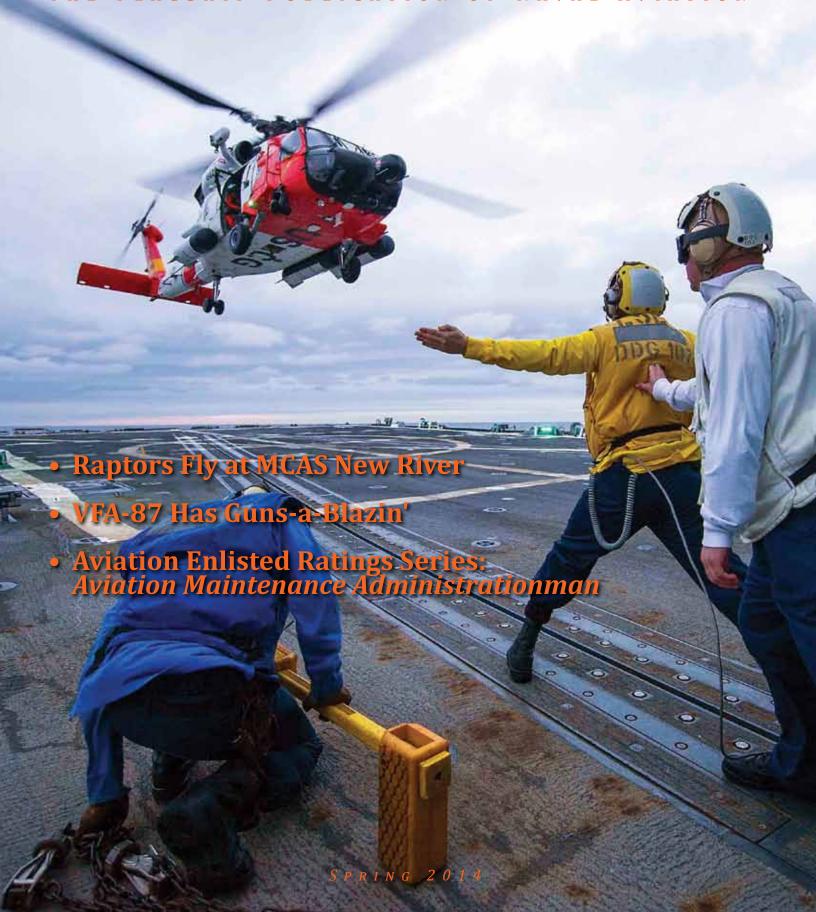
NAVAL AVIATION NEWS

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In This Issue:

Features

- **10** Aviation Enlisted Rating Series: *Aviation Maintenance Administrationman*
- 14 VFA-87 Has Guns-a-Blazin'
- 16 Taking to the Sky with VMMT-204
- 20 The Making of a Patuxent River Engineer-50's style

Departments

- 4 Flightline
- **8** Grampaw Pettibone
- 9 Flightbag
- **24** Professional Reading
- **People-Places-Planes**
- **Squadron Spotlight**

The U.S. Navy's Oldest Periodical, Established 1917

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Cover: Sailors and Coast Guardsmen watch as an HH-6oJ Jayhawk helicopter takes flight during deck landing qualifications aboard USS Gravely (DDG 107). (Photo by MC2 Darien G. Kenney)

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Back cover: Members of Explosive Ordnance Disposal Mobile Unit 8 and Spanish Special Forces conduct paradrop training operations with HSC-28, det. 1. (Photo by Lt. Cmdr. Scott Moak)





Weapons Division: Providing a Decisive and Affordable Advantage Since 1943

Rear Adm. Mike Moran Commander, Naval Air Warfare Center Weapons Division

The Naval Air Warfare Center Weapons Division (NAWCWD) is one of two air warfare centers under the Naval Air Systems Command (NAVAIR) led by Vice Adm. David Dunaway, Commander, NAVAIR, and has provided innovative, integrated, and dominant warfighting effects for our naval, joint, and coalition forces since 1943.

When Vice Adm. Dunaway told me last summer that I had been selected to command the Weapons Division, I had mixed feelings. I was excited about the command opportunity, yet nervous as I had never been to China Lake and had only spent minimal time in Point Mugu during my career. He assured me that I would quickly come to appreciate the uniqueness of the organization, specifically its mission and most importantly its people.

Since my arrival last September, I have found his message to be completely on target; I could not be more impressed with the expertise and dedication of the workforce and their almost singular focus on supporting the warfighter. I am amazed at the quality and diversity of this talented team and the work they do in support of our Navy and Joint Forces customers. It is truly an honor to be associated with these extraordinary professionals and even more humbling to lead them.

With a little more than six months under my belt, I am still learning as the depth and breadth of work executed here at the Weapons Division here at NAWCWD is staggering. We have a highly skilled workforce dedicated to delivering quality products to our warfighting teammates, for both today and tomorrow.

We are also fortunate to be located in two distinct and disparate locations with instrumented ranges unlike anywhere else in the Navy. One is in the high desert of California, encompassing 1.1 million acres of mountains, deserts, canyons, and forests, and is the Navy's largest single landholding (52 percent of Navy land worldwide). The other is on the coast of California, north of Los Angeles, and includes a 36,000-squaremile sea range with both deep and littoral ocean venues, and a fully instrumented island. All of this is within restricted airspace allowing us to test and evaluate nearly every weapon system in the Navy's inventory. This very special national asset, along with our nearly 6,800-strong military-civilian team, is what makes NAWCWD unique, and the reason we have a long and

proven history of delivering quality products to the fleet, which provide the desired effects for the warfighter.

From its beginning more than 70 years ago, NAWCWD has been a weapons lab. The job was, and is, to put an effect on a target when and how the warfighter needs it. We support every Navy weapon and aviation platform that we put weapons on. The weapon, however, is only part of the challenge. Today, we at NAWCWD are looking across the entire kill chain focusing on improving integrated communications between platform, weapon, and sensor. So when we network multiple sensors and platforms together, everyone is speaking the same language and has the same data. This gives our forces the necessary accuracy to use the precision weapons that we provide. We don't deliver platforms, but we do deliver weapons and sensors, and we integrate those capabilities to ensure the desired effect is provided.

We also understand the current fiscal environment and

believe we can do more to support Navy requirements going forward in a more affordable and responsible way. Our history at NAWCWD is replete with examples of technological advances designed and developed "in-house" with our government workforce and done more affordably than what we have seen in recent years. This is no slight to industry, but when the government can reuse facilities, laboratories, networks, and range capabilities already procured via previous contracts, the cost of new work can and should be reduced.

There are those, however, who believe the warfare centers no longer have the technical expertise and capacity to lead the advanced and complex system programs of today. In some regards, that is certainly true; the warfare center cannot build an F-35 Lightning II or an F/A-18 Super Hornet, and we will always depend on our industrial base for that work. But we can, and do, develop complex weapons designs, advanced sensors, integrated software packages, and lead full-spectrum research and development projects critical to the



Naval Aviation News

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warfighter of tomorrow. It is our belief that we can lead for the Navy in this capacity more than we do today and help drive common interface specifications, protocols, and openarchitecture designs critical to reducing costs and ensuring interoperability of our weapons systems in the future.

We are also ready to do more with industry and provide an opportunity for them to leverage our unique facilities via cooperative research and development agreements, and commercial service agreements, to enable the efficient and effective completion of their requirements on behalf of the government. In our opinion, more effective use of the warfare centers and laboratories is the next best "better buying power" opportunity for the Navy.

Addressing the fleet's concerns is clearly our top priority at NAWCWD. We support programs of record including F/A-18, P-8A, Sidewinder, High-Speed Anti-Radiation Missile/Advanced Anti-Radiation Guided Missile, Tomahawk, F-35 and others while also making advancements in new science and technology (S&T) areas such as image processing, autonomy, autonomous target recognition, solid propulsion, energetic materials, fuzing, guidance and control, electronic warfare, and directed energy, to name a few. Because of the skill sets that are resident within NAWCWD, we also provide rapid response to the needs of the fleet, special forces, and the Marines. There is no greater feeling of satisfaction for our engineers than solving a near-term critical issue for the fleet that enables them to remain safe and effective—we will always be ready to respond when required.

Some great examples include targeting systems like the Digital Precision Strike Suite (DPSS) and the Precision Strike Suite-Special Operations Forces (PSS-SOF). DPSS is a collection of software applications installed on a laptop or handheld system that provides a new capability by increasing the success of first-pass attacks with smart weapons via battlefield awareness and "eyes-on" targeting tools. For example, in the Battle of Fallujah, DPSS improved the accuracy and timeliness of targeting capability with PSS-SOF, while reducing the chances of collateral damage (i.e., a one-coordinate, one-pass, one-strike success).

With the support of the Defense Advanced Research Projects Agency, the China Lake DPSS team recently transitioned the situational awareness and targeting tools from laptops with software such as PSS-SOF, to mobile computing devices with applications such as the Android Precision Attack Strike Suite and the Kinetic Integrated Lightweight Software Individual Tactical Combat Handheld terminal. These applications provide the warfighter the ability to synchronize support air, ground, and command and control nodes during daily operations.

Special Forces and USMC Marine Air Ground Task Force-type operations are using mobile computing devices (Android tablets) with DPSS apps in the current engagements, changing concepts of operations and enhancing end users' capability on the battlefield. NAWCWD plays a major role for the Navy in pursuing technology to ensure we stay ahead of our adversaries so when our warfighters go into harm's way, they have the advantage and can return home safely.

One of our biggest strengths is in the S&T side of the house. NAWCWD is one of the few warfare centers that can go from early and deep S&T work to design, develop, test, and perform low-rate production of a product, all done in-house.

One of those products is a forward-firing miniature munition known as Spike. NAWCWD conceived, designed, developed, and tested Spike, which is a multi-purpose system that can be launched from the ground or the air, and is being developed to be shoulder-fired. Several Spike missiles can also be loaded on a single mount to engage multiple targets.

To date, about 26 advanced development all-up test missiles have been built and tested by the NAWCWD team. More than 10 successful full-scale guided missile tests have been completed. The most recent success was a counter-unmanned aerial vehicle demonstration in June 2013.

Spike is not a one-missile-fits-all solution, but there are several capability gaps for which Spike would be a good fit. One such area, and an increasing threat, is that of small boat swarms often referred to as the fast attack craft (FAC) and fast inshore attack craft (FIAC) threat. One strategy the enemy employs is to use multiple FACs/FIACs to go after a target. The NAWCWD team has demonstrated that Spike could be a good gap-filler in a layered defense against this tactic. Spike has recorded direct hits against moving FIAC threats in separate test events on the NAWCWD Point Mugu sea range.

We own the technical drawing package, we own all the intellectual property, we have the capability to develop it, take it out on the range, test it, come back and tweak it, go back to test it, and do limited rate production right in our own backyard. Very few places can do that. This capability and flexibility means improved response time to warfighter requirements at significantly reduced costs to the government.

Intrepid Tiger is another example of NAWCWD delivering integrated and interoperable warfighting capabilities. Intrepid Tiger is a precision electronic warfare pod that provides Marine Corps fixed- and rotary-wing aircraft with a distributed, adaptable, and net-centric airborne electronic

attack capability that can be simultaneously controlled from the cockpit or by a ground operator. Intrepid Tiger II was a rapidly developed capability that can be modified to accommodate different platforms and doesn't require years of continuing development and billions of dollars to field. It was developed at a relatively low cost and within a "quick reaction" timeframe, thus getting required capability to the warfighter faster and cheaper.

Eighty percent of the hardware was reused, and 100 percent of the software was reused. Intrepid Tiger II's openarchitecture design and rapid reprogrammability gives it the flexibility and adaptability to meet current and future threats. The first version of Intrepid Tiger II was fielded in 2009 after less than a year of testing. NAWCWD developed Intrepid Tiger II from 2009 to 2011, and it was first deployed by the Marines on the AV-8B Harrier in 2012. It remains deployed today and is serving the Marine Corps well. The NAWCWD Intrepid Tiger II team continues its support by providing upgrades to the system based on user feedback; the team is currently designing a rotary-wing variant with an expected deployment in 2015 – again, all done in-house.

These are but a few examples of the outstanding work being executed on behalf of the Navy and Marine Corps team and there is much more to do. We firmly believe we are well positioned to help the Navy deliver more affordable and innovative products and reduce total ownership costs across the enterprise. We look forward to leading more development efforts where we have the skills and capacity to do so, to increase partnerships with industry (specifically small businesses) to further reduce costs and improve interoperability, and to keep our spirit and culture of innovation alive by investing in experimentation and prototyping opportunities to help evolve emerging technologies.

It is critical we do so, for the rest of the world is investing heavily in technology as well, and the superiority we once enjoyed in just about every field by a large margin is quickly narrowing. Therefore, our call to arms at NAWCWD is to refocus our efforts to regain that margin through the development of affordable and interoperable capabilities for today, while investing in tomorrow with continued research and development in promising game-changing technologies. No one wants to go to war, but when we look at the global realities we face today, having the strength and ability to protect our national interests, and quite frankly our



way of life, is essential. NAWCWD remains dedicated to providing effects for the Navy/Marine Corps team that let them dominate as required to help keep our nation strong, free, and safe.

Rear Adm. Moran is a 1984 graduate of the United States Naval Academy, where he received a Bachelor of Science in engineering. He holds a Master of Science in human resources management from Troy State University and is a graduate of the Air Command and Staff College. He was designated a Naval Flight Officer in 1986.

Moran's tours included VP-23 at NAS Brunswick, VP-30 and VP-16 at NAS Jacksonville, and VT-10 at NAS Pensacola. In August 2013, Moran assumed his current position as Commander, NAWCWD and Assistant Commander for Test and Evaluation, NAVAIR.

GRAMPAW PETTIBONE

Illustration by Ted Wilbur

removed, while previously allowed, had been prohibited by policy for more than six years.

• The squadron commanding officer, despite a verbal commitment to "by the book" practices, created a longstanding command climate, which placed undue priority on meeting operational commitments.

• The squadron maintenance officer took insufficient action to discourage complacency and unauthorized maintenance practices.

 Several members of the maintenance organization, including collateral duty inspectors, quality assurance representatives, the work center supervisor, and others failed to follow, or allowed others to deviate from, published procedures.



You ain't gotta be a bloodhound to smell what's rotten on this one. This tragedy has ol' Gramps so ticked off that I can't even see straight. The old man set a tone that wasn't healthy, the maintenance officer turned a blind eye, and others charged with making sure we do it right took the easy way out and what's our result? The loss of one of our finest. That, kids, is just plain unacceptable.

If, when you started reading this, you asked yourself, "Self, I thought Gramps wrote about tales of derring-do in the air, what gives here?" the answer is: I think that when in a leadership position, every durned thing you do is watched by your folks. So what did the fledgling

aviators learn when they saw how things ran in this squadron? Did they "learn" by the example that was set for them that cutting corners is acceptable? Did they carry that attitude to the cockpit? The first day you step into your squadron, you are in a leadership position, and folks are watching you. Are you going to be the one that lets your folks get away with corner cutting? Words don't mean nothing unless they are backed up by action and leadership.

So, like a hoot-owl, here's my question: Who? Who says "by the book" but doesn't really demand it? Who puts demands on their folks, then turns a blind eye when they cut corners to deliver? Who doesn't speak up when they know things ain't being done correctly? Kids, that "who" better not be you.

Two maintenance personnel in a training squadron were completing a 224-day inspection of an ejection seat that was reinstalled in the aircraft without drogue chutes. After the seat was installed and armed, the maintainers began installing the chutes. Just prior to the mishap, one of the aviation structural mechanics (equipment) was seen standing in the ejection seat leaning over the headbox. The seat fired and propelled the maintainer who was leaning over the headbox into the hangar overhead, striking a steel I-beam and falling back to the floor of the hangar beside the aircraft, killing him. The other maintainer sustained first-aid injuries.

The Safety Investigation Report (SIR) stated the following:

• Reinstallation of the ejection seat with the drogue chute

FLIGHTBAG

ERRATA FOR WINTER 2014 ISSUE

On p. 4, "Lt. Dennis Peterson" is misidentified as "Lt. Dennis Petterson." On p. 16, then-Lt. Cmdr. Mark Fox returned from his MiG-killing mission to USS *Saratoga* (CV 60), not USS *John F. Kennedy* (CV 67). On p. 33, VA-212 is misidentified as VA-121.

SQUADRON SPOTLIGHT

The 11 December 2013 rescue of the Makani Kai Airoperated Cessna 208B Grand Caravan aircraft that crashed in the Pacific Ocean north of Molokai, Hawaii, detailed in "Squadron Spotlight" incorrectly notes that all nine personnel were safely rescued. Although eight of the passengers were safely rescued from the crash, State Health Department Director Loretta Fuddy was killed.

Shortly after takeoff from Kalaupapa Airport, Hawaii, the aircraft lost power and crashed into the ocean. Eight passengers were recovered from the water by emergency personnel approximately 80 minutes later, while one survivor swam to shore from the crash site. Autopsy results found that Fuddy suffered a cardiac arrhythmia while in the water following the crash.

NAVAL AVIATION VISION NOW ONLINE

The sixth biennial *Naval Aviation Vision 2014-2025* has been released. This publication details the current status of Naval Aviation and the systems, weapons, and ships that support it, with the plan for how these systems will evolve through 2025. Be sure to check out the message from Vice Adm. David Buss, Commander, Naval Air Forces, on the vision of Naval Aviation's future. Visit http://navylive.dodlive.mil/2014/04/16/naval-aviation-vision-a-preeminent-warfighting-force-today-and-in-the-future/ to read his message and to download a copy of the document.

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Naval Aviation News will discontinue courtesy mailings to private addresses beginning Fall 2014. Government offices, schools, and military units will continue to receive this service, however. This decision will also not affect individuals with paid subscriptions. For any questions or concerns regarding this policy, please contact us at nannews@navy. mil or call 301-342-6024.

MILESTONE TRAP

On 7 December 2013, Capt. Daniel L. Cheever, Commander, CVW-8, piloted his F/A-18F Super Hornet for a milestone

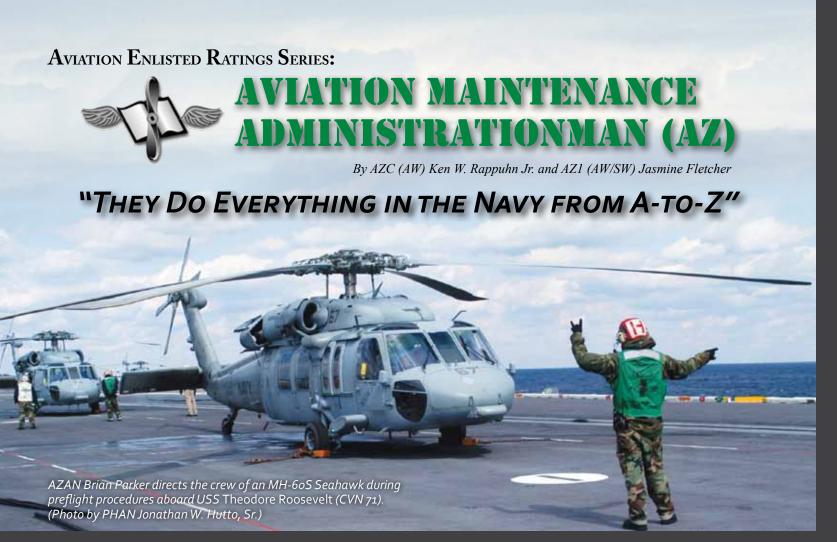


Capt. Daniel L. Cheever, Commander, CVW-8, is all smiles following his milestone 1,000th trap on 7 December 2013.
(Photo by Lt. Juan Guerra)

1,000th trap aboard USS *George H. W. Bush* (CVN 77). Flying with Cheever for this achievement was weapons system officer, Lt. Cmdr. Jessie Stigi, who completed Top Gun at NAS Fallon. Following the trap, Cheever was able to celebrate another milestone: his 50th birthday with a celebration in the ship's wardroom.

"There is not a better, stronger team in the world than the United States Navy," said Cheever. "I am thankful every day that I chose wisely and became part of the greatest team in the world."

We want to hear from YOU! Naval Aviation News welcomes your feedback – good or bad – your thoughts on the magazine's direction, article ideas, corrections, clarifications, etc. Any noteworthy milestones from your squadron? Drop us a line. Is there an error that needs to be corrected? Drop us line. Want to give us a Bravo Zulu on a job well done? Please drop us a line at nannews@navy.mil or leave us a comment on Facebook at www.facebook.com/navalaviationnews!



An inside joke about the AZ rating is that they "put the AZ in lazy."

However, those in the know understand that what AZ stands for is a bit closer to
"they do everything in the Navy from A-to-Z."

To become an AZ, a sailor must score well above average on their Armed Services
Vocational Aptitude Battery, better known as the ASVAB. A candidate must also
be competent in mathematics, be computer savvy, and qualify for a secret security
clearance. An AZ will typically go to "A" school in Millington, Tenn., and then into the fleet
where additional "C" schools are available.

The following details include duties AZs are required to perform.

Maintenance/Production Control Unlike other rates, AZs are required to have a diverse skillset to perform multiple roles within an organization in different work centers. They are typically known for being the ones who work in maintenance control or production control. Walk into either of these departments and look behind the computer screen, the multitude of logbooks, the mountain of paper, calculators, highlighters, pencils, and forms—here you will find them crunching numbers, filing paperwork, updating status boards, or rebuilding a detachment server.

AZs are on hand to ensure everything is documented properly, filed in the correct location, and logged without

discrepancy. AZs also act as the right-hand men and women to the desk chief, maintenance master chief petty officer, and other various maintenance officers, while ensuring their department workloads are current and in order.

Logs and Records Clerk

When someone mentions AZ, they usually think of logs and records. Within this division, they track aircraft, component hours, and even hours on individual bolts or screws. Each time the aircraft flies or the components run, AZs are required to track their life expenditure. It is this meticulous attention to detail where the rating truly shines, as they perform these calculations several times over while utilizing different AZs to ensure accuracy. The pilots and



AZAN Zachary Spangler, assigned to the HMS-73 Battle Cats, pulls a pallet of supplies from an elevator to the hangar bay of USS Carl Vinson (CVN 70).

(Photo by MC3 Dean M. Cates)

aircrew rely on them to ensure the parts and their aircraft will bring them home safely. This says it all about the AZs, as their ability to crunch numbers and follow conversion tables from one type/model/series to another is of the highest possible caliber.

Visual Information Display System (VIDS)/Maintenance Action Form Clerk

This title is often held by a junior AZ who is beginning their Navy career. While in maintenance/production control, they learn how work orders are filed, aircraft discrepancy books are maintained, and how to keep the status board up to date. A VIDS clerk typically assists the other AZs within maintenance or production control.

Naval Aviation Logistics Command Management Information System/
Optimized-Organizational Maintenance Activity (OOMA) System Administrator (SA)/Data Base Administrator (DBA)

If OOMA goes down, a work order can't be signed off, a person doesn't have the proper special maintenance qualification, the detachment server won't boot up, load Below: AZ1 Yvonne Dumas, assigned to the U.S. Navy flight demonstration squadron, the Blue Angels, conducts a pre-flight inspection of the landing gear on one of the Blue Angels' F/A-18 aircraft. (Photo by Ed Barker)



properly, replicate, or perform database sweeps, the SA/DBA can go unnoticed... and the command's SA/DBA never goes unnoticed since it is the lifeblood of any maintenance department. This position requires an AZ to be a ratinghybrid; 55 percent AZ and 45 percent information systems technician (IT). They have to know how to set up standalone networks, break down and build up computer towers, install hardware, software, and download large files. The AZ responsible for this position must go to a special "C" school at NAS Pensacola for qualification. Upon their graduation, they are given a Navy enlisted classification.

Support Equipment (SE) Planned Maintenance System

Within the Logs and Records division, an AZ will typically be responsible for each piece of SE within the squadron or the Aircraft Intermediate Maintenance Department (AIMD). A record is held for each piece of gear that supports the maintenance of other components or aircraft. AZs issue, track, file, and log maintenance actions in each of



AZ₃ Daquan Blakeney plots coordinates on a diagram in a repair locker during a general quarters drill aboard USS George Washington (CVN 73). (Photo by MC₃ William Pittman)

the SE records, which requires them to work hand-in-hand with both the aviation support equipment personnel and the work centers that maintain this gear. This job requires an AZ to be incredibly mobile, performing tasking such as verifying serial numbers, while proofing load-tags and inspection stickers.

QUALITY ASSURANCE (QA)
AZs will often serve as the central technical publications librarian for QA. This position ensures the entire maintenance department is utilizing the most current publications while performing maintenance on any and all of the department's items. AZs will also perform audits on each of the work center's libraries to verify the publication's updates are current and accurate.

Maintenance Administration

In performing maintenance administration clerk duties, AZs will track the SE Licensing Program, incoming and outgoing department correspondence, and file all instructions per maintenance department's standard subject identification code.

ET CETERA

Aboard small detachments such as frigates, destroyers, and locations where space and manpower requirements are limited, an AZ may function as the detachment's yeoman, logistics specialist, and IT.

AZs are constantly multi-tasking and although they work inside where the weather is controlled, they go home mentally exhausted from a hard day's work. While attention to detail holds true for everyone in the military, it may be none truer than for an AZ, as they don't just adhere to that phrase, but take it to another level. To be safe, they then ask another AZ to verify accuracy.



AZAN Kione Morgan and AD3 Andrew Dodsworth give the approval that a VFA-131 Wildcat F/A-18C Hornet is ready to launch from USS Dwight D. Eisenhower (CVN 69). (Photo by MC2 Julia A. Casper)

Any successful aviation maintainer must learn to be part AZ, since maintainers rely on the AZs for everything they do. From work-order initiating, to work-order sign-off issues, they contact an AZ. Ask almost any chief who has run "the desk" and they will admit the hardest thing about the desk is the AZ part of logs and records.

It takes a great Sailor to be a successful aviation maintenance administrationman, because they do everything from A to Z!

AZC (AW) Rappuhn is the aviation readiness analysis leading chief petty officer and AZ1 (AW/SW) Fletcher is the aviation readiness analysis leading petty officer at Commander, Naval Air



Above: AZ2 Mariano Tamandong, assigned to the HSL-51 Warlords, directs Sailors moving pallets of humanitarian supplies aboard USS Blue Ridge (LCC 19). (Photo by MC2 Steven Khor)

Below: AZ1 Brian Stump, assigned to the VP-16 War Eagles, cleans the fuselage of a P-3C Orion. (Photo by MC₂ Gulianna Mandigo)





Nearing the conclusion of a successful composite training unit exercise at NAS Fallon with my squadron, the VFA-87 Golden Warriors, my section of F/A-18 Super Hornets was scheduled to execute close air support (CAS) with the Marines at the Pinecastle Range Complex in Florida. At this point in the workup cycle, my section was comfortable with both the range and flying around USS George H.W. Bush (CVN 77). The weather was beautiful, and we were looking forward to supporting the joint terminal air controllers (JTAC). The mission began uneventfully with a solid brief covering both routine and tactical administration procedures. Training rules are briefed for every tactical flight, and for our CAS mission that day, air-to-surface training rules were thoroughly covered, including contingencies for free-fall

We launched from the ship under clear skies and proceeded into the range to begin working with the JTACs on the ground. The load-out for each aircraft was 300 rounds of 20mm

and two laser-guided training rounds (LGTR).

Following initial CAS check-in, both pilots were given 9-lines (a standardized means for ground troops to communicate with air assets to designate and strike targets on the ground) and directed to employ LGTRs on separate targets. Visibility was fantastic and for the first two runs everything operated exactly as briefed. At this point, we were approaching the end of our cycle-time and requested strafe passes in order to expend our bullets. Again, we were each given a 9-line and talked onto a significant target on

the range. I completed my air-to-surface checklist and descended to 6,000 feet above ground level to set up for my first roll-in.

As I pulled the trigger, the gun spooled up and the bullets began firing normally. Reaching the bottom of the employment window, I released the trigger, but the gun continued to fire. I had employed the gun dozens of times before and was shocked that something out of the ordinary was happening. I was in a 30 degree dive, pointed at the ground, and quickly running out of altitude before I had to recover the jet. I instinctively reduced my dive angle to approximately 20 degrees and reached for the "Master Arm" switch. Before I could move the switch to "Safe," 300 bullets were expended. (Thankfully, all bullets impacted on the range.) I recovered the jet, placed the Master Arm to Safe, and boxed "SIM" to put the aircraft into a simulated weapons employment mode to ensure ordnance wasn't released from the aircraft before heading back to the ship. This incident occurred within the span of about three seconds and highlighted just how quickly something unpredictable can happen

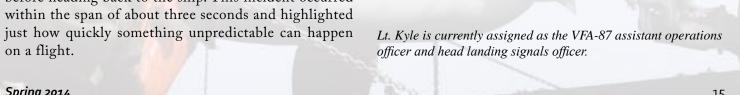
AO2 Rodolfo Ojeda, assigned to the VFA-105 Gunslingers, performs maintenance on a 20mm M61

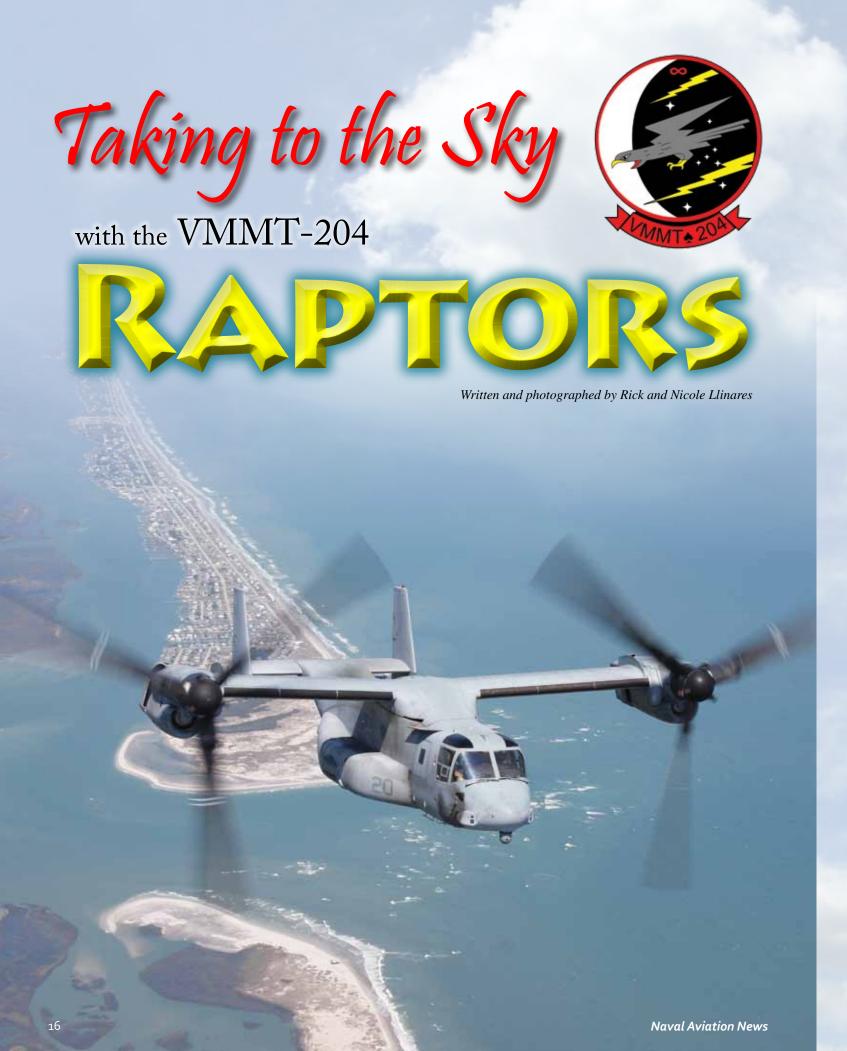
(Photo by MCSN Pasquale Sena)

Vulcan Gatling gun from an F/A-18E Super Hornet in the hangar bay of USS Harry S. Truman (CVN 75).

> The procedure for a "runaway gun" is covered by training rules that are briefed before every flight. My biggest learning point was discovering just how quickly the procedure needs to be executed, and how little time you have to do it in a dive delivery. In a runaway gun scenario, releasing the trigger will be the first point at which the aircrew will realize that something is wrong. Typically occurring at the end of our employment window, very little time remains for them to react.

> Hopefully, a ready room discussion of these hypothetical situations will prevent aircrew from being as surprised as I was in a similar incident, and prepare them to execute the procedures quickly. The conditions were ideal and thankfully no one was injured, but had the circumstances been different, the outcome might have been much worse.





he VMMT-204 Raptors have been leading the charge in training V-22 Osprey crews for almost 10 years, since Marine Corps aviation units began transitioning from the venerable CH-46 Sea Knight helicopter to the MV-22 in 2005. Having long outgrown some initial issues common to the introduction of an advanced, next-generation aircraft, the MV-22 Osprey is now fulfilling the vision forward-thinking Marine Aviation planners envisioned so many years ago.

While Marine ground forces can be counted on to be "the first to fight," Marine aviators can be counted on to be the "first to innovate," as they have long understood, valued, and promoted the mastery of vertical flight operations. Besides operating a massive inventory of helicopters, Marine Aviation also introduced the AV-8B Harrier and its successor, the F-35B Lightning II. The ability to place

The VMMT-204 Raptors train pilots for the Air Force and Marines in the MV-22 Osprey: a 5th generation platform and the only tiltrotor aircraft serving in the U.S. military that performs as both a helicopter and high-speed aircraft. The Raptors trace their roots to May 1972, when activated as Marine Helicopter Training Squadron 204 (HMT-204) for training both CH-46 Sea Knight and CH-53 Sea Stallion helicopter crews.

In 1988, HMT-302 assumed responsibility for CH-53 training. Several years later, HMT-204 became the sole fleet readiness squadron (FRS) training unit for the CH-46, becoming one of the largest squadrons in all of Marine Aviation. In 1999, the squadron underwent another change in operating the Osprey, thereby requiring a re-designation to VMMT-204. The squadron is currently part of MAG-26, 2dMAW.



aviation assets close by to quickly offer direct support of Marine riflemen has been a staple of Marine Aviation for decades. This requirement has led to innovation, and no aircraft in operation represents a more clear-cut example of this than the MV-22 Osprey. But long before Marine aviators can support their ground force brethren, the aircrews and maintainers need to be thoroughly trained by specialized squadrons.

"I don't think we can overstate the value of our mission at VMMT-204. Simply put, we provide initial training to all Marine Corps and Air Force V-22 pilots, and Marine Corps air crew," said VMMT-204 Commanding Officer Lt. Col. Brett Hart. "[Since] the introduction of the V-22, we've seen a revolution in military assault support capability, a leap not seen since the first introduction of helicopters more than 50 years ago. VMMT-204 made this recent revolutionary

Spring 2014 17



capability possible by providing initial training to personnel required to operate the aircraft."

Years of effort to adopt aviation training best practices were recognized by the Commander, Naval Air Forces last year, when the Raptors received the Commander Theodore G. Ellyson Aviator Production Excellence Award for their performance during fiscal year (FY) 2012. This prestigious award recognized VMMT-204 as the top-producing FRS in Naval Aviation.

Every aircraft, aircrew, and Marine assigned to Marine Aviation ultimately has one singular goal: support the Marine rifleman. The Osprey's ability to fly higher, farther, and faster makes the Marines the MV-22 supports more effective. This increased capability allows Marines to achieve the element of surprise and, when needed, support Marines to rapidly build up combat power, while also giving ground force commanders options previously unavailable.

VMMT-204 occupies a cavernous new hangar facility at MCAS New River, a growing air station and the premier facility on the east coast for Marine Corps rotary flight operations. On any given day, a large assortment of aircraft can be seen overhead including AH-1 Cobras, UH-1 Hueys, CH-53 Super Stallions, and MV-22 Ospreys. VMMT-204 is one of the largest tenants on base and possesses 21 aircraft,

most of which are the older Block A variant. The squadron also has seven newer Block B aircraft.

The squadron flew approximately 3,883 flight hours in FY13, with the vast majority devoted to training. The Raptors have an average of 440 Marines assigned to the squadron, of which 250 are dedicated to maintenance, 20 are instructor pilots, and 15 are crew chief instructors. The squadron also has three U.S. Air Force instructor pilots. VMMT-204 trains approximately 115 pilots and 115 crew chiefs per year. This number, along with annual flight hours, is projected to increase in the coming years.

Training is the main focus for the unit. According to Capt. Dave Driscoll, a Raptors flight instructor and student control officer, the basic pilot syllabus includes 136 academic hours, 68 simulator hours, and 30.5 flight hours. The basic crew chief syllabus has 284 academic hours, 8.5 simulator hours, and 28.5 flight hours.

Student pilots complete a core skill introduction phase of training at the FRS. This is segmented into the following stages: academic, familiarization, navigation, instrument, confined area landings, formation, low altitude tactics, night systems, and review.

"Upon completion of the NATOPS check, flight students will be designated as a qualified tiltrotor second pilot," said

Driscoll. "For crew chiefs, the breakdown generally mirrors the pilot syllabus, with a focus on crew chief responsibilities during each stage and crew resource management."

The sheer complexity of the Osprey is apparent as soon as you get close to one. Learning to operate effectively in either rotary or fixed-wing capacity is difficult enough on aircrews new to the fleet; mastering both could appear daunting. Driscoll notes this is a particluar challenge for those students learning to fly this complex and unique aircraft.

"For the initial accession students, the V-22 is the most complex aircraft they've flown. When they begin flying, they have to learn to function as part of a crew," he said. "This is new for them because they don't get much experience flying with crew chiefs in flight school. From the perspective of an instructor, as students progress through the syllabus, their skill level and confidence improves exponentially."

According to Maj. Carleton Forsling, a VMMT-204 pilot and the squadron's executive officer, the V-22 is easy to fly, but harder to fly well due to the skill it takes to operate it tactically and with precision.

"From a stick-skills perspective, they have to combine the use of both nacelles and nose to control the aircraft," he said. "They also have to switch over from helicopter inputs



to airplane inputs and back again when they transition and convert. Almost as importantly, they have to know when they should be in conversion mode and when they should be in airplane."

Having had the opportunity to fly in the Osprey with VMMT-204, I can attest to the smoothness of the ride. Takeoffs are quick and there isn't the same level of vibration one experiences in a traditional helicopter. The transition from helicopter to airplane mode is relatively quick and once in airplane mode the ride is surprisingly calm. The rear cabin of the Osprey is spacious, as is the cockpit which houses both pilots and includes a jump seat in between and aft of their seats.

The Osprey, when flying in helo (or vertical take-off and landing) mode, has the same control inputs as a traditional helicopter. The primary difference is that the thrust control levers operate opposite in manner from that of a standard collective in that the pilot places more pressure on the control for power compared to the standard collective in a helicopter. The nacelles also assist in making fine adjustments to the aircrafts speed and attitude.

The transition from vertical helicopter-to-airplane mode is called "conversion" in the Osprey community and represents a third, albeit transitory, regime. The nacelles are positioned at an angle in this mode and the aircraft begins to take on the characteristics of a fixed-wing aircraft. According to Forsling, once converted into airplane mode, the Osprey takes on the characteristics of a medium-size turboprop aircraft.

Life at VMMT-204 from an instructor's viewpoint is made all the more interesting due to the various flight regimes and variety of missions the MV-22 can handle. Both instructors and students may fly basic familiarization flights one day, then find themselves conducting a low-level tactics flight the next.

Despite the initial difficulty and learning curve associated with flying this dynamic aircraft, the pilots at VMMT-204 are ready for the challenge.

"We are not done improving," said Hart. "We aren't satisfied. We are looking at ways to improve our instructor and student training, and innovating maintenance practices."

The authors would like to express their sincere thanks and gratitude to Lt. Col. Hart, Capt. Driscoll, Maj. Forsling, and the officers and Marines of VMMT-204. Special thanks to Lt. Sarah Burns, 2dMAW/MAG-26 public affairs, and Capt. Richard Ulsh.

Rick Llinares is a Long Island-based aviation photojournalist. He runs Dash 2 Aviation Photography and has covered American military aviation since 1995.

The Making of a Paxtuxent River Engineer—'50s Style



The author's A3J-1 Vigilante (BuNo 146697) is displayed outside of the VX-23 hanger 201 at NAS Patuxent River (Photo by Dave Bradford)

No, this is not a story of a modern management intern nor is it of a college graduate lost on his way to Cape Canaveral. "My" A3J Vigilante prototype No. 6 for carrier suitability demo, BuNo 146697 (now on pedestal at the VX-23 gate at NAS Patuxent River, Md.), used to bear "Tommy Momiyama" in hand-scribbled Japanese alphabet brushed on by my contractor crew from North American Aviation. When the WWII Pacific war ended with the Japanese surrender, this 13-year-old would-be kamikaze pilot was upset at the Americans; not for defeating my country, but for dashing my chance of becoming a fighter pilot. The only way I could get into aviation was to go to America, so that is just what I did.

Gaining a four-year scholarship to Michigan Technological University and an exchange student visa to the United States in 1953, I earned my engineering degree in 1957. While at Tech, I even bought my own uniform to join the Army Reserve Officers' Training Corps. "Maybe I could get my student visa changed to immigrant status if I joined the Army," I thought.

As I was graduating from Tech, the U.S. government was offering \$4,000 per annum at a GS-5 salary to a graduate

engineer, compared to the \$6,000 offered by industry. I was the sole Michigan Tech graduate—a lone foreigner in search of an aeronautical career and American citizenship—who walked in to see the recruiter from the Naval Air Test Center (NATC) Patuxent River (wherever that is, I wondered). Within a month, I received an official letter from the Navy offering me a GS-5 flight test engineer job and the Navy's "arrangement" to grant me immigrant status and eventual U.S. citizenship.

After a long train journey from Michigan's Upper Peninsula, a bus ride offering just a glimpse of the nation's capital, an endless kaleidoscope of tobacco fields, and an anxious night in the only hotel in Lexington Park, Md. (or Dodge City?), I checked in at NAS Patuxent River and was taken to the NATC Flight Test Division. I was overwhelmed by the aircraft on the flight line, some of which I had never even seen in a photo! I stood wide-eyed in front of the F8U Crusader which John Glenn had just flown across the continent to establish a speed record. I was introduced to a wooden desk with a thick file atop that read "Douglas AD-6 BuNo xxxxxxx."

"That's your project," said John Olenski, my section head.

"Hey, was I just made a project engineer in the U.S. Navy?" I gasped. I knew many of my classmates in the booming American industry were still pushing T-squares on drawing boards.

"Tommy, let's go out to TC-7," said my chief engineer A.S. "Mirf" Mirfield, who then drove me out to the test catapult site. Upon arrival, a big twin-engine jet streaked down the track and took off. I saw vibrating wrinkles on the fuselage of the A3D Skywarrior. Mirf followed my eyes and answered my unspoken question, "This airplane 'oilcans' under the bridle tow force." My real-life engineering lesson (this one, on the flexible aircraft structural integrity as an essence of carrier suitability testing) would stay with me for the rest of my flight test engineer's life.

Also on my desk were two other documents: The NATC manual on carrier suitability testing and a Webster's English Dictionary. I spent that night on my bachelor officer quarters bunk reading the manual, thinking that all college text books should be written like this. As for the dictionary, I quickly learned that Mirf, an engineer from Long Island, insisted his engineers use precise English in the NATC "Reports of Test Results" we wrote. The fleet must get the straight scoop of our disciplined, but often risky, tests to the limits so they could operate without costly mistakes.

I quickly immersed myself in the terminology and theory, such as: minimum speed for acceptable flying qualities; thrust

required and available "bucket;" wind over deck required; sink off the bow; max-G shot; speed stability; off-center, high-sink, rolled-and-yawed and tail-low arrested landings; cockpit field of view; ad infinitum—not to mention the trailing static bomb the engineer (in flight!) has to pay out of the chase plane cockpit in the "speed-cal" pace hops.

I had never heard of those in college, but my Bachelor of Science in mechanical engineering and the hands-on training at Patuxent River made me feel comfortable in understanding why they are critical. By hands-on I mean real-time flying in a joint team with my project test pilot. I would lie flat on the carrier flight deck measuring the airplane sink off the bow, visually check the arresting hook action from the landing signal officer (LSO) platform, and experience flying the controls in the air whenever the aircraft had the second seat for me. Aeronautical engineers around the world would dream of the life the Patuxent River flight testers lived. Many of us eagerly went into work on Saturdays to catch up on paperwork. We loved our job.

I served as the project engineer consecutively, and sometimes concurrently, for the T2J-1 (my first jet project), A3J-1 (my first supersonic flight), AD-5Q (back to the propeller, but with a lot of headaches due to the electronics), OV-10A (I had to set the "meatball" glide slope at 9 degrees to get the high-sink test point for the slow-flying Marine expeditionary aircraft), TT-1 (the jet engine snuffed out



An A3J-1 (later designation A5A) Vigilante (BuNo 146697) prepares for launch at the Naval Air Test Center at NAS Patuxent River. (Photo courtesy of Thomas Momiyama)

going through water puddles), and numerous store carriages, landing systems, crosswind, and other peculiar operations limits tests. I, that is, officially as "The U.S. NATC" in legal documents, patented my inventions: carrier deck white floodlighting and the drop-line lights approach line-up aid, which are now standard equipment for aircraft carriers around the world, including the Russian carrier *Admiral Kuznetsov*.

Another primary job of the Patuxent River carrier-suit flight test team was to certify the specification-compliance operation of the catapults and arresting gears of all new and overhauled carriers in the Navy inventory. From the 1950s-1960s, my job covered the old 27-Charlie class carriers through USS *Enterprise* (CVN 65), the first nuclear-powered carrier.

By now I was totally impressed with the quality and character of the succession of Navy test pilots with whom I spent my working life. I wondered how they were "made," so I sought to attend the U.S. Naval Test Pilot School (USNTPS) at Patuxent River. Mirf allowed me to go if I carried my T2J project on the side. Math and science classes were easy after all, I am an engineer and the USNTPS first turns the out-ofthe-fleet pilots (some liberal arts or psych majors) into engineers. My operations syllabus instructor

was then-Lt. Cmdr. Pete Conrad, later the astronaut who hit a golf ball on the moon. I could have taught him the "F = ma" equation effect on his golf ball hit in reduced gravity, but he made me retake my final exam in his class. Nevertheless, I added the USNTPS Class 25 credential to my NATC flight card (authorization to fly Navy test flights).

I found that a local farmer and Cessna pilot named Maurice Dixon had a 1,800-foot sloping grass air strip on his property with a shabby flying club shack where civilian engineers and jet test pilots regularly hung out together. I learned to hand-prop 65-horse-powered, fabric-covered,



Thomas Momiyama stands beside an A3J-1 Vigilante (BuNo 146697) at NAS Patuxent River. The test pilot Lt. Cmdr Don Frassa is in the cockpit. (Photo courtesy of Thomas Momiyama)

tail-wheel airplanes and took to the air. I remember singing the Japanese fighter pilot song in my first solo flight. I eventually got my Federal Aviation Administration Commercial and Flight Instructor Pilot ratings.

The private flying became the other half of my Patuxent River life and led me to buy a number of airplanes, such as a Luscombe, a Cessna 170, a vintage Cub, an antique Waco biplane, and a rare motor-glider which my friend Chuck Rausch (another flight test engineer, from the flying





Under the direction of Chief Engineer, Thomas S. Momiyama (Class 25) of the Naval Air Test Center, a section of Runway 13-31 was developed into a replica of the flight deck of USS ENTERPRISE. The site is designed for testing and evaluating carrier visual landing aids. It includes a television set-up, the ENTERPRISE's complete lighting system, landing safety officer's platform, arresting gear, and a mock-up of the carrier's island structure.

An insert on the author listed in the U.S. Naval Test Pilot School Historical Narrative and Class Data from 1945 to 1983, Second Edition.

quality and performance branch) and I bought on the spot in Munich, Germany. Mirf used to say "Tommy, you're working too hard. Go fly your airplane for 15 minutes and come back and finish your report."

By the way, I became a U.S. citizen and even a U.S. Army Reserve Second Lieutenant (in an auspicious ceremony in the Carrier Suitability branch coffee mess and sworn in by our branch LSO Cmdr. Bill Porter just before we rushed off to another test flight).

So I became a Patuxent River engineer, one of the lucky bunch at the U.S. Navy's premier aviation research, development, test, and evaluation center. Who can claim a 100 percent satisfying profession? The experience more than prepared me for my next 28 years of a science and technology career in the Naval Air Systems Command in Washington. How could one be more fortunate than to be able to say "I know I can do it" and then prove it?

Thomas S. Momiyama, SES, retired in 1995 from the Naval Air Systems Command as the Technical Director for Research and Technology, Aircraft Division.



An A3J-1 Vigilante (BuNo 146697) approaches the runway at NAS Patuxent River for an arrested landing test. (Photo courtesy of Thomas Momiyama)



The nose end of an F-8 Crusader (BuNo 149210) is displayed against the outside wall of the author's home in France, while a mannequin gives the signal to launch.

(Photo courtesy of Chris Monier)

F-8 Crusader BUNO 149210 and Its Drivers: The Amazing Tale of a U.S. Fighter Jet Throughout the Vietnam War

Monier, Chris. 2013. 132 pp. Ill. \$30.

This unusual book from France is right in the groove for anyone interested in U.S. Naval Aviation during the Vietnam War, especially the iconic F-8 Crusader. It's actually a biography of one F-8E/J from the time it joined the fleet in 1962 to its final tour as...well, that comes later. The author is an admitted Crusader fanatic, and his dedication definitely shows throughout the pages crammed with color photos of this one F-8 and the many aviators who flew it throughout its career in war and peace.

The book begins with a lengthy introduction and chronology, as well as an interesting note listing USS *Hancock* (CVA-19) and its Vietnam deployments. From 1964 to 1975, BuNo 149210 made six of the ship's nine Southeast Asia deployments. Getting into the meat of the book, the author establishes the format of presenting individual aviators, with photos showing the particular pilot, his squadron mates, and pages from his log book displaying the flights he made in the specific F-8.

All the young fighter pilots' experiences are worth reading as they detail individual combat sorties, including several MiG-killing missions. Color profiles and occasional sidebars add to the overall presentation. Readers who might not know the facts about the derivation of the slogan "When You're Out

of F-8s, You're Out of Fighters," will find the answer here. The source of the quintessential fighter-pilot cry "Tally-ho!" also has a surprising explanation. An unusual aspect of the book is that it shows that BuNo 149210 flew its share of missions with not only the Navy, but also the Marine Corps. Veterans of various squadrons will also delight in renewing their acquaintance with the many F-8 alumni shown.

BuNo 149210's time in the Navy carries through to the final deployments in 1975, after which it ended up in storage at the huge park at Davis Monthan AFB, Ariz. However, its unique life did not end there. After being mothballed and sprayed with "Spraylat" coating to protect

turn when Chris Monier purchased the forward fuselage, which was in a very disturbing state of decay.

Undeterred, the young enthusiast spent long hours restoring the unusual memento, researching and buying individual small parts to bring the cockpit and fuselage almost up to its former operational status. When finished, he placed his treasure in a most unusual place—the outside wall of his house! His efforts even garnered a rather unusual letter of appreciation from the Vought Aircraft Corporation saluting his dedication and persistence in restoring the truncated F-8. He ends his book with a salute to modelers with a brief discussion of kits that featured this particular BuNo.



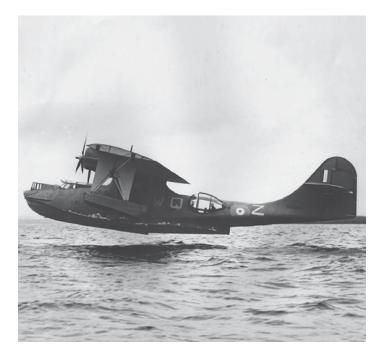
An F-8 Crusader (BuNo 149210) painted up in the colors of the VMF(AW)-235 Death Angels, is outbound from Da Nang, South Vietnam for a ground attack mission. The name under the cockpit is that of Capt. Robert L. Beavis, who flew the F-8 at least twice during his tour with the Death Angels. (Photo courtesy of Chris Monier)

it from the harsh desert sun, the veteran Crusader waited until 1999 when a team of French officials visited the park to "harvest" parts for the aging French F-8 fleet. One of the old warriors they selected was BuNo 149210, which was unceremoniously cut up and shipped to France. It is here that the Crusader's story took an unusual and final

You have to see this book to believe it, as it is one of the more unique publications on aviation history, particularly on Vietnam-era Naval Aviation. There is only one snag: to obtain a copy you have to email the author at christophe. monier5@wanadoo.fr. The \$30 cost does not include shipping, but it will be worth the extra work.

Catalina Over Arctic Oceans

French, John. Edited by Anthony Dyer. Pen & Sword Books, Ltd. South Yorkshire, UK. 2013. 180 pp. Ill. \$34.95.



A Catalina belonging to the RAF No. 210 Squadron prepares for an at-sea landing. These aircraft spent considerable time near the Arctic Circle hunting German U-boats during WWII. (Photo courtesy of The Aviation Historian website)

A unique and delightful little memoir, this book is a compilation of John French's notes, assembled and smoothed out by Anthony Dyer, the author's grandson. French was a Catalina pilot in the Royal Air Force (RAF) Coastal Command during WWII. Later, he served in various postings, including Scandinavia, the Soviet Union, and Poland. The narrative is a virtual travelogue of northern Europe in war and (an uneasy) peace. It's a much different account from the more familiar stories of the war in Europe or the Pacific.

After giving details of his life before the war, French (and his grandson) describe his entry into the RAF and flight training, followed by assignment to No. 210 Squadron flying PBYs far to the north in the Faroe Islands: an archipelago of 19 small, barely inhabited islands. The Faroes are desolate, but strategically positioned, outcroppings straddling important northern sea lanes. The islands are south of the Arctic Circle, northwest of the United Kingdom, west of Denmark, and are owned by the Danes. The traffic along these routes included the vital Atlantic convoys that kept the Soviet Union fed and supplied during the early years of the war. German submarines found good hunting in these areas of deep, dark ocean, and the RAF counted on the Catalinas to protect and police the routes as the convoys made their treacherous way to and from Murmansk in northwest Russia.

The Catalina crews took extraordinary risks as they planned their missions and even made their way to their assigned aircraft in the dark of an Arctic night. Taking off and flying a long and often boring mission with no contacts was a danger in itself. (Watch for a forthcoming book in the "Osprey Aces" series by expert author and artist John Weal on Luftwaffe aces of the Arctic.)

The authors give a lot of names, often noting what they did in their careers. Most readers probably won't know the individuals, especially those of us in the United States, but it does give a very personal touch to the narrative.

Along with the personal memories of growing up in England and of the people met, there's plenty of action written into the account, including the sinking of a specific U-boat that had been giving the Russians plenty of trouble in February 1944, and the July 1944 rescue of a downed RAF B-24 crew, rapidly freezing to death in their raft. To support these accounts, the book includes a folio of interesting photos showing the attack on the German sub, and log entries for that operation, and for the rescue of the Liberator crew. The book also shows several nice personal photos of various RAF aircraft flown by French.

French remained in the RAF following WWII and found himself in several diplomatic postings that apparently enabled him to learn several languages including Russian and Polish, which served him well as he got to know not only the people he worked with or met, but also when he and his wife traveled around getting to know the cultures of the countries. One of the most poignant vignettes describes his visit to a Polish cemetery where he discovers the apparent grave of a British aircrewman, someone he might have known, complete with remnants of his survival vest and equipment identification numbers. Unfortunately, local customs and rules prohibited exhuming the crewman and French had to leave him in his adopted land. During these assignments, French also met Soviet Premier Nikita Khrushchev, one of the icons of the Cold War, and the instigator of the Cuban Missile Crisis of October 1962, one of the turning points of that unofficial conflict that helped shaped our world today. Besides being a guide for Khruschev during the Russian's visit to England, he established a rapport with the colorful premier that allowed them to occasionally have something of a personal dialogue.

This book is a nice little diversion from many of the other aviation books we see because it includes much more than just the daily dogfight and bombing operations normally described. It also concerns one of the most important, but not so well-known communities, the British Catalinas, which did valuable work in a dangerous, but seldom described, theater. I highly recommend it.



The Blue Angels Marine Corps' C-130 Hercules, affectionately known as "Fat Albert," flies over the Silent Drill Platoon at MCAS Yuma on 4 March. (Photo by Staff Sqt. Oscar L. Olive, IV)

On the Move

The VAW-117 Wallbangers returned to Point Mugu, Calif., on 10 December 2013, following deployment to the U.S. 5th, 6th, and 7th Fleet areas of responsibility (AOR) with the *Nimitz* Carrier Strike Group (CSG) and CVW-11.

The Marine Aerial Refueler Transport Squadron (VMGR) 252 Otis returned to MCAS Cherry Point on 2 February following a seven-month deployment to Afghanistan.

The VMAQ-2 Death Jesters and the MALS-14 Dragons returned to MCAS Cherry Point on 13 February following the squadron's first unit deployment program rotation to MCAS Iwakuni, Japan, since 2002.

USS *Bonhomme Richard* (LHD 6) departed Sasebo, Japan, on 17 February to patrol the 7th Fleet AOR.

Sailors and Marines assigned to the *Harry S. Truman* CSG arrived at their homeports in Norfolk and Mayport, Fla., on 18 April, following a nine-month deployment to the U.S. 5th and 6th Fleet AORs.



An AV-8B Harrier II takes off from USS Boxer (LHD 4) on 23 April. (Photo by MC2 Kenan O'Connor)



EOD1 Andrew McCabe, assigned to Explosive Ordnance Disposal Mobile Unit 8, leads the exit from the cargo door of a C-130 during free fall training at Naval Station Rota, Spain. (Photo by PRCS Nathaniel Spencer)

The *Boxer* Amphibious Ready Group (ARG) and 13th MEU returned to NB San Diego on 25 April following an eightmonth deployment to the U.S. 5th, 6th, and 7th Fleet AOR.

Milestones

The Navy's Broad Area Maritime Surveillance Demonstration (BAMS-D) surpassed 10,000 combat flying hours in January, while supporting intelligence-gathering missions in the Middle East.

The P-8A Poseidon was approved to enter full-rate production on 3 January.

The Navy's MQ-4C Triton UAV completed initial flight tests on 13 March at Northrop Grumman's Palmdale, Calif., facility. The initial envelope expansion testing is designed to measure the air vehicle's performance under a variety of speeds and altitudes.

The VAQ-129 Vikings flew their last EA-6B Prowler flight with a commemorative fly-over at NAS Whidbey Island on 14 March. The squadron transitioned to an all-EA-18G fleet readiness squadron in early April.

The VAW-125 Tigertails became the Navy's first fully operational E-2D Advanced Hawkeye squadron at NS Norfolk on 27 March.

The VRC-30 Providers celebrated 50 years of utilizing the C-2A Greyhound in April.

Change of Command

Lt. Col. David C. Borkowski relieved Lt. Col. Matthew T. Robbins as commanding officer of the HMH-464 Condors on 20 February at MCAS New River.

Cmdr. Oscar Toledo relieved Cmdr. William Maske as commanding officer of the HSL-60 Jaguars on 21 February at NS Mayport.

Cmdr. Wayne Andrews III relieved Cmdr. Paul de Marcellus as commanding officer of the HSC-22 Sea Knights on 27 February at NS Norfolk.

Cmdr. Bryon Smith relieved Cmdr. Anthony Scarpino as commanding officer of the VR-62 Nomads on 15 March at NAS Jacksonville.

Cmdr. Przemyslaw Kaczynski relieved Cmdr. John Hewitt as commanding officer of the VAW-126 Seahawks aboard USS *Harry S. Truman* (CVN 75) on 18 March.

Cmdr. Raymond C. Leung relieved Cmdr. Mark Seip as commanding officer of the VAW-123 Screwtops at NS Norfolk on 3 April.

Cmdr. Michael Burd relieved Cmdr. Sil Perrella as commanding officer of the HSM-40 Airwolves on 3 April at NS Mayport.



An EA-6B belonging to the VAQ-129 Vikings takes one final flight over NAS Whidbey Island on 14 March.
(Photo courtesy of Raymond Rivard)

Cmdr. Thomas Winkler relieved Cmdr. Geoffrey Vickers as commanding officer of the VFA-87 Golden Warriors in the North Arabian Sea on 17 April.

Cmdr. Jason M. Denney relieved Cmdr. Steven M. Jaureguizar as commanding officer of the VFA-102 Diamondbacks on 24 April.

Capt. Shawn P. Malone relieved Capt. David W. Bouvé as Commander, Helicopter Maritime Strike Wing, U.S. Pacific on 1 May at NAS North Island.

Cmdr. Katrina L. Hill relieved Cmdr. Brian D. Weiss as commanding officer of the VP-9 Golden Eagles on 2 May.

Cmdr. Edward J. O'Grady relieved Cmdr. Eric J. Bower as commanding officer of the HSM-48 Vipers on 2 May at NS Mayport.

Cmdr. Robert G. Sinram relieved Cmdr. Matthew J. Bowen

as commanding officer of the HT-8 Eightballers on 9 May at NAS Whiting Field.

Cmdr. Natesh A. Rao relieved Lt. Col. Scott Schoeman as commanding officer of the VT-22 Golden Eagles on 15 May at NAS Kingsville.

Cmdr. J. Ryan Murphy relieved Cmdr. John T. Pitta as commanding officer of the VFA-143 Pukin' Dogs on 16 May at NAS Oceana.

Cmdr. Mark Yates relieved Cmdr. Steven Hnatt as commanding officer of the VT-10 Wildcats on 12 June at NAS Pensacola.

Cmdr. Brannon S. Bickel relieved Cmdr. Daniel A. Nowicki as commanding officer of the HSM-37 Easyriders on 12 June at Marine Corps Base Hawaii.

Scan Pattern

USS America (LHA 6) completed its acceptance sea trials on 31 January in the Gulf of Mexico. America will be capable of carrying an MEU, including Marine helicopters, MV-22 Ospreys, and F-35B Lightning II aircraft.

Boeing Co. and General Dynamics Corp. agreed in late January to give the Navy \$200 million in aircraft and services to settle a 23-year legal dispute over cancellation of the \$4.8 billion A-12 stealth aircraft in 1991. The agreement resolves the last in a series of legal cases beginning in 1991 when then-Secretary of Defense Dick Cheney canceled the A-12 Avenger II program due to significant schedule delays and cost overruns.

A Panamanian helicopter crashed on 6 February, killing one and injuring eight while conducting operations in support



A formation of U.S. Army AH-64D Apache helicopters assigned to 151 Attack Reconnaissance Battalion, South Carolina Army National Guard, and a U.S. Navy HH-60H Seahawk helicopter assigned to the HS-11 Dragonslayers conduct joint training at NAS Jacksonville.

(Photo by Tech. Sgt. Jorge Intriago, U.S. Air National Guard)

of Operation Martillo with USS *Halyburton* (FFG 40) in the 4th Fleet AOR. An MH-60R attached to the HSM-46 Grandmasters aided in the search and rescue effort following the crash.



An MV-22 Osprey tiltrotor aircraft assigned to the 31st MEU conducts search and rescue operations with USS Bonhomme Richard (LHD 6) near the site of the sunken Korean ferry Sewol on 21 April. (Photo by MC3 Christian Senyk)

The HSC-25 Island Knights rescued 10 fishermen from a sinking commercial fishing vessel that ran aground in Apra Harbor, Guam, on 13 February. The Island Knights also assisted in the rescue of two hikers from the jungles of Guam on 17 April.

A VAW-125 Tiger Tails E-2D Advanced Hawkeye assisted the U.S. Coast Guard with the rescue of three distressed civilian mariners off the coast of North Carolina on 11 March.

The Marine Unmanned Aerial Vehicle Squadron (VMU) 2 Watchdogs took two RQ-21A Blackjack air vehicles to the sky for the first time at Marine Corps Outlying Field Atlantic on 20 March.

The VMAQT-1 Banshees 1 took another step toward fully capable status with their first class of EA-6B Prowler student pilots taking to the sky for the first time on 27 March.

The HMM-364 Purple Foxes conducted their last CH-46 "Phrog" flight on 31 March at MCAS Camp Pendleton. The squadron was activated in 1961 and first flew the CH-46 Sea Knight in 1967.

USS *John C. Stennis* (CVN 74) departed the dry dock at Puget Sound Naval Shipyards on 25 April.

Three of the four U.S. Navy's P-3C Orion maritime patrol aircraft trapped in a hangar that collapsed under weight of snow on 15 February were declared as total losses in early May. The four Orions were undergoing maintenance at an aircraft maintenance facility in near Naval Air Facility, Atsugi, Japan.



Rear Adm. Matthew Klunder, chief of naval research, talks with airship pilot Marty Chandler during an orientation flight aboard the Navy's MZ-3A over NAS Patuxent River on 1 May.

(Photo by John F. Williams)

Awards

USS *Harry S. Truman* (CVN 75) was named the East Coast Aircraft Carrier Battle Efficiency ("Battle E") winner by Commander, Naval Air Forces (CNAF) Atlantic on 14 February.



Lt. Matt Carlton performs a preflight inspection of an F/A-18E Super Hornet assigned to the VFA-137 Kestrels on the flight deck of USS Ronald Reagan (CVN 76) on 26 March. (Photo by MC3 Jacob Estes)

USS *George Washington* (CVN 73) was awarded the CNAF Carrier Battle E on 15 February.

Reunions

The USS *Hornet* (CV-8, CV, CVA, CVS-12) reunion will be held from 9-14 September at the Hilton Double Tree

Airport Hotel in San Antonio, Texas. For more information call 814-224-5063 or e-mail hornetcva@aol.com.

The USS Ranger (CVA/CV-61) reunion will be held from 1-4 October at the Crowne Plaza Hotel in Jacksonville, Fla. For more information call 904-997-2217 or email lschmuhl@gmail.com.

Transitions

The HS-5 Nightdippers transitioned to HSC-5 on 24 January at NS Norfolk. The Nightdippers returned from deployment in July 2013 and began their transition to the squadron's new MH-60S platform.

Mishaps

An F/A-18E Super Hornet belonging to the VFA-147 Argonauts suffered damage from a brake fire during an aborted takeoff at NAS Lemoore on 17 January.

An F/A-18C Hornet with the VMFA-323 Death Rattlers crashed on 1 March approximately 70 miles east of NAS Fallon. The pilot, Capt. Reid Nannen, USMC, was killed in the crash.

A T-34C Turbo Mentor aircraft assigned to the VT-28 Rangers crashed on 1 May in the Gulf of Mexico. Both crew members were recovered unharmed by search and rescue personnel from Coast Guard Sector Corpus Christi.



Landing support Marines assigned to the 22nd MEU await a CH-53E Super Stallion helicopter for a helicopter supply transfer during a bilateral exercise with the French on 25 April in the Republic of Djibouti. (Photo by Sqt. Alisa J. Helin, USMC)

Squadron Spotlight

GROUP/SQUADRON NAME: Naval Surface Warfare Center (NSWC), Panama City Division (PCD) Dragon Masters

DATE FOUNDED: 1945

BASED OUT OF: Panama City, Fla.

CURRENT COMMANDING OFFICER:

Capt. Phillip Dawson III

MISSION: To execute full-spectrum airborne mine countermeasures (AMCM) follow-on test and evaluation operations through the employment of two MH-6oS helicopters and to serve as an airborne search and rescue (SAR) asset of opportunity for the Florida Panhandle region.

BRIEF HISTORY: In 1945, the Secretary of the Navy established the U.S Navy Mine Countermeasures Station in Panama City. The mine countermeasures research, development, test, and evaluation (RDT&E) functions were moved from Solomons Island, Md., to the Florida Panhandle, where AMCM testing became a primary focus.

The first AMCM flight occurred in 1945. During the Korean War, helicopters were used to spot minefields. Shortly thereafter, the concept of using helicopters to tow minesweeping gear was postulated. In 1952, concept testing was initiated at the station under Project OX-1, ARROW. By 1954, work shifted to the Piasecki HRS-3 and the YH-21 (affectionately known as the "flying banana") helicopters. These experiments were the beginning of the AMCM program that was to become a linchpin of the future U.S. mine countermeasure capability.

The 1960s saw AMCM become a fleet capability, with several acoustic and mechanical minesweeping systems entering operational use, namely the Mk-104 acoustic minesweeping system in 1967 and the Mk-103

mechanical minesweeping system in 1969. During this period, research focused on magnetic sweep systems and the first towed sonar prototype.

As the mine warfare systems evolved over the decades, so has the helicopter of choice for the AMCM mission. In the 1960s, the airframes utilized include the HRB-1, RH-3A, CH-53A, and RH-53D. However, with the incorporation of the Mk-105 minesweeping sled in 1972, the Navy needed more power to pull the multi-ton device. All of the aforementioned aircraft called Panama City home at one time or another, but none longer than the MH-53E Sea Dragon: the current face of the Navy's AMCM community.

The era of the MH-53E and legacy AMCM minesweeping/mine hunting ended at NSWC PCD in late 2009, when NSWC PCD replaced its MH-53Es with the MH-60S for RDT&E missions. The present and future of AMCM at NSWC PCD now belongs to the MH-60S Super Hawk and its organic airborne mine countermeasures systems: the AN/AES-1 airborne laser mine detection system (ALMDS) and the AN/ASQ-235 airborne mine neutralization system (AMNS).

AIRCRAFT FLOWN: Two MH-6oS Super Hawk helicopters.

NUMBER OF PEOPLE IN UNIT: 25 military and 24 contractors.

SIGNIFICANT MOMENTS/ACCOMPLISHMENTS:

- Conducted first night AMCM tow mission in November 1994;
- Supported disaster relief efforts in the wake of Hurricane Katrina in late summer of 2005;
- Completed first MH-6oS ALMDS mission in June 2010;
- Conducted command's first-ever vertical replenishment with USS Freedom (LCS 2) in January 2011;
- Conducted first MH-6oS mission in July 2012;
- Executed first SAR mission in October 2013.



