Turn on the news on any given day, and you will see Naval Aviation in action. Whether conducting strike missions in support of Operation Inherent Resolve, providing humanitarian assistance and disaster relief to the victims of Hurricane Matthew in Haiti, participating in exercises with international partners, or supporting maritime security operations, Naval Aviation forces are ready and operating forward.

Meeting this demand has come with its challenges. Naval Aviation has been providing a persistent, deterrent presence around the globe while conducting combat operations consistently for the past 15 years. That pace has accelerated the depreciation of our valuable assets, while accumulating a great deal of wear and tear on our aircraft and nuclear powered aircraft carriers. High utilization of airframes has accelerated the time for aircraft to reach their scheduled maintenance milestones or designed life limits. Additionally, the delay of F-35 Initial Operating Capability (IOC) has resulted in Naval Aviation flying and sustaining legacy F/A-18s (A-D models) well beyond their intended program life, which has increased the workload on our Fleet Readiness Centers (depot production facilities) and further compounded flight line readiness issues.

Naval Aviation remains in high demand around the world, and while we continue to generate readiness to deliver aviation forces forward, we must also recover readiness that has been degraded through years of combat and increased operational requirements and pressurized by shrinking budgets and procurement delays. The readiness degradation has steadily occurred over the last 10 years, but has been most acute since sequestration. Assuming we can return to and sustain adequate funding across all lines of effort, it will still take years to fully recover.
would like that depot work to be as standardized as possible, but that is not the case for legacy strike fighters. For example, of the last 20 Hornets to complete maintenance overhauls, only one part was common across all airframes.

Combatant commanders’ demand for aircraft carriers around the globe has and will continue to drive high operational tempo for those platforms as well. The first Nimitz-class carrier is 40 years old, and like our legacy F/A-18s, when we conduct the regularly scheduled maintenance and modernization for those ships, we are seeing increasing discovery of new work that has to be accomplished. With the current shipyard manning and experience levels, there is limited capacity to surge and cover that extra work, which is causing delays in the completion of maintenance availabilities. Efforts to mitigate these challenges include actions to optimize operational and maintenance cycles, right-size maintenance availability lengths, hire the proper mix of shipyard workers, and balance the resources and workload across the naval shipyards. Progress is being made, but more is required to complete the planned maintenance availabilities on time and get ships out of the yards and back in the rotation. When carriers deliver late, the follow-on work-up cycle to train and integrate with their air wings, as well as the strike group’s surface ships, becomes very compressed, adding risk to our ability to successfully and safely generate combat readiness.

These factors, when combined with budget instability caused by sequestration and continuing resolutions, have put at risk the services’ ability to generate required readiness. To meet the increasing demands being placed on Naval Aviation in the current constrained fiscal environment, Naval Aviation leaders are faced with difficult choices to ensure limited resources are used as effectively as possible to support warfighting readiness, while accepting increasing risk to deliver and deploy ready forces.

“Naval Aviation is continuing to meet deployed readiness requirements today, but right now it is at the expense of our non-deployed force,” said Vice Adm. Mike Shoemaker, Commander, Naval Air Forces. “We are prioritizing our resources to ensure squadrons get what they need while they’re in their work-up phase (preparing for deployment) and when they eventually deploy in harm’s way. But because of our readiness challenges, that prioritization of available aircraft, spare parts and manpower requires us to accept risk by taking those resources from squadrons in the maintenance and/or sustainment phases of the deployment cycle.”

Enterprise Approach to Solving Readiness Challenges

Leadership is implementing targeted readiness recovery efforts to improve flight line aircraft availability for both deployed and non-deployed units. Stakeholders from both the Navy and Marine Corps, working through the Naval Aviation
delicate balance we need to maintain across all the accounts contributing to Naval Aviation readiness,” said Rear Adm. De-Wolfe Miller. “For example, if the flying hour program is fully funded but we are lacking in the account for spare parts, we may not have enough ‘up’ aircraft to fly in order to execute the flying hour program. We must continue to strive for consistent, executable funding levels in our sustainment accounts, in addition to the flying hour program, to be able to meet readiness requirements.”

Readiness Recovery and Sustainment

There are seven specific lines of effort (LOEs) being managed by the NAE. Discussed in more detail in subsequent paragraphs, improvements are necessary in each of these LOEs to recover required levels of readiness. Readiness has been declining over the last 10 years, so even with adequate funding it will take a number of years to recover. “There are no silver bullet solutions that will have a huge, immediate impact,” said Vice Adm. Paul Grosklags, commander, Naval Air Systems Command (NAVAIR). “It will take a steady, persistent stream of coordinated efforts across the Enterprise to return Naval Aviation readiness to health.”

That said, Naval Aviation stakeholders are aggressively identifying and attacking the root causes of readiness issues, and the needles are slowly moving in the right direction. Some of the more challenged platforms, such as H-1s,
H-53s, AV-8Bs, F/A-18A-Ds and E-2s, have seen modest improvement over the last 12 months, while others are currently lagging. Recognizing there is much more to be done, Naval Aviation leaders have confidence in their approach and expect slow but continued improvement across the board.

“One of our priorities moving into Fiscal Year 2017 is to develop a more predictive capability for readiness. Until now, the system was very reactive. We’d identify a problem, react to it, fix it and then move on to the next problem,” Grosklags said. “Since then, NAVAIR and the entire Enterprise have become much more proactive in trying to deal with issues before they become a crisis. What we now need to do is become more predictive so that readiness issues never get to the point where we have to be sending ‘fire teams’ to deal with them.”

Naval Aviation leadership priorities to correct readiness shortfalls have aligned along several key LOEs: improving depot capacity and throughput; increasing capacity and speed to address in-service repairs (ISRs), repairs that cannot be completed at the squadron level and often require engineering and/or depot artisan support; sustaining the material condition of the current fleet of aircraft; expanding supply support (quantity and availability of parts) and agility to respond to both depot production and flight line readiness needs; and finally, Sailors and Marines have the training and experience to effectively maintain their aircraft.

“There are no silver bullet solutions that will have a huge, immediate impact. It will take a steady, persistent stream of coordinated efforts across the Enterprise to return Naval Aviation readiness to health.”

The NAE are actively managing critical materiel to address key readiness drivers, and they are working with industry to expedite delivery of spare parts. Teams have prioritized organic repair to address immediate readiness degraders, while improving material demand forecast to reduce repair/rework turn-around times. Naval Aviation is also implementing the use of “swarm teams,” which have been created to accelerate the resolution of critical supply readiness issues. Additionally, as part of the maintenance and supply lines of effort, parts allowances have been adjusted to improve range and depth for sparing, engineering support for maintenance has been augmented and improved, and additional resources and personnel have been assigned to reduce the backlog of technical manual discrepancies.

Other notable initiatives fall within the depot capacity and material condition lines of effort. Depots have been aggressively hiring and training artisans within the past several years to increase their capacity across all production lines. For more effective planning and utilization of existing capacity, Fleet...
Readiness Centers (FRCs) are updating the standard maintenance work packages for each TMS to ensure we are buying the parts we know we’ll need with sufficient lead times to keep the production lines flowing. To address maintenance and corrosion issues at the squadron level, Material Readiness Teams have been deployed to assist fleet units with corrosion treatment and prevention, which has improved the material condition of aircraft. These critical efforts are significantly reducing the extra corrosion repairs depot artisans have to complete and will help to sustain our existing force out to and beyond expected service life.

ISR (Intelligence, Surveillance, and Reconnaissance) teams, a focus of the ISR LOE, are being accelerated through standardized processes and policies and identification of key delay nodes within the ISR process. NAE leadership is analyzing and identifying the root causes of ISR growth, leading to potential solutions or mitigation actions. Commander, FRCs is increasing artisan presence at all field sites to better support squadron maintenance teams and is utilizing contractor field teams in critical areas to augment and assist organic government support. Across the FRCs, teams are working together to define and replicate best practices for readiness improvement.

In fiscal year 2016, Naval Aviation stakeholders developed Readiness Recovery Playbooks for the most readiness-challenged platforms and identified initiatives that could positively impact the readiness posture for those systems. In fiscal year 2017 and beyond, they will be expanding those playbooks to achieve and sustain readiness across the aviation fleet. These strategic playbooks will guide efforts, platform by platform, as work continues to return aviation readiness to acceptable levels throughout the fleet.

To improve predictive analyses and sustain aircraft into the future, Naval Aviation readiness stakeholders are implementing several new tools and processes. The web-based Vector analysis toolset has been deployed, enabling detailed identification and analysis of supply and maintenance degraders across every TMS. Key material deficiencies contributing to degraded readiness are being identified earlier and improvements are being implemented to positively impact reliability and maintainability. Condition Based Maintenance Plus (CBM+) is also being introduced, where in-depth engineering analysis is allowing us to extend life limits for critical components. Lastly, the NAE Integrated Resource Management Team and other cross-functional team members are developing Ready Basic Aircraft (RBA) projections to better target resources and investments.

Ensuring Readiness of Our People

Naval Aviation readiness is based on more than just the readiness of its aircraft. While it is important to focus on readiness and sustainment of aircraft, the platforms are ineffective without the people who maintain and operate them. As Navy and Marine Corps leaders state in Naval Aviation Vision, 2016-

FRC East Sheet Metal Mechanic Robert Sams crafts a repair doubler to fix cracks in the forward skin of an AH-1W Super Cobra. (U.S. Navy photo)
2025, “One of the most critical elements to achieving readiness is the ability to retain and continue to train the most qualified maintainers and aircrew.”

NAE leaders are working to improve maintainers experience levels in squadrons. They do that through the training our Sailors and Marines receive following initial accessions or between tours, as well as continuous on-the-job training (OJT) where they achieve critical qualifications and certifications. Once these maintainers gain experience on one platform, it very advantageous to use that experience in follow-on tours in squadrons flying the same type aircraft. This saves the costs associated with training on a new TMS and significantly reduces the OJT required to get back up to speed. Sailors and Marines returning to the same platform are more productive, leading to increased flight line readiness. Using a metric that captures Aviation Maintainer Experience (AMEX), NAE leadership now has the data and much needed visibility to better detail and distribute our maintainers and improve squadron experience levels over time.

Continued Focus on Readiness

Looking ahead, Naval Aviation leaders are committed to the deliberate efforts outlined above to recover readiness in every TMS, reduce the risk to non-deployed squadrons, and give us the ability to meet the current, steady demand for forces while rebuilding our capacity to surge ready forces if/when needed. “As we begin to see incremental improvements in readiness, we must continue to leverage available funding and improve the financial health of our sustainment accounts,” Shoemaker said. “We’re making strides in becoming more predictive, in order to stay in front of readiness issues before they impact the flight line. With our deliberate and comprehensive efforts on readiness recovery and sustainment, we anticipate seeing continued improvements in aviation readiness over time.

“Our challenges to meet global demand while trying to recover readiness are increasing, and for the past few years our funding has been decreasing,” Shoemaker continued. “Said another way, demand exceeds supply and we have to rebalance that equation. America remains the leader of the free world, with the most capable military force on the planet. And we remain a maritime nation whose future is inextricably tied to the seas. Our Navy has tremendous responsibilities to ensure that future is secure and prosperous. Our greatest strength in Naval Aviation is the innovative young aviators, Sailors and Marines who consistently get the job done. These remarkably talented, patriotic and dedicated individuals are our true tactical advantage over other navies around the world.”

An MV-22 Osprey with Marine Medium Tilt-rotor Squadron 166 inserts Marines with Infantry Officer’s Course at Range 220, the Combat Center’s largest military operations on urbanized terrain facility, as part of Exercise Talon Reach. (Official Marine Corps photo by Lance Cpl. Eric Clayton)