



EAGLE CALL

Spring
2006

The Official Magazine of California Wing Civil Air Patrol



Dark Passages

California's Most Perilous Air Routes

10 Tips for Surviving Summer Encampment

CAWG Cadets Speak Out of School

Into the Mystic Slipstream

*The Late Col. Don Towse Let His Soul and Spirit Fly—
And Left Us a Lovely Memoir*

Plus:

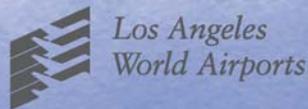
- *Rough Air Over Riverside*
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Lt. Col. Virginia Nelson,
Wing Commander

Capt. Frank Geraty,
Director of Public Affairs,
Publisher

Capt. Gregory Solman,
Editor

Capt. Chris Storey,
Deputy Director of Public Affairs,
Associate Editor

Capt. Sam Seneviratne,
Technical & Scientific Editor

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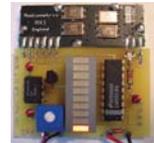
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ON THE COVER: Photo courtesy of Dale Masters, Great Western Soaring School.

Dark Passages

By Capt. Greg Solman, Eagle Call Editor

Photo courtesy Great Western Soaring School

The Tehachapi Triangle. The Kearsarge Pass Trap. California's Most Perilous Air Routes Claim Lives Enough for Legend. Search-and-Rescue Pilots Talk Fatal-Crash Sites—and How to Avoid Them.

LOS ANGELES—Heading home to Palm Springs through the Banning Pass before sunset in late March, Maj. Roy Hofheinz looked up from his car and—as pilots will—imagined being up there, in the air, and felt damned glad he wasn't. "Storming, windy, visibility was low—miserable," he recalls. "It was as if I'd hit a wall of weather."

Minutes later, in what would be a fateful hour for two men fly-

ing overhead just then, a cerulean blast hit Hofheinz coming out of the pass at Cabazon. "The skies opened up. There were high clouds. It was desert-dry. You could see it hadn't rained all day." All the ominous weather, it seemed, had headed off air traffic at the Pass as if to take down planes.

Later that evening, Hofheinz and Capt. Frank Tullo, seasoned Civil Air Patrol mission pilots

from Palm Springs Composite Squadron 11, were on a weather-delayed alert with the rest of southern California Wing for a factory-fresh Cessna 208B that had dropped off radar and had apparently crashed. Last-known position: Banning Pass.

According to the preliminary investigation of the National Transportation Safety Board (NTSB), the Caravan departed Jacqueline Cochran Regional in Thermal and headed for Ontario. The passengers—two top-rated pilots, including a man dear to many in the Wing, Rick Voorhis, founder of Van Nuys Flight Center—filed an instrument flight rules (IFR) plan, but never activated it. They'd picked up an AIRMET (airman's meteorological information notice) at Riverside for moderate rime ice.

The pilot, Steve O'Neill, told Palm Springs Terminal Radar



Buildup along one of California's famous ranges

Approach Control that they'd fly to the Banning Pass under visual flight rules then pick up their IFR there. Southern California Terminal Radar Approach Control took the handoff, picked up the Caravan's blip at 8,500 feet, 10 miles north of Banning, then quickly told them they were heading for trouble. "Do you have the terrain in sight?" asked the controller. "Eight Whisky Echo, we're maneuvering away from the terrain right now," came the reply.

Those were the last words heard. Radar tracked the plane making a climbing right-hand turn into rising terrain. Witnesses on the scene, turning tragedy to poetry, said that minutes after the plane plummeted before their eyes, the rain became snow.

"This illustrates the problem flying in California in the winter time," says Hofheinz, an articulate Rhodes Scholar and retired Harvard professor. "Icing, rugged terrain, traps you can get stuck in, box canyons. And communications in that area has never been perfect. You have a gap around the Whitewater Canyon, so they like to send you [visual flight



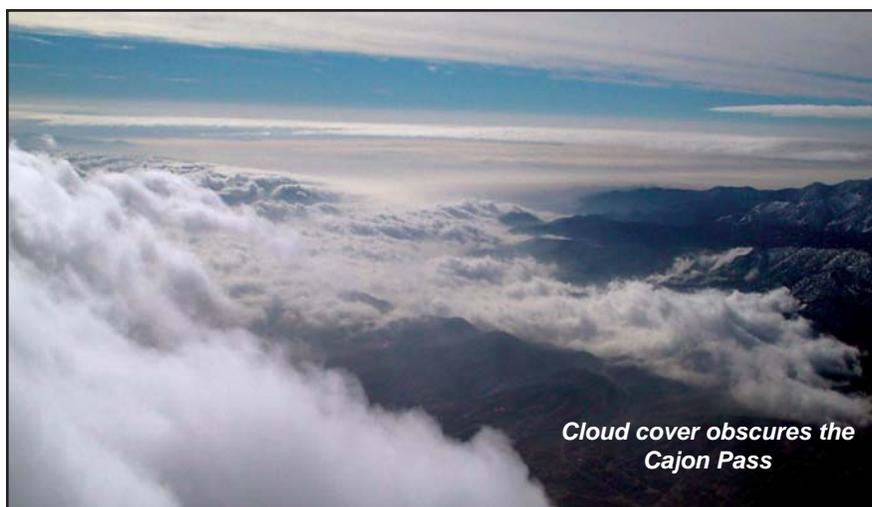
San Geronio at the Banning Pass

rules] VFR until you get the handoff...Banning is notorious for sucking in airplanes. There must be 20 or 30 crashes on the sides of those mountains."

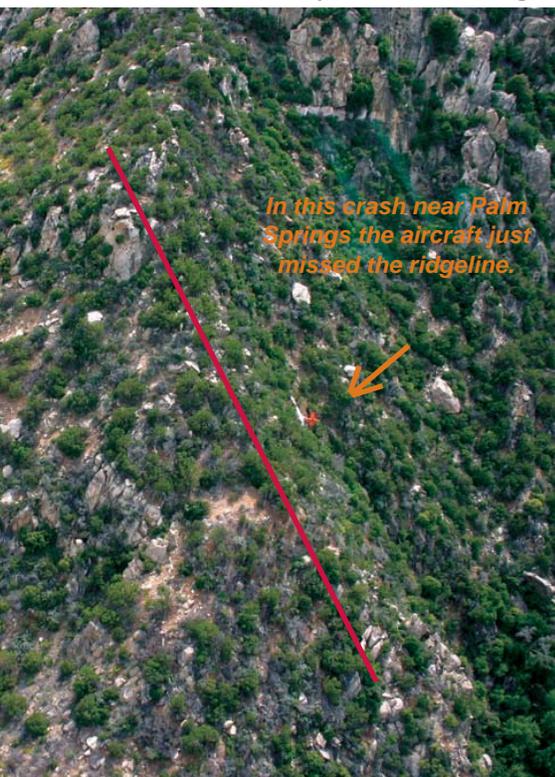
"There's high terrain on both sides and heavy winds, ferocious

winds, and bad weather," echoes Tullo, who survived having his F-105 shot down over Hanoi and has no plans of buying it over Banning. "Palm Springs could be absolutely perfect, but all the

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Cloud cover obscures the Cajon Pass



In this crash near Palm Springs the aircraft just missed the ridgeline.

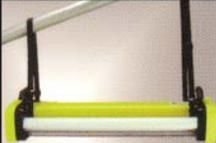


The forbidding Kearsarge Pass

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Dark Passages

Continued . . .

weather moving west to east backs up in the pass, kind of like a funnel between San Geronio and San Jacinto mountains, and you see this curtain.”

Two weeks later, Hofheinz and Tullo retraced the path of the fatal flight. “There was no terrain in front of them. Did they enter a stall spin?” Hofheinz speculates. “They might have had catastrophic engine failure. Or had they gotten so disoriented by the weather, they yanked the yoke around in a sharp turn and induced an accelerated spin? We may never know.”

Morbid curiosity had nothing to do with their flight reenactment. Serious mission pilots both, Hofheinz and Tullo had flown many a search-and-rescue in that area, and flying with Maj. Bruce Marble last October, earned a Distress Find for spotting a Lancair crashed six miles north of Warner Springs east-southeast of Mount Palomar, a spoke off the Julian VOR, a notorious radial.

“A San Diego-area newspaper reported a few years ago that Julian VOR, the main route from San Diego County to anywhere east, is one of the most

dangerous areas in nation,” says Capt. Bob Keilholtz, California Wing Director of Emergency Services, who’s run countless missing-aircraft missions as an Incident Commander. “Statistically, there are a significant amount of accidents from planes icing up going over the Sierras.”



But when they depart San Diego, home of some the world’s best weather, everything seems fine, Keilholtz figures, attributing the accidents as much to psychology as topography. “Around San Diego, even suspecting bad weather, people will fly,” Keilholtz says. “All the extreme

EAGLE EYE

weather up north tells pilots to just stay put. Here they’ll start out with visibility for ten miles and end up in trouble.”

“The higher mountains are in the central and northern parts of the state,” reckons Maj. Jim Porter, California Wing Vice Commander and experienced mission pilot. “Pilots up north get socked in. They know they can’t get 12,000 feet to cross the mountains at 10,000. Down south you can slide over 6,000 foot mountains at 8,000.”

And that’s the deadly temptation, pilots say. Lt. Col. Ron Butts, a “Vietnam Black World” jet-jock who now flies low and slow as the Deputy Director of Operations for California Wing, says Banning and Gorman Pass “tend to attract airplanes like a magnet.” He, too, subscribes to the risk-taking mindset theory.

“‘I think I can make it.’ That’s the opening line of the disaster,” says Butts with weary solemnity, just a few days after the crash that killed Voorhis and O’Neill. “I don’t understand pilots. They fly in low visibility and pick their way through the clouds—VFR pilots flying in IFR conditions: That’s the report on 90 percent of accidents.”

And on two recent ones, says Maj. Chuck Frank, Wing Director of Counterdrug Operations and a SAR mission pilot who flies out

Continued . . .



Satellite image of the Banning Pass



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Dark Passages

Continued . . .

of San Jose Senior Squadron 80. “The pilots in each case were trying to get somewhere by skud-running,” trying to find openings in dense cloud cover to avoid IFR conditions, Frank figures. “They made poor judgment calls.”

By FAA definition, Frank says, it is all “mountainous terrain” in the high Sierras. And hazards can include the sort of stupefying, disorienting darkness Florida pilots report flying over the Everglades. Frank recalls a crash on a mountain near Stonyford when a plane was flying from Chico to Ukiah “during moonless night flight operations,” as the NTSB report put it. A Piper Aerostar 601P pilot was descending from 6,700 feet and requested flight following and a vector to the airport. Air Route Traffic Control Center recommended a heading. “He thought he had a GPS direct situation,” Frank surmises. “He programmed the direction and sat back, fat dumb and happy.” No low-altitude alert was issued, even though the maximum elevation in the area is 7,400 feet. The pilot was flying in VFR conditions, yet completely blind. He crashed at 6,700 feet, missing the clearing of the crest by 50.

Butts, Keilholtz, and Lt. Col. Steve Asche, California Wing Director of Operations, separately recite a chilling litany of California crash sites. Banning Pass on route to Phoenix. The splatter surrounding Big Bear. Far south, Keilholtz sketches a Pauma Valley Triangle: Escondido to the south and Pauma Valley to the east, with the vertex stretching up 6,126 feet to the peak of Mount

Continued . . .

OK, We Know Where They Crash. Now Where Do We Put Our Planes?

However predictable, the prevalence of crashes in sparsely populated and remote areas of the state poses a challenge to search-and-rescue efforts there, says Maj. Jim Porter, California Wing’s Deputy Commander, especially with respect to the deployment of CAP resources. “I think we’re in pretty good shape by situating the aircraft both around the pilot base and somewhat geographically,” he says, “to make sure we have aircrafts and crews in reasonable striking distance to different parts of the state.”

Porter acknowledges that even though pilot concentration drives deployment, the Wing benefits from lucky coincidence. “The greater concentration of both mission pilots and mission activity is in southern California,” he says. “For obvious reasons (more pilots means more accidents) they mirror each other.”

Still aircraft deployment can only be cheated so much to align with historical precedence of fatal crashes, Porter says. “You need a unit at an airport that is capable of having an airplane, and pilots to fly it. That leaves holes.”

These days, one hole bottoms out at Bishop. “There is no Civil Air Patrol in Bishop anymore, so the center part of the Owens Valley is without coverage,” Porter says. CAP is also “pretty thin” far north, along the Oregon border to Lassen, but so is air traffic. The vast but by no means un-traveled territory north of Central Valley Group 6, south of NorCal Group 5, and west of Central Coast Group 4, remains worrisome. And Palm Springs Composite Squadron 11, as the single unit handling the eastern part of San Bernardino, Riverside and Imperial counties, “leaves that whole part of the state uncovered,” Porter admits. “There are incidents in those areas. We don’t have the personnel to support units there.”

“All we can do,” Porter concludes, “is launch from a distance.”



A CAPflight sights its ground team



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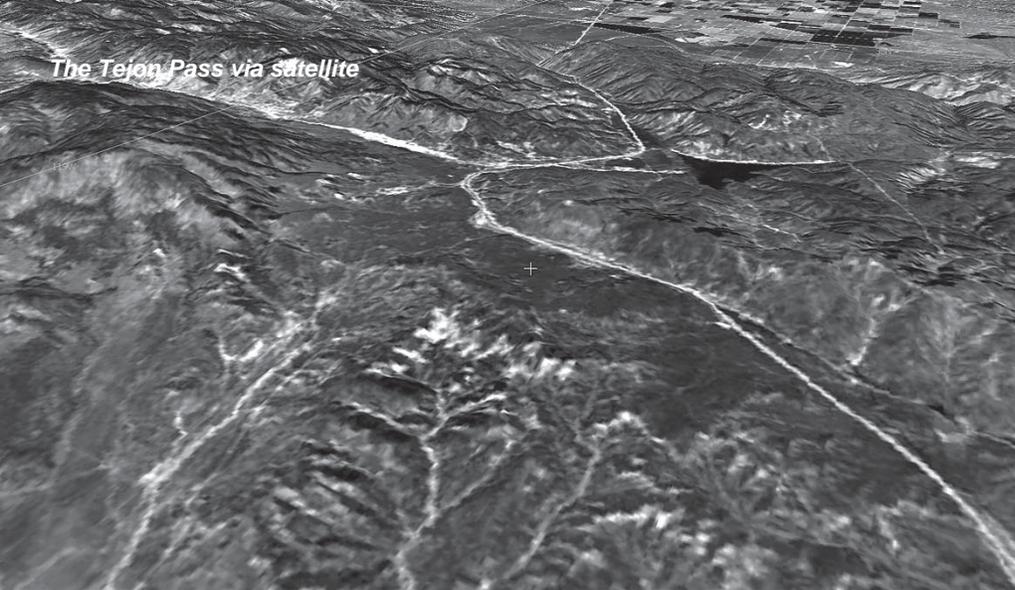
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pioneer legend. “Above Independence, it is the lowest pass and the most direct route over the Sierras,” explains Keilholtz. “But it’s a false pass.” Or, rather, it presents the illusion of a clear opening that’s a literal dead end near a suspiciously small pass that is in fact the way through. The right pass looks wrong; the wrong pass looks right. The confusion is often tragic.

Dark Passages

Continued . . .

Palomar. Moving north, the Tejon Pass and Gorman Pass, from the L.A. basin to the chronically foggy Grapevine and on to the central Valley. The Cajon Pass, often mistaken by pilots for a route farther west into Palmdale and Agua Dulce, slaps pilots with unexpected winds. Fresno to the Owens Valley over Kings Canyon. Asche warns of a Tehachapi Triangle from Frazier Park and the Gorman Pass in the southwest, Lake Isabella to the north, and southwest to Mojave, with lonely Highway 58 cutting through.

“Back in the ’60s and ’70s I performed three to four searches a year out of Bakersfield alone,” says Asche, a 30-year veteran pilot. “I have documented around 80 crashes in this area alone, and I’m only counting those that are documented.” (And if a Stealth F-117A Nighthawk was to have crashed there on maneuvers—and he’s not saying one did, mind you—there’s a limited public paper trail, and typically no CAP search.)

Deadly wind shears and storms have been the culprit, Asche figures, some 80 percent of the time. “The triangle is known for extreme turbulence and strong

up and down drafts. Even in clear weather you can hit a downdraft and can’t pull out. The plane just drops.” Pilots increase power and pitch to no avail. They run out of airspeed, then altitude, end up stalling, and spiral to earth. “Some of these pilots have a false sense that a downdraft is temporary,” Asche theorizes. “They don’t want to climb to 7,000 or 8,000 feet, so they have no altitude to work with. It can happen in seconds.” He would know—it happened to him: The draft smacked the aircraft from 7,500 to 2,000 feet in a matter of seconds.

The Kearsarge Pass—just north of the juncture of the Inyo, Tulare and Fresno county lines, northeast of the Great Western Divide—is the stuff of pilot-

Think you’re out of the woods when flying around cities? Tough terrain meets tight traffic in areas surrounding San Francisco and Los Angeles international airports, for example. And the problem of Class Bravo negotiation relates as much to the air traffic itself as pilots’ attempts to avoid it. “Class B airspace tends to concentrate general aviation traffic at the [altitude] limits and edges,” explains Capt. John Joyce, a pilot with Clover Field Composite Squadron 51, Santa Monica, who flew for United Airlines for more than 35 years. “That’s a mid-air collision hazard.” The caution particularly applies to pilots practicing radial intercepts and hold out of Seal Beach and Paradise, he warns.

Continued on page 13 . . .





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Suddenly, This Summer

As the Weather Turns, Don't Just Burn: Learn

I am writing this column on possibly the coldest weekend of the winter. There is a storm raging outside, the temperature is near freezing, and I am more than ready for warm weather. You should be receiving this *Eagle Call* in late spring, so let's think about summer. There's a lot to look forward to.

The first summer activity will be an important one. The Air Force is scheduled to monitor our Search-and-Rescue Exercise on June 2-4. During odd-numbered years the Air Force evaluates our performance during the SAREX. They watch and grade what we do. During even-numbered years the SAREX is designed as a training vehicle for our members. The Air Force monitors how we do and offers helpful suggestions. This year the main base will be Cable Airport in Upland. There will be subordinate bases in the central and north. The goal is to train, upgrade and renew Emergency Services specialty ratings. To that end, we will assign qualified ES personnel in all positions available to mentor members seeking new ratings. This is a great opportunity for us to train together - pilots, communicators, safety officers, planning section chiefs, IC trainees, etc. The simulated-emergency scenario - though it is subject to change - should be oriented more toward disaster relief and homeland

Commander's Comments

By Colonel Virginia Nelson



security duties than typical search-and-rescue. For example, we expect to send off many planes to photograph targets of interest.

For twelve days in June (17-28), California Wing will host a National Sailplane Flight Academy at Los Alamitos. Twenty cadets are scheduled to attend for both ground school and flight training. Cadets will have the opportunity to experience both aero- and winch tows. Col. Ed Lewis will be the director. Many tow pilots, CFGs and cadet program officers will work together to make this a meaningful training activity for the cadets.

The Wing is also hosting foreign cadets from Hong Kong, Canada and the United Kingdom as part of the International Air Cadet Exchange this summer. Captain Alan McGavin, the project officer, is busy planning educational and fun activities. Local cadets will be invited to meet and mix with our visitors.

Forty-six of our Wing's cadets and about a dozen senior members applied for National Special Activities over the summer. Several cadets will attend Cadet Officer School at Maxwell AFB. Blue Beret, held in conjunction with AOPA Oshkosh, will boast of CAWG cadets and seniors this year. CAWG members are also slated to attend: Air Force Space Command at Peterson AFB; the



Col. Virginia Nelson
Commander, California Wing

Engineer Technologies Academy; the Aircraft Manufacturing & Maintenance Academy at the Cessna factory; Honor Guard Academy; IACE; and both power and sailplane flight academies. We also have members attending the Pacific Region GSAR School at Fort Lewis, Wash.

All Wing cadets are invited to attend the CAWG summer Encampment, August 5-12 at Camp San Luis Obispo. The encampment commander will be Lt. Col. Christine Lee and the CTG commander is Cadet Lt. Col. Jeff Beuntgen. This rigorous but rewarding activity includes flying in a helicopter, shooting an M16 rifle, competing on an obstacle course as well as in drill and volleyball tournaments.

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Suddenly, This Summer

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Cadets will be instructed on everything from aerospace to shoe-shining and barracks maintenance. An advanced training squadron accommodates cadets attending encampment for a second time. Senior members are encouraged to apply to help at HQ, drive vans, and serve as tactical officers. The event ends with a public graduation parade scheduled for 1000 hours on Saturday, August 12.

Senior members also have training opportunities ahead, north and south. A Check Pilot School and FIRC is scheduled for June 10-11 in Sacramento. A Squadron Leadership School (SLS) is slated for July 22-23 at Cal State Dominguez Hills. This summer, we are hoping to offer a Training Leaders of Cadets (TLC) class at the SLS. This is a new class developed by CAP's National Headquarters to train senior members who want to learn about working with cadets.

The premier training activity for senior members is the National Staff College, held this year at Maxwell AFB. The school is limited to majors and above and deals with upper-level management theory. Students get a chance to interact with our CAP senior leadership, NHQ staff, and some Air University faculty. The director this year is Lt. Col. Peggy Myrick. This school provides a great opportunity to learn how CAP works at the national level, improve one's leadership skills and meet CAP members from every region. Besides that, it's fun.

All CAP members are invited to attend the summer National Board meeting in Reno, Nev., August 10-12. Our national Com-

mander, Maj. Gen. Pineda, has lowered the cost this year to \$95, including the Saturday banquet. Members may also attend and observe the business portion only, held on Thursday, when CAP will elect a new national vice commander. On Friday, seminars follow a general assembly. Last year over 60 different seminars were offered. Saturday begins with an awards assembly, moves to seminars, and concludes with the evening banquet.

If you have not been to a national conference I urge you to attend, as this is your chance to meet CAP's leaders and ask questions. Every year I come away better informed, encouraged about CAP's vital role, and refreshed from socializing with other CAP members. CAP has some of the very best people. I admire what is accomplished when we all work together.

As if that weren't enough, there's more. Group 6 is organizing a trip to Catalina. First Aid classes will be offered. Squadrons will hold bivouacs, and Groups will hold SAREXs. There will be air shows throughout California. Expect a Basic Cadet School, several Level 1 classes, and communications courses. And all this opportunity happens against the backdrop of CAP's ongoing emergency services, from our extraordinary work at Imperial to routine ELT missions.

I don't think anyone can complain about having nothing to do this summer. The problem is rather having so much to choose from. All members should have a chance to participate in areas that interest them. Check the California Wing calendar on our website,

Dark Passages

Continued from page 9 . . .

Joyce vividly recalls the 1986 mid-air collision between an Aeromexico DC-9 on arrival approach at LAX and a Piper PA-28 that had departed Torrance on a VFR flight to Big Bear. The NTSB reports that the DC-9 pilot had been instructed to descend from 7,000 to 6,000 feet.

The grim-reaping, fictional Final Destiny demon took over from here, at least as the investigators and Joyce explain it. The Piper pilot wasn't communicating with the tower. LAX didn't have an automatic conflict-alert system. The Piper's analog-beacon response from the transponder wasn't configured for display. "An atmospheric inversion," according to the NTSB report, prevented the "primary target" from being displayed to the air-traffic controllers. "He intercepted the tiniest corner of what was then called a TCA [Terminal Control Area]," Joyce recalls. "The pilot was from Oregon. He may not have had the correct chart. He may have misinterpreted what freeway he was over."

In the end, at the moment of his demise, the pilot may have been looking down.

Our sincerest gratitude to Dale Masters and Great Western Soaring School in Llano, Sam Seneviratne and Sequoia Development, and 1st Lt. Shane Terpstra for the photography used in this article.



www.cawg.cap.gov, for the latest information. It is frequently updated and squadrons are encouraged to add events. Hope to see you at an activity. Or two. Or three.



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By Lt. Col. Mike Prusak, USAF • California Wing Liaison Officer

The Air Force Flight Orientation Program Serves Both CAP and the Country

Most of us know and understand how and why CAP manages its cadet flight-orientation program (popularly known as O-rides). Did you also know that CAP is integrally involved in another flight-orientation program that introduces some of the future leaders of the U.S. Air Force to aviation?

The primary objective of the AFROTC Flight Orientation Program (FOP) is to help provide a complete and well-rounded education in all aspects of the Air Force to AFROTC cadets. The program exposes AFROTC cadets to flight operations—and to pilots of CAP serving in their role as USAF Auxiliary officers. This interaction should benefit the USAF by providing motivational training and experience to America's youth and future leaders.

The program benefits both the Air Force and CAP. It provides a low-cost solution to introducing AFROTC cadets to flying, some of which may not consider a career in aviation otherwise. An additional bonus, of

course, is that FOPs are another avenue of Air Force-funded flying and continued proficiency for CAP pilots.

***... the program
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Air Force and
CAP. It provides
a low-cost
solution to
introducing
AFROTC cadets
to flying.***

Like cadet O-rides, certain conditions or states of readiness pre-empt AFROTC O-flights. Actual search-and-rescue or Homeland Security readiness missions take precedence over the FOP. Unlike the CAP Cadet O-ride program, only those pilots with 300 hours PIC and possessing a commercial license with a current Class II medical qualify. Because AFROTC limits ferry time to 1 1/2



hours there are geographical restrictions to who can support this program. Qualified pilots may contact Lt. Col. Jim Crum, CAWG chief of staff and AFROTC coordinator, to see where they may support this program.

If your unit operates near a college with AFROTC that is not taking advantage of the FOP, or for further information, please contact me at (916) 564-1605 or prusakmi@earthlink.net. With CAP's help, I'm confident that this program will help inspire tomorrow's Air Force leaders.



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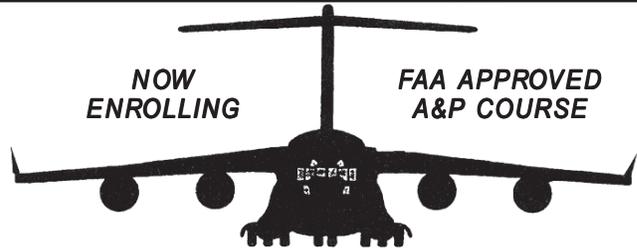
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Breathtaking Ingenuity

By Capt. Allen R. Lord, Travis Composite Squadron 22

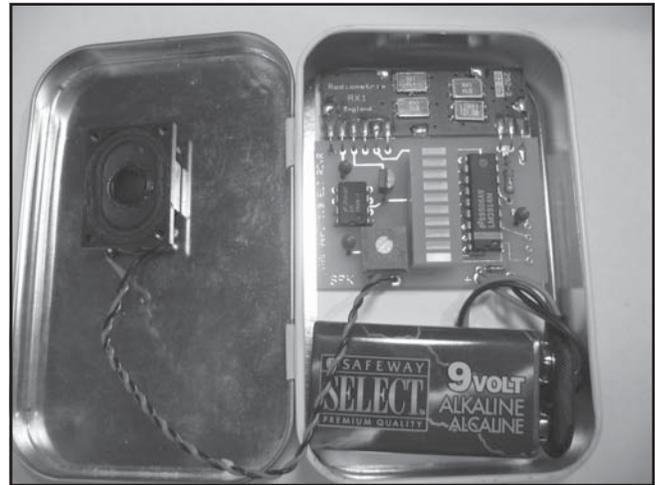
Allen Lord's Direction Finder-in-an-Altoids-Tin Gives Ground Teams an Affordable and (OK, We'll Bite) "Curiously Strong" Shirt-Pocket Solution

TRAVIS AFB—Conventional direction-finding (DF) receivers suffer from several shortcomings, not the least of which is their cost. Many senior members and cadets who would love to embark on missions have to beg, borrow or steal—well, hopefully not steal—standard issue L-Tronics L-Pers, often in short supply due to squadrons' tendencies to destroy them through rough handling, blow up the antenna switch-box with VHF radios, or corrode the units by letting batteries rot inside.

The L-per nonetheless remains Civil Air Patrol's preeminent tool for emergency-locator transmitter (ELT) radio direction finding (DF). Recently, L-Tronics came out with its new DF unit and it appears to be a fantastic piece of gear, with all the features we need now and the ability to add new features—such as 406 MHz data decoders—later. It looks to become as much a CAP standard for hunting ELTs as the old L-per, which has worked perfectly for our purposes for decades.

But at \$750, they're also priced out of reach for most CAP members, even many squadrons. So I set out to design a simple, low-cost a direction-finding radio receiver that could be carried in a pocket yet achieves sufficient dynamic range (the ability to differentiate between loud and soft signals) and selectivity to eliminate off-frequency transmissions. It would also need to deliver clear audio and sport an easily readable signal-strength meter. It should be able to closely localize a signal and so determine which particular aircraft out of hundreds on an airfield has the activated ELT.

This is not a trivial task: The signal from an ELT, though relatively puny in the world of radio transmitters, can overwhelm ("swamp") the L-per's highly sensitive receiver. Moreover, the L-per can be "desensitized" by aircraft or tower transmitters using nearby frequencies. (Seniors members might liken this to becoming selectively deaf in noisy environments, such as restaurants.) Most ground teams can



IN THE CAN: Completing the low-tech illusion, Capt. Lord's witty battery deployment suggests a last-minute trip to the corner store.

testify to having heard voice traffic coming through their L-per. And this can happen intermittently, which can be even more frustrating.

My initial experiments were dismal failures. First I tried to build a souped-up crystal radio and it was easily "swamped," and couldn't provide a suitable signal-strength display. I realized that I needed to use a Narrow Band FM (NBFM) receiver to accomplish all of my design goals. I contacted one of my suppliers in Britain, a manufacturer of radio products for telemetry. I asked them if they could build a radio-frequency (RF) "front-end" module for my design. As it happens, another U.S. Government agency (which shall remain nameless) had already asked for modules capable of receiving the 121.5 MHz distress signal. Eureka! They sent me a few samples, and I began to experiment.

At first, I considered building a receiver system much like the L-per using a "Switched Antenna, Time-Difference-of-Arrival" method (c.f. Joe

Continued . . .



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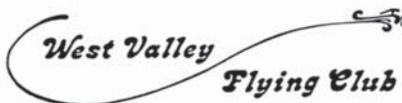
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BARGAIN HUNTER: Capt. Lord field tests his low-cost design.

Breathtaking Ingenuity

Continued . . .

Leggio's <http://home.att.net/~jleggio/projects/rdf/tdoa2.htm>). But as I was trying to keep the size and expense to a bare minimum, I decided to stick with a basic signal-strength-based design, which usually functions in one of two ways. Most commonly, a highly directional Yagi-type antenna is connected to a receiver and when pointed toward the source the signal strength increases, indicating the direction of the signal's origination.

Unfortunately, directional antennae intended for Civil Air Patrol ELT missions (121.5 Mhz frequency) require elements that are about four feet long (see Saman Seneviratne's "In Search of the Perfect Sticks," Eagle Call, Winter, 2005). It is a little ungainly. Even first-generation L-per's induce our mothers' worst fear ("You'll put your eye out!"). What ground team member hasn't poked his teammates with his "sticks" while trying to get in and out

of vehicles?

Signal-strength units call for a combination of field techniques. In "Body Shielding" the ground team member places his body between the source of the transmission and the receiver. This is a practice utilized frequently with the L-per receiver. Since the body effectively absorbs radio waves, when it is between the transmitter (ELT) and the receiver (your DF unit) it partially blocks the signal, allowing the ground-team member to narrow in on the direction. At close range, the switched antenna array is then disconnected and a rubber duck antenna (sometimes no antenna at all) is attached.

The second method to reinforce the body-shielding technique is "near field proximity," wherein the signal gets stronger as you get nearer the transmitter and suddenly even stronger as you enter the "near field" within one wavelength (with 121.5 signals, that's about eight feet).

My design has three principal building blocks: An RF receiver section, a signal strength section, and an audio demodulator section. The RF section is a narrow-band FM receiver module. Some hams may have noted that ELT's are amplitude modulated (AM), but fear not. FM receivers will hear them just fine.

FM receivers work a little differently than AM receivers. AM receivers can hear weak signals with lots of noise in the background. That's good in a direction finder for detecting an ELT on the fringe. FM receivers, in contrast, exhibit a phenomenon called capture: They either pick up the transmission perfectly or not at all. But since my design is really intended for close-range detection, this is not a problem.

The display in my design acts more like an AM receiver. You can detect a signal using the bar graph LED display without actually hearing it. This is especially useful capability since a high percentage of ELT failures result in a carrier-only signal, without the characteristic swept tone. In the absence of a signal, you will hear a hissing sound, atmospheric and electronic noise. As a carrier-only signal becomes stronger, the receiver will become "quieter," a phenomenon called (you guessed it) "quieting". And, given the urban direction finding task, it's not uncommon to be on airfield, surrounded by moving propellers.

Continued . . .

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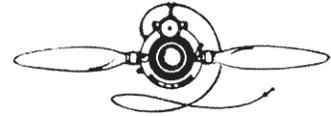
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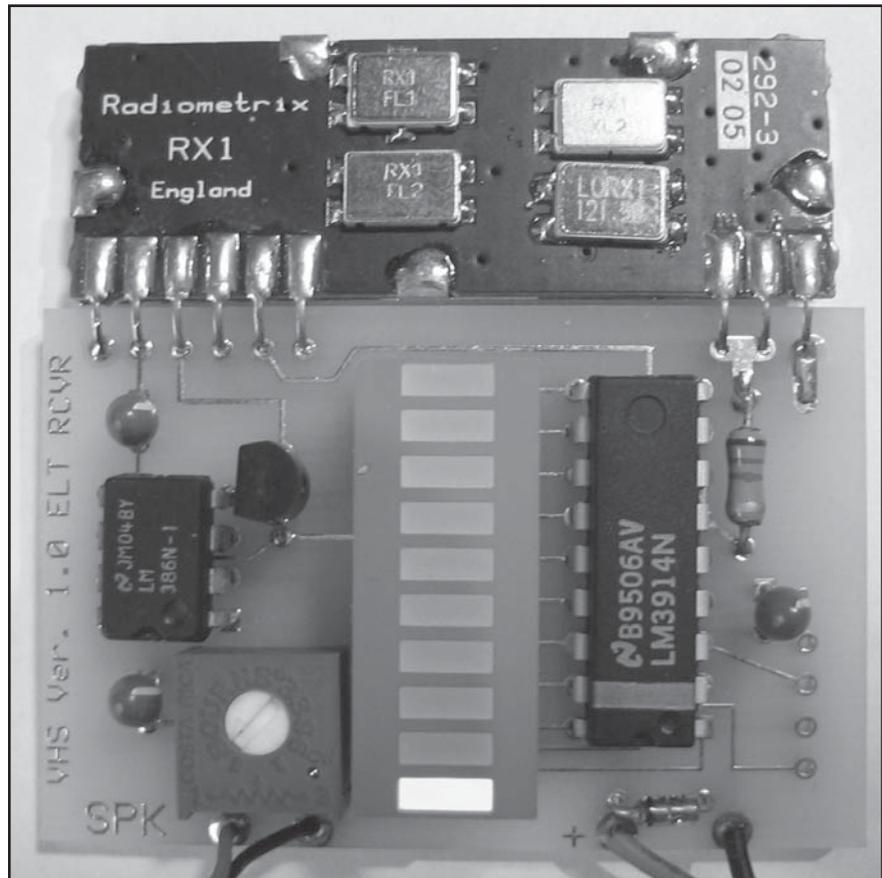
Continued . . .

The signal-strength display section has a total of ten LEDs in a bar graph array. The receiver has an 80dB dynamic range on its RSSI (Received Signal Strength Indicator). In theory that means an 8dB difference in signal between segments, assuming good linearity. (I'm sorry to have subjected you to that, but I knew someone would ask.) In practice, the first or second LED will usually light up just from noise. The last LED will not light until you are almost touching the antenna—unless of course someone is keying up their radio on 121.5.

The demodulator section drives a speaker or headphone, allowing you to hear the audio information transmitted, which is very helpful. Hearing the swept tone of an ELT or EPIRB allows you to confirm an actual distress-device activation. Hearing a carrier only implies an ELT failure, often the dying breaths of an ELT as the battery dies. Hearing a conversation means that someone is sitting on his aircraft band push-to-talk switch. “Digital” sounds indicate a microprocessor or other electronic device inadvertently emitting on the distress frequency. (CD players, DVD players, and a number of computer peripherals have done this—and by now we've all heard about CAP's non-distress Find of a big-screen television.)

I designed the circuit footprint with the idea of disguising it in an unpretentious Altoids tin, although you can certainly put it in a nice metal project box marked “TOP SECRET” if you wish. (In any case, always use a metal box for radio receivers to keep them from picking up and generating noise.) Because it uses a standard FM receiver, it can work with off-the-shelf radio direction finding kits such as the Ramsey Fox or Doppler kits (see ramseyelectronics.com).

I expect to sell my design as a finished and tested printed circuit board. Buyers would provide the case, an on-off switch, an antenna connector (BNC, RCA, etcetera), a small speaker or headphone jack, double-sided tape for mounting the PC board, and a



WAIT STATE: The circuit board replete with LED indicator.

nine-volt battery. The PC board has a built in volume control, and a pin-out section with connections for ground, audio, power, and RSSI.

I'm selling the device as a kit to keep the unit affordable. A fully assembled DF device would require an FCC approval costing thousands of dollars and thwarting my objective to put a cheap, effective receiver into the hands of search-and-rescuers. Selling the device as a kit eliminates that problem, since experimenters can build any kind of receiver they wish, so long as it does not cause interference. And as the RF modules were designed for sale in the U.S. and Great Britain, they already pass FCC muster. So sit back, enjoy a mint, and expect to see an “Altoids ELT Receiver” on E-bay soon.

As a ground team leader, Capt. Allen R. Lord participated in such missions as the Space Shuttle Columbia mission and recently returned from New Orleans where he worked for FEMA in disaster recovery. Capt. Lord holds an FCC commercial license with a RADAR endorsement and, as an electronic security consultant, has extensive experience in the design and use of radio tracking systems. He's a licensed Private Investigator.





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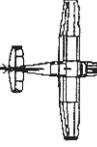


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Have respect for that which can harm you. Yet do not spend your life running from it or fighting against it.

Rather, spend your time moving quickly forward, running toward your dreams.

Put your focus on the actions you can take to reach those dreams.

Then your fears will naturally recede into insignificance, and your dreams will come magnificently to life.

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Scorch this Hot Quiz for a Cool Summer

By Capt. Chris R. Storey, Associate Editor, Eagle Call

FULLERTON—“Warm weather means outdoor activities and fun in the sun!”—and sometimes heat stroke. So don’t get burned by ad hype. It’s dangerous out there. Whether you’re spending a week at encampment, working an air show or on an ELT search mission, ailments related to California’s heat could ruin the day, or the summer.

Scorchers can affect anyone, from the couch potato to the seasoned athlete. They’re more likely to affect young children, the elderly, and people with chronic health problems. Ask your health care practitioner if you have questions about how your medication may affect your ability to tolerate the heat. In the meantime, here’s your pre-summer quiz:

1. You know when it’s hot. When is it officially a heat wave? When more than 48 hours of high heat (90 degrees or higher) combines with high relative humidity (80 percent or higher). The National Weather Service steps up hot-weather warnings to alert the public to take hot-weather precautions. Score: 90 for the right answer, 80 for being partially correct (notice how we subliminally reinforced those numbers). Subtract 20 points for blurting the perennially overplayed Martha & the Vandellas tune on cue.

2. Is there a summer version of the winter wind-chill factor? Yes. It’s called a Heat Index, and paying attention to it can prevent heat-related illness. The Heat Index, in degrees Fahrenheit, expresses the combined effect of heat and humidity for greater accuracy. Direct exposure to the sun, for example, can make it feel 15 degrees hotter than the thermometer reads. Give yourself from 0 to 15 points on a sliding scale, depending on how quickly you answered.

3. One hour of exertion in heat can decrease physical and mental performance by a) 5 percent, b) 15 percent, or c) 25 percent? Sixty percent of the human body is water, and you remember that from high school biology, right? Water carries nutrients to every cell in your body and whisks away the waste. Water regulates body temperature. Health experts recommend more than the usual eight to ten glasses of water a day when it’s hot. But all that fatigue and muscle weakness; decreased endurance, mental efficiency and coordination; and impaired thinking and decision-making that come from dehydration has a miracle cure: water. Give yourself 25

points if you answered “C” above. Celebrate with a Calistoga, not a stogie. Smoking dehydrates.

4. Fill in the blanks: Heat_____are painful muscle spasms caused by heavy exertion and above normal loss of fluids in a hot environment. Although heat_____are the least severe of the heat-related illnesses, they are an early sign that your body is having trouble with the heat. If you guessed “cramps” give yourself 10 points. You’re right—but that was too easy.

5. True or false: The best indicator of heat exhaustion is the most obvious, your body temperature. When people exercise or work strenuously in a hot, humid environment and lose body fluids, the blood flow to vital organs decreases, inducing a form of shock. Sometimes your body is prevented from cooling itself sufficiently because the humid air stops your sweat from evaporating in the humid air or because you are wearing too much clothing. Signs include clammy, pale, flushed, or red skin; heavy sweating; nausea or vomiting; dizziness, exhaustion and headache. Counter intuitively, your body temperature can be near normal as it has been struggling to keep cool. So, false—and give yourself 10 points for remembering your Red Cross training.

6. True or false: A victim of sunstroke could exhibit hot, red, and dry skin while suffering up to a 106 degree fever. True. That’s why it’s a life-threatening medical emergency. During heat stroke (a.k.a. sunstroke) the body’s temperature-regulating system stops working entirely. Temperature may also go up so high that brain damage—and death—would result if the body is not quickly cooled. Signs of heat stroke: changes in consciousness ranging from disorientation to unconsciousness to coma; a rapid, weak pulse; and quick shallow breathing. That was grim: Give yourselves 106 points for reading through.

Scoring: If you scored more than 250 points, congratulations ES-pert! Reward yourself with a glass of cool water. 100-200: Seek instruction from a Cadet who’s been in Boy Scouts. Under 100: Wear a PLB. We’ll soon be seeing your withered carcass, face down in the desert, next to a full canteen!

Continued . . .



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Don't Eat Meat to Beat the Heat and Other Cold Comforts

Follow these tips all summer long, especially when a heat wave is underway or predicted.

*Slow down and avoid strenuous physical activity. Schedule any necessary physical activity during cooler parts of the day. Take regular breaks when engaged in physical activity.

*Drink plenty of fluids, even if you do not feel thirsty. Avoid soda, tea, and alcoholic beverages. Alcohol and caffeine exacerbate heat effects and cause you to become dehydrated faster. Sports drinks contain carbs and electrolytes: good choice.

*Dress for the heat. Wear lightweight and light-colored clothing, to reflect some of the sun's energy away from your body. Wear a hat or use an umbrella. If you have to be outdoors during the hottest part of the day, use sunscreen. Sunburned skin interferes with your body's ability to cool itself.

*Stay indoors as much as possible. If air conditioning is not available, stay on the lowest floor. Try to go to a public building with air conditioning each day for several hours. Electric fans do not cool the



*Without proper hydration, all the world's a hostile desert.
Photo: Shane Terpstra*

air, but they do help sweat evaporate and cool your body by moving air over your moist skin.

*Eat lighter and smaller meals more often throughout the day. Heavy meals that take longer to digest make the body work harder.

Scorch this Hot Quiz

Continued . . .

How to Treat for Heat

Heat-related illnesses usually progress through stages. Dehydration can lead to heat cramps, which can lead to heat exhaustion, which can lead to heat stroke and death if not treated. If you recognize signs of a heat-related illness, here is what you can do to help.

First comes the heat cramps. Treatment: Find a cooler place. Rest comfortably. Sip small amounts of cool water. Stretch and massage cramped muscles. If the symptoms subside, they're good to go.

If it's gotten to heat exhaustion, take the additional steps of passive cooling measures by having the victim remove or loosen tight clothing. Offer the cool water only if they are completely awake and alert. If you have any doubts, give them nothing. Call 9-1-1 if they refuse water (or are not alert enough to drink it themselves), or if they vomit, appear confused, or lose consciousness.

Heat stroke is life threatening. Call 9-1-1 first. The victim must be protected from direct sun, even if it involves temporary shade made with clothing (such as in the desert). Place victims on their back

with feet elevated 10 to 12 inches, easing the work of the heart. Take active cooling measures to cool them down. Remove or loosen their tight clothing for them. Cover their body with wet sheets or cloth. Douse them with water. Use a fan, magazine, clipboard, or even a large piece of cardboard to fan them—anything to get the air moving. If you have ice packs, place them in the victim's armpits, groin, and on the neck to help cool the large blood vessels near the surface of the skin. Watch for signs of breathing difficulty. If victims begin to vomit, immediately turn them onto their side so they do not choke. Be prepared to perform CPR if necessary (see Maj. Carol Denise Edwards, "Keeping Your Head During Mouth-to-Mouth," *Eagle Call*, Winter 2005).

Memorize the method of treating for heat and remain alert to others around you who may be experiencing a heat-related illness. By taking care of yourself, you are protecting California Wings greatest asset.

Capt. Storey is the Emergency Services Officer of the Fullerton Composite Squadron 56, and is active in CAP ES. A certified SARTECH II with the National Association of Search and Rescue (NASAR), he is a California state-licensed Emergency Medical Technician.





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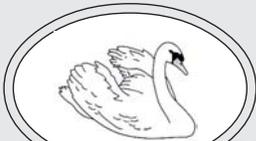
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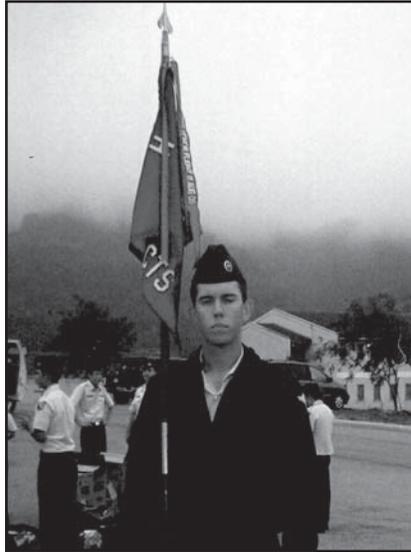
By Cadet 2nd Lt. Jordan Petree

10 Tips from a Grizzled 18-year-old Veteran of Two Summer Sweats

FULLERTON—Do you suffer from Encampment Dread, anticipating the Cadet Training Group's eight days of fun lording it over you? Fear not, fellow cadet: With a little planning and following these handy-dandy pointers, you might even have as much fun as us.

By definition, we Cadet Training Group (CTG) cadets have been where you are. You can't lead until you've followed. Since 1975, we've been turning newbies like you into finely tuned, high-velocity cadets. So whether you've enrolled because you love drill (say it out loud), want free lessons in proper under-pants-storage technique, or know you need Encampment to earn the Billy Mitchell award, Lt. Petree's going to give you a few tips that will make this summer a little easier for you. So, seats at-ease, and listen up:

1 Put...the candy bar...down. Encampment is not military boot camp: We can't turn you into a lean, mean machine in eight days. That being duly noted, the physical standards at encampment are high. Morning PT has been known to ruin a few afternoons—and evenings. Your chances of having a good time increase in proportion to how easily you can keep up or stay ahead. Go outside and start running, now, while there's still time. Work on pushups, flutter kicks, and distance running. If you can't do many reps or go as far as you'd



Cadet 2nd Lt. Jordan Petree: A flag-waver for Encampment.

like at first, work up to it. Start with one or two pushups and add another one every other day. Encampment will demand several sets of each exercise consisting of about ten to twenty repetitions done to a three-count cadence, so be ready! Run half a mile and walk the rest. Push yourself a little more each day until you can run the whole thing through. You need to be able to run a full mile for encampment; you should be able to run several in order to be comfortable. Watch what you eat and take your vitamins.

Sub-Tip: Change your socks every day during encampment. To quote Lt. Dan, "The Mekong will eat a grunt's feet right off his legs." Seriously: Accumulated sweat on dirty socks can cause skin irritation and blisters, which do not make anything easier.

2 Leave your rank at the

gate, Eisenhower.

The proper positive outlook is the key to making encampment enjoyable. Your attitude is everything, affecting how you eat, sleep, and interact with others. If you head to encampment full of yourself, you can bet your stripes (however many you have) you're in for a rough time. If you're on staff at your home squadron, get out of that mode before arriving. When you report, you are a "basic cadet" at the bottom of a very large and very hungry food chain. And don't worry. It's not as humbling as it sounds. You will have fun and make friends and memories that will last a lifetime.

Sub-Tip: To all you 1st Sergeants, get rid of your diamonds before arriving at encampment. They have their own and don't need any more.

3 SOP Does Not Mean "Sporadically Obeyed Program."

Did you get Standard Operating Procedures with your acceptance package? Did you actually read the SOP? You will come to know this little book very well by the end of encampment. In it, you will find everything from the Cadet Honor Code to the Encampment Chain of Command, and everything in between. Make sure you study it, along with the rest of your materials, well before you head out. You should already be familiar with some of the contents (Cadet Oath), but the other stuff may

Continued...

10 Tips

Continued . . .

look foreign (Value of Drill And Ceremonies). Don't worry. You will learn it all by the end of encampment. If you're not motivated to do memory work, get with a friend and study.

Sub-Tip: Get your Chain of Command down first. CTG Flight Sergeants love to quiz you on this section.

4 Avoid Bag-Drag Blues: Pack it Right or Pack It In.

Are you going to start off by not following instructions? (My fun meter is pegging already!) Stick to the Encampment packing list, for Pete's sake! Learn from movie clichés about chubby Privates suffering boot camp: Cream-filled snack cakes are not on that list! Neither are lighters, slingshots, jackknives or other contraband favored by Dennis the Menace. In a few days you'll be firing an M16 assault rifle—let that be your solace as you leave the Rambo Collection behind with your kid brother. And pack lightly for easy organization. You're not going to have extra time to do much of anything, so if you can pack and unpack quickly you can devote that time to something more important.

Sub-Tip: If you have to wonder about whether or not it's authorized, the answer is probably "No!"

5 Water Yourself, Camelback!

Water is your friend. Dehydration is your enemy. It will be hot during encampment and you can lose water quickly. You need to drink water at every opportunity, and there will be plenty of opportunity. Nothing will get you into the medic's office faster than

excessive water loss. Dehydration can turn into a real medical emergency if left untreated. Some signs of dehydration include fatigue and muscle weakness, painful muscle cramps, upset stomach or nausea, feeling lightheaded or dizzy, a darker than normal urine color (clear to pale yellow is good), and disorientation. But it is inexcusable for a cadet to let it go that far, because you've been warned. I just warned you.

Sub-Tip: Change out the water in your canteen every night during personal time to ward off that nasty canteen taste. Plus, the water will get nice and cool overnight and you'll be more likely to drink it.

6 Defend the Epidermis!

Sunscreen: Learn it, live it, love it. Nothing stinks more than being sunburned and squirming in your rack on a hot night at Camp SLO. Sunburned skin also causes you to become dehydrated more quickly (see previous tip) and increases the risk of developing melanoma (a malignant skin cancer) later on. A few quick squirts from one of the spray-on varieties of sunscreen and you're good to go. I recommend a sunscreen with a SPF (sun protection factor) of 30 to ensure prolonged protection. Remember, you're not going to encampment for sunbathing and socializing—that comes later, when you're boasting of the day you made Cadet Captain.

Sub-Tip: I made time to apply sunscreen during the changing period after PT. Make sure to get your neck especially.

7 Make an Inspecting

Officer Miserable.

Have your uniform ready to go before you get there. Spend some time ironing and prepping it before you leave home to make sure you look your best. Cut the bomb cords. ("Boom?") As I said, you won't have much extra time so anything you can do beforehand to make your uniform look sharp will pay off. Shining your shoes, polishing that brass, and getting some last minute tailoring are all things you can do to improve your appearance and help you avoid the bark of an angry inspecting officer.

Sub-Tip: Leave your ribbons, cords, and devices off your blues. You won't need them until near the end of encampment. Just remember to pack them. Then triple check to make sure you did.

8 Talk to Your TAC.

If you're having a problem, your Tactical Officer is the one to go to. Don't be afraid: They are there to help you. If you feel uncomfortable about something or need treatment for an injury, speak up. You will never be denied a request to speak to the TAC. Don't abuse it though: Encampment is supposed to be difficult and your TAC is your TAC, not your mom.

Sub-Tip: The chaplain is also a valuable resource if you need somebody to talk to. Try to sit with him in the mess hall to avoid the onslaught of the CTG's 1st shirts.

9 Think Through the Pain.

Pay attention. You may be tired or bored at times but keep your eyes and ears open. Encampment is

Continued on page 33 . . .

Go for the 3-peat

You've probably asked yourself, "Why would I want to get yelled at for a week of my summer vacation?"

Because—call me crazy—California Wing's encampment is the best cadet activity. Having attended two consecutive camps (97th CTS, Fort Hunter-Liggett, Delta Flight; and last year at Camp SLO, with the ATS, Whiskey Flight), I'd like to convince you that it is a worthwhile experience.



There's a practical benefit: Finishing an encampment makes you eligible to take the exam for the General Billy Mitchell Award and promote through the cadet-officer ranks. Without an encampment credit, forget about becoming a cadet officer.

But it's not just about promoting. At encampment you'll experience what it's like to be a member of a team, join a flight, and graduate with your fellow cadets. Without a team effort—without your effort—the flight will not succeed.

Jody, Jody, Look and See, What Encampment Done to Me!

It began with a sense of foreboding. Every encampment horror story I'd ever heard rushed to mind as I stood in line to check my luggage ("processing in"), studying my SOP. The sound of flight staff yelling at cadets echoed from every building, filling the air. I had definitely arrived.

The first day consisted of learning the encampment standard for everything, from properly folding clothes to how to eat at the chow hall. Cadets met their flight staffs and fellow basics.

Before sunrise the next morning, we awoke to the sound of our flight sergeant loudly ordering us up and outside. Cold air slapped us as we began our first PT of the week. Today's theme: teamwork. We learned that in order to perfect everything in our barracks, we had to work together. In order to drill perfectly, we had to work together.

By midweek, I'd discovered that encampment is not just getting yelled at. Each flight had run the military obstacle course. Strained voices had reached their limits as cadets motivated one another. The Leadership Reaction Course presented us with a challenge that could be met only by



using teamwork. We climbed walls, swung across water, and transported personnel and supplies through an obstacle course within a set time.

It got better: Orientation flights allowed us to experience Chinook helicopters and see the spectacular scenery beyond Camp SLO. We all went to the range to shoot M16s—the highlight of the week for some cadets in my flight. Marching flights sounded off jodies with pride. In the end, it was the sound of high morale we could hear in the air.—**Cadet Tech. Sgt. Melanie Tunison, Travis Composite Squadron 22**

When you graduate encampment, you will have joined the elite corps of the Cadet Training Group (CTG). Graduating encampment earns the awesome feeling of being on the parade deck with your flight for closing ceremonies. By this time you will have realized that it is not about you, but the team.

Yes, there is a lot of yelling. Don't worry about it, and don't take it personally. Your flight staff wants to see you exceed the encampment standard and conquer the challenges of this grueling week.—**Cadet Senior Master Sgt. Steve Dominguez, Travis Composite Squadron 22**

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Yellow Lights on Electric Avenue

By Capt. Chris R. Storey, Associate Editor, Eagle Call

Don't Let Hybrid Hype Dampen Your Good Samaritan Impulse. A Collision Course from Our Staff SARTECH.

FULLERTON—Many of us in Civil Air Patrol have “first-responder” in our blaze-orange blood. We’re the folks who look for a missing aircraft all day—then stop to help at an auto accident scene on the way home.

Beyond the obvious dangers of oncoming traffic, fire, broken glass, jagged edges of torn metal, and exposure to leaking fuel—not to mention blood-borne pathogens from injured passengers—new hazards lurk around the bend with Hybrid Electric Vehicles (HEVs), increasingly prevalent on California roads.

Hybrids combine an internal combustion engine with an electric motor, but they’re primarily powered by the gas engine and convert energy normally wasted during braking or coasting into electricity. A high-voltage battery pack stores that energy until needed by the electric motor.

One unique safety hazard posed by post-accident HEVs is the difficulty of determining if the vehicle is still running. Their quiet-as-a-golf-cart operation is likely to be the cause of accidents, as well, especially involving pedestrians who rely upon hearing cars more than they realize. On some models, the electric

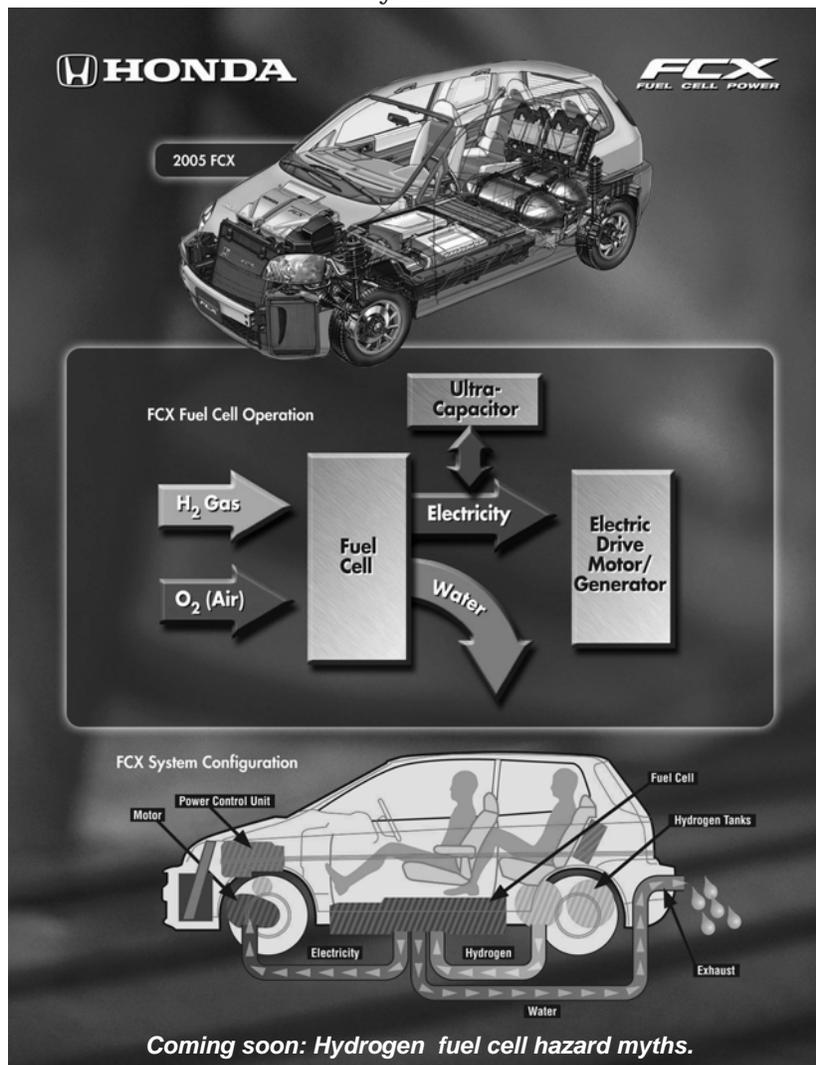
motor automatically shuts off the gasoline engine while stopped or at low speeds. Drivers sometimes inadvertently leave their vehicles in DRIVE after a collision. This becomes a hazard because hybrids

have silent electric motors that may still be running. When drivers remove their foot from the brake pedal (when they exit the vehicle or are helped out by first responders), the vehicle may lurch forward, striking you or other bystanders.

Automakers are proud of their hybrids and identify them through distinctive markings or badges. If you stop at the scene of an auto accident, look for them. Approach hybrids, or any vehicle for that matter, from the side if possible. When responding to traffic collisions, police officers, and

firefighters try to put the vehicle in PARK, turn off the ignition, and remove the key. As a signal to others that the vehicle is shut off, they place the keys on the dashboard. Take this advice if you are involved in an auto accident in any vehicle. If you do not feel comfortable reaching into someone’s vehicle after a collision, ask the driver or passenger if they are able

Continued . . .





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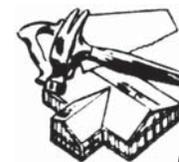
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Continued . . .

to do it. It is for their safety too.

The potentially lethal voltage stored in the batteries of hybrids presents another safety hazard—up to 500 volts in the Toyota Prius. Safety experts say 60 volts, and even lower in some cases, can be lethal. As a Good Samaritan at the scene of an automobile collision, you will not be cutting open doors, roofs, or side pillars—that's for the fire department. Although your risk of contacting high-voltage wiring is less than professional rescuers, exercise extra caution. "For electricity to be transferred from the battery to the motor, the car has to be accelerating or decelerating," explains Sage Marie, Honda spokesman. "Unless the car is moving, there is no high-voltage current moving through the wires. Even so, there's no reason any rescue worker should be anywhere near the wires, and where the wires are located, they won't be."

Automakers have gone to great lengths to reduce dangers from the high-voltage components in their hybrids. They've color-coded the high-voltage wiring and components in our SAR-standard attention-grabbing blaze orange. These wires are routed along the midline of the vehicle frame wherever possible for increased protection. Automatic interlocks disconnect the high-voltage circuits if the air bags deploy. The high-voltage batteries are not grounded to the frame of the vehicle, so there is little danger of being electrocuted by merely touching a wrecked hybrid. Even with these safety features, be careful where you stick your hands because the normally well-protected high-voltage

components could be exposed after a particularly severe collision. First responders across the country are being trained to locate the emergency high-voltage disconnects on the current production model HEVs, but that's above our pay-grade in CAP.

You're probably asking, "What about spilled gasoline and high-voltage sparks? Won't these cars explode into flames?" Good question, Good Samaritan! Hybrids are actually very safe. Collisions severe enough to rupture the fuel tank most likely have activated the safety features designed to disconnect the high-voltage at the source. Fire is always a possibility at any automobile collision. The best advice: Keep your eyes open and prepare to move out of harm's way.

Hybrids are not everywhere yet, but they're not exactly novelties, either. In 2005 alone, Torrance-based Toyota sold 107,897 Prius models and Honda put more than 26,000 Civic Hybrids and Insights on the road—and the eco-conscious Golden State dominates HEV sales, according to Car Concepts, Thousand Oaks. By the end of the year, Toyota will likely have sold 30,000 units of the new hybrid Camry—the most popular vehicle in America. By 2008, nine automakers will produce 15 models of hybrids, including two full-size trucks, four sport utility vehicles, and three new hybrid versions of current model passenger cars. There will be accidents. Don't be afraid to help if you are in a position to do so.

NEXT *EAGLE CALL*: Capt. Storey explodes the myths of ballistic parachutes on small aircraft. 

10 Tips

Continued from page 28 . . .

hard but it only gets harder if you are perceived as lazy. If you are told to do something, make sure you do it to standards. If you see something needs doing, take the initiative and do it to standards. If you don't know what the standards are, find out—and quick.

Sub-Tip: Never cheat or take short cuts. You've heard stories about cadets putting pens in their rolled shirts to make them stiffer, or other inventive ways to cut corners. Don't do it. You have an honor code for a reason—to make you a better cadet.

10 This is No Time to Emulate Dirty Harry.

"Teamwork!" This is what everyone was screaming at me before my first encampment. Believe me, you'd better learn it from day one. Encampment is not just about teaching you how to drill, how to make your rack, or even how to eat like a robot. Yes, those are important, but the true purpose of encampment is to teach you teamwork. You will learn how to operate under pressure, using your teammates (your Flight) to overcome! You are going to rely on your team for almost everything. And the lessons you learn here will be invaluable now and throughout your entire life.

Sub-Tip: Remember T.E.A.M.—Together Everybody Accomplishes More!

C/2nd Lt. Jordan Petree is the Cadet Commander at Fullerton Composite Squadron 56 in Orange County. He is also a proud member of the 102nd CTS Hotel Hawkeyes. 

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Turbulence in the Empire

By Capt. James Daley, PAO, San Bernardino Senior Squadron 5

Group 3 Crews Question Squadron Tasking. Incident Commanders Challenge Mission Readiness. Both Sides Have Their Say.

RIVERSIDE—Group 3 hosted an urgent meeting of Emergency Services personnel here in February in reaction to building frustration over search-and-rescue mission tasking and response time in the Inland Empire. Thirty-six officers—including representatives of ten Group 3 squadrons, Lt. Col. Virginia Nelson, Wing Commander, Maj. Jim Porter, Vice Commander, and Capt. Bob Keilholtz, Director of Emergency Services—engaged in a spirited roundtable discussion that aired out critical mission-readiness issues.

Referencing recent missions in the Palm Springs area, some Group 3 pilots contended that tasking by Incident Commanders had become unreasonably impatient, with crews responding quickly to missions and finding they weren't needed; or accepting



MISSION CLARITY: Vice Commander Jim Porter explained the pilot's prerogative.

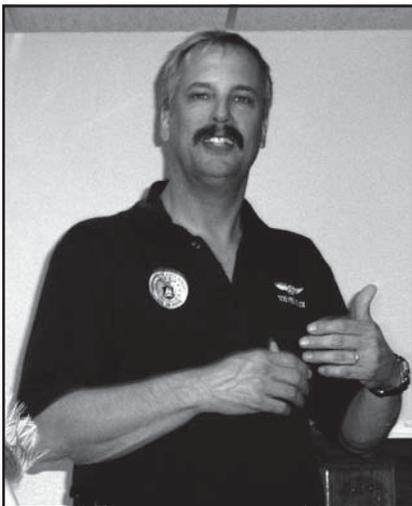
missions and showing up at a staging area ready to launch, only to be told to stand down because another aircraft had been launched in the interim. Some officers claimed certain squadrons were often bypassed in favor of other units for no objective reason.

Capt. Keilholtz responded by reiterating that county sheriff's departments are typically CAP's customers, and as such demand a one-hour response time; he and other Incident Commanders were simply doing their best to keep the customer satisfied. He added with certain candor that some squadrons were in fact meeting the needs of the Wing better than others, both with respect to mission response time and capability.

He expressed his own frustration, and related an incident when crews accepted a mission and used up 45 minutes of the Wing's response time, only to report upon arrival at their airport that their CAP aircraft was gone. Capt. Keilholtz said that some crews were unacceptably unaware of the plane's scheduling or air-worthiness.

Some crews argued they were being pressured to accept missions under unsafe conditions. Capt. Keilholtz objected that every pilot is always in charge of determining the safety of mission conditions, and Col. Nelson and Maj. Porter reaffirmed that as the unwavering position of California Wing. Crews responded by citing

Continued on page 49 . . .



KEILHOLTZ: Defending Incident Command's call to action.

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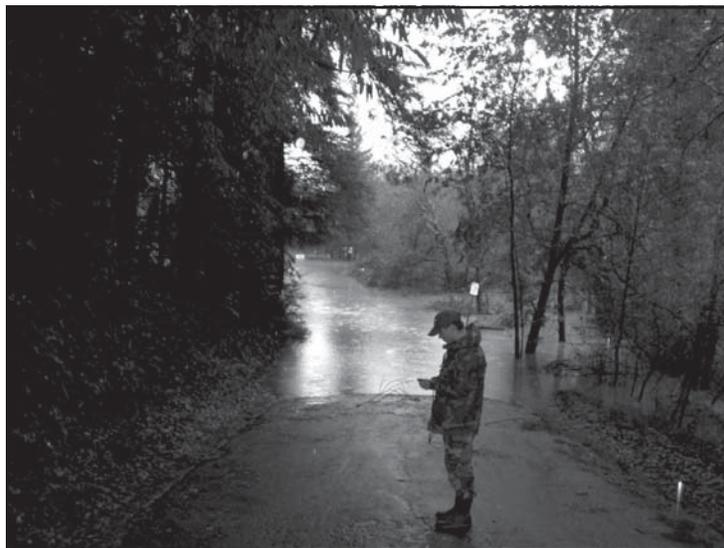
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A California Wing Flyby

Sonoma Squadron Fights Rushin' Russian

SANTA ROSA—Cadet and Senior members of Redwood Empire Composite Squadron 157 were among those who spent the final hours of 2005 and New Year's Day manning the Sonoma County Emergency Operations Center when the Russian River flooded. At Guerneville, the river rose to 41.65 feet, peaking nearly 10 feet above flood level, inundating the town and damaging nearby Rio



Nido and Monte Rio. Governor Schwarzenegger declared it a disaster area. CAP was tasked by

the EOC with securing its facility as well as guarding a normally unmarked access point, signing in workers, and escorting the press. Ten senior members and three cadets—including Cadet Capt. Zachary Hamill, seen here in Forestville—provided security around the clock under the coordination of 1st Lt. Don

Olsen. No lives were lost.—1st Lt. David Reber, PAO

Another "Class of 9/11" Success Story

RIVERSIDE—Capt. Jon Stokes, newly installed commander of San Bernardino Senior Squadron 5 (here with Lt. Col. Jon Meyer, right, at the change of command) was recognized in the "San Bernardino County Achievers and Volunteers"

column of the *Riverside Press-Enterprise*. Capt. Stokes told the newspaper that he'd joined Civil Air Patrol after the events of September 11th because, never having joined the military, he felt he hadn't done his part for the country. The publication of

the column immediately led to visits by three prospective members, two of whom have since joined up.—**Capt. James Daley, PAO**



Committed to the CORE

OAKLAND—A dozen members of Amelia Earhart Senior Squadron 188 trained here for disaster relief in the Federal Emergency Management Agency program CORE, Citizens of Oakland Responding to Emergencies. The City of Oakland Fire Department conducted the training through the Office of Emergency Services.

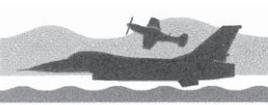
The curriculum for the three-part program, conducted over several days, includes a simulated disaster exercise and working with the local community toward the goal of ensuring self-sufficiency for several days in the event of a disaster.

FEMA classifies CORE as a CERT (Community Emergency Response Teams) program.—**Lt. Col. Dennis Matarrese**

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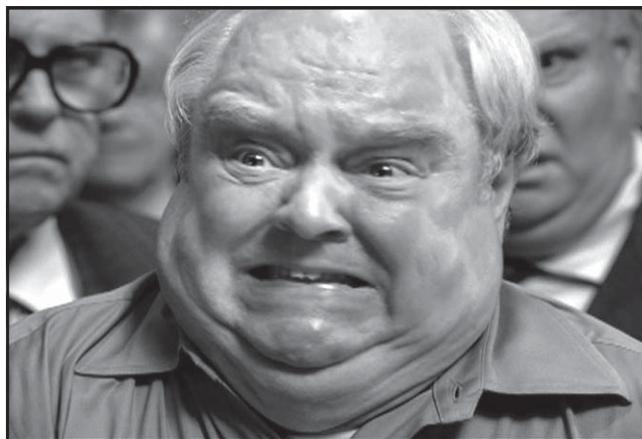
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The Noble-ity of Acting

SANTA MONICA—Expect flight-line double takes at the sight of 1st Lt. Bob Noble over the summer, as the ad campaign for Washington Mutual in which he stars as a fraudulently unreformed banker has been in full swing since March. A pilot with Clover Field Composite Squadron 51 here, Lt. Noble had a reoccurring role as the President’s butler in *West Wing* and made prominent guest appearances on *Crossing Jordan* and *Boston Legal* last season. A proud Vietnam veteran, Noble served in U.S. Air Force intelligence during the war years, though he humbly stipulates, with respect to his brothers in arms, that he was not stationed “in country.” He promises to never rip off his flight suit in the manner of the commercial to reveal some anti-CAP alter ego. Photos: Courtesy of Leo Burnett USA, Chicago.—**Capt. Greg Solman, Editor**



Squadron 144 ‘Touched’ by Katrina Briefing

SAN DIEGO—Maj. Christopher Van Gorder returned in February to the squadron he once commanded to present his personal, professional perspective on Katrina efforts in Houston, where many displaced hurricane victims relocated.

Maj. Van Gorder, CEO of the Scripps Health chain of hospitals and clinics in La Jolla, said that he’d dispatched a medical response team of 71 doctors, nurses, and first responders to Houston last October at the command of U.S. Surgeon General Vice Admiral Richard Carmona.

His briefing summarized his team’s findings in PowerPoint presentations and videos. Members said they were “touched” by his video essays.

Maj. Van Gorder recounted a then-recent experience of saving two hikers in a San Diego County search-and-rescue effort in the Anza-Borrego Desert State Park and showed cadets reserve ambulance “Rescue 88.”

The former commander of San Diego Cadet Squadron 144, and a lieutenant in the San Diego County Volunteer Sheriff’s Department, Van Gorder was



Commander to ex-Commander: Maj. Daryl Newton (left) presents a Certificate of Appreciation to Maj. Chris Van Gorder.

appointed in March to Gov. Arnold Schwarzenegger’s Commission on Emergency Medical Services.—**Capt. Dennis Ammann, PAO, San Diego Cadet Squadron 144**

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San Diego Cadets Steal a Glimpse of a Night Hawk

'Neath the shadow of a Stratofortress: Cadets, Seniors, and Air Force tour guides gather.



SAN DIEGO—Members of three Civil Air Patrol squadrons got the catbird's view of an F-117A Night Hawk Stealth Fighter during the Miramar Air Show at the Marine Corps Air Station here last October.

San Diego Cadet Squadron 144 and South San Diego Cadet Squadron 201, Chula Vista, typically join forces at Miramar to recruit prospects, setting up right next the U.S. Air Force booth. Skyhawk Composite Squadron 47, Camp Pendleton, was invited to represent the northern portion of San Diego County.

The show is also Aerospace Education paradise, with every type of military and civilian plane imaginable on display, from military replica WWI aircraft to the latest fighters. Majors Brian

Billing and Dee O'Sargent, both of SQ47, conducted walking tours with Capt. Dennis Ammann of SQ144.

Highlights of the tour included a Boeing B-52H Stratofortress out of Minot AFB, N.D. Capt. Ryan McGough, radar navigator from the 23rd Bombing Squadron, thoroughly explained the mission, history, and operation of this huge, eight-engine aircraft. A young "H" version with 45-years of service, the B-52 is expected to be in the Air Force inventory 15 more years. Master Sgt. Steven Henderson, crew chief, and Staff Sgt. Barry Heuyard, systems specialist, both from the 28th Bombing Squadron, Dyess AFB, Tex showed the B-1B Lancer—a swing-wing, supersonic, four-engine heavy

bomber—highlighting the various defensive systems such as chaff, flares, and electronic countermeasures. Cadets saw the carousel bomb rack and learned how cruise missiles could be rotated and ejected.

Staff Sgt. Brandon Wannarka and Senior Airmen James Ray, Bryan Perrine and Shawn Moore, systems specialist, all of the 49th Air Maintenance Squadron, Holloman AFB, N.M., hosted the tour of an F-117A Night Hawk, one of two on display. Cadets were permitted in pairs to climb the hard stand and view the cockpit. Some cadets viewed the open bomb rack and learned how the two 2,000 pound bombs eject during a bombing run. The tour guides explained the infrared camera, laser-guidance and

exhaust dissipation systems, engines, landing gear, and recounted the F-117's combat history.

The day's excitement later peaked when the Blue Angels, the Navy Flight Demonstration Team, performed.—**Capt. Dennis Ammann, PAO**



The B-1B Lancer above Edwards AFB during the CAP-supported 2003 Open House and Air Show, when it unofficially set and broke almost 50 new world speed records and later released a payload of inert weapon. USAF photo by Steve Zapka.

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Iraqi Freedom Flag Finds Home at SQ5

RIVERSIDE—San Bernardino Senior Squadron 5 was honored in February with the surprise presentation of an American flag flown in a combat mission over Iraq. 1st Lt. Kevin Strange, a member of the squadron, returned from working in Iraq and presented the flag to the unit commander Capt. Jon Stokes. A plaque bearing the following inscription accompanied the folded and encased flag:

1st Military Intelligence Battalion Mosul Air Base, Iraq

“To all who read this: Let it be known that this American Flag was flown on a combat mission over the skies of Iraq on 31 December 2005 to 1 January 2006 aboard an IGNAT-ER, Aircraft #002, Callsign T-Bone 31, in support of Operation Iraqi Freedom to aid in maintaining stability and the reconstruction of Iraq as we prosecute the war on terrorism and is hereby presented to CAP Squadron 5 for your outstanding support and sacrifice to our nation and our brothers and sisters in arms.”

Lt. Strange had been stationed at LSA Diamondback in Mosul on an Army contract supporting the troops in northern Iraq. Other members of Squadron 5 have flown supplies and troops in support of U.S. operations in Afghanistan and Iraq. The unit has also collected and delivered

personal comfort supplies to our wounded soldiers recovering in Germany.

The I-GNAT Aircraft, which carried the flag and its sister craft, the Predator, are remote control aircraft, UAVs (unmanned aerial vehicles). UAVs deploy state-of-the-art reconnaissance systems in

extensive use by U.S. government agencies, including the Air Force, Army, Navy, NASA, and Department of Energy. Other models are being used to patrol the skies over the U.S. /Mexico border. These remote control aircraft are controlled from mobile ground control stations that can be installed in the back of a Hummer. This technology provides a cheaper and safer alternative to manned reconnaissance.

Several southern California locations are being used for UAV development, testing and training. These locations include flight operations facilities in El Mirage and Gray Butte in the Mojave Desert east of Los Angeles and a Research and Development facility in Adelanto, Calif.—**Capt. James Daley**

Remembered in Iraq: Lt. Kevin Strange (R) presents a war memento to squadron commander Capt. Jon Stokes.

A Predator Puts Down: The advanced UAV lands at Gray Buttes-El Mirage test facility about 20 miles southeast of Edwards AFB. Two Predator weapons systems are undergoing developmental test and evaluation by the newly-formed Detachment 1 of the 452nd Flight Test Squadron. Photo courtesy USAF.



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Lancer Crew Cuts It with Cadets

SAN DIEGO—Staff Sgt. Angelic Atkins and her fiancée, Staff Sgt. Kurtis Payne, both on active duty with the USAF's 28th Maintenance Squadron, Ellsworth AFB, South Dakota, took their leave time to speak to San Diego Cadet Squadron 144 here last December. Sgt. Atkins is a structural mechanic and Sgt. Payne maintains ground support equipment for the B-1B Lancer, 28th Bomb Wing, Air Combat Command. The two staff sergeants explained their respective jobs and outlined the challenges facing the USAF to provide parts for an 1980s-vintage aircraft that is no longer made. Sgt. Atkins stated

Continued . . .



Members of Squadron 144 enjoy a photo op with Staff Sgt. Kurtis Payne, USAF (left) in civilian clothes, Staff Sgt. Angelic Atkins, USAF (center), and Lance Cpl. Chris Houcom, USMC (right). Photo by Capt. Dennis Ammann

Buzz and The Beav Support DC-3 Restoration Party

SANTA MONICA—A *CAP Investigation Concludes!* Your editor here produces indisputable photographic evidence that Jerry "The Beaver" Mathers did *not* die in Vietnam (a widely circulated rumor back in the day). On the

contrary, Mathers proudly served in the Air National Guard, Van Nuys, during the '60s, where he was assigned administration duty—and only suffered Eddie Haskell-esque wisecracks along the lines of: "Update my 201 file,

Beav, or I'll pound you!" Mathers attended a Clover Field Composite Squadron 51-supported event at Santa Monica Airport last December commemorating the 70th anniversary of the original flight of the DC-3s, which were built in Donald Douglas's ingeniously disguised factories near the old Clover Field.

American legend Apollo astronaut "Buzz" Aldrin attended the DC-3 fly-in and USO-style social, along with actor Cliff Robertson (*PT109*, *The Devil's Brigade*, and for the Cadet generation, *Spider-Man's* uncle); aviator, FBO owner and FOC (Friend of CAP) Clay Lacy; and 58-Mission Spitfire flyer and ace test pilot Bob Hoover. CAP officers and cadets controlled crowds and escorted celebrities as well as relatives of the late Donald Douglas.—**Capt. Greg Solman, Editor**



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“Attention all Units...Make That All Groups... Ah, Heck, Everybody in the Wing Look for a Boob Hauling a Boat!”

FRESNO—At the end of a freezing, all-night search of the Grapevine for an emergency locator transmitter in February, a ground team from Bakersfield Composite Squadron 121 felt it had finally closed in for the kill. That’s when the signal started moving—from Group 6 to Group 4 territory. About-to-be-seasoned Incident Commander trainee Theresa Longley dispatched a second ground team from San Luis Obispo Composite Squadron

103 to head it off and launched CAPflight 404 from Fresno Composite Squadron 112.

Unable to correlate the read out of the Cessna 206’s direction finder with its barely audible report, Maj. Mark Lambie, Pilot in Charge, and Mission Observer Jennifer Waite resourcefully swapped out the bad DF unit with a handheld model and continued the chase.

Almost two hours later, the Air Force Rescue Coordination Center satellites located the signal near Manteca—so out came a third ground team, this one from Merced County Composite Squadron 147, Group 6. That team could only hear a weak signal, so Maj. Lambie radioed the NorCal Approach controller working the Stockton area, who requested the assistance of any other aircrafts flying over the area. A jet



This California Highway Patrolman left breakfast behind to help CAP complete a neverending story.

Lancer Crew Cuts It with Cadets

Continued . . .

that although the Lancer is old, “stealth” technology incorporated into the airframe gives it the radar cross-section of a small bird. Sgt. Atkins spoke of her deployments to Kuwait, Saudi Arabia, and Oman during the past six years. Sgt. Payne said he’d joined the Air Force to see the world and laughed at the irony of his subsequent

stationing in Ellsworth, where he’s from. Marine Lance Cpl. Chris Houcom also spoke. The former CAP Cadet inspired Cadets with tales of his combat experience in Iraq. He sustained shrapnel wounds and hearing loss after a suicide bomber attacked his observation post.—**Capt. Dennis Ammann, PAO**



CF404 could do nothing but take pictures of the oblivious offender.

could hear the ELT, confirming that it was moving north, apparently on Interstate 5.

CF404 caught up to the signal west of Sacramento Metro (Group 5). A ground team, Lt. Col. William Correll and Capt. Art King, Sierra Composite Squadron 72, from CAP’s French Camp outpost, were hopelessly behind the signal, outside Stockton.

Maj. Lambie applied gastric intel: He knew of a good restaurant at Willows where California Highway Patrol might be informed of their dilemma (and they might use the facilities). But as they descended to 1,000 feet, they locked onto the ELT—a Dodge pickup with camper hauling a boat. Ill equipped to do anything but pretty S-turns above the unwitting ELT-tripping scofflaw, they took pictures (see above).

CF404 taxied to the ramp at Willows. As Maj. Lambie had predicted, a patrol car was parked by the CHP’s C206, and an officer was enjoying a hearty late breakfast. Informed of CF404’s dilemma, the officers dispatched their highway units to pull over the Dodge and tell the driver to turn off his ELT.

CF404 returned with 6.3 hours on the Hobbs, a non-distress find, and lots of pictures to prove it.—**Reported by Maj. Mark Lambie, Fresno Composite Squadron 112**



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Turbulence in the Empire

Continued from page 35 . . .

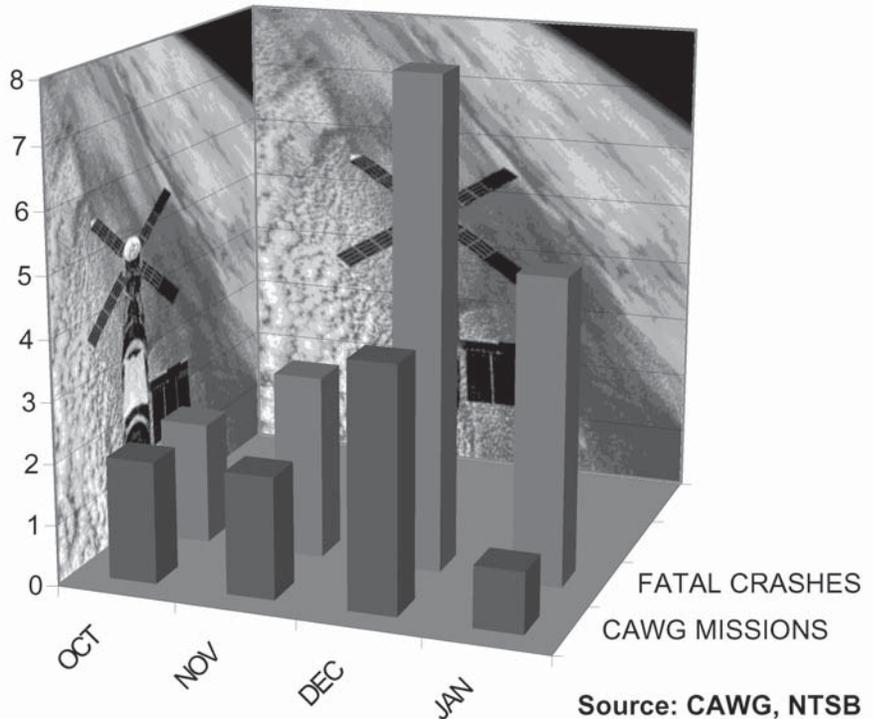
incidents in which pilots had refused missions, declaring the conditions unsafe, only to discover later that other crews were tasked on the same mission. They said the subtle pitting of squadron against squadron could lead to less experienced crews flying into dangerous conditions, or to pilots pushing against their own limits so as not to seem less competent or game than others.

Capt. Keilholtz answered that, on the contrary, in instances where one crew had demurred, more experienced and capable pilots had taken the missions, confident that they could fly in those conditions, or that the variables had changed at the point of tasking. He re-emphasized that every Mission Pilot has both the right and the duty to make that determination for himself.

During the discussion of varying crew capabilities, officers cited a mission in which pilots understood Incident Command to have established a remote base at Hemet at which they arrived to find no base staff. They wondered how they were to react in that situation. Capt. Keilholtz responded by differentiating between a mere staging area and a staffed mission base, and further emphasized the practical necessity of moving toward a virtual-base model wherein the best chance of round-the-clock staffing is for missions to be run out of home offices with full communications and computer complements. Capt. Keilholtz warned that, despite the adjustment it might entail, this was almost certainly the direction of Wing mission management in the future.—

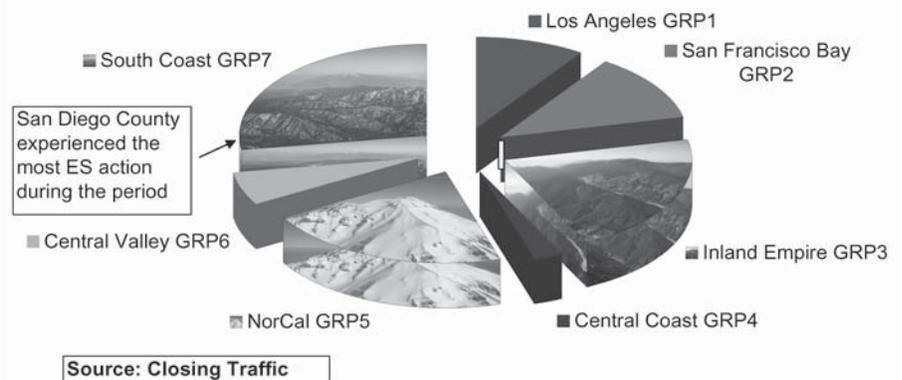
with Capt. Greg Solman 

Missing-Aircraft Missions vs. Fatal Aviation Accidents



A snapshot of the Wing's missing-aircraft missions as compared to the number of fatal crashes reported by the National Transportation Safety Board. December brought the misery of eight fatal crashes, and CAWG responding to half. In October, CAWG was called in to find both fatal wrecks.

No Sleepy-Time Down South



South Coast Group 7 got most of the Mission action during the period of October 2005 to January 2006, according to an unofficial estimate based on formal closing traffic. As usual the ICs, ground teams, UDFs and CAPflights often come from neighboring Groups. The big cities and the central valley were relatively quiet.

Continued . . .

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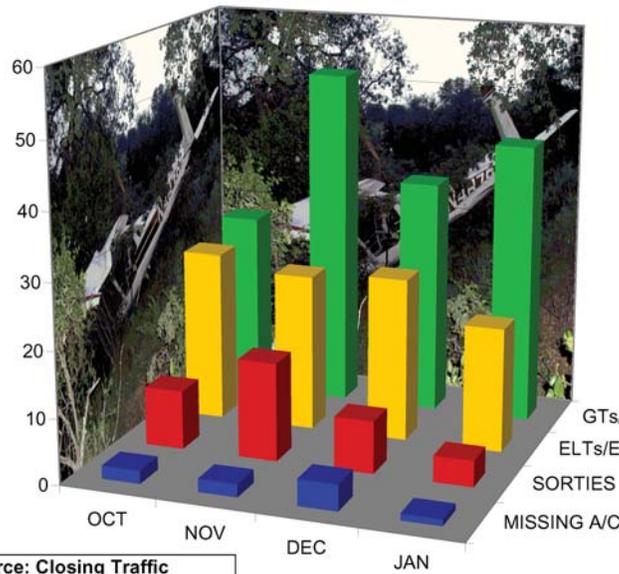
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# REDCAP IN REVIEW

**DEBRIEFING:** Though the number of ELT/EPIRB missions remained relatively stable during the opening of the ES year in October through January, CAP's responses to missing-aircraft averaged one per week last December during a month when the NTSB reported only eight fatal accidents in California in all classes of aviation. According to Lt. Col. Beth Wordsworth, DDC, both October and November missing-aircraft missions as well as January's single mission included an aircraft discovered safely on the ground, whereas all four of December's were fatal crashes. Of the January ELT missions, one "involved securing three ELTs in separate locations, including one in a crashed aircraft near Fox Field, Lancaster," said Col. Wordsworth. **Critical missions** include the 18-19 October search for the missing Lancair that dropped off radar flying from Gillespie Field to Scottsdale, Ariz. IC Capt. Bob Keilholtz reports: "This two day mission used seven aircraft (flying 24.5 hours), one ground team, and 33 members, at a savings to state and local governments of over \$3,000." On

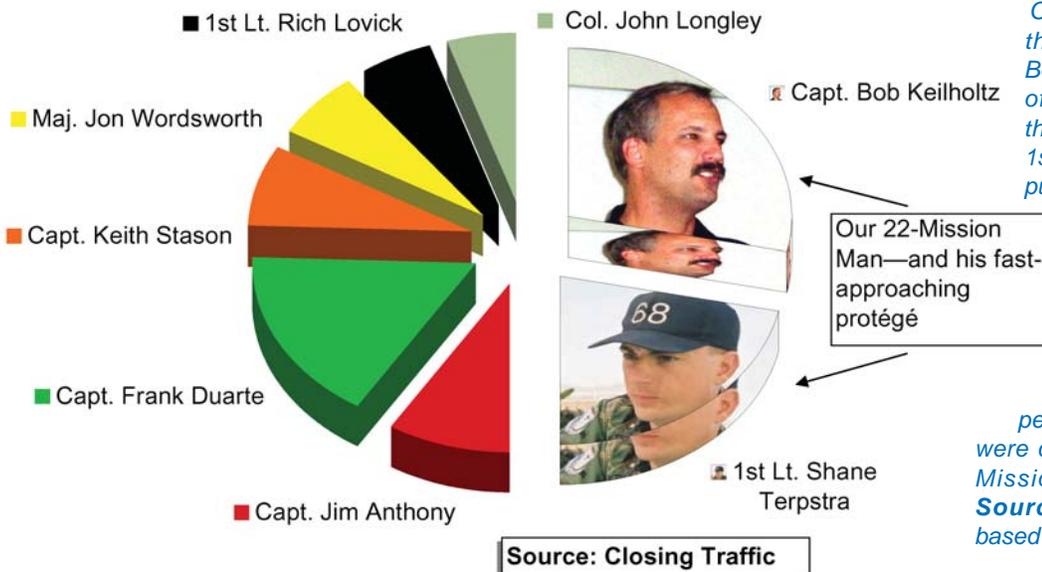


Source: Closing Traffic

10 November, a northern search for a Beech F33 flying Redding to Santa Rosa that began when the pilot, an attorney, missed a court date. IC Ray Peterson dispatched air crews and ground teams, but a Sonoma County sheriff's helicopter beat them to the crash site. Col. Peterson reports: "This mission demonstrated how quick response and cooperation with California highway patrol and County Sheriffs can get the mission accomplished." Finally, Thanksgiving

came late (or Christmas came early) for the entire Wing in early December when CAP planes participated with the Los Angeles County Sheriff's Department and the U.S.A.F. 84th Radar Evaluation Squadron at Hill AFB, Utah, in a Distress Save of two men whose glider (without ELT) was lost in the San Gabriel Mountains and found using the AF-supplied last-known position in a canyon wash at 4,200 feet. IC Keilholtz called it "the classic missing-aircraft search-and-rescue mission." **Digress Finds:** Also in the run-up to Christmas, IC Keith Stason dispatched a UDF team to a Dublin Sports Chalet sporting goods store where they found an "unregistered PLB" had been "activated by store personnel to demonstrate its use to a potential customer." We hope 2nd Lt. Scott Lofgren at least got free MREs for his troubles. IC Lt. Shane Terpstra ran the last mission of last year—and the first of 2006, sending a crew to the front lines of Alpine. "Thanks to Bob Keilholtz and Tom Charpentier for their late night efforts in locating this signal and dodging gunfire on New Year's Eve." **Source:** Unofficial estimate based on Mission Closing traffic.—**Capt. Greg Solman**

## Keilholtz: The WMAO's Best Friend



Source: Closing Traffic

A picture of the Incident Commander load during the period showed Capt. Bob Keilholtz running most of the Missions (22) from the south of Group 7, with 1st Lt. Shane Terpstra (17) pulling in long hours on the beach, and Capt. Frank Duarte (13) crowned king of the north. None of the ICs polled (including Keilholtz, who often handles missions for long periods before handing off) were quite sure just how many Missions they'd handled. **Source:** Unofficial estimate based on Mission Closing traffic.



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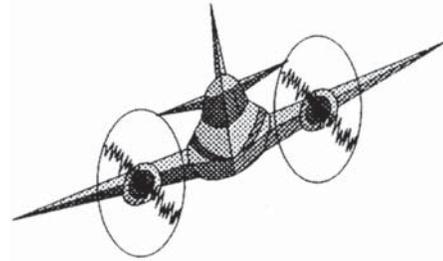
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# Air Devil!

*Having Known Few Fears in 80 Years, Col. Towse Tells Us How He Took a Flying Leap of Faith from a Perfectly Good Airplane*

*By Lt. Col. Don Towse, San Jose Senior Squadron 80*

**SAN JOSE**—It's a warm sunny early December day in the Santa Clara Valley, and I'm driving down Highway 101 for an appointment to celebrate my 80th birthday at Hollister Airport. They are expecting me about noon, and we will be all finished by three o'clock.

I've been thinking of doing this since I heard that former President George Bush jumped to celebrate his 80th birthday. I tell my family; they think I'm joking, but I keep it up, and word gets around. So now I'm really going to have to do it. "You can still change your mind," I tell myself as I turn into the airport, but pride and curiosity urge me on, and I park next to the skydiving school.

There is a small office, a rack of jump suits, and a large barn-like room where parachutes are carefully folded and packed for use. Not the old-style round parachutes that go where the wind blows them, these are colorful rectangles with thick straps connected to the four corners. The straps at the rear have handles so that the jumper can steer by moving the trailing edge of the parachute.

I watch a video, accept liability for everything the lawyers can think of, and acknowledge that I know that this is a dangerous activity that has no useful purpose. (Okay, a lot of people do nutty things. At least this promises to be a real adventure.)

I meet my instructor, jumpmaster Steve Rafferty. He's a solidly built man in his late thirties, a little less than six feet tall with short-cropped graying hair and a slightly weathered face. He loves to jump out of airplanes and it shows. He's done it almost ten thousand times. During our flight he will be my PIC—Parachutist-in-Command. We share one parachute. Both of our harnesses are attached to it. Students don't solo first jump. He finds a jumpsuit that will fit me, straps me into the almost too-tight harness, and

*Continued . . .*

*Editor's note: As fate would have it, Col. Towse sent me this piece for publication in Eagle Call just weeks before his passing in April. I had already determined to feature it essentially intact when I learned from Chaplain (Lt. Col.) Paul Ward that Col. Towse had died. In a sense this piece, his voice, bears witness and fitting tribute to his spirit. I hope all of us who served with Col. Towse, whether or not we had the honor of knowing him, will cherish in this wry, folksy memoir what I admire: His joie de vivre. Requiescant in pace.*





## ***Air Devil***

*Continued . . .*

explains everything.

It's too late to back out now, so off we go. Steve is grinning widely from the time we start out for the plane until long after we're safely back on the ground. You can see he just loves this. They load four of us into a six-place Cessna airplane. We say this is a "perfectly good" airplane, but in reality it's old and only "good enough." This model has no cargo door; the co-pilot seat on the right side has been removed and the modified door with hinges on top has an easy-release catch. The door swings up so we can get out when the time comes. The outside looks good but the interior is well-worn. Only the pilot has a seat; the rest of us, the instructor

and I, a para-photographer to document my adventure, and another jumper along just for the fun of it, sit on the floor padding. The pilot and I have seat belts but everyone else is free to bounce around.

The run-up sounds good and the plane quickly climbs to 10,000 feet, full throttle all the way. We slow to about 90 knots and someone opens the door. The photographer gets out first and is standing on the wing strut outside, waiting for us.

It's windy! What's more, it feels unnatural to sit on the door-sill with my legs outside. I'm supposed to put my foot on a step on the wing strut, but my legs are too short to reach it. Steve says not to worry, the slipstream will help us out! It's cold out here, and noisy,

and I admit that I'm a little bit uneasy looking straight down to the ground 10,000 below. Pilots don't normally have this kind of view—normal pilots, anyway. So I take a deep breath, having finally decided it's too late to change my mind anyway. We adjust our goggles and gloves.

We don't "jump," just sort of step off into the slip stream, and go into free-fall, heading for 4,500 feet altitude. This is where we put out our arms like wings and pretend we're birds, soaring with the hawks and eagles. It looks pretty in the movies—but it's cold and really breezy up here, going about 120 miles per hour. Not good for the complexion or hairdo. From 10,000 feet the earth seems distant. I can actually see the curve of the horizon and all the way from the Sierra Nevada on the east to the Pacific Ocean and Monterey Bay to the west. We continue to turn; the world looks like it's slowly spinning under us, but the ground doesn't seem to be coming up as fast as I had imagined. My PIC has an altimeter strapped to his wrist so we can see how we're doing.

The photographer comes close to take a picture, we smile

*Continued . . .*



# Hearts of Glass

## *Welcoming the Wing's New 182 Has NorCal Pilots Bidding Fond Adieux*

*By 1st Lt. Steve Taylor,  
Group 5 PAO*

**NORTH HIGHLANDS**—Nostalgic sentiment met welling excitement as pilots of NorCal Group 5 bid farewell to their faithful old plane and received the new Cessna 182T with the Garmin “glass cockpit.”

Group 5 had been on notice for nearly a year that one of its units might be the next to take possession of one of those high-tech airplanes with all the bells and whistles. So when the first aircraft assignment fell to another group, we were disappointed to say the least. Thankfully, we were not left empty-handed and indeed happy to carry on with our trustworthy bird of many years, a 1981 Cessna 182R.



*PAINT THE SKY: Awaiting a mission at Sacramento Composite Squadron 15.*

We love flying that bird. For many of us, it was our introduction to the 182. If you happened to be transitioning from a Cessna 172, the 182 felt like a wild horse you'd been tasked to break. But after a short time it felt as tame as a kitten, requiring as little care and feeding as fresh oil, a light buff of the leading edge, and an annual checkup.

Like a favorite old car or truck, this plane had given us flawless performance for many years. Oh, sure, the push-to-talk

switch would play games now and then. The radio toggled between left and right seats—and alternated between functioning and not. Sometimes the CAP radio worked. Sometimes, we just did our best without it.

The aircraft itself always performed exceptionally well. This was due in no small part to the exceptional aircraft managers we've had over the years. Our guys take ownership of a plane and baby it as if it was their own.

*Continued . . .*

## ***Air Devil***

*Continued . . .*

and wave, and he's off. We see his 'chute open far below us and will meet him again on the ground. Our parachute opens with little jerk. We take off our goggles to drift silently down. This part is pretty nice. After flying along, belly down, it's good to be nearly vertical, enjoying the view. Down there, on a warm Friday afternoon, I can see the hills and fields and the new subdivisions in a more normal perspective. Steve

points out a field far below and ahead of us. There are two parachutes already there, and a van on the road next to them. That will be our landing zone. Steve pulls on the parachute straps to steer us toward it. We are taught to land with our legs straight out in front, using our butts for landing gear. It turns out pretty well for us. We're sitting on a wide strap that cushions the landing nicely.

On the ground we shake hands, hug, and pose for pictures. I get an official certificate

attesting to my 10,000-foot dive and a bumper sticker for my pickup truck: **"I JUMPED FROM A PERFECTLY GOOD AIRPLANE."**

Back home about 4 o'clock, I find my wife waiting, just a little anxiously. She asks me, "Are you going to do it again?"

"I don't feel any need to repeat it," I reply. "Once is enough for now."

Then to myself: It really was fun. Maybe, again, on my 90th birthday.



## Hearts of Glass

*Continued . . .*

(By the way, have you thanked your aircraft manager lately?)

That being said, we really like the new aircraft. Who wouldn't? This baby is loaded! In 2004 Cessna debuted the G-1000 in their Skylanes. It replaces many tradition cockpit instruments with twin 10.4-inch high-definition liquid crystal displays (thus the nickname "glass cockpit"). The displays of this integrated avionics system function interchangeably as primary or multi-function. Redundancy is built-in with automatic fault monitoring and reversionary mode (meaning flight-critical data can be seamlessly transferred to a single display).

The engine gauge cluster provides all the standard gauges, and includes engine trend data, lean assist, and more. A centrally located digital audio panel includes automatic squelch control and audio recording/playback for capturing ATC clearances. There's also a Mode-S transponder with Traffic Information Service (TIS), weather display, and satellite phone for those missions requiring digital imaging.

The new plane is SAR mission-ready. Brand new CAP radios and Becker direction-finding equipment are built-in. And we even like the colors: A beautiful factory CAP-insignia paint job. Then there's that "new plane" smell.

Piloting one of these will require a lot of training. It's still essentially a 182, but working the electronics and getting used to the new display scan does take a little time. Instrument checkout is even more complex.

Fortunately, our leadership



**GARMIN GLAMOR:** An inside look at NorCal's new 182T.

foresaw the need to get started early, so in January about 50 members of NorCal units attended half-day of ground training taught by a local flight school. This gave us a detailed introduction to the inner workings of the unit, tips, tricks, and good hands-on experience. The instructor also made available the flight school's G1000 simulator so that CAP members get in practice over the next few months.

NorCal sent two of its very best check pilots to 5 ½ days of intense training at Cessna headquarters in Wichita, Kansas. Capt. Bill Slavensky, Sacramento Composite Squadron 15, and 1st Lt. Patrick Scanlon, Marin Air Rescue Squadron 23, Novato, report receiving very professional training focused on the basic concepts, the line-replaceable unit, and the heading and altitude reference set. They were also familiarized with the new terminology, with an emphasis on using the checklist. They were encouraged to take a "hands-off" approach (did I mention the 3-axis autopilot—affectionately referred to as George—and the built-in Jeppesen

approach charts?). With all this on display, as well as moving map GPS, if you get lost or empty your tanks, well, you've got some 'splainin' to do!

The flight home gave Capt. Slavensky and Lt. Scanlon a chance to test some of the new features. Due to bad weather over the Rockies and the Sierras, the team traveled only from Independence, Kan., to Albuquerque, N.M., the first day, then touched down in Apple Valley and made it home to Sacramento the next. The crew flew 134 knots ground speed most of the way.

Many of us came out to welcome the crew home from their long flight—and to get our first peek at our new bird. But as we welcome our 182T and look forward to many years of performing missions together, we bid a fond farewell to our dependable 182R. Though other squadrons might envy our new plane, we have just a touch of our own for the folks that will be flying our old friend. We hope it brings them as much enjoyment as it did us.



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