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Enabling the Future of Tactical Marine Aviation

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To
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Within Marine aviation, our sustained contributions to the current fight have necessitated a concerted effort to reenergize our commitment to readiness and preparedness as the foundations of a flexible and adaptable war fighting force. We seek to maintain capabilities across the full spectrum of conflict in order to ensure that our aging platforms and equipment seamlessly evolve into the next-generation future force characterized by integrated, cooperative, and distributed capabilities and concepts.

--LtGen George Trautman III, USMC

A newly-minted aviator arrives at his first operational squadron. With cautious confidence, he hits the ground running, ready to master the tactics that will ensure success during his first deployment. After returning from the deployment with multiple weapons dropped and air medals earned, each aviator must complete an enormous amount of training that could not be accomplished over-seas. This aviator has been in the squadron for over a year, has 500 flight hours, and has not yet completed his entry level fleet training syllabus. Being pulled in competing directions, he is eligible for individual augment (IA) billets and follow on deployments. Competing

interests hinder a squadron's ability to fully develop young aviators, who will become future instructors. If the Marine Corps continues on this practice, there will not be an instructor core capable of transitioning the community into future aircraft and missions. To realize the maximum potential of future aircraft like the F-35B joint strike fighter (JSF), changes must be made regarding individual augment (IA) timing, operational training focus, and the instructor certification process.

The F-35B

The F-35B is the most technologically advanced fighter aircraft ever procured by the Marine Corps. It is a short takeoff and vertical landing (STOVL) aircraft with an advanced electronically scanned array (AESA) multi-function radar. The F-35B will employ an electro-optical targeting system (EOTS) for long range targeting and a distributed aperture system (DAS) for thermal imaging. The DAS will include an infrared search and track sensor. The F-35B will use a digital radar warning receiver and integrated electronic warfare suite. New weapons including the joint air-to-surface standoff weapon (JASSM), AIM-9X Sidewinder, AIM-132 ASRAAM, and Storm Shadow cruise missile will be

employed. The limitations of this technology will rapidly become the pilot and not the machine. The Marine Corps must ensure that training today cultivates experts in all missions using current aircraft in order to provide future instructors who can make the leap into a more advanced aircraft.

Individual Augments

Providing individual augments are significant detractors to operational squadrons. Aviators are often tasked during their first tour to fill IA billets at critical times during their development. This may occur early in their first tour when they have not yet solidified their basic skill sets. An IA billet may come toward the end of a first tour while being considered for flight lead and instructor qualifications. These qualifications are essential for an aviator's career progression and are even more important to the Marine Corps. A well-trained, first-tour aviator will be the backbone of the squadron training effort during his second tour. Therefore, the Marine Corps must invest in these future trainers during their first tour. Individual augments disrupt an aviator's training and damages his ability to perform missions safely and with proficiency.

Aviators who are tasked with an IA billet will not seamlessly reintegrate into a squadron after returning. Currency requirements delineated in the training and readiness manual indicate how perishable an aviator's skills are. Since F/A-18 pilots are required to perform a multitude of missions, currency does not equal proficiency. An average squadron requires several months of concerted effort for one pilot to regain proficiency in the many required missions following an IA assignment. A U.S. General Accounting Office report states, "The cost to train each military pilot through basic flight training is about $1 million; the cost to fully train a pilot with the requisite operational experience can be more than $9 million."[1] The Marine Corps is not using this investment wisely by tasking these aviators to support IA requirements. Staff sizes must be scrutinized, and the number of these young pilots employed on IA billets must be weighed against the cost to future effectiveness.

Operational Training

Operational tempo is at a level where units struggle to complete training while at home. While deployment in support of combat operations is the number one priority,

the Marine Corps must aggressively train its aviators and broaden the focus of training while at home. Doug Schueler writes:

> Current operations in Iraq, Afghanistan, and around the world continue to prove the value of the aviation combat element (ACE) in Marine air-ground task force (MAGTF) operations. With high operational tempo and short turnarounds between deployments, the need for aviation training to be at peak effectiveness and efficiency cannot be overstated.[2]

Training effectively requires more than conducting air-to-ground training. Air-to-air training is an important part of the basic skill set required to transition the MAGTF to the F-35B and its multi-role capability. The maximum potential of the new aircraft will remain unrealized without pilots who are experienced in all aspects of air-to-air combat. Seasoned experts with comprehensive experience are the only way to perpetuate and instill the knowledge and skills required to fight the United States' future battles.

When the Marine Corps foregoes air-to-air training, it degrades its ability to be the nation's 9-1-1 force. The expeditionary nature of the force requires the ability to be ready for all contingencies. The Marine Corps must fully develop aviators now so that they are well-trained to

fight, and have the ability to train the next generation. General Conway states in the Marine Corps Vision and Strategy 2025 executive summary, "…our institution must also devote attention to tomorrow's threats and opportunities".[3] Marine aviation cannot afford to let it's core skills deteriorate with advanced threats in many parts of the world. An advanced threat may force the Marine Corps aviator to use skills that have atrophied or never been cultivated since the Global War on Terrorism began.

Pre-deployment training must be broadened to include a capable airborne threat. Current Desert Talon training develops current tactics, techniques and procedures employed in Iraq and Afghanistan. This program should be expanded to encompass more air-to-air skills. A broad syllabus like that of the Navy pre-deployment cycle or one similar to a Weapons and Tactics Instructor (WTI) course should be incorporated. The skills learned during these exercises will better develop aviators while providing qualification opportunities to the unit and individuals. This will be standardized using Marine Aviation Weapons and Tactics Squadron One (MAWTS-1) participation and will prepare the next generation of trainers to become well-rounded experts in their field.

To facilitate a broad scope in training, Marine

Training Officer Cells (MTOC) at the individual Marine Aircraft Groups (MAG) should be staffed properly to plan and fly more large-force exercises. These training events require a significant amount of planning, but the benefits are extensive. The MTOC must facilitate group planning the day prior, allowing the aviators flying in the event to plan using all of the available assets including tankers, strikers, fighters, and suppression of enemy air defense (SEAD). An MTOC instructor who has completed WTI or Navy Fighter Weapons School (TOPGUN) will help to impart their knowledge and increase proficiency for the entire MAG. The MTOC will bridge the gap for the average aviator who has not attended one of the schools or has not been involved in a large-scale deployment work-up.

Instructor Certification

The instructor certification process must also be modified to ensure future success. Units that deploy to the Middle East struggle to produce quality instructors because of the lengthy certification processes in place. The air combat tactics instructor (ACTI) program cripples a squadron during the approximately two-month work-up/certification process. This brings the remaining

training in the squadron to a crawl, thus hindering the through-put of well-trained aviators. The current instructor certification process also makes filling wing fragmentary orders more difficult because most assets are being used to train the prospective instructor. The certification process combined with the current operational tempo leaves the Marine Corps with a deficit of instructors to train our next generation.

Since the current ACTI program produces excellent instructors, slight modifications to the process will produce the same results with less strain on a squadron. The MTOC has the ability to ease this strain, thus allowing more qualified instructors to be produced. The MTOC instructors must be WTI or TOPGUN graduates responsible for standardization though-out the MAG. The MTOC must maintain ties with MAWTS-1 to foster standardization across the Marine Corps. For these modifications to work, MTOC instructors must have the authority to recommend qualifications to the individual squadron commanding officers.

Use of the MTOC to train ACTIs would streamline the training process while producing a quality instructor. Using the MTOC for MAWTS-1 graded events would allow squadron training officers to train a pilot and schedule

his evaluation flight with the MTOC when the pilot is ready. The current certification process requires a fully developed prospective instructor to perform a wide range of skills over a 3-5 day period. Weather, aircraft maintenance, or student performance can make this a difficult task to complete. Using the MTOC instead of a MAWTS-1 instructor would allow greater scheduling flexibility to adjust to these shortfalls. In the event of a cancellation or performance problem, the squadron can reschedule the event when the problem has been rectified. The ability to reschedule the event will allow the squadron to meet other commitments (i.e. other training, fragmentary orders) while simultaneously training the prospective instructor.

Conclusion

Training young Marine Corps aviators to become the instructors of the future is essential. If the Marine Corps continues with its current training program, the quality of aviators will decrease and knowledge and skills that take years to learn will be lost. Ultimately, these aviators must be qualified to train the future at every level: from primary to advanced, in the fleet replacement

squadron (FRS), as squadron pilot training officers (PTO), and even as MAWTS-1 or TOPGUN instructors. Aviators must be afforded the opportunity to progress in the aircraft. To accomplish this, individual augments should be carefully scrutinized and operational training expanded to encompass current and future threats. The quality of the instructor corps will be maintained, and strain alleviated on individual squadrons by giving some authority to the MTOC. This will eliminate the need for a MAWTS-1 instructor to travel to an individual squadron and allow the squadron to spread out the training over time. LtGen Trautman III points out that, "Regardless of the asymmetric threats we face, our unvarying mission remains to be the MAGTF's aviation force in readiness across the full spectrum of combat operations."[4]

2004 WORDS

Works Cited

1. Report to the Chairman and Ranking Minority Member, Subcommittee on Military Personnel, Committee on Armed Services, House of Representatives <http://www.gao.gov/archive/1999/ns99211.PDF> (30 November 2008)

2. Schueler, Doug. "Training transformation for the ACE." *Marine Corps Gazette*, vol 90, issue 10 (Oct 2006): pg 52. *Proquest,* (30 September 2008).

3. Conway, James. *Marine Corps Vision & Strategy 2025 Executive Summary.* <http://www.quantico.usmc.mil/activities/?Section=SVG> (30 November 2008).

4. Trautman III, George. "State of Marine Aviation." *Marine Corps Gazette*, vol 92, issue 5 (May 2008): pg 14. *Proquest,* (30 September 2008).

Bibliography

Conway, James. *Marine Corps Vision & Strategy 2025 Executive Summary.* <http://www.quantico.usmc.mil/activities/?Section=SVG> (30 November 2008).

"F-35 Lightning II - Joint Strike Fighter (JSF), International." Air-force Technology.com, 2008. <http://www.airforce-technology.com/projects/jsf/> (30 November 2008).

Greene, Bruce. "Tactical Aviation Instructor Training." *Marine Corps Gazette*, vol 92, issue 4 (April 2008): pg 25. *Proquest,* (30 September 2008).

Report to the Chairman and Ranking Minority Member, Subcommittee on Military Personnel, Committee on Armed Services, House of Representatives <http://www.gao.gov/archive/1999/ns99211.PDF> (30 November 2008)

Schueler, Doug. “Training transformation for the ACE.” *Marine Corps Gazette*, vol 90, issue 10 (Oct 2006): pg 52. *Proquest,* (30 September 2008).

Trautman III, George. “State of Marine Aviation.” *Marine Corps Gazette*, vol 92, issue 5 (May 2008): pg 14. *Proquest,* (30 September 2008).