

Super Hornet Enters World Stage

Lt. Robert Kihm, VFA-115

On Sept. 11, 2002, 0846 EST, the USS *Abraham Lincoln* (CVN 72) and Carrier Air Wing Fourteen (CVW 14) in-chopped to Fifth Fleet. While certainly not the first time the *Lincoln* has seen the Indian Ocean, it was the first time for her newest weapon – the F/A-18E Super Hornet. On that now historic day, the Super Hornet, assigned to the “Eagles” of VFA-115, began the business portion of the Navy’s newest fighter-attack jet’s maiden cruise.

Setting sail with the *Lincoln* Battlegroup in late July, the Eagles have enjoyed a full tour of the Pacific Rim enroute to the Middle East. Stops have included Hawaii, Japan, Hong Kong, and Singapore. For many of the squadron’s sailors, this was their first trip across the Pacific Ocean. With renewed vigor and purpose, the men and women of VFA-115 are focused on the task at hand. Cmdr. Jeffrey Penfield, VFA-115’s Commanding Officer, explained, “The Hollywood part of the cruise is over. Now it’s time to do the things we have trained for.”

The Super Hornet, one of the most successful acquisition programs in aviation history, is ready for its inaugural service. The pilots and maintainers of VFA-115 are confident in their new aircraft and have good reason to be. The squadron was able to receive its “Safe for Flight” qualification in less than 100 days. Since then, the Super Hornet has proven itself during the numerous detachments of the pre-deployment workup cycle.

While the tireless dedication to training and backbreaking maintenance effort required to stand-up a new airframe are certainly part of the Eagles’ success with the Super Hornet thus far, the new capabilities the Strike/Fighter



Photo courtesy of U.S. Navy

A sailor gives the signal to launch a Super Hornet aboard the *Lincoln*.

possesses cannot be overlooked. Designed to carry almost every weapon in U.S. Carrier Aviation inventory, the Super Hornet is a true multi-role platform. Two additional weapons stations and an improved bring-back capability allow much more ordnance to be brought over the beach. The ability to carry a robust mix of both air-to-air and air-to-ground weapons on the same mission increases tactical flexibility. Upgraded avionics have made the Super Hornet more lethal while an improved countermeasures suite and improved vital system redundancy make the Super Hornet more survivable. Finally, the Super Hornet has considerably more fuel capacity than the legacy model. This and the new capability to serve as an in-flight refueling platform have given this Hornet a potential to be used in ways that are only beginning to be explored.

Since their first combat deployment in the TBM Avenger, VFA-115 has served in three other major conflicts. Now, one of the oldest squadrons in U.S. Naval history will again answer the call in defense of our nation’s freedom. On

Sept. 11, the first Super Hornet combat mission was flown in support of Operation Enduring Freedom. Skipper Penfield, along with CAG Capt. Kevin Albright, took aircraft 205 and 200 on a close air support mission in the skies over Afghanistan. While the hop proved uneventful, it heralded the beginning of a new era in Naval Aviation.



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Former TPS Classmates Stay in Touch

Nicolette Cormier

A friendship between three military officers who spent a year together in 1987 as members of the ninety-third graduating class of the U.S. Navy Test Pilot School (TPS) at Patuxent River has survived for 15 years. Despite duty tours that sent them in many different directions, U.S. Navy Capt. Jeff Wieringa, Canadian Air Force LCol. Brent Anderson and U.S. Navy Cmdr. Mark Adamshick are now commanding officers of F/A-18 programs. The three were recently reunited in Cold Lake Alberta, Canada, for LCol Anderson's change of command ceremony.

Capt. Jeff Wieringa, F/A-18 program manager, began his Naval service in 1973 through the Aviation Reserve Officer Candidate (AVROC) Program. He was commissioned as an Ensign in 1976 and was designated as a Naval Aviator in 1977. He has flown 40 different types of aircraft, including the F/A-18, F-14, A-6 and A-7 aircraft and various helicopters, accumulating over 4000 flight hours and 534 carrier landings. He took command as the F/A-18 Program Manager in April 2000.

Wieringa was selected to attend TPS in July 1987 and despite the rigorous study schedule he said the three men enjoyed each other's company so much that they made time to get together outside the classroom and started what would become a lifelong friendship.

"Mark Adamshick was single and an F-14 RIO when we met at TPS," Wieringa said. "He did a brief tour at Strike after the class ended. I also spent some time at Strike and although we didn't work together, we were still able to socialize."

"The Andersons were family friends. Our wives were friends and our daughters, who are the same age, were in grade school together. They were the best of pals. They are a tremendous family and had a wonderful time here exploring America."

LCol Anderson joined the Canadian Forces in 1972 and became a fighter



Photo Courtesy of Cmdr. Mark Adamshick

From left to right: Cmdr. Mark Adamshick, LCol. Brent Anderson and Capt. Jeff Wieringa

pilot in 1977. He is currently the commanding officer of the CF18 (F/A-18) Operational Training Squadron. The squadron is responsible for training Canadian CF18 pilots, and houses the Canadian fighter weapons school, as well as a squadron for operational test and evaluation (OT&E) for the CF18.

Following TPS, Anderson has spent 10 years with developmental test and evaluation, and the last five years as Chief Test Pilot (Canadians call it Senior Test Pilot) at the Aerospace Engineering Test Establishment.

Anderson said, "When I attended Class 93 with Capt. Wieringa and Cmdr. Adamshick in 1987, Capt. Wieringa was the class leader and Cmdr. Adamshick was in my syndicate. Just like all TPS classes, Class 93 was very close, with everyone helping one another a great deal. This was also true for foreign students, like myself, and for our families."

He said since TPS there have been several impromptu reunions (often hosted by the Wieringas). "Like all graduates, when you work so hard for a year with such great people, you form life-long friendships."

As the commanding officer of VFA-122, the first F/A-18 Super Hornet squadron, based at Lemoore, Calif.

Cmdr. Mark Adamshick holds a position similar to Anderson. The squadron's mission is to train Super Hornet aviators and maintainers to conduct prompt and sustained combat operations from the sea.

Adamshick entered the United States Naval Academy in 1977. Following graduation, he attended flight school in Pensacola, Florida and was designated a Naval Flight Officer in November 1982. Primarily throughout his career he has flown and conducted flight-testing on the F-14 Tomcat and was involved in the platform's air-to-ground integration. He has also commanded an F-14D operational squadron.

Adamshick said, "Each TPS class had about 30 students who spent many long hours studying together. At that time Capt. Wieringa was a lieutenant commander and an A-6 pilot; LCol. Anderson was a captain and an F/A-18 pilot and I was a Navy lieutenant and an F-14 RIO. The three of us had a unique friendship then, and what makes it so unique is that we were all three from distinct different backgrounds. Coincidentally today we all have positions of infinite responsibility in the F/A-18 program."



F/A-18 Class Desk Under New Management

Nicolette Cormier

The Class Desk has a new officer and vice president for engineering. Cmdr. Tom Huff officially took over the position August 26 from Col. (sel) Matt Mulhern. Huff came to Patuxent River from the Naval War College in Newport, Rhode Island. He has spent 18 years in the Navy and expects to be in the acquisition community for the foreseeable future.

As Class Desk Officer, Huff's job is to provide the technical conduit between the program manager and other levels of engineering such as competency expertise relating to F/A-18 program activities.

"Although my primary goal is to streamline the efficiency of the flight clearance process," he said, "my job priority right now is to 'get my arms around' the flight clearance processes and learn the vernacular."

Huff graduated from the United

States Naval Academy in 1984 with a Bachelor of Science Degree in General Engineering and was designated a Naval Aviator in December 1985. He is familiar with the F/A-18 Hornet, having accumulated over 3000 hours in the airplane during five overseas deployments, as well as participating in combat missions in the Gulf War and Kosovo. Huff was also a test pilot at China Lake and was stationed here at Patuxent River as the Ordnance Support Team Lead. He commanded the Golden Warriors of VFA-87 that deployed on the USS *Enterprise* (CVN 65).



Blue Angels Take to the Sky for Neptune Festival Air Show



The "Canadian Snowbirds" fly nine CT-114 "Tutors" over one of the Blue Angels F/A-18 Hornets U.S. Navy photo by Photographer's Mate 1st Class Brien Aho

The Blue Angels took to the sky at Naval Air Station Oceana, Va. September 20, 2002 for the 2002 Neptune Festival Air Show.

The Blue Angels were organized under the order of Adm. Chester W. Nimitz, the Chief of Naval Operations, at the end of World War II, to keep the public interested in Naval Aviation.

They are flying the sleek Boeing F/A-18 Hornet, the first dual-role fighter/attack aircraft, now serving on the nation's front lines of defense. Since 1946, the Blue Angels have flown for more than 260 million spectators.



The U.S. Navy Blue Angels Flight Demonstration Team performs a fly-by formation. U.S. Navy photo by Photographer's Mate 3rd Class Leah Wilson

NAVAIR Depot Jacksonville Gets LEAN

Susan Brink, NADEP Public Affairs

With ISO 9001:2000 and AS9100 certification under its belt, the Naval Air Depot Jacksonville (NAVAIR Depot Jax) continues to look at ways to improve.

Cmdr. Ron Bethmann, Production Support Officer, said, "The best improvements are not the ones we get from outside sources, but the ones that our employees create. It just doesn't happen because we want it to, we must provide employees the right tools to make their ideas reality."

NAVAIR Depot Jax is determined to become a world-class organization using the empowerment methodology known in the industry as LEAN Operations.

So what is LEAN, and why use that tool in the depot environment? LEAN is simply a methodology that was initially developed by the Japanese to manufacture automobiles. The methodology has evolved into a very dynamic tool set that is applicable to all businesses and disciplines. Its primary focus starts with the identification and elimination of waste. Waste, in this instance, refers to any activity in a process that does not add value to the generation of a quality product.

Some examples include the time associated with waiting for parts or paperwork, searching for parts, and walking around the plant to retrieve tools, parts, or work instructions.

LEAN also transforms production processes from an inefficient push system to a more efficient and less costly flow and pull system.

There are other businesses in the industry that utilize the LEAN methodology and have seen success. NAVAIR Depot Jax has partnered with General Electric Aircraft Engines to see what has worked for them and identify processes throughout the Depot to review. Bethmann described, "The war on terror has significantly increased the demand for the parts we produce for the



Photo Amy Cheshire, NADEP Public Affairs

Cutting the ribbon at the dedication of the redesigned work area.

Warfighter. Because of that, we must accelerate our continuous improvement efforts to increase our throughput, decrease our turn around times (TAT), and do so with our existing resources. LEAN is about working smarter, not harder."

During the week of July 8, 2002, the Depot took on its first LEAN project in the F404 HPT Rotor Repair Shop. After developing four teams, they spent the week reviewing processes and looking for ways to make improvements. The Assembly Team had an average queue time of 24 days. After the review the teams reduced the queue time to 15.6 days.

The Disassembly Team had an average TAT of 15.5 days and ultimately brought that down to a half-day, over 96 percent improvement. The Induction/Shipping Team determined that it had an average TAT of 19.25 days and brought it down to 1.4 days. The Material Allocation Team determined historically that its material allocation

contributes an average of 90 days queue time and set a goal to reduce it by at least 30 percent.

NAVAIR Depot Jax employees have worked as a team identifying ways to improve efficiency in the F404 HPT Rotor Repair Shop. "Giving employees the right tools makes their ideas reality," says Bethmann.

"This is only the beginning. As we learn more about applying LEAN principles, these continuous improvement efforts will migrate throughout the plant in the months and years to come," says Bethmann.



Visit the Hornet Program Online
at:
<http://pma265navair.navy.mil>

Super Hornet LOT 25 Has Arrived

By Shahram Bavani,
Core Avionics Team Lead PMA265

An improved Super Hornet had its first flight in August, ahead of schedule, and with a long list of upgraded or new features. Thanks to the efforts of the Navy/Boeing Team the fleet has the foundation for significant warfighting improvements.

F/A-18E/F aircrews will appreciate the new suite of state-of-the-art displays, but the biggest benefit to the fleet is the increased software and hardware capacity. These improvements will allow the Super Hornet to easily incorporate



Photo Courtesy of Boeing

F/A-18E/F, F56, First LOT 25 Equipped with new Avionics Upgrades.

future warfighting improvements like the active electronically scanned array (AESA) and the advanced crew station (ACS). Thanks to higher order language (HOL) operational flight programs (OFPs) software upgrades can be incorporated with ease.

The delivery of the LOT 25 F/A-18E/F Super Hornet was two months ahead of production schedule in spite of the challenges the team had to overcome. Engineers had to coordinate five major computers, running in real time, as well as integrate and test a completely new set of pilot displays. The Advanced Mission Computers and Displays (AMC&D) replaced the Digital Mission Computer. With AMC&D came the Digital Expandable Color Display (DECD), which replaced the center display Multi Purpose Color Display. Other features include the Signal Data Computer (fuel system computer, an interface computer between several analog aircraft systems and the digital mission computer), the digital engine control computer, and the stores management computer upgrade.

The team made major use of commercial-off-the-shelf components and modules in the upgraded avionics. The hardware also includes a new one gigabit-per-second state-of-the-art high-speed serial interface between the mission computers. The team rewrote over two million words of legacy assembly language software code into

the higher order C++ language and added necessary new capabilities in support of the new avionics. This required not only the normal testing for new systems but also a complete regression test of functionality in the aircraft.

The team surmounted a wide range of problems typical of a very large, integrated, real-time system – an incredible accomplishment to complete early. (This may well be a software industry first for a project of this size.) It took all members of the F/A-18 Team to deliver this result.

The team included leadership from PMA265, PMA209, the Boeing production crew, Boeing suppliers, the China Lake/Boeing software team, and the China Lake and Patuxent River flight test teams.

F56 is currently involved in developmental testing of its new systems, but will transfer in the fall to the F/A-18 Fleet Readiness Squadron, VFA-122, to train fleet-bound aircrews. Next year the jet will transfer to a combat-ready fleet squadron.

As Core Avionics Team lead, Shahram Bavani is responsible for acquisition, development, testing, implementation, and fleet support of Core Avionics

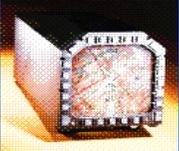


Advanced Mission Computers & Displays



SMUG Power PC

Signal Data Computer Replacement (SDCR)



Digital Expandable Color Display (DECD)

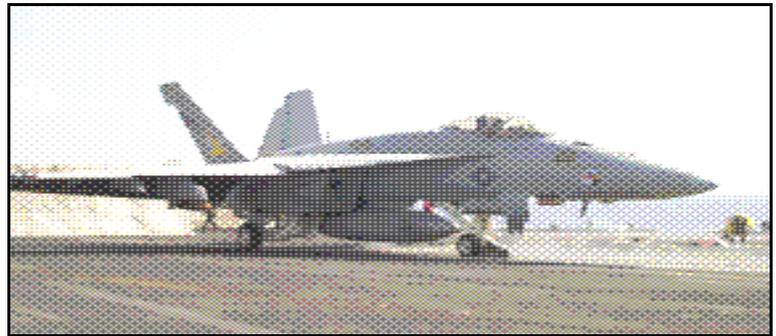
Out and About With The Fleet

At Sea Aboard USS Abraham Lincoln (CVN 72)



Sep. 13, 2002—Capt. Kevin C. Albright, Commander, CVW-14 from Baltimore, Md., launches off the ship's flight deck in an F/A-18E Super Hornet. *U.S. Navy photo by Photographer's Mate Airman Philip A. McDaniel.*

Aug. 20, 2002 – An F/A-18E Super Hornet assigned to the “Eagles” of Strike Fighter Squadron VFA-115 launches from the ship's flight deck. *U.S. Navy photo by Photographer's Mate Airman Philip A. McDaniel.*



Aug. 20, 2002 - An Aviation Boatswain's Mate directs an F/A-18E Super Hornet assigned to the “Eagles” of Strike Fighter Squadron VFA-115 into position over one of four catapults on the flight deck. *U.S. Navy photo by Photographer's Mate Airman Philip A. McDaniel.*

Sept. 4, 2002 – An F/A-18E Hornet from Carrier Airwing Fourteen validates NAVAIR's carrier suit process as the carrier deals with limited sea room and extreme crosswinds. (Note the angle between the nose of the jet and the starboard ladder line.)
Photo courtesy of U.S. Navy



Out and About With The Fleet

At Sea Aboard USS George Washington (CVN 73)



Sep. 5, 2002 -- Aviation Ordnanceman 3rd Class Ricky Boyd from Richmond, Va., checks a Sidewinder missile on an F/A-18 Hornet on the *Washington's* flight deck. Navy photo by Photographer's Mate 2nd Class Corey T. Lewis



Sep. 17, 2002 -- Flight deck sailors crouch as an F/A-18 Hornet assigned to the "Sunliners" of Strike Fighter VFA-81 launches from the flight deck. U.S. Navy photo by Photographer's Mate Airman Recruit Jessica Davis.

At Sea Aboard USS Nimitz (CVN 68)

Sep. 17, 2002 -- An F/A-18E Super Hornet assigned to the "Tophatters" of Strike Fighter Squadron VFA-14 prepares to launch from one of four catapults on the ship's flight deck. VFA-14 has transitioning from the F-14 "Tomcat" fighter aircraft to the F/A-18 Super Hornet. U.S. Navy photo by Photographer's Mate 3rd Class Yesenia Rosas.



Successful Flight Demonstrations On EA-18



Photo Courtesy of Boeing

Boeing Communications

Boeing has completed two more successful flight demonstrations of its EA-18G Airborne Electronic Attack, variant. During recent demonstrations an F/A-18F Super Hornet carrying three ALQ-99 jamming pods and two fuel tanks measured noise, vibration, data loads and assessed aircraft flying qualities. The EA-18G is one of the platforms under consideration to replace the EA-6B Prowler electronic warfare aircraft.

“We’ve completed five flight demonstrations so far,” said Paul Summers, Boeing EA-18G program manager. “With each flight we’ve systematically expanded the carriage envelope with the ALQ-99 jamming pods. Our flight program has taken us to 30,000 feet and 0.9 times the speed of sound, further validating our concept and our capability to perform the airborne electronic attack mission.”

The first two flight demonstrations took place in late 2001, with the third taking place in early 2002. Northrop Grumman, Boeing’s teammate, instrumented the ALQ-99 jamming pods to gather the noise and vibration information. Boeing began exploring the possibility of modifying the F/A-18F for the AEA mission in 1993. Since then, Boeing has performed

detailed design activities, conducted full-scale antenna range testing and wind-tunnel tests. The U.S. Navy recently completed initial full-spectrum electromagnetic compatibility testing of an F/A-18 Super Hornet with radiating ALQ-99 pods. In addition, more than 450 Navy and Marine Corps aircrew have been through the manned cockpit simulator in St. Louis. Aircrew feedback has been used to refine the EA-18G crew vehicle interface concept.

The EA-18G will perform full-spectrum electronic surveillance and attack of enemy threat radars and communications nets. A derivative of the two-seat F/A-18F Super Hornet - a platform, which is in production today - the EA-18G leverages the U.S. Navy’s investment in the F/A-18E/F Super Hornet platform and Northrop Grumman’s Improved Capability III electronic attack system, which significantly reduces risk over unproven platforms and systems.

The EA-18G is more than 90 percent common with the Super Hornet and is expected to significantly reduce support and training costs for the U.S. Navy. It is projected to begin a System Development and Demonstration phase in 2004, with aircraft in the fleet as early as 2009.



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