



ON GUARD

SAN FRANCISCO BAY

GROUP 2

Photo Credit: SM Rares Vernica

Group 2's Quarterly Magazine

Welcome to On Guard

By 2d Lt Elisa Muresan, CAP

Welcome to the Volume 3, Issue 1 of **ON Guard**.

I am excited to serve as the new Editor-in-Chief for our beloved Group 2 magazine - On Guard. I would like to thank my mentor and Editor-in-Chief-Emeritus Lt Col Noel Luneau for his dedication and commitment over the past few years. Under his outstanding leadership, along with committed contribution from editors Maj Van Henson, Capt Richard West, and Maj Joseph L Spears (editor-emeritus), this magazine has become the go-to recap news for Group 2, and won the 2022 Best in Show Maj. Howell Balsem CAP Public Affairs Exceptional Achievement Award. I understand that I have big shoes to fill. I pledge to provide you with the same high-quality content that you have come to expect from On Guard, and I humbly seek guidance, recommendations, and ideas from you to continue its legacy.

In this issue, in our Cadet Programs section, we highlight the Operation Pulse Lift held by Group 2 Cadet Advisory Council, in collaboration with Stanford Blood Drive; the first Cadet Staff Symposium, the ATS/BCS, and the Cadet Day at Beale AFB. For Emergency Services, we are proud to recognize 3 cadets who applied their ES training from CAP to save lives. Our multi-groups SAREX is also featured in this edition. In the Aerospace Education section, the upcoming call for an Astronomy night at the Chabot Museum, Rocketry by Squadron 156, and an important moment in Aerospace History are presented. The Aircrew Education section showcases Summer Flying and Flying in Moisture. The Diversity section featured our CAWG Chaplain Taubeneck leading the effort to better support all members in their moral and spiritual welfare. And the Education and Training section recognizes the achievements of our members.

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 **August edition**. Please send all articles to the Group 2 website [Here](#) or email elisa.muresan@cawgcap.org or the **editors to the right**.

Don't forget to spread the words about YOU and CAP. 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!

CONTACT US

ON GUARD MAGAZINE

eMail: elisa.muresan@cawgcap.org

EDITORIAL STAFF

2D LT ELISA MURESAN
Editor-in-Chief

MAJ VAN EMDEN HENSON
Editor Aerospace Education

LT COL NOEL LUNEAU
Editor Aircrew Safety

CAPT RICHARD WEST
Editor Education and Training

OPEN
Editor Emergency Services

OPEN
Editor Cadet Programs

CONTRIBUTORS

2dLt Muresan, Maj Henson, Lt Col Luneau, Lt Col Lawson, Maj Angus, 1st Lt Chen, Capt West, 1st Lt. Kalidoss, Capt Nadeu, Capt Fry, 2d Lt McCrossan, 2d Lt Shah, Capt Hockel, 2dLt Seymour, Capt Devine, Lt Col Michelogiannakis, 2d Lt Brej, SM Vernica, 2d Lt Vasudevan, Chaplain (Maj.) Michael Morison, PCR, C/Capt Srivatsan, C/1stLt Madden, C/A1C Fukuhara.

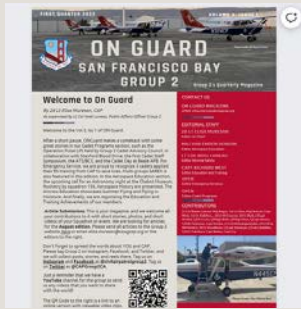


Photo Credit: 2dLt Martin Brej

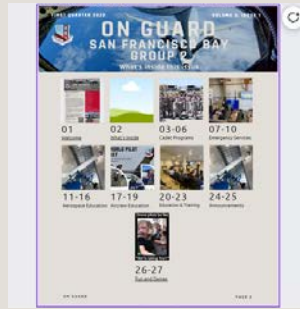


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GROUP 2 CADET ADVISORY COUNCIL

BLOOD DRIVE

BY 2D LT ELISA MURESAN, LT COL SHAWN LAWSON, AND MAJ STEVEN B ANGUS



SHOUTOUT TO CADETS FROM SQ 36:
 M CRUZ, M STEFANIOUTINE, D SHAH, A LEE,
 E WONG, E NGUYEN, C FORTUNA.

SHOUTOUT TO CADETS FROM SQ 10:
 G MURESAN, D MURESAN, E CHEN, M CHAN,
 J HULL.

THANK YOU TO SENIOR MEMBER DONORS:
 S LAWSON (COMMANDER GROUP 2)
 S ANGUS (CAC ADVISOR GROUP 2)
 E CHEN (WALK-IN) - SQ 10
 J HO - SQ 10
 C WELCH - SQ 36
 E WELCH - WIFE OF C WELCH
 E MURESAN - SQ 10

THANK YOU TO SENIOR MEMBER
 CHAPERONES:
 I WILSON - SQ 80
 W WINTER - SQ 36

CLICK ON THE PICTURE TO VIEW A [VIDEO](#)
[RECAP](#) OF THE EVENT.

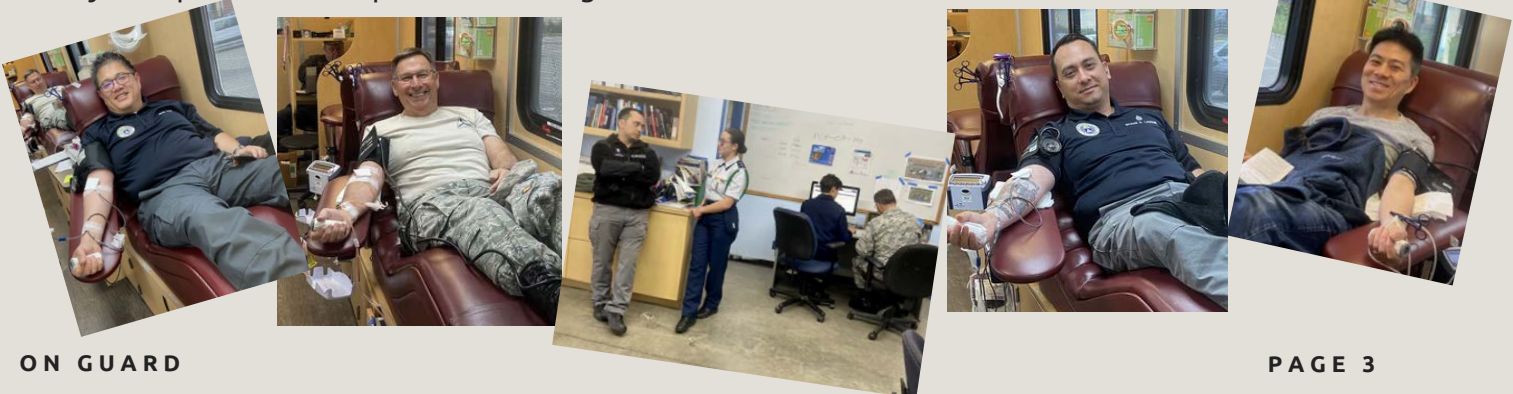
The Cadet Advisory Council (CAC) is a panel of Cadets from each echelon of command that recommends solutions and identifies opportunities to improve the Cadet Program.

On Sunday, March 19, 2023, CAC Group 2 conducted their first **community service** to support CAP Operation Pulse Lift and Stanford Blood Drive. The preparation and negotiation between CAWG CAC Group 2 and Stanford Blood Drive team had gone on since November 2022. Almost all CAC representatives from group 2 were involved virtually, under relentless leadership of C/1stLt Grace Muresan, and strongly active support from advisor Maj Steven B Angus.

Lt. Col. Lawson was appreciative, stating "The blood drive provided a critical and potentially life-saving service to our community while also allowing our members the opportunity to interface with the public. Thank you to the Group 2 Cadet Advisory Council and to those that stepped up to volunteer their time to ensure this blood drive was a major success. I very much look forward to seeing what else the CAC has in store for us for the rest of the term."

According to Stanford Blood Center, donated blood can be separated to create 3 products: red blood cells, platelets, and plasma. This CAC event collected blood from 15 eligible donors, which meant that this CAC event could help save 45 lives!

Thank you to all CAP members who have made this event possible. Many more to come. Contact your squadron CAC representative to get involved in CAC.



GROUP 2 CADET ADVISORY COUNCIL

CADET STAFF SYMPOSIUM

BY 2D LT ELISA MURESAN



On Saturday, May 13, 2023, Cadet Advisory Council Group 2 successfully executed another program, which has been suggested by many cadets: more practical training for incoming cadet staff.

Thirty six cadets from squadrons 10, 18, 36, 86, and 156 attended the first **Cadet Staff Symposium**, spearheaded by C/2dLt Nina Rock, to learn about leadership, followership, and actual problems in their respective squadrons. One prominent collective feedback given to the CAC Group 2 Chair, C/1stLt Grace Muresan, was that cadet attendees agreed that an honest, open floor, and on-the-job practical training such as this one is looked forward to in the future.

Special thanks to the senior member adviser Capt James J Hockel, project manager 1st Lt Larry A Wong, PA officer 2d Lt Chanda Seymour, and safety officer 2d Lt Elisa Muresan.

Special shoutout to C/2d Lt Esme Chen for helping the organization, planning, and successful execution of the event.

Special appreciation to the cadet instructors C/Maj Emmanuel Nascimento, C/1st Lt Kaylin Pham, C/2d Lt Ainsley M Wong, C/2d Lt Logan T Yang, and C/2d Lt Dakota Yang.

If you have any ideas on how to improve your cadet life in Civil Air Patrol Group 2, contact your respective CAC representative in your squadron, or better, be one and make a difference!

CADET PROGRAMS



GROUP 2/5 BASIC CADET SCHOOL / AIRMAN TRAINING SCHOOL 2023

BY CAPT JAMES J HOCKEL,
C/CAPT LENA R AMATO,
AND 2D LT ELISA MURESAN

Groups 2 and 5 conducted joint Basic Cadet School (BCS) and Airman Training School (ATS) on April 14-16, 2023, at Travis Air Force Base in Fairfield.

BCS is for new cadet members. The purpose of this school is to introduce cadets who have joined recently to the many facets of cadet life. BCS students will learn and understand their responsibilities as a Civil Air Patrol cadet, the structure of the cadet programs, and the storied traditions of the Civil Air Patrol at large. By the end of the activity, students will have a working understanding of drill and ceremonies, proper wear of the uniform, the responsibilities of a cadet airman, and the discipline to take on greater challenges such as Encampment.

ATS is intended for cadets in the C/A1C to C/SrA range, although C/SSgt are encouraged to attend as well. At ATS, the knowledge students have garnered at their home squadron and BCS will be further refined and expanded upon. ATS prepares Cadet Airman to be leaders in the cadet programs. The program emphasizes proficiency in drill and ceremonies, customs and courtesies, military discipline, and esprit de corps. Students will be introduced to a variety of activities, meet new people, and have an understanding of what is required of them as a cadet airman who strives for excellence in the Civil Air Patrol.

Thirty five students graduated from BCS and **twenty seven** from ATS. Additionally, **thirty nine** cadets received advanced training and experience as members of the cadet cadre.

Special thank you to C/2dLt Tyler West, C/SMSGT Emily Frank, C/SrA Nicolas Mattson, C/MSGT Issac Mui, and C/TSgt Keerthanaa Narasingu for all the hard work that went into the [BCS/ATS weekend book](#). Special thank you also goes to 2d Lt Chanda R Seymour for leading the public affairs team and for continuing to set a new standard for excellence in public affairs.



CADET PROGRAMS



CADET DAY AT BEALE AIR FORCE BASE

BY 2D LT ELISA MURESAN

Capt Donald Fry, CAP, from squadron 19 of Group 5 put together a hands-on Aerospace Education program for cadets at Beale Air Force Base. It was a drizzly and chilly morning on April 7, 2023. Fifteen cadets and three senior members from CAP Groups 5 and 2 looked highly motivated to make the most of the day. Shiny boots, on-reg ABUs, tidy hair buns, and rosy red cheeks accompanied the hopeful gaze of the cadets' twinkling eyes.

Highlight activities include a fly-along for an in-flight refueling of USN P-8, tours of Civil Engineering, U2 Life Support, and Barometric Chamber, and Q&A with the U2 pilots.

We would like to thank the following parties for hosting this event:

- The 9th Reconnaissance Wing, especially the 9th Civil Engineering Squadron,
- The 1st and 99th Reconnaissance Squadrons,
- The 9th Physiological Support Squadron,
- The 9th Security Forces Squadron,
- The 9th Medical Group,
- The 940th Air Refueling Wing, and
- The 195th Air National Guard Wing.

Moreover, we would like to thank Mr. Kevin Cummings, CAF-USAF PLR/ROD, our USAF-CAP liaison.



Photo credit: Capt Christopher D Devine, 2d Lt Elisa Muresan

EMERGENCY SERVICES

CALIFORNIA CADETS SAVE ELDERLY CHOKING VICTIM IN RESTAURANT

BY 1ST LT KAI CHEN

On March 4, 2023, three cadets having lunch at a Cupertino, California, restaurant sprang into action to save a choking elderly woman's life.

C/Capt Samhita Srivatsan, C/2dLt Esme Chen, and C/TSgt Maxim Manokhin, all members of the California Wing's Jón E. Kramer Composite Squadron 10, were finishing their meal when one of the waitstaff came to their table to ask if anyone knew the Heimlich maneuver. Because they were seated in a far corner, the cadets were the second-to-last customers to be asked to help.

All three immediately rushed over to the emergency. The choking victim, a 78-year-old, was trapped in a dining booth. Her skin was already cold and pale and her lips blue, indicating loss of blood oxygen. She was surrounded by her frantic family – husband, son, and grandchildren.

The cadets were shocked at how severe the situation already was. "I remember thinking 'please don't let it be too late...please don't let this be the day I see someone die,'" Srivatsan recalled.

Chen, who had **completed her American Red Cross first aid/CPR/automated external defibrillator certification in February as part of Civil Air Patrol emergency services ground team training**, started to draw on what she learned. She quickly assessed the scene for safety hazards while Srivatsan dialed 911.

The cadets took charge, assuring worried family members that Chen was first aid-certified. "We had to get the lady out of the booth first, but she was already unconscious," Manokhin said.

They came together as a team to clear the area of tables and lower the woman out of the booth and to the ground. Srivatsan remained on the phone with 911 to provide critical information about the woman's condition and ensure first responders were en route. She and Manokhin also managed the growing crowd and chaos to allow space for Chen to perform back blows and abdominal thrusts.

After several sets, the obstruction the woman had choked on was partially dislodged. She started wheezing and was able to breathe again.

Within five minutes, firefighters and paramedics arrived. The cadets continued to help by calming the shocked grandchildren.

"One of them told us she was 12 and the other was probably 8," Srivatsan said "They were in tears when they hugged us. We were all so relieved."



(From left) C/2dLt Esme Chen, C/Capt Samhita Srivatsan, and C/TSgt Maxim Manokhin

Continued on next page

EMERGENCY SERVICES

CALIFORNIA CADETS SAVED ELDERLY CHOKING ... Continued

After being cleared by paramedics, the woman thanked the cadets. She told them she suffered from Parkinson's disease, putting her at particularly high risk during the incident.

Restaurant staff said they were grateful and impressed by the teenagers who stepped up – the only ones among many patrons and staff who knew what to do and acted calmly and without hesitation.

An emergency room physician, presented with the scenario and asked to comment, said that since the patient already had discolored blue skin, was elderly, had a pre-existing neurological condition, and had to wait five minutes until paramedics arrived, "I have little doubt that those kids saved her life and saved her from possible brain damage. Good on them, more people should get training and be willing to act."

All three cadets received Certificates of Recognition for Lifesaving from the Group 2, California Wing Commander Lt Col Shawn Lawson, on behalf of the Wing Commander.

So next time you see opportunities to train for Emergency Services certifications, take it.



Photo Credit: 1st Lt Kai Chen



EMERGENCY SERVICES

DAY & NIGHT SAREX - SEARCH AND RESCUE EXERCISE
GROUP 2 EMERGENCY SERVICES TRAINING

BY LT COL NOEL LUNEAU, LT COL GEORGIOS MICHELOGIANNAKIS, AND 2D LT ELISA MURESAN

On April 1-2, 2023 Group 2 organized a **Day & Night SAREX** at Watsonville Airport, EAA Hanger, CA.

On Saturday morning, the ground teams prosecuted a practice beacon search in SFO321C with the assistance of CAP481, finding it on a steep hill next to a quarry. The sUAS team took images of the simulated crash site where the beacon was staged on green tarps. In the afternoons, they practiced ground team tasks. They then prosecuted another beacon search and signaled one of the CAP aircraft with flashlights from the ground after sunset. The Saturday event was closed by bivouac overnight in a nearby campground with return to mission base in the morning.

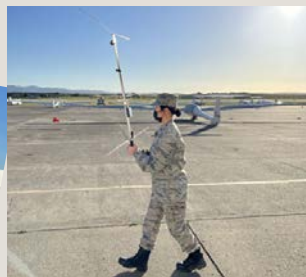
Capt Chris Devine, from Amelia Earhart Senior Squadron 188, said that the team's last assignment was prosecuting a beacon search on Sunday morning while practicing search line techniques. He said that the team also practiced radio communication with the CAP aircraft overhead.

The SAREX had **73 signups** with participating members from **groups 2, 4, 5, 6, 8, Pacific region, and the CAP-USAF**. The event accomplished quality training for aircrew, UDF, ground teams, and base staff; with approximately three quarters of participants were trainees.

Incident Commander Lt Col George Michelogiannakis thanked everyone involved, especially the mentors. A few interviews by C/Capt Srivatsan revealed that all cadet trainees pledged to pursue more Emergency Services training and certifications.



*Command Meetings.
 Photo credit:
 C/Capt Samitha Srivatsan
 C/A1C Abigail Fukuhara*



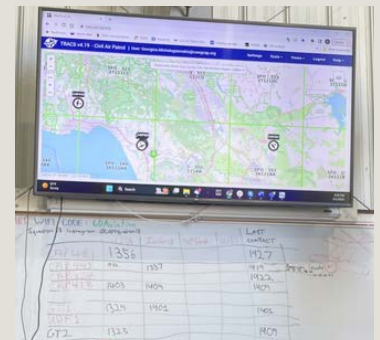
*UDF practice.
 Photo credit:
 C/1stLt Noelle Madden*

EMERGENCY SERVICES

DAY & NIGHT SAREX ... Continued



SAREX participants on Sunday, April 2, 2023.



Day and Night views from SAR flight exercise. Photo credit: Day-2dLt Martin Brej. Night and Map-2dLt Swaminatha Vasudevan



MRO training. Photo credit: C/A1C Abigail Fukuhara

AEROSPACE EDUCATION

AN INVITATION FROM SQUADRON 86 TO VISIT THE CHABOT OBSERVATORY ON JUNE 10

BY MAJ VAN HENSON AND CAPT REMI NADEAU

If you watched your Group 2 CAP email recently, you would have seen this invitation from Captain Nadeau, the Squadron 86 AEO:



*Figure 1: The Wightman Observatory Plaza at Chabot Space and Science Center
Image credit: Myowncompass*

As part of this year's squadron AE curriculum, Squadron 86 (Excellence in Action) is hosting a visit to the Chabot Observatory in the Oakland Hills on Saturday night, June 10th. Showtime is 1930 (7:30 PM) at the Observatory. Admission is of free of charge to check-out the telescopes. We expect the activity to last about two hours.

Uniform of the day for the activity is squadron T-shirts, jeans and sneakers, plus squadron baseball caps if you have them. Parents of cadets are welcome to join-in on the fun (and driving too)! All participants are encouraged to bring pot-luck snacks and soft-drinks to share and enjoy with other members from group 2. This will be a fun social AE event for cadets, senior members and parents alike. You can visit the Chabot Observatory Website by clicking the link below:

<https://chabotspace.org/events/free-telescope-viewing>

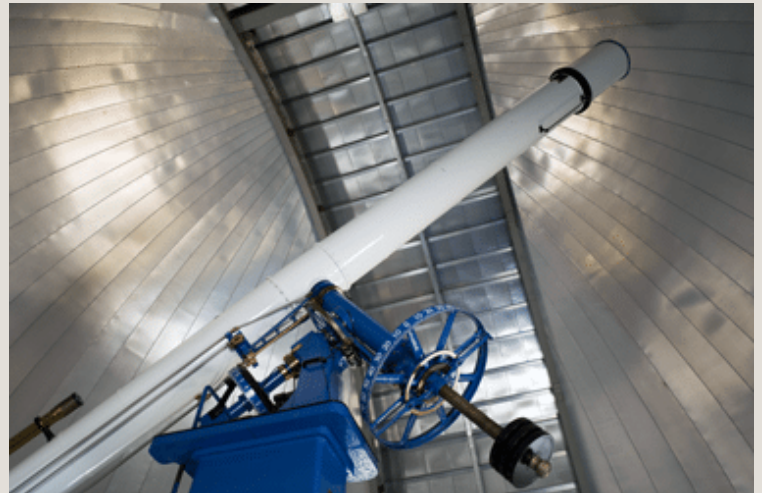


Figure 2: "Rachel," Chabot's 20" refractor telescope. Image credit: Gado Images

WHAT SHOULD YOU DO NOW? -- For those squadrons members within Group 2 who would like to participate, please designate your own Senior Member Activity Local Leader (SMALL). Your SMALL needs to get your squadron commander's approval as well as organizing your participant's transportation plan and collecting CAP form 6080s from your cadets. SMALLs should *reply to Capt Nadeau Not Later Than June 5th* so he can get an approximate head-count of people planning to attend.

Capt Nadeau has already completed the CAP Risk Management assessment using the CAP form 160 and have received permission from our Group 2 Commander using the CAWG form 29, so there is no need for your squadron's SMALL to duplicate this effort. There is no limit as to the number of people for the event. Drivers should use your GPS to navigate to the Observatory.

Captain Nadeau says, "*We at Squadron 86 (Excellence in Action) look forward to sharing our astronomical enthusiasm and pot-luck snacks under the stars with you soon!*"

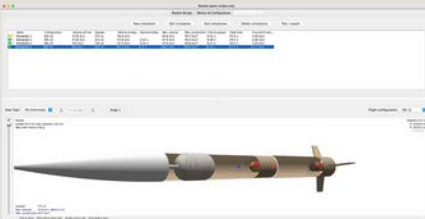
AEROSPACE EDUCATION

SQUADRON 156 ROCKETS TO SUCCESS: TAKING ON THE AMERICAN ROCKETRY CHALLENGE

BY 2LT HIMA SHAH

The American Rocketry Challenge (TARC) is a thrilling event that brings together rocket enthusiasts from all over the United States. This year, a dedicated team of Squadron 156's cadets joined forces to take on the challenge to develop and showcase their rocketry prowess. With a blend of cutting-edge software simulations and hands-on rocket building, these cadets delved into the intricacies of payload, engine mounts, and the myriad known and unknown challenges that awaited them. Join us as we unveil their remarkable journey through captivating pictures and exhilarating launch videos.

The Challenge: TARC's requirements sound simple enough: design (within specified parameters), build, and fly a rocket, carrying a given payload, that reaches set minimums of altitude and flight time and is then scored for how much it exceeds those minima. As noted, the requirements *seem* simple, but TARC is known for testing the mettle of participants, pushing them to the limits of their ability, and forcing them to conquer formidable obstacles along the way. Squadron 156's cadets eagerly embraced this opportunity; with only CAP's basic Model Rocketry program completed (and that just last Fall), they agreed to take stab at TARC, relishing the opportunity to reach and then expand the limits of their rocketry knowledge and skills. From the initial conceptualization to the final launch, these aspiring rocketeers left no stone un-turned in their pursuit of excellence.



The OpenRocket design and simulation software



A cadet uses a Dremel tool to cut the fuselage of the rocket



Squadron 156 TARC Team, l to r: C/SSgt Nimit Shrivastava, C/MSgt Isaac Mui, 2LT Hima Shah, Asst AEO, C/CMSgt Hamzah Choudry, and C/SSgt Sheehan Krishna

The Design: Utilizing OpenRocket, a state-of-the-art CAD-based rocket design and simulator program, the cadets could select design parameters and then bring their rocket designs to life in virtual simulations. These simulations allowed them to fine-tune their rockets' aerodynamics, with the goal of ensuring optimal performance during flight. Armed with virtual prototypes, the cadets meticulously analyzed various parameters and made adjustments to achieve the perfect balance of stability and altitude.

Turning Dreams into Reality: With their software simulations serving as a blueprint, the cadets embarked on the physical construction of their rockets. The process involved assembling intricate engine mounts, carefully selecting materials, and employing precise engineering techniques. Each step brought the team closer to transforming their collective vision into a tangible rocket ready for liftoff.

Known and Unknown Challenges: Throughout their journey, the cadets encountered a host of challenges, both expected and unexpected. From overcoming aerodynamic instabilities to addressing structural weaknesses, their problem-solving skills were put to the test. TARC taught them invaluable lessons about adaptability, teamwork, and the importance of being prepared for unforeseen circumstances.

Continued on next page

AEROSPACE EDUCATION

SQUADRON 156 ROCKETS TO SUCCESS ... Continued

The Launch: The culmination of their efforts was an awe-inspiring launch that exemplified the cadets' hard work and dedication. With a crowd of spectators eagerly watching, the rocket soared into the sky, leaving a trail of excitement and wonder. The cadets' faces beamed with pride as their creation defied gravity, reaching new heights and solidifying their place among the TARC contenders.

It takes a village: As Squadron 156's first foray into competitive rocketry, a lot of outside advice was needed, and came from several sources. 2LT Hima Shah, Assistant AEO for Squadron 156, served as Senior Member Advisor to the team, and is working on her Level 1 certification with the National Association of Rocketry (NAR), which would allow her to mentor rocketry teams officially. Capt Remi Nadeau, the AEO of Squadron 86, provided early encouragement and some safety pointers. Mentoring was provided throughout by Mr David Ramdoni, an NAR Level 3 mentor. Finally, Kushi Shah, a Senior at the University of California at Santa Cruz studying Robotics, is an experienced rocketeer with the UCSC Rocket Team and had an internship with SpaceX who lent her experience and expertise to the Cadet squad.



David Ramdoni, the NAR mentor, examines the rocket pre-launch

Conclusion: Squadron 156's participation in TARC 2023 was a testament to their passion for rocketry and their unwavering commitment to excellence. Through software simulations and real-world challenges, these cadets gained invaluable knowledge and skills, preparing them for future endeavors in the field. As we witness their extraordinary journey through captivating images and videos, let us celebrate their accomplishments and be inspired by their determination to reach for the stars.



The rocket takes to the sky!



Kushi Shah poses beneath a rocket at SpaceX



AEROSPACE EDUCATION

A MOMENT IN AEROSPACE HISTORY

HOWARD HUGHES AND THE SPRUCE GOOSE

BY MAJ VAN HENSON (but see below)

Howard Hughes was an American business magnate, investor, aviator, filmmaker, and philanthropist. Hughes had a fascinating and diverse career. Hughes had a deep passion for aviation. He founded the Hughes Aircraft Company in 1932, which became a major player in the aerospace industry. Hughes himself was an accomplished pilot, setting multiple aviation records. Hughes had a significant impact on the film industry as well. He formed the Hughes Film Company and directed and produced several films. His most notable work as a filmmaker was the 1930 film "Hell's Angels," which was a groundbreaking aviation-themed war film known for its impressive aerial sequences.



Howard Hughes at the controls of the Spruce Goose. Photo courtesy Evergreen Aviation and Space Museum

One of the notable projects associated with Howard Hughes is the H-4 Hercules, popularly known as the "Spruce Goose." Hughes conceived the idea for the Spruce Goose in response to a request from the U.S.

government for an aircraft that could transport troops and cargo across the Atlantic Ocean. The project was ambitious, and Hughes aimed to create an aircraft that could carry 750 fully equipped troops or two M4 Sherman tanks. It was a massive wooden flying boat that was developed during World War II. The Spruce Goose is remembered as one of the largest aircraft ever built, with a wingspan of 320 feet (97.5 meters) and a length of 219 feet (66.8 meters). Its construction involved the use of laminated birch and spruce wood due to wartime restrictions on aluminum.



The Spruce Goose, ready for flight testing. Courtesy Evergreen Aviation and Space Museum

Howard Hughes' personality had a significant impact on the development and ultimate fate of the Spruce Goose project. While his immense wealth and personal drive played a role in the project's completion, his perfectionism and obsession with details also contributed to delays and escalating costs. Hughes was known for his obsessive attention to detail, which often resulted in meticulous design and engineering work. While this trait initially contributed to the quality and innovation of the Spruce Goose, it also led to prolonged development times.

Hughes continuously made design changes and improvements, causing delays and increasing costs. The initial budget of \$18 million was exceeded by a significant margin, reaching approximately \$25 million by the time of completion. Hughes, with his personal wealth, funded a considerable portion of the project himself. His uncompromising vision and desire for perfection contributed to the cost overruns and strained the resources of his company. His perfectionism and exacting standards created a high-pressure environment, with constant changes and demands for improvement. This led to strained relationships with some members of the team and resulted in a revolving door of engineers and technicians. The project experienced frequent personnel changes, impacting continuity and efficiency.

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AEROSPACE EDUCATION

A MOMENT IN AEROSPACE HISTORY ... Continued
HOWARD HUGHES AND THE SPRUCE GOOSE



The H4 Hercules, ("Spruce Goose") on the only flight it ever made, 11/2/1947. Photo: Evergreen Aviation and Space Museum

Despite delays, funding issues, and technical challenges, the Spruce Goose was finally completed in 1947. On November 2 of that year, Howard Hughes personally piloted the aircraft on its first and only flight. The flight lasted around one minute, reaching an altitude of approximately 70 feet (21 meters) and a distance of about one mile (1.6 kilometers) before Hughes decided to land the aircraft. This short flight demonstrated the aircraft's airworthiness but did not fulfill the original purpose of transatlantic transport.

Despite the impressive engineering achievement of the Spruce Goose, its practicality and relevance were questioned even during its development. Hughes' unwavering commitment to the project and his desire to surpass existing limitations in aviation technology led to an aircraft that surpassed the needs of the military at the time. The Spruce Goose serves as a testament to Hughes' engineering prowess and his

determination to push the boundaries of aviation technology. While it was not used in the way originally intended, the aircraft remains an iconic symbol of innovation and engineering achievement.

Following its one and only flight, the Spruce Goose was preserved and placed in a specially constructed hangar in Long Beach, California. It remained there for several decades, and in 1980, the aircraft became part of the Queen Mary maritime museum. In 1992 it was sold to the Evergreen Aviation and Space Museum, dismantled, floated by barge up the coast and up the Willamette River to McMinville, Oregon, where it is now on permanent display.



The Spruce Goose fuselage being moved (above) in 1946 for original assembly (below) in 1993 by barge up the Willamette River



The Spruce Goose on display at the Queen Mary Museum, Long Beach, 1970s. Note the Queen Mary docked nearby.



The Spruce Goose on display at the Evergreen Aviation and Space Museum.

Howard Hughes, sUAS pilot? *Yup! Hughes flying a radio-cobtrolled version of the Spruce Goose in 1945 (Evergreen Aviation and Space Museum)*



AEROSPACE EDUCATION**AN IMPORTANT NOTE ABOUT THE SPRUCE GOOSE STORY****BY MAJ VAN HENSON**

First, did you read the Spruce Goose story above? if not, please do so now. I'll wait ... Good! Now you have read it. What did you think of it? Did you like it? Was it informative? Enjoyable? Well-written?

I ask this because to CAP, "Aerospace Education" includes STEM Education. That means **S**cience, **T**echnology, **E**ngineering, and **M**athematics education. And all four of those areas increasingly involve Data Science, in which massive amounts of data are analyzed using Machine Learning algorithms, from which analyses and conclusions may be drawn. I am a mathematician and data scientist myself. It is my profession. It is the fastest growing branch of science and is having massive impact on technology. Some of that impact is good; some of it not-so-good. Some of it is extraordinarily beneficial. Some of it is incredibly dangerous.

What does all this have to do with the Spruce Goose story? This: despite it being under my byline, *I did not write that story. Nobody did.* It was written by **ChatGPT**, an AI (Artificial Intelligence) machine learning algorithm. ChatGPT has crawled the Web, ingesting every piece of text it could find ... billions of documents. It then taught itself how people write, by analyzing all those text documents for word choice, phrasing, paragraph content, and much, much more.

I simply gave ChatGPT three instructions:

1) "*Tell me about Howard Hughes and the Spruce Goose.*" I got back 341 words in six paragraphs in just a couple seconds. 2) "*Give me more personal touches about Howard Hughes.*" In seconds I got 324 words in one paragraph containing 6 numbered sub-paragraphs. 3) "*Tell me about Howard Hughes and the spruce goose, focusing on how his personality contributed or detracted from the project.*" Again, in seconds I got 472 words in one paragraph containing 5 numbered sub-paragraphs.

All I did was arrange the material in the order I wanted, deleting duplication between the three answers. And I dug out the photos, but ChatGPS would have done that for me, if I had asked.

Here is the issue, and I challenge all who read this to look into it and think hard about it. In ethical hands, AI can, and has, produced some nearly miraculous advancements in medicine, chemistry, additive manufacturing. It helps cure diseases. It has given voice to the mute, and (limited) eyesight to the blind. The promise is enormous. But in unethical (or merely greedy) hands, the dangers are evident: Deep Fakes convincing us that famous people say or do things they don't; automated law enforcement or military decisions based on incorrect, incomplete, or false data, putting people's lives at risk. Moreover, there is no policy control on any of this. AI is truly the wild, wild west!

I challenge each reader to learn about both the potential good, and the potential bad, of AI; there is a great deal at stake in our collective future!

GROUP 2 SQUADRON AEOS: THIS SECTION IS FOR YOU!**BY MAJ VAN HENSON, ON GUARD AEROSPACE EDUCATION EDITOR**

AEOS! The On Guard e-Magazine is for all the squadrons in the Group. We want to know what's going on in Aerospace Education throughout the Group, and the only that will happen is if **you send me stories!** We're publishing quarterly, so I'll need the next set of stories by mid-August. Send stories and photos to me at

van.henson@cawgcap.org

AIRCREW EDUCATION

SAFETY FOCUS - SUMMER FLYING

SUMMER FLYING FOCUS VIDEOS



How the FAA Handles Severe Summer Weather



FAA Thunderstorms



Five reasons why flying in Summer is HARD

R-E-S-P-E-C-T THE WEATHER

Adapted from FAA Safety Briefing Mar/Apr 2015

The weather never stops — which means that respect for the weather is also a never-ending obligation for professional pilots. Let's use this word as a mnemonic to help you remember just a few of the things you can do to enhance your weather wisdom and ensure a safe flying season:

Review. Review your currency and proficiency, and remember that they are sometimes different. Make an honest assessment of your experience and comfort level for flying in marginal weather.

Educate. Education on weather always continues, especially for professional pilots. You can learn as much as you can about the weather. How do you get weather information? What can you know about the weather? Have you reviewed the weather minimums before your flight?

Share. Share what you know: make PIREPs to let other pilots know about the weather conditions you encounter, both good and bad. Your fellow pilots will appreciate knowing the areas to avoid and the altitudes and locations.

Plan. Plan for the worst. Have a plan — including an escape maneuver or alternate selection plan — for every flight that involves possible encounters with adverse weather.

Exercise. Exercise your skills regularly, and remember that proper practice makes perfect. Kick the Autopilot off later during the climb out and earlier on the approach (safety permitting) to keep your hand-flying skills current.

Communicate. Communicate your experience and best practices and encourage other CAP pilots to do the same. Talk to your crew about weather decision-making before, during, and review after the flight.

Train. Training and education are essential. A professional pilot is constantly learning and training, especially regarding aviation weather. You can use the links in this publication to learn something new or renew your weather knowledge.

SAFE FLYING!

AIRCREW EDUCATION

FLYING IN MOISTURE (USAIRNET.COM)

CIVIL AIR PATROL STAN/EVAL NEWSLETTER - APRIL 2023

Flying would be much easier if moisture were not such an influential component found in the atmosphere. Moisture in the air creates more hazards during flight than any other weather phenomenon. Water in the atmosphere is measured by relative humidity and dew point accompanied by a temperature-dew point spread. Knowing the conditions during which water changes state also helps pilots to avoid moisture-related problems during flight.

Relative humidity relates the actual amount of moisture in the air (in the form of a percentage) to what total amount of moisture could be held in the air (That means it is also a ratio!). Relative humidity expresses the degree of saturation. As a rule, cold air holds fewer water molecules than warmer air holds. If air is completely saturated with water molecules the humidity is 100%.

In relationship to the humidity is dew point. Dew point is the temperature (in degrees) to which air must be cooled to be saturated with water vapor already in the air. Weather reports for pilots usually include the dew point as well as the temperature. When the two are compared, the difference reveals to the pilot how close the air is to being 100% saturated. This difference is called the temperature-dew point spread.

On a clear night when the dew point is colder than 32 F and the temperature-dew point spread is 5 F or less and decreasing, then frost will form. Fog is most likely when the temperature-dew point spread is 5 F or less and decreasing. The fog would be lifting when the temperature-dew point spread begins increasing. Fog usually forms when the dew point and the temperature are within a few degrees of each other. The air temperature being lowered to the dew point, or the dew point being increased to the air temperature causes fog formation. Air temperature can be lowered as the air crosses over a colder surface like cold lake waters or a snow-covered area. Increasing atmospheric moisture occurs when air flows from a water source (large lake, ocean) and then moves over land. Pilots need to be mindful of the conditions which cause radiation fog and advection fog. Of the two types of fog, radiation fog does not hang around as long, it is less hazardous and more localized. This means that when flying at low altitudes, a pilot will encounter patches of it and be able to fly through it quickly.

Radiation fog (also known as ground fog) occurs most often during clear, cool autumn nights while the Earth's surface is rapidly cooling. It may hang in the air through the morning but dissipates a few hours after sunrise. Advection fog however, forms when air laden with moisture from a maritime area moves from the water area over higher terrain while gradually cooling. As the air temperature is reduced to the dew point advection fog forms. This happens most often during the winter months over the eastern half of the United States as moist air flows northward from the Gulf of Mexico across the land increasing in elevation and cooling as it moves. This same phenomenon occurs along the coastal region of California as warm winds blow across the chilled California Current resulting in advection fog that can stretch from San Francisco to San Diego.



AIRCREW EDUCATION

DOV LINKS

PROFESSIONAL EDUCATION

Aircrew Education - Summer Series

1. Stan and Eval Newsletters - May 23
 - o Link - [Here](#)
2. Density Altitude
 - o AOPA Air Safety Institute - n.d.
 - o Link - [Here](#)
3. ASI Safety Tip: Hot Starts
 - o AOPA Air Safety Institute - 15/82019
 - o Link - [Here](#)
4. How the FAA Handles Severe Summer Weather
 - o FAA -2024
 - o Link [Here](#)
5. Is It Ever Safe To Fly Underneath A Thunderstorm?
 - o [_Boldmethod](#)
 - o Link [Here](#)
6. Hot Weather Hazards
 - o NASA's Callback - Issue 511/Aug 2022
 - o Link [Here](#)
7. Aircraft Performance and Calculations
 - o FAA - Safety Briefing
 - o Link [Here](#)
8. The Airspace We Share - C172/UAS Midair
 - o FAA - Safety Briefing
 - o Link [Here](#)

Accident/Incident Case Studies

1. Early Analysis: Piper Lance Black Hole Departure April 5, 2023 Venice, FL
 - o AOPA Air Safety Institute
 - o Link [Here](#)
2. Accident Case Study: Risk Stacking
 - o AOPA Air Safety Institute
 - o Link - [Here](#)
3. Incorrect Traffic Pattern Entry Leads To Mid-Air Conflict
 - o [Boldmethod](#)
 - o Click [Here](#)
4. Glider Mis-assembly
 - o SSA - Safety and Training
 - o Link [Here](#)

GROUP 2 CAP AIRCRAFT

GROUP 2 PILOTS AND PLANES



Cessna 172 at Livermore. Video by Lt Col Luneau.



San Jose State Aviation Career Day. Photo by unknown.

DIVERSITY

CIVIL AIR PATROL CHAPLAIN DIVERSITY INITIATIVE KICKS OFF TO BETTER SERVE MEMBER NEEDS

BY 1ST LT KAI CHEN

Civil Air Patrol (CAP) California Wing is leading an effort to better support all members in their moral and spiritual welfare, and better provide guidance on CAP's core values to them by focusing on recruiting additional chaplains, especially from underrepresented groups.

Starting off this effort is a series of visits by **National Headquarters Recruiter for Jewish Affairs, CAP Chaplain (Maj.) Dovid Grossman**, accompanied by **Pacific Coast Region Chaplain (Maj.) Michael Morison** and **California Wing Chaplain (Maj.) Annamae Taubeneck**.

Chaplain (Maj.) Taubeneck spearheaded the campaign; in her goal to is grow the California Wing Chaplain Corps to better support and represent the diversity of the membership. In particular, she identified that female chaplains and several faiths, such as Judaism, were areas needing more representation. "Civil Air Patrol is a pluralistic, diverse community and together we are one Civil Air Patrol united by our mission and values." Said Chaplain Taubeneck, noting that she wanted to "make our Chaplain Corps as diverse as our membership!"

Together with Chaplain Morison, who wholeheartedly supports these efforts, Chaplain Taubneck reached out to Civil Air Patrol's National Chaplain of the Year, Chaplain Grossman, who in addition to being the Illinois Wing Chaplain, also directs the Institute of Jewish Chaplaincy, serving Jewish American Veterans across the nation. "Jews have proudly served in the American military since the original 13 colonies," noted Chaplain Grossman.

Chaplain Grossman came to California and together with Chaplain Taubeneck and Chaplain Morison embarked on a week long tour throughout the state, visiting and speaking to the Jewish community. Members of the public, religious leaders, Jewish War Veterans (JWV) members, and CAP members were all invited and the response has been very positive. "We all have community service and service above self in

common." Remarked Chaplain Grossman. Indeed, conversations ranged to many topics and the atmosphere has been very harmonious. Rabbi Hillel of Mill Valley, California even brought up some similarities of tools for youth development such as the books and rank award coins for "Tzivos Hashem" a children's "Army of G-d" which also carry a concept of rank and medals earned for achievement and growth.

During Chaplain Grossman's visits, attendees all engaged and the experience was positive for adults and youth alike, including for CAP cadets who attended. "What a thrill to share stories and have conversations with young Civil Air Patrol Cadets as well as older Jewish War Veterans together." Noted Chaplain Grossman. One of the CAP cadets who attended a gathering, Jon E Kramer Composite Squadron 10 in Palo Alto, California's Cadet Senior Airman Noam Morris, said the meeting was eye opening about CAP Chaplains in general, and it made him realize that "CAP Chaplain Corps is there for everyone, and really made me feel they are there for me if I ever felt the need to reach out." The synergy extended from membership to leadership of all groups. For example, the JWV national commander supported this effort by sending an email inviting their members to please come join the meetings and support CAP's efforts, and they definitely responded, which brought more people to each meeting.

The Chaplain Corps is an essential part of all three of CAP's missions: emergency services, cadet programs, and aerospace education. The chaplains watch out for the well being of every member, and serve as a moral and ethical thermostat, keeping the commanders apprised of any issues or concerns. They provide counsel and caring regardless of a person's faith, and are trained to help for everything from religious services to crisis response. Joining this very important group includes not only all the requirements for CAP senior membership, but also to be a fully ordained or qualified religious professional of their faith group among other training and education.

DIVERSITY

CIVIL AIR PATROL CHAPLAIN DIVERSITY INITIATIVE KICKS OFF TO BETTER SERVE MEMBER NEEDS

BY 1ST LT KAI CHEN

... Continued



LEFT TO RIGHT: LT. COL. MARC COHEN,CAWG, CHAPLAIN (MAJ.) DOVID GROSSMAN, ILLINOIS WING
PHOTO CREDIT: CHAPLAIN (MAJ.) MICHAEL MORISON,PCR.



LEFT TO RIGHT: CHANA SCOP AND RABBI HILLEL OF MILL VALLEY, CALIFORNIA, CHAPLAIN (MAJ.) DOVID GROSSMAN, ILLINOIS WING.
PHOTO CREDIT: CHAPLAIN (MAJ.) MICHAEL MORISON, PCR.



CHAPLAIN (MAJ.) DOVID GROSSMAN, ILLINOIS WING WITH CADETS FROM PANCHO BARNES COMPOSITE SQUADRON 49
PHOTO CREDIT: CHAPLAIN (MAJ.) MICHAEL MORISON,PCR.



TOP ROW LEFT TO RIGHT: RABBI LAIVY MOCHKIN, MAX CHESLOW, CADET SENIOR AIRMAN NOAM MORRIS,CAWG, ROBIN MORRIS, LT. COL. STEVE DOLGIN,CAWG, RACHEL RAPHAELSOHN, STELLA FILLER, ILYA RAVKIN, YIGAL, RABBI ZALMAN LEVIN

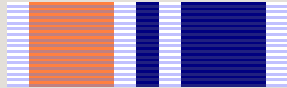
BOTTOM ROW LEFT TO RIGHT: CHAPLAIN (MAJ.) DOVID GROSSMAN, ILLINOIS WING, SHMUEL RAPHAELSOHN, PHILIP HAMMER, VIC FILLER, CHAPLAIN (MAJ.) ANNAMAE TAUBENECK, CAWG

PHOTO CREDIT: CHAPLAIN (MAJ.) MICHAEL MORISON, PCR.

EDUCATION AND TRAINING

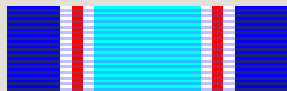
GROUP 2 EDUCATION AND TRAINING ACHIEVEMENTS

BY CAPT RICHARD WEST



Gill Robb Wilson Award (Level 5)

- Maj Herbert, Matthew (392878) [Sq36] #4084
2022-08-19
- Capt West, Richard (594385) [Sq80] #4102
2022-10-19
- Maj Swale, Stephen (587527) [Sq80] #4175
2023-03-13



Paul E Garber Award (Level 4)

- Maj Hollerbach, Karin (533719) [Sq188]
2022-07-11



Grover C Loening Award (Level 3)

- 1st Lt Sauer, Kurt (660429) [Sq156]
2022-09-12
- Capt Schultz, Robert (609678) [Sq10]
2022-10-30
- Capt Hockel, James (474241) [Sq86]
2023-02-03



Benjamin O Davis Award (Level 2)

Certificate only, no Ribbon

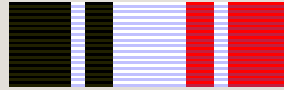
- 1st Lt McCrossan, David (541628) [Sq44]
2022-05-07
- Capt Goel, Ashish (670901) [Sq80]
2022-05-27
- 2d Lt Le, Kevin (677289) [Sq80]
2022-07-18
- 1st Lt Henighan, Collin (463056) [Sq18]
2022-08-02
- SM Thompson, Spencer (673608) [Sq188]
2022-09-14
- Capt Nadeau, Remi (574259) [Sq86]
2022-11-07
- 1st Lt Brown, James (492102) [Sq18]
2022-11-20
- 1st Lt Owen, Lynne (638669) [Sq13]
2022-11-20
- 2d Lt Wlad, Joseph (676637) [Sq188]
2022-11-23
- 1st Lt Behrens, Gina-Marie (660152) [Sq44]
2023-03-11
- 2d Lt Pegis, Nicholas (222563) [Sq192]
2023-04-06
- 1st Lt Owen, John (633397) [Sq13]
2023-04-19

It's been a year since On Guard was last published, so there are many members to recognize for their Education and Training achievements; Congratulations!

Continued on next page

EDUCATION AND TRAINING

GROUP 2 EDUCATION AND TRAINING ACHIEVEMENTS ... Continued



Membership Ribbon (Level 1)

SM Guerke, Bradley (669625) [Sq80] 2022-05-27	2d Lt Honigman, Donald (689352) [Sq188] 2022-10-06
SM Owen, Clifford (560719) [Sq13] 2022-06-07	2d Lt Darby, Sean (685246) [Sq13] 2022-10-25
Capt Hockel, Andrew (530400) [Sq44] 2022-06-09	SM Solodchenko, Kirill (693084) [Sq156] 2022-11-16
SM Soliz, John (682051) [Sq156] 2022-06-12	SM Cha, Noah (693431) [Sq18] 2022-11-28
2d Lt Coates, Marie (670419) [Sq36] 2022-06-14	2d Lt Streeter, Zaina (687975) [Sq188] 2022-12-02
SM Watson, Doris (683660) [Sq156] 2022-06-26	2d Lt Streeter, Kevin (687974) [Sq44] 2022-12-07
SM Shrivastava, Manish (679724) [Sq156] 2022-07-10	SM Hudson, Michael (694776) [Sq44] 2022-12-19
SM McAninch, Danny (684080) [Sq44] 2022-07-19	SM Haile, Samson (695592) [Sq44] 2022-12-21
SM Beier, Steven (685696) [Sq36] 2022-08-01	SM Yum, Joe (694757) [Sq44] 2022-12-21
SM Vennam, Sriya (686009) [Sq36] 2022-08-02	SM Channabasappa, Naga Prasad (691464) [Sq80] 2023-01-09
1st Lt Wong, Spencer (580430) [Sq86] 2022-08-03	SM Hernandez, Arthur (694306) [Sq156] 2023-01-12
SM Nilsen, Hannah (584076) [Sq18] 2022-08-05	SM Jennings, David (681150) [Sq44] 2023-01-12
SM Shih, Jingluen (686084) [Sq80] 2022-08-08	SM Gomez, Valerie (569584) [Sq44] 2023-01-17
2d Lt Muresan, Elisa (686153) [Sq10] 2022-08-10	SM Liu, Xin (682031) [Sq156] 2023-01-21
2d Lt Current, John (686233) [Sq192] 2022-08-19	1st Lt Acevedo, Apolinar (610510) [Sq44] 2023-01-30
SM Chen, Chiayin (686500) [Sq80] 2022-08-21	SM Ho, Jeffrey (695946) [Sq10] 2023-02-04
SM Hunt, Kelly (685179) [Sq192] 2022-09-05	SM Fukuhara, Akiko (695947) [Sq10] 2023-02-04
SM Bajwa, Jagdeep (687158) [Sq188] 2022-09-25	SM Vernica, Rares (697702) [Sq10] 2023-02-07
Capt Garrett, Alexander (144123) [Gp2] 2022-09-27	SM Leung, Peter (697675) [Sq192] 2023-02-13
SM Rao, Arun (684782) [Sq10] 2022-10-01	SM Huang, Jerry (691151) [Sq80] 2023-02-13

Continued on next page

EDUCATION AND TRAINING

GROUP 2 EDUCATION AND TRAINING ACHIEVEMENTS ... Continued



Membership Ribbon (Level 1) (cont)

SM Sullivan, David (556427) [Sq44]
2023-02-15

SM Dalyanoglu, Dora (699049) [Sq192]
2023-03-04

SM Betton, Jovan (692479) [Sq44]
2023-03-20

SM Arora, Randeep (696323) [Sq44]
2023-03-31

SM Melvin, Collene (700804) [Sq80]
2023-04-10

SM Richardson, Scott (700880) [Sq10]
2023-04-11

SM Michaels, Kevin (702013) [Sq156]
2023-04-26

SM Trueblood, Jacob (702039) [Sq156]
2023-04-26

SM Lowery, Charles (700705) [Sq44]
2023-04-30



Specialty Track Master Rating (Silver Star on Leadership Ribbon)

Lt Col Lawson, Shawn (284815) [Gp2]
Professional Development — 2022-07-13

1st Lt Kalidoss, Kailash (638223) [Sq80]
Aerospace — 2022-07-22

1st Lt Winter, William (654850) [Sq36]
Health Services — 2022-08-21

Capt Nadeau, Remi (574259) [Sq86]
Aerospace — 2022-11-16

Lt Col Lawson, Shawn (284815) [Gp2]
Personnel — 2023-01-02

Capt West, Richard (594385) [Sq80]
Emergency Services — 2023-01-07

Maj Henson, Van (534976) [Sq156]
Aerospace — 2023-01-11



Specialty Track Senior Rating (Bronze Star on Leadership Ribbon)

1st Lt Fritsche, Michael (246103) [Sq13]
Safety — 2022-05-04

Capt Collins, Stephen (610399) [Sq192]
Command — 2022-05-26

Capt Hockel, Andrew (530400) [Sq44]
Cadet Programs — 2022-06-20

Capt West, Richard (594385) [Sq80]
Command — 2022-08-09

1st Lt Sauer, Kurt (660429) [Sq156]
Communications — 2022-09-07

Capt Schultz, Robert (609678) [Sq10]
Emergency Services — 2022-10-27

Maj Spears, Joseph (578345) [Sq156]
Command — 2023-01-14

Maj Spears, Joseph (578345) [Sq156]
Personnel — 2023-01-20

Capt Hockel, James (474241) [Sq86]
Administration — 2023-02-14

Capt Hockel, James (474241) [Sq86]
Cadet Programs — 2023-02-14

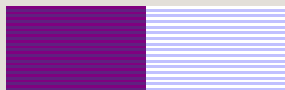
Capt Hockel, James (474241) [Sq86]
Personnel — 2023-02-14

Capt Carter, Michael (218816) [Sq156]
Aerospace — 2023-03-02

Continued on next page

EDUCATION AND TRAINING

GROUP 2 EDUCATION AND TRAINING ACHIEVEMENTS ... Continued



Leadership Ribbon: Specialty Track Technician Rating

Capt Goel, Ashish (670901) [Sq80] Communications — 2022-05-27	2d Lt Wlad, Joseph (676637) [Sq188] Aerospace — 2022-11-16
1st Lt Feain, Padraig (480466) [Sq10] Cadet Programs — 2022-06-24	2d Lt Le, Kevin (677289) [Sq80] Safety — 2022-11-16
Capt Goel, Ashish (670901) [Sq80] Aerospace — 2022-07-08	1st Lt Richards, Kimate (612393) [Sq156] Character Development — 2022-12-19
Capt Hockel, James (474241) [Sq86] Professional Development — 2022-07-17	1st Lt Wong, Spencer (580430) [Sq86] Cadet Programs — 2023-01-04
2d Lt Le, Kevin (677289) [Sq80] Emergency Services — 2022-07-18	1st Lt Acevedo, Apolinar (610510) [Sq44] Cadet Programs — 2023-02-13
Capt Collins, Stephen (610399) [Sq192] Logistics — 2022-08-05	1st Lt Acevedo, Apolinar (610510) [Sq44] Emergency Services — 2023-02-13
Capt Collins, Stephen (610399) [Sq192] Personnel — 2022-08-05	Maj Spears, Joseph (578345) [Sq156] Recruiting And Retention Officer — 2023-02-13
1st Lt Winter, William (654850) [Sq36] Cadet Programs — 2022-08-21	1st Lt Chen, Kai (660399) [Sq10] Cadet Programs — 2023-02-24
1st Lt Sauer, Kurt (660429) [Sq156] Administration — 2022-08-24	1st Lt Chen, Kai (660399) [Sq10] Character Development — 2023-03-20
SM Thompson, Spencer (673608) [Sq188] Personnel — 2022-09-14	2d Lt Pegis, Nicholas (222563) [Sq192] Cadet Programs — 2023-04-03
Maj Spears, Joseph (578345) [Sq156] Communications — 2022-09-23	2d Lt Muresan, Elisa (686153) [Sq10] Finance — 2023-04-10
1st Lt Gomez, Armando (576054) [Sq44] Safety — 2022-10-12	2d Lt Muresan, Elisa (686153) [Sq10] Aerospace — 2023-04-11
Capt Hockel, James (474241) [Sq86] Aerospace — 2022-10-26	Capt Gonzenbach, Aaron (674988) [Sq44] Chaplain — 2023-04-18
1st Lt Owen, Lynne (638669) [Sq13] Cadet Programs — 2022-10-31	1st Lt Owen, John (633397) [Sq13] Emergency Services — 2023-04-19
2d Lt Sheley, Cabot (643797) [Sq192] Emergency Services — 2022-11-14	Capt Stieber, Anthony (123066) [Sq10] Safety — 2023-04-25

ANNOUNCEMENTS**AEROSPACE EDUCATION AND STEM ACADEMY (AESA) 2023****Date and time:**

8-15 July 2023

Location:

Edwards Air Force Base, CA

Highlight for 2023 AESA:

- Exclusive tours of the F-22, F-35, and Ordnance Explosive Dept.
- Engaging guest speakers from the aerospace industry
- In-depth study and hands-on experiences with STEM kits
- Redbird Flight Simulator, Wind Tunnel and Kerbal
- Surprises and Fun

Register [here](#).**CALIFORNIA WING ENCAMPMENT 2023****Date and time:**

22-30 July 2023

Location:

Camp Roberts, San Miguel, CA

Check [here](#) for updated information.

ANNOUNCEMENTS**CIVIL AIR PATROL NATIONAL CONFERENCE 2023**

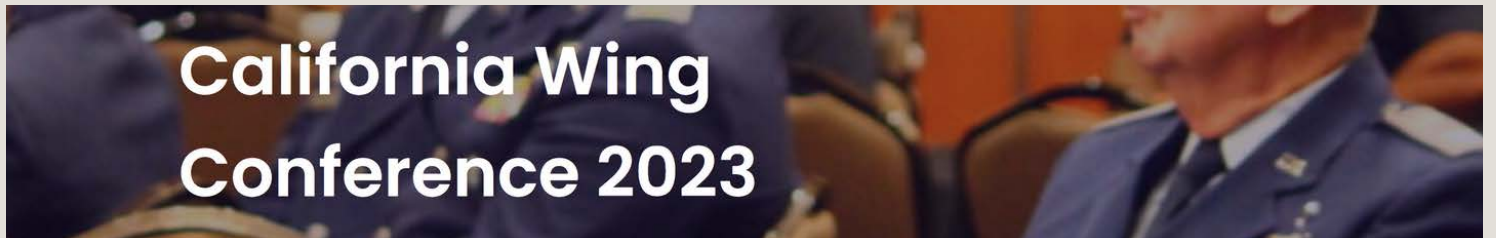
Join with more than 700 of your fellow members as Civil Air Patrol members from across the organization come together again to Connect, Collaborate, and Celebrate! Register [here](#).

Date and time:

18 - 19 August 2023

Location:

Hyatt Regency Bellevue On Seattle's Eastside
900 Bellevue Way, Northeast Bellevue, WA 98004

CALIFORNIA WING CONFERENCE 2023

California Wing Conference 2023 (CWC23) is the premiere professional development and networking event on the calendar. Details can be found on [the conference website](#). Registration will be opening soon.

At this year's conference, we bid farewell to Col Ross Veta as his command comes to an end and welcome the incoming commander who will present their vision for the next three years.

Date and time:

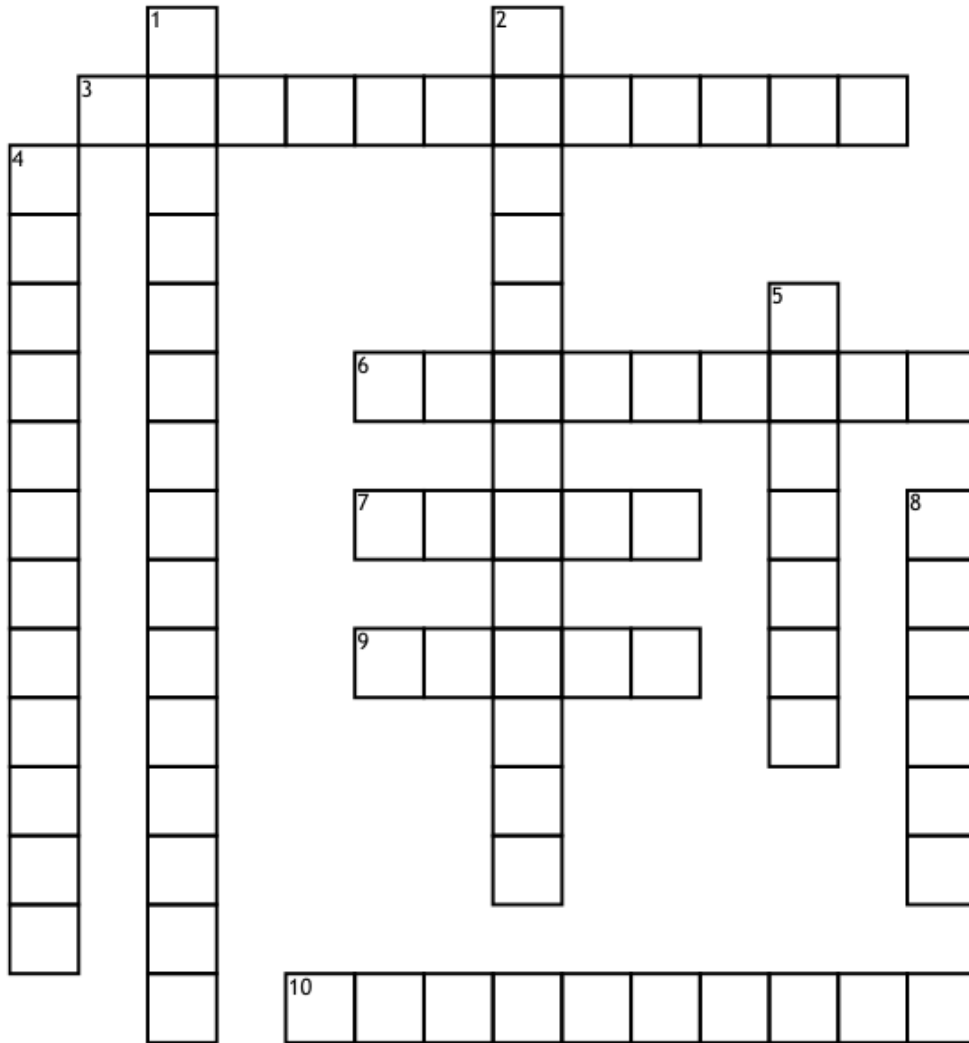
19 - 22 October 2023

Location:

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

FUN AND GAMES

Principles of Flight Vocabulary



Across

- 3. _____ is the way objects move through the air.
- 6. The straight line between the foremost and hindmost points of an airfoil viewed from the side is called the _____.
- 7. A _____ is a rapid reduction in lifting force caused by exceeding the critical angle of attack.
- 9. Up and down movement of the plane's nose is _____.
- 10. Controlled space for testing airflow over a wing is a _____.

Down

- 1. Theory
- 2. The angle between the direction of the relative wind and chord line of airfoil is the _____.
- 4. The motion of air as it relates to the aircraft within it is _____.
- 5. A _____ is a structure such as a wing or propeller blade
- 8. The curve of an airfoil is the _____.

FUN AND GAMES

A propeller is just a big fan in front of the plane to keep the pilot cool.



When it stops, you can actually see the pilot start sweating.

