

2016 MajGen Harold W. Chase Prize Essay Contest—Second Place

Marine Aviation Readiness

Solving the problem

by LtCol Kevin F. Murray

Recent news reports have painted a bleak picture of Marine aviation readiness. From fixed-wing squadrons unable to properly train for deployment and purportedly taking parts from museum or boneyard aircraft to MV-22 readiness at less than 61 percent, the Marine Corps' aviation fleet is struggling to make mission.¹ The news reports would make it seem that this readiness problem is Congress's fault, with reduced funding that has driven us to the point we find ourselves today.² Or, is it possible that there is a more fundamental issue in terms of how we have employed certain aviation platforms over the past 15 years in low-intensity to hybrid conflicts, far from the Cold War, near-peer adversaries of old? Regardless of the reasoning, there is a means to overcome the critical shortfall today, while avoiding the mistakes of our past. That solution is to leverage readily available, landbased medium altitude, long-endurance, tactical unmanned aircraft systems (MALET UAS) as an interim solution, which will allow our Corps time to reset aviation. Simultaneously, this solution will answer significant capability gaps for today's MAGTF and allow for the future of our Corps' ACE to become a balance between stealth platforms and low-cost, long-range, armed UAS capable of answering the Nation's call "in every clime and place."

Today, the *Marine Aviation Plan 2016 (AVPLAN)* portrays a path to fix these problems based upon what we have but ignores the fact that every

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single platform in the ACE is in a state of near emergency in terms of readiness.³ It lays out a comprehensive series of upgrades and maintenance actions to make our legacy fleet viable over time while carrying these aircraft to a point

The MAGTF today is facing a dynamic world environment ...

where the F-35 can be fully fielded, and Marine aviation will be healthy again.⁴ In recent reporting, Marine aviation lays out a vision where each airplane is a sensor and a shooter, expanding even our logistics aviation assets into multi-role platforms that can do a little of everything.⁵ However, is this truly the best path for our Corps?

The MAGTF today is facing a dynamic world environment, characterized by threats from multiple peer competitors, failing nation states, and violent extremist organizations made all the more challenging by the proliferation of advanced weapons and new

technologies that narrow the gap of our advantage over adversaries. In the past, it was acceptable to characterize aviation assets as high-cost, low-demand assets, which forced MAGTF commanders to have to make hard decisions on where to employ these limited assets. Today, however, the "new normal" of global, continuous, and increasingly more technical conflict across the range of military operations, on every continent, and in every climate, requires us to step back and take a broader perspective of the requirements being levied on the ACE.⁶ Only by understanding the reality of this new world order and then taking a hard look into how we really got ourselves into the predicament can we move forward in making the right acquisition decisions to enable the MAGTF to meet the threats of today and in the future.

A Critical Look to the Past

In truth, if we take a critical and introspective look back, we as a Corps will find that we really only have ourselves to blame for the readiness shortfall. Not to cast blame in any one direction, as every decision has been made with the best intentions, but it was the Marine ethos of "make do with what we have" which



To offset AV-8B and F/A-18 availability issues, the AVPLAN calls for the expansion of non-traditional roles, to include all our C-130 and MV-22 logistics enablers. (Left photo by Cpl John A. Hamilton, Jr., right photo by Cpl Nicole Zurbrugg.)

drove our decision-making process. Additionally, a cultural bias toward traditional manned aviation has prevented us from looking outside of “what we have” to “what do we really need across the spectrum of operations?” This combination of factors drove us to make the decisions that we have and has placed us on the current path.

To begin, let’s step back approximately 15 years. In Iraq and Afghanistan, after both major invasions, the Marine Corps decided to continue to use its tactical, fixed-wing aircraft in non-traditional roles. These aircraft, built to fight a near-peer adversary by engaging other fighters in air-to-air combat, destroying forces deep behind enemy lines, or conducting CAS in medium to high threat environments suddenly were introduced to a new mission: non-traditional intelligence, surveillance, and reconnaissance (NT-ISR).⁷ As the force transitioned from major combat operations to irregular conflict, we chose to leverage what we had vice asking the more difficult question of “what is the best tool for the job?” F/A-18 and AV-8B missions began to be flown based upon electro-optical and infrared full-motion video cameras, and thousands of sorties were flown where tactical jet aircraft never dropped a single weapon. A now famous story was that a MAGTF commander once asked, “Where is my LITENING pod?” Instead of “where is my AV-8B?”

The results of these decisions, over the past 15 years, are readily apparent.

Aircraft that were meant to be used for deterrence against near-peer adversaries and for fighting in major combat operations have found their flight life used up in the NT-ISR role fighting insurgents. Jet aircraft meant to fly fast to survive and strike robust military targets burned their life away “in the overhead” as surveillance and reconnaissance assets. C-130s, which cost even more per hour to operate, were converted to close air support and ISR roles because they could loiter for longer periods than F/A-18s, AV-8Bs, and H1s; yet, this detracted from their tanking responsibilities, aerial delivery needs on a global scale, and, ultimately, diminished these aircraft’s flight life as well.

Facing the Problems of Today

Today, even with our current readiness issues, we continue to use our limited manned tactical aviation fleet in the NT-ISR role. To offset AV-8B and F/A-18 availability issues, the AVPLAN calls for the expansion of non-traditional roles, to include all our C-130 and MV-22 logistics enablers. The question becomes, are we adding capacity to meet globally employed MAGTF requirements with the right, cost effective tools for the job?

Upgrading our entire legacy manned fleet with the multi-sensor payloads, electronic warfare suites, and connectivity via satellite communications is estimated to be around \$7 to \$10 million per aircraft, with a total bill in the billions over the next decade. All the while, we still face the increasing challenge of

high-demand aviation assets and low-density quantities. What happens when F-35s, F/A-18s, AV-8Bs, MV-22s, and CH-53s need tankers that were instead assigned to electronic warfare or armed ISR missions? Are we willing to risk MV-22 or C-130 aircrew to orbit over an objective deep in enemy territory for hours just to build a picture for the raid force en route to a target? Most importantly, are we creating decision-making space for the MAGTF commander, or are we creating a situation where difficult decisions have to be made in terms of prioritization between logistics, CAS, ISR, and long-range C²?

Unfortunately, the current plan follows the old model of making do with what we have. Both the Army and the Air Force have abandoned that tact and have moved out quickly in acquiring MALET UAS, primarily MQ-1C Grey Eagles and MQ-9 Reapers, to build armed ISR and long-range C² capacity while allowing legacy platforms to retire, such as the case of the Army’s Kiowa scout helicopter. For the Air Force, they have increased total capacity of MQ-9 to over 60 persistent combat air patrols (CAPs), which has allowed them the breathing room to refocus a majority of their fighter/attack aircraft toward threats that are more appropriately suited to their capabilities and design.⁸ Meanwhile, the Marine Corps continues to hold on to the legacy RQ-7B Shadow UAS and is beginning to field a new program of record, the RQ-21A Blackjack, which has only 50

miles of range and 30 pounds of payload capacity. While there may be a role for this platform at the tactical level, it is not armed and does little in the way of providing a suitable offset to answer the readiness issues within *AVPLAN*.

The *2016 AVPLAN* does call for the development of a new, amphibious ship-based MALE UAS that will address the cumulative set of capability gaps.⁹ However, this will take a minimum of 10 years to fund, experiment, and finally field, with a realistic initial operational capability of 2029 and an full operational capability somewhere in the mid-2030s as there is currently no existing MALE UAS that can fly from the deck of amphibious shipping.¹⁰ While this is in the development process, what adequate asset will be provided over the intervening approximately 15 years to address both legacy readiness and the near-term force gaps such as counter-UAS, ISR, electronic warfare, digital interoperability, CAS, joint terminal attack controller training, and the need to promulgate these capabilities across every MAGTF around the world, simultaneously?

As a case in point, consider the sun-down plan of our primary electronic warfare platform, the EA-6B prowler. This venerable aircraft sunsets in 2019, and the majority of the 7588 electronic warfare officer billets are being ported over to the VMU (Marine unmanned aerial vehicle) squadrons, which will only be equipped with the RQ-21A Blackjack systems, as previously mentioned. The *AVPLAN* also calls for the distribution of electronic warfare capabilities across the fleet, in the form of Intrepid Tiger II pods on Harriers, Hornets, H1s, and C-130s, assigning yet another mission that requires long loiter times, to platforms poorly designed for this role, and does little to address the other mission area gaps that begin to conflict in priority.¹¹

If everything does all missions, then nothing will do anything very well. In fact, the ACE's readiness issues are also taking their toll on the MAGTF's ability to train, so adding new missions upon these platforms will only exacerbate our entire Corps' readiness challenges.¹² Meanwhile, in contrast, Special

Operations Command has begun to leverage the 92 percent operationally reliable MQ-9 Reaper platform to conduct simultaneous cyber and electronic attack, in addition to long-range C², CAS, and multi-spectral ISR.¹³ The key to answering the ACE's readiness issues lies with investing in an interim MALE UAS capable of actually accomplishing what the EA-6B brought to the force and with the ability to expand to become much more.

A New Path Forward

With the ever increasing threats to the MAGTF, spanning across the high-end proliferation of advanced weapons technology, down to the cheap, commercial off-the-shelf capabilities, there is a critical MALET UAS requirement today that must be met immediately, regardless of land or ship basing, while we continue to build toward the future with traditional acquisitions. As we move ahead, it's time to embrace the concept of manned-unmanned teaming to enable the ACE force of today, not just the future. Our plan must refocus to leverage currently available UAS—that can operate right next to our landbased KC-130s and most tactical aviation platforms—to offset the readiness issues of our manned aviation assets. This cost-efficient approach will apply the right

tool for the right job, in the right place and time. When a MAGTF shows up in a geographic region, it will be properly equipped, trained, and additive to the joint force, not creating a food fight for limited armed ISR assets that are increasingly mission essential. Meanwhile, this additive nature of capable MALET UAS will lead to breathing room for the reset and transition of our F/A-18 and AV-8B fleets to F-35B/C.

Additionally, by focusing on installing digital interoperability capabilities into our legacy platforms and then integrating them through network data links with MAGTF specific MALET UAS, our Corps will find a new level of enhanced situational awareness and digital interoperability for our increasingly distributed units. The tailored multi-spectral sensor suite on these UAS will also allow the MAGTF commander to be proactive, vice waiting for the enemy to act, and then having to ask permission for allocation of a joint armed ISR asset. Further, this approach leverages UAS to limit risk to manned platforms from man-portable and radar guided air defense systems while providing long loiter persistence without the need of an organic tanker and comes "standard" with the same multi-spectral sensors that would have weighed down and reduced capacity of our logistics



Special Operations Command is utilizing the MQ-9 Reaper to conduct cyber and electronic attacks in addition to long-range C², CAS, and ISR missions. (Photo by MSgt Dennis J. Henry, Jr., USAF.)

platforms at far less cost. Ultimately, the key is digital interoperability, as the fleet of MALET UAS become the “tactical satellites” for the MAGTF, sharing sensor data in a fused manner across every platform and to the GCE, bringing new levels of collaboration and refining what is so special about the Marine Corps: the combined arms effect of a truly integrated MAGTF.

Notes

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