



FRC SW

ALMANAC

Volume 9 - Issue 1



**IMP for
Super Cobra**

Skipper's Corner:

Time Sure Flies



Capt. Timothy Pfannenstien

April 13th 2013 seems like yesterday to me. That was the day I checked aboard Fleet Readiness Center Southwest as Executive Officer. I was very excited because this was the final step before I would be taking command! On August 8th 2014 I had the honor of taking that final step and becoming your CO. That seems like it happened just a few hours ago. When you truly enjoy what you do every single day time indeed does fly.

It was exciting to come up the strand each day knowing I would be working with the finest craftsmen and women in the world. I have had the pleasure of working side-by-side with the Navy's finest leaders, managers, supervisors, administrators, engineers, logisticians, financiers, lawyers and human resource professionals, as well as procurement, security, safety and public affairs specialists each of whom have chosen to serve our nation while providing the absolute best products, material and intellectual support available to our war-fighters. I have been blessed, and I want you to know that every day I have been proud to be a part of your team.

As the years go by and I look back on my time at Fleet Readiness Center Southwest I will have many awesome memories but what I will remember most is that we collectively made our organization better! We overcame sequestration and budget challenges, we remained innovative and committed to our mission and we crafted a future honoring on-time delivery, compliance, our work force and our work-place. In doing so you never lost your spirit! It is that spirit that serves all of us so well!

In my three and half years I watched you all become incredibly confident, competent

and capable to meet any task or challenge. You embraced Financial Improvement and Audit Readiness (FIAR) becoming the Navy's torch bearer on asset and financial accountability. You "aced" an IG inspection despite being under incredible corporate scrutiny, leaving the inspectors saying you are the best organization they have ever seen. You have been recognized by the Chief of Naval Operations (CNO) as the very best in managing your Internal Controls and assets as well as in Aviation Safety and Environmental compliance. You maintain and sustain the incredible standards of excellence contained in AS9100/9110, EMS 14001 and SMS 18001. You are the safest and most healthy FRC in the nation. In that you should beam with pride!

Throughout this all you have kept an eye to the future and are developing those who will follow us and carry our nation forward by valuing Apprenticeships and Training. Three years ago we graduated three apprentices with none in the pipe-line. Today we are poised place 40 apprentices with over 500 applicants vying for those coveted positions. With that same view ahead, you have identified a production organization's Achilles Heel; facilities and equipment. After all, what good is a trained and valued work force without equipment and a place to do the work our nation asks us to do? \$60 million in facility improvements coupled with nearly \$40 million in new support equipment is in play, all designed to ensure we can continue to support the war-fighter both today and tomorrow. I cannot wait to see how all of that looks when complete. Believe me when I say that I will continue to watch your progress and will be cheering you on from afar.

Those of you that manage, execute and support the production floor have been miracle workers. You have identified challenges and continue to manufacture and produce aircraft and components like no other. Even under ever changing technical and material specifications, resource shortfalls and financial pressure you continue to deliver product. While our ship is turning into strong and favorable winds with regard to budgets and other support, we must be ever mindful that demands will change, courses will be altered by those outside of FRC and we are not allowed to push back. We cannot take the easy path. Our nation depends on us to never waiver from its chosen course. I am confident we will do so because we have the technical and managerial acuity to avoid the easy path and the ability to handle whatever challenge is presented.

As we go through a time of transition, see the future and overcome today's challenges I want you to be proud, stay focused and never forget why all of us are here... to serve our nation and her war-fighters. Remember always that they cannot do what they do, if we do not do what we do! You can do it if you want to! On their behalf I thank all of you for wanting to.

In your service,

Timothy H. Pfannenstien

TIMOTHY PFANNENSTEIN
Captain, U.S. Navy
Commanding Officer



Fleet Readiness Center Southwest



COMMANDING OFFICER
Capt. Timothy Pfannenstien

EXECUTIVE OFFICER
Capt. Craig Owen

COMMAND MASTER CHIEF
CDMCM (AW/SW/IDW) Dewey Torres

COMMAND ADDRESS

Commanding Officer
Fleet Readiness Center Southwest
P.O. Box 357058
San Diego, CA 92135-7058

FRC SW WEBSITE
<http://www.navair.navy.mil/frcsw>

FRC SW YOUTUBE
<https://www.youtube.com/user/FRC SW PAO>

FRC SW PUBLIC AFFAIRS OFFICE
619-545-3415
FRC SW_PAO@navy.mil

OMBUDSMAN
Matthew Lutz

Phone: (619) 301-7091
Email: FRC SWombudsman@gmail.com

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FRC SW MISSION & VISION
MISSION

WE GENERATE READINESS THROUGH TIMELY AND RESPONSIVE PRODUCTION OF ENGINES, AIRCRAFT, AND COMPONENTS FOR THE WARFIGHTER.

VISION

TO BE THE PREMIER MAINTENANCE REPAIR AND OVERHAUL ORGANIZATION IN THE DEPARTMENT OF DEFENSE BY PROVIDING THE BEST VALUE, HIGHEST QUALITY, AND MOST RELIABLE PRODUCTS.

FRC SW IS A CORNERSTONE OF FUTURE NAVAL OPERATIONS WHICH WE ACHIEVE THROUGH A HIGHLY CAPABLE WORKFORCE AND ROBUST COMMUNITY PARTNERSHIPS.

Staff

PUBLIC AFFAIRS OFFICER
EDITOR
GRAPHIC ARTIST
VIDEOGRAPHER
PHOTOGRAPHER

Mike Furlano
Jim Markle
Chuck Arnold
Scott Janes
Christopher Nette

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Fleet Readiness Center Southwest Flight Line Safety Officer Lt. Cmdr. Aaron Vernallis and Navy Special Warfare Operator 1st Class Brandon Peterson prepare for an orientation flight in an F/A-18 *Hornet* aboard Naval Air Station North Island on March 15, 2016. Peterson is a member of the U.S. Navy Parachute Team, the "Leap Frogs"; a volunteer team comprised of active duty members from Naval Special Warfare, Navy SEALs, and Special Warfare Combatant-craft Crewman.

Photo by Scott Janes



About the Cover

Aircraft mechanic Patrick Baker removes a component from an AH-1Z *Super Cobra* during the disassembly phase of Planned Maintenance Interval 1 (PMI-1) aboard FRCSW Site Camp Pendleton. This is the first PMI-1 event for an AH-1Z performed by FRCSW.

Photo by Christopher Nette

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Listing of Awards



Aircraft Mechanic Patrick Baker at FRCSW Site Camp Pendleton removes a panel from an AH-1Z *Super Cobra* during the disassembly phase of Primary Maintenance Interval 1 (PMI-1). This is the first PMI-1 event for an AH-1Z for FRCSW.

FRCSW Site Camp Pendleton Inducts First AH-1Z for IMP

Photos by Christopher Nette; Illustration by Chuck Arnold

A new era in Marine Corps helicopter maintenance began March 16 at Fleet Readiness Center Southwest (FRCSW) Site Camp Pendleton with the induction of the first AH-1Z *Cobra* to undergo the Integrated Maintenance Program (IMP).

Manufactured by Bell Helicopter, the Zulu Cobra is a four-blade, twin engine attack helicopter. Full production of the model began in 2010, the same year it was deemed combat-ready.

The IMP is designed to keep the aircraft mission-ready by targeting the integrity of the airframe via two assessment events — Planned Maintenance Interval-one (PMI-1) and PMI-2.



Aircraft mechanics Chris Olson and Patrick Baker remove stub wing skins from an AH-1Z Super Cobra at FRCSW Site Camp Pendleton.



Site Camp Pendleton manager Jeff Reiman said that PMI-1 is conducted every 50 calendar days, at which time the aircraft are disassembled, evaluated and repaired within the scope of specifications.

Prior to PMI-1 squadrons remove the aircraft's blades, and the site's artisans remove the aircraft's intermediate and tail gear boxes, panels, engine and the transmission to evaluate those areas.

"We'll also remove the stub wings and look at the connecting points to those, the bushings and the stub wing lugs. But because this is our first time evaluating a Zulu model, we'll look for certain hot spots for excessive corrosion or areas that may require closer attention," Reiman said.

He noted that the Zulu IMP is comparable to the UH-1Y Super Huey and W IMP, and that the artisans will also evaluate the aircraft's entire tail boom while targeting specific parts identified by the IMP specification.

"The Zulu and Super Huey are similar in tail boom, engines, gear boxes and technologies. But the primary difference would be the stub wing assemblies on the Zulu. And there are no cargo doors on this aircraft because it's a two-seater. The Z is really a beeper model than the W," he said.

Damages or areas of concern outside of the IMP scope of specifications are reported to the squadron, and are typically repaired as an in-service repair (ISR).

Reiman said that the site had completed about 12 ISRs which were mostly panel repairs, and had repainted one aircraft.

"The paint ISR gave us a head start on our stencils and what we actually need to do for a complete painting event for the Z. That will be helpful in our PMI-2 on these," he noted.

The PMI-2 cycle is held every 76 calendar days and entails similar evaluations to the PMI-1, but the aircraft are also stripped via particle media blast (PMB) and painted.

The 29 artisans of Site Camp Pendleton moved into a new hangar three years ago, and have a paint and PMB facility which enables a faster turn-around time of assets to the squadrons. Prior to that, from 2009 to 2013, painting was performed in a temporary facility.

Reiman said that the first Zulu Cobra scheduled for PMI-2 will be inducted on August 9, and that a total of six IMP events are projected for this fiscal year.

FRCSW Site Kaneohe Bay, Hawaii, will also perform the IMP on the AH-1Z Cobra.

In addition to the Zulu Cobra, Site Camp Pendleton also services the remaining AH-1W helicopters of Marine Air Group (MAG) 39, which are slated for upgrade by the Zulu. ▼

FRCSW Upgrades Super Hornet AMAD Test Stand

Photos by Jim Markle



Overseeing the maintenance needs of the F/A-18 *Super Hornet* and its components is one task that is common to many of the Fleet Readiness Centers (FRC).

But when the aircraft's Airframe Mounted Accessory Drive (AMAD) needs repaired or overhauled, all of the FRCs turn to Fleet Readiness Center Southwest (FRCSW) to handle the job.

The AMAD is the electrical and hydraulic brain of the F/A-18. It is a gearbox that is mounted to the engine of the aircraft and through engine revolutions, powers the aircraft's hydraulic pump, fuel pump, generator, and starter. Each Hornet has two AMADs; one on each engine.

FRCSW AMAD work is assigned to the hydraulics shop in Building 379 and is performed by four pneumatics mechanics.

When an F/A-18 is inducted for maintenance, the AMAD gear boxes are removed and examined.

AMAD units that operate properly and within specifications are forwarded as ready-for-issue (RFI) with flight-hour notification sent to engineering.

“On the Super Hornet ‘F’ models, we’ll do a check-in test. But if it’s an E or F model that comes in for disassembly due to a generator failure, for example, we’ll do a complete overhaul,” said pneumatics mechanic Brandon Bush.

“Overhaul is to disassemble the entire gearbox and inspect all of the parts. We use our manual to tell us what parts we need to order – like gaskets, seals, bearings and gears. It totals to a couple of hundred parts.”

Non-destructive testing (NDI) is used on the gear boxes to identify cracks or flaws. Worn parts, such as thread inserts, are sent to the machine shop for replacement.

“After that it goes to delay, who orders all of our parts, and then it comes back for reassembly with all new seals and whatever parts we replaced. Then it’s ready for testing,” Bush said.

Like all electronic and hydraulic aircraft components, the AMADs are checked using Automated Testing Equipment (ATE) prior to release as RFI to the fleet.

FRCSW uses two separate ATE to test the legacy and Super Hornet.

“We finished the C and D (legacy) Hornet stand three years ago and just finished installing the upgraded gearbox test stand for the E and F in April,” said Martha Hoffman, FRCSW Capital Investment Program Project Manager.

Hoffman said that the previous system was approximately 12 years old, ran on an older operating system, and often failed during testing procedures making it increasingly unreliable.

Costing \$563,000, the upgrade to the test stand includes the data acquisition (DA) system, video system, control and sensor systems, the console computer hardware and operating system, and calibration and test software.

The DA system controls the test cycles and measures and records the test data. The data is stored and displayed for the operator to ensure that the tested unit is within safe operating specifications.

Other portions of the stand simulate varying loads in horsepower for the gearbox so it may be tested at different speeds, load conditions and vibrations.

“It reads the operating temperature and vibrations and provides the specifications. If the unit is out of the range of specifications, it will tell the operator immediately, and by what degree and where it is not responding,” Hoffman noted.

The test stand’s motor and some other equipment were not upgraded.

“We worked with the shop and engineering to customize the stand, so it has three screens,” Hoffman said. “One screen tells the operator if the testing unit is within calibration, the second

indicates which tests are being conducted and the outcome, and the third screen is connected to a camera to show the actual AMAD stand. The test stand also has a joy stick to identify and query specific areas and tests of the AMAD.”

The system is manufactured by Sytronics and the test program is equipped with a manual intervention option, single-step troubleshooting and an automatic systems shutdown.

Bush said each AMAD undergoes an array of calibration tests on the stand including six tests in break in mode, six tests in calibration and ground maintenance mode, and an air turbine start cycle test.

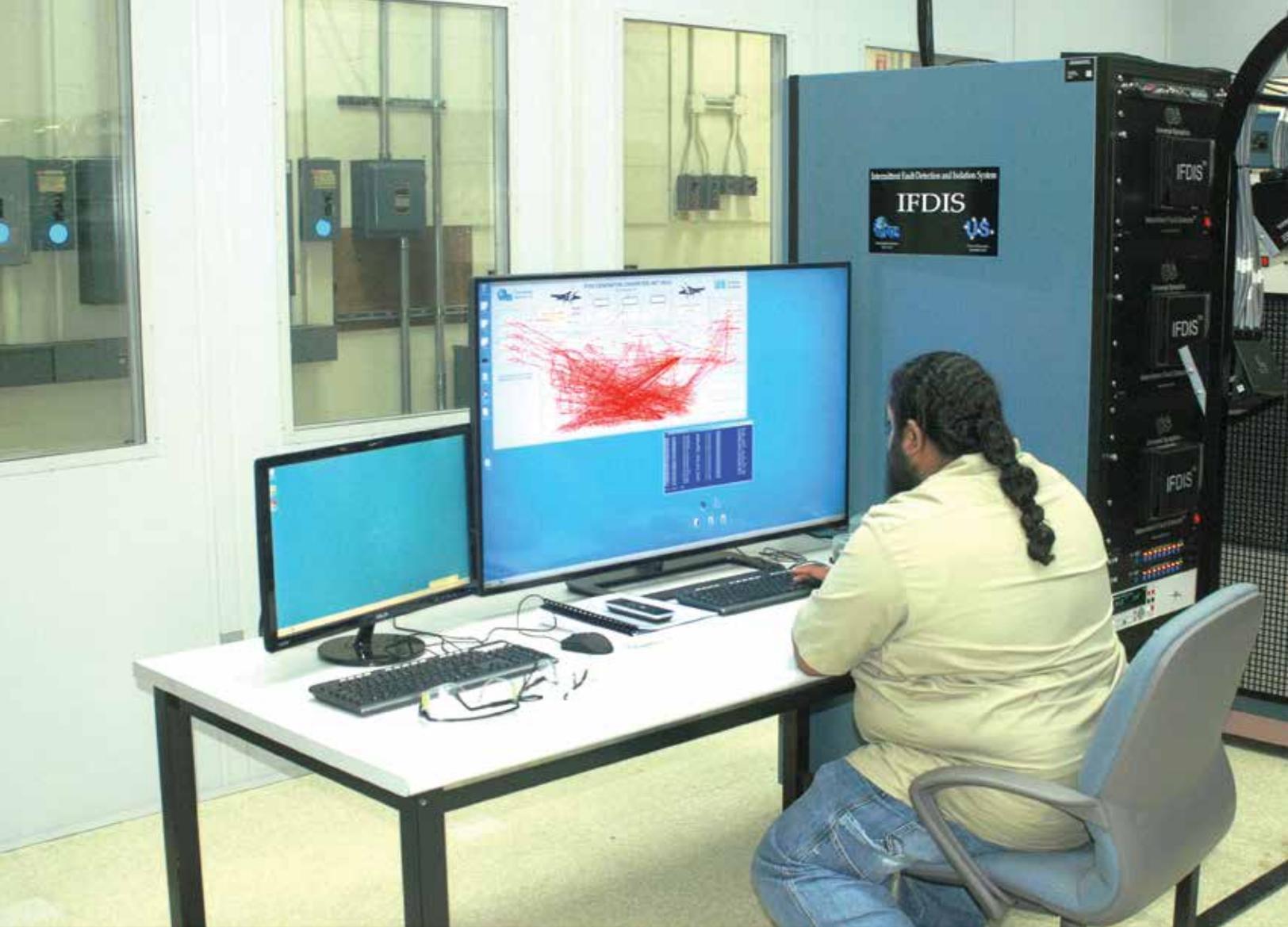
The tests take about three hours to run per AMAD and an hour each for system setup and breakdown.

“After testing a unit we have to check the gearbox and its magnetic plug to make sure there’s no metal or debris in them or the oil out screen,” Bush said. “Overall, we have a 99 percent pass rate for RFI.”

FRCSW returns an average of 48 Super Hornet and about seven legacy Hornet AMADs to the fleet yearly.

Editor’s note: FRCSW would like to acknowledge the departments that were instrumental in the Super Hornet AMAD test stand upgrade: Engineering in 6.0, the shop personnel, facilities, MetCal engineers and calibration.





Fault Detection System Will Improve Hornet GCU Service

Photos by Jim Markle



Electronics integrated systems mechanic Moses Simms reads the Intermittent Fault Detection and Isolation System (IFDIS) to test the Generator Converter Unit (GCU) chassis of an F/A-18 *Hornet* in Building 463. The IFDIS not only checks the connection points in the GCU harness for intermittent shorts or opens, but also has the capability to simulate the flight stresses and conditions which Hornet aircraft are exposed.

To increase the reliability and readiness of F/A-18 *Hornet* fighter avionics products it provides to the fleet, Fleet Readiness Center Southwest (FRCSW) recently purchased an Intermittent Fault Detection and Isolation System (IFDIS).

The IFDIS is solely applicable to the Hornet airframe's Generator Converter Unit (GCU) chassis. It checks the connection points in the GCU harness, ensuring that all circuitry lines are free of intermittent shorts or opens.

The Hornet GCU is used in the powering of the aircraft's electrical systems.

"If there's a short open it will highlight that path for you – and tell you from which point to which point is bad. And you can do a node mapping which shows all of the different connection points to that one pin, so you can actually see the different paths to where the failure is," said Moses Simms, electronics integrated systems mechanic and IFDIS operator.



Simms and FRCSW engineer Michael Chang completed a one-week training program conducted by the IFDIS manufacturer, Universal Synopsis.

“It’s a very simple system to use,” Simms said. “It’s very user friendly so there’s not a lot of training as far as how to test something. Most of that training should have been received before reaching this point because there’s a certain order to the procedures involved. If someone didn’t actually build a GCU, they’d have a hard time; they’d probably end up doing the setup wrong costing more time than what is needed.”

Located in the avionics components section in Building 463, the IFDIS features an environmental simulation compartment that emulates the flight stresses and conditions which Hornet aircraft are typically exposed.

The simulator can vary temperatures from 350 F to -100 F and produce vibration levels to more than 2,200 pounds of force.

“In the vibration portion of the test, it looks for and measures any intermittent failures in the harness, which is something that we can’t really simulate here. And in the temperature testing, we have ovens to do that, but we can’t actively test in the oven. You can freeze and test while it’s cold, and heat and test while it’s hot, but where it’s actively checking while it’s freezing or heating, we’ve never had that available to us,” Simms said.

“IFDIS combines different parts of active testing and puts them together. That’s what makes it good. So instead of doing the individual sections of testing, we can test everything at the same time. That will save time in a lot of aspects.”

The system has internal and external connection points to the GCU chassis and is controlled through a central computer with monitor displays that inform the operator as to what points are being checked and when an intermittent failure is detected. Another monitor indicates whether there is a short or an open.

The system also stores the wiring configuration of a good GCU chassis and based upon that, will detect wiring issues when testing subsequent units.

The FRCSW Advanced Aircraft Technology Team (AATT) researched the IFDIS at Ogden Air Force Depot in Utah six years ago where the system was being used to test F-16 fighter radar. When the AATT tested five ready-for-issue GCU chassis, IFDIS detected and located intermittent circuitry activity in 80 percent of the units.

Prior to IFDIS, artisans used digital and analogue multi-meter testers to identify opens and shorts. However, multi-meters cannot locate intermittent failures in circuitry.

“Overall, it’s a great system,” Simms said. “We have something now that shows the possible issues upfront. It could take five or six hours to find one line with a multi-meter, where you could spend an hour or so to find all of the possible leads with the IFDIS. This is why people have to start embracing new technologies.”

The number of GCUs to be analyzed through the IFDIS annually has yet to be established because GCU harnesses are typically replaced when damaged beyond the point where they can be fixed in a reasonable amount of time.

“But when modifications come out for the new GCUs, it would probably benefit us to test each harness because they’re already completely torn down prior to reassembly,” Simms noted.

Another future use of the system may include testing of other weapons replaceable assemblies, or ‘boxes’ which hold the circuit cards that comprise an avionic function, like radar or certain cockpit displays.

“The potential for this to shine is there. It’s just a matter of us applying it to the best of our ability,” Simms said.

FRCSW is the only FRC operating the IFDIS tester. ▼



CNO and Commandant of the Marine Corps visit FRCSW

Photos by Christopher Nette

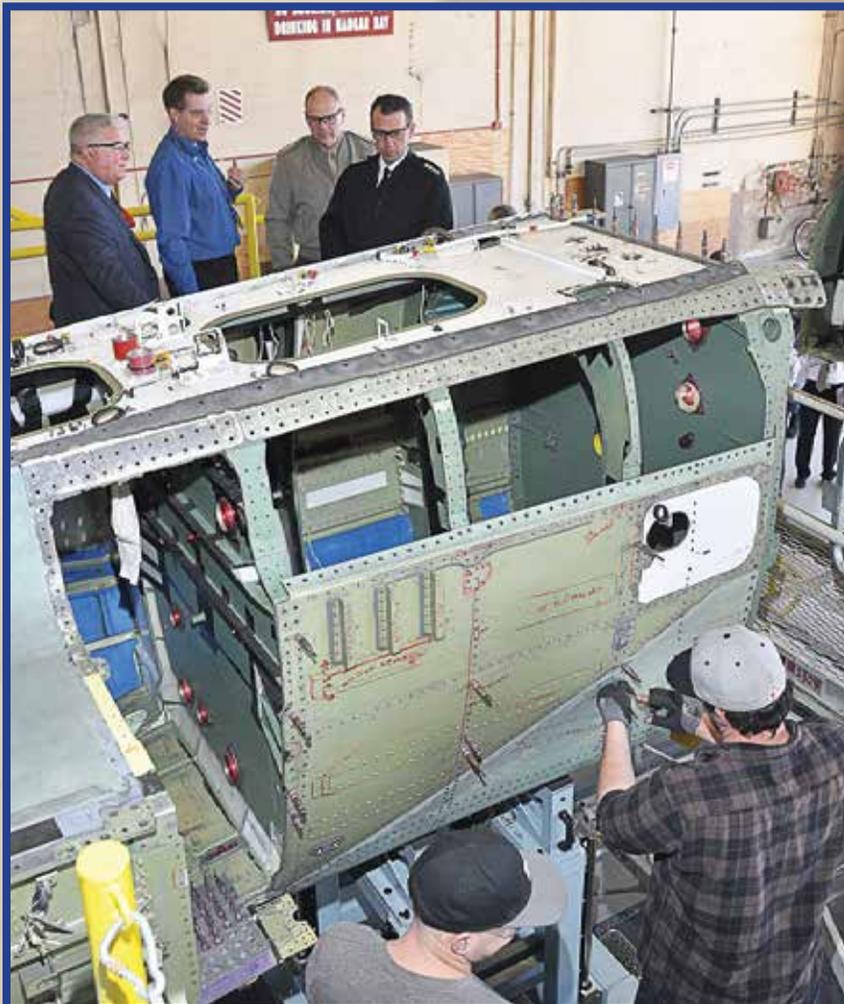


Chief of Naval Operations Adm. Jonathan Richardson, center, and Commandant of the Marine Corps Gen. Robert Neller, left, are briefed by FRCSW Commanding Officer Capt. Timothy Pfannenstien during their tour of FRCSW facilities on February 19, 2016.

Chief of Naval Operations Adm. Jonathan Richardson, left, and Commandant of the Marine Corps Gen. Robert Neller are briefed by FRCSW production director David Kelly during their tour of the F/A-18 production line in Building 94.



Chief of Naval Operations Adm. Jonathan Richardson, left, and Commandant of the Marine Corps Gen. Robert Neller are shown a components display by FRCSW production director David Kelly during their tour of the F/A-18 production line in Building 94.



Chief of Naval Operations Adm. Jonathan Richardson, right, and Commandant of the Marine Corps Gen. Robert Neller, view the F/A-18 *Hornet* fighter Center Barrel Plus replacement program as FRCSW artisans in the foreground install fasteners in a fuselage.

FRC Southwest AIRSpeed

FRC SW Manufacturing Increases Throughput AIRSpeed Tools Garnish Significant Gains

Photos By Jim Markle



Since fiscal year (FY) 2013, Fleet Readiness Center Southwest (FRC SW) manufacturing in Building 472 has managed to increase its production throughput by 345 percent.

How? By using AIRSpeed — The continuous process improvement program that has been in use throughout the naval aviation enterprise for almost 10 years.

AIRSpeed offers a “toolset” of Lean, Six Sigma and Theory of Constraints to increase production efficiencies and reduce turnaround times.

‘Lean’ is a move to identify waste (time, material, etc.) in a production process; while Six Sigma increases production improvement by eliminating

variation in a process; and Theory of Constraints identifies restrictions to processes that interfere with the flow of production systems.

“We aren’t afraid to challenge older processes,” said Arnel Canja, integrated process team leader for FRC SW manufacturing. “And with our level of communication between planning, programming, our shops and lab engineers, everybody is heard. So when someone has a concern, we address it as a team.”

Canja leads a team of 36 artisans including sheet metal

mechanics, welders and heat treaters that provide mostly structural parts for Navy and some Air Force aircraft. They work with an array of metals including aluminum, steel, titanium and composite laminated materials.

“The composites are a mixture of resins and are used for insulating electrical wires, cables or conduits running through the aircraft. We’ll bolt those on the side of the aircraft to keep them from chafing,” said sheet metal mechanic supervisor Charlie Greer.

Machinist work leader Bill Wiginton measures the thickness for specifications to an aluminum block being fabricated via 5-axis computer numerically controlled machinery in Building 472 to create an Y442 former for an F/A-18 *Hornet* fighter. Overall, the block is three inches thick, 35 inches in length and 40 inches in width.



The code's artisans also manufacture hydraulic tubing for aircraft. Many of the products are critical safety items (CSI) for the aircraft which undergo stringent processes to meet CSI requirements.

For CSI, FRCSW manufacturing looks to quality assurance and engineering for support. The code also works in conjunction with many of the command's processing shops including paint, blasting, plating, NDI and production control.

To ensure a steady production stream, Canja said that communication improvements were targeted first, followed by a review of tooling requirements.

"Because of the lack of proper tooling, our setup time took longer," Canja said. "So we had to substitute tools which could potentially compromise our programs, or, not run our jobs at all."

To resolve the issue the code coordinated with the Defense Logistics Agency and the central tool room to establish pre-expended bins, which ensure that the tools and hardware needed for specific tasks, are readily available to the artisans.

To maintain organizational readiness and to compensate for the effects of attrition to its high-end skilled artisans, Canja said that positions were established to enable artisans to move into computer numerically controlled (CNC) programmer and model maker billets.

"The model makers are a hybrid," Canja said. "They are highly skilled machinists who can program as well as operate and run the CNC machines."

"We established a quick response area: Our model makers would handle the parts that didn't require an extended amount of time in terms of programming. They would program it and run it from beginning to end; so we eliminated the hand-off from the programmer to the machinist because the model maker does it all."

The code recently added two new CNC 5-axis machines which are used to manufacture complex parts including LM2500 engine components, and form dyes for the foundry.

"We get a critically accurate part from that (CNC) process. Our customer feedback has been very good because the parts we manufacture bolt right into place, as opposed to making adjustments to fit," Greer said.

"We've made form guides for aircraft skins and E-2/C-2 airframe hatch channels (an extension joint on the aircraft where two major surfaces join), which is a part we've never made before. We tried to outsource those, but couldn't find a buyer. So we took on the challenge and were able to do it."

Improving customer service and increasing throughput on sheet metal products required a shift from manufacturing customer requested oversized parts to blueprint-specific parts only.

"They wanted oversized parts so they could trim them on the plane (during installation)," Canja said. "Customers were happy with that sometimes and sometimes they were not, and we would get that rework. So by going to blueprint specs the customers were happier, and we didn't have to rework the parts. This increased our throughput because we eliminated that rework time."

To increase overall production, Canja said a move to identify defective work orders in processes in and outside of manufacturing was established.

"We implemented process improvement steps whether to adjust, or create a rapid improvement event or a project. And we collaborated with our support groups in terms of eliminating or mitigating problems that we were having. That helped increase throughput by parts monitoring, damage and lost parts," he said.

Canja stressed that achieving production goals and milestones through the application of AIRSpeed tools lies in communication and collaboration.

"We work as a cohesive unit. Sometimes to get a job done, one person has to be an expert in multiple trades. Our lines of communication are open; so if one area can't do it, then we help that area or code out. It's one team, one effort here. If one person is falling short, then we're all falling short."

From 2013 to 2014, FRCSW manufacturing garnished a throughput increase of approximately 8,000 parts and 6,000 more through FY 2015. FY 2016 throughput is projected to exceed more than 30,000 parts.

"But our process improvement is still ongoing; we're still identifying areas and we're still in the infancy of where we want to be. We hope within three years to double or triple our throughput," Canja said. ▼

FRCSW Fuel Cell Shop Targets Readiness



FRCSW Commanding Officer Capt. Timothy Pfannenstien is joined by the artisans of the F/A-18 fuel cell installation shop June 1 in Building 94 after presenting the shop with the FRCSW Golden Wrench Award. The award recognizes outstanding achievements in support of the command's mission.

Photo by Scott Janes

“We were the number one assembly constraint in the F/A-18 program,” said Fleet Readiness Center Southwest (FRCSW) F/A-18 fuel cell supervisor Shane Hanson. “We were about four aircraft behind.”

Not anymore.

In the past six months, the fuel cell installation shop in Building 94 has resolved one of the major issues hampering its efforts in the Hornet maintenance pipeline: Personnel shortages.



The shop has increased its staff of nine federal artisans to 14, and added two more contractors for a total of five.

“We now have some federal guys who were previously contractors, and contractors who were previously Marines who have experience in the trade,” Hanson said.

Recruitment/classification division director Sharon Leeds said that in addition to the USAJOBS.gov website and internal hiring, the Veterans Recruitment Act (VRA) is another tool used by FRCSW to hire qualified applicants.

Under the VRA, preference-eligible vets can be hired without the command announcing the positions.

“We also recruit veterans from job and career fairs and presentations at transition assistance program classes,” Leeds said.

Although the fuel cell shop is now fully staffed, FRCSW currently has more than 250 open billets.

Hanson said that the knowledge and drive of the shop’s recently hired artisans was instrumental in bringing the workload current, and “...catching up to stay ahead of the curve.”

“When we were behind the curve, instead of having just fuel mechanics on the aircraft, there were also assembly mechanics using the same self-retracting lifelines for fall protection, and there’s a certain amount of those per aircraft, so that was causing issues,” Hanson said.

Fuel cell personnel must be finished with the aircraft before it continues through assembly. Power runs, checks tests and operations are not possible with an artisan working in the cell.

Artisans enter the fuel cell through a 17-by-12 inch hatch where they remove and install the fuel bladder and work among the cell’s components.

“To bring someone up to speed to do a cell at least once — assemble and disassemble — is about six months. But it takes more than once to get this down, at least a year to get to the point where you’re comfortable with this process,” Hanson said.

Legacy Hornet fuel bladders were made of thick rubber, while the Super Hornet bladders are made of polyurethane.

“The old style bladders are very durable, very expensive to make. We still get some that come in that were made in 1986, the same as my birth year,” Hanson noted.

“The new bladders are paper thin and can tear more easily. They’re cheaper to make, but easier to fold.”

The shop services all of the Hornet’s five fuel tanks: four main tanks and one vent tank which serves as an overflow. Areas of the left and right hand wings where fuel is held and transferred are also maintained by the shop.

Hanson said that approximately 10 percent of the shop’s workload is resolving fuel leakage issues that are noted during an aircraft’s induction. The remaining workload is done for maintenance purposes or modifications.

“Most of our work is to give access to the metal shop. For example, on the center barrel process we take out all four fuel cells so the center barrel replacement can get done. We have 262 hours to do this. We have to remove the number four fuel cell so the upper longeron, (left or right) can be replaced,” he said.

“The Airframe Change (AFC) 494 is a floor modification in the number two and three fuel cells; they were corroding. So for every Preventive Maintenance Interval (PMI) aircraft that comes in, we remove these fuel cells so they can do the corrosion floor change. Now that’s part of our process.”

The largest fuel cell — number four — averages 10-15 days for assembly and requires three artisans for the installation procedure. The remaining cells require at least two artisans: One acts as a safety observer to the cell entrant.

Hanson said that it can take up to five days to prep the cell before the bladder is installed. The cells must be outfitted with anti-friction tape that covers all edges and corners to protect the bladder from rubbing against the cell.

When the cell is ready, the bladder is laced to the wall to prevent sagging so it won’t interfere with any components inside of the cavity when operating. The process takes about one day.

“All of the cells also have foam padding in them to prevent the bladder from rubbing on any metal. Depending on what we’re removing for metal access, we may not remove any of the foam padding. That will save about four days of prep work before installing the bladder for assembly,” Hanson noted.

In addition to more artisans, another timesaving initiative in the fuel cell shop is the upgrade to its pressure test systems.

Prior to the installation of components to the fuel cell, the bladder is installed with all fittings capped off, filled with air, and monitored for signs of deflation.

If a leak is detected, artisans usually either repair or replace the o-rings or replace the bladder.

“This saves a lot of manhours because when the aircraft goes to the test line, it’s full of fuel. So if it leaks we have to drain the fuel, which costs money, invest manhours to disassemble everything, pull the bladder to find what the damage is, then put all of it back in,” Hanson said.

“The old pressure tester had failed and the process to repair the equipment was broken. The readings were showing that the bladders were failing, but it was the tester that was failing,” he said.

Hanson attributes a two-year Greenbelt AIRSpeed project to the turnaround of the fuel cell shop.

“The fuel cell shop was the only shop that didn’t have an evaluator and estimator, or production control. We had a lot of manpower shortages and no pressure tester. These were our biggest head-hurters. Overall, it took about a year to start to see the results of our project,” he said.

“But now we have the people who know the work, know what they’re getting into, and aren’t afraid to work hard to meet certain deadlines to get the aircraft to the next step or to the assembly mechanics to move things along.” ▼

FRCSW WINS CNO FY 2015 ENVIRONMENTAL AWARD



Ongoing efforts of the command's Industrial Environmental Competency were recognized by the Chief of Naval Operations February 16 with Fleet Readiness Center Southwest's (FRCSW) selection as the CNO's Fiscal Year 2015 Environmental Award for Sustainability, Industrial Installation.

A total of 29 recipients were selected to receive awards in 10 categories.

Joining FRCSW in the Sustainability, Industrial Installation category was FRC Southeast and Naval Supply Systems Command Fleet Logistics Center, San Diego.

The CNO sustainability category recognizes "... efforts to prevent or eliminate pollution at the source, practice recycling, reduce greenhouse gas emissions, and practices that increase efficiency and sustainability in the use of raw materials, energy, water or other resources."

For example, in FY 2015 FRCSW expanded the use of a primer paint on the E-2/C-2 aircraft that is a greener chemical product, recycled 145,000 pounds of metals and 400,000 pounds of paper, and saved approximately \$1,000,000 in its use of commodities (steam, electricity, gas, etc.).

FRCSW's Environmental Program Office (EPO) is a branch of the Industrial Environmental Competency, and oversees the command's environmental programs ensuring that state, local and federal regulatory requirements are met.

The EPO employs 24 members of the Industrial Environmental Competency and includes environmental engineers, environmental protection specialists, hazardous material and waste handlers and members from the command's Integrated Production Team.

Environmental engineer Raymond Paulson said that this year's CNO environmental award submittal targeted FRCSW satisfying and exceeding all applicable sustainability performance goals per Executive Orders (EO) 13514 and 13423 and being in compliance with the applicable environmental regulations.

EO 13424 was issued January 2007 and directs federal agencies to prevent pollution, recycle, energy efficiency by meeting reduction goals in water consumption, electricity usage and greenhouse gases.

EO 13514 was issued October 2009 and mandates that at least 15 percent of federal buildings and leases meet energy efficiency guidelines by 2015, and that "... annual progress be made toward 100 percent conformance of all federal buildings, with a goal of 100 percent of all new federal buildings achieving zero-net-energy by 2030."

"They wanted us to use the EO goals that applied to FRCSW for sustainability performance. So, we had a target to meet and the result achieved for that target," Paulson said.

The EPO identified six categories for its goals which included energy management, water management, greenhouse gas management, recycling, pollution prevention and sustainability management.

For example, energy use was reduced by 4.7 percent in FY2015 with an overall 34.6 percent from FY2007-FY2015, exceeding its target to reduce energy intensity use of 30 percent from FY 2003 baseline standards.

Energy efficiency projects included the removal of a computer data center which cut over 11,390 British Thermal Units (MMBTU), saving more than \$110,000 in electrical annual costs. MMBTU is an energy measurement for steam, electricity or natural gas.

A set point adjustment at the paint complex cut 1,572 MMBTU to save \$86,742 in annual savings.

Sequencing of air handlers and securing steam lines reduced steam usage by more than 11,300 MMBTU, saving over \$660,000 annually. Related electrical usage was cut by 33 megawatt hours annually, saving more than \$4,600 in costs.

To promote renewable energy, the command set a target to gain 18 percent renewable energy resources by FY 2020. A one percent increase was gained during FY 2015 through existing on-site solar systems.

To meet new Executive Orders by FY2025, the command recently was awarded a \$24 million contract in conjunction with receiving SDGE rebates for the project savings.

Over the past three years the FRCSW energy team has been working on implementing a \$24 million Energy Service Performance Contract (ESPC). Construction for those projects will start March of FY 2016. FRCSW will be receiving rebates on the projects for FY 2016 through the SDGE rebate program.

Potable water was reduced by 28 percent through FY 2015, exceeding the target of a 26 percent reduction by FY 2020 from the FY 2007 baseline; while use of industrial water decreased 1.8 million gallons FY 2015 from FY 2014.

Meanwhile, the use of irrigation water declined by 20 percent for FY 2015, meeting the target of a 20 percent reduction for FY 2020 from a FY 2010 baseline.

Combined, potable and industrial water reduction efforts will garnish an annual savings of \$5,000.

The command gained a reduction of greenhouse gases by 32.2 percent FY 2015, on track to meet an FY 2020 goal of 34 percent.

Overall, greenhouse gases (carbon dioxide) were reduced by 885,511 pounds or 32.3 percent for FY 2015, with a cost savings of \$922,637. The program is on track to meet the 34 percent reduction target by FY 2020.

In handling non-hazardous solid waste a recycling approach was used to exceed the 50 percent target through FY 2020. Instead, 75 percent recycling of all cardboard, paper and metal products throughout the command resulted in an annual savings of \$15,000. Further, all surplus electronics were recycled during FY 2015, which resulted in a savings of \$10,000.

An additional \$3,000 was saved through reducing the use of copier paper by double siding applicable documents.

Hazardous waste recycling for oil, solvents, strippers and machine coolants were completed at a 100 percent rate, realizing an annual savings of \$8,000. More than 100,000 pounds of oil and petroleum products were recycled and 18,000 pounds of machine coolant.

The target to reducing pollution, including toxic chemicals, was set at 15 percent by FY 2020 from 2006 levels. FY 2015 efforts garnished a reduction of 10 percent, which is on-track to achieve the target.

The elimination of hexavalent chromium, used as a components primer coating, gained an annual savings of \$10,000, while environmental improvements were realized in transferring petroleum products by securing storm drains via annual bulletin training.

Ongoing projects include the gradual elimination of the stripper methylene chloride and associated wastewater reduction, used when servicing the E-2 rotodome radar system, which has saved \$20,000 annually; and identifying substitutions for non-mission critical ozone depleting products.

"Everybody's effort made this happen," Paulson said. "And that's why this was submitted as a group award." ▼

ISO 14001 Key to FRCSW Environmental Efforts

A key contributor to Fleet Readiness Center Southwest's (FRCSW) recent selection as the CNO's Fiscal Year 2015 Environmental Award for Sustainability, Industrial Installation is the Environmental Management System (EMS) of the command's Industrial Environmental Competency.

The EMS is designed to identify deficiencies within the competency's Environmental Program Office (EPO).

FRCSW's EMS was established 17 years ago and is based upon voluntary environmental management requirements of the International Organization for Standardization (ISO) 14001.

The ISO 14001 goal is to help organizations improve environmental awareness and performance, and prevent pollution.

In 1999, FRCSW became the first federal facility to register to the ISO 14001.

"It's a feather in the cap to this office that we took the effort to get registered. Not every command is. ISO 14001 asks you to find a way to improve every year. So, it's based on continual improvement and our office is designed around this program," said environmental engineer Raymond Paulson.

Organizations registered to ISO 14001 are regularly audited to monitor and document environmental improvements and performances.

Auditors may assess any or all of the 17 elements of the ISO 14001 including environmental policy, emergency preparedness and response, operational control and management review.

"Our third party auditors, a company named Intertec, inspect and validate that we are meeting our goals," noted Brian Powell, Industrial Environmental Competency Manager.

In the meantime, environmental engineer and ISO 14001 program manager Sarah Tuley said that FRCSW conducts its own weekly audits.

"We audit to make sure that the shops are following their processes and procedures that have been put in place. We do two audits per week and over the course of a year, we get to every single FRCSW shop," Tuley said.

Overall, more than 90 of FRCSW's shops are audited.

"Whenever we put in our compliance programs and conformance to the Executive Orders (EO) 13514 and 13423 to improve the environment, the management process of the ISO demands that we get there," Paulson said.

"We always self-audit to make sure we are in compliance and we're meeting the conformance to the EO to improve the environment. It's documented very well. It's like we're our own third-party auditor."

During FY 2015 the efficiency of FRCSW's EMS managed no discrepancies for the ISO 14001, which resulted in complete compliance of all environmental regulations of the EO.



Career Retention Pennant

Fleet Readiness Center Southwest (FRCSW) Command Career Counselor NC1 Joann Clark holds the Commander, U.S. Pacific Fleet Fiscal Year 2015 Retention Excellence Award January 27 outside of Building 94. Pictured are (from left, front row) PR2 Liberty Cagaanan, AT2 Gabrielle Robinson, AT2 Mary Cox, NC1 Clark, and AD2 Stephanie Biggs. Back row from left are Cmdr. Mark Angelo, CDM Dewey Torres and FRCSW Commanding Officer Capt. Timothy Pfannenstien.

Photo by Scott Janes

FY 2015 CNO Safety Award

Commander, Fleet Readiness Centers Rear Adm. Paul Sohl, left, presents the fiscal year 2015 Chief of Naval Operations Safety Award to FRCSW Commanding Officer Capt. Timothy Pfannenstien in the Building 94 conference room February 19.

Photo by Scott Janes



NAVAIR Engineers Recognized by AIAA

Naval Air Systems Command (NAVAIR) aerospace engineers Joshua Rivera and Joanne Jordan were honored for their contributions to the Navy Apr. 25 during the American Institute of Aeronautics and Astronautics (AIAA) - San Diego Section banquet held on the campus of San Diego State University (SDSU).

Rivera received the AIAA's Outstanding Contribution to Aerospace Research award, and Jordan, the award for Outstanding Contribution to Aerospace Management.

Rivera earned the recognition of the AIAA through his work in conjunction with the University of California San Diego (UCSD) and SDSU to understand, manage and potentially resolve delamination issues within fastener holes of composite skins found on legacy F/A-18 Hornet fighter aircraft.

Collaboration with the two universities was made possible through Fleet Readiness Center Southwest's (FRCSW) Advanced Aircraft Technologies program and the command's designation as a federal laboratory in 2010, which enables research partnerships between FRCSW and private sector and academic communities.

Rivera said that FRCSW and the universities target the torque box wing skins of the legacy Hornets because delaminations are often found there during periodic inspections under the High-Flight-Hour program.

Specifically, the team will try to determine how the delaminations originate; what the damage evolution is and if it changes over time; and how it affects the overall structure and safety of the aircraft.

"The status quo of what we do now is very expensive engineering and logistics efforts in terms of inspections, repairs and retrofits often to show that damages are good, or to quantify damages in a snap shot in time," Rivera said.

"Our research aims to answer the questions are they (delaminations) really critical at all? If not, then we may be able to work with air certification and suggest that we may not need to inspect as often as we do because we've shown these damages are stable over time, and not critical. If the research is able to show that, then that's a huge cost savings for the Navy because it reduces those recurring inspections throughout the fleet. It would save millions of dollars."

Sponsored by the Office of Naval Research, work on the three-year project at FRCSW includes fabrication, failure analysis and non-destructive inspections.

Meanwhile, mechanical testing is performed at UCSD and modeling and simulation analysis at SDSU.

Rivera said that the tests and subsequent analysis is performed on a composite specimen made of carbon fiber, the same material used on legacy Hornets.

"The tracking of damage evolution in composites for primary structure, bolted structure isn't that unique. But the unique thing we are doing is actually tying that damage evolution to actual in-service high flight aircraft, under actual simulated spectra," Rivera said.

"So when an aircraft goes through certain rolls, landings and pitches, we know what that profile looks like from a load standpoint and we're applying that simulated load and spectra on a test fixture on a specimen under cyclic load."

"The end goal is to use this product (specimen) as a proof of concept for a full scale test - to take a full F/A-18 wing, fixture it, and do full simulating on that damage in multiple sites to analyze the effects," he said.

"We want to get a logistics or structural solution to this problem. We don't do any structural repairs to these currently because the way we mitigate risk is a

logistics solution, that is to inspect more, and make sure the damage isn't growing," Rivera said.

The joint delamination research project will conclude in approximately 18 months.

In her position as the interim Stress Lead for the F/A-18 Hornet A-D program, Jordan was recognized for her contributions and management oversight.

Jordan assigns work to, coordinates meetings with, and provides weekly updates to senior civilian and military leadership well above her paygrade.

She oversees the work of 15 stress analysts and even more contractors at any given time, performing 200 stress analyses for 10 different Navy repair sites.

The team she coordinates ensures the F/A-18A-D fleet flies safely to 10,000 flight hours in the demanding corrosive environment inherent to naval operations.

The challenge is difficult, considering the F/A-18A-D was originally designed to fly only 6,000 flight hours, and the aircraft must remain in service as there is no funding to replace them.

In spite of maintaining long work hours, Jordan also finds time to participate in the Navy's Science, Technology, Engineering, and Mathematics (STEM) outreach program, and mentor for the For Inspiration and Recognition of Science and Technology (FIRST) Robotics Program at local high schools.



Awards

Applause

From January 15, 2016 – June 15, 2016

Military Awards

Navy And Marine Corps Commendation Medal

CDR COLE
ADCS LIROQUIROGA
ADC CAMBA
ATC GARCIA

Navy And Marine Corps Achievement Medal

ADC BARRIENTOS
AT1 BENNEKIN
AS1 BORABY
AD1 BRISSEY
NC1 CARILLO
AD1 EUGENIO
BM1 GILL
AD1 GONZALEZ
AZ1 GRANT
PR1 JAMORABON
AD1 KELLY
AZ1 McCARTHY
PS1 McKISSIC
PR1 McLAURIN
AT1 NICKELSON
AM1 PADGETT
AS1 PEREZMENDEZ
AS1 SANTOS
AM2 ABELLANA
AE2 AMON
AS2 CASTLE
PR2 CHAMBERS
AM2 CRUZ
PS2 DEVERA
AD2 HERRADURA
AT3 KING
AM2 MAHNKE
AT2 NATIVIDAD
AZ2 POOLE
AD2 SARGENT
AS2 VENTURA
AE3 DILLEN
AS3 FULTZ
AT3 GUARDADO
AT3 STILKE
PR3 VARNER
PRAN HERNANDEZ
ATAN VILLANUEVA

Military Outstanding Volunteer Service Medal

ADC CAMBA
AS1 CAI
AS1 SANTOS

Flag Letter Of Commendation

AZ1 MARTIN
AD2 WALKER
AS2 WALSH
AT3 BRENNAN
AD3 BUNKLEY
AS3 ENDRINA
AS3 FOY

Commanding Officer Letter of Commendation

AZ2 BENNETT
AS2 CASARES
AS2 SHEKERJIAN
AZ2 WARD
AS3 CROW
AS3 PRICE
AZAA COLEMAN

Civilian Awards

Special Act or Service Award

ABELON, CHRISTOPHER A
ADKINS, RONALD M
AFFELDT, LORIE A
AGUIERO, Sr, ALDO A
ALBON, Jr, ROBERT W
ALCOBIA, ROY F
ALEXIO, KRISTIN L
AMADOR, OMAR
APLEGATE, ANDREW L
AQUINO, CARLA
ARELLANO, RAYMOND C
ASTORGA, RICARDO
AVERA, RONALD H
AVILA, CHRISTINA L
BABAN, FARZAD
BAILEY, PHILIP D
BENJAMIN, DARREN B
BENNETT, KRISTOPHER S
BERNARDO, RAINIER R
BERSAMIRA, ROBERT V
BLAS, GEORGE P
BLODGETT, MICHAEL L
BLOUNT, JUAN D
BOLOSAN, MICHAEL A
BOUCREE, PAUL J
BOULTER, II, BRIAN D
BUU, VU H
BUXTON, RONALD S
BYRD, CARLA
CABUSI, ALBERT S
CADY, JAMES A
CALALAY, JEFFREY H
CALHOUN, MICHELLE Y
CALLEJAS, ROLANDO E.
CAMILING, JESSIE B
CAMPOS, RICARDO
CARDIN, DAVID R
CASTILLO, VIC B
CERVANTES, JOSELITO S
CHARD, DWAYNE
CHEVALIER, GEORGE J
CHILDERS, GERALD K
CHU, JAY C
CLEM, JEFFREY T
CLEMENTE, KEITH P
COFFEY, Jr, JOHN H
COHEN, JEFFREY A
COLLINS, DUSTIN M
CONLEY, DANIEL
CRESCO, MARTIN
CROSS, ARTHUR L
CRUZ, JOSEPH D
CUNNIFF, DANIEL D.
DANG, CAMANH T
DANIELS, DARRELL P
DAO, DAVID D
DEALBA, JOEL
DELGADO, DANIEL C
DESHAZER, JEFFERY R
DEWELL, JERRY K
DOEPKE, ERIK G
DOMINGO, DUANE B
DOREN, JOHN T
DOWNS, MICHAEL W
DRAKE, RYAN J
DRUCE, REBECCA L
DUENAS, GIL G
ELAGO, MERCHAM
ELGIE, JAMES G
ELLER-HENDRIX, RENEE A
ELLIS, JOSEPH
ENGLISH, JAMES
EVERLY, SHAWN P
FABIO, ROY M
FAUSTINO, FLORANTE C
FERRELL, GREGORY G
FERTIG, TIMOTHY L
FINCH, KEITH O
FONTENOT, CLARENCE L
FORRESTER, PAUL J
FOSTER, DEREK V
FRAZIER, GARY D
FREEMAN, KENNETH J
GAENZLE, KURT J
GARCIA, TEODORO M
GARDNER, BRETT G
GARGIULO, VINCENT
GATPANDAN, LENNIE F
GILMOUR, LAURA A
GOODWIN, NORMAN
GOULART, MANUEL F
GRAHAM, BILLY J
GRAHAM, JERRY A
GREER, CHARLES B
HA, DANT
HA, LOC
HAFEZZADA, SAYD B
HALL, RYAN J
HANRAHAN, PATRICK
HANSON, SHANE
HANSON, SHAWN
HARPER, KENNETH R
HARRIS, EDWARD W
HAYES, LARRY D
HERNANDEZ, ISIAH E
HERNANDEZ, MARTY J
HERRICK, KEITH
HEW, MITSUKO L
HILDEBRAND, ERIC R
HOLMBERG, SHEILA B
HUNT, TRACY W
HUYNH, BINH K
ISORENA, ROGER S
JACOBS, KENNETH P
JAMES, GLENN R
JAMITO, Jr, CELSO A
JANSEN, PAULA D
JEFFRIES, JEREMIAH R
JOHNSON, OLIVER
JOHNSON, WALTER
JONES, VIRGLE G
JORDAN, JOANNE B
JORDAN, RACHEL M
KEARSE, JAMES A.
KOULAVONGSA, NHOMMALA
KROUPA, JOSEPH L
KUBITZ, JASON E
LADRILLONO, RONALD A
LAI, HUNG L
LAM, JOHNNY H
LANGSTON, VINCENT F
LAWRENCE, STEVEN D
LEE, MICHAEL K
LEGASPI, ROLLIE A
LEUALLEN, Jr, WILLIAM E
LEVALLEY, BRITTNEY M
LEWIS, LARRY E
LIM, RICARDO T
LIMA, ANDREW D
LINCK, RHEA C
LOPEZ, BARTOLO
LOPEZ, ELEAZAR
LOREA, FERNANDO
LOZANO, VIRGINIA
LY, WILLIAM
MA, KAY M
MACIAS-DILL, DELIA L
MACKENZIE, GAVIN E
MALINSKI, HAL B
MALONEY, JOHN K
MAPES, ANTHONY A
MARISTELA, WINSTON T
MARTIN, CESAR O
MARTIN, TERRANCE L
MARTINEZ, ARNOLD R
MARTINEZ, MARITES S
MATEO, ROWELL B
MAURICE, KEITH J
MAYO, NICHOLAS
MCCALESTER, GREGORY C
MCCORMICK, JOHN P
MEDINA, ALDO B
MENDOZA, PIERREL
MEYER, LEWIS C
MILLER, DENTON J
MILLER, PATRICK M
MIRANDA, ANNA L
MIRANDA, GARY
MITCHELL, BRYANT T
MOELLER, DAVID L
MOKTHEPHATHAI, KHAMMY
MONTES DE OCA-DOURAL, ANDRES
MONZON, EFREN
MOORE, TOMMY W
MORENO, RUBEN S
MOYA, NICOLAS
MUNDWILLER, SARAH K.
NAPUTI, JESSIE S
NELSON, CHERYL C
NELSON, DANIEL L
NGUYEN, BENJAMIN N
NICKLIN, HOWARD E
NIEBAUER, SHERIE M
NOBLIN, JAY D
NORMAN, DENNIS L
NUNO, Jr, VIDAL E
ONG, PETER L
ONG, TONY C
ORTON, JARED C
PAINTER, CHRISTOPHER S
PALAMA, NATILIA
PATEL, GHANSHYAM B
PATTERSON, II, GREGORY E
PAYNE, HERSCHEL D
PEEPLS, GARY R
PELAYO, MARK S
PETE, Jr, MICHAEL D
PFEIFFER, RICHARD C
PHILLIPS, DAVID A
PIZZARRO, RUSTICO E
POTTERTON, SCOTT N
PRADO, TROY M
PROBERT, STEPHEN J
PUTNAM, JASON D
RAMIREZ, FRANK A
RAMOS, JOSE O
RANDELL, STEVEN M
RANGEL, JAIME E
REYES, EDUARDO C
RIDDLE, JAMIE A

RINGLE, DAVID M
RIOS, MICHAEL A
ROBERTSON, TORAN
RODEBAUGH, PERRY E
RODR, JOSEPH C
RODRIGUEZ, MOISES S
ROSS, JEOFFRY M
RUTH, RICHARDSON
RUVALCABA, ALBERTO
SANTILLANO, JESUS
SANTOS, BENITO R
SAUNDERS, KURT J
SCALES, JOHN L
SCHIAZZA, NIKA J
SCHUMACHER, III, ROBERT C
SISON, MATTHEW P
SMITH, THOMAS E
SOHL, JOHN J
SORIANO, GAVINO V
STEVENS, MONICA F
STROTHER, LEE A
SULO, AMY N
SYKES, ALEXANDER J
TAITANO, CARLOS J
TAITANO, MELANIE R
TAITANO, RAINA D
TAJIMA, MICHAEL D
TAN, DANIEL T
TANG, VUONG P
TERRONES, RUBEN J
THOME, MATTHEW C
THURMOND, Jr, J. B.
TOLEDO, ARTHUR R
TOMAS, VIRGILIO C
TOMPSON, BRIEN
TORRECAMPO, REY T
TORRES, JORGE L
TORRES, MIGUELA
TRAMMELL, WILLIE
TRAN, THIEN C
TROUT, BRIAN M
TRUONG, TIM
TUNDERMANN, MATTHEW W
TURGON, TIM
TURNER, MICHAEL L
VALDIVIESO, EVITA N
VAUGHAN, RUSSELL F
VERDEFLOL, QUERUBIN D
VISOUNNARAJ, SEAN
VIVAR, VON A
WALTON, DAVID
WASSON, COLTER E
WEST, RICHARD W
WHITE, AMY M
WHITE, EVAN B
WHITE, KEITH D
WHITEHEAD, FRANK J
WIEMKEN, BRIAN J
WILLETTE, III, THEODORE J
WILLIAMS, HAROLD
WILLIAMS, MICHAEL T
WILLIS, SHAWN M
WITHERSPOON, CURTIS J
WOLFE, DAVID M
WONG, SCOTTA
YEN, KENT
YON, JUSTIN E.
YORK, RICHARD E
YOUNG, ANTHONY K.
ZAMORA, ALYSSA

Time Off Award

MARQUEZ, PHILLIP M
ZAMORA, ALYSSA

Quality Step Increase

AUTERSON, DAVID
BERUBE, MARY J
CRENSHAW, ANGELA
JIMENEZ, JOSE A
MARQUEZ, GABRIEL



Fleet Readiness Center S o u t h w e s t

Change of Command



Captain Timothy J. Pfannenstien



Captain Craig Owen

Captain Timothy J. Pfannenstien

will be relieved by

Captain Craig Owen

at

10:00 AM on August 11, 2016

at the

**FRC SW Helicopter Maintenance Facility
(Building 325)**

For more information, contact your supervisor