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TACTICAL AIR AND LAND FORCES SUBCOMMITTEE  
HOUSE ARMED SERVICES COMMITTEE  
UNITED STATES HOUSE OF REPRESENTATIVES

PRESENTATION TO THE  
HOUSE ARMED SERVICES COMMITTEE  
TACTICAL AIR AND LAND FORCES SUBCOMMITTEE  
UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: Future Air Dominance and the Critical Role of Fifth Generation Fighters

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## INTRODUCTION

Chairman Turner, Ranking Member Sanchez, and distinguished Members of the subcommittee, it is a distinct pleasure to be here with you this afternoon. Thank you for the opportunity to discuss the importance of Air Superiority and to highlight the jeopardy our nation will face if we do not continue a purposeful modernization of the Combat Air Force (CAF). As commander of Air Combat Command (ACC), the lead command for the CAF, I am responsible for organizing, training, and equipping the Air Superiority mission. Although it's one of several roles assigned to ACC, Air Superiority carries a special importance because it is the mission the Air Force must always address first. It is instrumental to achieving freedom of maneuver on the battlefield; not only in the air above, but also on the ground, on and under the sea, and in space. It is the precondition for success. It is the primary mission that must be accomplished to effectively impose our military will and might upon an active enemy.

Military leaders, myself included, along with this subcommittee, recognize the imperative for Air Superiority and its importance in ensuring our National Defense. American-led airpower has sustained the unprecedented advantage of Air Superiority in all conflicts since Vietnam. The thoughts that we are unable to destroy an enemy target at will from the air, or that our Armed Forces are at risk from enemy air attack have not crossed the minds of our leadership in decades. General Mark Milley, US Army Chief of Staff, recently stated, “[t]he fact of the matter is...when push comes to shove and bullets are actually flying and there are peoples’ lives at stake...the United States Air Force has never failed me and it doesn’t fail the Army.” This enduring Air Force capability is provided by our airmen, their training and tactics, and our advanced aircraft, weapons, enabling systems, and battlefield networks.

However, nothing stands still in the nature of warfare and technology. Even today while we maintain Air Superiority in current areas of combat operations, we are flying near and within the weapons envelope of those that could test our dominance. The lead we have is shrinking as our near peer adversaries, and countries with which they proliferate, have developed, likely stolen, and fielded state-of-the-art systems. Highly advanced anti-access area denial (A2AD) technologies have made many formerly accessible areas contested. More and more inventories of aircraft, missiles, surface-to-air networks, and other weapons systems will soon challenge our ability to gain and maintain Air Superiority. America cannot effectively wield its military as an instrument of national power without the means to control the skies. When our means can be challenged, our ability to deter and dissuade washes away and is replaced with an adversary who sees a weakness; a weakness to be exploited and used to re-inspire thoughts of armed conflict.

As the threat will continue to evolve, so must we. Improvements and future investments are necessary to increase the capability, capacity and readiness of this indispensable mission. Limited resources, as always, will make this a challenge. Today’s Air Superiority mission rests upon a mix of fourth and fifth generation fighters, supported by a highly refined command and control network, and flown by the world’s best trained Airmen. However, balancing future capacity, capabilities, and readiness at the desired levels is near impossible within current financial constraints. ACC continues to design and advocate strategies to define requirements, increase acquisition agility, and reduce procurement timelines and life cycle costs, but these efforts can only carry so far. We are entering a period when the Joint force demands a full

spectrum Combat Air Force, one that is modernized beyond the capabilities of our opponents, with the capacity to defeat emergent threats, and ready for short notice worldwide deployment. With the proper development, investment and commitment, the US Air Force can retain and even expand our Air Superiority capabilities, and bestow upon the next generation of Airmen, Soldiers, Sailors, and Marines what our predecessors bestowed upon us – the freedom to maneuver our forces in the battlespace where we want, when we want.

## LIMITED RESOURCES

Air Superiority plays an important role not only in prosecuting combat operations, but also in avoiding them. Although deterrence is usually thought of in reference to nuclear war, or the avoidance of, it also applies to conventional combat. The goal of Air Superiority is to be so capable that the enemy chooses not to fight. Limited resources have made this more challenging to accomplish. Undoubtedly, attaining the desired capacity, capability, and readiness levels will come at a cost. It is a traditional tradeoff between short term loss, or cost, and long term gain. The payoff is more than worth the effort. Overwhelming Air Superiority will give pause to any enemy bent on aggression.

The manner in which the Combat Air Force operates is based upon the three pillars of capability, capacity, and readiness. Currently, the CAF is unable to resource all three simultaneously. Over-focus on one exacerbates challenges for the other two. The CAF has been a bill payer for the last five budget cycles which in turn hinders capabilities. This includes six consecutive years of F-35 planning cuts that will reduce combat coded squadrons from the originally planned 32 to 16 by Fiscal Year 2028. In fact, since Operation Desert Storm the United States Air Force has divested 3,000 aircraft and 200,000 Airmen. This near 50 percent reduction brought combat coded fighter squadrons from 134 to 55, and the deployment rate has not changed placing that much more stress on our Force.

Weapons advancement is also key to assuring Air Superiority. For years, we have been able to conduct first look, first shot, first kill tactics. Our more powerful and sensitive radars tracked more targets further away and our missiles had a longer range and a higher kill probability. Today our primary air to air missile is the AIM-120, a medium range missile. Originally entering service on the F-15C in 1991, the AIM-120 today is increasingly challenged by adversary counter-measures and it limits our 5th Gen aircraft effectiveness. It also carries insufficient range versus newer long range adversary missiles and will soon require recapitalization. But the capabilities of our missiles are not the only limiting factor. Global precision attack weapons lost 24 billion dollars in funding over the last 5 planning cycles, which equates to 45 percent less weapons capacity. Our aircraft lose effectiveness when they run out of munitions due to lack of magazine depth and overall inventory. We are currently delivering 4th Gen weapons from 5th Gen platforms, and even those weapons inventories are being depleted beyond the current campaign requirements. We are experiencing this first hand with diminishing munitions in our current bombing campaign on the Islamic State. The former Air Force Chief of Staff, Gen Mark Welsh stated “We need funding in place to ensure we’re prepared for the long fight. This is a critical need.”

Today's Air Force is the smallest, oldest, and busiest we have ever been. Current operations tempo and fiscal limitations are a significant impact on full spectrum readiness, and are forcing us to reduce capacity while slowing the growth of new capabilities in order to meet budget constraints. We are compelled to prioritize training and funding for assigned counterinsurgency missions at the expense of our training for high-end operations. As a result, we cannot recover surge capacity for major contingencies and meet all the global demand with ready combat forces. The bottom line is that less than 50 percent of fighter squadrons are combat ready for full spectrum operations.

Sequestration has created an extremely difficult task to balance capacity, capability, and readiness. Air Force readiness remains at historic lows, partly driven by 25 years of continuous combat operations and also contributing factors by decisions made in response to sequestration. There are potential impacts to readiness that are worrisome, but the most detrimental impact of BCA level funding will be delays to CAF modernization efforts and purchases. This will further erode the already shrinking capability gap with our near-peer adversaries and in turn increase the risk of the Joint Force.

A time of fiscal constraint is the reality. We will continue to operate with reduced resources, but this is not the first time in our storied history that we have fought through financial hardships. We also saw declines in funding during periods of the Korean, Vietnam, and Cold War conflicts. It was a problem then and is one now. But, this is also why we are and always will be the greatest Air Force the world has known. Every time we face a problem, we find a solution and that is because of the ingenuity and innovation of our Airmen. This is truly our asymmetric advantage to keep us ahead of our adversaries. American Airmen are the best problem solvers in the world. We need to give them the resources to solve this one – the future of Air Superiority, and we need to do everything in our power to keep them in our Air Force.

## CURRENT AIR SUPERIORITY THREATS AND CHALLENGES

During the Cold War, American Air Superiority had one mission and one clear adversary. In the years following the Cold War, the threat receded, Air Dominance became a buzzword, but our peers regrouped. After witnessing the lethal consequences sanctioned by American Air Superiority in multiple conflicts over the past 25 years, they grasped the reality that challenging our freedom of movement was key to slowing us down. It now comes as no surprise that our near peer adversaries' capabilities have been modernized to specifically counter and negate American capabilities. These new emergent threat systems range from 5th Gen fighters and integrated air defense systems to anti-space and standoff weapons. And whether these threats materialize in the Pacific or European AORs, they share very similar traits. Our next step in securing our ability to gain Air Superiority into the future is to counter these systems designed to counter ours.

Our shrinking capability advantage factors into adversaries' calculus – the smaller the gap, the less the deterrent. New threat surface to air systems now incorporate technologies allowing engagement at further ranges in greater numbers. The sensitivity and accuracy of these systems has also increased, calling into question the unrivalled ability of our aircraft to access anywhere at any time. Many now also claim the ability to acquire, track, and target low

observable platforms like our stealth aircraft. Today's Surface to Air Missile threat is a combination of legacy, modernized legacy, and digital systems which can be linked to enhance cooperation and efficiency. But advanced technology is not the only way capability is increased. One can look no further than 1999 when a Serbian air defense battery operating a 1960s era SA-3 system with modern agile tactics, was able to adapt to the battlespace, and acquire then shoot down an F-117.

Although aircraft are some of the most expensive and challenging systems to develop and field, our competitors have made progress in the quest to match and counter American aerial capabilities. We are witnessing the emergence of advanced aircraft such as the T-50 from Russia and the J-20 and J-31 from China, with full expectations that foreign military sales are in their future. These new aircraft may possess levels of stealth, super-cruise, and advanced passive and active sensors that can pose problems to our dominance of the skies. They are also integrating innovative data-link technology similar to ours, which coupled with the internal carriage of newly developed long range active missiles, threaten the 44 year period since our last air to air loss.

Another strategically important issue threatening our ability to conduct Air Superiority is our access to and defense of deployed locations. Russian and Chinese ballistic and cruise missile modernization programs are far more robust and survivable today than they were ten or fifteen years ago. Ballistic missiles, armed with conventional warheads, are an incredibly capable platform that can negate our ability to use airfields and runways across the world, including the PACOM, EUCOM, and CENTCOM theaters. Advanced cruise missiles now include stealth technologies and increased range, and are a potent threat, especially considering they can be launched from a multitude of platforms and locations. It is important for the United States to be able to locate these threats and neutralize them left of launch. In order to make this possible, it will be imperative to develop future programs to enable a family of capabilities that includes a new counter-air aircraft and improvements in our C2, ISR, Space, and Cyber capabilities

Our near peers have also been very busy modernizing their capabilities to threaten our enabling technologies and systems such as the electromagnetic spectrum, space, and cyberspace. The main goal of these advanced programs is the denial of communications, and this includes the ability to kinetically or non-kinetically attack our space assets, jam and confuse our tactical and strategic communications networks, and hack our computer systems. Air Superiority, especially the American version, relies heavily upon fast and efficient communications. Attacks upon our enabling systems could reduce our Air Superiority assets from a totally integrated system to individual aircraft with radars. The American doctrine of centralized control, decentralized execution could be decapitated, and we would be left with systems stuck mimicking operational tactics from the Vietnam era, where visual acquisition and identification became the norm. Our competitors realize this area is one of our greatest advantages, and denying its use could be all the leverage they need to level the playing field.

## PROCUREMENT AND DEVELOPMENT OF NEXT GEN SYSTEMS

During the 1950s our "First Offset Strategy" exploited our nuclear superiority to overcome the Soviet advantages. The "Second Offset Strategy" of the '70s and '80s focused on

stealth development, precision guided munitions and the networks that enabled them. Our Next Generation systems are critical enablers for the “Third Offset Strategy”. The Air Force will strengthen its military advantage by purposely employing this asymmetric strategy. Our next generation of systems will deliberately capitalize on our strengths and exploit adversary weaknesses. By fusing data to achieve automatic, near real-time information exchange for our combat forces, we will be able to more effectively employ current and next generation weapon systems. The F-35 is a prime example of a weapon system that is able to process large and multiple sources of data, analyze and then display it to the warfighter to create a decision advantage over the adversary. Having superior decision speed is how we position ourselves inside our adversary’s decision cycle. A fully data- integrated fleet is a critical advancement and will maximize our ability to find, fix, track, target, and engage the enemy.

Currently, the US Air Force conducts the Air Superiority mission with a mix of 4th and 5th generation aircraft. Our 4th Gen fighter fleet consists of the F-15C, F-15E, and F-16. These aircraft play a significant role in the near term, especially in the capacity realm as we have few operational 5th Gen fighters. The role of our 4th Gen fighters will diminish over time due to two main reasons. The first is they will age out and be replaced by more capable F-35s. But more pressingly, our 4th Gen fighters are more increasingly unable to operate in highly contested environments where advanced air defense systems render them ineffective. The rate at which we procure F-35s will now have a significant impact on our Air Superiority capabilities as we cannot slow the rate at which the enemy develops and fields advanced area denial systems. Mitigating the effect of which our 4th Gen fighters age is possible, but it consumes scarce resources required to field 5th Gen aircraft and develop the next generation of capabilities required in the mid-2020s and beyond.

Our advanced 5th Gen fleet consists of the small number of F-22s. These multi-role aircraft out-class every adversary aircraft currently fielded, but must be modernized to keep pace with weapon systems that will be fielded in the near future. Eventually, as the threat evolves, even our 5th Gen fleet will not be able to operate in the high end of the operational environment. Additionally, the small number of F-22s we were able to procure leaves us with a less than ideal 5th Gen capacity until F-35s grow in sufficient numbers.

The F-35 acquisition schedule and projected service life of the remainder of the fighter fleet continue to drive a requirement for 1,763 F-35As to preserve capability and capacity over time. Currently, 48 F-35s are set to be produced annually, but to address our capacity and capability shortfalls, the desired production rate is 60. Delayed F-35 procurement forces the Air Force to extend legacy aircraft and accept increased readiness risk. We must find ways to reduce the time to field new capabilities. Procurement and development of next gen weapon systems are the best use of limited funds to ensure the defense of the nation.

## CONCLUSION

The Chief of Staff of the Air Force commissioned the Air Superiority 2030 Enterprise Capability Collaboration Team (AS 2030 ECCT) to develop capability options to enable joint force Air Superiority in the highly contested environment of 2030 and beyond. One big takeaway from this study is that there is no “silver bullet”. We will need to develop a family of

air, space, and cyber capabilities to prevail in the highly contested Anti-Access/Area Denial environments of the future. Although a program is not yet in place, it will be paramount to continue modernizing our fleet, and progress to the next new counter-air aircraft that is more survivable, lethal, has a longer range, and bigger payload in order to maintain a gap with our adversaries. We will also need to continue to develop our C2, ISR, Space and Cyber capabilities. This multi-domain approach is resilient, enabling highly contested operations.

On December 27<sup>th</sup>, 1972, Major Carl Jefcoat and Lieutenant Jack Trimble launched in an F-4 Phantom call sign “DESOTO 03”. It was Lt Trimble’s 99<sup>th</sup> combat mission over North Vietnam, and would also be his last. Their Phantom had been escorting B-52s during Linebacker II. Attempting to engage an attacking MiG-21, Jefcoat and Trimble soon lost visual as the MiG disappeared into the clouds only to reappear on their tail. The MiG fired a missile that impacted their aircraft forcing them to eject. Jefcoat and Trimble became “guests of the north” as POWs in the infamous Hanoi Hilton and were repatriated several months later at the war’s conclusion. 44 years ago, DESOTO 03 was the last United States Air Force air to air loss. Air Combat Command is tasked to ensure that never changes.

The United States Air Force has provided a dominant reign of American led Air Superiority for many years. The critical need for this capability will remain as our adversaries will continue to test the might of this great nation. The United States Air Force is positioned to supply what our country demands. Proper planning, resources, and investment will ensure freedom of maneuver for our forces well into the future.

I thank the committee for their service to the country, Armed Forces, and specifically to the importance of advancing Air Superiority mission set. I have no doubt that this collaboration will continue to propel our forces and the combat output needed to properly support the needs of our combatant commanders. I look forward to a continued partnership and the success it will bear for the Joint Force and the Nation.