

The Navy & Marine Corps Aviation Maintenance Safety Magazine

Mech

Winter 2012

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**The Navy & Marine Corps
Aviation Maintenance Safety Magazine**
Winter 2012, Volume 51 No. 2

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Mishaps cost 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. 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; the time to learn to do a job right is before combat starts.

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ABAN Alexis Ramos maneuvers a CH-46E Sea Knight helicopter assigned to HMM-268 (Reinforced) from the hangar bay to an elevator aboard the multi-purpose amphibious assault ship USS *Makin Island* (LHD 8). Navy photo by MC2 Dominique Pineiro.

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Using the Engineering Investigation (EI) tool on the Joint Deficiency Reporting System (JDRS) website and submitting a hazard report via the Web-Enabled Safety System (WESS). Who is making the risk decisions in your maintenance department? Kudos to VMM-266's corrosion-control work center. Tire-and-wheel program: the emergency tire deflator.



Get Famous!

And what better way than appearing on the cover of Mech? As we did in the current issue, we'd like to recognize individual maintainers whose hard work and dedication produced extraordinary results. This is more than the usual Bravo Zulus. We'll need a full story, including details and descriptions, as well as a high-quality image of the mech at work (this will require a trained photographer, not just a snapshot).

We think this is a great opportunity. If you agree, let us know. Send your comments or suggestions to ...

John Mahoney, Head, Communications and Marketing: john.mahoney@navy.mil

FROM COMMANDER NAVAL SAFETY CENTER

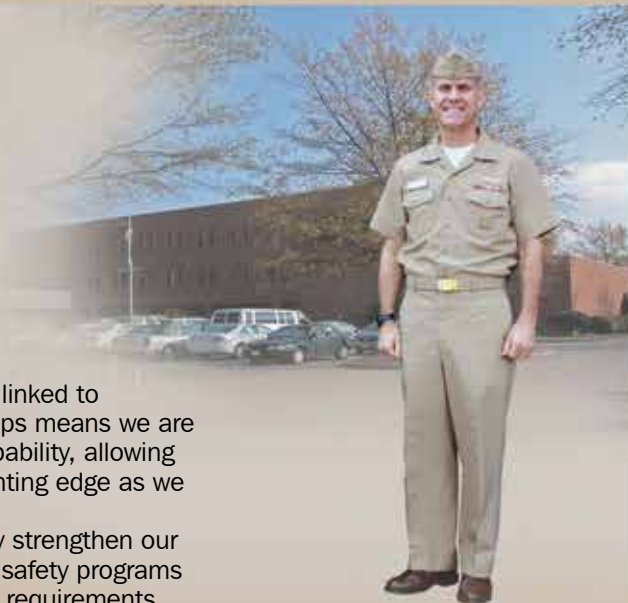
Accomplishing our mission is directly linked to preventing mishaps, as fewer mishaps means we are better optimizing our warfighting capability, allowing us to do what we do best: hone our warfighting edge as we ensure our readiness to respond to crisis.

To improve further, we must continually strengthen our safety mindset. The easy part is setting up safety programs that establish rules, SOPs and by-the-book requirements. They are an important part of a sound safety culture, but there is more to do. Increasingly we must focus on the human factors that cause us to lose focus, often only for a few seconds, leading to disastrous consequences.

The “human factors enemies” are all too familiar to us: complacency, fatigue, not following procedures, lack of crew coordination, actual or perceived pressure, and transition from a positive “can do” attitude to a negative “will do at any cost” attitude. Fortunately we have a wide array of tools designed to address these human shortcomings by ensuring individual excellence and forceful backup of the team: ORM, Human Factors Councils, Maintenance Risk Management (MRM), tool control, FOD walkdowns and professional certifications like CDI and CDQAR. But unless we have a culture in which maintainers refuse to believe there are times when we are too busy to apply these tools, we set ourselves up for an opportunity for gaps in our culture to greatly increase the risk of bad outcomes.

To ensure that the safety culture in your organization is able to withstand pressures to cut corners or put off the Safety Council meeting until next month, ask yourself if the following “building blocks” are firmly in place. First, is everyone fully capable to do their job? Do they know their safety fundamentals and technical procedures cold? Second, do they understand all hands are expected to be an active part of the command’s safety program? Third, has leadership made it absolutely clear that everyone is empowered to stop an evolution, or let someone know they are violating established procedures, even if they must point this out to their seniors?

The most junior person with the least experience can be the only one in the right place to prevent a mishap. Will a clear understanding of procedures, a strong sense of what is expected and command empowerment cause them to speak up without delay, or will they hesitate at a crucial moment? If your command claims ownership of these traits, chances are you are on track. When commands get off-track we pay a heavy price. Recently we lost a helicopter due to poor communication, insufficient risk management and “will do” thinking when a heavy-lift evolution was attempted clearly outside the safe envelope. Several people should have assessed the risks more thoroughly and made sure all were on the same page.



As you read *Mech*, the concept of risk management appears in almost every article. Whether the story is from an airman aboard a CVN or the Maintenance Officer of an HSC squadron, the authors are

aware of the importance of risk assessment in making good decisions. I urge you to read each article with a critical eye and look for how these articles reflect risk management successfully embedded in our culture. Chances are that in commands with a mature safety culture, risk management transitioned from a “program” to “instinctive collaborative behavior” a long time ago, and is now deeply embedded in their organizational DNA.

Of course naval aviation operates in an environment where decisions must often be made with split-second timing, thus the need for Time Critical Risk Management (TCRM). We must be prepared to react to unplanned (but not unforeseen) circumstances that greatly alter our risk. This flavor of ORM is remembered by a simple ABCD mnemonic: Assess, Balance Resources, Communicate, and Do/Debrief. The best approach to TCRM is being fully prepared to execute procedures and take prudent precautions for environments that increase the likelihood of risks raising their ugly heads.

Every maintainer must strive to be completely in sync and communicating so that procedures to adapt to the “unexpected” are executed without confusion or delay. This issue contains several underway examples where young airmen didn’t follow the publications and checklists or recognize the hazards, resulting in the evolution going down the wrong road. What tools to combat complacency should have been used to greater effect in these cases?

When it comes to combating the human factors that are all too prevalent in naval aviation mishaps, the Naval Safety Center is one part of the safety team I encourage you to tap into, in addition to the many other tools available. To continue to build upon our safety record, our task is to make the most of the resources we have, which means making sure everyone is actively engaged on the team. And remember, this concept of optimizing readiness by minimizing losses is equally important off duty, where we lose many more Sailors and Marines than in on-duty mishaps.

RADM Brian Prindle

Blind TO THE Big Red Flag



By AME2 Dillard

I broke my leg and had been out of the AME shop for the past six months. When I returned to my shop I was anxious to get back to work. The AME shop was scheduled to reinstall four GRUEA-7 ejection seats in an EA-6B Prowler after completing a 364-Day inspection. A few things remained before we were ready and I was happy to help. I never expected that I was about to make the biggest mistake of my career.

Arming an ejection seat is a two phase process. The first phase is to "Bottom Arm" the seat which is done in the work-center. The second phase is "Top Arming" which is completed only after the seats have been installed in the aircraft. The AME shop had finished bottom arming the seats before I came to work. Once at work, one of the PRs asked me to help switch the seat pans between seats. Removing and replacing seat pans is a routine maintenance function. As long as the seats are not "Armed," the task does not even

require an ordnance qualification. Eager to help, I went over to a seat, assuming it was "De-Armed." I failed to notice the "Armed" warning flag on the upper ejection handle when I removed the Manual Override Release (MOR) handle safety pin and pulled the MOR handle—the same way I had hundreds of times before. However, this time the seat was "Armed!" The guillotine CAD fired off, shooting the guillotine blade into the guillotine body. To my horror, I had just inadvertently discharged a CAD!

During the investigation, Quality Assurance found that there were no steps in the publication to remove the seat pan while the seats are out of the jet and mounted on seat dollies. A Technical Publication Discrepancy Report (TPDR) was submitted requesting this addition to hopefully keep this from happening again. It could have been much worse; the guillotine blade could have come all the way out and hit someone, causing a serious injury or possibly killing a fellow Sailor nearby. Before breaking my leg, I had been a CDQAR and had trained and worked on these seats for over six years. I never imagined that complacency would have led me to make such a dangerous mistake. It's pure luck that no one was hurt and luckily my mistake only caused damage to the seat and wasted man-hours. This all could have been avoided except for a momentary lapse of situational awareness. That is all it takes for something to go wrong...





Don't Lean on the Cover

“While aboard USNS Amelia Earhart (T-AKE6) on 20 June at 1050 local, one of the ship’s crewmembers inadvertently activated the AFFF system in the aircraft hangar. HSC-25 Detachment One aircraft BuNo 166339, along with tools and IMRL, were directly exposed to AFFF for approximately eight minutes. Detachment personnel immediately began ERT procedures.”
—AFFF Message

By LT Jonny “Dozer” Kane

In 2011, I was honored to deploy as the Detachment Maintenance Officer (DETMO) and Helicopter Aircraft Commander (HAC) for HSC-25’s Det One. It is rare for a pilot in the HSC community to deploy as the DETMO. However, because of a shortage of LDOs and CWOs in the squadron, I’d been sent to Atsugi, Japan, for DETMO school. Soon

after I completed the course, my detachment was on the way out the door and headed to sea.

Det One is one of the Navy’s last vertical replenishment (vertrep) detachments. In addition to the increasingly rare experience of vertrep, it was an exciting opportunity to learn a side of naval aviation maintenance that few junior officers are able to experience.

The quote at the top of this article describes my first major incident, which occurred just a month into the detachment when an unintentional activation of



the ship's Aqueous Film Forming Foam (AFFF) system covered one of our aircraft, all of our tools, and expensive maintenance equipment in the hangar.

It had started as a great day at sea: sunny and warm with no flight operations scheduled. All six pilots were on the 06 level aboard the USNS Amelia Earhart conducting NATOPS training. About half way through our training, we heard a garbled voice on the OIC's ship-issued, handheld radio.

"...AFFF..."

The room went silent as we listened for more details.

"The AFFF system went off in the hangar."

My heart sank. As the Maintenance Officer for a two-bird detachment at sea, that was the last thing I wanted to hear. AFFF, while great for firefighting, is mixed with salt water and extremely corrosive to metal. It can cause corrosion and rust in only hours if not properly treated and removed.

All of the pilots immediately jumped up and ran down to the hangar, which looked like a giant bubble bath. The entire hangar was covered in AFFF, in some places a foot deep. As I looked down, I saw two motivated members of our detachment, AWS2 Darek Reader and AT2 Kyle Snyder, instinctively manning the

freshwater hoses and rinsing the AFFF off of Knight Rider 01 as it fell in bubbly streams from the ceiling onto our aircraft. Our other helo was on the flight deck being fueled.

Before deploying, I'd had experience conducting practice Emergency Reclamation Team (ERT) drills with numerous members of our detachment as HSC-25's Corrosion Control and Prevention Officer. That being said, none of the NAMP SOPs, instructions, or checklists completely prepare you for what happens when every tool, all of your maintenance equipment, all of your ERT kits, and personal protective equipment (PPE) in the hangar gets covered with AFFF. I took a deep breath and headed for the Detachment Chief, AEC Ivy Taylor. We immediately started assigning people to specific tasks in order to minimize corrosion.

One of our first priorities was to clean our PPE with fresh water since, at that moment, we had none. We also had to clean and inventory our ERT kit, which was stored in the hangar and thoroughly soaked with AFFF. While some maintenance personnel were starting to clean the PPE with their division officer, others were preparing to move the helo out to the flight deck. The rest of the detachment personnel were moving boxes and maintenance equipment out of the hangar and staging it for cleaning.

Once the AFFF had been secured, the ship continued to flush saltwater through the pipes for an additional 15 minutes before the sprinklers came to a drip. While not as corrosive as AFFF, saltwater can still wreak havoc on aircraft and expensive electronic components if not quickly rinsed off with fresh water. During that time, maintainers were continuously rinsing the helo with fresh water until it could be moved onto the flight deck. The T-AKE class ship has a flight deck large enough to allow both helicopters on it at once (when they are folded). Once the AFFF-coated helo was positioned on the flight deck, maintainers began to take off panels.

During the next six hours, det personnel conducted three laborious, full-aircraft wash jobs with soap. Once the aircraft was thoroughly washed and rinsed, they meticulously inspected every nook and cranny and then treated the aircraft with fluid film (a corrosion-preventing protective coating).

Meanwhile, the Assistant Officer-In-Charge, LT Justin Pacheco, worked with the rest of the detachment moving all the toolboxes and maintenance equipment out of the hangar and onto the flight deck. The ship's crew was extremely helpful aiding us with moving our gear out of the hangar, cleaning up the excess AFFF, and providing us with forklifts and cleaning equipment. Once all our gear was moved out of the hangar and both aircraft were secured, we also used the freshwater hoses to rinse off everyone who could have been exposed to AFFF, which was the majority of the detachment.

Once completed, we filtered people back to their rooms to take a shower and change clothes. Anyone who had any skin exposed to the AFFF was sent to the ship's medical services officer. Once all of our gear was out of the hangar and everyone had a chance to clean up, we continued the arduous task of cleaning off every piece of gear and equipment that had been covered in AFFF. I did not realize how many pieces of gear you take on detachment until I started to see every toolbox emptied, every tool cleaned, corrosion-preventing protection coating applied, and then returned.

What had started as a no-fly day had turned into one of the busiest days of deployment. As the day wore on and the sun beat down on our people, I could tell that every person on the detachment was exhausted, espe-

cially our night shift that had been called back in only hours after leaving work. Over the course of the day, every maintainer dug deep and gave a herculean effort to help avert what was initially classified as a Class Bravo ground mishap.

We inspected the helo's transition section and nose bay, expecting the worst. We anticipated having to start bagging and tagging parts to be sent off for maintenance. To our surprise, no AFFF or saltwater had worked its way onto any of the parts or electronics in either section. This was a direct result of our maintainers adhering to standard maintenance practices. When the AFFF struck, all intake covers were in, all panels were secure, engine bay doors were closed, cockpit and cabin doors closed, and the hydraulic and nose bays were closed. All of these actions prevented potential AFFF intrusion into the aircraft. As an additional precaution, after every flight during the next week the maintainers conducted a full freshwater rinse and aircraft wash with soap.

On any shipboard detachment, it is difficult to store equipment anywhere but the hangar. There are still some lessons to be learned. Ensure your aircraft are secured, with all covers in place and the doors shut when not conducting maintenance. Keep your PPE in an area that will help ensure its usability by keeping it safe, clean, and dry. We now use a space just outside the hangar to store our PPE, float coats, and cranials. Don't store your ERT kits under an AFFF sprinkler on the deck. Now the ERT kits are stored on pallets to keep them off the deck and are covered with plastic covers to protect them from moisture or another accidental discharge of AFFF. In the future, if it were to happen again, we would be able to remove the ERT kits from the hangar dry, and suit up with clean PPE.

No one was injured during this incident. Thanks to the fast reactions of our guys, there was no major damage to our aircraft from the AFFF. One of the ship's civilian mariners had accidentally actuated the hangar's AFFF system during the refueling evolution. He had leaned on the AFFF button cover, which caused the cover to break and allow the button to be pressed.

We have all learned a lot of lessons since then, but looking back on how we worked together as a team that day, I can't think of a better group of maintainers who could have been assigned to the detachment.

LT Jonny "Dozer" Kane is assigned to HSC-25



A Tale of TWO Tow Bars

BY: AT1(AW) Caleb B. Mayfield

While serving as the Command Safety Petty Officer for VAQ-140, our squadron received less than two weeks notice that we would be rapidly deploying to Aviano, Italy in support of NATO operation UNIFIED PROTECTOR. Traditionally when our squadron deploys, we do so aboard an aircraft carrier. When I heard we were deploying to an ashore location, I was somewhat relieved because of the little work-up time we would require. We had been successfully launching jets from the beach for almost a year since our last deployment, and doing so with great success from a safety standpoint. We had suffered only a few minor injuries within the command and our safety mindset was solid. I thought this deployment would be more of the same with only the scenery being different. However, I was wrong.

When we first arrived at our deployment site, it did not occur to me to check the Air Force's support equipment (SE) for possible differences from our Navy equipment. I had never been to an Air Force base as an operation-level maintainer, and was unaware that our Air Force brethren use slightly different equipment for starting aircraft. Their version of a huffer, or starter unit, is actually a very efficient design. It differs from our normal equipment in that it combines both the electric power and the start air required for engine start into one single unit. Another important difference, and one more central to this story, is that the tow bar conveniently engages the brake when in the up position. It also happens to be heavy and positively spring loaded to the up or braked position.

Most of the maintainers in the command had at some point operated from an Air Force base while TAD to one of the various exercises in which our command participates while state-side. Having heard of no resultant equipment safety issues from any past detachments, I assumed everyone knew what they were doing. This assumption was my first mistake. Thirteen days into our combat deployment, WHACK! One of the airmen in the line-shack was struck in the face by the spring loaded,



extremely heavy, unforgiving tow bar. This resulted in three chipped teeth and a lacerated chin. In response, at the next maintenance meeting, I stressed the need for caution while working with the Air Force "huffers." I emphasized how unforgiving the spring-loaded tow bar could be. I was sure everyone would learn from this serious incident and heed my warnings. That was my second mistake – my warnings would quickly prove inadequate. One week later to the day, another maintainer battled the huffer and lost. This time the result was a chipped tooth and a punctured bottom lip, requiring light dental work and stitches to close the hole that his lower teeth had created.

I remember thinking to myself, what to do now? There was only one thing I could think of besides banning the Air Force equipment from further use, and it should have been done before any of our maintainers used the equipment to begin with – refresher training. I got in touch with the resident Air Force Aircraft Ground Equipment Manager and she responded immediately. She sent over two of her best Airmen to provide our personnel some much needed refresher training with an emphasis on safe operating practices. Since then, there have been zero squadron injuries while operating the Air Force SE. In hindsight, my only regret is that we waited to perform refresher training until we had already injured two personnel. Had we provided it sooner, it may have prevented my shipmates' injuries. 🍀

AT1(AW) Caleb B. Mayfield is Safety Petty Officer with VAQ-140



When Working Hard Goes Wrong

By PR2(AW) Gaspar Santiago

A senior aircrew survival equipmentman second class had been running a very busy and productive work center for several months. Every day he oversaw the packing of 40-to-50 life preservers and life rafts, and he was CDQAR for many of them.

There were other PR2s in the division, but there was still a shortage of qualified personnel to carry out the task of CDQAR. Determined to succeed, the PR2 worked a lot of overtime. In one two-month period, he signed off more than 700 MAFs, more than double that of his E-5 counterparts.

He was highly regarded by his division's chief, but he had bitten off more than he could chew. He just didn't know it yet.

One day an LPU-34B/P life preserver returned to the work center from the fleet. It had met its RFI cycle and was due for repack. This life preserver must have a "functional test" every time it is repacked.

Another PR2 (who was now in charge of the work center and also a CDQAR) did the functional test. The inflation assembly and cap nut came apart as he pulled on the manual-inflation lanyard, which activates the CO2 cylinder that inflates the flotation bladders.

He brought it to the attention of Production Control and QA, which ultimately resulted in an HMR and the loss of all CDQAR/CDI qualifications of the PR2 who originally inspected the LPU.

Less than two weeks before the discovery of the faulty piece of ALSS, this PR2 had received a Navy and Marine Corp Achievement Medal for his hard work, for passing a monthly inspection with "no hits," and for serving as the primary program manager of the division's hazmat program. He'd done community service, taken college courses, earned full systems qualifications within the division as well as for NADEP, and was well above average on the PRT. By these measures, this petty officer was outstanding.

However, in the field of ALSS, one mistake can end someone's career. Worse, it can end someone's life.

No one was hurt by the PR2's mistake, but it was still a hard lesson to learn.

The CDQAR's single goal is to catch and prevent discrepancies. He or she must always know when to say "stop." Recognize when too much is being thrown your way and communicate with your chain of command regardless of their demands for production. Without the highest quality, quantity does no one any good. 🌸

PR2(AW) Gaspar Santiago works in FRCSW 800 Division, NASNI, San Diego, CA.

Now Is the Time

By Chief Warrant Officer 3 Bruce Asberry

As leaders in today's Navy, we've all felt the effects of Perform to Serve (PTS) and Enlisted Retention Boards (ERB) in our ranks. We have watched our journeyman (E-5 and E-6) numbers drop to as low as 60 percent, and our commands are getting apprentices (E-1 through E-4) to fill the holes.

This means that our seasoned supervisors, collateral duty inspectors, and quality assurance representatives are being replaced by personnel straight out of boot camp and "C" school. We have also started to cannibalize personnel through UIC swaps and TAD assignments in an effort to get deploying commands up to 90 percent.

In the aviation community, when we tell commands that the number one contributing factor to maintenance-related mishaps is lack of or improper supervision, no one seems surprised.

As our aviation safety survey team members talk with maintainers on the flight line, we constantly hear

that there's not enough time to do maintenance (or training) by the book. We've allowed ourselves to use our lack of manpower as an excuse to cut corners and skip training, so we can meet the flight-schedule requirements.

I believe this behavior directly contributes to the fact that we cost the Navy more than \$13 million in aviation-maintenance-related Class B and C mishaps in FY11. This doesn't take into account the amount of injuries and lost work days we have brought upon ourselves through improper maintenance and poor decision-making.

As leaders, we need to make sure our personnel are making maintenance and training worthwhile. Make your people shut off their cell phones, turn off the email and internet, and put their cigarettes and geedunk away. We manage risk by planning, so make them prepare for maintenance and training evolutions, and use publications for every step of the process such as tool checkout, preoperational inspections or maintenance tasks.

Teach your personnel about ORM and TCRM, so they can make good decisions when you aren't there to watch them. Remember — there's no such thing as operational necessity in a training environment.

While the examples listed above pertain to aviation, the lessons learned can be applied to any community.

Don't use a lack of manpower as an excuse — train by the book. Our lack of manpower doesn't excuse us from following established procedures in our maintenance tasks and processes. Our publications and checklists were developed in the in-depth and deliberate phases of ORM, and are specifically designed to preserve our assets and personnel to enhance combat readiness and global war-fighting capabilities. Don't compound our current manpower challenges by getting someone hurt in a preventable mishap.

Chief Warrant Officer 3 Bruce Asberry is the aircraft maintenance branch head at the Naval Safety Center.



We manage risk by planning, so make them prepare for maintenance and training evolutions, and use publications for every step of the process.

Navy photo by MC3 Scott Pittman

A Slippery Slope

By AMAN Mary Costello

I was underway on my first deployment as an 18-year old airman when I learned a personal lesson about Operational Risk Management (ORM).

I was attached to Strike Fighter Squadron 113's Line Division on board USS Carl Vinson (CVN-70) during a Western Pacific deployment. As an airman in a Hornet squadron, I am responsible for general maintenance on the aircraft, such as cleaning, performing daily turnarounds, and preparing the aircraft for launch. I had only been in the squadron for two months and was diligently working on my qualifications during the night shift. Working on and around aircraft had been a foreign environment to me, and I was still getting acclimated.

One day in mid-December, the ship was somewhere in the western Pacific. At 02200, my supervisor told me to hand wipe the nose of aircraft 307 in the hangar bay. I'd never cleaned the nose of an aircraft before and decided to ask a friend in the Ordnance Division how to get onto the nose of the aircraft.

Navy photo by MC3 Jacob Milner
Illustration by John Williams

(ORM Learned the Hard Way)

307

He told me to climb up the aircraft's ladder on the port side of the aircraft, walk aft on the leading edge extension (LEX) to the back of the aircraft, cross over to the starboard side, and position myself on the front end of the starboard LEX (the front edge of the LEXs do not have non-skid). Then I had to climb onto the nose, sit facing forward, and slide down the nose to the area being cleaned.

The aircraft's nose is about 10 feet above the deck, and there was nothing to hold on to while I was cleaning the nose. It seemed simple, and I followed his instructions to the letter. As I finished, I tried to shimmy back up the aircraft to the canopy where I could grab the canopy bow and pull myself up to a point where I could place my feet on the starboard LEX.

It all went black. When I woke up, I was on the hangar bay floor, and a few squadron mates were asking me if I was OK. I had fallen as I was working my way up the nose of the aircraft. I had bounced off an ordnance rack parked next to the aircraft, hit the deck and rolled underneath a T-15 jenny next to the aircraft. I was rushed to medical, having suffered a lot of bumps and bruises, as well as a major concussion. I stayed at medical for the next 24 hours to undergo standard post-concussion procedures.

Personal protective equipment (PPE) saved my life. If I hadn't been wearing my cranial, my injuries could have been much worse—even fatal.

I hadn't done so well with my ORM. I missed the first step (Identify Hazards) in the 5-step process, which sent the entire evolution down the wrong road. First, the environment was different than what I was used to. My squadron is stationed at NAS Lemoore, Calif., where the weather is dry. Working on the ship in the western Pacific presents a completely different environment. The humid air makes all surfaces extremely slippery, and I did not recognize this hazard.

Second, I'd been trying to do a balancing act, 10 feet above the deck without anything to hold on to. A ladder or stand would have been the appropriate controls to apply.

As a young airman, I'm still learning. When I don't know something, I ask the question. However, when I get an answer to a question, I need to do a sanity check. If it doesn't look, smell, or feel right, then I should have asked another (and sometime more important) question: "Why?" I need to remember that when it comes to safety, there is no rank.



Aircraft Structural Mechanic Costello works in the Line Division at BFA-113

I hadn't done so well with my ORM. I missed the first step (Identify Hazards) in the 5-step process.

Take “Routine” Out

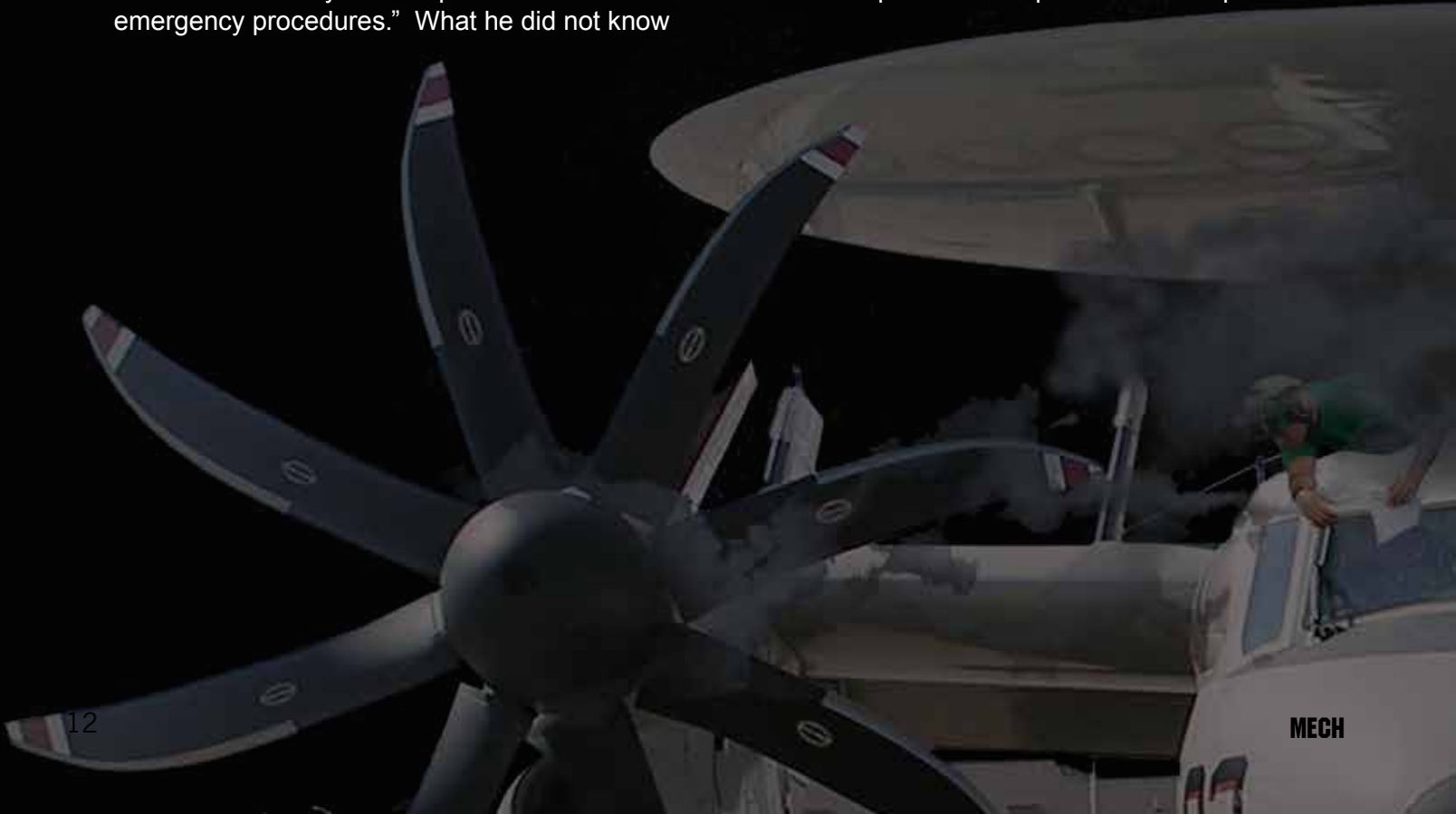
By LT Andy Tabellion

Calling a task “routine” is a quick way to let your guard down. The Seahawks of VAW-126 recently experienced how rapidly a situation can degrade when smoke started to rapidly fill the cockpit during a low power engine turn. As usual, a low power turn brief was executed in Maintenance Control with all the personnel involved in the evolution. Although not unusual for a Hawkeye squadron, the low power turn was taking place at night so the aircraft would be ready for the next day’s flight schedule. The turn crew briefed the proper night hand signals and AE1, who was working on his turn operator qualification and was performing the turn, and AD2, the turn operator qualified instructor, briefed and reviewed all the emergency NATOPS procedures.

As the turn operators were walking to the aircraft, AE1 commented, “You’d never think that you would ever actually have to perform one of those emergency procedures.” What he did not know

at the time, was that he was soon going to be at the controls for his first actual aircraft emergency. The evolution continued normally as the port engine was started successfully and brought into reverse thrust to reduce the propeller wash around the nacelle and allow the maintainers to check the engine for bleed air, oil, and hydraulic leaks. However, from this point on the evolution quickly started to change directions and AE1 and AD2 started to realize it was no longer going to be just a “routine” low power engine turn.

AE1 and AD2 began to smell and see smoke rapidly entering the cockpit from the air vents in the foot well. AE1 started executing the emergency NATOPS procedures by quickly scanning the engine instruments, which were all in the normal range, and securing the air conditioning system. Meanwhile AD2 was trying to signal the fire to the plane captain from inside the cockpit; however, the reduced visibility at night combined with the smoke in the cockpit made it impossible for the plane



of Your Vocabulary

captain to see what was happening in the cockpit. Still unable to communicate with the plane captain, AD2 opened the copilot's overhead ditching hatch and gave the fire signal from outside. The plane captain acknowledged the signal about the same time the engine was secured, barely having time to react. Although the source of the smoke had been secured when the air conditioning switch was placed to off, AE1 and AD2 did not know at the time if there was a fire in the aircraft and emergency egressed through their respective cockpit overhead ditching hatches. As you can imagine, seeing two turn operators emergency egress out the top of the aircraft quickly grabbed the attention of everyone on the line thus changing the entire mindset of the evolution.

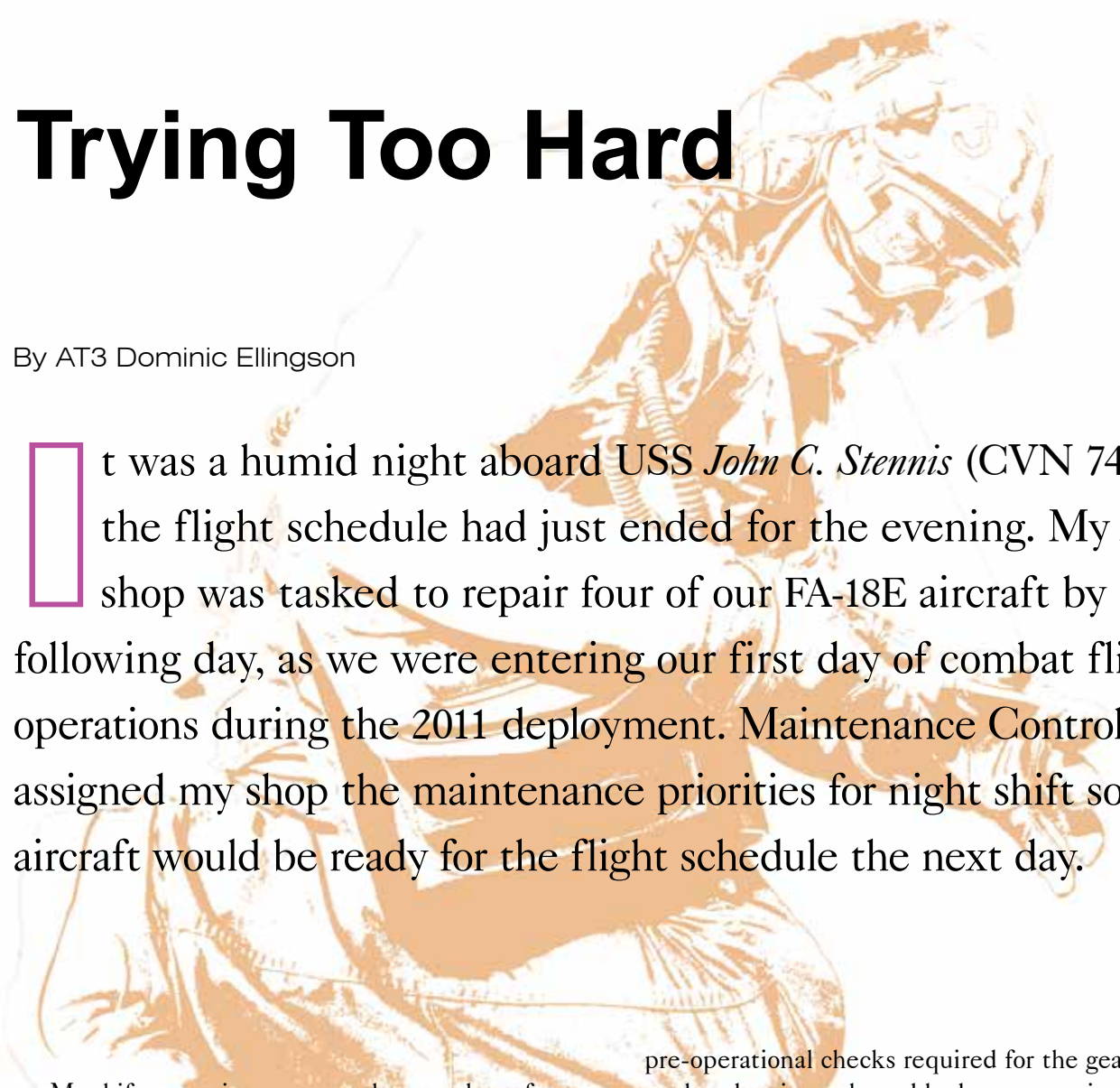
Outside the aircraft PRAN, who was manning the fire bottle, uncoiled the hose and was ready to go before they even made it out of the aircraft. He quickly realized it was not an engine

fire and that the fire bottle would be useless, and instinctively ran towards the front of the aircraft and removed the liquid oxygen bottle. As the rest of the ground crew helped AE1 and AD2 get clear of the aircraft, the flight deck coordinator notified maintenance control and ensured everyone was moving safely away from it.

This incident highlighted many important learning points to the entire SEAHAWK team, most importantly how quickly a situation can degrade and the importance of not accepting a "routine" mindset. The adaptability, quick thinking, and proper execution of emergency procedures allowed the entire maintenance turn crew to effectively handle the aircraft emergency and prevent further damage while keeping everyone involved safe. If anything will remain a "routine" part of daily operations in VAW-126, it will be the command climate that promotes thorough systems knowledge, and adherence to established safety postures, procedures, and maintenance briefs.

LT Tabellion is the Aircraft Division Officer at VAW-126

Trying Too Hard



By AT3 Dominic Ellingson

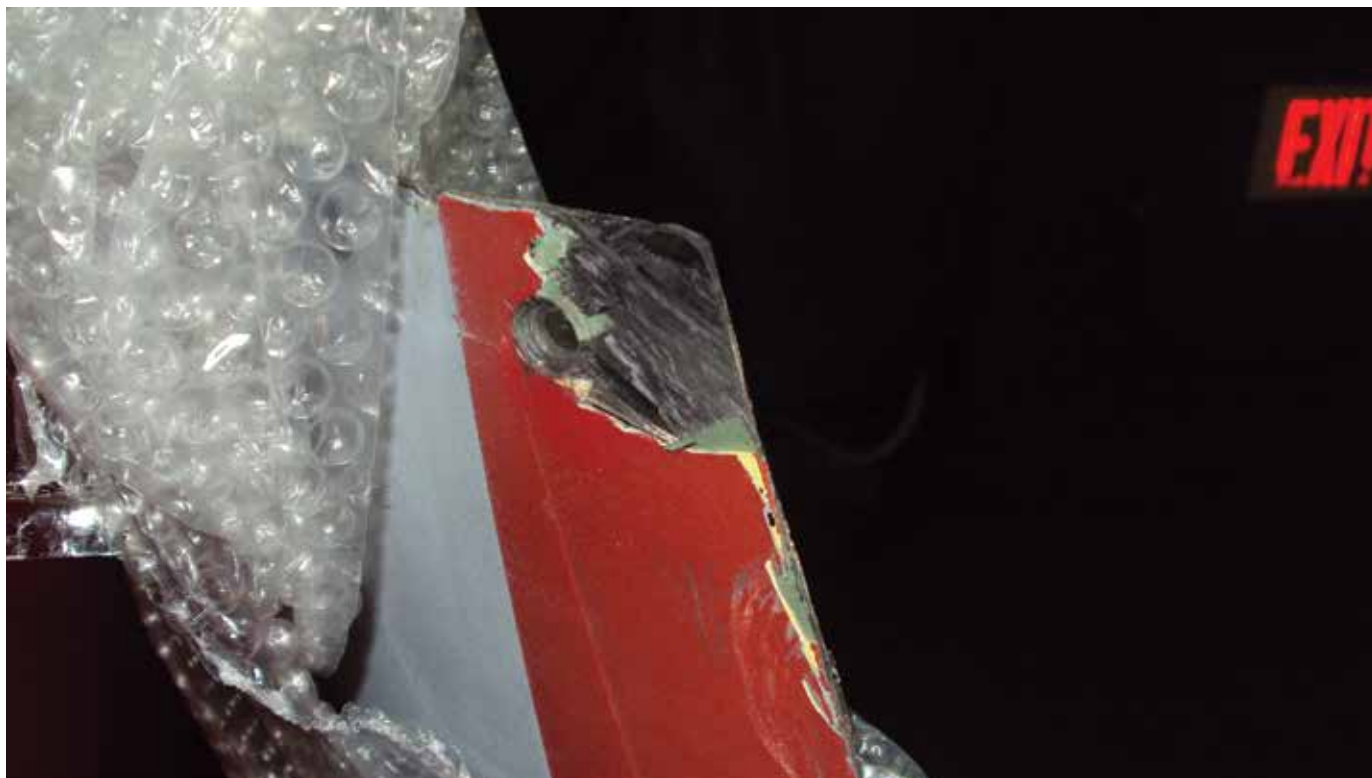
It was a humid night aboard USS *John C. Stennis* (CVN 74) and the flight schedule had just ended for the evening. My AT shop was tasked to repair four of our FA-18E aircraft by the following day, as we were entering our first day of combat flight operations during the 2011 deployment. Maintenance Control assigned my shop the maintenance priorities for night shift so the aircraft would be ready for the flight schedule the next day.

My shift supervisor gave me the pass down from maintenance of things that needed to be done for the night. I was tasked with fixing aircraft 200, which had multiple discrepancies, and was the number one priority aircraft for the shift. Given the task, I read over the list of discrepancies on aircraft 200's workload report. My plan was to change out an antenna on the leading edge flap, plus op-check a few avionics systems on the aircraft. I also noted that we had special inspections that were coming due as well. A 336-day and 84-day were on the workload, but I failed to ask my supervisor if I could work on those specials. I took my notes and decided that if I had time after completing the major maintenance I would take care of the specials and reduce the work center's workload.

Motivated for the shift, I checked out my tool box, ladder, and multi-meter, and donned my float coat and cranial. Doing everything correctly, I completed all

pre-operational checks required for the gear, put my work orders in work, and had my supervisor check all of my tools, equipment, pre-ops, and sign all required blocks. I picked up the new antenna that needed to be installed and proceeded to the flight deck to start maintenance on the aircraft. As soon as I got to the aircraft, I set my tools down, completed a good ATAF and began removing the fasteners on the antenna. While I was removing fasteners, I found that one of the fasteners was stripped and I could not remove it by myself. I quickly went downstairs and called Airframes and informed them of the fastener. They asked me to write an assist MAF for the fastener before they would remove it, in case they needed to drill the fastener out. I cut the MAF and headed back to the flight deck to wait.

While I was waiting, I realized that it would take a while for Airframes to get to the flight deck to remove the stripped fastener, so I read over my notes



and saw that I could at least do a part of the 336-day, which was to read out the voltage on the acoustic beacon and copy its serial number and expiration date. It sounded like an easy job, so without thinking I grabbed my multi-meter and began removing panel 18 (turtle back) on top of the aircraft where the acoustic beacon was located.

Once I removed panel 18, I set it on top of the panel aft of it, thinking the panel was secured. I wrote down the serial number and the expiration date, and then pulled out my multi-meter to read the voltage. Unexpectedly, a gust of wind swept up, and I helplessly watched the panel sail through the air and crash on the deck below. I knew immediately that I had made a terrible mistake.

I climbed down the aircraft and grabbed the panel off the deck and began inspecting it for damage. I noticed that two corners had missing paint, composite damage, and seemed very brittle. I brought the panel to the other side of the aircraft and set it down, this time securing it so that it would not blow away again.

I stopped one of my flight deck coordinators and asked him to come over to see what I had done. I explained to him how the panel fell; he radioed Maintenance Control to inform them of what happened. He told me Airframes was on the way to inspect the panel and would verify the extent of the damage.

After an Airframes CDI arrived, he inspected the panel and told me that it was damaged beyond our repair level and that it needed to be replaced.

Had I not taken it upon myself to do unneeded maintenance, this incident would have been avoided and I could have saved my squadron the trouble of downing an up aircraft during the first day of combat operations. It was supposed to be a good night. I should have communicated with my supervisor better, or asked my Maintenance Control if the 336-day needed to be completed, or if they were planning to send the aircraft to the hangar. Had I asked the question, I would have been told to hold off until a later date and this entire incident could have been avoided.

In my thirst to show initiative, I lost sight of the bigger picture. I now have a greater understanding why supervisors decide what maintenance I can do and what resources I need to complete the job. Our squadron currently has standing orders not to remove panels on the flight deck without personnel standing by to secure it. Unfortunately, this panel was not repairable onboard the aircraft carrier and requires Depot-level repair. Now, my squadron has a jet down in the hangar bay waiting for a \$47,000.00 replacement panel and I have learned an invaluable lesson about executing by-the-book maintenance. 🦋🦋

AT3 Dominic Ellingson is a mech with VFA-14

Aviation Class B/C Mishaps

Top 5 Discrepancies

MAINTENANCE TRENDS FROM FY12 CLASS B/C MISHAPS

There were 44 Class B/C mishaps where maintenance was an accepted causal factor. While this doesn't go into the specifics of each event, some broad generalizations are included in areas with multiple occurrences.

MAINTAINER SLIPPING/FALLING (4)

- 1 Class B (Permanent Partial Disability)
- 3 Class C (1 confirmed injury & 2 pending)

LOW POWER/HIGH POWER TURN UPS (11)

- 2 Class B (\$1.6 million with 1 pending)
- 9 Class C (\$1.02 million with 2 pending)

Common factors: FOD, flight controls impacting engine doors, failing to follow turn checklist, lack of QA/FDC for turn operations, lack of a turn brief, complacency.

FAILURE TO FOLLOW PUBS/SUPERVISION (23)

- 4 Class B (\$3.2 million and 2 Permanent Partial Disability)
- 19 Class C (\$3.48 million with 2 pending)

Common factors: performing maintenance on loaded weapons, improper completion of special/conditional inspections, lack of QA/CDI/SUP involvement/supervision, not heeding NOTES / CAUTIONS / WARNINGS, lack of knowledge/experience, panels blown overboard, improper daily/pre-flight inspections, poor communication/pass down, complacency.

TOWING EVOLUTIONS (5)

- 1 Class B (\$1.14 million)
- 4 Class C (\$287,000 with 1 pending)

Common factors: lack of tow brief, towing without a full move crew, rushing to get the job done, failing to ensure proper clearance around obstacles.

TOOL CONTROL (1)

- 1 Class C (\$240,000)



Safety Survey Discrepancies, FY11 vs. FY12

Navy photo by MC3 Carla Ocampo

FY11			FY12		
Rank		Severity	Rank		Severity
1	Aircraft logbook inspection and TDs do not match OOMA/NALCOMIS		1 ✓	Personnel lack ORM knowledge and proper application	
2	Personnel lack ORM knowledge and proper application		2	Improper/lack of proper use of personal protective equipment	1
3	Outdated publications utilized by maintenance personnel	1	3	Failure to use publication/checklist during task	2
4	Tool inventories not updated to reflect changes		4	Poor communication between work center and maintenance control/unrealistic expectation	3
5	Pre-expendable and spare parts bin lack proper accountability		5	Lack of senior leadership guidance during towing evolution	
6	Hydraulic fluid log not fully documented and class 6 results not entered in logbook		6	Tool Control: Shift change ATAF, lack of knowledge for lost/missing tool reporting	
7	Personnel introducing spark-producing items within ALSS hazard area		7	Improper storage of hazardous material	
8	Missing safety devices on shop equipment, (i.e. sewing machine, grinders, drill press)	3	8 ✓	Missing safety devices on shop equipment, (i.e. sewing machine, grinders, drill press)	
9	Material Safety Data Sheets not updated and lack unique identifier		9 ✓	Personnel introducing spark producing items within ALSS hazard area	
10	Pre-operational checks not performed prior to use of equipment	2	10 ✓	Aircraft logbook inspection and TDs do not match OOMA/NALCOMIS	

✓ Repeat across FY-11/FY-12

The chart above compares the top ten discrepancies in terms of how frequently they were found during maintenance safety surveys during the past two fiscal years.

The “Severity” 1-2-3 rank is based on the subjective analysis of our maintenance experts, identifying the items that pose the greatest risk (as opposed to the frequency of a particular discrepancy).

Six new items (#2-#7) appeared on the FY12 list because we revised the survey checklist to include identifiable safety risks as well as program-related procedures, and also added more ORM across all work centers. This improvement to our process helps explain why #1 in FY11 moved to #10 in FY12. Also, in FY11 most commands had short-term issues with loading their initial data in a new part of the aviation-maintenance database program.

Air Jacked Up!

By AM2 Joshua Herring and AM3 Sean Edwardson

We were sitting in the Airframes shop during a Monday night mid-check when a task blared out of the 1MC. “Airframes!” yelled our Maintenance Control Chief, “we need to perform op checks on aircraft 407’s brake system!” This job called for a routine jacking operation on an E-6B Mercury, which weighs 342,000 pounds.

A flight engineer completed a Form F (aircraft weight & balance) to ensure the aircraft was at a proper jacking weight of 240,000 pounds (as called for by the E-6B technical manual). After we checked the pubs, we did pre-op checks on the support equipment. Once the hangar bay was prepared for jacking, we briefed the task in Maintenance Control. Everything seemed to be in place.

A team of highly qualified personnel went to work. When we started jacking the aircraft, the starboard side came up more quickly than the port side. The operators of the mule (hydraulic pumping unit) and the plumb bob (a pendulum that attaches to the aircraft to indicate its equilibrium) rapidly communicated this unusual situation and halted work.

The mule operator began to counter the unbalanced aircraft by trying to raise the port side jacks to match the starboard side. When the mule operator turned the valve to raise the port side, the port side unexpectedly dropped two inches. This drop caused the port wingtip to be approximately two feet lower than the starboard!

Since the aircraft was in an unusual, asymmetric situation, the mule operator’s attempt to level the aircraft made things worse. The plumb bob and mule operators noticed the unsafe situation and told the team to lock down all jack collars to prevent any further movement of the aircraft. We still had one big problem: our aircraft was sitting sideways and looking like a low rider doing the three-wheel motion!

The team continued using ORM, assessing the situation, identifying hazards, making risk decisions, implementing controls and supervising the evolution. The hazard was obvious: the aircraft could slip off the jacks, damaging the aircraft and possibly injuring someone, resulting in a Class A mishap.

The first step in mitigating the hazard was to lower the aircraft back onto the ground. Our controls were to lock down the jack collars, and with the aircraft safely secured in the jacked position, we got more personnel



involved. We brought in two Quality Assurance representatives to assist and supervise.

We assessed that the aircraft could be lowered safely using the mule, but not jacked, so we used normal aircraft lowering procedures. With the aircraft safely on the deck, the team began to identify what went wrong.

The mule had been the culprit. It provides hydraulic fluid under pressure to the jacks via three different hoses (forward, port and starboard). It couldn't provide the proper pressure to the port side. After getting a new mule, we triple-checked the hoses and connections and did pre-op checks on the jacks again. The team

re-briefed the jacking operation in Maintenance Control and went back to work.

The aircraft was jacked, the brake system was op checked and the aircraft was lowered with no damage to personnel or equipment. This evolution could have turned into a mishap at the blink of an eye, but with experience, knowledge and team work, the unsafe asymmetric situation was averted and the maintenance evolution was performed without a mishap. The aircraft was returned to fully mission capable status and was able to make the Tuesday flight schedule. 🦅🦅

AM2 Joshua Herring and AM3 Sean Edwardson work in VA-4 Airframes

Our aircraft was sitting sideways and looking like a low rider doing the three-wheel motion!



New Lessons from an Old Bird

By AM2(AW) Norman Brown

I was assigned to the VP-30 Airframes shop, the Fleet Replacement Squadron for P-3C Orion and P-8A Poseidon aircraft. The P-8 is the Navy's newest aircraft; the P-3 has been flying since the 1960s, and despite some upgrades and evolution, the maintenance procedures are now well-established. Nevertheless, we maintenance technicians still can learn something new almost every day, no matter what airframe we work on.

Maintenance priority tasks were assigned during the morning maintenance meeting. One of my many duties was a daily inspection of a P-3 that was slated for a functional check flight (FCF). It had just had some major corrosion repairs on its tail section. Important flight-control components (such as the elevator boost package, cables and hydraulic lines) had been removed and reinstalled.

After more than two weeks of repair work, completed Maintenance Action Forms (MAFs), operational checks and hundreds of man-hours, we were glad to see the aircraft out on the flight line ready for its final inspection prior to the FCF. As a collateral duty inspector, I was responsible for heading up the daily inspection.

The first indication that something wasn't quite right was our discovery that the hydraulic system reservoirs had been serviced incorrectly. The number two system was over-serviced past full, and the number one system was significantly under-serviced. Our team discussed the discrepancy and agreed that we would assume that it was normal, based on the fact that this condition can occur when the bomb bay system is operated with only one hydraulic pump. I directed my crew to de-service and service the reservoirs to the proper levels.

The next step of the inspection was the brake accumulator bleed-down and hydraulic operational checks. We didn't see anything out of the ordinary until turning the number one hydraulic pump on. The amount



Maintenance technicians still can learn something new almost every day, no matter what airframe we work on.

in the number one reservoir began to drop, and number two began to over-service again. Not sure what the problem was but knowing something wasn't right, we stopped and notified maintenance control.

We troubleshooted the hydraulic systems and took a look at the elevator boost package lines. Carefully cross-referencing our publications, we discovered that the two hard lines had been installed backwards on the boost package. This mix-up caused the problems with the hydraulic quantities.

The maintenance pubs used for this job don't have figures or pictures, so the task can be confusing. If we had missed the problem and sent the aircraft out for an FCF, it could have lost one or both hydraulic systems.

We shared the lessons learned from this incident. We made numerous calls to other commands and civilian tech reps to see if anyone else had heard of this happening, but no one had heard of it before. Within VP-30, we held training on this incident, and a CAT1 TPDR was submitted to add a "Caution" for the installation of the lines in the maintenance instruction manual. 

AM2(AW) Norman Brown is a Patron-30 Airframes Tech



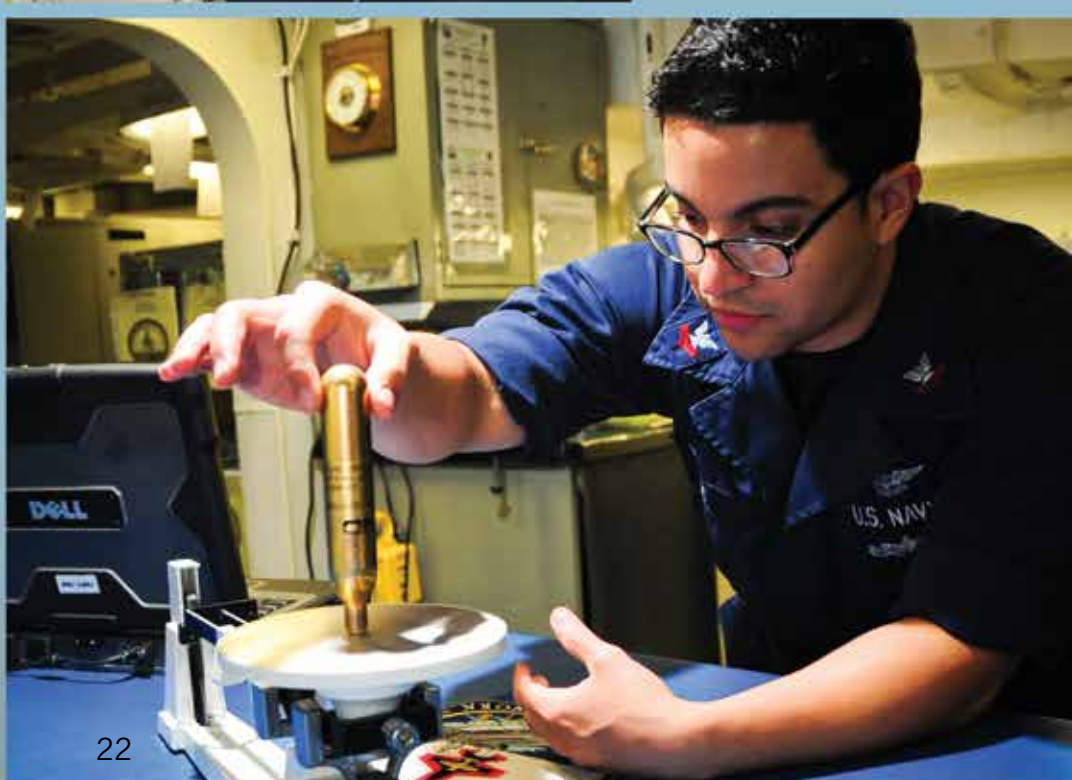
Maintainers in



Aviation Machinist's Mate 3rd Class Aaron Jenkins assigned to VFA-2 inspects an engine turbine on an F/A-18F Super Hornet in the hangar bay of USS *Abraham Lincoln* (CVN 72). Photo by MCSN Benjamin Liston.



Aviation Structural Mechanic Airman VFA-14 performs corrosion maintenance on an F/A-18F Super Hornet aboard USS *John C. Stennis* (CVN 74). Photo by Tyndalle.



Aircrew Survival Equipmentman 2nd Class Isidro Yance weighs a carbon dioxide bottle during preventative maintenance on a life preserver aboard USS *George H.W. Bush* (CVN 77). Photo by MC2 Maria Rachel Melcho.

the Trenches



Holly Harris assigned to
once on an F/A-18E Super
(CVN 74). Photo by MC3 Will

Aircrew Survival Equip-
mentman 2nd Class
Virginia Sanchez, left,
assigned to the Aircraft
Intermediate Maintenance
Department's IM-2 Divi-
sion, discusses tool inven-
tory with Aircrew Survival
Equipmentman Airman
Corey Morris in the life
preserver shop aboard
USS *Carl Vinson* (CVN
70). Photo by MC2 James
Evans.



Aviation Boatswain's Mate
(Handling) Airman Ashlie Ray
and Aviation Boatswain's
Mate Airman Apprentice
Michelle Carmack chain down
a F/A-18 Super Hornet for
security in the hangar bay of
USS *Dwight D. Eisenhower*
(CVN 69). Photo by MCS
Darien Kenney.



BRAVO *Zulu* Sailors and Marines Preventing Mishaps



AMAN Justin Rodriguez
HM-14 Det 1

During a structural airworthiness inspection for a repeat flight-control gripe on an MH-53E, AMAN Rodriguez discovered a 1/8-inch gap between the mounting bracket on the stationary scissors on the main gear box and the main-gear-box mounting pad. He asked QA and Maintenance Control to inspect further, which revealed that one of the mounting pad studs had sheared and three others were bent. The aircraft was grounded. Had he not found the original problem, the helo pilot could have lost control of the \$38 million aircraft.

– HM-14 Det 1, is stationed in Pohang, Korea.



AD1 Steve Hall, AD2 Scott Stearns
and AM3 Kyle Eyer
HSL-48

During routine maintenance to cabin soundproofing, Petty Officers Hall and Stearns and Airman Eyer found that a crucial bolt and hardware were missing from the main-cabin vibe absorber on VENOM 514. Petty Officer Hall notified his chain of command and initiated a FOD search for the missing components. After the missing parts were located, Petty Officer Stearns and Airman Eyer repaired the vibe absorber.



**Corporal Mark Caponette
HMH-463**

During a phase inspection on a CH-53E, Cpl. Caponette discovered that the stationary scissor assembly had failed at its mounting point on the main gear box. The problem wasn't immediately apparent due to the potting compound around the mount and along the bolts. Upon closer inspection and peeling back the compound, he could see the failing bolts and loose mounting bracket. He alerted Quality Assurance, and a one-time inspection of all aircraft was ordered. Two more aircraft had the same problem. Failure of the stationary scissor assembly would most likely result in total loss of control of the main rotor head. A fleet wide HAZREP recommending one-time inspections of all stationary scissor assemblies for the CH-53E was issued.



**AEAN Mark Derrickson
VR-64**

During an isochronal inspection on a C-130T, AEAN Derrickson discovered that a bulb was missing from the aircraft's number 3 fuel-quantity gauge. He notified Maintenance Control, which started a FOD search. He found the bulb lodged deep within a wiring harness behind the pilot's instrument panel.

**AE2 Nathaniel F. Klein
HSM 71**

During helicopter flight operations onboard USS *John C. Stennis* (CVN 74), AE2 Klein saw foreign objects lying on the flight deck next to aircraft 700. Recognizing the danger to the aircraft and personnel working around it, he instantly alerted the flight-deck coordinator, the quality-assurance petty officer, and the safety petty officer on site. The potential FOD was a piece of broken tie down chain attached to the aircraft. AE2 Klein collected all parts of the chain and replaced it with new chain.



**AM2 John Andrado
HSM 71**

On a night in August, AM2 Andrado stood on the flight deck of USS *John C. Stennis* to service the main-rotor-head hydraulic accumulator on aircraft 702. Another mech climbed 702 to service the accumulator's nitrogen precharge. At the top, she slipped and fell more than ten feet towards the flight deck. AM2 Andrado tried to catch her and managed to cushion her fall. He also kept the nitrogen walk-around bottle from hurting anyone, since it too had fallen.



**AMAN Gary L. Thompson
HSM 71**

During afternoon flight operations onboard USS *John C. Stennis* (CVN 74), Airman Thompson was helping spread aircraft 702's tail pylon. After the pylon was locked in the flight position, he thoroughly checked the tail-pylon lock pin. He discovered that the pin had not fully extended into the locked position, even though it indicated so on the blade and pylon fold panel. He notified the aircrew and flight-deck coordinator.





**A03(AW) Thomas W. Swansey
VP-45**



**A03(AW) Dirk G. Richards
VP-45**

While performing Plane Handler duties on a P-3C, A03(AW) Thomas W. Swansey and A03(AW) Dirk G. Richards discovered an open engine oil servicing panel on one of the engines while completing a walk-around of the aircraft and weapon. They notified the pilot and flight engineer of the discrepancy which was corrected prior to starting the engines. The aircrew had already plane-sided and the only remaining exterior check was the "Last Chance" check by one of the junior pilots. Had this discrepancy been overlooked again it may have resulted in the loss of the panel during flight, damage to the aircraft, and FOD on the flight line or runway. Swansey and Richards displayed superior attention to detail which averted a potential mishap and facilitated the safe launch of the aircraft.

**AD2 Bluhm
VQ-4**

During a daily inspection, found a three inch and four inch crack at the 6 o'clock position of the engine inlet cowling on the #2 engine of aircraft 388. The crack was well hidden behind a mounting bracket and multiple hydraulic lines, making discovery very difficult. He also discovered some chafed hydraulic lines. His actions prevented the inevitable failure of the lines, the loss of the utility hydraulic system and possible untold damage to the \$8,750,000 engine.



**ADAN Sarah Watts
HSL-37**

During a daily and turnaround inspection, Airman Watts discovered the number two tail-rotor control cable had been completely sheared from the number two servo spring capsule. She immediately told a collateral duty inspector about the discrepancy and asked maintenance control to initiate a downing Maintenance Action Form. Her actions led to the removal and replacement of the spring capsule and a complete tail-rotor rig check followed by a functional check flight.



Hindsight 20/20

By AD2 Boozer

February 14th was like any other day out at Fleet Readiness Center Southeast T56 Engine Test Cell. My work center was performing a 52-week inspection issued against one of the two T56 engine test stands. The purpose of this inspection is to verify that the tie-down cables and mounting hardware pass both proof-load test and non-destructive inspection.

It is recommended that an Engine Installation Removal Vehicle (EIRV), which recently replaced the 20K forklift and an engine mounting adaptor (sling), be used during the removal and replacement of the tie-down cables. The EIRV is a relatively new piece of support equipment which looks like a Pettibone tractor with a boom attachment used to install and remove an engine onto the test stand. I had recently received my license to operate the EIRV, so the training on this piece of equipment was relatively still fresh in my mind.

Everything went as planned; my crew and I performed the pre-operation inspection on the EIRV, installed the sling onto the boom and briefed the spot

ters on where they need to be to guide me through the operation while I operated the EIRV. Three hours later we completed the 52-week inspection, and we were in process of stowing away all our gear.

While the rest of the crew was finishing up on the test stand, I decided to use the EIRV to drop the sling off inside the back of an F350 pickup truck. My first mistake during this evolution was not having a spotter in place to guide me towards the truck. As a result of my decision, I ended up damaging the top of the pickup truck with the boom while lowering the sling. Looking back, I could have prevented this entire mishap if I had only followed the book that requires the use of a spotter any time the EIRV is being operated and not disregarding the fundamental principles of Operational Risk Management. ✦

Leadership on the deckplate can help reduce these types of mishaps. When we discuss the "Assessment" step in ORM, this is where we need the seasoned leader who has "been there and done that" to weigh in and determine what can go wrong and make sure all procedures are followed.—CW05 Daniel Kissel, Naval Safety Center systems maintenance branch head.



ALSS Program

A VISION FOR TODAY AND TOMORROW...

By GySgt Steve Dell

Preventing mishaps is a crucial part of everyday aviation operations. It takes keen situational awareness and superior leadership to identify the numerous and potential hazards that exist in every type of environment.

While identification is a must, knowing what to do with the hazard is just as important. I've learned to live by this standard: "What do I know, who else needs to know, and out of those, who have I not told?"

A good example is the Engineering Investigation (EI) tool located on the Joint Deficiency Reporting System (JDRS) website www.jdrs.mil. This system lets you request an investigation on components and hardware by engineers.

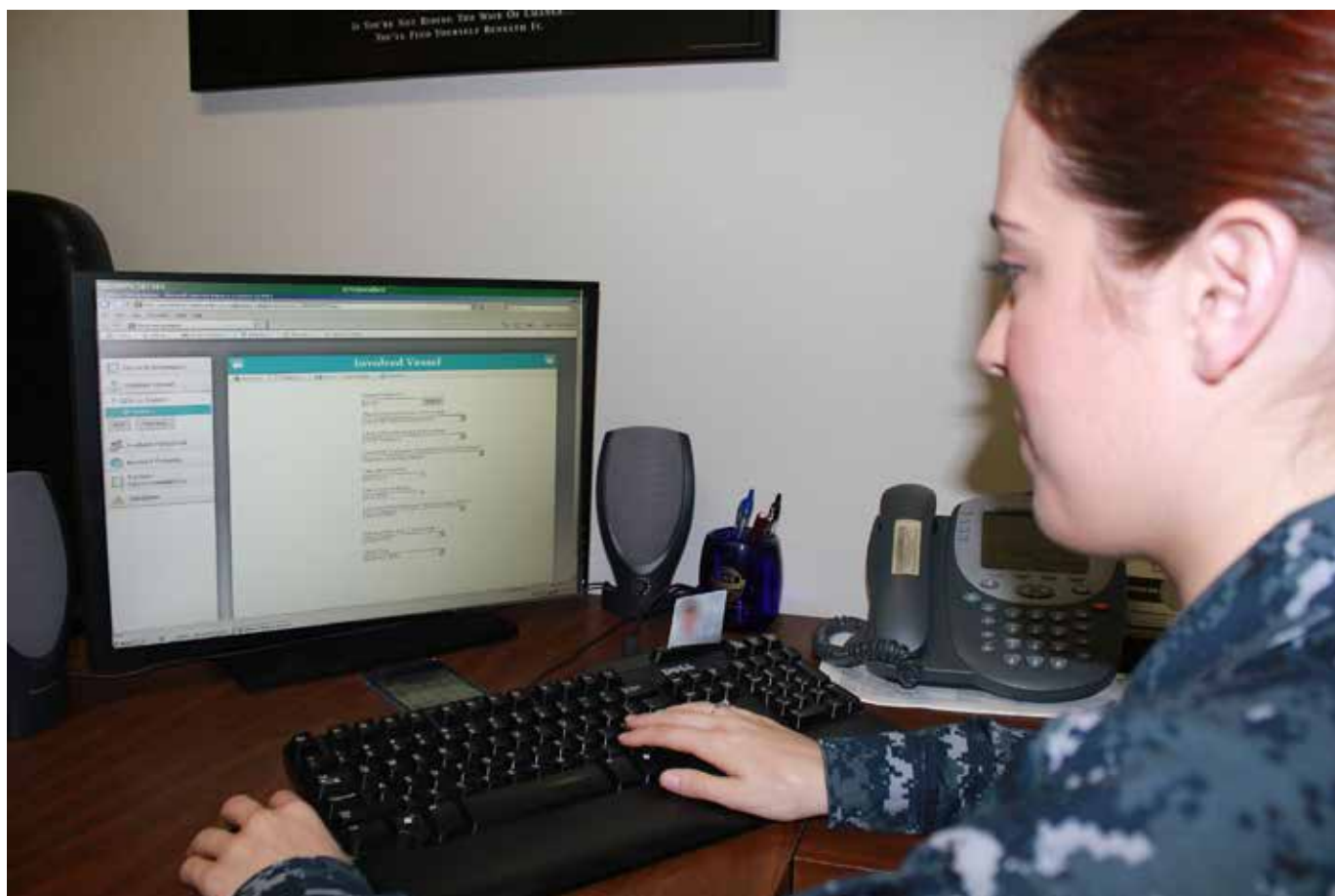
The findings from investigations lead to different approaches. One approach is to notify the fleet of known



or potential hazards with components or hardware per Type/Model/Series aircraft. Primarily, this is carried out by the issuance of a Technical Directive (TD) in the form of a bulletin requiring a one-time or recurring

inspection of like items throughout the fleet and the supply system. This highly effective means of communication could easily result in stopping a bad situation from happening.

Another example of communicating hazards is by initiating a hazard report (HAZREP) on the Web-Enabled Safety System (WESS). A link to this site can be found via the WESS tab located at the top of the Naval Safety Center's website (www.public.navy.mil/navsafecen). Where the EI tool gets the ball rolling on investigating a problem, a HAZREP immediately notifies other commands of the same Type/Model/Series. The HAZREP describes the event that took place and recommends actions.



Let's say your unit finds a bolt with a cracked head. You look at the same bolt on three other aircraft and those are cracked, too. Your Quality Assurance department can initiate an EI and send the bolt to the engineers via the supply system to try to find out what is causing the cracks. This process could take days or weeks to yield a finding. Consecutively, your unit safety officer can initiate a HAZREP identifying the event and recommend other units do a one-time inspection of all like bolts in effort to locate any suspect cracks.

This is merely a recommendation and not a requirement. However, if the EI warrants a one-time inspection via a TD, it is then a requirement.

Using these systems saves lives and heartache. Both systems require account access, which you can get by visiting the websites listed above. JDRS falls in

line with the Naval Aviation Maintenance Discrepancy Reporting Program located in chapter 10 of COM-NAVFORINST 4790.2 series. WESS falls in line with OPNAVINST 3750.6 series.

Maintainers need to focus more on JDRS, and the unit safety officer will focus more on WESS. At times, good communication efforts will be required between Quality Assurance and the safety officer in order to complete a HAZREP. Get with your Quality Assurance department and request training on the NAMDRP program and use of JDRS. By taking the initiative to do so, you will further enhance your qualification progression and overall knowledge of your maintenance department's operations. Make this one of your visions for today and tomorrow.

GySgt Dell is a Power Plants Analyst at the Naval Safety Center



The Frozen Middle

By Chief Warrant Officer 5 Dan Kissel

While performing safety surveys throughout the fleet, our Naval Safety Center team often witness junior personnel performing maintenance by memory (no publication or checklist), not wearing PPE and having a lack of basic rating knowledge.

Mech magazine has great articles by mostly junior personnel who write about their mistakes, (often writing about the issues addressed above) the same mistakes we see on the surveys. I often wonder where the leadership was when I read these articles. We all have heard the term “deckplate” leader, it’s in our evals or fitreps expounding on leadership prowess. I know this term is addressed over and over again in packages submitted for promotion boards for I’ve sat on five of them.

We label many supervisors as deckplate leaders, so why is inadequate supervision a major causal factor in mishaps? Class B and C mishaps totaled more than \$13 million in FY11, and we have exceeded that amount in FY12. Better supervision would equate to savings.

Leadership is more than wearing a rank device on your collar or sleeve; it is being able to recognize or assess situations and then mitigating and managing the risk associated with them. Who do we want to identify and assess the

hazards and risks, an E-3 or a more seasoned leader who has “been there and done that?” One of the principles of ORM is making risk decisions at the right level. Who is making risk decisions in your maintenance department? Is it a leader who is active and is constantly assessing the situation, or one that is just wearing the title?

Leadership is being totally involved in every aspect of your production effort and personnel issues. Standing in the hangar doesn’t automatically make you a deckplate leader. Get involved in what your personnel are doing. Do you know who is having problems such as marital, financial, or health issues. Do we want a Sailor having problems working on an engine or flight controls? Do they know the basic publications for their rate?

When was the last time you led training or taught them how to perform a maintenance task? When was the last time you observed or provided training to a maintenance evolution that was going wrong? Are you mitigating or eliminating hazards that can lead to a mishap within your division on a daily basis?

A leader needs to know what tools are available and how to use them. ORM is one of those tools and includes TCRM, which is being taught in boot camp to recruits. I often ask our maintenance leaders about TCRM and it’s not unusual to find someone with no knowledge of it. We become antiquated when our young Sailors know more about it than us.



Navy photo by MCSA Scott Youngblood

The CNO, MCPON and all force MCPOs have released POD casts on TCRM, but I'm amazed it is not known by most fleet units. Junior personnel are gaining the knowledge and possibly applying the concept, the officers practice it for their flight planning and missions, but our senior enlisted and more junior LDOs and CWOs still need to get up to speed. I refer to this group as the "frozen middle," stuck in their ways and not learning new ideas or concepts. ORM is not TQL or any other common buzzword that flies around the Navy. ORM can greatly benefit your maintenance-production efforts if you use it. If you need to brush up on the latest information on ORM or need to review the ORM OPNAV Instruction 3500.39C, look at the Naval Safety Center's website under the ORM tab.

My fellow LDOs, CWOs and Chiefs, we need your help to prevent future mishaps and successfully complete the mission. I know that we can do it by being engaged. There is not a problem a well-run Chiefs' mess can't solve along with the LDO and CWO community. When we are promoted to CPO, the first two letters of our rate remain such as AEC, ADC and AMC. We continue to be the subject matter experts in our field. Reach down to the junior folks and pull them up to your knowledge level and show them how to properly perform maintenance. Most of all, make professional aviation-maintenance technicians out of them.

Chief Warrant Officer 5 Kissel is the Systems Maintenance Branch Head with the Naval Safety Center.

Airframes

When You're Doing It Right



By GySgt Royce Downing

It's a rare occasion that we at the Safety Center get to tell a unit they have a noteworthy program during a survey. During our survey trip in March to MCAS New River, I came across one such program. This "shout out" goes to the Corrosion Control workcenter of VMM-266, the "Fighting Griffins," for their hazardous material (HAZMAT) control procedures. SSgt. William Sawyer runs the program for the squadron.

Three things put this unit over the top for me. First, their use of a scale during the check-in and check-out process. This allowed the squadron to track precise use and disposal of HAZMAT and waste.

Second was the training given to the Marines, specifically in the area of Material Safety Data Sheet (MSDS) and unique identifiers. When Marines were

asked where to get first aid information for a hazardous chemical, they checked the unique identifier on the HAZMAT container and quickly pulled the correct MSDS and information needed.

Third, their spill kits, which had wheels for rapid deployment. All personal protective equipment (PPE) within the kit was bagged and separated so the responders just grabbed a bag. This means that during a spill, each person would get a bag that had all the required PPE for a spill. This minimized the time it takes to respond to and begin cleaning up HAZMAT spills.

For those of you looking to make your HAZMAT program better take a lesson from SSgt Sawyer. Ensure you know what's going in and out, train your people for the proper response when something goes wrong and ensure your equipment is readily accessible.

GySgt Downing is an airframes/hydraulic analyst at the Naval Safety Center.

Tires/Wheels

Tire and Wheel Program Emergency Tire Deflator



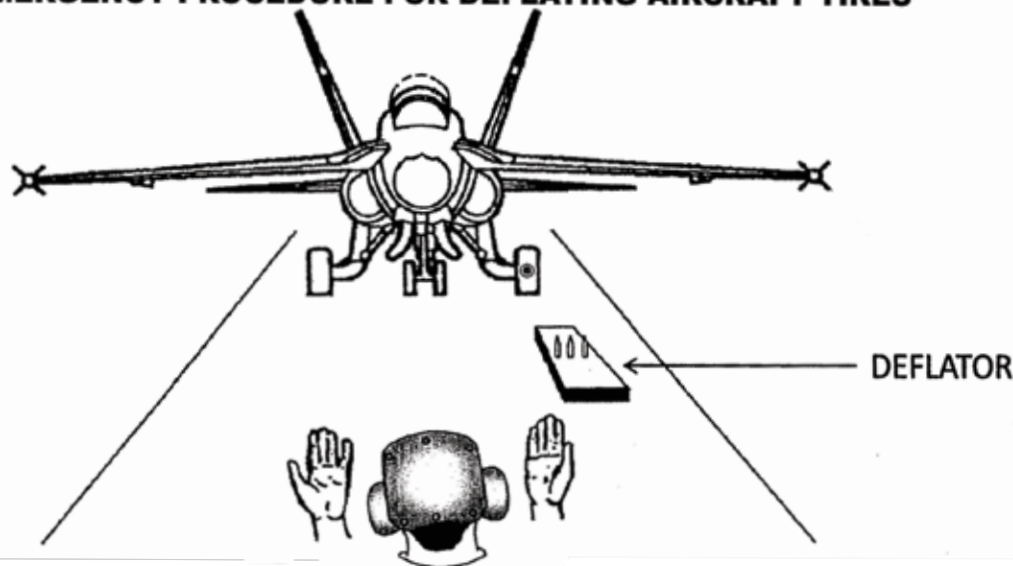
By AMC(AW) Richard J. Kersenbrock

Let's talk about some Tire and Wheel Program Safety. More times than not, while on a survey, we see the Emergency Tire Deflators are either locked up in a tool box or not advertised within the spaces as to where it is located. The issue with this scenario is that nobody knows how to find it or nobody outside of the Airframes work center knows how/when to use it. Every now and then we come across a program or a practice that catches our attention as being a "Best Practice". While on survey at NAS Lemoore, California, we came across a program that grabbed our attention. AM1(AW) Millard Head of VFA-86, the Tire and Wheel Program Manager, devised a way to advertise the emergency tire deflator location and describe the way to properly use it. It includes a visual diagram showing its use,

the hazards involved while using it and was posted on all shop doors and hangar exits. The most impressive portion of the idea was the training that accompanied these posters. When junior personnel were asked questions concerning Tire and Wheel/Emergency Tire deflation, the questions were answered correctly with no hesitation. For those of you looking for ways to improve your program, here is a great practice that you can apply. It is a great example for thinking outside of the box to get the point and the training out to the personnel that need it. Bravo Zulu to Petty Officer Head and VFA-86 for a job well done.

AMC(AW) Richard J. Kersenbrock, is an Airframes/Corrosion/HAZMAT Maintenance Safety Analyst at the Naval Safety Center.

EMERGENCY PROCEDURE FOR DEFLATING AIRCRAFT TIRES



The emergency tire deflator shown, located in the line shack, is used when normal deflation through the valve core is considered unsafe, or to prevent a wheel assembly explosion. This situation may arise due to overheated brakes, a damaged tire, a damaged valve stem, or when examination of the wheel discloses cracks or missing pieces. The procedure involves laying the tire deflator in front of the discrepant tire/wheel assembly and taxiing/towing the aircraft across the board to puncture the tire and release the pressure. Because of the possibility of a wheel explosion, all personnel and equipment outboard/inboard along the path of the axle should be cleared.

A close-up photograph of a male technician working on a large, complex mechanical component, likely an aircraft engine. He is wearing a green helmet with a red and white 'SN' tag, a grey long-sleeved shirt with 'AM3(AW) VOMERO' and '-83' printed on it, and a communication cable. He is focused on his work, using a thin tool to adjust a part of the engine. The background shows the interior of a large hangar with various structural elements and lighting.

Aircrews Depend Upon Your Professionalism.

Never Give Them the Opportunity to Doubt it.

