



U.S. AIR FORCE

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# Public Affairs Guidance

F-35A

## 1. PURPOSE: Provide guidance to Airmen on the F-35A in order to:

- 1) Articulate the capabilities of the aircraft and explain it is a capability warfighters must have (explain why we need the F-35)
- 2) Debunk false narratives and inaccuracies reflected in news media reporting; and
- 3) Emphasize the importance of the Air Force fielding the capability and having the capacity to best support combatant commander needs.

**2. BACKGROUND:** The Air Force program of record is 1,763 F-35As. Acquiring the F-35 is imperative to the future capability of the Air Force and its ability to meet the projected needs of combatant commanders. Recapitalizing our aging legacy fleet of 4th generation fighters with 5th generation capabilities of the F-35 is an imperative. Due to pre-2010 setbacks in the program and perceived performance setbacks, narratives have emerged in the news media stating the aircraft is too expensive, consistently behind schedule and is not able to achieve its' stated missions. Air Force communicators must be prepared to consistently confront these inaccurate narratives with explanations of the aircraft's unique and critical contributions to the joint warfighter with accurate understanding and assessment of the program's developmental progress.

The F-35 will provide the joint warfighter unprecedented levels of survivability, lethality, and situational awareness, allowing them to fight and win in the emerging highly contested threat environments. It is important to help U.S. and international audiences understand why investing in the F-35 is a defense priority while highlighting the lethality, survivability, and adaptive attributes of the F-35. Lethal, survivable, and adaptive should be incorporated into F-35 communication efforts.

## 3. POSTURE: Active

SAF/PA will:

- a. Create and execute overall Air Force-wide communication plan by October 2015.
- b. Provide MAJCOMs and bases with Public Affairs Guidance
- c. Engage with national level news media and opinion leaders in the national capital region
- d. Provide guidance and assistance concerning national-level media attention at other locations

MAJCOM/PA should answer queries within the scope of this guidance and identify/coordinate with proper sources to respond to questions outside of it. MAJCOM PA should work with their wings to identify and execute stories. SAF/PA should be informed of national and international stories by MAJCOMs prior to execution.

Wing/PAs offices should support the objectives of this guidance by sharing F-35 information, anecdotes and success stories as they occur, both locally and up the chain through their MAJCOM up to SAF/PA. Wing PA offices will write internal stories for posting to their websites, engage their community leaders and support local, national and international media engagements in coordination with their MAJCOM and SAF/PA. Wings will also identify pilots and maintainers who are proficient at telling the F-35 story and are willing to lend their name and image to the effort. Names of identified Airmen will be provided to their MAJCOM and in turn to SAF/PA.

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**4. AUDIENCES:**

- a. National news media
- b. U.S. lawmakers/policymakers
- c. Opinion leaders
- d. International publics, especially F-35 partner nations
- e. Airmen

**5. Communication End State:** U.S. opinion leaders, the American public and international partners are reassured and have confidence in the capability and can articulate why the F-35 is required for national defense.

**6. THEMES AND MESSAGES:**

**6a. WHY WE NEED THE F-35 – LETHAL, SURVIVABLE and ADAPTIVE**

Air superiority is a critical precondition to successful military operations. Without air superiority, you lose not only the battle in the air, but also on the surface. Owning the skies is a crucial precondition for winning the fight. The F-35 provides our joint ground forces freedom from attack and freedom to maneuver while simultaneously holding the adversary's most heavily defended targets at risk. Losing this advantage in the air directly results in increased losses of U.S. and joint forces, both in the air and on the ground. The F-35 allows the U.S. to maintain this advantage by replacing legacy F-16 and A-10 fleet with superior 5th generation capability optimized for global precision attack, while complementing the air superiority capabilities of our F-22s and F-15s.

**Why the F-35 is Needed:**

- **Aging Fleet**
  - Today's Air Force is the smallest, oldest, and busiest it has ever been.
  - The Air Force has not acquired new fighter aircraft in significant numbers since the early 1990's.
  - The average age of the fighter fleet today is 27 years old, often older than the pilots who are flying them.
  - Our legacy fleet remains less survivable in an emerging threat environment.
- **The Emerging Threat Environment**
  - Emerging air-to-air and surface-to-air threats and an aging fleet have threatened our air superiority advantage in highly contested operational environments.
  - The threats we will face in the future are evolving in complexity and capability, and we are seeing these Integrated Air Defense System (IADS) capabilities proliferate world-wide into increasing numbers of future highly contested threat environments.
  - These advanced IADS require an increased level of survivability. Stealth improves the F-35's survivability.
  - We are seeing new potential adversary fighters currently fielded or in development, equipped with improved and advanced aerodynamic performance, weapons, avionics, and electronic warfare/jamming capabilities designed to counter our own fleet.
  - Potential adversary Early Warning and Target Tracking radars are now equipped with digital and more agile signal processing and improved electronic protection capabilities. They are integrated into robust command and control/air defense systems that can find and track increased numbers of air targets at a greater range.

- Strategic and tactical surface to air missile systems are increasing in range, maneuverability, target tracking, and lethality.
- U.S. legacy 4th generation aircraft cannot operate and survive in a highly contested environment. The F-35 provides the joint warfighter 5th generation fighter capability with unmatched levels of survivability and lethality to ensure the U.S. will continue to successfully provide air superiority and global precision attack in these threat environments.
- The F-35 provides a capability to penetrate a high-end threat environment and evolving threats.
- We are operating in a dynamic threat environment, this aircraft provides the best technology to increase survivability for the warfighter.
- **Proliferation of advanced threat capabilities; Near-Peer competitors**
  - The U.S. technological advantage is shrinking as other countries continue to invest in technology that is on par or better than our legacy fleet.
  - Potential adversaries are exporting their most current technology and top-end aircraft to various countries around the world in the next three to five years. If we end up fighting against that equipment in the future— 2023, 2025 and beyond—it will be better than anything we have today. The F-35 provides a 5th generation capability that ensures the advantage remains on our side.
- **5th Generation versus 4th Generation: Enables the Ability to Operate in High Threat Environments**
  - The F-35 has the 5th generation capabilities needed to achieve unmatched levels of survivability and lethality required to maintain the advantage against new and evolving threats.
    - 5th generation capabilities include: advanced stealth, improved electronic attack and electronic protection, and fused/networked sensors for enhanced situational awareness. These capabilities combined with traditional fighter characteristics of speed, maneuverability, and precision weapons ensure the required capability to win in a high threat environment.
  - Our legacy fleet of 4th generation aircraft offers little margin in capability advantage over current and future adversaries.
  - Legacy aircraft are also rapidly approaching the point where adding new capabilities will no longer guarantee success.
- **We fight as a coalition**
  - For the last few decades of war we've been fighting as a Coalition team. From the technology to the training to the fight, the F-35 makes us a stronger Air Force and a better, more fully integrated joint and coalition team.

## **6b. THE ATTRIBUTES OF THE F-35 – LETHAL, SURVIVABLE, AND ADAPTIVE.**

**Overarching Message:** The F-35's design is optimized to leverage specific capabilities and effectively accomplish a wide variety of mission sets. At full maturity, the multi-role F-35 will bring more lethality, survivability, and flexibility to combatant commanders than any other fighter platform.

- **Coalition interoperability**
  - From the start of the F-35 program, we have included international partners in the design, development, and production efforts of this critical new 5th generation fighter.
  - This interoperability allows for cost-sharing between the services and partner nations.

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- This partnership spans three U.S. services and eight international partners, the F-35 fosters international cooperation. U.S. F-35 partner nations include: Australia, Canada, Denmark, Italy, Netherlands, Norway, Turkey, and United Kingdom. Current Foreign Military Sales countries are: Israel, Japan and South Korea.
- Data collected by sensors on the F-35 will immediately be shared with commanders at sea, in the air or on the ground, providing an instantaneous view of multi-mission operations.
- Twenty percent of the aircraft parts are manufactured in the partner countries; this raises the investment of our international partners to a different level. Besides their militaries, their industry and economies are invested in the aircraft before it even flies, leading to unprecedented layers of international cooperation.
- **Stealth/Low-observable**
  - The F-35's low observable stealth allows it to safely enter areas without being detected by radars that legacy fighters cannot evade.
  - Low observable technologies reduce the signature of the aircraft. These technologies need to be built into the aircraft from the outset. They cannot be simply be added onto legacy platforms.
  - The F-35 is designed to be comparable to current tactical fighters in terms of maneuverability, but the design is optimized for stealth. This will allow it to operate in threat environments where other 4th generation aircraft could not survive.
  - The vast majority of enemy fighters will likely never know they were targeted by the F-35 until weapon impact.
  - In early operational testing, the F-35 has successfully interrupted 4th generation fighters' ability to identify, target and engage, making it more survivable and lethal.
- **Shared Situational Awareness through Fusion**
  - The "fusion" gives pilots the ability to see everyone and everything before an adversary knows we're there.
  - Without fusion, the pilot would have to use multiple sensors on different screens to build a mental picture and then decide which threat to attack, what threat to avoid, and what munition to use.
  - This provides pilots the ability to decide and act on the current tactical situation much faster than previously possible in any fighter aircraft, giving our pilots an extreme advantage.
  - Multiple sensor fusion and integrated avionics give pilots the ability to quickly and fully understand the environment through a 360-degree view of the battlespace – this does not exist in 4<sup>th</sup> –Gen aircraft, where the information comes in several separate feeds, and the pilots have to piece the information together themselves.
  - Going into the future, the F-35 will provide the warfighter unprecedented situational awareness and the required survivability to fight and win in highly contested environments. As an Airman, it is the capability warfighters deserve.
- **Electronic Attack**
  - Advanced electronic warfare capabilities enable the F-35 to locate and track enemy forces, jam radars and effectively disrupt attacks. The system allows the F-35 to reach well-defended targets and suppress enemy radars that threaten the F-35 and all other friendly aircraft.
  - The F-35's advanced stealth and built-in electronic warfare capabilities enable unprecedented battlefield access without the need for dedicated electronic attack support aircraft.



## Addressing Criticisms: Maneuverability

- The F-35 is not the F-22, but is comparable in maneuverability to other 4th generation fighters. Its design is optimized to leverage specific capabilities and effectively accomplish a wide variety of mission sets. At full maturity, the multi-role F-35 will bring more flexibility, survivability, and lethality to combatant commanders than any other fighter platform.
- The F-35's maneuverability combined with its low observability, enhanced situational awareness, mission systems, and advanced weapons payload will allow the F-35 to freely operate in threat environments legacy fighters could not survive in.

## 7. QUESTIONS/CRITICISMS AND RESPONSES:

### Q1. Isn't this aircraft too expensive?

A1. Because of development cost, all aircraft acquisitions are more costly in the beginning. The F-35 costs have dropped steadily since the beginning of the program and will continue to do so. Unit costs have dropped by 57 percent since the procurement of the first production aircraft. A single F-35A with an engine is now \$108 million (\$4 million lower than previous lot 7 prices) – this trend should continue as we sign lots 9 and 10; we are very close to having an F-35A that costs less than \$100M. In 2019, the target is \$80M or less per aircraft. That will make the F-35 comparable in cost to any 4th generation fighter. To maintain the steady decline in price per unit, the program of record numbers and advanced procurement contracts need to remain intact.

To maintain our air superiority advantage, it is a national imperative to recapitalize our aging legacy fighter fleet with 5th generation capability that ensures lethality and survivability against emerging high end threats. There are countries developing aircraft and air defenses that will require a robust 5th generation capability--- they have the ability to deny us and our allies the freedom to operate. As incredibly as the F-15, F-16 and A-10 aircraft have performed over the past decades, they and their pilots will be severely tested to survive against emerging threats.

### Q2. I heard this aircraft can't dogfight, and it's not maneuverable. Is that true?

A2. Both operational and developmental testing continues for the F-35. It is too soon to draw any final conclusions on the maneuverability of the aircraft. The F-35 is designed to be comparable to current tactical fighters in terms of maneuverability, but the design is optimized for stealth and sensor superiority. News reports on the F-35's performance against an F-16 was an early look at the F-35's flight control authority software logic, and not an assessment of its ability in a dogfight situation. Operational test pilots are just beginning to develop the tactics, techniques, and procedures our operational fleet will employ to exploit the F-35's advantages.

The F-35's technology is designed to engage, shoot, and kill its enemy from long distances, not necessarily in visual "dogfighting" situations. There have been numerous occasions where a four-ship of F-35s has engaged a four-ship of F-16s in simulated combat scenarios and the F-35s won each of those 4 v 4 encounters because of its sensors, weapons, and stealth technology. The F-35 has been optimized for the current trends in air warfare, where the enemy is engaged and defeated from long distances.

The F-35 is designed to provide maneuverability comparable to our legacy fighter fleet. Combining this with its inherent low observable survivability, enhanced situational awareness, unmatched mission systems, and advanced weapons payload will allow the F-35 to freely operate in threat environments legacy fighters could not survive.

**Q3. I heard this aircraft is constantly behind schedule. True?**

A3. The program had some setbacks in the early years, however the program underwent a re-base lining in 2012. Since then, the F-35 Lightning II program has met the timelines of all major milestones. The fleet has flown more than 38,000 flight hours, completed more than 65 percent of its Test Program, trained more than 200 pilots and 1,800 maintainers, and delivered more than 120 jets – including the first seven international aircraft. Of this number, the Air Force is currently flying more than 74 F-35As. These airplanes are flying daily, verifying the aerodynamic and mission systems performance, completing night flights and refueling operations, dropping munitions (in testing), and testing the unique aspects of the three different variants.

Bottom line is that we are flying, testing and maintaining this aircraft daily. We're capturing and building upon these lessons to ensure a solid foundation that will serve the Air Force for the next 50 years. We are on track for IOC in late 2016.

**Q4. This aircraft can't replace the A-10. Can it really do the CAS mission? It can't loiter like the A-10 can.**

A4. While designed for the precision attack role, one of its missions is close air support. It does not do CAS in the same way as the A-10, which has a great record of being a reliable CAS platform in a low-threat, less intense environment. The F-35 will be able to perform that mission in a more contested environment than the A-10, and will be able to respond much faster, arrive on station sooner with much more situational awareness of the current battlefield situation, allowing faster weapons employment in support of our ground forces.

**Q5. Why are we sharing this technology with so many internationals? Aren't we sharing too much information?**

A5. The U.S. typically fights its wars as a coalition, and rarely conducts major military operations unilaterally. We've fought in coalitions with our partners throughout modern history, and that will continue into the future. Based on lessons learned from previous air campaigns, we know a common operating system, not only providing interoperability from the start, but also a more lethal and survivable platform – and that is the true measure of success in any fight. The F-35 enables us to fly and fight with common capabilities, tactics, and resources. It is an automatic force-multiplier.

**Q6. I heard the helmet is too big and heavy and cumbersome and doesn't work well. Is that true?**

A6. While the current F-35 helmet weighs a little more than legacy helmets with Helmet Mounted Devices, its design is optimized with a better center of gravity. Our pilots report it is actually more comfortable than legacy helmet systems.

The F-35 HMDS provides pilots with unprecedented situational awareness. All the information that pilots need to complete their missions – through all weather, day or night – is projected on the helmet's visor. Additionally, the F-35's Distributed Aperture System (DAS), streams real-time imagery from six infrared cameras mounted around the aircraft to the helmet, allowing pilots to "look through" the airframe.

**Q7. The helmet has a price tag of \$400,000 per unit. Why is it so expensive, and what does it do?**

A7. The unique abilities introduced by the F-35's helmet are a significant leap forward for the fighter community. While the interface is certainly valuable, the true merit of the helmet is found in its integrated night vision and High Off-Boresight System. The helmet streamlines functions within the cockpit and enables the pilot to wield the significant sensor suite available on the F-35 with ease. The ability to activate night-vision or

IR imagery with the press of a button, or to target a ground marker with a turn of the head, is a major advancement that will return precious seconds during combat sorties.

**Q8. Is it true the F-35 will be equipped for a nuclear mission? What is the current timeline and/or plan for integrating the F-35A with nuclear weapons?**

A8: The F-35A will have the ability to be configured to carry nuclear-capable weapons. For the Air Force, detailed timelines will be built during F-35 Follow-on Development planning. The F-35 program is targeting a configuration for initial release of a dual-capable U.S. Air Force F-35A in late 2021. In addition to integration efforts the program must also accomplish unique weapon certification tasks which will continue into the 2025 timeframe.

**Q9: Will the F-35 be able to fly in all weather conditions?**

A9: The aircraft will train and operate in both optimal and inclement weather conditions. Only extreme weather conditions will halt operations.

**Q10: What is the current mission capable rate of the F-35?**

A10: This is the first year the mission capable rate of the F-35 is being tracked and reported. This year's rate is reported as 67.91% with 59 aircraft at an average age of 1.6 years, which is based on current flight training requirements and may not reflect future mission capable rates. On three separate occasions over the past year, the Air Forces' F-35A fleet exceeded its mission capable rate of 70 percent, which is extremely impressive for an airframe still in development. Overall, the F-35 mission capable rate is on par or better than the rates experienced by our legacy fleet during their development. This has allowed the Air Force to meet, and in some cases exceed, or operational flying requirements.

**Q11: I hear that there is a new weight restriction for the pilots who fly the F-35, and some pilots are now grounded. Is that true?**

A11: On 27 August 2015, the U.S. Services restricted F-35 pilots weighing less than 136 pounds from operating the aircraft due to an increased risk of injury that could occur in a low speed ejection. This is an ejection seat issue and is not related to the differences between the Gen II and Gen III helmets. The weight restriction currently affects at least one F-35 pilot. All F-35s use the same Martin Baker US16E ejection seat system. The safety of our pilots is paramount and the F-35 Joint Program Office, Lockheed Martin, and Martin Baker continue to work this issue with the US Services and International Partners to reach a solution as quickly as possible.

**Q12. At a press conference a reporter asked the CSAF: "I heard there may be a demonstration or exercise in the future that puts the A-10 directly against the F-35 in demonstrating the ability to perform close air support. Is that true? Is there going to be some head to head demonstration to show what the F-35 can do compared to the A-10?"**

A: The question was not framed in the context of comparison testing in a formal IOT&E program. Testing is the only way to ensure a new weapon system meets the requirements we established. The question was asked in the context of the current budget debate about A-10 divestiture and seemed to refer to a new proposal by an unnamed source to do a "head to head comparison." Without the proper software configuration and related mission capability, it would make no sense at all to conduct such a test. The reporter was not asking about tests that were part of a broader comparative testing effort included in the comprehensive IOT&E program years from now. We will continue to test the F-35's capabilities as they come on line. We're confident the result will validate F-35 mature CAS capabilities before reaching FOC. Any comparison with the F-35 must be part of a

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more holistic assessment of our CAS enterprise beyond just a fly-off between one aircraft vs another. A comprehensive, formal testing program will ensure we continue to evolve in this critical mission.

**7. POINTS OF CONTACT:**

Questions concerning this PAG should be directed to SAF/PAO at (703) 695-0640.

