

THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

# approach

November 1999



**Don't Shoot the Blazer!  
Rank in the Cockpit  
Are You Prepared To Survive?**



# inside approach

## The Naval Safety Center's Aviation Magazine

November 1999

On the Cover

Volume 44, No. 11

Prowlers from VAQ-128 and VAQ-129  
tank from an Air Force KC-10A.

photo by Ted Carlson.

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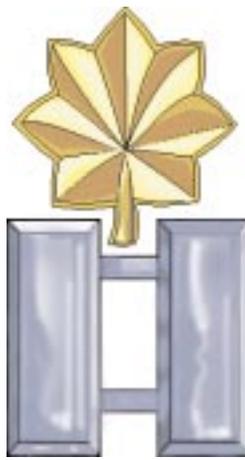
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# RANK IN THE

by Lt. John Flynn

I have heard many junior officers talk about rank in the cockpit. All the senior officers say that there is none, but I'm not convinced that we JOs truly believe it. On a number of occasions, they have said that a lieutenant commander wanted to do something and they felt uncomfortable with it, but went along with it anyway. I would ask if they even brought it up in the debrief. The answer would invariably be "No," and the reason would be, "Well, he has more experience, and he outranks me." I get upset with this attitude because I can't count how many times I have stopped somebody from doing something I did not like, and rank had nothing to do with it. My life had everything to do with it.

My first experience occurred when I was still a lowly jaygee flying with my first fleet squadron on a Fallon det in the A-6. It was near the end of a three-week exercise, and I was running on fumes. As a good deal, the Ops O gave me a local low-level to fly with an air-wing O-4, whom I never had met. We had a standard low-level brief. The flight to the entry point was uneventful. We started flying at 200 feet AGL with the radalt set to 180 feet. Time and time again, the pilot would say, "Here comes the ridge. I've got clearance." Then the annoying, "deedle-deedle" of the radalt would go off. I was tired of this and said, "I don't want to hear that thing go off anymore." The lieutenant



commander climbed to 250 to 300 feet AGL and maintained that for the rest of the low-level. My pucker factor went down considerably, and I enjoyed the rest of the flight.

After the hop, the pilot said he was glad I let him know I was uncomfortable flying at

# COCKPIT

respect he earned from me. Why? Because I never felt his rank outweighed mine in the cockpit, and neither did he.

I still carry the experience of that flight with me every time I fly. We need to do a better job teaching our inexperienced aviators to speak their minds freely in the cockpit. From what I've seen recently, I don't think we are doing that. It's not so much that the experienced aviators are

suppressing JO concerns, but more that the junior aviator doesn't know when he should say something.

Before my incident with the O-4, our squadron had a fatal mishap where a DFC-decorated, Desert Storm vet with 2,000 hours in type, flew into the water, along with his 200-hour jaygee. We'll never know if the young BN thought there was anything wrong. It's possible, however, he just thought his pilot knew what he was doing.

In my current squadron, one of our younger ECMOs told me his pilot wanted to do something unbriefed, something that was also unfamiliar to his cockpit full of new guys. No one said anything, but some said later they weren't so sure of this maneuver. "I figured he knew what he was doing," my junior ECMO said, "and I didn't want to be a non-hacker."

Because of my experience at Fallon, I was able to fly another day. In fact, I flew with that same lieutenant commander on another air wing det and was totally comfortable flying with him at 200 feet. 

Lt. Flynn now flies as an ECMO with VAQ-134.

that low altitude. There were no reprisals, badgering or saying that I could not hack it. Just a handshake and a beer at the club afterward. I'm willing to bet he doesn't even remember this flight or how it affected me for the rest of my career, or how much

... a DFC-decorated, Desert Storm vet with 2,000 hours in type, flew into the water...



Robert Lawson

# ARE YOU PREPARED TO SURVIVE?

by Lt. David A. Goodman

**W**hen was the last time you thought about the survival gear in your SV-2 and seat pan? Or the last time you thought seriously about what you would do if you shelled out of your aircraft and had to survive for a few hours—or a few days—before being rescued?

Most of the gear in the SV-2 and seat pan is optimized for survival in and around the water. But what if your missions are over land, or more significantly, over a desert?

One of our squadron's crews had to punch out during a routine departure from an airfield in Southwest Asia. They were in radio contact with the tower before they even hit the ground, but it was still nearly an hour before they were recovered. They had to survive. There was no shade, the temperature was in the mid-90s, and although no one had been seriously hurt, they suffered from shock and minor injuries.

Fortunately, this crew had considered the possibility of having to survive in the desert and the inadequacies of their gear. As a result, they all carried extra water. Yet, by the time the SAR helo appeared, all that water was gone...in just an hour.

Adding extra water seems like a simple thing to do, but how many of us do it when we're flying over Fallon, Nellis or El Centro? The desert in those places is just as hot, and the potential for delays in rescue is just as real.

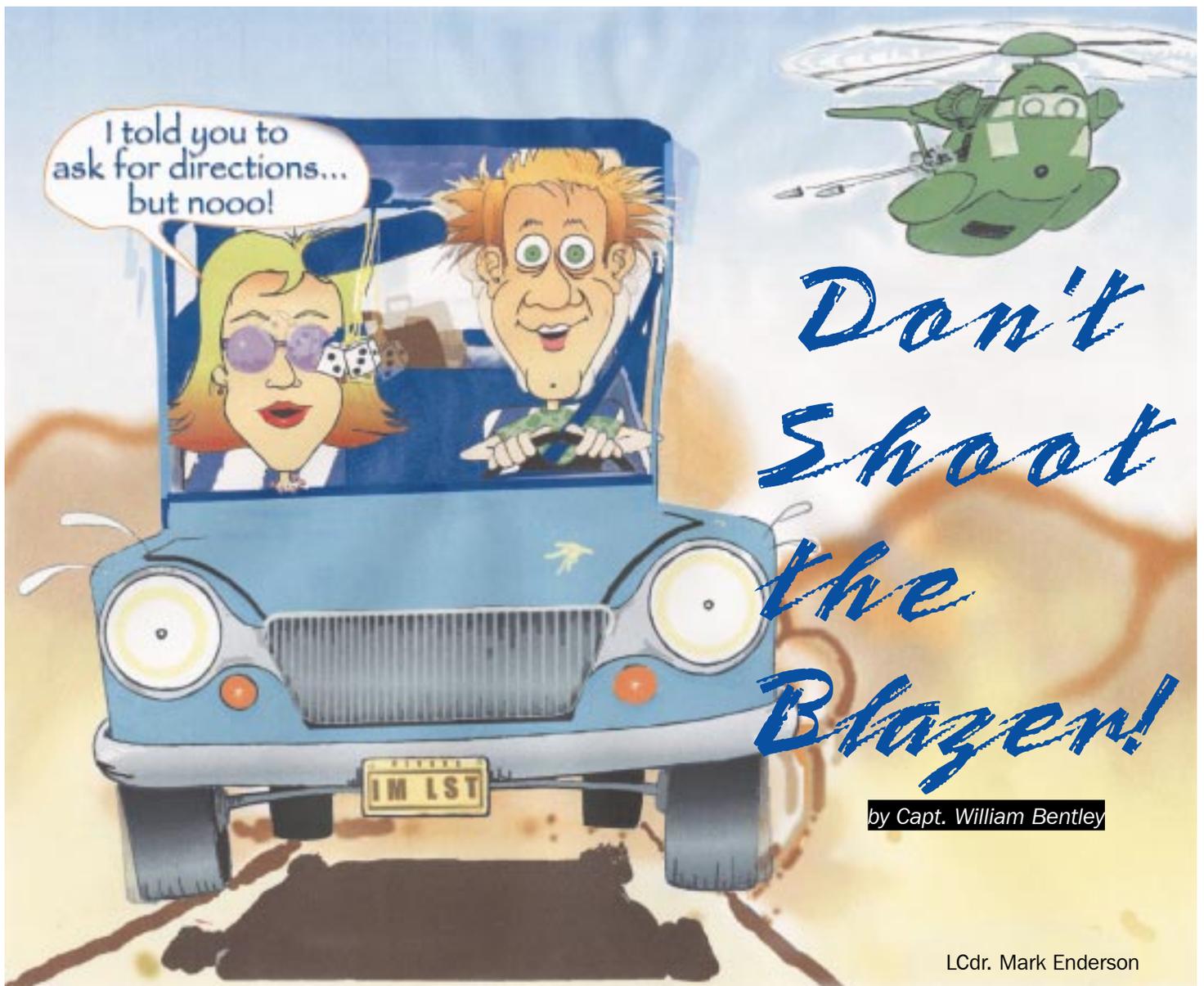
What extra gear do you carry when flying from your home station in the winter? Do you carry extra gloves, a wool cap, GPS? [See our discussion of hand-held GPS units in the September '99 issue.-Ed.] Are you

wearing thermal underwear? ORM suggests that each of us should identify the survival challenges we are most likely to face for a given area or climate and adapt our equipment accordingly.

Until customized seat-pan and SV-2 layouts are available for specific areas of operation, you as the user must personally improve your chances of survival. Failure to do so could make you a statistic instead of a survivor.



Lt. Goodman flies with VAQ-142.



# Don't Shoot the Blazer!

by Capt. William Bentley

LCdr. Mark Enderson

As a copilot during my first combined-arms exercise, and for one of my first gun-shoots, we were going to a range as a single. We went through a normal brief for a day, single-ship gun-shoot, and went out to the helo.

En route to the range, we talked about gunner procedures and safety once more. Out on the range, we went through a sweep of the area, checked the GPS against the map, and let range control know we would be working for the next 30 minutes.

We started our runs, flying between 60 and 100 knots. We had experienced gunners in the back, and they were enjoying the rare practice in the desert. From the left seat, I looked over the HAC's leg and saw a blue Blazer. The vehicle was heading in the same

direction we were, and our rounds were hitting the sand behind him. After a not-so-calm "Cease fire!" we climbed and called range control. They said there were no vehicles on the range, but we replied there was a Blazer out here. Intrusions into the restricted area do happen—it's open desert—and we did not see the truck again, and no one knew how the driver got there.

The window by the pilot's leg is only three feet across. If I could see the truck and the hits in that small area, it meant the bullets were mighty close to the Blazer.

Even in a restricted area, you have to be aware of the surroundings. I don't think the driver knew how lucky he was; the gunner hadn't seen him until after the cease-fire call. Our crew coordination saved him. 

Capt. Bentley flies with HMH-464.

by Lt. Rick Crecelius and Lt. Pat Modlin

# Our Blown- Tire Hat Trick at Guam

As I sat across from my RIO at the “Spot” in Guam, I wiped the condensation off the mug of beer sitting offensively full in front of me. I couldn’t help but associate the droplets with the trickles of fear-induced sweat that had covered me only a couple of hours before.

We were about half way through our two-week SFARP detachment in Guam when we were scheduled to be Dash 3 of a division strike on a local target. The brief went well, and the launch was as smooth as any strike lead could hope for. We joined up and made the strike as briefed, but only Dash 3 and Dash 4 could get off their ordnance on the first run. We were detached to RTB while Dash 1 and Dash 2 went back to the target to administratively deliver their bombs.

The transit back to Andersen AFB was uneventful, and most of the aircrew probably didn’t give too much thought to the seemingly “harmless” landing on Guam’s 12,000-foot runways. As a matter of fact, we went ahead and dumped down to 4,000 pounds of gas, knowing that the hardest part of the recovery would be making sure that we landed on the runway we were cleared for, instead of the one next to it!

My wingman and I entered the overhead for the standard break. We got the wings out, gear and flaps down, and had completed the checklist by the time we rolled into the groove. I worked the jet from a few knots fast to on-speed as we touched down for a minimum rate-of-descent landing. That was when the harmless landing grew big teeth.

Immediately after touchdown, the jet swerved uncontrollably to the left. I put in full, right rudder. It had zero effect on our drift rate, so I staged both motors to full AB and tried to rotate. But we were a bit too slow to fly away, and the horizontal stabs stalled when I pulled the stick back.

As we quickly approached the left side of runway 6L at Andersen, I released the stick to break the AOA on the tails and then immediately eased the stick back, trying to

fly once more before we became the only 120-mph “all terrain vehicle” on the island.

Just as the nosegear crossed the threshold of pavement to grass, our 50,000-pound Tomcat became airborne, and floated what seemed to be a couple of feet off the ground before it started its reluctant climb. As we hovered directly toward one of many aircraft revetments lining the left side of runway 6L, my RIO asked if I had the airplane.

“Yeah,” I responded, “so far,” as my throttle hand slipped down to the “Get out of jail free” handle between my legs. Once clear of the ground, and after the AOA was reduced to our best-climb AOA, our jet started to climb away. We overflew the revetment with just enough clearance to keep us from jumping out of our trusty steed.

After determining the immediate danger was over, we radioed our wingman (who was in the groove behind us) to wave off because of the tire-FODed runway and to join up for a visual check. We had half the left tire remaining on one side of the rim (which explained the abnormal amount of drag) and just slightly more than 2,000 pounds of gas. This was also a problem as we had just FODed the left runway, and were going to have to shut down the other one by taking an arrested landing.

We radioed for the other section to buster back and told our wingman to land. Once the rest of our division was safe on deck, we set up for an extended straight-in on the clear runway. We broke out the NATOPS and ran through all the procedures. Then we quickly discussed our options in the event we couldn’t engage the short-field arresting gear: specifically, how we would deal with the aircraft if it veered uncontrollably to the left.

We decided to fly an approach to engage the arresting gear as soon after touchdown as possible. We also lined up right to give ourselves more time to react if we detoured to the left. We agreed that if we missed the gear, our best option would be staying with the airplane on deck. But we didn’t have to

do that, because we engaged the gear and stopped before developing a significant amount of drift.

After a few deep breaths, we shut the motors down and allowed the maintenance pros to work their magic. After taking time to sit and think about what happened, we came up with a few lessons learned.

First, we asked ourselves whether it was a good idea to dump all our fuel before recovering. The reduction in gross weight probably allowed us to get airborne before running out of paved runway, but it also severely reduced the amount of time we had to organize and execute our follow-on recovery.

Second, we questioned the efficiency of our crew coordination after the tire had blown. The hardest part of flying multi-crewed aircraft is that each aircrewman has his own perception of what is going on around him. Sometimes the two perceptions do not correlate. It is not surprising to find that my RIO’s perspective was somewhat different. Anyone who has flown in the RIO cockpit in an F-14A knows that the flight instruments there are merely an afterthought. That is one of many reasons why good crew coordination is essential.

Here are some of the RIO’s thoughts.

When my pilot landed the jet with a feather touch, I expected the soft jolt of the gear hitting the deck, but as the tires touched down, the aircraft settled violently to the left. I called out over the ICS, “Blown left mainmount!”

There are two procedures for this emergency, and the first step is to determine whether you’re going to keep the plane on deck or take it around. As the nose continued tracking toward the left side of the runway, I still didn’t know which we were doing.

My flight instruments were vibrating so violently that I couldn’t read the numbers—the only indication I had was the needle pointing to about the three o’clock position of the gauge, correlating to approximately 110 to 120 knots. As what remained of our

left mainmount cleared the weeds on the left side of the runway, I felt him try to pull the nose up. I could see the concrete bomber revetments getting bigger in front of us, and I couldn't tell if we had enough airspeed to stay airborne.

I asked if he had it. He replied with an uncertain "Yeah." As the vibrations lessened, I peeked at the gauges and determined we had just enough flying speed and the good kind of VSI, so I stopped thinking about hitting the silk.

Boldface procedures are written from experience, and when the time comes for quick responses, it's best to stick to the actions and complete them. After stroking the blowers, if we had tried to stop after departing the runway, we would have taken a much more dangerous ride. If the pilot had chosen to keep it on deck and then changed his mind, there's no way we would have had enough airspeed to get airborne again. When you have a blown tire, you have two choices—once you've made your decision, stick with it.

Finally, we discussed how surprised we both were that we found ourselves in such a situation in the final portion of our flight. We were flying at a relatively unfamiliar airfield, with coral runways (absolutely terrible on tires), and had all



PH2 George Delmoral

but opened a cold beer in celebration of our successful strike. We never should have allowed ourselves to be that comfortable in the airplane. The potential for catastrophe exists in all facets of flight, right up to the point when the motors are shut down. We certainly won't have to learn this lesson again.

Postscript: On the following flight, as we came in for an approach to 06R, we brought the jet down with another minimum rate-of-descent landing, and the left mainmount blew again! This time, we kept it on deck, doing the procedures by the book.

As we radioed for Dash 2 to take it around, the jet safely came to halt with plenty of runway left. We later determined the F-14 was more controllable this time because the entire tire was torn away on touchdown, leaving only the smooth rim, creating less drag on the pavement.

And...one flight later, we landed again on 06R, fully expecting to lose another tire. To our surprise, we experienced the unfamiliar feeling of a normal landing. As we taxied back to the line, the left mainmount tire blew in our revetment. What are the chances of lightning hitting twice...or even three times? My pilot's new call sign? "Hat Trick." 

Lt. Crecelius and Lt. Modlin fly with VF-154.

# POP-UPS

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## Always Assume the Worst

An E-6A crew had flown a seven-hour mission, and landed at a forward operating base. The mission crew left the aircraft, and the pilots took off for some proficiency training. After one hour airborne, the crew smelled smoke and fumes. After performing the EPs, they couldn't locate the source of smoke or fumes. The crew declared an emergency, landed and taxied clear of the runway. They egressed, and the local fire department took control of the aircraft. Ten minutes later, the fire department verified that the aircraft was free of any smoke and fire.

During the postflight debrief with the firefighting crew, a potentially catastrophic problem was discovered. The firefighters had received training on an E-6B, not an E-6A, and the configuration differences in the communications and mission suite between the models are very different.

The squadron CO summed it up best: "Imagine the same scenario, except with a complete mission crew embarked. Delayed response by firefighters due to their unfamiliarity with aircraft type could have deadly consequences. This event served to highlight a serious hazard when operating the E-6A at locations where people are unfamiliar with the configuration of the aircraft interior."

Plan for every contingency, and don't assume anything. Use ORM. It works.

## COBRA System In Final Stages

The Marine Corps is entering the final stage of development of the Coastal Battlefield Reconnaissance and Analysis (COBRA) system. Mounted on an unmanned aerial vehicle (UAV), the system detects minefields. COBRA uses two cameras to search the ground and different colored lenses to distinguish mines by comparing their ultraviolet spectrum with that of the surrounding landscape.

Testing has been done using the Pioneer UAV, but the system is designed to fit any UAV. Operational use of COBRA is projected within the next four to five years.

## Safety Center ORM Page

The Naval Safety Center's web site now has an Operational Risk Management link, which consolidates all ORM information, including training tools and resources. Powerpoint briefs tailored for afloat, ashore and aviation units are also available. The ORM web address is [www.safetycenter.navy.mil/orm](http://www.safetycenter.navy.mil/orm).

Send questions, suggestions, or recommendations to LCdr. Lance Zahm, lzahm@safetycenter.navy.mil

# "Hornet, ball ... coupled"

by Cdr. Bill Sizemore

The approach started off like most night carrier approaches I had experienced. Tonight, it was dark, late and my second flight of the day. We were in the middle of a major multinational exercise. I had been flying a lot and felt very comfortable in the aircraft. I was night current and qualified to make a Mode I ACLS, hands-off landing. I had made one ACLS two nights earlier and had a lot of confidence in the system.

Marshal and dirty-up at 10 miles were uneventful. I completed the landing checklist and got the Hornet trimmed and lined up as quickly as possible. ACLS lock-on came just inside of six miles, and the jet coupled up for the approach and automatic landing on the first attempt just outside of five miles.

The ride was smooth, and the Hornet responded crisply and accurately to ACLS commands.

The tipover at three miles was right on the money. The ACLS "tadpole" was in the middle of the velocity vector, and I thought I had it made. All I had to do was sit back, monitor things and enjoy the ride.

At the start of cruise, I had planned to make every other night landing a Mode I ACLS approach and "hand fly" the other night landings for currency requirements and proficiency. I was on track through the first four weeks of cruise and my plan was working just as I had envisioned it. This particular ACLS approach was rock-solid until I reached the in-close position.

I detected a slight hesitation by the jet. The nose seemed to stop moving and responding to commands for just an instant. As I closed my hand around the paddle switch to take over manually, the aircraft's nose pitched down violently. I instinctively pulled the stick all the way back and selected full afterburner, just as the LSO screamed, "Power!" then, "Waveoff!"

Time seemed to slow down, but the aircraft responded, and as soon as I realized the aircraft was climbing (in a very nose-high attitude), I aggressively reset the proper landing attitude with forward stick. My adrenaline was really pumping by this time, and I'm not sure when I deselected afterburner, but I blew through 1,200 feet, the normal night Case III pattern altitude, and managed to somehow get the Hornet level at 3,000 feet.

Fortunately, it was extremely dark, and I didn't see how close I had come to flying into the back of the ship and hitting the ramp on the waveoff. My basic survival instincts stopped the first possibility from happening, and aggressively resetting the proper landing attitude prevented the second.

Despite my actions, however, parts of the aircraft still managed to get below flight-deck level following the pitchover, and the hook missed the ramp by what the LSOs estimated as two feet on the waveoff.

I managed to compartmentalize and got aboard without more problems a few



**All I had to do was sit back, monitor things and enjoy the ride.**

minutes later. I knew I had a close one but didn't realize how close until I saw all the people waiting for me in the ready room to watch the PLAT replay. The sequence will always be burned into my memory.

To summarize the rest of the story, all equipment involved in the Mode I ACLS on that aircraft and the ship was checked, and no discrepancies were found. Two months later, the carrier-suitability section of the Patuxent River Test Center duplicated the sequence of events at a safe altitude several miles behind the ship. They discovered the problem was caused by a malfunction in the data link's receive-decode-transmit equipment and an inadequacy in the flight-control computer's software pitch-rate and pitch-magnitude limiting. As a result, a fleet-wide maintenance bulletin was issued and a NATOPS change submitted.

Since this incident, I have flown several Mode I approaches to the ship at night and numerous Mode I's before. I no longer take the system or the Mode I sequence of events

lightly. What I relearned from a pilot and LSO perspective is that you can never become too comfortable in the carrier environment no matter how routine a particular activity becomes. Although I reacted by instinct, the LSOs were on top of the situation and provided accurate and timely power and waveoff calls.

If your squadron does Mode I ACLS approaches, set up a formal academic and simulator training syllabus to not only understand, practice, and simulate the correct procedures for a successful Mode I ACLS approach, but to also practice, experience and handle the things that can go wrong.

While a good Mode I ACLS approach may appear to be the ultimate E-ticket ride, you don't have the luxury or option to take a passive role. A pilot must stay ahead of the aircraft, closely monitor every aspect of the approach, and anticipate and be prepared for the unexpected. 

Cdr. Sizemore is the CO of VFA-86.

by Lt. Mark Jackson

After three years of shore duty, I eagerly anticipated my return to naval aviation in a new aircraft. I must admit that the fleet has adopted some interesting new techniques, one of which is ORM. This approach was in its infancy when I left my A-6E squadron, but upon reporting to the Prowler FRS and then my new fleet squadron, I found it to be fully functional. Some consider it just another safety requirement to comply with, but I remember a dark night during my tour with Intruders that ORM could have prevented a near-catastrophe.

It was the middle of COMPTUEX, and I was just reporting back to my squadron after a short leave period to get married. I had been granted leave for the wedding but had to postpone the honeymoon until after the exercise. This was not a problem, since we had two weeks between COMPTUEX and FLEETEX in which my new bride and I planned to go to Jamaica.

When I checked in, we were in the middle of a crew switch, and I would now be flying with a new pilot in the squadron. I was very pleased since this was the first new pilot I had been crewed with, and it meant the powers-that-be had confidence in my abilities as a BN.

The mission that night was a bombing exercise at Vieques Island, followed by optional practice plugs on a KC-10 and an OK 3-wire...as always.

We briefed the bombing exercise as a section, then broke up for crew briefs. The tanking was to be done as singles but was lightly covered, because we didn't think there would be time or gas for it. I had only seen the KC-10 a few times and only once at

night. My pilot had never seen the tanker at night.

We quickly briefed the normal communications required for our Air Force tanking trip but not much else. We finished the brief with standard emergency procedures and headed for the PR shop.

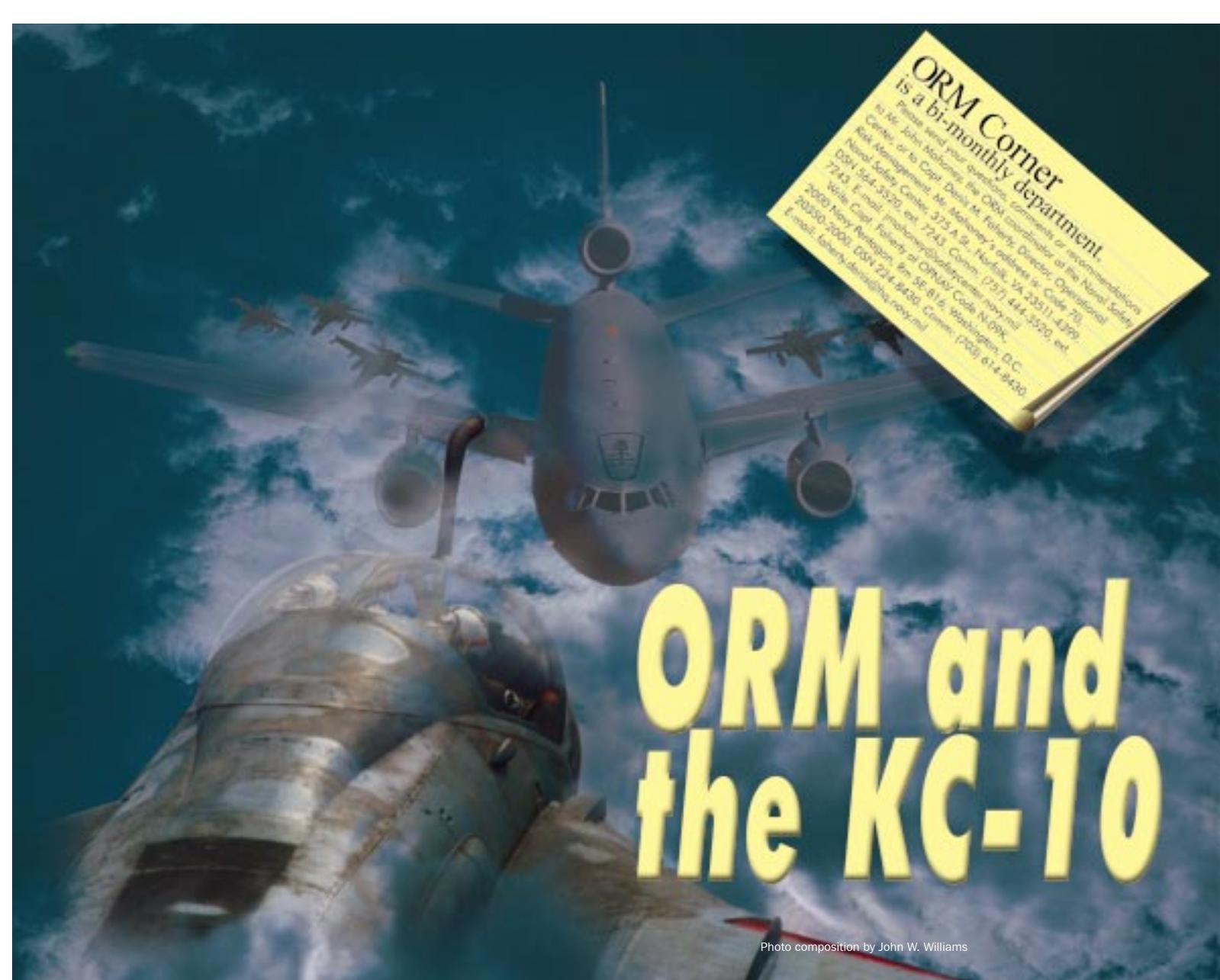
The bombing exercise went fine and, to our amazement, we had plenty of gas to do some practice plugs. I made the call to Strike and got us turned back toward the ship; the tanker was briefed to be overhead at FL200.

We decided to approach the ship at FL180, our squadron high-holding altitude. We thought that because this was "our altitude," we would have separation from other aircraft heading to tanker at FL200.

As our Intruder approached the ship, we were both scanning the area, desperately trying to find the tanker. I got a tally first, with the tanker at our 2 o'clock. I called this to my pilot, who replied, "I got it." I assumed he had control of the situation and came inside the cockpit, since we had been outside for longer than I would have liked.

I'm not sure how long I was inside the cockpit, but it was only long enough to check out the instruments and double check my navigation. When I looked back outside, I quickly recognized a problem and called for an immediate pull-up. My pilot had recognized the same problem and was just beginning the pull when I called for it. We ended up passing over the cockpit of the KC-10 with about 300 feet of clearance. We had misinterpreted the sight picture and approached the tanker from the forward quarter. The sight picture was not as expected because the KC-10 was already tanking several Hornets. We were also shocked to find the KC-10 2,000 feet below its briefed altitude. We decided not to try any more join-ups and proceeded to our marshal point for an uneventful recovery, thank goodness.

After recreating the situation, we concluded that we had been fortunate. Several factors led to this near miss and ORM



**ORM Corner**  
 is a bi-monthly department.

Please send your questions, comments or recommendations to Mr. John Mahoney, the ORM coordinator at the Naval Safety Center, or to Capt. Denis M. Falarzy, Director, Operational Risk Management, Center 373 A St., Norfolk, VA 23511-4399.

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# ORM and the KC-10

Photo composition by John W. Williams

might have made us aware of them that night.

First, I had just returned from leave and had gone right into the middle of high-tempo operations with a new pilot. That made us the junior crew in the squadron. Second, I had just had a major life change: I was a married man now. Third, it was one of those really dark nights with scud layers everywhere, which had forced the tanker down to our high-holding altitude, and Strike never told us at what altitude the KC-10 was actually flying. Nor had we asked.

Fourth, neither my pilot nor I had thought ahead of time about how the tanker

would look with other airplanes on its wing. Fifth, we had not yet established standard crew coordination and needed to discuss how we would handle the rendezvous, not just the communications with the tanker.

None of these factors by themselves would have caused any alarm. However when you combine them, a much different assessment of risk can be seen. ORM is not meant to prevent us from flying in the face of risk, but to help us be aware of the things that may add risk to the mission. By being aware of the risks, we can then properly prepare for them and complete the mission safely. 

Lt. Jackson flies with VAQ-135.

**The sight picture was not as expected because the KC-10 was already tanking several Hornets.**

# Hero or Goat



by Ltjg. Mack Martin

**W**hat makes the difference between being a hero or a goat? I recently found it to be about five seconds.

Our air wing had been flying combat operations in support of NATO's Operation Allied Force for more than two months. The battle-group commander opted to keep our carrier steaming just south of Italy to help relieve airspace congestion and minimize the danger from hostile ships. Great planning but it meant a longer transit time from the carrier to the tanker and then up to our station.

Allied Force was a joint operation, and every kind of aircraft in the NATO inventory

was flying close to each other, as well as to the bad guys, while still trying to remain VMC and keep separation. With so many aircraft, the airspace over the Adriatic Sea was split into numerous flight lanes, corridors, boxes and tracks. Keeping track of each aircraft was a nightmare for our E-2s, AWACS, and local ground controllers. The hardest part of these flights—besides avoiding other aircraft—was the communications nightmare each time you transited an airspace or headed for a tanker.

My crew had been flying together for most of the work-ups and all of the cruise. Our mission commander had more than 2,800 hours and our pilot had nearly 2,000



hours in the Prowler. My fellow JO in the back with me had joined the squadron during last cruise, while I had arrived shortly after that cruise. We had been flying the same type of combat missions for several weeks and having reviewed the SPINS, we felt comfortable with the areas and ROE for the hop.

After the mass-gaggle brief by the FAC-A, we broke up and headed for our ready room and crew brief. I was the briefing officer and quickly started into the mission specifics. After covering the admin and comms, I briefed our fuel states and refueling requirements, going into detail on what our mission joker and mission bingo would be from our station

points. A discussion immediately began about what a “bingo” and “combat bingo” are. Up to this point in our combat missions, we had decided that 8.0 was mission joker fuel and 6.0 represented mission bingo, meaning that when on station, an 8.0 fuel state was a good time to start looking for our relief and begin drifting toward the tanker. The 6.0 mission bingo was enough fuel to go from station to the tanker track with a couple of attempts at the basket and still be able to divert to a nearby friendly airfield.

During the discussion, we decided we would stay on station until relieved, even if we went below these numbers. This reason-

ing stemmed from the fact that the combat box would close without a Prowler on station. Translation: the war was “on hold” when the EA-6B was off station, so don’t screw it up! Add to this setup that our combat load didn’t include drop tanks and it became imperative to plan our refueling times to coincide with when the other Prowler had gas and was on station. It was a great plan if everything went smoothly, but it didn’t leave much room for problems.

We briefed, launched standard Case I VMC, began the comm drill and climbed to FL250 to get up to our station. We arrived on station with around 11.8 on the gas and an on-station requirement of 45 minutes before the next Prowler launched, gassed and relieved us. Burning about 100 pounds a minute as a gouge, we expected to be around 7.0 when our playmate checked in.

After 45 minutes, state 6.8, we could hear on the radio the on-coming crew saying they were having trouble with the tanker and would be late. Reporting our state, the pilot came to the conclusion that we could stay comfortably for another 10 minutes until gas became critical, to which we all agreed. Besides, this was combat. With several FAC-As busy in the box servicing targets,

...the war was  
“on hold”  
when the  
EA-6B was  
off station...



we had to stay on station and keep the war running smoothly.

Finally, with our state at 5.8, our relief checked in and relieved us. We were a little anxious about our lower fuel state but chalked it up to combat operations and pushed on. Plus we had grown accustomed to leaving station and having controllers vector us to a nice, big, fat tanker without problems and still have enough gas to make a dash for the boat if the tanker was sour. The saying of “gas for all my friends” had dulled the worry about finding a tanker and getting a drink.

During those extra minutes waiting for the other Prowler, I don’t think anyone in the cockpit really realized our true fuel situation and that we were playing with a bad set of cards.

As we left station, I checked out with the E-2, switched frequencies for the air controller and gave my pilot a vector for the tanker track over the Adriatic. Nearing the tanker CP, I checked in with our new controller, asked for a vector to the tanker, and received the controller’s “continue” call (which I barely made out through his broken English).

As we pressed out over the Adriatic, the air-to-air TACAN showed nothing, and our

state had dropped to 4.6. Our controller said something in his broken English, then gave us the switch to a new frequency, which made me worry because I realized it was a different airspace-control freq and a steer to the north for about 35 miles. I quickly switched numbers, then checked in position, angels and heading. I asked for a vector to the nearest tanker. This time, I couldn’t understand the controller at all and had to ask several times for the steer.

As we headed west, “BRA one seven zero, forty, angels twenty-seven,” finally came through with our state now 3.8 and going down quickly while we turned to chase the tanker.

After a couple of minutes and no sign of a tanker, state 3.4, we heard, “BRA zero two zero at thirty-eight!” What? How did this huge tanker pass us that quickly? We turned and headed north three minutes, asking the controller for another update, explaining that we were very low on fuel.

“BRA zero six zero at twenty-five!” We decided this guy had no clue where we were or which way we needed to go. We promptly squawked Emergency, declared emergency fuel and got everyone’s attention, including our controller.

“BRA three four zero at twenty-one, and please turn off your emergency squawk,” the controllers said. I acknowledged and left the squawk in emergency. Our controller, now understanding the situation, called the tanker and said, “Texaco Zero Five, come left three zero degrees for vector to low-state chick.” Wow, that emergency squawk really works!

Turning to our heading, state 2.7, our pilot gave the famous “Five seconds and we are heading for Brindisi!” We were quickly going from hero for staying on station to goat for running out of gas. To say it was a

long, tense five seconds is an understatement. At the four and a half-second mark, my pilot and I both saw the tanker.

“Tally a tanker at eleven o’clock and ten miles, state two point five.”

I’ve never been so happy to see an “iron maiden” coming into view. Into the basket, state 2.3, and all I could think was, “Please be sweet!”

“Taking gas, state two point three,” I said, as I saw the fuel gauge begin moving up. We could feel the weight of the world suddenly being lifted off our shoulders as things began returning to normal.

During this whole fiasco, our backseaters were busy working the third radio and the bingo numbers from our position to the nearest divert, updating them each time we headed in a new direction. Our crew coordination really had saved the day on this one, giving us the only SA we had about our fuel and what we really needed if we had to go somewhere else. Each guy in the cockpit was involved in working the problem.

After filling up, we bustered back on station and took over as the on-station Prowler. Two more uneventful trips to the tanker and a long four hours later, we finally got back on deck and looked at just how close we really had come to going to that divert. We had persevered through adversity in the name of combat. Thank goodness we had briefed the necessity of going low fuel before it actually happened. At least we were prepared for the situation by talking about what we needed to do.

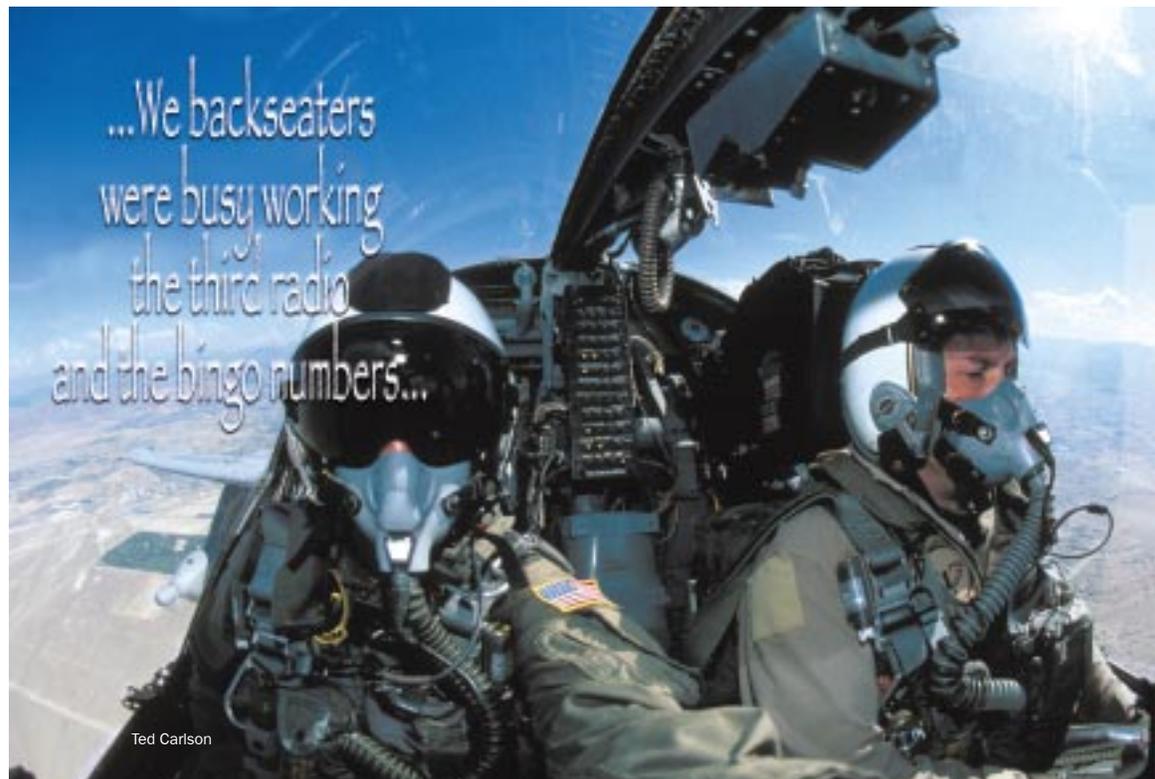
Staying on station to prevent the combat box from closing was a priority, but not placing our aircraft and crew in an emergency

situation should have been a higher priority. Driving ourselves low on fuel to keep a combat box open was not the best decision we could have made. What good would it have done if we had had to divert and couldn’t return on station? That would have closed the box for the night instead of 10 minutes between on-station times.

Good crew coordination had gotten us out of a scrape where we could have literally driven ourselves out of gas. Squawking emergency got the reaction we needed, but we really never should have gotten in that position. It was also good that our divert was so close. We had figured a 2.4 bingo and could actually see the field from 27,000 feet while on the tanker.

When you plan your minimum fuel but don’t follow it, why did you waste time planning? Come up with the overall plan and a contingency plan, then adhere to what you have decided. Don’t change in mid-stream. You’ll find yourself behind the aircraft and looking down. As our situation shows, the difference between being a hero or a goat is as short as five seconds. 

Ltjg. Martin flies with VAQ-141.



# BRAVO Zulu

BZs require an endorsement from the nominating squadron's CO and the appropriate CAG, wing commander or MAG commander.

In the case of helo dets, the CO of the ship will suffice. A squadron zapper and a 5-by-7-inch photo of the entire crew should accompany the BZ nomination. Please include a squadron telephone number so we can call with questions.

Capt. Scott Suckow  
Sgt. Bruce Keller  
Cpl. Cody Carroll



## HMLA-169

The crew of Viper 21 was doing an FCF on the island of Ukibaru, 13 miles west of MCAS Futenma. The UH-1N is considered a single-piloted aircraft, and on this flight, the crew chief was acting as the observer in the copilot's seat to run some of the test gear. Capt. Suckow, the HAC, was making a landing on the unprepared surface of the island when he saw a Marine waving to him.

After landing, the helo crew met Capt. Brian Fuller, commander of Alpha Company, 1st Battalion, 5th Marines, engaged in a ground exercise. Capt. Fuller reported that a Navy corpsman attached to the battalion, HM3 Schaffer, had been stung by a jellyfish. Another corpsman judged that HM3 Schaffer, who didn't have feeling in his legs and whose breathing was shallow, had gone into shock. Capt. Suckow

quickly instructed his crew to prepare for a medevac after getting permission from his CO.

Sgt. Keller, a crew chief acting as the copilot, and Cpl. Carroll, the crew chief, rigged a makeshift litter using cargo straps and aircraft tie-down gear.

After getting the clearance for the medevac, the crew of Viper 21 delivered HM3 Schaffer to Camp Lester Naval Hospital 15 miles away, less than 30 minutes after seeing Capt. Fuller's signal. The helo transport was two hours faster than transporting the victim by boat and ground ambulance.

HM3 Schaffer made a full recovery and returned to duty.

*This BZ generated discussion among Naval Safety Center helicopter pilots about the issue of getting permission to make a*

*medevac. Readers should review the following sections of OPNAV 3710.7R.*

*Paragraph 3.1.1.1 authorizes using naval aircraft in "life-threatening circumstances" with "notification made to the CNO or CMC, as appropriate, and the local responsible commander, but without delaying action when time is an essential factor."*

*However, paragraph 3.1.1.10a prohibits embarking passengers or cargo without authorization by competent authority. Also, paragraph 3.3.3.10c says that "pilots in command and mission commanders...while absent from home unit may authorize air transportation for personnel and equipment not otherwise qualified for government air transportation...when required for the successful prosecution of a SAR medical-emergency evacuation or disaster relief mission. This authority shall be exercised only when all practical means of obtaining authorization from competent authority in accordance with applicable directives have proven unsuccessful or unavailable."—Ed.*



Lt. Ray Swanson  
 Lt. Bill Reed  
 LCdr. Karl Klopp  
 LCdr. Kevin Johnson  
 LCdr. Dan Knaus

**VAW-124**



Bear Ace 602 launched from USS *Theodore Roosevelt* on a night combat mission in support of Operations Allied Force and Noble Anvil. Immediately after launch, the port fire-warning light illuminated. Lt. Swanson, the CAPC seated in the right seat, told the crew. Lt. Reed, the pilot at the controls, climbed.

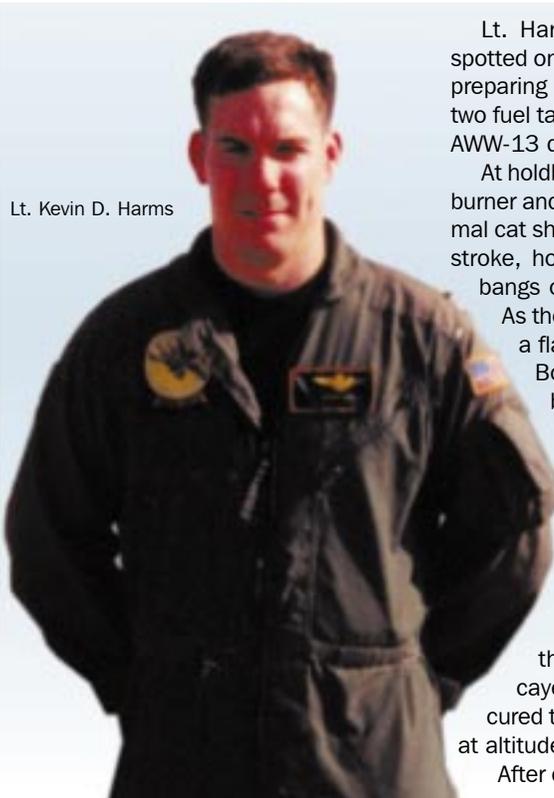
The pilots ran through the NATOPS procedures and shut down the left engine, but the fire light stayed on after the fire bottle was discharged.

Looking for secondary indications, Lt. Reed climbed to 2,000 feet. Lt. Swanson

declared an emergency and requested an emergency pull forward.

The CICO, LCdr. Klopp, and the ACO, LCdr. Johnson, reviewed NATOPS, while LCdr. Knaus, the RO, reviewed the post-shutdown and bailout procedures.

Once established on downwind, the pilots swapped seats. Monitoring the engine instruments and nacelle for secondary indications, the crew was relieved to see the fire-warning light go out after 10 minutes. With Lt. Reed backing him up, Lt. Swanson flew a single-engine approach to an OK-underlined 3-wire.



Lt. Kevin D. Harms

Lt. Harms, a first-tour aviator, was spotted on cat 1 of USS *John C. Stennis*, preparing to launch. His Hornet carried two fuel tanks, a FLIR, a CATM-9, and an AWW-13 data-link pod.

At holdback release, he selected afterburner and reported what felt to be a normal cat shot. Approaching the end of the stroke, however, he heard several loud bangs on the left side of his aircraft.

As the FA-18 rotated off the cat with a flatter-than-normal attitude, the Boss called, "Burner blowout, burner blowout off the cat!"

Lt. Harms immediately countered the significant left yaw with rudder, deciding not to jettison stores because he knew he could keep climbing as long as he maintained full AB.

While climbing, he noted the left engine's rpm had decayed to 43 percent, and he secured that engine once he had arrived at altitude.

After coordinating with the squadron

CATCC rep, tower and the LSO, Lt. Harms dumped down to an appropriate recovery weight and flew an OK underlined, single-engine, half-flap approach back to the ship.



**VFA-147**

by LCdr. Steve Clarke

I never wanted to write an *Approach* article, but I always figured that if I did write one, I wanted it to be about how I wrestled the snakes out of a defective aircraft, cheated death and saved the day. Unfortunately, when I got my material for an article, the only snakes in the aircraft were the ones in my head.

My event started out to be an easy night-recovery tanker. Our air wing was in the final phase of workups, and during the final at-sea period before deployment. The weather during the entire period had been marginal, and CQ had been Case III. I had only flown one Case I pattern at the ship in 10 days, so I wasn't worried about the upcoming actual instrument approach.

As the new department head in the squadron, I was happy that my boarding rate was 100 percent, and my landing grades were respectable. I wanted the skipper to know he could count on me to carry the burden imposed by having 50 percent of his squadron very junior nuggets. My COTAC that night was just out of the FRS.

Two hours of left turns in a chocolate-milk bowl above the overcast had been challenging. I had a chance to package-check two other tankers and consolidate my gas before it was my turn to recover. I had briefed everything on the lengthy Viking NATOPS briefing card with specific attention to COTAC back-up during the approach, but I hadn't talked at all about vertigo.

This was not the first time in my 2,000-hour, 250-plus carrier-landing career that I had experienced vertigo. I had wrestled with it and won several small battles over the years; I was sure I could fly instruments regardless of what my body told me was the right way up.

As I received vectors out of the tanker pattern for an eight-mile hook to final, I was fine at 3,000 feet above the overcast. The descent to 1,200 feet into the layer was normal, except for the distraction of my

# My Research F an App

aircraft's exterior lighting reflecting off the clouds. I knew immediately I had a little vertigo as we turned inbound on final bearing, so I explained to my COTAC what I was experiencing and how to call the ball to get maximum help from paddles. But my condition worsened as we continued the approach inbound.

I minimized the lighting distraction by securing the external lights, but I made a sharp head movement to look up and right

# light for *roach* Article



to confirm that my approach indexers were in the night position. An unannounced change in ship's final bearing at four miles made things even worse. By the time I began the descent from 1,200 feet at three miles, my body was telling me I was in a 60-degree right turn, and it took every bit of concentration I had to stay on course and glide slope.

As we pushed in to one mile and 400 feet, I was praying I would break out of the

clouds so that I could re-cage my body's gyros. I stayed on glide slope, but it was harder and harder to turn right for line-up because my body was telling me that turning right would invert the aircraft and fly us into the water.

Breaking out at 300 feet and drifting left, I caught sight of the landing area, but the visual perspective was all wrong. I saw the carrier well to the right of where it should be, thus increasing my sensation that

we were in a steep bank to the right. At this point, it was all I could do not to snap roll the jet to the left to appease my head.

Fortunately, the world's best training prevailed. I trusted my instruments and forced myself to stay wings level as I climbed back into the clouds on the waveoff. I was really scared, but worse, I was furious with myself that I could not overcome the vertigo. My reward for that pass was a return trip to the marshal stack. We were out of time, and the plane guard H-60 needed fuel.

My second approach after another hour of left turns in the marshal stack wasn't any better than my first despite my attempts to fly a non-vertigo-inducing pattern in the stack. After another round of imperative calls by paddles and the flash of waveoff lights, I was sent back to the beach.

Even my PAR into North Island was hard, but San Diego lighting and a much larger landing area made it possible to break out and land. During a sleepless night in the BOQ, I questioned myself relentlessly. Had I flown my best approach, had I gotten enough sleep, could I have done anything better? The answers weren't easy.

When I finally flew back aboard the next day, the PLAT tape looked even scarier than I felt it had been. I did not remember hearing the LSO waveoff calls or the commands to come right and then keep wings level as I climbed out. No, I hadn't flown my best approach. I had been distracted by aircraft lighting and briefing my COTAC on my condition, two things that should have

been covered in the pre-flight brief. No, I hadn't had a lot of sleep the night before, but I was more than wide awake after my

first pass to compensate for any fatigue on my second pass. The final question remained unanswered. Could I have done better?

I was on my hundredth mental revision of how I was going to beg my CO for a second chance when the XO of another squadron stopped me on my way off the flight deck to tell me about his own experiences with vertigo. Several other senior pilots in the air wing stopped me the next day to share their experiences, helping me get beyond my own self-doubts. Even CAG stopped leaning his head to one side while approaching me in the passageway after a few days.

Certainly, we've all read about vertigo in *Approach* articles and understand the difficulties, thanks to the emphasis during basic flight training. My experience reinforced the value of that training and has made me develop a game plan that may help me avoid getting vertigo next time or help me deal with it better if it happens.

First, vertigo needs to be a part of regular squadron training and part of a preflight brief for multi-crew aircraft. No one can predict when the conditions will induce vertigo and, as I found out, you can't be too senior to get vertigo.

Second, regardless of mission, hours of turning circles in a horizon-limited sky should be avoided. I changed my overhead night-tanker flight profile to include 10-mile legs perpendicular to BRC. Also, I make every effort to escape the overhead night-tanker pattern mid-cycle in search of an alternate mission.

Third, if I get vertigo and it becomes severe, I will ask for a Mode IIT or Mode III approach. While the extra talking may not get rid of the feeling it might reinforce the facts that my wings are level and I'm flying a solid approach. An early confession that I have vertigo will also mobilize all assistance the ship can provide, including limiting heading changes and alerting paddles to take control at the earliest possible time. 

LCdr. Clarke flies with VS-38.

***I was really scared, but worse, I was furious with myself...***

I had been out of the FRS for two months and was settling into my new squadron, ready to join the ranks of the tailhook Navy. Our squadron was gearing up for FLEETEX, which I was looking forward to because this would be my first experience around the carrier. As with all nuggets, I was crewed with senior pilots who had been giving me the benefits of their wisdom of carrier operations. My learning curve was steep, and I was becoming comfortable around the boat as well as with my new pilots, their techniques, and their expectations of me as COTAC. I had flown four day hops and was looking forward to my first operational night event.

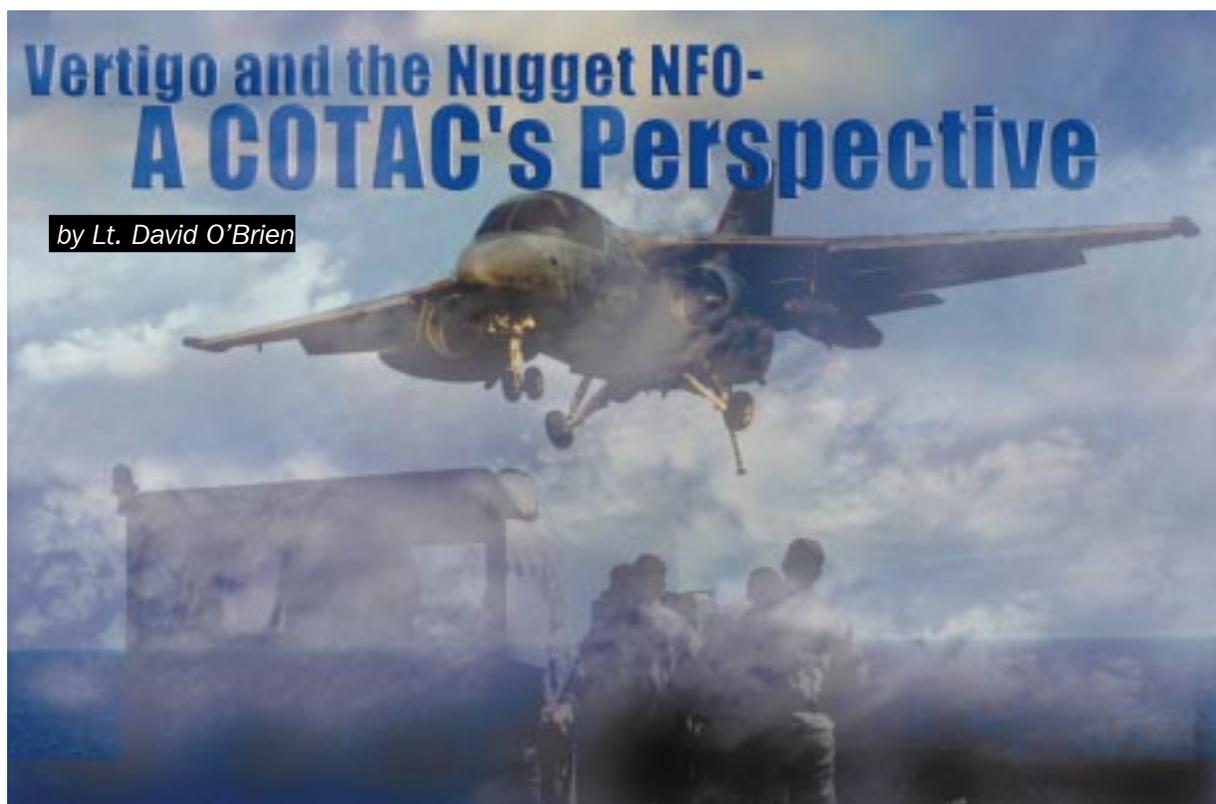
We launched and returned overhead for a package check and consolidation, notified departure of our state and give, and began our overhead pattern of left turns. As we waited for the next launch and recovery, we noticed the increasing haze was washing out the horizon, producing a milk-bowl effect. Once the cycle ended, we descended out of the overhead for the approach and entered the cloud layer.

As we continued on the approach through the clouds, the pilot confessed he had vertigo. He was working hard to stay on his instruments, and I did my best to back him up, giving altitudes, VSI, and lineup calls.

We broke out of the layer at 300 feet, well left of course, and the sight picture compounded the problem for the pilot, who believed he was in a steep right turn when in fact we were banking left. We continued to

descend and drift left as the LSOs and I called for a right turn. This call was followed shortly by “Wave off,” then, “Level your wings and climb,” from the controlling LSO. The pilot was still having problems keeping his wings level, but he did a great job of trusting his instruments and began a shallow, left, climbing turn.

Departure then told us to climb to 1,200 feet and turn downwind. The pilot asked for a higher altitude to get above the layer and an extended downwind to get his bearings.



He was frustrated and angry because this had never happened before, and I tried my best to pump him up for the next approach. In a few minutes, we turned downwind, descended back into the clouds and were ready to try again when the pilot confessed to CATCC he still had vertigo. CATCC terminated the approach and cleared us to climb and join the marshal stack. We climbed out, received our marshal instructions and joined the stack for another 60 minutes of left turns.

Continued on page 27

Photo-composite by John W. Williams

# Copilots and Frog

by Lt. Andy Meshel

I should have seen it coming. I was scheduled to go out on a day, unaided-night DLQ hop (the MH-53E is not NVG-compatible) to punch the training and readiness clock. As a lieutenant with 650 hours, I was the most junior pilot of the crew; the other three pilots (including the HAC) were salty O-4s with more than 5,300 hours between them.

The plan was simple: We would head out to the ship, locate it with UHF directional homing, if necessary (the ship had no operable TACAN capability), and make the required day and night bounces before returning to base.

The USS *Pensacola*, an LSD-36-class amphib, would be setting its last flight quarters before decommissioning. She was expected to be drilling holes in the water in the vicinity of Chesapeake Light, about a 20-minute transit from home plate. Conditions that afternoon and evening were forecast to remain much the same as they had been throughout the week—moderately diminished visibility in haze and the potential for rain.

As a qualified AMCM mission commander and functional check pilot, I felt confident and capable even though I had only eight night boat hits under my belt. My



previous experiences at the ship after sunset had been uneventful, and I had done my initial night quals on a similar deck. In my opinion, I was more than ready.

I rode out as a passenger, listening on the ICS to what was going on up front. The HAC was talking with the ship but couldn't give them a "see you." The copilot remarked that the visibility wasn't the greatest, and that the HAC should point out the boat if he spotted it.

At about three miles, they picked up the ship and maneuvered to enter the pattern. After two landings, it was my turn to cycle into the right seat and grab two day bounces. Once airborne, my first impression was that the visibility was indeed less than desirable, but I felt I could handle it.

Flying starboard-to-port, it was hard to keep the ship in my cross-cockpit scan. I had to ask

the HAC to pull some charts off the glare shield because their reflection, mixed with the haze, obscured the ship.

I logged my landings and hopped out so the next pilot could strap in. He would continue into night landings, and then we would roll back in for our night bounces. The other pilot and I watched from the deck of the ship as they cycled through the pattern.

As the sun set, the horizon, which had not been much more than a change in shades of gray, began to fade away completely, obscured even more dramatically by the haze in the departing sun light. I knew it

was going to be more difficult than normal to nail these landings. We always brief that the night pattern at the boat is essentially an instrument pattern...and that's exactly what it was turning out to be.

The ship entered a turn, and the bird had to go into starboard delta for about 15 minutes. As a result, the approach swapped to port-to-starboard (a workable but unnatural approach from the right seat). The other pilot and I shifted nervously as we watched that precious pinkie-time fade with each passing minute. As luck would have it, he was the next in line and swapped out with the off-going pilot.

What little light was left was completely gone by the time they lifted off, and I got a bit more nervous when the copilot waved off his first pass. I kept looking around for a horizon that just wasn't there, but all I could see was the somewhat reassuring red flashes of the aircraft anti-collision lights.

Two more landings down, and then it was my turn. I strapped in and hooked up to the ICS. The HAC was immediately briefing me about the situation (poor vis, no horizon to speak of) and how they had been handling it. He reiterated that we would stay at 300 feet until established on final, and that standard-rate turns had been working pretty well. He also mentioned that the other two pilots had lost situational awareness and that he had needed to guide them back to line-up several times.

I adjusted my lighting, took one last look at the instruments, verified checklist complete, and lifted up into a hover. The LSE kissed us off, and we transitioned into complete darkness. Altitude was increasing, airspeed was off the peg, three positive rates of climb...so far so good.

The quarter-moon that had occasionally peeked out from behind the clouds was gone again, and there was no appreciable ambient light. With barometric-altimeter-hold engaged, we leveled off only a couple knots fast at 300 feet. It was all instruments as I referenced the heading indicator for a reciprocal gouge number and started my

turn. The standard-rate turn worked out well, and we rolled out on downwind in what seemed like a good position. I found myself looking for a TACAN fix to give me an idea of how far I was from that tiny speck of light to my right. I had to remind myself that the TACAN wasn't working.

At the 180, we called abeam, right seat. The supply officer, who was serving as Air Boss, called a green deck, Charlie spot. I

started a turn toward the ship as the HAC reported we were looking good. I rolled out on reference heading and was surprised to find us right on line-up, on airspeed at 300 feet. As dark as it was, things weren't turning out so bad after all.

Once again, I looked for a DME indication of distance to the ship, but of course, I wasn't going to get it. It seemed to me that we were closing on the ship pretty fast. I began a slight nose flare to start the deceleration and pulled my collective trigger to disengage BAR-LT hold, putting the helo into a conservative descent.

"No need for an aggressive correction," cautioned the HAC. I felt like I had it under control.

"This is the best we've looked all night," he observed. "I'm happy with this." I continued the slow descent past 250 feet, but was still uncomfortable with the rate of closure I was seeing. I put in a bit more nose up.

"Watch the nose," he remarked.

"I think we're coming in a little hot," I told him. "I just want to slow us down a bit."

Passing 200 feet, I released the BAR-ALT trigger on the collective to re-engage altitude hold until I got control of my rate of closure. It still felt uncomfortable, and that little light seemed to be getting bigger much too fast. A little more nose-up should do it...

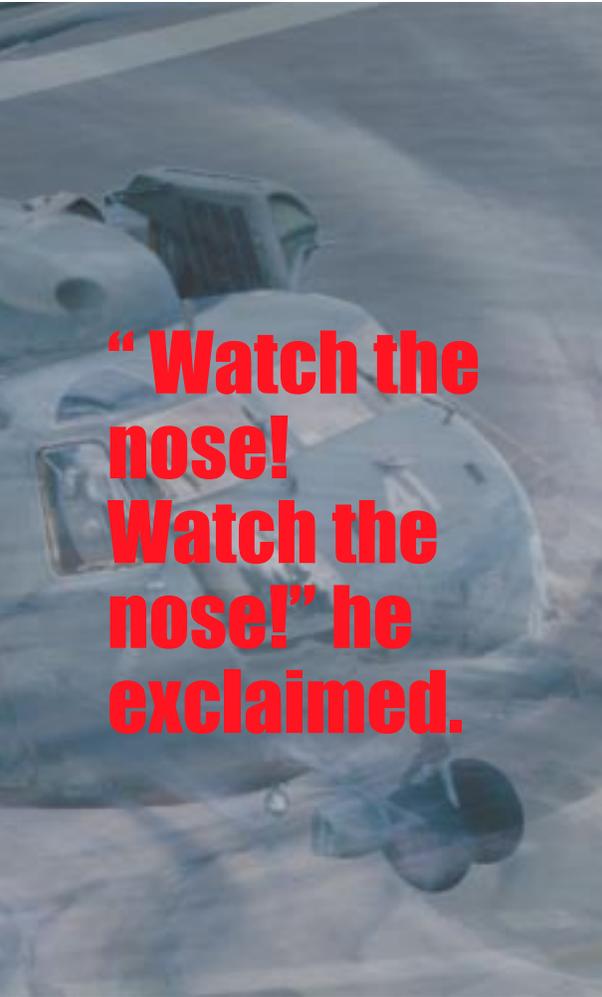
"Watch the nose! Watch the nose!" he exclaimed. Just as the altitude-warning light went off (the bug was set at 50 feet), I saw the VSI was showing a 700-fpm descent. I instinctively pulled collective and began to nose it over. The HAC was on the controls, with me doing the same thing. I looked out through the chin bubble and saw the greenish glow of our starboard position light reflecting off the spray the rotor wash was kicking up.

I relinquished controls at the HAC's request and started a back-up scan. Although it took me a second to shake it off, I began feeding him altitudes and airspeeds, and before I knew it, we were over the deck of the ship waving off. It wasn't until we were level at 300 feet that we noticed the over-torque warning light and alarm.

We had to make three more passes to get aboard, and when we finally did land, we had to shut down because of the over-torque.

I got to spend the rest of the evening thinking about why I was stuck on the boat, and it didn't take much to figure out what put me there. By fixating on my rate of closure, I let my situational awareness slide. To counter what was most likely an optical illusion, I was more aggressive with the nose than I normally would have been. In the darkness and poor visibility, I placed too much faith in the barometric-altimeter-hold at the wrong time, and we nearly went swimming. These things, although important to note, are incidental. The critical issues lie elsewhere.

If there was any distinct offense committed that night, it was that none of us said that we shouldn't have been training in



those conditions. I am a firm believer in “train like you fight,” but placing the aircraft and crew at risk unnecessarily for training is foolish.

The boat is always dangerous, especially at night. None of us was proficient enough to train comfortably in that environment, but nobody said anything. Good aircrew coordination and headwork dictate that you come clean in those situations and speak up.

The HAC remarked afterward that he played the part of the proverbial “frog in the frying pan.” Because he was in the aircraft the entire time, he couldn’t truly perceive the progressively worsening conditions. As we copilots cycled through, we encountered a much more drastic change in operating conditions. We were feeling the heat, but the HAC wasn’t.

The point is, the person who is responsible for the aircraft may not always have

the best frame of reference for identifying a problem, so it is incumbent upon all members of the aircrew to analyze the mission and its safe, practical execution.

I blame myself most of all, because not only did I fail to raise the flag, but also my judgment was clouded by the belief that I should be able to do this right now. As aviators, we seek constant self-improvement and increased competence. Our can-do attitude sometimes leads us down the wrong path, even if we have the right intentions. I came dangerously close to testing the quality of my 9D5-egress training because I wanted to be able to say, “Been there, done that.” Don’t be too eager; the opportunities will be there, and you will get your chance. It is your responsibility to ensure you do it safely, at the right time, in the right conditions. 

Lt. Meshel flies with HM-14.

## Vertigo and the Nugget NFO-A COTAC's Perspective

Continued from page 23

As we waited for the next recovery, we encountered the same conditions of haze and lack of horizon, was made worse by the holding pattern. We discussed the previous approaches and came up with a game plan for the next one, including the type of backup he wanted from me. We decided to secure the anti-collision lights to reduce their vertigo-inducing effect, and I would hawk lineup.

After about an hour in the marshal stack, we were called down. Unfortunately, the approach went much like before. We entered the layer, but although the pilot worked hard to stay on his instruments, he could still feel the effects of vertigo. I did my best to back him up on altitude and lineup.

We broke out around 300 feet and encountered the same disorienting sight picture as the first pass. We were again waved off and began our climb away from the water. Approach then called us with the

ominous words, “Clean up, climb, signal divert.” We switched frequencies and prepared for the flight back to North Island. Although the weather was not much better there, we were able to fly the PAR and land.

I learned a lot of important lessons from this experience. Most importantly: Confess, confess, confess. I can’t imagine the problems we would have encountered if my pilot hadn’t reported his vertigo. You must communicate any problems or doubts you have in the cockpit. I also realized the importance of applying the aircrew-coordination training principles that prepare us for these situations. Although I believe we did a good job in the cockpit talking about the vertigo and how to get ourselves on deck, falling back upon our basic training pulled us through, especially trusting our instruments. 

Lt. O’Brien flies with VS-38.



Peter Mersky

# “Hey, Sir, that was really a crackpot idea!”

by Lt. J.P. Webb

It was going to be one of those good-deal flights that rarely come along. I was fresh out of primary and progressing rapidly through my intermediate flights. My instructor and I were to fly an out-and-in from NAS Corpus to College Station and back, grab some great Mexican food and in the process, knock out a couple

RI flights. As it happened, however, this was going to turn out to be a not-so-good deal and one that left an impression on me.

The weather to the north didn't look good; there was one of those summer squall lines between homeplate and our destination. My hard-charging instructor pilot, a new guy, eager to hook me up with another

good deal now that our original game plan was a nonstarter, decided we could bag a hop in the local area, knocking out some of those same approaches that I'd done many times before.

Sitting in the front seat, the IP quickly ran through the last-minute checks, and we were cleared for takeoff. He smoothly advanced the PCL and our PT6A reacted. We were on our way.

At about 70 KIAS, the IP rotated and the aircraft quickly leapt off the ground. Bang! As the T-34 had become airborne, my seat had suddenly slid down to the full-down position. I was immediately IFR as I couldn't see over the instrument panel or the glare shield.

Not wanting to distract the IP during climbout, I waited until we had leveled off and were outbound toward the Gulf of Mexico.

"Hey, sir, you'll never believe what just happened."

"What?" he replied, straining to see what was going on in the back.

"Well, my seat has become unlatched and I'm sitting down here on the floorboards."

"That's not good," he said. "Can you get up?"

Being firmly strapped in a 5-point harness and having no handhold with which to pull myself up, I was helplessly stuck. Deciding to resolve this once and for all, my valiant IP decided to take charge and get this situation under control.

"I'll tell you what I'll do. I'll count to three, and I'll put in a little forward stick so

you can get up. You pull your seat latch and push yourself up."

"OK," I said, a naive pupil, trusting his omnipotent instructor's great skill and experience.

One, two, three! He deftly shoved the stick forward to provide me with upward momentum. I knew we were pulling some negatives when my blue-brains and pubs floated. Up I went and...bam!

"Wow! You shot up like a rocket," the IP observed. "Are you OK?"

"Yeah. I hit the canopy but I'm alright."

I knew something was wrong but I just couldn't get a lock on the situation. Feeling my helmet, I still had all the big parts so I was happy. Still trying to figure out what was wrong, I looked left then up and right. I couldn't believe what I saw.

"Hey, sir, you're never going to believe this," I started again. "We've cracked the canopy."

A couple of calls later, we were on downwind. In the end, all's well that ends well as I wasn't hurt except for my pride, and we even managed to get that flight out later that day. My fearless IP seems to have escaped relatively unscathed as well.

In conclusion, the lesson learned that day was twofold: If you have a noncritical situation develop in the cockpit, slow down and consider your options. Only after thinking things through and considering the consequences of your actions should you act. And second, if it seems like a crackpot idea, it probably is! 

Lt. Webb flies with HSL-51's Det 2.

**"Wow! You shot up like a rocket," the IP observed. "Are you OK?"**

# The Wally World Ride of Doppler Hovers

by Lt. Neil Brennan

As I flew the fourth practice 80-foot doppler hover to a simulated survivor, an uncommanded descent sent a chill up my spine and instantly doubled my heartbeat when I heard the aircrewman yell, “Power!”

I had already recognized the uncommanded descent and started a power pull, but there was a lot of resistance as I tried raising the collective. The HAC flying as copilot heard his RAWS tone at 70 feet. He checked the radar altimeter—the needle showed a rapid descent as we passed 50 feet toward the dark Caribbean below.

The copilot also called for power and helped me raise the collective to level us off. We both noted that the collective was extremely restricted although the collective-trim release was fully depressed. As we stopped our descent somewhere between 20 feet and getting wet, the aircraft, behaving like a Disney World roller coaster, shook violently as the cockpit caution panel lit up like Times Square. The master caution illuminated along with the No.1 tail-rotor-servo caution light, the No.2 tail-rotor servo on, and backup pump on advisory lights. The collective restriction instantly subsided, but the blur of information from the aircraft continued. A transient increase of engine torque to 116 percent on the pilots’ display unit was accompanied by a medium-frequency vibration.

As the HAC called for transition to forward flight, I gladly initiated a manual waveoff from the coupled hover. The aircraft climbed and I transferred control to the HAC.

Climbing through 200 feet, I acknowledged a flashing AFCS-degraded caution light with associated altitude and coupler-failure advisory cubes illuminated. The HAC established the vertical climb and called for emergency flight quarters as we turned toward mother.

We finished the landing checklist and began a slow, wings-level, decelerating descent to 200 feet and 50 knots. As we decelerated to 50 knots, the medium vibrations finally subsided. Less than three minutes after the call for emergency flight quarters, we landed.

Troubleshooting on deck identified an intermittent fault in the No. 1 tail rotor’s servo-pressure switch. The No. 1 transfer module had also developed an out-of-limits leak. The AFCS computer had numerous bite codes but none pointed to a specific malfunction. The AFCS system had previously exhibited numerous minor malfunctions, documented in the aircraft discrepancy book. The most noteworthy problem was an unusual high-nose pitch upon transition from approach to hover while doing automatic doppler approaches.

A malfunction in the AFCS most likely caused the uncommanded descent. If we hadn’t recognized the descent immediately, we would have hit the water. The violent jolt was caused by the transition from the No. 1 tail-rotor servo and No. 1 hydraulic pump to the No. 2 tail-rotor servo and the half-second delay in the backup pump reaching operational pressure. 

Lt. Brennan flies with HSL-48’s Det 5.



**Re: "Riding in the Rumble Seat" and "A Word to You Mask Rebels" (Aug '99)**

NAS Patuxent River-Neither article mentions the other aspects of high-altitude decompression or the risks of being above 18,000 feet in an unpressurized aircraft. Readers should remember their last physiology lecture at the local Aviation Survival Training Center.

The danger of decompression sickness (DCS) increases greatly the higher you go, the longer you stay at altitude and if you have a rapid decompression. Anyone experiencing an explosive event such as the one described by LCdr. Smith should quickly descend to 10,000 feet, and preferably back to sea level. DCS should be suspected, and I would encourage anyone in a rapid decompression to have a flight surgeon or diving medical officer check for DCS.

The general NATOPS, page 8-9, 8.3.2.12 states:

Hypobaric Exposure—The following restrictions to flight following low-pressure chamber flights or accidental hypobaric exposure (rapid decompression in flight) apply.

Flight personnel shall not perform flight duties for 12 hours after exposure to low pressure chamber flight in excess of 30,000 feet... One of

the predisposing conditions to get DCS is repeated exposure. The inside observers at the local ASTC are grounded for 48 hours after every chamber flight for this reason. Although NATOPS isn't as stringent as the local ASTC SOP in this area, aviators should use caution when exposed to a high-altitude situation.

The other issue is time of useful consciousness. Roy L. De Hart writes in the *Fundamentals of Aerospace Medicine* that "...With the loss of effective performance time in flight (due to hypoxia), the individual is no longer capable of taking proper corrective or protective action..."

The time of useful consciousness decreases significantly as you go up in altitude.

18K	20 to 30 Min
25K	3 to 5 Min
30K	1 to 2 Min
40K	15 to 20 Seconds
>43K	9 to 12 Seconds

There are important dangers associated with loss of pressurization, combined with hypoxia.

*Lt. Adam Michels  
Naval Operational Medical Institute  
Dept. Head, ASTC*

# On Cat 1

## Coming Attractions for December

- I Wasn't Planning an Emergency Today!
- Too Warm for Form?
- Not the Way I Pictured a Homecoming





## Just Imagine... and a Pretty Mess.

few hundred feet of sea level. Most Navy and Marine Corps facilities are.

Now imagine your squadron deploys, in early summer, to a base at 4,000 feet MSL. There are mountains all around. The minimum safe altitude (25 miles) is 9,800 feet MSL, and the emergency safe altitude (to 100 miles) is 15,600 feet MSL. Since you are accustomed to a vertical envelope of sea level to 10,000 feet, your piece of the troposphere has just been reduced by half. You've lost the sweet half where the aircraft performs best, and you are most practiced.

Imagine you're going out to play in your new (smaller) back yard, to do some mountain flying and visit a few high LZs. You'd bone up on high altitude performance and procedure, wouldn't you? You'd be careful about trying things you hadn't done before, like mountain landings, and read what NATOPS has to say. You would note that *local* terrain makes for *local* winds. You'd realize winds in a high zone will not be what is reported on ATIS at the deployment site, which sits in a basin well below and miles away, across a wide valley and beyond another mountain ridge. Wouldn't you?

Since high temperature and high altitude translate into lower performance, you'd sharpen your pencil and plow through the performance charts before doing old tricks, like no-hover landings, in this inhospitable environment. You'd use the most current and geographically relevant information for temperature and density altitude, then extrapolate conservatively for the zone's higher elevation and

*U*ntil recently, air wing helo squadrons didn't usually participate in pre-deployment workups at Fallon's mountainous terrain. However, with the arrival of the SH-60F and HH-60H, the helo folks regularly travel to Fallon to practice their SAR skills with the fixed-wing compatriots. This new development highlights the need to always be aware of your surroundings, especially if they are different than the comfortable sea-level field from which you normally operate.

Imagine you are a typical aviator or crewman, one whose home base is an air station within sight of salt water or within a

by Bob Vallaster

# It's Easy If You Can, Easy Landing If You Can't

for expected temperature creep from morning brief to afternoon flight.

Wouldn't you?

Some time after strapping in and turning engines, you'd check power against your earlier calculations. And nearing the landing area, you'd eyeball the zone and find the wind direction some way or another. You might make radio contact with the people in the zone, or drop a smoke, or fly over twice from opposite directions...something clever. You'd remember the landing charts only show wind effect for the *forward* hemisphere because landing a helo in a tailwind is akin to messing with Mother Nature, right?

You'd set up and shoot a flatter-than-normal approach like the book says to avoid needing a lot of power to arrest the descent. And in the approach and flare, you'd hawk the torque meter to make sure power required doesn't get too close to what you calculated to be that's-all-there-is-Jack. Wouldn't you?

In sum, *you* would take reasonable and prudent measures to become competent at new tasks and in the new environment *before* allowing yourself to get too comfortable. Wouldn't you?



If yes, good on you. *You* will not be in the next helo to lose tail-rotor authority in the flare, whirl to the right several revolutions, thump across terrain and crash, roll and burn.

If no, the accompanying photos are a preview. 

Mr. Vallaster is an aircraft-mishap investigator for the Naval Safety Center.

**You'd be careful about trying things you hadn't done before...wouldn't you?**

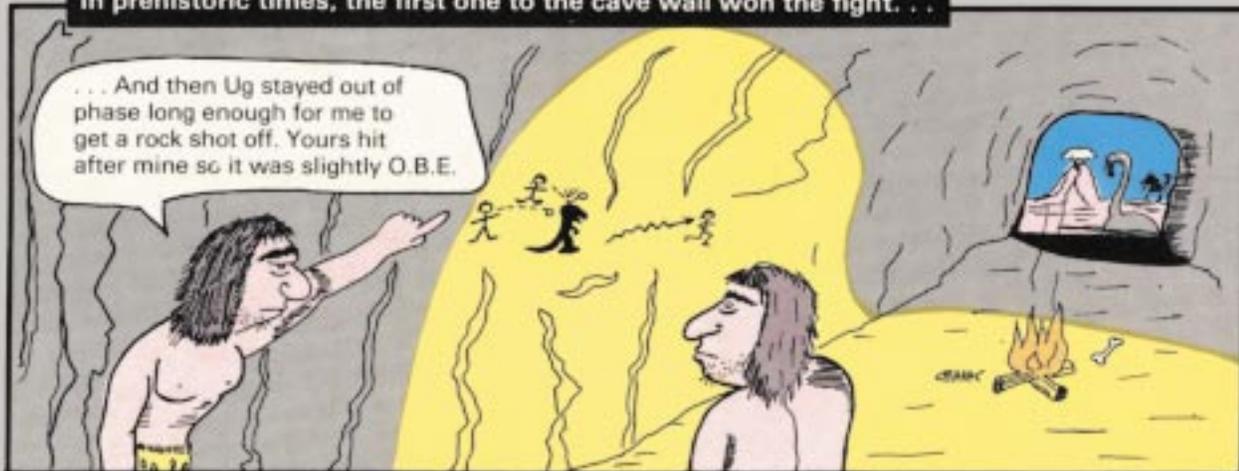
# Classic

January 1989

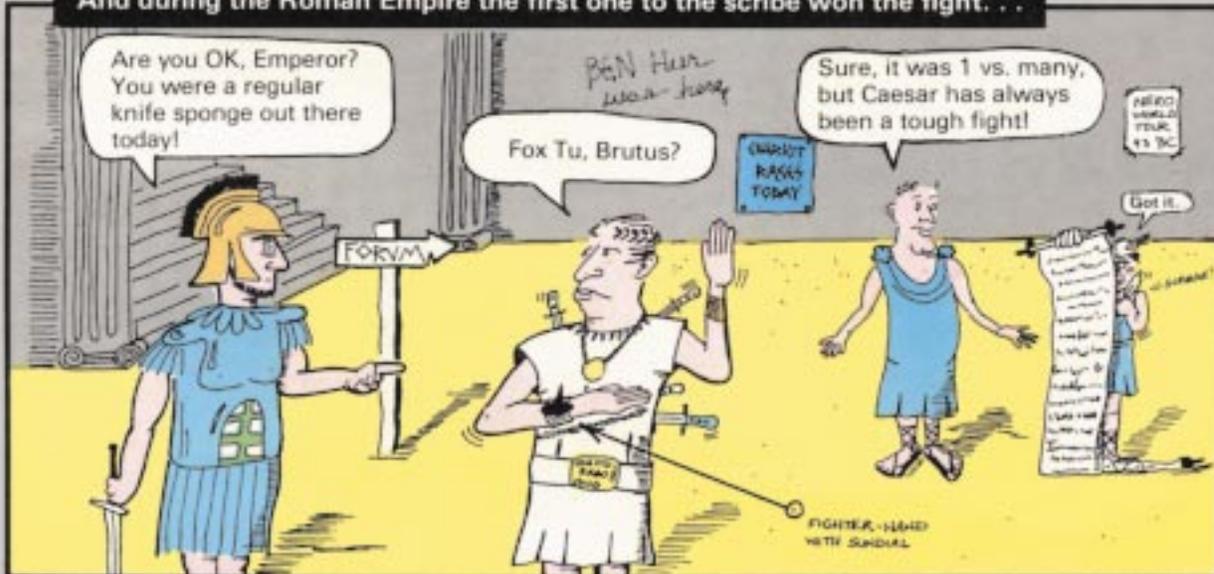
## BROWNSHOES IN ACTION COMIX

"The kind real aviators like"  
Contributed by Lt. Ward Daniels, USAF

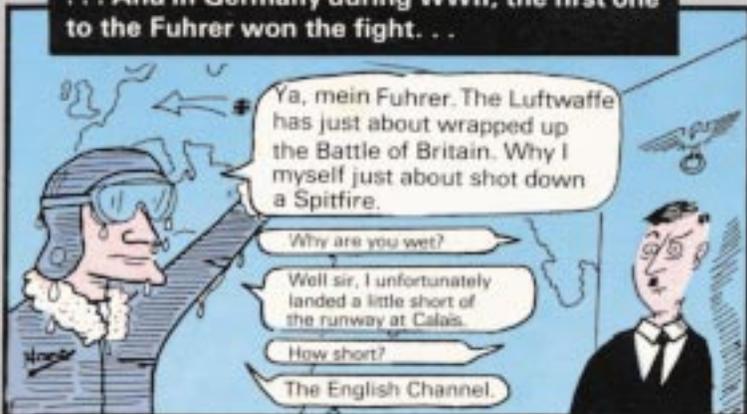
In prehistoric times, the first one to the cave wall won the fight. . .



And during the Roman Empire the first one to the scribe won the fight. . .



. . . And in Germany during WWII, the first one to the Fuhrer won the fight. . .



. . . Now modern technology has brought forth the TACTS range, thereby eliminating grey areas and aircrew interpretation. . .

