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## Photo Release

**AIR POWER FOR THE 21<sup>ST</sup> CENTURY: THE BOEING JSF AND THE F-22 RAPTOR**  
SEATTLE, Feb. 24, 2000 – Boeing designed the Joint Strike Fighter to fully – and affordably – complement the F-22 Raptor for the U.S. Air Force. The company's "total-system" approach will modernize the service's tactical forces at the lowest cost, while providing a system that surpasses legacy aircraft in performance, mission effectiveness and supportability. Boeing redefined "growth capability" with its open-systems architecture and designed-in growth capacity. The Boeing JSF will be flexible, ready to respond to future battlefield threats. Together, the Boeing JSF and the F-22 Raptor are the definition of 21<sup>st</sup> Century Air Power for the U.S. Air Force.

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**JSF**

*Phantom Works*

446 WT-125 LBR

ENGINE C6

## **BOEING INSTALLS JSF X-32B ENGINE IN UNDER FOUR HOURS**

Boeing mechanics in Palmdale, Calif., prepare to install the flight-rated Pratt & Whitney F119-614 engine in the Joint Strike Fighter X-32B concept demonstrator. The installation was completed in less than four hours with no parts interferences. The engine includes specialized hardware designed and produced by Rolls-Royce for the Boeing direct-lift propulsion system. The Boeing X-32B will demonstrate safe, simple and reliable transitions between conventional and vertical flight for the short takeoff/vertical landing (STOVL) variant of the JSF for the U.S. Marine Corps and the U.K. Royal Air Force and Royal Navy.

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## JOINT STRIKE FIGHTER

Boeing is creating an affordable next-generation strike fighter that is more lethal, more survivable and more supportable than any strike fighter before it. It replaces aging aircraft of the U.S. Air Force, Navy, Marine Corps, Royal Navy and those of other nations. Under a four-year U.S. Department of Defense contract awarded in late 1996, Boeing is building two X-32 demonstrators while also demonstrating key technologies necessary to design, build, operate and maintain a truly affordable, high-performance strike fighter. The government is scheduled to select a winner in 2001. Pictured here is the conventional take-off and landing variant for the U.S. Air Force.

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## **BOEING VALIDATES JSF DESIGN MATURITY WITH HIGH-FIDELITY STEALTH MODEL**

April 18, 2000

The Boeing Joint Strike Fighter One Team has built a high-fidelity, full-scale aircraft model of the JSF. The JSF One Team is using the model to validate the radar, antenna and stealth performance of its concept for the operational JSF. Key features of the model include the antenna apertures for communication/navigation/identification and electronic warfare, propulsion components, radar and radome, doors and access panels, moveable control surfaces, a functional weapons bay, specialized lighting and coatings, and a canopy. Testing at the state-of-the-art Boeing Compact Radar Cross-Section Test Range began in Seattle in March 2000.

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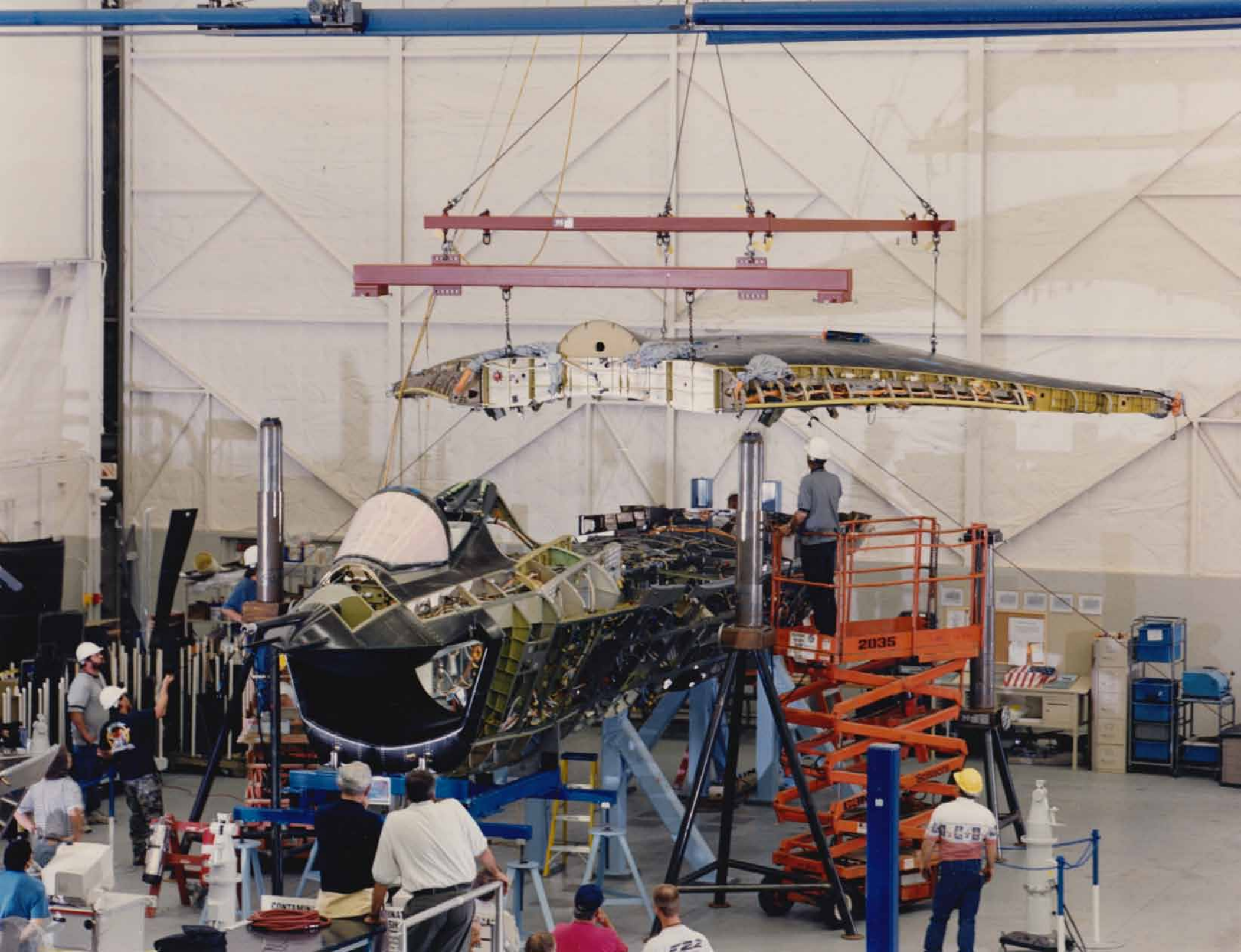
## Photo Release

**BOEING DEMONSTRATES LEAN PRACTICES ON JOINT STRIKE FIGHTER**  
PALMDALE, Calif., June 14, 1999 – The Joint Strike Fighter X-32A concept demonstrator has become a symbol of how Boeing is exploiting lean design and manufacturing techniques to produce affordable military aircraft. Three-dimensional solid modeling and assembly simulation, laser-guided part positioning and minimal tooling are some of the advanced approaches Boeing plans to carry forward into the next phase of the JSF program. Thanks to these and other “lean” concepts, overall X-32 fabrication and assembly costs remain at 30 to 40 percent below projections that are already low compared to previous aircraft development programs. Also, thanks largely to digital design processes, no unplanned shimming has been required in the assembly of the X-32A. Workers attached the X-32A wing to the fuselage in late May, and subsystems installation and fit checks of the landing gear and vertical tails are underway. First flight is scheduled for Spring of 2000. Boeing is competing to build the JSF under a four-year joint U.S. Air Force, Navy and Marine Corps concept demonstration contract.

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### **Boeing Completes Wing Mate of X-32A Demonstrator Aircraft**

Boeing mechanics lower the single-piece wing for the Joint Strike Fighter X-32 concept demonstrator onto the airplane's fuselage in Palmdale, Calif. The wing-mate process was completed in under six hours. Boeing is demonstrating many of the "lean" design and manufacturing processes that it plans to carry forward into the next phase of the JSF program to build an affordable strike fighter. Overall X-32 fabrication and assembly costs remain at 30 to 40 percent below projections. Boeing is competing to build the JSF under a four-year joint U.S. Air Force, Navy and Marine Corps concept demonstration contract, while also defining the characteristics of the operational JSF.

#### **For more information:**

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