical experts, not managers or leaders. The typical floor mechanic learns leadership from their parents, sports programs in school, scouting, and of course, supervisors they have known. Some of this training is good; some not so much.

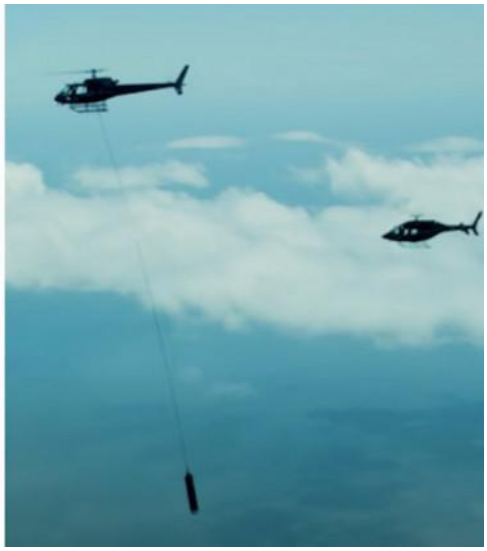
Perhaps after their technical training, we should teach maintenance technicians, who are already technical experts, the non-technical skills they need to create safety and reduce unsafe acts. Mechanics need leadership skills such as assertiveness, planning, time management, business writing, public speaking, safety ethics, and labor law, to mention just a few helpful topics. Teaching these non-technical skills along with the more technical skills such as safety management systems, human error fundamentals, and performance rules would help equip managers to operate with more confidence and assertiveness in the boardroom and on the shop floor.

Guy Minor is an FAA aviation safety inspector and FAA Safety Team airworthiness program manager.

INNOVATION

Rocket Lab will soon catch a booster out of the sky with a Sikorsky-92 helicopter

"We're absolutely threading the needle here." By Chris Young Apr 07, 2022



https://www.youtube.com/watch?v=enndCzvZpZk&t=1s

The "Return to Sender" booster recovery rehearsal. Rocket Lab/YouTube

New Zealand and U.S.-based Rocket Lab will perform its first fully operational reusable spaceflight for its upcoming mission called "There and Back Again".

The company will use a helicopter to catch its Electron booster out of the sky as it glides down to Earth with the aid of a parachute, a press statement reveals.

The mission will deliver 34 small commercial satellites to orbit, with the launch currently scheduled for April 19 from Rocket Lab's Pad A at Launch Complex 1 on New Zealand's Māhia Peninsula.

Electron will be the world's first reusable orbital smallsat launcher

This won't be the first time Rocket Lab retrieves a booster. The company has already retrieved its Electron booster following an ocean splashdown on three occasions. It also performed a dress rehearsal for the helicopter capture maneuver with its "Return to Sender" mission in November 2020. All of those missions helped Rocket Lab collect data for its upcoming retrieval attempt of Electron later this month.

"We've conducted many successful helicopter captures with replica stages, carried out extensive parachute tests, and successfully recovered Electron's first stage from the ocean during our 16th, 20th, and 22nd missions," Rocket Lab founder and CEO Peter Beck said in the statement.

"Now it's time to put it all together for the first time and pluck Electron from the skies," he added. "Trying to catch a rocket as it falls back to Earth is no easy feat, we're absolutely threading the needle here, but pushing the limits with such complex operations is in our DNA."

The company's CEO also explained that mission success will make Electron "the first reusable orbital smallsat launcher" in the world.

Plucking a rocket booster out of the sky

For the "There and Back Again" mission, Rocket Lab will use a Sikorsky S-92 helicopter, a model that's often used for offshore operations, including search and rescue.

Less than three minutes after the Electron rocket launches, the second stage will separate and continue on to orbit where it will deploy its payload of small satellites. The first stage booster will then start its high-speed descent back to Earth. As the rocket nears the Earth's surface, two parachutes will be deployed, slowing the booster from a speed of more than 5,000 mph to only 22.3 mph.

Rocket Lab's Sikorsky S-92 helicopter stationed near the mission capture zone. Source: Rocket Lab

When the booster reaches an altitude and area designated as the capture zone, the helicopter will be deployed to attempt to capture it using a hook that attaches to the parachute line. The whole operation will be live-streamed and we'll be sure to provide live coverage of the event.

Rocket Lab's attempt will set it apart from the world leader in reusable spaceflight, SpaceX, which uses autonomous first-stage boosters that make a controlled landing after sending their payload on its way. Rocket Lab also recently announced a pretty wild Hungry Hungry Hippo-inspired rocket fairing for its next-generation Neutron rocket.

We wouldn't want to argue which retrieval method is cooler when comparing SpaceX and Rocket Lab — the former is very sci-fi and the latter very 90's Miami Vice. Rocket Lab's method, however, likely provides a more cost-effective solution for its smaller satellite missions. Another solution may be needed for Rocket Lab's much heavier 8-ton payload Neutron launch vehicle, which will greatly increase the company's payload-per-mission capacity over Electron.

Congratulations to AMA member, Matt Keennon, his co-workers at AeroVironment Inc., and NASA's Jet Propulsion Laboratory's Ingenuity Mars Helicopter team on earning the coveted "Collier Trophy" for their incredible work on the Ingenuity helicopter still flying on Mars.
https://www.jpl.nasa.gov/.../nasas-pioneering-ingenuity...
We'll be releasing more details on our website soon.
#ModelAviationOnMars #IFlyAMA

Sun N Fun 2022 – Steve Henry - broke an axel …… Video
https://www.youtube.com/watch?app=desktop&v=-mS-jfgxctw&feature=share&fbclid=IwAR3wMTNmBXJQqC615OLe1b7TNJGd8DpoJfdGnE2EtgaVM2RHcLWIP_-jrVs

Watts-Woodland Airport, Inc.

Circa 1919

See 2022 dates ....>>

lcome 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

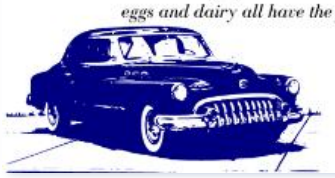
Sausage

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

WOODLAND SUNRISE ROTARY CLUB

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

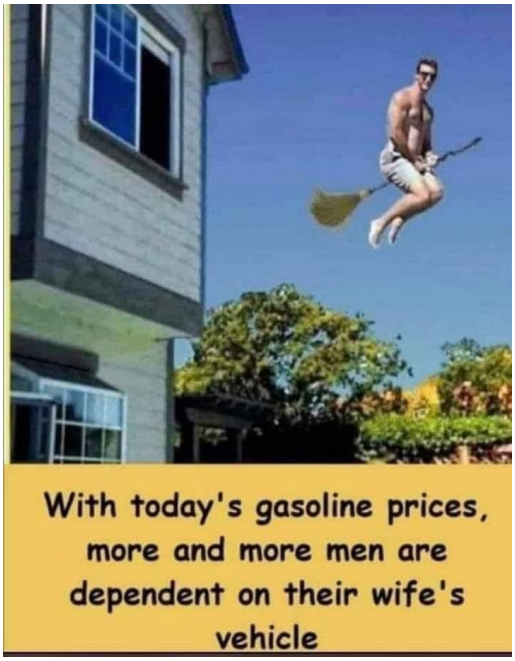
1952. Designer is ????

Last month's mystery plane _ Stevens aeromodel 1930 granger archaeopteryx

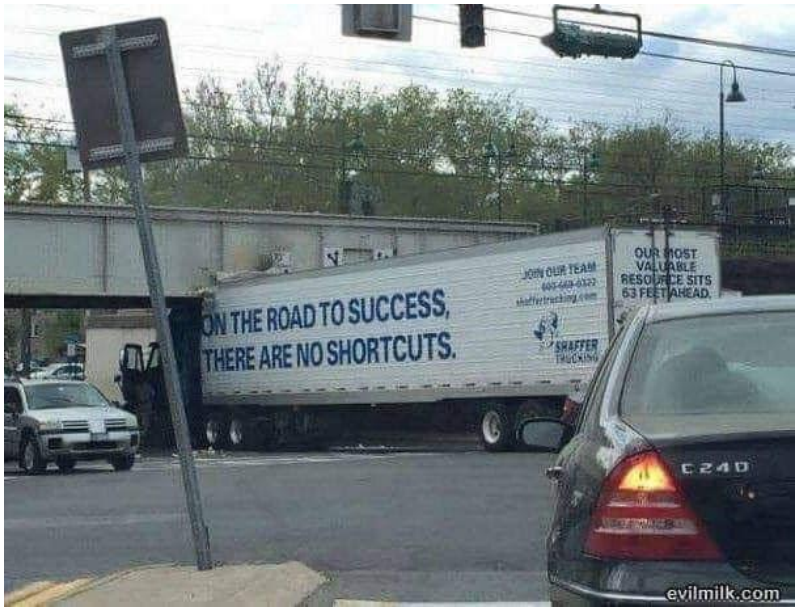
https://alchetron.com/Granger-Archaeopteryx

No one got this…….

Some funny things to take a look at…



New fuel gauge in PA11



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; 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=ZzFxeXNRU0NZZWRRL0pmbHBFYjJXQT09

Meeting ID: 862 9542 0288
Passcode: EAA52

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

President	J. Gill Wright	gillwright@sbcglobal.net
V/P	Jim Heffelfinger	jimheffelfinger@gmail.com
Treasurer	Todd Ballou	tballou@egusd.net
Secretary	Greg Popejoy	gmp5551@gmail.com
Community Outreach	Jim Heffelfinger	jimheffelfinger@gmil.com
Ray Scholars	Owen Hughes	eonbio@gmail.com
Newsletter	Jim H and Nick T	Chapter52.news@gmail.com
Webpage	*TBD*	

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/P _____ Mentor assigned_____

Committee _____ Comments _____