

NOT FOR PUBLICATION UNTIL RELEASED BY
THE COMMITTEE ON ARMED SERVICES
AIRLAND SUBCOMMITTEE
UNITED STATES SENATE

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE
THE COMMITTEE ON ARMED SERVICES
AIRLAND SUBCOMMITTEE
UNITED STATES SENATE

SUBJECT: Air Force Tactical Aircraft Programs

STATEMENT OF: Lt Gen Herbert J. (Hawk) Carlisle
Deputy Chief of Staff
Operations, Plans and Requirements

May 24, 2011

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Testimony:

Statement of Lieutenant General Hawk Carlisle, Deputy Chief of Staff, Operations, Plans and Requirements (AF/A3/5), Department of The Air Force

Senate Armed Services Airland Subcommittee

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I. Introduction

Chairman Lieberman, Ranking Member Brown, and distinguished members of the subcommittee, thank you for calling this hearing, and for the opportunity to provide you with an update on Air Force modernization efforts and other matters important to our Air Force and to the Nation. The Air Force is fully engaged in operations across the globe, including overseas contingency operations (OCO), supporting the Combatant Commanders (COCOM), and enabling them to successfully execute their missions. In the coming year, we will assess how the Fiscal Year (FY) 2012 budget request aligns with standing operational requirements and future needs of the entire Air Force. The Secretary of Defense, in the recent 2010 Quadrennial Defense Review (QDR), set four objectives to guide our current actions and future planning: prevail in today's wars, prevent and deter conflict, prepare to defeat adversaries and succeed in a wide range of contingencies, and preserve and enhance the all-volunteer force. The Air Force is vectoring to meet these objectives, balancing risk appropriately, and preparing to prevent, prevail, and preserve well into our Nation's future.

We frame our decisions and recommendations using the 2010 QDR and the Air Force's top five priorities, established by the Secretary and Chief of Staff of the Air Force. I understand your focus for this hearing will be the F-35 program and Air Force programs and plans to accommodate delays in the F-35 program. Our rapidly aging aircraft fleet drives our urgent need to balance between acquiring new inventory and sustaining our current fleet, while ensuring that conventional strike and air superiority are adequate for executing the National Military

Strategy with an acceptable level of risk. I look forward to discussing how we can match the requirements with available resources in order to execute the National Military Strategy.

II. Contributions of our Air Force

Today, the Air Force flies and fights in air, space, and cyberspace--globally and reliably--as a valued member of our Joint and coalition teams. Nearly 37,000 Airmen are deployed to 135 locations across the globe, with over 29,000 in and around Afghanistan and Iraq, as we unwaveringly do whatever it takes to prevail in today's wars. Airmen, Soldiers, Sailors, and Marines who cross outside the wire do so with the asymmetric advantage of armed overwatch, globally integrated intelligence, surveillance, and reconnaissance, combat search and rescue, and aero-medical evacuation. Last year the Air Force conducted more than 45,000 sorties supporting Operation IRAQI FREEDOM/NEW DAWN and almost 101,000 sorties supporting Operation ENDURING FREEDOM, delivered over 1.78 million passengers and 712,000 tons of cargo, and employed almost 2,580 short tons of munitions. Additionally, we have transported nearly 86,000 patients from the United States Central Command (CENTCOM) area of responsibility (AOR). An additional 57,000 total force Airmen are forward stationed overseas providing capabilities in direct support of our combatant commander requirements. And from home stations here in the United States, approximately 218,000 Airmen provide daily support to combatant commanders' worldwide operations, including standing nuclear alert, commanding and controlling our satellites, controlling remotely piloted aircraft (RPA), analyzing intelligence, surveillance and reconnaissance data and much more. On the home front, since September 11th, 2001, the Air Force has flown over 60, 700 total sorties under Operation NOBLE EAGLE, including 43,000 fighter sorties, 11,800 tanker sorties, and 1,900 early warning sorties. As a testament to the total force, the Air National Guard has flown more than 65 percent of these sorties and currently operates 16 Air Sovereignty Alert sites. As we continue to accomplish our current mission sets and plan for future threats, we must remain mindful of the increasing age and costs of operating our air fleet. Our Air Force leadership is scrutinizing programs and budgets to find acceptable solutions to meet growing demands that are competing for limited funds.

III. Fighter Aircraft Shortfalls

During the FY12 program review, the Air Force delivered to the Office of the Secretary of Defense, Cost Analysis and Program Evaluation (OSD CAPE) the Service's moderate risk fighter force structure requirement of 1,200 primary mission aircraft and 2,000 total aircraft. A comprehensive review of the current and projected force structure revealed a total aircraft shortfall of approximately 3-5% through the Future Years Defense Program. This shortfall will be mitigated through aggressive management of F-35 production, legacy fleet review and sustainment, along with selected service life extension (SLEP) and modernization programs. F-35 program status remains the key variable in the fighter force structure forecast as the Air

Force transitions to a 5th Generation fighter capability. Current Air Force mitigation options preserve decision space as we carefully monitor program status and impending decision points.

The Air Force performs regular, comprehensive fighter force structure reviews that incorporate information from fleet viability boards, ongoing and scheduled full-scale durability tests and the latest real-world aircraft engineering data. A review is currently underway and will provide modified fighter shortfall numbers within the next several months. Shortfall mitigation will include executing funded sustainment and fleet management actions for older F-16 Block 25, 30 & 32 aircraft, newer F-16 Block 40/50 service life extension and targeted modernization, and examination of the overall force structure to ensure viable warfighting capabilities are maintained.

IV. Status of Combat Aircraft Acquisition

Fighter Force

The average age of all Combat Air Force aircraft is 21.3 years. The assessment of our aircraft's longevity is complicated by the fact that we are currently flying the oldest Air Force fleet in our history and using them longer and more frequently than was envisioned during their design as a result of over 20 years of continuous combat operations. This presents considerable challenges in a difficult fiscal environment.

As we fulfill, and in some cases extend, the service lives of our aircraft it is important to ensure not only the structural integrity of the airframe, but also the aircraft's viability to perform mission tasks. Modernization will be a key piece of any force structure forecast due to the proliferation of technology and ever changing mission environment. Actions to extend and modernize the legacy fleet are a bridge to 5th generation capabilities and are not considered replacement actions.

A-10

The A-10 provides our Joint Force Commanders lethal, precise, persistent, and responsive firepower for close air support and combat search and rescue. It has performed superbly in Operations DESERT STORM, ALLIED FORCE (OAF), ENDURING FREEDOM (OEF) and IRAQI FREEDOM (OIF). However, the A-10's age and high operations tempo have taken a toll on the fleet. The A-10 fleet's aircraft availability for FY10 was 52 percent.

The Air Force plans to retain the venerable A-10 fleet beyond 2030 based on implementation of the proper care, investment, and fleet management recommendations specified by a 2006 Fleet Viability Board. The FY12 President's Budget (PB) invests approximately \$500M across the Future Years Defense Program (FYDP) for funding modernization, sustainment, and life

extension programs for the A-10. In FY07 the A-10 fleet began a robust depot-level modification. This year we begin installing “thick- skin” wings on 230 A-10s--nearly two-thirds of the fleet, and begin improving the fuselage structure. The Air Force is also modernizing 347 A-10s to the ‘C’ configuration anticipating completion by June of 2011. This upgrade includes precision engagement modifications to integrate targeting pods and digital data links into the aircraft avionics, enabling use of global positioning system-aided munitions such as the Joint Direct Attack Munition (JDAM) and Wind Corrected Munitions Dispenser. We also integrated a digital data link and advanced targeting pods with video downlink and replaced monochrome cockpit displays with color multi-function displays, installed new pilot throttle and stick controls, a moving map capability and a mass-memory upgrade. Finally, we integrated beyond line of sight radios for faster communication with ground units, forward controllers, and command and control centers. Together, these modifications will allow the A-10 to excel at close air support for the next two decades.

F-15 C/D

The F-15 C/D air superiority fighter averages over 25 years of age. The FY12 President’s Budget (PB) invests approximately \$1.1B for the modernization and sustainment of the F-15C/D fleet. We project the F-15C/D fleet will remain viable until 2025-2030 with potential for an airframe service life extension following full-scale fatigue testing. This test is underway and will conclude in FY14. The Air Force manages the fleet through scheduled field and depot inspections under an individual aircraft tracking program. For FY10, the F-15C/D’s aircraft availability was 64 percent.

We continue to modernize our F-15 fleet with Active Electronically Scanned Array (AESA) radars, and a more capable aircraft mission computer. We expect these efforts to enable the 176 F-15C/D “long-term fleet” to operate safely and effectively through at least 2025 as determined by the full-scale fatigue test. We may extend “long-term” status to the entire 250 aircraft inventory based on requirements of the future force structure.

F-15E

The F-15E fleet, with an average age of over 16 years, continues to provide support for on-going operations in Afghanistan and Iraq. Like the A-10, the F-15E performed superbly in Operations DESERT STORM, OAF, OEF and OIF. In 2009, F-15Es delivered 54% of the 2000lb JDAMs and 29% of the 500lb JDAMs employed in that area of operations. Aircraft availability for the F-15E in FY10 was 62 percent.

The Air Force will maintain and improve the F-15E’s ability to rapidly engage and destroy time-sensitive targets. The FY12 President’s Budget investment across the FYDP is approximately \$1.3B for F-15E modernization and sustainment. This includes adding secure radios for faster

communications with ground units and forward controllers, integrating the latest precision weapons to hit targets accurately and reduce collateral damage, and adding a helmet mounted cueing system that will reduce the F-15E's time to engage a target by up to 80 percent. Finally, we are adding the state-of-the-art AESA radar system that advances capabilities to identify and engage targets as well as share information with other aircraft. The Air Force expects the F-15E to be an integral part of the Nation's force through at least 2035. A full-scale fatigue test, due to be complete in 2015, will provide useful data regarding the feasibility of a service life extension.

F-16

Our multi-role F-16 comprises the majority of the fighter fleet. The FY12 President's Budget invests approximately \$858 million across the FYDP for F-16 modernization, sustainment, and life extension. F-16 fleet aircraft availability has dropped 5.5 percent since FY05. Drivers include the Falcon STAR (all blocks) structural integrity program, engine inlet ram (all blocks), lower wing skin cracking (blocks 25/30/32), and aft cockpit corrosion for two seat aircraft. We expect these drivers to continue to impact aircraft availability through FY15. F-16 FY11 aircraft availability to date is 66.6 percent. Extensive flight hours and stressing mission profiles resulted in the need for the FalconStar structural modification to the F-16. This upgrade program scheduled to complete in FY14, replaces known life-limited structural components and maintains the original design airframe life of 8,000 flight hours. Structural upgrades in the F-16 SLEP include rework and replacement to extend airframe structural service life by 25% (6-8 years).

In other inspections, maintainers have found bulkhead cracks in approximately 67 percent (428 of 642) of our Block 40/52 F-16 aircraft. 285 aircraft have been repaired and 82 aircraft had the bulkheads replaced with 1 more in progress. An additional 54 aircraft continue to fly with increased inspections to measure crack growth. Similar to the F-15, the Air Force will start conducting a full-scale durability test for the F-16 in FY11 to enable F-16 Block 40-52 airworthiness certification to be extended from the current 9,000 actual flight hours to 11,000 plus actual flight hours. The FY12 budget request adds \$15M in FY12 to begin design and development of structural and avionics capability modifications for the Block 40-52 fleet to be responsive to the Air Force's total fighter requirement. This funding is in addition to the \$10.6M requested to continue the full scale durability test.

Fifth Generation Fighters

Fifth generation fighters like the F-22A and the F-35 are key elements of our Nation's defense and deterrent capability. Hostile nations recognize that U.S. airpower can strike their vital centers with impunity which enhances all other U.S. Government instruments of power. This is the timeless paradox of deterrence; the best way to avoid war is to demonstrate to your adversaries that you have the capability and will to defeat them. The F-22A and F-35 represent our latest generation of fighter aircraft. Both aircraft are necessary to maintain a margin of superiority that

permits our air and ground forces freedom of maneuver and attack. The F-22A and F-35 each possess unique, complementary, and essential capabilities that provide the synergistic effects across the spectrum of conflict. The Office of the Secretary of Defense (OSD)-led 2006 QDR Joint Air Dominance study underscored that our Nation has a critical requirement to recapitalize TACAIR forces. Legacy 4th generation aircraft simply cannot survive to operate and achieve the effects necessary to win in an integrated, anti-access environment.

F-22A Future Capabilities & Modifications

The F-22A Raptor is the Air Force's primary air superiority fighter providing unmatched capabilities for air supremacy and homeland defense for the Joint team. The multirole F-22A's combination of speed, stealth, maneuverability and integrated avionics ensures this remarkable aircraft accesses and survives high-threat environments. Its ability to find, fix, track, and target enemy air- and surface-based threats ensures air dominance and freedom of maneuver for all Joint forces.

Similar to every other aircraft in the U.S. inventory, there is a plan to regularly incorporate upgrades into the F-22A to ensure it remains the world's most dominant fighter in the decades to come. The F-22A modernization program consists of two major efforts that will ensure every Raptor maintains its maximum combat capability: the Common Configuration Program and a pre-planned product improvement program which includes Increments 2, 3.1, and 3.2A, 3.2B, and 3.2C.

As of 6 May 2011, the Air Force had accepted 170 F-22A aircraft out of a programmed delivery of 187. We will continue to upgrade the F-22A fleet under the Joint Requirements Oversight Council-approved Increment 3 upgrade designed to enhance both air-to-air and precision ground attack capability. Increment 3.1 is undergoing FOT&E right now. This upgrades the APG-77 AESA radar for synthetic aperture radar ground mapping capability, provides the ability to self-target JDAMs using on-board sensors and allows F-22As to carry and employ eight Small Diameter Bombs (SDBs). The Air Force is fielding Increment 3.1 this year.

Responding to current threat assessments, the next upgrade will be Increment 3.2 A which will complete development in FY14. Increment 3.2 A is a software-only upgrade and provides significant additional Electronic Protection, Link 16 improvements, and a better Combat Identification capability. In the future, F-22As will receive the Increment 3.2B and Increment 3.2C upgrades which feature improved SDB employment capability, improved targeting using multi-ship geo-location, additional Electronic Protection and Combat ID, Automatic Ground Collision Avoidance System (Auto GCAS) and the capability to employ our enhanced air-to-air weapons (AIM-120D and AIM-9X). Increment 3.2B should begin to field in FY17. The current F-22A modernization plan will result in final fleet composition of 34 Block 20 aircraft used for

test and training, 63 Block 30s, 86 Block 35s, and two Edwards AFB-test coded aircraft. Both Block 30 and Block 35 aircraft will accept Increment 3.1 and beyond.

F-22A Procurement Plans

The F-22A production program is currently delivering Lot 9 aircraft ahead of scheduled contract delivery dates at a rate of about two per month. When the plant delivers the last Lot 10 aircraft in 2012, we will have completed the program of 187 Raptors. The average unit cost for the 60 aircraft in the multiyear procurement was \$142.6 million. The Lot 10 unit flyaway cost is estimated at \$153.2 million. This is \$10.6 million higher than under the multiyear procurement due to higher materiel costs for a much smaller lot buy, loss of the multiyear procurement savings in parts and labor and inflation.

F-35A

The multi-role F-35A is the centerpiece of the Air Force's future precision attack capability. In addition to complementing the F-22's world class air superiority capabilities, the F-35A is designed to penetrate air defenses and deliver a wide range of precision munitions. This modern, fifth-generation aircraft brings the added benefit of increased allied interoperability and cost-sharing across Services and partner nations. It will also serve to fulfill our commitment to NATO's dual-capable aircraft mission. The FY12 budget includes \$5.3 billion for continued development and procurement of 19 F-35A Conventional Take-Off and Landing (CTOL) production aircraft.

The F-35A program team achieved a number of accomplishments during 2010, including the first flight of the first mission systems aircraft, arrival of the first four F-35A test aircraft at Edwards Air Force Base, California, completion of F-35A static structural testing five months ahead of schedule with no failures, delivery of the first Low Rate Initial Production (LRIP) F-35As to Edwards AFB, roll-out of the second lot of LRIP F-35As, completion of 410 total F-35 test flights in 2010 of which 171 were F-35A flights, negotiation of the first fixed price type production contract (LRIP Lot 4 – 10 CTOL aircraft), and the signing of a Letter of Offer and Acceptance to procure the F-35A by Israel. Good progress continued in 2011, with the arrival of AF-7 (the second production F-35A) at Edwards AFB on 6 May, F-35A test flights tracking ahead of the plan, the beginning of LRIP Lot 5 contract negotiations, and preparing for training at Eglin AFB which is scheduled to start in late summer 2011.

The Air Force also announced the preferred alternatives for F-35A operational and training bases. Those bases are Hill Air Force Base, Utah, and Burlington Air Guard Station, Vermont for operational squadrons and Luke Air Force Base, Arizona for training. The program continues to experience challenges as it transitions from development to production despite the significant accomplishments. The Secretary of Defense announced a program restructure in

February 2010. The restructure resulted in increased funding for development and production in accordance with Joint Estimate Team II estimates, reduced procurement by 122 aircraft over the FYDP in the FY11 PB, upgraded the Program Executive Officer position from a 2-star to 3-star flag rank, extended development by 13 months, added an additional LRIP lot prior to entering full rate production, and reduced the ramp rate to less than 150 percent of the previous year's production. Program cost growth, including growth from the restructure, resulted in a critical Nunn-McCurdy breach in March 2010. The Under Secretary of Defense for Acquisition, Technology, and Logistics subsequently certified the program in accordance with the Nunn-McCurdy statute, allowing the F-35 program to continue. The DoD tasked the program office to perform a bottom-up review of the remaining development effort after the program Nunn-McCurdy certification. This Technical Baseline Review (TBR), completed in November 2010, became the basis for additional program restructuring within the FY12 PB. The TBR called for an additional \$4.6 billion to complete the Joint development effort. To fund this new development effort, and recognizing a continued lagging performance in production, the DoD reduced procurement by 124 aircraft over the FYDP in the FY12 PB, 57 of which were F-35As.

The Commander, Air Combat Command (COMACC) remains the Air Force's decision authority for declaring the F-35A's IOC. His decision will be based on achieving sufficient levels of readiness in both capability and capacity, and will not be driven by a specific date. Last June, COMACC detailed the specific capability and capacity criteria required for F-35A IOC. These included validation and acceptance of the F-35 Operational Requirements Document-compliant Block 3 mission system software through the Initial Operational Test and Evaluation (IOT&E) process. This will demonstrate the Air Force's ability to employ the F-35A in Offensive Counter Air and Suppression / Destruction of Enemy Air Defense missions in Anti-Access / Area Denied environments. In addition, Air Force pilots and maintainers must be validated as trained and ready to conduct operations, with all operations and logistical support elements ready and in place. Last June, based on this criteria, COMACC estimated the Air Force would be able to declare the F-35A IOC in 2016.

The Air Force's position on IOC remains unchanged. We will declare IOC for our F-35As based on achieving the required ORD-compliant capability and capacity criteria, and not on a specific date. We are currently analyzing the impacts to program delivery timelines due to the most recent program restructure, and the results of this analysis will be available later this year. When this analysis is complete, the Air Force will reevaluate our IOC estimate, but we currently expect up to a two year delay.

Joint Strike Fighter (JSF) Alternate Engine Program

The Air Force's position regarding the JSF alternate engine program is that a second engine is unnecessary, too costly, and risks diverting resources from production. The FY12 President's Budget does not request funding for the development and procurement of the F136 alternate

engine. The Air Force and Navy continue to execute the funding appropriated by Congress in the previous budgets to continue the F136 program.

The Office of the Secretary of Defense for Cost Assessment and Program Evaluation estimated that the Department of Defense will require approximately \$2.9 billion to take the F136 engine to competition in FY17, including development, directed buys, and the necessary logistics support. Continued funding for the F136 engine carries cost penalties to both the F135 and F136 engines in the form of reduced production line learning curves and inefficient economic order quantities. The department concludes that maintaining a single engine supplier provides the best balance of cost and risk. We believe the risks associated with a single source engine supplier are manageable due to improvements in engine technology and do not outweigh the investment required to fund a competitive alternate engine.

V. Aviation Safety

The Air Force continues to pursue safety excellence in order to preserve the assets required to execute our mission. The Secretary of Defense goal for 2012 is to reduce by 75 percent the 2002 statistics for Class A mishaps and fatalities, and the number of aircraft destroyed. Last year, the Air Force incurred 14 Class A mishaps, the fewest in the last decade, and as of May 17, 2011 has incurred 8 Class A mishaps. In 2010, the Air Force incurred 8 aircraft losses, and one to date in FY11. The Air Force will continue to place a heavy emphasis on safety in order to meet or exceed the established goals.

VI. Closing

The Air Force stands ready to win today's Joint fight and plan for tomorrow's challenges. We are committed to working together to determine the right procurement, sustainment and retirement strategy to remain prepared for the current fight as well as posturing for future demands. Dominance of air, space, and cyberspace continues to be requisite to the defense of the United States. USD/AT&L, Ash Carter testified that: "I support, as does the Secretary, the initiatives the Congress directed when it unanimously passed the Weapon Systems Acquisition Reform Act (WSARA) of 2009. Acquisition reform is one of the DoD's High Priority Performance Goals presented in the Analytic Perspectives volume of the President's FY 2011 Budget. The Department is moving out to implement these initiatives." The Air Force TACAIR Program actions described above are consistent with WSARA implementation and DoD's Acquisition Reform goal. We appreciate your continued support and look forward to working in concert to ensure our decisions enable us to strengthen our Air Force to meet future requirements.