



# 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 sixth edition of the Group 2 Magazine - On Guard!

In this edition we have a special section on the C130 flights with the 129th Air Rescue Wing, and numerous updates to our Cadet, ES, Aerospace Education, Aircrew Education and Education and Training sections. The answers to November's Mystery Word Search 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 **February edition**, due 30 Jan 21. Please send all articles to the Group 2 website [Here](#).

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](#) here: @civilairpatrolgroup2. Tag us on [Twitter](#) here: @CAPGroup2CA.

Just a reminder that we have a new **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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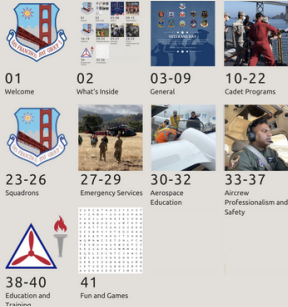
# ON GUARD SAN FRANCISCO BAY GROUP 2

What's inside this issue



01

Welcome



02

What's Inside



03-04

General



05-08

Cadet Programs



09-11

Cadet Flight Training



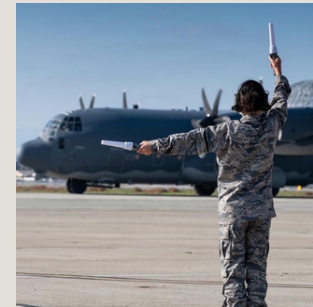
12-15

Squadrons



16-20

Emergency Services



21-25

Aerospace Education



26-31

Aircrew Education



32-35

Education and Training



36

Fun and Games



GENERAL

**HAPPY HOLIDAYS GROUP 2**

BY LT COL SHAWN LAWSON

As we wrap up 2021, we can look back and easily be proud of what we've accomplished. It's been a difficult year for many, and there's still a long road ahead, but safe to say we ended it in a much better place than when we went in and I'm hopeful for an even more prosperous 2022. I urge you to make the most of this holiday season; relax, take some much-needed time away from CAP, be with your friends and family and recharge your batteries. If any of you need anything, feel free to reach out to my directly. From my family to yours, happy holidays and we'll see you in 2022

This will be the final issue for two months as the next On Guard release will be published on 15 February 2022.

Save up your stories and send them to us for publication!



GENERAL

**CAP 80TH ANNIVERSARY!**

For Civil Air Patrol's 80th anniversary, Maj. Ronald C. Finger of the Minnesota Wing's Crow Wing Composite Squadron worked with Col. Frank Blazich of the Col. Louisa S. Morse Center for Civil Air Patrol History, CAP national historian, on a special project -- to create "Timeline Flight" paintings showcasing some of the wide variety of CAP aircraft flown over the years. The 21 aircraft selected span the Coastal Patrol days of World War II, the postwar years and finally the aircraft Civil Air Patrol aircrews fly today. For more information, please visit CAP .news [Here](#).

See the 80th Anniversary celebration on Dec 1, 21 [Here](#).



### CADET PROGRAMS

## SQUADRON 86 JOINS JROTC IN THEIR ANNUAL DRILL COMPETITION

BY LT COL GRACE EDINBORO

Cadets from San Francisco Cadet Squadron 86 participated in the San Francisco JROTC Brigade Annual Drill Competition on 5 December 2021 for the first time. The squadron entered teams in several categories:

- Uniform Inspection
- Guidon
- Intermediate Squad (element) Drill
- Advanced Squad Drill
- Individual Drill Down – Beginner Level
- Individual Drill Down – Intermediate Level

Different from a CAP drill competition, the cadets got a lot out of the process, including becoming better drillers. The cadet leaders faced definite challenges in trying to form and train the teams, but the squadron cadets rose to the occasion.

Squadron 86 participants included C/2d Lt Carter Wong, C/2d Lt Emmanuel Nascimento, C/SMSGT Toby Lee, C/SMSGT Ainsley Wong, C/MSGT Peter Nascimento, C/SSGT Benjamin Chow, C/SrA Zorianna Mui, and C/SrA Harrison Wong. Lt Col Grace Edinboro served as the Chief Judge, and 2d Lt Larry Wong assisted the Scorekeeper.

Though the squadron didn't place in the two squad events, they did great in the individual events. C/SrA Harrison Wong placed second in the Beginner category for Individual Drill Down, and C/MSGT Peter Nascimento and C/SMSGT Ainsley Wong placed first in the Intermediate category for Individual Drill Down.

The cadets and seniors enjoyed meeting and interacting with the JROTC units from the San Francisco Brigade, and held their own, though being a smaller group than most of the schools fielded. In an email from one of the Senior Army Instructors after the event, MAJ Stephen Kent sent out to all the school instructors: I was most impressed by the CAP contingent both on and off of the drill field. With regard to their uniform, appearance, and poise, the CAP contingent carried themselves like seasoned "Regulars."

Excellence in Action – indeed!



*L to R: C/Capt AJ Acevedo (Sq 44), C/MSGT Peter Nascimento, C/SMSGT Toby Lee, C/SMSGT Ainsley Wong, C/2d Lt Carter Wong, C/SrA Harrison Wong, C/TSgt Andrew Hui, C/SrA Benjamin Chow, C/SrA Zorianna Mui, Lt Col Grace Edinboro, and C/2d Lt Emmanuel Nascimento (in his JROTC uniform)*



*Individual Drill Down Winners and Cadet Commander acknowledged for their achievements. L to R: C/SrA Harrison Wong (2nd Place, Beginner IDD), C/MSGT Peter Nascimento (1st Place Intermediate IDD), and C/2d Lt Carter Wong.*



*The participants in the competition pose for a photo – CAP stands out!*

### CADET PROGRAMS

## YOUNG EAGLES EVENTS HELP BROADEN CAP APPEAL

BY 2D LT , DAVID MCCROSSAN

Diablo Composite Squadron 44 closed out another year of supporting Young Eagles (YE) flyers at their events hosted by the EAA local chapter program at Buchanan Field, Concord, CA.

It's not always appreciated just how effective these events can be in helping with recruitment of potential cadets and their senior parents at units far beyond the local squadron.

YE events tend to draw families from a wider area than the local unit. This was the case with the final event of the year at Concord on November 20, 2021, where 32 young fliers from across the East Bay took advantage of the YE free rides program.

Squadron 44 cadets managed gate control and ramp access, ensuring safe participation by parents and young flyers. At the recruitment booth, Sq 44 volunteers were able to direct several parents to adjacent squadrons in their area with interest in CAP, to Livermore at Squadron 156 and San Jose Squadron 80 at Reid-Hillview Airport.



*2d Lt Gia Behrens, CAP Diablo Composite Squadron 44, at a Young Eagles event at Buchanan Field, Concord, November 20, 2021, answers questions from parents interested in CAP, and directing several to adjacent squadrons in Group 2. Young Eagles events are an important source of potential recruits and an opportunity to showcase CAP programs to both seniors and potential cadets. (2d Lt David McCrossan, CAP Sq. 44 PAO)*



*Martin of CAP Diablo Composite Squadron 44 points out correct use of the rope line in a briefing to cadets tasked with managing safe general public access to the ramp for participating flyers in the Young Eagles program November 20, 2021 at Buchanan Field, Concord, CA (2d Lt David McCrossan, CAP Sq. 44 PAO)*



*2d Lt Gia Behrens, CAP Diablo Composite Squadron 44, at a Young Eagles event at Buchanan Field, Concord, November 20, 2021, answers questions from parents interested in CAP, and directing several to adjacent squadrons in Group 2. Young Eagles events are an important source of potential recruits and an opportunity to showcase CAP programs to both seniors and potential cadets. (2d Lt David McCrossan, CAP Sq. 44 PAO)*

### CADET PROGRAMS

## REUNION OF CADETS – 40 YEARS LATER!

BY LT COL GRACE EDINBORO

Wreaths Across America ceremonies are meaningful in many ways. The one in San Francisco became so much more on December 18, 2021. While waiting for a cadet's mother to pick him up, I noticed a San Francisco police officer approaching. They were leaving the cemetery, so I initially paid little attention, when he walked right up to me and said hi. Al Goto and I, and George Ishikata were cadets together in Squadron 86 from 1977 to the early 1980's. We went through encampment in the 7th Cadet Training Squadron – he and George were in B Flight, I was in D. I haven't seen him since he left CAP. He doesn't look much different (neither do I)! It was amazing seeing him again, and we're making plans to get together and reminisce. He may even be able to contribute some communications training for our cadets with equipment the SFPD emergency teams use!



*Lt Col Grace Edinboro with SFPD Police Officer, and former CAP Cadet, Al Goto.*

## WREATHS ACROSS AMERICA

BY LT COL GRACE EDINBORO

San Francisco Cadet Squadron 86 hasn't participated in Wreaths Across America before, but signed up to help lay the wreaths this year. The San Francisco National Cemetery in the Presidio National Park is very picturesque – and though it was a chilly day, it was beautiful, with a gorgeous view of Alcatraz and Marin County and the San Francisco Bay in the distance.



*C/SrA Zorianna Mui, Lt Col Grace Edinboro, and C/Amn Levi Lum.*



*SM Emmanuel Sansano at his first CAP activity.*

### CADET PROGRAMS

## SILP II OPEN FOR STUDENT REGISTRATIONS!

BY C/CAPT LEON ZHAO  
SILP II CADET CHIEF OF STAFF

### Super ILP Weekend 2022

14-17 Jan 2022

Joint Forces Training Base Los Alamitos  
11206 Lexington Dr. Los Alamitos, CA 90720

**In-Processing 1900-2130 on JAN 14**

**Graduation: 1030 on JAN 17**

**Registration Deadline: Sunday, December 26th**

Students: \$75 (Scholarships available!), Cadet Staff: \$75, and Seniors: \$40

The SILP II staff is excited to announce the opening of student registrations for California Wing's second ever Super Integrated Leadership Program, SILP II. Held over MLK weekend at Joint Forces Training Base Los Alamitos, SILP is CAWG's way of combining the first 4 schools in the Integrated Leadership Program, teaching Phase I and II cadets leadership skills such as learning and leading in drill and ceremonies, PT, public speaking, NCO responsibilities, customs and courtesies, and more.

Basic Cadet School (BCS), Airmen Training School (ATS), Non-commissioned Officer School (NCOS), and Senior Non-commissioned Officer School (SNCOS) are all open for student registrations. Do not delay and register as a student today! Student registration closes December 26th.

**CADETS APPLYING FOR SCHOLARSHIPS:** If you are in need of financial assistance, scholarships may be available for you to attend NCOS. Please click [here](#) for more information on scholarships and application procedures. Awards from the Lt Col Tony Upton Scholarship or the Cadet Character & Leadership Foundation (CCLF) Scholarship may be applied toward an NCOS. If you are registering for SILP II with a scholarship, please apply for the scholarship first! Then, email the activity director ([christa.cabrera@cawgcap.org](mailto:christa.cabrera@cawgcap.org)) and provide your name and the scholarship you have applied for. If you have an approved scholarship, please email the finance officer with the proof of approval BEFORE registering in order to obtain a special code to use when registering.

Register Now: <http://www.cawgcadets.org/silp2022>




**Civil Air Patrol - California Wing**  
Integrated Leadership Program  
**Super ILP Weekend**

14-16 January 2022 - Los Alamitos, CA

 <p><b>Basic Cadet School</b> C/AB - C/Amn Learn the Basics!</p>	 <p><b>Airman Training School</b> C/Amn - C/SRA Sharpen Your Skills!</p>	
 <p><b>NCO School</b> C/SrA - C/CMsGt Lead a Flight!</p>	 <p><b>Senior NCO School</b> C/TSgt - C/CMsGt Become a top NCO!</p>	

**Cost:**  
\$75 - Includes: Meals, Billeting, Training Materials, SILP T-shirt

**Where:**  
Joint Training Forces Base  
11206 Lexington Dr.  
Los Alamitos, CA 90720

**Prerequisites:**  
Encampment Grad - NCOS & SNCOS  
Meet Grade requirements  
Need SQ Commander Approval!

**Senior members:**  
We need you! Email Maj Christa Cabrera at [christa.cabrera@cawgcap.org](mailto:christa.cabrera@cawgcap.org) to support the activity!

**Apply for Cadre!**  
Check your emails! Each school and SILP staff will be sending out information regarding the open positions, with specific requirements for each. Use the application link to submit a resume, cover letter, and full-length blues photo! Though Deputy for Operations and XO applications are due November 15th, general applications are due **November 29th**.

**Registration open Nov 14th - Dec 26th!**  
Visit [CawgCadets.org](http://CawgCadets.org) and follow @CAWGCadets on social media for more information!





### CADET FLIGHT TRAINING

## WENDOVER GLIDER FLIGHT ACADEMY 2021

BY LT COL NOEL LUNEAU

Great News for CAWG Cadet Glider Applicants, Cadet Staff, CFG's, Tow Pilots, Winch Operators, etc.

STUDENTS APPLY HERE at <https://www.gocivilairpatrol.com/programs/cadets/activities/national-cadet-special-activities/nfa-pacificrocky-mountain-regions-glider-academy>

For Scholarships see the next page

The Nevada, Utah, California, and Idaho Wings are pleased to announce that the Wendover 2022 Glider Academy is underway!

What does this mean? For cadets, this means that a fantastic opportunity to take a step closer in achieving your flight goals has opened up! The Wendover Glider Flight Academy is an educational and flight training experience for CAP cadets. It features one week of flying, ground school, and other activities to help cadets take another step in reaching their Private Pilot Wings!

Where is it? - The academy will be held at the historic Wendover Army Air Base in Wendover, Utah!! (Wendover Airport 345 Airport Way, Wendover UT 84083)

When does it start? - The first day of the academy will begin on July 2nd, 2022, and the graduation will be held on July 9th 2022. (Staff are expected to arrive on the 30th of June)

Who should be there? -

\*(Students) All cadets age 14 or above by July 2nd, who are interested in flight (ideally with encampment credit) should sign up ASAP before December 30th!

\*(Cadet Staff) Encampment graduates preferably with past aviation experience, who like teaching, guiding, and helping the next generation of aviators!

\*(Senior Members) All those who are CFG's, Tow Pilots, Winch Operators, or those who would like to volunteer their time into helping with the operation of this Academy!

**STAFF & STUDENTS APPLY NOW!**

**WENDOVER GLIDER ACADEMY**  
July 2nd - July 9th 2022

To Sign Up Contact:  
C/Capt Luz Sandoval  
Cadet Coordinator  
[luz.sandoval@nvwgcap.org](mailto:luz.sandoval@nvwgcap.org)  
(775)430-0148

\*Senior Staff and Personnel should contact: C/Lt Col Altunin – Project Coordinator and Lt Col Elizabeth Tattersall - Lead CFG at the emails below and above cc'd:

[ivan.altunin@nvwgcap.org](mailto:ivan.altunin@nvwgcap.org)  
[elizabeth.tattersall@nvwgcap.org](mailto:elizabeth.tattersall@nvwgcap.org)

\*Cadet Staff should contact: C/Capt Luz Sandoval - Cadet Coordinator  
[luz.sandoval@nvwgcap.org](mailto:luz.sandoval@nvwgcap.org)  
(Registration for staff is \$150.00)

Keep in mind the 20 student slots fill up fast and first priority will be given to the top 5 applicants from each of the participating wings (Utah, Nevada, Idaho, and California). If there are still slots left, priority is given to Rocky Mountain & Pacific Region Cadets, then in the event slots are still open, cadets from outside of either region may be selected. Registration cost for students will be \$800.00, local flight scholarships may be an option for financial aid for cadets.

Thank you and we hope to see you there!

Wendover 2022 Glider Flight Academy Planning Team

### CADET FLIGHT TRAINING

## CADETINVEST SCHOLARSHIP AND ASSISTANCE APPLICATIONS ARE OPEN

BY CAPT JOE SPEARS

CadetInvest is a program that offers financial assistance to pay for flight training, career exploration and undergraduate education. CAP uses a single application for all of its scholarship and funding and this application is found in eServices. The application period is open through 31 December 2021, so cadets are encouraged to apply as soon as possible.

Civil Air Patrol is proud of the financial assistance that it provides to select, deserving cadets. Some programs are merit-based awards meaning that cadets compete for funding based on their experience and education. Other programs are needs-based. That means that cadets must meet specific financial criteria for eligibility. Many cadets will be eligible for both types of programs so all cadets are encouraged to apply.

This year's scholarship portfolio is over \$1.35 million in financial assistance.



While some programs require cadets to be a particular grade or rank, not all programs do. If there is a scholarship or assistance program that cadets do not currently qualify for, those cadets are encouraged to aggressively promote so that they will be eligible for those programs next year.

Other requirements, such as academic requirements, are described for each award in the Cadet Invest application in eServices.

For full details about how to start your CadetInvest application, please visit the CadetInvest page on [gocivilairpatrol.com](http://gocivilairpatrol.com).

The CadetInvest application can be found in eServices under the Cadet Programs menu option.

Once the CadetInvest application page is opened, click the "Apply for CadetInvest" module.

See our November release [Here](#) for more info on how to apply.



**CADET FLIGHT TRAINING**

**LEARN TO FLY**

BY CAPT JOE SPEARS

Many of our cadets join Civil Air Patrol for the opportunities that it gives to jump-start a career in aviation. For cadets who are interested in one of the many flight scholarships available (including the CadetInvest scholarships that will open in the fall), one way to be more competitive is to complete the FAA Knowledge Test.

To take the FAA knowledge test, students must complete a study course either in a classroom or through one of many multimedia presentations. Our cadets are eligible for the Sporty's Pilot Shop "Learn to Fly" course for free (which is a \$249 value). In addition, your fee for the FAA knowledge test is reimbursable.

CAP is partners with EAA, the Experimental Aircraft Association. When cadets complete their first CAP orientation flight, EAA considers them one of their "Young Eagles."

For more information, please visit the CAP Cadets & Young Eagles webpage on the NHQ Website [Here](#).



**AOPA AV8RS  
 YOUTH FREE  
 MEMBERSHIP**

**NHQ PRESENTATION**

Your member benefits:

- Flight Training magazine, digital edition.
- Special scholarships opportunities.
- Flight Training helpline for advice and guidance.
- Online tools to explore airports and places to fly.
- Access to interactive safety courses and quizzes to test your knowledge.
- AOPA App featuring aviation video content and podcasts.
- Access to the Flight Training College Aviation directory.

Join for free [Here](#).

**PRIVATE PILOT  
 PATHWAY  
 OPPORTUNITIES  
 FOR CADETS**

**NHQ PRESENTATION**

View the below presentation from NHQ that provides an overview of the various ways of becoming a Private Pilot inside or outside of CAP.



**NEW SCHOLARSHIP  
 AVAILABLE**

The Sheltair and Avfuel: Future Takes Flight Scholarships will provide \$30,000 in educational funds annually. Each year, the program will award six \$5,000 scholarships across three categories: two for learning to fly or advanced pilot ratings; two for aviation technicians; and two for continuing education. By splitting the scholarship funds across three key categories, Sheltair and Avfuel seek to support advancement throughout a broad scope of educational opportunities within business aviation.

Learning to Fly or Advanced Pilot Ratings | Two Scholarships | \$5,000 Each  
 Funds in the learning to fly or advanced pilot ratings category can be used for coursework or flight lessons for students pursuing their private pilot certificate, adding a type rating (multi-engine, commercial or others), adding to their certificate with an ATP, completing a bachelor's degree, working toward a CAM certification, or completing upset recovery training.

Go [Here](#) to apply.

## SQUADRONS



### SQUADRON 10 PALO ALTO

C-130 FLIGHTS  
4 DEC 2021

Cadets from San Francisco Bay Group 2, California Wing, Civil Air Patrol including Civil Air Patrol - Jon E. Kramer Composite Squadron 10 - Palo Alto had the amazing opportunity and honor of being hosted at Moffett airfield for an incentive flight in a C-130!

See more [Here](#).



### SQUADRON 13 WATSONVILLE

SEARCH EFFORT LINK  
11 DEC 2021

Well done to CAP volunteers in using their National Radar and Cell Phone Forensics team training to successfully locate a father and daughter involved in an aircraft accident. This was a search effort where CAP volunteers made the critical difference.

Click [Here](#) for more Info



### SQUADRON 18 HAYWARD

WREATHS ACROSS  
AMERICA  
4 DEC 2021

Thank you for supporting the Firebirds, East Bay Cadet, Squadron 18 Wreaths Across America efforts. With your help, our group sponsored 86 wreaths for our local heroes.

On December 18, 2021 at 08:45 am, East Bay Cadet Squadron 18, Hayward CA (CA0052P) will be helping Golden Gate National Cemetery to Remember and Honor our veterans by laying Remembrance wreaths on the graves of our country's fallen heroes.

[https://youtu.be/\\_VRRpkO87qE](https://youtu.be/_VRRpkO87qE)



### SQUADRONS



**SQUADRON  
36  
SAN JOSE**

**BUZZIN' THE BAY!  
DEC 2021**

Last week, cadets from all over Group 2 were invited by the 129th Rescue Wing to take an O-Ride in their very own HC-130 Combat King III! Cadets spent the morning in the 129th's Operations Building to learn more about their field of work and the Air National Guard. After a quick briefing, the cadets headed outside and waited as Cadet Inca Stienhans helped marshal in the C-130! Around 20 cadets and senior members boarded the Hercules and spent an hour up in the air flying around the San Francisco Bay looking at famous landmarks from a bird's eye view! See more [Here](#).



**SQUADRON  
44  
CONCORD**

**C/CAPT ACEVEDO, SLIP  
DEC 2021**

Congratulations C/Capt Acevedo on your next challenge of commanding the ATS school, part of the Super ILP Weekend 2022, 14-17 Jan 2022 at Joint Forces Training Base Los Alamitos. More Info [Here](#).



**SQUADRON  
80  
SAN JOSE**

**UL94 TRANSITION  
14 DEC 2021**

San Jose Senior Squadron 80 is thankful for the support of our higher headquarters in making this transition to unleaded avgas possible for the aircraft we manage. See more Info [Here](#).



## SQUADRONS



### SQUADRON 86 SAN FRANCISCO

**2021 SAN FRANCISCO  
JROTC FALL DRILL  
COMPETITION  
5 DEC 2021**

The cadets competed in the 2021 San Francisco JROTC Fall Drill Competition for the first time and won 1st place in the Individual Drill Down LET2 and 2nd place in the Individual Drill Down LET1! See more Info [Here](#).



### SQUADRON 156 TRI-VALLEY

**NO NOTICE EXERCISE  
17 NOV 2021**

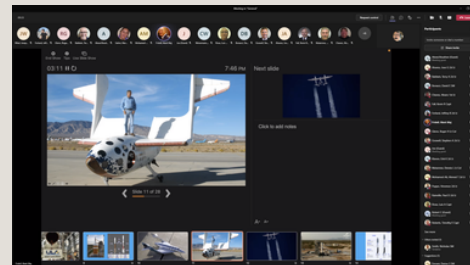
Squadron 156 members participated in a no-notice exercise this evening to measure our emergency services mission readiness. Led by senior members, cadets filled critical roles at the mission base and as Urban Direction Finding Team members. Our second sortie found the practice beacon. Mission accomplished!



### SQUADRON 188 OAKLAND

**SPACE RACE  
7 DEC 2021**

Excellent Aerospace Education presentation by Maj Fridell tonight about the latest Space Race during our well-attended final monthly all-hands meeting of 2021. We welcomed a new member, congratulated our members for their achievements and awards, received safety education, and reviewed upcoming events and training opportunities. See the video of the presentation on YouTube [Here](#), or click below.



## SQUADRONS



### SQUADRON 192 SAN CARLOS

#### MORAL DECISION MAKING 14 DEC 2021

This week, cadets participated in a character development activity involving moral decision making. Cadets discussed their own personal decision making process and morals.



### SAN FRANCISCO BAY GROUP 2

#### GROUP COMMANDER ATTENDS SQ. 156 CHANGE OF COMMAND - 14 DEC 2021

Group Commander, Lt Col Shawn Lawson officiated at the Tri-Valley Composite Squadron 156's Change of Command from Capt Mike Carter to Capt Joe Spears.



*Group 2 Commander, Lt Col Shawn Lawson received the Gill Robb Wilson award from Region Commander Col George Ishikata for successfully completing level V.*



*Incoming Squadron 156 Commander Capt Joe Spears (above), and Wing Asst. Historian Capt Nilkolay Zhrebnekov (below), received the Gill Robb Wilson awards from Region Commander Col George Ishikata for successfully completing level V.*



*Group Commander, Lt Col Shawn Lawson officiated at Tri-Valley Composite Squadron 156's Change of Command from Capt Mike Carter to Capt Joe Spears.*



*Squadron 156 members and guests assemble for speeches after the Change of Command ceremony. (Above and below)*



All pictures above are courtesy of 2d Lt Jose Alvarez, Sq. 188. More event pictures are located on CAWG Internal OneDrive [Here](#).

### EMERGENCY SERVICES

## GROUP 2 MEMBERS PROVIDE ICS 300 AND 400 INSTRUCTION TO ACTIVE DUTY AIR FORCE PERSONNEL

BY MAJ GEORGE GADD

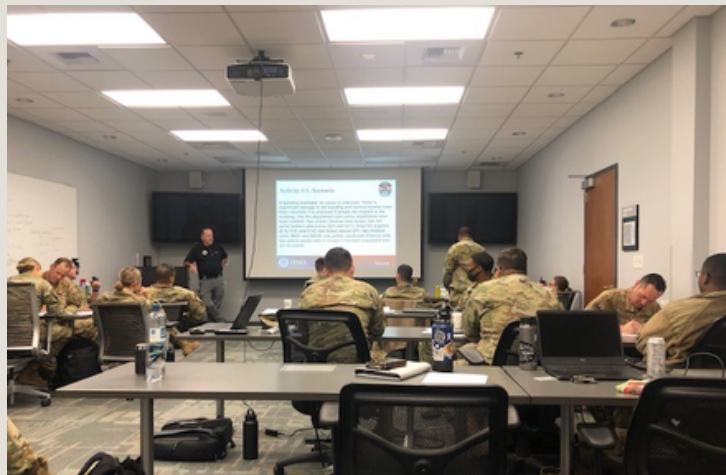
The week of 29 November through 3 December CAWG Group 2 members had the privilege of providing ICS 300 and 400 instruction to active duty Air Force personnel from the 621st Contingency Response Wing at their Group HQ located at Travis AFB.

The 621st Contingency Response Wing is a United States Air Force rapid response expeditionary wing, based out of Joint Base McGuire-Dix-Lakehurst, New Jersey and Travis Air Force Base, California. It is highly specialized in training and rapidly deploying personnel globally to quickly open airfields and establish, expand, sustain, and coordinate air mobility operations during a variety of contingency operations.

The 621st consists of approximately 1500 airmen in six groups, fourteen squadrons and more than 20 geographically separated operating locations aligned with major Army and Marine Corps combat units. Four Contingency Response Groups provide the core cadre of expeditionary command and control, airlift, air refueling operations, and aircraft maintenance personnel for deployment worldwide as mobility control teams and airfield assessment teams.

This training was provided through the National Emergency Services Academy Mobile Training Team. The lead instructor was CMSGT Mark Lahan from North Central Region, and course instructors were 2nd Lt John Owen from Group 2 Squadron 13, and Maj George Gadd from Group 2 Squadron 80. The 24 students volunteered for the training and consisted of Senior Airmen up to Col Jeff Krulick, who is the Wing Commander for the 621st at Travis AFB.

When asked why the 621st was interested in having selected personnel attend the ICS 300 and 400 courses, Col Krulick indicated that they are being requested often to support disaster response efforts throughout the United States for hurricanes,



*2d Lt John Owen, CAP, presenting to the class.  
Photo by Maj George Gadd, CAP*

tornadoes, and other emergencies. This training provides his staff with insight into how the “civilian world” operates within the Incident Command system, allowing them to interact with the civilian elements of the emergency response teams more smoothly.



*CMSGT Mark Lahan, CAP, and Maj George Gadd, CAP, with 621st Contingency Response Wing Commander Col Jeff Krulick.*



## EMERGENCY SERVICES

### SUAS UPDATE

BY SUAS TEAM

Capt Karin Hollerbach and the sUAS team were busy last month with an instructor pilot evaluation and endorsement of a Group 5 member, Lt Col Tony Hamill in Santa Rosa.

From Group 2, three members attended to serve as Lt Col Tony Hamill's student pilots - Capt Louise Mateos, Lt Bill Winter, and Capt Mike Gross. All the students received instruction and Capt Karin Hollerbach evaluated.

Continued on next page...



*Capt Mateos, Lt Col Hamill and other members complete a sortie*



*From L to R Lt Col Anthony Hamill, Capt Louise Mateos, and unknown CAP member, and Capt Michael Gross*



*Lt Col Hamill and Capt Mateos discuss their next flight*



*Lt Col Anthony Hamill observes a flight*

## EMERGENCY SERVICES

### SUAS UPDATE - CONTINUED

BY SUAS TEAM

The sUAS team also completed NIST training as one of their scenario days / advanced training at the Lime Ridge Open Space. All the pilots practiced the Basic Proficiency Evaluation of remote pilots. Two students completed their BPERB certification flights - LtC Tony Hamill and Lt Nick Irvine both from Group 5.



*Multiple sUAS sorties are completed simultaneously*



*Multiple sUAS sorties are completed simultaneously*



*CAWG Vice Commander Lt Col Craig Newton, discusses a sortie with a CAP member*



*Multiple sUAS sorties are completed simultaneously*

**EMERGENCY SERVICES**

**GROUP 2 GROUND TEAM MEMBER (GTM) TRAINING**

**BY CAPT LOUISE MATEOS**

Group 2 Senior Members and Cadets are training to become Ground Team Members to support our Emergency Services search and rescue mission.

After spending two evenings during the week in a virtual environment going over familiarization and preparation material, 23 members met at Squadron 188 in Oakland on Sunday, Dec 12, to inspect 24-hour packs and demonstrate readiness to move to the next level of training.

Of note, the training group is made up of both long-time members and new members, evenly split between senior members and cadets. Group 2 will be hosting a field day in January at a local county park for training and evaluation in advanced tasks for all our new ground team trainees.



*Maj Paul Kubiak demonstrates GTM "kit"*



*Group 2 members participate in GTM3 Fam & Prep Sign off.*



*Group 2 GTM3 Fam & Prep Sign Off.*



*Group 2 members participate in GTM3 Fam & Prep Sign off.*



*Lt Col Elsie Lam provides GTM Instruction*

### EMERGENCY SERVICES

## GROUP 2 COMMUNICATIONS EXERCISE 22-T-3577

BY MAJ GEORGE GADD

On November 13, Santa Clara County Sheriff Office Search and Rescue (SCCSO-SAR) member and members of Civil Air Patrol Group 2 participated in a communications exercise to test the reception of interagency radio frequencies across the Bay Area. Messages were relayed from SCCSO-SAR member located in Morgan Hill to Civil Air Patrol members stationed at Oakland Airport, Reid Hill-View Airport, Bolder Creek, and Half Moon Bay using a human repeater (Mission Observer - 2d Lt Ilia Shabalin) and an airborne repeater in a CAP aircraft.

Utilizing Civil Air Patrol and California State Interoperability simplex radio channels were successfully used and facilitated successful passing messages between the various locations back to the Incident Commander located in Half Moon Bay. A Civil Air Patrol portable repeater was utilized to simulate a public safety interoperability repeater (VTAC repeater) and functioned well to relay messages throughout the Bay Area, South County and Santa Cruz mountains through the aircraft which was circling from Watsonville up to Santa Cruz.

Civil Air Patrol members that participated in the exercise were: Major Jordan Hayes, Major George Gadd, Major Steven Renwick, Captain Isaac Wilson, 1st Lieutenant Michael Gross, 1st Lieutenant Scott Booth, 2d Lieutenant Ahmed Mohamed-Ali, 2d Lieutenant Ilia Shabalin, and Santa Clara County Sheriff - Search and Rescue member (and CAP Maj. )Jackie Tubis.



*2nd Lt Ahmed Mohamed-Ali at using squadron communications equipment during the exercise.*



*Major George Gadd checking installation of airborne repeater in aircraft.*

**AEROSPACE EDUCATION**



*Cadets enter the C-130 at Moffett Field  
 Photo: V. Henson*



*Our chariot  
 Photo: V. Henson*

**FLYING THE C-130 WITH THE CALIFORNIA AIR NATIONAL GUARD-- A MILITARY INCENTIVE O-FLIGHT**

**BY 1ST LT K. KALIDOSS AND CAPT V. HENSON**

An eagerly anticipated day for Group 2 began with our collaboration with the 129th and 130th Air Rescue Wings of the California Air National Guard at Moffett field. The CANG was magnanimous in working with CAWG CAP to supply cadets and senior members the opportunity to fly on their airframes.

The 129th Air Rescue Wing graciously offered to provide our members with military incentive flights on their C-130J Combat King II airplane. Additionally, the CANG offered O-rides on their UH-72A Lakota helicopter that is used for ParaRescue operations. The Group 2 Commander, Lt Col Lawson, and Deputy Commander Maj Michelogiannakis were instrumental in setting up and coordinating this event with the CANG on short notice despite the prevailing pandemic conditions.

Group 2 CAWG members had a choice to sign up for an orientation ride on either the C130 or the Lakota helicopter. This event generated considerable enthusiasm from Cadets and senior members alike, with more than eighty signups, making this event a great Aerospace Education initiative for CAP California Wing members.



*Seating arrangements on the C-130  
 Photo: V. Henson*

Unfortunately, inclement weather conditions at their home base forced postponement of the Lakota rides to another day. Much of the morning was devoted to introductory and safety briefings by Maj Z. Cook (CANG mission commander) and MSgt B. Woodward (CANG's CAP Liaison). E. Raterman, one of two Loadmasters on the flight, described her path to the ANG and how it is putting her through college and hopes to transfer to OCS for the Air Force. That was an eye-opener for the CAP cadets who engaged in a lively and informative Q&A with her.



*Cadet Inca Stienhans guides the C-130 in.  
 Photo: Z. Pham*

Continued next page

AEROSPACE EDUCATION

C-130 O-FLIGHT

...CONTINUED FROM PREVIOUS PAGE

Eventually the sky cleared up at Moffett, and our C-130 arrived back from an earlier mission, so that shortly after noon 17 Cadets and 3 Seniors embarked for a memorable sortie on the C130 flight.

The takeoff roll was remarkably short, and the climb out felt quite steep. Turns were at a much steeper bank angle than one normally experiences in a commercial plane or even a CAP Cessna. (More like what glider pilots tend to make!) Ten minutes into the flight the ramp doors were open mid-air for a breathtaking view of the Pacific Ocean and the SF Bay. Later the doors were closed and we were allowed to move about the aircraft talk to the...

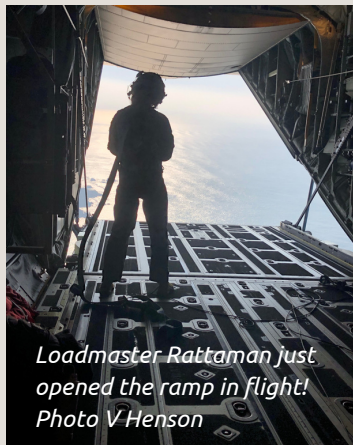


The C-130 pilot

Photo: V Henson



CAWG Group 2 Cadets and Seniors with the pilot, Loadmaster, and event Commander  
Photo: B Reddy.



Loadmaster Rattaman just opened the ramp in flight!  
Photo V Henson



CMSgt B. Woodward gives the pre-flight safety briefing.  
Photo V Henson

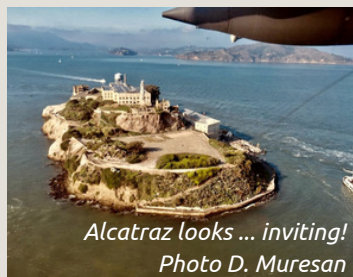


Nice glass panel... (note the bank angle)  
Photo V Henson

...crew, exploring, visiting the cockpit. Once the ramp was closed they dropped below the cloud deck and navigated a very slow "Bay Tour" at an astonishingly low altitude! We managed a tour of the SF Bay and the members had plenty of photo opportunities both during and after the O-ride.



Low over the GG Bridge  
Photo D. Muresan



Alcatraz looks ... inviting!  
Photo D. Muresan



Our chariot!  
Photo V Henson

The CANG could not have been more gracious hosts, and they also provided a terrific Aerospace Education experience.

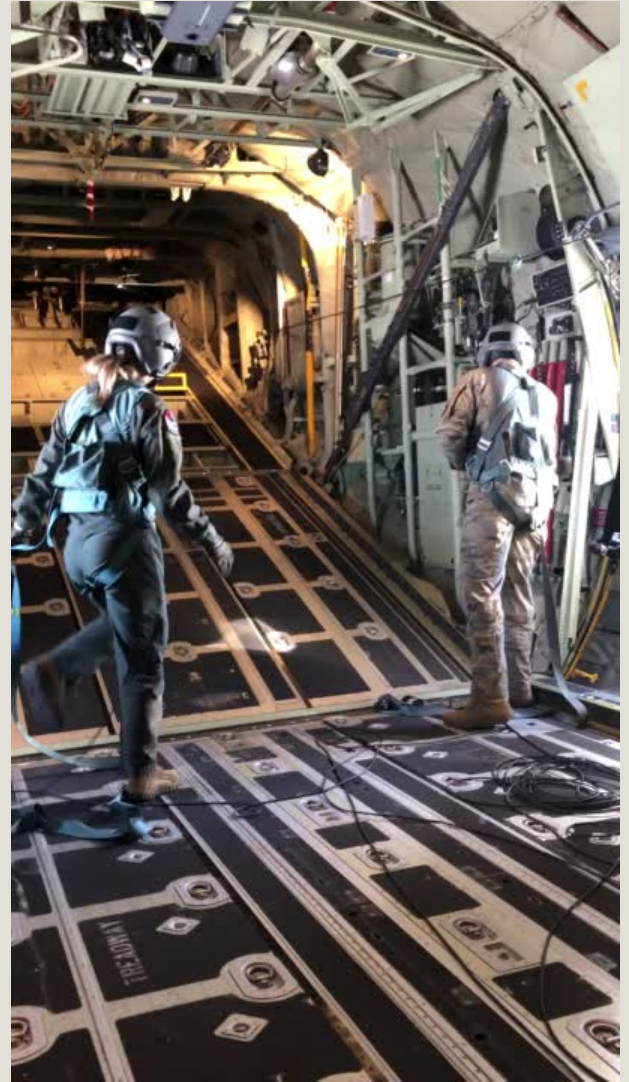
They also promised to "make it up to us" as that the Lakotas couldn't participate and that no side demos or alternative activities had been set up. They said they would bring the Lakotas to CAP, by flying them to the airports of the various squadrons and offering flights from there!

### AEROSPACE EDUCATION

#### C-130 O-FLIGHT

...CONTINUED FROM PREVIOUS PAGE

Capt V. Henson (right and bottom) and 1st Lt Alexander Arnoldy (below) took some great videos of the C-130 in-flight and on the ground.



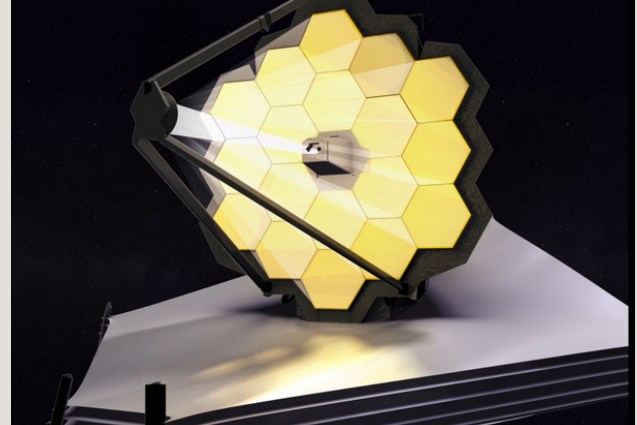
### AEROSPACE EDUCATION

## GROUP 2 HOSTS THE JAMES WEBB SPACE TELESCOPE

### THE NEXT BIG THING IN ASTRONOMY

By 1st LT Kailash Kalidoss, Group 2 Aerospace Education Officer

As we are getting close to the launch date of the James Webb Space Telescope (JWST), Group 2 conducted several internal presentations by 1st Lt. Kailash Kalidoss, Major Mark Fridell, and Captain Joseph Spears. We also invited NASA Ames Astrophysicist Dr. Christina Hedges for a special virtual event to go over Webb's salient features. The series of events will conclude with the launch of the Webb. So far, the chain of events has attracted a lot of attention and enthusiasm from Cadets and senior members alike. A fair number of audiences attended the presentations live and the recordings were streamed at several squadrons on their respective AE nights. This made these events a great Aerospace Education initiative for CAP California Wing members. The recordings will also be made available on the Group 2 YouTube channel for the benefit of a wider audience.



JWST is a collaboration between NASA, European Space Agency (ESA), and the Canadian Space Agency (CSA). The James Webb Space Telescope is named after the famous NASA administrator James Edwin Webb, who oversaw the first manned space program, Mercury.

JWST will be placed in Lagrange point 2 also called L2, which is further beyond the earth's moon orbit, and this will keep Earth, Sun, and Moon all on the same side of the spacecraft. The result is that the net force of gravity acting on the telescope is nullified, and the telescope has a stable orbit of its own.

JWST is an Infrared telescope. JWST is specifically designed to measure the infrared region of the spectrum. JWST will be kept at around 40 Kelvin to minimize the infrared radiation that is not of interest to the telescope. This includes radiation from the sun and reflected lights from the earth and the moon. As it will be placed in L2 orbit, there is not any chance of shadow formation on the mirror of the telescope due to the position of the Earth or Moon, and the temperature will be kept constant.

It also has a Sunshield that blocks the light and heat from the Sun to reduce the background (infrared radiation and heat from Sun and nearby planetary objects) and focus on the far distant objects and faint light and heat coming from them.

The diameter of the mirror in JWST is around 6.5m which is almost three times the area of the Hubble Telescope (2.4m). Because of the huge size of the mirrors, the effective area is distributed between 18 hexagonal mirrors. A heat shield, science instruments, and a power source make the rest of the instrumentation. JWST will unfold when it reaches space, enroute to L2. This ancient 'origami' technique will help to overcome the space vehicle size limit. The mirrors are made exclusively of Beryllium with a thin coating of Gold. For the entire JWST, as little as 48 grams of Gold was used, as Gold is an effective reflector for the infrared region.

The Hubble Space Telescope can now measure about 1600 nanometres of wavelength, JWST will extend this range to up to 30,000 nanometres. Since the light from the distant galaxies and stars get red-shifted due to expansion, with JWST we can probe further back to the past. Astronomers believe JWST would take us as far as our first galaxies that formed after the big bang. In addition to this, the scientific community also hopes to uncover more information about exoplanets and that JWST finds.

The projected cost of the mission is around 9.7 billion \$ which can grow over time. The tentatively scheduled launch time of JWST on an Ariane 5 rocket is on December 18, 2021, from French Guiana. Stay tuned for the launch event!



### AEROSPACE EDUCATION

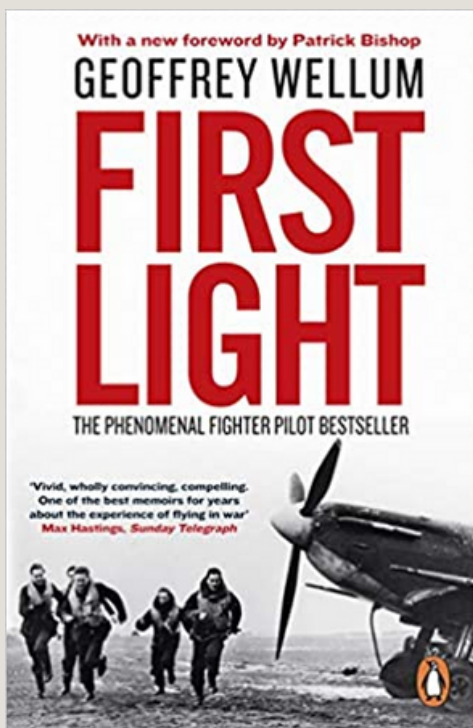
## AEROSPACE EDUCATION READING CORNER:

# "FIRST LIGHT - THE TRUE STORY OF THE BOY WHO BECAME A MAN IN THE WAR-TORN SKIES ABOVE BRITAIN"

BY GEOFFREY WELLMUM

REVIEW BY CAPT V. 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!*



Imagine that you are a pilot, flying an exceptionally powerful, complex, single-engine aircraft. It is a dark night, and you are flying low over the hills and farms, and there are no lights anywhere, as far as you can see. You are lost, low on fuel, with no navigational equipment beyond a compass; nothing but dead reckoning to find your way home. There is nobody to call for help. You are on your own. You are flying a Supermarine Spitfire. It is 1940. There is a war on. And you are 19 years old.

Geoffrey Wellum found himself in just such a situation. Having left school at age 17 to join the Royal Air Force, he became a Spitfire pilot at 19, the youngest Spitfire pilot in World War II. The story of this night, and how he managed to fly to a safe outcome in war-torn blacked-out England, is just one of many engrossing tales and anecdotes Wellum shares in the autobiographical book "First Light."

Wellum served with distinction, for several years as a Spitfire pilot, and later as a squadron commander, and the stories he weaves are far more than just exciting adventure tales. For Wellum was one of the "few" about whom Prime Minister Winston Churchill said, "*Never in the field of human conflict was so much owed by so many to so few.*"

The book "First Light" describes in very gripping fashion his RAF experiences. Told in anecdotal fashion, Wellum blends understated descriptions of life-or-death situations with a great sense of humor and irony to create in the reader a great sense of day-to-day life in the RAF at war. He flew in the Battle of Britain, when the vastly outnumbered RAF fighter pilots took on the vaunted Luftwaffe. Hitler's air force tried first to destroy the RAF's ability to fight by attacking the airfields from which the British fighters flew. The Germans came perilously close to succeeding when, in the darkest hours of the RAF, the British supply of both pilots and planes was desperately low. Wellum describes these days, relating how it felt to be fighting on such turns. But the RAF scraped by, surviving on the thinnest of margins, and the Germans shifted tactics, trying to terrorize the British people into submitting by massive indiscriminate bombing of London and other population centers. This strategy failed, in large part because of the tenacity, valor, and desperation of the RAF fighter pilots who, largely freed from threat of destruction of their aerodromes, could refuel and rearm and return to the skies much more rapidly. The outcome of the Battle was assured and the threat of a German invasion of Britain was averted.

Wellum narrates the events of his RAF service from his initial flight training through his transition to Spitfires, through the Battle of Britain, and into his later service on the European Continent. It is a tale told in the form of many anecdotes, each a self-contained event, together making the totality of his career. They run the gamut of emotions. Many of the stories are rife with wry and self-effacing humor. Some are frank descriptions of battle tactics and encounters with the German fliers. Some are filled with moments of terror as he survives a perilous episode. The overarching story follows a boy who is forged into manhood in the crucible of constant battle, tracing his career from pilot to squadron commander, until he is completely spent. An epic and highly readable book.

### AIRCREW EDUCATION



*The Civil Air Patrol Cessna 182T being fueled with unleaded fuel, provided by Trade Winds Aviation, at Reid-Hillview Airport of Santa Clara County. Photo by: 2d Lt Ilya Shabalin*

## NEW UNLEADED FUEL FOR CIVIL AIR PATROL AIRCRAFT IN SAN FRANCISCO BAY AREA

BY SM ASHISH GOEL

On Nov 18, Civil Air Patrol (CAP) completed the paperwork required to use unleaded fuel in its Cessna 182T aircraft based at Reid-Hillview Airport of Santa Clara County (RHV - San Jose, CA). This is the first aircraft in CAP's approximately 560-aircraft fleet to make the transition to unleaded aviation gasoline. The switch comes less than a month after Textron Aviation, which manufactures this model of aircraft, announced that this aircraft was approved to use unleaded fuel.

Reid-Hillview joins San Carlos Airport (SQL - San Carlos, CA) and Watsonville Airport (WVI - Watsonville, CA) as one of a small but growing number of airports in the country to have unleaded general aviation fuel available, commonly referred to as UL94. UL94 is a replacement for 100LL traditionally used in general aviation aircraft. 100LL contains up to 2 grams of lead per gallon, on par with automobile fuel in the 1970s. Concerns about the presence of lead in the vicinity of the airport have grown over the last decade, leading to a unanimous vote by the Santa Clara County board of supervisors to convert RHV and San Martin Airport (E16 - San Martin, CA), another county-managed airport, to lead-free fuel in the new year.

San Jose Senior Squadron 80 is responsible for CAP aircraft based at RHV. According to their commander, Capt Richard West, "Civil Air Patrol has operated from Reid-Hillview Airport for nearly 80 years serving our nation, state, and local community. Transitioning our aircraft to use unleaded aviation gasoline addresses an expressed concern of our local community and does not impact our operational capabilities.

All those connected to the aircraft, from the pilots to maintenance personnel, take great pride in being the vanguard for transitioning Civil Air Patrol's entire fleet of aircraft to using this safer, environmentally friendlier fuel. Feedback from aircrews since we started fueling with UL94 has been nothing but positive."

Lt Col Shawn Lawson commands a group of ten CAP squadrons spread across the San Francisco Bay Area, including Squadron 80. According to Lt Col Lawson, this is part of a larger vision: "From both a resource management and social responsibility perspective, moving from 100LL to UL94 is a win-win. We rely heavily on the collective relationships our units foster and develop with the community to be able to continue executing our missions, and we do so as responsible stewards of appropriated funds. As availability of UL94 increases, so will our drive to transition the fleet." CAP operates the largest class of general aviation aircraft in the US.

### AIRCREW EDUCATION

## WHAT AIRCREWS NEED TO KNOW ABOUT USING UL94 FUEL

BY CAPT KEITH BRETON - GP. 2 STANDERS AND EVALUATION OFFICER (DOV)

In case you haven't been following...the Aviation Fuel (AvGas) landscape is changing. Our current standard, known as 100LL contains Lead (LL = low lead). This is problematic for a whole host of reasons but suffice to say, efforts have been under way for years to develop "no lead" and "very low lead" replacements. Turns out there were significant technical hurdles to overcome.

After this long wait, the initial rollout has begun.

For our CAP non-turbocharged aircraft, conversions are under way to allow (some or all of) them to use a new fuel known as UL94 (unleaded). The conversion consists of paperwork and applying placards to the aircraft.

Here is what you need to know...

- Do NOT use the new UL94 fuel unless the aircraft has an appropriate placard specifying UL94, which should be near the fuel filler caps.



- There should also be an AFM supplement in the aircraft.

FAA APPROVED  
AIRPLANE FLIGHT MANUAL SUPPLEMENT  
OR  
SUPPLEMENTAL AIRPLANE FLIGHT MANUAL  
FOR

**Airplanes Listed on STC SA01757WI**

- **VERY IMPORTANT:** The new UL94 fuel is clear. This will wash out the blue color of 100LL. Unfortunately, Jet Fuel (which our planes will NOT run on) is also clear.
- As recommended in this [AOPA article](https://blog.aopa.org/aopa/2016/01/11/misfueled/): <https://blog.aopa.org/aopa/2016/01/11/misfueled/> there are at least two good ways to distinguish kerosine-contaminated AvGas:
  - One is by odor: Jet A has a very distinctive odor that is detectable even in small concentrations.
  - The other (and probably best) is by using the paper-towel test: Pour a sample on a paper towel (or even a sheet of white copy paper), let it evaporate, and see if it leaves an oily ring.
- DO feel free to mix UL94 and 100LL fuels on placarded aircraft.
- As of the 1st of January, 100LL fuel will NOT be available at RHV (Reid-Hillview) and E16 (San Martin/South County). Expect other airports to follow this trend so plan ahead.
- UL94 is available at RHV but not (yet) available at E16.
- As of this moment, only CAP445 (N445CP) has been converted to utilize UL94 fuel (see the article by SM Ashish Goel [Here](#)).
- There *may* be some upcoming changes to oil type requirements. For AMOs, there may be an additive required during oil changes. Stay tuned for further information.

More info on UL94 fuel is available [Here](#)...  
<https://www.swiftfuelsavgas.com/faq>

### AIRCREW EDUCATION

## WINTER IS COMING (OR ALREADY HERE!)

CIVIL AIR PATROL STAN/EVAL NEWSLETTER - DECEMBER 2021

The seasons are changing and it's time to think about winter flying. Winter flying can bring enhanced performance to our fleet due to the lower density altitude. Takeoff runs will be shorter, and climbs will be faster. Here are some points to consider when flying in cold weather.

- Trying to do a leisurely but careful preflight in the biting wind and cold is a challenge. Take no shortcuts. It's also important to dress warmly in case of an off-airport landing ("Dress to Egress!"). Pilots often assume the trip will be in a nice warm airplane only to find they are facing a long freezing hike through inhospitable terrain. Make sure your crew dresses warmly as well.
- Although we should always do a thorough preflight, cold weather means that some items get special attention. Checking that the pitot-heat works in the middle of summer is probably not important unless you fly in the flight levels. However, it's critical during cold weather. Ensuring that lights work is also important when considering the shortening days. Check to be sure that the CO (carbon monoxide) detectors are not expired. Look for any signs of cracking or leaks in the exhaust system.
- In flight, it's important to check for any signs of CO poisoning. Most newer aircraft have CO detectors, and some pilots also carry their own. Your body can often detect CO poisoning before any other detector though. Be alert for signs of CO poisoning in any of your crew. Headaches, nausea, and general feelings of ill health are all possible signs of carbon monoxide poisoning. Open a window and turn off the heat to see if the symptoms go away. Sporty's has a good article on CO poisoning which you can access [Here](#).
- When the temperature is below freezing, you need to pre-heat the engine unless the engine is already warm (from a previous flight or the airplane has been hangared). Preheat doesn't heat everything. Starting will strain the starter so, be vigilant for any signs of starter stress. Cold weather saps battery strength resulting in fewer amps being available. Keep in mind the thickening of oil in colder temps can be a compounding factor. Pre-heating doesn't do anything for your electronics so, expect them to come up slowly.
- Engine pre-heats and deicing can be expensive. If this is a self-funded flight, there is no reimbursement so consider that before heading out to the airport. But don't skip the preheat just because you don't want to pay. The damage you do to the engine could be very expensive. CAPR 173-3 does allow reimbursement for some Air Force Funded Missions (AFAM) but is limited to actual missions. There is no reimbursement for pre heat for O-rides and other missions even if A missions.
- Frost must be removed from all flying surfaces before flight. Experience has shown that any frost on flying surfaces is a safety hazard and must be removed even on polished surfaces. In some parts of the country, frost can be an early morning problem but gone once the sun comes up. It can also help to reposition the aircraft where the sunlight can be most effective. For days where waiting isn't going to remove the frost, you will need some help to get rid of it. If it's light frost, there are solutions you can spray on. Talk to your (AMO) Aircraft Maintenance Officer about which solutions are safe to use (you could damage the paint if you use the wrong one and they are almost always bad on the windscreen). Be sure the frost is really gone. Anything other than light frost will need the FBO to deice the aircraft.
- It's a good practice to remove snow (broom, soft bristle brush, leaf blower...being careful not to scratch paint) right after it accumulates, even if you are not flying soon. This takes the weight off the tail and allows more time for the sun to do its work.
- Check carefully to make sure that snow was not brushed into mechanical assemblies that could cause controllability problems. If the snow is heavy and icy, you will risk damaging the paint or even mechanical assemblies in trying to remove it. You could order a deicer from the FBO, or just go home.
- Ice is not just a problem on flying surfaces. Frozen water in control linkages or other mechanical assemblies is an accident waiting to happen. Ice can get into enclosures that you can't see. Recently, some Citation jets had controllability problems when ice built up in the tail cone and started interfering with elevator control. The BEST way to get rid of ice is to get the aircraft somewhere warm so it will thaw out. Be sure everything is dry before you take the aircraft out again or the water will refreeze in hard-to-get places. If you don't have access to a warm hangar, then deicing may be your only option.

**AIRCREW EDUCATION**

**WINTER IS COMING (OR ALREADY HERE!)**

**CIVIL AIR PATROL STAN/EVAL NEWSLETTER - DECEMBER 2021**

- Turn on your pitot-heat anytime the outside temperature is <math>4.4^{\circ}\text{C}</math>/40°F. This ensures that you don't lose your airspeed indicator. This is especially critical when you are IMC but, it's good practice in VFR as well as there could be moisture already in the pitot tube.
- Taxiing, takeoff, and landing on icy surfaces can be challenging or even impossible (Ok, I hear the ski plane pilots laughing). Snow or ice on taxiways or runways may mean cancelling a flight even after the snowplows do their job. Taxiing, takeoff, and landing in a cross wind can cause loss of control due to the slick conditions. Make sure your controls are set to counteract the wind. Your tires may not provide much traction at all, and there may be little or no braking. Even if flight is possible, you will find that the ordinarily smooth runway is now very rough due to the snow and ice. The crosswind limit on CAP aircraft is 15 knots but may not be achievable on wet or contaminated surfaces. The published demonstrated cross wind was done with a dry runway.
- Our CAP airplanes are not certified for flight in icing conditions and your preflight planning should ensure you don't go there. The best way to avoid icing is to stay in above freezing temperatures. That's not always practical but should be the objective. Foreflight and other sites have some excellent resources to predict and avoid icing, including useful PIREPs. If in doubt, simply DON'T GO! No CAP pilot should ever consider launching if there is a chance of icing in flight. If you do encounter unforeseen icing in the air, you need to deal with it immediately by exiting the icing conditions as quickly as possible (easier said than done). Anything more than trace icing is hazardous, and the trace icing may be a warning of things to come. Keep your airspeed up, don't use flaps and ensure your pitot heat is on. Turn the heat/defrost on full to keep your windscreen clear if possible. Consider carb heat if you suspect induction icing. Let ATC know and don't hesitate to declare an emergency. Remember, ATC can't fly the airplane, so aviate first. Inflight icing is extremely hazardous to small GA aircraft. Before you take off, ensure there is no chance of icing, otherwise stay home.

- Your preflight planning should ensure you never encounter snow in flight. Flying in snow is IFR and poses a serious safety hazard. If the snow is dry, chances are you will not accumulate ice, but you need to exit the conditions as quickly as possible. If the snow is wet, you are at risk of in-flight icing.
- In extremely cold conditions, your altimeter will be in error even if set properly. The below table indicates changes to approach minimums versus temperature but can also be used by a VFR pilot to estimate altimeter error due to temperature.
- You can also read a good article that recently appeared in Flying Magazine click [Here](#).

Table 7-2-3  
 ICAO Cold Temperature Error Table

Height Above Airport in Feet

	200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
+10	10	10	10	10	20	20	20	20	20	30	40	60	80	90
0	20	20	30	30	40	40	50	50	60	90	120	170	230	280
-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
-20	30	50	60	70	90	100	120	130	140	210	280	420	570	710
-30	40	60	80	100	120	140	150	170	190	280	380	570	760	950
-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
-50	60	90	120	150	180	210	240	270	300	450	590	890	1190	1500

**Example:** Temperature - 10 degrees Celsius, and the aircraft altitude is 1,000 feet above the airport elevation. The chart shows that the reported current altimeter setting may place the aircraft as much as 100 feet below the altitude indicated by the altimeter.

**NOTE:** Values are to be added to published altitudes.

ICAO COLD TEMPERATURE ERROR TABLE



**AIRCREW EDUCATION**

**OPERATIONS NOTE: ATD & ATA**

**CIVIL AIR PATROL STAN/EVAL NEWSLETTER - DECEMBER 2021**

In the first week of DEC 2021, several Operations Documents and forms will be updated.

CAPP 70-12 (Pilot Onboarding), CAPF 70-8 (AIF Content) and the CAPF 104 (Mission Flight Plan/Briefing Form). ONE of the many changes across these documents, is the way we record ATD & ATA. The new definitions and instructions will read:

**ATD – Actual Time of Departure.** This is the time of aircraft engine start, for the purpose of flying the sortie. This is not wheels up time. Ensure that the time entered is correct based on the time zone setting used (Zulu or local).

**ATA – Actual Time of Arrival.** This is the time of engine shutdown of the aircraft, at the conclusion of the sortie. This is not wheels down time. Ensure that the time entered is correct based on the time zone setting used (Zulu or local).

This change is to better align the Aircraft Hobbs time, with the length of the sortie and the time logged by crew.

**CAP PILOTS AND MISSION OBSERVER INITIALS AND RENEWALS**

**Renewal:**

Lt Antonio Forenza, renewed CAP Pilot with Capt Keith Breton, on 21 Dec 21 (On the right during a non-CAP flight)



**Renewal:**

Capt Van Henson, renewed his CAP Glider Pilot with Capt John Randazzo, on 11 Dec 21. (On the right)



**Renewal:**

Capt Stephen Swale, renewed CAP Pilot with Capt Keith Breton, on 2 Nov 21



**Renewal:**

Capt Henry Andruss renewed his Mission Observer on 15 Nov 21.



**Renewal:**

Capt Orhan Baser renewed his Mission Observer with Capt Steve Swale on 15 Nov 21. (L to R)



### AIRCREW EDUCATION

#### DOV LINKS

##### PROFESSIONAL EDUCATION



#### Aircrew Education

1. Personal Minimums: AVweb
  - a. AVweb
  - b. [Link Here](#)
2. Training Tip: Things you can't practice too much
  - a. AOPA - Air Safety Institute
  - b. [Link Here](#)
3. Six Reasons Why Taking Off With Frost On Your Wings Is A Bad Idea
  - a. Boldmethod - 10/12/2021
  - b. [Link Here](#)
4. Ten Ways Cold Winter Air Affects Your Airplane
  - a. Boldmethod - 12/16/2021
  - b. [Link Here](#)
5. Instructor Insight (Short Stories)
  - a. NASA's Callback - 12/1/2021
  - b. [Link Here](#)
6. Winter Weather Challenges
  - a. FAA - From the Flight Deck - 11/24/21
  - b. [Link Here](#)

#### Accident/Incident Case Studies

1. Accident Case Study: Into Thin Air
  - a. AOPA's Air Safety Institute - 12/10/2021
  - b. [Link Here](#)
2. Faulty Assumptions
  - a. AOPA's Air Safety Institute - 12/10/2021
  - b. [Link Here](#)
3. Stall/Spin Base to Final
  - a. SSA - Safety and Training
  - b. [Link Here](#)

#### Aircrew Professionalism

- CAP Aircrew Professionalism
  - NHQ Aircraft Operations
  - [Link Here](#)

#### GROUP 2 CAP AIRCRAFT

##### SEEN THIS MONTH



*CAP424 In the rain at Livermore airport.*



*CAP445 at a communications exercise*



*Maj Gadd securing the airborne repeater In CAP445*

### EDUCATION AND TRAINING

## SPECIALTY TRACK SPOTLIGHT

SERIES BY CAPT RICHARD WEST

The Specialty Track Spotlight will highlight a different specialty track each month. Each track is unique. On Guard will be asking Master-rated members in the spotlighted track to share some of their insights from their experiences as a member of the track.



## CADET PROGRAMS

FEATURING STEVEN ANGUS (MASTER-RATED SINCE MAY 2020)

### Quick Facts

- Track for anyone working with cadets
- 87 Gp2 members enrolled (26 Technicians, 12 Seniors, and 13 Masters) as of 30 Nov 2021
- 6-12-18 month minimum time-in-rating
- Provides selections of tasks to complete but anticipate serving on event/course staff

### Is the Cadet Programs Specialty Track for you?

As a senior member in a cadet or composite squadron, do you ever wonder if you are well prepared to help cadets progress through their various levels? If you are in a senior squadron but interact with cadets at events like air shows, SAREX's, or ES missions, are you in a position to interact with cadets in a way they will understand? Do you know what cadets are required to accomplish at each level of their progression? If you answered "no, maybe, or sort of" to these questions, the Cadet Programs Specialty Tracks are for you. If you have a passion for developing youths to become valued contributors to society, the Cadet Programs Specialty Track is also for you.

Where do you start learning about the CP specialty tracks? CAPP 60-11, the CP Officer Handbook, is a great place to start. This up to date and comprehensive pamphlet lays out the requirements for the technician, senior, and master ratings in CP. The goal of the Cadet Programs Officer Specialty Track program is to prepare senior members to lead cadets and manage cadet programs at the squadron and then wing level. This specialty track is a self-paced, self-study learning experience supported by a training mentor

The Cadet Programs Officer (except at the Group-level) is not a duty title. Rather, it is an umbrella term that anyone who works primarily with cadets can claim. The main CP Officer duty assignments are identified below. If you are enrolled in the Cadet Programs specialty track, you will want to serve in one of these positions to utilize the knowledge you learn in the specialty track.

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• DCS Cadet Programs (Region)</li> <li>• Director of Cadet Programs (Wing)</li> <li>• Cadet Programs Officer (Group)</li> <li>• Education Officer</li> <li>• Leadership Officer</li> <li>• Testing Officer</li> </ul> | <ul style="list-style-type: none"> <li>• Aerospace Education Officer</li> <li>• Cyber Education Officer</li> <li>• Fitness Education Officer</li> <li>• Recruiting &amp; Retention Officer</li> <li>• Unit Commander or Deputy</li> <li>• Character Development Instructor</li> </ul> |
|--|---|



### EDUCATION AND TRAINING

## SPECIALTY TRACK SPOTLIGHT - CADET PROGRAMS

... CONTINUED

### What is involved at each rating?

#### *Technician*

In my humble opinion, everyone in CAP should have this introductory rating in CP. Most members of CAP interact with cadets at some point, so you should be aware of their part of the program. At this rating level, you will gain a fundamental understanding of the CP goals, policies, and procedures and will be better prepared to serve in some squadron staff roles. This rating can be obtained without being a member of a cadet squadron but fulfills the needed requirements.

#### *Senior*

As you move up in staff responsibilities, your knowledge of CP should grow with you. With this rating you will be able to serve in any cadet squadron staff position, including squadron deputy commander.

#### *Master*

This rating should be your ultimate goal because it exposes you to a much broader view of CP. While getting this rating, you will see CAP and CP beyond the squadron level. You will interact with members at the wing level as well as squadron commanders from around the region. The benefits of this broader view of CP will be invaluable as you serve as a squadron commander, or as a department chair at the group level, or even serve at the wing level.

The master rating should be your ultimate goal if you are going to be working with cadets. The path to this rating will strengthen your commitment to cadets and CAP as a whole. A review of the knowledge and performance requirements for this rating will leave no doubt about the global role a master rated CP officer plays within CAP.

### What should you do to get involved?

Whatever your current CP rating, the time to start moving to the next level is now. Every time you learn something new about CAP is a motivational kick. With the CP track, you will study what the cadets are studying, understand the expectations placed on them, and be much better prepared to lead them to success, whether you are at the squadron, group, or wing level.



### EDUCATION AND TRAINING

## CALIFORNIA WING CONFERENCE SESSIONS

BY CAPT RICHARD WEST



**Civil Air Patrol**  
CAWG Education & Training



Thank you to everyone who attended the Education and Training sessions at California Wing Conference 2021. While technical issues prevented the sessions from being recorded live, California Wing Education and Training would like to make the following available to all members to view to learn more about the CAP Senior Member Education and Training Program. In the weeks that passed since the conference, CAWG E&T and NHQ have issued new guidance which has been incorporated into these recordings.



Session 1: Mechanics of Education and Training  
<https://bit.ly/3Hsu8hp>



Session 2: Education and Training at the Unit/Group  
<https://bit.ly/3CsGNgQ>

Viewing these recordings requires an active PCR O36 session

In Aug 2020, Civil Air Patrol replaced the Senior Member Professional Development Program with the Senior Member Education and Training Program. This briefing session will cover the basics of the program, clarify terminology, and review the tools used to administer the program.

With the program's one-year anniversary behind us, this session will provide a preview of any changes coming in FY22

Civil Air Patrol's Senior Member Education and Training Program promised to democratize the professional development. Gone were Squadron Leadership Schools, Corporate Learning Courses, Region Staff Colleges, and National Staff Colleges with limited offerings, travel, and lodging expenses. Members could pursue their professional development on their own terms and timelines close to home.

However, how many squadrons and groups have been able to develop their programs to fulfil this noble goal? This Briefing session will cover the requirements to establish an instructor core at the local level, reinforce which echelon should handle which levels in CAWG, and some tips on how to manage a successful program at the local level.



California Wing Conference

## EDUCATION AND TRAINING

### GROUP 2 EDUCATION AND TRAINING ACHIEVEMENTS

BY CAPT RICHARD WEST

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

SM Barde, Andre M (142301) [Sq80]

Level 1 — Membership Award  
2021-11-15

SM Sansano, Anna Lee (675427) [Sq86]

Level 1 — Membership Award  
2021-11-16

SM Sansano, Emmanuel (675428) [Sq86]

Level 1 — Membership Award  
2021-11-16

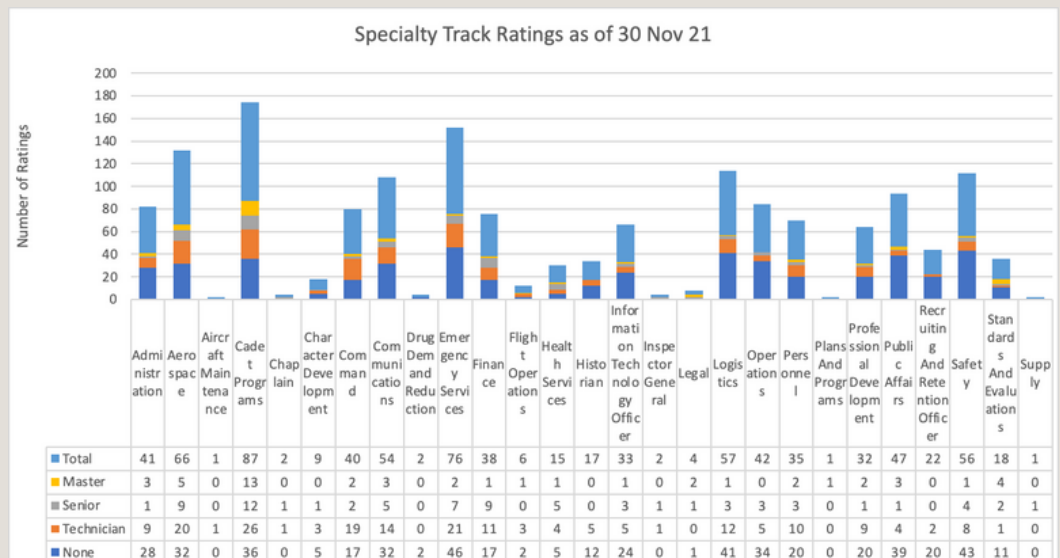
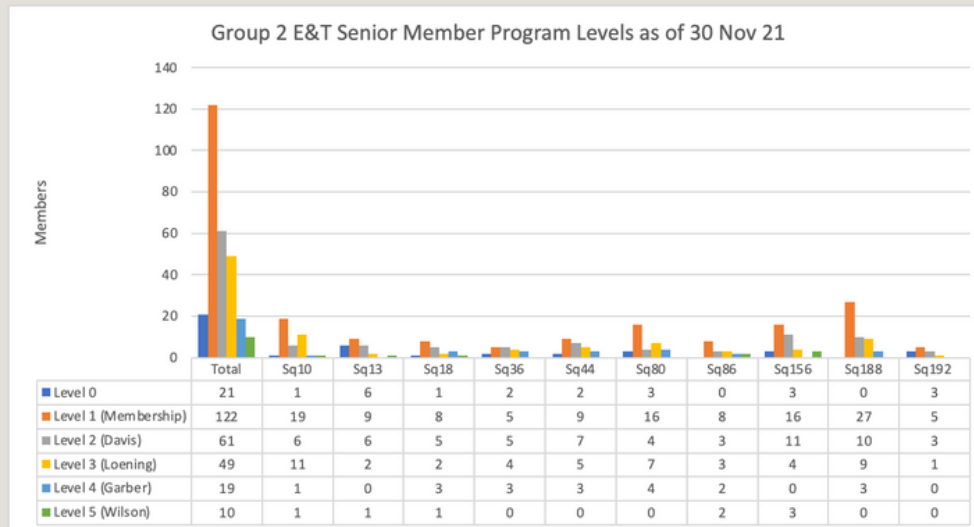
#### November Specialty Track Ratings

Capt West, Richard (594385) [Sq80]

Aerospace — Master  
2021-11-07

Capt West, Richard (594385) [Sq80]

Command — Technician  
2021-11-10



**FUN AND GAMES**

**MYSTERY WORDSEARCH**

BY CAPT RICHARD WEST

Up for a challenge? How about a wordsearch without an answer key? There are 16 items hidden in this grid which are connected by a common theme. The hidden items can appear horizontally, vertically, and diagonally; possibly in reverse.



**NOVEMBER MYSTERY WORDSEARCH**

BY CAPT RICHARD WEST

The theme of November's Mystery Wordsearch? Group 2 Commanders (last names only)

**San Francisco Bay Group 2**

- Lt Col Shawn Lawson
- Lt Col Noel Luneau
- Lt Col Brett Dolnick
- Maj Stephen Renwick
- Maj Kevin McDowell
- Lt Col Mitch Richman
- Lt Col Kenneth W. Parris
- Maj Paul Groff
- Maj William Brew
- Maj Garry L. Krum
- Lt Col Paul C. Zimmerman
- Maj Frederick Nelson

**Peninsula Group 2**

- Lt Col James M. Howell, Jr.
- Lt Col Steven Updike
- Lt Col V. Lee White
- Maj Donald Towse

**Group 2**

- Maj Frank P. Amo
- Maj Edmund C. Fey

**Second Group**

- Capt Victor Rubon
- Capt Thomas Fair Neblett

