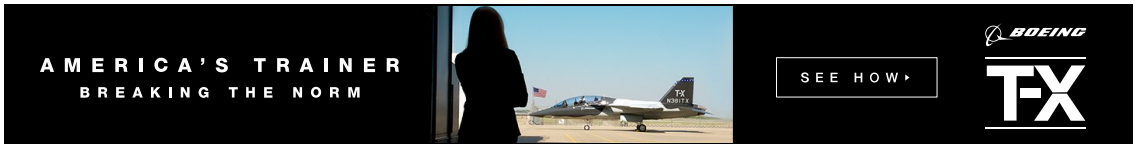

Spirit AeroSystems Brings B-52 Legacy Experience to Re-Engine Effort

Sponsored by Spirit AeroSystems *Sep 17, 2018*

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The U.S. Air Force's desire to keep the venerable Boeing B-52 Stratofortress operational to 2050 and beyond is driving momentum to finally replace the nearly 60-year-old engines which power America's fleet of 76 B-52Hs.

In late 2017, the service laid out preliminary requirements for equipping the bomber with new engines. Today, eight Pratt & Whitney TF-33-PW-103 engines power each B-52. Sustaining them will not be possible past 2030, according to the USAF.

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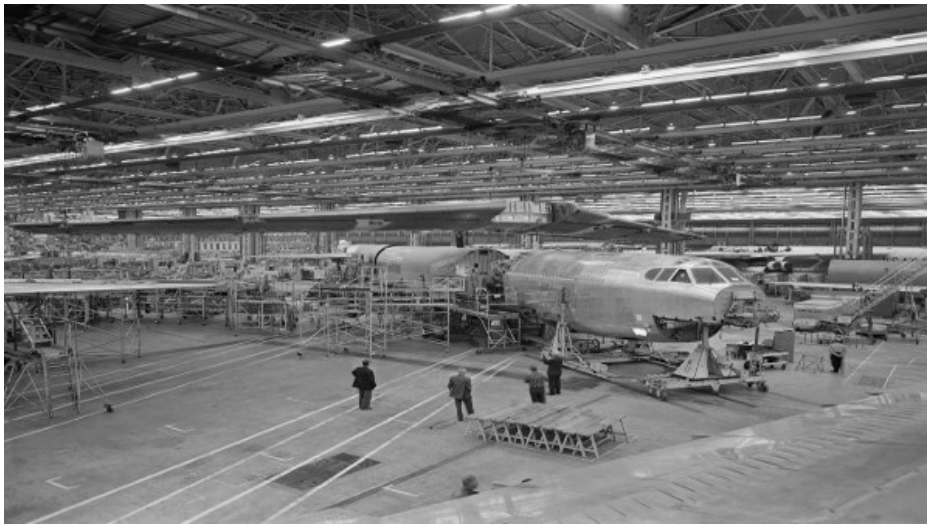
The Air Force has determined the best course is to maintain the eight-engine configuration on each aircraft rather than adopting a four-engine solution. Keeping eight engines will make it easier to maintain the aircraft's take-off performance and the weapon release envelope. It also means new engines can be integrated without having to significantly rework the B-52's wings, although the service expects some design changes to structures such as struts and nacelles.



All of the B-52Hs flying in the Air Force's current inventory were manufactured in the same plant Spirit AeroSystems – a leading producer of complex aerostructures – occupies today. The company's Wichita, Kansas, headquarters were part of Boeing's Wichita Division until the airframer sold the operation in 2005; employees who have supported the B-52 through the years are still employed at Spirit today.

A trio of engine suppliers – Rolls Royce, General Electric and Pratt & Whitney – will

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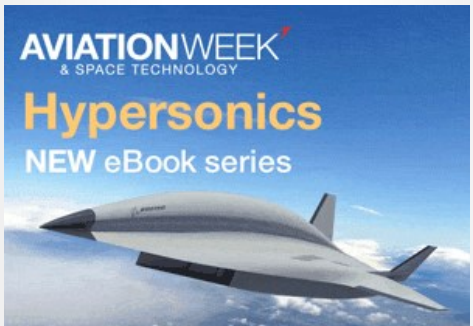


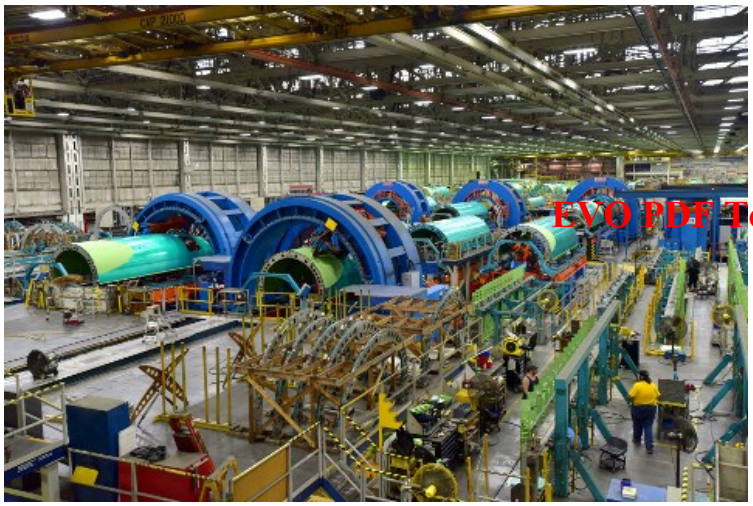
likely compete to provide the new B-52H powerplants. Spirit has extensive experience working with engine manufacturers as the company provides integrated engine structures such as struts and pylons for every Boeing commercial airplane currently in production, as well as nacelle/thrust reversers on the 737 and 777 family – demonstrating Spirit's ability to integrate with any engine offering.

"Obviously, we have a strong relationship with Boeing," states Krisstie Kondrotis, Spirit's senior vice president of Defense Programs and Business Development. "From knowledge of and experience in a multitude of material systems to the design and manufacturability of a structure, we have many lessons learned that we can apply to the B-52H re-engining effort. We have delivered thousands of struts, pylons and nacelles over the years and are continually investing in and implementing new technology and manufacturing methods to meet the needs of both older platforms and new airframes in development."

She adds that the company's experience in design, manufacturing and integration of fuselages, wings, nacelles/thrust reversers and pylons for the Boeing 767, 787, 737 and 777 family highlights both its design capabilities of advanced and complex composite and metallic structures as well as systems integration capabilities. This expertise and commercial approach connect well with the drive toward leveraging the experience of a commercial industry base into a defense acquisition.

"That's definitely an area Spirit can add value," Kondrotis says. "We have a long history of taking commercial best practices and experience and applying them to our defense programs."

On the defense side, Spirit provides structures for Boeing's P-8A and KC-46A Tanker, Lockheed Martin-Sikorsky's CH-53K, Bell's V-280 and is a named supplier on the Northrop Grumman B-21 Raider program.



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Among the proposed B-52 engine solutions is Rolls Royces' BR725. Spirit has worked extensively with this engine; designing, manufacturing and integrating the nacelle and thrust reverser, performing engine build up and podding, and delivering the fully integrated system to Gulfstream for the G650. The relationship with Rolls Royce stretches back a decade, a brief continuum compared with the acumen possessed by Spirit AeroSystems' tenured sheet of metallic and composite mechanics, structural design and manufacturing engineers as well as operations management, whose combined skills are unsurpassed.

Spirit's expertise in an extensive list of material systems as well as thermal and acoustics expertise are competitive advantages, but its trump card is its in-house design and build capability using a proprietary process called "Spirit Exact," which ensures producibility of structures built to the highest quality at an affordable cost.

"We provide not only the structures but a turnkey solution to the OEM," Kondrotis affirms. "In a program the size of the B-52H re-engining that will be very important."

Article By Eric Tegler

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