

The Navy & Marine Corps Aviation Safety Magazine

approach

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Mishaps waste our time and resources. They take our Sailors, Marines and civilian employees away from their units and workplaces and put them in hospitals, wheelchairs and coffins. Mishaps ruin equipment and weapons. They diminish our readiness. This magazine's goal is to help make sure that personnel can devote their time and energy to the mission, and that any losses are due to enemy action, not to our own errors, shortcuts or failure to manage risk. We believe there is only one way to do any task: the way that follows the rules and takes precautions against hazards. Combat is hazardous enough; the time to learn to do a job right is before combat starts.

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Features

4 Dying to Get the "X"

By Cdr. Charles Luttrell

"Boy, was that stupid" is not a good postflight analysis.

6 In the Goo

By Lt. John Dolby

Vertigo is a scary thing when it hits you for real.

8 No Kidding

By Lt. Guy M. Snodgrass

An FRS student has his first "no kidding" emergency in the Hornet.

10 Hook 43, You're on Fire

By Capt. David Palm, USMC

A Prowler crew grabs all the attention at an airshow—for all the wrong reasons.

15 Pickled

By Lt. Katy Crihfield

Miscommunication at a critical moment can be a dangerous thing.

20 Lost in the Haze

By LCdr. Nate Yarusso

A quick hop to the ARG flagship for a parts swap becomes a "Where are we?" scenario.

22 I'm Not Nervous, I'm Hypoxic

By Maj. Roger McDuffie, USMC

Just breathe pure O₂, and all the gauges will become incredibly clear.

24 Bad Case of the Blues

By Lt. Kyle Horlacher

The operations officer needed a Viking crew to go to Bermuda. Getting there was the easy part.

26 Confessions of a Skipper

By Capt. Stan Dunlap

A Sailor is dead and his skipper searches for answers.

September-October Thanks

Thanks for helping with this issue...

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LCdr. Gavan Sagara, HSL-37

LCdr. Patrick Thompson, VT-7

Maj. Michael Nichols, HMLA-773



13 Human Factors—A Personal Look

By LCdr. Eric Soderberg

A pilot reflects on his experience at test pilot school. Will you be able to assess yourself as he did?

Departments

2 Admiral's Corner

Read Admiral George Mayer takes the helm at Naval Safety Center.

How Are We Doing?

Here's an update on our aviation-mishap rates. Visit our webpage for the current status.

3 Work Zone

Information from the Aviation Directorate

18 ORM Corner: Stack the Deck

By LCdr. Hillary Darby

Isn't this the way ORM is supposed to work?

28 CRM: The Recalcitrant Aircraft

By Lt. Ashley Spalding and Lt. Hillary O'Connor

Everything looked good, so the Tomcat pilot started her takeoff roll. As they left the ground, they immediately knew something was wrong.

30 Mishap-Free Milestones

Discover *Approach* online at:
www.safetycenter.navy.mil/media/approach/

31 Bravo Zulu

BC Ready Room Gouge

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Admiral's Corner

From Commander, Naval Safety Center



A Navy C-2 Greyhound (COD) recently departed Naval Station Norfolk's Chambers Field on a seemingly routine mission to fly

20 aviation maintainers to Florida. Suddenly, the mission became anything but routine. It evolved into an in-flight emergency, covered live on the evening news as a local television station's helicopter crew filmed the C-2 circling Chambers Field, unable to lower its main landing gear. After a picture-perfect, arrested belly-landing on center-line, news coverage ended with the crew and passengers safely egressing the aircraft in an orderly column—exactly as procedures dictate.

This emergency landing was flawless because the pilots' and aircrew's training and adherence to procedures. They discussed options, dumped fuel, and shut down the starboard engine. We ultimately will find out why the gear malfunctioned, and then we'll fix the problem. What is critical is that the trained crew knew what to do, coordinated with ground personnel, and professionally worked through the problem.

We often talk about the value of crew resource management. In this case, the C-2 crew used their CRM training to mitigate risk. Operational risk management (ORM) was evident when they shut down the starboard engine to minimize the prop hazards upon landing. Everyone in this scenario did a lot of things right.

Having recently assumed command of the Naval Safety Center after heading the Naval Air Training Command, I am well aware of the dangers our pilots and flight crews face daily. I also know that most mishaps

are preventable. We are ending a two-year challenge for across-the-board mishap reductions, both on- and off-duty. Although we didn't reach all of the numerical goals, we have made measurable progress. We have identified trends and areas of concern. Most importantly, our current efforts and initiatives will serve as the foundation of future mishap reductions. As we carry out our mission—in the air, afloat, sub-surface, or ashore—we must all work to create a new, powerful safety culture.

Every squadron essentially has a 100-percent turnover in personnel every three years, meaning all "corporate memory" must begin anew every three years. That's why we continually must review procedures, conduct refresher training, review NATOPS, and continuously bring new Sailors and Marines up to speed. The Safety Center offers tried-and-true resources to help strengthen your command's safety culture: We offer safety surveys and culture workshops, and our website has a wide variety of information, tools and presentations. Our staff is dedicated to helping you reduce and eliminate mishaps; your POCs are listed on the inside front cover of this issue. We are here to help.

I look forward to the challenges ahead and to working with dedicated safety professionals throughout the fleet. Our efforts will serve to strengthen the Navy and Marine Corps and render us more mission-capable and ready. I firmly believe we can eliminate mishaps. To quote the late Winston Churchill, "For myself, I am an optimist—it does not seem to be much use being anything else."


RADM George Mayer

HOW ARE WE DOING?

Aviation (Rates = Mishaps Per 100,000 Flight Hours)

Class-A Flight Mishaps (FY05 thru 31 August)

Service	Current Rate	FY04 thru 31 Aug	FY05 Goal*	FY02-04 Avg	Fighter/Attack	Helo
USN:	12/1.38	12/1.29	10/0.88	19.7/1.77	4/1.71	4/2.36
USMC:	8/2.27	15/4.75	7/1.94	14.7/3.96	6/4.39	2/1.14

* Goals based on FY02 baseline.

■ above goal. ■ below goal.

WORK ZONE

The aviation directorate at the Naval Safety Center has the analysts and subject-matter experts to support your aviation safety programs. Our aviation staff and their contact information appears on the inside front cover of this magazine—their job is to help you do your job better. This page provides information and resources from our staff to help the aviation community reduce mishaps, and continually improve naval aviation every flight, every mission, every day toward zero mishap operations.

Need more info? Visit our website: www.safetycenter.navy.mil. Then click on the aviation web section or use the search mode to get specific information. For the aviation safety officers, there's a wealth of info on our site to help you do your job better—to help your command do better—to improve.

Safety Surveys

- When was your squadron's last safety survey? You should have a survey every two years. To get on the schedule, contact LCdr. Gretchen Swanson at: (757) 444-3520 ext. 7276 (DSN 564) or email at: Gretchen.swanson@navy.mil.
- Our survey team's objective is to review the way each unit conducts business and offer constructive feedback for improvement. This is not an inspection and the information we provide stays with the skipper.

Culture Workshops

- Communication can either make or break an organization. The Safety Center can help out by providing commanding officers insight into the "culture" of their organization. Our POC is Cdr. Buc Owens (757) 444-3520 ext. 7210 (DSN 564), email at: donald.owens@navy.mil. Visit our CW webpage at: www.safetycenter.navy.mil/culture/

Anymouse Programs

- The Anymouse program has a long tradition in naval aviation. The idea of giving anyone the opportunity to report incidents, behaviors, or near-accidents anonymously dates back to the late 1940s. The intent of the reports back then is the same today: reduce mishaps.
- Does your command encourage inputs that will improve your safety posture? Is your Anymouse program effective?

DOD HFACS

- Human factors are the most commonly cited cause for all mishaps, with more than 80 percent of all mishaps attributable to human factors failures at some level. LCdr. Deborah White, on our aeromedical staff, is our POC for HFACS and can answer your questions. Contact her at (757) 444 3520 ext. 7231 (DSN 564) or email at: deborah.j.white@navy.mil. Visit our HFACS webpage to learn more about recent initiatives: www.safetycenter.navy.mil/hfacs/.

Can You Hear Me Now?

Did you know?

The No. 1 most prevalent Veteran Administration disability claim is hearing loss. All services combined, claims totaled over \$633 million in 2004, over \$6.7 billion since 1977, and the trend is upward. Improvements to hearing protection are being made.

- A new communication earplug called Mini CEP, developed by Naval Air Systems Command, provides added hearing protection by reducing undesirable noise while channeling through speech sounds.

- To learn more about the Mini CEP, read an article by Valerie Bjorn and Jim Wilt, "Communication Earplug Approved for Naval Aviator Use." It is on our website at: www.safetycenter.navy.mil/aviation/articles/earplug.htm.

Dying to get the



By Cdr. Charles Luttrell

We had a beautiful day in the Northwest, the first day of the annual “three-day summer season.” The typical summer fog had formed on the water at the end of the runway, teasing us all day long, moving in and out and occasionally making the field 0/0. Aircraft had been launching, and some were diverting upon return to home base as Mother Nature kept toying with us. I was completing my Cat II syllabus NATOPS check with a senior lieutenant, who was wrapping up his FRS instructor tour. Between us, we had 15 years of flying experience that should have helped us to make the right decisions, but all that experience didn’t help.

The Prowler community was knee-deep in the wing-fatigue issue at the time, and fly-able aircraft were at a premium. The FRS was under incredible pressure to meet production requirements, not only of the carrier Navy but also to train 100 additional aircrew to stand up four new squadrons to deploy with U.S.

Air Force Expeditionary Wings. As a Cat II aircrew, I would stay low on the priority list until just before transferring to the fleet. I had completed all of my syllabus events on a cross-country trip, except for my NATOPS check. During my last week at the FRS, I had been scheduled three times for a final flight, but I was canceled each time for aircraft availability. Friday arrived, and, once again, I was scheduled for my check flight. I had to get the “X” to transfer on Monday. Up early in the morning, I looked outside my dining room window to be greeted by 0/0 conditions.

I arrived at the squadron and briefed the flight. We peeked outside and could see the runway intersection—the day was looking up. We called metro to check on the low-level-route weather, and it was good. Today would be my day to finish.

As we started to walk, the phone rang, and we were told our jet was down. After talking to the ODO, he said we should wait for

the second event because I now was high-pri because of my transfer. The situation started to look good again.

We called range scheduling to update our route, but we were unable to get a new low-level time. We changed the flight to an instrument round robin and rebriefed for a 1030 go. At 0945, the ODO said no chance; a Cat IV just had taken the No. 1 priority for a jet. I decided to hang around the ready room for either an opportunity to fly or happy hour. Fortunately, I squeezed myself into a one-hour sortie.

Then we caught a break; the fog rolled back out, and the runways cleared past the intersection. Once again, we briefed the flight and walked to the jet at 1430. The start was delayed because of mechanical problems, but we stayed with it—we had to get the “X.”

As we started to taxi, ground control changed the duty runway to 31, which had fog sitting at the departure end. Takeoff was normal, and we went into the goo just past the intersection. Once above 400 feet, the sky was clear as far as the eye could see. Our flight was uneventful, and, upon our return, the duty runway had changed to 13. When we checked in, weather reported the ceiling at 100 feet, with one-quarter-mile visibility. As we approached from the south, we could see the first 5,000 feet of runways 31 and 25. But, in their infinite wisdom and pursuit of noise abatement (or maybe they just needed some controller training), tower wanted people to land on the fogged-in end of the field. The pilot and I talked it over, and I asked to land on runway 25. The controller said it was unavailable because of calm wind and noise abatement. After a little more discussion, we decided to shoot the approach to 13, and, if we waved off, we would land on 25.

Approach called and gave us vectors to the north for a PAR (ACLS was down). As we passed the field, the fog bank had rolled in to cover the first 2,000 feet of runway, with the top of the fog at about 400 feet. We took our last turn to the south and began our descent. We were

frustrated shooting the approach to a runway where we couldn't see the threshold, but we clearly could see the departure end. The pilot and I kept discussing how dumb this was; yet, we continued down the chute.

We entered the goo at 400 feet. It was thick, and it got pretty dark in the plane. At 250 feet AGL, I started to see water but couldn't see anything ahead of us. I relayed that info to the pilot, and we kept pushing. He said he also occasionally could see the water. Passing 200 feet, I caught a glimpse of the ground as we continued down. At 100 feet, we broke out, and, to my amazement, I suddenly realized we would not make the runway. I called for power about the same time I heard the pilot say, “Oh sh##!” and the power came on.

We made it past the threshold and cleared the lighting. Neither of us said another word until we stopped in the hot pits. We just looked at each other and said, “Boy, was that stupid!”

We had calm winds and two perfectly clear approach ends to choose from, and we decided to let the controllers put us into an actual instrument approach that almost cost us a limited-edition Prowler. I look back on that day and wish I had been much more aggressive in getting the controllers to change the runway. I was preoccupied with not just getting the “X” but getting the plane on deck for the next go—so the FRS could make some progress on a day they had missed 10 of 12 sorties.

As I reflect on the events of that day, I remember the back of an *Approach* magazine poster showing a scorch mark in the shape of an “X” on the ground. I don't remember the exact saying, but I can paraphrase it, “Don't die trying to get the X.” When I first saw that poster, I would laugh smugly and say to myself, “That never would happen to me.” Well, on that Friday afternoon, I was within a few feet of being that smoking hole in the ground. The pressure to get the “X” was self-induced. My pilot and I knew what we were doing was ridiculous; yet, we almost “died to get the ‘X.’” 

Cdr. Luttrell flies with VAQ-139.



In the Goo

By Lt. John Dolby

It wasn't like this flight was my first solo: I had done solos in T-34s. Besides, I had someone sitting next to me in the TH-57B Jet Ranger. I was excited to test my skills with a copilot who wasn't a flight instructor. The Pensacola weather was the expected scattered thunderstorms as we took off from Whiting Field to fly course rules to Pace. I felt prepared for my first helo solo at HT-18.

The flight to Pace and the FAM maneuvers were going well. My copilot and I were comfortable not having an instructor in the cockpit with us. We ran through all our authorized solo maneuvers, then set down at Pace to figure out our game plan.

We looked around and realized the weather quickly was closing in around Pace. Anyone who went through flight school in P'cola knows that storms can pop up without warning. They tend to come in fast and hit hard.

After a quick chat on the radios with one of the instructors at the field, we agreed our best bet was to head home before the weather got too bad. There was no use ruining an otherwise

perfect flight by getting stuck at Pace.

Before takeoff, we decided I would fly the course rules, while my copilot would handle the radios. We picked up course rules and quickly noticed the worsening weather. The prudent decision would have been to turn around immediately and head back to the field. Two students have no business flying course rules during a thunderstorm in a non-instrument-rated helicopter. Of course, if we had done the prudent thing, you wouldn't be reading this article.

Shortly after departing Pace, we picked up the road that would lead us home and started calling Whiting Tower. One call, no answer. Two calls, no answer. I was sitting in the left seat thinking, "I wonder if we have the right frequency in." So, logically (or illogically as a wiser and more experienced pilot now realizes), I looked down to help her troubleshoot the radios.

After what seemed like an eternity but really was five seconds, I looked up from the center console and couldn't see anything but rain. Despite being at 500 feet, we had no road beneath us to follow, no horizon, nothing. All



you helo pilots reading this will empathize when I say, “There are not many things out there more uncomfortable than the feeling of completely being IFR in a TH-57B.”

For Pete’s sake, the darned helo has a cardboard attitude gyro. As you leave Pace field, you must be careful to stay on the road because, on your left side, is Santa Rosa, another outlying field used by TH-57 pilots. So, there we were, IFR, in a bird that had no business flying in IFR conditions, with an unknown number of other helicopters somewhere to our left we couldn’t see—great!

One of the PCL emergency procedures for the TH-57 is the emergency descent; now seemed like a good time to apply that procedure. We quickly needed to get back our ground reference. I lowered the collective and pushed the nose forward, so we wouldn’t get slow—or so I thought.

Next thing I knew, my copilot called out, “Airspeed! Airspeed! Lower the nose!”

I looked down and saw that my emergency descent had turned into a 1,200-foot hover. Uh, oh!

I could hear the copilot calling, “Lower the nose,” and I remembered thinking, “I am lowering the nose.”

Vertigo is a scary thing when it hits you for real. I swear to this day I felt like I was nosing over and gaining airspeed. The gauges, however, told a different story. After realizing I was not coming around, my copilot pushed forward on the cyclic to get us much needed airspeed. Her movement seemed to bring me somewhat back into the game. I then lowered the nose and gained airspeed. Because we didn’t know where we were, we made a descending turn to the right to avoid Santa Rosa. We popped out of the clouds over a farmer’s field at about 400 feet.

We had made up our minds to set it down in the field and wait until the storm passed. But,

as we set up to land, we saw we could skirt the storm and make it back to Pace, so we did. We landed at Pace, a bit shaken up but, otherwise, none the worse for wear. My copilot got on the radio and told an instructor the weather was too bad for us to make it back. The instructor told us to follow behind him at a quarter-mile, and he would bring us back. We followed him and landed at Whiting Field.

I learned a few important lessons that day. First, I never should have moved my concentration to the radios when I was flying the aircraft. The mantra holds true, “Aviate, navigate, communicate.” Unfortunately, I failed to do the first two and, instead, decided my job was to help with the last one. Sharing duties is why helicopters are dual-piloted. I should have let my copilot figure out the radios while I maintained my VFR scan. If I had been concentrating on flying, I would have recognized we were flying directly into a cloud, and we could have turned to avoid it.

Second, vertigo can be completely overwhelming. I remembered feeling like I was pushing the cyclic forward when, in truth, I wasn’t. Not until the other pilot came on the controls had I realized what was happening.

Finally, if all else fails, and you find yourself in a bad situation, don’t overreact. Being in the “goo” in a TH-57B is not a good place to be, but being in the “goo” in a 1,200-foot hover in a TH-57B is a much worse place to be. I should have slowed down and concentrated on initiating a slow descent to get out of the clouds.

The TH-57B is not instrument rated, but it is not going to fall out of the sky just because you go IFR.

Nothing bad happened to us that day, but be assured the lessons learned remain in my mind on every pitch-black night when I transition to forward flight from the back of the ship. 🦅

Lt. Dolby flies with HSL-43

No Kidding

By Lt. Guy M. Snodgrass

We had a perfect day for a basic-fighter-maneuver (BFM) hop: cool, with clear skies and unlimited visibility. I was pumped. After six months in the fleet-replacement squadron (FRS), our class was nearing completion. Only a few more BFM hops and a CQ detachment remained before our assignment to a fleet squadron.

Today's hop was my final BFM solo, a coveted chance to fly one-on-one against an instructor. However futile an FRS student's efforts might be, there's always that chance of forcing (or recognizing) an instructor's BFM error and capitalizing on it, gaining the first Fox-3 or maybe even a raking-guns shot.

The hop started out very smoothly. We began with the usual BFM gun weave and then multiple butterfly sets. The first three sets went very well. I had flown with the same instructor a few days earlier and had done my homework. After a few turns, I was able to lock and shoot my instructor with a simulated Fox-3, terminating the runs each time.

On the fourth run, with plenty of fuel remaining, we set up for an abeam set. We had over a mile of separation, pulled in hard toward each other, with each of us seeking to gain the initial advantage. At the "fights on" call, I aggressively braked into my instructor, quickly bleeding down my airspeed. We merged as I craned back my neck, striving to keep him in sight. He turned across my tail and was slightly nose low. Because I already was slow, I broke back into him. We merged again. I set two-circle flow, digging in more nose low and across his tail. Because I hadn't regained much airspeed since the second merge, he was digging in and creating all kinds of angles on my jet.

About the time his nose was coming on, my jet thumped hard, like I had flown through his jet wash at close proximity. I still was looking over my left shoulder, swearing to myself I wouldn't lose sight. I was confused by the thump because I wasn't anywhere near his jet wash. At the same time, the jet started to shake, followed immediately by an "engine right, engine right"

aural caution. I immediately called, "Knock it off," as I transitioned my scan to the instrument panel.

Looking at my engine-instrument panel, I was shocked to see the right engine rpm rapidly decrease below minimum flight idle. My instructor was talking fast, and I caught his acknowledgement of the "knock it off" call as I brought the throttle to idle. I thought I had suffered an engine stall (an assumption reinforced by the thump I had felt), so I waited to see if the engine would respond. I wouldn't be that fortunate. Within two seconds, the rpm hit zero.

After telling my instructor I might have a stall, I pulled the throttle to off and hit the engine-fire light. I had not received a fire light or engine-fire indication. My instructor had seen fire shoot out my right engine, but I didn't know it. After I shut down the right engine, he suggested we divert to NWC China Lake, instead of NAS Lemoore. A single-engine transit over the Sierra Nevada mountain range en route to Lemoore was not desirable. My instructor pulled his PCL out to back me up, as we immediately turned toward China Lake.

I relayed to lead everything that had occurred and the indications I saw. My lead asked short and specific questions. He also backed me up with the checklist and handled the emergency communications with approach. Because we were close to the divert field and unable to restart the right engine, we decided I should emergency extend the gear and prepare for a single-engine landing.

During the transit, my instructor saw smoke coming out the engine. I pushed the fire-extinguisher button, lowered my hook, and the smoke quickly dissipated. Although the plane felt a little underpowered and slow at altitude, it still flew well. My instructor provided a thorough field brief and made sure the arresting gear was set.

The landing was uneventful, and the crash trucks were ready for us. I shut down, killed power, and waited for the ladder to be lowered before leaving the jet. It wasn't until about an hour later, when I talked to my instructor on the phone, that I realized I had suffered a



sudden and catastrophic loss of oil pressure and subsequent engine fire. The worst part was that, as I called for the “knock it off,” my instructor was telling me the jet was on fire. As he was pulling for a shot, he had seen about 15 feet of flames shoot out the right engine. I had stepped on his radio call, which he hadn’t repeated. Once I said “stall,” we began working that checklist. I told him I had no indications of a fire, and I had not discharged the fire extinguisher at that point.

This emergency was my first no-kidding one as a solo, and I always had wondered how I would react and handle the aircraft in such a situation. Instructors reviewed the tapes and felt that the situation was a “great example of CRM.” The engine indeed had seized; any attempt to rotate it by hand resulted in a sound akin to marbles in a can.

The AIMD investigation revealed, during the engine rebuild, a rag had been left inside the engine. Just before the fire occurred, the rag had blocked the oil sump, causing the O-rings to blow out from overpres-

sure. This situation immediately sent all the oil out the starboard side and into the engine, igniting it. Looking at the aircraft after landing, oil was evident all the way to the top of the rudder. The pictures revealed it was so hot in the engine the bolts in the turbine section had warped.

This experience increased my confidence in the jet and provided several good learning points. My instructor never elaborated on what he had witnessed, and I never asked about external status of the jet until later. Once we began our procedures for engine stall, securing the engine, loss of hyd 2, events went smoothly.

Our calls were clear and concise. We worked slowly and methodically through all procedures and options before landing. Information might need to be passed two or three times to make sure everyone fully recognizes and understands the problem. This scenario shows the value of good training and CRM. 🦅

Lt. Snodgrass was an FRS student in VFA-125 at the time of the incident. He currently flies with VFA-131.



Hook 43,



By Capt. David Palm, USMC

I promised myself if I ever wrote an *Approach* article, it would not start out, “It was a ‘good deal’ cross-country.”

But it does. The plan was to take a Prowler from Cherry Point to Miramar for an airshow. The trip was funded, and all we had to do was show up with an aircraft to be used as a static display. I was seven months out of the FRS Cat. I pilot syllabus, and I was going on the road for the first time in the mighty Warpig.

Not to worry, though, because I had the XO as my ECMO-1. He was a former MAWTS instructor, had been flying Prowlers for seemingly forever, and he could pull me out of any scrape I might get into. Like all best-laid plans, however, this one soon developed complications. The XO, who is a decent guy underneath his gruff exterior, was having a hard time finding another JO willing to come along and round out our crew. It was the day before our departure,





You're on Fire

and still we had not found another body. Not a problem; I had a buddy from the FRS in our sister squadron, who always was willing to jump on a deal, good or bad. A quick trip down the hall, and we were in business.

Upon my arrival back in the squadron spaces, I found another problem had reared its ugly head. The rumor floating around was some malcontent had decided to supplement his military paycheck with a little sideline pharmaceutical business, and the XO had to stay and work the damage-control parties. I quickly made the rounds of the squadron offices and managed to talk another FRS classmate of mine into spending a weekend at San Diego.

When Thursday morning came, I couldn't have been happier: three JOs on the road, heading for an airshow in San Diego. The brief, pre-flight, and first leg were uneventful. We stopped at Tinker AFB just long enough to get fuel and

soon were racing the sun and crew day toward MCAS Yuma.

A quick word about our aircraft's configuration. We were carrying four drop-tanks, which was a slightly unusual configuration for the Prowler but made for easier fuel planning. My intent was to land at Yuma and only take internal fuel, leaving the drops empty for the short hop over the hill to Miramar.

After landing at Yuma, I handed the ground crew my fuel card, headed into base ops to file, and checked weather for the final leg. In my rush to refile, I forgot to brief the ground crew on my plan just to take internal fuel. Arriving back at the jet, I checked the fuel slip and noticed that it had been topped off. We now had full internal fuel and four full drop-tanks for a 20-minute flight. Not a problem; we just would recheck the takeoff and abort numbers.

A few minutes later, we had launched and



were turning west. Leveling off at 16,000, I turned on the dumps and watched the fuel gauge tick down. Overhead El Centro, I secured the dump switches for a minute while ECMO-1 and I made some quick calculations of our on-deck fuel. About this time, SoCal Approach gave us a descent and a vector toward the initial for runway 24R at Miramar. I went to override on the tank-press switch, turned back on the dumps, and pulled the power to idle for the descent. Passing through 6,000 feet, I resecured the dumps, went back to norm on the tank pressurization, and made more fuel calculations—our on-deck fuel was 14,000 pounds. Combined with an aircraft empty weight of 34,000 pounds, we had a gross weight of 48,000 pounds. Max weight for a normal landing is 45,500 pounds, but NATOPS allows minimum-rate-of-descent landings up to 51,000 pounds. Our situation wasn't optimum, but we would be within limits.

As we approached the initial for 24R, we switched-up tower and heard traffic being stacked up north of the field, holding for our arrival. ECMO-1 struggled to find a space between tower transmissions to get in a call to tell them we were in their airspace. Somewhere between the numbers and midfield, we were cleared for a left break on 24R and a landing on 24L. As I rolled out of the break, ECMO-1 had the field diagram out and told me the runway length.

Landing heavy on the 8,000-foot left runway was not as preferable as landing on the 12,000-foot right runway. We land on 8,000-foot runways every day in Cherry Point, so we elected to continue. I knew hot brakes might become an issue. My plan was to land as short as possible and to stay off of the brakes for as long as possible. I touched down about a unit fast with a red ball. Landing rollout was uneventful; we safed our seats and began to unstrap while turning off the runway.

The conversation with ground control went something like this: "Hook 43, welcome to Miramar; did you bring an oil canister with you?"

ECMO-1 and I looked at each other in bewilderment for a few seconds before I came back with, "No, we just had our oil checked today, and it was fine."

Ground control's next transmission went something

like, "Hook 43, you're cleared to taxi...Oh *#*\$! You're on fire!"

I twisted around in my seat and looked at the tail of the aircraft—it was engulfed in flames. Fuel was pouring out of the drop-tank on station No. 2 and spraying over the brakes, strut and port side of the aircraft.

Disregarding ground control's calls to hold my position, I jammed the throttles forward and picked up speed up the taxiway, trying to escape the flames. Fuel from the drop-tank poured out on the taxiway and left a burning trail behind us. After going about 4,000 feet, I saw fire trucks racing toward me. I waited until they were directly in front of the jet before I set the parking brake and secured the engines. Water and foam were spraying everywhere as I popped the canopy and rolled over the side of the jet.

The great thing about having an incident at an airshow is there are cameras and eyewitnesses everywhere. The eyewitness statements and videotape showed the fuel-air adapters on stations 2 and 5 had come unseated in flight. Dumping the fuel had created pressure that had not had a chance to bleed off. Even though my drop-tanks indicated empty, the residual fuel they contained was being vented out onto the port strut and brakes. Using the brakes on landing had heated the fuel to the ignition point.

Another Prowler squadron was on detachment nearby, and they had maintainers at Miramar within a few hours. The tires, brakes and wire bundles were replaced, and we were able to use the scorched Prowler as a static display. We flew home Monday to have a nice long talk with my skipper and to listen to the ribbing from all the other squadron JOs.

Looking back, I learned several things. First, always make sure everyone knows what your plan is, and that includes the ground crew. Second, NATOPS limits are just that—limits. The farther you stray from them, the smaller the margin of error you leave for yourself. Third, never let yourself be pressed into an uncomfortable position. A call to approach asking for a 360 to adjust gross weight might have kept my "good deal" cross-country from turning into this article. 🦅

Capt. Palm flies with VMAQ-4.



Human Factors— A Personal Look

By LCdr. Eric Soderberg

Every day, with every flight schedule, we assess the readiness and ability of crew members to fly their missions. We also conduct quarterly human-factor councils (HFCs) that assess each crew member's ability to perform his/her duties. I have served as an aviation-safety officer with three different commands that have included aviators from every Navy and Marine Corps helicopter community; I've also participated in dozens of these councils. All of the HFCs were taken seriously, and a good-faith effort always was made to identify any pertinent human factors.

Typically, the HFCs spend much time discussing the aircrew, who, by virtue of their relative youth and junior rank, tend to have more issues to review. The pilots, although the most likely to affect the safety of a flight, receive much less attention from council members than the aircrew. I believe what drives this trend is the unstated assumption that pilots, being relatively more senior and mature, will more accurately assess

themselves. Also, a pilot may be considered better equipped to handle any issues that may arise. These are dangerous assumptions. The very factors that might make it inadvisable for a pilot to fly equally can impair the ability to make that judgment. The following describes a case where I was unable to objectively assess my own readiness to fly.

As a student at the U.S. Navy Test Pilot School (USNTPS), I had the professional opportunity of a lifetime. At TPS, students are given the chance to work with naval aviators from every community, as well as Air Force and Army pilots. We flew a multitude of airframes in regimes normally not flown anywhere else. Also, we had engineers to explain it all: How the systems and airframes worked, why they were built a certain way, and what to expect and look for in the air. The payback for this wonderful opportunity was a workload that, over the span of an entire year, has not been matched at any other Navy command I've been at during my 13 years of service.

The typical TPS day was split in two, with one-half dedicated to academic classes and the other half dedicated to flying. The “third” half was when we wrote the voluminous test plans and test reports. Besides the professional workload, my wife and I had a new baby daughter to care for. I can imagine the commentary, “Suck it up; family and high workloads are the norm in the Navy.” That is just what all of us in the class did: suck it up. For the first half of the year, I was well ahead of the power curve. The academics were not a problem, and the flying was challenging, yet, very enjoyable. I managed to slowly slog my way through the many pages of writing required by the syllabus.

About halfway through the yearlong course, my father’s cancer, which had been in remission for the last year and a half, came back with a vengeance. Having exhausted all of the standard treatments, he signed up for a last-chance experimental-treatment program. His treatment was at the NIH Bethesda Hospital, about an hour and a half from NAS Patuxent River. When given the chance to see my father while I could, I did, which amounted to a couple times each week while maintaining my regular work schedule. I would take off after work or on the weekend, fight through the Washington, D.C. traffic, and visit my dad for three to four hours, then head home.

“Visit,” however, does not quite capture the true flavor of what happened. In reality, I simply was watching the man I loved and respected most, crumble and die before my eyes. He constantly was tired, nauseous, afraid, and either in severe pain or heavily medicated. Over the course of several months, he had gone from a physically active, professionally successful, happy individual to an emaciated figure who fought for every breath and needed assistance to do anything more than lift his head. The last straw was the guilt associated with something a well-meaning family member told me. My father was enduring the treatment program with the goal of surviving long enough to see his only son graduate as a Navy test pilot; it was too much.

How did I deal with this stress at work? I didn’t. I completely ignored it. I did not even tell anyone at the command about Dad until I thought I might need to go med down for a week or so to donate bone marrow for a trans-

fusion related to the treatment. I had options to reduce my workload and took none of them. Many of the flights at TPS are not required for graduation; they are simply for proficiency and to allow students to further refine the test techniques we’d been taught.

The command had a well-established rule that any flight could be cancelled at any time without question. I’d done it many times for weather or maintenance, and no one ever had asked for a justification. There I was, personally and emotionally overloaded; yet, I flew every flight I was scheduled for, even those not required for graduation. I flew challenging flight profiles, very often with copilots who were not helicopter pilots, or even pilots at all. I could have gone to the command and requested to be scheduled for a bare minimum of non-syllabus flights. A reduction in flights would have had little adverse effect on my progress through the program. However, my exposure, and that of my copilots, would have been limited to relatively high-risk flying while I was at less than 100-percent capability.

Canceling those flights would have provided a direct reduction in risk and also would have given me a needed respite. With the extra free time, I would have been better focused during the required syllabus flights, as well as in class, while writing my reports.

It was some time later before I could look back with any objectivity and realize I had been functioning below par and to see what would have been a better and safer coping mechanism than complete denial. As it happened, I managed to successfully make my way to graduation, albeit with a level of performance somewhat below what I’d maintained for the first half of the course. The only “X” I missed was the graduation ceremony itself; I took leave to be with my father, who died a few weeks later.

As a result of my experience, I try not to assume so readily that my fellow pilots will be able to accurately assess themselves. Also, while recognizing there are many times when “suck it up” applies, particularly in the military, it is not the optimum solution in every situation. Watch yourself, watch your shipmates, and, when appropriate, throttle back. 

L.Cdr. Soderberg flies with HS-8.



The next thing I heard was,
“Let it go! Let it go!”

Photo by JO3 Lisa Tidsley

Pickled

By Lt. Katy Carihfield

Ilucked out: Only one of our birds was up. The supply ship had supplies to vertrep to all four ships in the battle group, and I was on the schedule to fly that day. We knocked out the carrier and the first of the small-boys with no problem.

I was having a great day. Most of my picks were dead on, and the crewman only had to make minimal calls over the deck. After a lull in the action, we landed, refueled, took off, and rigged to start vertreps to the cruiser. The cruiser was stationed 1,000 yards off the

starboard quarter of the supply ship, which meant I would be doing 270-degree (button-hook) approaches for the drops. I had flown that approach before but not often enough to be good. I looked forward to the opportunity to become more proficient, even though there weren't too many lifts to deliver.

It was a typical day around the equator: sunny, hot, humid, and very little wind. What wind there was came about 20 degrees off the port bow of all the ships, at about 10 knots. The wind had little effect on us while we delivered to

the carrier and the first small-boy. Both ships were in the conrep position, and, because we're a tandem rotor, we can operate with winds from about any direction. I say that somewhat in jest. Although the H-46D's tandem-rotor design does allow for more flexibility with wind direction than a tail-rotor helicopter, I was about to find out it doesn't always have such flexibility.

Our ship and the receiving ship cleared us



inbound. The first lift consisted of six pallets. We knew we were heavy (we just had refueled), and the heat and humidity decreased our maximum power available. The HAC made sure to get an accurate power check over the deck before we transitioned to forward flight. Our power check was good, and we weren't drooping, but the engines were near their upper torque limit in a high hover.

During the short transit to the receiving ship, the HAC said to me, "Take this nice and slow. You'll have a tailwind until you're over the deck, and you'll probably droop a little when you kick the nose around. Make sure you carry forward airspeed through the turn, and don't end up short."

As we crossed the bow of the cruiser, I started to kick the nose to the left for the approach. I tried to keep the turn in as I continued to aim for the deck. But, I carried too much forward airspeed, and I was too tight to the ship. To prevent overshooting the deck, I needed an aggressive power pull, but I also hadn't gotten my nose around far enough. I only was about 145 degrees through the 270-degree turn I needed. With the large power pull, a heavy load, and still with a tailwind because of my lack of turn, I had put myself in a "power required exceeding power available" situation. The rotor system drooped all the way to 86 percent. If I had made it over the deck, I could have settled the load onto the deck and hovered in ground effect to regain the lost rotor speed. I wasn't that fortunate.

We were drooping to 86 percent over the VLS tubes aft of the flight deck and still descending. I could feel the HAC on the controls, but I wasn't sure if he had positive control of them or not. As soon as I heard him call out how low our Nr was, I immediately stopped pulling up on the collective. Logically, I know when Nr droops, the technique to regain it is to reduce the collective, thus reducing the load on the rotors. However, I couldn't bring myself to push down when all I saw staring up at me through the chin bubble were missile tubes.

The next thing I heard was, "Let it go! Let it go!"

That call coincided with a thud from the back of the aircraft. The crewman had released the load into the water.

We needed a few minutes to regain our composure and to figure out exactly what had happened before we continued with the vertrep. Once we had sorted out everything, we went in for the next pick. Again, we did our power check, and everything looked good. I took the controls, transitioned to forward flight, and started my approach to the ship. As if once wasn't enough, I again pulled too much power as I kicked the nose around, and we started drooping once more. This time, the HAC took the controls, moved the cyclic forward to gain airspeed, and waved us off.

At the debrief, he told us when he had said, "Let it go! Let it go!", he was talking to me and saying to let go of the controls.

It may have been my day to vertrep to the carrier, but it wasn't happening with the buttonhooks to the cruiser. For the remainder of the loads, I flew a straight-in approach from the starboard side of the ship.

What happened? Yes, H-46s aren't known for their powerful engines, but our power check indicated we had the power available to hover out of ground effect with the load attached. However, on my approach, I had a slight tailwind. It wasn't strong, but it was enough to require more power when trying to turn the aircraft while pulling on the collective. Although the HAC made the point before I started my approach, and I tried to follow his advice, I didn't carry my forward airspeed through my turn in the direction of the flight deck. I had lost forward momentum in an out-of-ground-effect hover with a tailwind. I tried to pedal-turn around and back over the deck, which only aggravated the situation.

In retrospect (when everything is always so clear), three things would have helped my approach. First, I should have not been so tight to the ship. I was about 100 yards off the port

side, which was why I needed such a tight turn to arrive over the flight deck.

Second, I should have come in more slowly. Finally, as the HAC mentioned, I should have carried my forward airspeed around toward the deck, instead of trying to pedal turn and back over the spot when I came up short. H-46s are maneuverable but still are subject to the force of the winds and atmospheric conditions.

Besides more practice doing buttonhooks for me, the crew also learned from this flight. After we began to droop, the HAC was on the controls, but there was never a "positive, three-way change of controls," as we always brief. I felt him making inputs, but I wasn't sure if he was fully on the controls or just

trying to assist me without taking the controls. At the debrief, he told us when he had said, "Let it go! Let it go," he was talking to me and saying to let go of the controls.

However, when the crewman heard, "Let it go," he assumed the HAC meant, "Let the load go." The standard order for letting a load drop is, "Pickle the load," but that phrase wasn't briefed or used. Although the crewman did the right thing by dropping the load, it wasn't the HAC's intention.

Everything turned out OK (relatively speaking), but the miscommunication and lack of standard phraseology could have been disastrous. 

Lt. Cribfield flies with HC-11.

Not many situations allow you to put your aircraft in extremis and still get away with a miscommunication at a critical moment. There's a reason we have standard phraseology, and why we brief positive change of controls. But, it is actually funny (in a non-humorous way) that this miscommunication actually may have prevented a mishap, rather than caused one. Had the crewchief not "pickled" the load after hearing "let it go," the pilot and copilot easily could have continued their wrestling match for the controls as the helo settled into the side of the ship.—Cdr. Chris Spain, aircraft operations division head, Naval Safety Center.

Stack the Deck



By LCdr. Hillary Darby

The events all started with a phone call during the first week of counter-drug operations. What promised to be a routine fly-day of hunting down bad guys quickly turned into a helicopter-aircraft-commander (HAC) board scenario.

Initially, the briefing details were sketchy: We had a possible medevac of a Sailor with an infection that appeared to be under control, and the closest town was Aca-

pulco, Mexico, 250 miles away. As the morning passed, the details crystallized. There were no good airports beyond Acapulco, the infection was spreading to the sinuses and could result in meningitis, the patient was stabilized but degrading, and the clock was ticking.

All four pilots were a whirlwind of activity. As we collectively brainstormed, fingers flew on FalconView (a mapping system used for mission planning), charts were spread haphazardly across the wardroom table, and lists were generated. Fortunately, we had an

ORM Center

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invaluable asset in the embarked Coast Guard law enforcement detachment (LEDet), who provided firsthand knowledge of the local airport we were considering.

Now, here's the deviation from the typical HAC board scenario—the weather was perfect. Once the decision was made to medevac the young Sailor, the ship immediately began closing to within SOP range to land. CIC personnel started to work the diplomatic-clearance message and coordinated with embassy personnel. The medical folks made phone calls to make sure the local husbanding agent was on hand to assist with transporting the patient to the hospital. The Coast Guard LEDet provided a qualified flight observer who was an EMT and was fluent in Spanish. As a bonus, the ship provided GPS waypoints where they would be upon our return.

How much better could this get? It did get better. After waiting impatiently for embassy approval, we launched with several hours of daylight remaining and at a relatively close 110 miles. Through the miracle of ducting, we maintained Hawlink the entire way. We also provided a FLIR teaser shot of the beach and airport to CIC watchstanders on our approach. Tower provided directions to the ramp, and we turned our patient over to medical personnel. We began our transit back to the ship just after sunset.

At this point in the story, we usually hear about the building storm clouds, the near-empty gas gauge, and the radios mysteriously gone dead—not this time. We headed toward our first waypoint, hoping to obtain radar contact. The ship was exactly where it said it would be. The most drama we had was trying to reestablish comms with mom. But, with a radar blip, TACAN lock, and three hours of gas, what was the hurry?

Comms were quickly restored, and we coordinated for our recovery. By this time, it was dark. We were unaided, and our aircraft had been not-mission-capable (NMC) for most of the transit. This was my first night recovery underway. I thought of all the night shipboard-approach discussions I'd been tasked to spearhead as a former ASO and the mishap reports I'd read regarding this critical phase of flight.

We performed a little on-the-spot ORM. We reviewed the checkpoints and emphasized everyone's role in the cockpit. We discussed how easy it would be to get into the "black hole" and stressed the importance of feedback with regard to altitude and airspeed. As "briefed," I got low and slow, but my copilot and crewman were right there to back me up. Although the approach wasn't pretty, it never was unsafe because the crew was ahead of the aircraft.

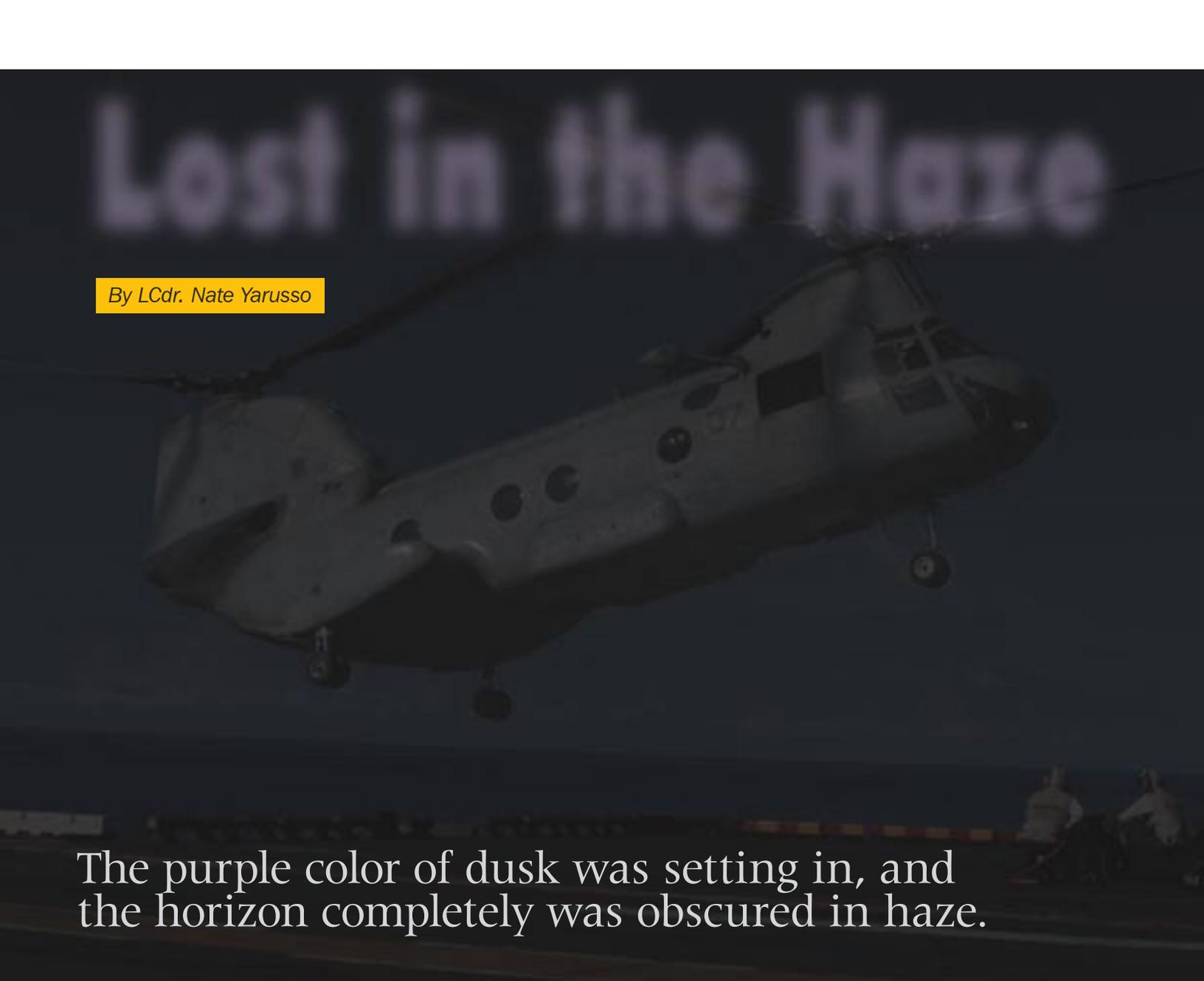
I now arrive at the point of this cautionary tale: Do not ever get fooled by the mundane, especially when it comes on the heels of a real adventure. As aviators, we do a good job briefing the "sexy" missions. The evolutions that are redundant often breed complacency. The simple act of anticipating ways I could screw up the approach and then articulating them prepared the crew to be one step ahead. The difference between a mishap and a safe recovery often lies in the situational awareness of the entire aircrew. Taking a moment to make the most of "time-critical ORM" is an easy way to stack the deck in your favor every time. 🦅

LCdr. Darby flies with HSL-37.

Another huge advantage is working with professionals, including, in this case, BM1 L. Nieves of LEDet 108 PACTACLET, and personnel aboard the USS Reuben James (FFG-57). — the author.

Lost in the Haze

By LCdr. Nate Yarusso



The purple color of dusk was setting in, and the horizon completely was obscured in haze.

Many late summer flights in the northern Arabian Gulf are flown in hazy conditions, especially just before sunset. We were scheduled for a quick hop to the amphibious-readiness group (ARG) flagship for a parts swap. Our two helos had performed well all cruise, but we needed a part. Because the Gator carried CH-46s, we were confident they'd have what we needed.

Our ship, USNS *Supply* (T-AOE-6), was conducting an EMCON drill and would have its TACAN off during our entire flight. However, if we had an emergency, we'd call the ship, and the TACAN would be turned on. Flight quarters would be manned while we were gone. The ship's radios would be on, but the running lights and the tower beacon would be secured. The ship

would maintain a set course and speed, so all we had to do was plot its track, using basic dead-reckoning (DR) principles—no problem. The visibility looked good, the ARG was close by, and the flight should be less than an hour. We'd be back well before sunset. We felt comfortable flying without any particular reference to where our ship would be.

We briefed the flight and discussed our game plan. With our trade-in parts on board, we launched on time and headed west. Shortly, we made contact and checked in with our position, souls-on-board, and fuel state. We were given the obligatory instructions to hold in starboard delta until they were ready to recover us. Once established, we realized we had arrived right in the middle of a recovery cycle. This situation was

odd because most ships schedule the logistics window not to interfere with recoveries. Fortunately, the recovery course was the same as our ship's course and only 20 minutes away.

An hour later, we were cleared to land—so much for the quick hop. We talked about where our home might be, quickly did some math, and had a good idea of where we needed to go. As the grapes plugged the hose to our helo, I noticed the ship turning to port, out and away from our ship's base-recovery course (BRC).

"OK, let's keep track of how long we're on this course," I said to the crew.

I started to feel nervous about our exact position. An hour-and-a-half had passed since we took off; anything could have happened during that time. Our second crewman came back with the parts as the hose was being unplugged.

"This is good," I thought, until the first crewman pointed out we had the wrong part. "Rats, another delay," I amended.

I coordinated with the boss to remain a little longer on deck to get the parts swapped out. He wasn't happy about the delay because the next cycle was manning up. But, they cleared us to stay on deck as our crewman sprinted from the helo back into the ship.

I looked to the east. The purple color of dusk was setting in, and the horizon completely was obscured in haze. We had no idea what the lateral visibility was, but it wasn't good. The boss put pressure on us to get off his deck. He made it clear to us that we were launching in 10 minutes—with or without our crewman.

The sun was getting low. We were sans one crewman, no parts, and no solid idea of where we were. The ship turned back into the wind, and we were ordered to take off. As the brownshirts were removing our chains, our crewman burst from the island and jumped into the helo. We were off the deck and on our way back but unsure which way to go.

How we assessed which direction to go is just this side of pure guesswork. We knew to head east but didn't know how far north or south to go to correct. We figured mother had to be north of our position.

"How long did the amphib travel to the west?" I asked.

Silence. No one had kept track of the time.

"It's got to be to the northeast. Let's head that way," I said, not pleased with myself.

I suddenly got the image of a Peanuts movie I had seen as a kid. It was the part where a puzzled Charlie Brown stood in front of a raft pointing ahead while his crew paddled and chanted, "Lead, Charlie Brown, lead!"

All we saw outside was a milkbowl, with no sign of the ship. We were burning fuel, and it was getting darker. Everyone was silent and scanning the horizon for any sign of a ship. After 30 minutes of heading east, I cried uncle and contacted the ship. They said they had heard a helo in the area. We immediately started a left-hand orbit and looked around—no joy. I asked to have the TACAN turned on.

"Stand by," came the familiar response. No doubt our request would roll up and down the chain of command for a while.

"Turn on the tower beacon," I requested.

Lo and behold, off to the left, out of the haze, a beautiful, rotating green light appeared—no hull, no landing area, just a light. I radioed tower and said we had them in sight and were coming in to land. We were only a couple of miles away, so we quickly closed the distance and landed before the TACAN ever came on.

I've had a long time to mull over what we did wrong on this flight. First, we never should have been so cavalier with an EMCON flight. I should have asked the ship for a solid game plan, with its best-known approximate position. I should have had my copilot concentrate solely on DR navigation; it may or may not have helped because of the haze, but at least we would have been sure of our position. We also neglected to ask the Gator for a vector home. The pressure I got from the tower kept me from speaking up. Pressure or no, I needed that info.

I'll chalk it up to blind luck that we found our way back—close enough so we could see the ship's beacon. Any number of factors could have transpired, preventing us from finding home. The list of "what ifs" is lengthy and scary. 

LCdr. Yarusso flew with HC-8 at the time of this story. He now flies with VAQ-130.

I cringe whenever I get a story and the happy ending is credited to "blind luck." —Ed.

I'm Not Nervous, I'm

HYPOKING

By Maj. Roger McDuffie, USMC

I was formation lead on a three-plane ferry flight from NAS Meridian, Miss. to Salina, Kan., for a weapons detachment. The forecasted weather was 100-knot headwinds at altitude and isolated thunderstorms at our destination. We had a standard brief, followed by an uneventful takeoff and join-up.

Heading northwest at FL390, Center asked if we could climb to FL410 for traffic. To help our squadronmates in trail of our flight, we accepted Center's request and climbed to FL410 (the service ceiling of the T-45C). I set power for max range and continued, unaware of the impending excitement.

Fifty minutes into the flight, I contacted Little Rock Metro to recheck the weather in Salina. As I considered diverting to our planned alternate because of active thunderstorms and lower-than-forecast ceilings at Salina, I saw the

Photo composite

exhaust-gas-temperature (EGT) gauge spike. “That’s strange,” I thought, and tapped the gauge (which all seasoned aviators know is the immediate-action item for erroneous indications). The master caution and corresponding engine-control-amplifier (ECA) caution lights came on just as I tapped the gauge. Suddenly, I heard a loud bang, then a quick series of popping and grinding noises from the engine compartment, followed by a second loud bang. The rpm and EGT rapidly decreased, confirming the flameout of my only engine. This was going to be a bad day. My first thought was, “I never again will tap another gauge.”

Initially shocked by the situation, I struggled to find the cause of the engine flameout. The rpm quickly was falling through 30 percent when I tried an immediate air start.

“Center,” I called, “Talon 18 declaring an emergency. I have just lost my engine, and I’m rapidly losing altitude. I need immediate vectors to the nearest airfield.”

My major concern, besides getting the engine relit, was not colliding with commercial traffic beneath me, directly over the city of Little Rock, Ark. After several unsuccessful airstart attempts, my face felt flushed, and my lips were numb. But, because I was nervous, I didn’t pay attention to my physical indicators—my condition worsened.

I remembered telling myself, “Calm down; you are not going to die in the next few seconds.”

That’s when it hit me. “I’m not nervous, I’m hypoxic!”

I thought, “You idiot,” and immediately pulled the emergency-oxygen handle. With two breaths of pure O₂, amazingly, the gauges in my cockpit became incredibly clear. I had not recognized they had gotten fuzzy. I could have been killed had I not recognized the signs of hypoxia.

I was so wrapped up coordinating with Center, trying to determine the cause of my engine failure and getting my engine relit, that I had forgotten to activate the emergency O₂. I felt foolish. The T45C on-board oxygen-generating system (OBOGS) does not generate oxygen with a failed

engine. Even though I was breathing fine through the mask, my cockpit pressure had risen well above 25,000 feet while I had been troubleshooting. Fortunately, I did not pass out and create an expensive smoking hole somewhere in Arkansas.

As I free-fell with 13,000 pounds of metal and fuel strapped to my back, Center asked my intentions. Thinking their request funny at the time and maybe still feeling some hypoxic effects, I told them, “Right now, my intentions are to get my engine started” (ATC did not know that the T-45C is a single-engine aircraft). They eventually gave me a vector to Little Rock AFB, which was obscured by multiple cloud layers. At this point, I saw one of my wingmen

Suddenly, I heard a loud bang, then a quick series of popping and grinding noises from the engine compartment.

off to my right side. Passing 24,000 feet after a few more airstart attempts, the rpm crept up from 20 percent and slowly continued to climb. “Thank God, a successful relight,” I breathed.

I passed the lead to my wingman, told him to just get me pointed at the field, and to keep the power up. With my wingman handling the communications and navigation, I focused on the engine instruments for any follow-on problems. I set power to 80 percent, expedited to the divert airfield, intercepted a precautionary approach profile, and landed at Little Rock AFB.

A couple of good points came out of my emergency. Thanks to recognizing the onset of hypoxia, I am not a statistic. This happy ending is a credit to the quality training conducted at Pensacola’s Aviation Physiology Department, which, until now, I always have thought was just a good excuse to get back to Pensacola Beach. My wingmen and ATC personnel reacted quickly to my emergency and provided assistance, which helped my overall situational awareness when it was needed most. 

Maj. McDuffie is an instructor pilot in VT-7.

Bad Case of the Blues

By Lt. Kyle Horlacher

Cross-countries are as good a deal as you can get in the Navy. A cross-country to an island paradise is even better—all naval aviators will attest to this fact. Each trip offers great flying and fun times with good friends.

Our operations officer had stood up at an AOM and said, “I have a great deal, a trip to Bermuda.” He gave us the details for the trip, and it sounded great. But, after the dust had settled, only two people had put their names in the hat.

With his offer getting little enthusiasm, I should have figured this cross-country was not going to be your standard one. If it sounds too good to be true, it usually is.

Our mission was to fly to Oceana, meet up with Blue Angel No. 7, and then drag him over the pond to Bermuda. For Viking aviators, tanking Hornets is as second nature as brushing your teeth, so this trip should have been easy money. The good deal for us was a day and night in Bermuda.

The trip to Bermuda and back was uneventful. The only hiccup was when we arrived four hours late in Bermuda because of a passport SNAFU. Because we had to depart at sunrise the next morning, this delay curtailed some potentially enjoyable liberty.

We manned up at 6 a.m. the next morning and departed Bermuda as the sun rose over the island—always a breathtaking sight. The trip back to the states was quick and painless. After dropping off the Blues at Andrews Air Force Base, we grabbed lunch and launched for the return leg to Jacksonville.

We encountered mild IMC conditions at FL220. The horizontal visibility was poor, but the vertical visibility

was good, and we could see the ground. About 220 miles from home plate, with my COTAC at the controls, we heard a loud bang. I imagine the sound was similar to what you would hear if you were shot out of a cannon. Having just switched radio frequencies, I was looking down when we heard the noise. When I looked up, the pilot’s front windshield had spider-cracked, and I was left with about 10 percent forward visibility.

As a crew of four, we immediately went through our boldfaced procedures for windshield-canopy crack. The COTAC already had started to slow the jet when I took back the controls. We asked center for an emergency descent, which they immediately granted. We went VMC as we started to descend. With visors down, oxygen masks on, and cabin pressure dumped, we slowed to 200 knots and descended to 6,000 feet.

I briefed the crew that if the windshield imploded, not to pull anything until we were sure the airplane couldn’t fly, and I was certain the Hoov was airworthy without the windshield. We hugged the coast while we discussed our options. We unanimously decided to declare an emergency because we did not know how long the windshield would hold, and I sure didn’t want to fly back to Jax with 100-plus knots of breeze in my face. We asked center for direct routing to the nearest airfield, Charleston AFB. The controller cleared us direct to Charleston.

Now that we knew where we were going, other details needed to be resolved. Do we want to take a trap? Where should we dirty-up? What type of approach do we want?

To answer our first question, we asked Charleston if the gear was ready, and they came back, “Give us about 30 minutes.” Did our situation warrant a trap or not? Our original plan was to flare the landing and roll into the gear. We know a field arrestment is not as severe as a CV arrestment, but thoughts ran through our heads of trapping and then sending bits and pieces of my windshield down the runway or, even worse, down the engine. A shattered windshield is one thing, but FODing an engine is another. We opted not to wait for the gear but to flare the landing and minimize the impact forces on the airframe upon touchdown.

After dumping gas, we answered our second question and dirtied up over the water about 20 miles from



Photo modified.

Charleston. We didn't want to ruin someone's day at the beach by raining down pieces of Viking canopy or, worse yet, a Viking. Fortunately, the dirty-up was uneventful.

We then decided what type of approach we wanted. The answer to our third question was a straight-in because we could control what we did or did not fly over. Keep in mind, we still had no idea if the windshield was going to hold. We maneuvered the aircraft around Charleston, avoiding populated areas as best we could, and eventually set up for a two-mile straight-in. My COTAC earned his flight pay during this part of the flight.

With the sun hitting the cracked windshield, my visibility was more degraded. My COTAC gave me lineup, VSI, and altitude calls all the way down. Once I knew we had the runway, I was able to fly, looking out my left side canopy. If I saw too much grass on my side, I would not be lined up to land.

The approach looked good, and, with the backup of my rightseater, we flared the landing. We heaved a couple sighs of relief when the windshield held during our rollout. The runway was 9,000 feet long, so I was

easy on the brakes. When the plane was at a normal taxi speed, I shut down the No. 1 engine—just in case. After the landing, I was confident all the pieces of the windshield would stay on the jet, but it seemed prudent not to take chances. Our original plan was to get towed off the runway, but Charleston didn't think they had a tow bar that would fit an S-3B. We taxied off the runway and shut down.

A call to our skipper and the maintenance master chief resulted in a rescue team driving to Charleston with a new windshield. It was replaced the next day, and we flew back to Jax early that evening.

The maintenance team inspected the damaged windshield and discovered the outer two layers had shattered. Fortunately, the Viking has a five-layer windshield. As it turned out, our biggest risk would have been FODing the No. 1 engine, instead of a total separation of the windshield. Our windshield-temperature control (heat-control unit) had failed, which eventually led to the windshield malfunction. 🦅

Lt. Horlacher flies with VS-24.

Confessions of a Skipper

By Capt. Stan Dunlap

Frankly, I feel like hell.

For the past few minutes, I've been sitting here with my thoughts, and I don't seem to like any of them.

You see, when I woke up this morning, I thought right away that it was going to be a fine day. It was Friday, the weekend was ahead, my name was on the flight schedule, and I'd left my "in" basket in good shape the night before. All in all, it was going to be the kind of day that all of us look forward to.

The trip down the interstate wasn't too bad, and the weather looked great for my low level. I should have known it couldn't last.

I'd just finished getting suited up when the XO stuck his head in the door and gave me the news; we'd lost one of our men in a traffic accident. Without being told, I instinctively knew who it must be; yet, I still asked the question. What I was told only confirmed my initial thoughts, and my guilt attack really began.

I'd better back up a bit. I was the XO when this petty officer first checked aboard, and I'd studied his record before I ever met him. Based on performance evaluations and prior duty assignments, I felt we were lucky to get such a talented individual. He had come to us after a rather brief tour as a FRAMP (fleet replacement aviation maintenance program) instructor, and I guess I should have taken the time to ask a few questions, but I didn't. I was so happy to see a man with the skills we so desperately needed that I gave him my stock speech, told him about the upcoming (and overtasked) schedule, then pointed him toward maintenance.

The next few months went by at a gallop, with all the quickie deployments, day-night bounces, carrier quals, buildups, schools, leave, pack up, unpack, move off, move aboard, and the ever-present schedule changes. It seemed there never was enough time for all the necessary evolutions, much less those things I had kept putting off until the pace slacked off just a bit. Through it all, this "new" petty officer seemed to fit right in. Always where he was needed the most, he soon became indispensable.



I guess it was right before we went on cruise that I first noticed a change, but even that statement probably is wrong. Now that I think about it, he was in deep trouble long before I ever knew it. The changes were subtle; he was a real pro at hiding the truth, and he'd been at it a long time. In retrospect, I guess what makes me feel the worst is the fact that numerous other people in many other commands had known the truth about this "exceptional" Sailor but never said or did a thing. They just transferred the problem out the door and out of their lives. In any event, his performance began to take a turn for the worse.

At first, I attributed the change to his failure to make E-7. All of us were shocked when the results came in, but I chalked it up to a momentary problem with a test, sympathized with him about the results, then went back to work—all of us did.

Cruise was just around the corner, and we were behind the curve in several critical areas. If I'd been a little smarter, I could have asked questions about prior civil convictions. We just had received word on the first of several recent citations he had received, and finally the maintenance officer told me that his maintenance-control officer had been covering for this "superior petty officer."

It seems he was habitually late for muster—nothing major, just a few minutes here and there, punctuated by an occasional "alarm clock failure." He never did make any close friends in the squadron, and he lived alone. He'd been married at one time, but no one seemed to know why the marriage had broken up. When he volunteered to stand duty during an all-hands party, we all thought the action was just one more part of a petty officer who truly was superior in all respects. I can add up all these things now, but I never saw them in the proper context at a time when I might have done something.

Cruise was especially eventful for me. I took over as CO, and we brought back the same number of planes and people that we started with. Other than that, it was pretty much the same as always. Oh yes, our exceptional petty officer got loaded a few times in port, but who didn't? We all joked about posting a watch on him, but let's face facts: TacAir types work hard, and they play the same way. We sure can't fault a really hard charger for tying one on every once in a while... or can we?

You can guess the rest. During the post-deployment stand-down, his troubles really began to surface. I even

ran into several old acquaintances who not only knew this man but knew all about his "problem." I even began to get used to seeing his name in the same old places: muster reports, civil-conviction lists, indebtedness letters, and then, where I should have placed it almost a year earlier, on a set of orders to the ARC (Alcohol Rehabilitation Center). By that time, everyone knew that we probably had a full-blown alcoholic on our hands, but we also had the schedule to contend with. There always were more tasks than time, and, on most occasions, it was a lot easier to work around what we felt was "just another personnel problem."

He came back to us from the ARC, and nearly everyone in the squadron avoided him. I guess we all were just embarrassed to discuss alcoholism with him, and, perhaps as a result of this, he withdrew even further. No one ever will know exactly how long he stayed "dry," or if he ever really did at all. I found out for myself that he was drinking again when I was invited to the Acey Deucey Club by the squadron POs. I saw him at the bar with a beer—apart from the rest of us. It was right then and there I confronted him about falling off the wagon. His answer was easy—too easy. It seems the beer was OK; he just had to avoid the hard stuff. I was dubious, but I watched him nurse that beer for more than an hour. After all, the rest of us were laughing and scratching, so why shouldn't he have a good time?

He died that night. The police said he died with enough alcohol in him to make two men legally drunk. In a way, I'm not really sorry he's dead. If a car hadn't done it, the liquor eventually would have, so I can rationalize his loss pretty well. The only thing I'm really having a lot of trouble with is the family of four in the other car. They might have had a future, but not any more. No one could have survived an impact like that one.

Could I have done anything to change all of this? I'll keep telling myself "no," but that won't really help. Frankly, I feel like hell. 

Capt. Stan Dunlap, ComNavAirLant Safety

I'll bet most readers will think this article is a relatively new submission, unless you happen to be familiar with the author, but, friends, you're mistaken. This story first ran in the September 1984 Approach. Although more than 20 years have passed, the potential for a repeat of the events in this story is very much alive yet today.—Ed.

Crew Resource Management

Situational Awareness

Assertiveness

Decision Making

Communication

Leadership

Adaptability/Flexibility

Mission Analysis



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The Recalcitrant

By Lt. Ashley Spalding and Lt. Hillary O'Connor

In mid-November 2003, six months after returning from deployment during Operation Iraqi Freedom (OIF), our squadron had a lot of hours to fly and training to do. We needed to maintain our readiness status. Our jets had been ridden hard during the war, and, with no time to rest after returning home, we continued to press on.

Nothing was out of the ordinary about our Tomcat flight. It was a strike-fighter weapons and tactics (SFWT) level III signoff for myself, a 2-versus-unknown night-offensive counter-air (OCA). I briefed the event, read the aircraft-discrepancy book (ADB), and walked.

Aircraft 111 had experienced multiple left-engine problems during the previous two weeks. These problems included several instances of the engine switching to SEC (degrading from electronic to mechanical control) mode multiple times during flight, and of SEC-mode



Aircraft

degrades coincident with air-inlet-control-system (AICS) failure. Three days before our flight, the left-engine rpm rolled back to 60 percent after landing. The morning of our flight, the port augmentor-fan-temperature control (AFTC), an electronic device responsible for controlling the engine's primary mode of operation, was replaced as a fix for the SEC-mode discrepancies. The next flight, 111's second flight of the day, turned up another uncommanded SEC-mode gripe.

Start-up was uneventful, with no sign of trouble from the engines. We taxied to 05R—11,997 feet by 200 feet. We covered "Aborted Takeoff" and "Single Engine Failure Field" procedures and considerations before crossing the holdshort. We took the runway with our wingman for an eight-second, flight-lead-sep takeoff. My pilot ran up the engines and performed a control wipeout. Everything still looked good, so we

started rolling.

As we left the ground, however, we immediately knew something was wrong. The aircraft was flying but with a significant sideslip. At the same time she rotated, my pilot watched the port-engine rpm slowly roll back, though there were no associated caution lights. She executed single-engine-on-takeoff procedures. The rpm was down to 60 percent when we got airborne, and the caution and advisory-indicator (CAI) panel was lit up like the proverbial Christmas tree.

I backed her on the single-engine procedure, while hawking the VSI and altimeter. The engine rpm continued to wind down as we climbed. The rpm hung up near 50 percent for a while before continuing on to bottom-out at zero a minute or two later. Our electrical power failed twice—once momentarily at the same time the CAI panel came to life, and again as the left generator fell off-line. This situation dropped the HUD off-line, which forced my pilot to use backup instruments for short periods of time until the right generator finally picked up the load for good. She nursed the jet to altitude, slow and heavy, able to milk only 180 to 190 knots out of the recalcitrant aircraft.

When we safely were away from the ground with a solid positive VSI, I called departure, declared an emergency, and told them of our intent to climb out straight ahead. We came up on our tac frequency and told our wingman not to join on us because of engine problems. Our wingman took a high cover position, offered assistance, and waited for further word from us.

When the jet was stable, we began a wide, right-hand turn toward land and set up an orbit about 20 miles northeast of Oceana to adjust gross weight. We then prepared for single-engine landing, according to the PCL. We also told departure control and our wing the extent of our emergency.

We thought about relighting the left engine but decided not to. We suspected the engine, given its documented history and sudden failure without warning. The bi-directional hydraulic-transfer pump (BiDi) was holding, so we had hydraulic power. Though dark outside, the weather was clear. We were more comfortable with a single-engine landing at our home field, in clear weather, than we were with potentially exacerbating the situation by trying to relight the left engine, now an unknown variable. We completed the "Combined Pressure Approximately 2,400 to 2,600 psi" emergency procedure and pressed on.

After reaching an appropriate landing weight, we told approach we were ready for vectors to the straight-in and

of our desire for an arrested landing on 05R. The BiDi was holding, so sufficient power still was being provided to maintain the combined-side hydraulic system. But, should the BiDi fail, we would lose several functions, notably, functional inboard spoilers and we'd only have emergency wheelbrakes available. Planning for the worst-case scenario, in which the BiDi failed and the hook failed to engage the arresting gear, we wanted the long runway in front of us. Once on the approach, we carefully walked through the "Single-Engine Landing Primary Mode," holding the emergency-flight-hydraulic switch for final.

Tower came up on our approach frequency and gave us our clearance to trap. Once we were committed to land, the emergency hyds went to high. My pilot brought down the jet, flying the 14-unit-AOA approach dictated by the "Single Engine Landing" procedure. I once again was hawking altitude and VSI, with an eye on the engine-data page on my multi-function display (MFD), looking for the earliest clue the right engine no longer was cooperating.

The mainmounts put down with a satisfying thump, followed by the nosegear, and then the gradual tug of the arresting gear as we were pulled to a stop. The flashing lights of emergency vehicles lit up the night around us. As the starboard engine was shut down, everything went quiet, our lone engine going off-line. I popped the canopy; its pneumatic hiss was a happy "welcome home" to my ears.

Examination of the engine showed a malfunctioning T4B pyrometer, which indicated to the engine it was in a constant state of overtemperature. According

to NATOPS, an engine overtemperature results in the flashing of the warning chevrons and the activation of the stall-warning legend and aural tone, neither of which occurred during the initial stages of our engine failure. The overtemp-warning system checked good during the INST test of the master-test check during prestart.

Examination of this incident shows several "goods" in how it was handled. Most notable was the across-the-board display of exemplary crew coordination. Internal to our own cockpit, we were able to swiftly and accurately evaluate the situation. Actions were executed as briefed; single engine on takeoff is a standard emergency brief item for all squadron flights, and there was no doubt as to the roles and responsibilities of both crew members. The crew of our wing aircraft also provided ideal support; they were available for assistance without interfering, both in airspace and on the radio. They provided the perfect level of aid without jumping into our cockpit. Finally, the approach controller working with us that night deserves credit for his handling of the situation. He performed his duties with a minimum of comm, allowing us to provide information as the situation in the cockpit allowed. He did not press us time-wise as we were adjusting gross weight, waiting for the "ready" from us, and he did not create a distraction with extraneous radio chatter.

This incident, to me, demonstrates the value of crew coordination. Though it occasionally seems rote in briefs to continually review the same procedures and coordination issues, the value of such review is immediately obvious when the situation arises. 

Lt. Spalding (pilot) and Lt. O'Connor (RIO) fly with VF-213.

Mishap-Free Milestones

VMFA(AW)	27 years	100,000 hours
VP-16	40 years	260,000 hours
VAQ-132	35 years	57,000 hours
HSL-47	5 years	22,000 hours
VP-26	43 years	304,000 hours
VAW-117	28 years	59,000 hours
VAQ-134	25 years	50,000 hours
VAW-115	20 years	42,000 hours

Maj. Charles Daniel and Maj. John Pitchford were Dash-2 in a section of AH-1Ws on an afternoon combat flight to reposition aircraft from a forward-operating base in eastern Afghanistan to Bagram Air Base, near Kabul. The 100-mile route, nearly all over hostile territory, required operations up to 10,000 feet for mountain clearance. As the flight progressed into the higher elevations, the crew felt a pronounced two-per-revolution vertical beat. This vertical beat fed back into the collective and increased in intensity until, at approximately 10,000 feet, the vertical beat and the accompanying collective feedback made the aircraft momentarily uncontrollable.

Maj. Pitchford, the pilot at the controls in the front seat, tried to slow the aircraft, and he reduced collective to initiate a descent. The collective was unresponsive to this input. Maj. Daniel then took control of the aircraft and managed to reduce the collective enough to



HMLA-773

Maj. Charles Daniel, Maj. John Pitchford.

BRAVO Zulu

establish a descent. With the descent established, the airframe and collective feedback subsided. Initially, the crew planned to land immediately, and Maj. Daniel flew toward a cultivated field in a valley.

Beginning his approach, Maj. Daniel tried to increase collective to slow the rate of descent but found the collective was frozen initially. As the aircraft continued its descent through 500 feet AGL (6,500 feet MSL), for reasons unknown, the collective again responded to pilot input. Maj. Daniel leveled the aircraft at 200 feet AGL and 70 knots. At this lower altitude, the AH-1W's flying qualities greatly improved. The airframe's vertical beat and accompanying collective feedback also reduced significantly.

Faced with uncertain controllability and hostile terrain, the crew reconsidered their landing plan. A precautionary-emergency landing in this scenario is full of additional risks. Majors Daniel and Pitchford conducted time-critical ORM and assessed these risks, which included: All suitable landing sites were in close proximity to local nationals of unknown allegiance, a fast approaching sunset, and a delay

of several hours for site security and maintenance recovery. Based on their time-critical-risk analysis, Majors Daniel and Pitchford decided to continue to the nearest safe place to land, Bagram Airbase, which was 60 miles away.

With the lead Cobra flying top cover and helping to guide their wingman along the lowest navigable mountain route, Maj. Daniel flew the Cobra at 100 feet AGL and 60 knots as he picked his way through valleys. Maj. Pitchford, after reviewing NATOPS procedures, monitored systems, navigated, and kept primary threat lookout. The crew landed uneventfully in Bagram. The aircraft was shut down on a taxiway and towed to the line.

On the postflight inspection, maintenance personnel discovered two of the four bolts that attach the collective servo to the aircraft structure had come loose and had fallen out. The two remaining bolts severely were deformed but had held enough to allow the crew to control collective pitch and safely land the aircraft. A hazard report concerning this incident is pending the results of an engineering investigation into the failed components.

From Left to right, Sgt Jeffery Baker, Maj Tony Randall, Sgt Paul O'Brien, Cpl Jayson Maslowski, 1stLt Mark Muaberret and 1stLt. Tara Russell



HMLA-367

During a day armed-reconnaissance mission near the city of Al Ramadi, Maj. Tony Randall, 1stLt. Tara Russell, Sgt. Paul O'Brien, and Cpl. Jayson Maslowski received enemy small-arms fire to the underside of their Huey. The rounds punctured the No. 1 hydraulic system, eliminating any hydraulic boost to the tail-rotor controls. Maj. Randall and his crew, after assessing the situation and seeing the entry points of the rounds on the tail, decided to make a sliding landing, using minimal pedal inputs. The aircraft's battle damage subsequently was repaired.

One month later, while on a night convoy-escort mission in the same area, Maj. Randall, 1stLt. Mark Muaberret, Sgt. Jeffery Baker and Cpl. Maslowski were in a similar situation with a complete failure of the tail-rotor controls. Maj. Randall and the crew brought the aircraft back to home field, using NVGs, and made an emergency sliding landing. Postflight inspection found a bolt connecting the tail-rotor-control tubes had sheared and rendered the pedals ineffective.

From left to right, Ltjg. Bo Beeman, AW2(AW) Cory Merritt, Cdr. Frank Michael, AWC(AW) Gerard Schwarz.

HSL-47



Sitting on spot 3 of USS *Abraham Lincoln* (CVN-72), with rotors turning, the crew of Saberhawk 704 just had finished their checklists. They were waiting for sunrise to begin the first of many flights into the tsunami-terrorized Aceh province on the Indonesian island of Sumatra. The schedule would have them drop off several loads of relief workers and volunteers from the *Lincoln's* crew. Then they were to proceed to the ravaged western coast of Sumatra, bringing food, water, and evacuating the injured.

While the crew of Hawk 704 waited patiently for daylight, they were startled by an unusual call over the flight-deck public-address system, "Man overboard. Man overboard. Port side. This is not a drill!"

Instantly, the flight deck sprang into frenzy. Cdr. Frank Michael, the aircraft commander, directed his crew to prepare for search and rescue (SAR). Ltjg. Bo Beeman, copilot, and AWC(AW) Gerard Schwarz, aircrewman, quickly changed the aircraft from a passenger-transport configuration to SAR mode. Almost immediately, their SAR swimmer, AW2 Cory Merritt, from HS-2, arrived and began to change into his wet gear. Saberhawk 704 launched to find the stranded Sailor.

Eight minutes later, two smoke markers flew out of the cabin door and

brightly ignited in the water. Hawk 704 had located the survivor bobbing in the water, less than a mile behind the *Abraham Lincoln*. The crew flew down low and deployed their swimmer, who quickly secured the survivor and gave the pickup signal. Cdr. Michael kept a steady 80-foot hover as AWC Schwarz operated the rescue hoist. On board *Lincoln*, the entire crew watched the PLAT as AW2 Merritt and the survivor dangled on the rescue hoist. With the survivor safely inside the aircraft, Cdr. Michael departed his hover. Minutes later, Hawk 704 was back on spot two, and, as soon as chocks and chains were set, a medical team rushed underneath the rotor arc. The

survivor quickly was brought to medical, shaken but alive, and was treated for exposure.

The early morning rescue by the Hawk 704 crew was a great example of flexibility. The crew thoroughly had prepared for an intense mission over foreign territory but, within seconds, seamlessly transitioned into a search-and-rescue mission. The ability of HS-2 and HSL-47 aircrew to work together illustrates the importance of standardization. Standard SAR procedures allowed the crew members, who had never worked together, to easily complete the rescue. Any delay in the mission could have cost the Sailor his life.

During a section external-load mission returning to Bagram Air Field, Afghanistan, Ironman 43, a CH-53E Super Stallion helicopter from Marine Heavy Helicopter Squadron 462, experienced an engine failure. Flying at 6,000 feet, the aircraft carried seven passengers and a 4,500-pound 105 mm howitzer slung under the aircraft with a single-point pendant.

Nineteen miles from the airfield, the pilot-at-controls, Maj. Kevin Cortes, felt a yaw-kick as the No. 2 engine dropped offline. One of the crew chiefs, Cpl. Carl Mehaffie, said over the ICS the No. 2 engine had dropped off-line and the T5 (turbine temperature) was increasing above limits. Capt. Christian Robertson, the aircraft commander, immediately took the controls and pulled back the cyclic. He reduced airspeed (and power required) to the precalculated dual-engine airspeed of 60 KIAS. Maj. Cortes then increased the Nos. 1 and 3 engines to full power to sustain level flight. Once level flight was established, Maj. Cortes secured the No. 2 engine as the other crew chief, SSgt. Brian Scott, told the pilots smoke was inside the cabin.

Capt. Robertson told Ironman 42, the section leader, of the situation and asked them to circle back to check the No. 2 engine exhaust. Once Ironman confirmed the engine was not on fire. Capt. Robertson flew the aircraft to a non-populated area and dumped fuel to NATOPS minimums to reduce the aircraft gross weight, which allowed for a safe drop-off of the sling load.

Both pilots took turns calculating the power required to safely drop off the howitzer at Bagram. Ironman 43 would have a four-percent power margin, in a 40-foot hover, with minimum fuel on board. Capt. Robertson made sure the aircrew agreed with the plan: to drop off the howitzer on the sling-load area at Bagram with only two operable engines, and then sidestep to the runway and land. Capt. Robertson asked the section leader to tell Bagram tower of the emergency.

Flying a steep approach, Capt. Robertson maintained five

knots groundspeed, while SSgt. Scott called the aircraft down one to three feet off the sling-load area for the drop-off. SSgt. Scott released the howitzer about six inches from the ground, and it landed on both wheels undamaged. Following the drop-off, Capt. Robertson maneuvered the aircraft and landed on the runway.

An engine loss at those altitudes and weights could have resulted in catastrophe. Were it not for the immediate and appropriate actions of the aircrew, 12 souls, an aircraft, and a 105 mm howitzer might have been lost.

HMH-462

From L to R: CW02 Matthew Sosnoski (AO), Cpl Carl Mehaffie (CC), SSgt Brian Scott (CC), Capt Christian Robertson (HAC), Maj Kevin Cortes (H2P)



Ready Room Gouge



Photo by PHA Michael B.W. Watkins. Modified.

**When you get in a
difficult situation, sit back, wind the clock,
breathe, and then decide.**

-Lt. Heather O'Donnell, recalling gouge from flight school

Visit: www.safetycenter.navy.mil

