The Navy & Marine Corps Aviation Maintenance Safety Magazine

Mech

Winter 2015
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Growler Gets Hammered

Brainstorms and Rewards

Fall Protection Pullout

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Features

On the cover: ABH3 T. A. Taifai uses a spotting dolly to move an MH-60S Seahawk assigned to HSC-5 in the hangar bay of the aircraft carrier USS Harry S. Truman *(CVN 75). (U.S. Navy photo by MC J. A. Mateo)*

Sailors prepare an F/A-18F Super Hornet assigned to VFA-11 for launch during flight operations aboard the aircraft carrier USS Theodore Roosevelt *(CVN 71). (U.S. Navy photo by MC3 Anna Van Nuys)*

EDITOR'S NOTE
WHERE IS THE GOLDEN WRENCH?

Following the lead of our flagship magazine, Approach, we have hidden a wrench icon within the cover design. It is smaller than the wrench pictured here. In previous issues it was Navy blue and on the TOC page. We hope you enjoy this issue. Thank you for your service and submitting your BZs, stories and articles they are invaluable to saving lives through mishap-revention efforts.

Departments

School of Aviation Safety, Quarterly Newsletter
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When 3 Out Of 4

By AD3 Sean Landrum

It started out as just another day in the VR-55 maintenance department. Our power plants shop had been awaiting four rubber spacers so that we could install a bleed-air check valve that was giving us a low-bleed-air check. I was eager to get the job done.

My coworker and I had checked out our tool box, our pubs, support equipment and parts. We proceeded to the aircraft to start our job. The bleed-air line ran from the load control valve on the auxiliary power unit (APU) to the manifold.

Sgt. Jesus R. Rivera, a quality assurance representative (QAR) from Fleet Readiness Center (FRC) Northwest, reviews maintenance history records with AZ2 Lorenzo Carter. (U.S. Navy photo by MC3 James Evans)

(U.S. Navy photo by MC3 Ricardo Guzman)

Is Bad

The check valve kept air from entering back into the APU. It mounted to the load-control line (the line for the manifold) and was secured with four bolts, four spacers, and two V-band clamps with gaskets. We connected the line. Then we installed the V-band clamps and gaskets, and three of the four mounting bolts. The fourth mounting bolt, however, was a problem.

A large APU exhaust duct ran up from behind the APU. It kept us from installing that last bolt. I tried for more than an hour, and my frustration kept mounting. My LPO and another CDI were less than 200 feet away, installing a new turbine on one of our motors. I could've asked them for help, but I didn't. I could've gone to QA for assistance, but I didn't. I just decided to not install that fourth bolt. I didn't think it would affect the operation of the valve. I was wrong in so many ways.

The MAF was later signed off as completed after our night check brought the BAC from 16 seconds to 20 seconds, which is our limit. I held onto the bolt in case anything happened. I knew what I had done was wrong.

Three weeks later, the bird came back from a functional check flight with a low-bleed-air check. One of the easiest forms of troubleshooting in maintenance is to look at what was worked on last. Our night check did just that. They tore into the valve only to find three of the four mounting bolts installed. Fearing one of them had fallen out, they got with QA to do a FOD search. My night check CDI called me and asked about it. I told him the truth and drove the bolt in from home.

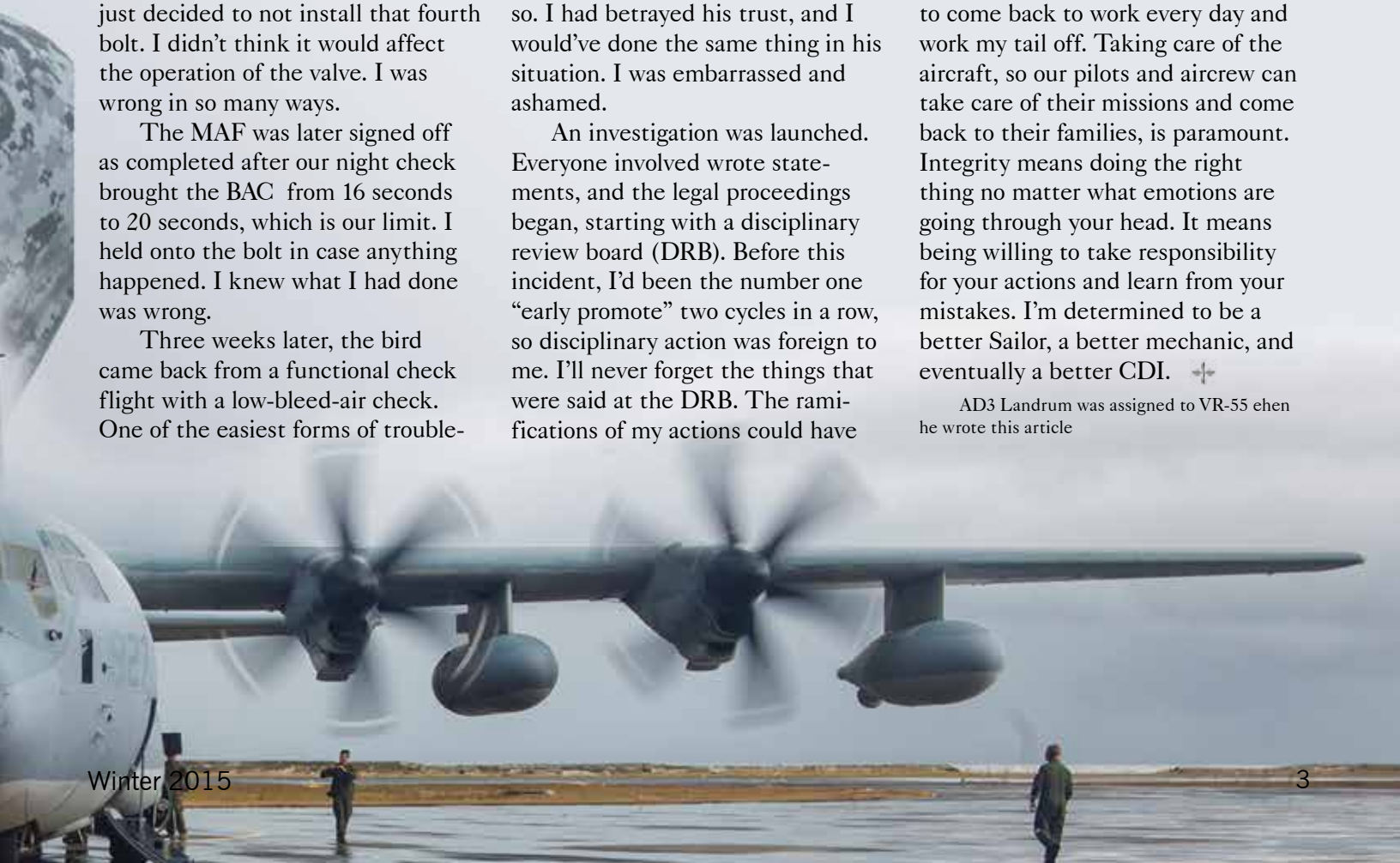
The next morning, I came into work, checked my tools, and waited for my LPO to arrive, knowing he would ask about the situation. He did, so I pulled him and my division chief into his office to explain everything. I knew at this point my career was going to take a drastic turn. My CDI was revoked and my plane-captain qual was suspended by the maintenance officer, and rightfully so. I had betrayed his trust, and I would've done the same thing in his situation. I was embarrassed and ashamed.

An investigation was launched. Everyone involved wrote statements, and the legal proceedings began, starting with a disciplinary review board (DRB). Before this incident, I'd been the number one "early promote" two cycles in a row, so disciplinary action was foreign to me. I'll never forget the things that were said at the DRB. The ramifications of my actions could have been disastrous. Several of our chiefs have been at commands that had lost aircraft. They knew the pain a squadron goes through after losing an aircraft and fellow Sailors. Since I hadn't used my resources or asked for help, I was recommended for captain's mast via XOI. I certainly deserved it.

At captain's mast, I was given a suspended bust for six months, an adverse evaluation so I couldn't take the next advancement exam, and extra military instruction for 30 days. I was beyond grateful to be given a second chance, although I knew that I wouldn't be able to get back to where I was before the situation.

I still try to hold my head high and use my experience as motivation to come back to work every day and work my tail off. Taking care of the aircraft, so our pilots and aircrew can take care of their missions and come back to their families, is paramount. Integrity means doing the right thing no matter what emotions are going through your head. It means being willing to take responsibility for your actions and learn from your mistakes. I'm determined to be a better Sailor, a better mechanic, and eventually a better CDI.

AD3 Landrum was assigned to VR-55 ehen he wrote this article



Rushed a Checklist? Me? Never...

By LCDR Jason Russo

As a fleet replacement squadron (FRS) instructor pilot, one of the toughest "Xs" to complete is a flight to the boat with a group of nugget students for deck landing qualifications (DLQs). It's also one of the most challenging flight environments for a helo bubba. The pilot at the controls (PAC) is usually inexperienced, the small-boy DLQ pattern is unforgiving, and fatigue and vertigo can set in quickly. A number of factors can affect the completion of the event, to include weather, flight-deck-crew proficiency, OOD capabilities, aircrewman experience and ship flight-deck facilities. These factors feed into the witches brew that is the dreaded DLQ "X."

I was about halfway through my instructor pilot tour at the LAMPS FRS. I had earned various qual's as an instructor including the coveted DLQ instructor qualification. I felt salty and confident one brisk October day as I saw my name on the schedule as the helicopter aircraft commander (HAC) for a single bird DLQ flight to a DDG Flight IIA. The flight schedule was a cold-go, six hour event with two students and an instructor LSO. My mission was to execute day and night unaided initial landing qualifications for the two student FRS pilots.

One of the first things you're taught as a new "boat instructor" is that time is of the essence. The ship you're going out to land on is usually on a tight schedule, and sunset is normally only a few hours after launch. The requirement to complete 12 free-deck landings plus four recovery assist (RA) landings per student means the flight could be very long. Furthermore, the aircraft has to have a working airborne computer and a functional recovery, assist, securing, traversing (RAST) probe. Lastly, there can sometimes be perceived pressure to get the students their "X" because they are normally very close to graduating from the FRS and the fleet is expecting them to be delivered on time.

We completed our NATOPS and ORM brief as a crew, got the ship's information and overhead message from the SDO, and walked downstairs to maintenance control to read the aircraft discrepancy book (ADB). We noted no abnormal MAFs, did our performance calculations, and quickly headed out to the aircraft to begin our preflight.

As I opened the cockpit door to put my flight bag in the left seat, I immediately noticed something was wrong. I looked around to see if there were any maintainers or plane captains in the vicinity, but didn't see anyone. "Well, this is not off to a good start," I thought. As I hurried back inside to maintenance control to find out why there was a missing faceplate and resulting hole in the center console, I began to examine all of the consequences of delaying the launch.

If we were delayed, the ship might be out of position when we eventually launched, which would mean I would have to spend more time finding it. I might have to fly further off the coast, causing even more of a delay. It would also mean that we would have to push hard to finish our day landings, because if we didn't finish them before sunset, we wouldn't complete the night landings. Also, these two students were getting ready to gradu-

An SH-60B Sea Hawk helicopter assigned to HSL-48 prepares to take off from the flight deck of USS Underwood. *(U.S. Navy photo by MC2 Stuart Phillips)*

ate later in the week and needed this event to make it to the fleet. As I contemplated the impending failure of the mission before it even began, maintenance control assured me that a technician would be out as soon as possible to "patch the hole," and get us on our way. I told the other instructor LSO for the event to get in the front with me so that we quickly could fire up the aircraft and get on our way. Sunset was only a couple hours away and I didn't want to waste time watching a student fumble through the prestart checklists.

By the time we finished our preflight, our maintenance personnel had put a faceplate over the center console and all seemed normal. I strapped into the left seat as my fellow instructor sat right seat. The students buckled themselves into the cabin seats with

our aircrewman. Our students eagerly awaited their first chance at landing on a fleet vessel. We hammered through the checklist as I had done what seemed like a thousand times. In true instructor fashion we had the bird turned up and ready to launch within minutes. Ground gave us an immediate taxi clearance, and tower subsequently cleared us for takeoff and a right turn to head to the ship. The weather was CAVU and the beaches of Jacksonville were soon in our rear view mirrors.

To my surprise, we got communications with the ship's controller almost immediately. Even more surprising was that as soon as we cleared tower's airspace and changed TACAN channels to the ship, the needle immediately swung to 090 and the DME showed 15 miles.

"Wow," I thought, "this is going better than I could've expected."

The ship was already at flight quarters and the helicopter control officer (HCO) granted us a green deck when we were within two miles. We finished our landing checklist and my co-pilot made an uneventful clear deck landing. Finding the ship, gaining communications, and obtaining a green deck had taken me 45 minutes to an hour on previous DLQ hops.

The first student jumped in up front as the LSO got out of the aircraft and went to find the ship's captain to brief him on our DLQ plan. Once my copilot was strapped in, I gave him the controls and opened my PCL to the takeoff checklist. I completed the checks, requested a green deck to launch from tower, and glanced over the cockpit one last time to make sure the aircraft was ready. As I had been taught by my first officer in charge (OinC) way back as a young helicopter second pilot (H2P), I reached down to the center console to put my hand on the guarded fuel-dump switch. My OinC had told me that as the nonflying pilot during shipboard takeoffs I should keep my hand on that guard in case the bird had an engine failure on climb-out. Fuel would immediately be dumped to decrease power required to scoop the aircraft out from impacting the water. However, as I reached down and looked for the fuel-dump switch, I got an ill feeling that I might not find one.

I instantly rewound time to the event back on the flight line. I remembered the hole that was in the center console, and what I had thought was a missing blank out face plate. As I searched and searched for a fuel-dump switch, I realized that the missing face plate that I had found on preflight was actually a missing emergency fuel-dump panel. The panel must have been removed by maintenance personnel and in their rush to get the bird ready for our event, they had forgotten to put it back in.

I could not believe I had overlooked something so small, yet so critical to flight.

"Do you ever really check to make sure a fuel dump panel is installed?" I asked myself in my own defense. Then I remembered the third step in the preflight checks: "Circuit breakers and switches – checked and off." As the aircraft commander I had "hammered" through the checklist, but had overlooked that a major-system component was missing from the aircraft.

We all have felt urgency during a mission. Sometimes the urgency may be driven by a high-profile tactical event in which time-on-target is critical to mission success. Other times we might feel a sense of urgency when we're at home to complete a high priority "X" in a training environment. The bottom line is that even when we think we feel this sense of urgency, we should never rush. Rushing leads to omitting, as maintenance control and I learned the hard way that day.

Preflight and prestart checklists exist to ensure that the aircraft is ready to go before its wheels are off deck. Had the maintenance controller taken the time to look into the reason why there was a "hole" in the aircraft, they may have uncovered that the fuel-dump panel had been removed to troubleshoot another aircraft on the flight line. If I had taken the time to check that the fuel-dump switch was in the off position, I would have noticed that a fuel-dump panel was not even installed in the aircraft.

I reached down to the center console to put my hand on the guarded fuel-dump switch. I got an ill feeling that I might not find one.

LCDR Russo flies with HSL-48.

GREETINGS FROM THE NEW MAINTENANCE SAFETY MO

Please allow me to introduce myself. I am CDR Tom Gibbons and have recently reported to your Safety Center as the Maintenance and Material Division Head. I am relieving LCDR Rich Thousand. I would like to personally thank him for his outstanding work and leadership while forging new and innovative ways of thinking and process improvement in order make, and keep aviation maintenance performance at its peak in efficiency and safety. Great work Rich and best of luck.

I truly look forward to working with this great Safety Center team and can't wait to come see all of you out there on the flight line. This team of aviation safety professionals is a remarkable group and it is a pleasure and honor to be a part of them. We really are here to help and are standing by to assist you in any way possible. So please don't hesitate to call or stop by and see us.

In closing, I want to wish all of you happy "fixing." Leaders, set the standards for your programs and your people high – and then give your maintainers the time they need. Maintainers, take the time to use ORM and the pubs in order to do it right the first time – perform as the professionals you are and like a life depends on it…because it does!!

Take care Ya'll, and we'll see you out there.

CDR Tom Gibbons

Nothing to Stand On

Artwork by John W. Williams

by AT3 Grant Pick

It was nearing the end of the day in the avionics shop when we got an inquiry from Maintenance Control about a TD amplifier test for one of the aircraft. An AE2, an AT2 and I eagerly headed to aircraft and begin work. We checked out the PPE and tools and walked to the hangar.

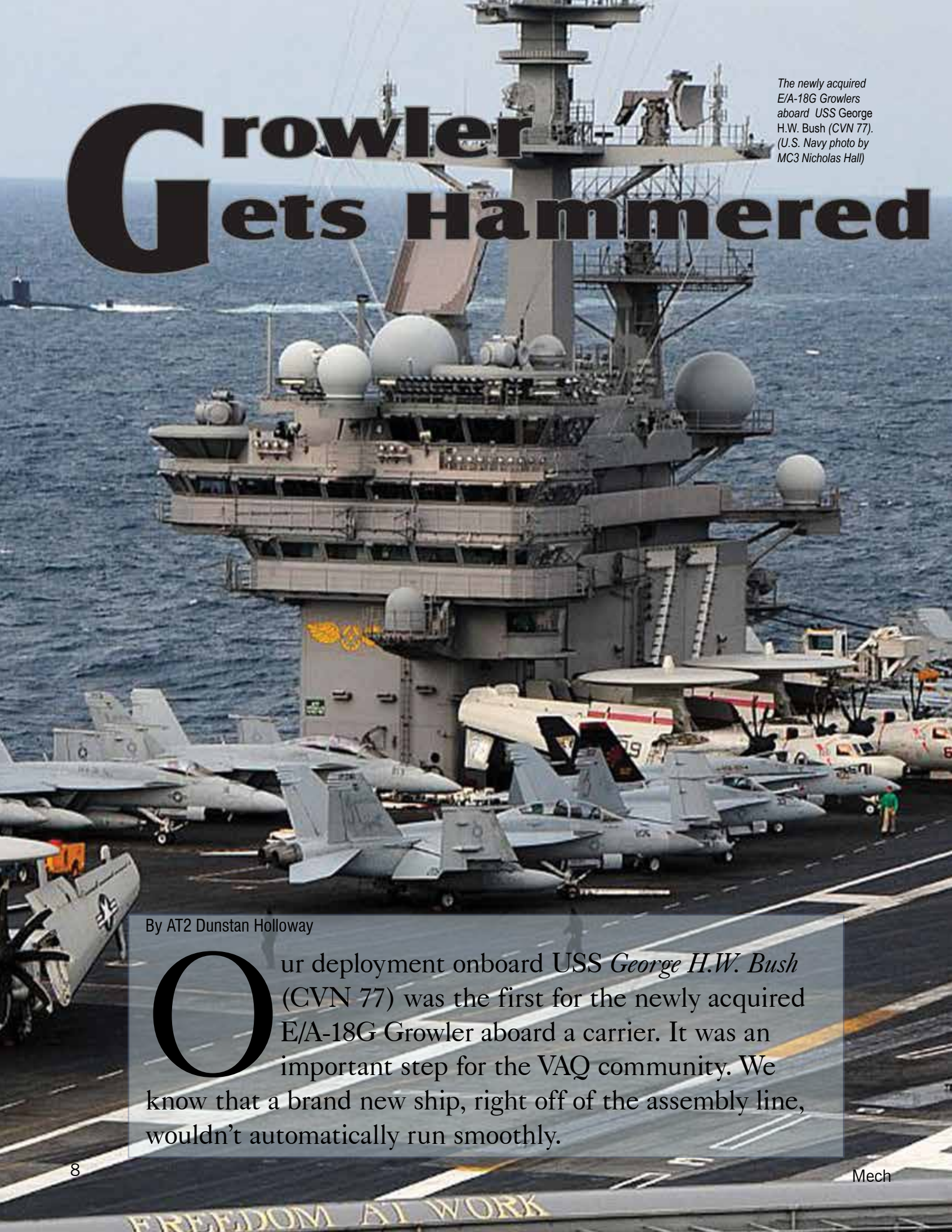
We needed to work on the top of the port side of the engine nacelle, which meant we had to use a B-5 support stand. I moved a nearby support stand into position with the aid of the AT2. After securing our cranials, the three of us climbed onto the stand. We'd quickly looked over the stand, but hadn't done the full pre-op that was required. No one read the warning label that said the stand had a 500-pound capacity.

I started jacking up the stand several feet to allow access to the two engine panels. We didn't use the stand's safety-pin system, which (if hydraulic pressure were lost) would prevent the stand from lowering. I began to remove the safety wire securing the TD amp cannon plugs. The AE2 headed back to the shop for the laptop with the pubs. He was immediately replaced by a fourth mech, an AEAN, so there were still three of us on the stand.

As I was working on the last line of safety wire, I didn't notice that AE2 had returned and was climbing up the stand's static ladder. Immediately after the AE2 put both feet on the dynamic portion of the ladder, the hydraulic system failed and the stand fell several feet. The AE2 had safely positioned his feet on the stand's ladder. Had his feet been getting between the collapsing dynamic ladder and the static ladder, he might have broken his feet or legs.

Between the four of us and our tools, we had put more than 800 pounds on the support stand, far exceeding the capacity.

Growler Gets Hammered



The newly acquired E/A-18G Growlers aboard USS George H.W. Bush *(CVN 77). (U.S. Navy photo by MC3 Nicholas Hall)*

By AT2 Dunstan Holloway

Our deployment onboard USS *George H.W. Bush* (CVN 77) was the first for the newly acquired E/A-18G Growler aboard a carrier. It was an important step for the VAQ community. We know that a brand new ship, right off of the assembly line, wouldn't automatically run smoothly.

We also expected many challenges transitioning to a new aircraft from the old trusty Prowler.

One evening, during last recovery cycle, AJ 500 taxied to its spot just forward of the Hummer hole in the six-pack. It was our final shut-down for the evening. I waited for the signal from the plane captain to clear me to enter the nose wheelwell to record and interpret maintenance codes.

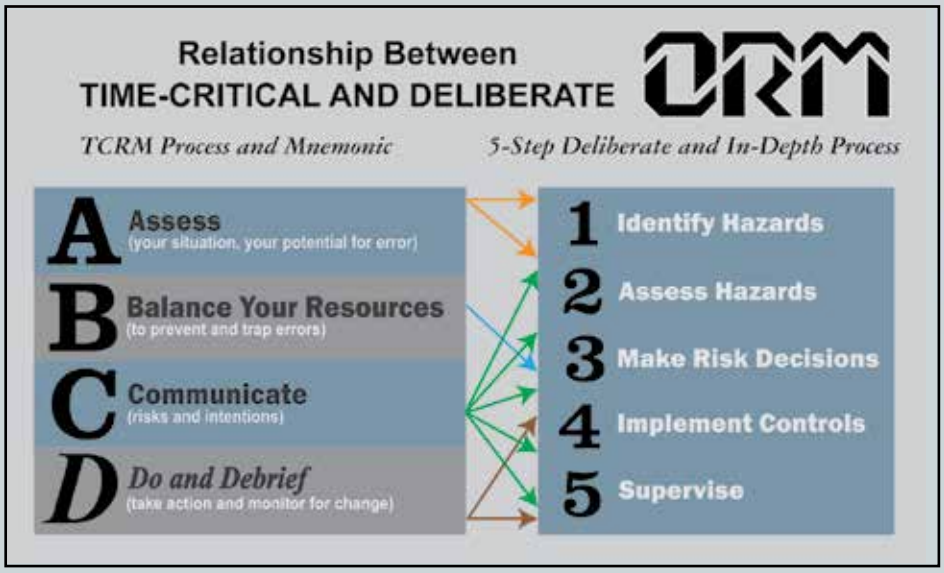
I got the signal that it was safe to enter. As I was recording the MSP codes, another aircraft recovered and taxied to the de-arm area. I finished recording the codes, finding no issues that would keep the jet from flying its next event. However, while I was under the cover of the nose-gear door, the jet sustained a significant amount of damage.

I took my place behind the other shooter, the flight deck chief (FDC), and the plane captain. I glanced at the aircrew and saw a look of shock in their faces. Then I saw the damage: the port leading edge extension (LEX) looked as if someone had tried to use a fire axe to go in and rescue the pilots. I saw the FDC carrying a large piece of metal, about 4 feet in length and 6 inches wide, into Flight Deck Control.

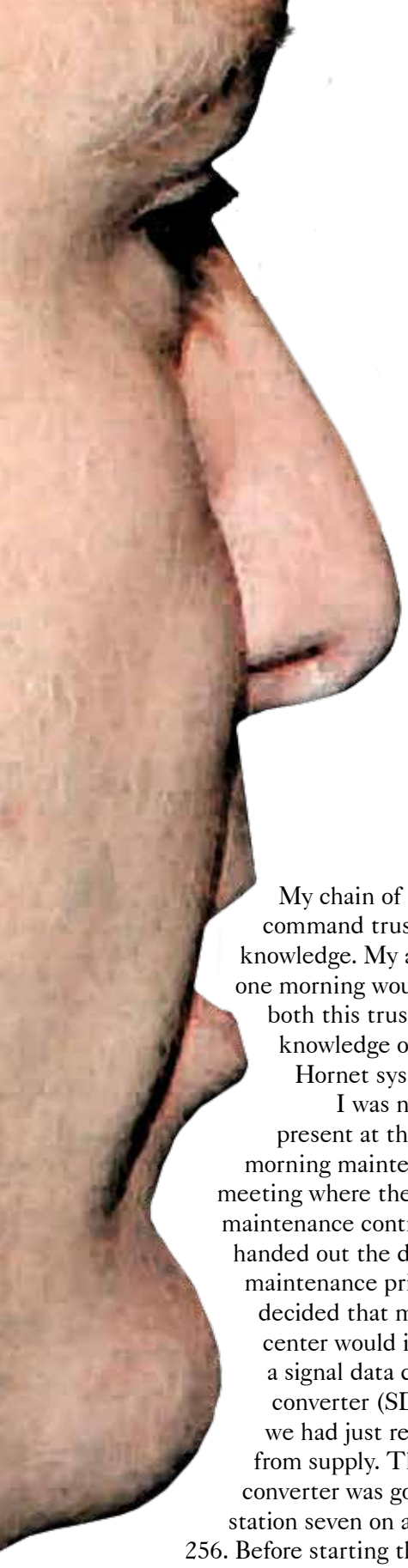
I realized what had happened. The mounts for the cross-deck pendant support riser had failed, causing the arresting gear cable to launch the riser into AJ 500. The LEX wasn't the only place that had been damaged. The riser had first hit the forward port fuselage, hit the underside of the LEX, then boomeranged down onto the ram air turbine generator on the ALQ-99 pod. It almost hit the plane captain in the head. The fuselage and LEX were damaged beyond organizational repair capabilities. The jammer pod damage warranted complete replacement of the ram air turbine generator.

When he wrote this article then AT2 Holloway was at VAQ-141. He is currently an AT1 now at VFA-32, Avionics Department.

The flight deck is one of the most dangerous working environments in the world and commands respect. The smallest distraction still can put Sailors and Marines at risk.The Navy has made many improvements in flight-deck equipment, firefighting gear, and personal protective equipment. The inclusion of ORM and time-critical risk management into the decision-making process is another major improvement in flight-deck safety.



AT2 John Hall, assigned to the VAQ 136, unloads a flight control computer from an EA-18G Growler aboard USS Ronald Reagan. *(U.S. Navy photo by MC3 Andrew J. Ulm)*



By AT2 John Baker

It seemed to be a normal morning at Naval Air Station Lemoore with the Flying Eagles of VFA-122. As a collateral duty inspector (CDI), I've learned a lot during my years of working on the F/A-18.

COMMUNI

My chain of command trusts my knowledge. My actions one morning would test both this trust and my knowledge of Super Hornet systems.

I was not present at the morning maintenance meeting where the maintenance control chief handed out the day's maintenance priorities. I decided that my work center would install a signal data control converter (SDCC) we had just received from supply. The converter was going in station seven on aircraft 256. Before starting the job, I made sure that a maintenance action form (MAF) went into work. I noticed that the aircraft was in a down status for an unrelated reason.

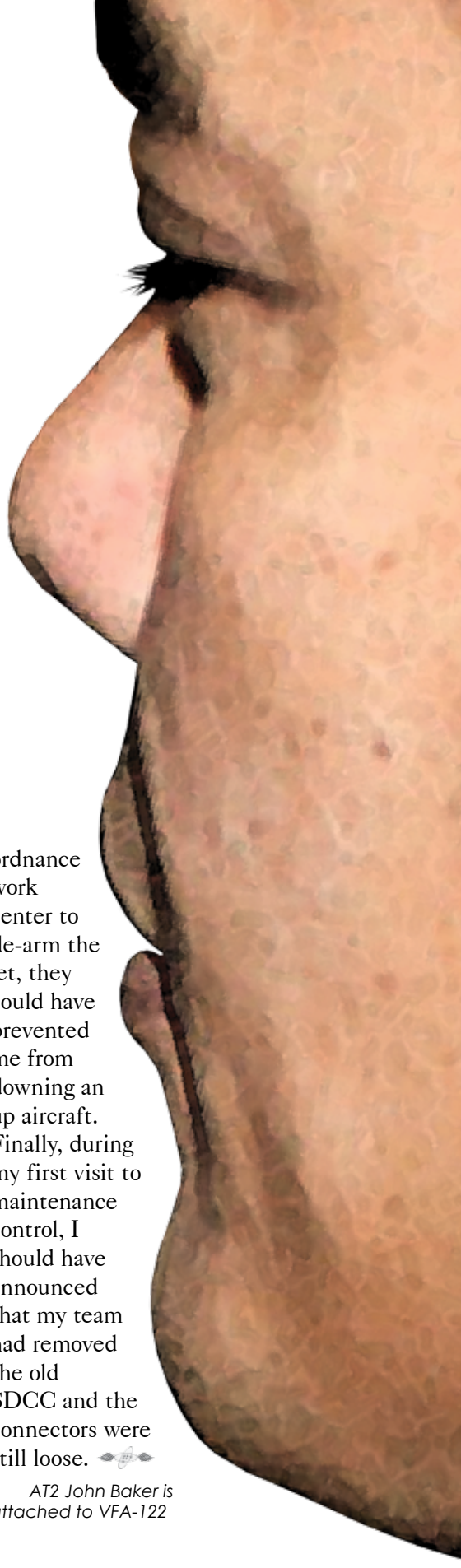
I briefed the job to my team and made sure we had the required tools. My maintainers went to the aircraft while I got the tractor and power cart. After I arrived at the jet, we began installing the SDCC. I observed the installation. When the work was complete, we needed to run up the aircraft. However, during our pre-operational checks, we found out the aircraft was armed.

I decided to contact the ordnance work center to request they de-arm the aircraft. I did not inform maintenance control of this request. After the ordnance personnel de-armed the jet, we conducted our checks and found that the new SDCC was bad. The ordnance personnel asked if they could re-arm the jet. I told them that I would ask maintenance control to let them know the SDCC was bad and that I would need to order a new one on a Y-code MAF.

The maintenance control chief said he scheduled the jet to fly and I was not to work on the SDCC. I told my maintainers to return to the jet and pull out the bad SDCC. I went to maintenance control, but didn't mention that my team was returning to the jet to remove the bad SDCC. As I walked in, I saw stern faces. I relayed that the part was coming out and that I needed to reorder one on a new MAF. The maintenance control chief asked why I was working on a jet that he scheduled to fly and why I had run up an armed aircraft. I explained that I had the ordnance shop de-arm the aircraft so I could safely run the stores management system (SMS). The maintenance control chief ordered me to not touch the aircraft and to never work on a jet that was scheduled to fly. I left maintenance control and returned to my shop to cut the new MAF.

The Maintenance Control chief ordered me to not touch the aircraft and to never work on a jet that was scheduled to fly.

CATION Is Key



Once I cut the new MAF, I called maintenance control for MAF approval and asked if they wanted me to secure the connectors in the starboard wheelwell or install another SDCC. I was promptly asked to return to maintenance control and bring my supervisor and chief. Because I hadn't told maintenance control that I was still in work on the MAF and had left the SDCC connectors unsecured, the maintenance control chief had to call the aircraft back from the runway before it took off. Had the aircrew taken off, the connectors could have been caught in the main landing gear, which might have led to an emergency landing.

I learned (or relearned) two lessons from this experience. First, procedures and publications are more important than your perceived experience. Second, communication is critical. My experience with F/A-18C Hornets taught me that a failed SDCC on station seven is a downing discrepancy. I applied this experience to an F/A-18E, assuming that aircraft would not fly until I fixed the SDCC. I was wrong. On the newer version of the aircraft, this discrepancy means the aircraft is partial mission capable; it isn't down unless weapons are loaded on station seven and eleven. The aircraft in question hadn't had weapons loaded on either of these stations. Had I consulted the publication before doing the work, I could have made sure maintenance control knew that I had put the aircraft in a down status by not securing the SDCC connectors.

I failed to communicate on multiple levels throughout this incident. If I'd attended the maintenance meeting that morning, I would have known that aircraft 256 was scheduled to fly. If I had told maintenance control prior to starting work or tasking the ordnance work center to de-arm the jet, they could have prevented me from downing an up aircraft. Finally, during my first visit to maintenance control, I should have announced that my team had removed the old SDCC and the connectors were still loose.

AT2 John Baker is attached to VFA-122

Nickels and

By AD1 Adrian Casas, VAW-116

Deployed onboard USS *Carl Vinson* (CVN 70) in the Arabian Gulf, my powerplants work center was knocking out and fixing whatever discrepancies came our way.

Nine Sailors, including four collateral duty inspectors (CDIs), were motivated to keep our four E-2C Hawkeyes ready for combat operations. The work center had a couple of time-intensive, propeller and pump-housing replacements along with some engine-fuel control issues. However, most of the discrepancies on our workload were nickel-and-dime problems that could be quickly corrected.

The T56-A-427 engine incorporates eight bleed cups positioned at the fifth and tenth stages of the compressor section (also known as the "nickel-and-dimes"). They help unload the compressor during engine start-up. Two teflon seals in each cup prevent air from escaping when the cups are closed during a stabilized start. Leaking air from these seals reduces engine efficiency. In that case, the seals have to be replaced.

One day we have to replace a starboard fuel pump and perform an engine performance run to determine the starboard engine efficiency. At the conclusion of the day shift, a performance run confirmed a documented drop in efficiency, beyond allowable limits, possibly caused by a bleed-air leak in the

Personnel assigned to VAW-117, install a propeller pump housing on an E-2C Hawkeye engine in the hangar bay aboard USS Nimitz *(CVN 68). (U.S. Navy photo by MC3 Jeremiah Sholtis)*

engine. We eliminated all possible locations for bleed-air leaks during several low-power turns. We decided to replace the seals on the nickel-and-dimes in an attempt to get starboard efficiency within limits.

Day check replaced the seals. Night check had to do the engine performance run. The night crew was confident that replacement of the nickel-and-dime seals and the cooler ambient air on the flight deck would improve the efficiency numbers. They started the starboard engine; no leaks were found. The engine was shut down to install the engine nacelle panels and to switch the troubleshooter with the turn operator in the cockpit. This allowed technicians to take the aircraft into higher power settings.

The second start of the starboard engine was unsuccessful, hanging at 55 percent rpm and decaying. The start was aborted. The fuel-ignition relay circuit breaker was recycled, as had been done many times before for the same discrepancy. After waiting the required five minutes, we restarted the engine. During the high-power turn, the starboard engine efficiency was within limits (at 95.71 percent), within the three percent margin of the previous performance. This calculation, as per the Maintenance Instruction Manuals, allowed us to say it was an up aircraft and put it on the flight schedule for the next day's events.

The next day, the aircraft recovered and taxied to the fantail for a hot refuel and crew swap, requiring the starboard engine to be shut down to take on fuel. After fueling was complete, three unsuccessful attempts were made to start the starboard engine. All attempts had the same result: the engine hung at 55 percent and decayed as it had the previous night. The aircraft was down for troubleshooting and was unable to make any other events on the flight schedule.

The following day, we had a gameplan for our troubleshooting. First, we checked for bleed-air leaks. Then, because the aircrew had said that the rpm decay had "felt more like a flame out," we decided to troubleshoot the ignition system. We changed the ignition relay, the DETC (digital electronic trim control) and the ignition exciter. No joy.

We had a "varsity gripe" and were accumulating an abundance of man-hours and parts. After changing multiple components in accordance with our publications and troubleshooting assistance from NATEC experts, we still had unsuccessful engine starts that yielded the same discrepancy. We were getting frustrated, and our troubleshooting ideas seemed to be more far-fetched. We needed a fresh set of eyes to look at the engine, so we consulted our line division chief. He jumped on a ladder and immediately discovered that the nuts on the tenth-stage bleed-air cup weren't fastened. This would have caused the bleed-air cup to rise out of the collector, causing a massive bleed-air leak on start-up. It was embarrassing that we all missed something this easy, especially after multiple CDIs had carefully inspected the nickel and dimes for leaks.

We secured the bleed cup nuts. Our so-called varsity gripe turned out to be a nickel-and-dime gripe after all.

AD1 Casas is the Power Plants LPO at VAW-116

The next day, the aircraft recovered and taxied to the fantail for a hot refuel and crew swap, requiring the starboard engine to be shut down to take on fuel. After fueling was complete, three unsuccessful attempts were made to start the starboard engine.

Brainstorms and Rewards

By AM1 Brian Patrick Young

It is another day on deployment in the Persian Gulf aboard the USS *Harry S. Truman* (CVN-75). An AM3 awakens to the relentless beeping of his alarm clock. He notices immediately the oppressive heat permeating through the ship as the machinery struggles to win the temperature battle. One zone is freezing; another space is scorching hot because of an open hatch somewhere. All he wants is a cold shower, a few days to get some laundry done and a break from the endless fight with sunburn.

What he gets is more work, and he is running late. An E-2C, Hawkeye 600, had been downed the day before because of a broken rod end on the arresting-hook lift cylinder. The AM3 knows he'll be tasked to change the rod end. He also knows the procedures involved and is filled with dread. The maintenance publication calls for an "operational check" of the hook once the rod end has been installed. That means the aircraft will have to be jacked up until the wheels are off the deck.

The labor-intensive process for jacking an aircraft aboard an aircraft carrier is problematic and dangerous. The ship must maintain a stable course. The aircraft must be defueled and lowered by elevator to the hangar bay. Other aircraft must be moved to make room.

All four pivot points account for less than eight square inches of contact between the jacks and the aircraft. Pitching, rolling decks can unseat the narrow jacks, especially when the tie-down chains are loose. If the chains are too tight, the aircraft can snap tie-down points, producing missile hazards for nearby personnel. Furthermore, a snapping chain can rock the aircraft, unseating the aircraft from the jack, which could easily puncture the center-wing fuel cell. The resulting damage would be catastrophic.

The AM3 sets up the 10-foot jacks under the wings (getting them to sit flat on wavy non-skid is a task in itself). A few hours had passed since 600 had been defueled. Maintenance Control called all work centers to send personnel to man the tie-down points to ensure the aircraft chains are taut but not too tight. You have to pump aircraft wing jacks hundreds of times to raise an E-2. The temperature was 112 degrees with 100 percent humidity in the hangar bay. The 15 people needed during the jacking process waited for AM3 to do his thing. The supervisor in front of the aircraft pointed his fingers to the people manning the wing jacks. The AM3 furiously pumps the jack-handle until he is worn out. Exhausted from the effort, he must be relieved of his duties, suffering mockery for not being able to "go all the way" and for bringing the process to a grinding halt.

The AM3 realized that this process was unnecessary, not only for this job, but for any arresting-gear maintenance not involving the weight-off-wheels switch. He investigated a way to change the publication so that the full travel of the arresting truss could be verified without jacking the aircraft.

Two solutions seemed easy. First, removing the hook so that the truss can travel far enough to engage the hook truss switch. This extinguishes the hook handle warning light and lets the pilots know that it is down. Second, in the off chance that removing the hook isn't sufficient because of deck slope and strut length, you can deflate the nose strut. This pitches the aircraft down, so the truss will have full travel. Both solutions are more efficient than the dangerous and lengthy process of jacking the aircraft.

The AM3 has the quality assurance staff review his technical publication deficiency report (TPDR) and submits it in hopes of not only saving the Navy time and money, but also saving his back and the backs of his fellow airframers.

Here's where the Military Cash Awards Program (MILCAP), sponsored by the Department of Defense, came in. MILCAP offers a cash reward to DoD members who demonstrate an idea that can save money, manpower or improve asset management.

The MILCAP administrator (who also happened to be the quality assurance officer) for the AM3's command did a cost analysis, showing that the AM3's idea would save the Navy at least $45,394 and more

References

- "Military Cash Awards Program", OPNAVINST 1650.5D
- "Contribution Investigation Report", COMNAVAIRFO-RINST 1650.2G
- "Organizational Maintenance Arresting Gear and Catapult System", NAVAIR 01-E2AAA-2-6, work package 008
- "Organizational Maintenance General Aircraft Information", Aircraft jacking procedures, NAVAIR 01-E2AAA-2-1, work package 23

than 1,000 man-hours for the E-2 fleet annually. This savings doesn't include the man-hours shipboard personnel must expend by moving many aircraft, maintaining the jacks, altering the course of the ship and operating expensive support equipment, fueling and elevator systems.

For locally adopted changes, commanding officers can use the MILCAP program for awards as high as $5,000. The CNO and Secretary of the Navy can authorize awards between $5,000 and $25,000. Awareness of the program is crucial to spawn innovation and new ideas that can save Navy assets. Skyrocketing medical costs also need to be considered when reducing the daily, manual workload on Sailors.

The MILCAP program encourages people to think outside the box and develop solutions that increase efficiency. The annual composite rate for hourly labor of the average Sailor is $40-$50 an hour. A process that significantly reduces man-hours spent fleet-wide can be exponentially applied, leaving a large figure that calculates into the "Investigation and Contribution Report", which determines the monetary award a Sailor can get for his or her idea.

In the case of the AM3, his idea was submitted via the MILCAP program. However, even after acceptance from a host of E-2C technical representatives and a letter of endorsement from the commanding officer and wing commander, the lengthy process for "non-critical" publication changes takes a very long time.

A year later, newly frocked to AM2, he is still aware that somewhere in the Persian Gulf, an E-2 could be undergoing the same jacking process that he wanted to eliminate. He knows an intermediate rapid action change (IRAC) could be initiated for the proposal without need for an entire publication revision. His only hope is that the process one day comes to fruition.

Now on his second deployment, he awakes to his reliable (yet still annoying) alarm clock. He knows it is another 100-degree day and there is another rod end that must be replaced, or another tail-hook, or another truss. He takes a couple aspirin and jumps in the always-hot shower two frames over. The aircraft isn't going to jack itself he muses, then begins formulating another MILCAP proposal for air-operated jacks much like the ones the Air Force uses and chuckles at the thought.

AM1 Young is a Quality Assurance Rep, in the Airframes Department for VAW-123

Are you connected?

USMC photo by Capt. Nick Arnold, USMC
MAG-26 Fall Prevention Program

01-10-05 Nov 2014 JWW

"That's Not Residual Fuel"

By LT Mark Sturm

One month into a seven-month deployment, we had just begun our first of five integrated maintenance concept phase inspections on our deployed P-3C. As the "look" phase sped along, a young team of mechanics was tasked with several outstanding gripes on the fuel transfer system.

Fuel tanks No. 2 and No. 3 were drained in preparation for the removal of the corresponding cross-feed valves and the cross-ship valve. On a P-3C, the cross-feed valves allow the crew to use fuel from any tank to feed a particular engine. The cross-ship valve lets fuel travel between the port and starboard sides of the cross-feed system.

Around midnight, an ADAN, an AWF2 and an AD2 (who had recently qualified as a collateral duty inspector, or CDI) started removing and replacing the three valves. The first step for removing a cross-feed valve, according to the publication, is, "verify that main tank valve and cross-feed valve switches on fuel management panel are set to 'close' and panel tagged to

Aircraft inside the hangar ready for the integrated maintenance inspection. (U.S. Navy photo)

advise system is not to be operated." The CDI verified all the cross-feed valves were closed and pulled the circuit breakers. The main tank valves, which shut off fuel to the cross-feed system upstream of the cross-feed valves, were not closed.

The ADAN removed and replaced the No. 2 tank cross-feed valve. Next, the cross-ship valve and seal sleeve were removed. Once the retaining rings were out and the valve reinstalled to remove the seal sleeve, the ADAN felt fuel run down his glove. He and the CDI assumed this to be residual fuel in the lines. They kept working. After 30 seconds, they concluded that the fuel was not residual – it was fuel draining from either tank No. 1 or No. 4 via the cross-feed lines.

"Fuel spill!" was immediately called out. The observing AWF2 ran to Maintenance Control to tell them about the incident and call the fire department. All shops rapidly responded to the fuel spill. The spill kit was deployed to contain the fuel in the area. The CDI and AWF2 ran to the flight station to make sure that all switches were positioned correctly. The CDI noticed that all of the main tank valves were still open. Worse, without power applied to the aircraft, none of the valves could be repositioned.

The two maintainers returned to the spill. The CDI donned the PPE in the kit and tried to reinstall the seal sleeve and valve. Once the sleeve was in, the valve was reinstalled enough to slow the leak to a manageable seep. By this time, the CDI was soaked in fuel; he was released to go take a shower. The duty fire marshal arrived and concluded that even though fuel was still seeping, the scene was contained. After working for about an hour to stop the seep, personnel concluded that the sleeve was twisted and needed to be removed and reset to allow the valve to be reinstalled. They did so, and the seep stopped.

The investigation revealed that the aircraft in phase had a history of cross-feed valve malfunctions. The cross-feed valves for tanks No. 2, 3 and 4 had outstanding gripes relating to cross-feed valves not completely closing. As there were only two cross-feed valves in stock, the malfunctioning No. 4 cross-feed valve was not addressed as material to the maintenance. Quality assurance (QA) determined that the leaking fuel actually came from the No. 4 fuel tank through a malfunctioning No. 4 cross-feed valve.

Had the main tank valves for tanks No. 2 and No. 3 been closed in accordance with the procedure, QA concluded that this fuel spill would have still occurred. The publication did not specify that all main tank valves should be closed prior to maintenance on the cross feed system. The malfunctioning tank No. 4 cross-feed valve, in parallel with an open main tank valve, allowed fuel from the No. 4 tank to flow into the cross-feed system, resulting in a leak when the cross-ship valve was removed. As a result of this incident, a technical publication deficiency report was submitted directing the closure of all main tank and cross-feed valves when removing or installing a cross-ship valve.

This incident gave us a chance early on in our deployment to look at our maintenance program through the lens of Operational Risk Management. Though the failure to close the No. 2 and No. 3 main tank valves hadn't caused the spill, the fact that a CDI skipped steps prior to maintenance caused us to look closely at our training program, the amount of supervision provided during high-risk tasks and the risks caused by the of perceived pressure in a deployed environment.

Organizationally, this incident helped us realize that applying time critical ORM may have identified the hazard posed by multiple cross-feed valve discrepancies. We hadn't done a good enough job of asking, "What can go wrong?" in a situation with several related malfunctioning components prior to sending our junior Sailors out to work on a discrepancy. Had we identified the risks properly, we could have figured out how to mitigate them prior to this fuel spill.

Spill kit placed around area of the fuel spill. (U.S. Navy photo)

LT Sturm is the VP-9 QAO

Friday FCF Follies ("What Rig Pin?")

By LT Derek Johnson

As quality assurance officer (QAO) at HSM-74, I wasn't surprised to be scheduled for a Friday functional check flight (FCF). As any QAO should be, I was happy to do it. It was also the day before our first block-holiday leave period. This produced a lot of moving pieces and bodies around the squadron in a coordinated effort to get the required work done that day. Furthermore, the detachment lead aircraft mechanic and I had double scheduled ourselves. He had a medical exam, and I had a "thank you" lunch in appreciation of the quality assurance division's hard work in preparation for a recent maintenance inspection.

The reason for the day's FCF was the discovery of a cracked brush block cover that had to be replaced. The tail rotor's inboard retention plate had to be removed, reinstalled, and subsequently torque checked. That type of maintenance requires a C-profile FCF to test controllability and drive-train operation (usually one of the shorter FCFs). The helo had had a post-phase B/C-profile just 25 flight-hours prior. We figured our FCF would be quick.

After the morning maintenance meeting, the maintenance control desk chief, the maintainers and I worked out a tentative plan for the day. We considered that the aircraft wasn't planned to be ready for preflight until 1100, I would be gone from about 1245-1415, and sunset was at 1726. We all agreed that it would be best if we could get the ground checks done and at least one solution from ground vibration analysis before I left for lunch. That way, the maintainers could make adjustments while I was gone, and we could be flying by 1500 with plenty of time to spare before sunset.

As the morning progressed, the aircraft preparations were not coming along as quickly as expected. The expected preflight time was pushed to 1200. At 1130, I reminded the maintenance control desk chief that if we weren't preflight planning by noon, we would have to wait until 1430 to start the FCF, leaving a narrow margin between FCF start and sunset. I wasn't trying to force maintenance to rush, just to make sure we were all still on the same page. In hindsight, I now realize that I wasn't helping. I should have let the maintainers conduct their business without any interruptions or outside pressure. After all, there was no real need to finish the FCF that day; our squadron was in the maintenance phase and had no operational commitments in the near-term.

I got the word that the aircraft was not going to be ready until after noon, so I decided to delay the FCF until after lunch. I requested the aircraft be fully ready to spin by the time I returned. By 1215, our mechs had finished working on the aircraft. It was buttoned up, and all the MAFs were signed off. The day's work included setting the tail-rotor bias and conducting a daily and turnaround inspection. While I was leaving for lunch, the lead AD (who was also the CDI that day) was departing for his medical appointment.

I finished lunch at 1345. On my way back to work, I called my copilot and asked him to round up our AWs and tell them to make their way out to the aircraft to start preflighting. I would join them ten minutes later. When I returned to the squadron, I went through Maintenance Control to make sure all the MAFs were signed off and the aircraft was ready to go on the flight line. I helped finish the preflight, and we finally strapped in at about 1430.

While going through prestart checks, my copilot noticed that the tail-rotor pedals were moving, but the right one didn't seem normal. He passed me the controls to double check, and sure enough, the right pedal seemed jammed. It moved a couple inches, but nothing near the usual throw. I asked the ADs, who were on ICS at the time, if they could think of any reason why.

The lead AD called in one of the AMs to ask what he thought. He in turn asked the junior AD

(who had done the work on the tail) if he remembered to remove the rig pin that holds the controls in position while setting the tail-rotor bias. "What rig pin?" he asked.

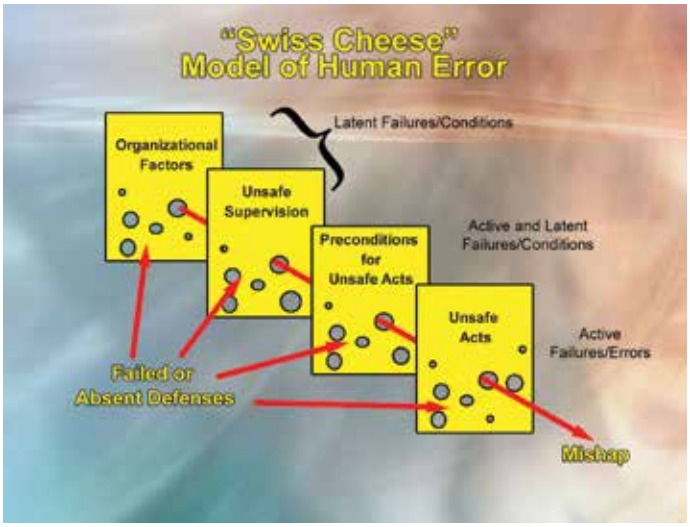
The lead AD immediately said, "Hold on, sir, we need to check something…" Our maintainers got back up on the tail rotor and removed the cowling to discover that the rig pin was still in… and now it was stuck!

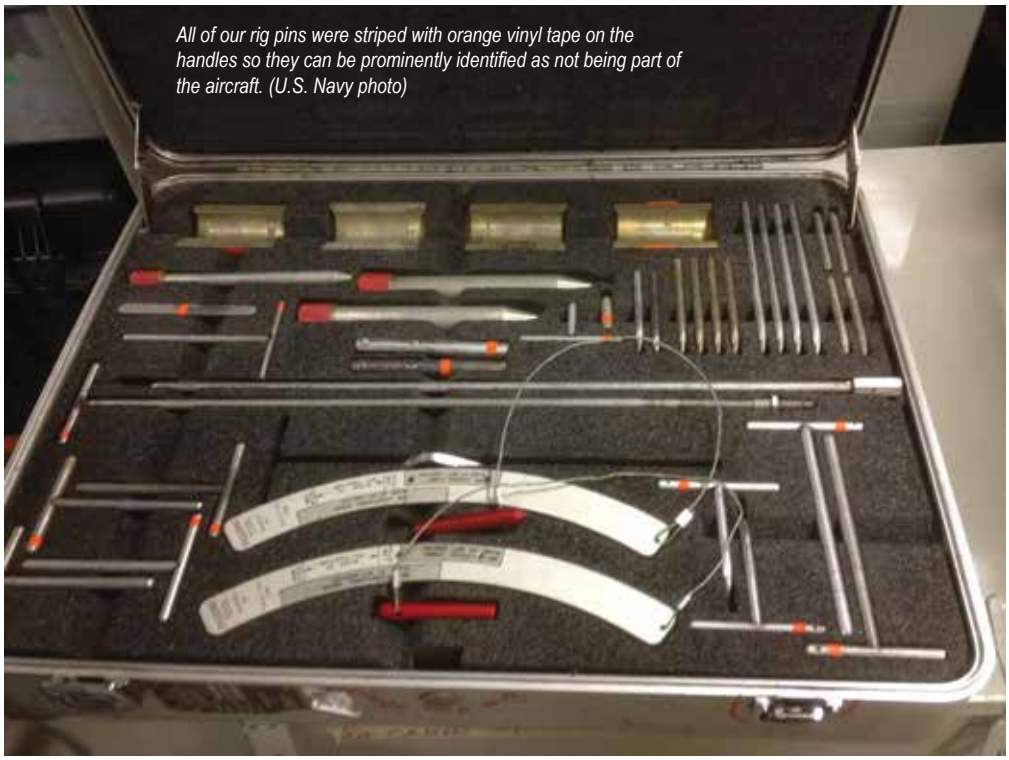
I got out to see what the problem was. With my untrained eye, I couldn't have identified that the rig pin as anything other than another piece of the tail-rotor gearbox. It was the same color, small, and did not have any identifying marks or "remove before flight" flags. The real problem was that the rig pin was still there in the first place. How did this happen? Were individuals rushed? Were steps missed? Were maintainers inexperienced, or were they distracted with impending leave and recent medical appointments? Did the aircrew not conduct a thorough preflight?

According to the Swiss Cheese Model of Human Error, the "Swiss cheese" holes lined right up. Had the copilot been less assertive or had I been overconfident, we could have talked ourselves into the idea that the limited pedal movement was acceptable. I have had aircraft with less pedal movement than others, and we were moving fast to beat the sun. At the very least, we could have engaged the rotors and taxied out of our spot before realizing something was wrong.

Some special audits and counseling sessions were conducted, and some procedures augmented for the better, but no one was hurt. The primary corrective action we put in place in our squadron to prevent this from happening in the future was to have all our rig pins striped with orange vinyl tape on the handles so they can be prominently identified as not being part of the aircraft.

LT Johnson is the QAO at HSM-74





All of our rig pins were striped with orange vinyl tape on the handles so they can be prominently identified as not being part of the aircraft. (U.S. Navy photo)

I couldn't have identified that the rig pin as anything other than another piece of the tail-rotor gearbox.

Hot Off the Press!

The motorcycle safety magazine for the riding enthusiast.

Ride Magazine Uses Covert Learning to Keep Riders Safe

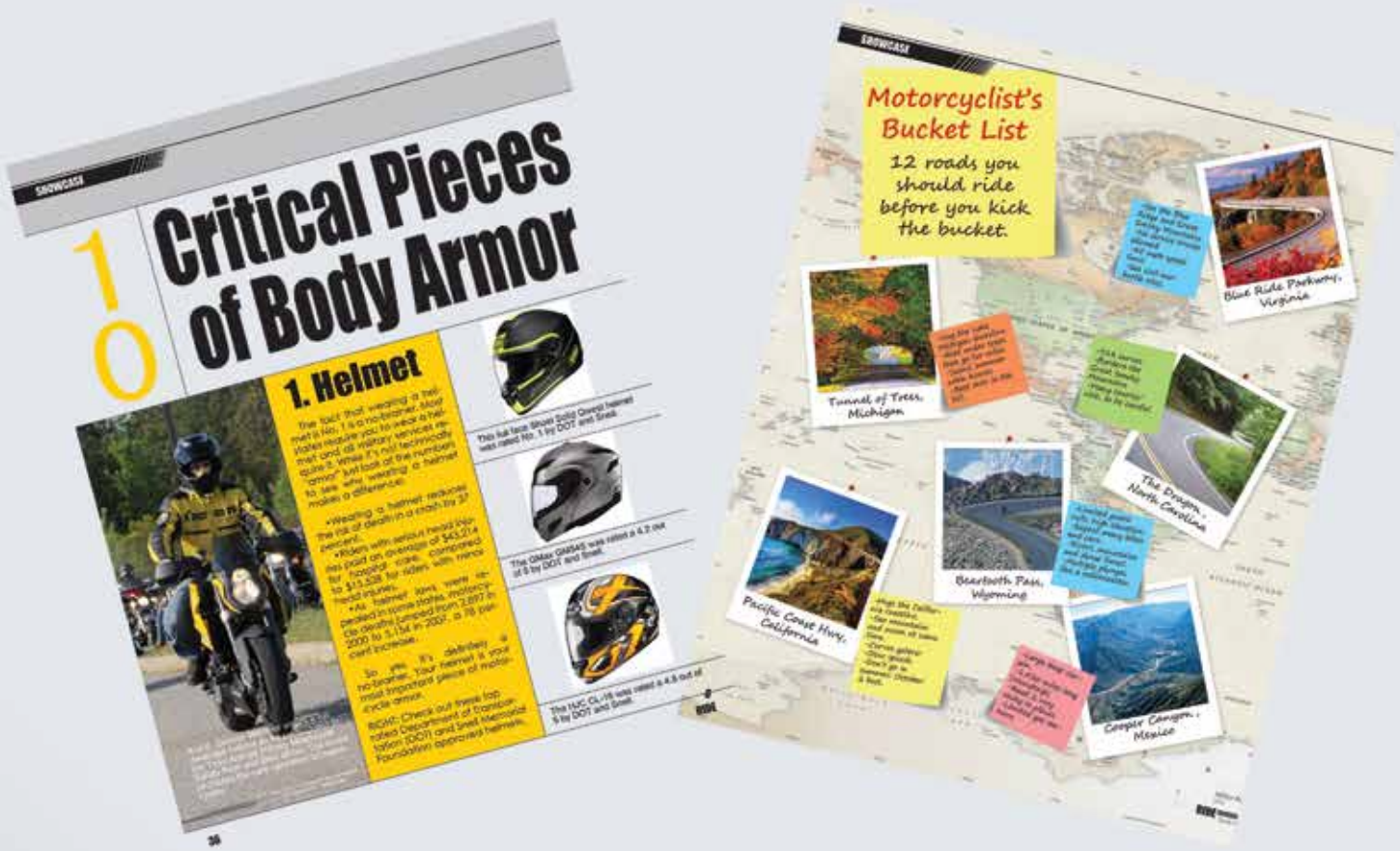
By Nika Glover

The famous actor (and avid motorcyclist) Steve McQueen once said, "One of the things that makes motorcycling so great is that it never fails to give you a feeling of freedom and adventure."

Most motorcyclists would probably say that statement is spot on. The feeling of adventure and sense of freedom is hard to resist. So they take the risk with the pleasure of riding because for riders it's an even trade-off. However, that doesn't change the fact that motorcycle riding is dangerous, and riders must be vigilant and safe.

In response to the rise of motorcycle mishaps and fatalities, the Naval Safety Center has produced a special-issue magazine called Ride. The goal of the magazine is to inform motorcyclists about motorcycle safety through something called "covert learning." No one wants to spend their time reading a bunch of boring facts and figures. Ride magazine was created to be enjoyable to read while informative.

For starters, the magazine has the look and feel of a commercial publication. There's information on



With a commercial look and feel, Ride magazine was developed to be a fun magazine with rider safety in mind. The magazine is chock full of fun tidbits of information like the Motorcyclist's Bucket List on Page 6 that shows riders the best roads to ride before they kick the bucket. There's also a showcase of the 10 Critical Pieces of Body Armor on Page 36. This showcase includes information on little known pieces of body armor that protect important body parts. The magazine also includes information on the latest and greatest in sport bikes and motorcycle safety rules. Get your copy today before they're all gone.

the latest products and gadgets for motorcyclist. Those products are cool but they also offer an upgraded level of protection.

There's also a bucket list of some of the best roads to ride in the U.S. and overseas. Have you ever tried to ride "The Dragon"? This road boasts 318 curves and borders the Great Smoky Mountains. Most motorcyclists know about the famous Route 66, which is also featured in the magazine, but what about Gouliang Tunnel Road in China? While it's only .75 miles long, it's one big curvy tunnel.

One of the most interesting articles in the magazine is "The History of Military Motorcycles" by Aaron Cortez, a writer for the website Bike Bandit. If you've ever wondered where the word "chopper" came from, read the article and learn all about the bikes that were repurposed after World War II.

If you're the type who has a need for speed, check out the article on the fastest bike Kawasaki has ever made. It's a speed machine that you'll want to test ride after reading about it. There's also an entire spread on the best and most critical gear for motorcycle safety. A lot of bikers don't even know there's armor for the hips that help protect the pelvis during an accident.

Harley-Davidson recently released its first electric bike, the LiveWire. It's a quiet sleek bike that competes with the best gas bikes for speed and agility. You may think about going green after reading about it. Of course any good motorcycle magazine features the best bikes of the year, and Ride magazine is no different. The list of the 10 best sport bikes goes into detail on specs, safety aspects and price ranges.

Ride magazine has something for every bike enthusiast with safety in mind. While we can only control some of the factors that lead to dangers on the road, we can definitely control how well we protect ourselves when we travel. By doing something as simple as wearing the proper body armor, we can limit our chances of getting seriously injured in an accident. That's what the goal of the magazine is, to help you keep you safe.

Ms. Glover is the Editor, of Ride Magazine

How Not To Do It!

I held the switches and tried again, but nothing happened. I thought there was a problem with the power source on the ground - a common malfunction.

By LCDR Austin Coovert

It was fall patrol of our Western Pacific deployment aboard USS *George Washington* (CVN 73). My fellow aviation ordnancemen and I were involved in loading our F/A-18E Super Hornet as the alert aircraft. Our alert aircraft are loaded with two heat-seeking AIM-9X missiles, one advanced medium-range air-to-air missile (AMRAAM), 150 rounds of 20mm high-explosive incendiary (HEI) rounds, chaff and flares.

I was the team leader, making sure all the safety measures were in place and ensuring my team had a successful upload. I was also teaching a junior AO how to check the armament system, something I had done countless times before. It was a perfect chance to pass on knowledge to a young Sailor who would one day fill my shoes.

My team checked out the weapons from the carrier's flight deck team (G-1) and made sure we had all of our tools. The aircraft was parked forward of aircraft elevator two (ACE-2). We wanted to begin the process immediately, but we had to wait because fixed-wing flight operations were in progress. Regulations do not permit live ordnance loading onto any aircraft that is parked forward of ACE-2 while flight operations are in progress.

Once the last aircraft was safe on deck, we were permitted to start loading the aircraft. The pilot had spread the wings to the fully extended position. This was unusual, because aircraft typically have their wings folded while on the flight deck to save space. Having the wings spread saved precious minutes because we didn't have to hand-crank the wings down.

We loaded all of the weapons onto the aircraft. As always, I instructed the crew to hand-crank both of the wings back to the full-up position so that aircraft handlers could easily spot the aircraft and make room on the flight deck. I didn't double-check the position of the wing-fold switch. It was still in the spread position.

We inventoried our tools and made sure that area was clear around the aircraft so we could continue with the armament-system checks. I had my trainee (an aviation ordnanceman third class) extend the jet's ladder. I also made sure she was FOD-free prior to entering the cockpit. She climbed up the ladder, checked to make sure the ejection seat was safe with the safety pins installed, and climbed into the cockpit. I climbed up the ladder behind her and sat on the leading edge extension (LEX), a position well-suited for instructing someone in the cockpit

I had the AO3 check to make sure that the armament switches were in the safe, off, or normal positions. We then needed to apply ground power to execute the

system tests. Once the electrical cable was connected, the team member on the ground signaled to inform us that ground power was connected and ready. My trainee held the ground power switches in the cockpit for power routing, but nothing happened.

I held the switches and tried again, but nothing happened. I thought there was a problem with the power source on the ground - a common malfunction. I had the team members on the ground check the power cord. A third attempt in the cockpit from AO3 proved futile. Finally, on a fourth and final attempt, I held the switches and immediately the jet received ground power.

The aircraft began to vibrate, which only happens when the wings are spreading from their folded positions. I realized that I had forgotten to check the wing-fold switch. It was in the fold position! I immediately looked to my left and to my right to see if the wings were going to crunch another aircraft. The aircraft was clear on the left side, but there was another aircraft parked on the right side approximately two feet away, well within range of the unfolding wing.

I dove over AO3 inside the cockpit, reaching for the wing-fold switch, which I quickly placed in the fold position. I thought I'd reached the switch in time, but I hadn't been quick enough. The AIM-9X loaded on the starboard wingtip launcher hit the aileron on the aircraft parked next to us.

In a matter of seconds, everyone on the flight deck crowded around our aircraft. I checked again to make sure the wing-fold switch was in the fold position just to be safe. I turned off the power to the aircraft before climbing back onto the ground. Our flight deck coordinator asked me why I didn't ensure the switch was in the proper position prior to applying power to the aircraft; I did not have an excuse. Our procedures are very clear and we pride ourselves as a squadron, especially as AOs, for doing things the correct way.

The aircraft next to us had a cut in its composite-constructed aileron, but this damage was minimal and easily reparable. Had the wing continued its path to the fully extended position, the damage could have cost millions of dollars.

As team leader, I had done a poor job setting the example while teaching AO3 the proper way to do an armament system check. We should both have had the checklist in hand, and we should have gone through each step individually.

LCDR Coovert is the VFA-195 Safety Officer

AO3 Clarence Young inspects a AIM-9X Sidewinder on a VFA-102 F/A-18 Super Hornet aboard the USS George Washington *(CVN 73). (U.S. Navy photo by MCSN Rachel N. Hatch)*

BRAVO Zulu

Sailors and Marines Preventing Mishaps

BRAVO ZULU

Naval Safety Center, Submission Guidelines

Include a smooth narrative of the event, first and last names and ranks of the nominees, and endorsements from the command safety officer and CO. Approach and Mech BZs must include endorsements from squadron CO and appropriate wing or MAG CO. Send an action photo of the candidate(s) on the job or crew with the nominee(s) identified in the photo. Photos must be high-res (300 dpi), saved as a JPG. A phone number should also be included. We cannot work the BZ until we have all these "pieces." Forgetting the chops delays processing the nomination and its publication.

ATAN (AW) Donavan Lara
VAW-115

While acting as Plane Captain for aircraft 601, Airman Lara prevented injury and enforced standard flight deck safety practices onboard USS *GEORGE WASHINGTON* (CVN 73). As Airman Lara was directing aircraft 601's final checker inside the safety circle to conduct final checks on the nose gear, the catapult shooter and his trainee attempted to approach the aircraft to conduct their checks. Enforcing flight deck safety protocol, Airman Lara prevented the shooter and his trainee from entering the safety chain until his final checker exited the safety chain. Even with visible frustration from the shooters and Flight Deck Control, Airman Lara continued to maintain standard flight deck safety practices. After the final checker exited, Airman Lara then cleared the shooters inside to complete their checks. With his steadfast integrity, assertive direction, and dedication to safety, Airman Lara prevented unsafe practices and possible injury to flight deck personnel.

AE3 (AW) Trevor Rotzler
VAW-115

An aircraft parked next to a turning C-2 Greyhound was manning up. AE3 Rotzler saw an aviation ordnanceman break the propeller-arc safety chain and dash between the two aircraft. Without hesitation, AE3 Rotzler grabbed the ordnanceman, stopping him approximately 2 feet from the spinning propeller.

AMEAN (AW) Kersey Tadeo
VAW-115

While performing a walk-around prior to executing a maintenance turn on aircraft 602 onboard USS GEORGE WASHINGTON (CVN 73), Airman Tadeo displayed unparalleled attention to detail when he discovered a foot long metal welding rod located forward of the propeller near the foul line, creating a significant FOD hazard. Demonstrating exceptional situational awareness, he immediately notified the Quality Assurance Representative to properly record and dispose of the metal rod. His attention to detail, initiative, and dedication to safety prevented injury and averted a potential mishap.

AWF2 Erik Fischer
VAW-120

During a routing aircrew switch on a C-2A, Petty Officer Fischer was waiting in the vicinity of the aircraft and noticed a student pilot had exited the aircraft with his helmet visor up while the engines were running. He immediately alerted the Flight Line Coordinator. The student pilot was instantly instructed to lower his visor. Petty Officer Fischer's quick actions prevented hot gasses from the exhaust and possibly debris from injuring the student pilot eyes and face.

Mr. Dennis Griffin and Mr. Arthur Johnigan,
both L3 Vertex contractors

While supporting Chief of Naval Air Training T-45 flight operations, demonstrated swift and decisive action to avert a potential mishap while conducting final flight check responsibilities at Training Air Wing ONE, Naval Air Station Meridian, Mississippi. At approximately 1630 in freezing temperatures, solo Student Naval Aviators scheduled for a field carrier landing practice event began manning their aircraft, which had previously been treated with deicing fluid. The preflight, poststart and plane captain checks were uneventful. However, when the aircraft reached the final check area, Mr. Griffin and Mr. Johnigan observed ice forming on the flight control surfaces, making the aircraft unsafe for flight. They quickly informed maintenance troubleshooters and the aircraft were placed in a down status. Mr. Griffin's and Mr. Johnigan's meticulous attention to detail averted a potential mishap.

AD1 Mark A. Green
HSM-37

Helicopter anti-submarine squadron light three seven, detachment four, deployed with USS *Reuben James* (FFG 57). While rebuilding easyrider 56 following a phase "D" inspection, petty officer green discovered four incompatible shearbolts on the antiflap assemblies of the main rotor head. He did not hesitate and promptly notified his chain of command of the incorrect dynamic components which posed a hazardous condition to both the aircraft and crew. He displayed meticulous attention to detail and systems knowledge well above his rank in discovering the hazardous condition. Due to petty officer green's initiative and dedication to safety, he spotted a hazard in a timely manner and, avoided a potentially catastrophic condition. (AD2 at time of BZ)

ADAN Cynthia Ramirez
VAW-115

While performing her duties during the man-up for aircraft 600, AN Ramirez displayed unparalleled attention to detail when she discovered two uninstalled cotter pins on the nose wheel steering linkages. Demonstrating exceptional initiative, she immediately notified the Flight Deck Coordinator and verified the expeditious installation of the two cotter pins, returning the aircraft to full mission capable status and preventing a possible catastrophic steering failure that could have disabled the aircraft nose steering assembly and caused a landing gear failure. Her attention to detail, initiative, and dedication to safety identified a major hazard and averted a potential mishap.

AM2 Kelly M. Alliegro
VAW-124

AM2 Alliegro discovered a sheared tail skid lift cylinder rod end on rawhide 54 post-recovery aboard the USS *George H. W. Bush* (CVN 77). After her discovery of this discrepancy, she quickly informed the rawhide aircrew, stopping them from opening the cargo ramp fully which could have resulted in airframe damage. Her swift action stopped the crew and passengers of rawhide 54 from launching with an unsafe aircraft and allowed proper maintenance to be preformed, returning this valuable asset to the carrier strike group.

ADAN Jared Herrera
VP-4

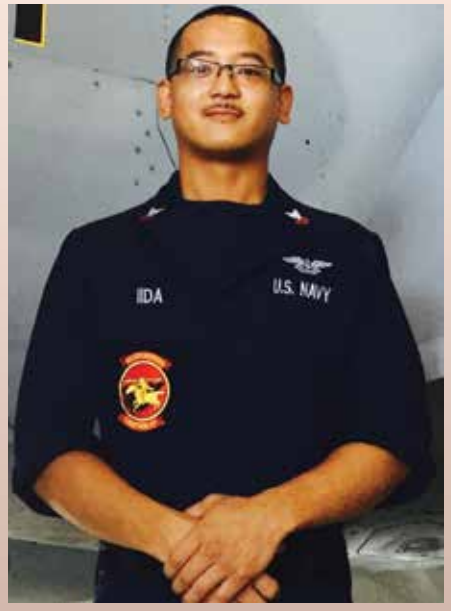
As ADAN Herrera was securing from launching an aircraft he noticed a three-inch screw on the ground by the aircrafts parking spot. The aircraft had already been released and was taxiing to the runway. He immediately notified maintenance control who then recalled the aircraft for further inspection. His keen attention to detail prevented a possible mishap and prevented FOD on the flight line.

AD2 Elizabeth Maney
VAW-124

For outstanding performance of duties while attached to carrier airborne early warning squadron one two four. While launching aircraft aboard the USS *George H. W. Bush* (CVN 77), AD2 Maney spotted a hydraulic leak coming from the port nacelle. She informed quality assurance and directed the removal of the aircraft from the catapult, averting a potential loss of all hydraulic fluid on a triple cycle AEW mission. Her prompt action allowed the crew to man-up and launch the back-up aircraft on the next cycle.

AME2(AW/SW) Candice L. Madl
VAW-87

During an aircraft hot seat sequence, while chaining down the starboard side of aircraft 306, Petty Officer Madl noticed a fellow maintainer about to step in front of an intake with engines operating. Realizing the seriousness of the situation, she immediately pulled her fellow sailor to safety. Her quick response and acute attention to detail saved her shipmate from possible injury or death and prevented engine damage to aircraft 306.



AME2(AW) Daiki Iida
VFA- 87

After removing a fire-extinguisher bottle on aircraft 400, Petty Officer Iida noticed the aft extinguishing agent distribution line was excessively loose. After further investigation, it was discovered that the line was not properly attached downstream of the extinguisher bottle. The separation in the line would have prevented the extinguishing agent from reaching its proper location in the event of a fire or overheat, causing excessive damage to the aircraft and injury or death to the aircrew or maintainers.

AE2 Cody Price
HSL-37

While recovering and hot-seating HSL-37's Easyrider 62, AE2 Cody Price's attention to detail allowed him to identify a missing panel on the magnetic-anomaly-detector reeling machine. Knowing that the missing panel could have impacted and damaged the tail rotor or stabiliator, He immediately contacted the plane captain and aircrew, who were ready to taxi for takeoff. Because of his action the aircraft was immediately shut down and thoroughly inspected for damage. Airman price's initiative enabled him to identify a hazard at its earliest stage, preventing it from manifesting itself into a significant danger to aircraft and crew.

AT3 William Osterhout
Coast Guard Air Station,
Barbers Point

As a line crewman, AET3 Osterhout identified that the #3 engine of a HC-130H departing on a high profile mission with VIPs, had its upper right hand cowling unfastened while preparing to taxi out. He gained the attention of the crew to stop them from taxiing and passed the vital information. While the crew shutdown engines, he retrieved the necessary tools to quickly correct the problem. In short order, he inspected the #3 engine for FOD damage and fastened the cowling in place so that the plane could continue on its high-profile mission. His actions prevented a mishap that would have grounded the aircraft, in turn greatly delaying operational support for a deployed Coast Guard Cutter and discrediting the Coast Guard in front of VIP passengers aboard the flight.

Sailors assigned to VAW-113, perform maintenance on the propeller of an E-2C Hawkeye aboard USS *Ronald Reagan* (CVN 76). (U.S. Navy photo by MC3 Conor Minto)

Maintainers in the Trenches

LCpl Ronald Summerlin assigned to H&HS Futenma, Japan prepares to reset equipment following the landing of an FA-18D Hornet during arrested landing safety training on Marine Corps Air Station Futenma. (U.S. Marine Corps photo by LCpl Janessa K. Pon)

LEFT: ADAN Stephen Harden, assigned to VFA-81, conducts engine start-ups for an F/A-18E Super Hornet on the flight deck aboard USS Carl Vinson. (U.S. Navy photo by MC2 John Philip Wagner, Jr)

Sailors assigned to the VFA-94 conduct maintenance on an F/A-18C Hornet on the flight deck of the USS *Carl Vinson* (CVN 70). (U.S. Navy photo by IC3 Joseph Newman)

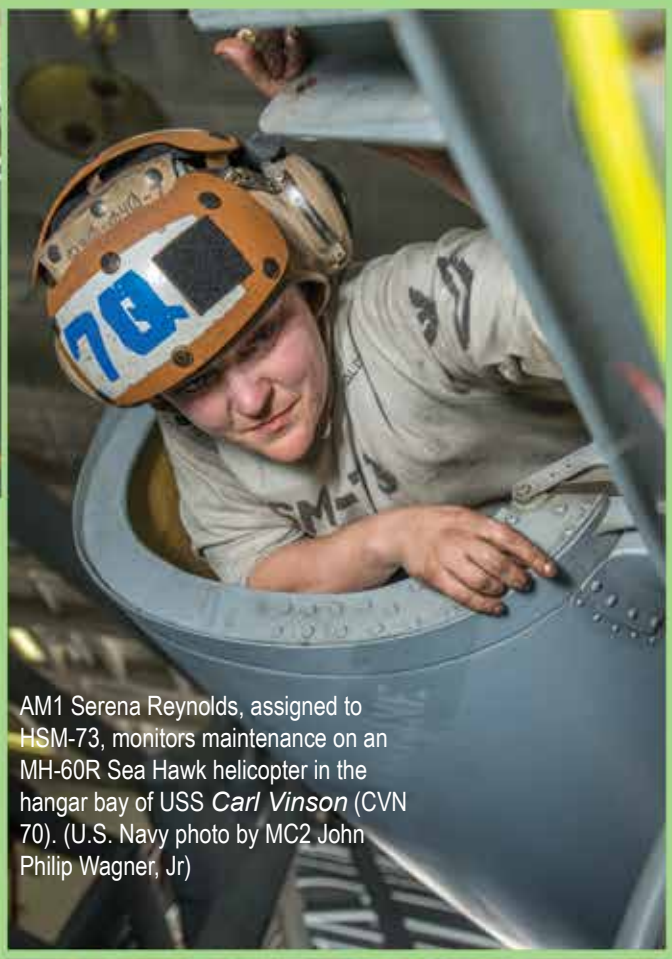
GSE3 Christopher Solano signals while fueling an MH-60S Sea Hawk helicopter assigned to the HSC-26 during flight operations aboard the USS *Mitscher* (DDG 57). (U.S. Navy photo by MC2 Anthony R. Martinez)

RIGHT: Aviation ordnancemen move ordnance as an MV-22B Osprey from the VMM-161 prepares for take-off from the flight deck of the USS *Essex* (LHD 2). (U.S. Navy photo by MC2 Sean P. Gallagher)

Sailors conduct maintenance on an F/A-18C Hornet assigned to VFA-137 in the hangar bay of the USS *Ronald Reagan* (CVN 76). (U.S. Navy photo by MC3 Timothy Schumake)

TOP: AD1Harold Mack, assigned to the VFA-11, inspects the fan blades of an F/A-18E Super Hornet aboard USS *Theodore Roosevelt* (CVN 71). (U.S. Navy photo by MCSN Anthony Hopkins II)

BOTTOM: AE Christian Velasco, removes an engine from an E-2C Hawkeye assigned to VAW-112 aboard USS *John C. Stennis* (CVN 74). (U.S. Navy Photo by MCSN Kenneth Rodriguez Santiago)



AM1 Serena Reynolds, assigned to HSM-73, monitors maintenance on an MH-60R Sea Hawk helicopter in the hangar bay of USS *Carl Vinson* (CVN 70). (U.S. Navy photo by MC2 John Philip Wagner, Jr)

AOA Cecilia Clifford, assigned to VP-9, unloads sonobuoys from a P-3C Orion maritime patrol aircraft before a routine training exercise. VP-9 was recently notified that they had earned the Commander Naval Air Forces, Pacific Battle "E" award, the Navy's top performance award presented to the commands that achieve the highest standards of performance readiness and efficiency. (U.S. Navy photo by MC3 Amber Porter)

TOP: AN E. Ball, left, and ABH1 E. Sanders prepare to fight a simulated fire during flight deck certifications drills aboard aircraft carrier USS *Harry S. Truman* (CVN 75). (U.S. Navy photo by MCSN J. Pachecot)

LEFT: ABH3 Sara Krise, assigned to USS *America* (LHA 6), holds up a tote board to communicate with an AV-8B Harrier pilot assigned to VMA-311. (U.S. Navy photo by ABHAN John Kelvin Chavez)

New Resource from the Naval Safety Center

Fans of the Naval Safety Center's Summary of Mishaps ALSAFE message are in for a treat. A special issue magazine entitled "The Best of the Friday Funnies" is here. It features the highlights and lowlights? of the past 13 years. As regular readers know, the Funnies aren't simply brickbats tossed at unwitting personnel. They are mini-seminars from the college of hard knocks, except you don't have to suffer any knocks plus you get to (figuratively) stand around, raising your eyebrows and thinking, "What a knuckle-head!" The only price is that you have to think about how you would have managed the risks (or inanimate objects) that overwhelmed the people in the stories. To get your copy, send your mailing address to safe-mediafdbk@navy.mil.