The Navy & Marine Corps Aviation Maintenance Safety Magazine

Mech

Winter 2006-07

The "Can Do" Mechanic

Job Complete or Not?

Thorns on the Way to the Rose

The Navy & Marine Corps Aviation Maintenance Safety Magazine

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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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Front cover: Aviation Ordnancemen load a GBU-12 laser-guided bomb onto an FA-18C Hornet attached to the "Knighthawks" of Strike Fighter Squadron One Three Six (VFA-136) on the flight deck of the nuclear-powered aircraft carrier USS *Enterprise* (CVN-65). *Navy photo by MCSN Noe Solis.*

The Hazards of the Flight Deck

By AN Adam Phillips

Working on the flight deck can be dangerous, and I saw several examples of just how dangerous while working in the VAQ-141 line shack on a recent deployment to the Gulf. Although no one was killed, several minor accidents and near-misses occurred, including one in which a flight-deck worker almost lost his leg. I survived the deployment without injury but gained a new appreciation for how important it is to pay attention while on the deck.

While waiting to move one of our aircraft, I was watching a few F-14 maintainers servicing their aircraft late one afternoon. The plane captain signaled that the hydraulics needed to be serviced. One of the plane captains got the hydraulic servicing unit (HSU) and went to service the hydraulics. On an F-14, the hydraulic servicing reservoir is located next to the air starter unit's (ASU) connecting port. About 20 seconds into servicing the hydraulics and while I was tying my laces on my boot, I heard a loud pop and heard some screaming. I looked up and saw the PC who had been servicing the hydraulics lying on the ground. A hose from the ASU flailed

Navy photo by MC3 Jon Hyde

Navy photo by MC3 Dominique Lasco

Navy photo by MCSN Patrick Mullen III

Navy photo by MC1 Michael Obney

uncontrollably, whipping around and striking anything in its path.

As it turns out, the tractor driver operating the ASU did not inspect his equipment correctly, and the hose had popped off the jet, hitting the PC in the back of the head and knocking him unconscious. He wasn't injured too badly, but it could have been worse. He was able to return to full duty only two days later.

Some people aren't as fortunate as this Sailor. As a matter of fact, a couple of friends of mine can attest to being injured on the job. One fell off the jet and broke his hand. He was on light, limited duty for almost two months before being able to contribute to the war effort. Another guy, a close friend of mine, was getting off a jet, after putting in wing struts, when he slipped. He attempted to grab the aft canopy as he fell backward. It didn't work, and he fell to the deck, tearing some muscles in his shoulder. He was on light duty for almost a month. Yet another squadronmate fell off a jet while wiping down the canopies. He fell off the boarding platform and was fortunate to land upright. He looked around to make sure no one saw him and went on like nothing had happened.

There were a couple of serious injuries that I saw, however, while on deployment. One occurred when some Sailors were using a crane to lift and carry some heavy equipment around on the flight deck. One of the men wasn't paying attention, and the crane swung around and hit him in the chest, crushing it and requiring a medevac to a hospital in Kuwait. It's been several months, and he still hasn't recovered completely. The other accident I witnessed was a C-2 greyhound that had landed with a bad nose tire. A QAR was watching the tire change when the nose wheel shot off and hit the QAR in his shin. He also needed a medevac flight and never may have full use of his leg again. These incidents all occurred in about a seven-month period.

Navy photo by MC1 Michael Obney

The flight deck always has been and always will be one of the most dangerous places to work, but Sailors must work there. We simply must remember that anything can happen to anybody at anytime. The adage "keep your head on a swivel" is good advice, and we must stay vigilant and follow all the rules while on deck.

Airman Phillips works in the line shack at VAQ-141.

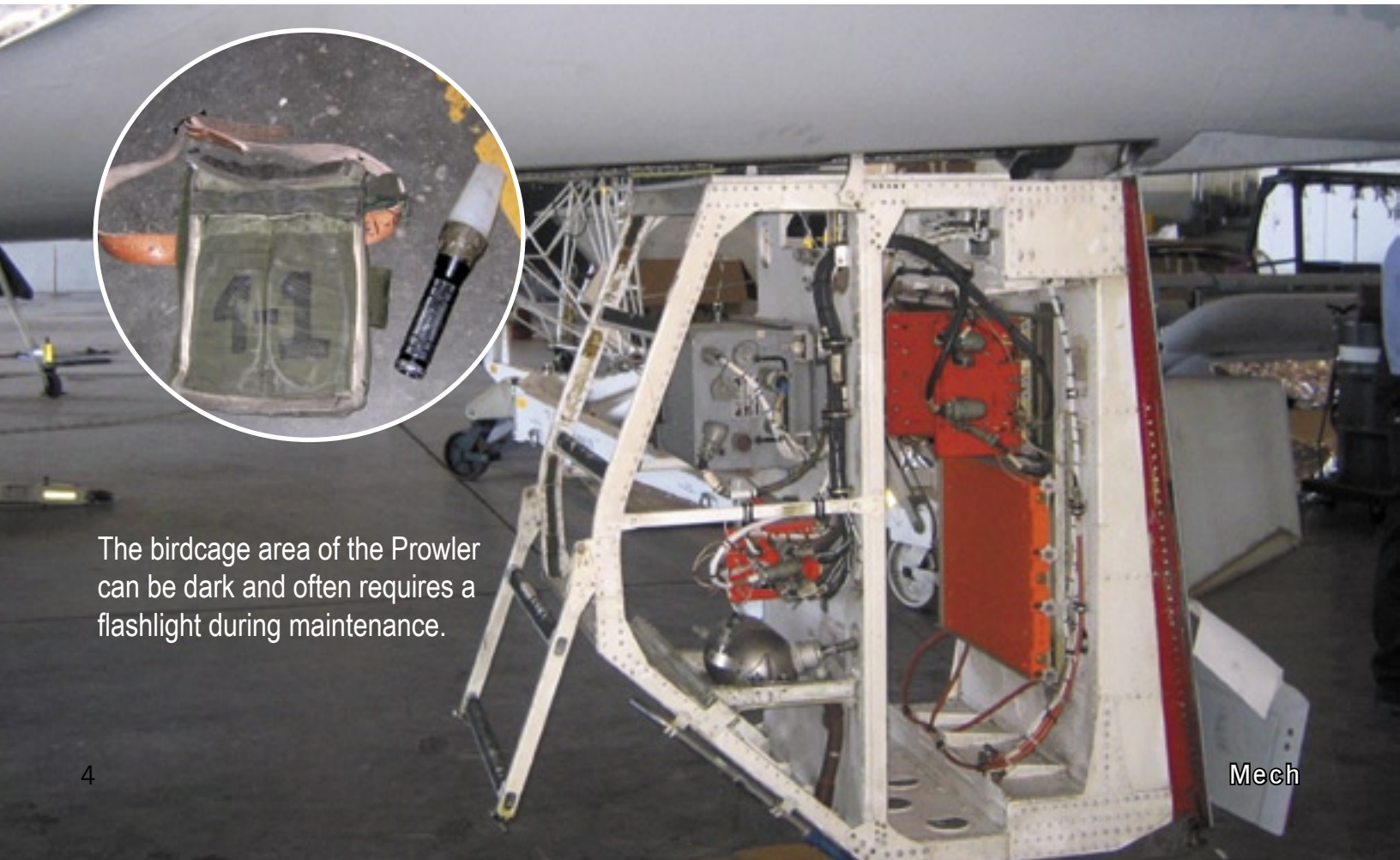
The "Can Do" Mechanic

By AME2 Aaron Hall

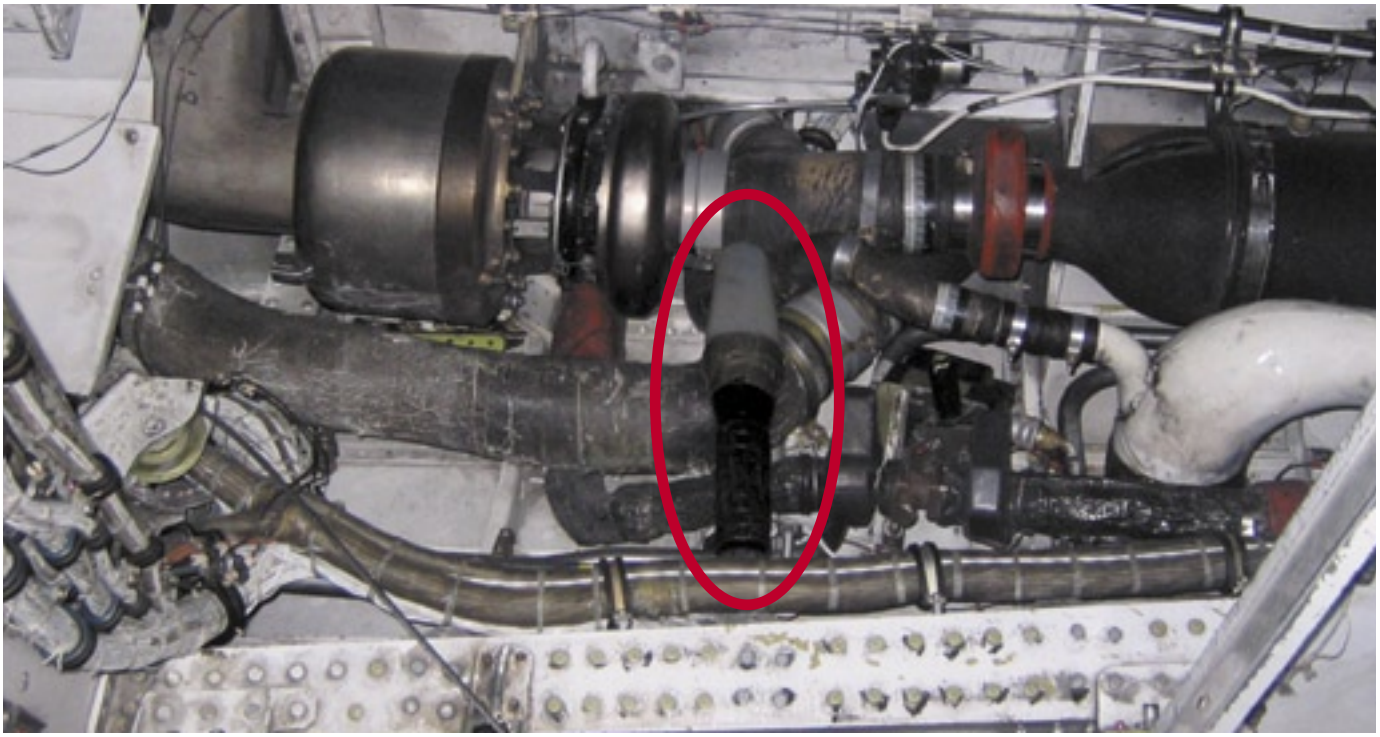
All good squadrons take pride in knowing they expeditiously can and will complete a job correctly each and every time. This feeling has those of us in the aviation-maintenance profession looking forward to the next challenge. This knowledge also keeps our organizations moving at an efficient and productive pace. Many people refer to this sentiment as the "can-do" spirit, but it can spell trouble and can lead to tragic results.

It was early afternoon, and my supervisor had told me to safety wire a pressure switch for the equipment-cooling system, which is located in the aft equipment bay (birdcage) of one of our EA-6B aircraft. Knowing I had limited time to complete the task before I was needed on the flight line for the next aircraft recovery, I quickly cut a piece of safety wire and grabbed a flashlight out of a tool pouch. I then double-timed to the aircraft. In my haste, I neglected to sign the tool log, and I failed to have my supervisor inspect the tools before I left the shop. I finished the job, ran back to the shop, and told my supervisor the job was complete. Before getting a response from him, I left the shop and headed to the flight line to recover incoming aircraft.

Soon after the recoveries were complete, I left for the barracks to assume my watch. During the tool inventory at the end of the day, the shift supervisor discovered a flashlight missing from my tool pouch. He called me about the missing tool. I immediately



The birdcage area of the Prowler can be dark and often requires a flashlight during maintenance.



Flashlight found in the aircraft where it had been left.

remembered the flashlight I had used earlier in the day and knew I had been working in the birdcage area. My blood ran cold as I retraced my steps in my mind and realized that I couldn't remember returning the flashlight to the shop.

The supervisor told me that the folks in maintenance control and quality assurance already had been notified. He also mentioned that the suspect aircraft was out flying, but it had been recalled to home base. A relief was sent over to take my watch, and I made my way back to the shop. Thinking about the incident made it a long trip.

By the time I arrived at the squadron spaces, a missing-tool report already had been started, and the aircraft was about to land. Once the aircraft was parked, I ran out to the flight line with the recovery crew and anxiously lowered the aft extensible platform (birdcage). To both my dread and relief, the flashlight was in the birdcage and was recovered. Fortunately, no damage to the aircraft had occurred.

Our tool-control program had failed. We had not followed the established procedures listed in ComNavAirForInst 4790.2, Chapter 13. In addition to checking tools at the beginning and end of each shift, my supervisor or collateral-duty inspector should have inspected my tools before letting me leave the shop. I, too, was at fault because I should have inventoried my tools on arrival at the job site and then again when I was done with the job. I also should have made sure the supervisor or CDI had checked the job and my tools.

I also made other mistakes. Instead of taking out only the tools I needed, I should have taken out the whole tool pouch. It didn't take long for me to realize that the whole situation easily could have been avoided with a few basic and simple administrative steps. I should have initiated a maintenance-action form (MAF) to safety wire the pressure switch. This would have alerted maintenance control of the gripe and my desire to work on it. I had assumed one had been written and that my supervisor had put my tools and me "in work."

I learned that the importance of MAFs cannot be overstated. They not only keep track of the maintenance being done on each aircraft; they also give a history of the job itself. For example, they tell us who initiated the gripe, who corrected and inspected the job, and what tools were used on the job.

I could have avoided all the pain and embarrassment I endured that day with a few seconds of thought. My reputation took a beating, but I'm glad no one was hurt, and the aircraft wasn't damaged. The Navy has lost aircraft and people because of poor tool control. We must learn from incidents like mine and keep from making the mistakes that take lives. It takes only a moment for a well-meaning, "can do" mechanic to make a mistake.

Petty Officer Hall works in the AME shop at VAQ-138.

The Importance of a Proper Passdown

By AE3 Robert Dubrasky

We have all heard it before: Make sure you get a proper passdown before taking the watch or assuming your shift. Why else would someone show up a half hour before a shift? A better question is: Do most of us give a proper passdown? I would like to think so, but I found out how important it really is.

Top-deck relay is found under the turtle back panel.

It was the perfect winter day in the North Arabian Gulf as we neared the end of a six-month deployment. At the end of the fly day, one of our jets came back with a downing discrepancy. After troubleshooting, we determined that the No. 2, top-deck relay box was the source of the problem. Maintenance control gave us the OK to remove and replace the part, and a new one was ordered.

No. 1 relay and No. 2 relays are similar.

It wasn't long before the part was received, and the night shift began their workday with the usual passdown, or so it seemed at the time. They removed and replaced the relay box. After doing an operational check of the system, they discovered that the downing discrepancy wasn't fixed. Night-check then began to troubleshoot the system to find the problem. After a closer look at the schematics, we discovered that we had changed the wrong top-deck relay box. We had changed the No. 1 relay box instead of No. 2.

The shop removed the No. 2 box and ordered a new one. By this time, it was early in the morning, and flight operations were about to begin. Because of the problem with the wrong box, the jet was not up for flight operations. It wasn't until later in the morning, about 1100, that the new and correct part was replaced, and the aircraft was returned to full-mission-capable status.

It's common for EA-6B electricians to change the No. 1 relay box but not the No. 2 box. When the electricians saw the gripe and ordered a replacement, they incorrectly assumed it was the No. 1 component. Our shop had become complacent, and that lax attitude was the key factor in the error. The task was just another routine maintenance discrepancy; however, it didn't turn out to be routine this time. The cost was half a day of missed flights.

How did night-check replace the wrong component? The answer goes beyond complacency; we did not put a detailed passdown in the logbook. We use various logbooks throughout the Navy and Marine Corps to record important information. Passdown logs are no different. The AEs did a verbal passdown, but we didn't have a written record. The words and message were lost.

What are the learning points here? Approaching the end of deployment, maintainers need to sharpen their focus on seemingly routine tasks so that mistakes are avoided. Use the passdown log and record all the information that is crucial to maintenance and safety, including those items that will help avoid wasted maintenance man-hours and missed sorties. Too many times when a simple log entry is missed, extra work is done that didn't need to occur. Help your shipmates and provide a complete passdown.

Petty Officer Dubrasky works in the AE shop at VAQ-141.

Maintainers in the Trenches

An airman performs maintenance on an HH-60H Seahawk assigned to the Drangonslayers of Helicopter Anti-submarine Squadron Eleven (HS-11) on the flight deck of the nuclear-powered aircraft carrer USS *Enterprise* (CVN-65).

Sailors on the flight deck aboard the Nimitz-class aircraft carrier USS *Abraham Lincoln* (CVN-72) perform routine maintenance on a SH-60B helicopter assigned to Helicopter Anti-Submarine Squadron Light Four Seven (HSL-47).

An Aviation Boatswain's Mate refuels an AV-8B Harrier assigned to Marine Squadron Three One One (VMA-311), which is part of the reinforcement for Marine Medium Helicopter Squadron One Six Five (HMM-165) attached to the 15th Marine Expeditionary Unit (MEU) aboard USS *Boxer*.

A Photographer's Mate 3rd Class, assigned to the Diamondbacks of Strike Fighter Squadron One Zero Two (VFA-102), inserts a maintenance data card in a Shared Reconnaissance Pod (SHARP) before launch aboard the conventionally powered aircraft carrier USS *Kitty Hawk* (CV-63).

Failure to Prevent

By AM2 Rafael Nicasio

It was a sunny Friday morning at HSC-3, located on beautiful Naval Air Station North Island. Our squadron just had moved into a brand new building, and, although it was complete, construction still was being done in adjacent buildings. A fence had been erected to separate the construction area from our maintenance area. However, that fence had only one gate through which all construction traffic had to pass, and it opened directly into the squadron's maintenance area.

Around 0800, I was told to preserve Landslide 00, one of our MH-60S helicopters. To complete the assigned maintenance, I grabbed an AM3 and went to get the job done. To our surprise, the aircraft was parked next to the construction gate and in the same spot from

Helicopter was parked near an area where trucks entered and exited a construction site.

The damage could easily have been prevented.

Navy photo by PH2 Daniel Mennuto

where we had moved one just a day earlier. We knew that the last aircraft had been moved at the request of the construction company. They wanted more clearance between their trucks and our bird. Despite this fact, we had a job to do, and they hadn't said anything about this new aircraft.

We were busy placing barrier paper on the tail cone of aircraft when I noticed a large truck arriving with a small bulldozer in tow. The truck began moving adjacent to the construction site entrance and parallel to our aircraft. We did not pay enough attention to the truck until it started a sharp turn, bringing the trailer closer to the aircraft. The bulldozer on the trailer had two long poles sticking up vertically, and they were close to the aircraft's blade. I signaled to get AM3's attention. As the truck moved closer, I realized a collision with the blade was inevitable, so I yelled at the truck driver to stop. As he hit his brakes, one of the poles struck a blade-tip cap and caused the blade to compress. Immediately after impact, we heard a loud noise, and a piece of the cap broke off, catching everyone's attention.

We notified the maintenance chief and officer. Before we knew it, safety was snapping pictures of the scene. I felt bad for the truck driver because I thought he would face consequences for his actions, but I knew he should have been more careful. We also could have done more to manage this risk. The helicopter never should have been parked in that location, especially considering the move we had made the day before. Perhaps the word had not been communicated effectively between shifts. If we had to park the bird there, we should have roped off the area. The aircraft and rotor blades are painted with a tactical scheme, which can make them very hard to see. Better communication between the construction company and us also could have minimized the risk.

Working alongside civilian construction teams is not a common issue, but that fact makes it even more hazardous. This incident illustrates the significance of proper communication, the danger of assumptions, and the importance of managing the risk others pose to your mission. In the end, it doesn't matter who broke the tip cap; our squadron still lost money and man-hours.

We can't foresee all the mistakes others may make, but we certainly could have done more to prevent this wayward contract worker from damaging our aircraft.

Petty Officer Nicasio works in the corrosion-control shop at HSC-3.

One of Those Moments

By AN Phillip Williams

The workweek quickly was coming to an end, and I was excited about starting the weekend. My LPO asked me to assist the corrosion-control work center and take a B-2 maintenance stand to the front gate—the squadron was painting the Battle "E" aircraft. We recently had been awarded the 2005 CNAF Battle Efficiency Award, recognizing our squadron for outstanding achievement in combat readiness, operations, safety, and high morale. I wouldn't win any award for what was about to happen.

The squadron was proud of the recognition as a top squadron, and I was excited to be a part of the effort to paint the aircraft with the squadron's insignia. My LPO gave me a radio and directions on how to get the stand to the display aircraft. I wasn't particularly familiar with the area he was referring to, but the job had to get done quickly. Without thinking the entire job through, I replied, "Roger that!" and hustled on my way.

Looking back on my drive to the aircraft, I now realize that I had a lax attitude and didn't think the entire process through. But at the time, my mind was focused solely on getting the job done quickly. I wanted to impress the chain of command with my efficiency and decided to take the quickest route, instead of the route I was told to take.

You must keep in mind that the B-2 stand is about 15 feet in the air when fully retracted or in the "down position." I pulled out onto the main road and cleared

The impact was hard enough to break the frame.

one traffic-light suspension wire that traversed the road. Because I cleared the first wire with no problem, I figured the drive to the aircraft was going to be easy. Man was I wrong!

I really didn't think the traffic lights would be so low. When gauging the height, it appeared the stand would clear every light with no problem. However, I suddenly heard a huge bang, and I was dragging a traffic light with me. The B-2 stand pulled the light's suspension wire, breaking its metal support bar.

None of the wires for the traffic light were broken, and cars were able to continue on their way. When the stand grabbed the light, it scraped along the ground for several feet and began bending at the base. I had been traveling only about 3 mph, and it's amazing that I caused $3,000 worth of damage.

I notified my maintenance crew, and they came out to the scene. My line division chief also came to see what had happened. He was so angry I could see the veins popping out of his neck even before he said anything. The wing master chief also was there, and he had a similar reaction. It definitely could not have been more embarrassing. Of course, it did get worse when base security gave me a traffic citation for "reckless driving with GSE gear."

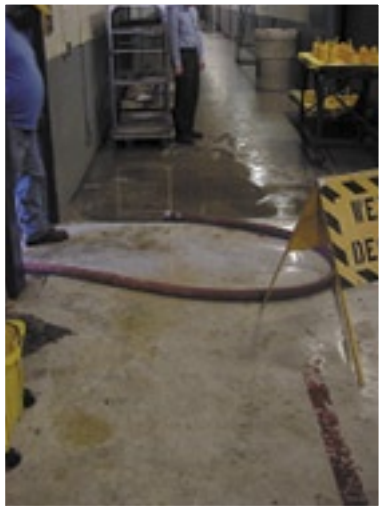
What I thought was going to be an easy job actually turned out to be one of the dumbest things I've done since joining the Navy. Well, at least I learned my lesson. Anyone can have a bad day, but slowing down, making a careful plan, and executing the plan would have made my drive much more enjoyable and less costly.

Airman Williams works in the line division at VS-24.

Unfiltered Madness

By AM3 Christopher Caraway





These photographs don't tell the whole story of damage done.

We've all thumbed through safety magazines, and I've chuckled a few times at the expense of the people involved in minor mishaps. Well, I can say that I'll never do it again, because I'm in that group now, and I know that "minor" mishaps are very BIG deals.

Here's what I've learned: If your gear doesn't work during a pre-operational inspection, down it and write a MAF against it **before** attempting maintenance. When you do maintenance, follow lockout/tagout procedures. I didn't do either, and someone else got burned (literally) because of it. This is how it all went down.

I was doing a pre-op on the large parts washer in 51B. All was going well until I reached the part of the inspection that says to check for clogged spray nozzles. This is a functional check, so I pushed the button but got no spray. Instead, a small trickle came from each nozzle. This is where mistake No. 1 developed. I went to the manual and found the alleged cause of the problem and was off to fix it. In hindsight, I should have at least told someone. Anyway, the probable cause that the publication pointed me to was a clogged filter. I gathered everything I would need for the filter removal and got started. I switched the breaker to the off position. Here's where mistake No. 2 occurred (I didn't lock it out). I then loosened the lid clamp on the filter can. After setting the lid and clamp aside, I pulled out the filter and went to rinse it.

I thought the operation was going quite smoothly as I rinsed the grime out of the filter. Meanwhile, at the parts washer, someone had flipped the breaker back to the "on" position. An airman, ready to clean some parts, loaded the washer, turned the dial to the desired time, and closed the door. When the door touched the switch, the machine sprang into action, causing a large amount (an estimated 60 gallons) of nearly 200-degree wastewater to spray out of the open fitting onto the airman. He suffered first-degree burns to his upper right arm and back. While the airman ran into the work center, yelling and ripping off his uniform, another airman hustled to secure the parts washer. He too got soaked with the wastewater but was not burned. The NASWI fire department was notified, and the hazardous-waste cleanup crew was dispatched. It took a few hours for the clean up to be completed, during which time we were unable to do any maintenance.

In the end, my two not-so-small errors in judgment caused a loss of around four hours of production and 24 hours of lost man-hours for the airman who had been scalded. I hope everyone reading this story learns from my mistakes, if only to prevent that dirt-bag feeling you get when you cause someone else to get hurt.

Petty Officer Caraway works in the corrosion shop at AIMD, NAS Whidbey Island.

Good

A Sailor places chocks under the tire of a piece of support equipment—a good and required safety practice.

Bad

Too often, maintainers will park a piece of equipment and not chock it. This simple step will prevent three or four incidents each year.

Ugly

Bad brakes on a tractor can cause problems like this crunch.

Job Complete or Not?

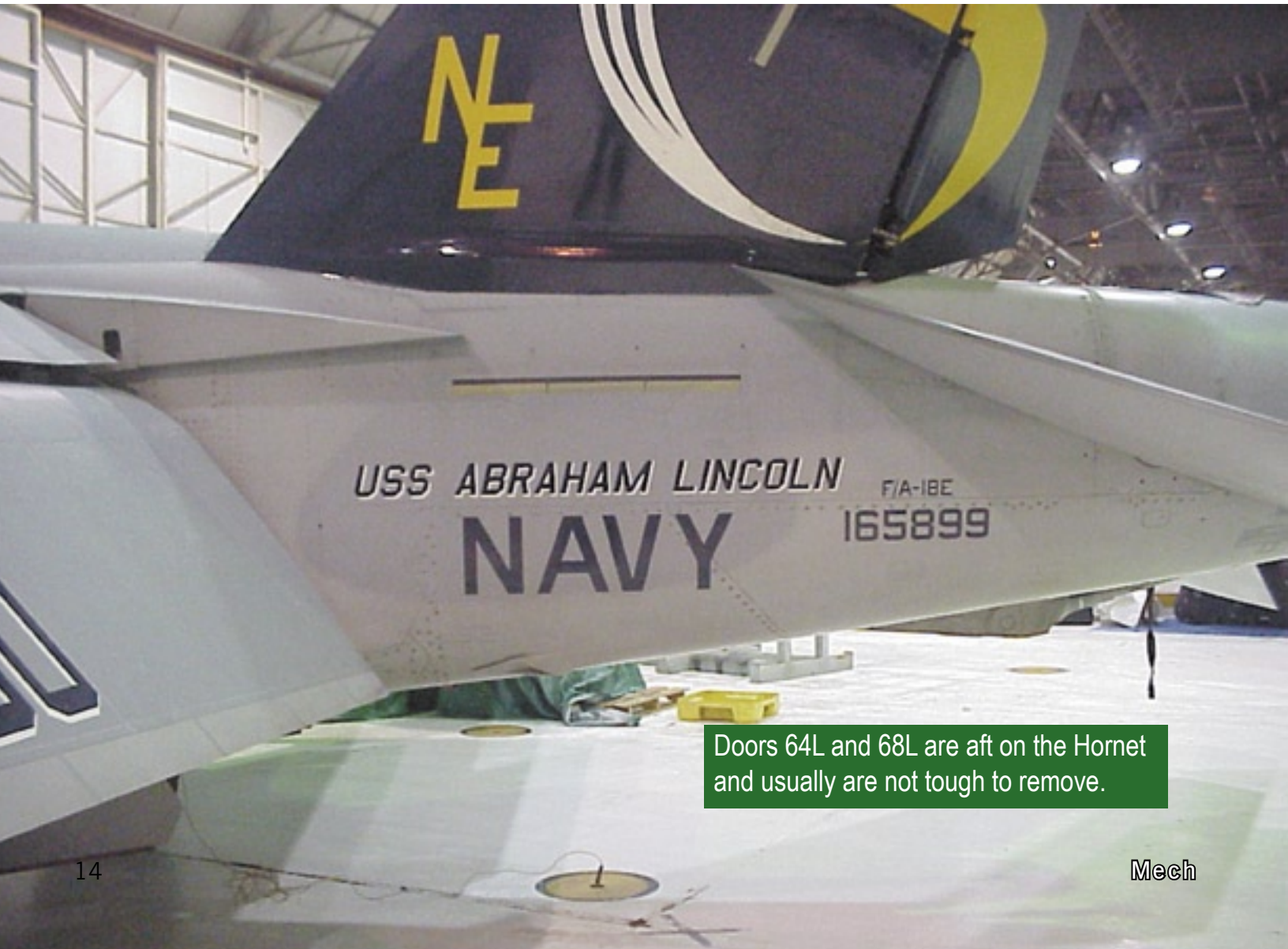
By AD2 (AW) John Ridgeway

I arrived at work on time and began the morning tool-inventory check. It looked like a slow schedule for my work center—a bit unusual for the troubleshooters. It felt like it just would be another routine day at our super hornet squadron, but that confidence was about to change. Little did I know that, before the day was over, I would make a mistake that could have hurt or killed a shipmate.

Because the workload was light, I offered to help my fellow mechs install a few 414 engines. Since the shop was short-handed and busy as usual and because I am a collateral duty inspector (CDI), they gladly accepted my offer. The job began like all engine installs do: nice and slow to make sure all cavity inspections and run-on torques are done thoroughly before the engine gets installed. As the CDI in charge of the evolution, I was responsible for making sure that all procedures in the maintenance instruction manual were being followed.

After fully installing the port motor and all accessories and doing a QA check of all torques, the aircraft now was ready for the engine-bay doors: 64L and 68L. Door 68L quickly was installed, but door 64L only was tacked on, so we could drop it during the low-power turn to check for leaks.

The low-power turn was a complete success, and the only thing left was to "button up" door 64L com-



Doors 64L and 68L are aft on the Hornet and usually are not tough to remove.

All panels must be securely fastened before flight. A quick look usually can determine if all fasteners are in place.

pletely and have QA check it. Once that was done, we could sign off the MAF as job complete. Unfortunately, it was time for shift change, so we had to stop the job and sign the job as "in process."

Three of us did an ATAF of our tools and took everything back to the shop, so we could do a proper day-check/night-check turn over. I next marked the MAF as "in process" and gave the oncoming night-checkers a complete passdown of what was left to do on the aircraft.

Little did I know that, before the day was over, I would make a mistake that could have hurt or killed a shipmate.

Everything sounds good so far, right? Well, this is where my normal habit pattern broke down. Because of a strange quirk in NALCOMIS and because I wasn't a troubleshooter CDI yet, I couldn't be identified permanently in NALCOMIS as a CDI just for power plants. Every time I have to sign off a MAF as a CDI for power plants, I have to ask the AZs to give me the permissions in NALCOMIS. Like I said, the procedure is a strange quirk, but one the department implemented to comply with the NAMP.

I headed over to the AZs to ask about my log in. They explained the procedure to me, but I got frustrated and lost my temper. That action was the first step in the wrong direction. I honestly can remember every last word that I had with the AZs about log in, but I cannot remember at what point I got it in my mind that the job was complete. Unfortunately, that false notion got lodged in my head, and I went back to the shop to sign off the MAF as job complete.

In reality, though, door 64L only was tacked on, and now the MAF was signed off. The system showed the jet was available for the flight schedule.

It was dark outside when the PC started his walkaround, getting ready to launch the jet. The pilot who was going to fly the jet did a preflight. Neither of them noticed that door 64L simply was tacked on. Fortunately, the jet went down for an unrelated gripe. It wasn't until another PC went to put the pins in the jet that the tacked-on door was noticed.

I was the CDI and had lost focus of the job at hand. I was so concerned with my log in that I completely forgot door 64L wasn't installed completely. I had let my emotions get the best of me and did not think clearly when my normal habit pattern got disrupted.

I truly am grateful that 205 didn't taxi and didn't fly. It could have ended in tragedy. I am wiser and learned a very valuable lesson that every maintainer should know. We must stay focused on the task from beginning to end. Our shipmates count on us, and people's lives are at stake.

Petty Officer Ridgeway is the troubleshooter shop supervisor at VFA-137.

New Antenna Gaskets

Eliminate Corrosion and Precipitation Static

By Thomas Doughty

Engineers from the Naval Air Systems Command (NAVAIR) have identified a new, environmentally friendly, and conductive gasket that guards against moisture intrusion and subsequent corrosion. This product does so while providing improved electrical bonding between aircraft aluminum substrate, mounting base of aircraft antennas, and static-discharger mounts.

Corrosion maintenance on aircraft surfaces and attaching hardware is a frequent and costly problem. Attach points such as static-wick mounts and blade antenna mating surfaces are just a few examples of areas that are corrosion prone and that seriously degrade the performance of electronic equipment, especially communication systems. These problems acutely degrade mission capability and require frequent troubleshooting and hardware replacement.

A new commercial-off-the-shelf-technology (COTS), produced by Aviation Devices and Electronic Components (AvDec™), is a conductive gasket, consisting of a cured polyurethane gel that encapsulates an aluminum wire mesh, which has been identified to provide improved electrical bonding between aircraft aluminum substrate and the mounting base of aircraft antennas and static discharger mounts. The focus of this technology is to seal and protect mating areas against moisture and subsequent corrosion while at the same time provide a mechanism for electrical bonding and grounding. The gasket is designed so that once the mounting screws are installed and torqued, compression squeezes some of the polyurethane gel to the outside edge of the antenna mount providing a small perimeter seal, thus eliminating the need for additional polysulfide sealing. That sealant is required each time a technician removes and replaces an antenna or static wick mount. The polysulfide sealant (MIL-PRF-81733) contains hexavalent chrome as a corrosion inhibitor and is used around the perimeter at the base of the antenna or static wick mount to prevent moisture intrusion. These technicians are being exposed to carcinogens that are embedded within the polysulfide sealant, and the excess sealant is a hazardous material that must be disposed of properly. The installation process is a labor-intensive procedure that severely impacts aircraft availability and operational readiness. With approximately 4,000 aircraft in the fleet, the use of the AvDEC™ conductive gasket will eliminate the requirement for using chromated polysulfide sealants, thus saving thousands of dollars in labor, material and disposal costs. Additional benefits include the elimination of airborne communication precipitation static (P-static) discrepancies caused by corrosion.

The NAVAIR Aerospace Materials Division AIR 4.9.7 successfully tested the gasket for temperature resistance, fluid compatibility, corrosion, and lightning strikes. The gasket material survived exposure to aircraft fluids and maintained it's electrical performance (2.5 milliohms or less) throughout all conditions, including corrosion testing. Following these tests, AIR 4.9.7 was granted approval to conduct field evaluations

of the gasket material on the EA-6B, which is prone to P-static gripes, and the H-60s.

VAQ-131 was one of two operational squadrons selected to conduct a lead the fleet "at-sea" demonstration of the AvDec™ conductive gasket technology. All aircraft antennas and static dischargers on two EA-6B Prowlers were outfitted with the gasket before the squadron's deployment. During the deployment, the two aircraft outfitted with the gaskets, flew a combined 759 flight-hours, half of these hours were combat missions over Iraq. AIR 4.9.7 engineers were confident that the conductive gaskets would significantly reduce P-static issues. The two Prowlers outfitted with the conductive gaskets did not experience a single P-static discrepancy during the entire deployment. Two of the squadron's Prowlers that did not have this technology installed experienced moderate to severe P-static gripes and temporary losses of communication between the aircraft and ship.

The post deployment inspection of the antennas and static dischargers on the two Prowlers outfitted with the gasket showed minimal peripheral corrosion on antenna mounting, static wick bases, and aircraft aluminum surfaces where AvDEC™ gaskets were utilized. Squadron maintainers and NavAir engineers considered the evaluation a success.

HS-7 did a concurrent at-sea demonstration of the AvDEC™ gaskets. The AvDEC™ conductive gasket was used on the upper and lower UHF/VHF antennas, and the team decided to waive the 28-day corrosion inspections of these antennas. Flight clearance was granted, the gaskets were installed, and the squadron embarked aboard the USS *Harry S. Truman*. The aircraft flew a total of 546.5 hours during its deployment.

Mr. Josh Honaker, the H-60 Avionics Engineer, at NADEP Cherry Point NC, stated in his technical report that "Post deployment inspection of the antennas outfitted with the AvDEC™ gasket revealed that they were in immaculate condition, considering the amount of time they were exposed to saltwater without an inspection, or any type of preventive maintenance treatment." The gasket sealing materials were easily removed with little effort and all antenna mounting surfaces and aircraft structure mounting surfaces that were sealed with AvDEC™ were free from visible corrosion. Honaker added, "AvDEC™ gaskets provided complete base metal protection and the aircraft experienced no notable system discrepancies or degradation to any of the systems that were involved in the evaluation."

Mr. Honaker recommended the current inspection requirement for the upper and lower UHF/VHF

Flight, Flight-Related, and Ground Class A Mishaps 10/01/2006 to 12/13/2006

Date	Type Aircraft	Command
11/30/2006	FA-18C	VMFAT-101
Hornet crashed after experiencing hydraulic problems.		
12/03/2006	CH-46E	HMM-165
Helo landed in water. Four fatalities.		
12/07/2006	MV-22B	VMMT-204
Aircraft landed on taxiway after experiencing left nacelle fire. No injuries.		
12/11/2006	CH-53E	HMH-465
Aircraft rolled over on its side while landing. One passenger fatality.		

Class B Mishaps

Date	Type Aircraft	Command
10/13/2006	TH-6B	NTPS PAX RIVER
Aircraft crashed during emergency landing.		
10/13/2006	FA-18F	VFA-122
Lighting struck Hornet during return to base.		
10/20/2006	SH-60F	DP COMNAVAIRPAC
Sonar transducer lost at sea while conducting ASW training on SCORE.		
11/07/2006	TAV-8B	VMAT-203
Aircraft nose gear failed to retract. No injuries.		
11/18/2006	FA-18D	VMFA (AW)-242
Left engine fire during PMCF. No injuries.		

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antennas be extended to a 364-day inspection, instead of the 28-day requirement currently established in the H-60 MRCs.

More recently, another conductive-gasket demonstration was done on one aircraft assigned to VFA-136. Six antennas that the wing identified as corrosion prone were tested. It took maintainers 14.25 man-hours just to remove the antennas because of the sealant and corrosion that existed. The conductive gaskets then were installed on the antennas and mounted on the aircraft, requiring approximately 10 minutes each to install. The squadron deployed aboard the USS *George Washington*. During the deployment, this aircraft logged 367.9 flight hours.

Post-deployment inspections showed that all six antennas were corrosion free. The antennas easily were removed, requiring no force or pressure to remove them from the aircraft. Antennas mounted on the underside of the aircraft dislodged within a minute or two after the mounting screws were removed. The average time to remove one antenna was 5 minutes. It took less time to remove all the antennas than just one of them before the test.

The overall cost for corrosion is extremely high ($10B in DoD annually), and this problem seriously degrades the operational readiness of aircraft. The AvDec™ conductive gaskets have performed exceptionally well in preventing corrosion at mating areas and

Intergranular and exfoliation corrosion found on an antenna base plate and aircraft skin.

Application of the AvDEC™ conductive gasket and protective gel on an antenna base allows the gel to squeeze out around the antenna base.

Antenna	Unit Cost ($K)	Removal Time (MH)	Time Savings (MH)	Replacement Rate/Deployment Average
Integrated	$143.0	0.75 MH pre deployment	0.68	2.5
		0.07 MH post deployment		
GPS	$1.6	8.0 MH pre deployment	7.83	1.0
		0.17 MH post deployment		
U/VHF	$4.9	3.5 MH pre deployment	3.42	5.0
		0.08 MH post deployment		
TACTS	$1.1	1.0 MH pre deployment	0.9	2.0
		0.10 MH post deployment		
IFF	$3.0	1.0 MH pre deployment	0.92	1.0
		0.08 MH post deployment		
Total	$153.60	14.25 MH pre deployment	13.75	
		0.5 MH post deployment		

This chart contains specific data regarding the demonstration and performance of the AvDec™ conductive gaskets with VFA-136.

eliminating P-static. Based upon the successful laboratory and at-sea demonstrations/evaluations, AIR 4.9.7 has authorized the use of the AvDec™ technology on all Navy and Marine Corps aircraft. Additionally, IRAC #7 to the NA 16-1-540 Avionic Cleaning and Prevention/Control manual recently has been issued regarding this technology.

The conductive gaskets can be die cut to the footprint of the antenna or static wick mount base. It can also be procured in bulk form. Transition of this technology to the Naval aviation community is made through the concurrence of the applicable platform FST and PMA. The first two platforms to transition to the AvDec™ gasket are the EA-6B and H-60 communities.

Tom Doughty is a materials engineer with AIR 4.9.7.

The author wishes to thank AEC Jan Hamillton, and AMCS Darrell McWhorter CSFWL, Mr. Allen Giannerini NATEC Detachment Oceana, AMCS Ron Price COMVAQWING, and the men and women of VAQ-131, HS-7 and VFA-136 for their support during the demonstration and evaluation of this technology.

Thorns on the Way

By ADAN Brandon Ramirez

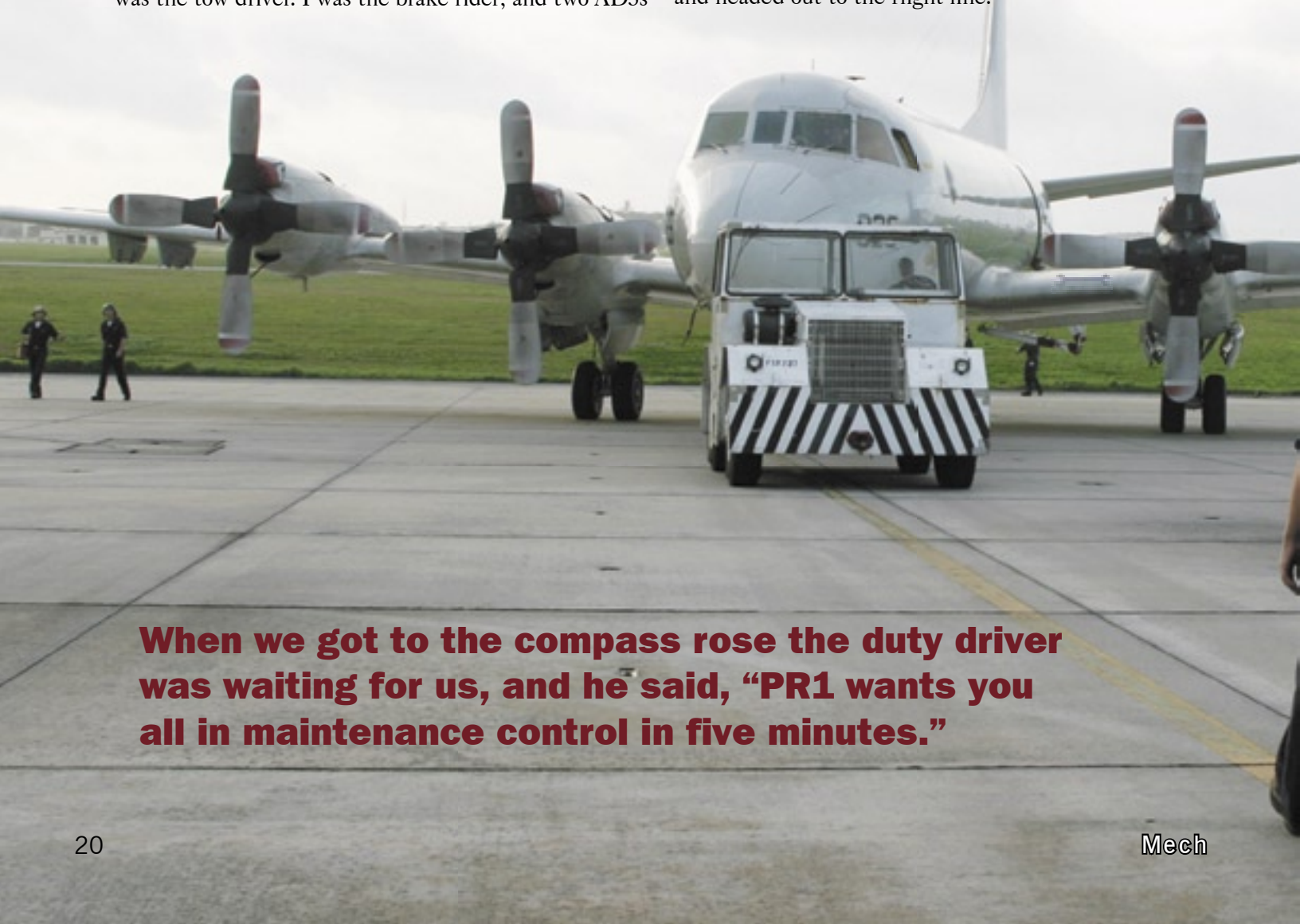
Well, it finally happened…I was involved in a near-mishap. I had been working in Hawaii for my squadron's line shack for about nine months.

I just had returned to the shop after running some errands when maintenance control called and informed us that one of our birds needed to be moved to the compass rose. My supervisor told me to check out a hand-held radio from flight planning. After a successful pre-operational check, I returned to maintenance control. The move sheet already was completed, and we were ready to move the bird.

An AE3 needed to do his 90-day currency, so he was designated as the move director. Another airman was the tow driver. I was the brake rider; and two AD3s and an a third airman were the tail and wing walkers. We had our team and now were ready to brief.

In maintenance control, a PR1 was running the show, and he wanted to make sure everyone knew and understood their responsibilities, especially the director. It was then we learned that, because we were crossing the active runway and it was getting dark, we would need to use the anti-collision lights. That fact meant we would have to use the aircraft's auxiliary power unit (APU).

During the brief, the PR1 said he wanted us to have an APU operator on board the aircraft to run it. He also asked each of us if we understood our roles and where we were going. We responded in the affirmative and headed out to the flight line.



When we got to the compass rose the duty driver was waiting for us, and he said, "PR1 wants you all in maintenance control in five minutes."

to the Rose

Taking up our positions, we began to prep the aircraft and turned up the APU. An AT2 volunteered to run the APU, so he was in the flight station with me. We pulled out of the spot and headed to the taxiway. Upon reaching it, we jettisoned the wing and tail walkers.

That's the point where we encountered our first thorn: The radio died. The AT2, AE3 and I then met in the flight station to discuss our communication dilemma. We determined that the aircraft radio would suffice as an alternative means of communication with the tower. But what can be said about communication with the director and tow driver in the tractor? We did some brainstorming and decided we could use the wheel-well lights to communicate among the tow team.

Navy photo by PH3 Shannon Smith

As AE3 departed the flight station and boarded the tow tractor, we requested taxi clearance and proceeded down the taxiway toward the runway. When we got to the hold-short line, the tower called us and ordered, "hold short of runway four." The AT2 then flipped the wheel well lights on and off rapidly, illuminating the entire rear of the tractor. From my position in the flight station, all I could see was the driver and director looking at each other, exchanging confused looks—our next thorn, and yep, you guessed it, we didn't stop moving. In fact, we continued across the runway, flashing the lights the whole way.

When we got to the other side, the tower called us and requested our supervisor's name and a number. They wanted to talk with him. What followed was a resounding "OH #$%@!" (Insert explicative of your choice.) When we got to the compass rose the duty driver was waiting for us, and he said, "PR1 wants you all in maintenance control in five minutes." All I could think was, "I'm having a bad day!"

You're probably asking yourself, "How did this happen?" First, our director had the knowledge to direct a plane move but lacked the requisite knowledge of the communication involved when traversing the runways and taxiways of the airfield.

Second, a lack of communication exacerbated the situation. If we only had had a backup for the hand-held radio or if we only had thought to use the ICS cord to communicate with the tow tractor, we would have been in a much better position. Third, the brief was lacking as well. There should have been a more thorough brief of the communication involved in crossing the runway and taxiways. Even if everyone said they understood the comms, more specific questions about the phraseology of crossing an active runway would have been more appropriate.

The final lesson was that we were complacent, and it almost cost us our aircraft. It also could have cost an aircraft trying to land and the people on the runway.

I don't know about the rest of the crew, but I learned a lot that night.

Airman Ramirez works in the line division at VP-47.

What a Difference 36 Years Make

By AMC(AW) Paul Hofstad

While cleaning our spaces, I found a copy of *Mech* dated 1971. As a history buff, I naturally was interested in the prize I had found, and, as an analyst assigned to the Naval Safety Center, I was interested in the information inside the magazine.

You would think through all of our technological advances and updates to instructions, we would be head and shoulders above our contemporaries from the past in all areas. I was wrong!

During surveys in 1971, the safety team found basically the same issues that we still find 36 years later. For example, our predecessors found that tool accounting was negligible, daily inspections of GSE were not being performed, and GSE operators were not licensed or qualified. They also saw publications were out of date, housekeeping was poor, and hydraulic test equipment was contaminated. People made unauthorized deviations from MRCs, failed to comply with directives, didn't keep accessory record cards up to date, and didn't hold or document safety meetings or the meetings were too irregular to be effective.

In 2005-06, along with that list, we also found: aircraft logbooks not being maintained—especially noncompliance with TDs and inaccuracy of dates within logbooks, improper identification of multi-piece tools, and failure to follow respirator SOPs. ERT drills were not being done, toolboxes were dirty and FOD filled, neutralizing agents for electrolyte spills weren't available, respirators weren't stored correctly, and respirator cartridges were not being changed regularly. Additionally, IH surveys weren't posted and lithium batteries were stored improperly.

A headline in that 1971 issue also reported, "Navy Private Motor Vehicle Deaths Down." The story stated that the number of deaths dropped from 432 in 1969 to 352 in 1970. The Navy and Marine Corps had 144 fatalities in FY06, and it was labeled a bad year. Some people might think that is a great number, but many people did not use seatbelts in 1971. Air bags had not been invented. Muscle cars roamed the streets, and speed limits were higher.

Today's cars are built with roll-stability to prevent rollovers, and their computers contain more information than large-business mainframe computers did back then. In 1971, drinking and driving was more prevalent. The question I have is this, "Are we really doing any

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better today?" With all the safety features in automobiles and alcohol and seatbelt awareness as high as it is, the traffic fatality rate should have dropped more than 41 percent these past 36 years.

We still have people who don't wear seatbelts (it's a mandatory DoD requirement on and off duty, by the way), and too many people still drink and drive. We have new technology and years of data to aid our decisions. Our counterparts weren't so fortunate years ago, so how foolish are we not to have learned and improved even more?

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

What's that Burning Sensation?

By AM3 Robert Ready and AM3 Christopher Dunn

About three-quarters of the way through our Westpac 2005 deployment on board USS *Nimitz*, the ship was conducting its weekly general-quarters drill. We were sitting on a workbench, something we often did due to the small area in the shop. Just before GQ was announced, we noticed that a cup of PD-680 had spilled on the workbench between us (although we didn't know it was PD-680 at the time.). PD-680 is a dry-cleaning solvent that is hazardous and corrosive. We immediately jumped off the workbench and grabbed some rags to clean up the spill.

About 15 minutes before general quarters secured, nearly three hours after being exposed to the spill, we looked at each other and confirmed that our buttocks were burning. At that point, we hopped off the workbench and put away our flash gear and gas masks while the burning became more and more intense. Neither of us yet had realized some of the PD-680 was on the back of our pants.

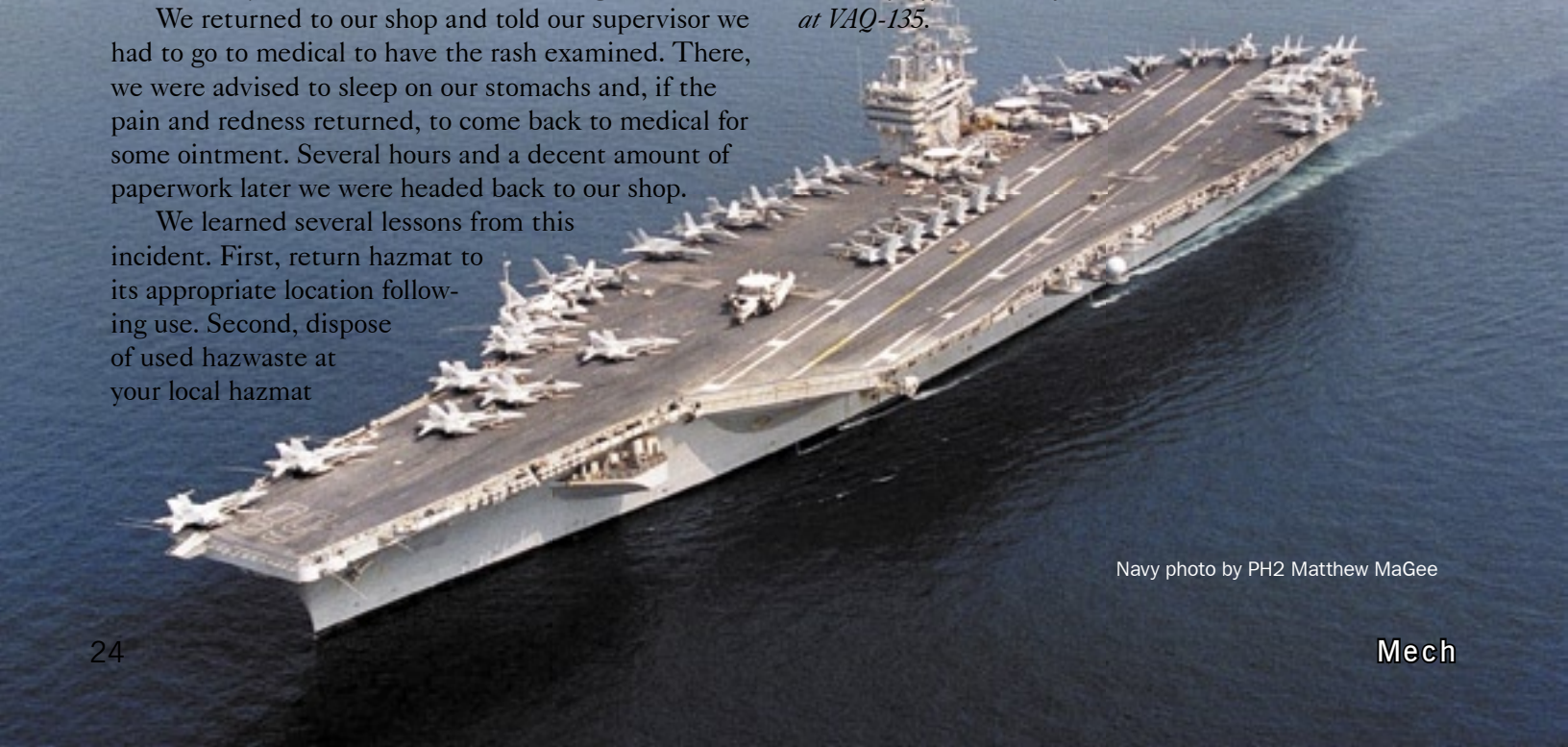
We quickly told our shift supervisor of our situation and ran to our berthing space to rinse off the chemical. After a 15-to-20-minute shower, the burning sensation had subsided but had not gone away completely. When I looked at my rear in the mirror, I saw a large red rash.

We returned to our shop and told our supervisor we had to go to medical to have the rash examined. There, we were advised to sleep on our stomachs and, if the pain and redness returned, to come back to medical for some ointment. Several hours and a decent amount of paperwork later we were headed back to our shop.

We learned several lessons from this incident. First, return hazmat to its appropriate location following use. Second, dispose of used hazwaste at your local hazmat center. Also don't leave open containers of hazmat sitting on a workbench for the on coming shift to take care of. We also could have reduced the amount of discomfort if we had noticed our pants were soaked early on. Don't expect someone else to pick up after you. Before finishing a job, make sure all of your hazmat, PPE and tools are stored properly.

Navy photo by PH3 Christopher Stoltz

Petty Officers Ready and Dunn work in the line division at VAQ-135.



Navy photo by PH2 Matthew MaGee

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Cpl. Christopher Ruark
HMH-361

While doing a phase inspection of the horizontal stabilizer on a CH-53E helicopter, Cpl. Ruark discovered numerous loose fasteners on the primary structure of the stabilizer, near the mounting point for the stabilizer strut. A closer look showed two hi-loc fasteners in the fitting assembly also were loose. These fittings are essential for attaching the horizontal stabilizer to the fuselage of the aircraft.

Corporal Ruark is a knowledgeable and diligent inspector, and he found a serious problem that could have been overlooked. These items weren't part of a normal phase inspection. The stabilizer was removed and repaired.

AM3 Christopher Harris
VP-4

Petty Officer Harris and other members of airframes work center were sent to troubleshoot a binding rudder-boost-handle discrepancy on aircraft 163291. While troubleshooting, Harris noticed a "No Hydraulic" placard had fallen inside the power-levers and elevator flight-control-system console. This aluminum placard measured 4 inches by 6 inches. If it had not been discovered, it could have migrated into the elevator flight controls or power-lever cables, causing a total loss of the flight-control system.

AD1(AW) Wesley Merchant
VR-62

While checking the torque on a C-130T propeller nut, Petty Officer Merchant noticed the amount of effort to set the required torque was much less than previous times. He got another torque wrench and verified the torque setting was lower, so he immediately notified maintenance control of the situation.

Petty Officer Merchant's attention to detail resulted in the discovery of a torque wrench that the calibration lab found was 17 percent low. Not knowing how many propellers had been installed with this wrench since the last known calibration date, the squadron downed their aircraft until all 16 propellers had been retorqued.

AT2(AW) Joshua Brown
VFA-15

Aircraft 302 was taxiing toward the catapult for final checks when Petty Officer Brown noticed the starboard main-landing-gear wheel wobbling. He immediately gave the signal to the catapult officer to suspend the launch and told the flight-deck chief.

A closer inspection revealed the brace-assembly bearing on the upper side was broken in four places, allowing the starboard MLG to have excessive play during taxi.

Petty Officer Brown's vigilance and attention to detail prevented a possible mishap.

ADAN Ramesh Thapa
HSL-44 Det. 1

While cleaning and treating corrosion on a bolt for the tail rotor servo on Magnum 456, Airman Thapa found a bird's nest. It was difficult to see and an extraordinary find. The nest was in the aft part of the tail-rotor gearbox, inside the tail-rotor gearbox cowling. His attention to detail and extra effort highlighted a serious problem in a critical part of the helicopter, which could have led to a mishap.

AM2 Darren Marsicola
MALS-24

Petty Officer Marsicola developed a user-friendly spreadsheet to ensure paint and thinner use does not exceed authorized allowances. Users input the amount of thinner or paint they plan on using, and the spreadsheet automatically calculates the input against authorized daily allowances, alerting users if they will be going over the environmental allowances and by what amount.

This innovation is quite an improvement over the old system, where the amount of paint or thinner used during the day was calculated at the end of the day, and any overages had to be accounted for and reported to the base environmental team. This system does an excellent job of tracking hazardous materials.

AM3 Wayne Hill
VR-55

Petty Officer Hill was doing a daily inspection on a C-130T during night flight-line operations and discovered two 8-inch cracks on the skin section of the starboard upper wing. The cracks were barely discernible and were a very good find. He immediately notified maintenance control and QA to investigate the damage.

Petty Officer Hill's attention to detail prevented catastrophic failure of the wing section.

AD1 David Baker
VAW-113

While watching the engine starts on Black Eagle 601, Petty Officer Baker noticed that Stinger 302, an FA-18, had taxied forward next to his aircraft. He also noticed that the pilot had begun spreading the Hornet's wings, as the taxi director directed. Baker immediately determined the wing tip was about to strike the turning starboard propeller on Black Eagle 601. He quickly signaled both the pilot and the taxi director to begin an emergency wingfold, avoiding a serious mishap.

AM2 Yunoir Royes
VAW-121

Petty Officer Royes was observing a recovery on aircraft 600. As it taxied from the landing area to catapult No. 1 for immediate launch, he noticed the port nose tire was not inflated. Without his trained eye, Bluetail 600 could have been launched with a deflated nose tire, resulting in a tire blowout on launch or the next trap. That result could have FODed an engine or caused more severe damage.

AM2(AW) Christopher Simon
VP-16

While assisting the power-plant shop with a discrepancy on a P-3C, Petty Officer Simon noticed a major fuel leak on the aircraft. A closer look revealed that the leak had occurred from a faulty fuel-transfer valve.

Petty Officer Simon's quick response avoided a potentially dangerous situation. Through proper procedures and a take-charge attitude, he was able to stop and contain the leak before any harm came to the environment or aircraft.

AE3 Hebert Taylor and AM3 Robert Smith
VAQ-136

Petty Officer Taylor noticed hydraulic fluid leaking onto an ALQ-99 tactical-jamming-system pod on station No. 3 during a routine night launch of Ironclaw 503. He immediately suspended the launch and signaled for an airframes troubleshooter to verify.

Petty Officer Smith quickly came to the scene, inspected the problem, and found that a nose-wheel-steering line had cracked, releasing hydraulic fluid from the combined hydraulic system.

Both Sailors displayed excellent attention to detail, using blue lights, at night, and on the narrowest of areas next to catapult No. 4.

MR2 Michael Renda
MALS-24

Petty Officer Renda corrected a safety hazard found in the MALS-24 airframes space, specifically the hydraulic and non-destructive inspection areas. He noticed that the large overhead ventilation system regularly built up condensation, which would drip down onto a heavily trafficked passageway, creating a slip hazard. Renda installed coverings to direct the water away from the passageway and into containers. He raised the safety issue with base facilities and spoke with the controller. The next day, personnel began to replace the insulation on the overhead ventilation system.

Petty Officer Renda didn't wait for someone else to fix the problem or accept the "status quo." He saw a hazard that needed immediate action, and he did something about it.

CROSSFEED

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Airframes

First Impressions Last a Lifetime

By AMC(AW) Paul Hofstad

Many people have heard the saying, "First impressions are lasting impressions." A survey of the airframes shop at VFA-105 revealed it was the epitome of that statement. The Gunslinger airframers went above and beyond pride and professionalism in my judgment. From the time I walked into the work center until the time I left, I knew they had their heads on right and were on top of their game.

It isn't always that way. When doing surveys on organizational airframes and corrosion work centers, I look at the following programs: hydraulics, tire and wheel, tools, NAVOSH, corrosion, ERT, RPPM, hazmat/hazwaste, and command safety. The VFA-105 airframes and corrosion work-center programs were laid out well, and their manager's binders were easy to navigate, which is a key to an effective program. If the manager is not available, any person should be able to use the binder in the case of emergencies or questions.

From the supervisor down to the most junior maintainer, the Gunslingers were open to recommendations and were eager to learn. When asked how to use a Material Safety Data Sheet (MSDS), the supervisor confidently suggested I pick any of his troops to answer that question. They ALL were trained and well-versed on how to use MSDS to identify first-aid requirements, personal protective equipment, and material handling.

The shop looked outstanding, people looked sharp, and their programs reflected their professionalism. I've included a few photos that show the pride they have in their command, aircraft, work centers, and themselves. Good on ya!

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

Naval Safety Center Survey Team on the Ground in Iraq

By CWO4 Ron Stebbins

Given the Naval Safety Center's mission of enhancing warfighting through the promotion of safe operations, a survey team was dispatched to Iraq to assist the Third Marine Air Wing (Forward). The team's primary focus was on airfield facilities, but it also included aviation-maintenance analysts, shore- and transportation-safety specialists, and an operations liaison.

The team visited units in Al Asad and Al Taquddum, Iraq. Two aviation-maintenance personnel on the team were able to visit 10 aircraft squadrons and a Marine Aviation Logistics Squadron during the trip. As anyone who has been in Iraq can tell you, the operating environment is one of the most difficult on the planet. Personnel on the flight line are assaulted by blowing dust and sand, temperatures reaching 140 degrees Fahrenheit, and an arduous operational schedule that requires around-the-clock maintenance. The squadron personnel are using Saddam-era maintenance facilities that are dilapidated in many areas and are dispersed around long flight lines, reducing efficiency and support effectiveness. In addition to issues with aircraft maintenance, local insurgents lob an occasional mortar round or rocket at the flight lines. This hazard was more prevalent in Al Taquddum.

The superior mission readiness of these forward deployed units is a testament to the exceptional training and motivation of our men and women serving in such an austere operational environment. Overcoming logistical challenges, high operational tempo, and airframe and engine wear from the heat and sand is a matter of routine for these desert warriors. A key to their sustained success is operational risk management. From mission briefs to maintenance meetings, squadron personnel continuously evaluate tasking and requirements to make sure operations are safe, and they take proactive measures to mitigate risks. Their effort to promote safe practices saves lives and preserves assets in an inherently dangerous environment.

The Third MAW's (Forward) department of safety/standardization (DOSS) was crucial to the success of this visit, and the MAG-16 DOSS facilitated the squadron visits during high-tempo operations. The squadrons visited included: HMH-361, HMH-463, HMM-364, HMLA-167, HMLA-169, VMFA(AW)-242, VMA-211, VMAQ-3, VMGR-252, VMU-2, and MALS-16 (Al Asad and Al Taquddum dets).

If your command is next in line for a return to or initial tour in Iraq, review lessons learned and use ORM to prepare for the arduous operational environment. Those people returning to Iraq for a second or third tour add invaluable experience to an organization, and they can help commands with the smooth transition into the country, mission accomplishment, and return to permanent duty stations.

Warrant Officer Stebbins is the airframes branch head at the Naval Safety Center.

ALSS

Personal Protective Equipment (PPE), Is It Really Going To Protect You?

By PRC (AW/SW) Brian Westcott

I've noticed in visits around the fleet that PPE is in poor condition and not always used correctly. This important gear is designed to protect us from various hazards, and one of the most important items is the cranial. This simple piece of equipment is one of the most used and abused items in our inventory.

How many times has your cranial been thrown in the bottom of a cruise box or tossed across the room when you're on the run trying to make the flight schedule? Along with the cranial, I have identified LOX coveralls, aprons, face shields and gloves as other areas of concern. Using PPE correctly is one key to safety and mishap reduction. How do we mitigate our hazard risks? That answer's simple; we use the ORM process.

ORM Step 1 – Identify Hazards: When PPE is called for in a directive, instruction, MRC, or other document, it means a hazard is associated with that step. Don't stop at that point. Look around for other potential hazards in the work area.

ORM Step 2 – Assess Hazards: With cranials, check these items:

- Is the back shell on upside down? If so, it can cause neck and spinal injuries.
- Are spare lenses stored between the plastic back shell and the sound attenuator? This is a FOD hazard.
- Are ear pads hard, brittle, or sticky from old age? Every wear an ear seal for 12 hours on the flight deck? It hurts, and the pads don't reduce noise. Replace them!
- Are front and back shells cracked, broken or missing pieces? If so, they can allow head trauma and can be a FOD hazard.
- Have your cranial back shells been taped correctly with reflective tape? Make sure it's the right amount of tape. Too much doesn't add much visibility, and it can hold cracked shells together, causing you to miss an obvious problem.
- Do you have the correct cranial goggles? The correct ones can be obtained with the following National Stock Numbers:

  - Black, with Speed Sleeve: 4240-01-504-6222
  - Black, without Speed Sleeve: 4240-01-505-0049

LOX PPE concerns:

- LOX aprons not being used. When we find aprons stored and folded in the original condition, it shows the lack of use.
- LOX coveralls often are frayed at the bottom, dirty and in non-serviceable condition.
- LOX face shields are cracked or broken.
- LOX gloves have holes and are dirty.

ORM Step 3 – Make Risk Decisions: Our jobs are dangerous enough without the added risk of bad PPE. A drop of LOX can cause blindness or leave a scar on your skin. Bad ear pads can cause loss of hearing, and an upside down cranial can allow severe spinal injury. Knowing the risk is awareness, but mitigating the risk takes action. Use a Risk Assessment Matrix to identify your Risk Assessment Codes (RAC), and plan tasks to reduce hazards. Keep your equipment in serviceable condition.

ORM Step 4 – Implement Controls: Take time to check and inspect PPE before using it, replace as needed, and add safety controls.

ORM Step 5 – Supervise: Take care of your people and make sure they take care of their PPE! Step in and stop a process when needed, and monitor workload to ensure safety.

Take the time right now to look at your PPE. Make sure it's in good shape, so it can protect you.

Maintenance Management

Cross-Reference Sheet Updates

By AMC(AW) Paul Hofstad

So far in CY06, less than five AIMDs or MALs have correctly documented cross-reference sheets in the program binders affecting hazmat, respirators and corrosion.

In December 2005, OpNavInst 5100.23 changed to the "G" series. Chapter 15 now requires using five-year physicals for ERT members and one-year paint physicals for people who paint and work with icocynates.

In May 2006, change 1 to CNAF 4790.2 hit the streets. Volume 1, Chapter 10, paragraph 10.3.1 changed and all RPPM, corrosion and hazmat managers should have it as a reference in their program binders. This section has three pages of changes and touches all of these programs.

Volatile organic compounds (VOCs), corrosion theory, and respirator usage are included in that chapter. VOCs are a requirement for hazmat because they identify state and federal requirements for items like polyurethane paints.

The basics of corrosion also are discussed, including the use of paints and integration of IH surveys into corrosion work centers as a tool to create a safe environment for corrosion personnel.

Finally, respirator use is defined and provides users with parts per million (PPM) of hazmat that requires a VOC stipulation. This part is important because it also details the use of respirators, including duration and type of respirators to be used. It specifically provides respirator wearers with the requirement for an eight-hour period for air-supplied full-face respirators or half-face respirators when icocynates are not being used.

Commands normally take a few months to catch up with changes. Quality-assurance departments must make sure work centers expeditiously receive the changes and follow up to make sure the changes have been added to the program binders.

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

Class C Mishap Summary

By ADCS(AW/SW) Mike Tate

From Oct 01, 2006 to Dec 14, 2006, the Navy and Marine Corps had 22 Class C mishaps involving 22 aircraft. The damage total was $1,336,828.00.

Every mishap that may have a direct maintenance cause from this period is under investigation, so no specific reports can be referenced at this time. What I can say is that a large percentage of these pertain to installing, securing and attaching items and servicing equipment or aircraft.

We seem to do an excellent job working the detailed, hard to figure out jobs. Our ability to troubleshoot and execute repairs is some of the best in the world. The problem usually occurs after the hard part is complete: Confident we've found the cure, we let high fives fly and become complacent. That is the time when mistakes happen and dollars, critical assets, and injuries or deaths can stack up.

Class C mishaps aren't as news breaking as a wing falling off an aircraft or engine exploding, but we have a lot of them during the year, meaning the costs add up. It's also important to note that a Class C is only a heartbeat away from a Class B or even an A in many instances.

We must apply complete concentration and attention to detail until the last signal is given to a pilot. Before that final step, we need to be precise in everything we do. We need to listen to the aircraft as power is applied. We need to make sure everything is right from the hangar to the line and as we double check pins, safety wire and bolts. We must listen to each other and modify the plan if things don't look right.

If we do our jobs right the "first time, every time," we will save millions of dollars and will prevent countless injuries every year, enhancing readiness and reducing mishaps.

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

Helping Sailors and Marines Help Themselves

Sierra Hotel

Commander, Naval Safety Center would like to thank the following aviation commands for their recent participation in safety surveys, culture workshops, and maintenance malpractice (MMP)/khaki risk management (KRM) presentations for the months of September-December.

Safety Surveys

VFA-15	VMGR-234	VFA-37
HSC-28	VR-59	VFA-113
VQ-7	MALS-13	VFA-151
VQ-3	VMA-513	VFA-137
VQ-4	VMA-214	

MRMs

HSC-84
VFA-151
VFC-12

Culture Workshops

MALS-41	HT-8	USS Harry S. Truman
HSL-42	HT-18	VFA-213
VFA-115	HMLA-267	VT-27
VFA-83	VXS-1	HSL-8
VMFAT-101	HSC-3	VP-10
VP-4	VT-28	VP-8
HSL-37	VX-30	Coast Guard Airstation
VAW-124	VP-47	HX-21
VPU-2	VFA-143	

Navy photo by MC3 Charles White

For more information or to get on the schedule, please contact: Safety Surveys: Capt Chris Foley, USMC at 757-444-3520 Ext. 7223, MMP/KRM: AEC Matthew Cooper at 757-444-3520 Ext. 7275, Culture Workshop: Cdr. John Morrison at 757-444-3520 Ext. 7213.

Safety wire isn't safe... unless you are.

NEWS ALERT: Fifth Annual Maintenance Safety Conference in April '07

Who: Senior enlisted, maintenance officers, quality assurance representatives and supervisors, and maintenance department safety petty officers or NCOs.

What: Fifth conference on maintenance safety programs, operational risk management, initiatives, and available Naval Safety Center services.

Where: Admiral Kidd Club, Naval Fleet Anti-submarine Warfare Base, Point Loma, San Diego, CA.

When: 24-27 April 2007

Why: To educate safety personnel and maintenance managers on the latest safety developments and to focus on or to raise safety awareness. Everyone gets the same word…at the same time.

Early registration is essential to the success of this year's conference. Those commands planning to attend need to sign up as soon as possible. We'll need your name, rate/rank, command, current position held (safety petty officer, QAR, QAS, etc.), e-mail, phone number, and days planning to attend. Include any safety subjects or concerns you would like to see addressed.

To register, please contact: AEC Matthew Cooper at 757-444-3520 (564 DSN) Ext. 7275 or e-mail: matthew.l.cooper@navy.mil, or ADCS Mike Tate at Ext. 7290 or e-mail: michael.s.tate@navy.mil, or AMES Ellen Darby at Ext. 7292 or e-mail: ellen.darby@navy.mil. You also can fax your registration information to 757-444-7049. Please make sure the fax states "2007 Maintenance Safety Conference."

Visit www.safetycenter.navy.mil/aviation/maintenance/default.htm for updates and more information on the upcoming conference.

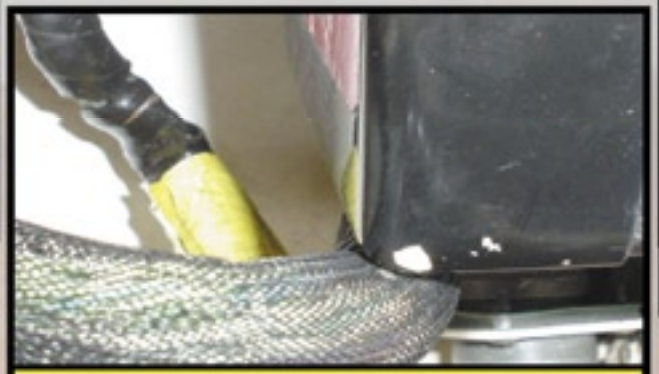
AV8B Wiring System Awareness

PREVENTING WIRING SYSTEM FAILURE

SAVES TIME, MONEY…

AND LIVES!

Broken back shell, wiring exposed.



Wiring harness pinched and chafing.

Wrong clamp installed, chafing wiring.

ALWAYS MAINTAIN THE CORRECT WIRING SYSTEM CONFIGURATION !

NAVAIR

For more posters go to www.safetycenter.navy.mil/media/posters/default.htm