

Reducing Mishaps—Saving Lives—Improving Readiness

Summer 2005

Mech

The Naval Safety Center's Aviation Maintenance Magazine

Safety is a Team Effort

Mech

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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 command'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 dangerous and demanding enough. The time to learn to do a job right is before combat starts.

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On the Cover:

Aviation Boatswain's Mate (Fuel) AN Joshua Lewis, of Palmdale, Ga., moves fuel hoses across the flight deck of an aircraft carrier. Photo by PH3 Summer M. Anderson

Features

9 One Shot, One Kill

A sense of urgency in a combat theater led to the inadvertent discharge of a 20mm round from an AH-1W Super Cobra.

By Sgt. V.S. Cruz, USMC, HMLA-367

10 Helicopter Engines and Desert Environments—Who Wins?

Preventive maintenance will help prolong the life of engines operating in harsh environments.

By Thomas Harless and William Stelk, Naval Air Depot, MCAS Cherry Pt., N.C.

12 Crunch! Greyhawk Meets Hawkeye

Aircraft moves are never routine and require constant attention until complete.

By AMC(AW) Alfonso Oliver, Line LCPO, VAW-120

14 A Steel-Beach Picnic Gets Exciting

Taking a fuel sample leads to a stuck fuel-check valve and a major fuel spill.

By Lt. Nick Deleo, HSL-48

15 PPE—It Does a Body Good!

A jet fuel shower is not the best way to start the day, but PPE prevented any injuries to this Sailor.

By AN Jessie Pierce, VFA-25

16 A Light Show at Sea

There is no room for complacency on a carrier's flight deck at sea.

By PR1(AW) Jeremy Smith, VAQ-132

Departments

2 Admiral's Corner: It Only Takes One Time

The Commander, Naval Safety Center, relates a story that emphasizes the importance of wearing a seatbelt and how it can save your life.

By RADM Dick Brooks

3 Letter to the Editor

How support systems and equipment are critical to efficiency, manpower savings, and safety.

By Mark Geiger, Naval Safety Center OPNAV liaison office, with the assistance of Grace Leslau.

4 **Best Practices in the Fleet: MAG-14 NCO Leadership Program**

How the Marines are addressing off-duty safety concerns.

By Maj. Andrew East, USMC, and 1stLt. Samuel Monk, USMC

6 **Good: Happy Birthday to Me!**

How motorcycle safety training helped this chief stay out of the hospital on his birthday.

By ATC Robert Benton, VP-47, MCBH Kaneohe

7 **Bad: Quick Fix, Quick Wound**

A simple task with a sharp knife can be dangerous indeed.

By PR2(AW) J. Martinez, VFA-146

8 **Ugly: “What Would You Have Done?”**

Despite extensive off-duty safety and PMV training, this command is left wondering what more it could have done to save their shipmate’s life.

By Cdr. Stu Alexander, OinC AIMD, NAS Jacksonville

18 **Bravo Zulu**

VFA-102, HM-14, HSL-46 Det 4, VMA-311, VAQ-139, VQ-1, VFA-87, VMFA-251, HSL-44 Det 1, VMFA-533, VFA-87, and HSL-44 Det 1

22 **Crossfeed**

Maintenance experts sound off about the importance of properly maintaining aircraft tie-down chains, hydraulic contamination-control programs, logs and records documentation, technical directives updates, and some secrets to success practiced by the best maintenance departments in the Navy today.



Critical eye award goes out to ...

My name is IS1(SW) Marc D. Goebel, and I am stationed aboard USS *Hopper* (DDG-70) out of Pearl Harbor, HI. I am an avid motorcycle rider and have completed the Navy’s motorcycle safety course. We don’t have an air detachment, but we do get *Mech* magazine. I wanted to point out that our base commander, NAVREG HAWAII, has directed that anyone not wearing proper PPE on base will have their base driving privileges revoked for 30 days. *Mech* (Spring 2005) WORK ZONE (page 29) shows the rider not wearing long sleeves and the passenger is not wearing long pants. I just don’t want folks to get the wrong message from this ad.



Good point—thanks for bringing this to our attention. For more information about the importance of motorcycle safety training and wearing required PPE, read the story on page 6.—Ed.



Admiral's Corner
From Commander, Naval Safety Center



It Only Takes **One** Time

That's the lesson 18-year-old Airman Jonique Sullivan learned Nov. 18, 2004. Until that date, the VX-1 Sailor always had been careful behind the wheel of her car. In her words, "Defensive driving was my middle name."

What made Nov. 18, 2004, different? Jonique was excited—she just had flown on her first SH-60 familiarization flight. She wanted to get home and get the pictures developed from her adventure so she could send them to her mother. "I really was pumped up and excited as I headed to the photo counter at a local Wal-Mart," she explained.

The problem was that her "rush" coincided with "rush hour" traffic—it was 1730, and everyone was getting off work. It also was starting to get dark.

As Jonique approached a red light, she noticed a Dodge Ram rapidly closing behind her. A quick glance in the rearview mirror after she had stopped told her this guy was going to hit her. "Oh, my God; please, Lord, don't let me die like this!" she thought moments before the impact. She then let go of the steering wheel and shielded her face.

The force of the rear-end collision pushed Jonique's car (a 2003 Ford Taurus) forward 40 to 50 feet. When it had stopped moving, she took off her seat belt, exited the car, and checked for damage while waiting for the police to come.

Jonique considers herself very lucky, and so do I. Why? Because all she suffered from the incident were some minor muscle strains and back pains. "Nothing was broken, and I wasn't bleeding," she noted. Meanwhile, her car was a total loss.

The lesson here, as Jonique put it, is simple: "If I hadn't been wearing my seat belt, I might have been killed." As it is, she's still breathing and back to normal.

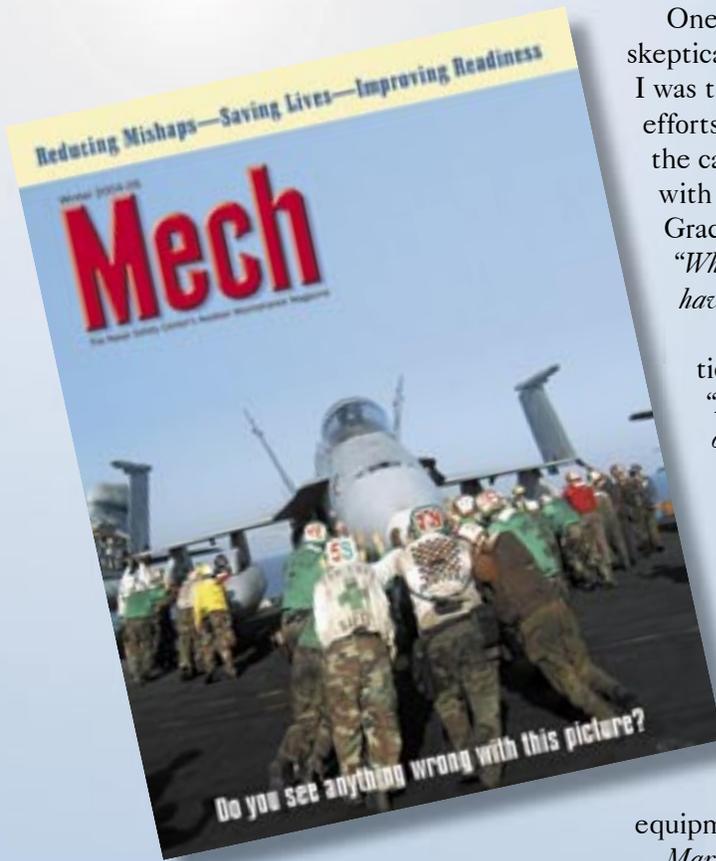
No matter how good a driver you think you are, how many precautions you take, or how invincible you may feel, something bad can happen in the blink of an eye. "In one moment, lives can be changed forever," said Jonique, "so always wear a seat belt."

According to data based on observational surveys during site and assist visits, safety-belt usage in the Navy averages 91 percent, compared to [as related in a Dec. 22, 2004, local newspaper article] 80 percent nationwide and 79.9 percent in Virginia. Only seven Navy victims, however, who died in FY03 four-wheel PMV mishaps are known to have been wearing seat belts. **Nineteen, or 48 percent, of the fatalities were not wearing restraints**, and no determination has yet been made in 14 cases.

It's simple...**Wear your seat belt!**

RADM Dick Brooks

Letters



Mech Winter 2004/05

This issue of *Mech* shows approximately 20 personnel manually repositioning an aircraft on a flight deck with the heading, “Do you see anything wrong with this picture?”

The caption inside the cover explains that two flight-deck safety observers are involved in the process of pushing the aircraft, rather than providing situational awareness for the entire operation. This observation can help explain the broader role of safety in evaluating and improving processes.

One of my relatives is a retired Sailor who retains a skeptical interest in my work with safety in the Navy. I was trying to explain the Navy’s transformation and efforts to design systems and equipment to best use the capabilities of users while replacing personnel with improved technology. My 8-year-old niece, Grace, looked at the magazine cover and asked, “Why are all those guys pushing the airplane? Don’t they have a truck or something to do the job?”

Attempts to explain in the context of operational availability were greeted with the retort, “Look, when a car has a flat tire, you don’t get a bunch of people to lift up the car, you use a jack!”

As Grace explained, support systems and equipment are critical to efficiency and manpower savings. Safety issues provide a management indicator and insight into approaches for process improvement.

Those readers who don’t have Grace’s ongoing assistance are invited to consult the Naval Safety Center’s website addressing the role of human-systems integration in development of improved systems and equipment (www.safetycenter.navy.mil/acquisition).

Mark Geiger, Naval Safety Center OPNAV liaison office, with the assistance of Grace Leslau.

Moving an aircraft by hand may seem antiquated, but it remains an authorized method when other means are not readily available and weather conditions and sea state allow for minimum pitch and roll of the flight deck. However, NAVAIR 00-80T-105 (CV NATOPS Manual) does indicate that an aircraft director shall ensure that “...the towbar is securely attached to the aircraft and to the tractor, or, if the aircraft is to be moved by hand, he shall ensure the towbar is properly tended by another director or specifically designated towbar man.”

So, Grace, Sailors still move aircraft by hand for routine aircraft moves on the flight deck, but I am having a hard time seeing the towbar attached to the nosewheel of the FA-18.—Ed.

MAG-14 NCO Leadership Program

By Maj. Andrew East, USMC, and 1stLt. Samuel Monk, USMC

On Dec. 26 2003, two Marine Aircraft Group 14 (MAG-14) Marines were passengers in a car that was involved in an automobile accident. LCpl. Nathan Dodd, assigned to Marine Aviation Logistics Squadron 14 (MALS-14), was killed instantly, while Cpl. William Avant, assigned to Marine Attack Squadron 231 (VMA-231), was taken to a hospital in a coma and later succumbed to his injuries. In the aftermath of this accident, the commanding officer (CO), MAG-14 determined that a new approach to heighten safety awareness was needed, that the routine safety approach was not having the desired effect on our youngest Marines. He promised the Dodd family something good would come of this tragedy. That “something good” was creation of the noncommissioned officer (NCO) leadership program and the Nathan P. Dodd Leadership Award for NCO excellence and leadership.

A New Program

The MAG-14 team established and maintains this new and innovative NCO leadership program that directly supports our Marines through active mentoring provided by our NCOs. In May 2003, the MAG-14 CO created a focus group consisting of one field-grade officer, one company-grade officer, and eight Marine NCOs from within MAG-14. He turned to his NCOs because of their concern for our junior Marines and their close personal contact with them. As small unit leaders, they are in the best position to care for and mentor our youngest Marines, and they represent the strength of our Marine Corps.

The focus group determined the need for greater personal responsibility between a young Marine and a respected NCO from his shop or unit. Together, the focus group created a dynamic, relevant leadership program that engages NCO leadership to mentor our younger Marines. This program establishes a closer bond and higher level of personal responsibility between “a Marine and his fire team” during those periods when he is not in close contact with his unit’s leadership.

Using the Center for Naval Analyses study of Marine Corps accidental deaths, this active program enables our junior leadership to focus on our higher risk Marines. The leadership program requires that every unit select NCOs who have demonstrated maturity and leadership and designate them as mentors. The mentors are given a presentation and instruction regarding their role in the program, and they receive a packet titled “NCO’s Mission in Force Protection.”

Information in this packet includes the role of a leader, indicators that put Marines at risk, drinking and driving, and safe driving, as well as a copy of a message from the former Commandant of the Marine Corps, Gen. Leonard F. Chapman, Jr., with the subject, “Marines Don’t Do That.” The mentors then meet with their Marines, discussing topics that include leave and liberty travel plans, financial planning, family concerns, unit culture, and personal responsibility, to name a few. The mentor also is required to determine the Marine’s personal risk assessment and then assign the Marine to a risk category with the command’s approval. These risk categories assist in determining how a Marine will execute leave and liberty and the mentor’s oversight during the Marine’s leave and liberty.

The focus group determined the need for greater personal responsibility between a young Marine and a respected NCO from his shop or unit.

Program Evaluation

In October 2004, the MAG-14 safety department evaluated the effectiveness of the program. Since the NCO leadership program’s inception, the number of private motor vehicle mishaps within MAG-14 for the third and fourth quarters of fiscal year 2004 (FY04) was reduced to 11, compared to 20 in the first and second quarters of FY04, and 25 in the third and fourth quarters of FY03. Furthermore, MALS-14, which includes more than 1,000 Marines, reported five alcohol-related incidents in the last half of FY04, compared to 16 in the first half of FY04. They also reported 11 domestic incidents

in the first half of FY04, compared to four in the last half of FY04. In the most recent data concerning reportable incidents from MALS-14, the squadron reported 35 mishaps in the first quarter of FY04. With two weeks remaining in the first quarter of FY05, MALS-14 had only 13 reportable mishaps. As stated by LtCol. John Rutherford, CO, MALS-14, "A 66-percent reduction in Class D mishaps is substantial, and the only change is the concentrated effort throughout the squadron with the NCO leadership program."

While researching the program's effectiveness, there was a decline in the number of reportable mishaps, and there were numerous testimonials from Marines who were influenced positively by the program as well. Mentors have influenced leave/liberty plans, emergency leave situations, domestic violence assistance, and unsat-



We must protect each other off-duty with the same intensity as we would in combat.

isfactory housing conditions. They also have learned to recognize and assist in suicide prevention. The success of this program can be attributed directly to the method that was used in creating the NCO leadership program. MAG-14 officers gave guidance to the programs' creation, but the following eight Marines developed the concept and foundation of the NCO leadership program:

Sgt. Michael R. Colon, MALS-14

Sgt. Joseph S. Meisel, Marine Tactical Electronic Warfare Squadron 2 (VMAQ-2)

Cpl. Chad K. Webb, VMAQ-3

LCpl. Edward Z. Roder, MAG-14
Sgt. Wesley A. Gilbert, MALS-14
Sgt. Jose F. Torres, Marine Aerial Refueler Transport Squadron 252 (VMGR-252)
Sgt. Paula A. Turner, Marine Attack Training Squadron 203 (VMAT-203)
Sgt. Brandon J. Lemke, VMAQ-1

Annual Award

In addition to creating the NCO leadership program, the MAG-14 CO established the Nathan P. Dodd NCO Leadership Award in honor of LCpl. Nathan Dodd. (Prior to his death LCpl. Dodd's squadron had submitted his name for meritorious promotion to corporal.) The annual Dodd award recognizes the NCO who has demonstrated superior leadership, sound mentorship,

and unparalleled inspiration to the young Marines of MAG-14. In October 2004, Sgt. Shauna Ralston of VMGR-253 was the first recipient of this award. During the ceremony, the assistant commandant of the Marine Corps presented Sgt. Ralston with a Certificate of Commendation, a plaque provided by the Marine Corps Association, and a signed copy of *Marine Rifleman* (an autobiography of Col. Wesley L. Fox, USMC (Ret.)) provided by the Marine Corps University Foundation. Also in attendance at the award ceremony were the parents of LCpl. Dodd, who were able to witness his legacy being carried forward and the good that has come from their tragedy.

On Nov. 1, 2004, the commanding general, II Marine Expeditionary Force (II MEF), instituted an NCO leadership program based on MAG-14's model. The genesis of the MEF basing their program on MAG-14's program was the positive influence the NCO leadership program has had on the safety culture

and mentorship of the MAG-14 Marines. This program is decisively aiding MAG-14 in meeting the secretary of defense's goal of reducing mishaps by 50 percent over two years. ✿

Authors' Note: The authors want to thank Col. Robert A. Fitzgerald, CO, MAG-14, and LtCol. Todd W. Schlund, XO, VMA-223, for providing the guidance and oversight for this program. Maj. East is the director, safety and standardization, MAG-14. 1stLt. Monk is the fiscal officer, MAG-14. Reprinted courtesy of the Marine Corps Gazette. Copyright retained by the Marine Corps Gazette.

Good

HAPPY BIRTHDAY TO ME!

By ATC Robert Benton, VP-47, MCBH Kaneohe

I love those safety magazines, all of them: *Mech*, *Approach*, the *Air Force's Flying Safety*. Heck, I even used to like that black-shoe rag *Fathom*. I have been using their stories to train Sailors for 17 years now, and if a more practical training tool exists, I am not aware of it. However, I have never been moved enough to contribute my own experience to these noble tomes until now.

It was a beautiful pre-dawn morning in Hawaii, and I was enjoying my morning ride into work on my motorcycle. It was my 36th birthday and it couldn't have gotten off to a better start. The typical early morning showers had tapered off, although some water was still on the roadway. I was approaching MCBH Kaneohe on a freeway that ends at the front gate. Cresting the last rise, I was surprised to see the flashing lights of a police car and two vehicles that appeared to have been in a mishap.

I assume that this sight also surprised the driver of a new Dodge Ram super cab in the lane next to me, because he quickly moved into my lane in front of me and applied his brakes, hard! Since my attention (what exists before 0600) had been drawn to the pretty flashing lights and cool flares, I was a little behind the power curve when my friend in the pickup was braking. As a result, my initial reaction was not good: A snappy application of both brakes on the wet pavement, a predictably

locked rear wheel and an uncontrolled skid toward the big truck. My day had just gotten bad, fading to worse. Then something strange happened.

In the years I have spent reading the Navy's safety magazines, I had read about the phenomenon of time compression. I have also read about training so ingrained that it took over in a time of crisis. Only now I was actually experiencing both of those things.

The Department of Defense and the Navy provide motorcycle operators with strict guidelines regarding training and equipment [see OPNAVINST 5100.12G for more info]. Marine Corps Base Hawaii goes one step further by making the motorcycle safety course an annual requirement, allowing me to have attended both the basic and experienced rider courses in the last 15 months.



Photo by PHAN Kevin Beauchamp

Flash back to me skidding toward the Dodge, which by now was as big as a house. A calm, detached part of my brain quickly went through the procedures to save my sorry can:

✓ Keep a locked rear wheel locked on a bike that isn't straight to avoid the highly acrobatic but painful "high side."

✓ Lay off the front brake to keep the front wheel in front and the back wheel in back to avoid the less spectacular but abrasive "low side."

✓ Release the rear brake and unlock the rear wheel on the now straight bike and get on the front brake, hard!

✓ Check mirror and prepare to move out of the way of the car behind you whose driver also likes pretty lights.

All this happened in less than a second and I had survived unscathed in spite of myself.

So, what would I like you to learn from my experience? First, training is good! An airman who works for me encountered an almost identical situation a week prior. He donated some skin to the road and is bankrolling a very Merry Christmas for his mechanic's family. The difference? He was scheduled for—but had not attended—a motorcycle safety course. I had been twice very recently.

Next, PPE is good! I was prepared for the worst: full-face helmet, steel-toed boots, motorcycle jacket, gloves, and heavy denim pants; all would have helped to minimize any injury incurred while logging some solo flight time.

And last, complacency is bad! I was riding on the same road, at the same time of day, thinking about my cake and presents, the pretty lights, etc., and I almost paid dearly for it.

Motorcycle safety training saved my life and my 36th birthday! 🍀

Bad

Quick Fix, Quick Wound

By PR2 (AW) J. Martinez, VFA-146

We were three months into our current deployment. My day started like any other: tending to the aircrew-survival gear and occasionally making FOD and tool pouches. One of our ordnancemen walked into the workcenter and asked me to make some minor adjustments to his tool pouches.

The task seemed simple enough: Modify the tool pouch so he could fit the strap over the cone of the flashlight and secure it. I wasn't very busy, so I proceeded with what I considered a quick fix. "There's nothing to it," I thought, "just cut a slit along the middle section of a four-inch-wide webbing, and it will slip right over the cone of the flashlight." The tool of choice for this job was my trusty pocketknife.

I started by laying the tool pouch on the deck, held the knife with my right hand, and held the loose end



of the webbing with my left hand. I placed the knife at the center of the material and applied enough pressure to cut through the webbing. In a split second, the knife burst through the material, slid up the webbing, and sliced into my left index finger. I immediately felt the cut but didn't know how bad it was. When I inspected my injury, I realized I had sliced off some skin and flesh.

I went to ship's medical, where corpsmen spent two hours treating my cut. Later, I was released and put on seven days of light duty. Lesson learned: As simple as a task seems, some risk always will exist, especially when there's a sharp blade involved. Use operational risk management in all that you do. 🍀

Ugly

“What Would You Have Done?”

By Cdr. Stu Alexander, OinC AIMD, NAS Jacksonville

We were 100-percent ORM complete and 100-percent drive-safe complete. All divisions got monthly safety training. In July, before I arrived, the command had completed a safety stand-down, covering traffic safety and including DUI lectures from the local sheriff’s office and state highway patrol. Not only was the command focused on off-duty-mishap training, they also just had been complimented on a superlative NAVOSH safety inspection. The command seemed to be doing everything possible to spread the word. Nevertheless, a shipmate died. What more could my command have done?

Columbus Day weekend meant a well-deserved three days off for the command. It was fall in Florida, and the forecast was great. Everyone was excited to have the extra day to spend with family and friends. I had been on board less than two weeks but had made it clear in that short period that safety was at the top of my list. Through Captain’s Call, a lengthy meeting with the CPO mess, and division meetings, I had put out the word that my primary concern was the safety of our Sailors—both on and off duty. I didn’t know I would get my biggest leadership challenge 11 days after reporting and wouldn’t catch my breath again until I had briefed the death of a shipmate to 800 of my shipmates, my commodore, and (via VTC) a two-star. Here’s what happened:

Around 1600, Oct. 10, 2004, after working duty-section weekend, a 33-year-old male Sailor was at home partying with friends. The get-together lasted until 1900, when the Sailor said he wanted to go to a club. Knowing that he had been drinking, his girlfriend had taken his car keys. This gesture angered the Sailor and led to a heated argument that escalated to the point where the Sailor’s roommate checked to see what the commotion was all about. The Sailor and his girlfriend subsequently cooled off, and the roommate said he would drive the Sailor to the club if he just would

give him the thumbs-up when he was ready to go. The Sailor agreed, and the roommate returned to his room.

Unfortunately, the upset Sailor also owned a motorcycle, and, as fate would have it, he still had the keys in his pocket. About 2100, he decided to leave the house without telling anyone. He quietly pushed his motorcycle out of his garage and into the street, closed the garage door, and slipped away unnoticed. Three hours later, he was dead. His whereabouts for those three hours is unknown.

The police accident report says that, at approximately 2345, the Sailor was traveling north at a high rate of speed, apparently on the way home, when he failed to negotiate a turn. He left the northbound lane and hit the southbound curb. The motorcycle then struck a guardrail, ejecting the Sailor. A witness reported he saw the motorcycle lying on the sidewalk and stopped to investigate. He found the Sailor lying nearby in the grass and called emergency-rescue personnel. They pronounced the Sailor dead at the scene.

My command learned many valuable lessons in the days and weeks that followed this incident, and many Sailors are walking around saying, “If only I had...” For now, I’d like everyone to look at his/her own command and challenge your leaders to take an intrusive-leadership approach to knowing what your Sailors are doing off duty. Use this example at your next divisional quarters to ask, “What would you have done?” Listen closely to the responses you get. 



ONE SHOT, ONE KILL

By Sgt. V.S. Cruz, USMC, HMLA-367

On a cool night in Iraq, at roughly 2300, I was told that one of our AH-1W Super Cobras had returned from a flight with multiple weapons gripes. These gripes included inoperative rear-seat helmet sight system (HSS) and no fixed forward guns. The pilots cleared us to troubleshoot but told us to hurry because the bird still was on strip-alert status. After briefing my personnel on the task at hand, a MAF was initiated. My team then began to prep all the necessary troubleshooting equipment.

As the QASO (quality assurance safety observer), I cleared the M197 gun, but, unfortunately, the M89 feeder was still on, with rounds left inside (not in accordance with NAVAIR 01-H1AAC-75-1A1 checklist). I then disconnected all electrical connections, including the feeder and fire-volts cables, so I safely could pull the trigger and dry fire the gun, which would make sure it rotated like it was supposed to. I confirmed that the barrels rotated.

Then I prepped the aircraft for a fire-voltage check. This check puts the gun into the fixed forward position, with the fire-volts cable connected and all necessary circuit breakers engaged. As a precaution, the gun-motor

circuit breaker is disengaged, prohibiting the barrels from spinning. This check is used to make sure the firing contact in the gun is receiving voltage. In this case, the voltage checked 4.0.

The next step was to use a second feeder to do a hang check. I began a secondary fire-volts check with the spare feeder electrically connected but not physically installed on the gun. I then ordered a Marine in the pilot seat to turn on power. While I was waiting to make sure the gun would not rotate when the trigger was pulled, I noticed a long time delay in the gun dropping down into the fixed position. I then asked the Marine to make sure that the cockpit switches were in the correct positions.

While doing so, he inadvertently engaged the gun-motor circuit breaker, which is located beside the drive-motor circuit breaker. After verifying the switches, he pulled the trigger, causing the gun to rotate. Unfortunately, the electric solenoid on the feeder was physically stuck in the engaged position, allowing a round (20mm HEI) to inadvertently feed into the chamber and fire into a Hesco barrier, which was about 25 feet in front of the aircraft.

Immediately after the discharge, the power was shut down. Maintenance Control, Quality Assurance and EOD were notified of the incident. EOD personnel arrived shortly thereafter to safely remove the remnants of the 20-mm round from the barrier. We were all grateful no personnel were injured.

Two things would have prevented this mishap. Rounds should have been downloaded completely, and the circuit breaker never should have been engaged. We had sacrificed safety for urgency. 

Cpl. M.S. McCain contributed to this article.



Helicopter Engines and Desert Environments— **Who Wins?**

*By Thomas Harless and William Stelk,
Naval Air Depot, MCAS Cherry Pt., N.C.*

You don't have to tell a pilot or engine mechanic that operating in a harsh, desert environment is mechanically unforgiving. Sand erosion and build-up of dirt detract from engine performance and maintainability. Can an engine be maintained throughout a six-month deployment? Can a pilot be confident of engine-power availability? Can we reduce the number of failed engines? Can rotary aircraft win the dirt battle? The answer is yes!

Low power is the major cause for engine removal in the Navy's H-60 fleet. For SH-60B, SH-60F and HH-60H aircraft, powered by two T700-GE-401C turbo-shaft engines, if you spend time on preventive maintenance (such as engine washing), aircraft readiness and engine performance will improve. The T700 engine is unique in that it has a built-in integrated particle separator (IPS) blower as part of the engine's accessory gearbox. It was designed to separate sand and dirt from inlet air and blow the particles out before enter-

ing the compressor inlet. However, operating in desert environments has posed a major problem: Too much debris makes it past the IPS and enters the compressor. These tiny particles erode compressor blades and coat hot section (gas generator turbine) parts, which plugs cooling air holes, therefore decreasing hot-section efficiency.

NAVAIR and the T700 engine team have been working to improve engine life in this environment. We have found that preventive-maintenance washing procedures are critically important. Based on lessons learned during Desert Storm and Desert Shield, a hot-section wash-sprayer nozzle was developed to perform hot-section cleaning in the T700 engine. Hot-section cleaning is done by installing a wash nozzle into one of the engine's igniter plug ports and spraying soap solution (engine gas path cleaner) on the hot-section parts, while the engine is motored. During 2003 for the H-60, and last year for the Marine's AH-1W Super Cobra



The T700 engine is unique in that it has a built-in integrated particle separator (IPS) blower as part of the engine's accessory gearbox.

T700 Engine Stage 1 Gas Generator Rotor



No washing performed



Washing performed

T700 Engine Stage 1 Nozzle (leading edge vanes)



No washing performed



Washing performed

Adhering to engine-washing procedures is one of the preventive maintenance measures that can never be overemphasized.

(T700-GE-401 engine), the T700 fleet support team (FST) at the Naval Aviation Depot, Cherry Point, N.C., investigated the engine-wash procedures, clarified the procedures, and updated locally manufactured tools and support equipment needed to support wash requirements.

A conditional requirement was established to perform hot-section cleaning after the last flight of the day if flying in a desert environment. The timeframe allowed some flexibility so there was no interference with the aircraft's schedule during the day. Making it a requirement to perform the hot-section wash in a desert environment is one of the steps the T700-engine team has taken to preserve the fleet's T700-engine life and improve readiness.

Who Wins? Several Navy H-60 squadrons that consistently followed these procedures didn't have to remove a single engine because of low power during

their six-month deployment. Results also revealed that, in some cases, engine performance was increased. While this was not always the case, there have been fewer engines removed for low power, compared to previous years, and we expect to see more improvement in the future. Based on the positive results from the Navy's H-60 fleet, the same cleaning cycle has been applied to the Marine's AH-1W Super Cobra.

Maintaining engine readiness by preventive maintenance increases engine availability and allows the aircraft to be available for mission accomplishment. Navy and Marine Corps aircraft continue to battle harsh flying environments, but hot-section washes have proven to be successful by improving engine life. Hot-section washing after operating in a desert environment has become an effective aircraft-readiness tool for the T700-engine program. 🍃

Crunch! Greyhawk



By AMC(AW) Alfonso Oliver, Line LCPO, VAW-120

It was a typical Monday morning for the line division after the daily FOD walkdown and maintenance meeting. We were called to move a C-2A Greyhawk aircraft out of the hangar onto the flight line, which is a routine job the line usually performs without a hitch. Today, though, wasn't going to be routine.

We gathered the team in the hangar bay and identified the two biggest hazards: some ground-support equipment to one side and a parked E-2C Hawkeye on the other side. The PC then described to the tow-tractor driver how we would back the aircraft out of the hangar and turn it around to head out to the line. I was the safety observer.

The team took their positions, and we started backing the aircraft out of the hangar between the GSE and the parked E-2. We started to pull the aircraft forward in a hard right turn to clear the GSE that now was in front of us. As the aircraft started turning, my attention was drawn away from the move by the flight-line coordinator, who was asking me about the availability of

the GSE equipment for the day's flight schedule. The aircraft was moving forward, and it was clear the nose would clear the GSE, but the tail was too close to the parked E-2 outside of the hangar. A collision was imminent.

The flight-line coordinator and I immediately yelled out to the tail walker to blow the whistle and stop the move, but the noise from some nearby flight-line reconstruction, coupled with the turning aircraft, prevented the PC from hearing the whistle. As the aircraft continued to move, I blew my whistle, and, after what seemed like hours, the aircraft finally stopped.

The damage was already done: the C-2's port wingtip and rudder had hit the parked E-2's propeller.

This mistake reminded us of the importance of situational awareness and drove home the message that no job is routine. Just a momentary attention lapse cost the squadron two valuable assets and 24 man-hours of unscheduled maintenance. I got a harsh reminder that a lax attitude during a routine job can ruin the day. 🦅

ork Meets Hawkeye



As the aircraft continued to move, I blew my whistle, and, after what seemed like hours, the aircraft finally stopped.



A Steel-Beach Picnic Gets Exciting

By Lt. Nick Deleo, HSL-48

During the second day of a sixth-month deployment, our LAMPS detachment eagerly began operations. Our single SH-60B had flown onto the ship the previous day and just had returned from a quick two-hour bag. The LSO completed the post-landing straightening procedures on the aircraft, and our maintainers promptly began work on a 30/60-hour inspection.

After the scheduled maintenance, the maintainers folded the aircraft and walked into the hangar. Because it was early in the cruise, the maintenance team was fresh and focused on their everyday procedures.

In the hangar, work began on a daily and turn-around inspection, during which a junior airman was tasked to take an aircraft fuel sample. The process involves unseating a check valve, using a drain funnel with a modified pin, and allowing fuel to flow freely. After the airman completed the sample and removed the funnel, the fuel continued to flow from the aircraft! The airman immediately notified the shift supervisor.

The key to successfully fighting any unforeseen emergency is clear and efficient communication, which the young airman demonstrated. The detachment maintenance chief, maintenance officer, and OinC quickly were told about the problem. The chief arrived on the scene and evaluated the underside of the aircraft. He told the nearest Sailor to inform the bridge and central control station (CCS) that there was a major fuel spill in the hangar and to man a 2.5-inch saltwater hose on the flight deck. The chief then told another Sailor to get the fuel-spill kit and to begin staging “diapers” throughout the hangar to absorb the draining fuel.



To make this situation more interesting, a steel-beach picnic was underway on the side of the flight deck located opposite the hangar. Orders were given to personnel on the flight deck to prepare to jettison the barbecue grills if the fuel approached the hangar-bay door. Meanwhile, the shift supervisor and chief worked with the fuel-check valve, trying to stop or at least slow the leak. They routed the draining fuel through a hose into buckets, which helped lessen the spill. As an added precaution, the chief ordered a barrier of fuel-absorbent cloth to be placed along the flight-deck drains to keep the fuel from spreading.

Ship’s personnel quickly helped. The petty officer in charge of the recovery assist secure and traverse (RAST) system arrived at the scene and secured all power to the electrical portion of the system. This simple action could have kept the fuel spill from turning into a major fire. Also, the bridge passed word on the ship’s 1MC to secure the smoking lamp. They also notified the oil kings that they might have to rig defueling hoses to the hangar.

After several minutes of troubleshooting, the maintenance chief fixed the leak. The cause was simple: When the defueling valve was pushed up to drain the fuel and then released, a rubber sealing ring slipped out and kept the valve from resealing. The maintenance chief reseated the sealing ring, but it proved to be a tricky task.

Many lessons can be learned from this chain of events. First, simple and routine procedures can have very unexpected outcomes. One method for preventing injury in the event of a random accident is to make

sure participating personnel are wearing the proper PPE. The young airman who sampled the fuel from the helicopter could have suffered major injuries if he had not been wearing goggles, gloves and an apron. Second, it always helps to have extra personnel to assist in an emergency. The key to success, though, is efficient communication, combined with standard procedures and calm heads. The maintenance team acted quickly and decisively. This communication flow allowed for increased situational awareness among the ship's crew and a timely solution to an escalating problem. ✨

PPE—It Does a Body Good!



By AN Jessie Pierce, VFA-25

On a bright sunny morning, I came bopping into the line shack of VFA-25. My supervisor stopped me as I was coming through the door, not to say “Good morning,” but to say “Pierce! Fuel samples, 422, ASAP!” It was the beginning of a great day. I gathered my cranial, splash-proof goggles, face shield, gloves, apron, tool pouch, fuel-sample kit, and a fuel adapter. I could tell my supervisor was under pressure that morning, because he was running circles around me, maybe to get me to move faster.

I went to the aircraft, donned my personal protective equipment (PPE), and took a fuel sample. I wiped down the fuel-sample port, placed the sample jar under

the fuel adapter, hooked up to the jet, and pushed up, just like the plane-captain manual states. The sample port stuck open. Even worse, the fuel started spewing out. In my haste to get a drip pan to catch the fuel, I went right underneath the stream of fuel, covering myself. I quickly used my Phillips screwdriver to un-stick the port, but my arms and face were showered with fuel.

I had followed the procedures I'd been taught for fuel leaks, which always includes a chance of taking a fuel bath, but I should have gone around the spraying fuel instead of under it.

I had to hurry home, take a shower, and change my clothes. All of the equipment I'd been using also had to be cleaned. When I came back to work, my supervisor filled out a mishap report. A fuel-sample port getting

stuck open is a common problem; causes include corrosion, dirt, the design of the port, or the way you take the sample. This problem is one of the reasons we protect ourselves with PPE. Getting showered in fuel can cause burns, headaches, and infection.

So what can we do about this problem until a better port is designed? Even taking care to inspect the fuel port for dirt or corrosion before the sample is taken is not enough to prevent someone from being sprayed with fuel. The best thing to do is to follow proper procedures and to wear all the required PPE. Be aware of your surroundings, especially when the hangar-bay doors are open, which can expose you to wind or jet blast from a turning jet on the flight line. This precaution isn't mentioned in the procedures for taking a fuel sample, but it is good ORM and, for me, a lesson learned. ✨

A Light Show at Sea



By PR1(AW) Jeremy Smith, VAQ-132

We finished our JTFEX work-up and sailed east to start our upcoming deployment. The carrier's CO just had made an announcement on the 1MC. You hear him so often that you start not paying full attention to what he's saying, but tonight's message caught my attention. I heard him say, "This is the captain. We just made our final recoveries of flight operations, and now we are ready to go on deployment. We are going to have an ice-cream social. I want you to take a break and meet three new people tonight. Stick out your chest and be proud that you're serving on the JFK. Captain out." He might have said more, but I had heard what I wanted to hear.

Moments later, our squadron XO and another officer returned from preflighting the alert EA-6B aircraft. When they entered the PR shop, they told us about a thunderstorm on the horizon. Have you ever watched a lightning storm from the flight deck of an aircraft carrier at sea? It is one of the most incredible things you ever will see. Having been in the Navy nearly 11 years,

I had experienced some thunderstorms at sea, some near and some distant. The close ones can frighten you, but the ones that are at a distance are worth taking the time to go up on the flight deck to watch.

I looked over at my new airman, knowing he never had seen a thunderstorm at sea and said, "Let's go—you can't miss this." We grabbed our float coats and cranials and headed up to the flight deck. It was a perfect night: dark as can be, with this amazing lightning storm approximately five miles away. You could see the stars above and the Milky Way, with the lightning flashing off in the distance.

It was so dark I couldn't see the ladder or the catwalk, so I carried my cranial in my hand because it still had the dark visor attached. I was thankful someone had a flashlight and lit up the ladderwell so we safely could reach the flight deck. On the patio of the flight deck, the area near the landing area officer, I looked around to see what direction the thunderstorm was coming from. It was up forward, toward the angle. I

could see the lights from an aircraft overhead. Since we were off the coast of Florida, I assumed it was an airliner passing. I told the airman that the best place to see the storm would be at the top of the angle. With our cranials in hand and me leading the way, we set off toward the 4-wire, unknowingly walking into the landing area aft of the 1-wire.

The airman asked me, "What's that light behind us?"

I told him, "That's the mast of the plane-guard ship that follows us from time to time."

He came right back with, "No, not that light—that light!" pointing at a row of green and red lights next to the LSO platform.

Just then, I heard the air boss yell out on the 5-MC, "Clear the landing area; we're recovering aircraft!"

The "Oh s#@*!" factor kicked in. I ran outboard toward the foul line, donning my cranial as fast as I could and heading back toward my shop with my

"No," they corrected me; "the captain said we were recovering the last of our aircraft."

My first in a long list of mistakes was that I didn't listen closely to what the captain had said; I had gotten into the habit of tuning him out. Second, I didn't take the proper PPE and gear with me to the flight deck. I didn't have a flashlight, and, since I work on day check, I still had a dark lens in my goggles. I barely could see the ladders on the catwalk or the obstacles around me, so I didn't wear my cranial. My third and biggest mistake was I didn't pay attention to what was happening on the flight deck. I walked into the landing area while flight operations were going on. No more than 20 seconds later, an FA-18 trapped and caught the 1-wire. I had no idea just how far into the landing area we had gone, but what I did know was I could have gotten both of us killed.

The following day, I returned to the flight deck

well before flight operations were called away. I wanted to reenact the night before, just to see how far we were into the landing area or to see if we had fouled the deck. I discovered we were at least 20 feet into the landing area. If nobody had seen us, we surely would have been killed. Float coats have minimal reflection tape on them, but the cranial provides twice as much reflective material. If we had been

wearing our cranials and the proper PPE, we might have been noticed much faster.

I learned several lessons. Never assume that flight operations are over. Don't enter the flight deck without proper PPE. Know your surroundings. Have a light with you when going on deck at night. Even though the person with you might have more time and experience doesn't mean you don't have to look out for yourself. Awareness is the key to survival. ✨

I walked into the landing area while flight operations were going on.



Photo by PH3 John E. Woods

airman in tow. Once we returned to the shop and the adrenaline started to subside, I was able to think about what just had happened. My first thought was my airman and I could have been killed because of my actions. I also could have caused damage or loss of an aircraft. What was I thinking? I knew always to check my surroundings on the flight deck, but complacency almost killed me and another person. I talked with the guys in the shop about what had happened. I told them I'd swear I had heard the captain say we just had recovered our last aircraft.

Sailors and Marines reducing mishaps **BRAVGO** Zulu



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AN David Bowles and AE3(AW) Heather Evanger VFA-102

USS *Kitty Hawk* (CV-63) was preparing for night launches. A sense of urgency could be felt along the deck among the aircrew. The re-spot had not yet been completed, leaving precious little time for pre-flight checks. Rain just had stopped, leaving the deck wet and slippery. Water pooled between patches of nonskid, and a tractor driver and director struggled to maintain traction while spotting Diamondback 114.

This aircraft was being towed across the fantail in the landing area when the jet began to slip toward the port deck edge. The director stopped the move, regained control, and then directed the tractor driver to continue the move. The push was proceeding normally about 10 feet from the rounddown.

As the jet started moving aft, the plane captain (AN Bowles) was watching and waiting to prep the jet for launch. He was surprised to see the towbar's attaching points break away from the nosewheel axle, causing the towbar to drop down into the rims of the

nosewheel. The tractor lost positive control of 114.

A yellowshirt was looking at the jet's port main-mount, ensuring safe separation from the scupper, and didn't realize the towbar had disengaged from the tow points on the nosewheel axle. The wing-walkers were looking at the director, unaware that 114 no longer was attached to the tractor. Seeing the aircraft rolling aft toward the rounddown, AN Bowles decided the tractor would be unable to stop the jet's movement. He promptly signaled for AE3 Evanger to apply the brakes. AE3 Evanger immediately applied the aircraft's emergency braking system, stopping the jet two feet from the rounddown. The jet was then chocked, chained, and inspected. AN Bowles discovered both nosewheel rims were bent, downing the jet for launch.

AN Bowles' quick and assertive actions saved an FA-18F Super Hornet and, more importantly, may have saved the life of AE3 Evanger.



Airman Michael Luebke
HM-14

While doing a daily inspection on an MH-53E, Airman Luebke noticed the alignment of the No. 1 engine's center-isolation mount was off-center. Further inspection revealed metal-to-metal contact between the engine-isolation mount and the quick-engine-change (QEC) frame. He immediately notified maintenance control and QA.

During QA's investigation, it was discovered the engine's torque-shaft housing was misaligned by one bolt, causing the engine mount to be off-center. Airman Luebke's strict attention to detail prevented a possible catastrophic failure of the QEC frame, resulting from undue stress caused by the misalignment.



AEAN Michael Reimann
HSL-46 Det 4

While Cutlass 467 was turning on deck, awaiting an amber deck to remove chocks and chains to launch on a C-Profile FCF, AEAN Reimann noticed a small piece of FOD come off the right side of the helicopter. He immediately signaled the LSE for entry into the rotor arc and retrieved the FOD from underneath the aircraft. He took the FOD (a small piece of rubber from the black, main, rotor-blade bumper) to the maintenance shop to ensure 467 still was safe for flight. AEAN Reimann's quick action and keen attention to detail ensured Cutlass 467 completed its FCF safely and that the FOD didn't cause a hazard to the aircraft, personnel on deck, or to the ship's RSD.



Sgt. Flaten
VMA-311 "Tomcats" (currently deployed to Al Asad Iraq)

Sergeant Flaten showed extreme attention to detail on the night of March 2, 2005, when he discovered a parachute-riser assembly for the ejection seat was installed wrong. Had this equipment been installed in an aircraft, the aircrew easily could have been led into thinking the improperly installed koch fitting and SEAWARS just were twisted. Had an aircrewman attached the riser to his torso harness, he would have put an unintentional twist into his parachute riser. This action could have resulted in serious injury to aircrew in the event of an ejection.



AM1(AW) Gary Garstin
VAQ-139

Petty Officer Garstin was troubleshooting a popped flap/slat circuit breaker when he noticed substantial grease build-up around the gearbox of a squadron EA-6B. A flaperon cable also was chafing against an adjacent hydraulic line. Upon further investigation, it was determined that all but two strands of the cable were severed, and the hydraulic line nearly was sawed in half.

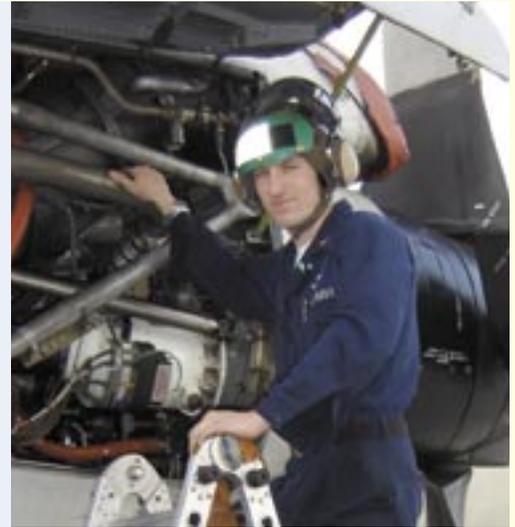
His attention to detail prevented the loss of flight-control authority and averted a possible mishap.

**AD2(AW) Daniel Masaveg
VQ-1**

On Dec. 28, 2004, while deployed to Kadena AB, Japan, AD2 Masaveg discovered a fuel leak coming from the bottom of the No.1 engine. He was doing a daily inspection on an EP-3E at the time.

AD2 Masaveg notified the W/C 110 supervisor and QA. After opening the engine's nacelle doors, "A" panels, and lower nacelle-access panels, he didn't see any obvious leaks. Further troubleshooting by AD2 Masaveg, the W/C 110 supervisor, and QA concluded a low power turn was required to locate the source of the fuel leak. During this turn, fuel was seen leaking from the fuel manifold directly on the labyrinth seal. The No. 1 engine was shut down, the hard line was retorqued, and a second turn was performed to check for leaks. If left uncorrected, this problem likely would have caused an engine fire.

AD2 Masaveg's technical abilities, attention to detail, and active troubleshooting skills aided in finding a potential fuel-fed engine fire that could have resulted in the loss of an aircraft and aircrew.



**AD3(AW) Demacardo Williams
VFA-87**

During flight operations, AD3(AW) Williams noticed that an access door located under the port horizontal stabilator was open during the recovery of a squadron aircraft. He immediately notified the plane captain to signal the aircrew to go hands out, to prevent switching valve checks that would have caused the stabilator to hit the access door. He secured the open door and returned control of the aircraft to the plane captain.

His quick action and attention to detail averted potential aircraft damage.



**AD3 Brandon Joy
HSL-44 Det 1**

During a daily inspection, Petty Officer Joy found fuel leaking from the pressure-refueling panel on Magnum 447. He quickly investigated the problem and isolated the leak to the pressure gauge. AD3 Joy directed the defueling of the aircraft and made a more in-depth inspection. He noticed the gauge body was loose, tightened and reinstalled it, then refueled the aircraft with no further problems.

AD3 Joy's superior technical knowledge and mechanical skills provided a mission-capable aircraft for armed helicopter missions in support of Straits of Gibraltar transit and Operation Active Endeavor.



**Sgt. Wiggins
VMFA-251**

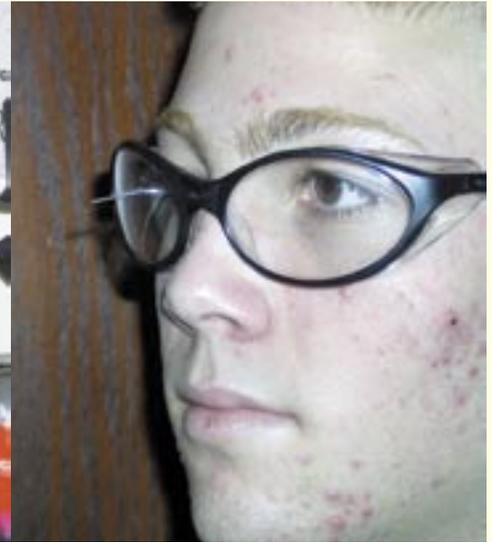
Aircraft 201, which just had come out of phase, needed a post-phase maintenance turn. Sgt. Wiggins began his pre-turn walk around per the checklist the way he had done at least a hundred times before. Prior to attaching the intake screens, he dove the duct for the No. 2 engine.

He was moving through his standard procedures: counting the fan blades, checking the nose cone, looking for knicks or dents in the guide vanes and stators...again, all things that he had done many times before.

Sgt. Wiggins felt a very small "rough" spot on the back of one of the stators in the 7:30 position. He notified Maintenance Control and Quality Assurance.

An investigation revealed that a bushing had worn and seized, causing the joint between the inlet variable guide vane and the stator to become prematurely fatigued, which resulted in structural failure of the component. Had this gone unchecked for much longer, it would have certainly resulted in the IGV breaking off and being sucked into the compressor section.

Despite a heavy maintenance workload, Sgt. Wiggins did not take shortcuts. The result was that he saved an engine and possibly an aircraft and pilot.



LCpl. Chandler Bunting
VMFA-533

LCpl. Chandler Bunting (MOS 6048 flight-equipment technician) was sewing intake covers for the squadron's FA-18D aircraft. This particular night, he was the sole member of the night crew for his shop and was doing the right thing by wearing the required PPE for this activity: safety goggles. While sewing an exhaust cover, the needle of the sewing machine broke in half and sent the needle flying—straight toward his right eyeball. The needle came off with such force that it embedded in his safety goggles and actually penetrated the lens by one millimeter. The needle was aligned with his eye and would have ended up in his eyeball had he not been wearing the safety goggles. By following established procedures and doing the right thing, LCpl. Bunting saved his eyesight and prevented a serious mishap. His professionalism and attention to safety allowed him to continue working that night and accomplish the mission...safely. Everyone has seen the posters of the needle in the eyeball; hopefully, just as many people will see this picture of the needle in the safety goggles.



AM3 Aaron Fugate
HSL-44 Det 1

During a 56-day special inspection on Magnum 447, Petty Officer Fugate noticed what appeared to be a crack in the sealant on a main-rotor tip-cap. Investigating further, he carefully removed the sealant and found that the tip-cap was cracked and needed replacement.

AM3 Fugate's meticulous attention to detail and thoroughness ensured that Magnum 447 was available to conduct assigned missions in support of Operation Iraqi Freedom in the Northern Arabian Gulf. His efforts prevented damage and a potential mishap.



AD1(AW) Michael Shealy
VFA-87

While serving as the line division LPO Oct. 4, 2004, Petty Officer Shealy distinguished himself through exemplary performance and unwavering dedication to duty. During flight operations at NAS Oceana, in support of unit-level training, he noticed

a drill bit laying on the ground in the fire lane of the War Party flight line. He then searched the immediate vicinity and found four more drill bits on the ground. He immediately notified maintenance control, and flight operations temporarily were suspended while a combat FOD walkdown was held. A quick assessment revealed the source of the hard FOD was a flight-line vendor. The wing was notified, and squadrons at NAS Oceana were alerted to the potential FOD hazard that existed on their flight lines. His quick and decisive actions and attention to detail averted potential damage to the War Party aircraft. If left unnoticed, the drill bits could have caused catastrophic damage, costing thousands of dollars and lost sorties. His acute attention to detail during high-tempo and high-visibility flight operations highlights his commitment to excellence through professionalism and safety.

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Support Equipment

Working on the Chains... Gang

By AMCS (AM/SW) Cheryl Poirier

Chains, chains and more chains: Clean and oil, rinse, and repeat every 30 days. In between, I hope you have them all accounted for, unless, of course, you are in the last week of a six-month cruise. Then it's a mad scramble to find chains to replace the ones that have been "borrowed" over the last six months. As a young airman working on the flight line, one of my least favorite jobs was cleaning and re-oiling chains. I know all the junior Sailors and Marines reading this article, unlike this author, consider chain maintenance a favorite and sought-after job.

During Safety Center survey trips, I look at the Line/SE and SE PMS. Inevitably, there are problems with tie-down chains. Here are discrepancies I often find:

✍️ TD-1As and TD-1Bs combined in the same lot. A "lot" is a set of like-items categorized into identical groups. TD-1As and -Bs have different part numbers and different configurations; therefore, they must be grouped into separate lots.

✍️ Incorrect marking of tie-down chains. Chains should be marked on the tension nut and should include the organizational code. Too often, I find chains with different organizational codes or two (or three) serial numbers stamped on the tension nut. Ensure the markings are correct and legible.

✍️ Chains in disrepair or not stored properly. I have found chains stored in shop lockers and/or stored in ammo cans unsealed and covered with rust. I also have found chains in use that have broken springs and other worn parts. The NA 17-1-537 WP 12 specifies that "To ensure they remain in serviceable condition, tie-downs shall be inspected either prior to each use or at least every 30 days,

whichever occurs first." Keep your chains organized and in good condition!

✍️ OPNAV 4790/51 records contain incorrect information or are in the incorrect format. Some of the /51 record discrepancies I have found are:

- TD-1B /51 records that have SECs for TD-1As incorporated.
- TD-1A /51 records that do not have all the requisite SECs (2487, 2699, and 4455) incorporated. SEC 2699 & 4455 also have amendments.
- Lot numbers not highlighted in yellow and the first serial number of the lot (in the serial number block) not written in pencil.
- Chain serial numbers in section VI, part B (Miscellaneous History Section), not written in pencil.
- NALDA/TDSA NAT 02 verifications not completed on an annual basis or, in some cases, never performed.
- Chain serial numbers not annotated after the periodic maintenance inspection in the discrepancy block on PM MAFs.
- Chains in Type II preservation not re-preserved on the re-preservation date. Chains in preservation not barrier papered and placarded with the necessary information. Ensure your chains are preserved in accordance with the NA 17-1-125 manual.

When in doubt, consult the NAMP and other directives. NAMP, Volume V, Chapter 18, covers SE PMS and contains all the information regarding OPNAV 4790/51 records. NA 17-1-125 and 537 contain information on chain upkeep and preservation. Keep your records current and correct and your chains in good working condition. If it's done right, what you tie down will stay down.

Senior Chief Poirier is a maintenance analyst at Naval Safety Center.

Tool Control

Bah Humbug, Hydraulic Contamination Control at Its Finest

By AMC(AW) Paul Hofstad

So, you think you've seen everything? Well, I, in no way, want to discourage any maintainer from having the Christmas spirit, but using RFI hydraulic components, hydraulic petri dishes, and consumable tools as Christmas-tree ornaments goes way beyond Christmas spirit. In my book, it shows both a lack of leadership and a lack of basic fundamentals in aviation maintenance. The following items are just some of the objects found on the tree in the accompanying photo:

- A consumable RFI hydraulic component (as the Christmas-tree topper)
- Consumable tools, such as wire brushes and folding black knives (as Christmas-tree ornaments)
- Petri dishes used in hydraulic sampling kits (as Christmas-tree ornaments)



- Flash light bulbs (as Christmas-tree ornaments)

As supervisors, we need to take off the blinders and see what is going on around us. In this case, the lead supervisor said that he walked by this tree every day at least 20 times in his workcenter and never noticed what was on it. The leadership was so focused in getting tasks completed that they did not pay attention to their surroundings. Not only does this picture speak volumes about the command's hydraulic contamination-control program, it also demonstrates their attitude toward tool control and the control of consumables.

Don't wait for a mishap to occur before you ask the all-important question, "Why did it happen?"

Chief Hofstad is a maintenance analyst at the Naval Safety Center.

Logs and Records

Curing Documentation Ills

By SSgt. Van Jones

It's 0930 on a Monday morning, and you are going to be inspected by AIRLANT/AIRPAC. The inspector has noticed that you're missing a few recurring inspections that need to be logged on the inspection pages in your aircraft/engine logbooks. Obviously you counseled your logs and records personnel many times about ensuring maintenance actions/inspections are documented, right? To better inform and, in this case, to reiterate docu-

menting inspection requirements, allow me to help you.

While reviewing different aircraft logbooks as part of surveys, I've noticed that the "art" of documenting maintenance inspections has fallen a little behind. First, you will find that most of your NALCO-MIS scheduled inspection reports have inspection data that was initiated from these very same documented inspection pages in the aircraft logbook and

associated AESR (Aeronautical Equipment Service Record). That foot alone may be reason enough to ensure the inspections are logged on time, separately, and sequentially. As a refresher to those logs and records personnel out there, ensure you have an inspection page for each type inspection in your aircraft/engine logbook.

When documenting inspection pages, the three most commonly found are phase, conditional, and special. Let's look at each inspection. The phase inspection is a series of related inspections performed at specific intervals; these intervals usually are separated by flight hours (i.e., 150H, 200H, etc.) Conditional inspections result from over-limit conditions that happened against the aircraft or circumstances, which create administrative requirements (i.e., predeployment, post-deployment inspections). Special inspections have a prescribed interval; these intervals, for the most part, are made up of flight hours, operating hours, cycles, and events.

Once you have reviewed your logbooks and have ensured all inspection pages are accounted for, you need to ensure that all inspections are logged where applicable. Some recurring inspections may need to be documented on an SRC/EHR

card of an item, thus documenting when the last inspection was completed on that item. A question that many different logs and records personnel have concerns SRC cards without an inspection section on the card. "Where do we log the inspection once completed?" they ask. I recommend first contacting your type wing to see where they want you to document recurring inspections. If you don't get an answer there, I recommend contacting your TYCOM or just logging the inspection on the back of the SRC card in the overhaul section. That action should suffice for logging the last recurring inspection on that item.

The last subject I would like to cover is implementing a local SOP for tracking, reviewing, and logging inspections in aircraft/engine logbooks. This local SOP should be tailored to how the logs-and-records workcenter wants to conduct business for that particular squadron. As long as all 4790.2 inspection-record requirements are met, the local SOP can add to the documenting inspection process. For the most part, a little more attention to detail can go a long way in ensuring all inspections are accounted for, tracked and are not past due.

SSgt. Van Jones is a maintenance analyst at the Naval Safety Center.

Technical Directives

By AZCS(AW) Stephen Miller

As a maintenance analyst at the Naval Safety Center, I have found a trend concerning discrepancies in tracking and annotating technical directives across all types of aircraft platforms. I don't know if it's a lack of knowledge or being overwhelmed by the technical-directive program.

Some common discrepancies I'm finding are:

- List 02s and 04s not being updated when the technical directive is signed off in NALCOMIS. Fix: Logs and Records needs to ensure logbook entries are prepared properly, with associated documentation per OPNAVINST 4790.2H, Vol. V, par. 11.3J.(1)F.

- ALSS Technical Directive listing (NAT 04) is older than three months. Fix: At the beginning of each quarter, QA shall distribute ALSS TD listing (NAT 04) per OPNAVINST 4790.2H, Vol. V, par. 11.3G.(5).

- Technical directives that affect a component with an ASR/SRC/MSR/EHR are not recorded properly on their respective forms. Fix: TDs that affect a component with an ASR/SRC/MSR/EHR card needs to be logged on the applicable technical directive

OPNAV form 4790.24A, with TD identification and notation to refer to the applicable card (no signature is required). The complete information regarding the TD is entered on the appropriate card, with authenticating signature, per OPNAVINST 4790.2H, Vol. I, par. 13.3.5A(3).

- Upon receipt and transfer of all aircraft, engines, SE, components, AWSE, and ALSS are not screened correctly to ensure all applicable technical directives are incorporated. Fix: Review the NAVAIR 00-500C, NALDA TDSA (NAT 02), ALSS TD Listing (NAT 04) and Weekly Summary for Issued Interim Technical Directives for TD deficiencies, per OPNAVINST 4790.2H, Vol. V, par. 11.3J(2) and 11.3K.

The majority of these discrepancies shows lack of "attention to detail" and not using the proper procedures for validating technical directives. The program manager needs to ensure all technical-directive processes are in accordance with the OPNAVINST 4790.2H, Vol. V, par. 11.3E.

Senior Chief Miller is a maintenance analyst at the Naval Safety Center.

Secrets to Maintenance Success

By CWO2 John Kukahiko

Naval Safety Center personnel travel throughout the world to conduct safety surveys on Navy and Marine Corps aviation squadrons and AIMD/MALS. Even though we may find various maintenance programs that stray from instructions and directives, we also find many maintenance departments that operate efficiently and effectively. Here are some of these “Best Practices”:

1. They go by the book. People who’ve conducted extensive research, development and system testing wrote our publications, instructions, and directives. They’ve written specific procedures to follow to properly (and safely) operate and maintain aircraft systems and equipment. Some procedures were “written in blood” or developed after an unsafe practice caused a mishap and someone paid for it with their life.

Use the book when doing maintenance and teaching others. Follow technical procedures and specifications and establish an environment that supports a by-the-book culture.

2. They have knowledgeable and dedicated program managers. Most programs require the manager to attend training to ensure they know how to run the program and what references are available for guidance. The new program manager should receive pass-down from the current program manager whenever possible. Gapped billets often lead to a breakdown in the program. Maintenance program managers should have the initiative and dedication to ensure their programs (as well as the entire maintenance department) are in compliance with current instructions and directives. Therefore, these individuals should possess the leadership, management and technical skills; they must be the right person in the right job.

3. Chiefs stay involved with work-center programs and provide constant guidance. We all “ask the chief” for information, help or guidance throughout everyday routines. They have the experience and knowledge to answer questions, mentor, or point us in the right direction. Chiefs should stay involved with their work-center’s effort to ensure LPO/supervisors and program managers effectively



Photo by Matthew J. Thomas

manage their shops, workloads and programs and to provide that extra measure of guidance when necessary.

4. There is effective communication up and down the chain of command. From the weekly operations and maintenance meetings to the work-center shift turnovers, information must be passed effectively so everyone knows in what direction to go to accomplish a mission or task. Leaders/supervisors should take the time to ensure their personnel understand the assigned task and to encourage feedback. Maintainers should ensure they understand what needs to be done and to ask questions if necessary. The effective pass-down of maintenance information, at all levels within the command, is critical to each unit’s success.

Good units foster a climate that doesn’t sanction shortcuts and procedure violations, even during those “Get it done now!” times that we all face from time to time.

These are just a few reasons why many squadrons do well in accomplishing their maintenance evolutions and managing their programs effectively and efficiently. Leadership involvement remains one of the most critical aspects of a successful maintenance department.

CWO2 Kukahiko is a maintenance analyst at the Naval Safety Center.



No matter what
environment you
are operating in ...
Take the time to do
your job **SAFELY!**