



# ON GUARD SAN FRANCISCO BAY GROUP 2

Group 2's Monthly Magazine

## Welcome to On Guard

By Lt Col Noel Luneau, Public Affairs Officer Group 2

Welcome to the Volume 2, Issue 3 of the Group 2 Magazine - On Guard!

This edition has some great stories in our Cadet Programs section, including Cadet Col. Patil and Sq. 44's California comeback. We also have numerous updates to our ES, Aerospace Education, Aircrew Education, and Education and Training sections. March's Mystery Word Search answers are also posted along with a new Mystery Word Search.

*Article Submissions.* This is your magazine, and we welcome all your contributions to it with short stories, photos, and short videos of your Squadron or event. We are looking for articles for the May **edition**. Please send all articles to the Group 2 website [Here](#) or email [noel.luneau@cawg.cap.gov](mailto:noel.luneau@cawg.cap.gov) or the editors to the right.

Also, please tag Group 2 on Instagram, Facebook, and Twitter, and we will collect posts, stories, and reels there. Tag us on [Instagram](#) and [Facebook](#) as @civilairpatrolgroup2. Tag us on [Twitter](#) as @CAPGroup2CA.

Just a reminder that we have a **YouTube** channel for the group so send us any videos that you want to share with the world!

The QR Code to the right is a link to an online version with viewable video clips.



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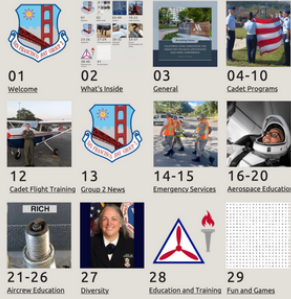
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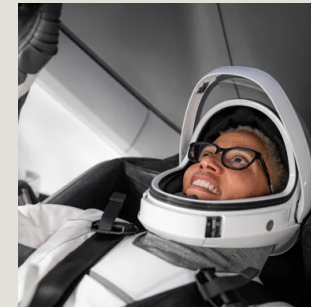
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### GENERAL

## CAWG WING CONFERENCE - 22-25 SEP 22

The California Wing Conference Planning Committee is excited to announce that the 2022 conference will be hosted at the Warner Center Marriott in Woodland Hills, CA. Our theme this year is Aspire to Inspire: the pandemic has affected so many people, but Civil Air Patrol members inspire so many in our communities every day. Please read some important information below.

#### When:

Please join us on 22-25 September 2022.

#### Where:

Warner Center Marriot 21850 W Oxnard St, Woodland Hills, CA 91367

#### Venue Details:

The Warner Center Marriott is proud to offer CAP members a discounted room rate of \$142.75/night.

Additionally, Marriott offers CAP members discounted overnight parking at the adjacent parking garage.

#### Website Information:

The conference website ([conference.cawgcap.org](http://conference.cawgcap.org)) is now active; please check it out!

#### Important things to remember:

**NEW**

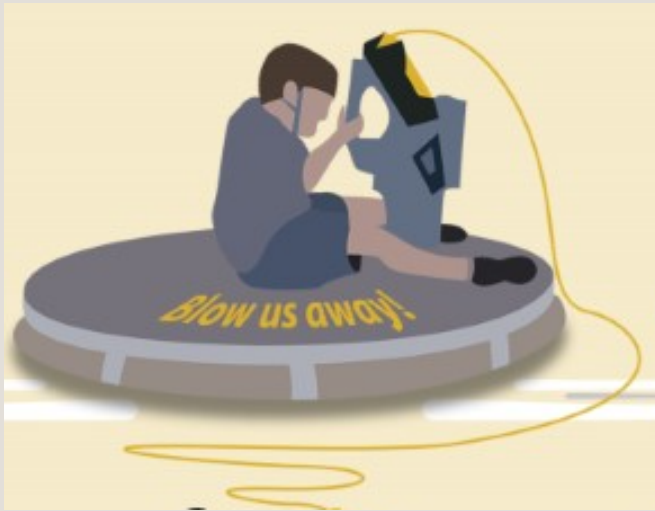
- You must reserve your hotel room separately from registering for the conference. Conference staff cannot access hotel reservations; please double-check with Marriott if you feel you may have missed reserving your room.
- Once conference and banquet registration closes, there will be no exceptions.
- The deadline to reserve a room at the discounted rate is September 8th!



### CADET PROGRAMS

## 2022 CADET PROGRAMS CONFERENCE HOVERCRAFT COMPETITION

Last month's issue of *On Guard* featured an article on the Cadet Programs Conference. This event is confirmed, back and in-person, at CAMP SAN LUIS OBISPO from 27-30 MAY 2022. Registration will open soon, so mark your calendars and get your forms ready!



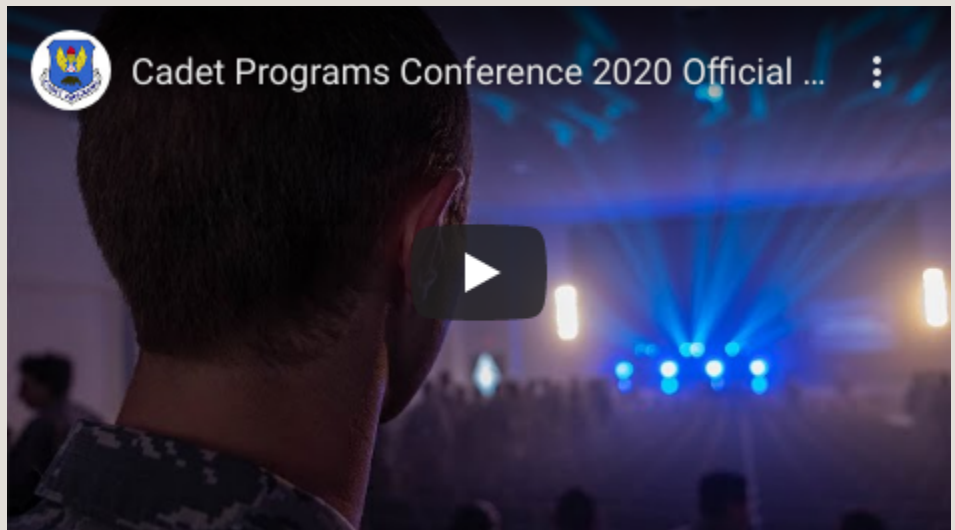
In addition to the many classes available to attendees, CPC also features the Aerospace, Career & Education (ACE) Expo, where cadets can meet representatives from different companies, non-profits, universities, colleges, trade schools, government agencies, and STEM/Aviation leaders.

The ACE Expo will feature the first-ever CPC ACE Hovercraft Competition this year. Squadrons who choose to participate will construct their hovercraft before CPC and then compete during the ACE Expo. The rules of the competition are described in the [competition memo](#).

To register for the competition, follow this link: <https://forms.office.com/r/LULEnJHXCS>. The deadline to register for the Hovercraft Competition is May 15.

Registration links for the main CPC event are not yet posted, but keep an eye out for the links in your California Wing Email.

**SENIOR MEMBERS:** We are also looking for Senior Member support in nearly every department, plus the Overnight Crew and Transportation. If you are interested in serving in any department, please email [brent.restivo@cawgcap.org](mailto:brent.restivo@cawgcap.org) and [kendal.grossgold@cawgcap.org](mailto:kendal.grossgold@cawgcap.org) with what department you would like to help with!



Watch the Video here: <https://youtu.be/a3GiRsEywxg>

### CADET PROGRAMS

## 2022 CALIFORNIA WING SUMMER ENCAMPMENT

This year, the 2022 California Wing Encampment will be held from August 6 to August 14 at Camp Roberts in San Miguel, CA. A pre-encampment is also planned for cadet cadre and senior staff from August 3 to August 6th.

The purpose of the cadet encampment is for cadets to develop leadership skills, investigate the aerospace sciences and related careers, commit to a habit of regular exercise, and solidify their moral character. The vision for the cadet encampment is an immersion into the full challenges and opportunities of cadet life.



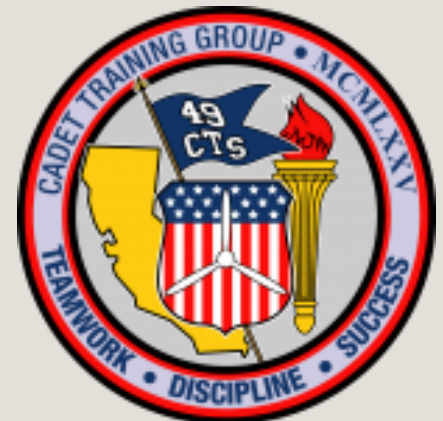
*Cadets find great opportunities at Encampment to engage cadets from across the Wing*

This exciting and fun activity is the capstone event for the cadet program and is required for cadets to earn their Mitchell Award and become cadet officers. Cadets are encouraged to attend the encampment during their first year and are welcome to participate in subsequent years as a student in Advanced Training Squadron or join as cadet staff. Many National Cadet Activities encourage past participation in an encampment as a prerequisite.

Registration for first-time students is not yet open, but keep an eye out for the registration link in your California Wing Email.



Watch the inspirational 2019 California Wing Encampment Video here:  
<https://www.youtube.com/watch?v=ZHrUh38WyG8>



### CADET PROGRAMS

## Cadet Encampment Assistance Program

Thanks to Air Force support, CAP has special funding available to cover encampment fees and uniforms, emphasizing serving economically disadvantaged cadets through the Cadet Encampment Assistance Program or CEAP (say, "seep"). An inability to afford encampment should not hold back cadets who want to participate in an encampment.

### Eligibility

*Financial Eligibility* - Assistance is targeted toward families who cannot easily afford encampment. Priority is given to families enrolled in federal programs (Snap, WIC, Title I, SSDI disability, etc.), but other families self-identifying a financial need are welcome to apply, including families with two or more cadets in CAP, recently unemployed, or those experiencing other economic challenges.

*First-Year & Returnees* - Priority is given to first-time encampment attendees, but graduates wanting to attend a second or third encampment are welcome to apply.

### What assistance is available?

Cadets and their families may apply for assistance with encampment fees or both uniforms and encampment fees.

### How do I apply?

Visit eServices, open the "Cadet Encampment Assistance Program" module, and follow the on-screen instructions to apply for CEAP.

Applications close on July 6 for cadets attending California Wing Encampment.

[Click here for information](#)

## Travis Air Show



Watch the Video here:

<https://www.dvidshub.net/video/833296.m3u8>

The Travis Air Show, Wings over Solano, will be Saturday, May 14, and Sunday, May 15th. CAP will have a strong presence supporting the Air Show. We plan to have CAP aircraft, the Wing STEM trailer, and an information and recruiting tent, among other CAP-related activities.

[There is a sign-up form for the event.](#)

We plan to house visiting cadets in our facility overnight. We will arrange meals and showers. We are working with the base personnel on how we can support the show. You will have plenty of time to see the show and work at the show.

The uniform of the day will be ABUs. However, there is a possibility that we will get a high visibility assignment that will require Blues for some cadets. Our duty day will begin a 0630 and end around 1800.

Please fill out this form if you plan to work with other senior or cadets at the Air Show.

We need your commitment NLT April 28th. The base needs to know how many cadets we can provide to make assignments on May 1st. The COST will be \$25 per person to be collected later.

### CADET PROGRAMS

## CIVIL AIR PATROL CADET EARNS HIGHEST ACHIEVEMENT

2D LT KAI CHEN

Civil Air Patrol cadet Adithya Patil of Jon E. Kramer Composite Squadron 10 in Palo Alto, California, earned the highest cadet honor last week when he became only the 2,388th cadet in Civil Air Patrol history to receive the General Carl A. Spaatz Award, which also comes with a promotion to Cadet Colonel.

Cadet Col. Patil, who is currently a freshman studying Computer Science at Georgia Institute of Technology, joined CAP when he was in ninth grade and credits his time at CAP for helping him get to where he is today. He notes, "I came into the program as an introverted, overly shy ninth-grader who could barely speak up in a few people crowd." And his journey through the program was not easy. He says, "I needed to put myself in scenarios that scared me a lot of the time, whether through leading groups, public speaking, or much more. In the end, the opportunities that CAP gave me paid off in big ways. They enabled me to take up leadership positions in other organizations, learn skills that I otherwise would've avoided, and push through obstacles that I would have given up when faced with."

CAP turned out to be rewarding and an opportunity for growth in other unexpected ways. He explains, "Not only that, I had the chance to serve my local community in big ways. Throughout my cadet career, I served in Emergency Services in the context of Search and Rescue Missions, Wildfire Relief, COVID community aid, and much more. The chance to help a community in such a big way as just a teenager is an opportunity many don't get elsewhere, but I was able to through CAP. CAP also gave me a clear direction with what I want to do with my future. I was exposed to many STEM fields as a cadet and explored aspects such as aerospace engineering through CAP's STEM programs."

Gen Spaatz, for whom the award is named, was commander of Strategic Air Forces in Europe during the Second World War. After the war, he was the first Chief of Staff when the United States Air Force was officially formed in 1947. When he retired from the USAF, he served as the first chairman of the Civil Air Patrol National Board.

Obtaining the Spaatz Award requires progressing through 16 program achievements and passing a four-part exam testing cadets on writing, fitness, aerospace, moral reasoning, and leadership skills. Less than half a percent of all cadets will get their Spaatz Award!



*Congratulations to Cadet Col. Patil!*

### CADET PROGRAMS

## SQUADRON 44'S CALIFORNIA COMEBACK

BY 2D LT DAVID M MCCROSSAN

CAP Squadron 44 was delighted to take first place in the California Cadet competition over the weekend of April 2-3, 2022, coming first of six teams from across the state. The competition at Camp San Luis Obispo included competitions in Drill, Team Leadership, Physical Fitness, and more.

The Sq 44 Cadet Commander C/Capt Apolinar Acevedo proudly displayed the new California Wing Commander's Cup at a well-attended unit meeting in Concord, CA, on April 4, 2022. C/2d Lt Thomas Durling, the Team Captain, explained the importance of achieving this honor: "Back in March 2020, Sq 44 Cadet Team were the first to receive this cup established by Wing Commander Col Ross Veta as winners that year. Then, weeks later, we went into lockdown. Little did we know that it would be two years before this competition could be established again in person. When competing this year, we had the option of returning with our original placing, but we committed to starting over, and our practice and determination paid off."

During an evening of multiple awards for the squadron's cadets, Sq 44 Commander Lt Linda Fealy added: "Our cadets winning the California Wing Cadet Competition is a great story of perseverance and comeback and has lessons for all of us as we reemerge stronger after these challenging past two years."

Sq 44 cadets are looking forward to flying the flag for California in the Pacific Region cadet competition on April 22 - 24, 2022, in Las Vegas, Nevada. Looking even further ahead, if they are fortunate enough to win the Region competition, the ultimate next step is the National Competition scheduled for late June 2022 in Ohio.

Continued...



*Sq 44 Cadet Commander C/Capt Apolinar Acevedo shares the story with C/2d Lt Thomas Durling of winning the California Wing Commander's Cup in Concord, CA on April 4, 2022.*



*C/2d Lt Thomas Durling, who is the team captain presented the cup to Sq 44 Commander Lt Linda Fealy with the winning trophies at Buchanan Field, Concord California April 4, 2022., adding: "Our cadets winning the California Wing Cadet Competition is a great story of perseverance and comeback and has lessons for all of us as we reemerge stronger after these challenging past two years" (2d Lt David McCrossan, CAP Sq 44 PAO)*



**CADET PROGRAMS**

**SQUADRON 44'S CALIFORNIA COMEBACK**

BY 2D LT DAVID M MCCROSSAN

...Continued



*C/2dLt Thomas Durling with members of the the winning Wing Cadet Competition team holding trophies at Buchanan Field, Concord California April 4, 2022. (2d Lt David McCrossan, CAP Sq 44 PAO)*



*CAP Squadron 44 Dep Cmdr for Cadets Maj Eric Meinbress at squadron opening ceremony with the Color Guard at Buchanan Field, Concord California April 4, 2022. (2d Lt David McCrossan, CAP Sq 44 PAO)*

### CADET PROGRAMS

## CALIFORNIA WING CADET COMPETITION

BY C/2D LT BENJAMIN LEE, PAO, CADET COMPETITION 2022

The California Wing Cadet Competition was held on April 2-3 at Camp San Luis Obispo. Teams participated in the following events: Element drill, posting of colors, color guard drill, and outdoor ceremonies. Cadets were administered an exam that assessed their CAP knowledge, took the CPFT, and were tasked to solve a complex team leadership problem.

Participating teams included:

Diablo Composite Sq. 44  
 San Diego Cadet Sq. 144  
 Skyhawk Composite Sq. 47  
 Cable Composite Sq. 25 with March Composite Sq. 45 (combined team)  
 Redlands Cadet Sq. 411  
 Lt Col Arthur King Composite Sq. 50

Squadron 44 represented Group 2 and earned first place. They were honored with the California Wing Commander's Cup. As the top team in CAWG, they competed in the Pacific Region Cadet Competition at the Nevada National Guard "Speedway" Readiness Center in Las Vegas, NV, where they placed fifth.

Five members of Group 2 from Squadron 86 were assigned to staff, including event marshalls C/MSgt Benjamin Chow, C/SMSgt Toby Lee, and C/SMSgt Peter Nascimento. Lt Col Grace Edinboro, the activity commander, and C/Capt Emmanuel Nascimento, an assistant judge.



*Squadron 44 receives the first-place trophy and is honored with the California Wing Commander's Cup*



*C/Capt Nascimento and C/MSgt Chow confer results after a color guard event*



*Squadron 44 folds the American flag during a flag raising event*

### CADET PROGRAMS

## SQUADRON 156 GOES GLIDING

BY 2D LT SHREEDHAR SHAH

On March 12, Cadets from Squadron 156 flew in the CAP glider at Byron Airport. Attending that day were:

- Glider Pilot: Capt Van Henson, Sq. 156
- Tow Pilots: Capt Eric Choate, Capt Michael Gross
- Sq. 156 O-ride Cadets: C/A1C Emree Portteus, C/A1C Shriya Jaishankar, C/SSgt Yusuf Choudhry, Cadet Faizaan Mustafa, C/Amn Hamzah Choudhry
- Safety Officer/Photographer: 2d Lt Zafar Choudhry, Sq. 156
- Safety Officer/Ground Tow/Comms. Officer/Log Keeper: 2d Lt Shreedhar Shah, Sq. 156.

To tow the glider from ramp to runway note that the glider does not have caster wheels and so the only way to turn is by mounting the tailwheel on a dolly and holding one wing-back or pushing the other wing forward to turn. Alternatively, for short distances, if there's enough weight in the front, the glider can be fairly easily balanced on its main gear by lifting the tail and pivoting about its main gear e.g. to line up on the runway.

Sq. 156 cadets didn't take downtime when waiting for the glider; they did mock drills and PT instead.

Considering the distance between the terminal/ramp and the launch area, cadets were confined to a relatively small square area near the approach end of the runway for about six hours. While some of them had the shade of their headgear (as they had been advised to bring) and others the golf cart awning, the sun was blazing down quite aggressively. Noticeably, as soon as the clouds came around mid-afternoon and temperatures cooled down, the cadets seemed to have gotten a second wind in their sails and with a little encouragement from their fellow cadets, were eager to beat the sunset to make their second O-ride. The transformation was quite palpable and the distinct effects of weather were impressed upon cadets.



*Cadets assisting Capt Henson in a glider preflight by using the pre-flight checklist. Capt Henson showing the motion of the yaw string to indicate an uncoordinated turn. Photo by Lt Zafar Choudhry.*



*Cadet verifying that the tow line is securely connected to the glider hook. Photo by Lt Zafar Choudhry.*



*Last tow of the day; notice the sun just about to set straight ahead. Photo by Lt Zafar Choudhry.*

**CADET FLIGHT TRAINING**

**MEET GROUP 2'S NEWEST CADET PILOT**

BY C/CAPT MARK HOCKEL, SQN 44

In December 2020, C/Capt Mark Hockel had no interest or knowledge of aviation, aside from what CAP had already taught him in the Aerospace Modules. He was exploring National Cadet Special Activities, or NCSAs, to apply for in the following Summer of 2021. The "National Flight Academy – Powered" turned his eye after a recommendation from his older brother Capt James Hockel, so he applied. Cadet Hockel found out he was accepted on full scholarship in May, which meant that transportation, meals, and the flight academy, would all be paid for by Civil Air Patrol. The "Desert Eagle" National Flight Academy is a 10-day event in Ephrata, Washington, where 12 power and roughly 20 glider Cadets ages 15+ aim to solo in their respective aircraft.

He continued flight lessons with his instructor, Danny McAninch, at Hodge Flight Services in Concord, where he passed his Private Pilot check ride in November of 2021 at just 17 years old.

Cadet Hockel was excited to share more of this newfound love for aviation with Civil Air Patrol, so he decided to train for the "Form 5" evaluation in a CAP Cessna 172 out of Livermore. Lessons preparing for this evaluation were all paid for by the California Wing. Thanks to the help of Group 2 Instructor Pilots, Captain Keith Breton, and Major Jeff Ironfield, Hockel was able to become a VFR Pilot with Civil Air Patrol in April of 2022. Hockel also wanted to thank his CAP aviation mentor, Lt Col Chris Suter, for his time and support.

He encourages Cadets and CPOs looking for more information about aviation opportunities in CAP to visit: <https://www.gocivilairpatrol.com/programs/cadets/activities/cadet-flying>, and <https://www.gocivilairpatrol.com/programs/cadets/activities/national-cadet-special-activities>



*C/Capt Hockel with CAP IP, Maj Don Cone (AZWG) enjoying a flight lesson in Ephrata, WA. Photo courtesy of C/Lt Col Julius Sjolie (WAWG).*



*C/Capt Hockel and CAP IP, Capt Keith Breton pose in front of N324CP after a flight in Livermore, CA.*



After graduating from the National Flight Academy, Cadet Hockel was "hooked."

As a Cadet VFR Pilot, C/Capt Hockel enjoys benefits such as funded proficiency flights every month, and a set number of paid-for flight hours which can be used to prepare for additional evaluations in larger, more complex aircraft.

**AVIATION SCHOLARSHIPS**



Scholarships from the University Aviation Association close on 30 Jun 22. Apply [Here](#).



This diversity Scholarship list is provided by Embry-Riddle, [here](#).

## GROUP 2 NEWS



### SAN FRANCISCO BAY GROUP 2 NEWS

#### NEW SQUADRON 86 COMMANDER

Group 2 Members,

I am happy to announce that 1st Lt Larry Wong has been selected as the next Commander for San Francisco Cadet Squadron 86 with a tentative change of command date of 26 April at the Sq86 headquarters in San Francisco.

Lt Wong brings a wealth of professional knowledge to this role as a current senior manager in the tech/cloud operations industry and is the current serving Deputy Commander. Big thanks to Lt Col Edinboro for leading the squadron for the past four years, pushing through the challenges of operating in a pandemic and achieving unprecedented growth despite those challenges.

As part of his selection as the next squadron commander, 2d Lt Wong will be promoted to 1st Lt commensurate with his date of assignment. The change of command will also include his promotion ceremony; congrats again!

Lt Col Shawn O. Lawson  
San Francisco Bay Group 2 Commander



1st Lt Larry Wong with cadet family at the Change of Command.

#### GP2/CC VISITS SQ. 18

Group 2 Commander Lt Col Shawn Lawson's visited Squadron 18.

Presented Amelia Earhart Award to Capt Ava Fontanilla

Presented Achievement Awards to cadets and SM for their hard work with set up, serving food clean up, and directing traffic got George Ishikata's Memorial

Pictured: 2nd Lt E. Fontanilla (far left) received award  
Capt Luke Beck-Fridell  
C/SSgt Aidan Devine  
C/TSgt Liam Devine  
C/Capt Ava Fontanilla  
C/A1C Emmanuel Liotsakis  
Cadet Jose Ruiz



### EMERGENCY SERVICES

## CADETS PARTICIPATE IN GROUP 2 LIVERMORE SAREX

BY MAJ. STEVEN ANGUS

Group 2 held a SAREX out of Livermore Airport (KLVK) on 26-27 March. Among the participants were ten cadets from various squadrons, mostly from Group 2. The cadets were from Group 2 squadrons 13, 36, 44, 86, and 156. The award for farthest traveling cadet goes to C/1st Lt Laramie Uhles, who came from Sq 121 in Bakersfield.

The cadets participated in several operational areas, including communications, mission scanner, urban direction finder (UDF), and ground team member. Several cadets completed all of their ops qualifications for different duties, and some completed many of the tasks and are well on their way to becoming fully qualified.

Some quotes from several cadets who were at the training. I had asked them what they went for, what squadron they were from, if they completed the requirements or not, and for a few sentences about the weekend. I asked all ten and got three responses.

#### **C/MSgt Devin Shah, Sq 36**

I did UDF training, and I completed all the training requirements. After arriving and completing the morning briefing, our skills evaluator began to work with us on completing the items required. We learned how to inspect a vehicle, use a compass, and use CAP grid maps to aid searches. Soon after, we left the mission base searching for the practice beacon. Having a CAP aircraft circling above while we searched on the ground for the beacon was undoubtedly an exhilarating experience.

#### **C/MSgt Esme Chen, Sq 10**

I participated in the Ground Team Training on the 26th of March. I checked off on all the tasks I needed during the SAREX however, I still need to complete my First Aid training and FEMAs 100&700

I had the opportunity to practice the skills I learned online and apply them in as much of a real scenario as possible during the SAREX. Watching aircrew, ground team, and base staff collaborating was very exciting. I feel that this SAREX offered me a safe space to mess up and learn from my mistakes. Overall, the SAREX was a great exposure as well as informative. I highly recommend that more cadets start participating in Emergency Services as these chances don't come every day.

#### **C/Capt Mark Hockel, Sq 44**

I was training in GTM 2 renewal, and I completed the requirements for the position.

Cadets and seniors from all around the Bay Area gathered in Livermore for the SAREX. There were many experienced ground team members and newer trainees as well. We were even accompanied by the Group 2 commander, Lt Col Lawson, who led by example in finishing up his GTM3 standard rating. Cadet Captain Acevedo and I renewed our GT ratings to act as skills evaluators for anyone wishing to begin training in the ground team area, especially Cadets. Overall, the weekend successfully continued Group 2's readiness in the ground team field.



Picture is of the beacon C/MSgt Devin Shah and team found.



Ground Team members at the SAREX.

### EMERGENCY SERVICES

## GROUP 2 SAREX - 22-23 MAR 22 - LIVERMORE, CA

BY 2D LT SHREEDHAR SHAH - SQ. 156 ESO

From an MS Trainee's perspective:

As a first-time participant of a SAREX, it was pretty humbling to see the amount of coordination needed to ensure that the intended training objectives of the SAREX could be achieved in a safe and timely manner. It puts into perspective the level of preparedness and professionalism that we, as ES members, must strive for so that when called on to execute a real-life mission, we give ourselves and our mission objective the best possible chance of success - be it searching for a missing person or assisting in disaster relief.

From the general briefing of the day led by the IC and section chiefs to pre-flight planning by the aircrew to the mission-specific safety briefing before sortie release by the FRO, all the way through flight sortie and debrief, the activities performed during the SAREX were deliberate and goal-oriented. It was a very encouraging experience to witness what a group of volunteers, mostly strangers to one another less than an hour before, can achieve through teamwork and training.

By the end of my training sorties, I was left with the impression that I had been part of a larger team by actively working towards the simulated mission objectives assigned to us instead of passively learning by watching others or following instructions. If you like active participation, this is for you!



*Cadet Thompson listens intently during the morning general briefing. Photo by Lt Col Luneau.*



*Cadet Hockel and Cadet Acevedo display the plan for the SAREX. Photo by Lt Col Luneau.*



*CAP aircraft at Livermore Airport for the SAREX. Photo by Lt Col Luneau.*

### AEROSPACE EDUCATION

## DR. SIAN PROCTOR'S JOURNEY TO BECOMING AN ASTRONAUT

BY 1ST LT. KAILASH KALIDOSS

CAP members had the pleasure of meeting with Dr. Sian Proctor, well-known for orbiting Earth for three days in September as the first Black woman to pilot a spacecraft. I was the co-host on behalf of the Civil Air Patrol's Arizona and California Wings, who organized the event in conjunction with the NASA Solar System Ambassador program. I could dwell at some length on the positives that I took from this incredible event; space limitations, however, restrict me to the highlights. Nearly 200 CAP members attended, a vast majority of the cadets.



Dr. Sian Proctor. Photo: NASA.gov

Dr. Proctor started with a short presentation – “*Space2inspire: Fostering an Open, Creative, and J.E.D.I. Space*”, in which she described the process of being selected for the Inspiration4 mission aboard a SpaceX Crew Dragon capsule. This started as a contest sponsored by Jared Isaacman, the entrepreneur who privately funded the mission for a noble cause of raising charity for cancer survivors. There were four seats in all, and Dr. Proctor applied for the “Prosperity” seat on the flight, launching an online shop called *MySpace2inspire.com*, where she sells her space-themed art and poetry.



A book by Dr. Sian Proctor

“I became a space artist during COVID,” Dr. Proctor said, “and decided that I should apply because being engaged in the arts really transformed me.”

Dr. Proctor shared a short video she used to apply for the contest to explain the selection process better, reading a poem she had composed specifically for the occasion. Dr. Proctor then explained her concept of a “J.E.D.I. Space”: “We have *J* for *justice* to ignite the bold; *E* for *equity* to cut past the old; *D* for *diversity* to end the fight; and *I* for *inclusion* to try to make it right.”

Although she was skeptical about applying initially, Dr. Proctor said, “A lot of times we have this voice inside our head that is going to fuel us with doubt about whether or not we can do anything.”

Despite her great portfolio, she particularly said, “They call that the ‘imposter syndrome’ voice, and the way I’ve learned to deal with it is having a conversation [with myself] about it: ‘They may never select me, but what if they did?’” she said.

For the SpaceX Inspiration4 mission, Dr. Proctor received a call on March 7, 2021, from Jared Isaacman telling her she had been shortlisted for the ‘Prosperity’ seat. Though she was chosen based on her artistic



### AEROSPACE EDUCATION

## DR. PROCTOR'S JOURNEY

*Continued from previous page*

entrepreneurship, she was even more delighted when Isaacman also named her the mission pilot for their Spacecraft.

Intensive training for the mission followed. It included undergoing a centrifuge experience, flying the SpaceX simulator, hiking Mount Rainier as a teambuilding exercise, and completing a zero-gravity flight.

“Getting the ‘golden ticket’ to go to space was an amazing moment,” said Dr. Proctor. She also said, “When I was a cadet, there were two things I wanted to do. I wanted to go to the Air Force Academy and fly F-16s, then transition to becoming [an astronaut], like Dr. Mae Jemison (the first Black female to go to space).”

The dream of being a military pilot was dashed when Dr. Proctor’s vision declined, and she had to get glasses. “When you get those kinds of disappointments, you have to figure out how to move forward,” she said. “For me, that was becoming an analog astronaut, living in the moon and Mars simulations. It took preparation and persistence. Preparation was things like Civil Air Patrol, traveling, and education. That’s how you prepare for opportunity.

“Then you have persistence when you get setbacks, like a ‘no’ when you apply for something that you really want and don’t get it. You have to be persistent and find new ways to keep moving forward.” Dr. Proctor said that entering the contest for an Inspiration4 mission seat was exercising persistence.

That responsibility of being a role model and encouraging other women of color – and people of color – to pursue space and space exploration is something that I’m very passionate about,” Dr. Proctor said. “As we write the narrative of human spaceflight now, and we are going to the moon, Mars, and beyond, it’s really important that we strive for this ‘J.E.D.I. Space’ if we truly want space to be for everyone.”



*Dr. Sian Proctor in the Mission Pilot's seat*

Dr. Proctor urged the audience to explore various options and emphasized that arts and sciences aren’t independent of each other. She foresees future space travel as requiring not just engineers, pilots, and scientists but also artists, architects, and people working in new jobs that haven’t even been created yet.

After her presentation, Dr. Proctor spent nearly an hour answering questions from the audience. When asked if she would return to space, Dr. Proctor replied, “I hope so. I want to be a moonwalker.” She also said she would be interested in going to Mars if asked. “I think there will be opportunities for some of us ‘seasoned individuals’ to go to space,” she said.

### AEROSPACE EDUCATION

## IS IT WIND? IS IT CLOUDS? IS IT MAGIC? WHAT KEEPS THAT GLIDER UP IN THE AIR?

BY CAPT VAN HENSON

As a glider pilot, I am often asked, "What do you do if the wind isn't blowing?" People seem to think the wind keeps gliders up. And in fact, it does, in a few scenarios, but not the way people think it does. So, to set the record straight, I thought a brief discussion about how a glider flies might be of general interest.

Let's begin by shattering a few myths. First, the wind doesn't keep the glider up by generating lift under the wings based on how fast the wind blows. Like any airplane, lift is generated by more rapid air movement over the wing than under (gross simplification!) but, importantly, so is drag, which dramatically limits using wind speed to stay aloft (if it weren't so, we might only be able to fly upwind!). Also, glider flights aren't necessarily short. When conditions are right, the length of the flight is limited much more by pilot skill and personal stamina than anything else. At the nearby Northern California Soaring Association, there is a pilot who routinely makes 8-12 hour flights and often covers 600-700 miles in a flight.



*Over the Sierras at 15760 feet*

So let's start with a basic tenet. *The glider is always sinking in the air through which it is flying. If the glider goes up it is because the air through which it is flying is rising faster than the glider is sinking in that air.* Ok, I know that isn't strictly true, because a glider with speed can zoom upward, trading kinetic energy for potential energy, but (because of drag) that always has a net loss of energy, so "zooming to stay aloft" is a losing technique (unless you are an albatross -- look up "dynamic soaring").



*N420BA landing an O-flight at Byron*

So, what makes the air that the glider is flying through go up? Glider pilots call such upward moving air "lift," using the word in a different sense than power pilots, who associate that term with airspeed and angle-of-attack. When I encounter lift, I feel it pushing my butt upward and hear a very pleasing high-pitched "beeping" from the variometer, which looks like a vertical speed indicator, but instead of telling me how fast the *aircraft* is climbing or descending, it tells me how fast *the air through which I am flying* is rising or descending. So, indeed, what does cause air to go upward, creating lift? There are four types of lift: thermal lift, ridge lift, convergence lift, and wave lift. Let's look at them.

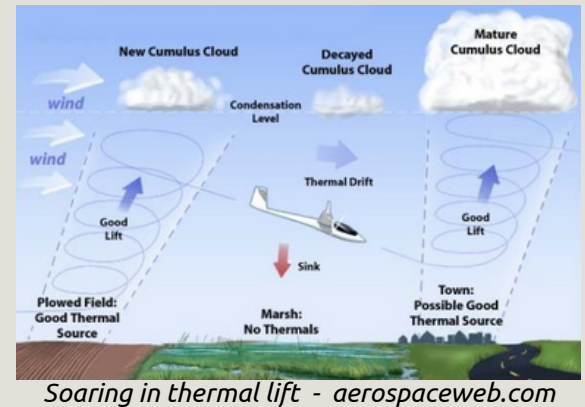
**Thermal lift** occurs when the sun differentially heats areas of the ground. They, in turn heat the air above them, and hot air rises. A "bubble" of air heats up, breaks free of the surface tension keeping it on the ground, and starts to rise. Nearby cold air rushes into the space the warm air just left and begins to heat, forming the next bubble that will rise. The bubbles eventually coalesce into what can be thought of as a rising column of air, which is the "thermal." Glider pilots seek out these thermals and finding them, make like a hawk, eagle, or vulture, and start circling, climbing with the rising column of air. When the air has cooled to the temperature of the surrounding air (which gets cooler the higher one goes), the thermal tops out, and the glider flies off somewhere else (losing altitude as it goes), seeking the next thermal. (By the way, the soaring birds are great at thermaling -- if you see

### AEROSPACE EDUCATION

## WHAT KEEPS A GLIDER UP?

*Continued from previous page*

them circling, you can bet there is a thermal under them). Thermals are also often marked by white fluffy cumulus clouds, which happen if the air cools to dewpoint before stopping its rise and the moisture in the air precipitates into clouds. Sometimes thermals "line up" into "cloud streets" many miles long and a glider can soar under clouds in great lift. But, where warm air moves up, cool air is moving down somewhere (called "sink"). Flying from lift to sink can be a bit bumpy. Glider pilots are the only pilots who actually like turbulence- it means



*Under a cloud street*

there are convection cells nearby with air going both up and down- now go find the "up."

**Ridge lift** occurs when the wind blows and hits an object it cannot go around -- like a ridge, a cliff, or a small mountain. The air cannot go around, it cannot go down, so it has to go up!



*Glider pilot's favorite sight*

And right at the top of the ridge, there is good lift (at about twice the height of the barrier, though, the lift dies as the upward wind dissipates). A glider can fly just above and in front of the ridge, following the ridge. In the Appalachians, such lift -producing ridges can run for 100s of miles, with only short gaps that must be crossed from one ridge to the next. A glider can fly for hours and go many, many miles and never get more than a few hundred feet above the ground! Ridge lift is easy to find. When the wind is strong and from the right direction, the lift will be there (unless someone moves the ridge!)



*Paragliders in ridge lift; Torrey Pines, San Diego. Photo: Wikipedia*

**Convergence lift** occurs when two air masses moving in different directions collide. Again, the air in such a collision cannot go down and must go up. A good example is common around Byron, where a prevailing westerly sends air northeastward, up and over the hills east of Livermore, while the same prevailing westerly will move up the Carquinez Strait to Antioch, where the lower pressure behind Mt. Diablo invites that air mass to turn south into the valley, eventually colliding with the air that came over the Livermore hills, and producing lines of convergence lift that a glider pilot can work. Like ridge lift, convergence lift is limited in how high it can take the glider. Unlike ridge lift,

convergence lift is much more difficult to find, and its location moves through the day as one air mass eventually "wins." It is occasionally marked by wispy lines of clouds if the air rises to reach dewpoint temperature.

By far the *best* lift is **wave lift**. Conditions must be just right - the right wind speed and direction, a reliable barrier (much larger than ridge lift generally requires -- usually a mountain), and an atmospheric

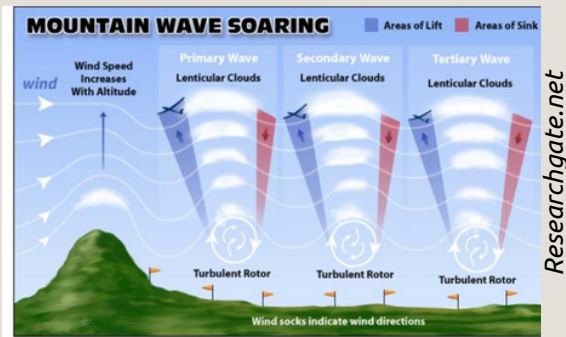
**AEROSPACE EDUCATION**

**WHAT KEEPS A GLIDER UP?**

*Continued from previous page*

inversion. The barrier produces a standing wave in the atmosphere, much as a large boulder in a river produces a standing wave in a river over the top of the boulder. Indeed, secondary and tertiary waves often develop downwind of the primary. This wave lift can extend upward to remarkable altitudes and carry gliders quite far into the air. The Sierra Nevada range is a great wave generator, and there are locations where gliders can get permission to fly well above the 18,000-foot base of the Class A airspace. (around Reno, the "Wave Window" goes to 24,000 feet.) By the way, the current altitude record for a glider was set in 2018 in the Andes mountains of Argentina at a stunning 76,000 feet! (Look up the Perlan Project.) In winter Mt Diablo often forms a wave, and flights to 15,000 feet (and more!) over Diablo are not uncommon. Wave lift is exceptionally smooth air, very comfortable to fly, and often easy to find because their tops are marked by "lenticular clouds."

So there it is! The four major types of lift answer the question, "What keeps that glider in the sky?"



*The Perlan glider.  
76,000 feet!*

**AEROSPACE EDUCATION  
 READING CORNER -**

**"BASIC AEROBATICS" BY GEZA SZUROVY  
 AND MIKE GOULIAN**

**REVIEW BY CAPT VAN HENSON**

*AE Editor's Note: I am an aficionado of books on aviation and space and plan to include, each month, a brief description/review of an AE-related book. Review contributions welcome!*

So you're a pilot, hey? You can fly locally. You can fly cross country. You are instrument-rated and multi-engine rated. Maybe seaplane rated. So you think you know how to fly?

Please demonstrate for me, in quick succession: Humpty Bump, Immelman, Inverted 1.5 turn spin, Hammerhead, Reverse half Cuban eight, Knife-edge, Snap roll.

Still, think you're a pilot?

I once studied to become an aerobatic competition judge, learning how to judge all the maneuvers. But flying them is a different story. I've had several lessons (power and glider), and I can tell you that aerobatics is the greatest thrill ride around.

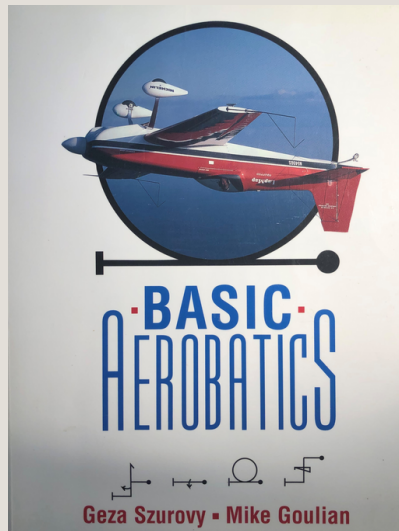
This, then, is the book you need. After some introductory material on energy management, structural design, speed, velocity, acceleration, and preflight preparation, the authors cover each maneuver in four parts: 1) Understanding it; 2) Flying it; 3) Common Errors, and 4) If things go wrong.

The style is wonderfully direct. The language is simple, and devoid of most of the "jargon" that often dominates aerobatic discussions.

But, after you've read it, and think you can fly it... *do that with an instructor!*

"On the way down" just isn't where you want to find out you hadn't really grasped the material!

A fun book!



### AIRCREW EDUCATION

## ENGINE FAILURE

CIVIL AIR PATROL STAN/EVAL NEWSLETTER – APRIL 2022

Engine failures are an emergency we got on our Private Pilot check ride and often on a Form 5 check ride (OK simulated engine failure, not the real thing). We need to be prepared for engine failures every time we fly. Engine failures come in at least two flavors: bad and really bad. A *bad* engine failure is losing the engine with enough altitude that we have time to pick an airfield, go through the checklists, try to restart the engine, and have some time to think about what we are going to do. A *really bad* engine failure is just after takeoff or on final for landing. In this case, we must react quickly and appropriately without the luxury of pulling out a checklist and overthinking it. We only have time to respond, and we must respond appropriately—no second chances.

*When an engine fails in flight, the most important thing to do is immediately push the nose down and maintain the best glide speed. Everything else is secondary.*

Let's consider a bad engine failure where we have enough altitude to pull out the checklist and go through the engine out drill, including attempting a restart. If it's daytime and there are some places to land, even off-airport, we will probably walk away from it even if we bend some metal. As Bob Hoover would say, land as slow an airspeed as possible and hit the softest thing, you can find. Losing an engine at night or in IFR, even at altitude, is a very scary event. Yeah, we can go through the checklist, maybe even call ATC for some help, but it may not end well unless we are in gliding distance of a lighted airport. The best we can do is try and stack the odds in our favor. A lit road may be all we have at night and maybe not that. If you are lucky enough to be in a G1000-equipped aircraft, you can use the terrain feature to improve your chances. Synthetic vision can also help, but there is no magic here. Stick to the basics and when close to the ground, get your airspeed as low as possible and brace for impact. Don't ever lose control (stall) of the airplane.

How about a bad engine failure where you don't have much time to react? We all need to be ready for a loss of power on takeoff. Although the event is rare, it can be fatal. We can reduce the risks associated with an unexpected loss of power by planning for it before takeoff. The procedure should be briefed as part of our takeoff briefing, even if we are solo, so we are both physically and psychologically prepared. A sudden loss of power at a low altitude will preclude using a written checklist as there will be no time. Make sure you have memorized this part of the checklist and can execute it under stress. This is something Check Pilots should be verifying on check rides.

As a minimum, the brief should include which way we should turn when the unexpected happens. You don't want to start looking for a landing site after the engine has failed. You want to know already where you will go when the failure occurs. Brief the minimum altitude you will need to turn back to the airport, if at all. The direction of the wind will be a factor in which way you turn. If the failure occurs at a low altitude (how low?), you will be severely limited in how far you can turn. A good rule of thumb is to land straight ahead if possible. Only attempt a turn back to the airport if you have reached your predetermined altitude and a turn back is prudent.



*A successful off-airport landing.*

### AIRCREW EDUCATION

## ENGINE FAILURE

*Continued from previous page*

### MISSION BRIEF

1. Mission Objective
2. Destination, WX, Route, Alt, ETE 3. NOTAMS
4. Crew Coordination & CRM
5. Sterile Cockpit Procedures
6. Cockpit Layout
7. Intercom & Radio Usage
8. Seats, Seatbelts, Doors
9. Emergency Action & Equipment

### Engine Failure Immediately After Takeoff *(example)* **Airspeed 76 KIAS (Flaps Up), 70 KIAS (Flaps Down)**

- Mixture Control: Idle Cut-Off
- Fuel shut-off valve: Off
- Magnetos Switch: Off
- Wing Flaps: As req (Full Recommended)
- Stby. Batt Switch: Off
- Master (Alt & Bat): Off
- Cabin Door: Unlatch
- Land: Straight Ahead

The most important action to take upon sudden engine failure is to push the nose down. Intuitively, we might think that the loss of power will automatically lower the nose, but that isn't enough. You must aggressively push the nose down to the proper attitude, especially if you have passengers in the back. Otherwise, you will go into a mush in just seconds with a stall not far behind. Practicing this at altitude demonstrates how necessary this is. At a safe altitude, configure the a/c for V<sub>x</sub> and a climb attitude, pull the power, count three seconds to simulate the surprise factor, and push the nose forward to maintain flying speed. You may be surprised by how much forward pressure it takes to keep from stalling. You will also learn why taking off and pitching for V<sub>x</sub> is not a good idea unless you take off from a short field.

The least important action would be to call on the radio or squawk 7700. Don't even think of it! Fly the airplane first!

Much has been written about the impossible turn, which refers to trying to turn back to the airport after an engine failure. It takes a lot of altitude to successfully turn back to the runway. You can try this at a safe altitude with an imaginary runway in the sky, but the results may be misleading and woefully optimistic. It's hard to simulate the surprise factor, and pilots react very differently when descending near the ground with the stall horn going off. The Navy conducted a study ("The Feasibility of a Turnback from a Low Altitude Engine Failure During the Takeoff Climb Out Phase" by Brent W. Jett) on the impossible turn. It showed that a bank of 45 degrees was the most effective bank to perform a turn back but that there was little difference in the results using 30 to 45 degrees of bank.

Instructor pilots should emphasize the following points when teaching how to handle engine failures after takeoff:

- The takeoff briefing must include possible landing sites upon engine failure.
- The minimum altitude needed for a turn back to the airport if no other option is prudent.
- It's critical that we be psychologically prepared for engine failure.
- The necessity of aggressively pushing the nose down to maintain flying speed.
- Memorization and execution of the engine failure on takeoff checklist

An engine failure on final is also a really bad time. It is critical to pitch to best glide immediately. If your flaps are down, you will glide a lot better by retracting them. Only leave them down if you are near touchdown. Immediately assess whether you can make the runway, and if not, figure out your best option. You are again, landing as slowly as possible wherever you land will improve your chances of survival. Kinetic energy is related to the square of the airspeed, so a few knots make a big difference. Low on final also raises the possibility of colliding with obstacles such as power lines, approach lights, trees, and other surprises. Do what you can to avoid them.

### AIRCREW EDUCATION

## LEANING THE ENGINE

CIVIL AIR PATROL STAN/EVAL NEWSLETTER - JUNE 2021

Many newly minted pilots may be good aviators but practice poor engine management skills because that's how they've been taught. Many flight schools and flight instructors consciously or unconsciously teach pilots to fly full rich and to only pull the mixture when shutting down the engine. There are lots of reasons for this, most of them not good. But the student passes the check-ride, and no one notices that they have not learned proper leaning techniques.

So, what is that little red knob for, and why should we care? Lots of you who fly out of high-altitude airports are very familiar with running lean for the simple reason that if you fly full rich, you probably won't even get off the ground assuming the engine doesn't choke on taxi.

One of the ways to characterize what goes on inside a piston engine is that engine combustion is a chemical reaction. For the fuel to combust, you need air, gas, and spark (and compression). The air and gas must be in the correct proportion. Too much air or too much gas will not support combustion. A flooded engine is an example of this. The combustion is most efficient when the mix of gas and air is just right (see Goldilocks and the Three Bears). Leaning is all about getting it just right. Our single-engine Cessna's will not do this for you. You have to do this yourself. If you have FADEC or other more modern powerplants, the computer takes care of everything just like it does in your car. But we still live in the 1930s despite all of the avionics, so we have to do it the old-fashioned way. The higher we fly, the farther you have to pull that little red knob back. We need less fuel to keep the air-fuel mixture just right as the air gets thin. Incidentally, "just right" is about 15:1. Fifteen pounds of air for every one pound of fuel. That's why all our aircraft have a pound meter for fuel and air – oh, wait, I guess they forgot that.

One of the barriers to proper leaning is the belief of some pilots that you can harm the engine by leaning. And they are correct – in some cases. Overleaning at other than low power settings can and will destroy an engine if not corrected.

When an engine is over leaned it starts running very hot and will exceed the temperature limitations of the power plant. On the other hand, at very low power settings (like on taxi) you will not harm the engine even if you over lean. So, leaning on taxi is always a good thing. If you over lean on taxi the worst that can happen is that the engine quits. You should always lean when taxiing but be sure to enrichen before doing the runup or takeoff. A good practice is to lean aggressively for taxi – so lean that if you try to go to full power the engine will stumble reminding you to enrichen! Taking off too lean will certainly hurt the engine.

But under leaning is bad too. An overly rich mixture can:

- Foul the spark plugs causing a rough running engine.
- Prevents the engine from producing full power causing longer takeoffs and sluggish climbs.
- Prevents the aircraft from achieving book values in the POH. If you aren't coming close to what the POH says you should, you are probably not adjusting the mixture properly. If you read the fine print on the performance table, you'll see that they assume proper leaning.

So how can we achieve the right fuel air balance by leaning? We should start with the POH. The C182 POH has a recommended procedure for leaning on the ground. For our C182 aircraft we are told to go full rich for takeoff below 5,000'. But in cruise climb (23" MP 2400 RPM) we are told to lean to 15 gph. At cruise, we can look at the performance tables and see for a particular power setting what the fuel flow should be and set the red knob to that fuel flow. Or we can use the Lean Assist if we have a G1000 equipped aircraft.

If you are taking off from a high-altitude airport, you should lean the engine before takeoff. For our Cessna aircraft, a simple procedure is the following (there are others). During the runup with the RPM at 1800 RPM, lean slowly to peak RPM. At peak RPM, enrichen slightly and then leave the red knob in this position for takeoff. Don't go full rich! Remember where it is if you have to do a go around. Going full rich on the go around at high altitude airports could cost you your life.

### AIRCREW EDUCATION

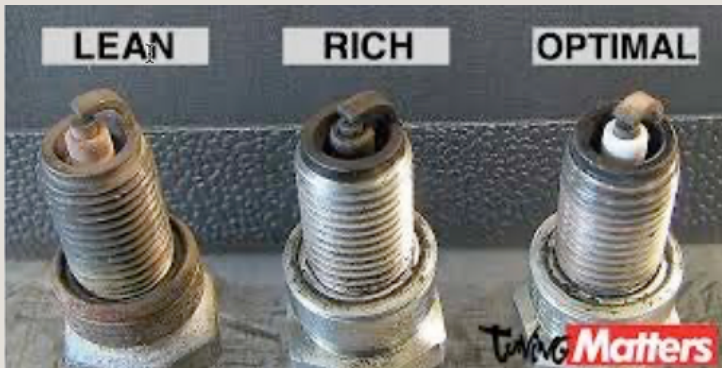
## LEANING THE ENGINE

*Continued from previous page*

Once the mixture is set, it will need to be reset if you change power settings or change altitude. Always monitor the cylinder head temperatures and EGT to ensure they stay within limits. If you come close to the limits immediately enrichen, open the cowl flaps, and reduce power to get the temps under control.

Don't over manage the engine. Although leaning is important, it's not critical to have it exactly right despite what Goldilocks says. If in doubt, err on the rich side.

If all this seems a bit confusing, get a knowledgeable pilot or CFI to give you some real time experience with proper leaning. Here are some useful links as well that give some procedures for leaning.



The Savvy Aviator #59: EGT, CHT and Leaning - Mike Busch

WHY DO YOU RECOMMEND KEEPING CHTS AT OR BELOW 380F, WHILE TCM SETS ITS CHT RED LINE AT 460F AND LYCOMING SETS IT AT 500F? AREN'T YOU BEING EXCESSIVELY CONSERVATIVE?

Both TCM and Lycoming specify CHT limits (460F and 500F, respectively) that should be considered emergency limits, not operational limits. Allowing your CHT to get anywhere close to those values for significant periods of time will most likely result in premature exhaust-valve problems and increased incidence of cylinder-head fatigue cracking.

I do not like to see CHT above about 400F, which is the temperature at which the aluminum alloy from which your cylinder head is made loses one-half its tensile strength. (The strength decreases rapidly as the temperature rises above 400F.) **For legacy aircraft, I recommend a maximum target CHT of about 380F to provide a little extra cushion and consider any CHT above 400F grounds for "doing something right now" to get it down.** (For modern designs like the Cirrus and Diamond, reduce those CHTs by 30F or so.) The higher the power setting, the further away from 50F ROP you need to stay to keep CHT at or below the target. As power decreases, this "zone to avoid" around 50F ROP becomes narrower and narrower. When power gets down to about 60 percent, the avoidance zone disappears, and you can run the mixture pretty much anywhere you please without overtemping or overstressing anything. (The APS folks refer to this zone to avoid as "the red box.")

In my view, the best way to manage our piston engines is the same way we manage turbine engines: by limiting temperature, specifically by CHT (which is the best proxy we have for ICP). **For best engine longevity, set the mixture somewhere that produces CHTs no higher than 380F (or 350F for modern designs).** This can be very ROP, slightly LOP, or even right at peak if the power is low enough. What's important is that you limit CHTs to a maximum target value. How you accomplish that is less important from the standpoint of longevity.

Ed. Note. A helpful hint on quick leaning the CAP Cessna in cruise is to lean to about 1400 degrees EGT, which should provide CHTs of no more than 380 degrees.

As Mike Busch says: **For legacy aircraft, I recommend a maximum target CHT of about 380F to provide a little extra cushion. Consider any CHT above 400F to be grounds for "doing something right now" to get it down.**

Good presentation by Mike Busch on All About EGT & CHT: <https://www.youtube.com/watch?v=fqe9j74qMdk>

Savvy Aviation's article on Understanding CHT and EGT <https://resources.savvyaviation.com/understanding-cht-and-egt-2/>



**AIRCREW EDUCATION**

**New Mission Observer:**

1st Lt Scott Booth completed his Mission Observer on 27 Mar 22.



**Renewal CAP Pilot:**

2d Lt Erik Klavon, renewed CAP Pilot with Capt Keith Breton, on 22 Mar 22.



**Renewal:**

Lt Col George Michelogiannakis renewed CAP Pilot and Mission Pilot with with Lt Col Noel Luneau, on 29 Mar 22.



**Renewal CAP Pilot:**

2d Lt Ilia Shabalin, renewed his CAP Pilot Lt Col George Michelogiannakis 21 Mar 22.



**Renewal:**

Capt Luis Rivas renewed CAP Pilot with with Lt Col George Michelogiannakis, on 21 Mar 22.



**New CAP Tow Pilot:**

Capt Michael Gross, achieved his CAP Tow Pilot with Capt Eric Choate on 12 Mar 22.



**New MCP:**

Initial Mission Check Pilot for Capt Mike Gross with Capt Keith Breton, on 6 Mar 22.



**Renewal:**

F91 renewal for Capt Nathan Johnson with Capt Keith Breton and Capt Mike Gross, on 6 Mar 22.



**Add on:**

Maj Bhaskar Reddy added on the Cessna 182, with Lt Col Noel Luneau, on 31 Mar 22.



### AIRCREW EDUCATION

## DOV LINKS

### PROFESSIONAL EDUCATION

#### Aircrew Education

1. Density Altitude
  - o AOPA Air Safety Institute - n.d.
  - o [Link - Here](#)
2. ASI Safety Tip: Hot Starts
  - o AOPA Air Safety Institute - 15/82019
  - o [Link - Here](#)
3. Lost Elevator - Real Pilot Story
  - o AOPA Air Safety Institute - 25/82022
  - o [Link - Here](#)
4. How To Make A Perfect Crosswind Landing
  - o [\\_Boldmethod - 4/12/2022](#)
  - o [Link Here](#)
5. Is It Ever Safe To Fly Underneath A Thunderstorm?
  - o [\\_Boldmethod - 4/5/2022](#)
  - o [Link Here](#)
6. Wake Turbulence
  - o NASA's Callback - Issue 507/Apr 2022
  - o [Link Here](#)
7. Make Your Weather Briefing as Easy as 1, 2, 3
  - o FAA - Safety Briefing - May/June 2022 - Page 19
  - o [Link Here](#)
8. Fog Forecasting for Drones
  - o FAA - Safety Briefing - May/June 2022 - Page 27
  - o [Link Here](#)
9. Hot Spot Standardization
  - o FAA From the Flight Deck - 3/16/2022
  - o [Link Here](#)

#### Accident/Incident Case Studies

1. Accident Probe: Pilot Incapacitation
  - o AVweb - 4/4/2022
  - o [Link Here](#)
2. Lost Elevator - Real Pilot Story
  - a. AOPA Air Safety Institute - 25/22022
  - b. [Link - Here](#)
3. Incorrect Traffic Pattern Entry Leads To Mid-Air Conflict
  - o [Boldmethod - 3/26/2022](#)
  - o [Click Here](#)
4. Spiral Dive
  - o SSA - Safety and Training
  - o [Link Here](#)

## GROUP 2 CAP AIRCRAFT

### CADETS AND FORMER CADETS FLY THE C172 THIS MONTH



*Cadet Hockel training in the Cessna 172 at Livermore. Photo by Lt Col Luneau.*



*Cadet Nilsen training in the Cessna 172 at Livermore. Photo by Lt Col Luneau.*



*1st Lt Ivan Nouripour training on the Cessna 172 at Livermore. Photo by Lt Col Luneau.*

### DIVERSITY

## CAWG DIVERSITY NEWS

BY CAPT LOUISE MATEOS

### Welcome

As your Wing Diversity officer, I want to take this opportunity to fill you in on the latest news on the Diversity front. Why Diversity? Looking at our diversity and inclusion status helps us identify areas in which we can improve the ability of our membership to serve the communities in which we live. Diversity and inclusion are foundational to our culture and reflect our values of integrity, respect, and excellence, which in turn maximize the value of our volunteer service.

### Wing News

Our Wing Diversity strategic goals directly flow from National priorities. We want to improve gender diversity by increasing female membership by 1%, and improve racial diversity by increasing non-white membership by at least 0.5%. Note, these goals are wing-level goals and may not be applicable at the individual unit level. However, we should all aspire to better represent the communities we serve. To achieve these goals, we are:

- Working with Recruiting and Retention to ensure Diversity and Inclusion are factors considered in these activities.
- Engaging with Pacific Region and National staff to roll out training as it is developed.
- Collecting best practices by reaching out at the group and squadron level—stay tuned for a future discussion invite.
- Planning for a deeper dive at Wing Conference!



### Regional & National Updates

The overall implementation of Diversity duty position, specialty track, training, and updated regulations are expected in November. There will be many opportunities for you to get involved!

The board of governors have given input about the Diversity regulation which is being circulated throughout the national staff for review. Note that Diversity will be renamed "Diversity, Equity and Inclusion." More on that in future communications.

We are delighted to welcome our new Pacific Region Commander Col. Virginia M. Nelson

### Get Involved!

One way to learn about one another is through considering the special observances that are important to our members. If you would like to find guidance on planning a special event, the Defense Equal Opportunity Management Institute provides resources here: <https://www.defenseculture.mil/Human-Relations-Toolkit/Special-Observances/>

### Closing Thoughts

We are working hard to build on the many strengths of our wing. By welcoming new talent and perspectives, we can only improve our ability to perform our missions and meet our goals. CAWG represents 6% of our national membership, but California as a state has 12% of the national population. As you can see, we have some room to grow! As we move forward, this room we have to grow offers both an opportunity and a call to action. At the same time, I do want to say Thank You for all you do in service to our communities! If you would like to get in touch, please contact me (Capt Louise Mateos) at [Louise.Mateos@cawgcap.org](mailto:Louise.Mateos@cawgcap.org).

## EDUCATION AND TRAINING

### GROUP 2 EDUCATION AND TRAINING ACHIEVEMENTS

BY CAPT RICHARD WEST

#### Mar Senior Member E&T Program Levels

- Capt Henson, Van E (534976) [Sq156]  
Level 3 — Grover C. Loening Award  
2022-03-02
- 2d Lt Leong, David Edward (636955) [Sq44]  
Level 2 — Benjamin O. Davis, Jr. Award  
2022-03-10
- SM Basu, Rituparna (676309) [Sq192]  
Level 1 — Membership Award  
2022-03-10
- SM Shah, Hima K (673128) [Sq156]  
Level 1 — Membership Award  
2022-03-10
- SM Brej, Martin J (679095) [Sq13]  
Level 1 — Membership Award  
2022-03-11
- SM Chalamasandra, Krishna C (671223) [Sq18]  
Level 1 — Membership Award  
2022-03-16
- SM Seymour, Chanda R (679683) [Sq86]  
Level 1 — Membership Award  
2022-03-24

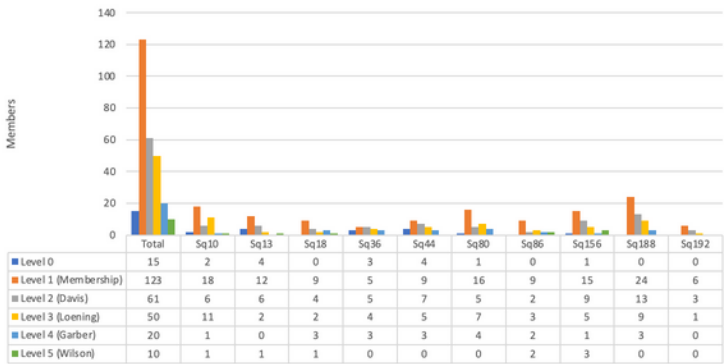
#### Mar Specialty Track Ratings

- 2d Lt McCrossan, David M (541628) [Sq44]  
Public Affairs — Technician  
2022-03-06
- 2d Lt Leong, David Edward (636955) [Sq44]  
Aerospace — Technician  
2022-03-10
- Capt Nadeau, Remi Robert (574259) [Sq86]  
Finance — Technician  
2022-03-31

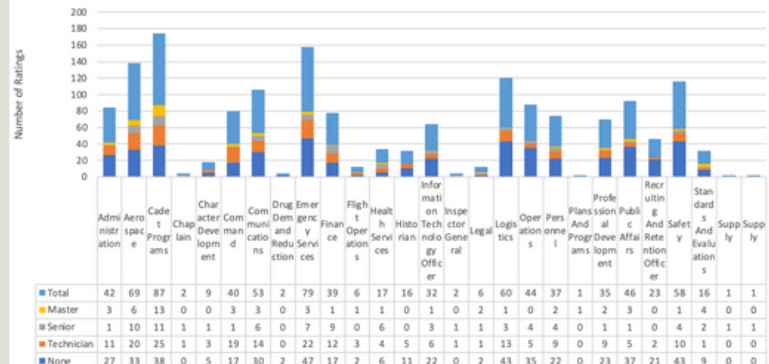
#### Mar CAP Volunteer University Instructor

- Capt Wilson IV, Isaac C (618933) [Sq80]

Group 2 E&T Senior Member Program Levels as of 31 Mar 22



Specialty Track Ratings as of 31 Mar 22



**FUN AND GAMES**

**MYSTERY WORDSEARCH**

BY CAPT RICHARD WEST

Up for a challenge? How about a word search without an answer key? There are 23 items hidden in this grid which are connected by a common theme. The hidden items can appear horizontally, vertically, and diagonally; possibly in reverse.



**MARCH MYSTERY WORDSEARCH**

BY CAPT RICHARD WEST

The theme of March's Mystery Wordsearch? Women of Aviation (last names only). Learn about these amazing women on [Smithsonian National Air and Space Museum Women in Aviation and Space History](#).

- |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|
| Suzanne Asbury-Oliver | Jean Harman           | Bessica Raiche        |
| Jean Batten           | Laura Ingalls         | Dr. Sally Ride        |
| Mrs. Hart O. Berg     | Tamara Jernigan       | Dr. Vera Cooper Rubin |
| Janet Bragg           | Amy Johnson           | Blanche Stuart Scott  |
| Willa Brown           | Osa Johnson           | Betty Skelton         |
| Betty Browning        | Ruth Law              | Elinor Smith          |
| Alys McKey Bryant     | Mary Light            | Ida Van Smith         |
| Jacqueline Cochran    | Anne Morrow Lindbergh | Katherine Stinson     |
| Bessie Coleman        | Nancy Love            | Marjorie Stinson      |
| Patricia Cowings      | Bernetta Miller       | Valentina Tereshkova  |
| Christine Darden      | Geraldine Mock        | Louise Thaden         |
| Raymonde de la Roche  | Matilde Moisant       | Patty Wagstaff        |
| Helene Dutrieu        | Ruth Nichols          | Emily Howell Warner   |
| Amelia Earhart        | Blanche Noyes         | Turi Wideroe          |
| Cornelia Fort         | Therese Peltier       | Jeana Yeager          |
| Mary Haizlip          | Harriet Quimby        |                       |

