

Congress of the United States
Washington, DC 20515

July 22, 2022

The Honorable William LaPlante
Under Secretary of Defense for Acquisition and Sustainment
3010 Defense Pentagon
Washington, DC 20301-3010

Dear Secretary LaPlante,

We write today to express our concerns regarding the Air Force's proposed plan to pursue an alternative engine for the Air Force F-35A variant of the Joint Strike Fighter (JSF). In recent testimony to the House Armed Services Committee, the Secretary of the Air Force, Frank Kendall stated that the Air Force was pursuing a costly, risky, and unproven Advanced Engine Technology Program (AETP) engine as a *replacement* for the existing F135 engine.

Twenty years ago, after extensive development and a full and open competition, the Department of Defense awarded a contract to Lockheed Martin to develop and build the Joint Strike Fighter (JSF) powered by the Pratt and Whitney F135 engine. For years, some in Congress continued to fund an unnecessary alternative engine. The Department and the administrations of both Presidents George W. Bush and Barack Obama repeatedly said it was not needed and did not request funds for its development. President Obama went as far as to threaten to veto any budget with an alternate engine in it. At that time, then Air Force Chief of Staff Norton Schwartz testified to the House Armed Services Committee: ***“the alternate engine is not for anybody else but the Air Force. The Navy isn't going to operate an alternate engine aboard ships. The European partners are not going to operate two engines. You're talking about focusing this on your Air Force, which is problematic in my view.”*** In 2011, when a broad, bipartisan majority in Congress voted to cancel a second engine for the F-35, it saved the taxpayers upwards of \$3 billion.

This time, the Air Force has acknowledged that this is a costly and challenging endeavor that will cost at least \$6 billion just to get the engine through development and into production. Furthermore, we understand that the Navy, Marine Corps, and the international partners have not agreed to share costs to develop a replacement engine, nor has the Department established any requirements agreed to by the U.S. Services and our partners.

Additionally, the cornerstone of the JSF program has been, and remains, commonality. To enable global common maintenance, training, and supply chains, the JSF program relies on a common airframe platform featuring different variants capable of a service's unique mission and powered by a common engine across our Military Services and international partners. This commonality would optimize joint operational effectiveness while creating economies of scale to control sustainment costs.

It is our understanding that the Advanced Engine Technology Program engine is not variant common. It is significantly heavier than the current engine, requires substantial airframe modifications to fit into the F-35A and the F-35C, and, as designed, cannot fit into an F-35B. Last year, Lieutenant General David Nahom testified before the House Armed Services Committee: ***“We are going to struggle, as an Air Force to bring this to any kind of operational capability, because we got the significant investment to get this (AETP) technology, but there's another significant investment that's needed to integrate this into the F-35.”***

We also have significant concerns regarding the risks to pilot safety that would come with replacing the F135 with an unproven technology in the single-engine F-35. The F135 is the safest and most capable fighter engine ever produced. There are currently almost 800 F-35 aircraft powered by the F135 in service being flown globally by 14 US and international partner services. They have logged over 500,000 flight hours and conducted 300,000 sorties to date. To our knowledge, the Department has never put a new centerline engine in a single-engine aircraft without twin-engine learning or combat experience. We believe the risks associated with this must be carefully considered to protect the safety of our pilots.

Furthermore, the F135 has outperformed its original specifications, including bleed air draw and time on wing, enabling it to support three major airframe and payload upgrades without engine modernization. At the same time, the average engine cost has been reduced by more than 50% to date. Meanwhile, the U.S. Services have spent over \$7 billion upgrading the airframe and payloads. The current engine can support the upcoming Block 4 air vehicle and payload upgrades, however, there will be an impact to engine life and increased sustainment costs as a result.

Modernization of an existing fighter jet engine is a normal occurrence as capabilities and requirements change and does not warrant the risk and cost of a complete engine replacement. The F-35 program is already the most complex and expensive program ever undertaken by the Department. As the program begins to shift from development and production to long-term sustainment, we believe that now is not the time to initiate a complete engine replacement program.

Recognizing that F135 modernization would enable greater capability, durability, and affordability, in September 2020, the Joint Program Office (JPO) contracted with Pratt and Whitney to develop modernization options known as the Enhanced Engine Package (EEP). Congress included \$120 million in FY22 for the development of EEP. It is our understanding that the EEP solution would deliver double-digit improvements in range, thrust, and thermal management capacity that meet or exceed Block 4 requirements. EEP utilizes the existing sustainment infrastructure, maintains commonality across the U.S. Services and our international partners, and is a weight-neutral, drop-in solution that is projected to save \$40 billion over the life of the program.

We are also concerned with how a major change to the F-35 program, such as a replacement engine, will impact the industrial base. To our knowledge, neither the Air Force nor the Department has done an analysis of the impact on the industrial base of ending the current F135 program in favor of a replacement engine. Nor have we seen any comparative analysis that

lays out the impact this proposal would have on the JSF's commonality to achieve operational objectives or ensure an affordable long-term sustainment system.


We understand that this is an Air Force proposal that has not yet been approved by the Department, the Joint Program Office the other U.S. Services, or our partners. However, we are unclear as to what the Department's decision-making process is regarding this significant issue.

Therefore, we would respectfully request your response to the following questions:


1. What is the process and timeline to reach an agreement on a defined requirement for propulsion modernization, and what role will the Joint Staff, the Office of the Secretary of Defense, the other U.S. Services, and our international partners play in that requirements process?
2. Does the Department intend to conduct an independent comparative analysis and cost assessment of the F135 engine modernization options? If so, will such assessment include engine, air vehicle modification, and sustainment costs over the life cycle of the program? Will it consider the impact a bi-furcated or tri-furcated fleet will have on the Navy, Marine Corps, and our international partners?
3. Does the Department intend to conduct an industrial base impact analysis on the impact of all propulsion modernization options as part of the decision-making process and if so, how will that be factored into the decision-making process?
4. As the Department evaluates replacing the engine for the F-35 Program of Record, is a similar evaluation on the air vehicle under consideration?

Mr. Secretary, we appreciate your attention to our request and look forward to your reply. Thank you for your service.

Sincerely,



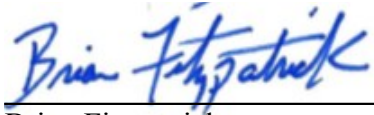
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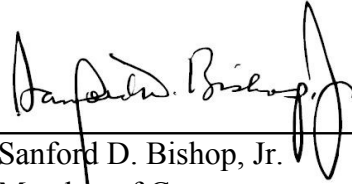
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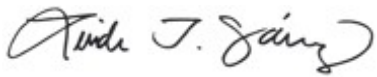
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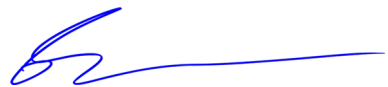
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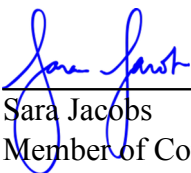
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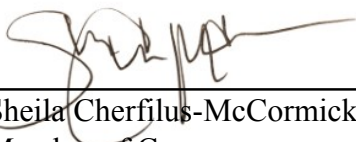
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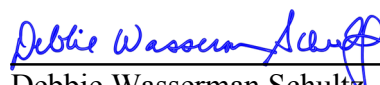
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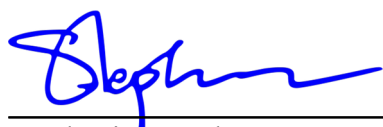
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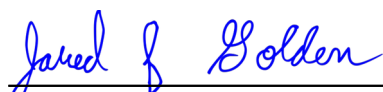
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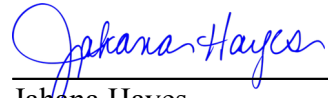
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